THE NEW VALUE FRONTIER

KYOCERA

SPT SUNCOAST INC. PRECISION TOOLS

ESTABLISHED 1963

KYOCERA CUTTING TOOLS

TURNING CATALOG

ADVANCING PRODUCTIVITY

THE NEW VALUE FRONTIER

KYOCERA

Continuously Create New Value
at the Cutting Edge of Technology

ADVANCING PRODUCTIVITY

Contributing to the betterment of world-wide manufacturing and our customers' productivity by providing efficient cutting tool products and high-precision machining solutions

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KPTI Company Overview

Established in April 2014, KPTI unifies two of the world's leading cutting tool manufacturers, Kyocera Tycom Corporation (KTC) and the Cutting Tool Division of Kyocera Industrial Ceramics Corporation (KICC-CT).

The new company creates a combined enterprise that optimizes the strengths of both organizations and facilitates expansion of Kyocera's overall cutting tool-related business in North America. The new combined entity will unify cutting tool resources to create greater efficiencies while positioning the new organization for continued success.

Customers will benefit from a unified sales and support team offering improved customer service and an expanded portfolio of cutting tool products and solutions for the automotive, aerospace, general machining, medical, power generation, printed circuit board and steel markets.

KPTI North American Operations

Costa Mesa, CA

Administration & Manufacturing

- Administration & Accounting Center
- Micro Tools & Round Tools Manufacturing
- Printed Circuit Board Drill Manufacturing
- Micro Tools & PCB Sales & Customer Service Center

Wapakoneta, OH

Steel Tool Holder Manufacturing

- Indexable Drills
- Milling End Mills & Face Mills
- Boring Bars
- Turning and Grooving Holders
- API Ring Groovers

Hendersonville, NC

KPTI North American HQ

- Indexable Insert Manufacturing
- North American Tech Center
- North American Sales, Marketing & Customer Service Center

KPTI Manufactured Products

Steel Toolholders for Milling, Turning, Grooving, Threading and Drilling Metal

Indexable metal cutting inserts made of carbide, ceramic, cermet, Cubic Boron Nitride, and Polycrystaline diamond

Solid carbide cutting tools for tight tolerance and micro-diameter metal cutting applications

KPTI Markets Served

Automotive

Aerospace

Medical

Printed Circuit Board

Power Generation

How to Order

Kyocera Precision Tools' products are sold exclusively through our North American line of authorized distributors.

Locate a Distributor

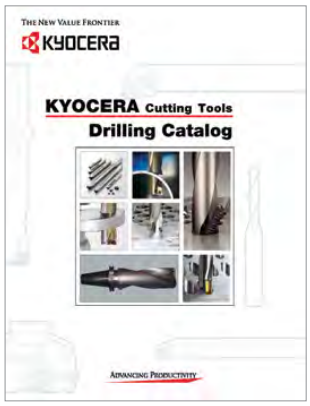
Use our ***Locate a Distributor*** map at:
www.KyoceraPrecisionTools.com/locate

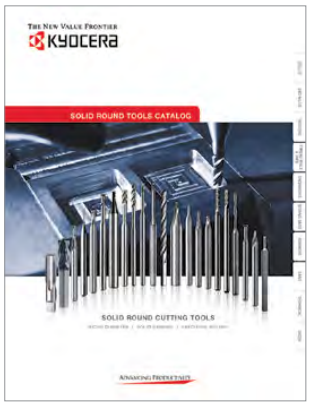
OR

CUSTOMER SERVICE
1.800.823.7284
(OPTION 1)
Monday - Friday
5:00AM - 4:30PM (PST)
8:00AM - 7:30PM (EST)

Using the Kyocera Product Catalogs

All standard Kyocera Precision Tools Products are located in one of these four General Catalogs.





Stock Status Symbols

- ● Indicates that an item is **Stock Standard** and available at our North American Headquarters in North Carolina. Stock Standard items will ship the same day if ordered by 4:30pm (EST).
- ○ Indicates that an item is a World Express and available at our Worldwide Headquarters in Japan. Please allow 7-10 business days for World Express items to arrive.

*All Stock Standard and World Express items are subject to availability.

Authorized Distributor Ordering Guide

TO PLACE ORDERS ONLINE VISIT - http://mykpti.kyocera.com
In addition to placing orders, the MyKPTI distributor website allows you to view real-time product availability, check pricing, view and download product and promotional literature, watch product training videos, and more.

CUSTOMER SERVICE
1.800.823.7284
(OPTION 1)
Monday - Friday
5:00AM - 4:30PM (PST)
8:00AM - 7:30PM (EST)

TECHNICAL SUPPORT
1.800.823.7284
(OPTION 2)
Monday - Friday
4:00AM - 2:00PM (PST)
7:00AM - 5:00PM (EST)

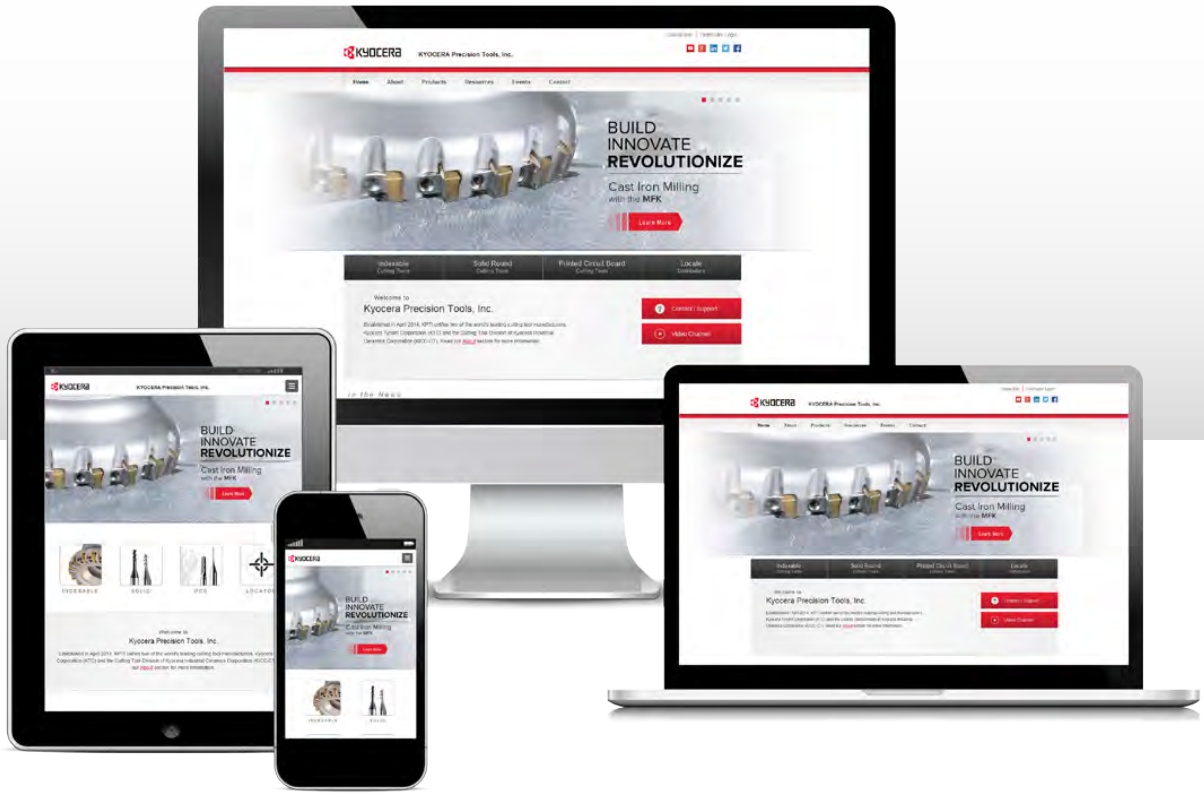
GENERAL INQUIRIES
cuttingtools@kyocera.com

CUSTOMER SERVICE
ctsales@kyocera.com

TECHNICAL CENTER
cttechs@kyocera.com

VISIT US ONLINE

WWW.KYOCERAPRECISIONTOOLS.COM



INTRODUCING

A NEW RESPONSIVE DESIGN

NEW

- *Easy to navigate, sliding mobile menus*
- *Find the information you need faster than ever*
- *Easier to read articles transformed on mobile devices*
- *Faster load times allow you to browse products without waiting*
- *Easy to see icons allow fast access to hundreds of tooling solutions*
- *Locate distributors in your area on-the-go through an updated distributor map*

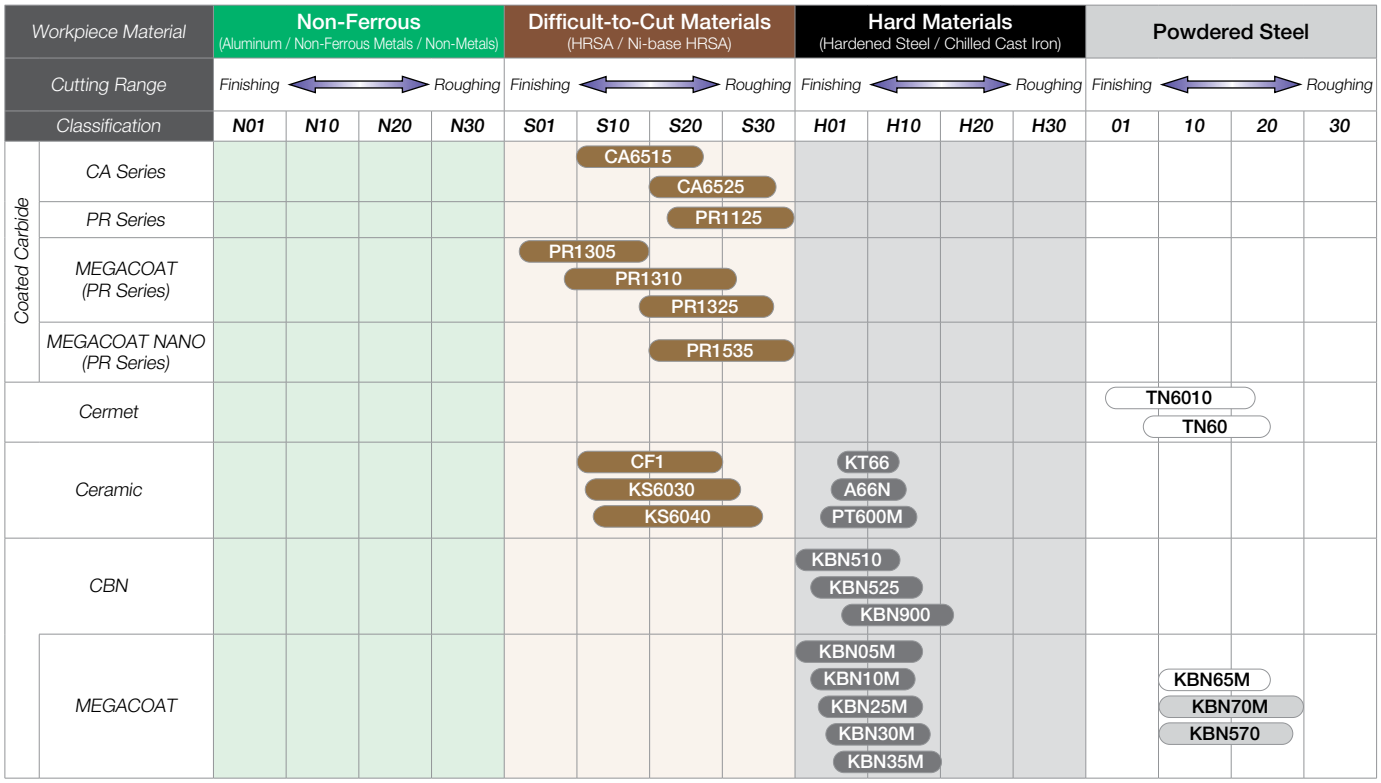
INSERT GRADES

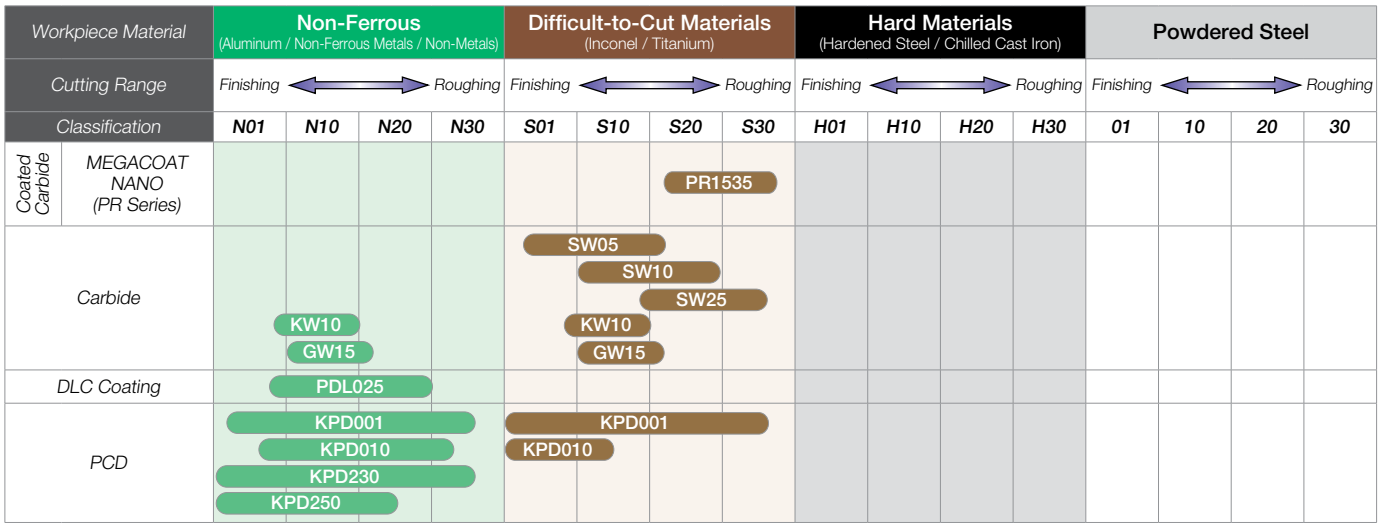
A1 - A20

Turning

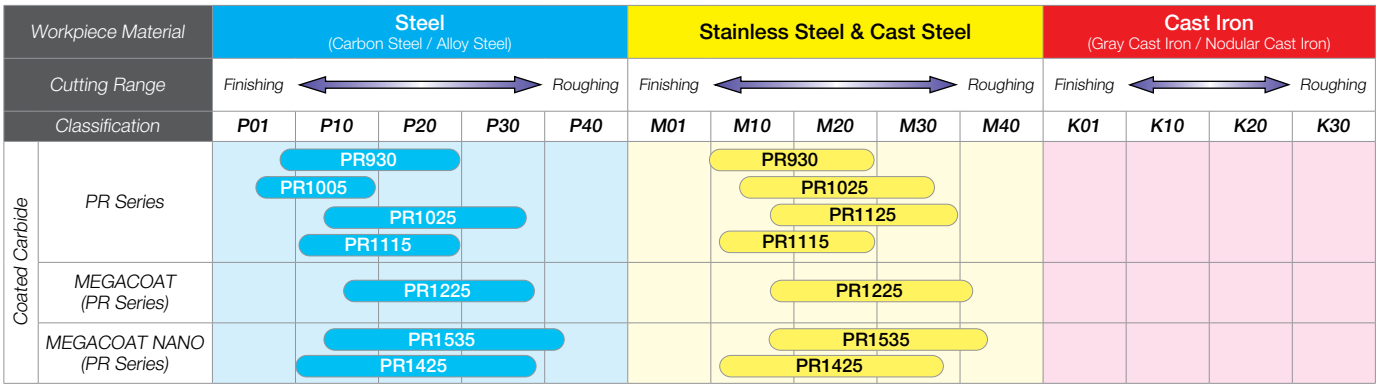
Workpiece Material	Steel (Carbon Steel / Alloy Steel)					Stainless Steel & Cast Steel					Cast Iron (Gray Cast Iron / Nodular Cast Iron)			
Cutting Range	Finishing ⟷ Roughing					Finishing ⟷ Roughing					Finishing ⟷ Roughing			
Classification	P01	P10	P20	P30	P40	M01	M10	M20	M30	M40	K01	K10	K20	K30
Cermet — TN Series	TN610, TN6010, TN620, TN6020, TN60, TN90					TN610, TN6010, TN620, TN6020, TN60, TN90					TN60			
Cermet — TC Series		TC60					TC60							
Cermet — PV Series		PV7020, PV90					PV7020, PV90							
Cermet — MEGACOAT (PV Series)	PV7010, PV7025					PV7010, PV7025					PV7005			
Cermet — MEGACOAT NANO (PV Series)	PV710, PV720					PV710, PV720								
Coated Carbide — CA Series	CA510, CA515, CA525, CA530, CA5505, CA5515, CA5525, CA5535						CA6515, CA6525				CA4010, CA4115, CA4120, CA4505, CA4515			
Coated Carbide — PR Series	PR930, PR1005, PR1025, PR1115						PR930, PR1025, PR1125							
Coated Carbide — MEGACOAT (PR Series)		PR1225						PR1225						
Coated Carbide — MEGACOAT NANO (PR Series)		PR1425	PR1535				PR1425	PR1535						
Ceramic											KA30, KT66, A66N, PT600M, KS6050, CS7050			
Carbide												KW10, GW15		
CBN											KBN475, KBN60M, KBN900			

Turning





PVD Coated Carbide for Small Tools



A GRADES

Grooving / Cut-Off

Workpiece Material		Steel (Carbon Steel / Alloy Steel)					Stainless Steel & Cast Steel					Cast Iron (Gray Cast Iron / Nodular Cast Iron)			
Cutting Range		Finishing ⟷ Roughing					Finishing ⟷ Roughing					Finishing ⟷ Roughing			
Classification		P01	P10	P20	P30	P40	M01	M10	M20	M30	M40	K01	K10	K20	K30
Cermet	MEGACOAT (PV Series)	PV7040										PV7040			
Cermet	TN Series	TN620, TN6020, TN60, TN90					TN620, TN6020, TN60, TN90					TN60			
Cermet	TC Series	TC40	TC60					TC60				TC40			
Coated Carbide	CR Series	CR9025					CR9025								
Coated Carbide	PR Series	PR915, PR930, PR1025, PR1115		PR630, PR660			PR915, PR930, PR1025		PR630, PR660			PR905			
Coated Carbide	MEGACOAT (PR Series)	PR1215, PR1225					PR1215, PR1225						PR1215		
Coated Carbide	MEGACOAT NANO (PR Series)	PR1535					PR1535								
Ceramic												A65, A66N, PT600M			
Carbide												KW10, GW15			

Workpiece Material		Non-Ferrous (Aluminum / Non-Ferrous Metals / Non-Metals)				Difficult-to-Cut Materials (Inconel / Titanium)				Hard Materials (Hardened Steel / Chilled Cast Iron)				Powdered Steel			
Cutting Range		Finishing ⟷ Roughing				Finishing ⟷ Roughing				Finishing ⟷ Roughing				Finishing ⟷ Roughing			
Classification		N01	N10	N20	N30	S01	S10	S20	S30	H01	H10	H20	H30	01	10	20	30
Coated Carbide	MEGACOAT (PR Series)														PR1215, PR1225		
Cermet															TN60		
Ceramic										A65, A66N, PT600M							
Carbide			KW10, GW15				KW10, GW15										
DLC Coating			PDL025														
CBN										KBN510, KBN525					KBN570		
PCD		KPD001, KPD010				KPD001, KPD010											

Drilling

Workpiece Material		Steel (Carbon Steel / Alloy Steel)					Stainless Steel & HRA Nickel-based Alloys					Cast Iron (Gray Cast Iron / Nodular Cast Iron)			
Cutting Range		Finishing ⟷ Roughing					Finishing ⟷ Roughing					Finishing ⟷ Roughing			
Classification		P01	P10	P20	P30	P40	M01	M10	M20	M30	M40	K01	K10	K20	K30
Coated Carbide	CA Series							CA6535							
	PR Series			PR660					PR660						
			PR830					PR830							
	MEGACOAT (PR Series)		PR1225					PR1225					PR1210		
			PR1230												
	MEGACOAT NANO (PR Series)		PR1535					PR1535							
Carbide												KW10			
												GW15			

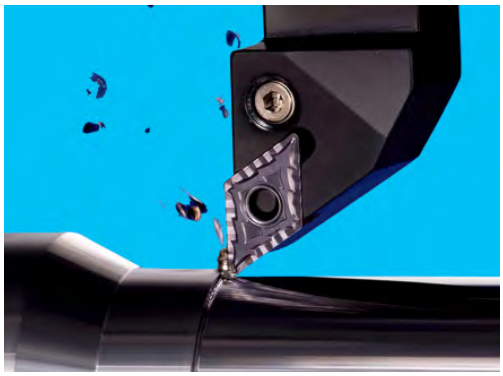
Workpiece Material		Non-Ferrous (Aluminum / Non-Ferrous Metals / Non-Metals)				Difficult-to-Cut Materials (Inconel / Titanium)				Hard Materials (Hardened Steel / Chilled Cast Iron)			
Cutting Range		Finishing ⟷ Roughing				Finishing ⟷ Roughing				Finishing ⟷ Roughing			
Classification		N01	N10	N20	N30	S01	S10	S20	S30	H01	H10	H20	H30
Coated Carbide	MEGACOAT (PR Series)									PR1230			
Carbide		KW10					KW10						
		GW15					GW15						

Milling

Workpiece Material		Steel (Carbon Steel / Alloy Steel)					Stainless Steel & Cast Steel					Cast Iron (Gray Cast Iron / Nodular Cast Iron)			
Cutting Range		Finishing ⟷ Roughing					Finishing ⟷ Roughing					Finishing ⟷ Roughing			
Classification		P01	P10	P20	P30	P40	M01	M10	M20	M30	M40	K01	K10	K20	K30
Cermet	TN Series		TN60					TN60							
			TN100M					TN100M							
	TC Series		TC60					TC60							
Carbide	CA Series							CA6535					CA420M		
	PR Series		PR830					PR830							
	MEGACOAT (PR Series)		PR1225					PR1225					PR1210		
			PR1230												
	MEGACOAT NANO (PR Series)		PR1525					PR1525					PR1510		
								PR1535							
Carbide													KW10		
													GW25		

Workpiece Material		Non-Ferrous (Aluminum / Non-Ferrous Metals / Non-Metals)				Difficult-to-Cut Materials (HRSA / Ni-base HRSA)				Difficult-to-Cut Materials (Titanium)				Hard Materials (Hardened Steel / Chilled Cast Iron)			
Cutting Range		Finishing ⟷ Roughing				Finishing ⟷ Roughing				Finishing ⟷ Roughing				Finishing ⟷ Roughing			
Classification		N01	N10	N20	N30	S01	S10	S20	S30	S01	S10	S20	S30	H01	H10	H20	H30
	CA Series						CA6535										
	MEGACOAT (PR Series)										PR1210						
	MEGACOAT NANO (PR Series)						PR1535				PR1535						
Carbide		KW10									KW10						
		GW25									GW25						
DLC Coating		PDL025															
CBN														KBN525			
PCD		KPD001								KPD001							
		KPD010								KPD010							
		KPD230															
		KPD250															

CERMET



CERMET

KYOCERA is known as the leading manufacturer of cermets. Cermet is a composite material combining Ceramic and Metal. Typical materials used in cermets are TiC, TiN, TiCN and NbC. Designed to provide long tool life and excellent surface finishes, cermets combine toughness with superior wear resistance.

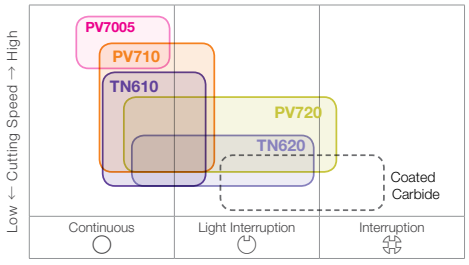
PVD COATED CERMET

PVD Coated Cermet is a cermet substrate with a thin coating offering high wear resistance and high adhesion resistance. The coating is applied by PVD (Physical Vapor Deposition) technology. Generally because of the low processing temperature of PVD compared with CVD, PVD Coated Cermet features less deterioration and more bending strength.

FEATURES OF CERMET & PVD COATED CERMET

Material	Description		Color	Main Component (Coating Composition)	Advantages
P Steel	Cermet	**TN610**	Gray	TiCN	· Inner structure has high toughness and chipping resistance along with thermal shock resistance · Application: Recommended cermet for high wear resistance
		TN620	Gray	TiCN	· Inner structure has high toughness and chipping resistance along with thermal shock resistance · Application: Recommended cermet for stable steel machining and high quality surface finish
		TN6010 (Super Micro-Grain)	Gray	TiCN	· Improved surface cermet with superior wear resistance and toughness · Application: Economical uncoated cermet for steel
		TN60	Gray	TiCN+NbC	· General purpose cermet with superior wear resistance and toughness · Application: Cutting of steel and stainless steel
		TN6020 (Super Micro-Grain)	Gray	TiCN	· Super micro-grain cermet with superior wear resistance and toughness · Application: First choice cermet for steel and stainless steel cutting
		TN100M	Gray	TiCN+NbC	· Tough cermet with improved oxidation resistance and thermal shock resistance · Application: Milling of steel at high speed
		TC40	Gray	TiC+TiN	· Good balance of wear resistance and toughness · Application: Grooving and threading of steel
	MEGACOAT NANO Cermet	**PV710**	Blackish Red	TiCN (MEGACOAT NANO)	· MEGACOAT NANO efficient machining with high quality surface finishes and superior wear and adhesion resistance · Application: Recommended cermet for long tool life and stable machining for high speed continuous cuts
		PV720	Blackish Red	TiCN (MEGACOAT NANO)	· MEGACOAT NANO efficient machining with high quality surface finishes and superior wear and adhesion resistance · Application: Recommended cermet for stable steel machining and high quality surface finish
	MEGACOAT Cermet	**PV7010** (Super Micro-Grain)	Blackish Red	TiCN (MEGACOAT)	· Heat-resistant MEGACOAT on improved surface cermet with excellent wear resistance and toughness · Application: Stable and improved tool life in steel cutting, excellent surface finish
		PV7025 (Super Micro-Grain)	Blackish Red	TiCN (MEGACOAT)	· MEGACOAT on the super micro-grain cermet · Application: High strength and long life given by MEGACOAT
		PV7040	Blackish Red	TiC+TiN (MEGACOAT)	· MEGACOAT on the super micro-grain cermet · Application: Grooving of steel
K Cast Iron		**PV7005**	Blackish Red	TiC+TiN (MEGACOAT)	· Heat-resistant MEGACOAT on cermet with excellent wear resistance · Application: High speed finishing of gray and nodular cast iron

Application Map



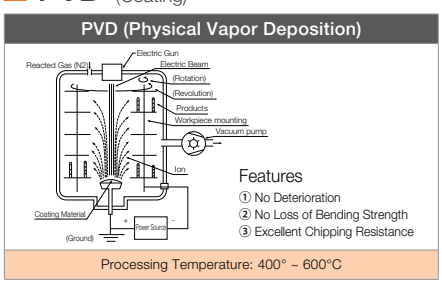
TN-Series (Uncoated Cermet)

TN610: High Wear Resistance
TN620: Chipping Resistance

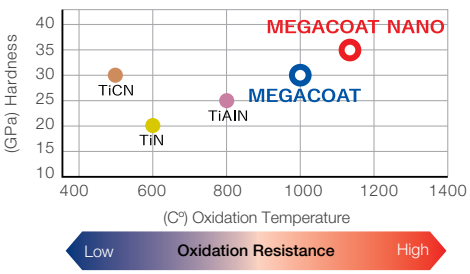
PV-Series (MEGACOAT NANO Cermet)

PV710: Long Tool Life and Stable Machining for High Speed Continuous Cuts
PV720: First Recommendation for Efficiency and High Quality Surface Finish

PVD (Coating)



PVD (Properties)

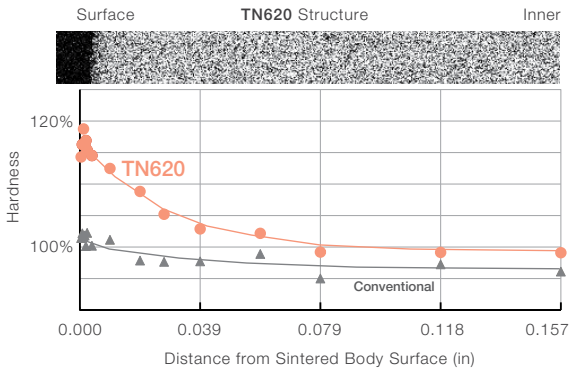


STEEL MACHINING

NEW TN620 / PV720 General Purpose
NEW TN610 / PV710 High Speed Continuous Machining

SURFACE HARDENED *"HYBRID STRUCTURE"*

Surface-Hardened Hybrid Structure



Surface Structure
(High Hardness Cermet)
• High wear resistance

Inner Structure
(High Toughness Cermet)
• Chipping and thermal shock resistance

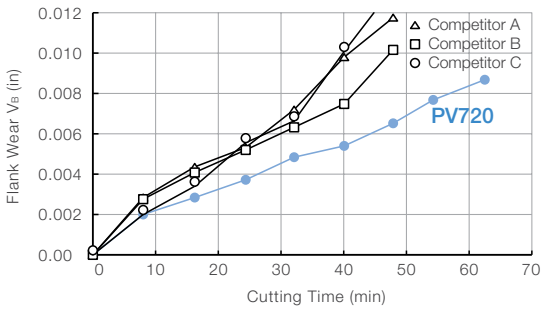
(Internal Evaluation)

TN620's inner structure has high toughness and chipping resistance along with thermal shock resistance. TN620 has a higher hardness and greater wear resistance than that of the conventional micro grain cermet.

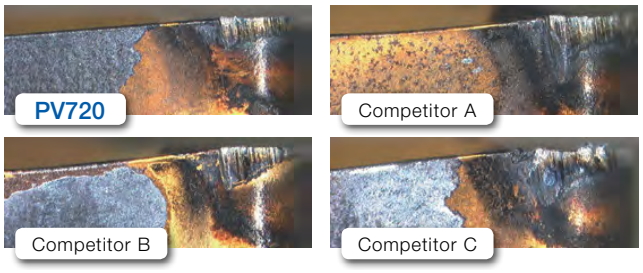
IMPROVED TOUGHNESS AND RELIABILITY

PV720 improves performance by adopting composite lamination of MEGACOAT NANO and special TiN to combine high adhesion resistance and great visibility of the used cutting edge even in dim light.

Wear Resistance Comparison



Cutting Conditions
Workpiece : 4137 Steel
Vc = 820sfm
D.O.C. = 0.039"
f = 0.008ipr : Wet
Insert: CNMG432PQ



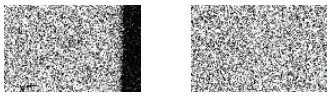
Flank wear condition after machining 48 minutes.

(Internal Evaluation)

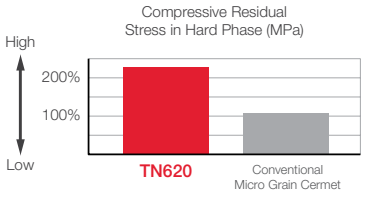
EASY TO VIEW CUTTING EDGE WEAR

Improved strength with uniform micro grain hard phase and superior compressive stress with high melting point bonded phase. This combination yields greater fracture resistance.

TN620 Structure

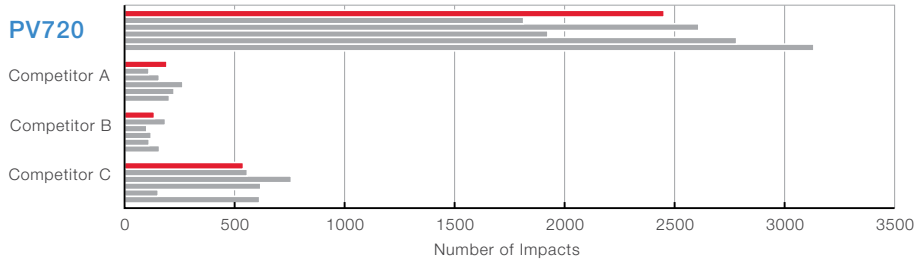


Surface Structure *Inner Structure*



(Internal Evaluation)

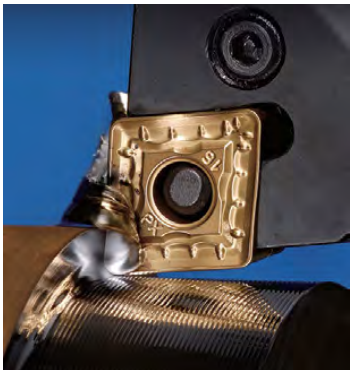
Fracture Resistance Comparison



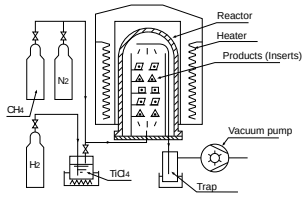
Cutting Conditions
Workpiece : 1045 Structural Steel
Vc = 820sfm
D.O.C. = 0.039"
f = 0.008ipr : Wet
Insert: CNMG432PQ

(Internal Evaluation)

CVD COATED CARBIDE



CVD (Chemical Vapor Deposition)



Features
① Equally deposited on face
② Easy application for multilayer deposition
③ Enabling thick coating

Processing Temperature: 900° ~ 1100°C

CVD COATED CARBIDE

KYOCERA's CVD coated carbide grades are based on ceramic thin film technology and provide stable, efficient cutting at high speeds or heavily interrupted applications.

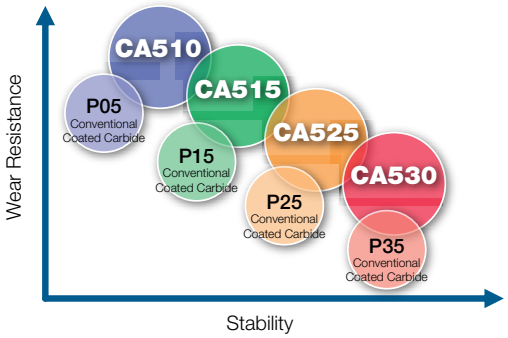
- Applicable from low to high speed cutting and from finishing to roughing
- Stable cutting is achieved due to the superior toughness and crack resistance
- Cutting times are reduced due to good chip control from effective chipbreakers

FEATURES OF CVD COATED CARBIDE

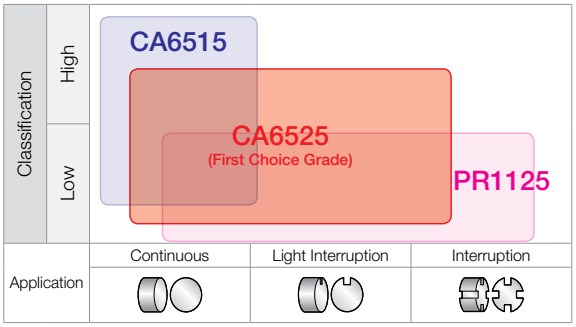
Material	*Description*	*Color*	*Main Component (Coating Composition)*	*Advantages*
P Steel	**CA510**	Gold	Micro Columnar TiCN+Al_2O_3+TiN	· Special substrate with thermal deformation resistance along with a thick and tough film coating for wear resistance · Application: High speed and high efficiency steel machining
	CA515	Gold	Micro Columnar TiCN+Al_2O_3+TiN	· Special substrate and tough coating film provides thermal deformation and high wear resistance · Application: Continuous to light interrupted steel machining (general use)
	CA525	Gold	Micro Columnar TiCN+Al_2O_3+TiN	· Special substrate and tough coating film provides high wear and fracture resistance · Application: 1st choice for steel machining
	CA530	Gold	Micro Columnar TiCN+Al_2O_3+TiN	· Special tough substrate and tough coating film provides high stability and wear resistance · Application: General to heavy interrupted machining (stability oriented)
	CA5505	Gold	Micro Columnar TiCN+Al_2O_3+TiN	· Improved wear resistance due to hard carbide substrate and micro columnar structure of coating composition · Application: High speed continuous cutting of steel, continuous to light interrupted cutting of cast iron
	CA5515	Gold	Micro Columnar TiCN+Al_2O_3+TiN	· Improved wear resistance and longer tool life due to micro columnar structure of coating composition · Application: High speed cutting of steel, continuous to light interruption
	CA5525	Gold	Micro Columnar TiCN+Al_2O_3+TiN	· Improved toughness and wear resistance due to tougher carbide substrate and micro columnar structure of coating composition · Application: First choice for general cutting of steel, roughing to interruption
	CA5535	Gold	Micro Columnar TiCN+Al_2O_3+TiN	· Improved toughness due to tougher carbide substrate · Application: Roughing to heavy interrupted cutting of steel
	CR9025	Gold	Columnar TiCN+TiN	· Improved toughness and stability due to specialized carbide substrate with plastic deformation resistance · Application: Cut-off, grooving and multi-function cutting of steel
M Stainless Steel	**CA6515**	Gold	Micro Columnar TiCN+Al_2O_3+TiN	· Specialized carbide substrate for stainless steel cutting, excellent wear resistance · Application: Continuous to light interrupted cutting of stainless steel
	CA6525	Gold	Micro Columnar TiCN+Al_2O_3+TiN	· Specialized carbide substrate for stainless steel cutting, excellent notching resistance and toughness · Application: First choice for general cutting of stainless steel, from finishing to roughing, continuous to interruption
K Cast Iron	**CA4010**	Gold	Columnar TiCN+Al_2O_3+TiN	· Excellent high temperature stability due to plastic deformation and oxidation wear resistance · Application: Continuous to light interrupted high speed cutting of cast iron
	CA4115	Gold	Micro Columnar TiCN+Al_2O_3+TiN	· Improved wear resistance due to micro columnar structure of coating composition · Application: Nodular cast iron cutting, continuous to light interruption
	CA4120	Gold	Micro Columnar TiCN+Al_2O_3+TiN	· Improved toughness and wear resistance due to tougher carbide substrate and micro columnar structure of coating composition · Application: Roughing to heavy interrupted cutting of nodular cast iron
	CA4505	Blackish gray	Micro Columnar TiCN+Al_2O_3	· Stable, long tool life due to improved bonded force of coating layers and special treatment on the surface of top coated layer · Application: For gray cast iron and nodular cast iron at high speed in continuous to light interrupted cutting
	CA4515	Blackish gray	Micro Columnar TiCN+Al_2O_3	· Stable, long tool life due to improved bonded force of coating layers and special treatment on the surface of top coated layer · Application: First choice for gray cast iron and nodular cast iron in light to heavy interrupted cutting

Application Map

Steel



Stainless Steel



CA5-Series NEW

CVD COATED CARBIDE GRADES FOR STEEL

New Innovations in Steel Machining

with **CA5** Series **Grades** &
P Series **Chipbreakers**

CA510

Special substrate with thermal deformation resistance along with a thick and tough film coating for wear resistance

Application: High speed and high efficiency steel machining

CA515

Special substrate and tough coating film provides thermal deformation and high wear resistance

Application: Continuous to light interrupted steel machining (general use)

CA525

Special substrate and tough coating film provides high wear and fracture resistance

Application: 1st Choice for steel machining

CA530

Special tough substrate and tough coating film provides high stability and wear resistance

Application: General to heavy interrupted machining (stability oriented)

High Adhesion Strength Coating Layer with Ultra Fine Interface

Long tool life and stable machining with **40%** improved adhesion strength!

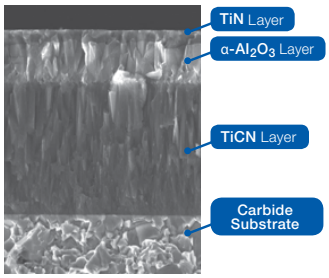
Smooth and Flat Surface Reduces Cutting Forces

Sharp cutting and stable machining with a smooth, flat surface preventing sudden breakage caused by material welding onto the cutting edge

Innovative Coating Layers Produce Superior Hardness and Toughness

Special crystal control technology

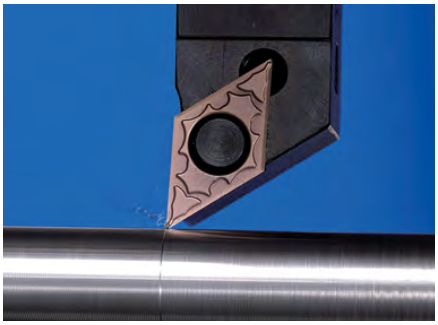
Long tool life with the high aspect ratio of α-Al_2O_3 layer



PVD COATED CARBIDE FOR TURNING

PVD COATED CARBIDE (MEGACOAT / MEGACOAT NANO)

KYOCERA's PVD coated carbides for milling and drilling utilize very tough carbide substrates. The low processing temperature, compared with CVD, leads to improved bending strength, less deterioration of the coating and superior tool life with stable machining.

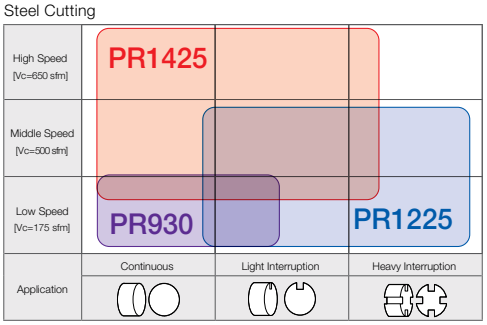


FEATURES OF PVD COATED CARBIDE FOR TURNING

Material	Description	Color	Main Component (Coating Composition)	Advantages
P Steel	**PR915** (Super Micro-Grain)	Bluish Violet	TiAlN	· TiAlN base PVD coated super micro-grain carbide, superior wear and oxidation resistance · Application: Stable and reliable high precision cutting of steel
	PR930 (Super Micro-Grain)	Reddish Gray	TiCN	· Hard TiCN base PVD coated super micro-grain carbide · Application: Low cutting speed, precise cutting with sharp edge
	PR1005	Reddish Gray	TiCN	· TiCN base PVD coated hard micro-grain carbide · Application: Turning of free-cutting steel, long tool life achieved through anti-adhesion performance
	PR1025	Reddish Gray	TiCN	· TiCN base PVD coated micro-grain carbide · Application: General purpose cutting of steel and stainless steel, stable and long tool life
	PR1115	Purple Red	TiAlN	· Hard TiAlN base PVD coated super micro-grain carbide · Application: Superior anti-oxidation performance with well balanced wear resistance and toughness
	PR1215	Blackish Red	MEGACOAT	· Superior wear and oxidation-resistant MEGACOAT on micro-grain carbide substrate · Application: Superior adhesion-resistant and long tool life for steel and stainless steel cutting
	PR1425	Blackish Red	MEGACOAT NANO	· Nano thin multi-layer coating performs with superior wear resistance and high oxidation resistance. · Application: various applications of steel cutting, High speed stainless steel cutting, extended tool life
M Stainless Steel	**PR1125**	Purple Red	TiAlN	· Hard TiAlN base PVD coated super micro-grain carbide, superior toughness and heat resistance · Application: Finishing and light interrupted cutting of stainless steel
	PR1225	Blackish Red	MEGACOAT	· Superior wear and oxidation resistant MEGACOAT on micro grain carbide substrate · Application: Light interrupted to interrupted cutting of stainless steel
K Cast Iron	**PR905**	Bluish Violet	TiAlN	· Smooth fine surface PVD coated hard carbide with plastic deformation resistance · Application: Suitable for milling of gray and nodular cast iron
S Heat-Resistant Alloys	**PR1305**	Blackish Red	MEGACOAT	· MEGACOAT on hard and superior heat resistant carbide, superior wear resistance · Application: Finishing of heat-resistant alloys
	PR1310	Blackish Red	MEGACOAT	· MEGACOAT on hard and superior heat resistant carbide, superior wear and oxidation resistance · Application: First choice for continuous and light interrupted cutting and finishing of heat-resistant alloys
	PR1325	Blackish Red	MEGACOAT	· MEGACOAT on tough carbide · Application: Light interrupted cutting and roughing of heat-resistant alloys
	PR1535	Blackish Red	MEGACOAT NANO	· Stabilized turning operations and long tool life with MEGACOAT NANO coating technology · Application: PVD for titanium alloy and precipitation hardened stainless steel

Application Maps

Steel Cutting



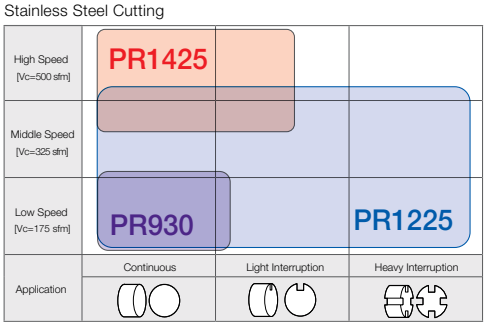
PR1425
1st choice grade

PR1225
High reliability in interrupted cutting

PR1225
Stable cutting at low to middle speed

PR930
Stable cutting at low speed

Stainless Steel Cutting

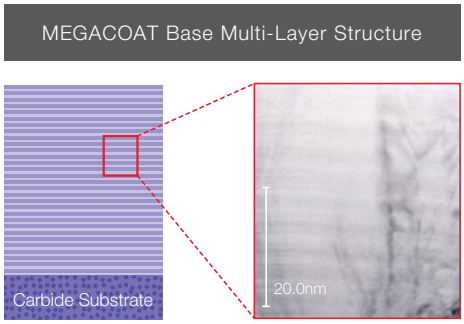


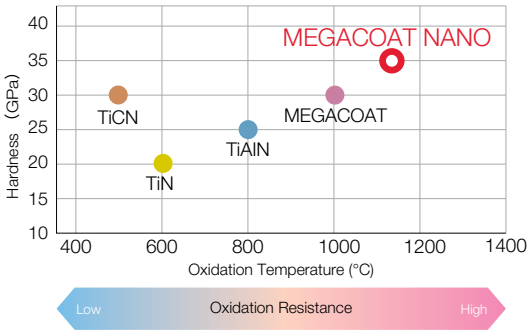
PR1225
1st choice grade

PR1425
Extended tool life in high speed cutting

PR930
Extended tool life in low speed cutting

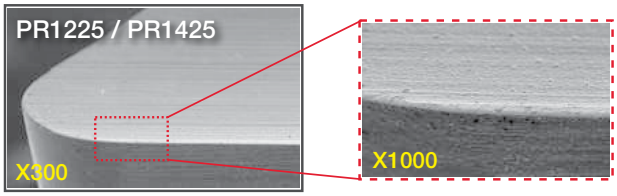
MEGACOAT NANO Grade Properties



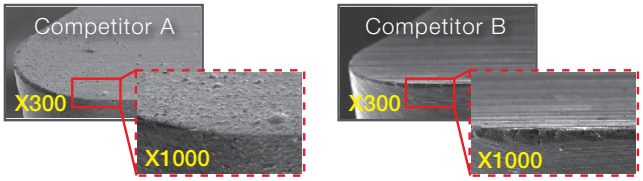


Prevents wear and fracture with high hardness (35GPa) and superior oxidation resistance (oxidation temperature: 1,150°C)

Cutting Edge Quality (Sharp Edge Insert)



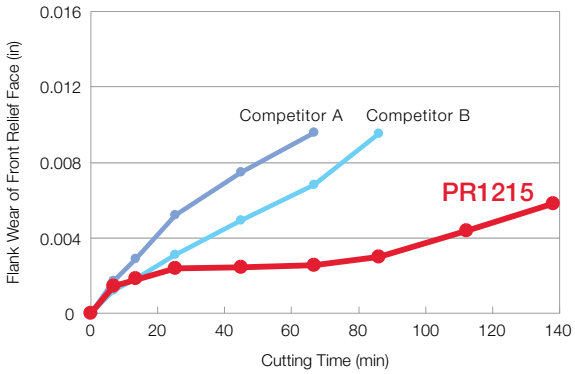
Superior edge-sharpening performance and smooth surface



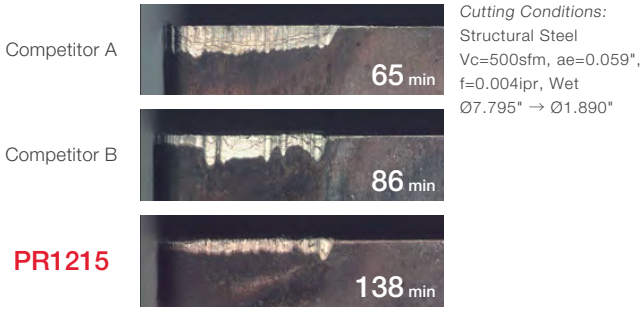
Delamination (coating peeling) and rough surface

MEGACOAT Series (PR1225/PR1425) - high edge sharpening performance and adhesion resistance.

PR1215 Wear Resistance Comparison
(Off-Centered Grooving)



Flank Wear of Front Relief Face



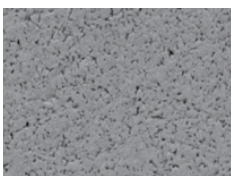
Cutting Conditions:
Structural Steel
Vc=500sfm, ae=0.059",
f=0.004ipr, Wet
Ø7.795" → Ø1.890"

PR13-Series Advantages

Superior wear and fracture resistance attained with uniform grain size and MEGACOAT on superior thermal shock resistant carbide

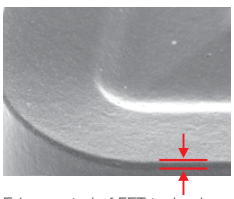
New edge preparation technology (FET: Fine Edge Treatment) controls and minimizes R honing and realizes large tip rake angle, and thus prevents burrs and notching. It provides good surface finishes.

Special Carbide Substrate



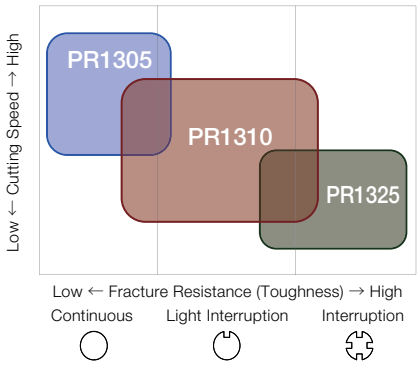
Uniform grain size enables superior thermal shock resistance and constant hardness

New Edge Preparation Technology

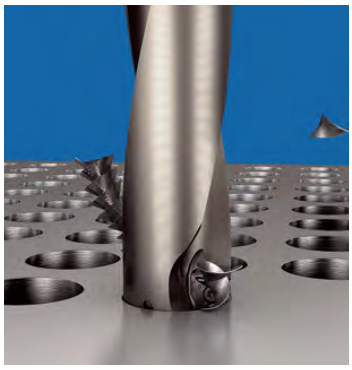


Edge control of FET technology (FET: Fine Edge Treatment)

Heat-Resistant Alloys (Ni-based)



PVD / CVD COATED CARBIDE FOR MILLING & DRILLING



PVD Coated Carbide *(MEGACOAT / MEGACOAT NANO)*

KYOCERA's PVD coated carbides for milling and drilling utilize very tough carbide substrates.

The low processing temperature, compared with CVD, leads to improved bending strength, less deterioration of the coating and superior tool life with stable machining.

CVD Coated Carbide

CVD coated carbide grades provide stable, efficient machining at high speeds or for heavy interrupted applications.

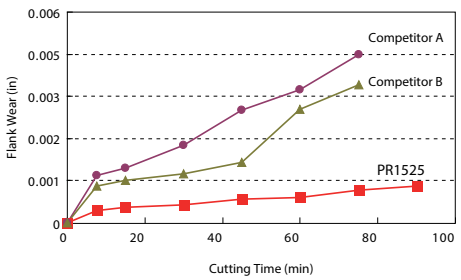
Ti-base (TiN, TiCN) coating with superior hardness and wear resistance or ceramic-base (Al_2O_3) coating with high-thermal stability is applied on a tough carbide substrate. Superior fracture and wear resistance.

FEATURES OF PVD / CVD COATED CARBIDE FOR MILLING & DRILLING

Material	*Description*	*Color*	*Main Component (Coating Composition)*	*Advantages*
P Steel	**PR830**	Gold	TiAlN+TiN	· Improved high temperature stability and wear resistance by TiAlN base PVD coating · Application: Stable and long tool life for milling of steel
	PR1230	Blackish Red	MEGACOAT	· Superior wear and oxidation resistant MEGACOAT on a special tough carbide substrate · Application: Stable and high feed rate milling and drilling of steel
	PR1525	Blackish Red	MEGACOAT NANO	· New coating technology [MEGACOAT NANO] is applied. Nano thin multi-layer coating performs superior wear resistance and high oxidation resistance. · Application: Stable and long tool life milling of Steel and Stainless Steel
M Stainless Steel	**PR1025**	Reddish Gray	TiCN	· TiCN base PVD coated on micro-grain carbide · Application: Stable and long tool life milling of stainless steel
	PR1225	Blackish Red	MEGACOAT	· Superior wear and oxidation-resistant MEGACOAT on micro-grain carbide substrate · Application: General and high feed drilling of steel and stainless steel
K Cast Iron	**PR1210**	Blackish Red	MEGACOAT	· Superior wear and oxidation resistant MEGACOAT on special carbide substrate for cast iron · Application: Highly efficient stable milling and drilling of gray and nodular cast iron and titanium alloys
	PR1510	Blackish Red	MEGACOAT NANO	· New coating technology [MEGACOAT NANO] is applied. Nano thin multi-layer coating performs superior wear resistance and high oxidation resistance. · Application: For gray and nodular cast iron, stable wear resistance and toughness
	CA420M	Blackish Red	Micro Columnar TiCN+Al_2O_3+TiN (CVD)	· Kyocera's unique crystal control technology and advanced layer adhesion CVD coating with superior wear resistance and toughness · Application: Milling of gray and nodular cast iron
S Heat-Resistant Alloys	**PR1535**	Blackish Red	MEGACOAT NANO	· Stabilized milling operation and long tool life with MEGACOAT NANO coating technology · Application: PVD for titanium alloy and precipitation hardened stainless steel
	CA6535	Gold	TiCN+Al_2O_3+TiN (CVD)	· High heat resistance and wear resistance with CVD coating with improved stability due to thin film coating · Application: CVD for Ni-base heat resistant alloy and martensitic stainless steel

Wear Resistance Properties (PR1525)

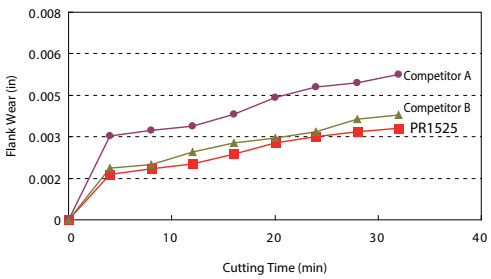
S45C



<Cutting Conditions>

1045, Vc=660sfm, ap×ae=0.079"x0.394"
fz=0.005ipt (Vf=7.205 in/min), Dry

SKD11



<Cutting Conditions>

D2, Vc=390sfm, ap×ae=0.079"x0.394"
fz=0.004ipt (Vf=7.480 in/min), Dry

2 New Grades for Extending Tool Life

when Machining Heat Resistant Alloys and Difficult-to-cut Materials

CA6535 (CVD) NEW

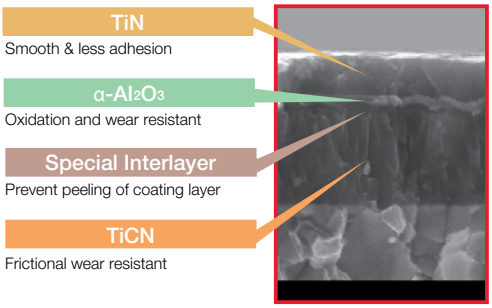
for Ni-base Heat Resistant Alloy and Martensitic Stainless Steel

PR1535 (PVD) NEW

for Titanium Alloy and Precipitation Hardened Stainless Steel

New grades for difficult-to-cut material

- Stable cutting prevents insert fracturing
- Good for high efficiency machining



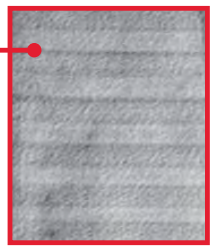
CA6535

- For Ni-base heat resistant alloy and martensitic stainless steel
- High heat resistance and wear resistance with CVD coating
- Improved stability due to thin film coating technology

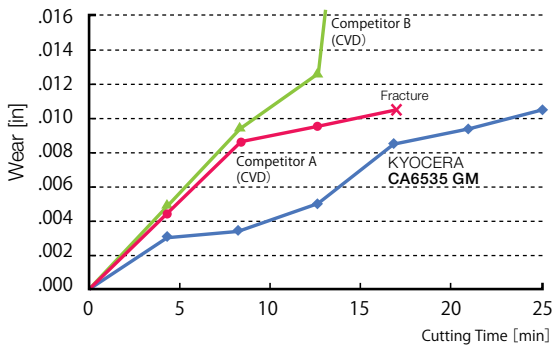
PR1535

- For titanium alloy and precipitation hardened stainless steel
- Stabilized milling operation and long tool life with Kyocera's MEGACOAT NANO coating technology
- Improved stability due to thin film coating technology

MEGACOAT
Layer structure



• Ni-base Heat Resistant Alloy



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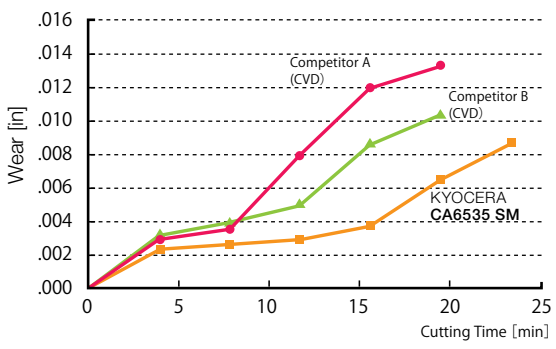
1st recommendation GM chipbreaker

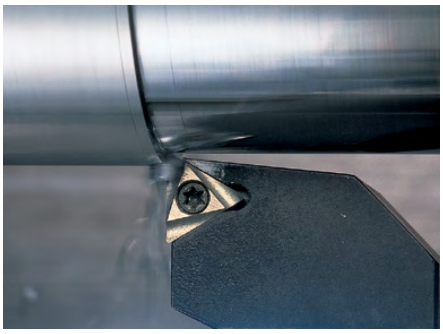
• Martensitic Stainless Steel



< Cutting Condition > Vc=975sfm, ap=0.079", fz=0.008ipt, WET

1st recommendation SM chipbreaker

CARBIDE



CARBIDE

Due to its superior mechanical features carbide is used in a variety of applications. KYOCERA produces a variety of carbides, including KW10 for non-ferrous materials and micro-grain carbides for precision cutting.

FEATURES

- Tough and hard
- Good thermal conductivity
- Suitable for cutting non-ferrous metals and non-metals
- Stable cutting at low cutting speeds, including milling operations

FEATURES OF CARBIDE

Material	*Description*	*Color*	*Main Component (Coating Composition)*	*Advantages*
N Non-Ferrous Materials	**KW10**	Gray	WC+Co	· ISO identification symbol K carbide (K10 relevant) · Application: Stable cutting of cast iron, non-ferrous materials, non-metals, and titanium alloys
	GW15	Gray	WC+Co	· ISO identification symbol K carbide (equivalent to K10), tough micro-grain carbide · Application: High wear resistance and toughness for non-ferrous materials, and non-metals, and titanium alloys
	GW25	Gray	WC+Co	· ISO identification symbol K carbide (K30 relevant) · Application: Stable wear resistance and anti-chipping performance for milling operations of aluminum
S Heat-Resistant Alloys	**SW05**	Gray	WC+Co	· ISO identification symbol K carbide (K05 relevant) · Application: Continuous cutting and finishing of titanium alloys maintaining superior wear resistance
	SW10 (Made to Order)	Gray	WC+Co	· ISO identification symbol K carbide (K10 relevant) · Application: Continuous and light interrupted cutting of titanium alloys maintaining superior wear resistance and stable result
	SW25 (Made to Order)	Gray	WC+Co	· ISO identification symbol K carbide (K25 relevant) · Application: Interrupted and light interrupted cutting of titanium alloys maintaining stable result

DLC COATING

DLC COATING

High quality and long tool life machining of aluminum. Achieves long tool life with hardness close to that of diamond and maintains an excellent surface finish with aluminum welding resistance.

FEATURES

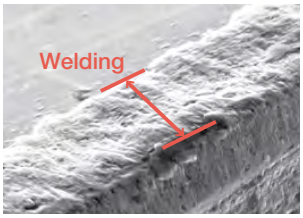
- Excellent surface finish
- Stable machining with excellent peeling resistance
- Improved chip evacuation due to high lubrication

FEATURES OF CARBIDE

Material	*Description*	*Color*	*Main Component (Coating Composition)*	*Advantages*
N Non-Ferrous Materials	**PDL025**	Iridescent	C	· Hydrogen free DLC coating for high hardness close to that of diamond · Application: Stable cutting of aluminum with turning, milling, and cut-off operations

Welding Resistance Comparison

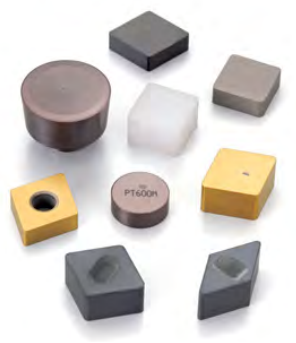
PDL025



Competitor A

Cutting Conditions: Vc = 2630 sfm, fz = 0.004 ipt, ap × ae = 0.118" × 0.197", Dry
Cutter Dia. ø1.000" Workpiece: 5052 Cutting Length: 57 m

CERAMIC



CERAMIC

Ceramic inserts are capable of running at high speeds, thus reducing expensive machining time. Hard turning of 38HRC to 64HRC hardened steel, or rough to finish turning of cast iron are recommended applications for ceramic inserts.

KYOCERA's ceramic grades are designed to resist oxidation and maintain hardness at elevated temperatures.

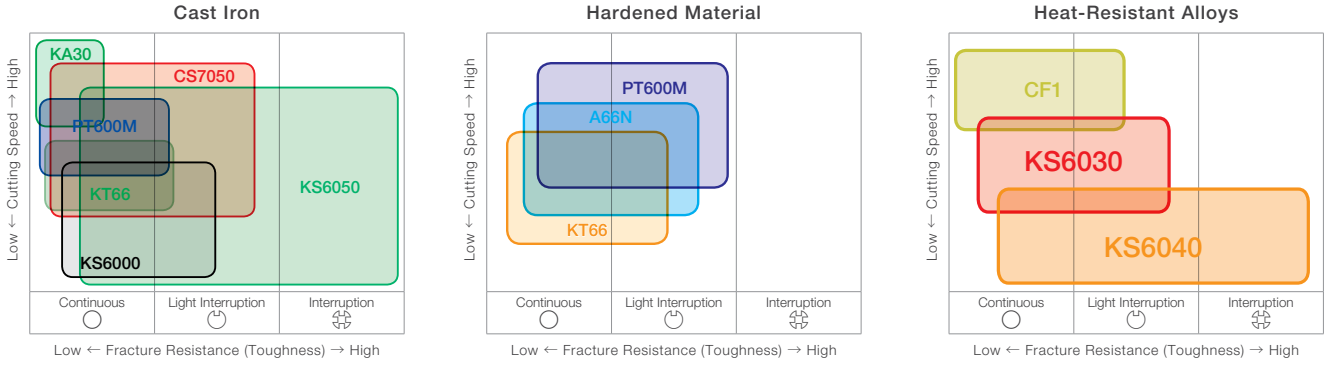
FEATURES

- Excellent wear resistance for high cutting speeds
- Ceramic maintains good surface finishes due to the low affinity to workpiece materials
- Silicon nitride ceramic has improved thermal shock resistance allowing cast iron cutting using coolants

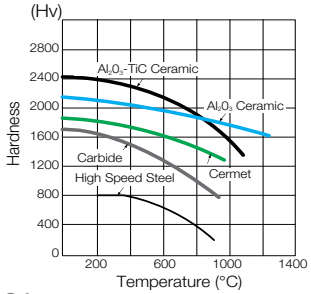
FEATURES OF CERAMIC

Material	Description	Color	Main Component (Coating Composition)	Coating Layer	Hardness of Substrate (GPa)	Fracture Toughness (MPa·m½)	Transverse Strength (MPa)	Advantages
K Cast Iron	KA30	White	Al_2O_3	-	17.5	4.0	750	· Aluminum Oxide ceramic (Al_2O_3) · Application: Finishing of cast iron at high cutting speeds without coolant
K Cast Iron	KS6050	Gray	Si_3N_4	-	15.6	8.0	1,200	· Silicon nitride ceramic (Si_3N_4) · Application: Roughing and interrupted machining of cast iron. Focusing on stability. (with or without coolant)
K Cast Iron	CS7050	Grayish White	Si_3N_4 (Special Al_2O_3 Coat)	Thin Coating	15.6	8.0	1,200	· Silicon nitride ceramic (Si_3N_4) + CVD Coated Carbide (Special Al_2O_3 COAT) · Application: Finishing and continuous machining, and high speed and high efficient machining. (with or without coolant)
K Cast Iron	A65	Black	Al_2O_3+TiC	-	20.1	4.1	980	· Aluminum Oxide and Titanium Carbide ceramic (Al_2O_3+TiC) · Application: Semi-roughing to finishing of steel, cast iron, and hard materials
K Cast Iron H Hardened Materials	A66N	Gold	Al_2O_3+TiC (TiN Coat)	Thin Coating	20.1	4.1	980	· TiN PVD coated Aluminum Oxide and Titanium Carbide ceramic (TiN coated Al_2O_3+TiC) · Application: Semi-roughing to finishing of hard materials
H Hardened Materials	PT600M	Blackish Red	Al_2O_3+TiC (MEGACOAT)	Thin Coating	20.1	4.1	980	· Heat-resistant MEGACOAT on Aluminum Oxide and Titanium Carbide ceramic (MEGACOAT Al_2O_3+TiC) · Application: Semi-roughing to finishing of cast iron, hard materials and hardened roll materials
S Heat-Resistant Alloys	KS6030	Gray	SiAlON	-	15.2	6.0	600	· SiAlON Ceramic with superior wear resistance and high resistance against boundary wear · Application: Finishing to medium machining of heat-resistant alloys
S Heat-Resistant Alloys	KS6040	Brown	SiAlON	-	16.7	7 .0	900	· High stability SiAlON ceramic with wear resistance and fracture resistance · Application: Roughing of heat-resistant alloys

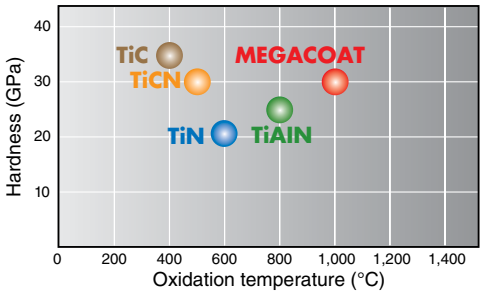
Application Maps



High Temperature Hardness



PVD Coating Properties



CBN

CBN

KYOCERA CBN is second only to diamond in hardness. CBN (Cubic Boron Nitride) is a synthetically produced material with high thermal conductivity which provides stable cutting.

FEATURES

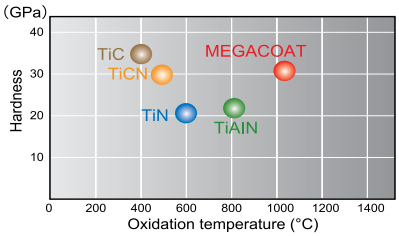
- Superior wear resistance when cutting hardened materials
- Suitable for high speed cutting of cast iron and sintered steel
- High thermal conductivity provides stable cutting

FEATURES OF CBN

Material	Description	Color	Av. Grain Size (μm)	Hardness of Substrate (GPa)	Transverse Strength (MPa)	Advantages
H Hardened Materials	**KBN510**	Black	2	28	1,000	· Excellent wear resistance and crack resistance, non-coated CBN · Application: Finishing and continuous cutting of hardened die steel
	KBN525	Black	1 and Under	25	1,250	· Good balance of toughness and wear resistance, non-coated CBN · Application: General grade for hardened steel, high stability at high speed and high feed cutting
	KBN05M (MEGACOAT)	Blackish Red	0.5-1.5	27	1,000	· Heat-resistant MEGACOAT on highly heat-resistant CBN substrate · Application: High speed finishing of hardened steel
	KBN10M (MEGACOAT)	Blackish Red	2	28	1,000	· Heat-resistant MEGACOAT on CBN with hard binder phase, superior anti-crater wear resistance · Application: High speed finishing of hardened die steel
	KBN25M (MEGACOAT)	Blackish Red	1 and Under	25	1,250	· Heat-resistant MEGACOAT on micro-grain CBN with heat resistant binder phase · Application: Stable cutting of hardened steel at high speed
	KBN30M (MEGACOAT)	Blackish Red	1-4	30	1,350	· Heat-resistant MEGACOAT on tougher CBN · Application: Stable cutting of hardened steel for continuous to interrupted cutting
Sintered Steel	**KBN65B**	Black	2	32	1,150	· Excellent wear resistance due to CBN with heat-resistant binder phase, non-coated CBN · Application: Stable cutting of sintered steel (ferrous sintered alloy) at low speed
	KBN570	Black	2-4	34	1,350	· High CBN content ratio · Application: Machining of sintered steel (preventing burr formation)
	KBN65M (MEGACOAT)	Blackish Red	2	32	1,150	· Heat-resistant MEGACOAT on CBN with heat-resistant binder phase · Application: Stable cutting of sintered steel (ferrous sintered alloy) at low speed
	KBN70M (MEGACOAT)	Blackish Red	2-4	34	1,350	· Heat-resistant MEGACOAT on CBN rich substrate · Application: General cutting of sintered steel (ferrous sintered alloy) at high speed
K Cast Iron	**KBN475**	Black	2	39	1,400	· Excellent wear resistance due to high CBN content and special binder · Application: High speed machining of gray cast iron
	KBN60M (MEGACOAT)	Blackish Red	0.5-6	33	1,250	· Heat-resistant MEGACOAT on CBN rich substrate with hard binder phase · Application: High speed finishing of gray cast iron
	KBN900 (TiN COAT)	Gold	9	31	1,050	· TiN coated solid CBN · Application: Heavy duty, interrupted cutting and finishing of hardened steel, hardened roll steel and cast iron

MEGACOAT CBN

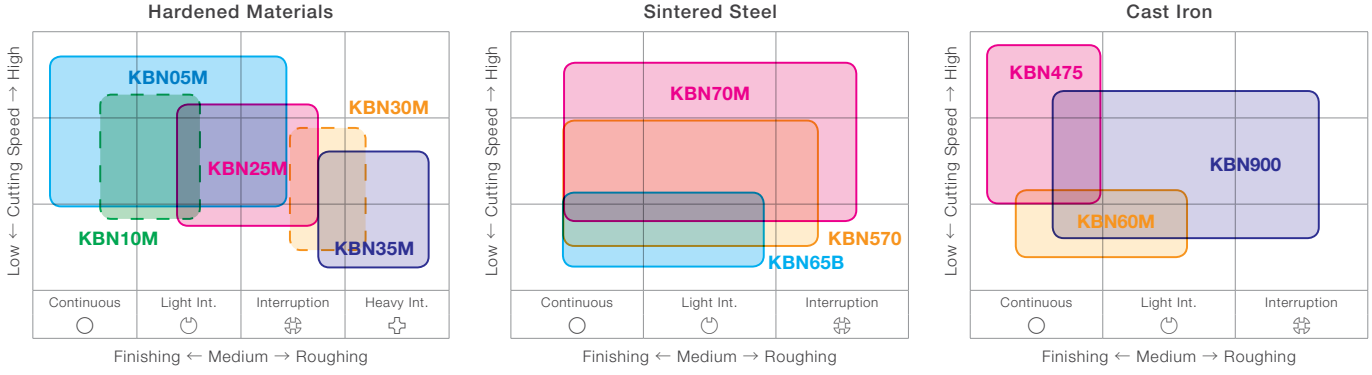
Properties of PVD Coated Layer



Advantages of MEGACOAT

- Long tool life and stable cutting due to superior heat-resistance and hardness
- Improvement of crater wear (oxidation, diffusional wear) resistance
- High thermal stability and surface smoothness provde excellent surface finish

Application Map



PCD

PCD (Polycrystalline Diamond)

KYOCERA diamond material is a synthetic diamond sintered under high temperatures and pressures. PCD (Polycrystalline diamond) is ideal for non-ferrous metals and non-metals.

FEATURES

- Applicable for non-ferrous metals, non-metals turning, milling and other various type of cutting
- Long tool life due to extreme hardness
- Capable of high cutting speeds which increases cutting productivity
- Reduced edge build-up allows for high precision cutting
- Diversified applications for cutting of non-ferrous materials and non-metals
- Finished surface will be rainbow colored.
  (a mirror-like finished surface will not be obtained when single crystal diamond is used.)

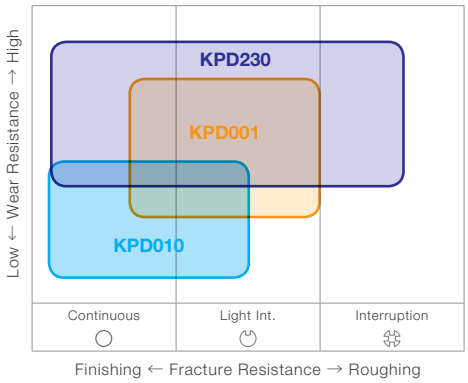
FEATURES OF PCD

Material	Description	Av. Grain Size (μm)	Advantages
N Non-Ferrous Materials	**KPD001**	0.5	· Super Micro-Grain PCD features cutting edge strength, wear resistance, fracture resistance, good edge-sharpening performance and long, stable tool life. · Application: High speed cutting of aluminum alloys, brass, non-ferrous metals and non-metals including plastics, fiberglass, carbide and ceramics.
	KPD010	10	· Good wear resistance and toughness, good grindability · Application: General purpose, high speed cutting of aluminum alloys, non-ferrous metals and non-metals including plastics, fiberglass, carbide and ceramics.
	KPD230	2-30	· Superior abrasive wear resistance and toughness due to high density PCD with mixed rough and fine grains · Application: High speed milling of aluminum alloys, non-ferrous metals, plastics and fiberglass

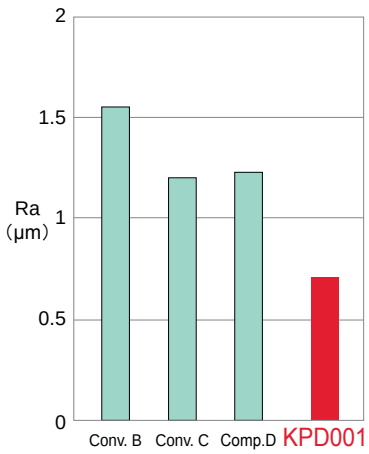
Applications

Workpiece Material		Non-ferrous materials (Aluminum / Non-ferrous metals / Non-metals)				Difficult-to-Cut Materials Titanium / Titanium alloys			
Cutting Range		Finishing ← → Roughing				Finishing ← → Roughing			
Classification		N01	N10	N20	N30	S01	S10	S20	S30
Turning Milling	PCD	KPD001				KPD001			
			KPD010			KPD010			
		KPD230							

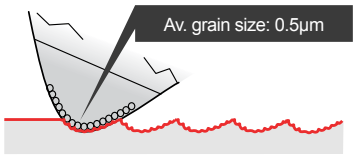
Application Map



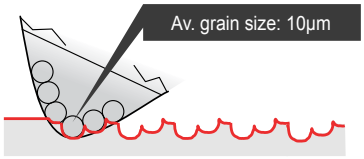
Surface Finish Roughness Comparison of Aluminum Cutting



Excellent surface finish provided by Super Micro-Grain KPD001



Surface finish of conventional PCD

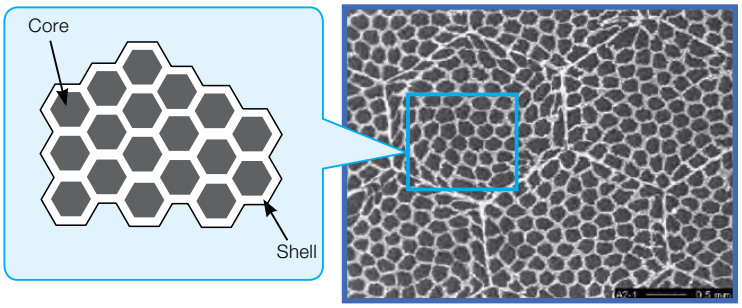


(Grain size affects surface finish quality)

Honeycomb Structure CBN / CERAMIC

Honeycomb Structure CBN / CERAMIC

Honeycomb structure is the high structural controlled composite material consisting of a hard and superior wear-resistance core (gray portion) and a tough shell (white portion).



FEATURES

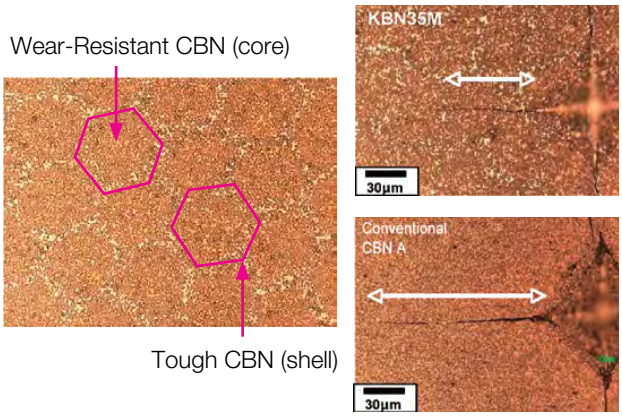
- Cell Fibers combine a hard, wear-resistant core and a tough shell into one insert.
- The tough shell stops cracks that form in the core.
- CBN is good for interrupted machining of exceptionally hard material and ceramic is good for heat-resistant alloys

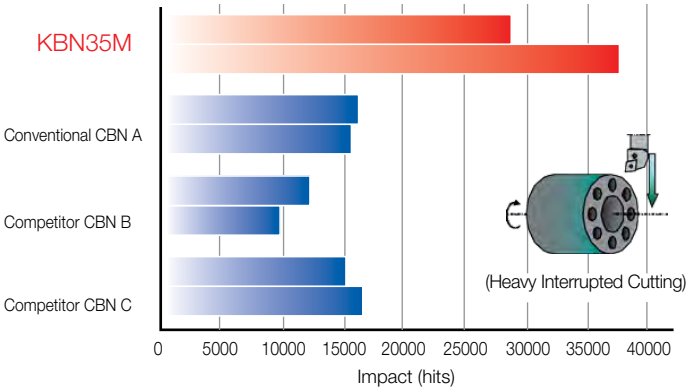
FEATURES OF CBN

Material	*Description*	*Color*	*Main Component (Coating Composition)*	*Advantages*
H Hardened Materials	**KBN35M** (MEGACOAT)	Blackish Red	CBN	· Honeycomb structure CBN composite material consisting of wear resistant CBN (core) and tough CBN (shell) · Heat-resistant MEGACOAT on tough Honeycomb structure CBN · Application: Stable machining of hardened steel at interrupted machining
S Heat-Resistant Alloys	**CF1**	Gray	Ceramic	· Honeycomb structure ceramic composite material consisting of wear resistant ceramic (core) and tough ceramic (shell) · Application: Machining of heat-resistant alloys like Ni-base heat-resistant alloys

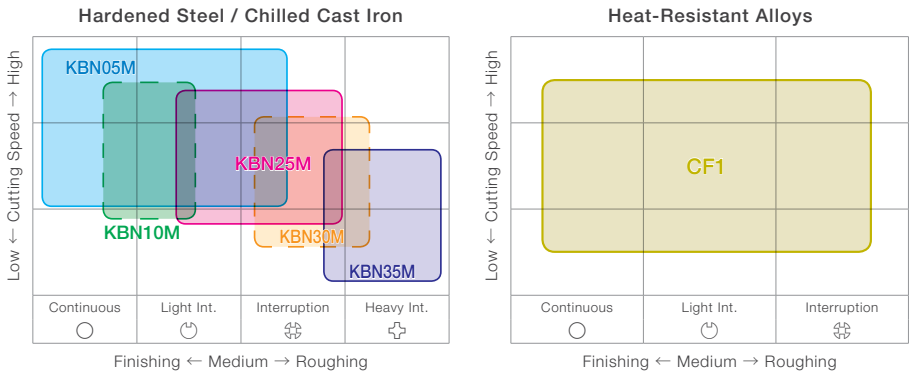
KBN35M (MEGACOAT Honeycomb Structure CBN)

Tough CBN (Shell) Prevents Crack Growth



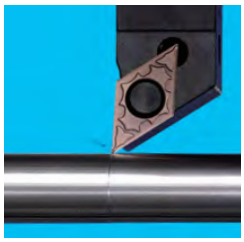


Application Map



Grade Name	Color	Main Component	Coating Layer	Density	Hardness of Substrate (HV)	Hardness of Substrate (GPa)	Fracture Toughness ($MPam^{1/2}$)	Flexural Toughness (MPa)
Cermet								
TN610	Gray	TiCN	-	6.6	1,750	17.2	6.0	2,100
TN620	Gray	TiCN	-	6.9	1,550	15.2	9.0	2,500
TN6010	Gray	TiCN	-	6.5	1,700	16.7	7.0	2,000
TN6020	Gray	TiCN	-	6.4	1,500	14.7	10.0	2,500
TN60	Gray	TiCN+NbC	-	6.6	1,600	15.7	9.0	1,760
TN90	Gray	TiCN+NbC	-	6.4	1,450	14.2	10.0	1,960
TN100M	Gray	TiCN+NbC	-	6.7	1,520	14.9	10.5	1,860
TC40	Gray	TiC+TiN	-	6.0	1,650	16.2	9.0	1,570
TC60	Gray	NbC	-	8.1	1,500	14.7	10.5	1,670
PVD Coated Cermet								
PV710	Gold	MEGACOAT NANO	Thin Coating	6.6	1,750	17.2	6.0	2,100
PV720	Gold	MEGACOAT NANO	Thin Coating	6.9	1,550	15.2	9.0	2,500
PV7005	Blackish Red	MEGACOAT	Thin Coating	6.0	1,650	16.2	8.5	1,470
PV7010	Blackish Red	MEGACOAT	Thin Coating	6.5	1,700	16.7	7.0	2,000
PV7025	Blackish Red	MEGACOAT	Thin Coating	6.4	1,500	14.7	10.0	2,500
PV7040	Blackish Red	MEGACOAT	Thin Coating	6.0	1,650	16.2	9.0	1,570
PV7020	Gold	TiAlN+TiN	Thin Coating	6.4	1,500	14.7	10.0	2,500
PV90	Gold	TiN	Thin Coating	6.4	1,450	14.2	10.0	1,960
CVD Coated Carbide								
CA420M	Gold	Micro columnar TiCN+Al_2O_3+TiN	Thick Coating	14.5	1,600	15.8	13.0	3,400
CA4010	Gold	Columnar TiCN+Al_2O_3+TiN	Thick Coating	14.8	1,670	16.4	10.0	3,000
CA4115	Gold	Micro columnar TiCN+Al_2O_3+TiN	Thick Coating	14.7	1,550	15.2	12.0	2,750
CA4120	Gold	Micro columnar TiCN+Al_2O_3+TiN	Thick Coating	14.7	1,550	15.2	12.0	2,750
CA4505	Blackish Gray	Micro columnar TiCN+Al_2O_3	Thick Coating	14.9	1,780	17.4	9.5	2,350
CA4515	Blackish Gray	Micro columnar TiCN+Al_2O_3	Thick Coating	14.9	1,570	15.4	12.0	2,780
CA510	Gold	Micro columnar TiCN+Al_2O_3+TiN	Thick Coating	14.5	1,470	14.4	11.5	2,500
CA515	Gold	Micro columnar TiCN+Al_2O_3+TiN	Thick Coating	14.4	1,440	14.1	12.5	2,650
CA525	Gold	Micro columnar TiCN+Al_2O_3+TiN	Thick Coating	14.2	1,360	13.3	13.5	2,750
CA530	Gold	Micro columnar TiCN+Al_2O_3+TiN	Thick Coating	13.9	1,340	13.1	14.5	2,850
CA5505	Gold	Micro columnar TiCN+Al_2O_3+TiN	Thick Coating	14.7	1,730	17.0	10.0	2,540
CA5515	Gold	Micro columnar TiCN+Al_2O_3+TiN	Thick Coating	14.7	1,550	15.2	12.0	2,750
CA5525	Gold	Micro columnar TiCN+Al_2O_3+TiN	Thick Coating	14.5	1,400	13.7	12.0	2,780
CA5535	Gold	Micro columnar TiCN+Al_2O_3+TiN	Thick Coating	14.1	1,340	13.1	16.5	2,970
CA6515	Gold	Micro columnar TiCN+Al_2O_3+TiN	Thin Coating	14.7	1,530	15.0	12.0	2,780
CA6525	Gold	Micro columnar TiCN+Al_2O_3+TiN	Thin Coating	14.7	1,370	13.4	16.0	3,100
CA6535	Gold	Micro columnar TiCN+Al_2O_3+TiN	Thin Coating	14.3	1,320	12.9	16.0	3,700
CR9025	Gold	Columnar TiCN+TiN	Thick Coating	14.5	1,400	13.7	12.0	2,780
PVD Coated Carbide								
PR630	Gold	TiN	Thin Coating	12.5	1,500	14.7	11.0	2,160
PR660	Gold	TiN	Thin Coating	13.7	1,450	14.2	12.0	2,250
PR730	Gold	TiAlN+TiN	Thin Coating	13.7	1,450	14.2	12.0	2,250
PR830	Gold	TiAlN+TiN	Thin Coating	13.7	1,450	14.2	12.0	2,250
PR905	Bluish Violet	TiAlN	Thin Coating	14.8	1,670	16.4	10.0	3,000
PR915	Bluish Violet	TiAlN	Thin Coating	14.1	1,700	16.7	11.0	4,140
PR930	Reddish Gray	TiCN	Thin Coating	14.1	1,700	16.7	11.0	4,140
PR1005	Reddish Gray	TiCN	Thin Coating	14.9	1,800	17.6	10.0	3,300
PR1025	Reddish Gray	TiCN	Thin Coating	14.5	1,600	15.8	13.0	3,400
PR1115	Purple Red	TiAlN	Thin Coating	14.7	1,700	16.7	11.0	3,000
PR1125	Purple Red	TiAlN	Thin Coating	14.5	1,600	15.8	13.0	3,400
PR1210	Blackish Red	MEGACOAT	Thin Coating	14.8	1,670	16.4	10.0	3,000
PR1215	Blackish Red	MEGACOAT	Thin Coating	14.7	1,700	16.7	11.0	3,000
PR1225	Blackish Red	MEGACOAT	Thin Coating	14.5	1,600	15.8	13.0	3,400
PR1230	Blackish Red	MEGACOAT	Thin Coating	13.7	1,450	14.2	12.0	2,250
PR1305	Blackish Red	MEGACOAT	Thin Coating	15.0	1,790	17.5	9.5	2,350
PR1310	Blackish Red	MEGACOAT	Thin Coating	14.8	1,670	16.4	10.0	3,000
PR1325	Blackish Red	MEGACOAT	Thin Coating	14.7	1,370	13.4	16.0	3,100
PR1425	Blackish Red	MEGACOAT NANO	Thin Coating	14.5	1,600	15.8	13.0	3,400
PR1510	Blackish Red	MEGACOAT NANO	Thin Coating	14.8	1,720	16.8	9.0	2,450
PR1525	Blackish Red	MEGACOAT NANO	Thin Coating	14.5	1,600	15.8	13.0	3,400
PR1535	Blackish Red	MEGACOAT NANO	Thin Coating	14.3	1,320	12.9	16.0	3,700
Carbide								
KW10	Gray	WC+Co	-	15.0	1,650	16.2	10.0	1,470
GW15	Gray	WC+Co	-	14.7	1,700	16.7	11.0	3,000
GW25	Gray	WC+Co	-	14.5	1,600	15.8	13.0	3,400
SW05	Gray	WC+Co	-	15.0	1,790	17.5	9.5	2,350
SW10	Gray	WC+Co	-	14.8	1,670	16.4	10.0	3,000
SW25	Gray	WC+Co	-	14.7	1,370	13.4	16.0	3,100
DLC Coating								
PDL025	Iridescent	C	Thin Coating	14.5	1,600	15.8	13.0	3,400

Insert Material Selection Table

Applications		Cutting Range	P	M	K		N	S		H	Powdered Metal
			Steel	Stainless Steel	Gray Cast Iron	Nodular Cast Iron	Non-Ferrous Metals	Heat-Resistant Alloys	Titanium Alloys	Hardened Materials	
Turning		Finishing ↑	TN610		KBN475						
			TN6010					CF1		KT66	
			TN620	TN620	KBN60M			KS6040		A66N	TN6010
			TN60	TN60	KA30	TN60		KW10		PT600M	TN60
			PV710	PV720	PV7005	PV7005	KPD001	CA6515	KPD001	KBN05M	
			PV7010	CA6515	CA5505	CA5505	KPD010	CA6525	KPD010	KBN10M	KBN570
			PV720	CA6525	CA4505	CA4505	PDL025	PR1305	SW05	KBN25M	KBN70M
			CA510	PR1125	CA4515	CA4515	KW10	PR1310	SW10	KBN30M	
			CA515	PR1535				PR1325	SW25	KBN35M	
			CA525					PR1535		KBN900	
		Roughing ↓	CA530								
Small Tools		Finishing ↑	TN610								
			TN6010								
			TN620								TN610
			PV710	TN620							TN60
			PV7010	PV720	CA4505	CA4505	KPD001	CA6515	KPD001	KBN05M	
			PV720	PR930	CA4515	CA4515	KPD010	PR1125	KPD010	KBN10M	
			PR930	PR1025	KW10	KW10	KW10	PR1225	KW10	KBN25M	KBN570
			PR1005	PR1225						KBN30M	KBN70M
			PR1025	PR1535							
			PR1425								
		Roughing ↓	PR1535								
Boring		Large ↑ Bore Dia. ↓ Small	TN610								
			TN6010								
			TN620								
			PV710	TN60	KBN475						
			PV7010	CA6515	KBN60M					PT600M	TN610
			PV720	CA6525	PV7005	PV7005	KPD001	CA6515	KPD001	KBN05M	TN60
			CA515	PR1025	CA4505	CA4505	KPD010	CA6525	KPD010	KBN10M	
			CA525	PR1125	CA4515	CA4515	PDL025	PR1125	KW10	KBN25M	KBN570
			CA530	PR1225	KW10	KW10	KW10	PR1225	SW05	KBN30M	KBN70M
			PR1025	PR930							
			PR1425	PR1535							
			PR930								
			PR1535								
General Cut-Off		Large ↑ Cutting Dia. ↓ Small	CR9025	CR9025							
			PR930	PR930							
			PR915	PR915	KW10	KW10	PDL025	KW10	KW10		
			PR1215	PR1215	PR1215	PR1215	KW10	PR1225		-	-
			PR1225	PR1225				PR660			
			PR1535	PR1535							
			PR660	PR660							
Small Dia. Cut-Off		Depends on Workpiece Material	PR1025	PR1025	KW10	KW10	PDL025	KW10	KW10		
			PR1225	PR1225			KW10	PR1025		-	-
			PR1535	PR1535				PR1225			
Grooving		Glossy Finish ↑ Stable	TC40	TC40							
			TN620	TN620							
			TN90	TN90	PR905	PR905	KPD001	PR915	KPD001	KBN510	TC40
			PV7040	PV7040	PR1215	PR1215	PDL025	KW10	KW10	KBN525	
			PR930	PR930	KW10	KW10	KW10	PR1215		PT600M	KBN570
			PR1115	PR1115	GW15	GW15	GW15	PR1225			
			PR1215	PR1215							
			PR1225	PR1225							
Threading		Glossy Finish ↑ Stable	TC60M	TC60M	KW10	KW10	KW10	KW10	KW10		
			PR1115	PR1115	GW15	GW15	GW15	GW15	GW15	-	PR1115
			PR930	PR930							
Drilling		Wear Resistance ↑ Toughness						PR660			
			PR1225	PR1225	PR1210	PR1210	KW10	PR1225	KW10		
			PR1230	PR830	KW10	KW10	GW15	KW10		-	-
			PR830	PR660				GW15			
			PR660								
Milling		Finishing ↑ Roughing ↓					KPD230	CA6535	KPD230		
			TN100M	CA6535			KPD001	PR830	KPD001		
			PR1225	PR1225	PR1210	PR1210	KPD010	PR660	KW10		
			PR1230	PR1525	PR1510	PR1510	PDL025	PR1225	PR905	-	-
			PR1525	PR830	KW10	KW10	KW10	PR1525	PR1210		
			PR830	PR1535			GW25		PR1535		

· Highlighted Items are Recommended Choice.

TURNING INSERTS

B

B1 - B99

INSERT IDENTIFICATION SYSTEM

Symbol	Insert
H	Hexagon
O	Octagon
P	Pentagon
S	Square
T	Triangle
C	80° Diamond
D	55° Diamond
E	75° Diamond
F	50° Diamond
M	86° Diamond
J	70° Diamond
V	35° Diamond
W	80° Trigon
L	Rectangle
A	85° Parallelogram
B	82° Parallelogram
K	55° Parallelogram
R	Round

Shown angle stands for acute angle for rhombic and parallelogram inserts.

① Shape Symbol

Symbol	Relief Angle
A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°

② Relief Angle Symbol

Symbol (Class)	Tolerance					
	Corner Height		Thickness		I.C. Size	
	ANSI (±inch)	ISO (±mm)	ANSI (±inch)	ISO (±mm)	ANSI (±inch)	ISO (±mm)
A	0.0002	0.005	0.0010	0.025	0.0010	0.025
F	0.0002	0.005	0.0010	0.025	0.0005	0.013
C	0.0005	0.013	0.0010	0.025	0.0010	0.025
H	0.0005	0.013	0.0010	0.025	0.0005	0.013
E	0.0010	0.025	0.0010	0.025	0.0010	0.025
G	0.0010	0.025	0.0050	0.130	0.0010	0.025
J	0.0002	0.005	0.0010	0.025	0.002~0.006	0.05~0.15
K※	0.0005	0.013	0.0010	0.025	0.002~0.006	0.05~0.15
L※	0.0010	0.025	0.0010	0.025	0.002~0.006	0.05~0.15
M※	0.003~0.007	0.080~0.180	0.0050	0.130	0.002~0.006	0.05~0.15
N※	0.003~0.007	0.080~0.180	0.0010	0.025	0.002~0.006	0.05~0.15
U※	0.005~0.015	0.130~0.380	0.0050	0.130	0.003~0.009	0.08~0.25

※ Insert's periphery is as fired.
Tolerance difference depends on size and shape of insert

③ Tolerance Symbol

Symbol	Hole	Hole Shape	Chipbreaker	Insert
N	No	-	No	
R			One Side	
F			Two Sides	
A	Yes	With Hole	No	
M			One Side	
G			Two Sides	
W		With Hole and One Countersink 40°~60°	No	
T			One Side	
Q		With Hole and Two Countersink 40°~60°	No	
U			Two Sides	
B		With Hole and One Countersink 70°~90°	No	
H			One Side	
C		With Hole and Two Countersink 70°~90°	No	
J			Two Sides	
X	-	-	-	-

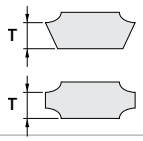
④ Hole / Chipbreaker Symbol

	①	②	③	④	⑤	⑥	⑦	⑧
ISO (metric)	C	N	M	G	12	04	08	PG
ANSI (inch)	C	N	M	G	4	3	2	PG

⑤ Edge Length Symbol (ISO)							I.C. Size (mm)	I.C. Size (ANSI)	
C	D	S	R	T	V	W		I.C. Size (inch)	Symbol
03	04		03	06			3.97	5/32	1.2
04	05		04	08	08		4.76	3/16	1.5
		05					5		
05	06		05	09		03	5.56	7/32	1.8
		06					6		
06	07		06	11	11	04	6.35	1/4	2
08	09		07	13		05	7.94	5/16	2.5
		08					8		
09	11	09	09	16	16	06	9.525	3/8	3
	12	10					10		
		12					12		
12	15	12	12	22	22	08	12.7	1/2	4
16	19	15	15	27	27	10	15.875	5/8	5
		16					16		
19	23	19	19	33	33	13	19.05	3/4	6
		20					20		
22	27		22	38			22.225	7/8	7
		25					25		
25	31	25	25	44	44	17	25.4	1	8
32	38	31	31	54	54	21	31.75	1-1/4	10
		32					32		

- Expressed as edge length for ISO.
- ANSI expresses the inscribed circle diameter in inches.

⑥ Thickness Symbol			
ISO		ANSI	
Thickness (mm)	Symbol	Thickness (inch)	Symbol
1.59	01	1/16	1
1.98	T1	5/64	1.2
2.38	02	3/32	1.5
2.78	T2	-	-
3.18	03	1/8	2
3.97	T3	5/32	2.5
4.76	04	3/16	3
5.56	05	7/32	3.5
6.35	06	1/4	4
7.94	07	5/16	5
9.525	09	3/8	6



Thickness displayed as the distance between bottom surface and highest point on cutting edge.

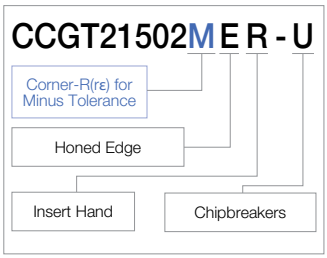
⑦ Corner-R(rε) Symbol			
ISO		ANSI	
Corner-R(rε) (mm)	Symbol	Corner-R(rε) (inch)	Symbol
Sharp Corner	00	0.000	00
0.03	003	0.001	0.1
0.05	005	0.002	0.13
0.10	01	0.004	0.2
0.20	02	0.008	0.5
0.40	04	1/64	1
0.80	08	1/32	2
1.20	12	3/64	3
1.60	16	1/16	4
2.00	20	5/64	5
2.40	24	3/32	6
2.80	28	7/64	7
3.20	32	1/8	8
Round insert	00 (inch) or MO (metric)	Round insert	

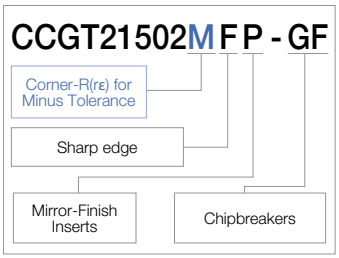
⑧ Manufacturer's Option

Hand Symbol, Chipbreaker, Symbol, Etc.

Positive Insert Identification System

(e.g. of (8) Manufacturer's Option)





When a minus tolerance is specified for the corner-R(rε)

- If a minus tolerance is specified for the corner-R(rε) as shown in the Fig.1, using an insert with corner-R(rε) = 0.008" may result in larger radius than specified.
- Use an insert the corner of which R(rε) has a minus tolerance.

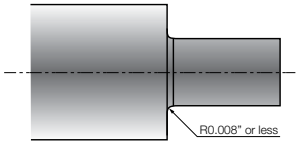
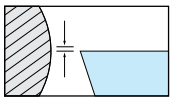


Fig.1 Example of a specified corner-R in the drawing

"E" Class Tolerance Symbol Insert Features

"E" Class Turning Insert

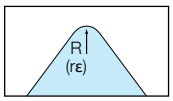
Same edge position and height after changing inserts



Thickness Tolerance

±0.005" → ±0.0010"

(Conventional)



Corner-R (rε) Tolerance

±0.004" → ±0.0008"

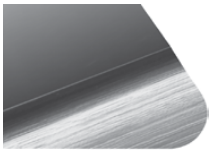
(Conventional)

High Quality Ground Insert "Super Fine"

- For mechatronics, electronics and high precision machined parts
- Sub-micron accuracy possible

High Quality Ground Insert

- Reduced micro chipping during edge grounding
- Less adhesion
- Long tool life

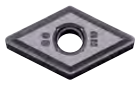


Insert Color

Cermet, MEGACOAT Cermet, and PVD Coated Cermet

Grades	Cermet								MEGACOAT NANO Cermet		MEGACOAT Cermet				PVD Cermet	
	NEW TN610	NEW TN620	TN6010	TN6020	TN60	TN100M	TC40N	TC60M	NEW PV710	NEW PV720	PV7005	PV7010	PV7025	PV7040	PV7020	PV90
Insert Color																

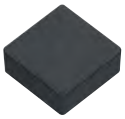
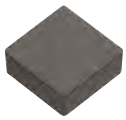
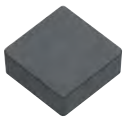
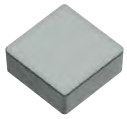
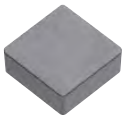
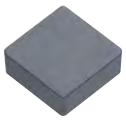
MEGACOAT (PVD Coated Carbide)

Grades	MEGACOAT							MEGACOAT NANO	
	PR1210	PR1215	PR1225	PR1230	PR1305	PR1310	PR1325	PR1425	NEW PR1535
Insert Color									

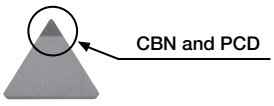
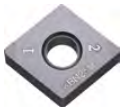
PVD Coated Carbide and CVD Coated Carbide

Grades	CVD Coated Carbide						PVD Coated Carbide								
	NEW CA420M	CA45 Series	CA40/41 Series	NEW CA510 CA515 CA525 CA530	CA55 Series	CA65 Series	PR660	PR830	PR905	PR915	PR930	PR1005	PR1025	PR1115	PR1125
Insert Color															

Ceramic

Grades	Alumina Ceramic			PVD Coated Carbide Ceramic	MEGACOAT Ceramic	Silicon Nitride Ceramic		CVD Coated Carbide Silicon Nitride Ceramic	SiAlON Ceramic		Cell Fiber Ceramic
	KA30	A65	KT66	A66N	PT600M	KS6000	KS6050	CS7050	NEW KS6030	NEW KS6040	CF1
Insert Color											

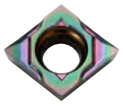
CBN and PCD

Grades	CBN					PCD			MEGACOAT CBN	PVD Coated CBN
	KBN65B	NEW KBN475	KBN510	KBN525	NEW KBN570	KPD001	KPD010	KPD230	KBN..M	KBN900
Insert Color										

Carbide

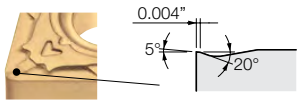
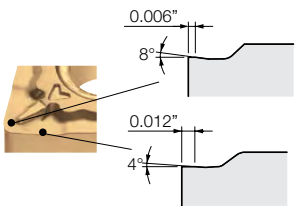
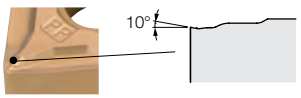
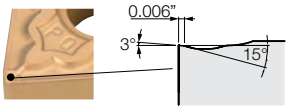
Grades	Carbide			
	GW15	GW25	KW10	SW05
Insert Color				

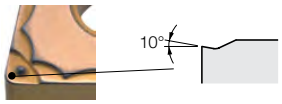
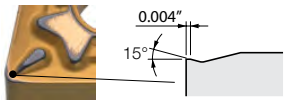
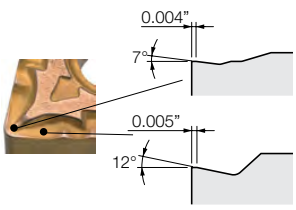
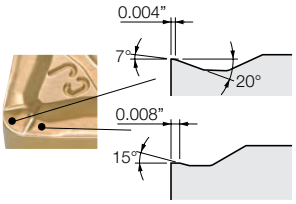
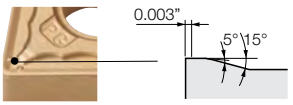
DLC Coating

Grades	DLC
	NEW PDL025
Insert Color	

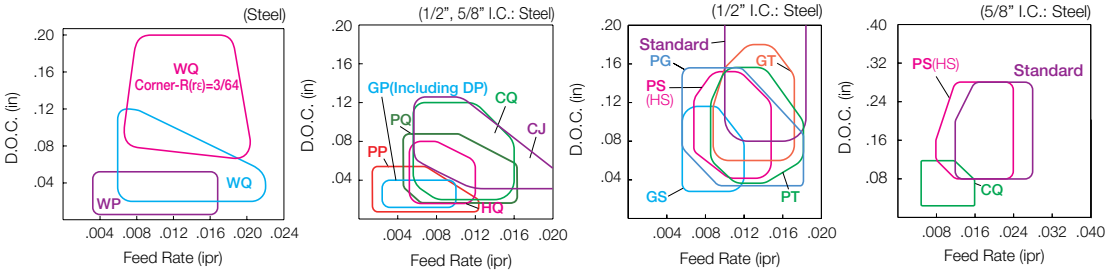
Steel

1 *Molded Chipbreaker*

Finishing (With Wiper Edge)	WP			Wiper Insert. Double feed rate is available for finishing to light machining, while maintaining a smooth finish.
Finishing-Medium (With Wiper Edge)	WQ			Wiper Insert. Double feed rate possible while maintaining a smooth finish. High efficiency and good chip control.
Finishing	PP			3-step dot structure realizes stable chip control at a wide range of feed rate. Less cutting force due to sharp cutting edge and smooth rake face.
Finishing-Medium	PQ			Stable chip control in a wide feed rate range by breaking chips effectively. The well-balanced edge sharpness and toughness.

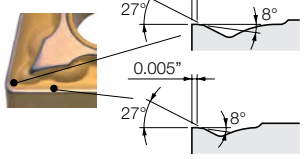
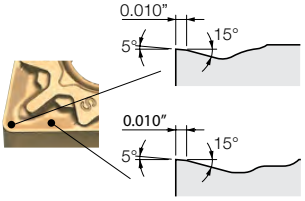
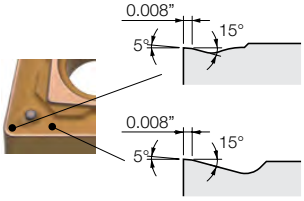
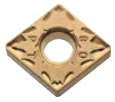
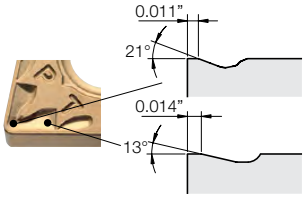
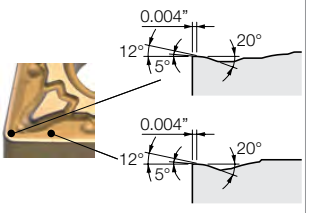
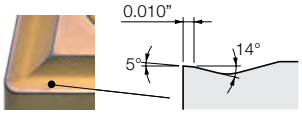
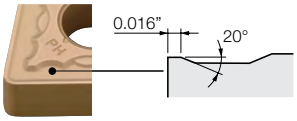
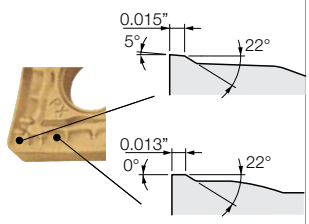
Finishing	GP			Finishing to light machining. Good chip control.
Finishing-Medium	HQ			Sharp cutting performance with 3-D rake angle and double projection design.
Finishing-Medium	CQ			Good chip control at various D.O.C. such as copying. Applicable for up-facing.
Finishing-Medium (Up Facing)	CJ			Ensures chips will curl even in small depth, high feed rate machining. Improves chip evacuation when copying and up-facing.
Medium-Roughing	PG			Stable machining with a balance of edge sharpness and strength. Prevents chip clogging at high feed rates. Good chip control at low feed rates. Stable machining with wide chip control range.

● Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)

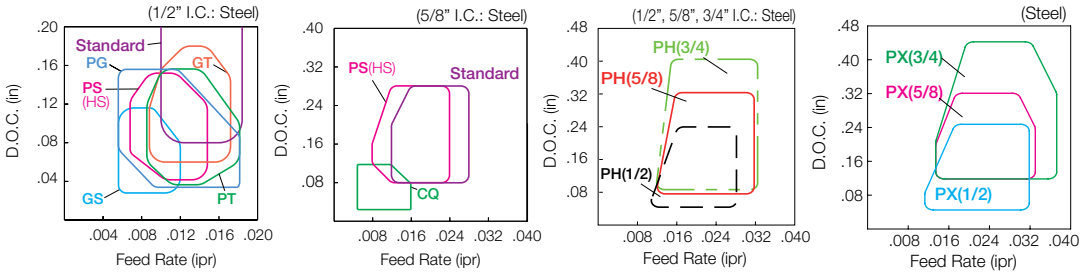


Steel

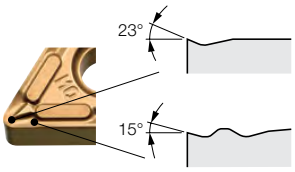
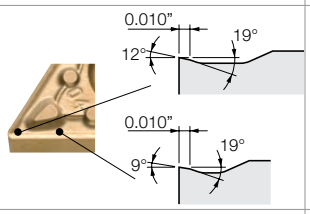
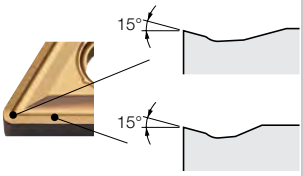
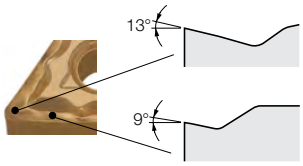
1 *Molded Chipbreaker*

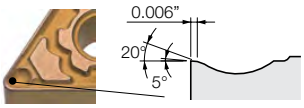
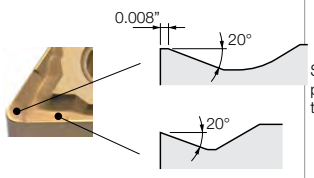
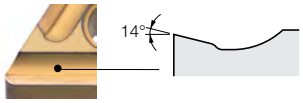
Medium-Roughing	GS			Strong edge chipbreaker. Stable for continuous machining and light interrupted machining.
Medium-Roughing	PS			General purpose chipbreaker. More stable due to large contact surface.
Medium-Roughing	HS			General purpose chipbreaker. Applicable for copying.
Medium-Roughing (High Feed Rate)	PT			Low cutting force during high feed machining. Land support structure.
Medium-Roughing (High Feed Rate)	GT			Strong edge chipbreaker. Wide land design and smooth chip control even at high feed rate machining.
Roughing	Standard			Low cutting force and suitable for large D.O.C. roughing.
Roughing	PH			For roughing of steel. Suitable for heavy interrupted machining and for workpieces with scale due to strong cutting edge.
Single Sided Roughing (High Feed Rate)	PX			Roughing and high feed rate operation. Low cutting force chipbreaker.

● Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)



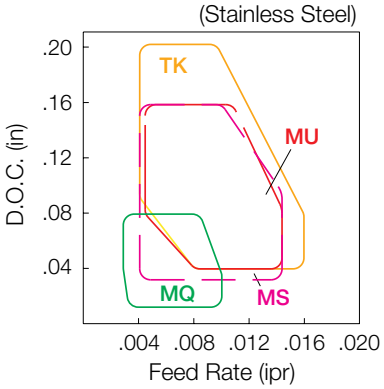
Stainless Steel / Heat-Resistant Alloy / Titanium Alloy

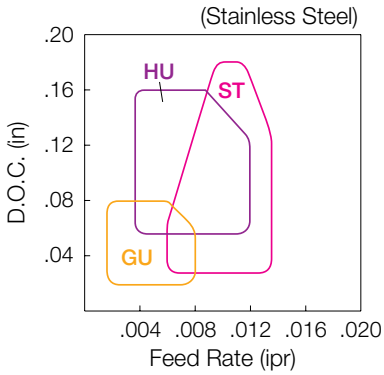
Finishing	MQ			Large rake angle and circular edge line. Low cutting force and good chip control.
Medium-Roughing	MS			Superior cutting edge sharpness and strength achieved by a positive land. Extra strength of cutting edge inhibits damage from wall shouldering.
Medium-Roughing	MU			Large rake angle reduces cutting force. Less burring achieved by diminishing damage from notching.
Medium-Roughing	TK			Smooth chipbreaker geometry improves chip flow with less adhesion. Large curled chips.

Finishing	GU			Sharp cutting performance and low cutting force due to 3-D rake angle.
Medium-Roughing	HU			Sharp cutting performance due to 3-D rake angle.
Medium-Roughing	ST			Fewer cutting forces due to large rake angle. Less notching with special design.

Stainless Steel

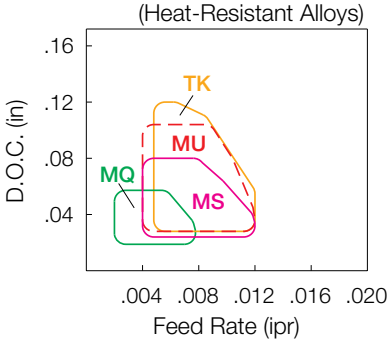
Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)





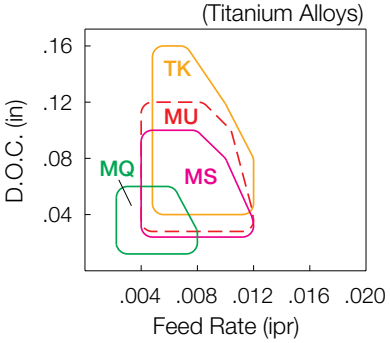
Heat-Resistant Alloys (PR1535 / PR13-Series)

Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)



Titanium Alloys (SW Series)

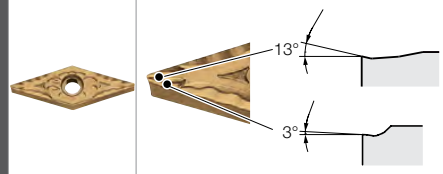
Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)



Steel (Copying / Undercutting , Varied D.O.C.)

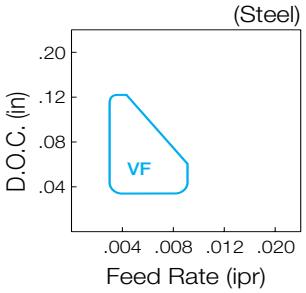
Finishing-Medium

VF



Good chip control for varied ap such as copying and undercutting.

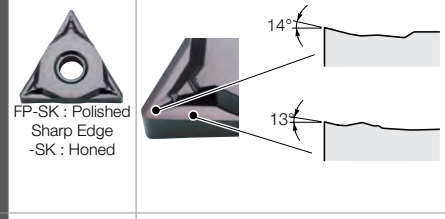
● **Applicable Chipbreaker Range** (D.O.C. Refers to Radial Depth of Cut)



Steel / Stainless Steel (for Small Parts Machining)

Finishing-Medium

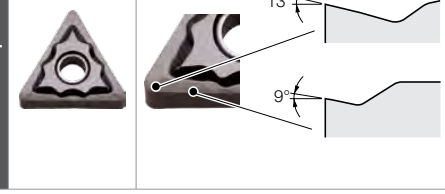
SK



For finishing to medium machining in automatic lathes.
Sharp cutting performance equivalent to positive inserts.
2-step dot design provides reliable chip control at various D.O.C..

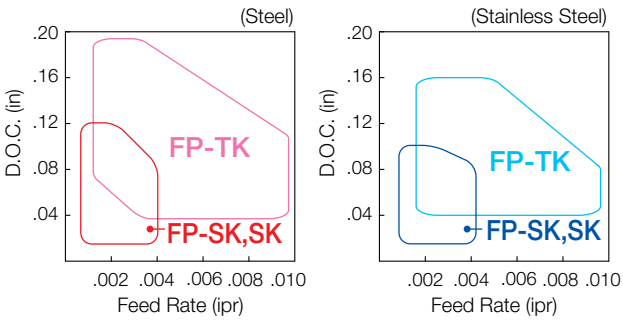
Medium-Roughing

FP-TK



For medium to high feed rate in automatic lathes (When machining workpieces of medium to large dia.)
Superior cutting performance achieved by sharp edge and polished surface.
Smooth chipbreaker geometry improves chip flow with less adhesion.
Large curled chips.

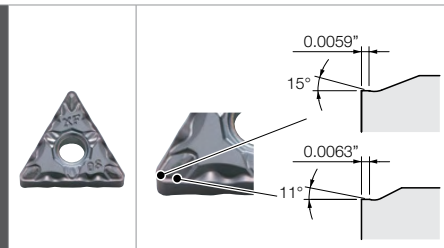
● **Applicable Chipbreaker Range** (D.O.C. Refers to Radial Depth of Cut)



Low Carbon Steel (Pipe / Rolled Plate / Rolled Steel)

Finishing

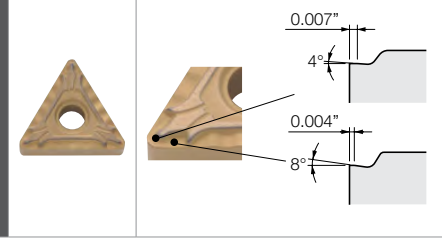
XF



Excellent chip control at high speed and small D.O.C. machining of low carbon steel.

Finishing

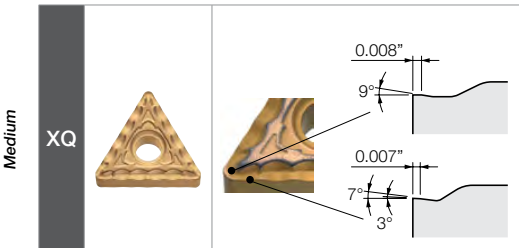
XP



Short chips when finishing due to sharp cutting and special design.

Medium

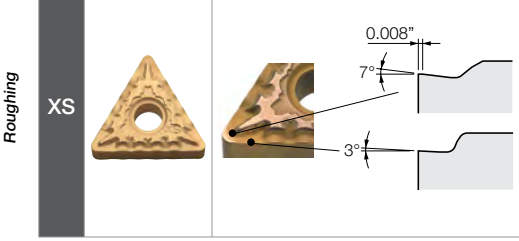
XQ



Consistent chip breaking at medium machining due to moderate rake face and special design.

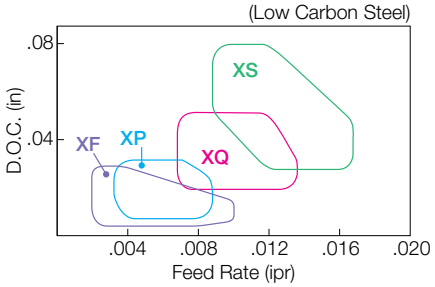
Roughing

XS



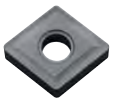
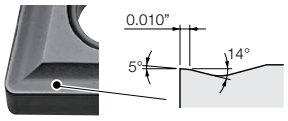
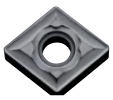
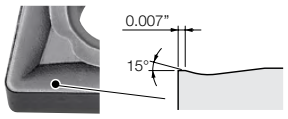
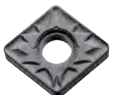
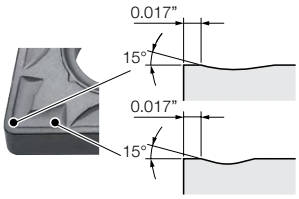
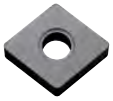
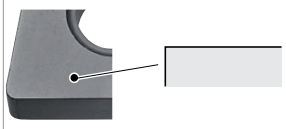
Consistent chip breaking when roughing due to special rake angle design.

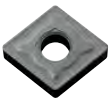
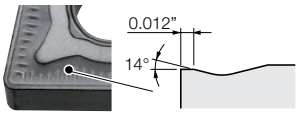
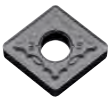
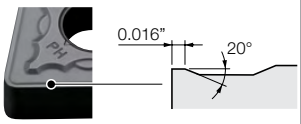
● **Applicable Chipbreaker Range** (D.O.C. Refers to Radial Depth of Cut)



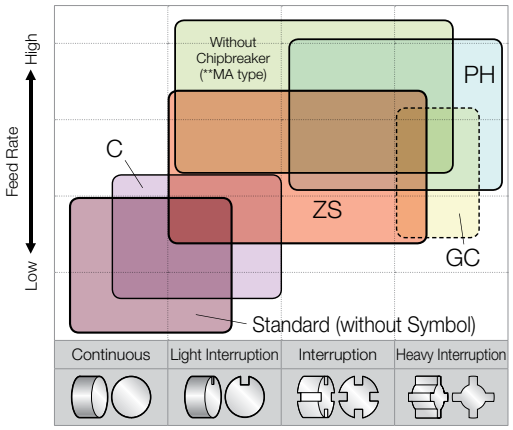
Cast Iron

Sharp Cutting Oriented ↓ Stability Oriented

Standard			Standard chipbreaker for continuous to light interrupted machining of cast iron. (Low cutting force)
C			High feed rate chipbreaker for continuous to light interrupted machining of cast iron.
ZS			Standard chipbreaker for light interrupted to interrupted machining of cast iron. (High stability)
Without Chipbreaker			High feed rate chipbreaker for light interrupted machining of cast iron.

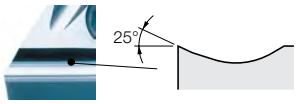
GC			Chipbreaker for heavy interrupted machining of cast iron. (Tough edge chipbreaker)
PH			Chipbreaker for roughing of cast iron. Suitable for heavy interrupted machining and for workpieces with scale due to strong cutting edge.

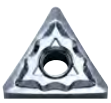
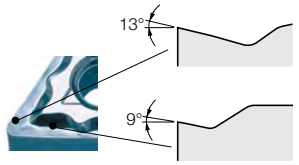
Chipbreaker Selection (Negative Inserts)



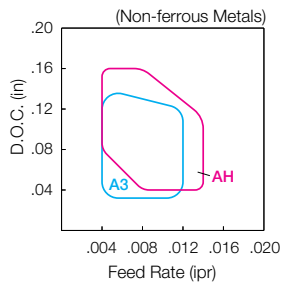
Non-ferrous Metals

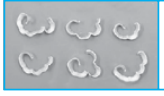
Finishing-Medium ↓ Medium-Roughing

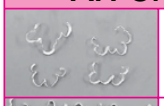
A3			Large rake angle and smooth surface. Good chip control and less adhesion.

AH		 G Class: Sharp Edge Prep. M Class: Horned Edge Prep.	Polished chipbreaker. Smooth chip control and less adhesion.

Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)



A3 Chipbreaker	
	D.O.C.= 0.08" f= 0.008 ipr
	D.O.C.=0.08" f= 0.012 ipr

AH Chipbreaker	
	D.O.C.= 0.08" f= 0.008 ipr
	D.O.C.= 0.08" f= 0.012 ipr

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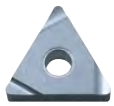
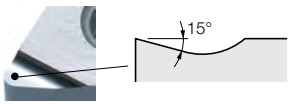
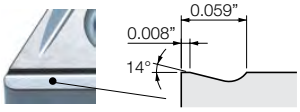
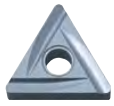
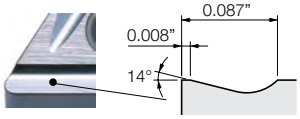
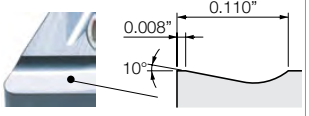
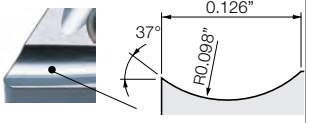
Steel

2 *Ground Chipbreaker*

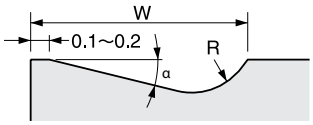
Finishing	S			Sharp edge and less cutting force. Good chip control and smooth chip evacuation.
Finishing-Medium	B			Suitable for general purpose machining at feed rate 0.006 to 0.010ipr.
Medium-Roughing	C			Suitable for general purpose machining at feed rate 0.008 to 0.014ipr.

Roughing	D			Suitable for general purpose machining at feed rate 0.012 to 0.018ipr.
Medium-Roughing / Low Cutting Force	25R			Applicable to sticky material such as low carbon steel. Large rake angle and suitable for stainless steel.

Effectiveness of ground chipbreaker

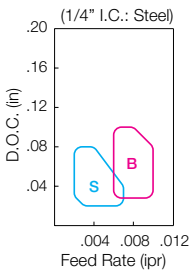
(1) Lower cutting force and improve edge
(2) Improved adhesion resistance
(3) Improved dimension accuracy and finishing surface accuracy
(4) Controlled chip evacuation direction

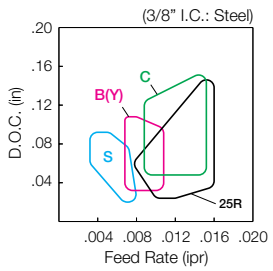
Specification of B, C, D and Parallel Ground Chipbreaker

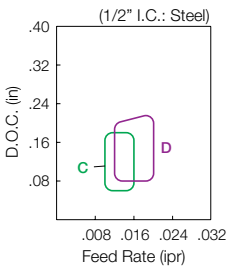


Insert Type	I.C. Size	Chipbreaker Name	W (in)	α	R (in)
CNGG	3/8, 1/2	Without Indication (Similar to C)	0.087	14°	0.040
WNGG	3/8	Without Indication (Similar to C)	0.087	14°	0.040
TNGG	1/4, 3/8	B	0.060	14°	0.020
	3/8, 1/2	C	0.087	14°	0.040
	3/8, 1/2	D	0.110	10°	0.060
DNGG	3/8, 1/2	Without Indication (Similar to C)	0.100	14°	0.080
VNGG	3/8	Without Indication (Similar to B)	0.060	14°	0.020
SNGG	3/8, 1/2	B	0.060	14°	0.020
	1/2	C	0.087	14°	0.040

Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)

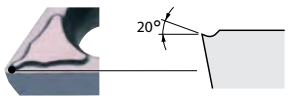
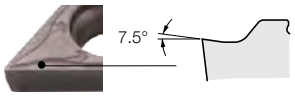
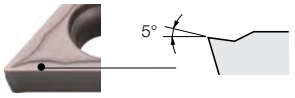
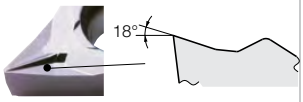
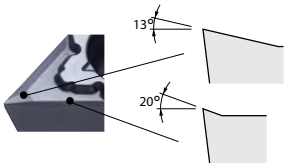
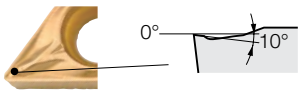
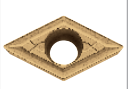
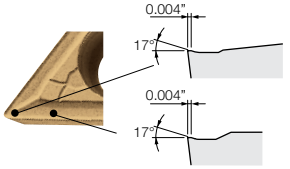


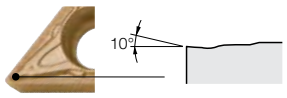
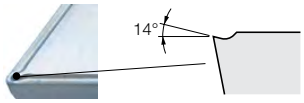
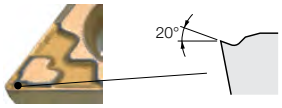
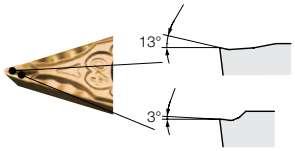
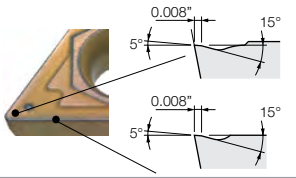
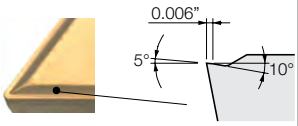
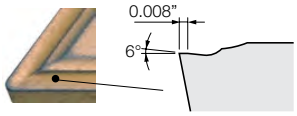




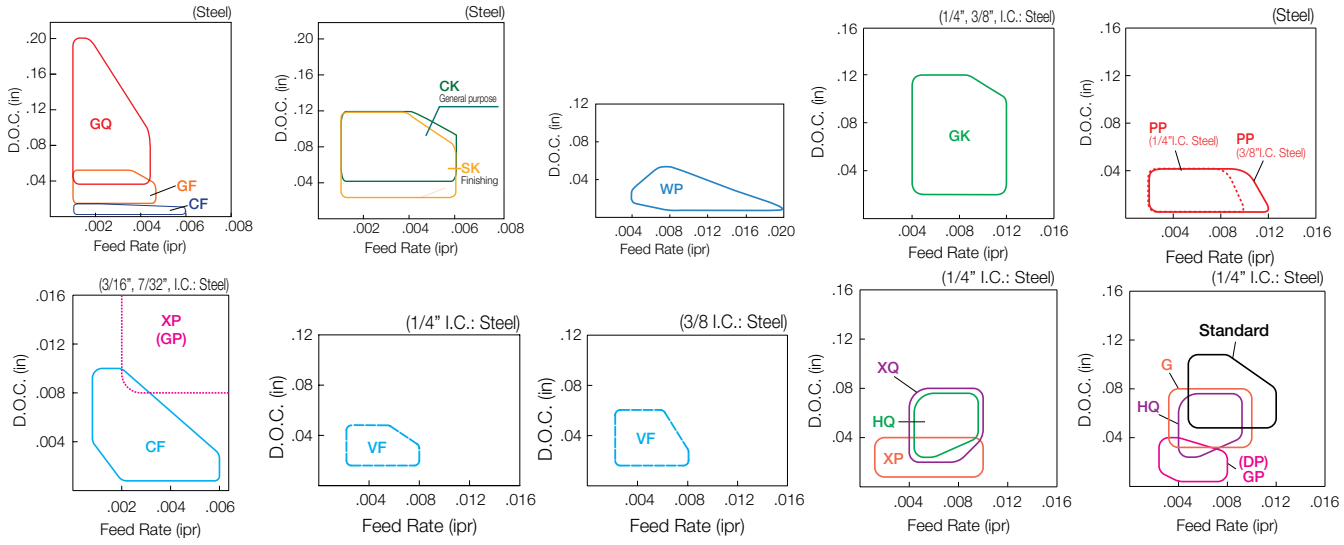
Steel

1 *Molded Chipbreaker*

Minute D.O.C.	CF			Available for minute D.O.C. (0.0008" - 0.008") finishing.
Finishing	GF			Dot located close to ridge line of cutting edge on corner. Chips fragmented in small pieces in cutting of small D.O.C..
Finishing-Medium	GQ			Enables cutting over a wide range of conditions by using the optimum chipbreaker width according to the cutting depth.
Finishing	SK			Sharp cutting performance due to Large rake angle. Large dot to the corner edge improved chip control in a wide feed rate range.
Finishing	CK			Good cutting performance. Applicable without hand for two direction cutting on automatic lathe.
Finishing	WP			Dual-dot structure with one dot offering stabilized chip control at low feed rates, while a second dot controls chips at higher feed rates.
Finishing-Medium	GK			Good chip evacuation at wide range by breaker dot and wide chip pocket.

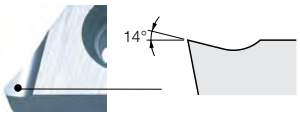
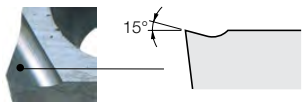
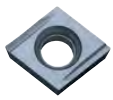
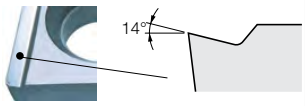
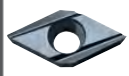
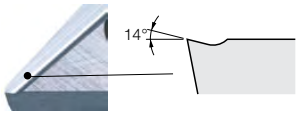
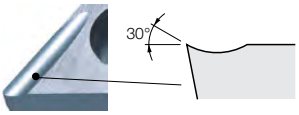
Finishing	PP			3-step Smart Dot structure is applicable to a wide range of feed rates in steel finishing. Smooth taper cutting edge reduces cutting forces.
Finishing	DP			Consistent chip breaking performance for finishing.
Finishing	GP			Good chip control at finishing. Applicable to sticky material like low carbon steel, pipe material.
Finishing	VF			Good chip control for varied ap such as copying and undercutting.
Finishing-Medium	HQ			General purpose chipbreaker for medium machining.
Medium	G			Chipbreaker for short chips at medium machining.
Medium	Standard			Strong edge chipbreaker for medium machining range.

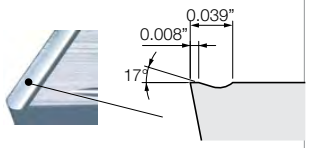
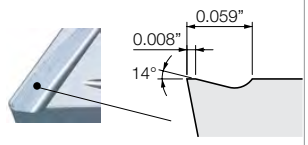
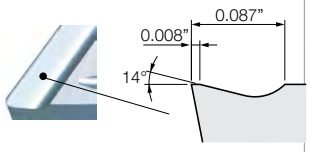
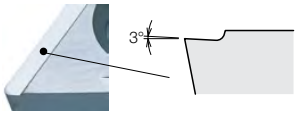
Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)



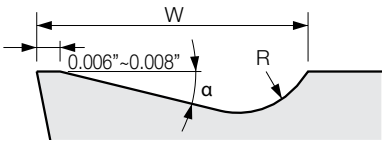
Steel

2 *Ground Chipbreaker*

Finishing	(Without Indication)			Good chip control during finishing to light machining with low cutting forces.
Finishing	F			Good chip control during finishing to light machining with low cutting forces.
Finishing-Medium	Y			Sharp cutting performance and good surface finish.
Low Feed	J			Slant chipbreaker width and chip control at various D.O.C..
Low Feed	U			Good chip control at low feed rate and varied D.O.C. with low cutting force. Suitable for automatic lathes.

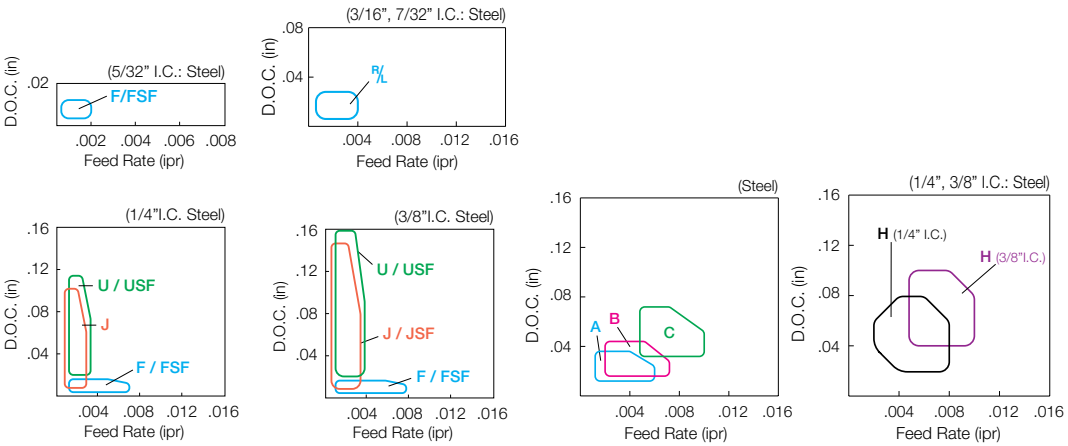
Finishing	A			Large rake angle and low cutting force. Narrow chipbreaker width and consistent chip control.
Finishing-Medium	B			Genera purpose chipbreaker for medium machining. Good balance between chip control and sharp cutting.
Medium	C			Applicable to high load machining. Good chip flow and less resistance.
Finishing-Medium	H			Sharp cutting performance and small curled chips.

Specification of A, B, C and parallel ground chipbreaker



Insert Type	Size	Chipbreaker Name	W (in)	α	R (in)
TPGR	1/4	A	0.040	17°	0.020
	1/4, 3/8	B	0.060	14°	0.020
	3/8	C	0.087	14°	0.040
SPGR	3/8	Without Indication (Similar to B)	0.060	14°	0.020
	1/2	Without Indication (Similar to C)	0.087	14°	0.040

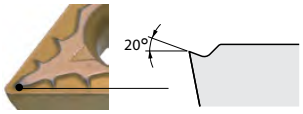
Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)



Low Carbon Steel (Pipe / Rolled Plate / Rolled Steel)

Finishing

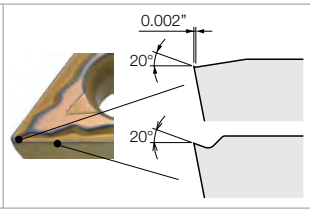
XP



Wide chip control range and sharp cutting performance. Suitable for low carbon steel and sticky material.

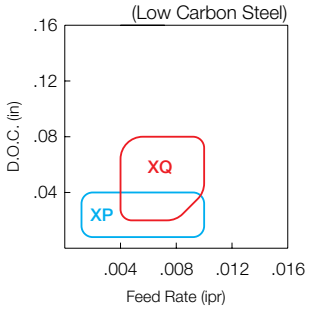
Finishing-Medium

XQ

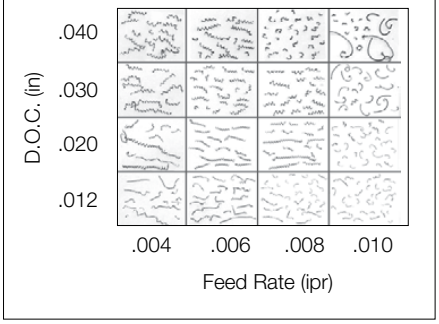


Wide chip control range and sharp cutting performance. Suitable for low carbon steel and sticky material.

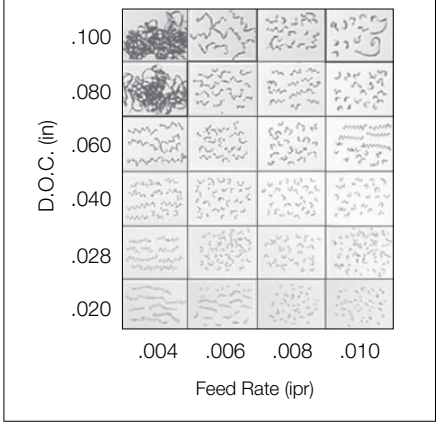
Applicable Chipbreaker Range (D.O.C. Indicates Radius)



XP Chipbreaker



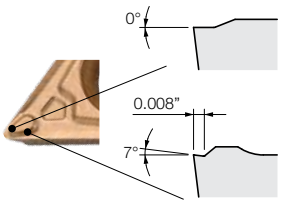
XQ Chipbreaker



Stainless Steel

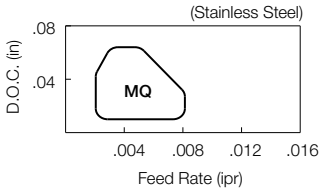
Finishing

MQ



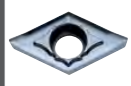
Good chip evacuation at internal turning. Small curled chips. Prevents chip entanglement with toolholder and stabilizes surface roughness.

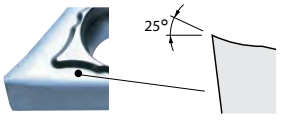
Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)



Finishing-Medium

AH

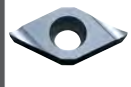


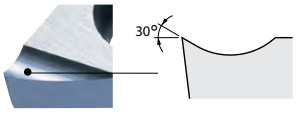


Positive chip groove and good chip control with low cutting forces. Polished surface reduces adhesion.

Finishing-Medium

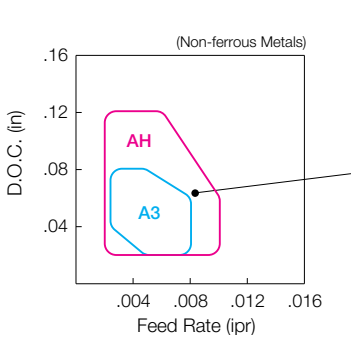
A3





Large rake angle, smooth chip flow and less adhesion. Sharp edge and good surface finish.

Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)



How to Read "Turning Inserts" Pages

- Refer below on how to read the "Indexable Turning Inserts" tables
- Section C contains similar content.

Classification of usage

- ✖ Interruption / 1st Choice
- ✱ Interruption / 2nd Choice
- ◒ Light Interruption / 1st Choice
- ◔ Light Interruption / 2nd Choice
- ● Continuous / 1st Choice
- ○ Continuous / 2nd Choice

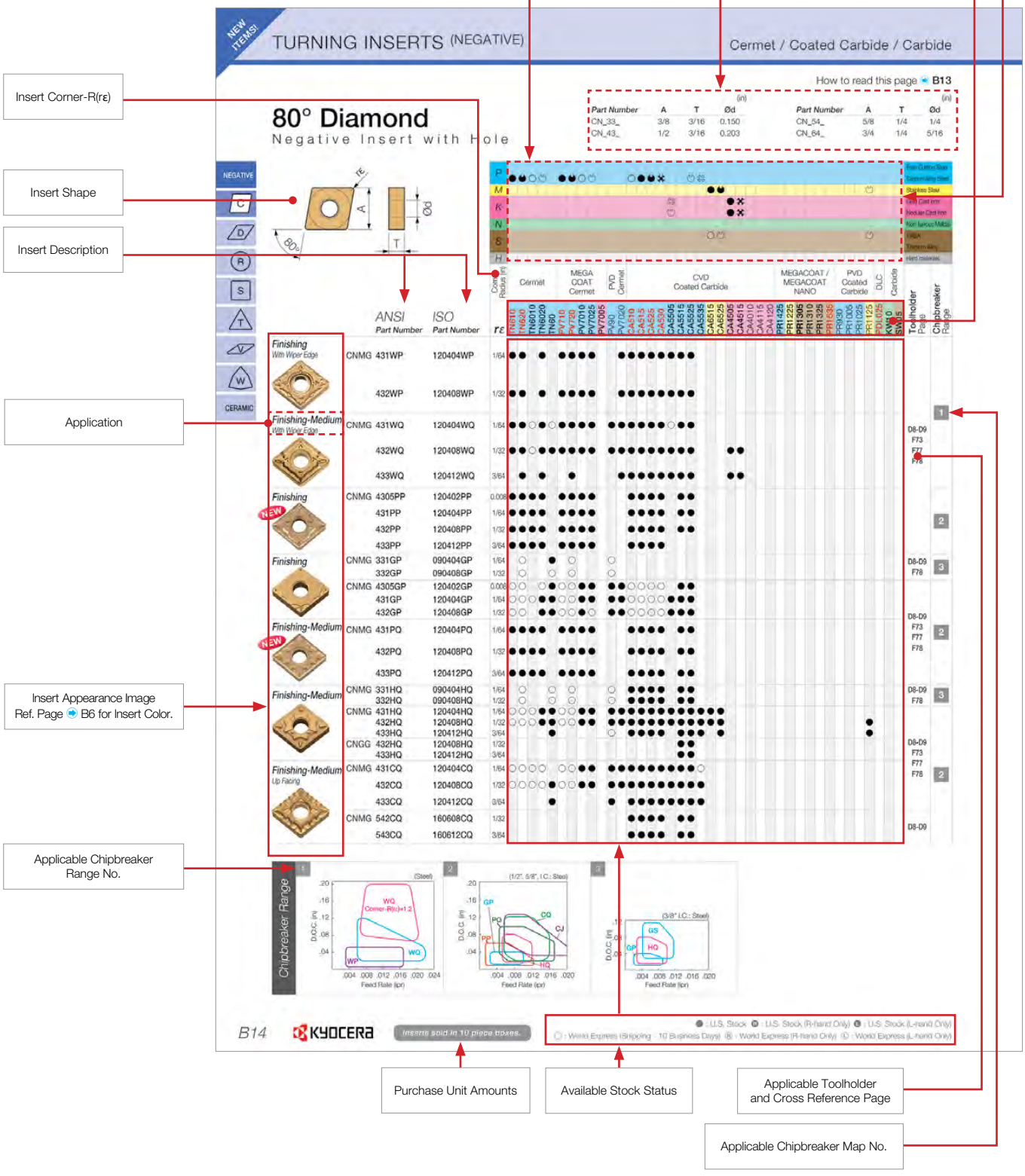
(In case hardness is under 45HRC)

Recommended grades for each application are shown here.

Inserts' ISO Classification of Usage
(Workpiece materials are written on the right side)

Insert Dimensions

Insert Grades
(Red Fonts Are New Grades)

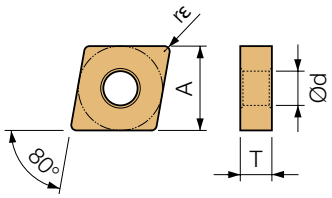


How to read this page B13

80° Diamond

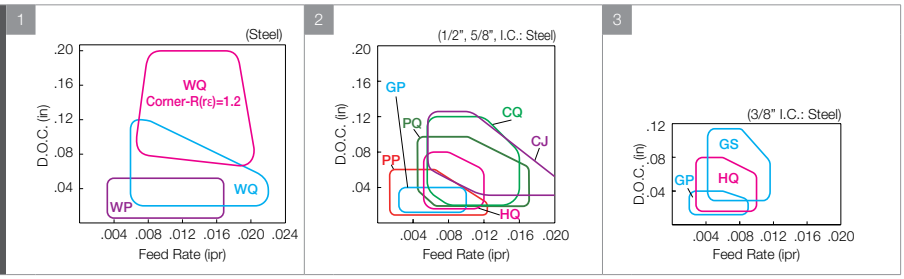
Negative Insert with Hole

Part Number	A (in)	T (in)	Ød (in)
CN_33_	3/8	3/16	0.150
CN_43_	1/2	3/16	0.203
CN_54_	5/8	1/4	1/4
CN_64_	3/4	1/4	5/16



		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
				Corner Radius (in)	Cermet					MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide															MEGACOAT / MEGACOAT NANO						PVD Coated Carbide				DLC	Carbide				
Finishing With Wiper Edge	CNMG	431WP	120404WP	1/64	●	●		●		●	●	●	●				●	●	●	●	●	●	●	●																						
		432WP	120408WP	1/32	●	●		●		●	●	●	●				●	●	●	●	●	●	●	●																						1
Finishing-Medium With Wiper Edge	CNMG	431WQ	120404WQ	1/64	●	●	○	●	○	●	●	●	●		●	●	●	●	●	●	○	●	●																						
		432WQ	120408WQ	1/32	●	●	○	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●			●	●																		D8-D9 F73 F77 F78	
		433WQ	120412WQ	3/64		●		●			●						●	●	●	●	●	●	●	●			●	●																		
Finishing NEW	CNMG	4305PP	120402PP	0.008	●	●	●	●		●	●	●	●				●	●	●	●		●	●																						
		431PP	120404PP	1/64	●	●	●	●		●	●	●	●				●	●	●	●		●	●																						2
		432PP	120408PP	1/32	●	●	●	●		●	●	●	●				●	●	●	●		●	●																						
		433PP	120412PP	3/64	●	●	●	●		●	●	●	●				●	●	●	●																									
Finishing	CNMG	331GP	090404GP	1/64		○			●		○				○																													D8-D9 F78	3
		332GP	090408GP	1/32		○			○		○				○																													
	CNMG	4305GP	120402GP	0.008	○	○		○	●	○	○	●	●		●	●	○	○	○	○		●	●																						
		431GP	120404GP	1/64	○	○	○	●	●	○	○	●	●		●	●	○	○	○	○	●	●	●																						
		432GP	120408GP	1/32	○	○		●	●	○	○	●	○		●	●	○	○	○	○	●	●	●																					D8-D9	
Finishing-Medium NEW	CNMG	431PQ	120404PQ	1/64	●	●	●	●		●	●	●	●				●	●	●	●		●	●																					F73 F77 F78	2
		432PQ	120408PQ	1/32	●	●	●	●		●	●	●	●				●	●	●	●		●	●																						
		433PQ	120412PQ	3/64	●	●	●	●		●	●	●	●				●	●	●	●		●	●																						
Finishing-Medium	CNMG	331HQ	090404HQ	1/64		○			○		○				○		●	●	●	●		●	●																					D8-D9	3
		332HQ	090408HQ	1/32		○			○		○				○		●	●	●	●		●	●																					F78	
	CNMG	431HQ	120404HQ	1/64	○	○	○	●	●	○	○	●	●		●	●	●	●	●	●	●	●	●	●	●	●																			
		432HQ	120408HQ	1/32	○	○	○	●	●	○	○	●	●		●	●	●	●	●	●	●	●	●	●	●	●																			
		433HQ	120412HQ	3/64					●						○		●	●	●	●		●	●	●		●																			
	CNGG	432HQ	120408HQ	1/32																		●	●																					D8-D9	
		433HQ	120412HQ	3/64																		●	●																					F73 F77 F78	
Finishing-Medium Up Facing	CNMG	431CQ	120404CQ	1/64	○	○	○	○		○	○	●	●		●	●	●	●	●	●	●	●	●	○																						2
		432CQ	120408CQ	1/32	○	○	○	○	●	○	○	●	●		●	●	●	●	●	●	●	●	●	●																						
		433CQ	120412CQ	3/64					●						●		●	●	●	●	●	●	●	●																						
	CNMG	542CQ	160608CQ	1/32													●	●	●	●		●	●																					D8-D9	
		543CQ	160612CQ	3/64													●	●	●	●		●	●																						

Chipbreaker Range



Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

80° Diamond

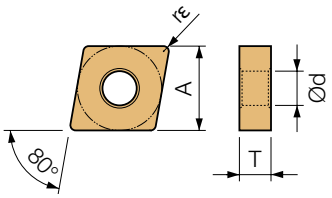
Negative Insert with Hole

(in)

Part Number	A	T	Ød
CN_33_	3/8	3/16	0.150
CN_43_	1/2	3/16	0.203

(in)

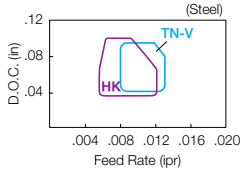
Part Number	A	T	Ød
CN_54_	5/8	1/4	1/4
CN_64_	3/4	1/4	5/16



		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
					Corner Radius (in)	Cermet				MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide															MEGACOAT / MEGACOAT NANO						PVD Coated Carbide				DLC	Carbide				
Finishing-Medium *Up Facing*	CNMG	432CJ	120408CJ	1/32													●	●	●	●	○	●	●	○																					D8-D9 F73 F77 F78	B14 2
		433CJ	120412CJ	3/64													●	●	●	●		●	●	○																					
	CNMG	543CJ	160612CJ	3/64													●	●	●	●		○	○																					D8-D9	
		544CJ	160616CJ	1/16													○	○	●	○		○	○																						
Medium	CNMG	431HK	120404HK	1/64					●																																				
		432HK	120408HK	1/32					●																																			D8-D9 F73 F77 F78	1
Medium	CNMG	431TN-V	120404TN-V	1/64					○																																				
		432TN-V	120408TN-V	1/32					○																																			
Medium-Roughing	CNMG	331GS	090404GS	1/64		○		○		○					○		○	●	●	○		●	●																					D8-D9 F78	3
		332GS	090408GS	1/32		○		○		○					○		○	●	●	○		●	●																						
	CNMG	431GS	120404GS	1/64								○			●	●	○	●	●	○		●	●																						
		432GS	120408GS	1/32								○			●	●	○	●	●	○		●	●																						
		433GS	120412GS	3/64											●		○	●	●	○		●	●																						
Medium-Roughing	CNMG	431PG	120404PG	1/64	●	●				●	●						●	●	●	●																	●								
NEW		432PG	120408PG	1/32	●	●				●	●						●	●	●	●																	●								D8-D9 F73 F77 F78	
		433PG	120412PG	3/64		●					●						●	●	●	●																	●								
		434PG	120416PG	1/16													○	●	●	●																									
Medium-Roughing	CNMG	431PS	120404PS	1/64			○					●	●				●	●	●	●	●	●	●	●	●	●																●			
		432PS	120408PS	1/32			○					●	●				●	●	●	●	●	●	●	●	●	●																●			2
		433PS	120412PS	3/64									○				●	●	●	●	●	●	●	●	●	●																●			
		434PS	120416PS	1/16													○	○	●	○		●	●	●		●																			
	CNMG	543PS	160612PS	3/64													●	●	●	●	●	●	●	●	●	●																			
		544PS	160616PS	1/16													○	○	●	○	●	●	●	●																				D8-D9	
Medium-Roughing	CNMG	431HS	120404HS	1/64				●	○						●	●						●	●																					D8-D9	
		432HS	120408HS	1/32				●	●						●	●						●	●																					F73 F77 F78	
		433HS	120412HS	3/64				○	○						●							●	●																						
		434HS	120416HS	1/16																		●	●																						
	CNMG	543HS	160612HS	3/64																									●																D8-D9	

Chipbreaker Range

1



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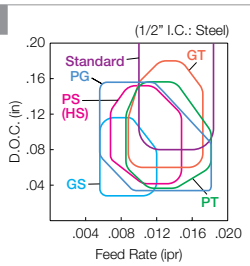

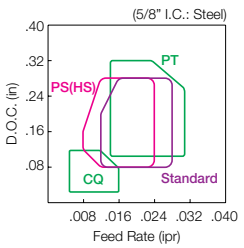

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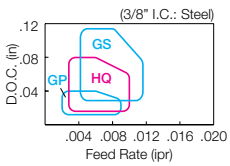


● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

How to read this page B13

80° Diamond

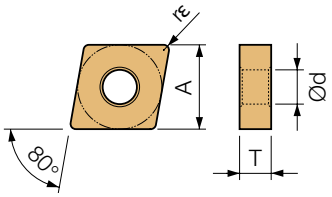
Negative Insert with Hole

(in)

Part Number	A	T	Ød
CN_33_	3/8	3/16	0.150
CN_43_	1/2	3/16	0.203

(in)

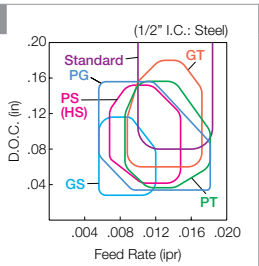
Part Number	A	T	Ød
CN_54_	5/8	1/4	1/4
CN_64_	3/4	1/4	5/16
CN_86_	1	3/8	0.359



		ANSI Part Number	ISO Part Number	rε	Corner Radius (in)	Cermet					MEGA COAT Cermet				PVD Cermet		CVD Coated Carbide													MEGACOAT / MEGACOAT NANO					PVD Coated Carbide			DLC	Carbide		Toolholder Page	Chipbreaker Range
						TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA6535	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05		
Medium-Roughing High Feed Rate	CNMG	432PT	120408PT	1/32													●	●	●	●	●	●	●	●	●	●																D8-D9 F73 F77 F78	
		433PT	120412PT	3/64													●	●	●	●	●	●	●	●		●																	
	CNMG	542PT	160608PT	1/32													●	●	●	●	●	●	●	●	●	●																D8-D9	
		543PT	160612PT	3/64													●	●	●	●	●	●	●	●		●																	
		544PT	160616PT	1/16													●	○	●	○	●	●	●	●		●																	See B15
Medium-Roughing High Feed Rate	CNMG	432GT	120408GT	1/32										○		○	●	○	●	●	○		●	●																			2
		433GT	120412GT	3/64												○	●	○	●	●	○		●	●																			
	CNMG	643GT	190612GT	3/64																			●																		D8-D9 F73 F77 F78	
Medium-Roughing High Feed Rate	CNMG	432HT	120408HT	1/32																			●																			4
Roughing	CNMG	431	120404	1/64	○	○	○	●	●	○	○	●	●	●	○		○	●	●	●	○	○			●	●		○	●	○	●	●								○		●		D8-D9	
		432	120408	1/32	○	○	○		●	○	○	●	●	●	○		●	●	●	●	○	●	●	●	●	●		●	●		●	●								●		●		F73 F77 F78	1
		433	120412	3/64					●					●			●	●	●	●	●	●	●	○	●	●		○	●	○	●	●								○				
		434	120416	1/16																●	○	○						○	○		○	●												
	CNMG	542	160608	1/32															●	○	●	●	●																				D8-D9	
		543	160612	3/64															●	○	●	●	●						○															
		544	160616	1/16																	●	○		●					○															
	CNMG	642	190608	1/32																	●							○	○			○												2
		643	190612	3/64													○	●	●	○		●	●	●				○	●		●	○										●		-	
		644	190616	1/16													○	○	○	○		●	●	●				○	○															
		646	190624	3/32																																							
Roughing	CNMG	432PH	120408PH	1/32													●	●	●	●		●	●	●				●	●														D8-D9 F73 F77 F78	
		433PH	120412PH	3/64													●	●	●	●		●	●	●				●	●															
		434PH	120416PH	1/16													●	●	●	●		●	●	●				●	●															
	CNMG	542PH	160608PH	1/32													●	●	●	●		●	●																			D8-D9	
		543PH	160612PH	3/64													●	●	●	●		●	●	●					●															
		544PH	160616PH	1/16													●	●	●	●		●	●						●															3
	CNMG	642PH	190608PH	1/32													●	●	●	●		●	●																				
		643PH	190612PH	3/64													●	●	●	●		●	●	●																				
		644PH	190616PH	1/16													●	●	●	●		●	●	●																			-	
		646PH	190624PH	3/32													●	●	●	●		●	●																				
NEW	CNMG	866PH	250924PH	3/32															●	●							●																

Chipbreaker Range

1



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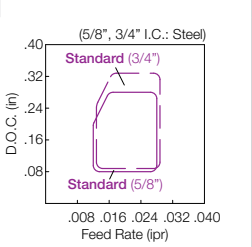

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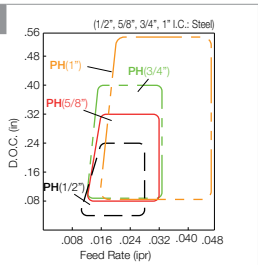

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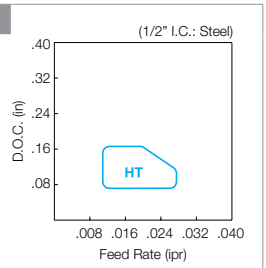


CNMG866PH sold in 5 piece boxes.

Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➡ B13

80° Diamond

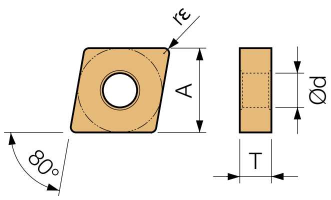
Negative Insert with Hole

(in)

Part Number	A	T	Ød
CN_33_	3/8	3/16	0.150
CN_43_	1/2	3/16	0.203

(in)

Part Number	A	T	Ød
CN_54_	5/8	1/4	1/4
CN_64_	3/4	1/4	5/16



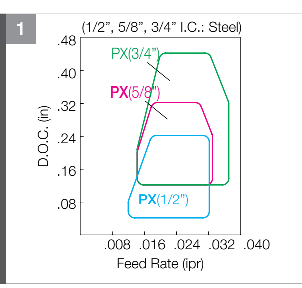
Material	Cermet					MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide															MEGACOAT / MEGACOAT NANO						PVD Coated Carbide				DLC	Carbide	
	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05
P – Free-Cutting Steel																																								
P – Carbon/Alloy Steel	●	Ⓡ	○	Ⓛ		●	Ⓡ	○	Ⓛ				○	●	Ⓡ	Ⓛ			Ⓛ	Ⓡ																				
M – Stainless Steel																																								
K – Gray Cast Iron										●							Ⓡ																							
K – Nodular Cast Iron										○							Ⓛ																							
N – Non-ferrous Metals																																								
S – HRSA																																								
S – Titanium Alloy																																								
H – Hard materials																																								

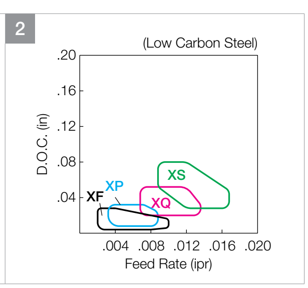
Application	ANSI Part Number	ISO Part Number	rε Corner Radius (in)	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
Single Sided/ Roughing, High Feed Rate	CNMM 432PX	120408PX	1/32													○	○	○	○		●	●	○																					D8-D9 F73 F77 F78	1
	433PX	120412PX	3/64													○	○	○	○		○	●	○																						
	434PX	120416PX	1/16															○	○		○	●	○																						
	CNMM 542PX	160608PX	1/32													○	○	○	○		○	○	○																					D8-D9	
	543PX	160612PX	3/64													○	○	○	○		○	●	○																						
	544PX	160616PX	1/16													○	○	○	○		●	●	○																						
	CNMM 642PX	190608PX	1/32															○	○		○	○																						-	
	643PX	190612PX	3/64													○	○	○	○		●	●	●																						
	644PX	190616PX	1/16													○	○	○	○		○	○	●																						
	646PX	190624PX	3/32															○	○		○	●	○																						
Finishing/ Small D.O.C., Low Carbon Steel (NEW)	CNMG 431XF	120404XF	1/64	●	○	●			●	○	●	●																																D8-D9 F73 F77 F78	2
	432XF	120408XF	1/32	●	○	●			●	○	●	●																																	
Finishing, Low Carbon Steel	CNMG 431XP	120404XP	1/64	●	●	○	○	○	●	●	●	●		○	●	●	●	●	●		●	●																							
	432XP	120408XP	1/32	●	●	○	○	●	●	●	●	●		●	●	●	●	●	●		●	●																							
Medium, Low Carbon Steel	CNMG 431XQ	120404XQ	1/64	●	●	○	○	●	●	●	●	●		○	●	●	●	●	●	○	●	●																							
	432XQ	120408XQ	1/32	●	●	○	○	○	●	●	●	●		○	●	●	●	●	●	●	●	●																							
Roughing, Low Carbon Steel	CNMG 432XS	120408XS	1/32	○	○	○	○	○	○	○		●		○	●	●	●	●	●		●	●																							



NEW


Chipbreaker Range





● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

A GRADES
B INSERTS
C CBN & PCD
D TOOLHOLDERS
E SMALL TOOLS
F BORING
G GROOVING
H CUT-OFF
J THREADING
N HSK TOOLING
P SPARE PARTS
R TECHNICAL
T INDEX

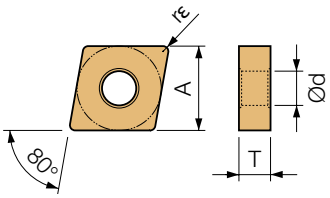
How to read this page ➔ B13

80° Diamond

Negative Insert with Hole

Part Number	A (in)	T (in)	Ød (in)
CN_33_	3/8	3/16	0.150
CN_43_	1/2	3/16	0.203

Part Number	A (in)	T (in)	Ød (in)
CN_54_	5/8	1/4	1/4
CN_64_	3/4	1/4	5/16

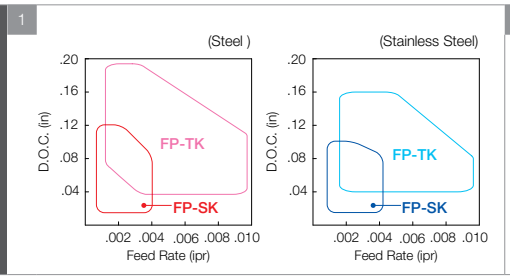


	Free-Cutting Steel	Carbon/Alloy Steel	Stainless Steel	Gray Cast Iron	Nodular Cast Iron	Non-ferrous Metals	HRSA	Titanium Alloy	Hard materials
P									
M			● ●				●		
K									
N									
S			○				●	●	
H									

		ANSI Part Number	ISO Part Number	rε	Corner Radius (in)	Cermet				MEGA COAT Cermet				PVD Cermet		CVD Coated Carbide												MEGACOAT / MEGACOAT NANO				PVD Coated Carbide				DLC	Carbide		Toolholder Page	Chipbreaker Range
						TN610	TN620	TN6010	TN6020	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05		
Finishing-Medium																																							
Sharp Edge / Polished	CNGG	4305MFP-SK	120402MFP-SK	<0.008																									●	●			○							D8-D9 E40 F73 F77 F78	1
NEW		431MFP-SK	120404MFP-SK	<1/64																									●	●			○								
Medium-Roughing																																							
Sharp Edge / Polished	CNGG	431FP-TK	120404FP-TK	1/64																									●	●			○								
		432FP-TK	120408FP-TK	1/32																									●	●			○								
Medium-Roughing																																							
Sharp Edge Stainless Steel / HRSA	CNGG	431TK	120404TK	1/64																											●	●								○		
		432TK	120408TK	1/32																											●	●								○		
Medium-Roughing																																							
	CNMG	431TK	120404TK	1/64																				●	●						●	●	○						●			
		432TK	120408TK	1/32																				●	●						●	●	●						●		D8-D9 F73 F77 F78	2
Finishing																																							
Stainless Steel	CNMG	432GU	120408GU	1/32																				●																	
Medium-Roughing																																							
Stainless Steel	CNMG	433HU	120412HU	3/64																					●																

For Heat-Resistant Alloys See ➔ B6

Chipbreaker Range



Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

80° Diamond

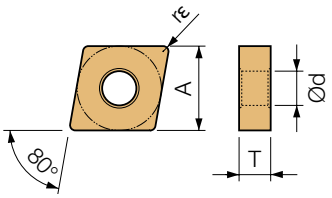
Negative Insert with Hole

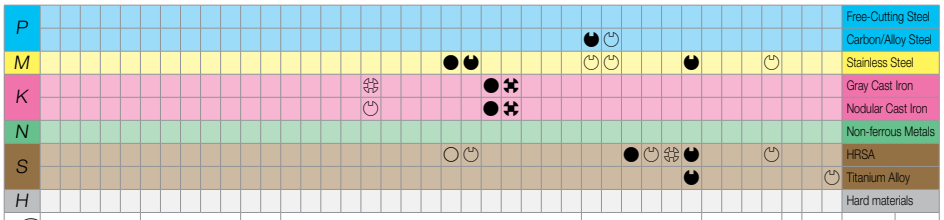
(in)

Part Number	A	T	Ød
CN_33_	3/8	3/16	0.150
CN_43_	1/2	3/16	0.203

(in)

Part Number	A	T	Ød
CN_54_	5/8	1/4	1/4
CN_64_	3/4	1/4	5/16



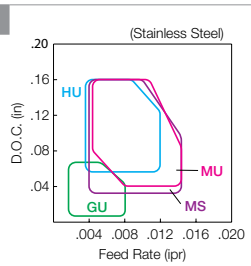


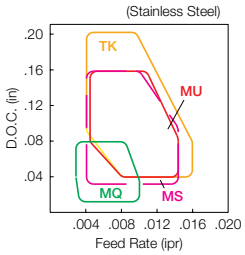
	ANSI Part Number	ISO Part Number	rε	Corner Radius (in)	Cermet				MEGA COAT Cermet				PVD Cermet		CVD Coated Carbide														MEGACOAT / MEGACOAT NANO					PVD Coated Carbide				DLC	Carbide		Toolholder Page	Chipbreaker Range
					TN610	TN620	TN6010	TN6020	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05		
Finishing-Medium Stainless Steel / HRSA	CNMG	431MQ	120404MQ	1/64																			●	●							●	●	●	●				●			○		
		432MQ	120408MQ	1/32																			●	●							●	●	●	●				●			○		
Medium-Roughing Stainless Steel / HRSA	CNMG	431MS	120404MS	1/64																			●	●							●	●	●	●				●			○	D8-D9 F73 F77 F78	1
		432MS	120408MS	1/32																			●	●							●	●	●	●				●			○		
		433MS	120412MS	3/64																			●	●							●	●	●	●				●			○		
		434MS	120416MS	1/16																			●	●							●	●	●					●					
	CNMG	431MU	120404MU	1/64																			●	●							●	●	●	●				●			○		
Medium-Roughing Stainless Steel / HRSA		432MU	120408MU	1/32																			●	●							○	●	●	●				●			○		
		433MU	120412MU	3/64																			●	●										●				●					
	CNMG	542MU	160608MU	1/32																			○	●								●	●					●			○		
		543MU	160612MU	3/64																			○	●								●	●					●			○	D8-D9	
		544MU	160616MU	1/16																			○	●								●	●					●			○		
	CNMG	643MU	190612MU	3/64																												●	●									-	
		644MU	190616MU	1/16																												●	●										
Roughing Cast Iron	CNMG	431C	120404C	1/64																○					○	●		○	●															
		432C	120408C	1/32																○					○	○		●	●														D8-D9 F73 F77 F78	2
		433C	120412C	3/64																○					○	●		●	●															
		434C	120416C	1/16																○					○	●		○																
	CNMG	543C	160612C	3/64																					○	●			●														D8-D9	
Roughing Cast Iron	CNMG	432ZS	120408ZS	1/32																●					●	●			●														D8-D9 F73 F77 F78	
		433ZS	120412ZS	3/64																●					●	●	●		●															

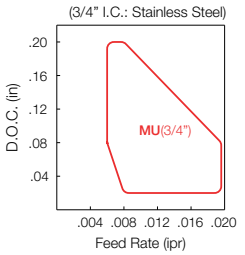
For Heat-Resistant Alloys See ➔ B6

Chipbreaker Range

1







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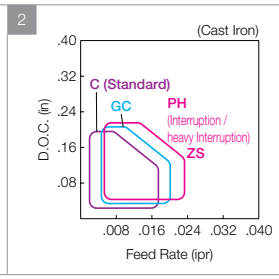

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○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

How to read this page ➔ B13

80° Diamond

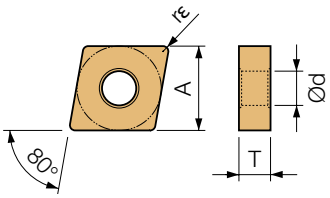
Negative Insert with Hole

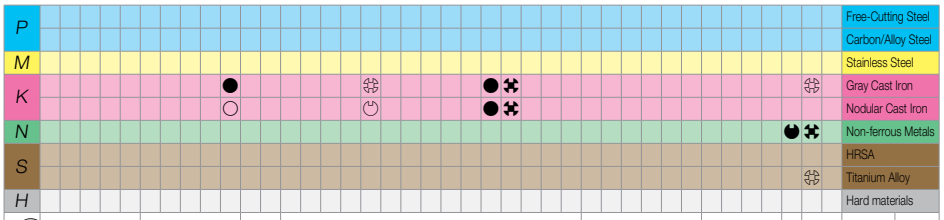
(in)

Part Number	A	T	Ød
CN_33_	3/8	3/16	0.150
CN_43_	1/2	3/16	0.203

(in)

Part Number	A	T	Ød
CN_54_	5/8	1/4	1/4
CN_64_	3/4	1/4	5/16

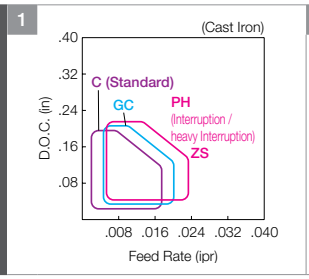




		ANSI Part Number	ISO Part Number	re	Corner Radius (in)	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	PVD Coated Carbide PR1125	DLC PDL025	Carbide KW10	Carbide SW05	Toolholder Page	Chipbreaker Range
Roughing *Cast Iron*	CNMG	432GC	120408GC	1/32																		●	○					○	●		●	●														D8-D9 F73 F77 F78	1
		433GC	120412GC	3/64																								○	●	○	●	○														
Cast Iron *Without Chipbreaker*	CNGA	431	120404	1/64											●																										○				-
		432	120408	1/32						●					●																										○				
	CNMA	431	120404	1/64											●							●						○	●		○	●									○				
		432	120408	1/32											●							●						●	●	●	●	●									○				
		433	120412	3/64																		●						○	●	●		●													
		434	120416	1/16																		●						○	●	○	●														
	CNMA	543	160612	3/64																			●																						
Finishing-Medium *Sharp Edge Non-ferrous Metals*	CNGG	431ᴿ/ʟ-A3	120404ᴿ/ʟ-A3	1/64																																				○	○			
		432ᴿ/ʟ-A3	120408ᴿ/ʟ-A3	1/32																																				○	○			
Medium-Roughing *Sharp Edge Non-ferrous Metals*	CNGG	431AH	120404AH	1/64																																				●	○			2
		432AH	120408AH	1/32																																				●	○			
Medium-Roughing *Non-ferrous Metals*	CNMG	431AH	120404AH	1/64																																				●	●			
		432AH	120408AH	1/32																																				●	●			

Chipbreaker Range

1



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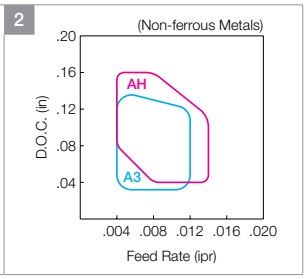

KYOCERA

Inserts sold in 10 piece boxes.

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○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

80° Diamond

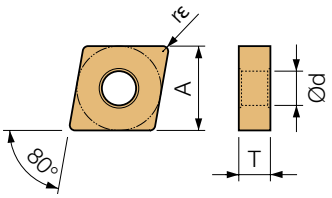
Negative Insert with Hole

(in)

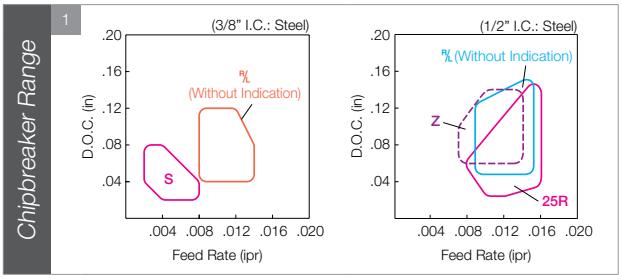
Part Number	A	T	Ød
CN_33_	3/8	3/16	0.150
CN_43_	1/2	3/16	0.203

(in)

Part Number	A	T	Ød
CN_54_	5/8	1/4	1/4
CN_64_	3/4	1/4	5/16



		ANSI Part Number	ISO Part Number	re	Corner Radius (in)	Cermet				MEGA COAT Cermet				PVD Cermet		CVD Coated Carbide																MEGACOAT / MEGACOAT NANO					PVD Coated Carbide				DLC	Carbide		Toolholder Page	Chipbreaker Range
						TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05		
Finishing *Surface Roughness Oriented*	CNGG	3305R/L-S	090402R/L-S	0.008	○		○		○	○					®																												D8-D9 F78	1
		331R/L-S	090404R/L-S	1/64	○		○		○	○					®																											Ⓛ		
		332R/L-S	090408R/L-S	1/32	○		○			○																																	
Medium	CNGG	331R/L	090404R/L	1/64																																					Ⓛ		
		332R/L	090408R/L	1/32																																					Ⓛ		
	CNGG	431R/L	120404R/L	1/64	○	○	○	○	○	○	○																																
		432R/L	120408R/L	1/32	○		○	○	○	○																																	
Medium-Roughing *Low Cutting Force*	CNGG	431R/L-25R	120404R/L-25R	1/64	○		○		○	○																															○		D8-D9 F73 F77 F78	
		432R/L-25R	120408R/L-25R	1/32	○		○		○	○																															○		
Medium-Roughing	CNGG	431Z	120404Z	1/64						○																																		



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Inserts sold in 10 piece boxes.

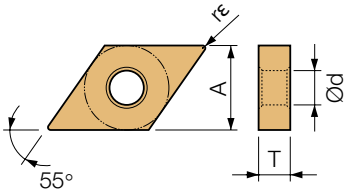
How to read this page ➔ B13

55° Diamond

Negative Insert with Hole

Part Number	A (in)	T (in)	Ød (in)
DN_33_	3/8	3/16	0.150
DN_43_	1/2	3/16	0.203

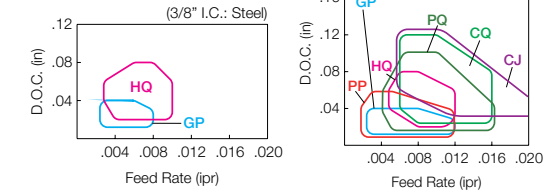
Part Number	A (in)	T (in)	Ød (in)
DN_44_	1/2	1/4	0.203



					Corner Radius (in)	Cermet				MEGA COAT Cermet				PVD Cermet		CVD Coated Carbide										MEGACOAT / MEGACOAT NANO						PVD Coated Carbide				DLC	Carbide		Toolholder Page	Chipbreaker Range
		ANSI Part Number	ISO Part Number	re		TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05		
	DNMG	4305PP	150402PP	0.008		●	●	●	●		●	●	●	●				○	●	●	●		●	●																		D10 D11 F74 F80 F81	
		431PP	150404PP	1/64		●	●	●	●		●	●	●	●				●	●	●	●		●	●																			
Finishing		432PP	150408PP	1/32		●	●	●	●		●	●	●	●				●	●	●	●		●	●																			
NEW		433PP	150412PP	3/64		●	●	●	●		●	●	●	●				●	●	●	●																					
	DNMG	4405PP	150602PP	0.008		●	○	●	●		●	○	●	●				○	○	○	○		●	●																		D10 D11 F74	
		441PP	150604PP	1/64		●	○	●	●		●	○	●	●				○	●	○	○		●	●																			
		442PP	150608PP	1/32		●	○	●	●		●	○	●	●				○	○	○	○		●	●																			
		443PP	150612PP	3/64		●	○	●	●		●	○	●	●				○	○	○	○																					
	DNMG	331GP	110404GP	1/64			○			○		○				●		○	○	○	○		●	●																		D11 F79	
		332GP	110408GP	1/32			○			○		○				●		○	○	○	○			●																			
Finishing	DNMG	4305GP	150402GP	0.008		○	○	○	●	●	○	○	●	●		●	●	○	○	○	○		●	●																		D10 D11 F74 F80 F81	
		431GP	150404GP	1/64		○	○	○	●	●	○	○	●	●		●	●	○	○	○	○	●	●	●																			
		432GP	150408GP	1/32		○	○		●	●	○	○	●	●		●	●	○	○	○	○	●	●	●																			
	DNMG	4405GP	150602GP	0.008		○		○			○		●					○																							D10 D11 F74	
		441GP	150604GP	1/64		○		○			○		●					○																								
		442GP	150608GP	1/32		○		○			○		●					○																								
	DNMG	431PQ	150404PQ	1/64		●	●	●	●		●	●	●	●				●	●	●	●		●	●																		D10 D11 F74 F80 F81	1
Finishing-Medium		432PQ	150408PQ	1/32		●	●	●	●		●	●	●	●				●	●	●	●		●	●																			
NEW		433PQ	150412PQ	3/64		●	●	●	●		●	●	●	●				●	●	●	●		●	●																			
	DNMG	441PQ	150604PQ	1/64		●	○	●	●		●	○	●	●				●	○	○	○		●	●																		D10 D11 F74	
		442PQ	150608PQ	1/32		●	○	●	●		●	○	●	●				●	○	○	○		●	●																			
		443PQ	150612PQ	3/64		●	○	●	●		●	○	●	●				○	○	○	○		●	●																			
	DNMG	3305HQ	110402HQ	0.008			○			●		○				●		○	●	●	○		○	●																		D11 F79	
		331HQ	110404HQ	1/64			○			●		○				●		○	●	●	○		●	●																			
Finishing-Medium	DNMG	431HQ	150404HQ	1/64		○	○	○	●	●	●	○	●	●		●	●	●	●	●	●	●	●	●	●	●	●													●			D10 D11 F74 F80 F81	
		432HQ	150408HQ	1/32		○	○	○	●	●	○	○	●	●		●	●	●	●	●	●	○	●	●	●	●	●													●			
		433HQ	150412HQ	3/64		○		○	○	●	○			○		○	●	●	●	●	●	●	●	●	●																			
	DNMG	441HQ	150604HQ	1/64		○		○		○	○		●	○				○	○	○	○	○	○	○		○	●														○		D10 D11 F74	
		442HQ	150608HQ	1/32		○		○		○	○		●	○			●	○	○	○	○	○	○	●	○	○	●														○			
		443HQ	150612HQ	3/64		○		○			○		●					○	○	○	○	○	○	○																			
	DNMG	431CQ	150404CQ	1/64		●	●	○	○	●	●	●	●	●		○	●	●	●	●	○	●	●	●	●																		D10 D11 F74 F80 F81	
Finishing-Medium		432CQ	150408CQ	1/32		●	●	○	○	○	●	●	●	○		●	●	●	●	●	●	●	●	●	●																			
Up Facing		433CQ	150412CQ	3/64		●		○	○		●			○		○	●	●	●	●	○	●	●	○	●																			
	DNMG	441CQ	150604CQ	1/64		●		○			●		●					○	○	○	○	○	○	○																		D10 D11 F74	
		442CQ	150608CQ	1/32														○	○	○	○	●	●	●																			
		443CQ	150612CQ	3/64													●	○	○	○	○	○	●	●	○																		

Chipbreaker Range

1



Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

55° Diamond

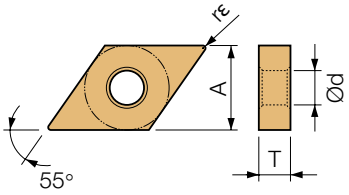
Negative Insert with Hole

(in)

Part Number	A	T	Ød
DN_33_	3/8	3/16	0.150
DN_43_	1/2	3/16	0.203

(in)

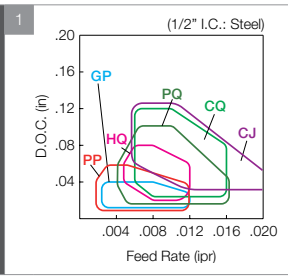
Part Number	A	T	Ød
DN_44_	1/2	1/4	0.203



		ANSI Part Number	ISO Part Number	re	Corner Radius (in)	Cermet				MEGA COAT Cermet				PVD Cermet	CVD Coated Carbide											MEGACOAT / MEGACOAT NANO						PVD Coated Carbide			DLC	Carbide		Toolholder Page	Chipbreaker Range
						TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05		
Finishing-Medium Up Facing	DNMG	432CJ	150408CJ	1/32														●	●	●	●	○	●	●	○																D10 D11 F74 F80 F81	1
		433CJ	150412CJ	3/64														●	●	●	○	○	●	●																	
	DNMG	442CJ	150608CJ	1/32														○	○	○	○	○	○	○	○																	
		443CJ	150612CJ	3/64														○	○	○	○	○	●	●																	
Finishing-Medium	DNMP	442TK	150608TK	1/32																																	○					D10 D11 F74	2
Finishing-Medium	DNMG	431HK	150404HK	1/64						●																																
		432HK	150408HK	1/32						●																															D10 D11 F74 F80 F81	3
Medium	DNMG	431TN-V	150404TN-V	1/64						○																																
		432TN-V	150408TN-V	1/32						○																															
Medium-Roughing	DNMG	331GS	110404GS	1/64			○		○		○				○		○	○	●	○			●	●																	D11 F79	4
		332GS	110408GS	1/32			○		○		○				○		○	●	●	○			○	●																	
	DNMG	431GS	150404GS	1/64									○		○	○	○	○	●	○			●	●																	D10 D11 F74 F80 F81	
		432GS	150408GS	1/32									○		●	●	○	●	●	○			●	●																	
		433GS	150412GS	3/64											●		○	○	●	○			●	●																	
	DNMG	441GS	150604GS	1/64											○				○	○			○	○																	D10 D11 F74	
		442GS	150608GS	1/32											○				○	○			○																	
Medium-Roughing NEW	DNMG	431PG	150404PG	1/64		●	●				●	●						●	●	●	●																●				D10 D11 F74 F80 F81	4
		432PG	150408PG	1/32		●	●				●	●						●	●	●	●																●				
		433PG	150412PG	3/64			●					●						●	●	●	●																●				
		434PG	150416PG	1/16														●	○	●	●																				
	DNMG	441PG	150604PG	1/64		●	○				●	○						○	○	○	○																○				D10 D11 F74	
		442PG	150608PG	1/32		●	○				●	○						○	○	●	○																○				
		443PG	150612PG	3/64			○					○						○	○	○	○																○				
		444PG	150616PG	1/16														○	○	○	○																				

Chipbreaker Range

1



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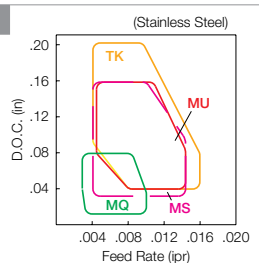

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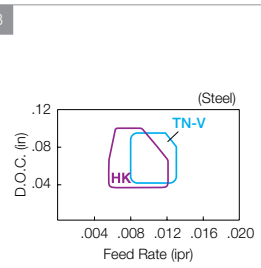

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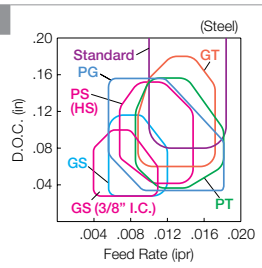


● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

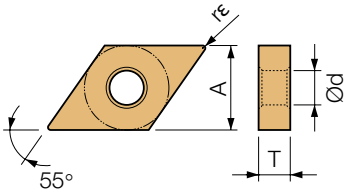
How to read this page B13

55° Diamond

Negative Insert with Hole

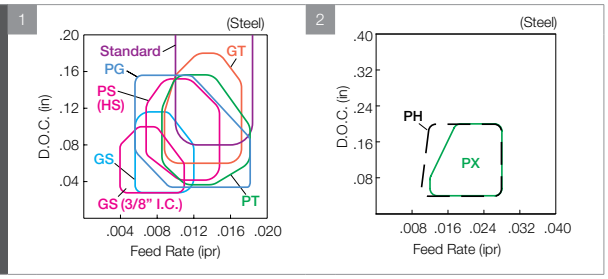
Part Number	A (in)	T (in)	Ød (in)
DN_33_	3/8	3/16	0.150
DN_43_	1/2	3/16	0.203

Part Number	A (in)	T (in)	Ød (in)
DN_44_	1/2	1/4	0.203



		ANSI Part Number	ISO Part Number	rε	Corner Radius (in)	Cermet TN610	Cermet TN620	MEGA COAT Cermet TN6010	MEGA COAT Cermet TN6020	MEGA COAT Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	DLC PR1125	DLC PDL025	Carbide KW10	Carbide SW05	Toolholder Page	Chipbreaker Range
Medium-Roughing	DNMG	431PS	150404PS	1/64				○					●	●				●	●	●	●	○	●	●	●	○	●												●			D10	
		432PS	150408PS	1/32				○					●	●				●	●	●	●	●	●	●	●	●	●												●			D11	
		433PS	150412PS	3/64										○				○	●	●	○		●	●	●		●															F74	
		434PS	150416PS	1/16														○	○	○	○		●	●																	F80	
	DNMG	441PS	150604PS	1/64				○					●	○				○	○	○	○		●	●		●	●												○			F81	
		442PS	150608PS	1/32				○					●	○				○	○	○	○	●	●	●	●	●	○												○			D10	
		443PS	150612PS	3/64				○					●	○				○	○	○	○	●	●	●	●	●	●															D11	
		444PS	150616PS	1/16														○	○	○	○		●	●																	F74	
Medium-Roughing	DNMG	431HS	150404HS	1/64					●	●						○	●						●	●																	D10	
		432HS	150408HS	1/32					●	●						○	●						●	●																	D11	
		433HS	150412HS	3/64					○	●						○	●						●	●																	F74	
	DNMG	441HS	150604HS	1/64						○						○							●	●																	F80	
		442HS	150608HS	1/32						○						○							●	●																	F81	
		443HS	150612HS	3/64						○														●																	D10	
Medium-Roughing High Feed Rate	DNMG	432PT	150408PT	1/32														●	●	●	●	●	●	●	●		●															D11	
		433PT	150412PT	3/64														○	●	●	●	○	●	○	●		●															F74	
	DNMG	442PT	150608PT	1/32														●	○	○	○	●	●	●	●		●															D10	
		443PT	150612PT	3/64														○	○	○	○	●	●	●	●																	D11	
Medium-Roughing High Feed Rate	DNMG	432GT	150408GT	1/32												○		○	●	●	○		●	●																	F74	
		433GT	150412GT	3/64												○		○	○	●	○		●	●																	F80	
	DNMG	442GT	150608GT	1/32												○		○	○	○	○		●	●																	F81	
		443GT	150612GT	3/64												○		○	○	○	○		●	●																	D10	
Roughing	DNMG	431	150404	1/64		○	○	○	●	●	○	○		○		○		●	●	●	●	●	●	●			●	●		●	●										D11	
		432	150408	1/32		○	○	○	●	●	○	○		○	●	●		●	●	●	●	●	●	●	●		○	●		●	●										F74	
		433	150412	3/64																					●		○	●	●	●	●										F80	
	DNMG	441	150604	1/64																							○	○													F81	
		442	150608	1/32											●			○	○	○	○	○	●	●	●		○	○		○	●										D10	
		443	150612	3/64														○	○	○	○		●	●	●			○		○	●										D11	
Roughing	DNMG	432PH	150408PH	1/32														●	●	●	●		●	●				●	●												F74	
		433PH	150412PH	3/64														●	●	●	●		●	●				●	●												D10	2
		434PH	150416PH	1/16																●	●		●	●																D11	
	DNMG	442PH	150608PH	1/32														○	○	○	○		●	●	●																F74	
		443PH	150612PH	3/64														○	○	○	○		●	●	●			●	●												D10	
		444PH	150616PH	1/16														○	○	○	○		●	●																D11	
																																								F74	

Chipbreaker Range



Inserts sold in 10 piece boxes.

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○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

55° Diamond

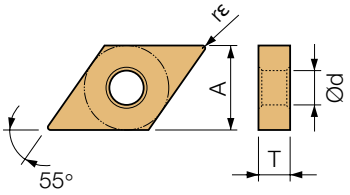
Negative Insert with Hole

(in)

Part Number	A	T	Ød
DN_33_	3/8	3/16	0.150
DN_43_	1/2	3/16	0.203

(in)

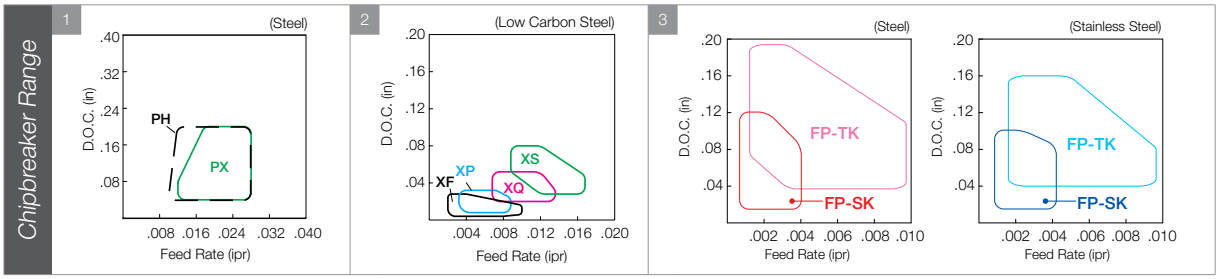
Part Number	A	T	Ød
DN_44_	1/2	1/4	0.203



		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
Single Sided / Roughing / *High Feed Rate*	DNMM	432PX	150408PX	1/32															○	○			○	○																					D10 D11 F74 F80 F81	1
		433PX	150412PX	3/64															○	○			●																							
		434PX	150416PX	1/16															○	○																											
	DNMM	442PX	150608PX	1/32													○	○	○	○			○	○																					D10 D11 F74	
		443PX	150612PX	3/64													○	○	○	○			●	●	○																					
		444PX	150616PX	1/16															○	○			●	○	○																					
Finishing Small D.O.C. *Low Carbon Steel* NEW	DNMG	431XF	150404XF	1/64	●	○	●			●	○	●	●																														D10 D11 F74 F80 F81	1
		432XF	150408XF	1/32	●	○	●			●	○	●	●																															
Finishing *Low Carbon Steel*	DNMG	431XP	150404XP	1/64	●	●	○	○	●	●	●	●	●		●	●	●	●	●	●	●	●	●																					D10 D11 F74 F80 F81	2
		432XP	150408XP	1/32	●	●	○	○	●	●	●	●	●		●	●	●	●	●	●	●	●	●																					
	DNMG	441XP	150604XP	1/64	●				○	●		●																																D10 D11 F74	
		442XP	150608XP	1/32	●				○	●		●			○																													
Medium *Low Carbon Steel*	DNMG	431XQ	150404XQ	1/64	●	●	○	○	○	●	●	●	●		○	●	●	●	●	●			●	●																					D10 D11 F74 F80 F81	
		432XQ	150408XQ	1/32	●	●	○	○	●	●	●	●	●		●	●	●	●	●	●			●	●																					
	DNMG	441XQ	150604XQ	1/64								●																																	D10 D11 F74	
		442XQ	150608XQ	1/32					○			●																															
Roughing *Low Carbon Steel*	DNMG	432XS	150408XS	1/32	○	○	○	○		○	○		●		○	●	●	●	○	●			●	●																					D10 D11 F74 F80 F81	
Finishing-Medium *Sharp Edge / Polished* NEW	DNGG	4305MFP-SK	150402MFP-SK	<0.008																												●	●				○									3
		431MFP-SK	150404MFP-SK	<1/64																												●	●				○									

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range



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Inserts sold in 10 piece boxes.

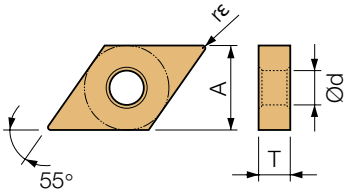
How to read this page B13

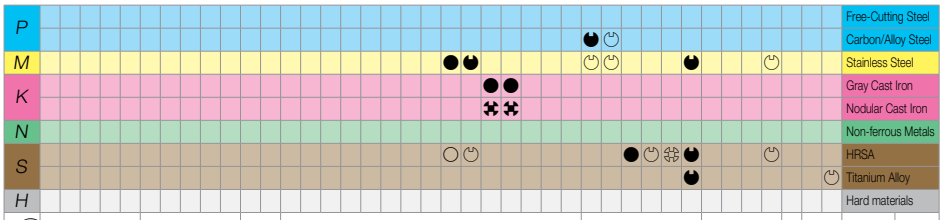
55° Diamond

Negative Insert with Hole

Part Number	A (in)	T (in)	Ød (in)
DN_33_	3/8	3/16	0.150
DN_43_	1/2	3/16	0.203

Part Number	A (in)	T (in)	Ød (in)
DN_44_	1/2	1/4	0.203

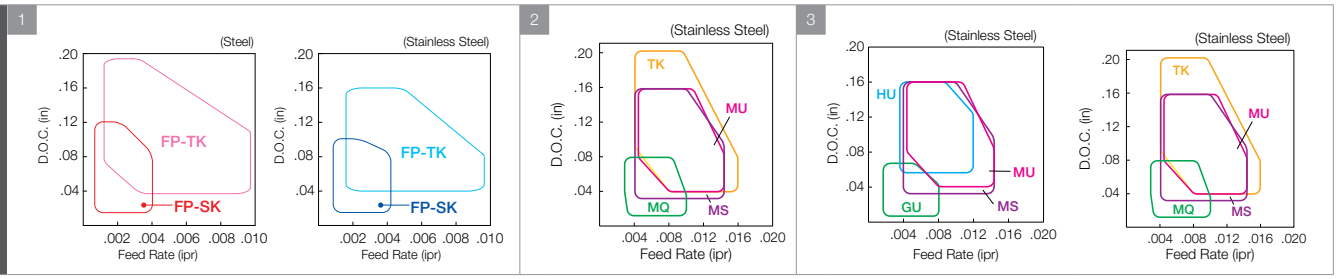




	ANSI Part Number	ISO Part Number	re	Corner Radius (in)	Cermet: TN610	TN620	TN6010	TN6020	TN60	MEGA COAT Cermet: PV710	PV720	PV7010	PV7025	PV7005	PVD Cermet: PV90	PV7020	CVD Coated Carbide: CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	MEGACOAT / MEGACOAT NANO: PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PVD Coated Carbide: PR930	PR1005	PR1025	PR1125	DLC: PDL025	Carbide: KW10	SW05	Toolholder Page	Chipbreaker Range
Medium-Roughing *Sharp Edge / Polished*	DNGG	431FP-TK	150404FP-TK	1/64																												●	●				○									
		432FP-TK	150408FP-TK	1/32																												●	●				○								D10 D11 F74 F80 F81	1
Medium-Roughing *Sharp Edge Stainless Steel / HRSA*	DNGG	431TK	150404TK	1/64																														●	●										○		
		432TK	150408TK	1/32																														●	●										○		
	DNGG	441TK	150604TK	1/64																														○	○										○		D10 D11 F74	2
		442TK	150608TK	1/32																														○	○										○		
Medium-Roughing *Stainless Steel / HRSA*	DNMG	431TK	150404TK	1/64																					●	●								●	●	●						●					
		432TK	150408TK	1/32																					●	●								●	●	●						●					
	DNMG	441TK	150604TK	1/64																					●	●								○	○	○						○					D10 D11 F74 F80 F81
		442TK	150608TK	1/32																					●	●								○	○	○						○					
Finishing-Medium *Stainless Steel / HRSA*	DNMG	431MQ	150404MQ	1/64																					●	●								●	●	●	●					●			○		D10-D11 F74
		432MQ	150408MQ	1/32																					●	●								●	●	●	●					●			○		F80-F81
	DNMG	441MQ	150604MQ	1/64																					●	●								○	○	○	○					●			○		D10 D11 F74
		442MQ	150608MQ	1/32																					●	●								○	○	○	○					●			○		
Medium-Roughing *Stainless Steel / HRSA*	DNMG	431MS	150404MS	1/64																					●	●								●	●	●	●					●			○		D10-D11 F74 F80-F81
		432MS	150408MS	1/32																					●	●								●	●	●	●					●			○		
		433MS	150412MS	3/64																					●	●								●	●	●	●					●			○		
	DNMG	441MS	150604MS	1/64																					●	●								○	○	○	○					○					D10 D11 F74	3
		442MS	150608MS	1/32																					●	●								○	○	○	○					○					
		443MS	150612MS	3/64																					●	●								○	○	○	○					●					
Medium-Roughing *Stainless Steel / HRSA*	DNMG	431MU	150404MU	1/64																					●	●								●	●	●	●					●			○		D10-D11 F74 F80-F81
		432MU	150408MU	1/32																					●	●								●	●	●	●					●			○		
	DNMG	441MU	150604MU	1/64																					●	●								○	○	○	○					○			○		D10 D11 F74
		442MU	150608MU	1/32																					●	●								○	○	○	○					○			○		
Roughing *Cast Iron*	DNMG	431C	150404C	1/64																						○	○	○		○	●															D10-D11 F74 F80-F81	B27
		432C	150408C	1/32																						○	●	○		●	○															
		433C	150412C	3/64																							●	○																		
	DNMG	441C	150604C	1/64																							○	○																		D10 D11 F74	1
		442C	150608C	1/32																							○	○																		
		443C	150612C	3/64																							○	○			●															

For Heat-Resistant Alloys See B6

Chipbreaker Range



KYOCERA

Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

55° Diamond

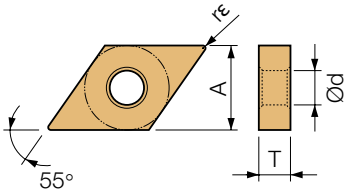
Negative Insert with Hole

(in)

Part Number	A	T	Ød
DN_33_	3/8	3/16	0.150
DN_43_	1/2	3/16	0.203

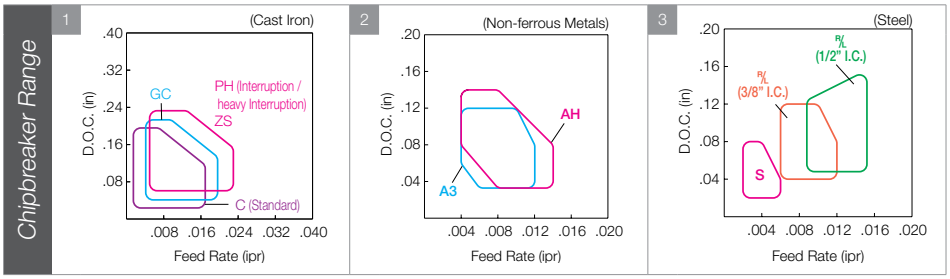
(in)

Part Number	A	T	Ød
DN_44_	1/2	1/4	0.203



		ANSI Part Number	ISO Part Number	re	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
Roughing *Cast Iron*	DNMG	432ZS	150408ZS	1/32																	●						●	●	○		●												○		D10-D11 F74 F80-F81	
		433ZS	150412ZS	3/64																	●						●	●		●	●												○			
	DNMG	442ZS	150608ZS	1/32																							○	○		○	○												○		D10 D11 F74	
		443ZS	150612ZS	3/64																							○	○			○												○			
Roughing *Cast Iron*	DNMG	432GC	150408GC	1/32																	○						○	○	○		●												○		D10-D11 F74 F80-F81	1
		433GC	150412GC	3/64																								●			●														
	DNMG	442GC	150608GC	1/32																	○							○			●														D10 D11 F74	
		443GC	150612GC	3/64																								○																	
Cast Iron *Without Chipbreaker*	DNMA	431	150404	1/64																	●						○	●			●												○		D10-D11 F74 F80-F81	-
		432	150408	1/32										●							●						○	●	●		●												○			
	DNMA	441	150604	1/64																							○	○	○																D10 D11 F74	
		442	150608	1/32																							○	○	○																	
Finishing-Medium *Sharp Edge Non-ferrous Metals*	DNGG	431ℛ-A3	150404ℛ-A3	1/64																																						○	○	D10 D11 F74 F80 F81	2
		432ℛ-A3	150408ℛ-A3	1/32																																						○	○		
Medium-Roughing *Sharp Edge Non-ferrous Metals*	DNGG	431AH	150404AH	1/64																																						●	○	D10 D11 F74	
		432AH	150408AH	1/32																																						●	○		
	DNGG	441AH	150604AH	1/64																																							○	D10 D11 F74	
		442AH	150608AH	1/32																																							○		
Medium-Roughing *Non-ferrous Metals*	DNMG	431AH	150404AH	1/64																																						●	●	D10-D11 F74 F80-F81	
		432AH	150408AH	1/32																																						●	●		
	DNMG	441AH	150604AH	1/64																																							○	D10 D11 F74	
		442AH	150608AH	1/32																																							○		
Finishing *Surface Roughness Oriented*	DNGG	3305ℛ-S	110402ℛ-S	0.008					○						○																												○			
		331ℛ-S	110404ℛ-S	1/64					○						○																												○		D11 F79	3
		332ℛ-S	110408ℛ-S	1/32					○						●																												Ⓡ			
Medium	DNGG	331ℛ	110404ℛ	1/64					Ⓡ																																		○			
		332ℛ	110408ℛ	1/32					Ⓡ																																					
	DNGG	431ℛ	150404ℛ	1/64	○	○	○	Ⓛ	Ⓡ	○	○		○	●	Ⓡ	●																							○				○		D10-D11 F74 F80-F81	
		432ℛ	150408ℛ	1/32	○	○	○	○	○	○	○		○	●	○	●																							○				○			

Chipbreaker Range



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

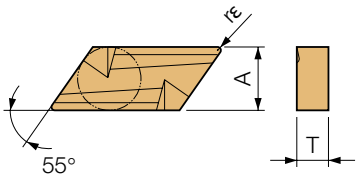
Inserts sold in 10 piece boxes.

How to read this page B13

55° Parallelogram

Negative Insert with Hole

Part Number	A	T	Ød
	(in)		
KNMX1604_	3/8	3/16	-



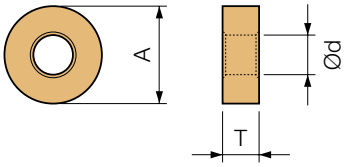
	ANSI Part Number	ISO Part Number	rε	Corner Radius (in)	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
Medium-Roughing	KNMX 160405R/L	160405R/L-1	0.020																			○	●																						-	1
		160410R/L	160410R/L-1	0.039																		○	○																							

Round

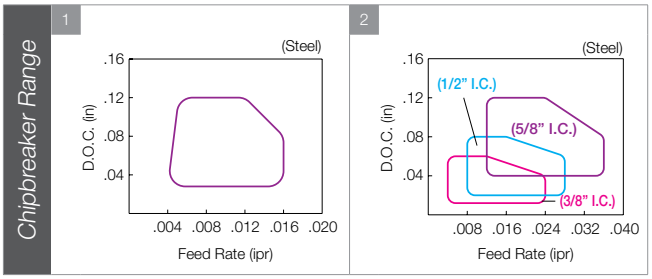
Negative Insert with Hole

Part Number	A	T	Ød
	(in)		
RN_32_	3/8	1/8	0.150
RN_43_	1/2	3/16	0.203

Part Number	A	T	Ød
	(in)		
RN_54_	5/8	1/4	1/4



	ANSI Part Number	ISO Part Number	rε	Corner Radius (in)	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
Medium-Roughing	RNMG 32	090300	-						○					●			●	●	●	○			●																						D21	2
	RNMG 43	120400	-						○					●			●	●	●	○			●	●				●																			
	RNMG 54	150600	-																●	○			○	●				●		●																-	



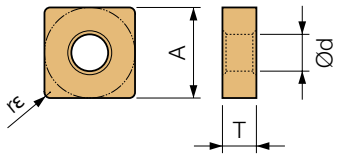
Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

90° Square

Negative Insert with Hole



(in)

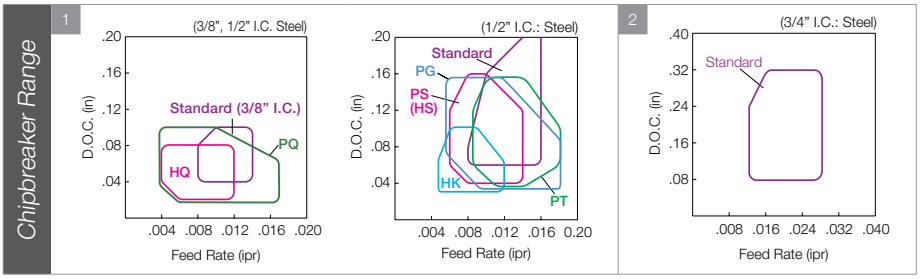
Part Number	A	T	Ød
SN_32_	3/8	1/8	0.150
SN_43_	1/2	3/16	0.203

(in)

Part Number	A	T	Ød
SN_54_	5/8	1/4	1/4
SN_64_	3/4	1/4	5/16

		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
					Cermet					MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide																MEGACOAT / MEGACOAT NANO						PVD Coated Carbide				DLC	Carbide				
Finishing-Medium NEW	SNMG	431PQ	120404PQ	1/64	●	●	●	●		●	●	●	●				●	●	●	●		●	●																							
		432PQ	120408PQ	1/32	●	●	●	●		●	●	●	●				●	●	●	●		●	●																							
		433PQ	120412PQ	3/64													○	●	●	●		●	●																							
Finishing-Medium	SNMG	431HQ	120404HQ	1/64	○	○	○	○	○	○	○	●	●		○	●	●	●	●	●		●	●																							
		432HQ	120408HQ	1/32	○	○	○	●	○	○	○	●	●		●	●	●	●	●	●	●	●	●	●	●																●				
		433HQ	120412HQ	3/64	○		○	○	○	○			○		○	●	●	●	●	●		●	●	●																							
Medium-Roughing NEW	SNMG	432PG	120408PG	1/32	●	●				●	●						●	●	●	●																	●									
		433PG	120412PG	3/64		●					●						○	●	●	○																	●									
		434PG	120416PG	1/16		●					●						●	●	●	●																										
Medium-Roughing	SNMG	432PS	120408PS	1/32			○					●	●				○	●	●	○	●	●	○	●	●	●															●			D12 D13 F83	1
		433PS	120412PS	3/64									○				○	●	●	○		●	●	●		●															●				
		434PS	120416PS	1/16													○	○	○	○		●	●	○																						
Medium-Roughing	SNMG	432HS	120408HS	1/32				○	○						○	●						○	●																							
		433HS	120412HS	3/64				○	○						○	●						●	●																							
		434HS	120416HS	1/16				○	○							●							●																							
Medium-Roughing High Feed Rate	SNMG	432PT	120408PT	1/32													○	●	●	●	●	●	●	●		●																					
		433PT	120412PT	3/64													○	●	●	●	●	●	●	●		●																					
Roughing	SNMG	321	090304	1/64	○		●		●	○								○	○				●																							
		322	090308	1/32	○		○		●	○								●	○				●						○																
	SNMG	431	120404	1/64	○	○		●	●	○	○			○	●	○					○						○	○		○	●														
		432	120408	1/32	○	○	○	●	●	○	○			○	●	●	●	●	●	●	○	●	●	●	●	●	●	●		○	●										○				
		433	120412	3/64				○	●						○		●	●	●	●	○	●	●	●			○	○	○	●	●										○				
		434	120416	1/16				○	○									●	●	●	○	●	●	●					●	●	●	●														
		435	120420	5/64					○												○								○		○	○														
	SNMG	643	190612	3/64																	●			○																	●			-	2
		644	190616	1/16																		●	●	●																						

Chipbreaker Range



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

How to read this page ➡ B13

90° Square

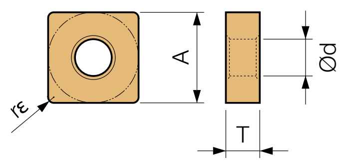
Negative Insert with Hole

(in)

Part Number	A	T	Ød
SN_32_	3/8	1/8	0.150
SN_43_	1/2	3/16	0.203

(in)

Part Number	A	T	Ød
SN_54_	5/8	1/4	1/4
SN_64_	3/4	1/4	5/16
SN_86_	1	3/8	0.359

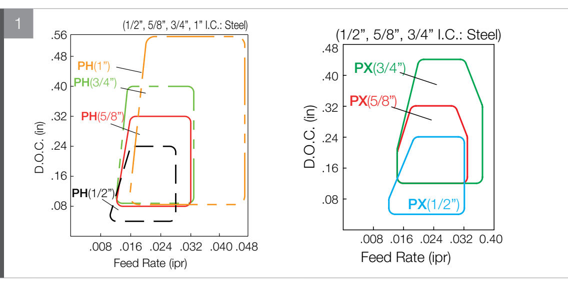


		Cermet					MEGACOAT Cermet					PVD Cermet		CVD Coated Carbide																MEGACOAT / MEGACOAT NANO						PVD Coated Carbide				DLC	Carbide	
Material		TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA6535	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05
P	Free-Cutting Steel																																									
P	Carbon/Alloy Steel	●	◕	○	◔		●	◕	○	◔				○	●	◕	✖			◔	✢																					
M	Stainless Steel																																		◕							
K	Gray Cast Iron																								●	●																
K	Nodular Cast Iron																								✖	✖																
N	Non-ferrous Metals																																									
S	HRSA																																		◕							
S	Titanium Alloy																																		◕							
H	Hard materials																																									

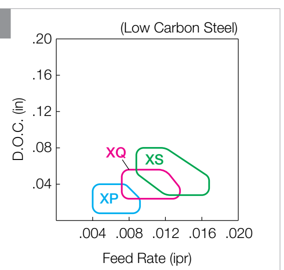
Application	ANSI Part Number	ISO Part Number	rε (Corner Radius (in))	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA6535	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
Roughing	SNMG 432PH	120408PH	1/32													●	●	●	●		●	●	●				●	●																	D12 D13 F83	1
	433PH	120412PH	3/64													●	●	●	●		●	●	●					●																		
	434PH	120416PH	1/16													●	●	●	●		●	●	●					●																		
	SNMG 543PH	150612PH	3/64													●	●	●	●		●	●					●	●																	-	
	544PH	150616PH	1/16													●	●	●	●		●	●					●	●																		
	SNMG 643PH	190612PH	3/64															●	●		●	●	●																						
	644PH	190616PH	1/16															●	●		●	●	●																						
	646PH	190624PH	3/32																		●	●																							
NEW	SNMG 866PH	250924PH	3/32															●	●							●											●									
Single Sided / Roughing, High Feed Rate	SNMM 432PX	120408PX	1/32													○	○	○	●		○	○																								D12 D13 F83	
	433PX	120412PX	3/64													○	○	○	○		○	○	○																						
	434PX	120416PX	1/16															○	○		○	○																							
	SNMM 543PX	150612PX	3/64															○	○		○	○	○																						-	
	544PX	150616PX	1/16															○	○		●	○	○																						
	SNMM 643PX	190612PX	3/64													○	○	○	○		●	●	○																						
	644PX	190616PX	1/16													○	○	○	○		○	●	●																						
	646PX	190624PX	3/32															○	○		●	●																							
Finishing, Low Carbon Steel	SNMG 432XP	120408XP	1/32	○	●	○	○	○	●	●	●	●		○	●	●	●	●	●		●	●																							D12 D13 F83	2
Medium, Low Carbon Steel	SNMG 432XQ	120408XQ	1/32	○	○	○	○	●	○	○	●	●		○	●	●	●	●	●		●	●																							
Roughing, Low Carbon Steel	SNMG 432XS	120408XS	1/32	○	○	○	○		○	○		●				●	●	●	●		●	●																							

Chipbreaker Range

1



2



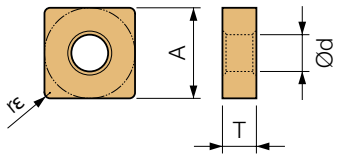
SNMG866PH sold in 5 piece boxes.

Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page B13

90° Square
Negative Insert



(in)

Part Number	A	T	Ød
SN_43_	1/2	3/16	0.203
SN_54_	5/8	1/4	1/4

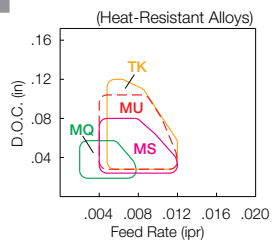
(in)

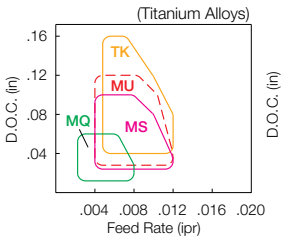
Part Number	A	T	Ød
SN_64_	3/4	1/4	5/16

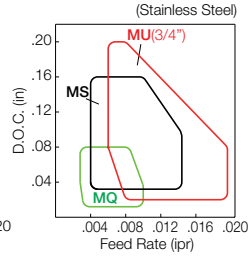
	ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
Finishing-Medium Stainless Steel / HRSA	SNMG 431MQ	120404MQ	1/64																					●	●							○	○	○					●			○	D12 D13 F83	1
	432MQ	120408MQ	1/32																					●	●							○	○	○					●			○		
Medium-Roughing Stainless Steel / HRSA	SNMG 431MS	120404MS	1/64																					●	●							○	○	○					●			○		
	432MS	120408MS	1/32																					●	●							○	○	○	●				●			○		
	433MS	120412MS	3/64																					●	●							○	○	○	●				●			○		
	434MS	120416MS	1/16																					●	●							○	○	○					●					
Medium-Roughing Stainless Steel / HRSA	SNMG 643MU	190612MU	3/64																														○	○									-	
	644MU	190616MU	1/16																														○	○										
Roughing Cast Iron	SNMG 432C	120408C	1/32																	○							○		●	●														D12 D13 F83	2
	433C	120412C	3/64																								○			●															
Roughing Cast Iron	SNMG 432ZS	120408ZS	1/32																	●						●	●		○	○															
	433ZS	120412ZS	3/64																	●						●	●		●	○															
Roughing Cast Iron	SNMG 432GC	120408GC	1/32																	○						○	●		○	●															
	433GC	120412GC	3/64																	○						●			○	○															

Chipbreaker Range

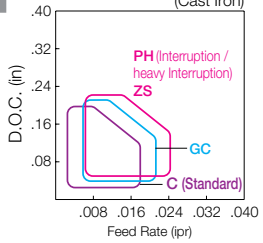
1







2



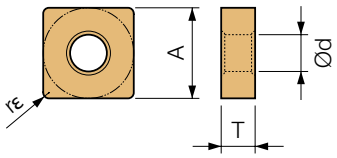
● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

How to read this page B13

90° Square

Negative Insert with & without Hole



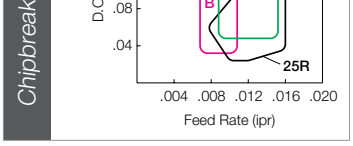
(in)

Part Number	A	T	Ød
SN_32_	3/8	1/8	0.150
SN_43_	1/2	3/16	0.203

(in)

Part Number	A	T	Ød
SN_64_	3/4	1/4	5/16
SNM43_	1/2	3/16	-

		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
	SNGA	321	090304	1/64																																						○		
		322	090308	1/32																																						○		
Cast Iron Without Chipbreaker	SNGA	431	120404	1/64																																					○		
		432	120408	1/32										●																												○		
		433	120412	3/64																																						○		D12 D13 F83	
	SNMA	431	120404	1/64																	●						○		○															
		432	120408	1/32																	●					●	●		○	●															
		433	120412	3/64					●												●					○	●	○	○	●															
		434	120416	1/16																	●					○	●			●															
		435	120420	5/64																							○																		
Cast Iron Without Chipbreaker	SNM	432	120408	1/32																	○						○																	D27 D36 D37 F89	-
		433	120412	3/64																							○																		
Finishing-Medium Medium-Roughing	SNGG	321 R/L-B	090304 R/L-B	1/64	○		○		○	○				Ⓡ																													D12 D13	1
		322 R/L-B	090308 R/L-B	1/32	○		○		Ⓡ	○																																	
	SNGG	431 R/L-C	120404 R/L-C	1/64	○		○		Ⓛ	○				●	○																												○		D12 D13 F83	
		432 R/L-C	120408 R/L-C	1/32	○		○		○	○				Ⓡ	○																												Ⓡ		
-B : Finishing-Medium -C : Medium-Roughing	SNMG	431 R/L-C	120404 R/L-C	1/64	○		○		○	○																																	
		432 R/L-C	120408 R/L-C	1/32	○		○		○	○																																	
Medium-Roughing Low Cutting Force	SNGG	431 R/L-25R	120404 R/L-25R	1/64	○		○		○	○																																	D12 D13 F83	
		432 R/L-25R	120408 R/L-25R	1/32	○		○		○	○																																	



Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

60° Triangle

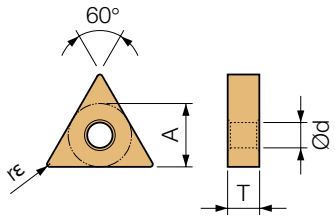
Negative Insert with Hole

(in)

Part Number	A	T	Ød
TN_22_	1/4	1/8	0.089
TN_23_	1/4	3/16	0.089

(in)

Part Number	A	T	Ød
TN_32_	3/8	1/8	0.150
TN_33_	3/8	3/16	0.150
TN_43_	1/2	3/16	0.203

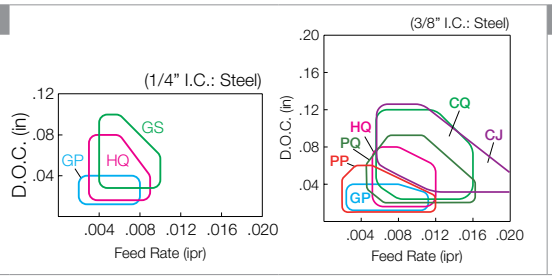


P Free-Cutting Steel; Carbon/Alloy Steel
M Stainless Steel
K Gray Cast Iron; Nodular Cast Iron
N Non-ferrous Metals
S HRSA; Titanium Alloy
H Hard materials

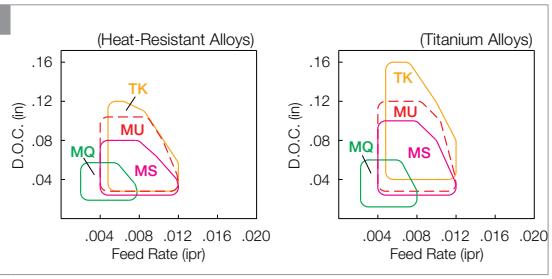
		ANSI Part Number	ISO Part Number	rε	Corner Radius (in)	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	DLC PR1125	DLC PDL025	Carbide KW10	Carbide SW05	Toolholder Page	Chipbreaker Range
Finishing	TNMG	3305PP	160402PP	0.008		●	●	●	●		●	●	●	●				●	●	●	●		●	●																				
NEW		331PP	160404PP	1/64		●	●	●	●		●	●	●	●				●	●	●	●		●	●																		D14-D17 F74 F84 F85	
		332PP	160408PP	1/32		●	●	●	●		●	●	●	●				●	●	●	●		●	●																			
		333PP	160412PP	3/64		●	●	●	●		●	●	●	●				●	●	●	●																							
Finishing	TNMG	231GP	110404GP	1/64			○			○		○				○																									D14 F85	
		232GP	110408GP	1/32			○			○		○				○																										
	TNMG	3305GP	160402GP	0.008		○	○	○	●	●	○	○	●	●		○	●	○	○	○	○	●	●	●																			
		331GP	160404GP	1/64		○	○	○	●	●	○	○	●	●		●	●	○	○	○	○	●	●	●																			
		332GP	160408GP	1/32		○	○	○	○	●	○	○	●	●		●	●	○	○	●	○	●	●	●																			
Finishing-Medium	TNMG	331PQ	160404PQ	1/64		●	●	●	●		●	●	●	●				●	●	●	●		●	●																		D14-D17 F74 F84 F85	1
NEW		332PQ	160408PQ	1/32		●	●	●	●		●	●	●	●				●	●	●	●		●	●																			
		333PQ	160412PQ	3/64		●	●	●	●		●	●	●	●				●	●	●	●		●	●																			
Finishing-Medium	TNMG	231HQ	110404HQ	1/64			○			○		○				○		○	●	●	○		●	●																		D14 F85	
		232HQ	110408HQ	1/32			○			○		○				●		●	●	●	●		●	●																			
	TNMG	331HQ	160404HQ	1/64		○	○	○	●		○	○	●	●		●	●	○	●	●	●	○	●	●	○	●	●												○				
		332HQ	160408HQ	1/32		○	○	○	●	●	○	○	●	●		●	●	●	●	●	●	○	●	●	●	●	●												○				
		333HQ	160412HQ	3/64					○	●				○		○	●	○	●	●	●		●	●																		D14-D17 F74 F84 F85	
Finishing-Medium Up Facing	TNMG	331CQ	160404CQ	1/64		○	○	○	○	●	○	○	●	●		○	●	●	●	●	○	●	○	●	●																		
		332CQ	160408CQ	1/32		○	○	○	●	○	○	○	●	●		○	●	●	●	●	○	●	●	●	○																		
		333CQ	160412CQ	3/64			○		○	○		○		○		○	●	●	●	●	○	●	●	●	●																		
	TNMG	432CQ	220408CQ	1/32														○	●	●	○		●	●																		D14 F85	
		433CQ	220412CQ	3/64														○	●	●	○		●	●																			

Chipbreaker Range

1



2



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

How to read this page ➔ B13

60° Triangle

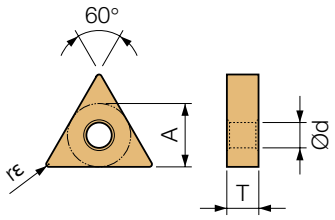
Negative Insert with Hole

(in)

Part Number	A	T	Ød
TN_22_	1/4	1/8	0.089
TN_23_	1/4	3/16	0.089

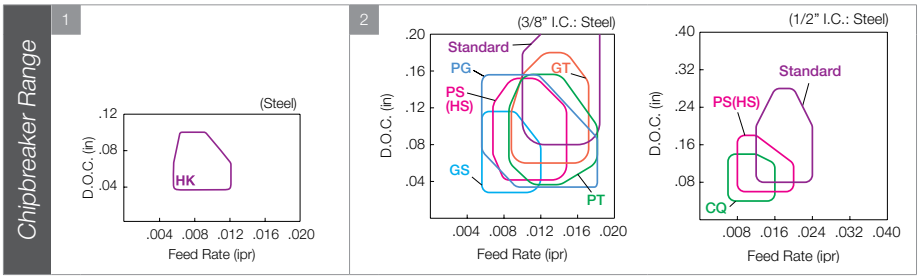
(in)

Part Number	A	T	Ød
TN_32_	3/8	1/8	0.150
TN_33_	3/8	3/16	0.150
TN_43_	1/2	3/16	0.203



		ANSI Part Number	ISO Part Number	rε	Corner Radius (in)	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	PVD Coated Carbide PR1125	DLC PDL025	Carbide KW10	Carbide SW05	Toolholder Page	Chipbreaker Range
Medium	TNMG	432HK	220408HK	1/32						●																																	D14 F84	1
Medium-Roughing	TNMG	231GS	110404GS	1/64		○			○		○									○	○			●																					D14 F85	
		232GS	110408GS	1/32																●	○			●																					
	TNMG	331GS	160404GS	1/64									○			○	○	○	○	○	○		○	○																					
		332GS	160408GS	1/32									○			●	●	○	●	●	○		●	○																					
		333GS	160412GS	3/64												○																													
Medium-Roughing NEW	TNMG	331PG	160404PG	1/64		●	●				●	●						●	●	●	●														●								D14-D17 F74 F84 F85	
		332PG	160408PG	1/32		●	●				●	●						●	●	●	●														●									
		333PG	160412PG	3/64			●					●						●	●	●	●														●									
Medium-Roughing	TNMG	331PS	160404PS	1/64				○					●	●				○	●	●	○	●	○	●	○	○	●													○				2
		332PS	160408PS	1/32				○					●	●				○	●	●	○	○	●	●	●	●	●													●				
		333PS	160412PS	3/64														○	●	●	○		●	○	●	●	●																	
	TNMG	431PS	220404PS	1/64														○	●	●	○		○	●	●																			
		432PS	220408PS	1/32														○	●	●	○	○	●	●	●	●	●																	
		433PS	220412PS	3/64														○	●	●	○		●	●	●		●																D14 F84	
		434PS	220416PS	1/16														○	○	○	○		●	●																				
Medium-Roughing	TNMG	331HS	160404HS	1/64					●	○						○	○						○	○																				D14-D17 F74 F84 F85	
		332HS	160408HS	1/32					●	●						○	●						○	●																					
		333HS	160412HS	3/64					○	○						○							●	●																					
	TNMG	431HS	220404HS	1/64						●																																			
		432HS	220408HS	1/32						●						○																											D14 F84	
		433HS	220412HS	3/64																			○																					

Chipbreaker Range



KYOCERA

Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

60° Triangle

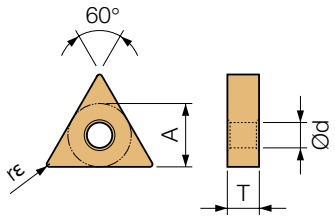
Negative Insert with Hole

(in)

Part Number	A	T	Ød
TN_22_	1/4	1/8	0.089
TN_23_	1/4	3/16	0.089
TN_32_	3/8	1/8	0.150

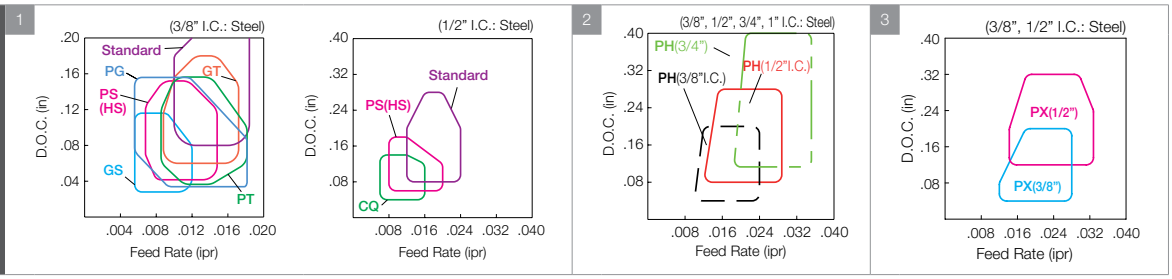
(in)

Part Number	A	T	Ød
TN_33_	3/8	3/16	0.150
TN_43_	1/2	3/16	0.203
TN_66_	1	3/8	0.312



	ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA6535	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
Medium-Roughing High Feed Rate	TNMG 332PT	160408PT	1/32													○	●	●	○	●	●	●	○		●																					
	333PT	160412PT	3/64													○	●	●	●	●	●	●	●																							
Medium-Roughing High Feed Rate	TNMG 332GT	160408GT	1/32								○			○	●	○	●	●	○		○	●																						D14-D17 F74 F84 F85	1
	333GT	160412GT	3/64											○	●	○	○	○	○		●	●																							
	TNMG 331	160404	1/64	○	○		●	●	○	○	●	●	●	○		●	●	●	●	○	○	●		●	○		○	○		○	●									○				
	332	160408	1/32	○	○		●	●	○	○	●	●	●	○		●	●	●	●	○	●	●		●	●		○	○	○	●	●									○				
Roughing	333	160412	3/64					○				○		○		●	●	●	●	○	●	●			●			○	●	●	●													
	334	160416	1/16																	○								○			●													
	335	160420	5/64																	○								○			○													
	TNMG 431	220404	1/64					●												●								○	○	●													D14 F84	
	432	220408	1/32					●								○	●	●	○	○	●	●						●	●	●		●												
	433	220412	3/64					●								○	○	●	○		●	●						●	●	●	●	●												
	TNMG 332PH	160408PH	1/32														●	●	●		●	●						●	●														D14-D17 F74 F84 F85	
Medium-Roughing	333PH	160412PH	3/64														●	●	●		●	●						●	●															
	TNMG 432PH	220408PH	1/32														●	●	●		●	●																				D14 F84	2
	433PH	220412PH	3/64														○	●	●		●	●	●																				
	434PH	220416PH	1/16														○	●	●		○	●																					
NEW	TNMG 666PH	330924PH	3/32																●	●						●											●						-	
Single Sided / Roughing High Feed Rate	TNMM 332PX	160408PX	1/32															○	○		○	○	○																				D14-D17 F74 F84 F85	
	333PX	160412PX	3/64															○	○		○	○	○																					
	TNMM 432PX	220408PX	1/32															○	○		○	○	○																				D14 F84	3
	433PX	220412PX	3/64															○	○		○	○																					
	434PX	220416PX	1/16															○	○		○	○																					

Chipbreaker Range



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

TNMG666PH sold in 5 piece boxes.

Inserts sold in 10 piece boxes.

How to read this page ➔ B13

60° Triangle

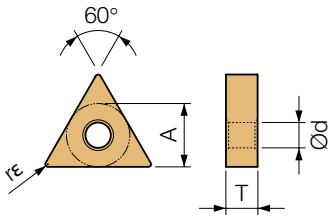
Negative Insert with Hole

(in)

Part Number	A	T	Ød
TN_22_	1/4	1/8	0.089
TN_23_	1/4	3/16	0.089

(in)

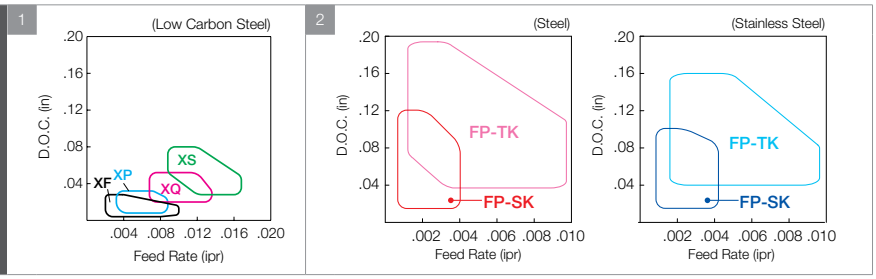
Part Number	A	T	Ød
TN_32_	3/8	1/8	0.150
TN_33_	3/8	3/16	0.150
TN_43_	1/2	3/16	0.203



		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
Finishing / Small D.O.C. *Low Carbon Steel*	TNMG	331XF	160404XF	1/64	●	●	●			●	●	●	●																																
NEW		332XF	160408XF	1/32	●	●	●			●	●	●	●																																
Finishing *Low Carbon Steel*	TNMG	331XP	160404XP	1/64	●	●		○	●	●	●	●	●		●	●	●	●	●	●	○	○	●																						
		332XP	160408XP	1/32	●	●		○	●	●	●	●	●		○	●	●	●	●	●	●	●	●																					D14-D17 F74 F84 F85	1
Medium *Low Carbon Steel*	TNMG	331XQ	160404XQ	1/64	●	●		○	○	●	●	●	●		○	●	●	●	●	●	●	●	●																						
		332XQ	160408XQ	1/32	●	●		○	●	●	●	●	●		●	●	●	●	●	●	○	●	●																						
Roughing *Low Carbon Steel*	TNMG	332XS	160408XS	1/32		○		○	○		○		●		●	●	●	●	●	●		○	●																						
Finishing-Medium *Sharp Edge / Polished*	TNGG	3302MFP-SK	160401MFP-SK	<0.004																											●	●			○										
NEW		3305MFP-SK	160402MFP-SK	<0.008																											●	●			○										
		331MFP-SK	160404MFP-SK	<1/64																											●	●			○								D14-D17 E41 F74 F84 F85	2
Medium-Roughing *Sharp Edge / Polished*	TNGG	331FP-TK	160404FP-TK	1/64																											●	●			○										
		332FP-TK	160408FP-TK	1/32																											●	●			○										

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range



Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page B13

60° Triangle

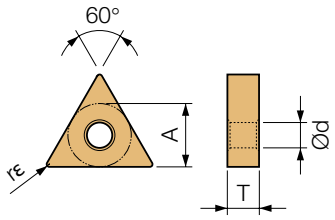
Negative Insert with Hole

(in)

Part Number	A	T	Ød
TN_22_	1/4	1/8	0.089
TN_23_	1/4	3/16	0.089

(in)

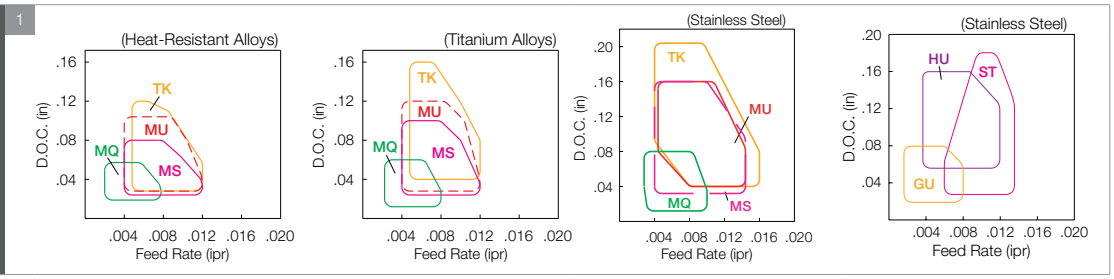
Part Number	A	T	Ød
TN_32_	3/8	1/8	0.150
TN_33_	3/8	3/16	0.150
TN_43_	1/2	3/16	0.203



		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
Medium-Roughing Sharp Edge Stainless Steel / HRSA	TNGG	331TK	160404TK	1/64																													●	●									○		
		332TK	160408TK	1/32																													●	●									○		
Medium-Roughing Stainless Steel / HRSA	TNMG	331TK	160404TK	1/64																					●	●															○				
		332TK	160408TK	1/32																					○	●															●				
Finishing-Medium Stainless Steel / HRSA	TNMG	331MQ	160404MQ	1/64																					●	●							●	●	●	●					●		○		
		332MQ	160408MQ	1/32																					●	●							●	●	●	●					●		○		
Finishing Stainless Steel																																												D14-D17 F74 F84 F85	1
	TNMG	331GU	160404GU	1/64																						●																			
Medium-Roughing Stainless Steel / HRSA	TNMG	331MS	160404MS	1/64																					○	●							●	●	●	●					●		○		
		332MS	160408MS	1/32																					●	●							●	●	●	●					●		○		
		333MS	160412MS	3/64																					●	●							●	●	●	●					●		○		
Medium-Roughing Stainless Steel / HRSA	TNMG	331MU	160404MU	1/64																					●	●							●	●	●	●							○		
		332MU	160408MU	1/32																					●	●							●	●	●	●							○		
Medium-Roughing Stainless Steel	TNMG	331℞-ST	160404℞-ST	1/64	○		○		○	○							○	○	○	○	Ⓡ	●			○	Ⓡ															Ⓡ				
		332℞-ST	160408℞-ST	1/32					○								○	○	○	○	●	Ⓡ			○	○															○				

Chipbreaker Range

1



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

How to read this page B13

60° Triangle

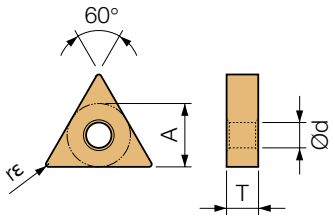
Negative Insert with Hole

(in)

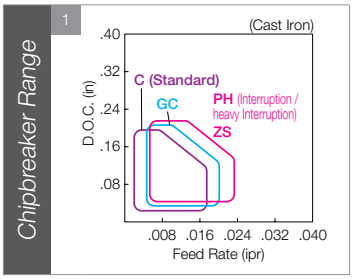
Part Number	A	T	Ød
TN_22_	1/4	1/8	0.089
TN_23_	1/4	3/16	0.089

(in)

Part Number	A	T	Ød
TN_32_	3/8	1/8	0.150
TN_33_	3/8	3/16	0.150
TN_43_	1/2	3/16	0.203



		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
					Cermet					MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide															MEGACOAT / MEGACOAT NANO						PVD Coated Carbide				DLC	Carbide				
					Corner Radius (in)																																										
Roughing *Cast Iron*	TNMG	331C	160404C	1/64																						○	○		○	●															D14-D17 F74 F84 F85	1
		332C	160408C	1/32																	○					○	○		○	●																
		333C	160412C	3/64																							○			●																
Roughing *Cast Iron*	TNMG	332ZS	160408ZS	1/32																	●					○	●		○	●															D14-D17 F74 F84 F85	
		333ZS	160412ZS	3/64																							○	●		●																
Roughing *Cast Iron*	TNMG	332GC	160408GC	1/32																	○					○	●	○	○	●																1
		333GC	160412GC	3/64																	○						○			●																
	TNGA	221	110304	1/64																																						○	D14	
Cast Iron *Without Chipbreaker*	TNGA	331	160404	1/64										●																												○		
		332	160408	1/32										●																												○		
	TNMA	331	160404	1/64					○					●							○						○	○	○	●	●													D14-D17 F74 F84 F85	
		332	160408	1/32					○					●							○						●	●		●	●														
		333	160412	3/64										●							●						○	○			●														
		334	160416	1/16										●							●							○			●														
		335	160420	5/64																	○							●																



Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

60° Triangle

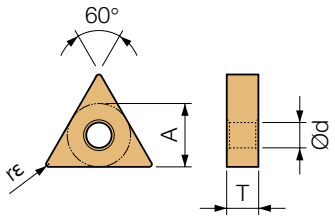
Negative Insert with Hole

(in)

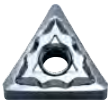
Part Number	A	T	Ød
TN_22_	1/4	1/8	0.089
TN_23_	1/4	3/16	0.089

(in)

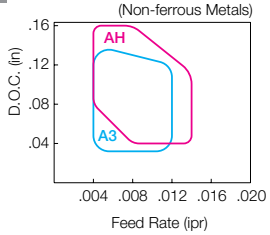
Part Number	A	T	Ød
TN_32_	3/8	1/8	0.150
TN_33_	3/8	3/16	0.150
TN_43_	1/2	3/16	0.203



		ANSI Part Number	ISO Part Number	rε	Corner Radius (in)	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	DLC PR1125	DLC PDL025	Carbide KW10	Carbide SW05	Toolholder Page	Chipbreaker Range
Finishing-Medium *Sharp Edge Non-ferrous Metals*	TNGG	331R/L-A3	160404R/L-A3	1/64																																				○	○		
		332R/L-A3	160408R/L-A3	1/32																																				○	○		
Medium-Roughing *Sharp Edge Non-ferrous Metals*	TNGG	331AH	160404AH	1/64																																				○	○	D14-D17 F74 F84 F85	1
		332AH	160408AH	1/32																																				○	○		
Medium-Roughing With Honing *Non-ferrous Metals*	TNMG	331AH	160404AH	1/64																																				○	●		
		332AH	160408AH	1/32																																				○	●		



Chipbreaker Range 1



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

How to read this page B13

60° Triangle

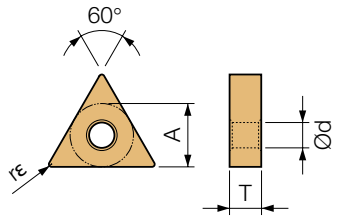
Negative Insert with Hole

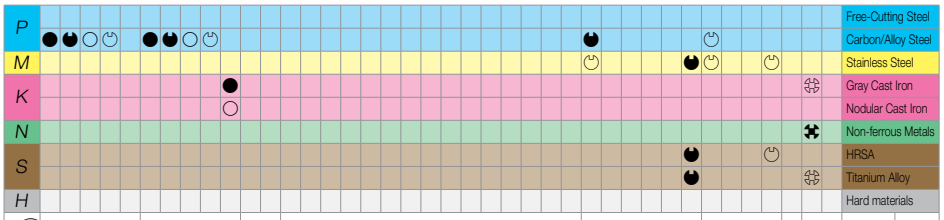
(in)

Part Number	A	T	Ød
TN_22_	1/4	1/8	0.089
TN_23_	1/4	3/16	0.089

(in)

Part Number	A	T	Ød
TN_32_	3/8	1/8	0.150
TN_33_	3/8	3/16	0.150
TN_43_	1/2	3/16	0.203



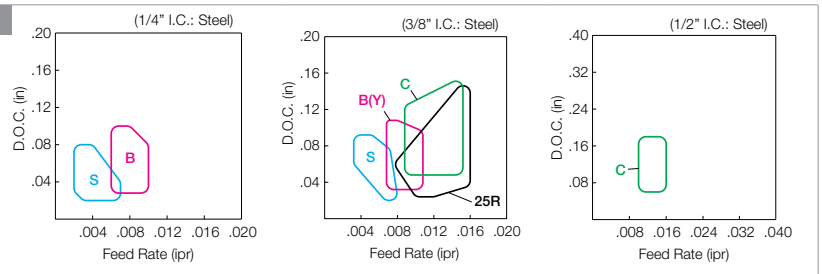


		ANSI Part Number	ISO Part Number	rε	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	MEGACOAT / MEGACOAT NANO PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PVD Coated Carbide PR930	PR1005	PR1025	PR1125	DLC PDL025	Carbide KW10	SW05	Toolholder Page	Chipbreaker Range
Finishing *Surface Roughness Oriented*	TNGG	2305R/L-S	110402R/L-S	0.008					○																																	○		D14 F85	
		231R/L-S	110404R/L-S	1/64					○																																				
		232R/L-S	110408R/L-S	1/32					○																																				
	TNGG	3302R/L-S	160401R/L-S	0.004		○		○			○		○			●																													
		3305R/L-S	160402R/L-S	0.008	○	○	○	○	○	○	○	○	○	●	Ⓡ	●															●					○	Ⓡ		○						
		331R/L-S	160404R/L-S	1/64	○	○	○	○	Ⓡ	○	○	○	○	●	○	●															●					○	●		●						
		332R/L-S	160408R/L-S	1/32	○	○	○	●	○	○	○	○	○			●															●					○	○		●						
Finishing *Sharp Edge / Precision Super Fine*	TNEG	3305R/L-SSF	160402R/L-SSF	0.008	○	○	○	Ⓡ	○	○	○		○			●																					○							D14-D17 F74 F84 F85	
		331R/L-SSF	160404R/L-SSF	1/64	○	○	○	○	○	○	○		○			●																					○								
	TNGG	2205R/L-B	110302R/L-B	0.008	○		○		○	○																																○		D14	
		221R/L-B	110304R/L-B	1/64	○		○		○	○																																Ⓡ			
	TNGG	321R/L-B	160304R/L-B	1/64					○																																		-	
	TNGG	3305R/L-B	160402R/L-B	0.008	○	○	○	○	○	○	○	Ⓡ	○			●																					Ⓡ					○		D14-D17 F74 F84 F85	1
		331R/L-B	160404R/L-B	1/64	○	○	○	○	○	○	○	●	○	●		●																					○								
		332R/L-B	160408R/L-B	1/32	○		○	Ⓡ	○																																			
Finishing-Medium / Medium-Roughing	TNGG	3305R/L-C	160402R/L-C	0.008		○		○			○		○			●																													
		331R/L-C	160404R/L-C	1/64	○	○	○	○	●	○	○	●	○	●	○	●																					○					○			
		332R/L-C	160408R/L-C	1/32	○	○	○	○	Ⓡ	○	○	●	○	●	○	●																					○					○			
	TNGG	333R/L-C	160412R/L-C	3/64	○		○			○	○			Ⓡ																															
		334R/L-C	160416R/L-C	1/16										Ⓡ																															
	TNGG	431R/L-C	220404R/L-C	1/64		○		Ⓡ	●		○			Ⓡ																														D14 F84	
		432R/L-C	220408R/L-C	1/32		○		○	●		○			○																															
	TNGG	2305R/L	110402R/L	0.008					○																																		D14 F85	
		231R/L	110404R/L	1/64					○																																			
		232R/L	110408R/L	1/32					○																																			
	TNMG	331R/L-C	160404R/L-C	1/64	○	○			○	○	○		○			●																													
		332R/L-C	160408R/L-C	1/32	○	○			○	○	○		○			●																													
		333R/L-C	160412R/L-C	3/64					Ⓡ																																			
Medium-Roughing *Low Cutting Force*	TNGG	331R/L-25R	160404R/L-25R	1/64	○	○	○	○	○	○	○		○			●																					○			●		○		D14-D17 F74 F84 F85	
		332R/L-25R	160408R/L-25R	1/32	○	○	○	○	○	○	○		○			●																					○			●		○			

-B : Finishing-Medium
-C : Medium-Roughing

Chipbreaker Range

1



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Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

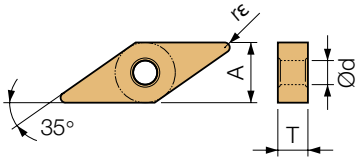
How to read this page ➔ B13

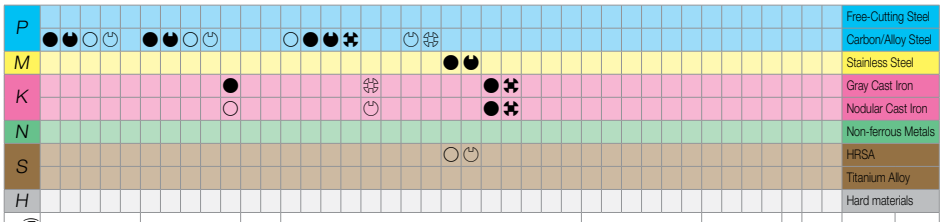
35° Diamond

Negative Insert with Hole

(in)

Part Number	A	T	Ød
VN_33_	3/8	3/16	0.150





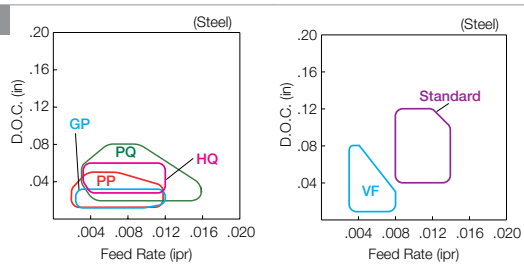
		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
Finishing	VNMG	3305PP	160402PP	0.008	●	●	●	●		●	●	●	●				●	●	●	○		●	●																							
NEW		331PP	160404PP	1/64	●	●	●	●		●	●	●	●				●	●	●	●		●	●																							
		332PP	160408PP	1/32	●	●	●	●		●	●	●	●				●	●	●	●		●	●																							
		333PP	160412PP	3/64	●	●	●	●		●	●	●	●				●	●	●	●																										
Finishing	VNMG	3305GP	160402GP	0.008	○	○	○	●	●	○	○	●	●		●	●	○	○	○	○		●	●																							
		331GP	160404GP	1/64	○	○	○	●	●	○	○	●	●		●	●	○	○	○	○		●	●																							
		332GP	160408GP	1/32	○	○	○	●	●	○	○	●	●		●	●	○	○	○	○		●	●																							
Finishing-Medium	VNMG	331VF	160404VF	1/64	●	●	○	●		●	●	●	●				●	●	●	●		●	●																							
		332VF	160408VF	1/32	●	●	○	●		●	●	●	●				●	●	●	●		●	●																							
		333VF	160412VF	3/64		●		●			●		●				●	●	●	●		●	●																							
Finishing-Medium	VNMG	331PQ	160404PQ	1/64	●	●	●	●		●	●	●	●				●	●	●	●		●	●																							
NEW		332PQ	160408PQ	1/32	●	●	●	●		●	●	●	●				●	●	●	●		●	●																							
		333PQ	160412PQ	3/64	●	●	●	●		●	●	●	●				●	●	●	●		●	●																							
Finishing-Medium	VNMG	331HQ	160404HQ	1/64	○	○	○	●	●	○	○	●	●		●	●	●	●	●	●	●	●	●	●																							
		332HQ	160408HQ	1/32	○	○	○	●	●	○	○	●	●		●	●	●	●	●	●	●	●	●	●																							
		333HQ	160412HQ	3/64		○		○	○		○		●		○	●	●	●	●	●	●	●	●	●																							
Medium	VNMG	331TN-V	160404TN-V	1/64					○																																					
		332TN-V	160408TN-V	1/32					○																																					
		333TN-V	160412TN-V	3/64					●																																					
Roughing	VNMG	331	160404	1/64	○	○	○	●	●	○	○		●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●														
		332	160408	1/32	○	○	○	●	●	○	○		●	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●														

Toolholder Page: D18 D19 D20

Chipbreaker Range: 1

Chipbreaker Range

1



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

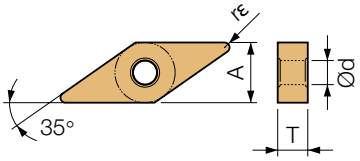
Inserts sold in 10 piece boxes.

How to read this page B13

35° Diamond

Negative Insert with Hole

Part Number	A (in)	T (in)	Ød (in)
VN_33_	3/8	3/16	0.150

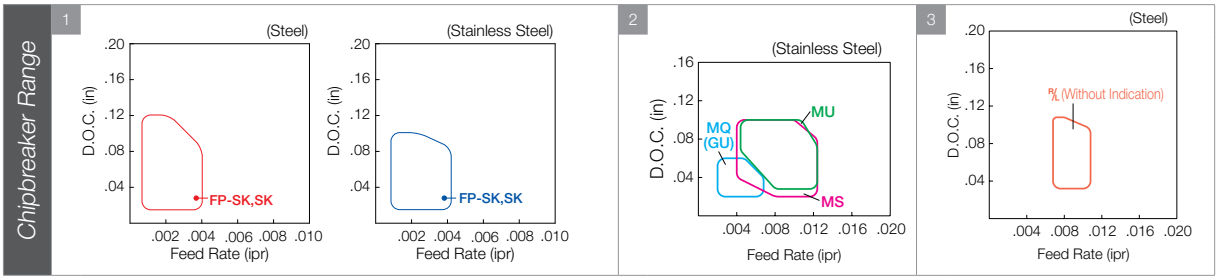


		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
Finishing-Medium Sharp Edge / Polished	VNGG	3305MFP-SK	160402MFP-SK	<0.008																											●	●				○										
NEW		331MFP-SK	160404MFP-SK	<1/64																											●	●				○										
Finishing-Medium Sharp Edge / Polished	VNGG	3305M-SK	160402M-SK	<0.008	○	○	○			○	○	○																																		
NEW		331M-SK	160404M-SK	<1/64	○	○	○			○	○	○																																		
Finishing Stainless Steel	VNMG	332GU	160408GU	1/32																					●																					
Finishing-Medium Stainless Steel / HRSA	VNMG	331MQ	160404MQ	1/64																					●	●							●	●	●					●			○			
		332MQ	160408MQ	1/32																					●	●							●	●	○					●			○			
Medium-Roughing Stainless Steel / HRSA	VNMG	331MS	160404MS	1/64																					●	●							●	●	●					●			○			
		332MS	160408MS	1/32																					●	●							●	●	●					●			○			
		333MS	160412MS	3/64																					●	●							●	●	●					●						
Medium-Roughing Stainless Steel / HRSA	VNMG	331MU	160404MU	1/64																					●	●							●	○	●					●			○			
		332MU	160408MU	1/32																					●	●							●	●	●					●			○			
Cast Iron Without Chipbreaker	VNGA	331	160404	1/64										○																													○			
		332	160408	1/32										○																													○			
Medium	VNGG	3305 R/L	160402 R/L	0.008	○	○	○	○	○	○	○	○	○		○	●																						Ⓡ							
		331 R/L	160404 R/L	1/64	○	○	○	Ⓡ	○	○	○	○	○		○	●																						○					○		
		332 R/L	160408 R/L	1/32	○	○	○		○	○	○	○																										○					Ⓛ		
Finishing Low Carbon Steel	VNMG	331XP	160404XP	1/64					○						●																								○							

	Corner Radius (in)	Cermet				MEGA COAT Cermet				PVD Cermet		CVD Coated Carbide																	MEGACOAT / MEGACOAT NANO						PVD Coated Carbide				DLC	Carbide			Toolholder Page	Chipbreaker Range
	rε	TN610	TN620	TN6010	TN6020	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05		

- Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range



Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

80° Trigon

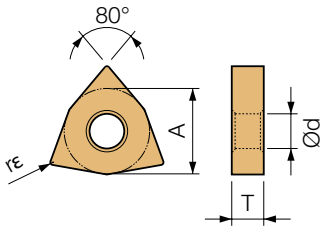
Negative Insert with Hole

(in)

Part Number	A	T	Ød
WN_325_	3/8	5/32	0.150
WN_33_	3/8	3/16	0.150

(in)

Part Number	A	T	Ød
WN_43_	1/2	3/16	0.203



		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
					Cermet					MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide															MEGACOAT / MEGACOAT NANO						PVD Coated Carbide				DLC	Carbide				
Finishing	With Wiper Edge	WNMG 431WP	080404WP	1/64	●	●	○	●		●	●	●	●		●	●	●	●	●	●	●	●																								
		432WP	080408WP	1/32	●	●		●		●	●	●	●		●	●	●	●	●	●	●	●																								
Finishing-Medium	With Wiper Edge	WNMG 431WQ	080404WQ	1/64	●	●	○	●		●	●	●	●		○	●	●	●	●	●	●	●																								
		432WQ	080408WQ	1/32	●	●		○		●	●	●	●		○	●	●	●	●	●	●	●																								
		433WQ	080412WQ	3/64		●		●			●		○			●	●	●	●	●	○	●	●																								
Finishing	NEW	WNMG 4305PP	080402PP	0.008	●	●	●	●		●	●	●	●				●	●	●	●																								
		431PP	080404PP	1/64	●	●	●	●		●	●	●	●				●	●	●	●																								
		432PP	080408PP	1/32	●	●	●	●		●	●	●	●				●	●	●	●																								
		433PP	080412PP	3/64	●	●	●	●		●	●	●	●				●	●	●	●																								
Finishing		WNMG 331GP	060404GP	1/64		○			○		○				●																													
		332GP	060408GP	1/32		○			○		○				●																													
		WNMG 431GP	080404GP	1/64	○	○	○	○	○	○	○	●	●		○	●																												
		432GP	080408GP	1/32	○	○	○	○	○	○	○	●	●		○	●																												
Finishing-Medium	NEW	WNMG 431PQ	080404PQ	1/64	●	●	●	●		●	●	●	●				●	●	●	●		●	●																						
		432PQ	080408PQ	1/32	●	●	●	●		●	●	●	●				●	●	●	●		●	●																						
		433PQ	080412PQ	3/64													●	●	●	●		●	●																						

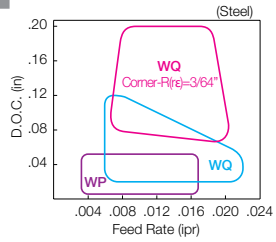
D22 D23 F87 F88 — Toolholder Page — Chipbreaker Range 1

D22 D23 F86 — Toolholder Page — Chipbreaker Range 2

D22 D23 F87 F88 — Toolholder Page

Chipbreaker Range

1



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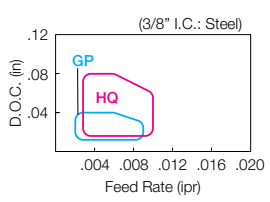
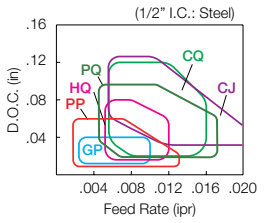




● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

How to read this page ➔ B13

80° Trigon

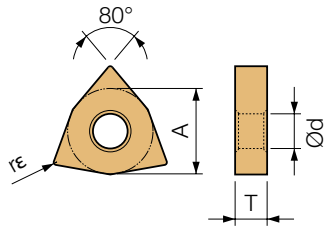
Negative Insert with Hole

(in)

Part Number	A	T	Ød
WN_325_	3/8	5/32	0.150
WN_33_	3/8	3/16	0.150

(in)

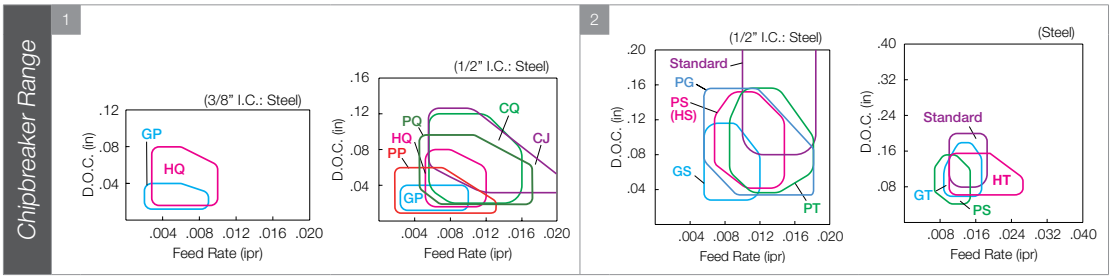
Part Number	A	T	Ød
WN_43_	1/2	3/16	0.203



		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
		Corner Radius (in)			Cermet					MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide															MEGACOAT / MEGACOAT NANO						PVD Coated Carbide				DLC	Carbide			
Finishing-Medium	WNMG	3251HQ	06T304HQ	1/64					●										●	●			○																						-	
		3252HQ	06T308HQ	1/32					○										●	●			●																							
	WNMG	331HQ	060404HQ	1/64		○			●		○				●		●	●	●	●		●	●																						D22 D23 F86	
		332HQ	060408HQ	1/32		○			●		○				●		●	●	●	●		●	●																							
	WNMG	431HQ	080404HQ	1/64	○	○	○	●	●	○	○	●	●		●	●	●	●	●	●	●	●	●	●	●																●				
		432HQ	080408HQ	1/32	○	○	○	●	●	○	○	●	●		●	●	●	●	●	●	○	●	●	●	●																●				
		433HQ	080412HQ	3/64	○			○	○	○			○		○	●	●	●	●			●	●	●																						
Finishing-Medium *Up Facing*	WNMG	431CQ	080404CQ	1/64	○	○	○	○		○	○	●	●		○	●	○	●	●	○	●	●	○																						D22 D23 F87 F88	1
		432CQ	080408CQ	1/32	○	○	○	○	○	○	○	●	●		○	●	●	●	●	●	●	●	●	●																							
		433CQ	080412CQ	3/64		○		○	○		○		○			●	○	●	●	●	●	●	●	●																							
Finishing-Medium *Up Facing*	WNMG	432CJ	080408CJ	1/32													●	●	●	●	○	○	●	○																							
		433CJ	080412CJ	3/64													○	●	●	○	○	●	●	○																							
Medium-Roughing	WNMG	331GS	060404GS	1/64		○		○		○					○		○	○	●	○		●	○																						D22 D23 F86	
		332GS	060408GS	1/32		○		●		○					●		○	●	●	○		●	●																							
	WNMG	431GS	080404GS	1/64								○			○	●	○	○	●	○		●	●																							
		432GS	080408GS	1/32								○			●	●	○	●	●	○		●	●																							
		433GS	080412GS	3/64													○	○	●	○		●	●																							
Medium-Roughing	WNMG	431PG	080404PG	1/64	●	●				●	●						●	●	●	●																		●							D22 D23 F87 F88	2
NEW		432PG	080408PG	1/32	●	●				●	●						●	●	●	●																		●								
		433PG	080412PG	3/64													●	●	●	●																		●								
		434PG	080416PG	1/16													●	○	●	●																										

For Heat-Resistant Alloys See ➔ B6

Chipbreaker Range



KYOCERA

Inserts sold in 10 piece boxes.

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○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

80° Trigon

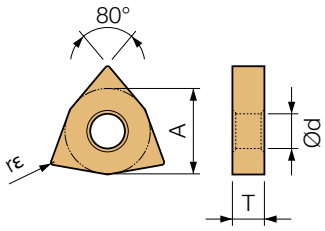
Negative Insert with Hole

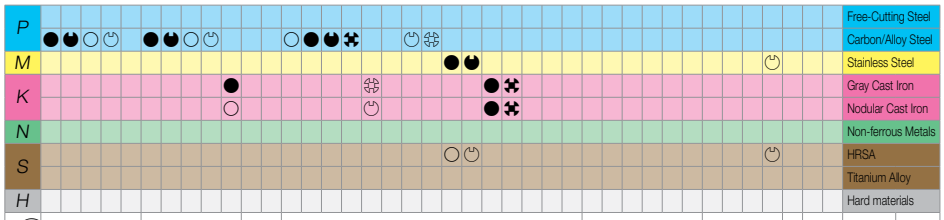
(in)

Part Number	A	T	Ød
WN_325_	3/8	5/32	0.150
WN_33_	3/8	3/16	0.150

(in)

Part Number	A	T	Ød
WN_43_	1/2	3/16	0.203

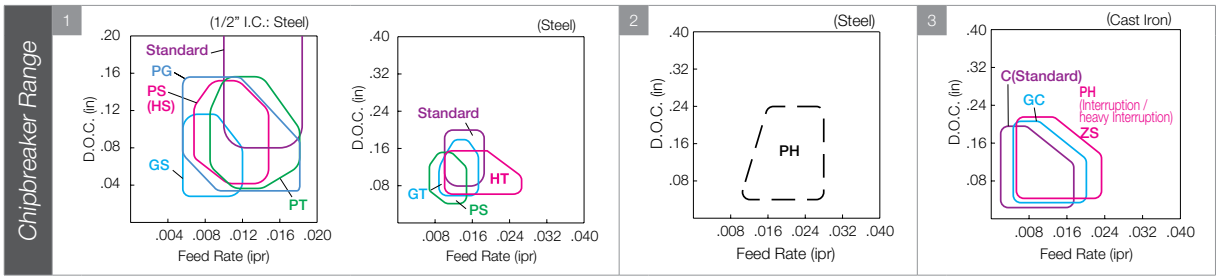




	ANSI Part Number	ISO Part Number	rε	Corner Radius (in)	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	DLC PR1125	DLC PDL025	Carbide KW10	Carbide SW05	Toolholder Page	Chipbreaker Range
Medium-Roughing	WNMG 431PS	080404PS	1/64				○					●	●				○	●	●	●	●	●	●	●	●	●													●			
	432PS	080408PS	1/32				○					●	●				●	●	●	●	●	●	●	●	●	●													○			
	433PS	080412PS	3/64														○	●	●	○	●	●	●	●		●																
	434PS	080416PS	1/16														○	○	●	○		●	●																				
Medium-Roughing	WNMG 431HS	080404HS	1/64					○	○						○	●						●	●																				
	432HS	080408HS	1/32					●	●						○	●						●	●																				
	433HS	080412HS	3/64					○	●						○	●						●	●																				
Medium-Roughing *High Feed Rate*	WNMG 432PT	080408PT	1/32														●	●	●	●	●	●	●	●	●	●																	
	433PT	080412PT	3/64														○	●	●	●	●	●	●	●	●	●																	
Medium-Roughing *High Feed Rate*	WNMG 432GT	080408GT	1/32												○		○	●	●	○		●	●																				
	433GT	080412GT	3/64														○	○	●	○		●	●																				
Medium-Roughing *High Feed Rate*	WNMG 433HT	080412HT	3/64																				●																				
Roughing	WNMG 431	80404	1/64	○		○		○	○								○	●	●	●	●	●	●		●	●	○	○	○	●	●								○			
	432	80408	1/32	○		○		○	○					○			○	●	●	●	●	○	●	●	●	●	●	●		●	●								○			
	433	80412	3/64														○	●	●	●	●	●	●	●	●	●	●	○	●	●								○			
Roughing NEW	WNMG 432PH	080408PH	1/32														●	●	●	●						●	●															
	433PH	080412PH	3/64														●	●	●	●						●	●															

D22 D23 F87 F88

Chipbreaker Range: 1, 2, 3



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

How to read this page ➡ B13

80° Trigon

Negative Insert with Hole

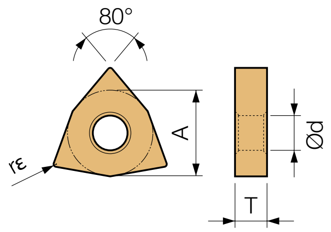
(in)

Part Number	A	T	Ød
WN_325_	3/8	5/32	0.150
WN_33_	3/8	3/16	0.150

(in)

Part Number	A	T	Ød
WN_43_	1/2	3/16	0.203

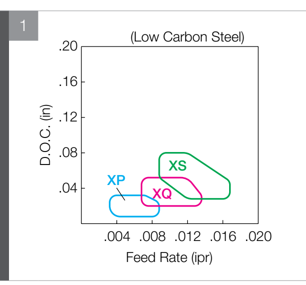
NEGATIVE
C
D
R
S
T
V
W
CERAMIC

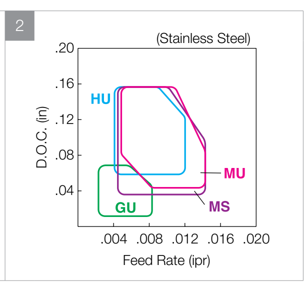


Workpiece material	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525
P Free-Cutting Steel																						
P Carbon/Alloy Steel	●	◕		◔		●	◕	○	◔				○	●	◕	✖			◔			
M Stainless Steel																						◕
K Gray Cast Iron																	⊕					
K Nodular Cast Iron																	◔					
N Non-ferrous Metals																						
S HRSA																						◔
S Titanium Alloy																						
H Hard materials																						

Grade groups: Cermet (TN610, TN620, TN6010, TN6020, TN60); MEGA COAT Cermet (PV710, PV720, PV7010, PV7025, PV7005); PVD Cermet (PV90, PV7020); CVD Coated Carbide (CA510 … CA4120); MEGACOAT / MEGACOAT NANO (PR1425, PR1225, PR1305, PR1310, PR1325, PR1535); PVD Coated Carbide (PR930, PR1005, PR1025, PR1125); DLC (PDL025); Carbide (KW10, SW05).

Application	Image	ANSI Part Number	ISO Part Number	rε (Corner Radius (in))	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
Finishing *Low Carbon Steel*		WNMG 431XP	080404XP	1/64	●	●		○	○	●	●	●	●		○	●	●	●	●	●		●	●																						D22 D23 F87 F88	1
		432XP	080408XP	1/32	●	●		○	●	●	●	●	●		●	●	●	●	●	●		●	●																							
Medium *Low Carbon Steel*		WNMG 431XQ	080404XQ	1/64	●	○		○		●	○	●	●		○	●	●	●	●	●	●	●	●																							
		432XQ	080408XQ	1/32	●	○		○	○	●	○	●	●		○	●	●	●	●	●		●	●																							
Roughing *Low Carbon Steel*		WNMG 432XS	080408XS	1/32		○		○			○		●		●	●	●	●	○	●	●	●	●																							
Finishing *Stainless Steel*		WNMG 432GU	080408GU	1/32																						●																				2





● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

80° Trigon

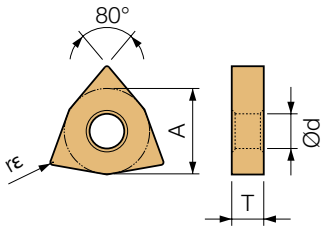
Negative Insert with Hole

(in)

Part Number	A	T	Ød
WN_325_	3/8	5/32	0.150
WN_33_	3/8	3/16	0.150

(in)

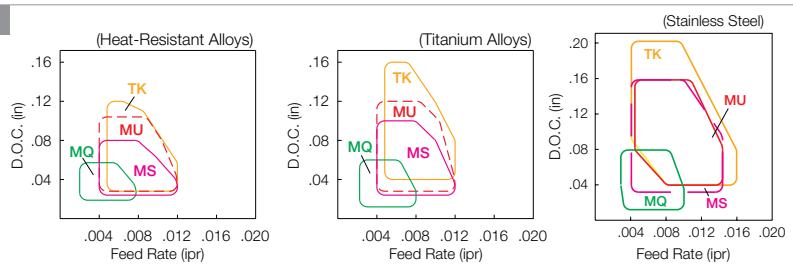
Part Number	A	T	Ød
WN_43_	1/2	3/16	0.203



		ANSI Part Number	ISO Part Number	rε	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	DLC PR1125	DLC PDL025	Carbide KW10	Carbide SW05	Toolholder Page	Chipbreaker Range
Medium-Roughing	*Sharp Edge*	WNGG 431TK	080404TK	1/64																												○	●								○	D22 D23 F87 F88	1
		432TK	080408TK	1/32																												●	●								○		
Medium-Roughing	*Stainless Steel / HRSA*	WNMG 431TK	080404TK	1/64																					●	●						●	●	●				●					
		432TK	080408TK	1/32																					●	●						●	●	●				●					
Finishing-Medium	*Stainless Steel / HRSA*	WNMG 431MQ	080404MQ	1/64																					●	●						●	●	●	●			●			○		
		432MQ	080408MQ	1/32																					●	●						●	●	●	●			●			○		
Medium-Roughing	*Stainless Steel / HRSA*	WNMG 431MS	080404MS	1/64																					●	●						●	●	●	●			●			○		
		432MS	080408MS	1/32																					●	●						●	●	●	●			●			○		
		433MS	080412MS	3/64																					●	●						●	●	●	●			●			○		
Medium-Roughing	*Stainless Steel / HRSA*	WNMG 431MU	080404MU	1/64																					●	●						●	●	●	●			●			○		
		432MU	080408MU	1/32																					●	●						●	●	●	●			●			○		

P Free-Cutting Steel, Carbon/Alloy Steel
M Stainless Steel
K Gray Cast Iron, Nodular Cast Iron
N Non-ferrous Metals
S HRSA, Titanium Alloy
H Hard materials

Chipbreaker Range 2



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

How to read this page B13

80° Trigon

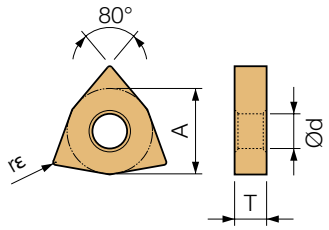
Negative Insert with Hole

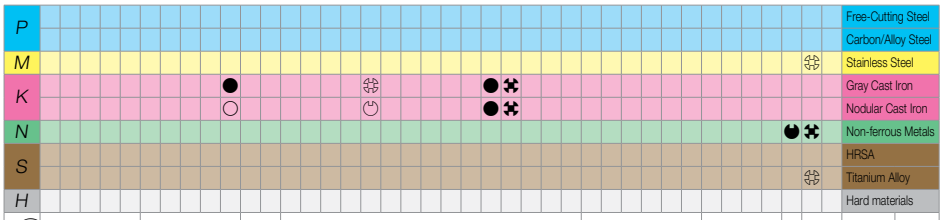
(in)

Part Number	A	T	Ød
WN_325_	3/8	5/32	0.125
WN_33_	3/8	3/16	0.125

(in)

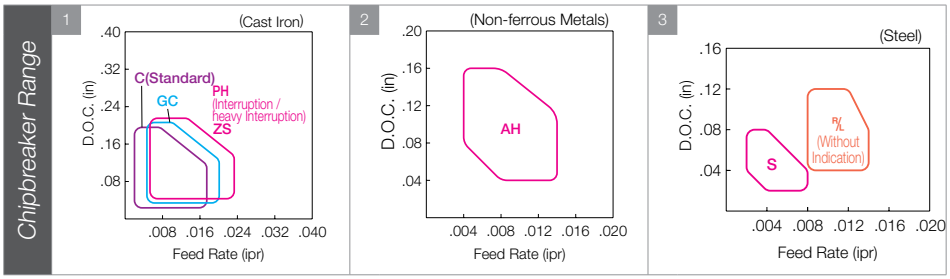
Part Number	A	T	Ød
WN_43_	1/2	3/16	0.203





	ANSI Part Number	ISO Part Number	rε	Corner Radius (in)	Cermet				MEGA COAT Cermet				PVD Cermet	CVD Coated Carbide																		MEGACOAT / MEGACOAT NANO					PVD Coated Carbide				DLC	Carbide		Toolholder Page	Chipbreaker Range
					TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05		
Roughing Cast Iron	WNMG	431C	080404C	1/64																							○	○		○	●														
		432C	080408C	1/32																	○						○	●		●	●														
		433C	080412C	3/64																	○							●		●	●														
Roughing Cast Iron	WNMG	432ZS	080408ZS	1/32																	●	●					●	●	●		●													1	
		433ZS	080412ZS	3/64																	●						●	●			●														
Roughing Cast Iron	WNMG	432GC	080408GC	1/32																	○						○	●	○	●	●													D22 D23 F87 F88	
		433GC	080412GC	3/64																	○							●	○	●	●														
Cast Iron Without Chipbreaker	WNMA	432	080408	1/32										●							●						●	●			○														-
		433	080412	3/64																	●						●	●	○		●														
Medium-Roughing Sharp Edge Non-ferrous Metals	WNGG	431AH	080404AH	1/64																																				○	○			2	
		432AH	080408AH	1/32																																				○	○				
Finishing Surface Roughness Oriented	WNGG	3305R/L-S	060402R/L-S	0.008					○					®																											○			
		331R/L-S	060404R/L-S	1/64					○					○																											○		D22 D23 F86	3
		332R/L-S	060408R/L-S	1/32					○					○																														
Medium	WNGG	331R/L	060404R/L	1/64					○																															○			

Chipbreaker Range



KYOCERA

Inserts sold in 10 piece boxes.

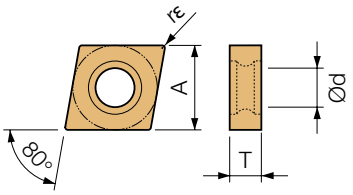
● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

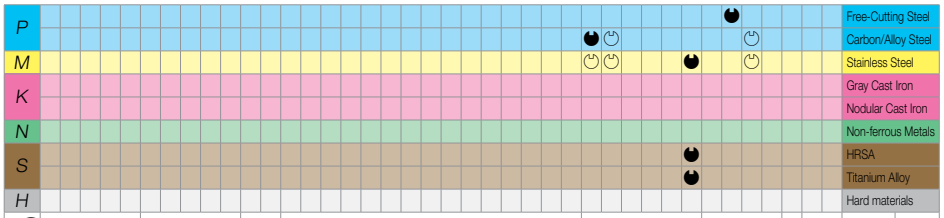
How to read this page ➔ B13

Small Double-Sided
Turning Inserts

(in)

Part Number	A	T	Ød
CN_U242_	0.295	1/8	0.142





		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
Corner Radius (in)					Cermet					MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide															MEGACOAT / MEGACOAT NANO						PVD Coated Carbide			DLC	Carbide				
Finishing-Medium																																												
Sharp Edge	CNGU	24202MF-SK	070301MF-SK	<0.004																																			●							
		24205MF-SK	070302MF-SK	<0.008																																			●							
Finishing-Medium																																												
Sharp Edge / Polished	CNGU	24202MFP-SK	070301MFP-SK	<0.004																													●	●			○									
		24205MFP-SK	070302MFP-SK	<0.008																													●	●			○									
Medium-Roughing																																												
Honed Edge	CNMU	24205E-GK	070302E-GK	0.008																														●			○			●						
		2421E-GK	070304E-GK	1/64																													●	●			○		●	●					E38	B51 1
Finishing	CNGU	242013MF$^{R}_{L}$-F	0703005MF$^{R}_{L}$-F	<0.002																														Ⓡ						Ⓡ Ⓡ						
Sharp Edge		24202MF$^{R}_{L}$-F	070301MF$^{R}_{L}$-F	<0.004																													Ⓡ	Ⓡ			Ⓡ			Ⓡ Ⓡ						
		24205MF$^{R}_{L}$-F	070302MF$^{R}_{L}$-F	<0.008																													Ⓡ	Ⓡ			Ⓡ			Ⓡ Ⓡ						
		2421MF$^{R}_{L}$-F	070304MF$^{R}_{L}$-F	<1/64																													Ⓡ	Ⓡ			Ⓡ			Ⓡ Ⓡ						
Low Feed	CNGU	242013MF$^{R}_{L}$-U	0703005MF$^{R}_{L}$-U	<0.002																														Ⓡ						Ⓡ Ⓡ						
Sharp Edge		24202MF$^{R}_{L}$-U	070301MF$^{R}_{L}$-U	<0.004																													Ⓡ	Ⓡ			Ⓡ			Ⓡ Ⓡ						
		24205MF$^{R}_{L}$-U	070302MF$^{R}_{L}$-U	<0.008																													Ⓡ	Ⓡ			Ⓡ			Ⓡ Ⓡ						
		2421MF$^{R}_{L}$-U	070304MF$^{R}_{L}$-U	<1/64																													Ⓡ	Ⓡ			Ⓡ			Ⓡ Ⓡ						
Low Feed	CNGU	24202ME$^{R}_{L}$-U	070301ME$^{R}_{L}$-U	<0.004																																				Ⓡ						
Honed Edge		24205ME$^{R}_{L}$-U	070302ME$^{R}_{L}$-U	<0.008																																				Ⓡ						
		2421ME$^{R}_{L}$-U	070304ME$^{R}_{L}$-U	<1/64																																				Ⓡ						

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

● Small Double-Sided Tool Identification System

CNGU070301M F P - SK

- Minus Tolerance for Corner-R(rε)
- Sharp Edge
- Insert Surface Polished Inserts
- Chipbreakers

CNGU070301M F R - U

- Minus Tolerance for Corner-R(rε)
- Sharp Edge
- Insert Hand
- Chipbreakers

CNGU070301M E R - U

- Minus Tolerance for Corner-R(rε)
- Honed Edge
- Insert Hand
- Chipbreakers

● When minus tolerance is specified for corner-R (rε)

• If a minus tolerance is specified for the corner-R(rε) as shown in the Fig.1, using an insert with corner-R = 0.008" may result in larger radius than specified.

• Use an insert whose corner-R(rε) has a minus tolerance.

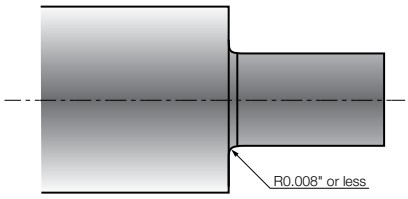


Fig.1 Example of a specified corner-R in drawing

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

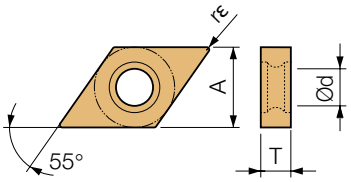
How to read this page B13

Small Double-Sided
Turning Inserts

(in)

Part Number	A	T	Ød
DN_222_	0.276	1/8	0.142

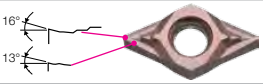
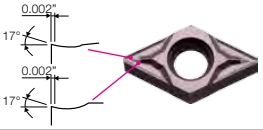
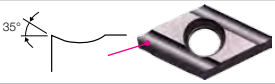
NEGATIVE
C D R S T V W CERAMIC



		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
					Cermet					MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide															MEGACOAT / MEGACOAT NANO						PVD Coated Carbide				DLC	Carbide				
Finishing-Medium Sharp Edge	DNGU	22202MF-SK	080301MF-SK	<0.004																																		●							
		22205MF-SK	080302MF-SK	<0.008																																		●							
		2221MF-SK	080304MF-SK	<1/64																																		●							
Finishing-Medium Sharp Edge / Polished	DNGU	22202MFP-SK	080301MFP-SK	<0.004																												●	●			○									
		22205MFP-SK	080302MFP-SK	<0.008																												●	●			○									
		2221MFP-SK	080304MFP-SK	<1/64																												●	●			○									
Medium-Roughing Honed Edge	DNMU	22205E-GK	080302E-GK	0.008																												●	●			○			●					E38	B51
		2221E-GK	080304E-GK	1/64																												●	●			○		●	●						2
Finishing Sharp Edge	DNGU	222013MF$^{R}_{L}$-F	0803005MF$^{R}_{L}$-F	<0.002																													Ⓡ							Ⓡ						
		22202MF$^{R}_{L}$-F	080301MF$^{R}_{L}$-F	<0.004																												Ⓡ	Ⓡ			Ⓡ			Ⓡ	Ⓡ					
		22205MF$^{R}_{L}$-F	080302MF$^{R}_{L}$-F	<0.008																												Ⓡ	Ⓡ			Ⓡ			Ⓡ	Ⓡ					
		2221MF$^{R}_{L}$-F	080304MF$^{R}_{L}$-F	<1/64																												Ⓡ	Ⓡ			Ⓡ			Ⓡ	Ⓡ					
Low Feed Sharp Edge	DNGU	222013MF$^{R}_{L}$-U	0803005MF$^{R}_{L}$-U	<0.002																													Ⓡ							Ⓡ						
		22202MF$^{R}_{L}$-U	080301MF$^{R}_{L}$-U	<0.004																												Ⓡ	Ⓡ			Ⓡ			Ⓡ	Ⓡ					
		22205MF$^{R}_{L}$-U	080302MF$^{R}_{L}$-U	<0.008																												Ⓡ	Ⓡ			Ⓡ			Ⓡ	Ⓡ					
		2221MF$^{R}_{L}$-U	080304MF$^{R}_{L}$-U	<1/64																												Ⓡ	Ⓡ			Ⓡ			Ⓡ	Ⓡ					
Low Feed Honed Edge	DNGU	22202ME$^{R}_{L}$-U	080301ME$^{R}_{L}$-U	<0.004																																		Ⓡ	Ⓡ						
		22205ME$^{R}_{L}$-U	080302ME$^{R}_{L}$-U	<0.008																																		Ⓡ	Ⓡ						
		2221ME$^{R}_{L}$-U	080304ME$^{R}_{L}$-U	<1/64																																		Ⓡ	Ⓡ						

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Selection (Negative Inserts)

Cutting Range	Name	Cross-Section	Advantages
Finishing-Medium	**SK**		A low cutting force chipbreaker designed for chip control in steel and stainless steel. Cutting performance is similar to comparably sized positive inserts.
Medium-Roughing	**GK**		Chipbreaker "dot" and pocket design provide chip control at multiple depths of cut and feed rates.
Finishing	**F**		Controlled chip evacuation direction with low cutting forces.
Low Feed	**U**		Good chip control at low feed rates and varied depths of cut with low cutting forces.

Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

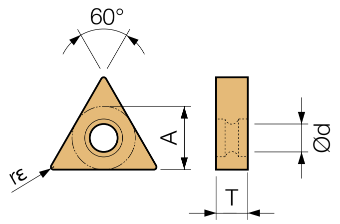
How to read this page ➡ B13

Small Double-Sided

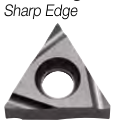
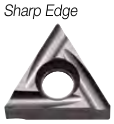
Turning Inserts

(in)

Part Number	A	T	Ød
TN_182_	7/32	1/8	0.118

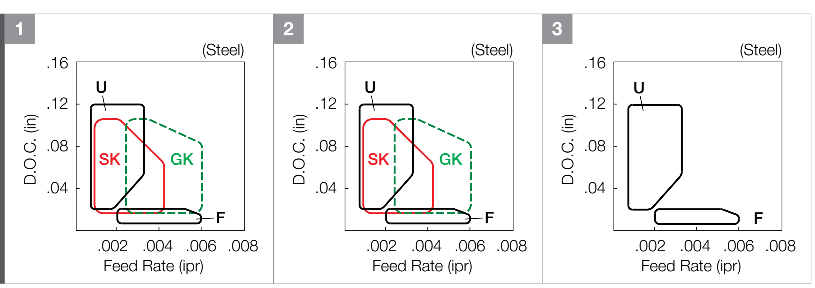


	Material	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05
P	Free-Cutting Steel																																			●					
P	Carbon/Alloy Steel																												●	○							○				
M	Stainless Steel																												○	○				●			○				
K	Gray Cast Iron																																								
K	Nodular Cast Iron																																								
N	Non-ferrous Metals																																								
S	HRSA																																	●							
S	Titanium Alloy																																	●							
H	Hard materials																																								

	ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
			Corner Radius (in)	Cermet					MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide															MEGACOAT / MEGACOAT NANO						PVD Coated Carbide				DLC	Carbide			
Finishing Sharp Edge 	TNGU 182013MFR/L-F	0903005MFR/L-F	<0.002																													🅡							Ⓡ					E39	3
	18202MFR/L-F	090301MFR/L-F	<0.004																												🅡	🅡				Ⓡ		Ⓡ	Ⓡ						
	18205MFR/L-F	090302MFR/L-F	<0.008																												🅡	🅡				Ⓡ		Ⓡ	Ⓡ						
	1821MFR/L-F	090304MFR/L-F	<1/64																												🅡	🅡				Ⓡ		Ⓡ	Ⓡ						
Low Feed Sharp Edge 	TNGU 182013MFR/L-U	0903005MFR/L-U	<0.002																													🅡							🅡						
	18202MFR/L-U	090301MFR/L-U	<0.004																												🅡	🅡				Ⓡ			🅡						
	18205MFR/L-U	090302MFR/L-U	<0.008																												🅡	🅡				Ⓡ		🅡	🅡						
	1821MFR/L-U	090304MFR/L-U	<1/64																												🅡	🅡				Ⓡ		🅡	🅡						
Low Feed Honed Edge 	TNGU 18202MER/L-U	090301MER/L-U	<0.004																																				🅡						
	18205MER/L-U	090302MER/L-U	<0.008																																			🅡	🅡						
	1821MER/L-U	090304MER/L-U	<1/64																																			🅡	🅡						

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range



● : U.S. Stock 🅡 : U.S. Stock (R-hand Only) 🅛 : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

KYOCERA

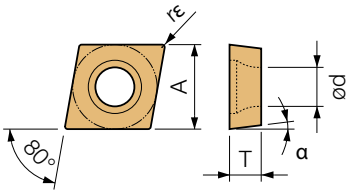
How to read this page ➔ B13

80° Diamond

Positive Insert with Hole

Part Number	A	T	Ød	α
			(in)	
CC_1109_	0.138	0.055	0.075	7°
CC_1411_	0.169	0.071	0.091	

Part Number	A	T	Ød	α
			(in)	
CC_215_	1/4	3/32	0.110	7°
CC_325_	3/8	5/32	0.173	
CC_43_	1/2	3/16	0.217	



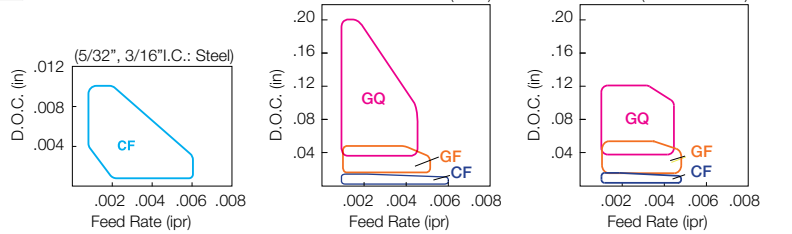
		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
				Corner Radius (in)	Cermet					MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide																MEGACOAT / MEGACOAT NANO						PVD Coated Carbide				DLC	Carbide			
Minute D.O.C. Sharp Edge	CCGT	110902M-CF	030101M-CF	<0.004																																	○	○					F20 F39	1
		110905M-CF	030102M-CF	<0.008																																	○	○						
	CCGT	141102M-CF	040101M-CF	<0.004																																	○	○						
		141105M-CF	040102M-CF	<0.008																																	○	○						
Minute D.O.C. Sharp Edge / Polished	CCGT	110902MP-CF	030101MP-CF	<0.004																											●	●				○			○		○				
		110905MP-CF	030102MP-CF	<0.008																											●	●				○			○		○				
	CCGT	141102MP-CF	040101MP-CF	<0.004																											●	●				○			○		○				
		141105MP-CF	040102MP-CF	<0.008																											●	●				○			○		○				
Finishing Sharp Edge	CCGT	21502MF-GF	060201MF-GF	<0.004																																			○						1
		21505MF-GF	060202MF-GF	<0.008																																			○						
	CCGT	32502MF-GF	09T301MF-GF	<0.004																																			○						
		32505MF-GF	09T302MF-GF	<0.008																																			○						
		3251MF-GF	09T304MF-GF	<1/64																																			○						
Finishing Sharp Edge / Polished	CCGT	21502MFP-GF	060201MFP-GF	<0.004																											●	●				○			○						
		21505MFP-GF	060202MFP-GF	<0.008																											●	●				○			○						
		2151MFP-GF	060204MFP-GF	<1/64																											●	●				○									
	CCGT	32502MFP-GF	09T301MFP-GF	<0.004																											●	●				○			○						
		32505MFP-GF	09T302MFP-GF	<0.008																											●	●				○			○						
		3251MFP-GF	09T304MFP-GF	<1/64																											●	●				○			○						
NEW **Finishing** Sharp Edge / Polished	CCGT	21502MFP-SK	060201MFP-SK	<0.004																											○	●				○					●			2
		21505MFP-SK	060202MFP-SK	<0.008																											●	●				○					●				
		2151MFP-SK	060204MFP-SK	<1/64																											●	●				○					●				
	CCGT	32502MFP-SK	09T301MFP-SK	<0.004																											●	●				○					●				
		32505MFP-SK	09T302MFP-SK	<0.008																											●	●				○					●				
		3251MFP-SK	09T304MFP-SK	<1/64																											●	●				○					●				
NEW **Finishing** Sharp Edge / Polished	CCGT	21502MP-CK	060201MP-CK	<0.004																											●	●				○					●				
		21505MP-CK	060202MP-CK	<0.008																											●	●				○					●				
	CCGT	32502MP-CK	09T301MP-CK	<0.004																											●	●				○					●				
		32505MP-CK	09T302MP-CK	<0.008																											●	●				○					●				
Finishing-Medium Sharp Edge	CCGT	21502MF-GQ	060201MF-GQ	<0.004																																			○						1
		21505MF-GQ	060202MF-GQ	<0.008																																			○						
		2151MF-GQ	060204MF-GQ	<1/64																																			○						
	CCGT	32502MF-GQ	09T301MF-GQ	<0.004																																			○						
		32505MF-GQ	09T302MF-GQ	<0.008																																			●						
		3251MF-GQ	09T304MF-GQ	<1/64																																			○						

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Reference Table at Top of B53

Chipbreaker Range

1 Chip Control Oriented



2 Low Cutting Force

Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

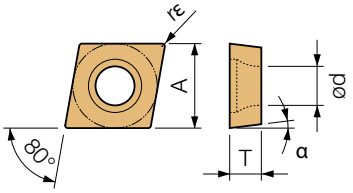
80° Diamond

Positive Insert with Hole

Part Number	Applicable Toolholder Page
CC..215	E22~E23, E34, F39, F43
CC..325	E22~E23, E34, F39, F75

(in)

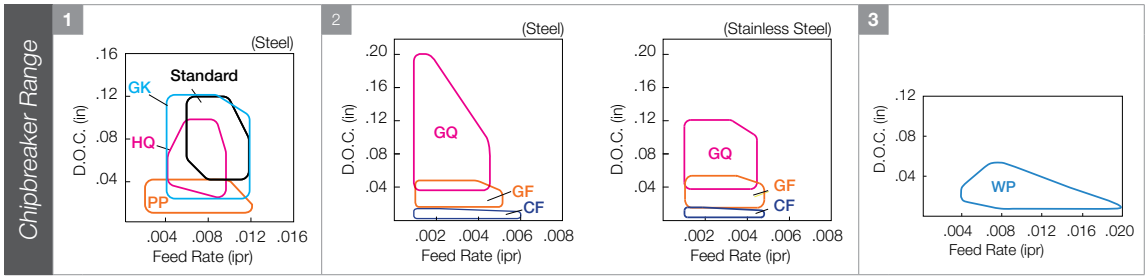
Part Number	A	T	Ød	α
CC_215_	1/4	3/32	0.110	7°
CC_325_	3/8	5/32	0.173	
CC_43_	1/2	3/16	0.217	



		ANSI Part Number	ISO Part Number	rε	Corner Radius (in)	Cermet				MEGA COAT Cermet				PVD Cermet	CVD Coated Carbide												MEGACOAT / MEGACOAT NANO						PVD Coated Carbide			DLC	Carbide		Toolholder Page	Chipbreaker Range
						TN610	TN620	TN6010	TN6020	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05		
Finishing-Medium Sharp Edge / Polished	CCGT	21502MFP-GQ	060201MFP-GQ	<0.004																																				
		21505MFP-GQ	060202MFP-GQ	<0.008																																				
		2151MFP-GQ	060204MFP-GQ	<1/64																																				
	CCGT	32502MFP-GQ	09T301MFP-GQ	<0.004																																				
		32505MFP-GQ	09T302MFP-GQ	<0.008																																				
		3251MFP-GQ	09T304MFP-GQ	<1/64																																				
Finishing Wiper Edge NEW	CCMT	21505WP	060202WP	0.008		○	○			○	○						●	●	●	●												●	●										
		2151WP	060204WP	1/64		○	○			○	○						●	●	●	●												●	●										
	CCMT	3251WP	09T304WP	1/64		○	○			○	○						●	●	●	●												●	●										
		3252WP	09T308WP	1/32		○	○			○	○						●	●	●	●												●	●										
Finishing NEW	CCMT	21505PP	060202PP	0.008		●	●	○	○	●	●	○	○				●	●	●	●												●	●				○						
		2151PP	060204PP	1/64		●	●	○	○	●	●	○	○				●	●	●	●												●	●				○						
	CCMT	32505PP	09T302PP	0.008		●	●	○	○	●	●	○	○				●	●	●	●												●	●				○						
		3251PP	09T304PP	1/64		●	●	○	○	●	●	○	○				●	●	●	●												●	●				○						
		3252PP	09T308PP	1/32		●	●	○	○	●	●	○	○				●	●	●	●												●	●				○						
Finishing-Medium	CCMT	21505GK	060202GK	0.008		●	●	○	○	●	●	●	●				●	●	●	●		●	●	●	●	●						●					○	●		●			
		2151GK	060204GK	1/64		●	●	○	○	●	●	●	●				●	●	●	●		●	●	●	●	●		○				●					○	●		●			
	CCMT	32505GK	09T302GK	0.008		●	●	○	○	●	●	●	●				●	●	●	●		●	●	○	●	●						●					○	●		●			
		3251GK	09T304GK	1/64		●	●	○	○	●	●	●	●				●	●	●	●		●	●	●	●	●		○				●					○	●		●			
	CCMT	431GK	120404GK	1/64		●	●	○	○	●	●	●	●				●	●	●	●		●	●	●	●	●		○									○			●			
		432GK	120408GK	1/32		●	●	○	○	●	●	●	●				●	●	●	●		●	●	○	●	●		●									○			●			
		433GK	120412GK	3/64													●	○	○	●		●	●	●		●											○			●			
Finishing-Medium	CCMT	21505HQ	060202HQ	0.008		●	○	○	●	●	○	○	●	●			●	●	●	●		●	●	○	●	●						●					○	●		●			
		2151HQ	060204HQ	1/64		●	○	○	●	●	○	○	●	●			●	●	●	●		●	●	●	●	●						●					○	●		●			
	CCMT	32505HQ	09T302HQ	0.008		●	●	○	●	●	●	●	●	●			●	●	●	●		●	●	○	●	●						●					○	●		●			
		3251HQ	09T304HQ	1/64		●	●	○	●	●	●	●	●	●			●	●	●	●		●	●	●	●	●						●					○	●		●			
		3252HQ	09T308HQ	1/32		●	●	○	●	●	●	●	●	●		○	●	●	●	●		●	●	●	●	●						●					○	●		●			
Medium	CCGT	21502	060201	0.004		○	○	○	●	●	○	○	●		●	●																					●					
		21505	060202	0.008		○	○	○	●	●	○	○	●		●	●																					●					
		2151	060204	1/64		○	○	○	●	●	○	○	●		●	●																					●					
	CCGT	32502	09T301	0.004		○	○	○	●	●	○	○	●		●	●																					●					
		32505	09T302	0.008		○	○	○	●	●	○	○	●		●	●																					●					
		3251	09T304	1/64		○	○	○	●	●	○	○	●		●	●																					●					
	CCMT	3252	09T308	1/32		○	○	○	○	○	○	○	●	●	○	●	○	●	●	○	●	●	●	●	●	●	●		○	○	●						○	●		○	●		
	CCGT	21501M	0602005M	<0.002																																		○			
		21502M	060201M	<0.004																																		○			
		21505M	060202M	<0.008																																		○			
		2151M	060204M	<1/64																																		○			
	CCGT	32501M	09T3005M	<0.002																																		○			
		32502M	09T301M	<0.004																																		●			
		32505M	09T302M	<0.008																																		●			
		3251M	09T304M	<1/64																																		●			

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

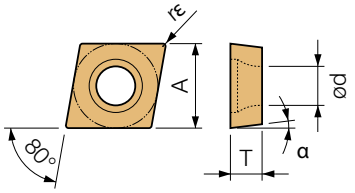
How to read this page ➔ B13

80° Diamond

Positive Insert with Hole

Part Number	A (in)	T (in)	Ød (in)	α
CC_1109_	0.138	0.055	0.075	7°
CC_1411_	0.169	0.071	0.091	

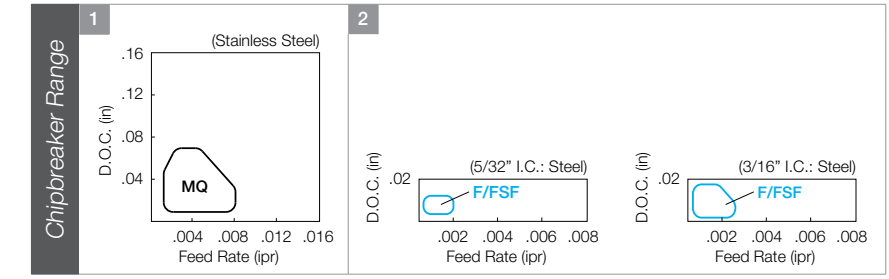
Part Number	A (in)	T (in)	Ød (in)	α
CC_215_	1/4	3/32	0.110	7°
CC_325_	3/8	5/32	0.173	
CC_43_	1/2	3/16	0.217	



		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
					Corner Radius (in)	Cermet				MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide																MEGACOAT / MEGACOAT NANO					PVD Coated Carbide				DLC	Carbide				
Medium Sharp Edge	CCGT	215013MF	0602005MF	<0.002																											●	●				○										
		21502MF	060201MF	<0.004																											●	●				○		○	○						
		21505MF	060202MF	<0.008																											●	●				○		○	○						
		2151MF	060204MF	<1/64																											●	●				○		○	○					B53	
	CCGT	325013MF	09T3005MF	<0.002																											●	●				○			●					1	
		32502MF	09T301MF	<0.004																											●	●				○		●	●						
		32505MF	09T302MF	<0.008																											●	●				○		○	○						
		3251MF	09T304MF	<1/64																											●	●				○		●	●						
Finishing-Medium Stainless Steel / Heat Resistant Alloy	CCMT	3251MQ	09T304MQ	1/64																					○	○							●	●	●					○			○		Reference Table Below	1
		3252MQ	09T308MQ	1/32																					○	●							●	●	●					○			○			
Finishing Sharp Edge / Precision Super Fine	CCET	110901R/L-FSF	0301003R/L-FSF	0.001																																	○								
		110902R/L-FSF	030101R/L-FSF	0.004			○		Ⓛ																												○								
		110905R/L-FSF	030102R/L-FSF	0.008			○		○																												○								
		11091R/L-FSF	030104R/L-FSF	1/64			○		○																												○								
	CCET	141101R/L-FSF	0401003R/L-FSF	0.001																																	○								
		141102R/L-FSF	040101R/L-FSF	0.004			○		Ⓛ																												○								
		141105R/L-FSF	040102R/L-FSF	0.008			○		○																												○								
		14111R/L-FSF	040104R/L-FSF	1/64			○		Ⓛ																																			F20 F39	2
	CCET	1109013MR/L-FSF	0301005MR/L-FSF	<0.002																												●					○									
		110902MR/L-FSF	030101MR/L-FSF	<0.004																												●					○									
		110905MR/L-FSF	030102MR/L-FSF	<0.008																												●					○									
		11091MR/L-FSF	030104MR/L-FSF	<1/64																												●					○									
	CCET	1411013MR/L-FSF	0401005MR/L-FSF	<0.002																												●														
		141102MR/L-FSF	040101MR/L-FSF	<0.004																												●														
		141105MR/L-FSF	040102MR/L-FSF	<0.008																												●														
		14111MR/L-FSF	040104MR/L-FSF	<1/64																												●														
Finishing Sharp Edge NEW	CCET	1109013MR/L-F	0301005MR/L-F	<0.002																												●					○					Ⓛ				
		110902MR/L-F	030101MR/L-F	<0.004	○					○																						●					○					Ⓛ				
		110905MR/L-F	030102MR/L-F	<0.008	○	Ⓛ				○	Ⓛ																						●					○					Ⓛ				
		11091MR/L-F	030104MR/L-F	<1/64	○	Ⓛ				○	Ⓛ																						●					○					Ⓛ				
	CCET	141102MR/L-F	040101MR/L-F	<0.004	○					○																						●					○					Ⓛ				
		141105MR/L-F	040102MR/L-F	<0.008	○	Ⓛ				○	Ⓛ																						●					○					Ⓛ				
		14111MR/L-F	040104MR/L-F	<1/64	○	Ⓛ				○	Ⓛ																						●					○					Ⓛ				

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range



Part Number	Applicable Toolholder Page
CC..215	E22~E23, E34, F39, F43
CC..325	E22~E23, E34, F39, F75

KYOCERA

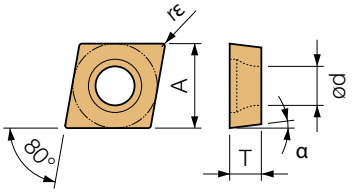
Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

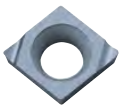
80° Diamond

Positive Insert with Hole



Part Number	A (in)	T (in)	Ød (in)	α
CC_1109_	0.138	0.055	0.075	7°
CC_1411_	0.169	0.071	0.091	

Part Number	A (in)	T (in)	Ød (in)	α
CC_215_	1/4	3/32	0.110	7°
CC_325_	3/8	5/32	0.173	
CC_43_	1/2	3/16	0.217	

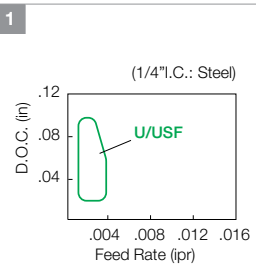
		ANSI Part Number	ISO Part Number	rε	Corner Radius (in)	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA4505	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	DLC PR1125	DLC PDL025	Carbide KW10	Carbide SW05	Toolholder Page	Chipbreaker Range
	CCGT	110901R/L-F	0301003R/L-F	0.001						Ⓛ																										Ⓛ								
		110902R/L-F	030101R/L-F	0.004				○		●			Ⓛ																							Ⓛ						○		
		110905R/L-F	030102R/L-F	0.008				○	Ⓛ	●			Ⓛ	○		●	Ⓛ																			○						○		
		11091R/L-F	030104R/L-F	1/64				○	Ⓛ	○			Ⓛ	○		Ⓛ	●																			Ⓛ						○		
	CCGT	141101R/L-F	0401003R/L-F	0.001																															○								
Finishing		141102R/L-F	040101R/L-F	0.004				○		○			Ⓛ																							○						○		
Sharp Edge		141105R/L-F	040102R/L-F	0.008				○	Ⓛ	○			Ⓛ	○		Ⓛ	●																			○						○		
		14111R/L-F	040104R/L-F	1/64				○	Ⓛ	●			Ⓛ	○		Ⓛ	●																			○						○	F20 F39	2
	CCGT	1109013MR/L-F	0301005MR/L-F	<0.002																														●										
		110902MR/L-F	030101MR/L-F	<0.004																														●							Ⓛ			
		110905MR/L-F	030102MR/L-F	<0.008																														●							Ⓛ	Ⓛ		
		11091MR/L-F	030104MR/L-F	<1/64																														●							Ⓛ	○		
	CCGT	1411013MR/L-F	0401005MR/L-F	<0.002																														●										
		141102MR/L-F	040101MR/L-F	<0.004																														●								Ⓛ		
		141105MR/L-F	040102MR/L-F	<0.008																														●							○	○		
		14111MR/L-F	040104MR/L-F	<1/64																														●							Ⓛ	○		
	CCET	21501FR/L-USF	0602003FR/L-USF	0.001																																			●						
		21502FR/L-USF	060201FR/L-USF	0.004				○		○																													●						
		21505FR/L-USF	060202FR/L-USF	0.008				○		○																													●						
Low Feed	CCET	32501FR/L-USF	09T3003FR/L-USF	0.001						Ⓡ																													●						
Sharp Edge / Precision		32502FR/L-USF	09T301FR/L-USF	0.004				○		○																													●						
Super Fine		32505FR/L-USF	09T302FR/L-USF	0.008				○		○																													●						
	CCET	215013MFR/L-USF	0602005MFR/L-USF	<0.002																														●										
		21502MFR/L-USF	060201MFR/L-USF	<0.004																														●								○		
		21505MFR/L-USF	060202MFR/L-USF	<0.008																														●								○		
	CCET	325013MFR/L-USF	09T3005MFR/L-USF	<0.002																														●										
		32502MFR/L-USF	09T301MFR/L-USF	<0.004																														●								○		
		32505MFR/L-USF	09T302MFR/L-USF	<0.008																														●								○		
	CCET	215013MFR/L-U	0602005MFR/L-U	<0.002																														●					○		○			
Low Feed		21502MFR/L-U	060201MFR/L-U	<0.004		○	○				○	○																						●					○		○			
Sharp Edge		21505MFR/L-U	060202MFR/L-U	<0.008		○	○				○	○																						●					○		○			
NEW	CCET	325013MFR/L-U	09T3005MFR/L-U	<0.002																														●					○		○			
		32502MFR/L-U	09T301MFR/L-U	<0.004		○	Ⓡ				○	Ⓡ																						●					○		○			
		32505MFR/L-U	09T302MFR/L-U	<0.008		○	Ⓡ				○	Ⓡ																						●					○		○			
		3251MFR/L-U	09T304MFR/L-U	<1/64																														●					○		○			

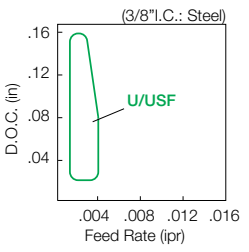
Reference Table Below

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range

1





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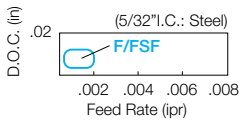
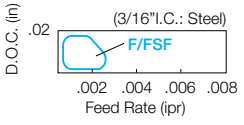




Part Number	Applicable Toolholder Page
CC..215	E22~E23, E34, F39, F43
CC..325	E22~E23, E34, F39, F75

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

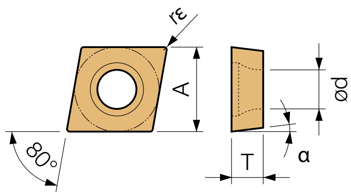
How to read this page ➡ B13

80° Diamond

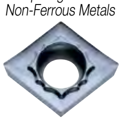
Positive Insert with Hole

(in)

Part Number	A	T	Ød	α
CC_215_	1/4	3/32	0.110	7°
CC_325_	3/8	5/32	0.173	
CC_43_	1/2	3/16	0.217	



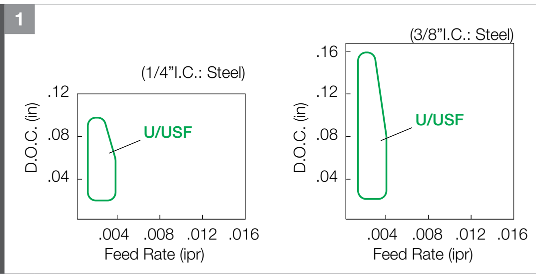
Group	Material	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05
P	Free-Cutting Steel																																			◐					
P	Carbon/Alloy Steel	●	◐	○	◔		●	◐		◔																			◐	◔					◔		◔				
M	Stainless Steel																												◔	◐				◐	◔		◔				
K	Gray Cast Iron																																							⊕	
K	Nodular Cast Iron																																								
N	Non-ferrous Metals																																						◐	◔	
S	HRSA																																	◐			◔				
S	Titanium Alloy																																	◐						◔	
H	Hard materials																																								

			Corner Radius (in)	Cermet					MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide															MEGACOAT / MEGACOAT NANO						PVD Coated Carbide				DLC	Carbide		Toolholder Page	Chipbreaker Range
	ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05		
Low Feed, Sharp Edge	CCGT 21501FR/L-U	0602003FR/L-U	0.001																																		🅡					○		Reference Table Below	1
	21502FR/L-U	060201FR/L-U	0.004			○	○	○				○																									●					●			
	21505FR/L-U	060202FR/L-U	0.008			○	○	○				○		Ⓛ	🅛																						🅡					●			
	CCGT 32501FR/L-U	09T3003FR/L-U	0.001					○																													○					○			
	32502FR/L-U	09T301FR/L-U	0.004			○	Ⓡ	○																													●					●			
	32505FR/L-U	09T302FR/L-U	0.008			○	Ⓡ	●																													●					●			
	CCGT 215013MFR/L-U	0602005MFR/L-U	<0.002																													●													
	21502MFR/L-U	060201MFR/L-U	<0.004																													●						○	○						
	21505MFR/L-U	060202MFR/L-U	<0.008																													●						○	○						
	2151MFR/L-U	060204MFR/L-U	<1/64																													●							○						
	CCGT 325013MFR/L-U	09T3005MFR/L-U	<0.002																													●													
	32502MFR/L-U	09T301MFR/L-U	<0.004																													●						○	○						
	32505MFR/L-U	09T302MFR/L-U	<0.008																													●						○	○						
	3251MFR/L-U	09T304MFR/L-U	<1/64																													●							○						
Low Feed, Honed Edge	CCGT 21502ER/L-U	060201ER/L-U	0.004	○		○		○	○			○																									○								
	21505ER/L-U	060202ER/L-U	0.008	○	○	○	○	○	○	○		○			🅛																						○								
	2151ER/L-U	060204ER/L-U	1/64	○	○	○	○	○	○	○		○			🅛																						○								
	CCGT 32502ER/L-U	09T301ER/L-U	0.004	○		○		○	○			○																									○								
	32505ER/L-U	09T302ER/L-U	0.008	○	Ⓡ	○	Ⓡ	○	○	Ⓡ		○																									○								
	3251ER/L-U	09T304ER-U	1/64	○	Ⓡ	○	Ⓡ	🅡	○	Ⓡ		○																									○								
	CCGT 21502MER/L-U	060201MER/L-U	<0.004																																				○						
	21505MER/L-U	060202MER/L-U	<0.008																																				○						
	2151MER/L-U	060204MER/L-U	<1/64																																				○						
	CCGT 32502MER/L-U	09T301MER/L-U	<0.004																																				○						
	32505MER/L-U	09T302MER/L-U	<0.008																																				🅡						
	3251MER/L-U	09T304MER/L-U	<1/64																																				○						
Low Feed, Sharp Edge, NEW	CCET 215013MFR/L-J	0602005MFR/L-J	<0.002																												🅡	🅡				Ⓡ									2
	21502MFR/L-J	060201MFR/L-J	<0.004																												●	●				○									
	21505MFR/L-J	060202MFR/L-J	<0.008																												●	●				○									
	CCET 32502MFR/L-J	09T301MFR/L-J	<0.004																												●	●				○									
	32505MFR/L-J	09T302MFR/L-J	<0.008																												●	●				○									
	3251MFR/L-J	09T304MFR/L-J	<1/64																												●	●				○									
Finishing-Medium, Sharp Edge, Non-Ferrous Metals	CCGT 3251AH	09T304AH	1/64																																						●	●			3
	3252AH	09T308AH	1/32																																						●	●			

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range

1



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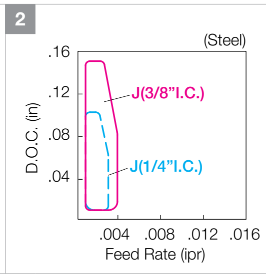

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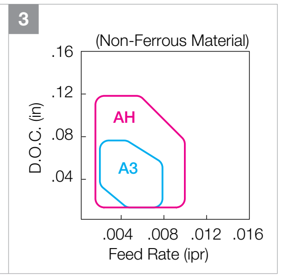


Part Number	Applicable Toolholder Page
CC..215	E22~E23, E34, F39, F43
CC..325	E22~E23, E34, F39, F75

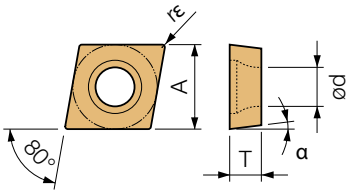
● : U.S. Stock 🅡 : U.S. Stock (R-hand Only) 🅛 : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page B13

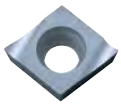
80° Diamond

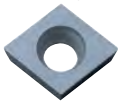
Positive Insert with Hole

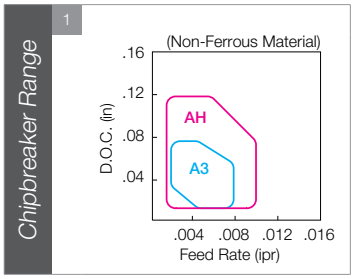
Part Number	A (in)	T (in)	Ød (in)	α
CC_215_	1/4	3/32	0.110	7°
CC_325_	3/8	5/32	0.173	
CC_43_	1/2	3/16	0.217	



		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
					Cermet					MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide															MEGACOAT / MEGACOAT NANO						PVD Coated Carbide				DLC	Carbide				
					Corner Radius (in)																																										
Finishing-Medium Sharp Edge Non-Ferrous Metals	CCGT	32505R/L-A3	09T302R/L-A3	0.008																																					○	●	Reference Table Below	
		3251R/L-A3	09T304R/L-A3	1/64																																					○	●		
		3252R/L-A3	09T308R/L-A3	1/32																																					○	Ⓡ		
	CCGT	4305R/L-A3	120402R/L-A3	0.008																																					○	○	E23	
		431R/L-A3	120404R/L-A3	1/64																																					○	○		
		432R/L-A3	120408R/L-A3	1/32																																					○	○		1
Cast Iron Without Chipbreaker	CCGW	21502	060201	0.004																																						○		Reference Table Below	
		21505	060202	0.008																																						○			
	CCGW	32500	09T300	0.000																																						○			
		32502	09T301	0.004																																						○			
		32505	09T302	0.008																																						○			
		3251	09T304	1/64																																						○			
Medium	CPGT	21505	060202	0.008											●																								●							-
		2151	060204	1/64					●						●																								●							
	CPGT	32505	09T302	0.008											●																								●							-
		3251	09T304	1/64					●						●																								●						-	
		3252	09T308	1/32					●						●																															







Part Number	Applicable Toolholder Page
CC..215	E22~E23, E34, F39, F43
CC..325	E22~E23, E34, F39, F75

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

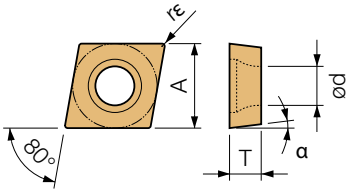
How to read this page B13

80° Diamond

Positive Insert with Hole

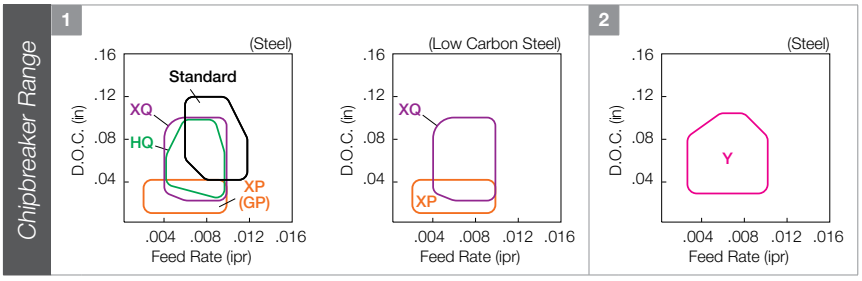
Part Number	A	T	Ød (in)	α
CPMT251_	5/16	3/32	0.138	11°
CPMT32_	3/8	1/8	0.177	

Part Number	A	T	Ød (in)	α
CP_215_	1/4	3/32	0.110	11°
CP_32_	3/8	5/32	0.173	



		ANSI Part Number	ISO Part Number	rε	Cermet TN610	Cermet TN620	MEGA COAT Cermet TN6010	MEGA COAT Cermet TN6020	MEGA COAT Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	PVD Coated Carbide PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	DLC PR1125	DLC PDL025	Carbide KW10	Carbide SW05	Toolholder Page	Chipbreaker Range
Finishing NEW	CPMT	251505PP	080202PP	0.008	●	●	○			○	●	○	●				●	●	●	●												●	●				○									
		25151PP	080204PP	1/64	●	●	○	○		○	●	○	●				●	●	●	●												●	●				○									
	CPMT	3205PP	090302PP	0.008	●	●	○	○		○	●	○	○				●	●	●	●												●	●				○									
		321PP	090304PP	1/64	●	●	○	○		○	●	○	●				●	●	●	●												●	●				○									
		322PP	090308PP	1/32	●	●	○	○		○	●	○	●				●	●	●	●												●	●				○									
Finishing	CPMT	25151GP	080204GP	1/64	○	○	○	○	●	○	○	●	●		○	●	○	○	○	○		●	●									●					○	○		○						
	CPMT	321GP	090304GP	1/64	○	○	○	●	●	○	○	●	●		○	●	○	○	○	○		●	●									●					○	●		○						
		322GP	090308GP	1/32	○	○	○	○	○	○	○	●	●		●	●	○	○	○	○		●	●									●					○	●		○						
Finishing-Medium	CPMH	25151HQ	080204HQ	1/64	●	●	○	●	●	○	●	●	●		●	●	●	●	●	●		●	●	●	●							●					○	○		○	●					
		25152HQ	080208HQ	1/32	●	●	○	●	○	○	●	●	●		○	●	●	●	●	●		●	●	●	●							●					○	○		○	●					
	CPMH	321HQ	090304HQ	1/64	●	●	○	●	●	○	●	●	●		●	●	●	●	●	●		●	●	●	●							●					○	○		○	●					
		322HQ	090308HQ	1/32	●	●	○	●	●	○	●	●	●		●	●	●	●	●	●		●	●	●	●							●					○	●		○	●					
Medium	CPMH	25151	080204	1/64	○	○	○	●	●	○	○	●	●	○	●	●	○	○	●	○	●	●	●	●	●		○	○	○	○	●					○	●		○	●					1
		25152	080208	1/32	○	○	○	●	●	○	○	●	●	○	●	●	○	○	●	●	●	●	●	●	●		○			○	●					○	●		○	●					
	CPMH	321	090304	1/64	○	○	○	●	●	○	○	●	●	○	●	●	○	○	●	●	●	●	●	●	●	○	○	○	○	●	●					○	●		○	●					
		322	090308	1/32	○	○	○	●	●	○	○	●	●	○	●	●	○	○	●	●	●	●	●	●	●	○	○	○	○	●	●					○	●		○	●					
Finishing Low Carbon Steel	CPMT	25151XP	080204XP	1/64	●	●		○		○	●	●	●		○	●	●	●	●	●		●	○									●					○	○		○					F41 F43	
	CPMT	321XP	090304XP	1/64	●	●		○		○	●	●	●		○	●	●	●	●	●		●	●									●					○	●		○						
		322XP	090308XP	1/32	●	●		○		○	●	●	●		●	●	●	●	●	●		●	●									●					○	●		○						
Finishing-Medium Low Carbon Steel	CPMT	321XQ	090304XQ	1/64	●	○		○		○	○	●	●		○	●	●	●	●	●		●	●																						
		322XQ	090308XQ	1/32	●	○		○		○	○	●	●		○	●	●	●	●	●		●	●																						
Finishing-Medium	CPMH	25151 R/L-Y	080204 R/L-Y	1/64	○		○	Ⓛ	○	○					○	Ⓛ																					○		○		○			2	
		25152 R/L-Y	080208 R/L-Y	1/32																																					Ⓛ				
	CPMH	321 R/L-Y	090304 R/L-Y	1/64	○		○	Ⓛ	○	○					○	Ⓛ																					○		○		○				
		322 R/L-Y	090308 R/L-Y	1/32					Ⓛ						Ⓛ																							○				○				
Cast Iron Without Chipbreaker	CPMB	251505	080202	0.008																																					○				
		25151	080204	1/64																																					○				
		25152	080208	1/32																																					○				
	CPMB	3205	090302	0.008																																					○				
		321	090304	1/64																																					○				-
		322	090308	1/32																																					○				

Chipbreaker Range



KYOCERA

Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

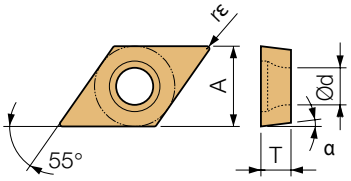
55° Diamond

Positive Insert with Hole

Part Number	Applicable Toolholder Page
DC..215	E24~E27, E35, F45~F49
DC..325	E20, E24~E27, E35, F45~F49, F75

(in)

Part Number	A	T	Ød	α
DC_215_	1/4	3/32	0.110	7°
DC_325_	3/8	5/32	0.173	

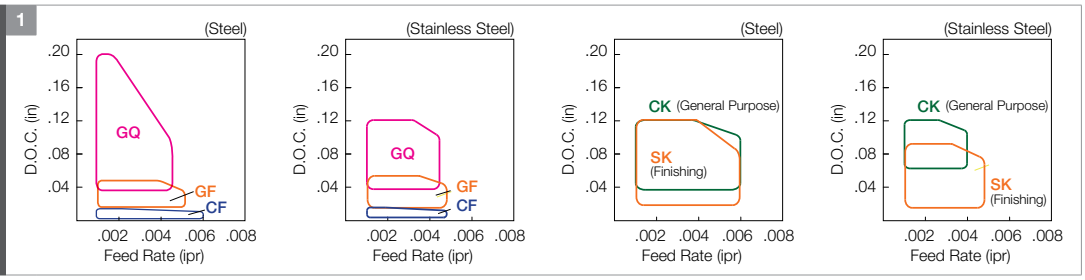


		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
				Corner Radius (in)	Cermet					MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide																MEGACOAT / MEGACOAT NANO						PVD Coated Carbide				DLC	Carbide				
Minute D.O.C. *Sharp Edge*	DCGT	21505CF	070202CF	0.008																																●							Reference Table Above	1
	DCGT	32505CF	11T302CF	0.008																																●								
	DCGT	21502M-CF	070201M-CF	<0.004																																	○	○						
		21505M-CF	070202M-CF	<0.008																																	○	○						
	DCGT	32502M-CF	11T301M-CF	<0.004																																	○	○						
		32505M-CF	11T302M-CF	<0.008																																	○	○						
Minute D.O.C. *Sharp Edge / Polished*	DCGT	21502MP-CF	070201MP-CF	<0.004																													●	●			○		○		○				
		21505MP-CF	070202MP-CF	<0.008																													●	●			○		○		○				
	DCGT	32502MP-CF	11T301MP-CF	<0.004																													●	●			○		○		○				
		32505MP-CF	11T302MP-CF	<0.008																													●	●			○		○		○				
Finishing *Sharp Edge*	DCGT	21502MF-GF	070201MF-GF	<0.004																																			○						
		21505MF-GF	070202MF-GF	<0.008																																			○						
	DCGT	32502MF-GF	11T301MF-GF	<0.004																																			○						
		32505MF-GF	11T302MF-GF	<0.008																																			○						
		3251MF-GF	11T304MF-GF	<1/64																																			○						
Finishing *Sharp Edge / Polished*	DCGT	21502MFP-GF	070201MFP-GF	<0.004																													●	●			○			○					
		21505MFP-GF	070202MFP-GF	<0.008																													●	●			○			○					
		2151MFP-GF	070204MFP-GF	<1/64																													●	●			○			○					
	DCGT	32502MFP-GF	11T301MFP-GF	<0.004																													●	●			○			○					
		32505MFP-GF	11T302MFP-GF	<0.008																													●	●			○			○					
		3251MFP-GF	11T304MFP-GF	<1/64																													●	●			○			○					
Finishing-Medium *Sharp Edge / Polished* NEW	DCGT	21502MFP-SK	070201MFP-SK	<0.004																													●	●			○					●			
		21505MFP-SK	070202MFP-SK	<0.008																													●	●			○					●			
		2151MFP-SK	070204MFP-SK	<1/64																													●	●			○					●			
	DCGT	32502MFP-SK	11T301MFP-SK	<0.004																													●	●			○					●			
		32505MFP-SK	11T302MFP-SK	<0.008																													●	●			○					●			
		3251MFP-SK	11T304MFP-SK	<1/64																													●	●			○					●			
Finishing *Honed Edge*	DCGT	21502CK	070201CK	0.004																																●								
		21505CK	070202CK	0.008																																●								
	DCGT	32502CK	11T301CK	0.004																																●								
		32505CK	11T302CK	0.008																																●								
	DCGT	21502M-CK	070201M-CK	<0.004																																	○	○						
		21505M-CK	070202M-CK	<0.008																																	○	○						
	DCGT	32502M-CK	11T301M-CK	<0.004																																	○	○						
		32505M-CK	11T302M-CK	<0.008																																	●	●						

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range

1



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

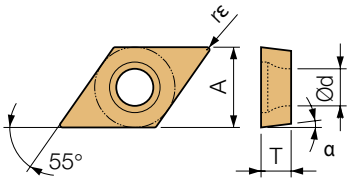
How to read this page B13

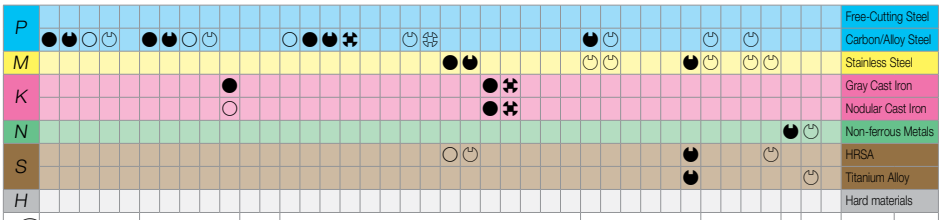
55° Diamond

Positive Insert with Hole

Part Number	Applicable Toolholder Page
DC..215	E24~E27, E35, F45~F49
DC..325	E20, E24~E27, E35, F45~F49, F75

Part Number	A	T	Ød	α
			(in)	
DC_215_	1/4	3/32	0.110	7°
DC_325_	3/8	5/32	0.173	



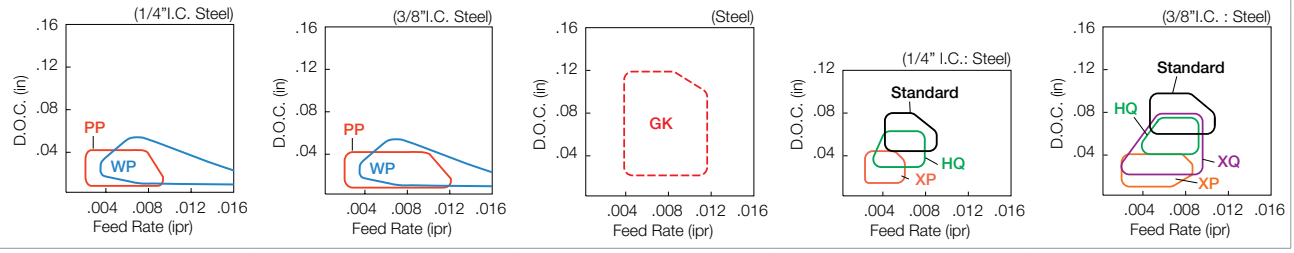


		ANSI Part Number	ISO Part Number	rε	Cermet TN610	Cermet TN620	MEGA COAT Cermet TN6010	MEGA COAT Cermet TN6020	MEGA COAT Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	PVD Coated Carbide PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	PVD Coated Carbide PR1125	DLC PDL025	Carbide KW10	Carbide SW05	Toolholder Page	Chipbreaker Range
Finishing *Sharp Edge / Polished*	DCGT	21502MP-CK	070201MP-CK	<0.004																											●	●				○			○		●				
		21505MP-CK	070202MP-CK	<0.008																											●	●				○			○		●				
	DCGT	32502MP-CK	11T301MP-CK	<0.004																											●	●				○			○		●	○			
		32505MP-CK	11T302MP-CK	<0.008																											●	●				○			○		●	○			
Finishing-Medium *Sharp Edge*	DCGT	21502MF-GQ	070201MF-GQ	<0.004																																		○							B55
		21505MF-GQ	070202MF-GQ	<0.008																																		○							
		2151MF-GQ	070204MF-GQ	<1/64																																		○							
	DCGT	32502MF-GQ	11T301MF-GQ	<0.004																																		○							
		32505MF-GQ	11T302MF-GQ	<0.008																																		○							
		3251MF-GQ	11T304MF-GQ	<1/64																																		●							
Finishing-Medium *Sharp Edge / Polished*	DCGT	21502MFP-GQ	070201MFP-GQ	<0.004																											●	●				○			○						
		21505MFP-GQ	070202MFP-GQ	<0.008																											●	●				○			○						
		2151MFP-GQ	070204MFP-GQ	<1/64																											●	●				○			○						
	DCGT	32502MFP-GQ	11T301MFP-GQ	<0.004																											●	●				○			○						
		32505MFP-GQ	11T302MFP-GQ	<0.008																											●	●				○			○						
		3251MFP-GQ	11T304MFP-GQ	<1/64																											●	●				○			○						
Finishing *Wiper Edge* NEW	DCMX	2151WP	070204WP	1/64	○	○				○	○						●	●	●	●											●	●													Reference Table Above
	DCMX	3251WP	11T304WP	1/64	○	○				○	○						●	●	●	●											●	●													
Finishing NEW	DCMT	21505PP	070202PP	0.008	○	●	○	○		○	●	○	○				●	●	●	●											●	●				○									
		2151PP	070204PP	1/64	●	●	○	○		○	●	○	○				●	●	●	●											●	●				○									
	DCMT	32505PP	11T302PP	0.008	●	●	○	○		●	●	○	○				●	●	●	●											●	●				○									
		3251PP	11T304PP	1/64	●	●	○	○		●	●	○	○				●	●	●	●											●	●				○									
		3252PP	11T308PP	1/32	●	●	○	○		●	●	○	○				●	●	●	●											●	●				○									
Finishing	DCMT	21505GP	070202GP	0.008	○	○	○	○	○	○	○	●	●		●	●	○	○	○	○	○	○														○	○		○						
		2151GP	070204GP	1/64	○	○	○	●	●	○	○	●	●		○	○	○	○	○	○	●	●									○					○	●		○						
	DCMT	3251GP	11T304GP	0.004	○	○	○	●	●	○	●	○	●		●	●	○	○	○	○	●	●									●					○	○		○						
		3252GP	11T308GP	0.008	○	○	○	●	○	○	○	●	●		●	●	○	○	○	○	●	●									●					○	●		○						
Finishing-Medium	DCMT	21505GK	070202GK	0.008	●	●	○	○		●	●	●	●				●	●	●	●	●	○	○	●	●						●					○	●		○	●					
		2151GK	070204GK	1/64	●	●	○	○		●	●	●	●				●	●	●	●	●	●	●	●	●	○	○		○	○	●					○	●		○	●					
		2152GK	070208GK	1/32	●	●	○	○		●	●	●	●				●	●	●	●	●	●		●	●		○		○	○	●					○	○		○	●					
	DCMT	32505GK	11T302GK	0.008	●	●	○	○		●	●	●	●				○	●	●	●	○	●	●	●	●						●					○	●		○	●					
		3251GK	11T304GK	1/64	●	●	○	○		●	●	●	●				●	●	●	●	●	●	●	●	●			●			●					○	●		○	●					
		3252GK	11T308GK	1/32	●	●	○	○		●	●	●	●				●	●	●	●	●	●	●	●	●			○			●					○	○		○	●					
Finishing-Medium	DCMT	21505HQ	070202HQ	0.008	●	○	○	●	○	●	●	●	●		○	●	●	●	●	●	●	●									●					○	○		○						
		2151HQ	070204HQ	1/64	●	○	○	●	●	○	●	●	●	●	●	●	●	●	●	●	●	●									●					○	○		○	●					
		2152HQ	070208HQ	1/32	●	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									●					○	●		○	●					
	DCMT	32505HQ	11T302HQ	0.008	●	●	○	●	○	●	●	●	●		●	●	●	●	●	●	●	○									●					○	○		●	●					
		3251HQ	11T304HQ	1/64	●	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									●					○	○		●	●					
		3252HQ	11T308HQ	1/32	●	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									●					○	○		●	●					

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range

1



KYOCERA

Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

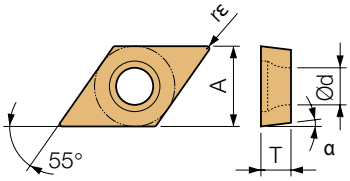
55° Diamond

Positive Insert with Hole

Part Number	Applicable Toolholder Page
DC..215	E24~E27, E35, F45~F49
DC..325	E20, E24~E27, E35, F45~F49, F75

(in)

Part Number	A	T	Ød	α
DC_215_	1/4	3/32	0.110	7°
DC_325_	3/8	5/32	0.173	

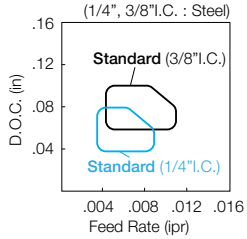


		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
					Corner Radius (in)	Cermet					MEGA COAT Cermet				PVD Cermet		CVD Coated Carbide															MEGACOAT / MEGACOAT NANO						PVD Coated Carbide				DLC	Carbide			
					P																																								
					M																																								
					K																																								
					N																																								
					S																																								
					H																																								
						Free-Cutting Steel																																									
						Carbon/Alloy Steel																																									
						Stainless Steel																																									
						Gray Cast Iron																																									
						Nodular Cast Iron																																									
						Non-ferrous Metals																																									
						HRSA																																									
						Titanium Alloy																																									
						Hard materials																																									
		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
Medium	DCGT	21502	070201	0.004	○	○	○	●	●	○	○		○		●																							●								
		21505	070202	0.008	○	○	○	●	●	○	○		●		●	●																							●								
		2151	070204	1/64	○	○	○	●	●	○	○		●		●	●																							●								
	DCGT	32502	11T301	0.004	○	○	○		●	○	○		○		●																							●								
		32505	11T302	0.008	○	○	○	●	●	○	○		●		●	●																							●								
		3251	11T304	1/64	○	○	○	●	●	○	○		●		●	●																							●								
	DCMT	3252	11T308	1/32	○	○	○	○	○	○	○		●	●	○	●					●						○	●			○							○		○						
	DCGT	21501M	0702005M	<0.002																																			○							
		21502M	070201M	<0.004																																			○							
		21505M	070202M	<0.008																																			○							
		2151M	070204M	<1/64																																			○							
	DCGT	32501M	11T3005M	<0.002																																			○							1
		32502M	11T301M	<0.004																																			○							
		32505M	11T302M	<0.008																																			○							
		3251M	11T304M	<1/64																																			○							
Medium Sharp Edge	DCGT	215013MF	0702005MF	<0.002																												●	●				○								
		21502MF	070201MF	<0.004																												●	●				○		○	○				
		21505MF	070202MF	<0.008																												●	●				○		○	○				
		2151MF	070204MF	<1/64																												●	●				○		○	○				
	DCGT	325013MF	11T3005MF	<0.002																												●	●				○							
		32502MF	11T301MF	<0.004																												●	●				○		○	●				
		32505MF	11T302MF	<0.008																												●	●				○		○	●				
		3251MF	11T304MF	<1/64																												●	●				○		○	●				
Medium Sharp Edge	DCGT	21505FN-Z	070202FN-Z	0.008					○																																				
		2151FN-Z	070204FN-Z	1/64					○							●																													-
	DCGT	32505FN-Z	11T302FN-Z	0.008				○	○							●																						○							
		3251FN-Z	11T304FN-Z	1/64				○	○							●																						○							
Finishing Low Carbon Steel	DCMT	2151XP	070204XP	1/64	●	●	○		●	●	●	●		○	●	●	●	●		●	●										●					○	○		○					
	DCMT	32505XP	11T302XP	0.008	●	●	○		●	●	●	●		○	●	●	●	●		●	●										●					○	○		○					
		3251XP	11T304XP	1/64	●	●	○		●	●	●	●		○	●	●	●	●		●	●										●					○	○		○					
		3252XP	11T308XP	1/32	●	●		●		●	●	●	○		○	●	●	●		●	●										●					○	○		○					2
Finishing-Medium Low Carbon Steel	DCMT	3251XQ	11T304XQ	1/64	●	○		●		●	○	●	●		○	●	●	●		●	●																								
		3252XQ	11T308XQ	1/32	●	○		●		●	○	●	●		○	●	●	●		●	●																								
Finishing-Medium Stainless Steel / Heat Resistant Alloy	DCMT	21505MQ	070202MQ	0.008																					●	●							●	●						○			○		
		2151MQ	070204MQ	1/64																					●	●							●	●						○			○		
	DCMT	32505MQ	11T302MQ	0.008																					●	●														○					3
		3251MQ	11T304MQ	1/64																					●	●							●	●						○			○		
		3252MQ	11T308MQ	1/32																													●	●									○		

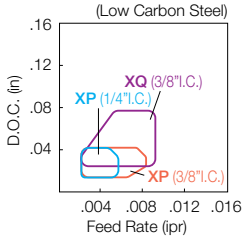
• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range

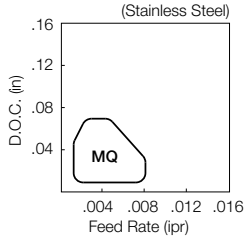
1 (1/4", 3/8"I.C. : Steel)



2 (Low Carbon Steel)



3 (Stainless Steel)



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

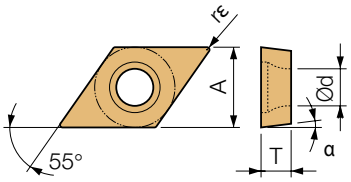
How to read this page ➔ B13

55° Diamond

Positive Insert with Hole

Part Number	Applicable Toolholder Page
DC..215	E24~E27, E35, F45~F49
DC..325	E20, E24~E27, E35, F45~F49, F75

Part Number	A	T	Ød	α
			(in)	
DC_215_	1/4	3/32	0.110	7°
DC_325_	3/8	5/32	0.173	



		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
					Cermet					MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide															MEGACOAT / MEGACOAT NANO					PVD Coated Carbide				DLC	Carbide				
Finishing Sharp Edge / Precision Super Fine	DCET	21501R/L-FSF	0702003R/L-FSF	0.001					®																												●								
		21502R/L-FSF	070201R/L-FSF	0.004					®																												●								
		21505R/L-FSF	070202R/L-FSF	0.008					○																												●								
		2151R/L-FSF	070204R/L-FSF	1/64																																	Ⓡ								
	DCET	32501R/L-FSF	11T3003R/L-FSF	0.001					○																												●								
		32502R/L-FSF	11T301R/L-FSF	0.004					○																												Ⓡ								
		32505R/L-FSF	11T302R/L-FSF	0.008																													●												
		3251R/L-FSF	11T304R/L-FSF	1/64																													●							○				
	DCET	215013MR/L-FSF	0702005MR/L-FSF	<0.002																													●							○				
		21502MR/L-FSF	070201MR/L-FSF	<0.004																													●												
		21505MR/L-FSF	070202MR/L-FSF	<0.008																													●							○				
		2151MR/L-FSF	070204MR/L-FSF	<1/64																													●							○				
	DCET	325013MR/L-FSF	11T3005MR/L-FSF	<0.002																													Ⓡ				Ⓡ					Ⓡ			
		32502MR/L-FSF	11T301MR/L-FSF	<0.004	○					○																							●				○					○			
		32505MR/L-FSF	11T302MR/L-FSF	<0.008	○	○				○	○																						●				○					○			
		3251MR/L-FSF	11T304MR/L-FSF	<1/64																													Ⓡ				Ⓡ					Ⓡ			
Finishing Sharp Edge NEW	DCET	215013MR/L-F	0702005MR/L-F	<0.002	○					○																							●				○					○			
		21502MR/L-F	070201MR/L-F	<0.004	○	○				○	○																						●				○					○			
		21505MR/L-F	070202MR/L-F	<0.008																													Ⓡ				Ⓡ					Ⓡ			
		2151MR/L-F	070204R/L-F	<1/64																																	●			○			○		
	DCET	325013MR/L-F	11T3005MR/L-F	<0.002			○	●	○					Ⓡ																							●						Ⓡ		
		32502MR/L-F	11T301MR/L-F	<0.004			○	●	○			○		○	●																						●						●		
		32505MR/L-F	11T302MR/L-F	<0.008					○																												○						Ⓡ		
		3251MR/L-F	11T304MR/L-F	<1/64			○		Ⓡ																												●						●		
Finishing-Medium	DCGT	21505R/L-FS	070202R/L-FS	0.008			○	●	Ⓡ			○			Ⓡ	●																						Ⓡ						Ⓡ		
		2151R/L-FS	070204R/L-FS	1/64																																		Ⓡ	Ⓡ							
	DCGT	32505R/L-FS	11T302R/L-FS	0.008																													●							Ⓛ						
		3251R/L-FS	11T304R/L-FS	1/64																													Ⓡ							Ⓡ	○					
		3252R/L-FS	11T308R/L-FS	1/32																													●							Ⓡ	○					
	DCGT	21501R/L-F	0702003R/L-F	0.001																													●							Ⓡ	○					
		21502R/L-F	070201R/L-F	0.004																													●													
		21505R/L-F	070202R/L-F	0.008																													●							Ⓡ	○					
		2151R/L-F	070204R/L-F	1/64																													●							○	○					
Finishing Sharp Edge	DCGT	32501R/L-F	11T3003R/L-F	0.001																													●							Ⓡ	○					
		32502R/L-F	11T301R/L-F	0.004			○																																						
		32505R/L-F	11T302R/L-F	0.008			○		○																												○						○		
		3251R/L-F	11T304R/L-F	1/64			○		○																												○						○		
	DCGT	215013MR/L-F	0702005MR/L-F	<0.002																													●													
		21502MR/L-F	070201MR/L-F	<0.004																													●													
		21505MR/L-F	070202MR/L-F	<0.008																													●													
		2151MR/L-F	070204MR/L-F	<1/64																													●													
	DCGT	325013MR/L-F	11T3005MR/L-F	<0.002																													●													
		32502MR/L-F	11T301MR/L-F	<0.004																													●													
		32505MR/L-F	11T302MR/L-F	<0.008																													●							○	○					
		3251MR/L-F	11T304MR/L-F	<1/64																													●							○	○					

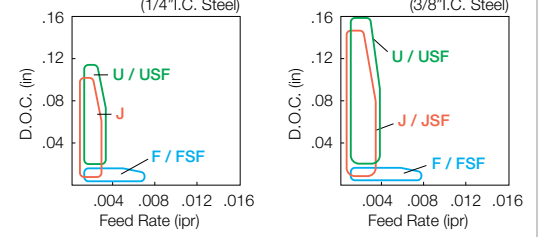
Reference Table Above

1

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range

1



KYOCERA

Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

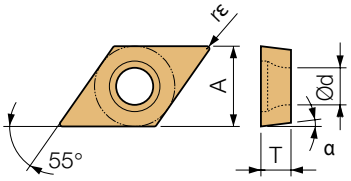
55° Diamond

Positive Insert with Hole

Part Number	Applicable Toolholder Page
DC..215	E24~E27, E35, F45~F49
DC..325	E20, E24~E27, E35, F45~F49, F75

(in)

Part Number	A	T	Ød	α
DC_215_	1/4	3/32	0.110	7°
DC_325_	3/8	5/32	0.173	



	Free-Cutting Steel	Carbon/Alloy Steel	Stainless Steel	Gray Cast Iron	Nodular Cast Iron	Non-ferrous Metals	HRSA	Titanium Alloy	Hard materials
P	●	●	○	◔	●	●	◔	●	◔
M	◔	●	●	◔	◔	◔	◔	◔	◔
K	●	◔	◔	●	◔	◔	◔	◔	◔
N	●	◔	◔	◔	●	◔	◔	◔	◔
S	●	●	◔	◔	◔	◔	◔	◔	◔
H	◔	◔	◔	◔	◔	◔	◔	◔	◔

		ANSI Part Number	ISO Part Number	rε	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	PVD Coated Carbide PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	DLC PR1125	DLC PDL025	Carbide KW10	Carbide SW05	Toolholder Page	Chipbreaker Range
Low Feed Sharp Edge / Precision Super Fine	DCET	21501F℔-USF	0702003F℔-USF	0.001																															●							
		21502F℔-USF	070201F℔-USF	0.004					Ⓡ																										●							
		21505F℔-USF	070202F℔-USF	0.008					○																										●							
	DCET	32501F℔-USF	11T3003F℔-USF	0.001																															Ⓡ							
		32502F℔-USF	11T301F℔-USF	0.004					○																										●							
		32505F℔-USF	11T302F℔-USF	0.008					○																										Ⓡ							
	DCET	215013MF℔-USF	0702005MF℔-USF	<0.002																													●							
		21502MF℔-USF	070201MF℔-USF	<0.004																													●				○			
		21505MF℔-USF	070202MF℔-USF	<0.008																													●				○			
	DCET	325013MF℔-USF	11T3005MF℔-USF	<0.002																													●							
		32502MF℔-USF	11T301MF℔-USF	<0.004																													●				○			
		32505MF℔-USF	11T302MF℔-USF	<0.008																													●				○			
Low Feed Sharp Edge NEW	DCET	215013MF℔-U	0702005MF℔-U	<0.002																													Ⓡ				Ⓡ			Ⓡ			
		21502MF℔-U	070201MF℔-U	<0.004	○					○																							●				○			○			
		21505MF℔-U	070202MF℔-U	<0.008	○	○				○	○																						●				○			○			
	DCET	325013MF℔-U	11T3005MF℔-U	<0.002																													Ⓡ				Ⓡ			Ⓡ			
		32502MF℔-U	11T301MF℔-U	<0.004	○					○																							●				○			○			
		32505MF℔-U	11T302MF℔-U	<0.008	○	○				○	○																						●				○			○			
		3251MF℔-U	11T304MF℔-U	<1/64																													Ⓡ				Ⓡ			Ⓡ			
Low Feed Sharp Edge	DCGT	21501F℔-U	0702003F℔-U	0.001																																	○				○		
		21502F℔-U	070201F℔-U	0.004			○	●	○						Ⓡ																					●				Ⓡ		
		21505F℔-U	070202F℔-U	0.008			○	●	○				○		○	●																					●				●		
	DCGT	32501F℔-U	11T3003F℔-U	0.001					○																											○				Ⓡ		
		32502F℔-U	11T301F℔-U	0.004			○		Ⓡ																											●				●		
		32505F℔-U	11T302F℔-U	0.008			○	●	Ⓡ				○		Ⓡ	●																					Ⓡ				Ⓡ		
Low Feed Sharp Edge	DCGT	21501MF℔-U	0702003MF℔-U	<0.001																																	Ⓡ	Ⓡ					
		215013MF℔-U	0702005MF℔-U	<0.002																													●					Ⓛ					
		21502MF℔-U	070201MF℔-U	<0.004																													Ⓡ					Ⓡ	○				
		21505MF℔-U	070202MF℔-U	<0.008																													●					Ⓡ	○				
		2151MF℔-U	070204MF℔-U	<1/64																													●					Ⓡ	○				
	DCGT	325013MF℔-U	11T3005MF℔-U	<0.002																													●										
		32502MF℔-U	11T301MF℔-U	<0.004																													●					Ⓡ	○				
		32505MF℔-U	11T302MF℔-U	<0.008																													●					○	○				
		3251MF℔-U	11T304MF℔-U	<1/64																													●					Ⓡ	○				

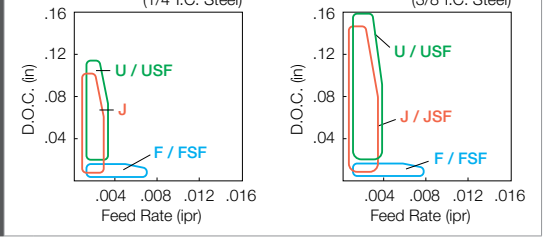
Reference Table Above

1

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range

1



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

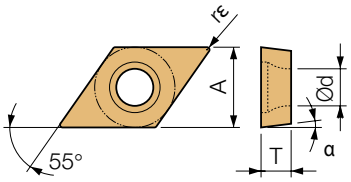
How to read this page ➔ B13

55° Diamond

Positive Insert with Hole

Part Number	Applicable Toolholder Page
DC..215	E24~E27, E35, E44, F45~F49
DC..325	E20, E24~E27, E35, E44, F45~F49, F75

Part Number	A	T	Ød	α
	(in)			
DC_215_	1/4	3/32	0.110	7°
DC_325_	3/8	5/32	0.173	



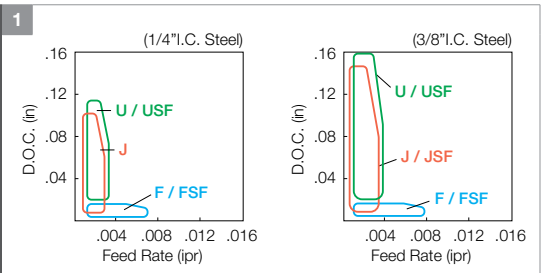
		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
					Corner Radius (in)	Cermet				MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide															MEGACOAT / MEGACOAT NANO					PVD Coated Carbide			DLC	Carbide				
	DCGT	21502E%-U	070201E%-U	0.004	○		○		○							Ⓡ																												
		21505E%-U	070202E%-U	0.008	○		○	○	○	○			○			Ⓡ																							○					
		2151E%-U	070204E%-U	1/64	○	○	○	○	○	○	○					●																							○					
Low Feed	DCGT	32502E%-U	11T301E%-U	0.004	○		○			○																																		
Honed Edge		32505E%-U	11T302E%-U	0.008	○	○	○	Ⓡ	○	○	○		○		Ⓡ	Ⓡ																							○					
		3251E%-U	11T304E%-U	1/64	○	○	○	Ⓛ	○	○	○		○		○	○																							Ⓡ					
	DCGT	21502ME%-U	070201ME%-U	<0.004																																			Ⓡ					
		21505ME%-U	070202ME%-U	<0.008																																			○					
		2151ME%-U	070204ME%-U	<1/64																																			○					
	DCGT	32502ME%-U	11T301ME%-U	<0.004																																			○					
		32505ME%-U	11T302ME%-U	<0.008																																			○					
		3251ME%-U	11T304ME%-U	<1/64																																			○					
Low Feed	DCET	32501F%-JSF	11T3003F%-JSF	0.001																																			○					
Sharp Edge / Precision		32502F%-JSF	11T301F%-JSF	0.004																																			○					
Super Fine		32505F%-JSF	11T302F%-JSF	0.008					Ⓡ																														○					
	DCET	325013MF%-JSF	11T3005MF%-JSF	<0.002																													●												
		32502MF%-JSF	11T301MF%-JSF	<0.004																													●							○					
		32505MF%-JSF	11T302MF%-JSF	<0.008																													●							○					
	DCET	215013MF%-J	0702005MF%-J	<0.002																													Ⓡ	Ⓡ				Ⓡ							
Low Feed		21502MF%-J	070201MF%-J	<0.004																													●	●				○							
Sharp Edge / Precision		21505MF%-J	070202MF%-J	<0.008																													●	●				○							
NEW	DCET	325013MF%-J	11T3005MF%-J	<0.002																													Ⓡ					Ⓡ							
		32502MF%-J	11T301MF%-J	<0.004	○					○																							●					○							
		32505MF%-J	11T302MF%-J	<0.008	○					○																							●					○							
		3251MF%-J	11T304MF%-J	<1/64																													Ⓡ					Ⓡ							
	DCGT	32501F%-J	11T3003F%-J	0.001																																		Ⓡ						
Low Feed		32502F%-J	11T301F%-J	0.004			○																																					
Sharp Edge		32505F%-J	11T302F%-J	0.008			○		○																													○					○		
	DCGT	325013MF%-J	11T3005MF%-J	<0.002																													●												
		32502MF%-J	11T301MF%-J	<0.004																													●							Ⓡ	○				
		32505MF%-J	11T302MF%-J	<0.008																													●							Ⓡ	○				
		3251MF%-J	11T304MF%-J	<1/64																													●							○	○				
	DCGT	32501E%-J	11T3003E%-J	0.001																																		Ⓡ					Ⓡ	
Low Feed		32502E%-J	11T301E%-J	0.004	○		○		Ⓡ	○																												○						
Honed Edge		32505E%-J	11T302E%-J	0.008	○		○		○	○																												○					Ⓡ	
		3251E%-J	11T304E%-J	1/64	○		○	○	○	○																												○					○	
	DCGT	32501ME%-J	11T3005ME%-J	<0.002																																			Ⓡ						
		32502ME%-J	11T301ME%-J	<0.004																																			Ⓡ						
		32505ME%-J	11T302ME%-J	<0.008																																			Ⓡ						
		3251ME%-J	11T304ME%-J	<1/64																																			Ⓡ						

Reference Table Above

1

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range 1



Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

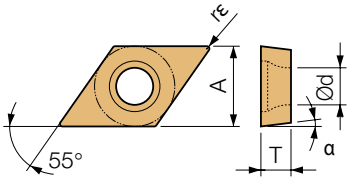
How to read this page ➔ B13

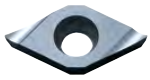
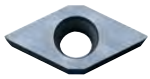
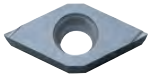
55° Diamond

Positive Insert with Hole

Part Number	A (in)	T (in)	Ød (in)	α
DC_215_	1/4	3/32	0.110	7°
DC_325_	3/8	5/32	0.173	

Part Number	A (in)	T (in)	Ød (in)	α
DP_215_	1/4	3/32	0.110	11°
DP_325_	3/8	5/32	0.173	

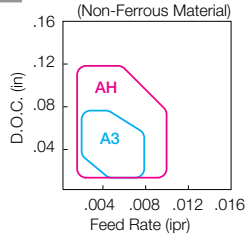


						Corner Radius (in)	Cermet				MEGA COAT Cermet				PVD Cermet		CVD Coated Carbide														MEGACOAT / MEGACOAT NANO						PVD Coated Carbide			DLC	Carbide		Toolholder Page	Chipbreaker Range
		ANSI Part Number	ISO Part Number	rε		TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05		
Medium-Finishing *Sharp Edge / Non-Ferrous Metals*	DCGT	3251AH	11T304AH	1/64																																						●	●		
		3252AH	11T308AH	1/32																																						●	●		1
Medium-Finishing *Sharp Edge / Non-Ferrous Metals*	DCGT	21505R/L-A3	070202R/L-A3	0.008																																							Ⓡ			
	DCGT	32505R/L-A3	11T302R/L-A3	0.008																																						○	○		
		3251R/L-A3	11T304R/L-A3	1/64																																						○	Ⓡ		
Cast Iron *Without Chipbreaker*	DCGW	21502	070201	0.004																																							○		Reference Table Below	-
		21505	070202	0.008																																							○			
	DCGW	32502	11T301	0.004																																							○			
		32505	11T302	0.008																																							○			
		3251	11T304	1/64																																							○			
	DPET	21501R/L-FSF	0702003R/L-FSF	0.001																																										
		21502R/L-FSF	070201R/L-FSF	0.004																																										
		21505R/L-FSF	070202R/L-FSF	0.008						○																																				
Finishing *Sharp Edge / Precision* *Super Fine*	DPET	32501R/L-FSF	11T3003R/L-FSF	0.001																																										
		32502R/L-FSF	11T301R/L-FSF	0.004																																										
		32505R/L-FSF	11T302R/L-FSF	0.008						○																																				
	DPET	21501MR/L-FSF	0702005MR/L-FSF	<0.002																																										
		21505MR/L-FSF	070202MR/L-FSF	<0.008																																										
	DPET	32501MR/L-FSF	11T3005MR/L-FSF	<0.002																																										
		32502MR/L-FSF	11T301MR/L-FSF	<0.004																																										
		32505MR/L-FSF	11T302MR/L-FSF	<0.008																																										
	DPET	21501FR/L-USF	0702003FR/L-USF	0.001																																									E28	2
		21502FR/L-USF	070201FR/L-USF	0.004																																									
		21505FR/L-USF	070202FR/L-USF	0.008						○																																				
Low Feed *Sharp Edge / Precision* *Super Fine*	DPET	32501FR/L-USF	11T3003FR/L-USF	0.001																																										
		32502FR/L-USF	11T301FR/L-USF	0.004																																										
		32505FR/L-USF	11T302FR/L-USF	0.008						○																																				
	DPET	21501MFR/L-USF	0702005MFR/L-USF	<0.002																																										
		21502MFR/L-USF	070201MFR/L-USF	<0.004																																										
		21505MFR/L-USF	070202MFR/L-USF	<0.008																																										
	DPET	32501MFR/L-USF	11T3005MFR/L-USF	<0.002																																										
		32502MFR/L-USF	11T301MFR/L-USF	<0.004																																										
		32505MFR/L-USF	11T302MFR/L-USF	<0.008																																										

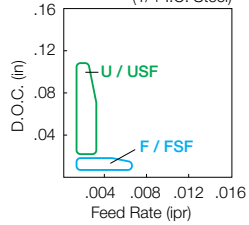
• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range

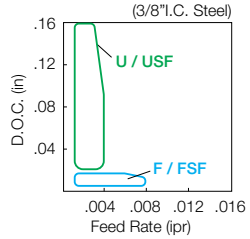
1 (Non-Ferrous Material)



2 (1/4"I.C. Steel)



(3/8"I.C. Steel)



Part Number	Applicable Toolholder Page
DC..215	E24~E28, E35, F45~F49
DC..325	E20, E24~E27, E35, F45~F49, F75

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

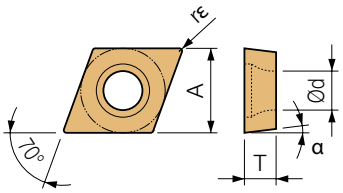
Inserts sold in 10 piece boxes.

POSITIVE
C
D
R
S
T
V
W
CERAMIC

70° Diamond

Positive Insert with Hole

How to read this page ➔ B13



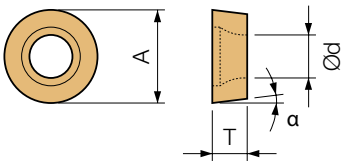
Part Number	A (in)	T (in)	Ød (in)	α
JC_1109_	0.138	0.055	0.075	7°

		ANSI Part Number	ISO Part Number	rε	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	DLC PR1125	DLC PDL025	Carbide KW10	Carbide SW05	Toolholder Page	Chipbreaker Range
Finishing Sharp Edge / Precision Super Fine	JCET	110902R/L-FSF	030101R/L-FSF	0.004					Ⓛ																												○							
		110905R/L-FSF	030102R/L-FSF	0.008					Ⓡ																												○							
		11091R/L-FSF	030104R/L-FSF	1/64																																	Ⓛ							
	JCET	110902MR/L-FSF	030101MR/L-FSF	<0.004																																		○						
		110905MR/L-FSF	030102MR/L-FSF	<0.008																																		○						
Finishing Sharp Edge NEW	JCET	110905MR/L-F	030102MR/L-F	0.008																													●				○					F50	1
		11091MR/L-F	030104MR/L-F	1/64																													Ⓡ				○						
Finishing Sharp Edge	JCGT	110902R/L-F	030101R/L-F	0.004					Ⓛ																												Ⓡ					Ⓛ		
		110905R/L-F	030102R/L-F	0.008					○																												○					○		
		11091R/L-F	030104R/L-F	1/64					Ⓡ																												○					Ⓛ		
	JCGT	110902MR/L-F	030101MR/L-F	<0.004																																		Ⓛ						
		110905MR/L-F	030102MR/L-F	<0.008																																		○						
		11091MR/L-F	030104MR/L-F	<1/64																																		Ⓛ						

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Round

Positive Insert with Hole

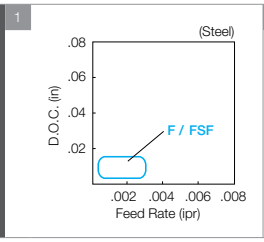


Part Number	A (in)	T (in)	Ød (in)	α
RC_1003_	0.394	1/8	0.142	7°
RC_1204_	0.472	3/16	0.165	

Part Number	A (in)	T (in)	Ød (in)	α
RCMT43SR	0.500	3/16	0.173	7°

		ANSI Part Number	ISO Part Number	rε	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	DLC PR1125	DLC PDL025	Carbide KW10	Carbide GW15	Toolholder Page	Chipbreaker Range
Medium	RCMX	1003M0	1003M0	-		○		●	○		○					●	○	○	○	○		○			○																			
	RCMX	1204M0	1204M0	-		○		●	○		○					●	○	○	○	○	○	○	●		○	○	●		○	○												D21	2
Finishing-Medium Non-ferrous Metals	RCGX	1003M0-AQ	1003M0-AQ	-																																				●			3
Finishing-Medium	RCMT	43SR	120400SR	-																																					●	-	4

Chipbreaker Range

1


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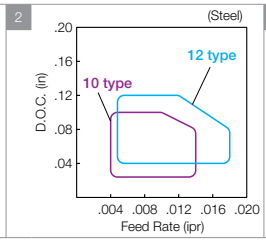

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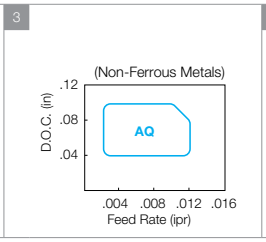

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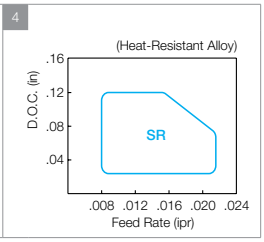


*Chipbreaker shape of RCMX... varies by grade (cermet / PVD coated cermet / CVD coated carbide)

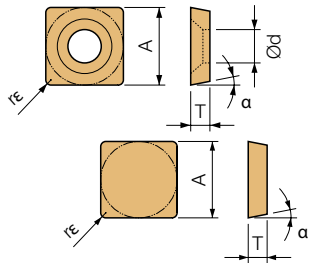
● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

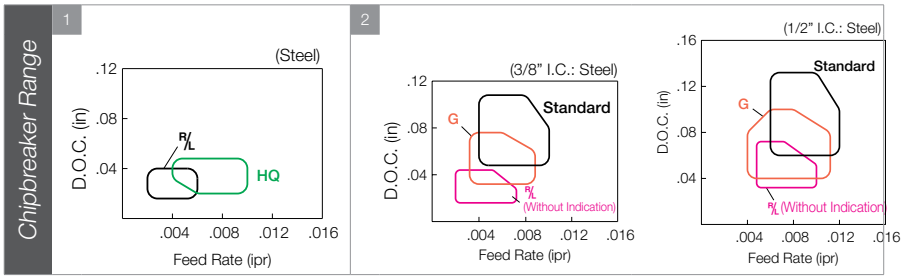
90° Square
Positive Insert

Part Number	A (in)	T (in)	Ød (in)	α
SC_325_	3/8	5/32	0.173	7°
SPGH32_	3/8	1/8	0.177	11°
SPGH42_	1/2	1/8	0.217	11°

Part Number	A (in)	T (in)	Ød (in)	α
SP_32_	3/8	1/8	-	11°
SP_42_	1/2	1/8	-	
SP_43_	1/2	3/16	-	



	ANSI Part Number	ISO Part Number	rε	Corner Radius (in)	Cermet				MEGA COAT Cermet				PVD Cermet	CVD Coated Carbide														MEGACOAT / MEGACOAT NANO						PVD Coated Carbide				DLC	Carbide		Toolholder Page	Chipbreaker Range
					TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05		
Finishing-Medium	SCMT	3251HQ	09T304HQ	1/64	○	○	●	○	●	○	●		○	○	●	●	●	●	●	●	●																			-	
		3252HQ	09T308HQ	1/32	○	○	●	○	●	○	●		○	○	●	●	●	●	●	●	●																				1
Finishing	SPGH	321 R/L	090304 R/L	1/64				Ⓛ																															F70	
		322 R/L	090308 R/L	1/32				Ⓛ																																
Finishing	SPGR	321 R/L	090304 R/L	1/64	○		Ⓡ	Ⓡ	○				○																												
		322 R/L	090308 R/L	1/32	○		○	○	○																															
	SPGR	421 R/L	120304 R/L	1/64	○		○	○	○																															
		422 R/L	120308 R/L	1/32	○		○	○	○				○																											
Medium	SPMR	321G	090304G	1/64					●			○	●	○																											
		322G	090308G	1/32					●			○		○																											
	SPMR	421G	120304G	1/64					○			○	●	○																											
		422G	120308G	1/32					●			○	●	○																											
Medium	SPMR	321	090304	1/64													○	○	○	○	●	●		●															●		E42 F70	
		322	090308	1/32					●								○	○	○	○	●	●		●															●			
	SPMR	421	120304	1/64													○	○	○	○	●	●		●															●			
		422	120308	1/32													○	○	○	○	●	●		●															●			
Cast Iron *Without Chipbreaker*	SPG	321	090304	1/64									○																										○			-
		322	090308	1/32									○																										○			
	SPG	421	120304	1/64									●																										○			
		422	120308	1/32					●				○																										●			
	SPM	421	120304	1/64																	●						○		●												
		422	120308	1/32	○		○	○	○												●					○	○		●										○		
		423	120312	3/64	○		○	○	○																															
	SPM	432	120408	1/32																							○		●												
		433	120412	3/64																							○		●												



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

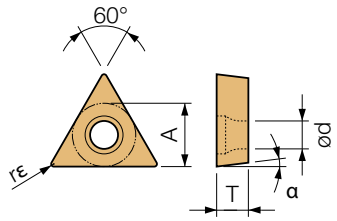
Inserts sold in 10 piece boxes.

How to read this page ➔ B13

60° Triangle

Positive Insert with Hole

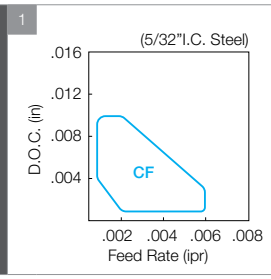
Part Number	A (in)	T (in)	Ød (in)	α
TB_121_	5/32	1/16	0.091	5°
TC_1815_	7/32	3/32	0.098	7°
TC_215_	1/4	3/32	0.110	7°
TC_325_	3/8	5/32	0.173	7°



		ANSI Part Number	ISO Part Number	rε	Corner Radius (in)	Cermet: TN610	TN620	TN6010	TN6020	TN60	MEGA COAT Cermet: PV710	PV720	PV7010	PV7025	PV7005	PVD Cermet: PV90	PV7020	CVD Coated Carbide: CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	MEGACOAT / MEGACOAT NANO: PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PVD Coated Carbide: PR930	PR1005	PR1025	PR1125	DLC: PDL025	Carbide: KW10	SW05	Toolholder Page	Chipbreaker Range
Minute D.O.C. *Sharp Edge*	TBGT	12105CF	060102CF	0.008																																			○								
	TBGT	12102M-CF	060101M-CF	<0.004																																				○							
		12105M-CF	060102M-CF	<0.008																																				○	○						1
Minute D.O.C. *Sharp Edge / Polished*	TBGT	12102MP-CF	060101MP-CF	<0.004																														●	●				○			○					
		12105MP-CF	060102MP-CF	<0.008																														●	●				○			○					
Finishing	TBMT	12105DP	060102DP	0.008		○	○	○	○	○	○	○	○	○			●	○	○	○	○			●	●																○							
		1211DP	060104DP	1/64		○	○	○	○	○	○	●	○	○			●	○	○	○	○			●	●																○							
Finishing	TBET	121013M R/L	0601005M R/L	<0.002																														●					○								
		12102M R/L	060101M R/L	<0.004																														●					○								
		12105M R/L	060102M R/L	<0.008																														●					○								
		1211M R/L	060104M R/L	<1/64																														●					○								
	TBGT	12101 R/L	0601003 R/L	0.001																																			Ⓛ							
		12102 R/L	060101 R/L	0.004						○																													○					○		
		12105 R/L	060102 R/L	0.008		Ⓛ	Ⓛ	Ⓛ	○	○	Ⓛ	Ⓛ	Ⓛ		Ⓛ	●																							○					○		
		1211 R/L	060104 R/L	1/64		Ⓛ	Ⓛ	Ⓛ	○	○	Ⓛ	Ⓛ	Ⓛ		Ⓛ	●																							○					○		
	TBGT	121013M R/L	0601005M R/L	<0.002																																											
		12102M R/L	060101M R/L	<0.004																																					Ⓛ	○						
		12105M R/L	060102M R/L	<0.008																																					Ⓛ	○						
		1211M R/L	060104M R/L	<1/64																																					○	○						
Cast Iron *Without Chipbreaker*	TBGW	12105	060102	0.008						○																																		○				
		1211	060104	1/64						●																																		○				-
Finishing *Wiper Edge* NEW	TCMX	18151WP	090204WP	1/64		○	○				○	○						●	●	●	●													●	○												
	TCMX	2151WP	110204WP	1/64		○	○				○	○						●	●	●	●													●	○												3
Finishing-Medium	TCMT	181505HQ	090202HQ	0.008		○	○	○		●	●	○	●	●						●	●		○																							
		18151HQ	090204HQ	1/64		○	○	○		●	●	○	●	●						●	●		○																							
	TCMT	21505HQ	110202HQ	0.008		○	○	○		●	●	○	●	●																																
		2151HQ	110204HQ	1/64		○	○	○		●	●	○	●	●		●		○	●	●	●		●	●	○				○											●					●		
		2152HQ	110208HQ	1/32		○	○	○		●	●	○	●	●		●		○	●	●	●		●	●	●				●																●		4
	TCMT	3251HQ	16T304HQ	1/64			○			●		○		●		●		○	●	●	●		●	●						●																●		
		3252HQ	16T308HQ	1/32			○			●		○		●		●		○	●	●	●		●	●						●	●															●		-
		3253HQ	16T312HQ	3/64																●	●			●						●	●																

Chipbreaker Range

1



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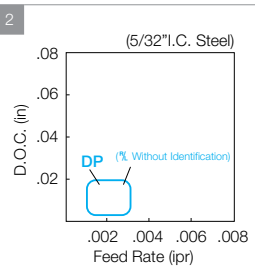

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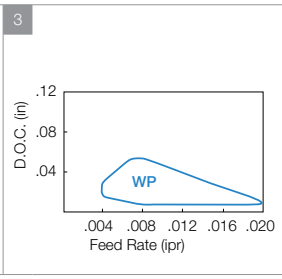

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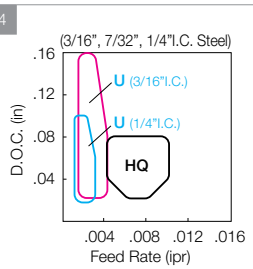


• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

KYOCERA

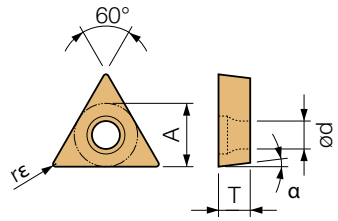
Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

60° Triangle

Positive Insert with Hole



(in)

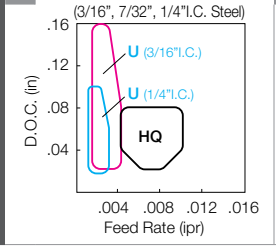
Part Number	A	T	Ød	α
TC_1515_	3/16	3/32	0.091	7°
TC_22_	1/4	1/8	0.110	

	ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
Low Feed *Sharp Edge / Precision* *Super Fine*	TCET	151501F□-USF	0802003F□-USF	0.001																																○								
		151502F□-USF	080201F□-USF	0.004																																Ⓡ								
		151505F□-USF	080202F□-USF	0.008																																Ⓡ								
	TCET	2201F□-USF	1103003F□-USF	0.001																																○								
		2202F□-USF	110301F□-USF	0.004					Ⓡ																											○								
		2205F□-USF	110302F□-USF	0.008					Ⓡ																											○								
	TCET	2201MF□-USF	1103005MF□-USF	<0.002																																		Ⓡ							
		2202MF□-USF	110301MF□-USF	<0.004																																		Ⓡ							
		2205MF□-USF	110302MF□-USF	<0.008																																		Ⓡ							
	TCGT	151501F□-U	0802003F□-U	0.001																																Ⓡ								
		151502F□-U	080201F□-U	0.004					Ⓡ																											Ⓡ						Ⓡ		
		151505F□-U	080202F□-U	0.008			Ⓡ	○																												○						○		
Low Feed *Sharp Edge*	TCGT	2201F□-U	1103003F□-U	0.001																																Ⓡ						Ⓡ		
		2202F□-U	110301F□-U	0.004					●																											Ⓡ						○		
		2205F□-U	110302F□-U	0.008			Ⓡ	Ⓡ																												○						○		
	TCGT	1515013MF□U	0802005MF□-U	<0.002																												●												1
		151502MF□-U	080201MF□-U	<0.004																												●												
		151505MF□-U	080202MF□-U	<0.008																												●												
	TCGT	22013MF□-U	1103005MF□-U	<0.002																												●												
		2202MF□-U	110301MF□-U	<0.004																												●												
		2205MF□-U	110302MF□-U	<0.008																												●						Ⓡ	○				E29	
		221MF□-U	110304MF□-U	<1/64																												●						Ⓡ	○					
Low Feed *Honed Edge*	TCGT	151505E□-U	080202E□-U	0.008				○																												○								
	TCGT	2202E□-U	110301E□-U	0.004			○	○																												Ⓡ								
		2205E□-U	110302E□-U	0.008			○	○																												○								
		221E□-U	110304E□-U	1/64			○	○																												○								
	TCGT	151505ME□-U	080202ME□-U	<0.008																																		Ⓡ							
	TCGT	2202ME□-U	110301ME□-U	<0.004																																		○							
		2205ME□-U	110302ME□-U	<0.008																																		○							
		221ME□-U	110304ME□-U	<1/64																																		○							
Finishing	TCGT	21505□	110202□	0.008					○																																		-
		2151□	110204□	1/64					○																																		
Finishing-Medium *Sharp Edge / Non-Ferrous Metals*	TCGT	2205□-A3	110302□-A3	0.008																																					○	○		
		221□-A3	110304□-A3	1/64																																					○	○		2

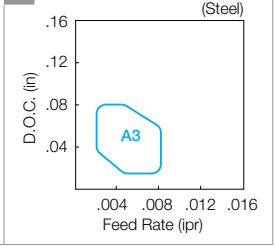
• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range

1



2



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

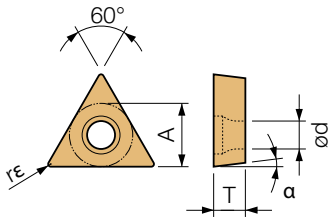
How to read this page B13

60° Triangle

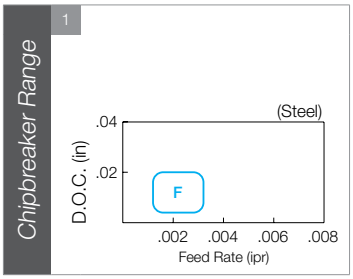
Positive Insert

Part Number	A (in)	T (in)	Ød (in)	α
TCG_121_	5/32	1/16	-	7°
TC_1515_	3/16	3/32	0.091	

Part Number	A (in)	T (in)	Ød (in)	α
TC_22_	1/4	1/8	0.110	7°



		ANSI Part Number	ISO Part Number	rε	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	PVD Coated Carbide PR1125	DLC PDL025	Carbide KW10	Carbide SW05	Toolholder Page	Chipbreaker Range
Cast Iron *Without Chipbreaker*	TCGW	151502	080201	0.004																																			○			
		151505	080202	0.008																																			○			
	TCGW	2202	110301	0.004																																			○		E29	-
		2205	110302	0.008																																			○			
		221	110304	1/64																																			●			
Finishing *Sharp Edge*	TCGR	12105ℝ-F	060102ℝ-F	0.008					Ⓛ																																-	1
		1211ℝ-F	060104ℝ-F	1/64					Ⓛ																																	
Cast Iron *Without Chipbreaker*	TCG	12105	060102	0.008					○																																-	-
		1211	060104	1/64					○																																	



Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

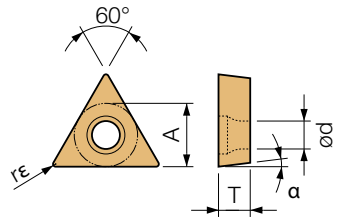
How to read this page ➔ B13

60° Triangle

Positive Insert with Hole

Part Number	A	T	Ød	α
	(in)			
TP_1515_	3/16	3/32	0.091	11°
TPMT1815_	7/32	3/32	0.110	

Part Number	A	T	Ød	α
	(in)			
TP_1815_	7/32	3/32	0.118	
TP_22_	1/4	1/8	0.130	11°
TPMT32_	3/8	1/8	0.173	

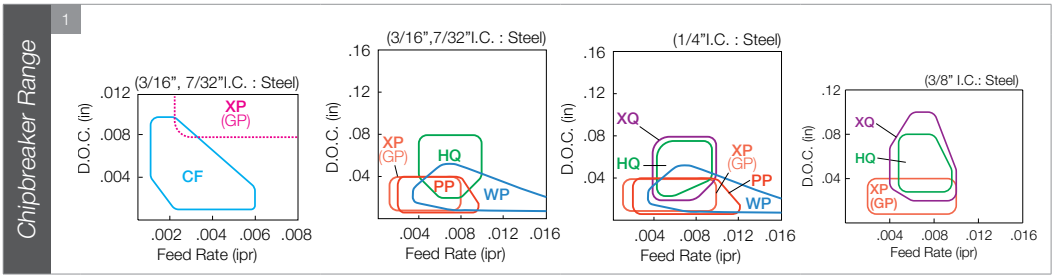


		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
				Corner Radius (in)	Cermet					MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide															MEGACOAT / MEGACOAT NANO					PVD Coated Carbide				DLC	Carbide				
Minute D.O.C. Sharp Edge	TPGT	151505CF	080202CF	0.008																																○								
	TPGT	181505CF	090202CF	0.008																																○								
	TPGT	151502M-CF	080201M-CF	<0.004																																		○						
		151505M-CF	080202M-CF	<0.008																																	○	○						
	TPGT	181502M-CF	090201M-CF	<0.004																																		○						
		181505M-CF	090202M-CF	<0.008																																	○	○						
Minute D.O.C. Sharp Edge / Polished	TPGT	181502MP-CF	080201MP-CF	<0.004																												●	●				○			○					
		181505MP-CF	080202MP-CF	<0.008																												●	●				○			○					
	TPGT	181502MP-CF	090201MP-CF	<0.004																												●	●				○			○					
		181505MP-CF	090202MP-CF	<0.008																												●	●				○			○					
Finishing Wiper Edge NEW	TPMX	18151WP	090204WP	1/64	○	○				○	○						●	●	●	●												●	●												
	TPMX	221WP	110304WP	1/64	○	○				○	○						●	●	●	●												●	●												
Finishing	TPMT	181505PP	090202PP	0.008	●	●	○	○		●	●	○	○				●	●	●	●												●	●				○								
		18151PP	090204PP	1/64	●	●	○	○		●	●	○	○				●	●	●	●												●	●				○								
	TPMT	2205PP	110302PP	0.008	●	●	○	○		●	●	○	○				●	●	●	●												●	●				○								
		221PP	110304PP	1/64	●	●	○	○		●	●	○	○				●	●	●	●												●	●				○								
		222PP	110308PP	1/32	●	●	○	○		●	●	○	○				●	●	●	●												●	●				○								
Finishing	TPMT	181505GP	090202GP	0.008	○	○	○	○	○	○	○	●	●		○	○						●	●									●					○	●		●					
		18151GP	090204GP	1/64	○	○	○	●	○	○	○	●	●		○	●	○	○	○	○		●	●									●					○	●		●					
	TPMT	221GP	110304GP	1/64	○	○	○	●	●	○	○	●	●		○	●	○	○	○	○		●	●									●					○	●		●					
		222GP	110308GP	1/32	○	○	○	○	●	○	○	●	●		○	●	○	○	●	○		●	●									●					○	●		●					
	TPMT	321GP	160304GP	1/32	○	○	○	○	●	○	○	●	●		○	●	○	○	○	○		●	●									●					○	●		●					
Finishing-Medium	TPMT	181505HQ	090202HQ	0.008	●	○	○	○		●	○	●	●		○	●	○	○	○	●		●	●									●					○	○		○					
		18151HQ	090204HQ	1/64	●	○	○	●	●	●	○	●	●		○	●	○	●	●	●		●	●	●	●	●	●					●					○	○		○	●				
	TPMT	2205HQ	110302HQ	0.008	●	●	○	○	○	●	●	●	●			●	○	○	●	●		●	●									●					○	●		○					
		221HQ	110304HQ	1/64	●	●	○	●	●	●	●	●	○		○	●	○	●	●	●		●	●	●	●	●	○	○	○			●					○	●		○	●				
		222HQ	110308HQ	1/32	●	●	○	●	●	●	●	●	○		○	●	○	●	●	●		●	●	●	●	●	○	○	○			●					○	●		○	●				
	TPMT	3205HQ	160302HQ	0.008	●		○		○	●																						●					○	●		○					
		321HQ	160304HQ	1/64	●	●	○	○	●	●	●	●	●		○	●	○	●	●	●		●	●	●	●	●	○	○				●					○	●		○	●				
		322HQ	160308HQ	1/32	●	●	○		●	●	●	●	○		○		○	●	●	○		●	●	●	●	●	○					●					○	○		○	●				
Finishing Low Carbon Steel	TPMT	18151XP	090204XP	1/64	●	●	○	○		●	●	●	●		○	●	●	●	●	●		●	●									●					○	●		○					
	TPMT	221XP	110304XP	1/64	●	●	○	○		●	●	●	●		○	●	●	●	●	●		●	●									●					○	●		○					
		222XP	110308XP	1/32	●	●	○	○		●	●	●	●		○	●	●	●	●	●		●	●									●					○	●		○					
	TPMT	321XP	160304XP	1/64	●	●	○	○		●	●	●	●		●	●	●	●	●	●		●	○									●					○	●							
		322XP	160308XP	1/32	●	●	○	○		●	●	●	●		○	●	●	●	●	●		●	●									●					○	○							

Reference Table Below

1

Chipbreaker Range



Part Number	Applicable Toolholder Page
TP_1515_	E29, F53, F55~F57
TP_1815_	F53, F55~F57
TP_22_	E29, F53~F57
TP_32_	F53~F57

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

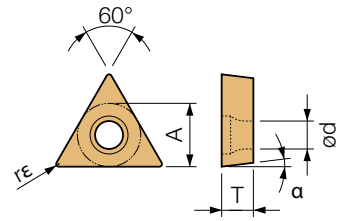
How to read this page ➔ B13

60° Triangle

Positive Insert with Hole

Part Number	A (in)	T (in)	Ød (in)	α
TP_1515_	3/16	3/32	0.091	
TP_1815_	7/32	3/32	0.118	11°
TP_215_	1/4	3/32	0.138	

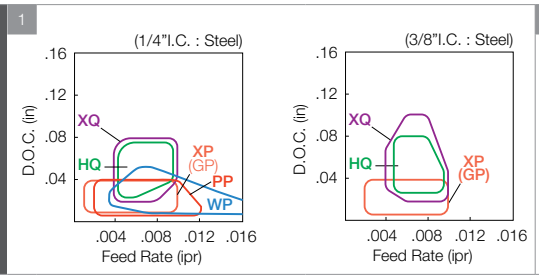
Part Number	A (in)	T (in)	Ød (in)	α
TP_22_	1/4	1/8	0.130	
TP_32_	3/8	1/8	0.177	11°
TP_33_	3/8	3/16	0.173	



		ANSI Part Number	ISO Part Number	rε	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	PVD Coated Carbide PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	DLC PR1125	DLC PDL025	Carbide KW10	Carbide SW05	Toolholder Page	Chipbreaker Range
Finishing-Medium *Low Carbon Steel*	TPMT	221XQ	110304XQ	1/64	●	○	○	○		●	○	●	●		○	●	●	●	●	●		●	●																					
		222XQ	110308XQ	1/32	●	○	○	○		●	○	●	●		○	●	●	●	●	●		●	●																					
	TPMT	321XQ	160304XQ	1/64	●	○	○	○		●	○	●	●		○	●	●	●	●	●		●	●																					
		322XQ	160308XQ	1/32	●	○	○	●		●	○	●	●		●	●	●	●	●	●		●	○																					
	TPGH	151502R/L	080201R/L	0.004					○																							●					○	○				○		
		151505R/L	080202R/L	0.008	Ⓛ	○	Ⓛ	●	Ⓛ	Ⓛ	○	Ⓛ	○	○	Ⓛ	●																●					○	○				○		
		15151R/L	080204R/L	1/64	Ⓛ	○	Ⓛ	Ⓡ	Ⓛ	Ⓛ	○	Ⓛ	○	○	Ⓛ	●																●					○	Ⓡ				○		
	TPGH	181502R/L	090201R/L	0.004					Ⓛ																							●					○	○				○		
		181505R/L	090202R/L	0.008	Ⓛ	○	Ⓛ	●	●	Ⓛ	○	Ⓛ	○	○	Ⓛ	●																●					○	○				○		
		18151R/L	090204R/L	1/64	Ⓛ	○	Ⓛ	●	Ⓛ	Ⓛ	○	Ⓛ	○	○	Ⓛ	●																●					○	Ⓛ				○		
	TPGH	21505R/L	110202R/L	0.008	Ⓛ		Ⓛ		Ⓛ	Ⓛ																						●					○	○				○	F56	
		2151R/L	110204R/L	1/64	Ⓛ		Ⓛ		○	Ⓛ				○	Ⓛ																●					○	Ⓛ				○		
	TPGH	2205R/L	110302R/L	0.008	Ⓛ	○	Ⓛ	●	●	Ⓛ	○	Ⓛ	○	○	Ⓛ	●																●					○	○				○		
		221R/L	110304R/L	1/64	Ⓛ	○	Ⓛ	●	●	Ⓛ	○	Ⓛ	○	○	Ⓛ	●																●					○	Ⓡ				○		
		222R/L	110308R/L	1/32	○	Ⓛ	Ⓛ	○	○	○	Ⓛ	Ⓛ	Ⓛ		Ⓛ																	●					○	○				○		
	TPGH	3205R/L	160302R/L	0.008	○		○		○	○																						●					○	○				○		
Finishing		321R/L	160304R/L	1/64	○	○	○	○	○	○	○	Ⓛ	Ⓛ	○	Ⓛ	Ⓛ																●					○	○				○		
		322R/L	160308R/L	1/32	Ⓛ		Ⓛ		○	Ⓛ				○																		●					○	Ⓛ				Ⓛ		
	TPGH	151502MR/L	080201MR/L	<0.004																																			Ⓛ					
		151505MR/L	080202MR/L	<0.008																																		○	○					
		15151MR/L	080204MR/L	<1/64																																		○	○					
	TPGH	181502MR/L	090201MR/L	<0.004																																			Ⓛ					
		181505MR/L	090202MR/L	<0.008																																		○	○					
		18151MR/L	090204MR/L	<1/64																																		○	○					
	TPGH	21505MR/L	110202MR/L	< 0.008																																		Ⓛ	Ⓛ					F56	
		2151MR/L	110204MR/L	<1/64																																		Ⓛ	○					
	TPGH	2205MR/L	110302MR/L	<0.008																																		○	○					
		221MR/L	110304MR/L	<1/64																																		○	○					
		222MR/L	110308MR/L	<1/32																																		Ⓛ	Ⓛ					
	TPGH	3205MR/L	160302MR/L	< 0.008																																			Ⓛ					
		321MR/L	160304MR/L	<1/64																																		Ⓛ	○					
		322MR/L	160308MR/L	<1/32																																			Ⓛ					

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range



Part Number	Applicable Toolholder Page
TP_1515_	E29, F53, F55~F57
TP_1815_	F53, F55~F57
TP_22_	E29, F53~F57
TP_32_	F53~F57

KYOCERA

Inserts sold in 10 piece boxes.

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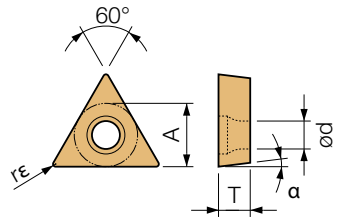
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

60° Triangle

Positive Insert with Hole

Part Number	A (in)	T (in)	Ød (in)	α
TP_1515_	3/16	3/32	0.091	11°
TP_1815_	7/32	3/32	0.118	
TP_215_	1/4	3/32	0.138	
TP_22_	1/4	1/8	0.130	11°
TP_32_	3/8	1/8	0.177	
TP_33_	3/8	3/16	0.173	



		ANSI Part Number	ISO Part Number	rε	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	MEGA COAT Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	MEGACOAT / MEGACOAT NANO PR1425	PR1225	PR1305	PR1310	PR1325	PVD Coated Carbide PR1535	PR930	PR1005	PR1025	PR1125	DLC PDL025	Carbide KW10	SW05	Toolholder Page	Chipbreaker Range
P																																													
M																																													
K																																													
N																																													
S																																													
H																																													
	TPGH	181502R/L-H	090201R/L-H	0.004				Ⓛ				Ⓛ																			Ⓛ					Ⓛ								Reference Table Below	1
		181505R/L-H	090202R/L-H	0.008				Ⓛ				Ⓛ																			Ⓛ					Ⓛ									
		18151R/L-H	090204R/L-H	1/64				Ⓛ				Ⓛ																			Ⓛ					Ⓛ									
	TPGH	2205R/L-H	110302R/L-H	0.008	Ⓛ	Ⓛ	Ⓛ	Ⓛ	○	Ⓛ	Ⓛ	Ⓛ			Ⓛ	●																●					○	○					Ⓛ			
		221R/L-H	110304R/L-H	1/64	Ⓛ	○	Ⓛ	○	●	Ⓛ	Ⓛ	○			Ⓛ	●																●					○	○								
		222R/L-H	110308R/L-H	1/32	Ⓛ	Ⓛ	Ⓛ	Ⓛ	Ⓡ	Ⓛ	Ⓛ	Ⓛ				●																●					○	○								
	TPGH	321R/L-H	160304R/L-H	1/64	Ⓛ	Ⓛ	Ⓛ	Ⓛ	○	Ⓛ	Ⓛ	Ⓛ			Ⓛ	●																●					○	○					Ⓛ			
		322R/L-H	160308R/L-H	1/32					○						Ⓛ																	●					○	○					Ⓛ			
	TPGT	3305R/L-H	160402R/L-H	0.008	Ⓛ		Ⓛ			Ⓛ																																	-	
		331R/L-H	160404R/L-H	1/64	Ⓛ		Ⓛ		Ⓛ	Ⓛ																																			
	TPGH	2205MR/L-H	110302MR/L-H	<0.008																																							Reference Table Below	1
		221MR/L-H	110304MR/L-H	<1/64																																							
	TPGH	321MR/L-H	160304MR/L-H	<1/64																																									
		322MR/L-H	160308MR/L-H	<1/32																																									
	TPET	151501R/L-FSF	0802003R/L-FSF	0.001																																							Reference Table Below	2
		151502R/L-FSF	080201R/L-FSF	0.004					Ⓛ																																			
		151505R/L-FSF	080202R/L-FSF	0.008					○																																			
	TPET	2201R/L-FSF	1103003R/L-FSF	0.001																																								
		2202R/L-FSF	110301R/L-FSF	0.004					○																																			
		2205R/L-FSF	110302R/L-FSF	0.008					○																																			
	TPET	151505MR/L-FSF	080202MR/L-FSF	<0.008																																								
	TPET	2201MR/L-FSF	1103005MR/L-FSF	<0.002																																								
		2202MR/L-FSF	110301MR/L-FSF	<0.004																																								
		2205MR/L-FSF	110302MR/L-FSF	<0.008																																								
	TPET	151502FR/L-USF	080201FR/L-USF	0.004																																								
		151505FR/L-USF	080202FR/L-USF	0.008					○																																			
	TPET	2201FR/L-USF	1103003FR/L-USF	0.001																																								
		2202FR/L-USF	110301FR/L-USF	0.004					○																																			
		2205FR/L-USF	110302FR/L-USF	0.008					○																																			
	TPET	151505MFR/L-USF	080202MFR/L-USF	<0.008																																								
	TPET	2201MFR/L-USF	1103005MFR/L-USF	<0.002																																								
		2202MFR/L-USF	110301MFR/L-USF	<0.004																																								
		2205MFR/L-USF	110302MFR/L-USF	<0.008																																								

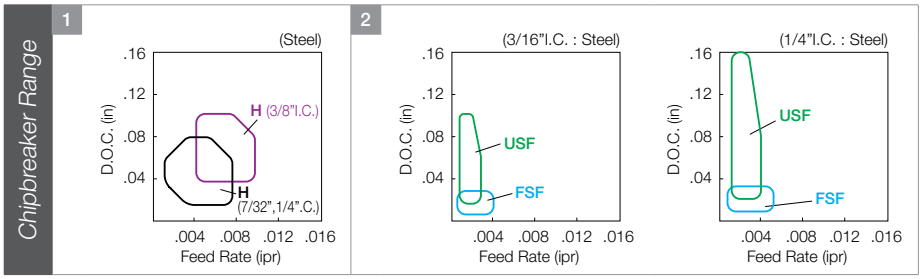
Medium

Finishing
Sharp Edge / Precision
Super Fine

Finishing
Sharp Edge / Precision
Super Fine

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range



Part Number	Applicable Toolholder Page
TP_1515_	E29, F53, F55~F57
TP_1815_	F53, F55~F57
TP_22_	E29, F53~F57
TP_32_	F53~F57

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

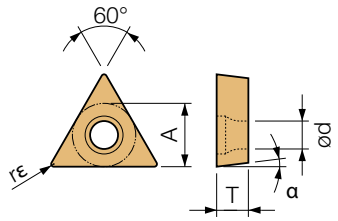
How to read this page ➔ **B13**

60° Triangle

Positive Insert with Hole

Part Number	A (in)	T (in)	Ød (in)	α
TP_1515_	3/16	3/32	0.091	11°
TP_1815_	7/32	3/32	0.118	

Part Number	A (in)	T (in)	Ød (in)	α
TP_215_	1/4	3/32	0.138	11°
TP_22_	1/4	1/8	0.130	
TP_32_	3/8	1/8	0.177	



		ANSI Part Number	ISO Part Number	rε	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	PVD Coated Carbide PR1125	DLC PDL025	Carbide KW10	Carbide SW05	Toolholder Page	Chipbreaker Range
	TPGB	151505	080202	0.008				○	●																																	
		15151	080204	1/64		○		●	●		○		●			●																										
		15152	080208	1/32					○																																	
	TPGB	181505	090202	0.008					●																																	
		18151	090204	1/64		○		●	●		○		●	○		●																										
	TPGB	21501	1102005	0.002					○																																	
		21502	110201	0.004					○																																	
		21505	110202	0.008					●																																	
		2151	110204	1/64	○		○		●	○																																
	TPGB	2201	1103005	0.002					○																																	
		2202	110301	0.004					○																																	
		2205	110302	0.008	○	○	○	●	●	○	○		●			●																									
		221	110304	1/64	○	○	○	●	●	○	○		●	○		●																									
		222	110308	1/32	○	○	○	●	●	○	○		●	○		●																									
	TPGB	321	160304	1/64	○		○		○	○				○																											
		322	160308	1/32	○		○		○	○																															

Cast Iron
Without Chipbreaker

Toolholder Page	Chipbreaker Range
Reference Table Below	-
F56	
Reference Table Below	

Part Number	Applicable Toolholder Page
TP_1515_	E29, F53, F55~F57
TP_1815_	F53, F55~F57
TP_22_	E29, F53~F57
TP_32_	F53~F57

KYOCERA

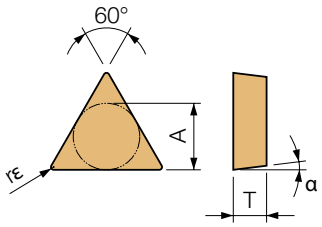
Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

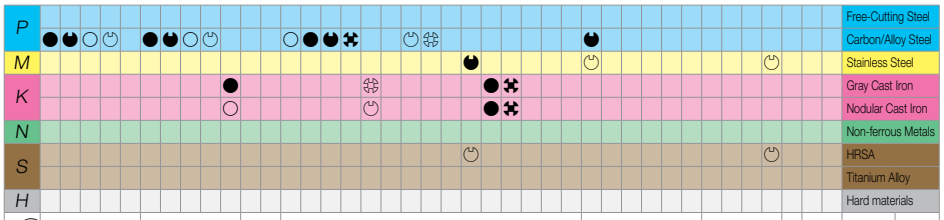
60° Triangle

Positive Insert with Hole

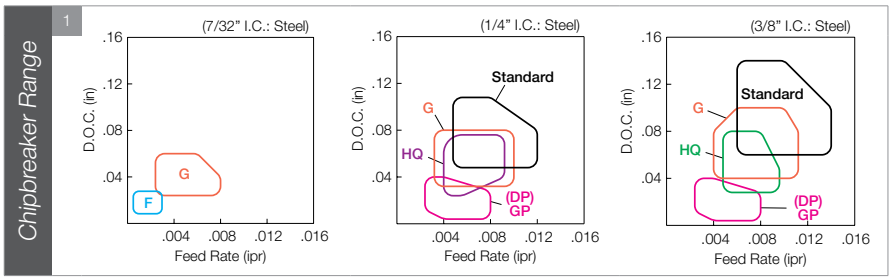


(in)

Part Number	A	T	Ød	α
TP_1815_	7/32	3/32	-	
TP_22_	1/4	1/8	-	11°
TP_32_	3/8	1/8	-	



		ANSI Part Number	ISO Part Number	rε	Corner Radius (in)	Cermet				MEGA COAT Cermet				PVD Cermet		CVD Coated Carbide														MEGACOAT / MEGACOAT NANO					PVD Coated Carbide				DLC	Carbide			Toolholder Page	Chipbreaker Range
						TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05		
Finishing	TPMR	221DP	110304DP	1/64						○																																		
		222DP	110308DP	1/32						○																																		
	TPMR	321DP	160304DP	1/64						○																																		
		322DP	160308DP	1/32						○																																		
Finishing	TPMR	221GP	110304GP	1/64			○		○	○		○				○	●																										E43 F71	
	TPMR	321GP	160304GP	1/64			○		○	○		○				○	●	○	○	○	○		●	●																				
Finishing-Medium	TPMR	221HQ	110304HQ	1/64			○			●		○		○		●		○	●	●	●		●	●	○		●															●		
		222HQ	110308HQ	1/32			○			●		○		○		○		○	●	●	●		●	●	○		●															○		
	TPMR	321HQ	160304HQ	1/64		○	○	○		●	○	○	●	●		○		○	●	●	●		●	●	●		●															●		
		322HQ	160308HQ	1/32		○	○	○		●	○	○	●	○		○		○	●	●	●		●	●	●		●															●		1
Medium	TPMR	181505G	090202G	0.008						○																																		
		18151G	090204G	1/64						○													●	●																			F71	
	TPMR	221G	110304G	1/64						●						○																												
		222G	110308G	1/32						○						○																												
	TPMR	321G	160304G	1/64						○						○																												
		322G	160308G	1/32						○						○																												
Medium	TPMR	221	110304	1/64		○		○		●	○							○	○	●	●		●	●		○		○	○	○											●			
		222	110308	1/32		○		○		○	○							○	○	●	●		○	●		○	○	○	○	○											○		E43 F71	
	TPMR	321	160304	1/64		○		○		○	○				○			○	○	●	●	●	●	●		○	○	○	○												●			
		322	160308	1/32		○		○		●	○		●		○			○	○	●	●	●	●	●		●	○	●	○	●	●										●			
Finishing Sharp Edge	TPGR	181505R/L-F	090202R/L-F	0.008						○																																F71	
		18151R/L-F	090204R/L-F	1/64						○																																		



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

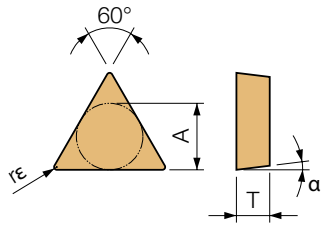
Inserts sold in 10 piece boxes.

How to read this page ➔ B13

60° Triangle

Positive Insert without Hole

Part Number	A (in)	T (in)	Ød (in)	α
TP_1815_	7/32	3/32	-	
TP_22_	1/4	1/8	-	11°
TP_32_	3/8	1/8	-	



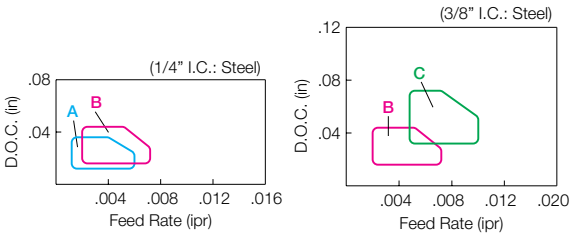
POSITIVE | C | D | R | S | T | V | W | CERAMIC

		ANSI Part Number	ISO Part Number	rε	Corner Radius (in)	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	MEGACOAT / MEGACOAT NANO PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PVD Coated Carbide PR930	PR1005	PR1025	PR1125	DLC PDL025	Carbide KW10	SW05	Toolholder Page	Chipbreaker Range
Finishing/ Finishing-Medium/ Medium	TPGR	2205R/L-A	110302R/L-A	0.008		Ⓛ	Ⓛ	Ⓡ	Ⓛ	○	Ⓛ	Ⓛ			Ⓛ		●																													
		221R/L-A	110304R/L-A	1/64		Ⓛ	Ⓛ	Ⓡ	Ⓛ	●	Ⓛ	Ⓛ			Ⓛ		●																												○		
	TPGR	221R/L-B	110304R/L-B	1/64		Ⓛ	Ⓛ	Ⓡ	●	○	Ⓛ	Ⓛ		Ⓛ		Ⓛ	●																														
		222R/L-B	110308R/L-B	1/32		Ⓛ		Ⓡ		○	Ⓛ			Ⓛ																																
	TPGR	3205R/L-B	160302R/L-B	0.008		○	Ⓛ	○	●	○	○	Ⓛ	●	Ⓛ	Ⓛ	Ⓛ	●																													E43 F71	1
		321R/L-B	160304R/L-B	1/64		○	Ⓛ	○	●	●	○	Ⓛ	●	Ⓛ	Ⓛ	Ⓛ	●																											○		
		322R/L-B	160308R/L-B	1/32		○	Ⓛ	○	●	●	○	Ⓛ			Ⓛ		●																											○		
	TPGR	321R/L-C	160304R/L-C	1/64		○	Ⓛ	○	Ⓛ	○	○	Ⓛ	●	Ⓛ		Ⓛ	●																														
		322R/L-C	160308R/L-C	1/32		○	Ⓛ	○	Ⓛ	○	○	Ⓛ				Ⓛ	●																														
Cast Iron *Without Chipbreaker*	TPG	181505	90202	0.008						○																																	○		
		18151	90204	1/64						●																																	○	F71		
		18152	90208	1/32						○																																	○			
	TPG	2205	110302	0.008						●																																	○			
		221	110304	1/64		○		○		●	○				○																											○			
		222	110308	1/32		○		○		●	○				○																											○			
	TPG	321	160304	1/64		○		○		●	○				○																											●			
		322	160308	1/32		○		○		●	○				○	●																											●			
		323	160312	3/64						●																																	○	E43 F71		
	TPM	221	110304	1/64																		●						●															○			
		222	110308	1/32																		●						○	○		●												○			
	TPM	321	160304	1/64																		●						○	○		●												●			
		322	160308	1/32																		●						○	●	●	●												○			
		323	160312	3/64																									○	○	●															

Free-Cutting Steel
Carbon/Alloy Steel
Stainless Steel
Gray Cast Iron
Nodular Cast Iron
Non-ferrous Metals
HRSA
Titanium Alloy
Hard materials

-A : Finishing
-B : Finishing-Medium
-C : Medium

Chipbreaker Range



KYOCERA

Inserts sold in 10 piece boxes.

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○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

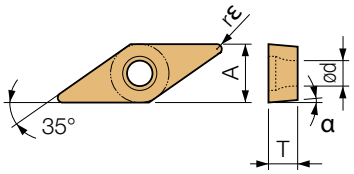
35° Diamond

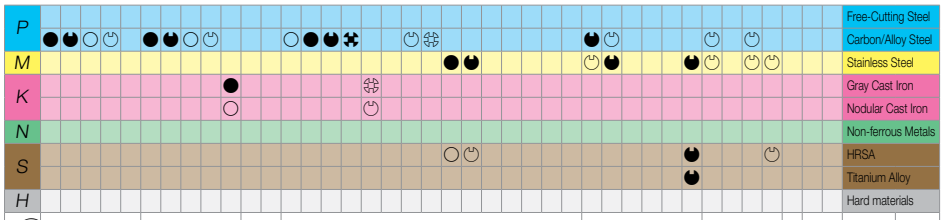
Positive Insert with Hole

Part Number	Applicable Toolholder Page
VB..22_	E30~E31, E36, E44, F58~F65
VB..33_	E30~E31, F58~F65

(in)

Part Number	A	T	Ød	α
VB_22_	1/4	1/8	0.110	5°
VB_33_	3/8	3/16	0.173	

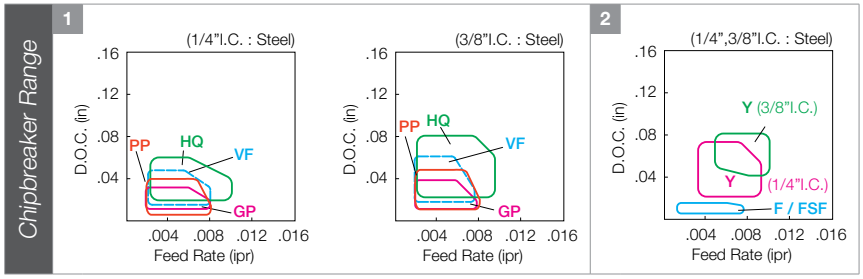




		ANSI Part Number	ISO Part Number	rε	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	PVD Coated Carbide PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	DLC PR1125	DLC PDL025	Carbide KW10	Carbide SW05	Toolholder Page	Chipbreaker Range
Finishing NEW	VBMT	2205PP	110302PP	0.008	●	●	○			●	●	○					●	●	●	●												●	●				○								Reference Table Above	1
		221PP	110304PP	1/64	●	●	○			●	●	○					●	●	●	●												●	●				○									
		222PP	110308PP	1/32	●	●	○			●	●	○					●	●	●	●												●	●				○									
	VBMT	331PP	160404PP	1/64	●	●	○			●	●	○					●	●	●	●												●	●				○									
		332PP	160408PP	1/32	●	●	○			●	●	○					●	●	●	●												●	●				○									
		333PP	160412PP	3/64	●	●	○			●	●	○					●	●	●	●												●	●				○									
Finishing	VBMT	221GP	110304GP	1/64	○	○	○	●	●	○	○	●	●		○	●	○	○	○	○		●	●											●			○	●		○						
		331GP	160404GP	1/64	○	○	○	●	●	○	○	●	●		●	○	○	○	○	○		●	●														●		○						
		332GP	160408GP	1/32	○	○	○	●	○	○	○	○	●		●	●	○	○	●	○		●	●														●		○						
Finishing	VBMT	2205VF	110302VF	0.008	●	●	○	○		●	●	●	●		○	○	●	●	●	●	○	○	○										●				○	●		●					1
		221VF	110304VF	1/64	●	●	○	○		●	●	●	●		○	○	●	●	●	●	○	●	●	○									●				○	●		○					
		222VF	110308VF	1/32	●	●	○	○		●	●	●	●		○	○	●	●	●	●	○	●	●	○									●				○	●		○					
	VBMT	3305VF	160402VF	0.008	●	●	○	○		●	●	●	●		○	○	●	●	●	●	○	○	○														○		●					
		331VF	160404VF	1/64	●	●	○	○		●	●	●	●		○	○	●	●	●	●	○	●	●	○													●		○					
		332VF	160408VF	1/32	●	●	○	○		●	●	●	●		○	○	●	●	●	●	○	●	●	○													●		○					
		333VF	160412VF	3/64	●	●	○	○		●	●	●	●			○	●	●	●	●		○	●																○					
Finishing-Medium	VBMT	221HQ	110304HQ	1/64	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								●				○	●		○	●				
		222HQ	110308HQ	1/32	●	●	○	●	●	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●								●				○	●		○	●				
	VBMT	331HQ	160404HQ	1/64	●	●	○	●	●	●	●	○	●	○	●	●	●	●	●	●		●	●	●	●												○		○	●				
		332HQ	160408HQ	1/32	●	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●												○		●	●				
		333HQ	160412HQ	3/64	●	●	○	○		●	●	●	●		○	●	○	●	●			●	●	●													○		○					
Finishing Sharp Edge / Precision Super Fine	VBET	2201R/L-FSF	1103003R/L-FSF	0.001					Ⓡ																											●							2
		2202R/L-FSF	110301R/L-FSF	0.004					○																											●							
		2205R/L-FSF	110302R/L-FSF	0.008					○																											Ⓡ							
	VBET	22013MR/L-FSF	1103005MR/L-FSF	<0.002																													●									
		2202MR/L-FSF	110301MR/L-FSF	<0.004																													●				Ⓛ					
		2205MR/L-FSF	110302MR/L-FSF	<0.008																													●				Ⓛ					

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

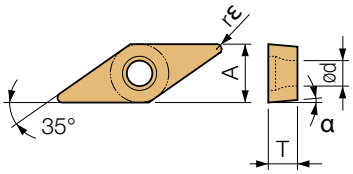
How to read this page ➔ B13

35° Diamond

Positive Insert with Hole

Part Number	Applicable Toolholder Page
VB..22_	E30~E31, E36, E44, F58~F65
VB..33_	E30~E31, F58~F65

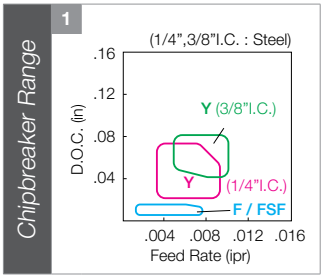
Part Number	A	T	Ød	α
			(in)	
VB_22_	1/4	1/8	0.110	5°
VB_33_	3/8	3/16	0.173	



					rε	Corner Radius (in)	Cermet				MEGA COAT Cermet				PVD Cermet	CVD Coated Carbide																MEGACOAT / MEGACOAT NANO					PVD Coated Carbide			DLC	Carbide		Toolholder Page	Chipbreaker Range
		ANSI Part Number	ISO Part Number				TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05		
Finishing Sharp Edge NEW	VBET	22013M[R/L]-F	1103005M[R/L]-F	<0.002																													●					○							
		2202M[R/L]-F	110301M[R/L]-F	<0.004		○				○																							●					○						1	
		2205M[R/L]-F	110302M[R/L]-F	<0.008	○	○				○	○																						●					○							
Medium Sharp Edge	VBGT	2202FN-Z	110301FN-Z	0.004					●																													○							
		2205FN-Z	110302FN-Z	0.008					○																													○						-	
		221FN-Z	110304FN-Z	1/64					○																													○							
Finishing Sharp Edge	VBGT	2201[R/L]-F	1103003[R/L]-F	0.001																																		●					Ⓡ		
		2202[R/L]-F	110301[R/L]-F	0.004					○				○																									●					○		
		2205[R/L]-F	110302[R/L]-F	0.008			○	●	○				○		●																								●					○		
	VBGT	22013M[R/L]-F	1103005M[R/L]-F	<0.002																														●												
		2202M[R/L]-F	110301M[R/L]-F	<0.004																														●						Ⓡ	○					
		2205M[R/L]-F	110302M[R/L]-F	<0.008																														●						Ⓛ	○					
Finishing-Medium NEW	VBET	22013M[R/L]-Y	1103005M[R/L]-Y	<0.002																													●					○							
		2202M[R/L]-Y	110301M[R/L]-Y	<0.004																													●					○							
		2205M[R/L]-Y	110302M[R/L]-Y	<0.008	○	○				○	○																						●					○							
		221M[R/L]-Y	110304M[R/L]-Y	<1/64	○	○				○	○																						●					○							
Finishing-Medium	VBGT	2201[R/L]-Y	1103003[R/L]-Y	0.001																																		●					Ⓡ		
		2202[R/L]-Y	110301[R/L]-Y	0.004					○				○																									●					○		
		2205[R/L]-Y	110302[R/L]-Y	0.008			○	●	●				○		●																								●					○		
		221[R/L]-Y	110304[R/L]-Y	1/64			○	●	Ⓡ				○		●																								●					Ⓡ		
		222[R/L]-Y	110308[R/L]-Y	1/32					Ⓡ																													●					○		
	VBGT	3305[R/L]-Y	160402[R/L]-Y	0.008	○		○		○	○			○																									●					○		
		331[R/L]-Y	160404[R/L]-Y	1/64	○		○	●	○	○			○		Ⓡ																								●					○		
		332[R/L]-Y	160408[R/L]-Y	1/32					○																													●					Ⓛ		
	VBGT	22013M[R/L]-Y	1103005M[R/L]-Y	<0.002																														●												
		2202M[R/L]-Y	110301M[R/L]-Y	<0.004																														●						Ⓡ	○					
		2205M[R/L]-Y	110302M[R/L]-Y	<0.008																														●						Ⓛ	Ⓡ					
		221M[R/L]-Y	110304M[R/L]-Y	<1/64																														●						○	○					
		222M[R/L]-Y	110308M[R/L]-Y	<1/32																														●												
	VBGT	3305M[R/L]-Y	160402M[R/L]-Y	<0.008																														●						Ⓡ	○					
		331M[R/L]-Y	160404M[R/L]-Y	<1/64																														●						Ⓡ	○					
		332M[R/L]-Y	160408M[R/L]-Y	<1/32																														●							○					

Reference Table Above

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).



KYOCERA

Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

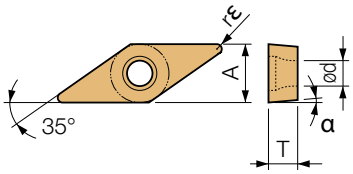
How to read this page ➔ B13

35° Diamond

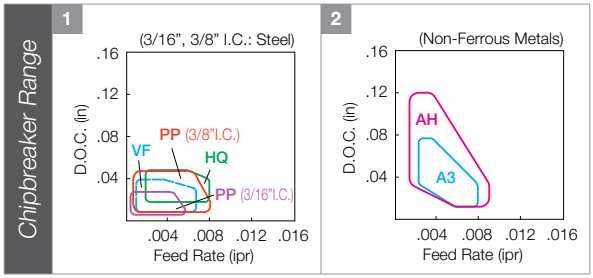
Positive Insert with Hole

Part Number	Applicable Toolholder Page
VC_1515_	E36, F58, F60~F65
VC_22_	E30~E31, F60~F65
VC_33_	E30~E31, F60~F65

Part Number	A	T	Ød	α
	(in)			
VC_1515_	3/16	3/32	0.091	7°
VC_22_	1/4	1/8	0.110	
VC_33_	3/8	3/16	0.173	



		ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
				Corner Radius (in)	Cermet					MEGA COAT Cermet					PVD Cermet		CVD Coated Carbide															MEGACOAT / MEGACOAT NANO					PVD Coated Carbide				DLC	Carbide				
Finishing NEW	VCMT	151505PP	080202PP	0.008	●	●	○			●	●	○					●	●	●	●												●	●				○								Reference Table Above	1
		15151PP	080204PP	1/64	●	●	○			●	●	○					●	●	●	●												●	●				○									
	VCMT	331PP	160404PP	1/64	●	●	○			●	●	○					●	●	●	●												●	●				○									
		332PP	160408PP	1/32	●	●	○			●	●	○					●	●	●	●												●	●				○									
Finishing	VCMT	151505VF	080202VF	0.008	○	○	○	○		○	○	●	●			○	●	●	●	●	○	○	○									●				○	○		●						
		15151VF	080204VF	1/64	○	○	○	○		○	○	●	●			○	●	●	●	●	○	○	○									●				○	○		○						
Finishing-Medium	VCMT	151505HQ	080202HQ	0.008	○	○	○	○	○	○	○	●	●		○	●	○	●	●	●		●	●									●				○	○		○						
		15151HQ	080204HQ	1/64	○	○	○	○	○	○	○	●	●		○	●	○	●	●	●		●	●	○	●	●						●				○	●		○	●					
	VCMT	221HQ	110304HQ	1/64					○									●	●				○																					
	VCMT	331HQ	160404HQ	1/64					○						○			●	●				○																					
		332HQ	160408HQ	1/32					●						○			●	●				●		●																					
Medium *Sharp Edge*	VCGT	2202FN-Z	110301FN-Z	0.004					○																																				-
		2205FN-Z	110302FN-Z	0.008					○																																			
		221FN-Z	110304FN-Z	1/64					○																																			
Finishing-Medium *Sharp Edge* *Non-Ferrous Metals*	VCGT	331AH	160404AH	1/64																																					●	●		2
Finishing-Medium *Sharp Edge* *Non-Ferrous Metals*	VCGT	331ℝ-A3	160404ℝ-A3	1/64																																					○	○		
		332ℝ-A3	160408ℝ-A3	1/32																																					○	○		
Medium-Roughing *Non-Ferrous Metals*	VCGT	333	160412	3/64																																						○		-



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

How to read this page ➔ B13

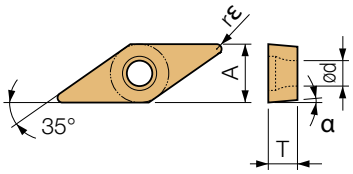
35° Diamond

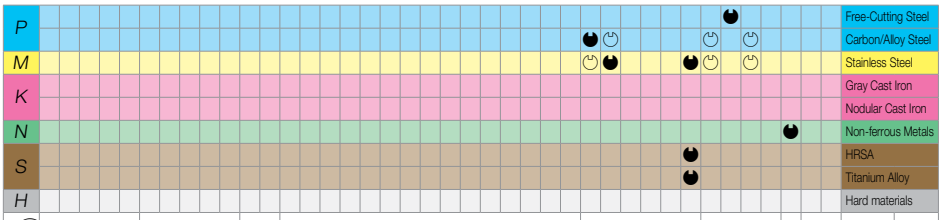
Positive Insert with Hole

Part Number	Applicable Toolholder Page
VP_1515_	E32~E33, F58
VP_22_	E21, E32~E33

(in)

Part Number	A	T	Ød	α
VP_1515_	3/16	3/32	0.091	11°
VP_22_	1/4	1/8	0.110	



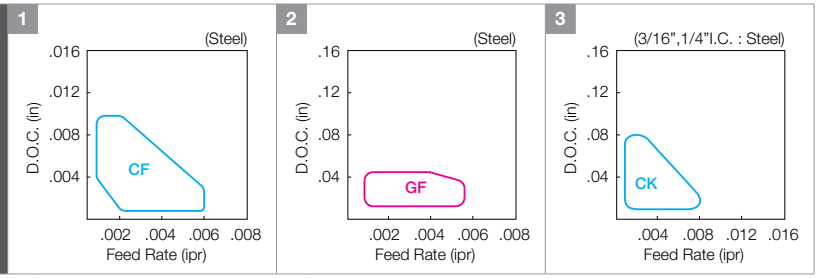


		ANSI Part Number	ISO Part Number	rε	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	PVD Coated Carbide PR1125	DLC PDL025	Carbide KW10	Carbide SW05	Toolholder Page	Chipbreaker Range
Minute D.O.C. *Sharp Edge*	VPGT	2205CF	110302CF	0.008																															○								
	VPGT	2202M-CF	110301M-CF	<0.004																																○	○						
		2205M-CF	110302M-CF	<0.008																																○	○						1
Minute D.O.C. *Sharp Edge / Polished*	VPGT	2202MP-CF	110301MP-CF	<0.004																													●	●			○			○		○			
		2205MP-CF	110302MP-CF	<0.008																													●	●			○			○		○			
Finishing *Sharp Edge*	VPGT	2202MF-GF	110301MF-GF	<0.004																																				○					
		2205MF-GF	110302MF-GF	<0.008																																				○					2
Finishing *Sharp Edge / Polished*	VPGT	2202MFP-GF	110301MFP-GF	<0.004																													●	●			○			○					
		2205MFP-GF	110302MFP-GF	<0.008																													●	●			○			○					
Finishing	VPGT	151502CK	080201CK	0.004																																	○							
		151505CK	080202CK	0.008																																	●							
	VPGT	2202CK	110301CK	0.004																																	●							
		2205CK	110302CK	0.008																																	●							
	VPGT	151502M-CK	080201M-CK	<0.004																																		○	○					
		151505M-CK	080202M-CK	<0.008																																		○	○					3
	VPGT	2202M-CK	110301M-CK	<0.004																																		○	○					
		2205M-CK	110302M-CK	<0.008																																		○	○					
Finishing *Sharp Edge / Polished*	VPGT	151502MP-CK	080201MP-CK	<0.004																													●	●			○			○		○			
		151505MP-CK	080202MP-CK	<0.008																													●	●			○			○		○			
	VPGT	2202MP-CK	110301MP-CK	<0.004																													●	●			○			○		○			
		2205MP-CK	110302MP-CK	<0.008																													●	●			○			○		○			

Reference Table Above

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range



Inserts sold in 10 piece boxes.

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○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ B13

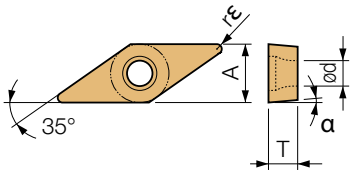
35° Diamond

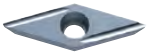
Positive Insert with Hole

Part Number	Applicable Toolholder Page
VB..22_	E32~E33, F58
VB..33_	E21, E32~E33

(in)

Part Number	A	T	Ød	α
VP_1515_	3/16	3/32	0.091	11°
VP_22_	1/4	1/8	0.110	

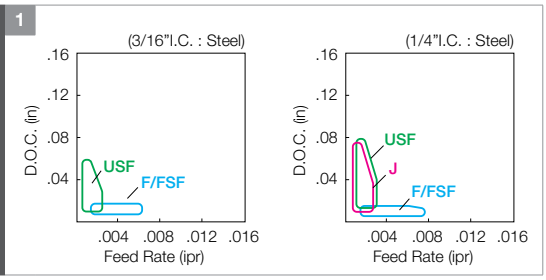


	ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
Finishing Sharp Edge / Precision Super Fine	VPET 151502R/L-FSF	080201R/L-FSF	0.004					○																												○							Reference Table Above	1
	151505R/L-FSF	080202R/L-FSF	0.008					○																												○								
	VPET 2201R/L-FSF	1103003R/L-FSF	0.001																																	○								
	2202R/L-FSF	110301R/L-FSF	0.004					○																												○								
	2205R/L-FSF	110302R/L-FSF	0.008					○																												○								
	VPET 151502MR/L-FSF	080201MR/L-FSF	<0.004																												●							○						
	151505MR/L-FSF	080202MR/L-FSF	<0.008																												●							○						
	VPET 22013MR/L-FSF	1103005MR/L-FSF	<0.002																												●								○					
	2202MR/L-FSF	110301MR/L-FSF	<0.004																												●								○					
	2205MR/L-FSF	110302MR/L-FSF	<0.008																												●								○					
Finishing Sharp Edge NEW	VPET 151502MR/L-F	080201MR/L-F	<0.004																												●					○								
	151505MR/L-F	080202MR/L-F	<0.008																												●					○								
	VPET 22013MR/L-F	1103005MR/L-F	<0.002																												Ⓡ					Ⓡ								
	2202MR/L-F	110301MR/L-F	<0.004																												Ⓡ					Ⓡ								
	2205MR/L-F	110302MR/L-F	<0.008																												●					○								
Low Feed Sharp Edge / Precision Super Fine	VPET 151502FR/L-USF	080201FR/L-USF	0.004					Ⓛ																												○								
	151505FR/L-USF	080202FL-USF	0.008					Ⓛ																												○								
	VPET 2201FR/L-USF	1103003FR/L-USF	0.001																																	○								
	2202FR/L-USF	110301FR/L-USF	0.004					○																												○								
	2205FR/L-USF	110302FL-USF	0.008					○																												Ⓡ								
	VPET 151502MFR/L-USF	080201MFR/L-USF	<0.004																													●							○					
	151505MFR/L-USF	080202MFR/L-USF	<0.008																													●							○					
	VPET 22013MFR/L-USF	1103005MFR/L-USF	<0.002																													●								○				
	2202MFR/L-USF	110301MFR/L-USF	<0.004																													●								○				
	2205MFR/L-USF	110302MFR/L-USF	<0.008																													●								○				
Low Feed Sharp Edge NEW	VPET 151502MFR/L-U	080201MFR/L-U	<0.004																													●					○								
	151505MFR/L-U	080202MFR/L-U	<0.008																													●					○								
	VPET 22013MFR/L-U	1103005MFR/L-U	<0.002																													●					○								
	2202MFR/L-U	110301MFR/L-U	<0.004																													●					○								
	2205MFR/L-U	110302MFR/L-U	<0.008																													●					○								
Low Feed Sharp Edge NEW	VPET 22013MFR/L-J	1103005MFR/L-J	<0.002																													Ⓡ	Ⓡ				Ⓡ								
	2202MFR/L-J	110301MFR/L-J	<0.004																													●	●				○								
	2205MFR/L-J	110302MFR/L-J	<0.008																													●	●				○								

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range

1



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

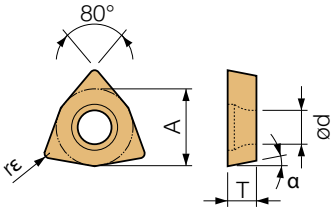
How to read this page ➔ B13

80° Trigon

Positive Insert with Hole

Part Number	A (in)	T (in)	Ød (in)	α
WB_121_	5/32	1/16	0.091	5°
WB_1515_	3/16	3/32	0.091	

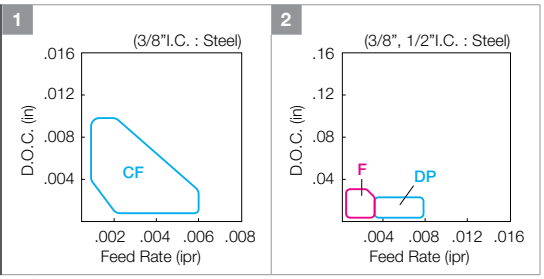
Part Number	A (in)	T (in)	Ød (in)	α
WP_215_	1/4	3/32	0.110	11°
WP_32_	3/8	1/8	0.173	



	ANSI Part Number	ISO Part Number	rε	Cermet TN610	Cermet TN620	Cermet TN6010	Cermet TN6020	Cermet TN60	MEGA COAT Cermet PV710	MEGA COAT Cermet PV720	MEGA COAT Cermet PV7010	MEGA COAT Cermet PV7025	MEGA COAT Cermet PV7005	PVD Cermet PV90	PVD Cermet PV7020	CVD Coated Carbide CA510	CVD Coated Carbide CA515	CVD Coated Carbide CA525	CVD Coated Carbide CA530	CVD Coated Carbide CA5505	CVD Coated Carbide CA5515	CVD Coated Carbide CA5525	CVD Coated Carbide CA5535	CVD Coated Carbide CA6515	CVD Coated Carbide CA6525	CVD Coated Carbide CA4505	CVD Coated Carbide CA4515	CVD Coated Carbide CA4010	CVD Coated Carbide CA4115	CVD Coated Carbide CA4120	MEGACOAT / MEGACOAT NANO PR1425	MEGACOAT / MEGACOAT NANO PR1225	MEGACOAT / MEGACOAT NANO PR1305	MEGACOAT / MEGACOAT NANO PR1310	MEGACOAT / MEGACOAT NANO PR1325	MEGACOAT / MEGACOAT NANO PR1535	PVD Coated Carbide PR930	PVD Coated Carbide PR1005	PVD Coated Carbide PR1025	DLC PR1125	DLC PDL025	Carbide KW10	Carbide SW05	Toolholder Page	Chipbreaker Range
Minute D.O.C. Sharp Edge	WBGT 12102M□-CF	060101M□-CF	<0.004																																		○					
	12105M□-CF	060102M□-CF	<0.008																																	Ⓛ	○				1
Minute D.O.C. Sharp Edge / Polished	WBGT 12102MP□-CF	060101MP□-CF	<0.004																											●	●			○			○					
	12105MP□-CF	060102MP□-CF	<0.008																											●	●			○			○					
Finishing	WBMT 12105□-DP	060102□-DP	0.008	Ⓛ	Ⓛ	Ⓛ	Ⓛ	○	Ⓛ	Ⓛ	Ⓛ	Ⓛ		Ⓛ	Ⓛ	Ⓛ	Ⓛ	Ⓛ		Ⓛ	Ⓛ									●				○	●		Ⓛ					
	1211□-DP	060104□-DP	1/64	Ⓛ	Ⓛ	Ⓛ	Ⓛ	Ⓛ	Ⓛ	Ⓛ	Ⓛ	Ⓛ		Ⓛ	Ⓛ	Ⓛ	Ⓛ	Ⓛ		Ⓛ	Ⓛ									●				○	●		○					
	WBMT 151505□-DP	080202□-DP	0.008	Ⓛ	Ⓛ	Ⓛ	Ⓛ	○	Ⓛ	Ⓛ	Ⓛ	Ⓛ		Ⓛ	Ⓛ	Ⓛ	Ⓛ	Ⓛ		Ⓛ	Ⓛ									●				○	●		○					
	15151□-DP	080204□-DP	1/64	Ⓛ	Ⓛ	Ⓛ	Ⓛ	Ⓡ	Ⓛ	Ⓛ	Ⓛ	Ⓛ		Ⓛ	Ⓛ	Ⓛ	Ⓛ	Ⓛ		Ⓛ	●									●				○	Ⓛ		○					
Finishing Sharp Edge NEW	WBET 121013M□-F	0601005M□-F	<0.002																											Ⓛ				Ⓛ								
	12102M□-F	060101M□-F	<0.004																											●				○								
	12105M□-F	060102M□-F	<0.008	○	Ⓛ				○	Ⓛ																				Ⓡ				○								F67 F68 F69
	1211M□-F	060104M□-F	<1/64	○	Ⓛ				○	Ⓛ																				●				○								
	WBET 151502M□-F	080201M□-F	<0.004	○					○																					Ⓛ				Ⓛ								
	151505M□-F	080202M□-F	<0.008	○	Ⓛ				○	Ⓛ																				Ⓛ				Ⓛ								
	15151M□-F	080204M□-F	<1/64	○	Ⓛ				○	Ⓛ																				●				○								
	WBGT 12101□-F	0601003□-F	0.001					Ⓛ																											Ⓛ				Ⓛ		
	12102□-F	060101□-F	0.004					Ⓛ																										○					Ⓛ		
	12105□-F	060102□-F	0.008			○	Ⓛ	●				Ⓛ		Ⓛ	Ⓛ																				Ⓛ				Ⓛ		
	1211□-F	060104□-F	1/64			○	●	●				Ⓛ		Ⓛ	●																				Ⓛ				Ⓛ		
Finishing Sharp Edge	WBGT 151501□-F	0802003□-F	0.001																																Ⓛ						
	151502□-F	080201□-F	0.004			○		Ⓛ																											Ⓛ				Ⓛ		
	151505□-F	080202□-F	0.008			○	Ⓛ	Ⓛ				Ⓛ		Ⓛ	Ⓛ																				Ⓛ				Ⓛ		
	15151□-F	080204□-F	1/64			○	●	●				Ⓛ		Ⓛ	●																				●				Ⓛ		
	WBGT 12102M□-F	060101M□-F	<0.004																																	Ⓛ	Ⓛ					
	12105M□-F	060102M□-F	<0.008																																Ⓛ	Ⓛ	○					
	1211M□-F	060104M□-F	<1/64																																Ⓛ	○					
	WBGT 151502M□-F	080201M□-F	<0.004																																		Ⓛ					
	151505M□-F	080202M□-F	<0.008																																		Ⓛ					
	15151M□-F	080204M□-F	<1/64																																		○					

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range



KYOCERA

Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

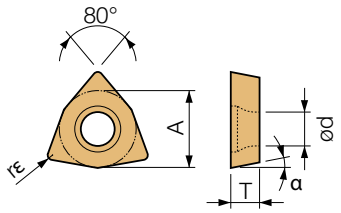
How to read this page B13

80° Trigon

Positive Insert with Hole

Part Number	A (in)	T (in)	Ød (in)	α
WB_121_	5/32	1/16	0.091	5°
WB_1515_	3/16	3/32	0.091	

Part Number	A (in)	T (in)	Ød (in)	α
WP_215_	1/4	3/32	0.110	11°
WP_32_	3/8	1/8	0.173	



	ANSI Part Number	ISO Part Number	rε	TN610	TN620	TN6010	TN6020	TN60	PV710	PV720	PV7010	PV7025	PV7005	PV90	PV7020	CA510	CA515	CA525	CA530	CA5505	CA5515	CA5525	CA5535	CA6515	CA6525	CA4505	CA4515	CA4010	CA4115	CA4120	PR1425	PR1225	PR1305	PR1310	PR1325	PR1535	PR930	PR1005	PR1025	PR1125	PDL025	KW10	SW05	Toolholder Page	Chipbreaker Range
Cast Iron *Without Chipbreaker*	WBGW 12105R/L	060102R/L	0.008					Ⓛ																																		Ⓛ			
	1211R/L	060104R/L	1/64					Ⓛ																																		Ⓛ			
	WBGW 151505R/L	080202R/L	0.008					Ⓛ																																		Ⓛ			
	15151R/L	080204R/L	1/64					Ⓛ																																		Ⓛ			
Finishing	WPMT 2151GP	110204GP	1/64		○			○		○				○		○	○	●	○		●	●															●		○						
	WPMT 321GP	160304GP	1/64		○			○		○				●		○	○	○	○		●	●															●		○						
Finishing-Medium	WPMT 21505HQ	110202HQ	0.008		○			●		○				○		○	●	○	●		●	●															●		○						
	2151HQ	110204HQ	1/64	○	○	○	●	●	○	○	●	●		○	●	●	●	●	●		●	●	●	●													○		○	●					
	WPMT 321HQ	160304HQ	1/64	○	○	○	●	○	○	○	●	●		○	●	●	●	●	●		●	●	●	●													●		○	●				F67 F68 F69	1
	322HQ	160308HQ	1/32	○	○	○	○	○	○	○	●	●		○	●	●	●	●	●		●	●	●	●													●		○	○					
	WPGT 21505R/L-Y	110202R/L-Y	0.008					Ⓛ																													Ⓛ				Ⓛ			
Finishing-Medium	2151R/L-Y	110204R/L-Y	1/64				Ⓛ	Ⓛ						Ⓛ																								○				Ⓛ			
	WPGT 321R/L-Y	160304R/L-Y	1/64				Ⓛ	○																													○				Ⓛ			
	322R/L-Y	160308R/L-Y	1/32											Ⓛ																							Ⓛ				Ⓛ			
	WPGT 2151MR/L-Y	110204MR/L-Y	<1/64																																			○	Ⓛ					
	WPGT 321MR/L-Y	160304MR/L-Y	<1/64																																			Ⓛ	Ⓡ					
Cast Iron *Without Chipbreaker*	WPGW 21505	110202	0.008																																							○			
	2151	110204	1/64																																							○			-
	WPGW 321	160304	1/64																																							○			
	322	160308	1/32																																							○			

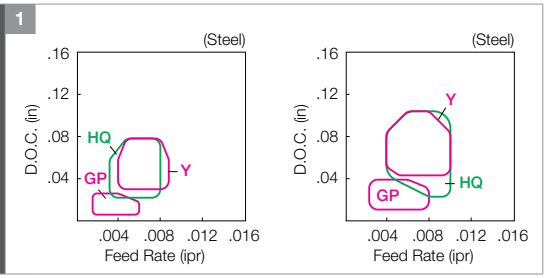
Corner Radius (in) — Cermet | MEGA COAT Cermet | PVD Cermet | CVD Coated Carbide | MEGACOAT / MEGACOAT NANO | PVD Coated Carbide | DLC | Carbide

P: Free-Cutting Steel, Carbon/Alloy Steel
M: Stainless Steel
K: Gray Cast Iron, Nodular Cast Iron
N: Non-ferrous Metals
S: HRSA, Titanium Alloy
H: Hard materials

• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

Chipbreaker Range

1



● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

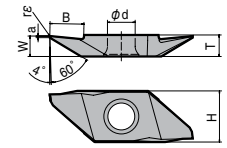
How to read this page B13

Back Turning

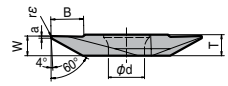
Turning Inserts (Small Tools)

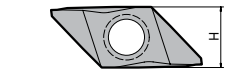
		NEW				
P	Free-Cutting Steel					
	Carbon Steel / Alloy Steel	●	○	○	○	
M	Stainless Steel	○	●	○	○	
K	Gray Cast Iron					●
	Nodular Cast Iron					○
N	Non-ferrous Metals					●
S	Heat-Resistant Alloys	○	●	○	○	
	Titanium Alloy		●			●
H	Hard materials					

TKFB Inserts
(for KTKF Toolholders)



• Right-handed insert shown



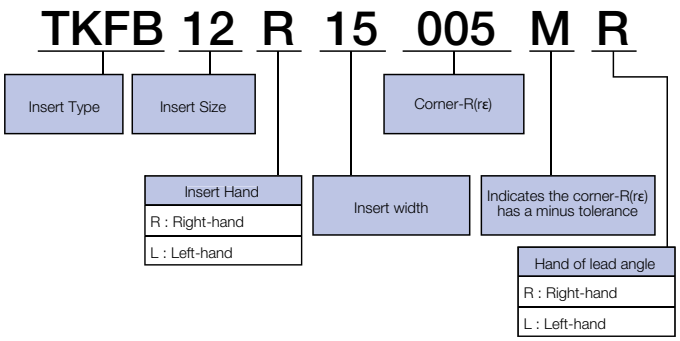


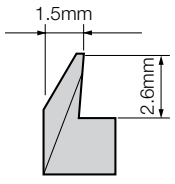
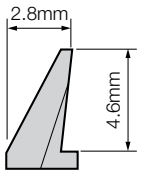
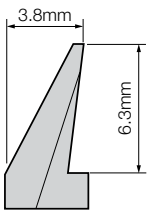
• Left-handed insert shown

	ANSI Part Number	Dimension (mm) W	a	B	Corner Radius (in) rε	T	H	Ød	MEGACOAT NANO PR1425	PR1535	PR1225	PVD Coated Carbide PR1025	Carbide KW10	Toolholder Page
TKFB	12R15005M	1.5	0.25	2.6	<0.002	3.0	8.7	5.2	●	●	●	○	○	E12
	12R28005M	2.8	0.30	4.6	<0.002	3.0	8.7	5.2	●	●	●	○	○	
	12R28010M	2.8	0.30	4.6	<0.004	3.0	8.7	5.2	●	●	●	●	○	
TKFB	16R38005M	3.8	0.30	6.3	<0.002	4.0	9.5	5.2	●	●	●	○	○	
	16R38010M	3.8	0.30	6.3	<0.004	4.0	9.5	5.2	●	●	●	○	○	
TKFB	12L28005MR	2.8	0.30	4.6	<0.002	3.0	8.7	5.2		●	●			
	12L28010MR	2.8	0.30	4.6	<0.004	3.0	8.7	5.2		●	●			
TKFB	16L38005MR	3.8	0.30	6.3	<0.002	4.0	9.5	5.2		●	●			
	16L38010MR	3.8	0.30	6.3	<0.004	4.0	9.5	5.2		●	●			

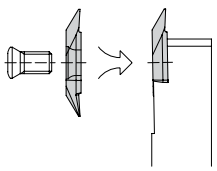
• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

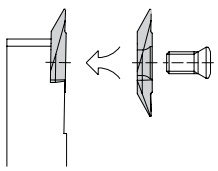
Insert Identification System
(See Tables Below)



Small Depths of Cut	General Purpose	Large Depths of Cut
 TKFB12R15..	 TKFB12R28..	 TKFB16R38..

Tooholder	Right-hand (R)	Toolholder	Left-hand (L)
Insert	Right-hand (R)	Insert	Left-hand (L)
Lead Angle	Right-hand (R)	Lead Angle	Right-hand (R)





Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Back Turning

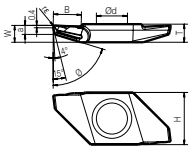
Turning Inserts

P	Free-Cutting Steel			
	Carbon Steel / Alloy Steel	●		○
M	Stainless Steel	○	●	○
K	Gray Cast Iron			
	Nodular Cast Iron			
N	Non-ferrous Metals			
S	Heat-Resistant Alloys	○	●	○
	Titanium Alloy		●	
H	Hard materials			

TKFB Inserts (GQ Chipbreaker) NEW

(for KTKF Toolholders)

ANSI

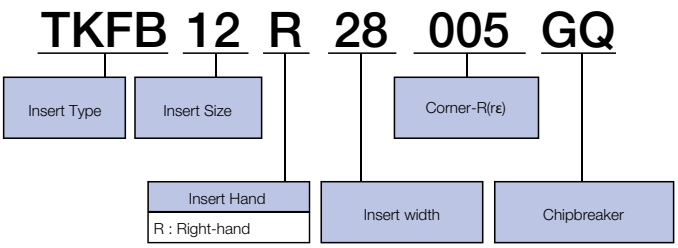


• Right-handed insert shown

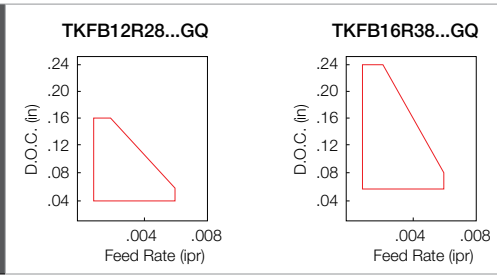
	Part Number	Dimension (mm) W	a	B	Corner Radius (in) rε	T	H	Ød	θ	MEGACOAT NANO PR1425	PR1535	PR1225	Toolholder Page
TKFB	12R28005-GQ	2.8	1.5	4.6	0.05	3.0	8.7	5.2	74°	●	●	●	E12
	12R28015-GQ	2.8	1.5	4.6	0.15	3.0	8.7	5.2	74°	●	●	●	
TKFB	16R38005-GQ	3.8	1.8	6.3	0.05	4.0	9.5	5.2	72°	●	●	●	
	16R38015-GQ	3.8	1.8	6.3	0.15	4.0	9.5	5.2	72°	●	●	●	

Insert Identification System

(See Tables Below)



Chipbreaker Range



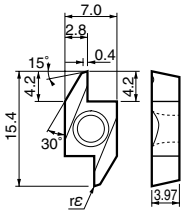
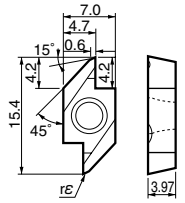
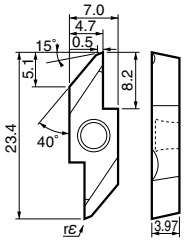
● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

Back Turning

Turning Inserts (Small Tools)

AABS / SABS / AABW / SABW Inserts

				ANSI Part Number	Corner Radius (in) rε	Cermet	MEGACOAT NANO		PVD Coated Carbide			Carbide	Toolholder Page
						TC60	PR1425	PR1225	PR930	PR1005	PR1025	KW10	
			ABS	15R4005	0.002	●			●			●	E17
				15R4015	0.006	●			●			●	
			ABS	15R4005M	<0.002		●	●		○	○		
				15R4015M	<0.006		●	●		○			
			ABW	15R4005	0.002	●			●			○	E18
				15R4015	0.006	●			●			●	
			ABW	15R4005M	<0.002		●	●		○	○		
				15R4015M	<0.006		●	●		○	●		
			ABW	23R5005	0.002	●			●			●	E19
				23R5015	0.006	●			●			●	
			ABW	23R5005M	<0.002		●	●		○	○		
				23R5015M	<0.006		●	●		○	●		

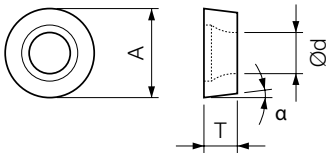
• Insert whose corner R(rε) dimension expressed with less than sign (e.g. **<0.002, <0.004, <0.008** etc.) indicate models with minus tolerance for corner R (rε).

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

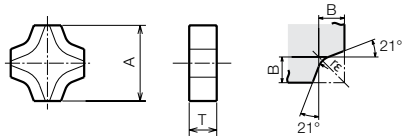
How to read this page ➔ B13

Bearing Machining

External / Boring / Facing

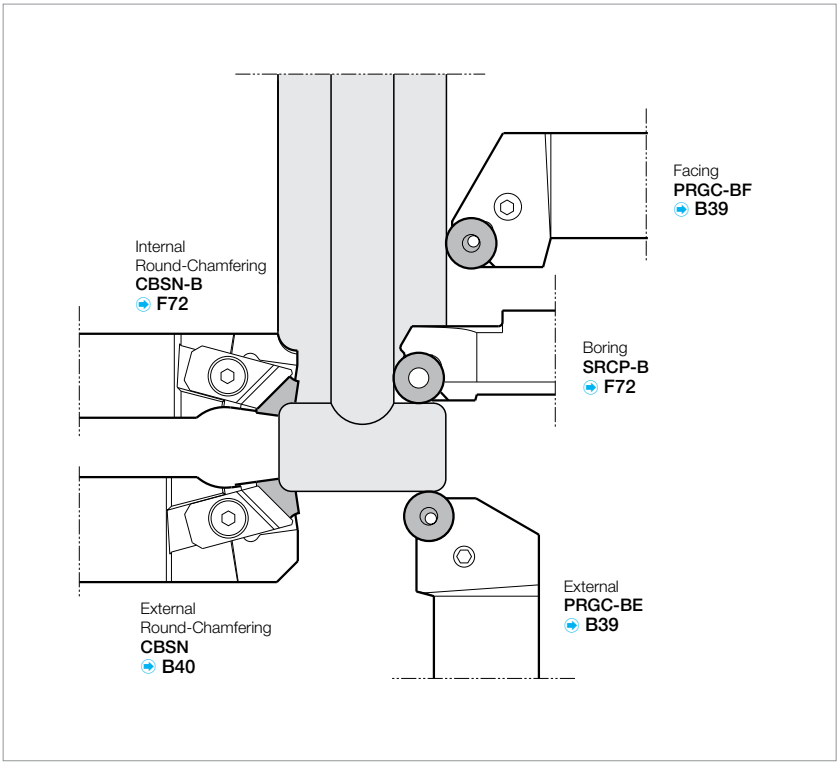


Round Chamfering



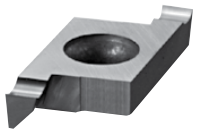
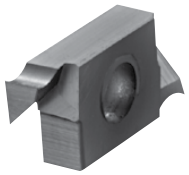
	ANSI Part Number	Dimension (mm) A	T	Ød	rε	Relief Angle α	Cermet TN90	Toolholder Page
RCMT	1204M0-BB	12.0	4.76	4.2	-	7°	○	D39
	1606M0-BB	16.0	6.35	5.5	-	7°	○	
RPMT	1203M0-BB	12.0	3.18	4.4	-	11°	○	F72
	1604M0-BB	16.0	4.76	5.5	-	11°	●	
				B	rε			
SNMF	120406-21	12.70	4.76	1.5	0.6		○	D40 F72
	120410-21	12.70	4.76	3.0	1.0		○	
	120416-21	12.70	4.76	3.1	1.6	-	○	
	120421-21	12.70	4.76	3.2	2.1		○	
	120426-21	12.70	4.76	3.3	2.6		○	

Tooling for Bearing Machining



Micro Boring

Twin Bars

Micro Boring	Micro Face Grooving
TWB Twin-Bars → **F34**	**TWFG** Twin-Bars → **G80**
	
TWBT Twin-Bars → **F35**	**TWFGT** Twin-Bars → **G81**
	

EZ Bars / System Tip-Bars / Tip-Bars

Micro Boring		Micro Back Boring
EZB EZ Bars → **F16**	**EZVB** EZ Bars → **F21**	-
NEW 	NEW 	-
VNB-S / VNB System Tip-Bars → **F28**	**VNBX-S** System Tip-Bars → **F32**	**VNBT** System Tip-Bars → **F29**
		
HPB 2-Edge Tip-Bars → **F36**	-	**HPBT** 2-Edge Tip-Bars → **F36**
	-	
PSB-S Tip-Bars → **F37**	-	**PSBT-S** Tip-Bars → **F37**
	-	

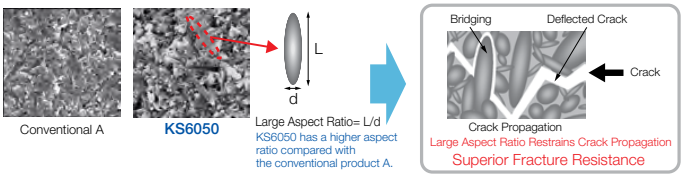
Solid Tip-Bars (Grooving / Threading)

Micro Grooving	Micro Face Grooving	Micro Internal Threading
EZG EZ Bars → **G48**	**EZFG** EZ Bars → **G76**	**EZT** EZ Bars → **J28**
NEW 	NEW 	NEW 
VNG System Tip-Bars → **G50**	**VNFG** System Tip-Bars → **G78**	**VNT** System Tip-Bars → **J34**
		
HPG 2-Edge Tip-Bars → **G51**	**HPFG** 2-Edge Tip-Bars → **G79**	**HPT** 2-Edge Tip-Bars → **J32**
		
PSG Tip-Bars → **G51**	**PSFG** Tip-Bars → **G79**	**PST** Tip-Bars → **J34**
		

KS6050 / CS7050 High Speed Machining of Cast Iron

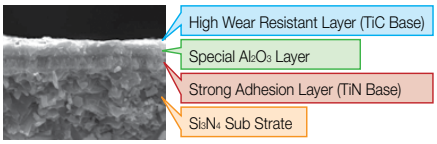
- Improved fracture resistance by high aspect ratio constituents
- Anti-chipping in scale processing and interrupted machining
- High speed machining of cast iron by controlling grain boundary phase (good wear resistance)

KS6050

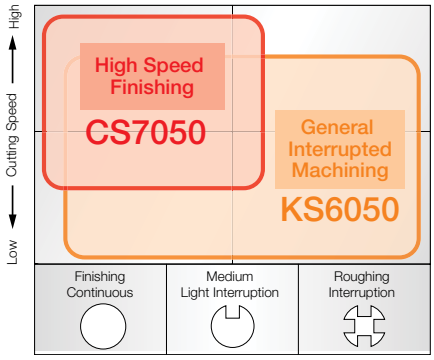


CS7050 (Coated Si3N4)

Superior wear resistance attained
with strong coating adherence
Applicable to high speed machining



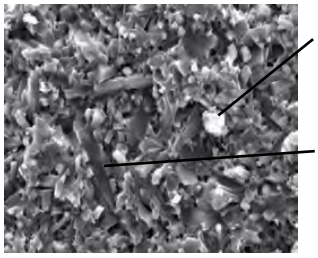
Application Map



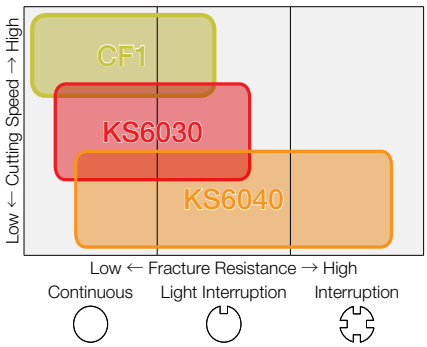
KS6040 SiAlON Ceramic Heat-Resistant Alloy Machining

Improved wear and fracture resistance due to the mixture of the hard and acicular particles

Superior balance in heat resistant alloys machining achieves optimum balance between wear and fracture resistance.



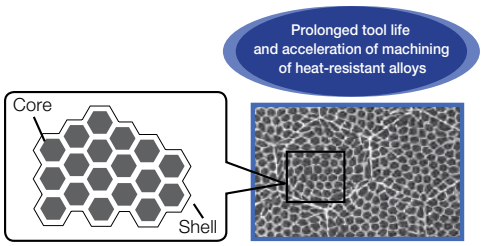
HRSA Application Map



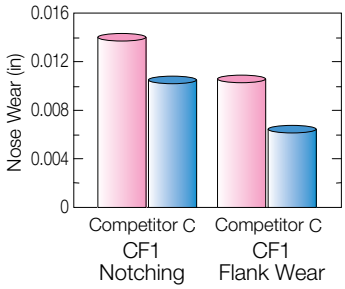
CF1 Honeycomb Structure Ceramic Heat-Resistant Alloy Machining

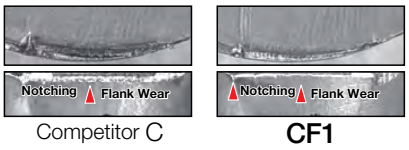
What is Honeycomb structure ceramic?

Honeycomb structure ceramic is a composite material consisting of a core (gray portion) and shell (white portion)



Comparison of Wear Resistance





<Cutting Conditions>
Workpiece Material: Ni-base Heat-Resistant Alloys
Tool Geometry: RNGN120400
Vc = 490sfm, D.O.C. = 0.039"
Feed Rate f =0.006ipr Wet

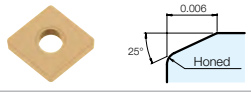
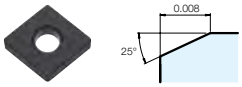
Ceramic Insert Identification System

C	N	G	A	12	04	04	S01525

Refer to ➡ **B13** for "Indexable Turning Inserts Identification System"

Edge Prep.

How to Identify Edge Preparation

	Symbol	Cutting Edge Spec.	Example		Shape
Edge Prep.	S	Chamfered and Honed Cutting edge	S00625	0.006" X 25° Chamfered and Honed Cutting edge	
	T	Chamfered Cutting edge	T00825	0.008" X 25° Chamfered Cutting edge	

● Refer to ➡ **B13** for insert color

How to read this page ➡ B13

80° Diamond

Negative Insert

(in)

Part Number	A	T	Ød
CN_A 43_	1/2	3/16	0.203
CN_ 43_	1/2	3/16	-
CN_ 45_	1/2	5/16	-

(in)

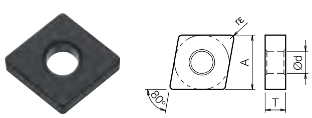
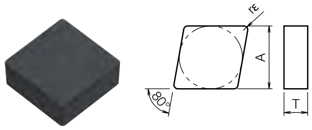
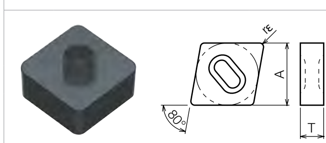
Part Number	A	T	Ød
CNG 55_	5/8	5/16	-
CNGX 45_	1/2	5/16	-

Edge Prep.

Symbol	Cutting Edge Spec.	Example	
S	Chamfered and Honed Cutting Edge	S00625	0.006" X 25° Chamfered and Honed Cutting Edge
T	Chamfered Cutting Edge	T00625	0.006" X 25° Chamfered Cutting Edge

	Work Material	KA30	A65	KT66	A66N	PT600M	KS6050	CS7050	KS6030	KS6040	CF1
K	Gray Cast Iron (With Scale)						✤	◷			
K	Gray Cast Iron (Without Scale)	●		◷		◷	◷	◕			
K	Nodular Cast Iron (With Scale)							◷			
K	Nodular Cast Iron (Without Scale)							◷			
S	Heat-resistant Alloys									✤	◕
H	Hard Materials				○	●					◷

Grade materials: KA30, A65, KT66 — Aluminum Oxide Ceramic; A66N — PVD Coated Ceramic; PT600M — MEGACOAT Ceramic; KS6050 — Silicon Nitride Ceramic; CS7050 — CVD Coated Silicon Nitride Ceramic; KS6030, KS6040 — SiAlON Ceramic; CF1 — Honeycomb Structure Ceramic

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Corner Radius (in) rε	KA30	A65	KT66	A66N	PT600M	KS6050	CS7050	KS6030	KS6040	CF1	Toolholder Page
	CNGA 433T00425AA	T00425AA	CNGA 120412S01025	3/64	●										D8 D9 F73 F77 F78
	CNGA 431T00625AA	T00625AA	CNGA 120404S01525	1/64				●							
	432T00625AA		120408S01525	1/32				●							
	433T00625AA		120412S01525	3/64				○							
	CNGA 431S00825	S00825	CNGA 120404S02025	1/64					●						
	432S00825		120408S02025	1/32					●						
	433S00825		120412S02025	3/64					●						
	CNGA 431T01230AA	T01230AA	CNGA 120404S03030	1/64				●							
	432T01230AA		120408S03030	1/32				●							
	433T01230AA		120412S03030	3/64				●							
	CNGA 433T00220	T00220	CNGA 120412T00520	3/64	○										
	CNGA 431T00625	T00625	CNGA 120404T01525	1/64				●							
	432T00625		120408T01525	1/32				●							
	433T00625		120412T01525	3/64				●							
	CNGA 431T00825	T00825	CNGA 120404T02025	1/64		●	○		●						
	432T00825		120408T02025	1/32		●			●	●	○				
	433T00825		120412T02025	3/64		●	○		●	○	○				
	CNMA 432T00625AA	T00625AA	CNMA 120408S01525	1/32				●							
	CNMA 432T01230AA	T01230AA	CNMA 120408S03030	1/32				○							
	433T01230AA		120412S03030	3/64				○							
	CNG 432T00425AA	S00425	CNGN 120408S01025	1/32	○										D24
	433T00425AA		120412S01025	3/64	○										
	CNG 431T00220	T00220	CNGN 120404T00520	1/64					○						
	CNG 432T00420	T00420	CNGN 120408T01020	1/32									●	○	
	433T00420		120412T01020	3/64									●	●	
	CNG 431T00825	T00825	CNGN 120404T02025	1/64					●						
	432T00825		120408T02025	1/32		●			●	○	○		●		
	433T00825		120412T02025	3/64					○	○	○		●		
	434T00825		120416T02025	1/16		●				○					
	CNG 452T00625AA	T00625AA	CNGN 120708S01525	1/32				○							
	453T00625AA		120712S01525	3/64				○							
	CNG 452T00420	T00420	CNGN 120708T01020	1/32										●	
	453T00420		120712T01020	3/64										●	
	CNG 451T00825	T00825	CNGN 120704T02025	1/64		○									
	452T00825		120708T02025	1/32		●				○					
	453T00825		120712T02025	3/64		○									
	454T00825		120716T02025	1/16		●				○					
	CNG 552T00825	T00825	CNGN 160708T02025	1/32		○									
	553T00825		160712T02025	3/64		○									
	554T00825		160716T02025	1/16		○									
	CNM 452T00825	T00825	CNMN 120708T02025	1/32		○									
	453T00825		120712T02025	3/64		○									
	CNGX 453T00420	T00420	CNGX 120712T01020	3/64									○		D30 F90
	454T00420		120716T01020	1/16									○		
	CNGX 452T00825	T00825	CNGX 120708T02025	1/32						●	●				
	453T00825		120712T02025	3/64						○	○		○		
	454T00825		120716T02025	1/16						●	○		○		

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

How to read this page ➔ B13

55° / 75° Diamond

Negative Insert

(in)

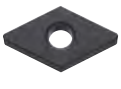
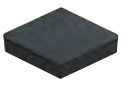
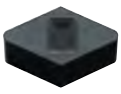
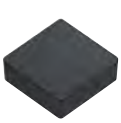
Part Number	A	T	Ød
DNGA 43_	1/2	3/16	0.203
DNGA 44_	1/2	1/4	0.203
DNG 43_	1/2	3/16	-
DNG 45_	1/2	5/16	-

(in)

Part Number	A	T	Ød
DNGX 35_	0.394	5/16	-
DNGX 45_	1/2	5/16	-
ENG 45_	1/2	5/16	-

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge

		KA30	A65	KT66	A66N	PT600M	KS6050	CS7050	KS6030	KS6040	CF1
K	Gray Cast Iron (With Scale)						✖	◔			
	Gray Cast Iron (Without Scale)	●		◔		◔	◔	●			
	Nodular Cast Iron (With Scale)							◔			
	Nodular Cast Iron (Without Scale)							◔			
S	Heat-resistant Alloys										
H	Hard Materials				○	●					

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Corner Radius (in) rε	KA30	A65	KT66	A66N	PT600M	KS6050	CS7050	KS6030	KS6040	CF1	Toolholder Page
	DNGA 432T00425AA	T00425AA	DNGA 150408S01025	1/32	○										D10 D11 F74 F80 F81
	DNGA 433T00425AA		DNGA 150412S01025	3/64	●										
	DNGA 431T00625AA	T00625AA	DNGA 150404S01525	1/64				○							
	DNGA 432T00625AA		DNGA 150408S01525	1/32				●							
	DNGA 431S00825	S00825	DNGA 150404S02025	1/64					●						
	DNGA 432S00825		DNGA 150408S02025	1/32					●						
	DNGA 432T01230AA	T01230AA	DNGA 150408S03030	1/32				○							
	DNGA 431T00825	T00825	DNGA 150404T02025	1/64		●			●						
	DNGA 432T00825		DNGA 150408T02025	1/32		●	○		●						
	DNGA 433T00825		DNGA 150412T02025	3/64		●	○		●						
	DNGA 434T00825		DNGA 150416T02025	1/16		●									
	DNGA 442T00625AA	T00625AA	DNGA 150608S01525	1/32				○							
	DNGA 443T00625AA		DNGA 150612S01525	3/64				○							
	DNGA 444T00625AA		DNGA 150616S01525	1/16				○							
	DNGA 441T00825	T00825	DNGA 150604T02025	1/64		○	○		●						D10 D11 F74
	DNGA 442T00825		DNGA 150608T02025	1/32		○	○		●						
	DNGA 443T00825		DNGA 150612T02025	3/64		○	○		●						
	DNG 432T00825	T00825	DNGN 150408T02025	1/32					○						-
	DNG 451T00625AA	T00625AA	DNGN 150704S01525	1/64				○							D25
	DNG 452T00625AA		DNGN 150708S01525	1/32				○							
	DNG 453T00625AA		DNGN 150712S01525	3/64				○							
	DNG 451S00825	S00825	DNGN 150704S02025	1/64					○						
	DNG 452S00825		DNGN 150708S02025	1/32					○						
	DNG 453S00825		DNGN 150712S02025	3/64					○						
	DNG 451T00825	T00825	DNGN 150704T02025	1/64		●									
	DNG 452T00825		DNGN 150708T02025	1/32		○									
	DNG 453T00825		DNGN 150712T02025	3/64		○									
	DNG 454T00825		DNGN 150716T02025	1/16		○									
	DNGX 352T00825	T00825	DNGX 120708T02025	1/32						○					D31 F90
	DNGX 353T00825		DNGX 120712T02025	3/64						○					
	DNGX 452T00825	T02025	DNGX 150708T02025	1/32						●	●				D31
	DNGX 453T00825		DNGX 150712T02025	3/64						●	●				
	DNGX 454T00825		DNGX 150716T02025	1/16						○					
	ENG 452T00625AA	T00625AA	ENGN 130708S01525	1/32				○							D25 F89
	ENG 453T00625AA		ENGN 130712S01525	3/64				○							
	ENG 452S00825	S00825	ENGN 130708S02025	1/32					○						
	ENG 453S00825		ENGN 130712S02025	3/64					○						
	ENG 451T00825	T00825	ENGN 130704T02025	1/64		○			○						
	ENG 452T00825		ENGN 130708T02025	1/32		○			○						
	ENG 453T00825		ENGN 130712T02025	3/64		○			○						
	ENG 454T00825		ENGN 130716T02025	1/16		○			○						
	ENG 455T00825		ENGN 130720T02025	0.079		○			○						
	4575T00825		130730T02025	0.118					○						

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

How to read this page B13

Round

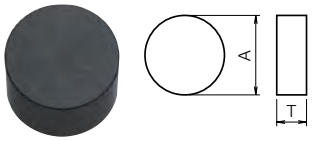
Negative Insert

(in)

Part Number	A	T	Ød
RNG 32_	3/8	1/8	0.203
RNG 33_	3/8	3/16	-
RNG 35_	3/8	5/16	-
RNG 32_	1/2	3/16	-
RNG 45_	1/2	5/16	-
RNG 55_	5/8	5/16	-
RNG 65_	3/4	5/16	-
RNG 85_	1	5/16	-

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge

K	Gray Cast Iron (With Scale)	✖ ◔
	Gray Cast Iron (Without Scale)	◔ ◔ ◔ ●
	Nodular Cast Iron (With Scale)	◔
	Nodular Cast Iron (Without Scale)	◔
S	Heat-resistant Alloys	● ✖ ◔
H	Hard Materials	○ ● ◔

Insert	ANSI Part Number	*Edge Prep (in)	ISO Part Number	Corner Radius (in) rε	Aluminum Oxide Ceramic KA30	Aluminum Oxide Ceramic A65	Aluminum Oxide Ceramic KT66	PVD Coated Ceramic A66N	MEGACOAT Ceramic PT600M	Silicon Nitride Ceramic KS6050	CVD Coated Silicon Nitride Ceramic CS7050	SiAlON Ceramic KS6030	SiAlON Ceramic KS6040	Honeycomb Structure Ceramic CF1	Toolholder Page
	RNG 32E001	E001	RNGN 090300E003	-								●			
	32E002	E002	090300E005	-									○		
	32T00420	T00420	090300T01020	-								●	○		
	RNG 33T00625AA	T00625AA	RNGN 090400S01525	-				○							D35
	33S00825	S00825	090400S02025	-					●						
	33T00420	T00420	090400T01020	-										●	
	33T00825	T00825	090400T02025	-		○			●						
	RNG 35T00420	T00420	RNGN 090700T01020	-										●	-
	RNG 43E001	E001	RNGN 120400E003	-								●			
	43E002	E002	120400E005	-									●		
	43T00625AA	T00625AA	120400S01525	-				○							
	43S00825	S00825	120400S02025	-					●						
	43T00420	T00420	120400T01020	-								●	●	●	
	43T00625	T00625	120400T01525	-				●							
	43T00825	T00825	120400T02025	-		●	○		●	●	○				
	RNG 45E001	E001	RNGN 120700E003	-								●			D29 D35
	45E002	E002	120700E005	-									●		
	45K06015	K06015	120700K15015	-					●						
	45T00625AA	T00625AA	120700S01525	-				○							
	45S00825	S00825	120700S02025	-					●						
	45T00420	T00420	120700T01020	-								●	●	●	
	45T00625	T00625	120700T01525	-				●							
	45T00825	T00825	120700T02025	-		●	○		●	●	●				
	RNG 55T00625AA	T00625AA	RNGN 150700S01525	-				○							
	55S00825	S00825	150700S02025	-					●						D29
	55T00825	T00825	150700T02025	-		○									
	RNG 65E001	E001	RNGN 190700E003	-								●			
	65E002	E002	190700E005	-									○		
	65T00420	T00420	190700T01020	-								●	●		
	RNG 85E001	E001	RNGN 250700E003	-								●			-
	85E002	E002	250700E005	-									○		
	85T00420	T00420	250700T01020	-								●	○		

* For cutting edge "E" and "K", please refer to the table below.

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
E	R-honed Cutting Edge	E002	R0.002" Honed
K	Double Chamfered Cutting Edges	K06015	0.060" X 15° Chamfered Cutting Edge

- Note: Symbol "K" describe only the largest chamfer width and its angle.

How to read this page ➔ B13

90° Square

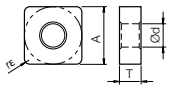
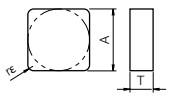
Negative Insert

(in)

Part Number	A	T	Ød
SN_A 43_	1/2	3/16	0.203
SNG 43_	1/2	3/16	-
SNG 45_	1/2	5/16	-

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge

K	Gray Cast Iron (With Scale)						✖	◔			
	Gray Cast Iron (Without Scale)	●		◔		◔	◔	●			
	Nodular Cast Iron (With Scale)							◔			
	Nodular Cast Iron (Without Scale)							◔			
S	Heat-resistant Alloys									✖	●
H	Hard Materials				○	●					◔

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Corner Radius (in) rε	Aluminum Oxide Ceramic KA30	Aluminum Oxide Ceramic A65	Aluminum Oxide Ceramic KT66	PVD Coated Ceramic A66N	MEGACOAT Ceramic PT600M	Silicon Nitride Ceramic KS6050	CVD Coated Silicon Nitride Ceramic CS7050	SiAlON Ceramic KS6030	SiAlON Ceramic KS6040	Honeycomb Structure Ceramic CF1	Toolholder Page
 	SNGA 432T00625AA	T00625AA	SNGA 120408S01525	1/32				○							D12 D13 F83
	433T00625AA		120412S01525	3/64				○							
	SNGA 432S00825	S00825	SNGA 120408S02025	1/32					●						
	433S00825		120412S02025	3/64					●						
	SNGA 432T00625	T00625	SNGA 120408T01525	1/32				●							
	433T00625		120412T01525	3/64				○							
	SNGA 432T00825	T00825	SNGA 120408T02025	1/32		●	○		●	●	●				
	433T00825		120412T02025	3/64		○	○		●	○	○				
	434T00825		120416T02025	1/16					●	○	○				
	SNMA 432T01230AA	T01230AA	SNMA 120408S03030	1/32				○							
 	SNG 432T00425AA	T00425AA	120408S01025	1/32	●										D27 D36 D37 F89
	433T00425AA		120412S01025	3/64	●										
	434T00425AA		120416S01025	1/16	●										
	435T00425AA		120420S01025	0.079	○										
	SNG 432T00625AA	T00625AA	SNGN 120408S01525	1/32				○							
	433T00625AA		120412S01525	3/64				○							
	434T00625AA		120416S01525	1/16				○							
	SNG 432S00825	S00825	SNGN 120408S02025	1/32					●						
	433S00825		120412S02025	3/64					●						
	434S00825		120416S02025	1/16					●						
	SNG 434T01230AA	T01230AA	SNGN 120416S03030	1/16				○							
	SNG 432T00220	T00220	SNGN 120408T00520	1/32		○									
	SNG 432T00420	T00420	SNGN 120408T01020	1/32										●	
	433T00420		120412T01020	3/64									●	●	
	434T00420		120416T01020	1/16									●	●	
	435T00420		120420T01020	0.079										●	
	SNG 431T00825	T00825	SNGN 120404T02025	1/64		●			●						
	432T00825		120408T02025	1/32		●			●						
	433T00825		120412T02025	3/64		●			●	○	○		●		
	434T00825		120416T02025	1/16		●			●	○	○		●		
	435T00825		120420T02025	0.079		○			●	○	○				
	SNG 452T00425AA	T00425	120708S01025	1/32	●										
	453T00425AA		120712S01025	3/64	○										
	454T00425AA		120716S01025	1/16	●										
	SNG 451T00625AA	T00625AA	SNGN 120704S01525	1/64				○							
	452T00625AA		120708S01525	1/32				○							
	453T00625AA		120712S01525	3/64				○							
	454T00625AA		120716S01525	1/16				●							
	455T00625AA		120720S01525	0.079				○							
	SNG 451S00825	S00825	SNGN 120704S02025	1/64					●						
	SNG 452S00825		SNGN 120708S02025	1/32					●						
	453S00825		120712S02025	3/64					●						
	454S00825		120716S02025	1/16					●						
	455S00825		120720S02025	0.079					●						
	SNG 452T00420	T00420	SNGN 120708T01020	1/32										●	
	453T00420		120712T01020	3/64										●	
	454T00420		120716T01020	1/16										●	
	455T00420		120720T01020	0.079										●	

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

How to read this page B13

90° Square
Negative Insert

(in)

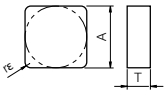
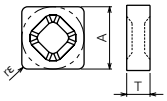
Part Number	A	T	Ød
SN_45_	1/2	5/16	-
SNG 55_	5/8	5/16	-

(in)

Part Number	A	T	Ød
SNGX 45_	1/2	5/16	-
SNGX 55_	5/8	5/16	-

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge

		KA30	A65	KT66	A66N	PT600M	KS6050	CS7050	KS6030	KS6040	CF1
K	Gray Cast Iron (With Scale)						✖	◔			
	Gray Cast Iron (Without Scale)					◔	◔	●			
	Nodular Cast Iron (With Scale)							◔			
	Nodular Cast Iron (Without Scale)							◔			
S	Heat-resistant Alloys									✖	
H	Hard Materials					●					

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Corner Radius (in) rε	KA30	A65	KT66	A66N	PT600M	KS6050	CS7050	KS6030	KS6040	CF1	Toolholder Page
 	SNG 451T00825	T00825	SNGN 120704T02025	1/64		○			●						D27 D36 D37 F89
	452T00825		120708T02025	1/32		○			●						
	453T00825		120712T02025	3/64		●			●						
	454T00825		120716T02025	1/16		●			●	○	○				
	455T00825		120720T02025	0.079		○			●						
	SNM 454T00825	T00825	SNMN 120716T02025	1/16		○									
	SNG 553T00825	T00825	SNGN 150712T02025	3/64		○			●						D27
	554T00825		150716T02025	1/16		○				○					
 	SNGX 453T00420	T00420	SNGX 120712T01020	3/64									○		D32 D33 F90
	454T00420		120716T01020	1/16									○		
	SNGX 452T00825	T00825	SNGX 120708T02025	1/32						○					
	453T00825		120712T02025	3/64						○	○		○		
	454T00825		120716T02025	1/16						○	○		○		
	SNGX 552T00825	T00825	SNGX 150708T02025	1/32						○					D32 D33
	553T00825		150712T02025	3/64						○					
	554T00825		150716T02025	1/16						○					

Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page B13

60° Triangle

Negative Insert

(in)

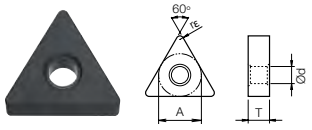
Part Number	A	T	Ød
TNGA 33_	3/8	3/16	0.150
TNG 22_	1/4	1/8	-

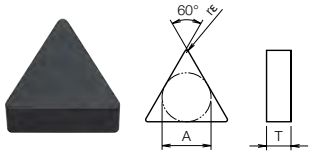
(in)

Part Number	A	T	Ød
TNG 33_	3/8	3/16	-
TNG 35_	3/8	5/16	-

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge

K	Gray Cast Iron (With Scale)	✖ ◔
	Gray Cast Iron (Without Scale)	● ◔ ◔ ◔ ◔ ◔
	Nodular Cast Iron (With Scale)	◔
	Nodular Cast Iron (Without Scale)	◔
S	Heat-resistant Alloys	○
H	Hard Materials	●





Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Corner Radius (in) rε	Aluminum Oxide Ceramic KA30	Aluminum Oxide Ceramic A65	Aluminum Oxide Ceramic KT66	PVD Coated Ceramic A66N	MEGACOAT Ceramic PT600M	Silicon Nitride Ceramic KS6050	CVD Coated Silicon Nitride Ceramic CS7050	SiAlON Ceramic KS6030	SiAlON Ceramic KS6040	Honeycomb Structure Ceramic CF1	Toolholder Page
	TNGA 332T00425AA	T00425AA	TNGA 160408S01025	1/32	○										D14 D15 D16 F74 F84 F85
	TNGA 331T00625AA	T00625AA	TNGA 160404S01525	1/64				○							
	332T00625AA		160408S01525	1/32				○							
	333T00625AA		160412S01525	3/64				○							
	TNGA 331S00825	S00825	TNGA 160404S02025	1/64					●						
	332S00825		160408S02025	1/32					●						
	333S00825		160412S02025	3/64					●						
	TNGA 332T01230AA	T01230AA	TNGA 160408S03030	1/32				○							
	333T01230AA		160412S03030	3/64				○							
	TNGA 332T00220	T00220	TNGA 160408T00520	1/32	○										
	TNGA 331T00625	T00625	TNGA 160404T01525	1/64				○							
	332T00625		160408T01525	1/32				●							
	333T00625		160412T01525	3/64				○							
	TNGA 331T00825	T00825	TNGA 160404T02025	1/64		○	○		●						
	332T00825		160408T02025	1/32		●	○		●	○	○				
	333T00825		160412T02025	3/64			○		●	○	○				
	TNG 221T00220	T00220	TNGN 110304T00520	1/64		○			●						D38 F91
	222T00220		110308T00520	1/32		○		○	●						
	223T00220		110312T00520	3/64					●						
	TNG 331T00425AA	T00425AA	TNGN 160404S01025	1/64	○										
	332T00425AA		160408S01025	1/32	●										
	333T00425AA		160412S01025	3/64	●										
	334T00425AA		160416S01025	1/16	●										
	335T00425AA		160420S01025	0.079	○										
	TNG 331T00625AA	T00625AA	TNGN 160404S01525	1/64				○							
	332T00625AA		160408S01525	1/32				○							
	333T00625AA		160412S01525	3/64				○							
	TNG 331S00825	S00825	TNGN 160404S02025	1/64					●						
	332S00825		160408S02025	1/32					●						
	333S00825		160412S02025	3/64					●						
	TNG 331T00220	T00220	TNGN 160404T00520	1/64		○									
	332T00220		160408T00520	1/32	○	○									
	333T00220		160412T00520	3/64	○										D28
	TNG 331T00825	T00825	TNGN 160404T02025	1/64		○			●						
	332T00825		160408T02025	1/32		●			●	○					
	333T00825		160412T02025	3/64		●			●	○					
	TNG 352T00625AA	T00625AA	TNGN 160708S01525	1/32				○							
	TNG 352S00825	S00825	TNGN 160708S02025	1/32					●						
	TNG 351T00825	T00825	TNGN 160704T02025	1/64		○			●						
	352T00825		160708T02025	1/32		○			●						
	353T00825		160712T02025	3/64		○			●						
	354T00825		160716T02025	1/16		○									
	355T00825		160720T02025	0.079		○									
	TNG 432T00825	T00825	TNGN 220408T02025	1/32		●									
	434T00825		220416T02025	1/16		●									

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

How to read this page B13

35° Diamond / 80°Trigon

Negative Insert

(in)

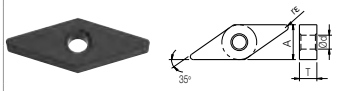
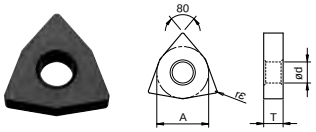
Part Number	A	T	Ød
VN_A 33_	3/8	3/16	0.150
WNGA 43_	1/2	3/16	0.203

NEGATIVE POSITIVE

C D R S T V W CERAMIC

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge

		KA30	A65	KT66	A66N	PT600M	KS6050	CS7050	KS6030	KS6040	CF1
K	Gray Cast Iron (With Scale)			◔		●					
	Gray Cast Iron (Without Scale)										
	Nodular Cast Iron (With Scale)										
	Nodular Cast Iron (Without Scale)										
S	Heat-resistant Alloys										
H	Hard Materials				○	●					

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Corner Radius (in) rε	Toolholder Page
	VNGA 331T00625AA	T00625AA	VNGA 160404S01525	1/64	D18 D19 D20
	332T00625AA		160408S01525	1/32	
	VNGA 331S00825	S00825	VNGA 160404S02025	1/64	
	332S00825		160408S02025	1/32	
	VNGA 331T00825	T00825	VNGA 160404T02025	1/64	
	332T00825		160408T02025	1/32	
	333T00825		160412T02025	3/64	
	VNMA 332T00625AA	T00625AA	VNMA 160408S01525	1/32	
	WNGA 432T00625AA	T00625AA	WNGA 080408S01525	1/32	D23 D24 F87 F88
	WNGA 431T00625	T00625	WNGA 080404T01525	1/64	
	432T00625		080408T01525	1/32	
	433T00625		080412T01525	3/64	

Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page B13

Positive

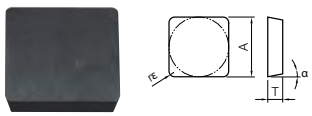
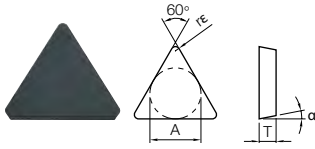
Positive Insert

Part Number	A	T	α
RPG 32_	3/8	1/8	11°
RPG 43_	1/2	3/16	
SPG 32_	3/8	1/8	
SPG 42_	1/2	1/8	

Part Number	A	T	α
TBG 121_	5/32	1/16	5°
TCG 33_	3/8	3/16	7°
TPG 1815_	7/32	3/32	11°
TPG 22_	1/4	1/8	
TPG 32_	3/8	1/8	

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge

		Aluminum Oxide Ceramic			PVD Coated Ceramic	MEGACOAT Ceramic	Silicon Nitride Ceramic	CVD Coated Silicon Nitride Ceramic	SiAlON Ceramic		Honeycomb Structure Ceramic	
		KA30	A65	KT66	A66N	PT600M	KS6050	CS7050	KS6030	KS6040	CF1	
K	Gray Cast Iron (With Scale)					●						
	Gray Cast Iron (Without Scale)			○		●						
	Nodular Cast Iron (With Scale)											
	Nodular Cast Iron (Without Scale)											
S	Heat-resistant Alloys								●	✖		
H	Hard Materials				○	●						

Insert	ANSI Part Number	*Edge Prep (in)	ISO Part Number	Corner Radius (in) rε	Toolholder Page
	RPG 32E001	E001	RPGN 090300E003	-	-
	32E002	E002	090300E005	-	
	32T00420	T00420	090300T01020	-	
	RPG 43E001	E001	RPGN 120400E003	-	
	43E002	E002	120400E005	-	
	43T00420	T00420	120400T01020	-	
	SPG 322T00320AA	T00320AA	SPGN 090308S00820	1/32	E42 F70
	SPG 322T00320	T00320	SPGN 090308T00820	1/32	
	SPG 422T00320	T00320	SPGN 120308T00820	1/32	
	423T00320		120312T00820	3/64	
	TBG 12105T00320AA	T00320AA	TBGN 060102S00820	0.008	-
	1211T00320AA		060104S00820	1/64	
	1212T00320AA		060108S00820	1/32	
	TCG 331T00320	T00320	TCGN 160404T00820	1/64	
	332T00320		160408T00820	1/32	
	TPG 18151T00320	T00320	TPGN 090204T00820	1/64	F71
	18152T00320		090208T00820	1/32	
	TPG 2205T00320AA	T00320AA	TPGN 110302S00820	0.008	E43 F71
	TPG 221T00320AA		TPGN 110304S00820	1/64	
	222T00320AA		110308S00820	1/32	
	TPG 221T00320	T00320AA	TPGN 110304T00820	1/64	
	222T00320		110308T00820	1/32	
	TPG 321T00320AA	T00320AA	TPGN 160304S00820	1/64	
	322T00320AA		160308S00820	1/32	
	323T00320AA		160312S00820	3/64	
	TPG 3205T00320	T00320	TPG 160302T00820	0.008	
	321T00320		160304T00820	1/64	
	322T00320		160308T00820	1/32	
	323T00320		160312T00820	3/64	

* For cutting edge "E", please refer to the table below.

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
E	R-honed Cutting Edge	E002	R0.002" Honed

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

How to read this page ➡ B13

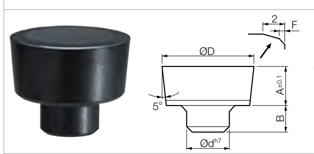
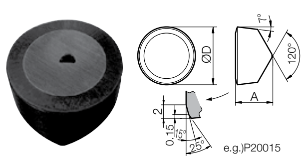
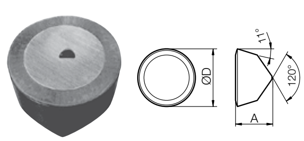
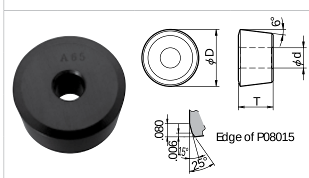
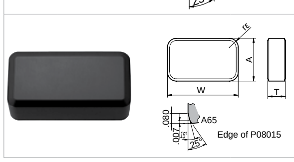
POSITIVE
C
D
R
S
T
V
W
CERAMIC

Inserts for Roll Machining

Edge Prep.															
Symbol	Cutting Edge Spec.	Example													
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge												
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge												

		KA30	A65	KT66	A66N	PT600M	KS6050	CS7050	KS6030	KS6040	CF1
K	Gray Cast Iron (With Scale)					✖					
	Gray Cast Iron (Without Scale)										
	Nodular Cast Iron (With Scale)										
	Nodular Cast Iron (Without Scale)										
S	Heat-resistant Alloys								◕	✖	◌
H	Hard Materials			◌		◕					

Grade groups: Aluminum Oxide Ceramic (KA30, A65, KT66); PVD Coated Ceramic (A66N); MEGACOAT Ceramic (PT600M); Silicon Nitride Ceramic (KS6050); CVD Coated Silicon Nitride Ceramic (CS7050); SiAlON Ceramic (KS6030, KS6040); Honeycomb Structure Ceramic (CF1)

Insert	ANSI	ANSI Part Number	*Edge Prep (in)	ISO	ISO Part Number	ØD	Ød	A	B	F	KA30	A65	KT66	A66N	PT600M	KS6050	CS7050	KS6030	KS6040	CF1	Toolholder Page
	RBG	16W	K08003	RBG	16W	0.630	0.315	0.315	0.197	0.008		○									-
		20W	K08003		20W	0.787	0.394	0.394	0.197	0.012		○									
	RBG	12K20003	K20003	RBG	12K20003	12mm	6mm	6mm	3mm	0.2mm					○						
		16K20003	K20003		16K20003	16mm	8mm	8mm	5mm	0.2mm					○						
		20K20003	K20003		20K20003	20mm	10mm	10mm	5mm	0.3mm					○						
	RCGX	24E001	E001	RCGX	060600E003	1/4	-	1/4	-	-								●			D29
		24E002	E002		060600E005	1/4	-	1/4	-	-									○		
		24T00420	T00420		060600T01020	1/4	-	1/4	-	-								●	○		
		35E001	E001		090700E003	3/8	-	0.315	-	-								●			
		35E002	E002		090700E005	3/8	-	0.315	-	-									●		
		103T08015625AA	P08015		090700P20015	3/8	-	0.315	-	-		●		●	●						
		103S00420	S00420		090700S01020	3/8	-	0.315	-	-										●	
		35T00420	T00420		090700T01020	3/8	-	0.315	-	-								●	●		
		45E001	E001		120700E003	1/2	-	0.315	-	-								●			
		45E002	E002		120700E005	1/2	-	0.315	-	-									●		
		104T08015625AA	P20015		120700P20015	1/2	-	0.315	-	-		●		●	●						
		104S00420	S00420		120700S01020	1/2	-	0.315	-	-										●	
		45T00420	T00420		120700T01020	1/2	-	0.315	-	-								●	●		
	RCGX	102T04015	T04015	RCGX	060400	1/4	-	0.180	-	-		●		●							
		102H315T04015			060700	1/4	-	0.315	-	-		●		●							
		103T08015/625AA	T08015		090700	3/8	-	0.315	-	-		●		●	●						
		104T08015/625AA			120700	1/2	-	0.315	-	-		●		●	●						
		106T08015/625AA			191000	3/4	-	0.394	-	-		●		●							
	RPGX	24E001	E001	RPGX	060600E003	1/4	-	1/4	-	-								●			
		24E002	E002		060600E005	1/4	-	1/4	-	-									○		
		24T00420	T00420		060600T01020	1/4	-	1/4	-	-								●	○		
		35E001	E001		090700E003	3/8	-	0.315	-	-								●			
		35E002	E002		090700E005	3/8	-	0.315	-	-									○		
		35T00420	T00420		090700T01020	3/8	-	0.315	-	-								●	●		
		45E001	E001		120700E003	1/2	-	0.315	-	-								●			
		45E002	E002		120700E005	1/2	-	0.315	-	-									●		
		45T00420	T00420		120700T01020	1/2	-	0.315	-	-								●	●		
	RCMA	66T08015/625AA	P08015	RCMA	190900	3/4	0.250	3/8	-	-		●		●							-
		88T08015/625AA			251200	1	0.266	1/2	-	-		●									
		106T08015/625AA			310900	1 1/4	0.390	3/8	-	-		●		●							
		1012T08015/625AA			311800	1 1/4	0.390	3/4	-	-		●									
						A	T	W	rε	-	KA30	A65	KT66	A66N	PT600M	KS6050	CS7050	KS6030	KS6040	CF1	
	LNU	6688T08015/625A	P08015	LNUN	381232	3/4	1/2	1 1/2	1/8	-		●									

* For cutting edge "E", "K" and "P" please refer to the table below.

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
E	R-honed Cutting Edge	E002	R0.002" Honed
K	Double Chamfered Cutting Edges	K20003	2.00mm X 3° Chamfered Cutting Edge
P	Double Chamfered + Honed Cutting Edge	P20015	2.00mm X 15° Chamfered + Honed Cutting Edge

· Note: Symbol "K" and "P" describe only the largest chamfer width and its angle.

RBG Inserts are sold in 1 piece boxes

Inserts sold in 10 piece boxes.

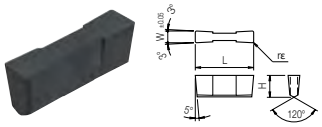
● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) ® : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ **B13**

Grooving Inserts

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge

K	Gray Cast Iron (With Scale)
	Gray Cast Iron (Without Scale)
	Nodular Cast Iron (With Scale)
	Nodular Cast Iron (Without Scale)
S	Heat-resistant Alloys
H	Hard Materials

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Dimension (mm) W	rε	L	H	Aluminum Oxide Ceramic KA30	A65	KT66	PVD Coated Ceramic A66N	MEGACOAT Ceramic PT600M	Silicon Nitride Ceramic KS6050	CVD Coated Silicon Nitride Ceramic CS7050	SiAlON Ceramic KS6030	KS6040	Honeycomb Structure Ceramic CF1	Toolholder Page
	GH 4020-05	S00420	GH 4020-05	4	0.5	20	7.5		○		○	○						G40 G67
	4020-05	T00420	4020-05	4	0.5	20	7.5		○		○	○						
	5020-05	S00420	5020-05	5	0.5	20	7.5		○		○	○						
	5020-05	T00420	5020-05	5	0.5	20	7.5		○		○	○						
	6020-05	T00420	6020-05	6	0.5	20	7.5		○			○						
	7020-05	T00420	7020-05	7	0.5	20	7.5		○			○						

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Inserts sold in 10 piece boxes.

Inserts sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping - 10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

CBN & PCD TOOLS

C

C1 - C34

MEGACOAT CBN

Extended Tool Life | **Improved Stability** | **High Speed Cutting**

Kyocera's new innovative CBN tools.
CBN Variation and Features Ref. Page ➡ **A16**

Various Edge Preparations Added to the High Performance MEGACOAT CBN Inserts

Turning Insert Identification System

C N G A 12 04 04 S01225 ME

Refer to ➡ **B2** for "Turning Indexable Inserts Identification System"

Insert Type	Part Number	Edge Prep.	Manufacture's Option	Cutting Edge Length	No. of Edges	Re-Grinding
Negative	CNGA431MEF	F	MEF	Short (Small Edge)	2	Not Recommended
	CNGA431S00525ME	S00525	ME		2	
	CNGA431S00245MEP	S00245	MEP		2	
	CNGA431S00525SE	S00525	SE		1	
	CNMN431S00820	S00820	No Indication (Only KBN900)	Long	Multiple Edge	Possible
Positive	CCMW3251MEF	F	MEF	Short (Small Edge)	2	Not Recommended
	CCMW3251T00315ME	T00315	ME		2	
	CCMW3251S00525MES	S00525	MES		2	
	CCMW3251T00315SE	T00315	SE		1	

Refer to **Page** ➡ **B6** for insert color.

• Re-Grinding

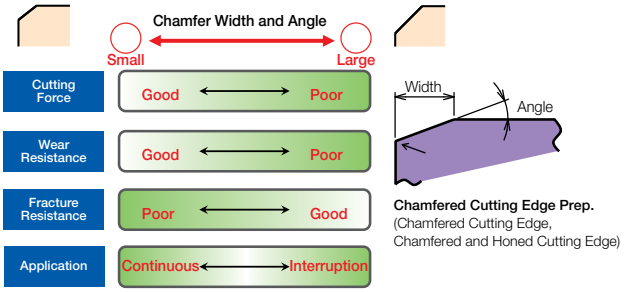
1) Regrinding is possible for inserts without any indication in manufacturer's option. Regrinding may not be available depending on the edge condition.

2) Regrinding is not recommended for inserts with manufacturer's symbol like "ME" or "SE".

How To Identify Edge Preparation

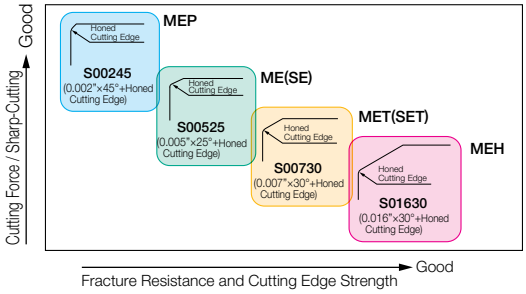
Edge Prep.				
Symbol	Cutting Edge Spec.	Example		Shape
F	Sharp Edge	F	Sharp Edge	Sharp Edge
E	Honed Cutting Edge	E003	R0.003" Honed Cutting Edge	Honed Cutting Edge
T	Chamfered Cutting Edge	T00515	0.005" X 15° Chamfered Cutting Edge	0.12, 15°
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered + Honed Cutting Edge	0.12, 25°, Honed

Features of Chamfer Width & Angle

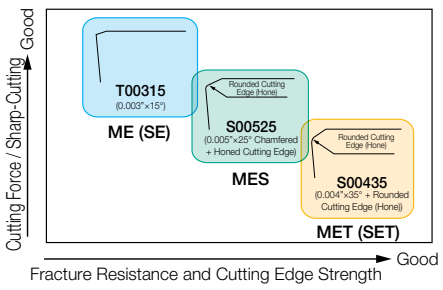


Chamfered Cutting Edge Prep.
(Chamfered Cutting Edge, Chamfered and Honed Cutting Edge)

① Standard Cutting Edge Prep. of Negative inserts



② Standard Cutting Edge Prep. of Positive Inserts



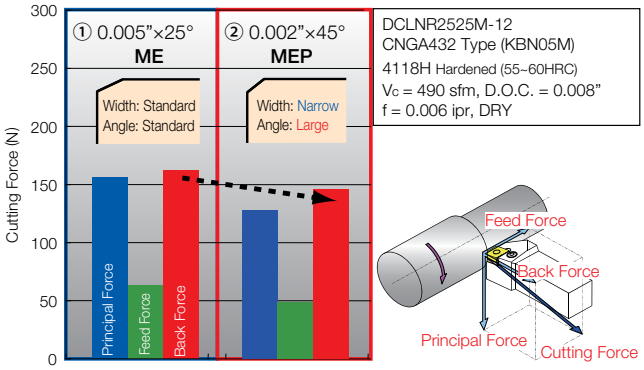
Manufacturer's Option	Cutting Edge Prep.		Application & Features
MEP	S00245	0.002" X 45° + Honed Cutting Edge	High speed, continuous machining Excellent crater wear resistance
ME	S00525	0.005" X 25° + Honed Cutting Edge	General Purpose
MET	S00730	0.007" X 30° + Honed Cutting Edge	Superior fracture resistance
MEH	S01630	0.016" X 30° + Honed Cutting Edge	Interrupted high feed machining Prevention of flaking

Manufacturer's Option	Cutting Edge Prep.		Application & Features
ME	T00315	0.003" X 15°	Chamfered Sharp cutting oriented, less burring
MES	S00525	0.005" X 25° + Rounded Cutting Edge (Hone)	General Purpose
MET	S00425	0.004" X 35° + Rounded Cutting Edge (Hone)	Interrupted Cutting Stable cutting oriented

Negative Inserts, Features of New Edge Prep. (Machining of Hard Materials)

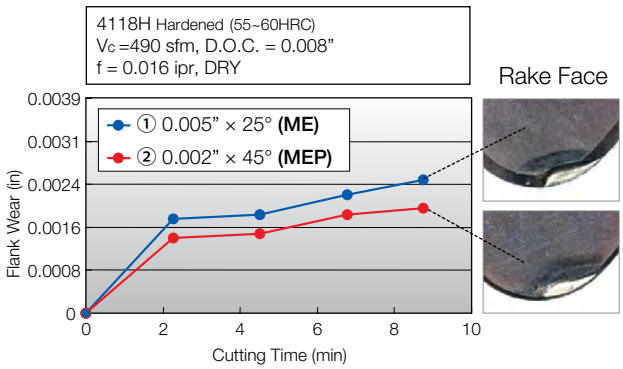
① MEP (High Speed / Continuous Machining)

Cutting Force Comparison



MEP Performs Lower Cutting Force than ME
➡Sharp Cutting

Wear Comparison

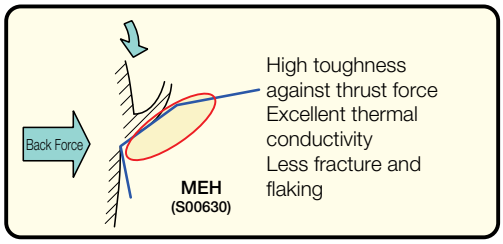


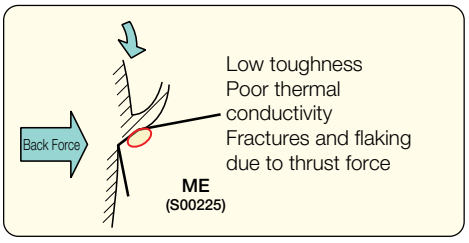
MEP Prevents the Flank Wear, Compared to ME
➡Prevents Crater Wear

② MEH (Interruption / High Feed Machining)

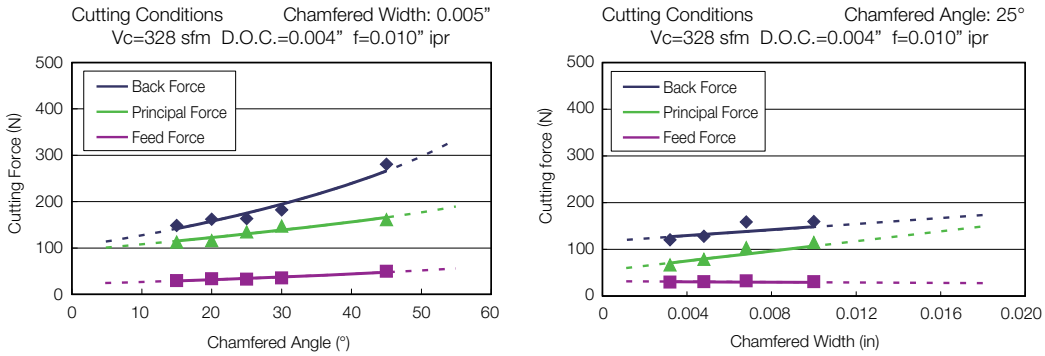
Toughness and Controls Flaking

Prevention of Flaking





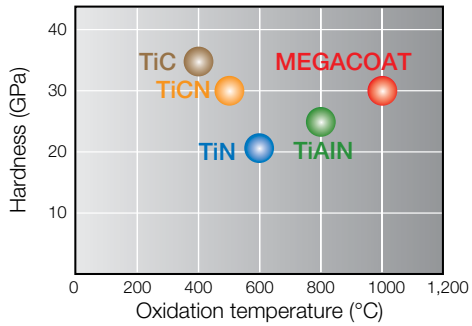
Cutting Force and Chamfered Angle / Width



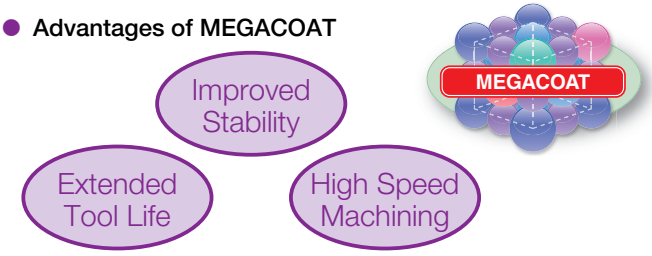
Cutting force is influenced by chamfered angle more than chamfered width.
Though enlarging chamfered angle is more effective for fracture resistance improvement than changing chamfered width, the cutting force increases as well. Please refer to the graph for details.

MEGACOAT CBN

PVD Layer Coating Properties



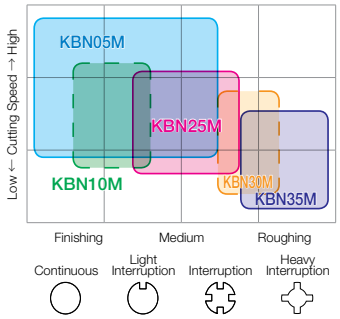
Advantages of MEGACOAT



- Long tool life and stable machining due to superior heat-resistance and hardness
- Stability improvement through prevention of crater wear (oxidation, diffusional wear)
- High thermal stability and surface smoothness provide excellent surface finish

Application Maps

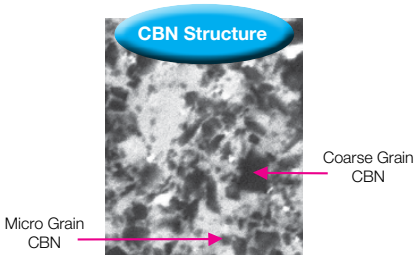
Hardened Materials

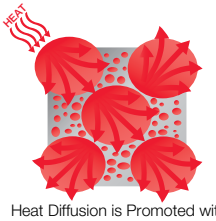


KBN05M
1st recommended grade for a wide range of applications from continuous (high speed finishing) to interrupted cutting.

Hybrid Grain Structure (KBN05M)

Mixed structure of micro grain CBN and coarse grain CBN
➡CBN possesses high hardness, toughness, and thermal resistance characteristics.





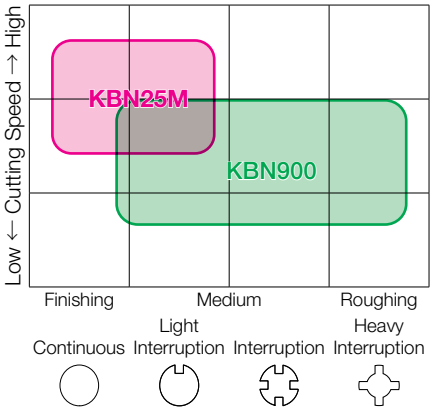
Heat Diffusion is Promoted with Coarse Grain CBN
➡ High Thermal Conductivity

KBN25M: High Stability for General Cutting

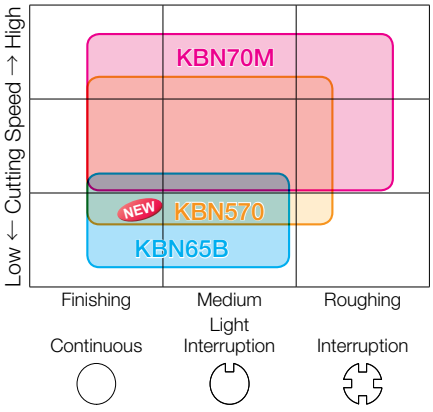
KBN30M: High Stability During Interrupted Cutting

KBN35M: Honeycomb Structure CBN with Superior Fracture Resistance in Heavy Interrupted Cutting

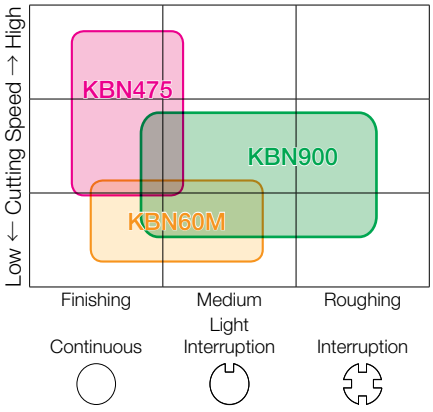
Roll Materials (Chilled Cast Iron)



Powdered Steel



Cast Iron



Recommended Cutting Conditions

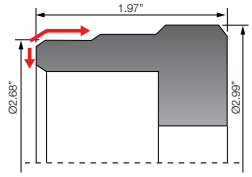
Workpiece Material	Hardness	Applications		Recommended Insert Grade	Cutting Conditions		
					Vc (sfm)	D.O.C. (in)	f (ipr)
Heat Treated Steel	Over 55HRC	General Finishing	Continuous~Interruption	KBN05M	330 ~ **490** ~ 660	0.002 ~ **0.012** ~ 0.020	0.002 ~ **0.003** ~ 0.004
		High Efficiency Stable Machining	Light Interruption~Interruption	KBN25M	260 ~ **390** ~ 520	0.002 ~ **0.012** ~ 0.020	0.002 ~ **0.003** ~ 0.004
		Interruption (Small D.O.C.)	Interruption~Heavy interruption	KBN35M	200 ~ **330** ~ 490	0.002 ~ **0.008** ~ 1/64	0.002 ~ **0.003** ~ 0.004
		Heavy Machining	Continuous~Interruption	KBN900	230 ~ **300** ~ 360	0.020 ~ **0.039** ~ 0.079	0.002 ~ **0.004** ~ 0.008
	Under 55HRC	Finishing	Continuous	*PT600M	200 ~ **260** ~ 390	0.008 ~ **0.020** ~ 0.028	0.002 ~ **0.004** ~ 0.006
Gray Cast Iron	Under 250HB	Finishing	Continuous~Light interruption	KBN475	1310 ~ **2620** ~ 3940	0.002 ~ **0.008** ~ 0.020	0.004 ~ **0.008** ~ 0.012
		Finishing	Continuous~Light interruption	KBN60M	980 ~ **1640** ~ 2300	0.002 ~ **0.008** ~ 0.020	0.004 ~ **0.008** ~ 0.012
		High Efficiency Finishing	Continuous~Light interruption	KBN900	1640 ~ **2950** ~ 3940	0.004 ~ **0.020** ~ 0.039	0.002 ~ **0.004** ~ 0.008
		Heavy Machining	Continuous~Interruption	KBN900	1640 ~ **2300** ~ 2950	0.020 ~ **0.059** ~ 0.118	0.004 ~ **0.012** ~ 0.020
Roll Materials (Chilled Cast Iron)	Over 55HRC	Finishing	Continuous~Interruption	KBN25M	260 ~ **390** ~ 520	0.002 ~ **0.012** ~ 0.020	0.002 ~ **0.003** ~ 0.004
		Heavy Machining	Continuous~Interruption	KBN900	230 ~ **300** ~ 360	0.012 ~ **0.028** ~ 0.039	0.002 ~ **0.004** ~ 0.006
Sintered Steel	-	Finishing	Continuous~Light interruption	KBN570	160 ~ **490** ~ 820	0.002 ~ **0.006** ~ 0.010	0.001 ~ **0.004** ~ 0.008
	-	Finishing	Continuous~Interruption	KBN70M	330 ~ **660** ~ 820	0.002 ~ **0.008** ~ 0.012	0.002 ~ **0.006** ~ 0.010

*PT600M : MEGACOAT on Al_2O_3+TiC Ceramic

Case Studies

5120H (58HRC)

Gear
- External and Face machining and Chamfering
- Vc=427 sfm
- D.O.C.=0.024"
- f=0.005 ipr
- WET
- CNGA432S01225ME (KBN05M)



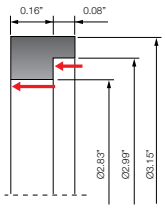
KBN05M	300 pcs/edge
Competitor C	200 pcs/edge

KBN05M achieved 1.5 times longer tool life than competitor C.
➡ Its longer tool life contributes to cost-cutting.

User Evaluation

4131 (55HRC)

Stator
- Boring
- Vc=558 sfm
- D.O.C.=0.016"
- f=0.004 ipr
- WET
- CNGA432S01225ME (KBN05M)



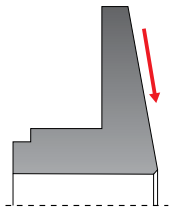
KBN05M	600 pcs/edge
Competitor D	300 pcs/edge

KBN05M achieved twise longer tool life than competitor D.
➡Its longer tool life contributes to cost-cutting.

User Evaluation

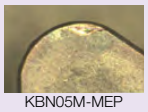
5120H (58HRC)

Pulley
- Face machining (Continuous)
- Vc=394 sfm
- D.O.C.=0.006"~0.008"
- f=0.009 ipr
- WET
- DNGA120408S00545MEP (KBN05M)

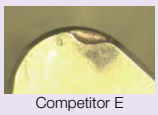


KBN05M-MEP (Edge Preparation : 0.05×45°)	150 pcs/edge
KBN05M-ME (Edge Preparation : 0.12×25°)	100 pcs/edge
Competitor E	100 pcs/edge

Tool life of KBN05M-ME type (Edge prep.: 0.005"×25° Chamfered + R honed) is same as competitor E.'s.
KBN05M-MEP (Edge prep.: 0.0020"×45° Chamfered + R honed) type achieved 1.5 times longer tool life, preventing crater wear.


KBN05M-MEP

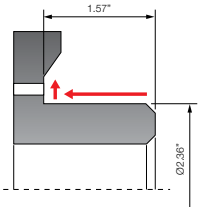

KBN05M-ME


Competitor E

User Evaluation

5120 (61~65HRC)

Gear
- External and Face machining (Interrupted)
- Vc=394 sfm
- D.O.C.=0.006"
- f=0.004~0.006 ipr (External)
- WET
- CNGA120408S04030MEH (KBN05M)



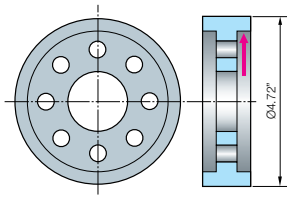
KBN05M-MEH (Edge Preparation : 0.40×30°)	150 pcs/edge
Competitor F	100 pcs/edge

Compared to competitor. F, KBN05M-MEH type (Edge prep.: 0.016"×30° Chamfered + R-honed) achieved 1.5 times longer tool life.
No chipping in interrupted machining, and improved productivity.
(Comp. F's cutting edge got many chipping.)
Feed rate could be increased from 0.006 to 0.010 ipr in facing.
➡Achieved cycle time and cost reduction.

User Evaluation

4131 (60HRC)

Gear Parts
- Face machining (Interrupted)
- Vc=295 sfm
- D.O.C.=0.020"
- f=0.005 ipr
- WET_DRY
- CNGA120412S01225ME (KBN25M)



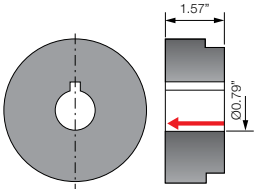
KBN25M	70 pcs/edge
Competitor G	30 pcs/edge (Unstable)

KBN25M improved tool life up to 70 pieces/edge than is two times more than competitor's G (CBN tool). Also, KBN25M has increased its tool life up to 250 pieces/edge by hanging from wet machining to dry machining.

User Evaluation

4131 (58HRC)

Sleeve
- Internal machining (Heavy interrupted)
- Vc=328sfm
- D.O.C.=0.020"
- f=0.004 ipr
- WET
- TPGB110308S01035MET (KBN35M)



KBN35M	115 pcs/edge
Competitor H	100 pcs/edge

KBN35M achieved 15% Longer tool life in heavy interrupted machining compared with competitor H.
Furthermore it still keeps the insert in a good condition and so provides stable machining result.
➡Its longer tool life and capability of providing stable result can contribute to cost-cutting and improved efficiency in machining.

User Evaluation

How to read this page ➔ **B13**

80° Diamond

Negative Insert with Hole

(in)

Part Number	A	T	Ød
CNGA 43_	1/2	3/16	0.203
CNGM 43_	1/2	3/16	0.203

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge		
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00515	0.005" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

K	Gray Cast Iron (with Scale)	
	Nodular Cast Iron (without Scale)	●
	Nodular Cast Iron (with Scale)	●
H	Hard Materials (Roughing)	✠ ✠
	Hard Materials (Finishing)	● ○ ● ○ ○
	Hard Materials (Chip Control)	● ●
	Powdered Steel	◔ ✠ ●

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Dimensions (in) rε	Dimensions (in) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Toolholder Page
Multi Edge With Wiper Edge	CNGA 431S00515MEW	S00515	CNGA 120404S01215MEW	1/64	0.102		●	●	●	○					●	○				
	432S00515MEW		120408S01215MEW	1/32	0.098	2	●	●	●	○	●				●	●				
	433S00515MEW		120412S01215MEW	3/64	0.098		●	●	●	○	●				●	●				
Multi Edge Finishing NEW	CNGA 431S00245MEP	S00245	CNGA 120404S00545MEP	1/64	0.102		○													
	432S00245MEP		120408S00545MEP	1/32	0.102		○													
	433S00245MEP		120412S00545MEP	3/64	0.098		○													
	434S00245MEP		120416S00545MEP	1/16	0.134	2	○													
	435S00245MEP		120420S00545MEP	0.079	0.134		○													
	436S00245MEP		120424S00545MEP	3/32	0.130		○													
Multi Edge Sharp Edge NEW	CNGA 431MEF	F	CNGA 120404MEF	1/64	0.102												●		○	
	432MEF		120408MEF	1/32	0.102	2											●		○	
	433MEF		120412MEF	3/64	0.098												●		○	
Multi Edge	CNGA 4305S00525ME	S00525	CNGA 120402S01225ME	0.008	0.102		●	●	●		○	●			●	●				D8
	431S00525ME		120404S01225ME	1/64	0.102		●	●	●	○	●	●			●	●	●			D9
	432S00525ME		120408S01225ME	1/32	0.102		●	●	●	○	●	○			●	●	●			F73
	433S00525ME		120412S01225ME	3/64	0.098	2	●	●	●	○	●	●			●	○	●			F77
	NEW 434S00525ME		120416S01225ME	1/16	0.134		●													F78
	435S00525ME		120420S01225ME	0.079	0.134		●													
	436S00525ME		120424S01225ME	3/32	0.130		●													
	CNGA 431T00515ME	T00515	CNGA 120404T01215ME	1/64	0.102								○	●	●	●				
	432T00515ME		120408T01215ME	1/32	0.102	2							○	●		●				
	433T00515ME		120412T01215ME	3/64	0.098								○	●	●	○	●			
Multi Edge Tough	CNGA 431S00730MET	S00730	CNGA 120404S01730MET	1/64	0.102		●	○	●	○	●					●				
	432S00730MET		120408S01730MET	1/32	0.102		●	○	●	○	●					●				
	433S00730MET		120412S01730MET	3/64	0.098		●	○	●	○	●					●				
	NEW 434S00730MET		120416S01730MET	1/16	0.134	2	●													
	435S00730MET		120420S01730MET	0.079	0.134		●													
	436S00730MET		120424S01730MET	3/32	0.130		●													
Multi Edge Interruption NEW	CNGA 431S01630MEH	S01630	CNGA 120404S04030MEH	1/64	0.102		○													
	432S01630MEH		120408S04030MEH	1/32	0.102		●													
	433S01630MEH		120412S04030MEH	3/64	0.098		●													
	434S01630MEH		120416S04030MEH	1/16	0.134	2	○													
	435S01630MEH		120420S04030MEH	0.079	0.134		○													
	436S01630MEH		120424S04030MEH	3/32	0.130		○													
Small Edge	CNGA 4305S00525SE	S00525	CNGA 120402S01225SE	0.008	0.102			●	●							●				
	431S00525SE		120404S01225SE	1/64	0.102			●	●						●	●				
	432S00525SE		120408S01225SE	1/32	0.102	1		●	●						●	●				
	433S00525SE		120412S01225SE	3/64	0.098			●	●											
Small Edge Tough	CNGA 431S00730SET	S00730	CNGA 120404S01730SET	1/64	0.102				●							○				
	432S00730SET		120408S01730SET	1/32	0.102	1			●							●				

KYOCERA

CBN & PCD Inserts sold in 1 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ **B13**

80° Diamond

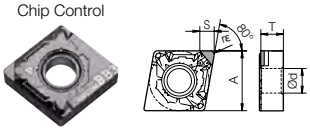
Negative Insert with Hole

(in)

Part Number	A	T	Ød
CNGA 43_	1/2	3/16	0.203
CNGM 43_	1/2	3/16	0.203

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge		
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00515	0.005" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

K	Gray Cast Iron (with Scale)	
	Nodular Cast Iron (without Scale)	
	Nodular Cast Iron (with Scale)	
H	Hard Materials (Roughing)	
	Hard Materials (Finishing)	○ ●
	Hard Materials (Chip Control)	● ●
	Powdered Steel	

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Dimensions (in) rε	Dimensions (in) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Toolholder Page
Chip Control 	CNGM 431S00325BB1		CNGM 120404S00825BB1	1/64	0.071															
	432S00325BB1	S00825	120408S00825BB1	1/32	0.079	1			○											
	433S00325BB1		120412S00825BB1	3/64	0.087				○											
	CNGM 431S00525BB2		CNGM 120404S01225BB2	1/64	0.087				○											D8 D9 F73 F77 F78
	432S00525BB2	S00525	120408S01225BB2	1/32	3/32	1			○											
	433S00525BB2		120412S01225BB2	3/64	0.102				○											
	CNGM 431S00625BB3		CNGM 120404S01625BB3	1/64	0.102			○	○											
	432S00625BB3	S00625	120408S01625BB3	1/32	0.110	1		○	○											
	433S00625BB3		120412S01625BB3	3/64	0.118				○											

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55° Diamond

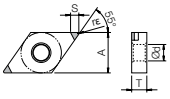
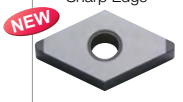
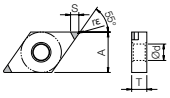
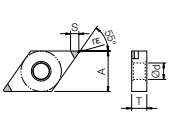
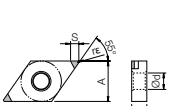
Negative Insert with Hole

(in)

Part Number	A	T	Ød
DNGA 43_	1/2	3/16	0.203
DNGA 44_	1/2	1/4	0.203
DNGM 43_	1/2	3/16	0.203

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge		
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00515	0.005" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

K	Gray Cast Iron (with Scale)	
	Nodular Cast Iron (without Scale)	●
	Nodular Cast Iron (with Scale)	●
H	Hard Materials (Roughing)	✠ ✖
	Hard Materials (Finishing)	● ○ ● ○ ◔ ◔
	Hard Materials (Chip Control)	● ●
	Powdered Steel	◔ ✖ ●

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Dimensions (in) rε	Dimensions (in) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Toolholder Page
Multi Edge Finishing  	DNGA 431S00245MEP	S00245	DNGA 150404S00545MEP	1/64	0.102	2	○													D10 D11 F74 F80 F81
NEW	DNGA 432S00245MEP		DNGA 150408S00545MEP	1/32	0.087		○													
	DNGA 433S00245MEP		DNGA 150412S00545MEP	3/64	0.075		○													
	DNGA 434S00245MEP		DNGA 150416S00545MEP	1/16	0.150		○													
	DNGA 435S00245MEP		DNGA 150420S00545MEP	0.079	0.138		○													
	DNGA 436S00245MEP		DNGA 150424S00545MEP	3/32	0.122		○													
Multi Edge Sharp Edge  	DNGA 431MEF	F	DNGA 150404MEF	1/64	0.102	2											●		○	
NEW	DNGA 432MEF		DNGA 150408MEF	1/32	0.087												●		○	
	DNGA 433MEF		DNGA 150412MEF	3/64	0.075												●			
Multi Edge  	DNGA 4302S00525ME	S00525	DNGA 150401S01225ME	0.004	0.110	2	●	○	○											D10 D11 F74 F80 F81
	DNGA 4305S00525ME		DNGA 150402S01225ME	0.008	0.106		●	●	●			●			●	○				
	DNGA 431S00525ME		DNGA 150404S01225ME	1/64	0.102		●	●	●	○	●	●			●	●	●			
	DNGA 432S00525ME		DNGA 150408S01225ME	1/32	0.087		●	●	●	○	●	●			●	●	●			
	DNGA 433S00525ME		DNGA 150412S01225ME	3/64	0.075		●	○	○	○	●						●			
NEW	DNGA 434S00525ME		DNGA 150416S01225ME	1/16	0.150		●													
	DNGA 435S00525ME		DNGA 150420S01225ME	0.079	0.138		●													
	DNGA 436S00525ME		DNGA 150424S01225ME	3/32	0.122		●													
	DNGA 431T00515ME	T00515	DNGA 150404T01215ME	1/64	0.102	2							○	●	●	●	●			
	DNGA 432T00515ME		DNGA 150408T01215ME	1/32	0.087								○	●	●	●	●			
	DNGA 433T00515ME		DNGA 150412T01215ME	3/64	0.075									●			●			
	DNGA 441S00525ME	S00525	DNGA 150604S01225ME	1/64	0.102	2	○	○	○	○	○					○				D10 D11 F74
	DNGA 442S00525ME		DNGA 150608S01225ME	1/32	0.087		○	○	○	○	○	●				○				
	DNGA 443S00525ME		DNGA 150612S01225ME	3/64	0.075		○		○	○	○	●								
	DNGA 441T00515ME	T00515	DNGA 150604T01215ME	1/64	0.102	2								●		○				
	DNGA 442T00515ME		DNGA 150608T01215ME	1/32	0.087								○	●		○				
Multi Edge Tough  	DNGA 431S00730MET	S00730	DNGA 150404S01730MET	1/64	0.102	2	●	○	●	○	●					●				D10 D11 F74 F80 F81
	DNGA 432S00730MET		DNGA 150408S01730MET	1/32	0.087		●	○	●	○	●					●				
	DNGA 433S00730MET		DNGA 150412S01730MET	3/64	0.075		●	○	●	○	●					○				
	DNGA 434S00730MET		DNGA 150416S01730MET	1/16	0.150		●													
NEW	DNGA 435S00730MET		DNGA 150420S01730MET	0.079	0.138		●													
	DNGA 436S00730MET		DNGA 150424S01730MET	3/32	0.122		●													
	DNGA 441S00730MET	S00730	DNGA 150604S01730MET	1/64	0.102	2	●	○	○	○	○					○				D10 D11 F74
	DNGA 442S00730MET		DNGA 150608S01730MET	1/32	0.075		●	○	○	○	○					○				
	DNGA 443S00730MET		DNGA 150612S01730MET	3/64	0.075		●	○	○	○	○									
Multi Edge Interruption 	DNGA 431S01630MEH	S01630	DNGA 150404S04030MEH	1/64	0.102	2	○													D10 D11 F74 F80 F81
NEW	DNGA 432S01630MEH		DNGA 150408S04030MEH	1/32	0.087		●													
	DNGA 433S01630MEH		DNGA 150412S04030MEH	3/64	0.075		●													
	DNGA 434S01630MEH		DNGA 150416S04030MEH	1/16	0.150		○													
	DNGA 435S01630MEH		DNGA 150420S04030MEH	0.079	0.138		○													
	DNGA 436S01630MEH		DNGA 150424S04030MEH	3/32	0.122		○													
Small Edge  	DNGA 4302S00525SE	S00525	DNGA 150401S01225SE	0.004	0.087	1			●											D10 D11 F74 F80 F81
	DNGA 4305S00525SE		DNGA 150402S01225SE	0.008	0.098				●						●	○				
	DNGA 431S00525SE		DNGA 150404S01225SE	1/64	0.091			●	●						●	●				
	DNGA 432S00525SE		DNGA 150408S01225SE	1/32	0.075			●	●							●				
	DNGA 433S00525SE		DNGA 150412S01225SE	3/64	0.075				●							●				
	DNGA 431T00515SE	T00515	DNGA 150404T01215SE	1/64	0.091	1									●	●				
	DNGA 432T00515SE		DNGA 150408T01215SE	1/32	0.075											●				
	DNGA 441S00525SE	S00525	DNGA 150604S01225SE	1/64	0.091	1		○	○											D10 D11 F74
	DNGA 442S00525SE		DNGA 150608S01225SE	1/32	0.075			○	○						○					
	DNGA 443S00525SE		DNGA 150612S01225SE	3/64	0.075				○											

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CBN & PCD Inserts sold in 1 piece boxes.

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How to read this page ➔ **B13**

55° Diamond

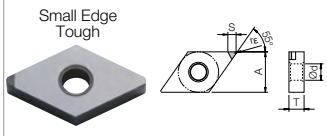
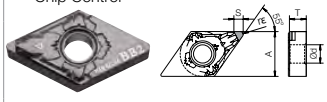
Negative Insert with Hole

(in)

Part Number	A	T	Ød
DNGA 43_	1/2	3/16	0.203
DNGA 43_	1/2	1/4	0.203
DNGM 43_	1/2	3/16	0.203

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge		
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00515	0.005" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

K	Gray Cast Iron (with Scale)	
	Nodular Cast Iron (without Scale)	
	Nodular Cast Iron (with Scale)	
H	Hard Materials (Roughing)	
	Hard Materials (Finishing)	○ ●
	Hard Materials (Chip Control)	● ●
	Powdered Steel	

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Dimensions (in) rε	Dimensions (in) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Toolholder Page
Small Edge Tough 	DNGA 431S00730SET	S00730	DNGA 150404S01730SET	1/64	0.091	1										○				D10 D11 F74 F80 F81
	432S00730SET		150408S01730SET	1/32	1/16											●				
Chip Control 	DNGM 431S00325BB1	S00325	DNGM 150404S00825BB1	1/64	1/16	1		○	○											
	432S00325BB1		150408S00825BB1	1/32	1/16			○	○											
	433S00325BB1		150412S00825BB1	3/64	0.071				○											
	DNGM 431S00525BB2	S00525	DNGM 150404S01225BB2	1/64	0.071	1			○											
	432S00525BB2		150408S01225BB2	1/32	0.079			○	●											
	433S00525BB2		150412S01225BB2	3/64	0.083				○											
	DNGM 431S00625BB3	S00625	DNGM 150404S01625BB3	1/64	0.087	1		○	○											
	432S00625BB3		150408S01625BB3	1/32	0.098			○	○											
	433S00625BB3		150412S01625BB3	3/64	0.098				○											

How to read this page ➔ B13

90° Square

Negative Insert with Hole

Part Number	A (in)	T (in)	Ød (in)
SNGA 43_	1/2	3/16	0.203

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge		
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00515	0.005" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

		Gray Cast Iron (with Scale)	Nodular Cast Iron (without Scale)	Nodular Cast Iron (with Scale)	Hard Materials (Roughing)	Hard Materials (Finishing)	Hard Materials (Chip Control)	Powdered Steel
K								
H								

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Dimensions (in) rε	Dimensions (in) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Toolholder Page
NEW Multi Edge Finishing	SNGA 432S00245MEP	S00245	120408S00545MEP	1/32	0.071	2	○													D12 D13 F83
	433S00245MEP		120412S00545MEP	3/64	0.087		○													
NEW Multi Edge Sharp Edge	SNGA 432MEF	F	SNGA 120408MEF	1/32	0.071	2											○			
	433MEF		120412MEF	3/64	0.087												○			
Multi Edge	SNGA 431S00525ME	S00525	SNGA 120404S01225ME	1/64	0.071	2	●	●	●							○				
	432S00525ME		120408S01225ME	1/32	0.071		●	●	●	○	●	○			○	○	○			
	433S00525ME		120412S01225ME	3/64	0.071												○			
	SNGA 431T00515ME	T00515	SNGA 120404T01215ME	1/64	0.071	2								●		○				
	432T00515ME		120408T01215ME	1/32	0.071								○	●	○	○	○			
	433T00515ME		120412T01215ME	3/64	0.071									●			○			
Multi Edge Tough	SNGA 431S00730MET	S00730	SNGA 120404S01730MET	1/64	0.071	2	●		●											
	432S00730MET		120408S01730MET	1/32	0.071		●		●	○	○					○				
	433S00730MET		120412S01730MET	3/64	0.087		●		●	○	○					●				
NEW Multi Edge Interruption	SNGA 432S01630MEH	S01630	120408S04030MEH	1/32	0.071	2	○													
	433S01630MEH		120412S04030MEH	3/64	0.087		○													

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NEW ITEMS!

How to read this page ➔ B13

60° Triangle

Negative Insert with Hole

(in)

Part Number		A	T	Ød
TNGA	33_	3/8	3/16	0.150
TNGM	33_	3/8	3/16	0.150

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge		
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00515	0.005" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

K	Gray Cast Iron (with Scale)	
	Nodular Cast Iron (without Scale)	●
	Nodular Cast Iron (with Scale)	●
H	Hard Materials (Roughing)	✠ ✠
	Hard Materials (Finishing)	● ○ ● ○ ◔ ◔
	Hard Materials (Chip Control)	● ●
	Powdered Steel	◔ ✠ ●

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Dimensions (in) rε	Dimensions (in) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Toolholder Page
Multi Edge Finishing NEW	TNGA 331S00245MEP		TNGA 160404S00545MEP	1/64	0.106		○													
	332S00245MEP	S00245	160408S00545MEP	1/32	3/32	3	○													
	333S00245MEP		160412S00545MEP	3/64	0.083		○													
Multi Edge Sharp Edge NEW	TNGA 331MEF		TNGA 160404MEF	1/64	0.106												○		○	
	332MEF	F	160408MEF	1/32	3/32	3											○		○	
	333MEF		160412MEF	3/64	0.083												○		○	
Multi Edge	TNGA 3302S00525ME		TNGA 160401S01225ME	0.004	0.114		○	○	○											
	3305S00525ME		160402S01225ME	0.008	0.110		●	●	●		○	●			○	○				
	331S00525ME	S00525	160404S01225ME	1/64	0.106	3	●	●	●	○	●	●			●	●	○			
	332S00525ME		160408S01225ME	1/32	3/32		●	●	●	○	●	●			●	●	○			
	333S00525ME		160412S01225ME	3/64	0.083		●	●	●	○	●	●			●	●	○			
	TNGA 331T00515ME		TNGA 160404T01215ME	1/64	0.106								○	●	●	●	○			
	332T00515ME	T00515	160408T01215ME	1/32	3/32	3							○	●	●	●	○			
	333T00515ME		160412T01215ME	3/64	0.083								○	●	●	●	○			
Multi Edge Tough	TNGA 331S00730MET		TNGA 160404S01730MET	1/64	0.106		●	○	●	○	●					○				
	332S00730MET	S00730	160408S01730MET	1/32	3/32	3	●	○	●	○	●					●				
	333S00730MET		160412S01730MET	3/64	0.083		●		●	○	●					○				
Multi Edge Interruption NEW	TNGA 331S01630MEH		TNGA 160404S04030MEH	1/64	0.106		○													
	332S01630MEH	S01630	160408S04030MEH	1/32	3/32	3	○													
	333S01630MEH		160412S04030MEH	3/64	0.083		○													
Small Edge	TNGA 3302S00525SE		TNGA 160401S01225SE	0.004	0.102				○							○				
	3305S00525SE		160402S01225SE	0.008	0.114			●	●						○	●				
	331S00525SE	S00525	160404S01225SE	1/64	0.106	1		●	●						○	●				
	332S00525SE		160408S01225SE	1/32	3/32			●	●						●	●				
	TNGA 331T00515SE	T00515	TNGA 160404T01215SE	1/64	0.106	1									○	●				
	332T00515SE		160408T01215SE	1/32	3/32										●	●				
Small Edge Tough	TNGA 331S00730SET	S00730	TNGA 160404S01730SET	1/64	0.106	1			●							●				
	332S00730SET		160408S01730SET	1/32	3/32				●							●				
Chip Control	TNGM 331S00325BB1		TNGM 160404S00825BB1	1/64	0.059			○	○											
	332S00325BB1	S00325	160408S00825BB1	1/32	0.067	1		○	○											
	333S00325BB1		160412S00825BB1	3/64	0.075				○											
	TNGM 331S00525BB2		TNGM 160404S01225BB2	1/64	0.075				○											
	332S00525BB2	S00525	160408S01225BB2	1/32	0.083	1			○											
	333S00525BB2		160412S01225BB2	3/64	0.087				○											
	TNGM 331S00625BB3		TNGM 160404S01625BB3	1/64	0.087			○	○											
	332S00625BB3	S00625	160408S01625BB3	1/32	3/32	1			○											
	333S00625BB3		160412S01625BB3	3/64	0.102				○											

D14 D15 D16 F74 F84 F85

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
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CBN & PCD Inserts sold in 1 piece boxes.

How to read this page ➔ B13

35° Diamond

Negative Insert with Hole

Part Number	A (in)	T (in)	Ød (in)
VNGA 33_	3/8	3/16	0.150

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge		
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00515	0.005" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

		Gray Cast Iron (with Scale)	Nodular Cast Iron (without Scale)	Nodular Cast Iron (with Scale)	Hard Materials (Roughing)	Hard Materials (Finishing)	Hard Materials (Chip Control)	Powdered Steel
K			●					
H					●	●	●	
		●	○	●				
								●

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Dimensions (in) rε	Dimensions (in) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Toolholder Page
Multi Edge Finishing NEW	VNGA 331S00245MEP	S00245	VNGA 160404S00545MEP	1/64	0.079	2	●													D18 D19 D20
	332S00245MEP		160408S00545MEP	1/32	0.071		●													
Multi Edge Sharp Edge NEW	VNGA 331MEF	F	VNGA 160404MEF	1/64	0.079	2											○		○	
	332MEF		160408MEF	1/32	0.071												○		○	
Multi Edge	VNGA 3302S00525ME	S00525	VNGA 160401S01225ME	0.004	0.102	2		○	○											
	3305S00525ME		160402S01225ME	0.008	0.091		●	●	●		●	●			○	○				
	331S00525ME		160404S01225ME	1/64	0.079		●	●	●	○	●	●			●	●	○			
	332S00525ME		160408S01225ME	1/32	0.071		●	○	○	○	●	●					○			
	VNGA 331T00515ME	T00515	VNGA 160404T01215ME	1/64	0.079	2							○	●	●	●	○			
	332T00515ME		160408T01215ME	1/32	0.071								○	●			○			
Multi Edge Tough	VNGA 331S00730MET	S00730	VNGA 160404S01730MET	1/64	0.079	2	●	○	●	○	●					●				
	332S00730MET		160408S01730MET	1/32	0.071		●	○	●	○	●					●				
Multi Edge Interruption NEW	VNGA 331S01630MEH	S01630	VNGA 160404S04030MEH	1/64	0.079	2	○													
	332S01630MEH		160408S04030MEH	1/32	0.071		●													
Small Edge	VNGA 3302S00525SE	S00525	VNGA 160401S01225SE	0.004	0.102	1			●							○				
	3305S00525SE		160402S01225SE	0.008	0.091			●	●						○	●				
	331S00525SE		160404S01225SE	1/64	0.075			●	●						●	●				
	332S00525SE		160408S01225SE	1/32	0.106			●	●						●	●				
	VNGA 331T00515SE	T00515	VNGA 160404T01215SE	1/64	0.075	1									●	●				
	332T00515SE		160408T01215SE	1/32	0.106										●	●				
Small Edge Tough	VNGA 331S00730SET	S00730	VNGA 160404S01730SET	1/64	0.075	1			●							○				
	332S00730SET		160408S01730SET	1/32	0.106				●							○				
Standard Edge	VNGA 332S00525	S00525	VNGA 160408S01225	1/32	0.157	1		●												

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

How to read this page ➔ **B13**

80° Trigon

Negative Insert with Hole

(in)

Part Number	A	T	Ød
WNGA 43_	1/2	3/16	0.203

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge		
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00515	0.005" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

K	Gray Cast Iron (with Scale)	
	Nodular Cast Iron (without Scale)	●
	Nodular Cast Iron (with Scale)	
H	Hard Materials (Roughing)	❁ ✖
	Hard Materials (Finishing)	● ○ ● ○ ◔
	Hard Materials (Chip Control)	
	Powdered Steel	◔ ✖ ●

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Dimensions (in) rε	Dimensions (in) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Toolholder Page
Multi Edge Sharp Edge	WNGA 431MEF	F	WNGA 080404MEF	1/64	0.079	3											○			
	432MEF		080408MEF	1/32	0.102												○			
Multi Edge	WNGA 431S00525ME	S00525	WNGA 080404S01225ME	1/64	0.079	3	●	●		○	○	●			○	●	○			D22 D23 F87 F88
	432S00525ME		080408S01225ME	1/32	0.102		●		○	○	○	●			●	●	○			
	433S00525ME		080412S01225ME	3/64	0.098		○		○	○	○									
	WNGA 431T00515ME	T00515	WNGA 080404T01215ME	1/64	0.079	3							○	●	○	●	○			
	432T00515ME		080408T01215ME	1/32	0.102								○		●	●	○			
	433T00515ME		080412T01215ME	3/64	0.098								○							
Multi Edge Tough	WNGA 431S00730MET	S00730	WNGA 080404S01730MET	1/64	0.079	3		○	○	○	○									
	432S00730MET		080408S01730MET	1/32	0.102			○	○	○	○									
	433S00730MET		080412S01730MET	3/64	0.098			○	○	○	○									
Small Edge	WNGA 431S00525SE	S00525	WNGA 080404S01225SE	1/64	0.079	1		●												
	432S00525SE		080408S01225SE	1/32	0.075			●												
Small Edge Tough	WNGA 431S00730SET	S00730	WNGA 080404S01730SET	1/64	0.079	1										●				

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

CBN & PCD Inserts sold in 1 piece boxes.

How to read this page ➔ B13

80° Diamond

Positive Insert with Hole

Part Number		A (in)	T (in)	Ød (in)	α
CCMW	1109_	0.138	0.055	0.075	7°
	1411_	0.169	0.071	0.091	
	215_	1/4	3/32	0.110	
	325_	3/8	5/32	0.173	

Part Number		A (in)	T (in)	Ød (in)	α
CPGB	2515_	5/16	3/32	0.138	11°
	32_	3/8	1/8	0.177	

Edge Prep. Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge		
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00515	0.005" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

K	Gray Cast Iron (with Scale)	○ ○ ○ ○ ○ ● ○ ○ ○ ● ○ ○
	Nodular Cast Iron (without Scale)	
	Nodular Cast Iron (with Scale)	
H	Hard Materials (Roughing)	○ ○ ○ ❁ ✖ ○ ○ ○ ○ ○ ○ ○
	Hard Materials (Finishing)	● ○ ● ○ ○ ○ ○ ○ ◔ ○ ○ ○
	Hard Materials (Chip Control)	○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○
	Powdered Steel	○ ○ ○ ○ ○ ◔ ✖ ○ ○ ○ ○ ●

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Dimensions (in) rε	Dimensions (in) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN10	KBN525	KBN475	KBN65B	KBN570	Toolholder Page
Multi-Edge Sharp Edge NEW	CCMW 3251MEF	F	CCMW 09T304MEF	1/64	0.075	2											●		○	C15 Reference Table Below
	3252MEF		09T308MEF	1/32	0.071												●		○	
Multi-Edge	CCMW 21505T00315ME	T00315	CCMW 060202T00815ME	0.008	0.079	2	○	○	●		○				○	●				
	2151T00315ME		060204T00815ME	1/64	0.075		○	○	●		●	●			●	●	●			
	2152T00315ME		060208T00815ME	1/32	0.071		○	○	●		●	●			●		●			
	CCMW 32505T00315ME	T00315	CCMW 09T302T00815ME	0.008	0.079	2	○	○	○		●	●			○	●				
	3251T00315ME		09T304T00815ME	1/64	0.075		○	○	●	○	●	●	○	●	●	○	●			
	3252T00315ME		09T308T00815ME	1/32	0.071		○	○	○	○	●	●	○	●	●	○	●			
Multi-Edge General Purpose NEW	CCMW 2151S00525MES	S00525	CCMW 060204S01225MES	1/64	0.075	2	●													
	2152S00525MES		060208S01225MES	1/32	0.071		●													
	CCMW 3251S00525MES	S00525	CCMW 09T304S01225MES	1/64	0.075	2	●										●			
	3252S00525MES		09T308S01225MES	1/32	0.071		●										●			
Multi-Edge / Tough	CCMW 3251S00435MET	S00435	CCMW 09T304S01035MET	1/64	0.075	2	●	○	●		●					●				
	3252S00435MET		09T308S01035MET	1/32	0.071		●	○	○		●									
Small Edge	CCMW 110905T00315SE	T00315	CCMW 030102T00815SE	0.008	0.055	1		○	○						○	○				F20 F39
	11091T00315SE		030104T00815SE	1/64	0.055			○	○						○	○				
	CCMW 141105T00315SE	T00315	CCMW 040102T00815SE	0.008	0.055	1		○	○						○	○				
	14111T00315SE		040104T00815SE	1/64	0.055			○	○						○	○				
	CCMW 21505T00315SE	T00315	CCMW 060202T00815SE	0.008	0.079	1									●	●				C15 Reference Table Below
	2151T00315SE		060204T00815SE	1/64	0.075				○						●	●				
	CCMW 32505T00315SE	T00315	CCMW 09T302T00815SE	0.008	0.079	1		○							○	●				
	3251T00315SE		09T304T00815SE	1/64	0.075			○							●	○				
Small Edge / Tough	CCMW 110905S00435SET	S00435	CCMW 030102S01035SET	0.008	0.055	1		○	○											F20 F39
	11091S00435SET		030104S01035SET	1/64	0.055			○	○							●				
	CCMW 141105S00435SET	S00435	CCMW 040102S01035SET	0.008	0.055	1		○	○											
	14111S00435SET		040104S01035SET	1/64	0.055			○	○							○				
	CCMW 2151S00435SET	S00435	CCMW 060204S01035SET	1/64	0.075	1										●				C15 Ref. Table Below
	CCMW 3251S00435SET	S00435	CCMW 09T304S01035SET	1/64	0.075	1										●				
Multi-Edge	CPGB 25151T00315ME	T00315	CPGB 080204T00815ME	1/64	0.075	2	○	○	○		●				●	●	○			
	CPGB 3205T00315ME	T00315	CPGB 090302T00815ME	0.008	0.075	2	○	○	○						●	○				
	321T00315ME		090304T00815ME	1/64	0.075		○	○	○		●	●			●	●	○			
	322T00315ME		090308T00815ME	1/32	0.098												○			
Multi-Edge General Purpose NEW	CPGB 321S00525MES	S00525	CPGB 090304S01225MES	1/64	0.075	2	●													
	322S00525MES		090308S01225MES	1/32	0.098		●													
Multi-Edge / Tough	CPGB 25151S00435MET	S00435	CPGB 080204S01035MET	1/64	0.075	2		○	○		●					●				F41
	25152S00435MET		080208S01035MET	1/32	0.087				○											
	CPGB 321S00435MET	S00435	CPGB 090304S01035MET	1/64	0.075	2	●	○	○		●					●				
	322S00435MET		090308S01035MET	1/32	0.098		●	○	○		●									
Small Edge	CPGB 251505T00315SE	T00315	CPGB 080202T00815SE	0.008	0.075	1									●	●				
	25151T00315SE		080204T00815SE	1/64	0.075										●	○				
	CPGB 3205T00315SE	T00315	CPGB 090302T00815SE	0.008	0.075	1									●	○				
	321T00315SE		090304T00815SE	1/64	0.075			○							●	●				
Small Edge / Tough	CPGB 25151S00435SET	S00435	CPGB 080204S01035SET	1/64	0.075	1			○											
	CPGB 321S00435SET	S00435	CPGB 090304S01035SET	1/64	0.075	1										○				

KYOCERA

CBN & PCD Inserts sold in 1 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

55° Diamond

Positive Insert with Hole

Part Number		A (in)	T (in)	Ød (in)	α
DCMW	215_	1/4	3/32	0.110	7°
	325_	3/8	5/32	0.177	

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge		
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00515	0.005" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

		MEGACOAT CBN								CBN					
		KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	KBN510	KBN525	KBN475	KBN65B	KBN570	Toolholder Page
K	Gray Cast Iron (with Scale)														
	Nodular Cast Iron (without Scale)						●					●			
	Nodular Cast Iron (with Scale)														
H	Hard Materials (Roughing)				✱	✱									
	Hard Materials (Finishing)	●	○	●						○	◔				
	Hard Materials (Chip Control)														
	Powdered Steel						●	✱						●	

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Dimensions (in) rε	Dimensions (in) S	No. of Edges	KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	KBN510	KBN525	KBN475	KBN65B	KBN570	Toolholder Page
 Multi-Edge Sharp Edge NEW	DCMW 3251MEF	F	DCMW 11T304MEF	0.008	0.067	2											●		○	Reference Table Below
	3252MEF		11T308MEF	1/64	0.075												●		○	
 Multi-Edge	DCMW 21505T00315ME	T00315	DCMW 070202T00815ME	0.008	0.075	2	○	○	○		○	●			●	●	●			
	2151T00315ME		070204T00815ME	1/64	0.067		●	○	●		●	●			●	●	●			
	2152T00315ME		070208T00815ME	1/32	0.075		○	○	●		●					●				
	DCMW 32505T00315ME	T00315	DCMW 11T302T00815ME	0.008	0.075	2	○	○	○		●	●			●	●				
	3251T00315ME		11T304T00815ME	1/64	0.067		○	○	●	○	●	●	○	●	●		●			
	3252T00315ME		11T308T00815ME	1/32	0.075		○	○	○	○	●	●	○	●	●	●	●			
	3253T00315ME		11T312T00815ME	3/64	0.075		○		○	○	●					○				
 Multi-Edge General Purpose NEW	DCMW 32505S00525MES	S00525	DCMW 11T302S01225MES	0.008	0.075	2	●													
	3251S00525MES		11T304S01225MES	1/64	0.067		●										●			
	3252S00525MES		11T308S01225MES	1/32	0.075		●										●			
 Multi-Edge Tough	DCMW 21505S00435MET	S00435	DCMW 070202S01035MET	0.008	0.075	2			○	○		○								
	2151S00435MET		070204S01035MET	1/64	0.067				○	●		●								
	2152S00435MET		070208S01035MET	1/32	0.075					○		●								
	DCMW 32505S00435MET	S00435	DCMW 11T302S01035MET	0.008	0.075	2	●	○	○		●					●				
	3251S00435MET		11T304S01035MET	1/64	0.067		●	○	●		●					●				
	3252S00435MET		11T308S01035MET	1/32	0.075			○	●		●					●				
	3253S00435MET		11T312S01035MET	3/64	0.075			○	○		●									
 Small Edge	DCMW 21505T00315SE	T00315	DCMW 070202T00815SE	0.008	0.075	1			○	○					●	○				
	2151T00315SE		070204T00815SE	1/64	0.067				○	○					●	○				
	DCMW 32505T00315SE	T00315	DCMW 11T302T00815SE	0.008	0.075	1									○	○				
	3251T00315SE		11T304T00815SE	1/64	0.067										●	●				
	3252T00315SE		11T308T00815SE	1/32	0.075				○							●				
 Small Edge Tough	DCMW 2151S00435SET	S00435	DCMW 070204S01035SET	1/64	0.067	1										○				
	DCMW 32505S00435SET	S00435	DCMW 11T302S01035SET	0.008	0.075	1										○				
	3251S00435SET		11T304S01035SET	1/64	0.067											●				
	3252S00435SET		11T308S01035SET	1/32	0.075											●				

Part Number	Applicable Toolholder Page
DC..215_	E24~E27, E35, F45~F49
DC..325_	E20, E24~E27, E35, F45~F49, F75

● CC / TP

Part Number	Applicable Toolholder Page
CC..215_	E22, E23, E34, E39
CC..325_	E22, E23, E34, E39, F75

Part Number	Applicable Toolholder Page
TP..1515_	E29, F53, F55
TP..1815_	F53, F55

Part Number	Applicable Toolholder Page
TP..22_	E29, F53, F55
TP..32_	F53, F55

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

CBN & PCD Inserts sold in 1 piece boxes.

How to read this page ➔ **B13**

60° Triangle

Positive Insert with Hole

Part Number	Applicable Toolholder Page
TP..1515_	**E29, F53~ F57**
TP..1815_	**F53~ F57**
TP..22_	**E29, F53~ F57**
TP..32_	**E29, F53~ F57**

Part Number		A	T	Ød	α
		(in)			
TPGB	1515_	3/16	3/32	0.098	
	1815_	7/32	3/32	0.118	
	22_	1/4	1/8	0.138	11°
	32_	3/8	1/8	0.177	
TPGW	33_	3/8	0.187	0.173	

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge		
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

K	Gray Cast Iron (with Scale)	
	Nodular Cast Iron (without Scale)	●
	Nodular Cast Iron (with Scale)	●
H	Hard Materials (Roughing)	✠
	Hard Materials (Finishing)	● ○ ● ○ ◔
	Hard Materials (Chip Control)	
	Powdered Steel	●

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Dimensions (in) rε	Dimensions (in) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Toolholder Page
Multi-Edge Sharp Edge NEW	TPGB 221MEF	F	TPGB 110304MEF	1/64	0.083	3											●		○	C15 Reference Table Below
	TPGB 222MEF		TPGB 110308MEF	1/32	0.071												●		○	
Multi-Edge	TPGB 2205T00315ME	T00315	TPGB 110302T00815ME	0.008	0.091	3	○	○	○			●			○	○	●			
	TPGB 221T00315ME		TPGB 110304T00815ME	1/64	0.083		○	○	○		●	●			●	●	●			
	TPGB 222T00315ME		TPGB 110308T00815ME	1/32	0.071		○	○	○		●	●			●	●	●			
	TPGB 321T00315ME	T00315	TPGB 160304T00815ME	1/64	0.071	3	○		○		●	●					●			
	TPGB 322T00315ME		TPGB 160308T00815ME	1/32	0.059		○		○		●	●					●			
Multi-Edge General Purpose NEW	TPGB 221S00525MES	S00525	TPGB 110304S01225MES	1/64	0.083	3	●										●			
	TPGB 222S00525MES		TPGB 110308S01225MES	1/32	0.071		●										●			
Multi-Edge Tough	TPGB 2205S00435MET	S00435	TPGB 110302S01035MET	0.008	0.091	3		○	○		○									
	TPGB 221S00435MET		TPGB 110304S01035MET	1/64	0.083		●	○	○		●									
	TPGB 222S00435MET		TPGB 110308S01035MET	1/32	0.071		●	○	○		●									
	TPGB 321S00435MET	S00435	TPGB 160304S01035MET	1/64	0.071	3		○	○		●					○				
	TPGB 322S00435MET		TPGB 160308S01035MET	1/32	0.059				○							○				
Small Edge	TPGB 151505T00315SE	T00315	TPGB 080202T00815SE	0.008	0.071	1			○	○					○	○				
	TPGB 15151T00315SE		TPGB 080204T00815SE	1/64	1/16				○	○					●	○				
	TPGB 181505T00315SE	T00315	TPGB 090202T00815SE	0.008	0.071	1			○	○					●	●				
	TPGB 18151T00315SE		TPGB 090204T00815SE	1/64	1/16				○	○					●	●				
	TPGB 2205T00315SE	T00315	TPGB 110302T00815SE	0.008	0.075	1			○						●	○				
	TPGB 221T00315SE		TPGB 110304T00815SE	1/64	0.071				○						●	●				
	TPGB 222T00315SE		TPGB 110308T00815SE	1/32	0.059											●				
	TPGB 3205T00315SE	T00315	TPGB 160302T00815SE	0.008	0.075	1			○						○	○				
	TPGB 321T00315SE		TPGB 160304T00815SE	1/64	0.071				○						○	●				
Small Edge Tough	TPGB 151505S00435SET	S00435	TPGB 080202S01035SET	0.008	0.071	1			○	○										
	TPGB 15151S00435SET		TPGB 080204S01035SET	1/64	1/16				○	○						○				
	TPGB 181505S00435SET	S00435	TPGB 090202S01035SET	0.008	0.071	1			○	○										
	TPGB 18151S00435SET		TPGB 090204S01035SET	1/64	1/16				○	○						○				
	TPGB 221S00435SET	S00435	TPGB 110304S01035SET	1/64	0.071	1										○				
	TPGB 222S00435SET		TPGB 110308S01035SET	1/32	0.059											○				
	TPGB 321S00435SET	S00435	TPGB 160304S01035SET	1/64	0.071	1										○				
	TPGB 322S00435SET		TPGB 160308S01035SET	1/32	0.059											○				
Multi Edge	TPGW 331T00315ME	T00315	TPGW 160404T00815ME	1/64	0.071	3			○											-
	TPGW 332T00315ME		TPGW 160408T00815ME	1/32	0.059				○											
Multi Edge Tough	TPGW 331S00435MET	S00435	TPGW 160404S01035MET	1/64	0.071	3		○	○							○				
	TPGW 332S00435MET		TPGW 160408S01035MET	1/32	0.059			○	○											
Small Edge	TPGW 331T00315SE	T00315	TPGW 160404T00815SE	1/64	0.071	1										○				
Small Edge Tough	TPGW 331S00435SET	S00435	TPGW 160404S01035SET	1/64	0.075	1										○				

KYOCERA

CBN & PCD Inserts sold in 1 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

35° Diamond

Positive Insert with Hole

Part Number	Applicable Toolholder Page
VB..22_	C17,C17,C17,C17,C17
VB..33_	C17,C17,C17,C17
VC..15_	E36, F58, F61~ F63

Part Number		(in) A	T	Ød	α
VBGW	22_	1/4	1/8	0.110	5°
	33_	3/8	3/16	0.173	5°
VCGW	1515_	3/16	3/32	0.091	7°

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge		
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

		KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	KBN510	KBN525	KBN475	KBN65B	KBN570
K	Gray Cast Iron (with Scale)													
	Nodular Cast Iron (without Scale)						●					●		
	Nodular Cast Iron (with Scale)													
H	Hard Materials (Roughing)					✠								
	Hard Materials (Finishing)	●	○	●						○	◷			
	Hard Materials (Chip Control)													
	Powdered Steel							◷	✠					●

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Dimensions (in) rε	S	No. of Edges	MEGACOAT CBN							CBN					Toolholder Page
							KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	KBN510	KBN525	KBN475	KBN65B	KBN570	
Multi-Edge Sharp Edge NEW	VBGW 221MEF	F	VBGW 110304MEF	1/64	0.079	2											●		○	Reference Table Below
	VBGW 222MEF		VBGW 110308MEF	1/32	0.067												●		○	
	VBGW 331MEF		VBGW 160404MEF	1/64	0.079	2											●		○	
	VBGW 332MEF		VBGW 160408MEF	1/32	0.067												●		○	
Multi-Edge	VBGW 2205T00315ME	T00315	VBGW 110302T00815ME	0.008	3/32		○	○	○		○	●			○	○	●			
	VBGW 221T00315ME		VBGW 110304T00815ME	1/64	0.079	2	●	○	●	○	●	●	○	●	●	●	●			
	VBGW 222T00315ME		VBGW 110308T00815ME	1/32	0.067		○	○	●	○				●		●	●			
	VBGW 3305T00315ME	T00315	VBGW 160402T00815ME	0.008	3/32		○	○	○		●				○	●				
	VBGW 331T00315ME		VBGW 160404T00815ME	1/64	0.079	2	○	○	●	○	●	●	○	●	●	●	●			
	VBGW 332T00315ME		VBGW 160408T00815ME	1/32	0.067		●	○	●	○	●	●	○	●	●	●	●			
Multi-Edge General Purpose NEW	VBGW 221S00525MES	S00525	VBGW 110304S01225MES	1/64	0.079	2	●										●			
	VBGW 222S00525MES		VBGW 110308S01225MES	1/32	0.067												●			
	VBGW 331S00525MES	S00525	VBGW 160404S01225MES	1/64	0.079	2	●										●			
	VBGW 332S00525MES		VBGW 160408S01225MES	1/32	0.067												●			
Multi-Edge Tough	VBGW 2205S00435MET	S00435	VBGW 110302S01035MET	0.008	3/32			○	○		○									
	VBGW 221S00435MET		VBGW 110304S01035MET	1/64	0.079	2	●	○	○		●					○				
	VBGW 222S00435MET		VBGW 110308S01035MET	1/32	0.067			○	○		●									
	VBGW 3305S00435MET	S00435	VBGW 160402S01035MET	0.008	3/32			○	○		●									
	VBGW 331S00435MET		VBGW 160404S01035MET	1/64	0.079	2	●	○	○		●					○				
	VBGW 332S00435MET		VBGW 160408S01035MET	1/32	0.067			○	○		●									
Small Edge	VBGW 2205T00315SE	T00315	VBGW 110302T00815SE	0.008	0.110			○	○						●	●				
	VBGW 221T00315SE		VBGW 110304T00815SE	1/64	3/32	1		○	○						●	●				
	VBGW 222T00315SE		VBGW 110308T00815SE	1/32	0.067			○							○					
	VBGW 3305T00315SE	T00315	VBGW 160402T00815SE	0.008	3/32										●	○				
	VBGW 331T00315SE		VBGW 160404T00815SE	1/64	0.079	1		○							●	●				
	VBGW 332T00315SE		VBGW 160408T00815SE	1/32	0.067										●	●				
Small Edge Tough	VBGW 221S00435SET	S00435	VBGW 110304S01035SET	1/64	0.079	1										●				
	VBGW 222S00435SET		VBGW 110308S01035SET	1/32	0.067				○											
	VBGW 331S00435SET	S00435	VBGW 160404S01035SET	1/64	0.079	1										○				
	VBGW 332S00435SET		VBGW 160408S01035SET	1/32	0.067											○				
Multi-Edge	VCGW 151505T00315ME	T00315	VCGW 080202T00815ME	0.008	0.079			○	○		●				○	○	○			E36 F60 F63 F64 F65
	15151T00315ME		080204T00815ME	1/64	0.079	2	○	○	○		●	●			○	○	○			
	15152T00315ME		080208T00815ME	1/32	0.067							●					○			
Multi-Edge Tough	VCGW 151505S00435MET	S00435	VCGW 080202S01035MET	0.008	0.079				○	○										
	15151S00435MET		080204S01035MET	1/64	0.079	2			○	○										
	15152S00435MET		080208S01035MET	1/32	0.067					○										
Small Edge	VCGW 151505T00315SE	T00315	VCGW 080202T00815SE	0.008	3/32				○	○					○	○				
	15151T00315SE		080204T00815SE	1/64	0.079	1			○						○	○				
Small Edge Tough	VCGW 15151S00435SET	S00435	VCGW 080204S01035SET	1/64	0.079	1										○				
	15152S00435SET		080208S01035SET	1/32	0.071											○				

Part Number	Applicable Toolholder Page
VB..22_	E30, E31, E36, F60, F63
VB..33_	E30, E31, F60, F63

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
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CBN & PCD Inserts sold in 1 piece boxes.

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80° Trigon

Positive Insert with Hole

Part Number		A (in)	T (in)	Ød (in)	α
WBGW	121_	5/32	1/16	0.091	5°
	1515_	3/16	3/32	0.091	

Edge Prep. Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge		
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

		Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Dimensions (in) rε	Dimensions (in) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Toolholder Page
K	Gray Cast Iron (with Scale)	Small Edge	WBGW 12105T00315ℝ-SE	T00315	WBGW 060102T00815ℝ-SE	0.008	0.075	1		Ⓛ	Ⓛ						Ⓛ	● Ⓛ				F67 F68 F69
K	Nodular Cast Iron (without Scale)		1211T00315ℝ-SE		060104T00815ℝ-SE	1/64	0.075			Ⓛ	Ⓛ						Ⓛ	● Ⓛ				
K	Nodular Cast Iron (with Scale)		WBGW 151505T00315ℝ-SE	T00315	WBGW 080202T00815ℝ-SE	0.008	0.091	1		Ⓛ	Ⓛ						● Ⓛ	● Ⓛ				
H	Hard Materials (Roughing)		15151T00315ℝ-SE		080204T00815ℝ-SE	1/64	0.091			Ⓛ	Ⓛ						● Ⓛ	● Ⓛ				
H	Hard Materials (Finishing)	Small Edge Tough	WBGW 12105S00435ℝ-SET	S00435	WBGW 060102S01035ℝSET	0.008	0.075	1		Ⓛ	Ⓛ							Ⓛ				
H	Hard Materials (Chip Control)		1211S00435ℝ-SET		060104S01035ℝSET	1/64	0.075			Ⓛ	Ⓛ							Ⓛ				
	Powdered Steel		WBGW 151505S00435ℝ-SET	S00435	WBGW 080202S01035ℝSET	0.008	0.091	1		Ⓛ	Ⓛ							Ⓛ				
			15151S00435ℝ-SET		080204S01035ℝSET	1/64	0.091			Ⓛ	Ⓛ							Ⓛ				

60° Triangle

Positive Insert without Hole

Part Number		A (in)	T (in)	Ød (in)	α
TBG	121_	0.156	1/16	-	5°
TPG	22_	1/4	1/8	-	11°
TPG	32_	3/8	1/8	-	11°

Edge Prep. Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge		
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

		Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Dimensions (in) rε	Dimensions (in) S	No. of Edges	MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	CBN KBN510	KBN525	KBN475	KBN65B	KBN570	Toolholder Page
K	Gray Cast Iron (with Scale)	CBN Surface Type Sharp Edge NEW	TBG 1211F	F	TBGN 060104F	1/64	-	3									●	○			○	-
K	Nodular Cast Iron (without Scale)	CBN Surface Type	TBG 12105T00315	T00315	TBGN 060102T00815	0.008	-	3		○								○				
K	Nodular Cast Iron (with Scale)		1211T00315		060104T00815	1/64	-			○							●	○				
H	Hard Materials (Roughing)		1212T00315		060108T00815	1/32	-			○							○	○				
H	Hard Materials (Finishing)	Multi Edge	TPG 2205T00315ME	T00315	TPGN 110302T00815ME	0.008	0.102	3										○				E43 F71
H	Hard Materials (Chip Control)		221T00315ME		110304T00815ME	1/64	0.098											○				
	Powdered Steel		222T00315ME		110308T00815ME	1/32	3/32											●				
		Small Edge	TPG 2205T00315SE	T00315	TPGN 110302T00815SE	0.008	0.102	1										○				
			221T00315SE		110304T00815SE	1/64	0.098										○	●				
			222T00315SE		110308T00815SE	1/32	3/32											●				
			TPG 3205T00315SE	T00315	TPGN 160302T00815SE	0.008	0.102	1										○				
			321T00315SE		160304T00815SE	1/64	3/32										●	●				
			322T00315SE		160308T00815SE	1/32	0.083											●				
		Small Edge Tough	TPG 221S00435SET	S00435	TPGN 110304S01035SET	1/64	0.098	1										○				
			222S00435SET		110308S01035SET	1/32	3/32											○				
			TPG 321S00435SET	S00435	TPGN 160304S01035SET	1/64	3/32	1										○				
			322S00435SET		160308S01035SET	1/32	0.083											●				

CBN & PCD Inserts sold in 1 piece boxes.

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How to read this page ➔ B13

Negative

Negative Insert without Hole

(in)

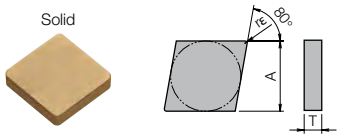
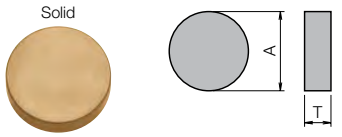
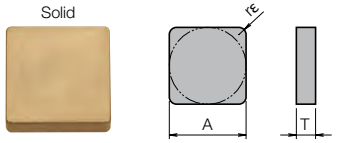
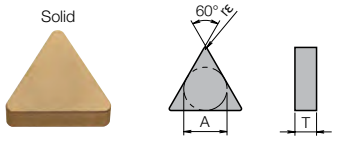
Part Number		A	T
CNM	32_	3/8	1/8
	43_	1/2	3/16
RNM	32_	3/8	1/8
	42_	1/2	1/8
	43_	1/2	3/16

(in)

Part Number		A	T
SNM	32_	3/8	1/8
	42_	1/2	1/8
	43_	1/2	3/16
TNM	22_	1/4	1/8
	33_	3/8	3/16

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
F	Sharp Edge		
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

K	Gray Cast Iron (with Scale)	✖
	Nodular Cast Iron (without Scale)	✖
	Nodular Cast Iron (with Scale)	
H	Hard Materials (Roughing)	
	Hard Materials (Finishing)	●
	Hard Materials (Chip Control)	
	Powdered Steel	

Insert	ANSI Part Number	Edge Prep (in)	ISO Part Number	Dimensions (in) rε	No. of Edges	PVD Coated CBN KBN900	Toolholder Page
Solid 	CNM 322	S00820	CNMN 090308S02020	1/32	4	●	D34 F91
	CNM 323		090312S02020	3/64		○	
	CNM 432	S00820	CNMN 120408S02020	1/32	4	●	D24
	CNM 433		120412S02020	3/64		●	
	CNM 434		120416S02020	1/16		○	
Solid 	RNM 22	S00820	RNMN 060300S02020	-	Depends on D.O.C.	●	D35
	RNM 32	S00820	RNMN 090300S02020	-		●	
	RNM 42	S00820	RNMN 120300S02020	-		●	
	43	S00820	RNMN 120400S02020	-		●	D29 D35
Solid 	SNM 322	S00820	SNMN 090308S02020	1/32	8	●	D36 D37
	SNM 323		090312S02020	3/64		●	
	SNM 423		120312S02020	3/64		●	
	SNM 432	S00820	SNMN 120408S02020	1/32	8	●	D27 D36 D37 F89
	SNM 433		120412S02020	3/64		●	
	SNM 434		120416S02020	1/16		○	
	SNM 435		120420S02020	0.079		○	
Solid 	TNM 222	S00820	TNMN 110308S02020	1/32	6	●	D38 F91
	TNM 332	S00820	TNMN 160408S02020	1/32	6	○	D28
	TNM 333		160412S02020	3/64		●	
	TNM 334		160416S02020	1/16		○	

External Grooving Inserts

1 - E d g e

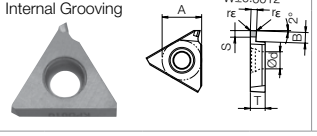
How to read this page ➔ B13

Grooving Inserts (1-edge)

Edge Prep. Symbol	Cutting Edge Spec.	Example	
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

		KBN510	KBN525
K	Gray Cast Iron (with Scale)		
	Nodular Cast Iron (without Scale)		
	Nodular Cast Iron (with Scale)		
H	Hard Materials (Roughing)		
	Hard Materials (Finishing)	○	●
	Hard Materials (Chip Control)		
	Powdered Steel		

External Internal Grooving



Insert (Handed Insert shows Right-hand) ANSI Part Number	ANSI Old Part Number	Edge Prep (in)	Unit	W±0.0012 (in)	W±0.03 (mm)	B	rε	A	T	Ød	S	No. of Edges	KBN510	KBN525	Toolholder Page
GBA43ℝ 125-020	GBA43ℝ 125	E003	mm	0.049	1.25	2.0	0.2	12.7	4.76	5.5	1.9	1	○	Ⓛ	G11 G62
150-020	150			0.059	1.50	3.5	0.2	12.7	4.76	5.5	1.9		Ⓛ	Ⓡ	
200-020	200			0.079	2.00	3.5	0.2	12.7	4.76	5.5	1.9		Ⓛ	○	
300-020	300			0.118	3.00	4.0	0.2	12.7	4.76	5.5	1.9			Ⓡ	

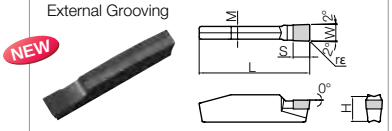
Deep Grooving Inserts (1-edge)

Edge Prep. Symbol	Cutting Edge Spec.	Example	
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

		KBN05M	KBN570
K	Gray Cast Iron (with Scale)		
	Nodular Cast Iron (without Scale)		
	Nodular Cast Iron (with Scale)		
H	Hard Materials (Roughing)		
	Hard Materials (Finishing)	○	
	Hard Materials (Chip Control)		
	Powdered Steel		●

External Grooving

NEW



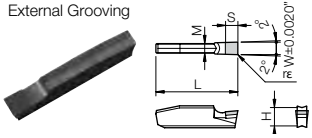
Insert ANSI Part Number	Edge Prep (in)	Unit	W±0.0008 (in)	W±0.03 (mm)	rε	L	H	M	S	No. of Edges	KBN05M	KBN570	Toolholder Page
GDGS 2020N-020NB	E003	mm	0.079	2.0	0.2	20	4.3	1.8	2.9	1	○		G19 ~ G25
	E0008		0.079	2.0	0.2	20	4.3	1.8	2.9			○	
3020N-040NB	E003		0.118	3.0	0.4	20	4.3	2.3	2.9	1	●		
	E0008		0.118	3.0	0.4	20	4.3	2.3	2.9			○	
4020N-040NB	E003		0.158	4.0	0.4	20	4.3	3.3	2.9	1	●		
	E0008		0.158	4.0	0.4	20	4.3	3.3	2.9			○	
5020N-040NB	E003		0.197	5.0	0.4	20	4.3	4.2	2.9	1	○		G20 ~ G25
	E0008		0.197	5.0	0.4	20	4.3	4.2	2.9			○	
6020N-040NB	E003		0.236	6.0	0.4	20	4.3	5.2	2.9	1	○		
	E0008		0.236	6.0	0.4	20	4.3	5.2	2.9			○	

Deep Grooving Inserts (1-edge)

Edge Prep. Symbol	Cutting Edge Spec.	Example	
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

		KBN510	KBN525
K	Gray Cast Iron (with Scale)		
	Nodular Cast Iron (without Scale)		
	Nodular Cast Iron (with Scale)		
H	Hard Materials (Roughing)		
	Hard Materials (Finishing)	○	●
	Hard Materials (Chip Control)		
	Powdered Steel		

External Grooving



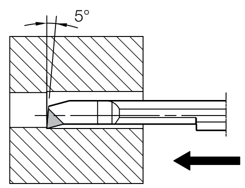
Insert ANSI Part Number	ANSI Old Part Number	Edge Prep (in)	Unit	W±0.0020 (in)	W±0.05 (mm)	rε	L	H	M	S	No. of Edges	KBN510	KBN525	Toolholder Page
GMN 2	-	E003	mm	0.079	2	0.2	20	4.3	1.8	2.9	1	○	○	G36,G37
3	-			0.118	3	0.4	20	4.3	2.3	2.9		○	○	G36 G37 G38
4	-			0.158	4	0.4	20	4.3	3.3	2.9		○	○	
5	-			0.197	5	0.4	20	4.3	4.2	2.9		○	○	
6	-			0.236	6	0.4	20	4.3	5.2	2.9		○	○	G36,G37

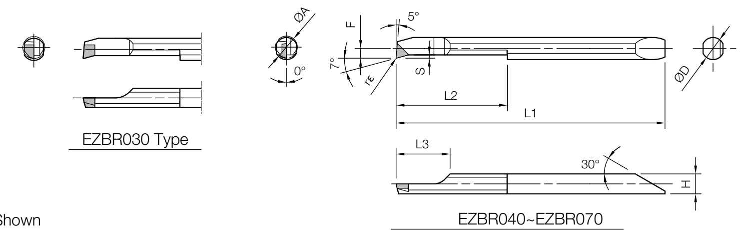
● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

EZ Bars

EZB-NB: CBN NEW

How to read this page ➡ B13





• Righ-Hand Insert Shown

● EZ Bar Dimensions

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

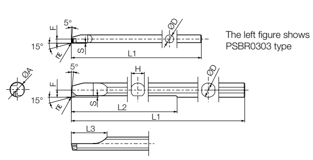
		KBN05M
K	Gray Cast Iron (with Scale)	
	Nodular Cast Iron (without Scale)	
	Nodular Cast Iron (with Scale)	
H	Hard Materials (Roughing)	
	Hard Materials (Finishing)	●
	Hard Materials (Chip Control)	
	Powdered Steel		

ANSI Part Number		Edge Prep (in)	Min. Bore Dia. ØA	Dimensions (mm) ØD	H	L1	L2	L3	F	S	rε	No. of Edges	MEGA CBN KBN05M	Applicable Sleeves Page
EZBR	030030-003NB	T00315	3	3	2.6	38.8	13	6.8	1.25	0.3	0.035 ± 0.015	1	○	F22 ~ F27
	040040-003NB	T00315	4	4	3.6	48.8	20	9.8	1.75	0.5			○	
	050050-003NB	T00315	5	5	4.6	58.1	25	9.8	2.25	0.5			○	
	060060-003NB	T00315	6	6	5.6	66.1	30	11.8	2.75	0.5			○	
	070070-003NB	T00315	7	7	6.6	74.1	35	11.8	3.25	0.5			○	

■ Tip-Bars

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
E	Rounded Cutting Edge (Hone)	E003	R0.003" Honed
T	Chamfered Cutting Edge	T00315	0.003" X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S00525	0.005" X 25° Chamfered and Honed Cutting Edge

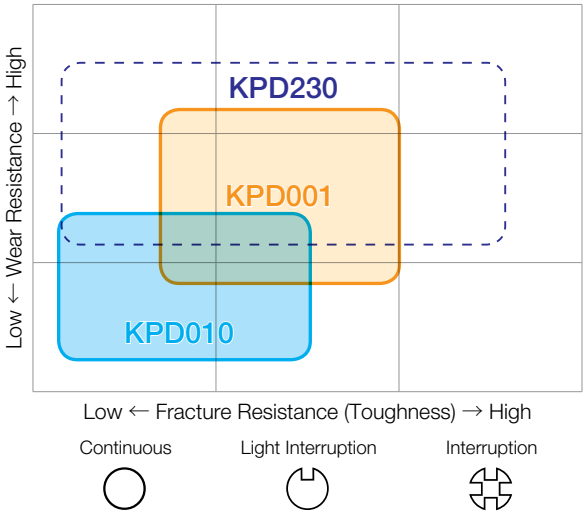
		KBN510	KBN525
K	Gray Cast Iron (with Scale)		
	Nodular Cast Iron (without Scale)		
	Nodular Cast Iron (with Scale)		
H	Hard Materials (Roughing)		
	Hard Materials (Finishing)	○	●
	Hard Materials (Chip Control)		
	Powdered Steel		

Insert (Righ-Hand Insert Shown)	ANSI Part Number		Edge Prep (in)	Min. Bore Dia. ØA	Dimensions (mm) ØD	H	L1	L2	L3	F	S	rε	No. of Edges	CBN KBN510	CBN KBN525	Applicable Sleeves Page
	PSBR	0303-50NBS	T00315	3	2.8	-	50	25	7	1.4	0.15	0.05	1	○	○	F94
		0404-60NBS	T00315	4	3.8	3.6	60	30	10	1.9	0.30			○	○	
		0505-70NBS	T00315	5	4.8	4.4	70	40	12	2.4	0.50			○	○	
		0606-70NBS	T00315	6	5.8	5.2	70	45	12	2.9	0.50			○	○	
		0707-80NBS	T00315	7	6.8	6.2	80	50	12	3.4	0.50			○	○	

The left figure shows PSBR0303 type

A GRADES
B INSERTS
C CBN & PCD
D TOOLHOLDERS
E SMALL TOOLS
F BORING
G GROOVING
H CUT-OFF
J THREADING
N HSK TOOLING
P SPARE PARTS
R TECHNICAL
T INDEX

Application Map



About Insert Grades

Grades	Applications	Advantages
KPD001 (Average grain size under 1µm)	• High speed machining of non-ferrous metals and brass • High speed machining of glass fiber and plastics • Machining of carbide and ceramics	• Smallest micro-grain possible in PCD • High edge strength with superior wear resistance, fracture resistance, and edge sharpening performance
KPD010 (Average grain size 10µm)	• High speed machining of non-ferrous metals and brass • High speed machining of glass fiber and plastics • Machining of carbide and ceramics	• Well balanced wear resistance and flexural strength • General Purpose
KPD230 (Mixture of fine grain with average grain size 2-30µm and rough)	• High speed milling of aluminum alloy and non-ferrous metals such as brass • High speed milling of glass fiber and plastics	• High density PCD with mixture of both rough and fine grains with excellent abrasive wear and chipping resistance
KPD250 (Average grain size 25µm (Made to order))	• High speed machining of high silicon aluminium alloy • Machining of carbide	• Rough grain PCD (Average grain size 25µm) • Superior to wear resistance

Turning Insert Identification System

C	N	M	M	12	04	02	M	SE
C	C	G	W	04	01	01		SE

Refer to B2 for "Turning Indexable Inserts Identification System"

Insert Type	Part Number	Manufacture's Option 1	Manufacture's Option 2	Series Name	Cutting Edge Length	No. of Edges	Regrinding
Negative	**CNMM120402M-SE**	M (Indicates the tool is for negative inserts/toolholders)	SE	Small Edge	Short (Small Edge)	1	Not Recommended
	CNMM120402M-NE		NE	New Value Edge	Long (85% length compared to no indication's cutting edge)	1	Possible
	CNMM120402M		No Indication	-	Long	1	
Positive	**CCGW040101SE**	-	SE	Small Edge	Short (Small Edge)	1	Not Recommended
	CCGW040101NE		NE	New Value Edge	Long (85% length compared to no indication's cutting edge)	1	Possible
	CCGW040101		No Indication	-	Long	1	

Note) 1. No edge preparation symbols for PCD inserts. Most of the PCD inserts' edge preparations are sharp edge.
2. "M" in manufacturer's option 1 indicates the inserts are applicable to negative toolholders.
3. Refer to **Page** B6 for insert color.

• About Regrinding
1) Regrinding is possible with the inserts with "NE" and no symbol in manufacturer's option 2. Regrinding can not be available on the edge condition.
2) Regrinding is not recommended for inserts with "SE" in manufacturer's option 2.

Recommended Cutting Conditions (Turning)

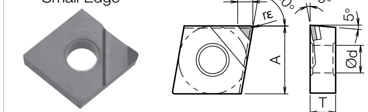
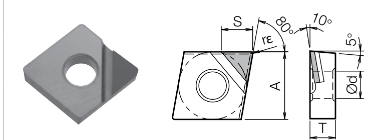
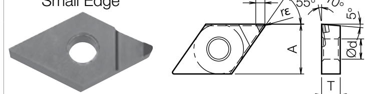
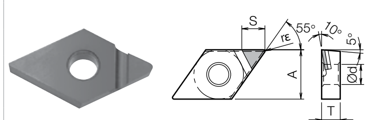
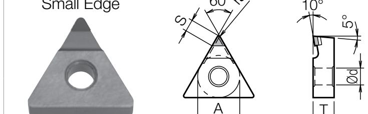
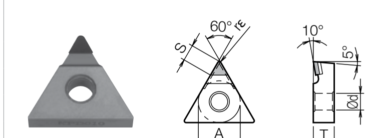
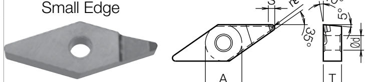
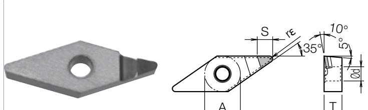
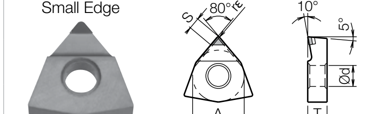
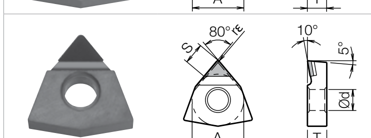
Workpiece Material	Insert Grades		Cutting Conditions				Remarks
	KPD001	KPD010	Cutting Speed (sfm)	D.O.C. (in) Small Edge and Positive Inserts	D.O.C. (in) Negative Inserts	Feed Rate (ipr)	
Aluminum Alloys Zinc Alloys	★	☆	975 - 4925	~0.039	~0.079	0.001~0.020	Both Dry and Wet Cutting Available
Copper, Brass, Bronze	★	☆	975 - 3275	~0.039	~0.079	0.001~0.020	
Magnesium Alloys	★	☆	1300 - 3925	~0.039	~0.079	0.001~0.020	
Carbide	★	☆	25 - 100	~0.012	~0.012	0.001~0.004	
Titanium Alloys	★	☆	325 - 650	~0.039	~0.079	0.002~0.008	Wet
Glass Fiber Reinforced Plastics Carbon Fiber	★	☆	325 - 1975	~0.039	~0.079	0.002~0.020	Dry
Silica Filling Plastic Particle Board	★	☆	1300 - 2625	~0.039	~0.079	0.002~0.020	

★: 1st Recommendation ☆: 2nd Recommendation

Negative

Negative Insert with Hole

How to read this page ➡ B13

Edge Prep.												
N	Non-Ferrous Metals (with Interruption)									◐		
	Non-Ferrous Metals (without Interruption)									●		
S	Titanium Alloys (with Interruption)									◐		
	Titanium Alloys (without Interruption)									●		
All PCD Items	Sharp Edge		Dimensions (in)					Angle (°)		PCD		
Insert	ANSI Part Number	ISO Part Number	A	T	Ød	rε	S	α	No. of Edges	KPD001	KPD010	Toolholder Page
Small Edge 	CNMM 4305MSE	CNMM 120402M-SE	1/2	3/16	0.203	0.008	0.110	-	1	●	○	D8 D9 F77 F78
	431MSE	120404M-SE	1/2	3/16	0.203	1/64	0.110			●	●	
	432MSE	120408M-SE	1/2	3/16	0.203	1/32	0.106			●	●	
	CNMM 4305MNE	CNMM 120402M-NE	1/2	3/16	0.203	0.008	0.201	-	1	○		
	431MNE	120404M-NE	1/2	3/16	0.203	1/64	0.197			○		
	432MNE	120408M-NE	1/2	3/16	0.203	1/32	0.193			○		
	CNMM 4305M	CNMM 120402M	1/2	3/16	0.203	0.008	0.228	-	1	○	○	
	431M	120404M	1/2	3/16	0.203	1/64	0.228			●		
	432M	120408M	1/2	3/16	0.203	1/32	0.224			○	●	
	433M	120412M	1/2	3/16	0.203	3/64	0.220			○	○	
Small Edge 	DNMM 4305MSE	DNMM 150402M-SE	1/2	3/16	0.203	0.008	0.110	-	1	○	○	D10 D11 F74 F80 F81
	431MSE	150404M-SE	1/2	3/16	0.203	1/64	0.102			●	●	
	432MSE	150408M-SE	1/2	3/16	0.203	1/32	0.087			●	●	
	DNMM 4305MNE	DNMM 150402M-NE	1/2	3/16	0.203	0.008	0.205	-	1	○		
	431MNE	150404M-NE	1/2	3/16	0.203	1/64	0.197			○		
	432MNE	150408M-NE	1/2	3/16	0.203	1/32	0.181			○		
	DNMM 4305M	DNMM 150402M	1/2	3/16	0.203	0.008	0.232	-	1	○	○	
	431M	150404M	1/2	3/16	0.203	1/64	0.228			○	●	
	432M	150408M	1/2	3/16	0.203	1/32	0.213			○	●	
	433M	150412M	1/2	3/16	0.203	3/64	0.197			○	○	
Small Edge 	TNMM 3305MSE	TNMM 160402M-SE	3/8	3/16	0.150	0.008	0.106	-	1	○	○	D14 D15 D16 F74 F84 F85
	331MSE	160404M-SE	3/8	3/16	0.150	1/64	0.102			●	●	
	332MSE	160408M-SE	3/8	3/16	0.150	1/32	0.091			●	●	
	TNMM 3305MNE	TNMM 160402M-NE	3/8	3/16	0.150	0.008	0.126	-	1	○		
	331MNE	160404M-NE	3/8	3/16	0.150	1/64	0.122			○		
	332MNE	160408M-NE	3/8	3/16	0.150	1/32	0.110			○		
	TNMM 3305M	TNMM 160402M	3/8	3/16	0.150	0.008	0.150	-	1	○	○	
	331M	160404M	3/8	3/16	0.150	1/64	0.142			○	●	
	332M	160408M	3/8	3/16	0.150	1/32	0.130			○	●	
	333M	160412M	3/8	3/16	0.150	3/64	0.118				○	
Small Edge 	VNMM 3305MSE	VNMM 160402M-SE	3/8	3/16	0.150	0.008	0.114	-	1	●	○	D18 D19 D20
	331MSE	160404M-SE	3/8	3/16	0.150	1/64	0.098			●	●	
	332MSE	160408M-SE	3/8	3/16	0.150	1/32	1/16			●	●	
	VNMM 3305MNE	VNMM 160402M-NE	3/8	3/16	0.150	0.008	0.185	-	1	○		
	331MNE	160404M-NE	3/8	3/16	0.150	1/64	0.165			○		
	332MNE	160408M-NE	3/8	3/16	0.150	1/32	0.134			○		
	VNMM 3305M	VNMM 160402M	3/8	3/16	0.150	0.008	0.209	-	1	○	○	
	331M	160404M	3/8	3/16	0.150	1/64	0.189			○	●	
	332M	160408M	3/8	3/16	0.150	1/32	0.157			○	●	
	333M	160412M	3/8	3/16	0.150	3/64	0.122				○	
Small Edge 	WNMM 4305MSE	WNMM 080402M-SE	1/2	3/16	0.203	0.008	0.110	-	1	○	○	D22 D23 F87 F88
	431MSE	080404M-SE	1/2	3/16	0.203	1/64	0.110			○	●	
	432MSE	080408M-SE	1/2	3/16	0.203	1/32	0.106				●	
	WNMM 4305MNE	WNMM 080402M-NE	1/2	3/16	0.203	0.008	0.197	-	1	○		
	431MNE	080404M-NE	1/2	3/16	0.203	1/64	0.197			○		
	WNMM 4305M	WNMM 080402M	1/2	3/16	0.203	0.008	0.228	-	1		○	
	431M	080404M	1/2	3/16	0.203	1/64	0.228				○	

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

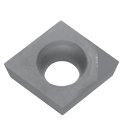
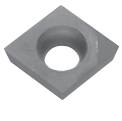
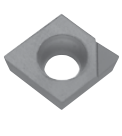
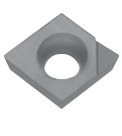
CBN & PCD Inserts sold in 1 piece boxes.

Positive

Positive Insert with Hole

How to read this page ➔ B13

Part Number	Applicable Toolholder Page
CC..215_	E22, E23, E34, F39
CC..325_	E22, E23, E34, F39, F75

Edge Prep.			N	Non-Ferrous Metals (with Interruption)	●										
All PCD Items	Sharp Edge			Non-Ferrous Metals (without Interruption)	●										
			S	Titanium Alloys (with Interruption)	●										
				Titanium Alloys (without Interruption)	●										
Insert	ANSI Part Number	ISO Part Number	Dimensions (in)					Angle (°)	No. of Edges	PCD		Toolholder Page
			A	T	Ød	rε	S	α		KPD001	KPD010	
	CCGW 141102SE	CCGW 040101SE	0.169	0.071	0.091	0.004	0.051			○		
	NEW 141105SE	040102SE	0.169	0.071	0.091	0.008	0.051	7°	1	○		F20 F39
	14111SE	040104SE	0.169	0.071	0.091	1/64	0.051			○		
	CCGW 21502SE	CCGW 060201SE	1/4	3/32	0.110	0.004	0.091			○		
	NEW 21505SE	060202SE	1/4	3/32	0.110	0.008	0.091	7°	1	○		Reference Table Above
	2151SE	060204SE	1/4	3/32	0.110	1/64	0.091			○		
	CCGW 32505SE	CCGW 09T302SE	3/8	5/32	0.173	0.008	0.106			○		
	NEW 3251SE	09T304SE	3/8	5/32	0.173	1/64	0.106	7°	1	○		
	3252SE	09T308SE	3/8	5/32	0.173	1/32	0.106			○		
	CCGW 141102NE	CCGW 040101NE	0.169	0.071	0.091	0.004	0.067			○		
	141105NE	040102NE	0.169	0.071	0.091	0.008	1/16	7°	1	○		F20 F39
	14111NE	040104NE	0.169	0.071	0.091	1/64	1/16			○		
	CCGW 21502NE	CCGW 060201NE	1/4	3/32	0.110	0.004	0.122			●		
	21505NE	060202NE	1/4	3/32	0.110	0.008	0.118	7°	1	○		Reference Table Above
	2151NE	060204NE	1/4	3/32	0.110	1/64	0.118			○		
	CCGW 32502NE	CCGW 09T301NE	3/8	5/32	0.173	0.004	0.134			○		
	32505NE	09T302NE	3/8	5/32	0.173	0.008	0.134	7°	1	○		
	3251NE	09T304NE	3/8	5/32	0.173	1/64	0.134			○		
	3252NE	09T308NE	3/8	5/32	0.173	1/32	0.130			○		
	CCGW 141102	CCGW 040101	0.169	0.071	0.091	0.004	0.075			○		
	141105	040102	0.169	0.071	0.091	0.008	0.075	7°	1	○	○	F20 F39
	14111	040104	0.169	0.071	0.091	1/64	0.075			○	○	
	CCGW 21502	CCGW 060201	1/4	3/32	0.110	0.004	0.138				○	
	21505	060202	1/4	3/32	0.110	0.008	0.138	7°	1		○	
	2151	060204	1/4	3/32	0.110	1/64	0.138				○	
	CCGW 32502	CCGW 09T301	3/8	5/32	0.173	0.004	0.150			○	○	
	32505	09T302	3/8	5/32	0.173	0.008	0.150	7°	1	○	○	
	3251	09T304	3/8	5/32	0.173	1/64	0.146			○	○	
	3252	09T308	3/8	5/32	0.173	1/32	0.142				○	
	CCMT 21505SE	CCMT 060202SE	1/4	3/32	0.110	0.008	0.087			○		
	NEW 2151SE	060204SE	1/4	3/32	0.110	1/64	0.087	7°	1	○		
	CCMT 32502SE	CCMT 09T301SE	3/8	5/32	0.173	0.004	0.106			○		
	NEW 32505SE	09T302SE	3/8	5/32	0.173	0.008	0.106	7°	1	○		
	3251SE	09T304SE	3/8	5/32	0.173	1/64	0.106			○		
	3252SE	09T308SE	3/8	5/32	0.173	1/32	0.106			○		
	CCMT 21502NE	CCMT 060201NE	1/4	3/32	0.110	0.004	0.110			○		
	21505NE	060202NE	1/4	3/32	0.110	0.008	0.110	7°	1	○		
	2151NE	060204NE	1/4	3/32	0.110	1/64	0.110			○		
	CCMT 32502NE	CCMT 09T301NE	3/8	5/32	0.173	0.004	0.134			○		
	32505NE	09T302NE	3/8	5/32	0.173	0.008	0.134	7°	1	○		
	3251NE	09T304NE	3/8	5/32	0.173	1/64	0.134			○		
	3252NE	09T308NE	3/8	5/32	0.173	1/32	0.130			○		
	CCMT 21502	CCMT 060201	1/4	3/32	0.110	0.004	0.130			○	○	
	21505	060202	1/4	3/32	0.110	0.008	0.130	7°	1	●	●	
	2151	060204	1/4	3/32	0.110	1/64	0.126			●	●	
	CCMT 32502	CCMT 09T301	3/8	5/32	0.173	0.004	0.154			○	○	
	32505	09T302	3/8	5/32	0.173	0.008	0.154	7°	1	●	●	
	3251	09T304	3/8	5/32	0.173	1/64	0.154			●	●	
	3252	09T308	3/8	5/32	0.173	1/32	0.150				●	

CBN & PCD Inserts sold in 1 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Positive

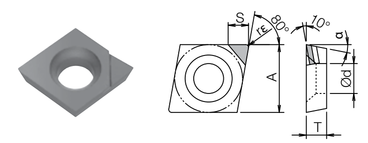
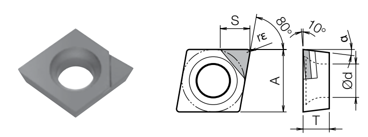
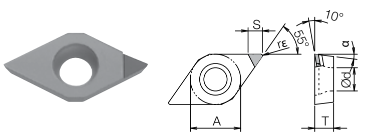
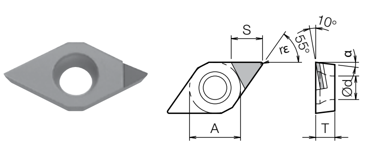
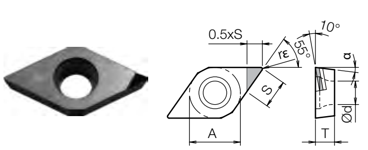
Positive Insert with Hole

How to read this page ➡ B13

Part Number	Applicable Toolholder Page
DC..215_	E24~E27, E35, F45~F49
DC..325_	E20, E24~E27, E35, F45~F49, F75

Material		KPD001	KPD010
N	Non-Ferrous Metals (with Interruption)	◐	
	Non-Ferrous Metals (without Interruption)	●	
S	Titanium Alloys (with Interruption)	◐	
	Titanium Alloys (without Interruption)	●	

Edge Prep.: All PCD Items – Sharp Edge

Insert	ANSI Part Number	ISO Part Number	A (in)	T (in)	Ød (in)	rε (in)	S (in)	α Angle (°)	No. of Edges	PCD KPD001	PCD KPD010	Toolholder Page
	CPMH 3205SE	CPMH 090302SE	3/8	1/8	0.177	0.008	0.106	11°	1	○		F41 F42 F43
	NEW 321SE	090304SE	3/8	1/8	0.177	1/64	0.106			○		
	CPMH 251505NE	CPMH 080202NE	5/16	3/32	0.138	0.008	0.126	11°	1	○		
	25151NE	080204NE	5/16	3/32	0.138	1/64	0.126			○		
	CPMH 3202NE	CPMH 090301NE	3/8	1/8	0.177	0.004	0.134	11°	1	○		
	3205NE	090302NE	3/8	1/8	0.177	0.008	0.134			○		
	321NE	090304NE	3/8	1/8	0.177	1/64	0.134			○		
	322NE	090308NE	3/8	1/8	0.177	1/32	0.130			○		
	CPMH 251502	CPMH 080201	5/16	3/32	0.138	0.004	0.146	11°	1	○	○	
	251505	080202	5/16	3/32	0.138	0.008	0.146			●	○	
	25151	080204	5/16	3/32	0.138	1/64	0.146			●	○	
	CPMH 3202	CPMH 090301	3/8	1/8	0.177	0.004	0.157	11°	1		○	
	3205	090302	3/8	1/8	0.177	0.008	0.154			○	●	
	321	090304	3/8	1/8	0.177	1/64	0.154			○	○	
	322	090308	3/8	1/8	0.177	1/32	0.150				●	
	DCMT 21502SE	DCMT 070201SE	1/4	3/32	0.110	0.004	0.106	7°	1	○		Reference Table Above
	NEW 21505SE	070202SE	1/4	3/32	0.110	0.008	0.106			○		
	2151SE	070204SE	1/4	3/32	0.110	1/64	0.106			○		
	DCMT 32502SE	DCMT 11T301SE	3/8	5/32	0.173	0.004	0.106	7°	1	○		
	NEW 32505SE	11T302SE	3/8	5/32	0.173	0.008	0.106			○		
	3251SE	11T304SE	3/8	5/32	0.173	1/64	0.106			●		
	3252SE	11T308SE	3/8	5/32	0.173	1/32	0.106			●		
	DCMT 21502NE	DCMT 070201NE	1/4	3/32	0.110	0.004	0.134	7°	1	○		
	21505NE	070202NE	1/4	3/32	0.110	0.008	0.134			○		
	2151NE	070204NE	1/4	3/32	0.110	1/64	0.126			○		
	DCMT 32502NE	DCMT 11T301NE	3/8	5/32	0.173	0.004	0.134	7°	1	○		
	32505NE	11T302NE	3/8	5/32	0.173	0.008	0.130			○		
	3251NE	11T304NE	3/8	5/32	0.173	1/64	0.126			○		
	3252NE	11T308NE	3/8	5/32	0.173	1/32	0.110			○		
	DCMT 21502	DCMT 070201	1/4	3/32	0.110	0.004	0.157	7°	1	○	○	
	21505	070202	1/4	3/32	0.110	0.008	0.154			●	●	
	2151	070204	1/4	3/32	0.110	1/64	0.146			●	●	
	DCMT 32502	DCMT 11T301	3/8	5/32	0.173	0.004	0.157	7°	1	○	○	
	32505	11T302	3/8	5/32	0.173	0.008	0.154			●	○	
	3251	11T304	3/8	5/32	0.173	1/64	0.146			●	●	
	3252	11T308	3/8	5/32	0.173	1/32	0.130			●	●	
	DCMT 21505R/L-NE	DCMT 070202R/L-NE	1/4	3/32	0.110	0.008	0.130	7°	1	○		
	2151R/L-NE	070204R/L-NE	1/4	3/32	0.110	1/64	0.126			○		
	DCMT 32505R/L-NE	DCMT 11T302R/L-NE	3/8	5/32	0.173	0.008	0.130	7°	1	○		
	3251R/L-NE	11T304R/L-NE	3/8	5/32	0.173	1/64	0.126			○		

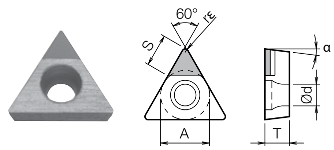
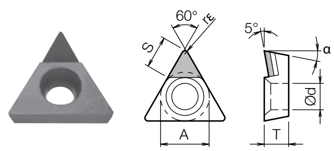
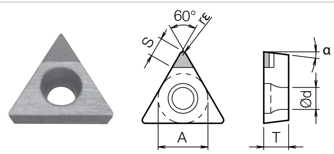
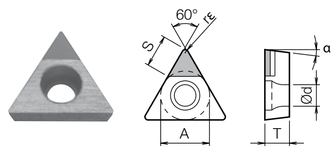
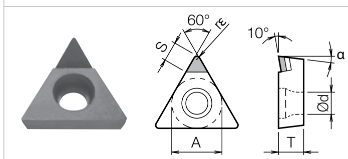
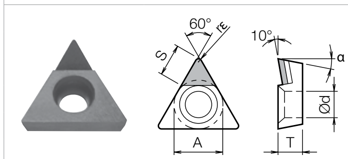
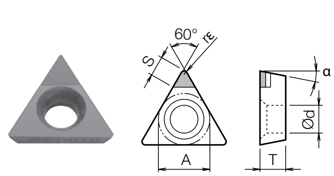
Positive

Positive Insert with Hole

How to read this page B13

Part Number	Applicable Toolholder Page	Part Number	Applicable Toolholder Page
TP..1515_	E29, F53, F55	TP..22_	E29, F53~F55
TP..1815_	F53, F55	TP..32_	F53, F55

Edge Prep.			KPD001	KPD010
All PCD Items / Sharp Edge	N	Non-Ferrous Metals (with Interruption)	◐	
	N	Non-Ferrous Metals (without Interruption)	●	
	S	Titanium Alloys (with Interruption)	◐	
	S	Titanium Alloys (without Interruption)	●	

Insert	ANSI	ANSI Part Number	ISO	ISO Part Number	A	T	Ød	rε	S	α (Angle °)	No. of Edges	PCD KPD001	PCD KPD010	Toolholder Page
	TBGW	12105NE	TBGW	060102NE	5/32	1/16	0.091	0.008	0.083	5°	1	○		F53 F57
		1211NE		060104NE	5/32	1/16	0.091	1/64	0.075			○		
	TBGW	12105	TBGW	060102	5/32	1/16	0.091	0.008	3/32	5°	1	○	○	
		1211		060104	5/32	1/16	0.091	1/64	0.087			○	○	
	TBMT	12102NE	TBMT	060101NE	5/32	1/16	0.091	0.004	0.087	5°	1	○		
		1211NE		060104NE	5/32	1/16	0.091	1/64	0.079			○		
		1212NE		060108NE	5/32	1/16	0.091	1/32	0.067			○		
	TBMT	12102	TBMT	060101	5/32	1/16	0.091	0.004	0.102	5°	1		○	
		12105		060102	5/32	1/16	0.091	0.008	0.098			○	○	
		1211		060104	5/32	1/16	0.091	1/64	0.091				○	
		1212		060108	5/32	1/16	0.091	1/32	0.079			○	○	
	TCGW	2205SE	TCGW	110302SE	1/4	1/8	0.110	0.008	0.098	7°	1		○	E29
		221SE		110304SE	1/4	1/8	0.110	1/64	3/32				○	
	TCGW	2205NE	TCGW	110302NE	1/4	1/8	0.110	0.008	0.130	7°	1	○		
		221NE		110304NE	1/4	1/8	0.110	1/64	0.126			○		
	TCGW	2205	TCGW	110302	1/4	1/8	0.110	0.008	0.154	7°	1		○	
		221		110304	1/4	1/8	0.110	1/64	0.146				○	
	TCMT	2202SE	TCMT	110301SE	1/4	1/8	0.110	0.004	0.102	7°	1		○	
		2205SE		110302SE	1/4	1/8	0.110	0.008	0.098				○	
		221SE		110304SE	1/4	1/8	0.110	1/64	3/32				○	
	TCMT	151505NE	TCMT	080202NE	3/16	3/32	0.091	0.008	0.083	7°	1	○		
	TCMT	2205NE	TCMT	110302NE	1/4	1/8	0.110	0.008	0.134	7°	1	○		
		221NE		110304NE	1/4	1/8	0.110	1/64	0.130			○		
	TCMT	151505	TCMT	080202	3/16	3/32	0.091	0.008	3/32	7°	1		○	
		15151		080204	3/16	3/32	0.091	1/64	0.087				○	
	TCMT	2205	TCMT	110302	1/4	1/8	0.110	0.008	0.154	7°	1		○	
	TPGB	181505SE	TPGB	090202SE	7/32	3/32	0.118	0.008	0.083	11°	1	○		Reference Table Above
NEW		18151SE		090204SE	7/32	3/32	0.118	1/64	0.083			○		
		18152SE		090208SE	7/32	3/32	0.118	1/32	0.083			○		
	TPGB	2202SE	TPGB	110301SE	1/4	1/8	0.130	0.004	0.106	11°	1	○	○	
		2205SE		110302SE	1/4	1/8	0.130	0.008	0.102			○	○	
		221SE		110304SE	1/4	1/8	0.130	1/64	0.098			○	○	
	TPGB	3205SE	TPGB	160302SE	3/8	1/8	0.177	0.008	0.102	11°	1	○	○	
		321SE		160304SE	3/8	1/8	0.177	1/64	3/32			○	○	

CBN
PCD
POSITIVE
C
D
S
T
V
W
SOLID
GROOVING

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

CBN & PCD Inserts sold in 1 piece boxes.

NEW ITEMS!

Positive

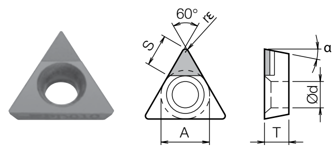
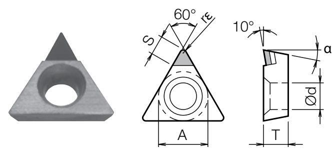
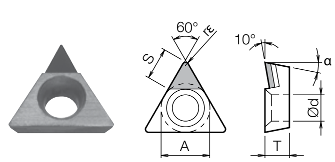
Positive Insert with Hole

How to read this page ➡ B13

Part Number	Applicable Toolholder Page	Part Number	Applicable Toolholder Page
TP..1515_	E29, F53, F55	TP..22_	E29, F53~F55
TP..1815_	F53, F55	TP..32_	F53, F55

		KPD001	KPD010
N	Non-Ferrous Metals (with Interruption)	◐	
	Non-Ferrous Metals (without Interruption)	●	
S	Titanium Alloys (with Interruption)	◐	
	Titanium Alloys (without Interruption)	●	

Edge Prep.: All PCD Items — Sharp Edge

Insert	ANSI Part Number	ISO Part Number	A (in)	T (in)	Ød (in)	rε (in)	S (in)	α Angle (°)	No. of Edges	PCD KPD001	PCD KPD010	Toolholder Page
	TPGB 151505NE	TPGB 080202NE	3/16	3/32	0.098	0.008	0.087			○		Reference Table Above
	15151NE	080204NE	3/16	3/32	0.098	1/64	0.083	11°	1	○		
	15152NE	080208NE	3/16	3/32	0.098	1/32	0.071			○		
	TPGB 181505NE	TPGB 090202NE	7/32	3/32	0.118	0.008	0.106			○		
	18151NE	090204NE	7/32	3/32	0.118	1/64	0.102	11°	1	○		
	18152NE	090208NE	7/32	3/32	0.118	1/32	0.091			○		
	TPGB 2205NE	TPGB 110302NE	1/4	1/8	0.130	0.008	0.134			○		
	221NE	110304NE	1/4	1/8	0.130	1/64	0.130	11°	1	○		
	222NE	110308NE	1/4	1/8	0.130	1/32	0.118			○		
	TPGB 321NE	TPGB 160304NE	3/8	1/8	0.177	1/64	0.126	11°	1	○		
	322NE	160308NE	3/8	1/8	0.177	1/32	0.114			○		
	TPGB 151505	TPGB 80202	3/16	3/32	0.098	0.008	0.102	11°	1	○	○	
	15151	80204	3/16	3/32	0.098	1/64	3/32			○	○	
	TPGB 181505	TPGB 90202	7/32	3/32	0.118	0.008	0.126	11°	1	○	○	
	18151	90204	7/32	3/32	0.118	1/64	0.118			○	○	
	TPGB 2205	TPGB 110302	1/4	1/8	0.130	0.008	0.154			○	○	
	221	110304	1/4	1/8	0.130	1/64	0.146	11°	1	○	○	
	222	110308	1/4	1/8	0.130	1/32	0.134				○	
	TPMH 151505SE	TPMH 080202SE	3/16	3/32	0.098	0.008	0.079	11°	1	○		
	NEW 15151SE	080204SE	3/16	3/32	0.098	1/64	0.071			○		
	TPMH 181505SE	TPMH 090202SE	7/32	3/32	0.118	0.008	3/32	11°	1	○		
	NEW 18151SE	090204SE	7/32	3/32	0.118	1/64	0.087			○		
	TPMH 2202SE	TPMH 110301SE	1/4	1/8	0.130	0.004	0.106				○	
	2205SE	110302SE	1/4	1/8	0.130	0.008	0.102	11°	1	○	○	
	221SE	110304SE	1/4	1/8	0.130	1/64	0.098			○	○	
	TPMH 3205SE	TPMH 160302SE	3/8	1/8	0.177	0.008	0.102	11°	1	○	○	
	321SE	160304SE	3/8	1/8	0.177	1/64	3/32			○	○	
	TPMH 151502NE	TPMH 080201NE	3/16	3/32	0.098	0.004	0.091			○		
	151505NE	080202NE	3/16	3/32	0.098	0.008	0.087	11°	1	○		
	15151NE	080204NE	3/16	3/32	0.098	1/64	0.083			○		
	TPMH 181502NE	TPMH 090201NE	7/32	3/32	0.118	0.004	0.106			○		
	181505NE	090202NE	7/32	3/32	0.118	0.008	0.102	11°	1	○		
	18151NE	090204NE	7/32	3/32	0.118	1/64	0.098			○		
	18152NE	090208NE	7/32	3/32	0.118	1/32	0.087			○		
	TPMH 2202NE	TPMH 110301NE	1/4	1/8	0.130	0.004	0.134			○		
	2205NE	110302NE	1/4	1/8	0.130	0.008	0.130	11°	1	○		
	221NE	110304NE	1/4	1/8	0.130	1/64	0.126			○		
	222NE	110308NE	1/4	1/8	0.130	1/32	0.114			●		
	TPMH 321NE	TPMH 160304NE	3/8	1/8	0.177	1/64	0.130			○		
	322NE	160308NE	3/8	1/8	0.177	1/32	0.118			○		
	TPMH 151502	TPMH 80201	3/16	3/32	0.098	0.004	0.102				○	
	151505	80202	3/16	3/32	0.098	0.008	0.098	11°	1	○	○	
	15151	80204	3/16	3/32	0.098	1/64	0.091			○	○	
	TPMH 181502	TPMH 90201	7/32	3/32	0.118	0.004	0.118			○	○	
	181505	90202	7/32	3/32	0.118	0.008	0.114	11°	1	○	○	
	18151	90204	7/32	3/32	0.118	1/64	0.110			○	○	
	18152	90208	7/32	3/32	0.118	1/32	0.098				○	
	TPMH 2202	TPMH 110301	1/4	1/8	0.130	0.004	0.154			○	○	
	2205	110302	1/4	1/8	0.130	0.008	0.154	11°	1	○		
	221	110304	1/4	1/8	0.130	1/64	0.146			○	●	
	222	110308	1/4	1/8	0.130	1/32	0.134				○	
	TPMH 3205	TPMH 160302	3/8	1/8	0.177	0.008	0.157			○	●	
	321	160304	3/8	1/8	0.177	1/64	0.150	11°	1	○	●	
	322	160308	3/8	1/8	0.177	1/32	0.142				○	

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

CBN & PCD Inserts sold in 1 piece boxes.

Positive

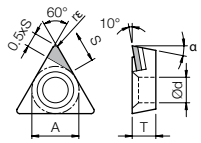
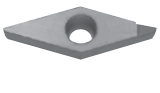
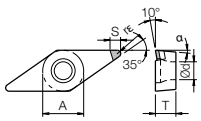
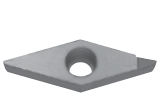
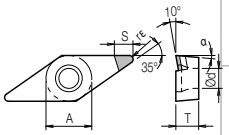
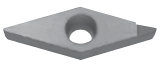
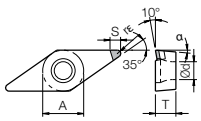
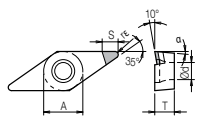
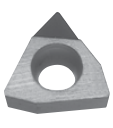
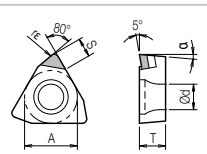
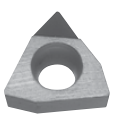
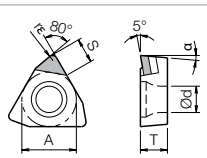
Positive Insert with Hole

How to read this page ➔ B13

Part Number	Applicable Toolholder Page	Part Number	Applicable Toolholder Page
TP..22_	E29, F53~F55	VB..22_	E30~E31, E36, F58~F65
		VB..33_	E30~E31, F58~F65

Edge Prep.: All PCD Items | Sharp Edge

N	Non-Ferrous Metals (with Interruption) ◉
	Non-Ferrous Metals (without Interruption) ●
S	Titanium Alloys (with Interruption) ◉
	Titanium Alloys (without Interruption) ●

Insert	ANSI Part Number	ISO Part Number	Dimensions (in) A	T	Ød	rε	S	Angle (°) α	No. of Edges	PCD KPD001	PCD KPD010	Toolholder Page
 	TPMH 2205R/L-NE	TPMH 110302R/L-NE	1/4	1/8	0.130	0.008	0.150	11°	1	Ⓛ		Reference Table Above
	221R/L-NE	110304R/L-NE	1/4	1/8	0.130	1/64	0.142			Ⓛ		
 	VBMT 2202SE	VBMT 110301SE	1/4	1/8	0.110	0.004	0.098	5°	1	○		Reference Table Above
	NEW 2205SE	110302SE	1/4	1/8	0.110	0.008	0.091			○		
	221SE	110304SE	1/4	1/8	0.110	1/64	0.075			○		
	222SE	110308SE	1/4	1/8	0.110	1/32	0.075			○		
	VBMT 3302SE	VBMT 160401SE	3/8	3/16	0.173	0.004	0.106	5°	1	○		
	NEW 3305SE	160402SE	3/8	3/16	0.173	0.008	0.098			○		
	331SE	160404SE	3/8	3/16	0.173	1/64	0.083			○		
	332SE	160408SE	3/8	3/16	0.173	1/32	0.079			●		
 	VBMT 2202NE	VBMT 110301NE	1/4	1/8	0.110	0.004	0.102	5°	1	○		
	2205NE	110302NE	1/4	1/8	0.110	0.008	3/32			○		
	221NE	110304NE	1/4	1/8	0.110	1/64	0.079			○		
	222NE	110308NE	1/4	1/8	0.110	1/32	0.122			○		
	VBMT 3302NE	VBMT 160401NE	3/8	3/16	0.173	0.004	0.110	5°	1	○		
	3305NE	160402NE	3/8	3/16	0.173	0.008	0.102			○		
	331NE	160404NE	3/8	3/16	0.173	1/64	0.087			○		
	332NE	160408NE	3/8	3/16	0.173	1/32	0.118			○		
	VBMT 2202	VBMT 110301	1/4	1/8	0.110	0.004	0.118	5°	1	●	○	
	2205	110302	1/4	1/8	0.110	0.008	0.110			●	○	
	221	110304	1/4	1/8	0.110	1/64	3/32			●	●	
	222	110308	1/4	1/8	0.110	1/32	0.138			○	○	
	VBMT 3302	VBMT 160401	3/8	3/16	0.173	0.004	0.126	5°	1	○	○	
	3305	160402	3/8	3/16	0.173	0.008	0.118			●	●	
	331	160404	3/8	3/16	0.173	1/64	0.102			●	○	
	332	160408	3/8	3/16	0.173	1/32	0.138				●	
 	VCMT 151505SE	VCMT 080202SE	3/16	3/32	0.091	0.008	0.055	7°	1	○		E36 F60 F62
	NEW 15151SE	080204SE	3/16	3/32	0.091	1/64	0.055			○		
	15152SE	080208SE	3/16	3/32	0.091	1/32	0.055			○		
	VCMT 151502NE	VCMT 080201NE	3/16	3/32	0.091	0.004	0.067	7°	1	○		
	151505NE	080202NE	3/16	3/32	0.091	0.008	0.067			○		
	15151NE	080204NE	3/16	3/32	0.091	1/64	0.071			○		
	15152NE	080208NE	3/16	3/32	0.091	1/32	0.075			○		
	VCMT 151502	VCMT 080201	3/16	3/32	0.091	0.004	0.079	7°	1		○	
	151505	080202	3/16	3/32	0.091	0.008	0.079			○	○	
	15151	080204	3/16	3/32	0.091	1/64	0.083			○	○	
	15152	080208	3/16	3/32	0.091	1/32	0.087			○	○	
 	WBMT 12105L-SE	WBMT 060102L-SE	5/32	1/16	0.091	0.008	0.051	5°	1	○		F66
	NEW											
 	WBMT 12102L-NE	WBMT 060101L-NE	5/32	1/16	0.091	0.004	0.067	5°	1	○		
	12105L-NE	060102L-NE	5/32	1/16	0.091	0.008	1/16			○		
	1211L-NE	060104L-NE	5/32	1/16	0.091	1/64	1/16			○		
	WBMT 12102L	WBMT 060101L	5/32	1/16	0.091	0.004	0.075	5°	1	○	○	
	12105L	060102L	5/32	1/16	0.091	0.008	0.075			○	○	
	1211L	060104L	5/32	1/16	0.091	1/64	0.075			○	●	

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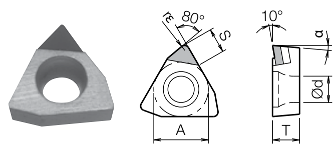
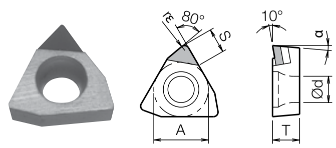
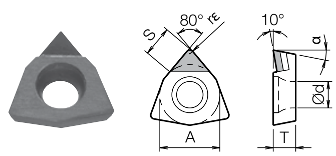
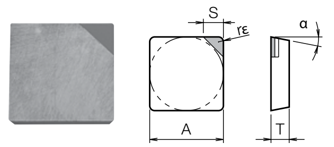
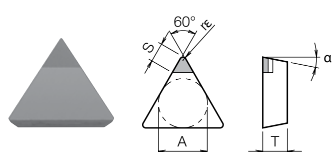
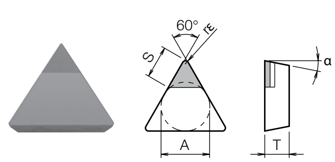
NEW ITEMS!

How to read this page ➡ B13

Positive

Positive Insert with Hole

Edge Prep.				
		N	Non-Ferrous Metals (with Interruption)	KPD001: ◐
		N	Non-Ferrous Metals (without Interruption)	KPD001: ●
All PCD Items	Sharp Edge	S	Titanium Alloys (with Interruption)	KPD001: ◐
		S	Titanium Alloys (without Interruption)	KPD001: ●

Insert	ANSI Part Number	ISO Part Number	Dimensions (in) A	T	Ød	rε	S	Angle (°) α	No. of Edges	PCD KPD001	PCD KPD010	Toolholder Page
	WBMT 151505L-SE NEW	WBMT 080202L-SE	3/16	3/32	0.091	0.008	1/16	5°	1	○		F67 F68 F69
	WBMT 151505L-NE	WBMT 080202L-NE	3/16	3/32	0.091	0.008	0.083	5°	1	○		
	15151L-NE	080204L-NE	3/16	3/32	0.091	1/64	0.083			○		
	WBMT 151505L	WBMT 080202L	3/16	3/32	0.091	0.008	3/32	5°	1	○	○	
	15151L	080204L	3/16	3/32	0.091	1/64	0.091			○	○	
	WPMT 21505SE	WPMT 110202SE	1/4	3/32	0.110	0.008	0.083	11°	1	○		
	WPMT 21505NE	WPMT 110202NE	1/4	3/32	0.110	0.008	0.106	11°	1	○		
	WPMT 21505	WPMT 110202	1/4	3/32	0.110	0.008	0.122	11°	1		●	
	SPG 421NE	SPGN 120304NE	1/2	1/8	-	1/64	0.142	11°	1	○		E42 F70
	SPG 421	SPGN 120304	1/2	1/8	-	1/64	0.165	11°	1		○	
	TPG 2202SE	TPGN 110301SE	1/4	1/8	-	0.004	0.102	11°	1	○		E43 F71
	2205SE	110302SE	1/4	1/8	-	0.008	0.098			●	○	
	221SE	110304SE	1/4	1/8	-	1/64	3/32			○	○	
	TPG 3202SE	TPGN 160301SE	3/8	1/8	-	0.004	0.102	11°	1		○	
	3205SE	160302SE	3/8	1/8	-	0.008	0.102			○	○	
	321SE	160304SE	3/8	1/8	-	1/64	3/32			○	○	
	TPG 321NE	TPGN 160304NE	3/8	1/8	-	1/64	0.126	11°	1	○		
	322NE	160308NE	3/8	1/8	-	1/32	0.114			○		
	TPG 2205	TPGN 110302	1/4	1/8	-	0.008	0.154	11°	1	○	○	
	221	110304	1/4	1/8	-	1/64	0.146			○	●	
	222	110308	1/4	1/8	-	1/32	0.134				●	
	TPG 3205	TPGN 160302	3/8	1/8	-	0.008	0.154	11°	1	○	○	
	321	160304	3/8	1/8	-	1/64	0.146			○	●	
	322	160308	3/8	1/8	-	1/32	0.134				●	

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CBN & PCD Inserts sold in 1 piece boxes.

A GRADES B INSERTS C CBN & PCD D TOOLHOLDERS E SMALL TOOLS F BORING G GROOVING H CUT-OFF J THREADING N HSK TOOLING P SPARE PARTS R TECHNICAL T INDEX

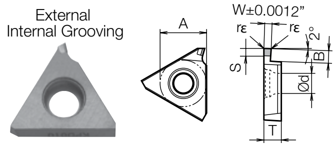
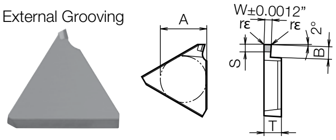
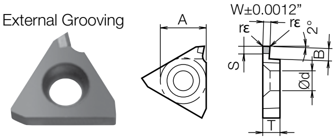
Grooving Inserts

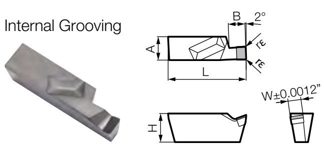
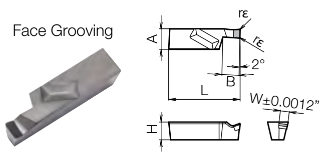
1-Edge

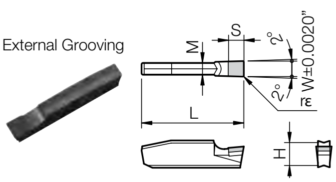
How to read this page ➡ B13

Grooving Inserts (1-edge)

Edge Prep.					KPD001	KPD010
All PCD Items	Sharp Edge		N	Non-Ferrous Metals (with Interruption)	◑	
			N	Non-Ferrous Metals (without Interruption)	●	
			S	Titanium Alloys (with Interruption)	◑	
			S	Titanium Alloys (without Interruption)	●	

Insert	ANSI Part Number	ANSI Old Part Number	W±0.0012 (in)	W±0.03 (mm)	B	rε	A	T	Ød	S	No. of Edges	PCD KPD001	PCD KPD010	Toolholder Page
External Internal Grooving 	GBA32 R/L 125-010	GBA32 R/L 125	0.049	1.25	2.0	0.1	9.525	3.18	4.4	1.7	1		Ⓡ	G11 G62
	150-010	150	0.059	1.50	2.0	0.1	9.525	3.18	4.4	1.7		Ⓡ	Ⓡ	
	GBA43 R/L 125-010	GBA43 R/L 125	0.049	1.25	2.0	0.1	12.700	4.76	5.5	1.9	1		○	
	150-010	150	0.059	1.50	3.5	0.1	12.700	4.76	5.5	1.9		○	○	
	200-010	200	0.079	2.00	3.5	0.1	12.700	4.76	5.5	1.9		🅛	○	
	250-010	250	0.098	2.50	4.0	0.1	12.700	4.76	5.5	1.9		○	○	
	300-010	300	0.118	3.00	4.0	0.1	12.700	4.76	5.5	1.9		○	○	
External Grooving 	GB43 R/L 125	-	0.049	1.25	2.0	0.1	12.700	4.76	-	1.9	1		Ⓡ	-
	150	-	0.059	1.50	3.5	0.1	12.700	4.76	-	1.9			Ⓡ	
	200	-	0.079	2.00	3.5	0.1	12.700	4.76	-	1.9			Ⓡ	
	250	-	0.098	2.50	4.0	0.1	12.700	4.76	-	1.9			Ⓡ	
	300	-	0.118	3.00	4.0	0.1	12.700	4.76	-	1.9			○	
External Grooving 	TGF32 R/L 125-010	-	0.049	1.25	2.0	0.1	9.525	3.18	4.5	1.7	1	Ⓡ		G12 G13
	150-010	-	0.059	1.50	2.0	0.1	9.525	3.18	4.5	1.7		Ⓡ		
	200-010	-	0.079	2.00	2.5	0.1	9.525	3.18	4.5	1.9		Ⓡ		

Insert	ANSI Part Number	ANSI Old Part Number	W±0.0012 (in)	W±0.03 (mm)	B	rε	A	L	H	No. of Edges	PCD KPD010 R	PCD KPD010 L	Toolholder Page
Internal Grooving 	GV R/L 145-020A	GV R/L 145A	0.057	1.45	2.3	0.2	4.0	12	5.0	1	○	□	G61
	200-020A	200A	0.079	2.00	2.3	0.2	4.0	12	5.0		○	□	
	300-020A	300A	0.118	3.00	2.3	0.2	4.0	12	5.0		□	□	
	GV R/L 200-020B	GV R/L 200B	0.079	2.00	3.2	0.2	4.5	15	5.5	1	○	□	
	250-020B	250B	0.098	2.50	3.2	0.2	4.5	15	5.5		○	□	
	300-020B	300B	0.118	3.00	4.2	0.2	4.5	15	5.5		□	□	
	GV R/L 300-020C	GV R/L 300C	0.118	3.00	4.5	0.2	5.8	21	6.5	1	□	□	
	400-020C	400C	0.157	4.00	5.5	0.2	5.8	21	6.5		□	□	
Face Grooving 	GVF R/L 250-020B	GVF R/L 250B	0.098	2.50	4.8	0.2	5.8	20	5.0	1	○	○	G110 ~ G114 G122
	300-020B	300B	0.118	3.00	4.8	0.2	5.8	20	5.0		○	○	
	400-020B	400B	0.157	4.00	5.3	0.2	5.8	20	5.0		□	□	
	GVF R/L 350-020C	-	0.138	3.50	6.8	0.2	7.0	27	7.0	1	□	□	
	400-020C	-	0.157	4.00	6.8	0.2	7.0	27	7.0		□	□	
	GVF R/L 350-040C	GVF R/L 350C	0.138	3.50	6.8	0.4	7.0	27	7.0	1	□	□	
	400-040C	400C	0.157	4.00	6.8	0.4	7.0	27	7.0		□	□	

Insert	ANSI Part Number	ANSI Old Part Number	W±0.0020 (in)	W±0.05 (mm)	rε	L	H	M	S	No. of Edges	PCD KPD001	PCD KPD010	Toolholder Page
External Grooving 	GMN 2	-	0.079	2.00	0.2	20	4.3	1.8	2.9	1	○	○	G36,G37
	3	-	0.118	3.00	0.2	20	4.3	2.3	2.9		○	○	G36 G37 G38
	4	-	0.157	4.00	0.2	20	4.3	3.3	2.9		○	○	
	5	-	0.197	5.00	0.2	20	4.3	4.2	2.9		○	○	
	6	-	0.236	6.00	0.2	20	4.3	5.2	2.9			○	G36,G37

● : U.S. Stock 🅡 : U.S. Stock (R-hand Only) 🅛 : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) □ : Made to Order Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

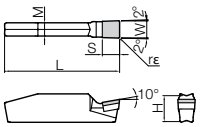
NEW ITEMS!

Grooving Inserts

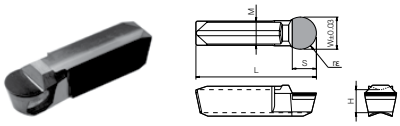
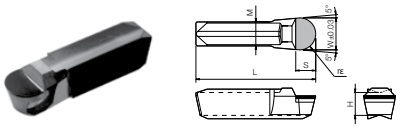
1 - Edge

How to read this page ➔ B13

Deep Grooving Inserts (1-edge)

Edge Prep.			N	Non-Ferrous Metals (with Interruption)										
All PCD Items	Sharp Edge			Non-Ferrous Metals (without Interruption)										
			S	Titanium Alloys (with Interruption)										
				Titanium Alloys (without Interruption)										
Insert	ANSI Part Number		Dimensions (mm)							No. of Edges	PCD KPD001	Toolholder Page	
			$W^{\pm 0.0008}$ (in)	$W^{\pm 0.02}$ (mm)	rε	L	H	M	S				
External Deep Grooving NEW  	GDGS	2020N-020NB	0.079	2.0	0.2	20	4.3	1.8	2.9	1	○	G19 ~ G25	
		3020N-020NB	0.118	3.0	0.2	20	4.3	2.3	2.9		○		
		4020N-020NB	0.157	4.0	0.2	20	4.3	3.3	2.9		○		
		5020N-020NB	0.197	5.0	0.2	20	4.3	4.2	2.9		○	G20 ~ G25	
		6020N-020NB	0.236	6.0	0.2	20	4.3	5.2	2.9		○		

For Aluminum Wheel (1-edge)

Edge Prep.			N	Non-Ferrous Metals (with Interruption)										
GMGW	Honed Cutting Edge			Non-Ferrous Metals (without Interruption)										
			S	Titanium Alloys (with Interruption)										
				Titanium Alloys (without Interruption)										
Insert	ANSI Part Number		Dimensions (mm)							No. of Edges	PCD KPD001	Toolholder Page	
			W (in)	W (mm)	rε	L	H	M	S				
	GMGW	6030-30R	0.236	6	3	30	5.5	5	4.5	1	○	G44	
		8030-40R	0.315	8	4	30	5.5	6	6.0		○		
	GMGW	8030-40R-HR	0.315	8	4	30	5.5	6	5.0	1	○		

Grooving
1 - Edge

How to read this page ➔ B13

Edge Prep.			N	Non-Ferrous Metals (with Interruption)	●
All PCD Items	Sharp Edge			Non-Ferrous Metals (without Interruption)	●
			S	Titanium Alloys (with Interruption)	●
				Titanium Alloys (without Interruption)	●

Insert	ANSI Part Number	Dimensions (mm) W±0.0012 (in)	W±0.03 (mm)	B	+0.00 -0.05 rε	T	H	h1	Ød	S	Angle (°) θ	No. of Edges	PCD KPD001	Toolholder Page
Turning Grooving	TKF12R/L 200-AS	0.079	2.0	5.0	0.1	3	8.7	7.3	5	5.5	0°	1	Ⓡ	E12
	250-AS	0.098	2.5	5.0	0.1	3	8.7	7.3	5	5.5			○	
	TKF16R/L 250-AS	0.098	2.5	8.0	0.1	4	9.5	8.0	5	6.5	0°	1	○	
Turning Grooving NEW	TKF12R/L 200-ASR	0.079	2.0	5.0	0.1	3	8.7	7.3	5	5.5	0°	1	Ⓛ	
	250-ASR	0.098	2.5	5.0	0.1	3	8.7	7.3	5	5.5			Ⓛ	
Left-hand insert shown with right-hand PCD edge	TKF16R/L 250-ASR	0.098	2.5	8.0	0.1	4	9.5	8.0	5	6.5	0°	1	Ⓛ	
External Grooving (Turning is Possible)	TKF12R/L 150-NB	0.059	1.5	3.5	0.1	3	8.7	8.3	5	2.0	0°	1	○	
	200-NB	0.079	2.0	4.0	0.1	3	8.7	8.3	5	3.0			○	
	250-NB	0.098	2.5	4.0	0.1	3	8.7	8.3	5	3.0			Ⓡ	
	250-NB4.5	0.098	2.5	5.0	0.1	3	8.7	8.3	5	4.5			Ⓡ	

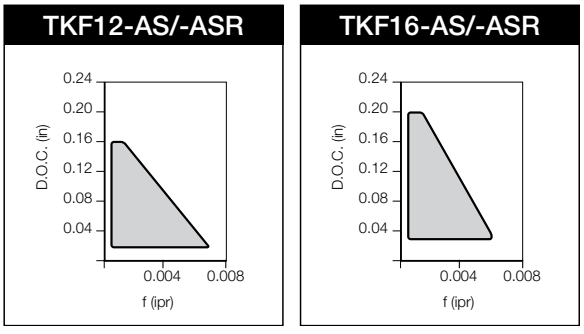
- Lead angle (front cutting edge angle: θ) shows the angle when installed into toolholder
- TKF PCD inserts are only for turning and grooving
- Cut-off is not recommended.
- Dimension B shows available grooving depth

Insert Identification System

TKF	12	R	200	-	AS	
TKF	12	L	200	-	AS	R

- TKF: Insert Type
- 12: Insert Size
- R / L: Insert Hand
  - **R** : Right-hand
  - **L** : Left-hand
- 200: Width (Edge Width)
- AS / NB: Name of Chipbreaker
  - **AS** : AS Chipbreaker
  - **NB** : Without Chipbreaker
- R: PCD Insert Hand
  - **Without Indication:** The edge hand is the same as the insert hand.
  - **R** : Right-hand

Applicable Range



- TKF PCD inserts are only for turning and grooving
- Cut-off is not recommended

Note) 1. The cutting edge of the TKF-AS/-ASR will be 0.04" lower than the center line when attached to the KTKF toolholder (Ref. **Fig.1**). Adjust the height by making NC lathe parameter settings or inserting a plate.

2. If the 0.04" adjustment is not possible on your automatic lathe, use the TKF-NB (Ref. **Fig.2**).

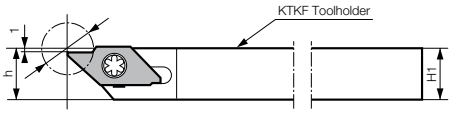


Fig.1 When a TKF-AS/-ASR insert is attached
(The cutting edge is 0.04" lower than the center line.)

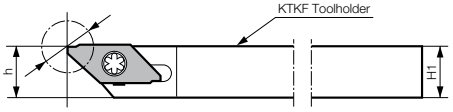


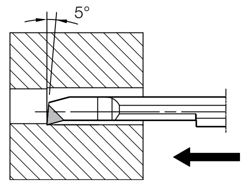
Fig.2 When a TKF-NB insert is attached

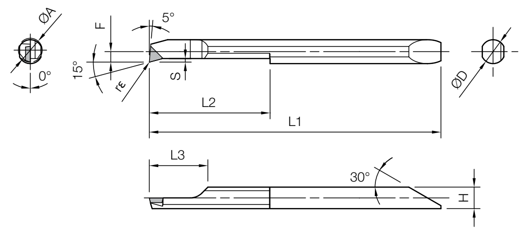
● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

EZ Bar

EZB-NB : PCD NEW

How to read this page ➡ B13





• Righ-Hand Insert Shown

● EZ Bar Dimensions

Edge Prep.				PCD KPD001
All PCD Items	Sharp Edge	N	Non-Ferrous Metals (with Interruption)	◒
		N	Non-Ferrous Metals (without Interruption)	●
		S	Titanium Alloys (with Interruption)	◒
		S	Titanium Alloys (without Interruption)	●

ANSI Part Number		Min. Bore Dia. ØA	ØD	H	L1	L2	L3	F	S	rε	No. of Edges	PCD KPD001	Applicable Sleeves Page
EZBR	040040-003NB	4	4	3.6	48.8	20	9.8	1.75	0.5	0.035±0.015	1	○	F22 ~ F27
	050050-003NB	5	5	4.6	58.1	25	9.8	2.25	0.5			○	
	060060-003NB	6	6	5.6	66.1	30	11.8	2.75	0.5			○	
	070070-003NB	7	7	6.6	74.1	35	11.8	3.25	0.5			○	

Dimensions (mm)

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

CBN & PCD Inserts sold in 1 piece boxes.

GRADES A
INSERTS B
CBN & PCD C
TOOLHOLDERS D
SMALL TOOLS E
BORING F
GROOVING G
CUT-OFF H
THREADING J
HSK TOOLING N
SPARE PARTS P
TECHNICAL R
INDEX T

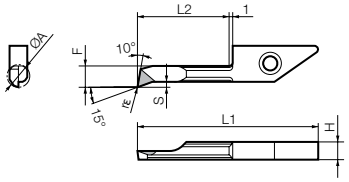
System Tip-Bars

Micro Boring / Micro Grooving

How to read this page ➔ B13

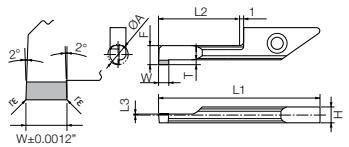
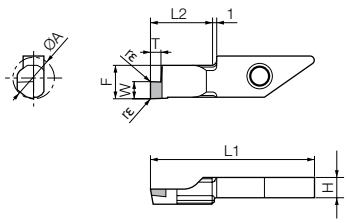
System Tip-Bars

Edge Prep.			N	Non-Ferrous Metals (with Interruption)	●	
				Non-Ferrous Metals (without Interruption)	●	
All PCD Items	Sharp Edge		S	Titanium Alloys (with Interruption)	●	
				Titanium Alloys (without Interruption)	●	

Insert	ANSI Part Number		Min. Bore Dia.	Dimensions (mm)							No. of Edges	PCD		Toolholder Page
			ØA	H	L1	L2	F	S	rε		KPD001	KPD010	
Micro Boring 	VNBR	0411-02NB	4	3.9	30.8	11	3.5	0.5	0.2	1	○	○	F30 F31
		0420-02NB	4	3.9	39.8	20	3.5	0.5	0.2		○	○	
	VNBR	0511-02NB	5	3.9	30.8	11	4.5	0.7	0.2	1	○	○	
		0520-02NB	5	3.9	39.8	20	4.5	0.7	0.2		○	○	
	VNBR	0620-02NB	6	3.9	39.8	20	5.3	1.0	0.2	1	○	○	
		0630-02NB	6	3.9	49.8	30	5.3	1.0	0.2		○	○	
	VNBR	0720-02NB	7	3.9	39.8	20	6.2	1.0	0.2	1	○	○	
		0730-02NB	7	3.9	49.8	30	6.2	1.0	0.2		○	○	

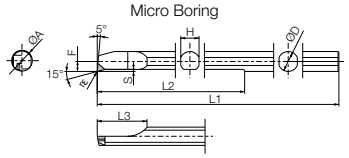
System Tip-Bars

Edge Prep.			N	Non-Ferrous Metals (with Interruption)	●	
				Non-Ferrous Metals (without Interruption)	●	
All PCD Items	Sharp Edge		S	Titanium Alloys (with Interruption)	●	
				Titanium Alloys (without Interruption)	●	

Insert	ANSI Part Number		Min. Bore Dia.	Dimensions (mm)									No. of Edges	PCD		Toolholder Page
			ØA	W (in)	W (mm)	rε	H	L1	L2	L3	F	T		KPD001	KPD010	
Micro Grooving 	VNGR	0410-11NB	4	0.039	1.0	0.05	3.9	30.8	11	0.1	3.5	0.8	1	□	□	F30 F31
		0420-11NB	4	0.079	2.0	0.10	3.9	30.8	11	0.1	3.5	0.8		□	□	
	VNGR	0510-11NB	5	0.039	1.0	0.05	3.9	30.8	11	0.1	4.4	1.0	1	□	□	
		0520-11NB	5	0.079	2.0	0.10	3.9	30.8	11	0.1	4.4	1.0		□	□	
	VNGR	0610-20NB	6	0.039	1.0	0.05	3.9	39.8	20	0.3	5.2	1.8	1	□	□	
		0620-20NB	6	0.079	2.0	0.10	3.9	39.8	20	0.3	5.2	1.8		□	□	
	VNGR	0710-20NB	7	0.039	1.0	0.05	3.9	39.8	20	0.3	6.2	2.0	1	□	□	
		0720-20NB	7	0.079	2.0	0.10	3.9	39.8	20	0.3	6.2	2.0		□	□	
Micro Face Grooving 	VNFGR	0820-10NB	8	0.079	2.0	0.05	3.9	39.8	10	-	7.3	2.0	1	□	□	
		0830-10NB	8	0.118	3.0	0.05	3.9	39.8	10	-	7.3	3.0		□	□	

Micro-Bars

Edge Prep.			N	Non-Ferrous Metals (with Interruption)	●	
				Non-Ferrous Metals (without Interruption)	●	
All PCD Items	Sharp Edge		S	Titanium Alloys (with Interruption)	●	
				Titanium Alloys (without Interruption)	●	

Insert	ANSI Part Number		Min. Bore Dia.	Dimensions (mm)								No. of Edges	PCD		Toolholder Page
			ØA	ØD	H	L1	L2	L3	F	S	rε		KPD001	KPD010	
Micro Boring 	PSB R/L	0404-60NBS	4	3.8	3.6	60	30	10	1.9	0.3	0.05	1	Ⓡ	Ⓡ	F94
		0505-70NBS	5	4.8	4.4	70	40	12	2.4	0.5	0.05		Ⓡ	○	
		0606-70NBS	6	5.8	5.2	70	45	12	2.9	0.5	0.05		Ⓡ	Ⓡ	
		0707-80NBS	7	6.8	6.2	80	50	12	3.4	0.5	0.05		Ⓡ	Ⓡ	

CBN & PCD Inserts sold in 1 piece boxes.

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○ : World Express (Shipping: 7-10 Business Days) □ : Made to Order Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

EXTERNAL TOOLHOLDERS

D

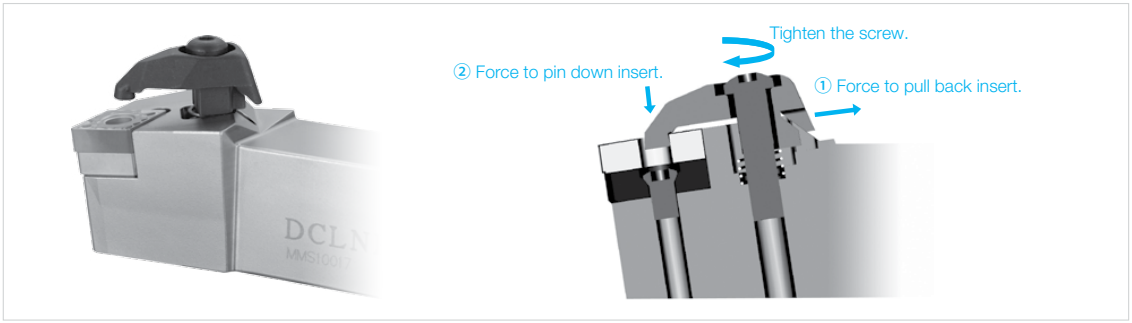
D1 - D42

High Rigidity Toolholder

Double-Clamp Series

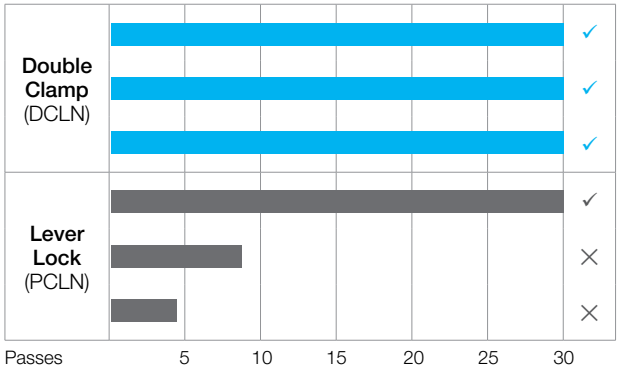
Securely Clamps the Insert with a Single Action

Improved Clamping Rigidity



Long Insert Life

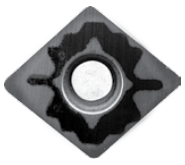
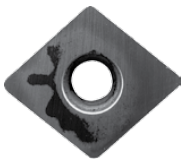
The double-clamp design firmly clamps the insert in two directions, which maintains good contact between the shim and the insert even during high feed rate machining. Along with improving the accuracy of the insert position, greater insert life is attained.



<Cutting Conditions>
SCM435, Vc (sfm)=490, D.O.C.=0.039", f (ipr)=0.016"
CNMG432PS, 30 Pass Interrupted Machining

Comparison of shim and insert contact

Coating material is applied to the shim side of the insert, which is installed on the toolholder. Compare the shim contact surface after tightening.

PS Chipbreaker	Shim Contact Surface of Double-Clamp	Shim Contact Surface of Lever Lock
	Cutting Edge Side 	Cutting Edge Side 
	The shape of the insert breaker is transferred indicating a high level of contact.	Only a part of the shape of the insert breaker is transferred indicating a low level of contact.

Convenient Marking Design

The spare part descriptions and the screw tightening torque are conveniently located on the toolholder body.

Screw	Tightening Torque
CS-2D	1.7 N·m (1.25lb.ft)
CS-3D	3.9 N·m (2.88lb.ft)
CS-5D	3.0 N·m (2.21lb.ft)

EXTERNAL TOOLHOLDER IDENTIFICATION SYSTEM

LENGTH AND WIDTH	LENGTH AND SIDE
A - 4.000 Back and End	M - 4.000 Front and End
B - 4.500 Back and End	N - 4.500 Front and End
C - 5.000 Back and End	P - 5.000 Front and End
D - 6.000 Back and End	R - 6.000 Front and End
E - 7.000 Back and End	S - 7.000 Front and End
F - 8.000 Back and End	T - 8.000 Front and End
G - 5.500 Back and End	U - 5.500 Front and End

* NOTE: All qualified dimensions are given to a tolerance of 0.003" over a master gauge insert radius based on the standard shown.

Insert I.C.	Radius
1/4" - 5/16"	0.015"
3/8" - 1/2"	0.031"
5/8" - 3/4"	0.047"
1"	0.062"

⑧ Qualified Control

Number of 1/8ths on 1/4" I.C. and over.

⑦ Insert Size I.C.

This position shall be a significant number which indicates the holder cross section. For square shanks this number will represent the number of sixteenths of width and height. For rectangular holders the first digit represents the number of eighths of width and the second digit the number of quarters of height, except the following toolholder: 1-1/4 x 1-1/2 which is given the number 91.

⑥ Toolholder Shank Size

- R : Round
- S : Square
- T : Triangle
- C : 80° Diamond
- D : 55° Diamond
- V : 35° Diamond
- W : 80° Trigon
- R : Round

② Insert Shape

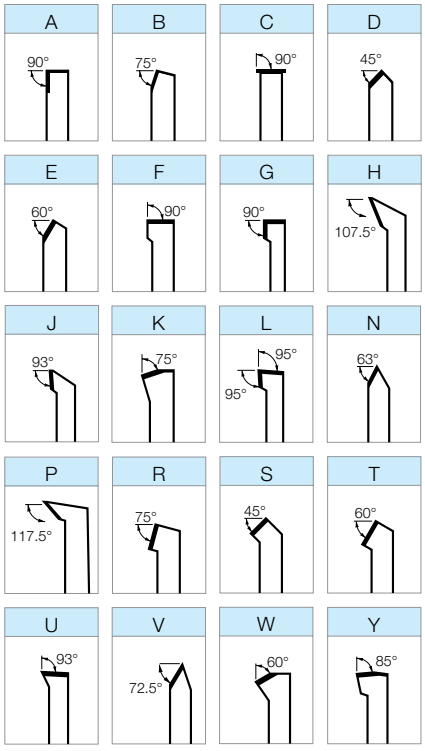
- A : Anchor Pin Style
- C : Clamp Only
- D : Double Clamp
- M : Clamp and Lock Pin
- P : Lock Pin Only (or Lever Lock)
- S : Screw Only
- W : Wedge Only

① Clamping System

	①	②	③	④	⑤	⑥	⑦	⑧
ANSI (inch)	D	C	L	N	R	16	4	D
ISO (metric)	D	C	L	N	R	20	20	K

	⑨	⑩
ANSI (inch)	12	
ISO (metric)		

③ Cutting Edge Angle



④ Insert Relief Angle

- B : 5° Positive
- C : 7° Positive
- D : 15° Positive
- E : 20° Positive
- N : 0° Negative
- P : 11° Positive

⑤ Hand of Tool

- R : Right-hand
- L : Left-hand
- N : Neutral

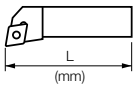
⑥ Shank Height

Shank Height (mm)

⑦ Shank Width

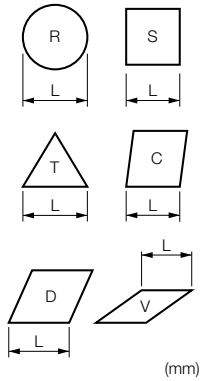
Shank Width (mm)

⑧ Toolholder Length



A : 32	J : 110	S : 250
B : 40	K : 125	T : 300
C : 50	L : 140	U : 350
D : 60	M : 150	V : 400
E : 70	N : 160	W : 450
F : 80	P : 170	Y : 500
G : 90	Q : 180	X : Special
H : 100	R : 200	

⑨ Insert Size



⑩ Others

- Optional Code
- Optional Mark or Number

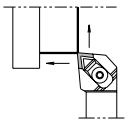
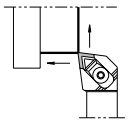
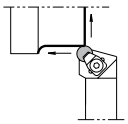
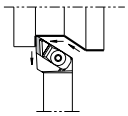
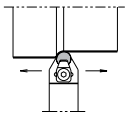
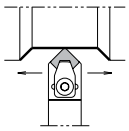
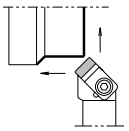
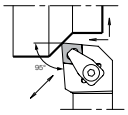
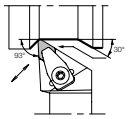
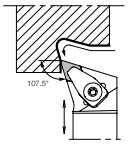
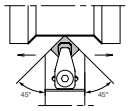
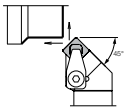
- Specifications may change without prior notice.
- Due to the installation size constraints on the machine, the toolholder length of some products may not match with the symbol.

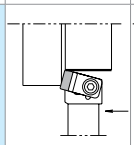
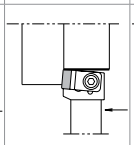
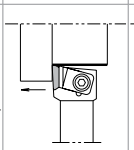
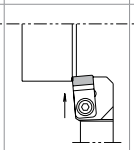
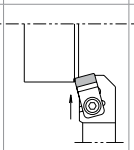
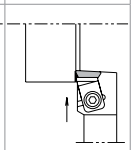
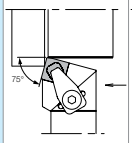
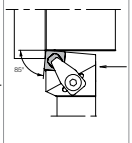
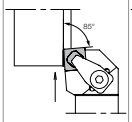
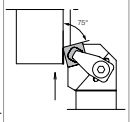
General Purpose Turning Holders

Applicable Insert Shape	CN..	WN..	TN..	DN..	RC..		RN..	VN..
Application	External / Facing		External / Facing / Copying					External / Facing / Copying / Undercutting
Cutting Edge Angle	95°		105°	107.5°	Special			117.5°
Lever Lock (Pin Lock)	PCLN	PWLN		PDHN	PRGC	PRXC	PRGN	PVPN (Pin Lock)
Ref. Page	D9	D23		D11	D21	D21	D21	D20
Wedge Lock		WWLN	WTKN					
Ref. Page		D23	D16					
Double Clamp	DCLN	DWLN		DDHN				DVPN
Ref. Page	D8	D22		D10				D18
Multi-Lock	MCLN	MWLN						
Ref. Page	D8	D22						

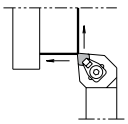
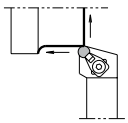
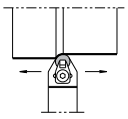
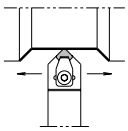
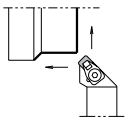
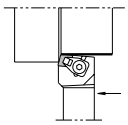
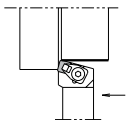
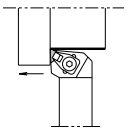
Applicable Insert Shape	VN..	DN.. / TN..	SN..	TN..	SN..	SN..	TN..	SN..	TN..
Application	External / Copying		External / Chamfering		External / Facing / Chamfering	External		Facing	
Cutting Edge Angle	72.5°	95°	93°	45°	60°	45°	75°	91°	15°	-1°
Lever Lock (Pin Lock)	PVVN (Pin Lock)	PVLN (Pin Lock)	PDJN	PSDN		PSSN	PSBN	PTGN	PSKN	PTFN
Ref. Page	D20	D20	D11	D13		D13	D13	D15	D13	D15
Wedge Lock			WTJN		WTEN					
Ref. Page			D16		D16					
Double Clamp	DVVN	DVJN / DVLN	DDJN				DSBN	DTGN		
Ref. Page	D18	D18	D10				D12	D14		
Multi-Lock	MVVN	MVJN / MVLN	MDJN			MSSN		MTGN		
Ref. Page	D19	D19	D10			D12		D14		

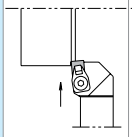
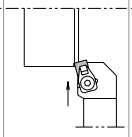
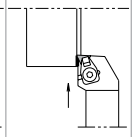
Toolholders for Ceramic Tools

Application	External / Facing			External / Copying			External / Chamfering	External / Facing / Chamfering
Cutting Edge Angle	95°	97.5°	Special	93°	107.5°	Special	45°	45°
Top Clamp								
	CCLN / HCLN	CELN	CRSN / HRSN	CDJN		CRDN / CRDC	CSDN / HSDN	CSSN
Ref. Page	D24	D25	D29	D31		D29	D27	D27
Dimpled Clamp								
	CCLN-GX			CDJN-GX	CDHN-GX		CSDN-GX	CSSN-GX
Ref. Page	D30			D31	D31		D32	D32

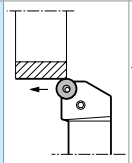
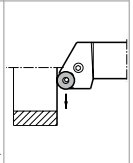
Application	External			Facing		
Cutting Edge Angle	75°	85°	93°	5°	15°	-3°
Top Clamp						
	CSRN / HSRN	CS-N	CTJN	CSYN	CSKN	CTUN
Ref. Page	D26	D26	D28	D26	D26	D28
Dimpled Clamp						
	CSRN-GX	CS-N-GX		CSYN-GX	CSKN-GX	
Ref. Page	D32	D33		D33	D33	

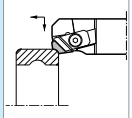
Toolholders for Solid CBN Tools

Application	External / Facing		External / Copying	External / Chamfering	External / Facing / Chamfering	External		
Cutting Edge Angle	95°	Special	Special	45°	45°	75°		93°
Top Clamp								
	CCLN-A	CRSN-A	CRDN-A	CSDN-A	CSSN-A	CCRN-A	CSRN-A	CTJN-A
Ref. Page	D34	D35	D35	D37	D37	D34	D36	D38

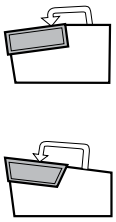
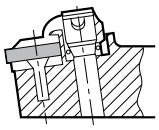
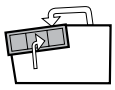
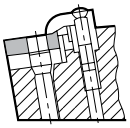
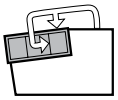
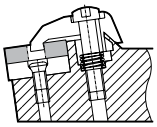
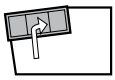
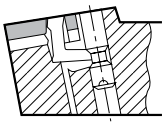
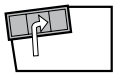
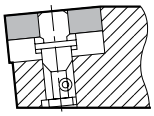
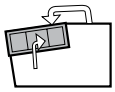
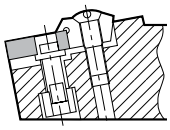
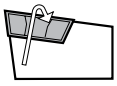
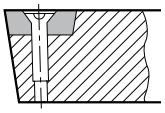
Application	Facing		
Cutting Edge Angle	5°	15°	-3°
Top Clamp			
	CSYN-A	CSKN-A	CTUN-A
Ref. Page	D36	D36	D38

Toolholders for Bearing Machining

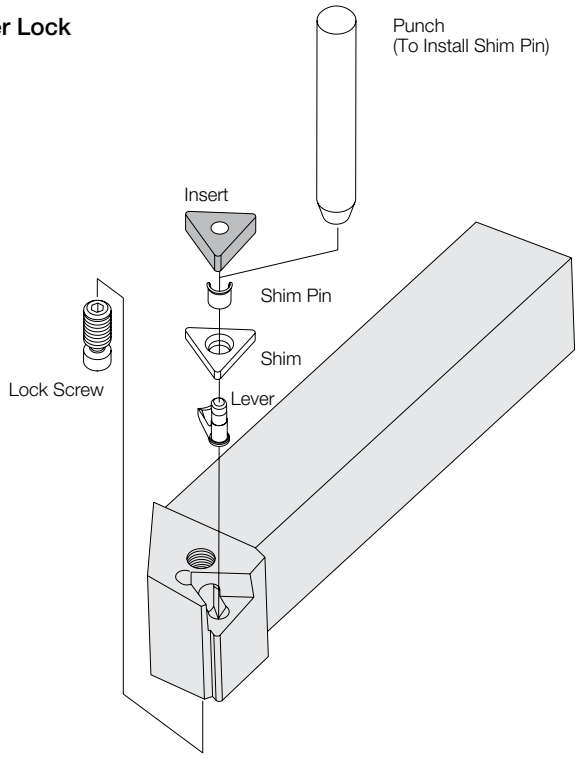
Application	External	Facing
Cutting Edge Angle	Special	Special
Lever Lock		
	PRGC-BE	PRGC-BF
Ref. Page	D39	D39

Application	Round Chamfering
Cutting Edge Angle	Special
Top Clamp	
	CBSN
Ref. Page	D40

Clamping System

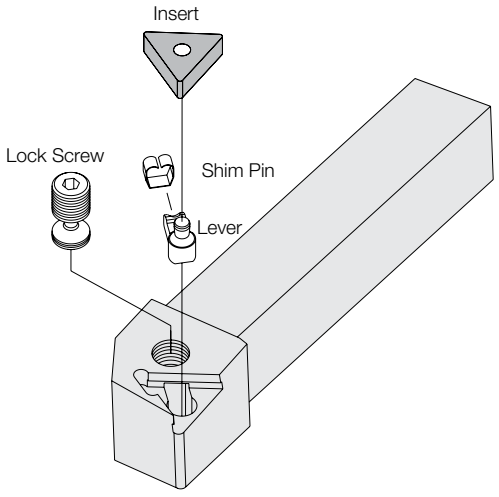
Series	Design		Features	Series	Design		Features
Top Clamp (C)			• Rigid Clamping • Negative Insert : Medium to Heavy Machining (Mainly for Ceramic Insert) • Positive Insert : Low Cutting Force	**Multi-Lock (M)**			• Combination of Top Clamp and Pin Lock • Rigid Clamping • Heavy Machining
Double Clamp (D)			• Firmly clamp the insert in two directions with one action.	**Lever Lock (P)**			• Easy Insert Replacement • General Use
Pin Lock (P)			• Easy Insert Replacement	**Wedge Lock (W)**			• Rigid Clamping • Heavy Machining
Screw Clamp (S)			• Simple Mechanism • Fewer Parts • Finishing to Medium Machining				

Lever Lock



With Shim

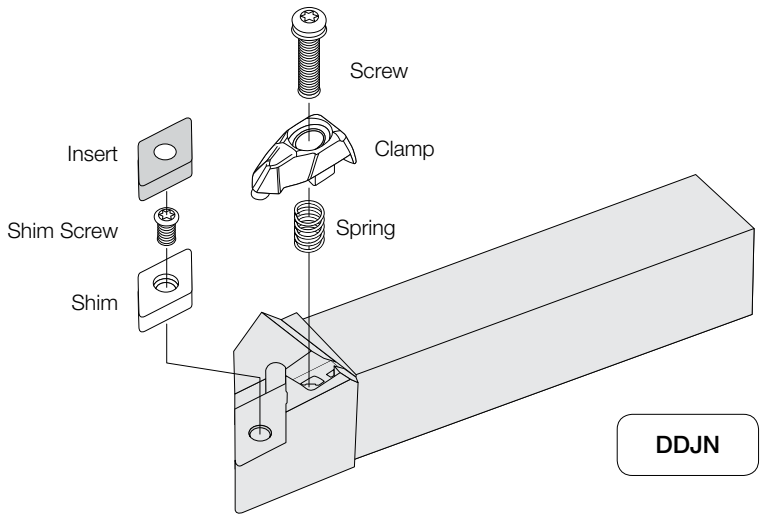
PCLN
PWLN
PTGN / PTFN / PTLN
PDJN / PDHN
PSBN / PSKN / PSSN / PSDN
PRGN
PRGC / PRXC



Without Shim

PTGN-11 / PTFN-11

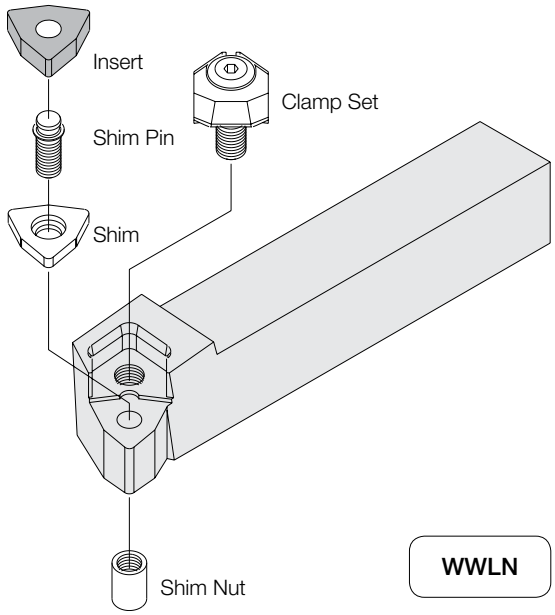
Double Clamp



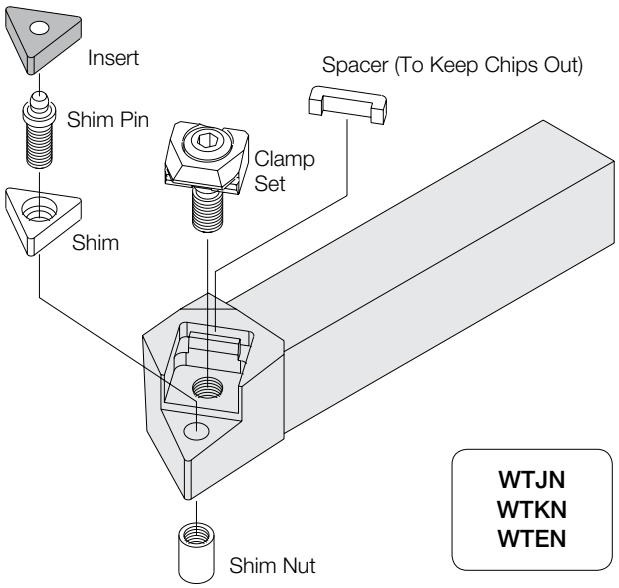
DCLN
DDJN / DDHN
DSBN
DTGN
DVLN / DVJN / DVPN / DVVN
DWLN

DDJN

Wedge Lock

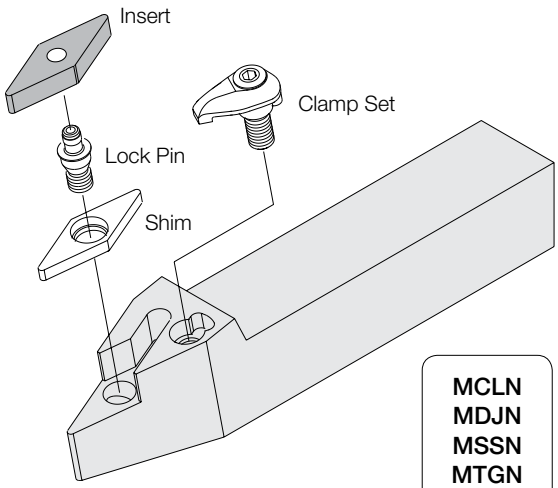


WWLN



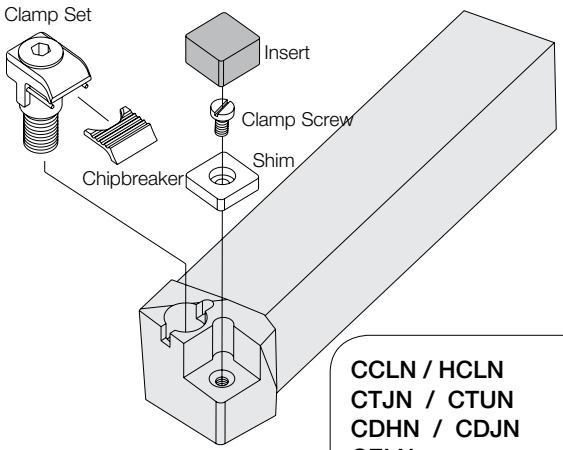
WTJN
WTKN
WTEN

Multi Lock



MCLN
MDJN
MSSN
MTGN
MVJN
MVVN
MWLN

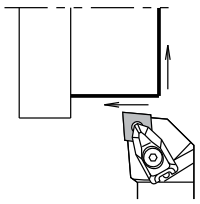
Top Clamp

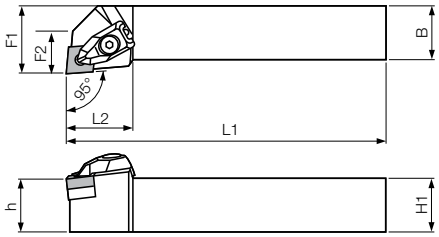


CCLN / HCLN
CTJN / CTUN
CDHN / CDJN
CELN
CSRN / HSRN / CS-N / CSKN
CSYN / CSSN / CSDN / HSDN
***CRSN / HRSN / *CRDN / CRDC**

* Chipbreaker is not included with CRSN / CRDN.

DCLN (External / Facing)





Side Rake Angle: -6°
Angle of Inclination: -6°

• Right-hand shown

Applicable Inserts

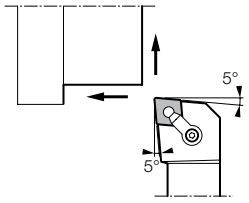
Toolholder	Insert	
DCLNR/L...12-4B	CN□A CN□G CN□M	43..
DCLNR/L...16-4D		
DCLNR/L...-12		

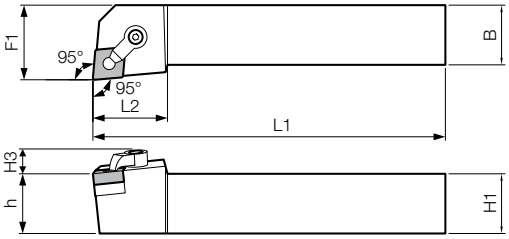
Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	B	L1	L2	F1	F2	Standard Corner-R(rε)	Spare Parts: Clamp	Screw	Spring	Shim	Shim Screw	Wrench	Wrench (Sold Separately)
																		
DCLNR/L	**12-4B**	●	●	Inch	0.75	0.75	4.50	1.30	1.00	0.80	1/32	CP-3D	CS-3D	SP-3D	DC-44	SB-4085TR	LW-3	FT-15
	16-4D	●	●		1.00	1.00	6.00	1.26	1.25	0.78								
DCLNR/L	**2020K-12**	●	○	mm	20	20	125	33	25	20	0.8	CP-3D	CS-3D	SP-3D	*DC-44	SB-4085TR	LW-3	FT-15
	2525M-12	●	●		25	25	150	32	32	20								

* When using inserts whose corner-R(rε) is greater than 1/16", additional modifications of the shim are necessary in order to prevent workpiece and shim from interfering with each other.

MCLN (External / Facing)





Side Rake Angle: -6°
Angle of Inclination: -6°

• Right-hand shown

Applicable Inserts

Toolholder	Insert	
MCLNR/L...-12-4B	CN□A CN□G CN□M	43..
MCLNR/L...-16-4D		
MCLNR/L...-16-5D		54..
MCLNR/L...-20-5D		
MCLNR/L...-20-6D		64..

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	H3	B	L1	L2	F1	Standard Corner-R(rε)	Spare Parts: Clamp	Clamp Screw	Wrench	Shim	Shim Screw	Lock Pin	Wrench
																		
MCLNR/L	**12-4B**	●	●	inch	0.75	0.44	0.75	4.00	1.190	1.00	1/32	CL-20	XNS-48	LW-125	ICSN433	S-46	NL46	LW-094
	16-4D	●	●		1.00	0.44	1.00	6.00	1.260	1.25								
	16-5D	●	●		1.00	0.44	1.00	6.00	1.375	1.25	1/32	CL-12	XNS-510	LW-156	ICSN533	S-58	NL58	LW-125
	20-5D	●	●		1.25	0.44	1.25	6.00	1.375	1.50								
	20-6D	●	●		1.25	0.44	1.25	6.00	1.500	1.50	1/32	CL-12	XNS-510	LW-156	ICSN633	S-68	NL68	LW-125

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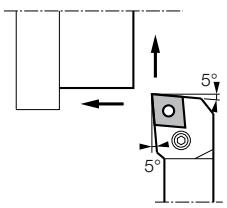
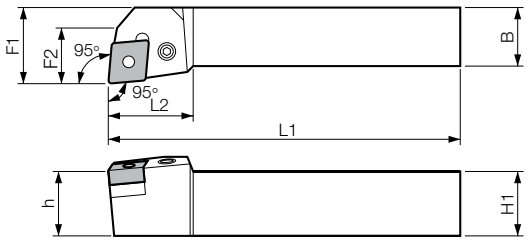
PCLN (External / Facing)





• Right-hand shown

Side Rake Angle: -6°
Angle of Inclination: -6°

Applicable Inserts

Toolholder	Insert	
PCLNR/L...12-3B	CN□G	33..
PCLNR/L...16-3D		
PCLNR/L...12-4B	CN□A CN□G CN□M	43..
PCLNR/L...16-4D		
PCLNR/L...-09	CN□G	33..
PCLNR/L...-12	CN□A CN□G CN□M	43..
PCLNR/L...-16		54..

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	B	L1	L2	F1	F2	Standard Corner-R(rε)	Spare Parts: Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PCLNR/L	12-3B	●		Inch	0.75	0.75	4.50	0.87	1.00	0.61	1/32	LL-1N	LS-1N	LC-32N	LSP-1	PC-1	FH-2.5
PCLNR/L	12-4B	●			0.75	0.75	4.50	1.06	1.00	0.80	1/32	LL-2N	LS-2N	LC-42N	LSP-2	PC-2	LW-3
	16-4D	●			1.00	1.00	6.00	1.06	1.25	0.78							
PCLNR/L	1616H-09	○	○	mm	16	16	100	22	20	14	0.8	LL-1N	LS-1N	LC-32N	LSP-1	PC-1	FH-2.5
	2020K-09	○	○		20	20	125	22	25	15							
	2525M-09	○	○		25	25	150	22	32	18							
PCLNR/L	1616H-12	○			16	16	100	27	20	17	0.8	LL-2N	LS-2N	LC-42N *LC-42N-20	LSP-2	PC-2	LW-3
	2020H-12*	○			20	20	100	27	25	20							
	2020K-12	○	○		20	20	125	27	25	20							
	2525M-12	○	○		25	25	150	27	32	20							
	3225P-12	○	○		32	25	170	27	32	20							
PCLNR/L	2525M-16	○	○		25	25	150	32	32	25	0.8	LL-5N	LS-4N	LC-53N	LSP-3	-	LW-3
	3232P-16	○	○		32	32	170	32	40	27							

* Mark indicates short shank type.
• When using inserts whose corner-R(rε) is greater than 1/16", please purchase a shim with * mark and use it in order to prevent workpiece and shim from interfering with each other.

Applicable Inserts

Application	Finishing	Finishing-Medium	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing
Ref. Page	B14	B14	B14	B14	B14	B15	B15	B15
Insert	WP (Wiper)	WQ (Wiper)	PP	PQ	CQ	CJ	GS	PG
Size	43..	43..	43..	43..	43.., 54..	43.., 54..	33.., 43..	43..
Application	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate	Roughing	Roughing	Single Sided / Roughing / High Feed Rate	Finishing	Medium
Ref. Page	B15	B15	B16	B16	B16	B17	B21	B21
Insert	PS	HS	PT	Standard	PH	PX	R/L-S	R/L
Size	43.., 54..	43.., 54.., 64..	43.., 54..	43.., 54.., 64..	43.., 54.., 64..	43.., 54.., 64..	33..	33.., 43..
Application	Soft Steel / Small D.O.C.	Soft Steel / Finishing	Soft Steel / Medium	Soft Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron
Ref. Page	B17	B17	B17	B17	B19	B19	B19	B19
Insert	XF	XP	XQ	XS	MQ	MS	MU	C
Size	43..	43..	43..	43..	43..	43..	43.., 54.., 64..	43.., 54..
Application	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials
Ref. Page	B19	B20	B20	B90	B20	B20	C23	C6, C7
Insert	ZS	GC	Without Chipbreaker	Ceramic	AH	A3	PCD	CBN
Size	43..	43..	43..	43..	43..	43..	43..	43..

Recommended Cutting Conditions D41-D42

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

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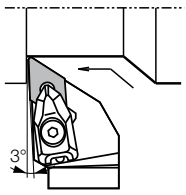
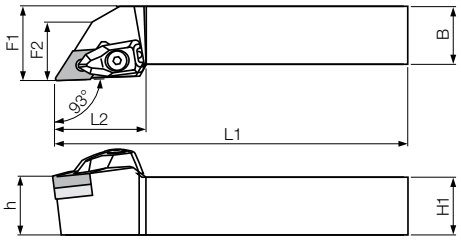
DDJN (External / Copying)





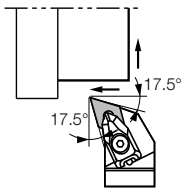
• Right-hand shown

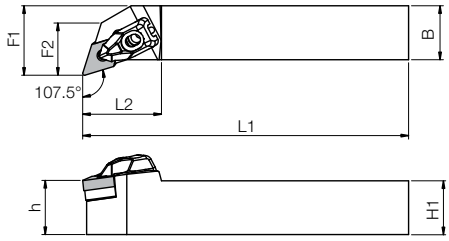
Side Rake Angle: -6°
Angle of Inclination: -7°

Applicable Inserts

Toolholder	Insert	
DDJNR/L**... 12-4B**	DN□A DN□G DN□M	43..
DDJNR/L**...16-4D**		43..
DDJNR/L**...-1504**	DN□A DN□G DN□M	43.. (44..)
DDJNR/L**...-1506**		44.. (43..)

DDHN (External / Face Grooving / Copying)





• Right-hand shown

Side Rake Angle: -6°
Angle of Inclination: -6°

Applicable Inserts

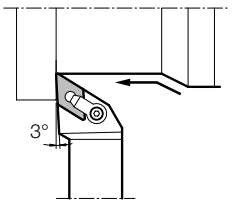
Toolholder	Insert	
DDHNR/L**...-1504**	DN□A DN□G DN□M	43.. (44..)
DDHNR/L**...-1506**		44.. (43..)

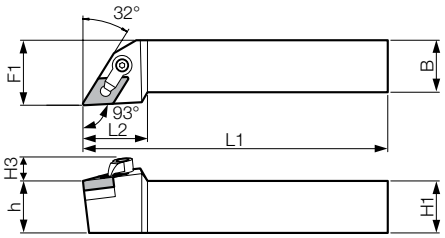
Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	H1=h	B	L1	L2	F1	F2	Standard Corner-R(rε)	Clamp	Screw	Spring	Shim	Shim Screw	Wrench	Wrench (Sold Separately)
				Dimensions							Spare Parts						
																	
																For Clamp	For Shim
DDJNR/L **12-4B**	●	●	Inch	0.75	0.75	4.50	1.54	1.00	-	1/32	CP-3D	CS-3D	SP-3D	DD-44 (DD-43)	SB-4085TR	LW-3	FT-15
16-4D	●	●		1.00	1.00	6.00	1.54	1.25	0.97								
DDJNR/L **2020K-1504**	○	○	mm	20	20	125	39	25	-	0.8	CP-3D	CS-3D	SP-3D	*DD-44 (DD-43)	SB-4085TR	LW-3	FT-15
2525M-1504	○	○		25	25	150	39	32	25								
DDJNR/L **2020K-1506**	●	○		20	20	125	39	25	-	0.8	CP-3D	CS-3D	SP-3D	DD-43 (*DD-44)	SB-4085TR	LW-3	FT-15
2525M-1506	●	●		25	25	150	39	32	25								
DDHNR/L **2020K-1504**	○	○		20	20	125	37	25	22	0.8	CP-3D	CS-3D	SP-3D	*DD-44 (DD-43)	SB-4085TR	LW-3	FT-15
2525M-1504	○	○		25	25	150	37	32	22								
DDHNR/L **2020K-1506**	○	○		20	20	125	37	25	22	0.8	CP-3D	CS-3D	SP-3D	DD-43 (*DD-44)	SB-4085TR	LW-3	FT-15
2525M-1506	○	○		25	25	150	37	32	22								

Shims indicated within ( ) are not included with the toolholder. To change insert thickness, please purchase it separately.
* When using inserts whose corner-R(rε) is greater than 1/16", additional modifications of the shim are necessary in order to prevent workpiece and shim from interfering with each other.

MDJN (External / Copying)





• Right-hand shown

Side Rake Angle: -6°
Angle of Inclination: -6°

Applicable Inserts

Toolholder	Insert	
MDJNR/L**...-12-4B**	DN□A DN□G DN□M	43..
MDJNR/L**...-16-4D**		43..

Toolholder Dimensions

Part Number	Stock R	Stock L	Stock N	Unit	H1=h	H3	B	L1	L2	F1	Standard Corner-R(rε)	Clamp	Clamp Screw	Wrench	Shim	Shim Screw	Lock Pin	Wrench
					Dimensions							Spare Parts						
																		
MDJNR/L **12-4B**	●	●		Inch	0.75	0.47	0.75	4.50	1.25	1.00	1/32	CL-20	XNS-48	LW-125	IDSN443	S-46	NL46	LW-094
16-4D	●	●			1.00	0.46	1.00	6.00	1.25	1.25								

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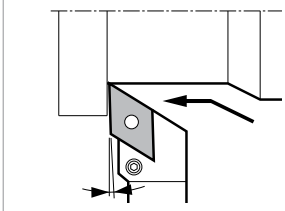
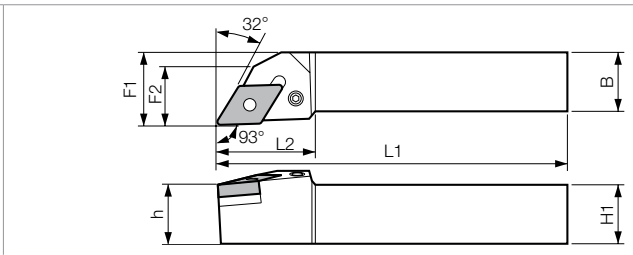
PDJN (External / Copying)





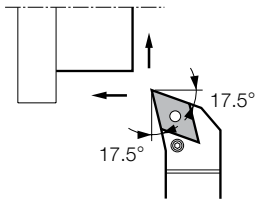
• Right-hand shown

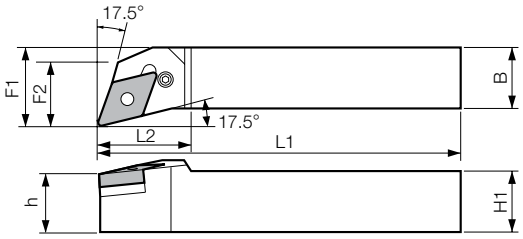
Side Rake Angle: -6°
Angle of Inclination: -7°

Applicable Inserts

Toolholder	Insert	
PDJN□...-12-3B PDJN□...-16-3D PDJN□...-11	DN□A DN□G	33..
PDJN□...-16-4D PDJN□...-15	DN□A DN□G DN□M	43..
PDJN□...-15U		44.. (43..)

PDHN (External / Face Grooving / Copying)





• Right-hand shown

Side Rake Angle: -6°
Angle of Inclination: -6°

Applicable Inserts

Toolholder	Insert	
PDHN□...-15	DN□A DN□G DN□M	43.. (44..)

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	B	L1	L2	F1	F2	Standard Corner-R(rε)	Spare Parts: Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PDJN□	12-3B	●		Inch	0.75	0.75	4.50	0.87	1.00	0.61	1/32	LL-1N	LS-1N	LD-32N	LSP-1	PC-1	FH-2.5
	16-3D	●	●		1.00	1.00	6.00	0.87	1.25	0.70							
PDJN□	16-4D	●	●		0.75	0.75	4.50	1.06	1.00	0.80	1/32	LL-3N	LS-2N	LD-42 ※LD-42-20	LSP-2	PC-2	LW-3
PDJN□	1616H-11	○	○	mm	16	16	100	28	20	-	0.4	LL-1DN	LS-1N	LD-32N	LSP-1	PC-1	FH-2.5
	2020K-11	○	○		20	20	125	28	25	-							
	2525M-11	○	○		25	25	150	28	32	27							
PDJN□	2020H-15*	○			20	20	100	36	25	-	0.8	LL-3N	LS-2N	LD-32N	LSP-2	PC-2	LW-3
	2020K-15	○	○		20	20	125	36	25	-							
	2525M-15	●	○		25	25	150	36	32	25							
	3225P-15	○	○		32	25	170	36	32	25							
PDJN□	2525M-15U	○	○		25	25	150	34	32	24	0.8	LL-4	LS-3	LD-42 ※LD-42-20 (LD-43) (※LD-43-20)	LSP-2	PC-2	LW-3
	3232P-15U	○	○		32	32	170	36	40	28							
PDHN□	2020K-15	●	○		20	20	125	35	25	22	0.8	LL-4	LS-3	LD-43 ※LD-43-20 (LD-42) (※LD-42-20)	LSP-2	PC-2	LW-3
	2525M-15	○	○		25	25	150	34	32	24							

* Mark indicates short shank type

• Shim: PDJN□-15U...LD-42 is attached to PDJN□-15U. When using DN□□43 type insert, prepare LD-43 separately.
PDHN ...LD-43 is attached to PDHN. When using DN□□44 type Insert, prepare LD-42 separately.

• When using inserts whose corner-R(rε) is greater than 1/16", please purchase a shim with * mark and use it in order to prevent workpiece and shim from interfering each other.

Applicable Inserts

Application	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate	Roughing	Roughing
Ref. Page	B22	B22	B22	B23	B23	B23	B24	B24	B24	B24
Insert	PP	PQ	CQ	CJ	GS	PG	PS	PT	Standard	PH
Size	43.., 44..	43.., 44..	43.., 44..	43.., 44..	33.., 43.., 44..	43.., 44..	43.., 44..	43.., 44..	43.., 44..	43.., 44..
Application	Single Sided / Roughing / High Feed Rate	Finishing	Medium	Soft Steel / Finishing	Soft Steel / Medium	Soft Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	
Ref. Page	B25	B27	B27	B25	B25	B25	B26	B26	B26	
Insert	PX	□-S	□	XP	XQ	XS	MQ	MS	MU	
Size	43.., 44..	33..	33.., 43..	43.., 44..	43.., 44..	43..	43.., 44..	43.., 44..	43.., 44..	
Application	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials	
Ref. Page	B26	B26	B27	B27	B91	B27	B27	C23	C8, C9	
Insert	TK	C	ZS	GC	Ceramic	AH	□-A3	PCD	CBN	
Size	43.., 44..	43.., 44..	43.., 44..	43.., 44..	43.., 44..	43.., 44..	43..	43..	43.., 44..	

Recommended Cutting Conditions ➡ D41-D42

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

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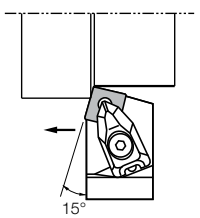
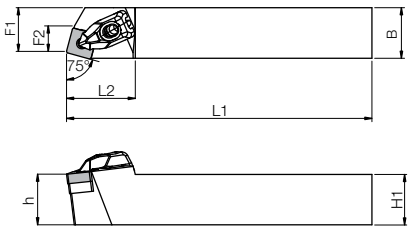
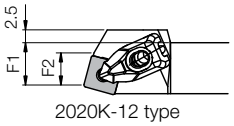
DSBN (External)







2020K-12 type

Side Rake Angle: -6°
Angle of Inclination: -6°

• Right-hand shown

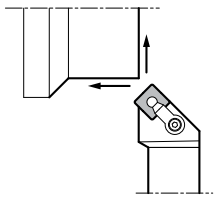
Applicable Inserts

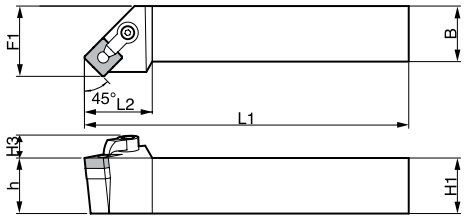
Toolholder	Insert	
DSBNR/L...-12	SN□A SN□G SN□M	43..

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	H1=h	B	L1	L2	F1	F2	Standard Corner-R(re)	Clamp	Screw	Spring	Shim	Shim Screw	Wrench	Wrench (Sold Separately)
				Dimensions							Spare Parts						
DSBNR/L 2020K-12	○	○	mm	20	20	125	34	17	13	0.8	CP-3D	CS-3D	SP-3D	DS-44	SB-4085TR	LW-3 (For Clamp)	FT-15 (For Shim)
2525M-12	○	○		25	25	150	34	22	13								

MSSN (External / Facing / Chamfering)





• Right-hand shown

Applicable Inserts

Toolholder	Insert	
MSSNR/L...-12-4B **MSSNR/L...-16-4D**	SN□A SN□G SN□M	43..

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	H1=h	H3	B	L1	L2	F1	Standard Corner-R(re)	Clamp	Clamp Screw	Wrench	Shim	Shim Screw	Lock Pin	Wrench
				Dimensions							Spare Parts						
MSSNR/L 12-4B	●		inch	0.75	0.54	0.75	4.50	1.23	0.675	1/32	CL-9	XNS59	LW-156	ISSN433	S-46	NL46	LW-094
16-4D	●			1.00	0.54	1.00	6.00	1.23	0.925								

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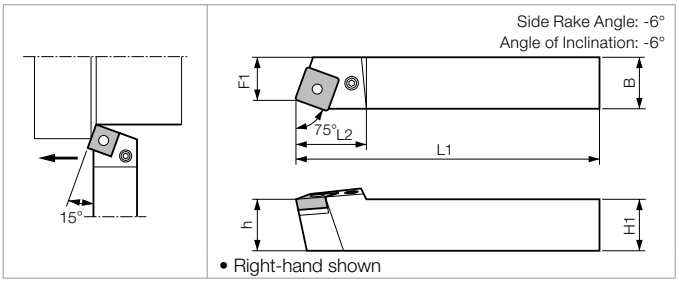
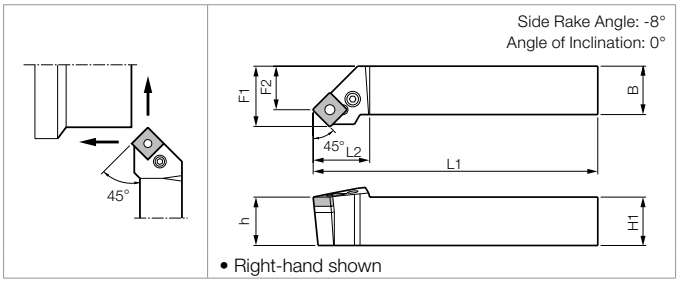
PSBN (External)



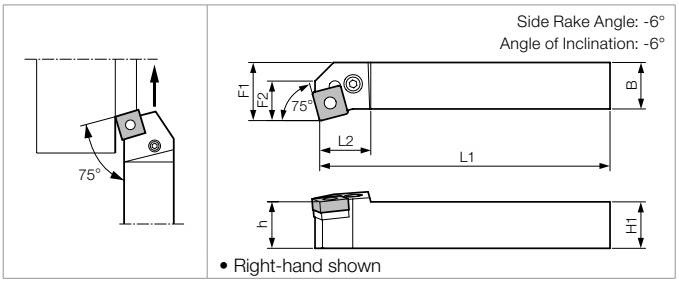
• Right-hand shown

PSSN (External / Facing / Chamfering)



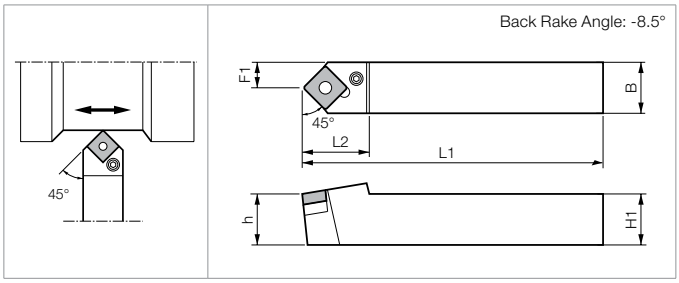
• Right-hand shown

PSKN (Facing)

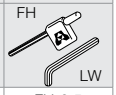


• Right-hand shown

PSDN (External / Chamfering)

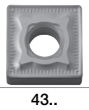


Toolholder Dimensions

Part Number		Stock R	Stock N	Stock L	Unit	Dimensions H1=h	B	L1	L2	F1	F2	Standard Corner-R(re)	Spare Parts Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
																		
PSBN□	1616H-09	○		○	mm	16	16	100	21.0	13	-	0.8	LL-1N	LS-1N	LS-32	LSP-1	PC-1	FH-2.5
	2020K-12	○		○		20	20	125	27.0	17	-	0.8	LL-2N	LS-2N	LS-42	LSP-2	PC-2	LW-3
	2525M-12	○		○		25	25	150	24.0	22	-							
PSKN□	1616H-09	○		○		16	16	100	19.0	20	12.7	0.8	LL-1N	LS-1N	LS-32	LSP-1	PC-1	FH-2.5
	2020K-12	○		○		20	20	125	22.5	25	17.0	0.8	LL-2N	LS-2N	LS-42	LSP-2	PC-2	LW-3
	2525M-12	○		○		25	25	150	22.5	32	19.0							
PSSN□	1616H-09	○		○		16	16	100	22	20	13.6	0.8	LL-1N	LS-1N	LS-32	LSP-1	PC-1	FH-2.5
	2020K-12	○		○		20	20	125	29	25	16.4	0.8	LL-2N	LS-2N	LS-42	LSP-2	PC-2	LW-3
	2525M-12	○		○		25	25	150	29	32	23.4							
PSDNN	1616H-09		○			16	16	100	21	8	-	0.8	LL-1N	LS-1N	LS-32	LSP-1	PC-1	FH-2.5
	2020K-12		○			20	20	125	30	10	-	0.8	LL-2N	LS-2N	LS-42	LSP-2	PC-2	LW-3
	2525M-12		○			25	25	150	30	12.5	-							

Applicable Inserts

Toolholder	Insert	
PSBN□...-09	SN□G	32..
PSKN□...-09		
PSSN□...-09		
PSDNN...-09		
PSBN□...-12	SN□A SN□G SN□M	43..
PSKN□...-12		
PSSN□...-12		
PSDNN...-12		

Application	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate	Roughing	Roughing	Single Sided / Roughing / High Feed
Ref. Page	B29	B29	B29	B29	B29	B29	B30	B30
Insert	PQ 	PG 	PS 	HS 	PT 	Standard 	PH 	PX 
Size	43..	43..	43..	43..	43..	32.., 43..	43..	43..
Application	Finishing-Roughing	Medium-Roughing / Low Cutting Force	Soft Steel / Finishing	Soft Steel / Medium	Soft Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Cast Iron
Ref. Page	B32	B32	B30	B30	B30	B31	B31	B31
Insert	□-□ 	□-25R 	XP 	XQ 	XS 	MQ 	MS 	C 
Size	32.., 43..	43..	43..	43..	43..	43..	43..	43..
Application	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Hard Materials			
Ref. Page	B31	B31	B32	B93	C10			
Insert	ZS 	GC 	Without Chipbreaker 	Ceramic 	CBN 			
Size	43..	43..	43..	43..	43..			

• PSKN□: Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.
• PSSN□: For External Turning, Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder
For Facing, Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Recommended Cutting Conditions ➡ D41-D42

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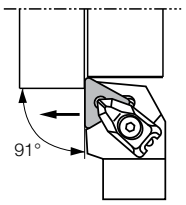
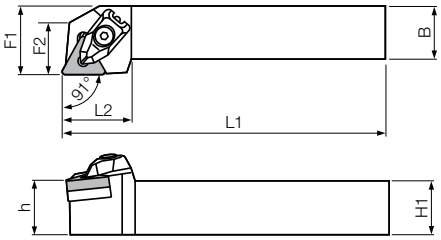
DTGN (External)





• Right-hand shown

Side Rake Angle: -6°
Angle of Inclination: -6°

Applicable Inserts

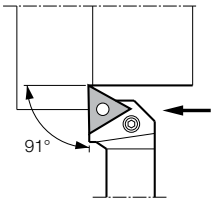
Toolholder	Insert	
DTGN□□...-16	TN□A TN□G TN□M	33..

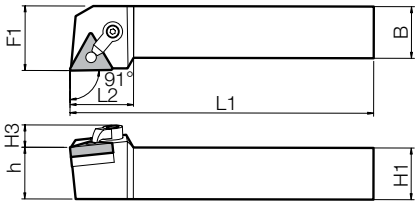
Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Dimensions H1=h	B	L1	L2	F1	F2	Standard Corner-R(rε)	Spare Parts: Clamp	Screw	Spring	Shim	Shim Screw	Wrench	Wrench (sold separately)
																	
DTGN□□ 2020K-16	○	○	mm	20	20	125	25	25	20	0.8	CP-2D	CS-2D	SP-2D	*DT-32	SB-3080TR	LW-2.5	FT-10
2525M-16	○	○		25	25	150	25	32	20								

* When using inserts whose corner-R(rε) is greater than 1/16", it will be necessary additional modifications of the shim in order to prevent workpiece and shim from interfering with each other.

MTGN (External)





• Right-hand shown

Side Rake Angle: -5°
Angle of Inclination: -5°

Applicable Inserts

Toolholder	Insert	
MTGN□□...-12-3B	TN□A TN□G TN□M	33..
MTGN□□...-16-3D		
MTGN□□...-16-4D		43..

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Dimensions H1=h	H3	B	L1	L2	F1	Standard Corner-R(rε)	Spare Parts: Clamp	Clamp Screw	Wrench	Shim	Shim Screw	Lock Pin	Wrench
																	
MTGN□□ 12-3B	●	●	inch	0.75	0.35	0.75	4.50	0.94	1.00	1/64	CL-6	XNS36	LW-094	ITSN333 (ITSN323)	S-34	NL34L	(5/64 Hex)
16-3D	●	●		1.00	0.35	1.00	6.00	0.94	1.25								
16-4D	●	●		1.00	0.48	1.00	6.00	1.19	1.25	1/32	CL-9	XNS48	LW-156	ITSN432	S-46	NL46	LW0

• Shim: ITSN333 is included with MTGN□□12-3B. When using TN__33_ insert, please purchase ITSN323 separately.

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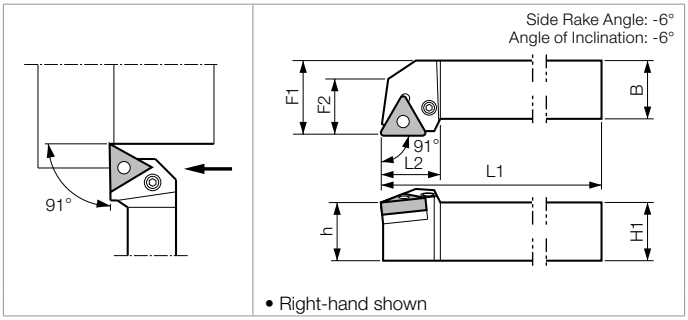
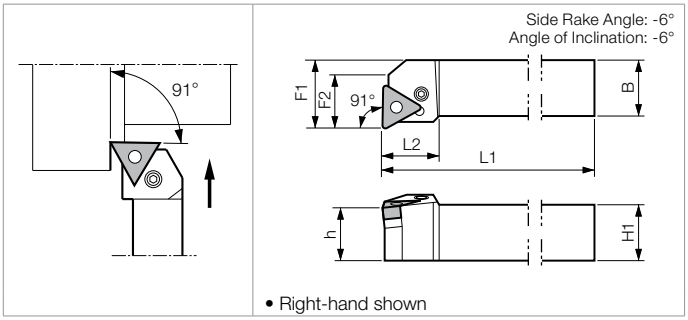
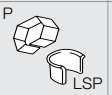
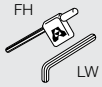
PTGN (External)



PTFN (Facing)



Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Dimensions H1=h	B	L1	L2	F1	F2	Standard Corner-R(rε)	Spare Parts: Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
																
PTGNR/L 12-3B	●		Inch	0.75	0.75	4.50	0.96	1.00	0.80	1/32	LL-1N	LS-1N	LT-32N *LT-32N-20	LSP-1	PC-1	LW-2.5
PTGNR/L 1212F-11	○	○	mm	12	12	80	18.0	16	12.0	0.8	LL-03N	LS-03N	-	P-03	-	FH-2
1616H-11	○	○		16	16	100	22.0	20	14.0	0.8	LL-03TN	LS-03SN	-	P-03S	-	FH-2.5
2020K-11	○	○		20	20	125	22.0	25	20.0							
2525M-11	○	○		25	25	150	22.0	32	22.0							
PTGNR/L 1616H-16	○	○		16	16	100	24.0	20	17.0	0.8	LL-1N	LS-1N	LT-32N *LT-32N-20	LSP-1	PC-1	FH-2.5
2020H-16*	○			20	20	100	24.0	25	20.0							
2020K-16	○	○		20	20	125	24.0	25	20.0							
2525M-16	●	○		25	25	150	24.0	32	20.0							
PTGNR/L 2525M-22	○	○		25	25	150	29.0	32	24.0	0.8	LL-2N	LS-2N	LT-42N *LT-42N-20	LSP-2	PC-2	LW-3
PTFNR/L 12-3C	●	●	Inch	0.75	0.75	5.00	0.88	1.00	0.83	1/32	LL-1N	LS-1N	LT-32N *LT-32N-20	LSP-1	PC-1	FH-2.5
16-3D	●	●		1.00	1.00	6.00	0.88	1.25	0.88							
16-4D	●			1.00	1.00	6.00	1.10	1.25	0.97	1/32	LL-2N	LS-2N	LT-42N *LT-42N-20	LSP-2	PC-2	LW-3
PTFNR/L 1212F-11	○	○	mm	12	12	80	15.0	16	12.5	0.8	LL-03N	LS-03N	-	P-03	-	FH-2
PTFNR/L 1616H-11	○	○		16	16	100	22.5	20	15.0	0.8	LL-03TN	LS-03SN	-	P-03S	-	FH-2.5
2020K-11	○	○		20	20	125	22.5	25	19.0							
2525M-11	○	○		25	25	150	22.5	32	25.0							
PTFNR/L 2020K-16	○	○		20	20	125	22.0	25	21.0	0.8	LL-1N	LS-1N	LT-32N *LT-32N-20	LSP-1	PC-1	FH-2.5
2525M-16	○	○		25	25	150	23.0	32	22.0							
PTFNR/L 2525M-22	○	○		25	25	150	28.0	32	25.0	0.8	LL-2N	LS-2N	LT-42N *LT-42N-20	LSP-2	PC-2	LW-3

* Mark indicates short shank type.
• When using inserts whose corner-R(rε) is greater than 1/16", please purchase a shim with * mark and use it in order to prevent workpiece and shim from interfering each other.

Applicable Inserts

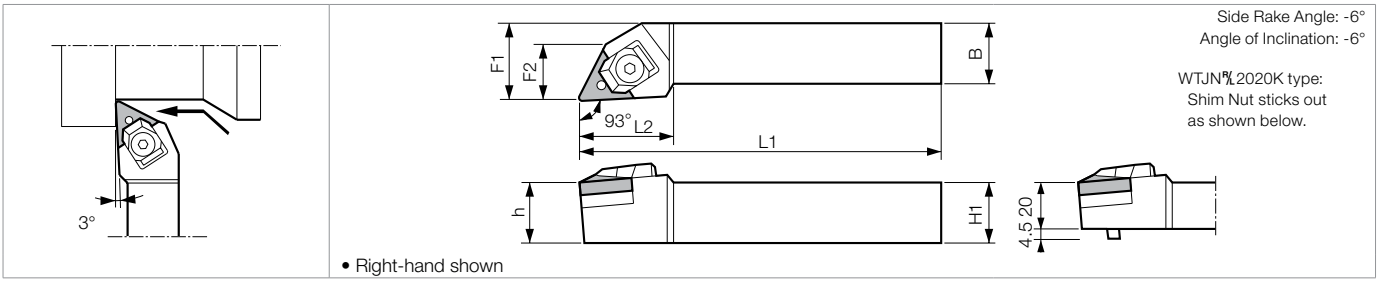
Toolholder	Insert	
PTGNR/L...12-3B	TN□A TN□G TN□M	33..
PTFNR/L...12-3C	TN□A TN□G	33..
PTFNR/L...16-3D		
PTFNR/L...16-4D		43..
PT□NR/L12...-11	TN□□	22..
PT□NR/L...-11		23..
PT□NR/L...-16	TN□A TN□G TN□M	33..
PT□NR/L...-22		43..

PTGNR/L1212F-11
PTFNR/L1212F-11
} Insert applicable for above

TN□□1103-type Insert is applicable.

• PTFNR/L: Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

WTJN (External / Copying)

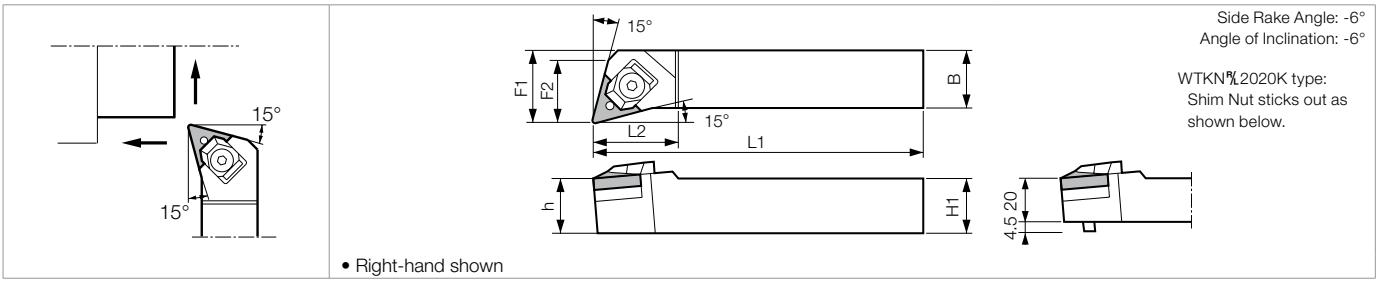


Side Rake Angle: -6°
Angle of Inclination: -6°

WTJN□2020K type:
Shim Nut sticks out as shown below.

• Right-hand shown

WTKN (External / Facing / Copying)

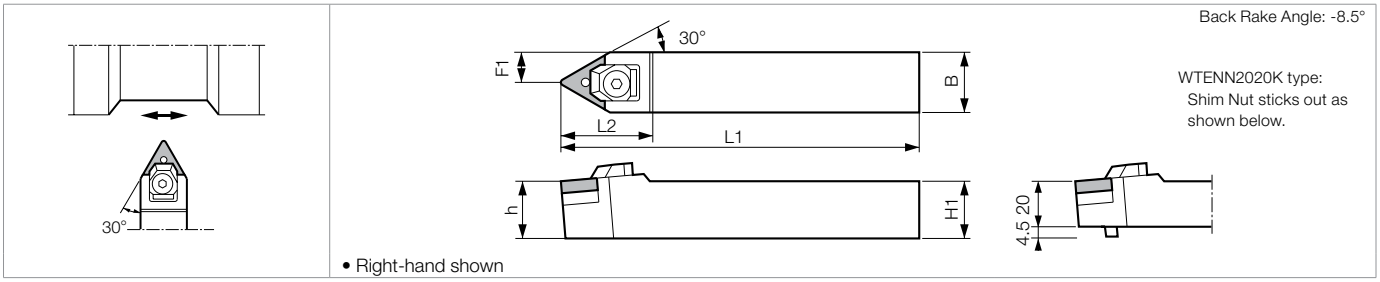


Side Rake Angle: -6°
Angle of Inclination: -6°

WTKN□2020K type:
Shim Nut sticks out as shown below.

• Right-hand shown

WTEN (External / Chamfering)



Back Rake Angle: -8.5°

WTENN2020K type:
Shim Nut sticks out as shown below.

• Right-hand shown

Toolholder Dimensions

Part Number	Stock			Unit	Dimensions						Standard Corner-R(rε)	Spare Parts					
												Clamp Set	Shim	Shim Pin	Shim Nut	Wrench	Spacer
	R	N	L		H1=h	B	L1	L2	F1	F2							
WTJN□ 12-3C	●		●	Inch	0.75	0.75	5.00	1.26	1.00	0.96	1/32	WCS-1N	WTN-33 *WTN-33-20	WP-1S	WN-1	LW-3	WSP-1
16-3D	●		●		1.00	1.00	6.00	1.26	1.25	0.94							
WTJN□ 2020K-16N	○		○	mm	20	20	125	32	25.0	24	0.8	WCS-1N	WTN-33 *WTN-33-20	WP-1S	WN-1	LW-3	WSP-1
2525M-16N	○		○		25	25	150	32	32.0	24							
WTKN□ 12-3C	●		●	Inch	0.75	0.75	5.00	1.26	1.00	-	1/32	WCS-1N	WTN-33 *WTN-33-20	WP-1S	WN-1	LW-3	WSP-1
WTKN□ 2020K-16N	●		●	mm	20	20	125	32	25.0	-	0.8	WCS-1N	WTN-33 *WTN-33-20	WP-1S	WN-1	LW-3	WSP-1
2525M-16N	○		●		25	25	150	32	32.0	30							
WTENN 2020K-16N		○		mm	20	20	125	32	10.0	-	0.8	WCS-1N	WTN-33 *WTN-33-20	WP-1S	WN-1	LW-3	WSP-1
2525M-16N		○			25	25	150	32	12.5	-							

* When using inserts whose corner-R (rε) is greater than 1/16", please purchase a shim (WTN-33-20) with * mark and use it in order to prevent workpiece and shim from interfering with each other.
• In wedge lock, use of ceramic insert other than silicon nitride insert is not recommended due to strong restrain force.

Applicable Inserts

Toolholder	Insert	
WTJN□...12-3C	TN□A TN□G TN□M	33..
WTJN□...16-3D		
WTJN□...-16N		
WTKN□...12-3C		
WTKN□...16-3D		
WTKN□...-16N		

Toolholder	Insert	
WTENN...-16N	TN□A TN□G TN□M	33..

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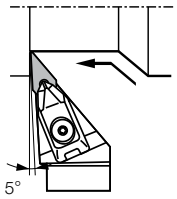
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

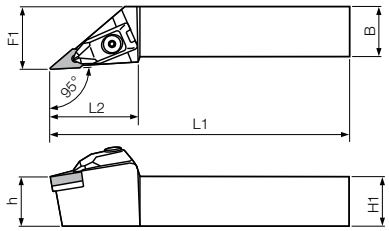
Applicable Inserts

Application	Finishing	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate	Medium-Roughing / High Feed Rate	Roughing	Single Sided / Roughing / High Feed	Roughing
Ref. Page	B33	B33	B33	B34	B34	B34	B35	B35	B35	B35	B35
Insert	PP	PQ	CQ	GS	PG	PS	PT	GT	PH	PX	Standard
Size	33..	33..	33.., 43..	23.., 33..	33..	33.., 43..	33..	33..	33.., 43..	33.., 43..	33.., 43..
Application	Finishing	Finishing-Roughing	Medium-Roughing / Low Cutting Force	Soft Steel / Small D.O.C.	Soft Steel / Finishing	Soft Steel / Medium	Soft Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron
Ref. Page	B40	B40	B40	B36	B36	B36	B36	B37	B37	B37	B38
Insert	℞-S	℞-□	℞-25R	XF	XP	XQ	XS	MQ	MS	MU	C
Size	23.., 33..	22.., 23.., 33.., 43..	33..	33..	33..	33..	33..	33..	33..	33..	33..
Application	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials			
Ref. Page	B38	B38	B38	B95	B39	B39	C23	C11			
Insert	ZS	GC	Without Chipbreaker	Ceramic	AH	℞-A3	PCD	CBN			
Size	33..	33..	22.., 33..	33..	33..	33..	33..	33..			

Recommended Cutting Conditions D41-D42

DVJN / DVLN (External / Copying)





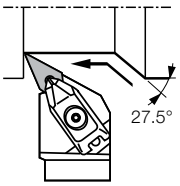
• Right-hand shown

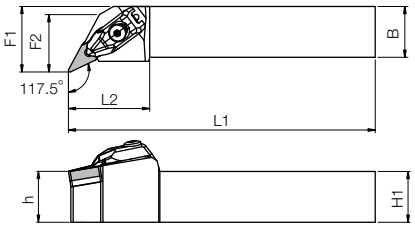
Side Rake Angle: -6°
Angle of Inclination: -9°

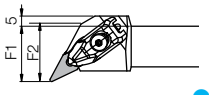
Applicable Inserts

Toolholder	Insert	
DVJN R/L ...12-3B	VN□A VN□G VN□M	33..
DVJN R/L ...16-3D		
DVLN R/L ...-16		

DVPN (External / Facing / Copying / Undercutting)







2020K-16 type

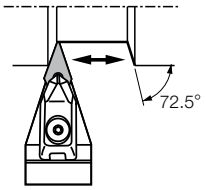
• Right-hand shown

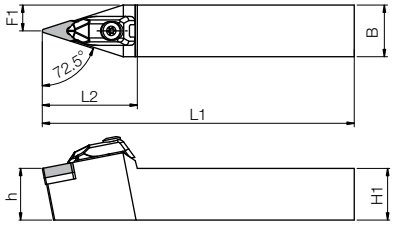
Side Rake Angle: -13°
Angle of Inclination: -10°

Applicable Inserts

Toolholder	Insert	
DVPN R/L ...12-3B	VN□A VN□G VN□M	33..
DVPN R/L ...16-3D		
DVPN R/L ...-16		

DVVN (External / Copying)





• Right-hand shown

Back Rake Angle: -11°

Applicable Inserts

Toolholder	Insert	
DVVNN...-16	VN□A VN□G VN□M	33..

Toolholder Dimensions

Part Number		Stock R	Stock N	Stock L	Unit	Dimensions H1=h	B	L1	L2	F1	F2	Standard Corner-R(re)	Spare Parts: Clamp	Screw	Spring	Shim	Shim Screw	Wrench	Wrench (sold separately)
																			
DVJN R/L	**12-3B**	●		●	inch	0.75	0.75	4.50	1.77	1.00	-	1/32	CP-5D	CS-5D	SP-5D	DV-33	SB-4085TR	LW-3	FT-15
	16-3D	●		●		1.00	1.00	6.00	1.77	1.25	-								
DVLN R/L	**2020K-16**	○		○	mm	20	20	125	45	25.0	-	0.8	CP-5D	CS-5D	SP-5D	DV-33	SB-4085TR	LW-3	FT-15
	2525M-16	●		○		25	25	150	45	32.0	-								
DVPN R/L	**12-3B**	●		●	inch	0.75	0.75	4.50	1.58	1.00	1.10	1/32	CP-5D	CS-5D	SP-5D	DV-33	SB-4085TR	LW-3	FT-15
	16-3D	●		●		1.00	1.00	6.00	1.58	1.25	1.10								
DVPN R/L	**2020K-16**	○		●	mm	20	20	125	40	27.0	28	0.8	CP-5D	CS-5D	SP-5D	DV-33	SB-4085TR	LW-3	FT-15
	2525M-16	●		●		25	25	150	40	32.0	28								
DVVNN	**2020K-16**		○		mm	20	20	125	46	10.0	-	0.8	CP-5D	CS-5D	SP-5D	DV-33	SB-4085TR	LW-3	FT-15
	2525M-16		○			25	25	150	46	12.5	-								

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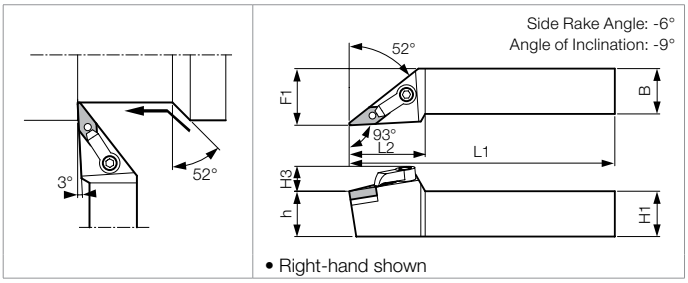
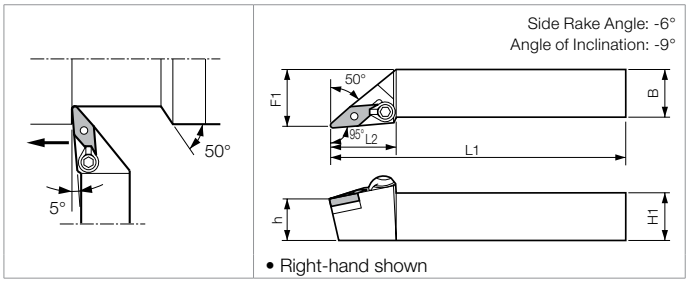
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

MVJN (External / Copying)



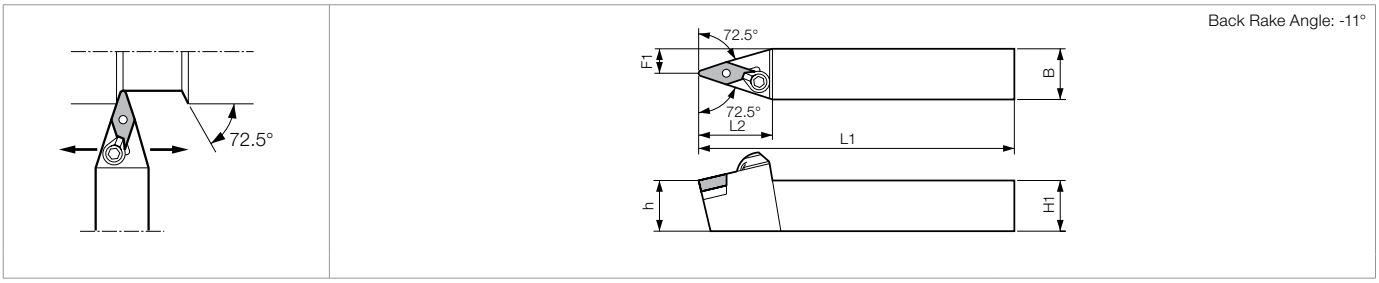
• Right-hand shown

MVLN (External / Copying)



• Right-hand shown

MVVN (External / Copying)



Toolholder Dimensions

Part Number	Stock R	Stock N	Stock L	Unit	Dimensions H1=h	H3	B	L1	L2	F1	F2	Standard Corner-R(re)	Spare Parts: Clamp Set	Wrench	Shim	Shim Screw	Lock Pin	Wrench	Clamp	Clamp Screw
MVJN□L 12-3B	●		●	inch	0.75	0.59	0.75	4.5	1.69	1.00	-	1/64	-	(5/64 hex)	IVSN322	S-34	NL34L	LX-156	CL-30	XNS48
16-3C	●		●		1.00	0.60	1.00	5.0	1.69	1.25	-									
MVLN□L 2020K-16	○		○	mm	20		20	125	38	25.0	-	0.8	CPS-5□L	FH-2.5	MVN-32	-	TS-3S	FH-2	-	-
2525M-16	○		○		25		25	150	38	32.0	-									
MVVNN 12-3B		●		inch	0.75		0.75	4.50	1.67	0.375	-	1/32	CPS-5R	(5/64 Hex)	IVNS322	-	NL34L	LW-156	CL-12	XNS48
16-3D		●			1.00		1.00	6.00	1.67	1.670	0.50									
MVVNN 2020K-16		○		mm	20		20	125	39	10.0	-	0.8	CPS-5R	FH-2.5	MVN-32	-	TS-3S	FH-2	-	-
2525M-16		○			25		25	150	39	12.5	-									

• Clamp Set: CPS-5R for Right-hand Toolholder, CPS-5L for Left-hand Toolholder.

Applicable Inserts

Toolholder	Insert	
MVJN□L...12-3B	VN□A VN□G VN□M	33..
MVJN□L...16-3C		
MVLN□L...-16		
MVVNN...12-3B		
MVVNN...16-3D		
MVVNN...-16		

Application	Finishing	Finishing-Medium	Finishing-Medium	Medium	Roughing	Finishing-Medium	Stainless Steel / Finishing
Ref. Page	B41	B41	B41	B41	B41	B42	B42
Insert	PP	VF	PQ	TN-V	Standard	□L	MQ
Size	33..	33..	33..	33..	33..	33..	33..
Application	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Non-ferrous Metals	Hard Materials	
Ref. Page	B42	B42	B42	B96	C23	C12	
Insert	MS	MU	Without Chipbreaker	Ceramic	PCD	CBN	
Size	33..	33..	33..	33..	33..	33..	

Rotation Directions of the Clamp Set

Recommended Cutting Conditions **D41-D42**

MVVNN type (Neutral)

MVLNR type (Right-hand Toolholder)

MVLNL type (Left-hand Toolholder)

Clamp set: (CPS-5R) has Right-hand thread.
When clamping the insert, turn the screw in the arrow direction (clockwise).
When removing the insert, turn the screw away from the arrow (counterclockwise).

Clamp set: (CPS-5L) has Left-hand thread.
When clamping the insert, turn the screw in the arrow direction (counterclockwise).
When removing the insert, turn the screw away from the arrow (clockwise).

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

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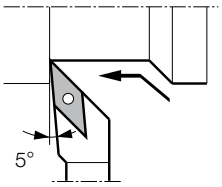
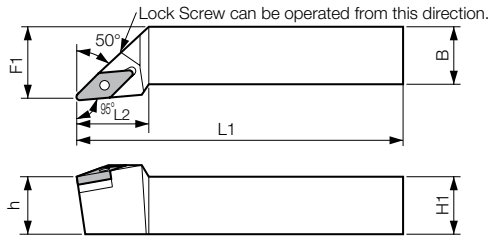
PVLN (External / Copying)

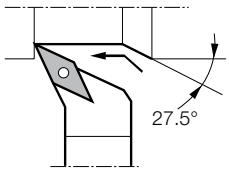


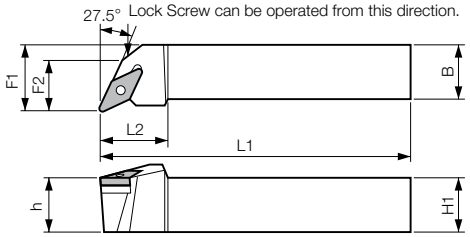


Side Rake Angle: -6°
Angle of Inclination: -9°

• Right-hand shown

PVPN (External / Facing / Copying / Undercutting)

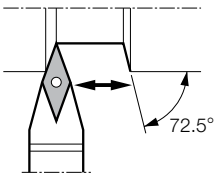


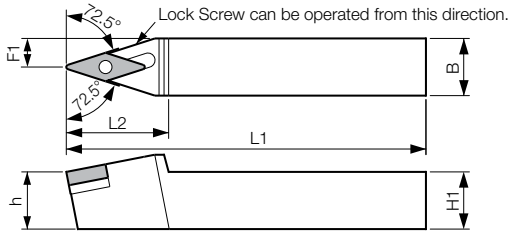


Side Rake Angle: -13°
Angle of Inclination: -10°

• Right-hand shown

PVVN (External / Copying)





Back Rake Angle: -11°

Toolholder Dimensions

Part Number		Stock R	Stock N	Stock L	Unit	Dimensions H1=h	B	L1	L2	F1	F2	Standard Corner-R(re)	Spare Parts Lock Pin	Spare Parts Lock Screw	Spare Parts Shim	Spare Parts Wrench
PVLN□	2525M-16Q	○		○	mm	25	25	150	37	32.0	-	0.8	LP-6S	LS-15	KVN-32	LW-3
PVPN□	2020K-16Q	○		○		20	20	125	30	25.0	22	0.8	LP-2S	LS-11	KVN-32	LW-3
	2525M-16Q	○		○		25	25	150	30	32.0	28		LP-6S			
PVVNN	2020K-16Q		○			20	20	125	35	10.0	-	0.8	LP-2S	LS-15	KVN-32	LW-3
	2525M-16Q		○			25	25	150	40	12.5	-		LP-6S			

Applicable Inserts

Toolholder	Insert	
PVLN□...-16Q	VN□A VN□G VN□M	33..
PVPN□...-16Q		
PVVNN...-16Q		

Application	Finishing	Finishing-Medium	Finishing-Medium	Medium	Roughing	Finishing-Medium	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing
Ref. Page	B41	B41	B41	B41	B41	B42	B42	B42
Insert	PP	VF	PQ	TN-V	Standard	□	MQ	MS
Size	33..	33..	33..	33..	33..	33..	33..	33..
Application	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Non-ferrous Metals	Hard Materials			
Ref. Page	B42	B42	B96	C23	C12			
Insert	MU	Without Chipbreaker	Ceramic	PCD	CBN			
Size	33..	33..	33..	33..	33..			

Recommended Cutting Conditions ➡ **D41-D42**

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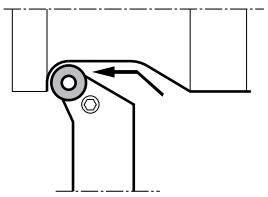
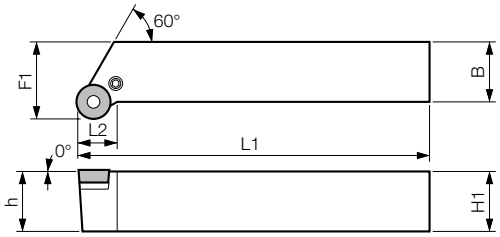
PRGC (External / Facing / Undercutting)

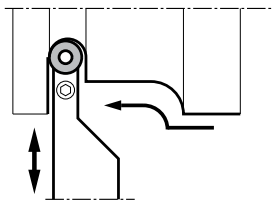


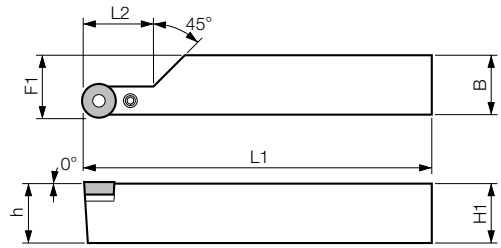


Side Rake Angle: 0°
Angle of Inclination: 0°

• Right-hand shown

PRXC (External / Facing / Undercutting)

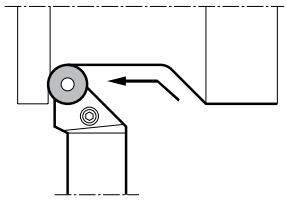




Side Rake Angle: 0°
Angle of Inclination: 0°

• Right-hand shown

PRGN (External / Facing / Undercutting)



Side Rake Angle: -6°
Angle of Inclination: -6°

• Right-hand shown

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	H1=h	B	L1	L2	F1	Spare Parts: Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PRGC□ 12-10MC	●	●	inch	0.75	0.75	5.00	0.60	1.00	LL-05C	LS-05	LR-10C	LSP-1	PC-1	FH-2
16-10MD	●	●		1.00	1.00	6.00	0.60	1.25						
PRGC□ 12-12MC	●	●		0.75	0.75	5.00	0.60	1.00	LL-1CN	LS-1N	LR-12C	LSP-1	PC-1	FH-2.5
16-12MD	●	●		1.00	1.00	6.00	0.60	1.25						
PRGC□ 2020K-10	○	○	mm	20	20	125	15	25.0	LL-05C	LS-05	LR-10C	LSP-1	PC-1	FH-2
2525M-10	○	○		25	25	150	15	32.0						
PRGC□ 2020K-12	○	○		20	20	125	14	25.0	LL-1CN	LS-1N	LR-12C	LSP-1	PC-1	FH-2.5
2525M-12	○	○		25	25	150	17	32.0						
PRXC□ 12-10MC	●	●	inch	0.75	0.75	5.00	1.00	0.77	LL-05C	LX-05	LR-10C	LSP-1	PC-1	FH-2
16-10MD	●	●		1.00	1.00	6.00	1.00	1.02						
PRXC□ 12-12MC	●	●		0.75	0.75	5.00	1.00	0.77	LL-1CN	LS-1N	LR-12C	LSP-1	PC-1	FH-2.5
16-12MD	●	●		1.00	1.00	6.00	1.00	1.02						
PRXC□ 2020K-10	○	○	mm	20	20	125	25	20.5	LL-05C	LS-05	LR-10C	LSP-1	PC-1	FH-2
2525M-10	○	○		25	25	150	30	25.5						
2525Q-10	○	○		25	25	180	30	25.5						
PRXC□ 2525M-12	○	○		25	25	150	30	25.7	LL-1CN	LS-1N	LR-12C	LSP-1	PC-1	FH-2.5
PRGN□ 2020K-09	○	○		20	20	125	19	25.0	LL-1N	LS-1N	LR-80	LSP-1	PC-1	FH-2.5
2525M-12	○	○		25	25	150	26	32.0	LL-2N	LS-2N	LR-81	LSP-2	PC-2	LW-3

Applicable Inserts

Toolholder	Insert	
PR□C□...12-10..	RCGX RCMX	1003M0
PR□C□...16-10..		
PR□C□...12-12..	RCGX RCMX	1204M0
PR□C□...16-12..		

Toolholder	Insert	
PRGC□...-10	RCGX RCMX	1003M0
PRGC□...-12		1204M0
PRXC□...-10		1003M0
PRXC□...-12		1204M0
PRGN□...-09	RNMG	32
PRGN□...-12		43

Application	Medium	Non-ferrous Metals	Medium-Roughing
Ref. Page	B66	B66	B28
Insert	Standard 	AQ 	Standard 
Size	RC□X10.., RC□X12..	RC□X10..	RNMG32, RNMG43..

Recommended Cutting Conditions D41-D42

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

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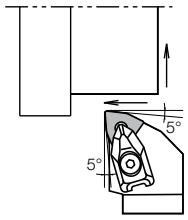
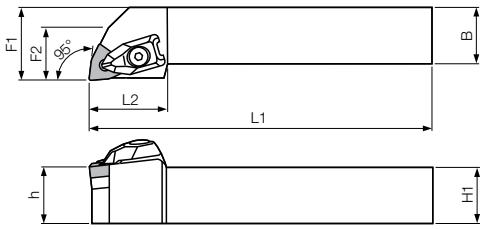
DWLN (External / Facing)





• Right-hand shown

Side Rake Angle: -6°
Angle of Inclination: -6°

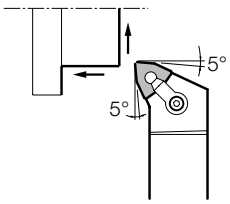
Applicable Inserts

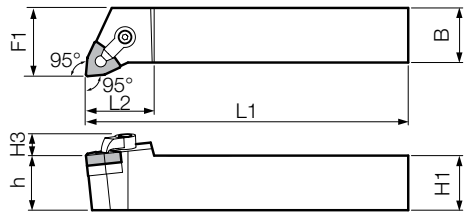
Toolholder	Insert	
DWLN□...12-3B	WN□G WN□M	33..
DWLN□...16-3D		
DWLN□...12-4B	WN□A WN□G WN□M	43..
DWLN□...16-4B		
DWLN□...-08		

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Dimensions H1=h	B	L1	L2	F1	F2	Standard Corner-R(re)	Spare Parts: Clamp	Screw	Spring	Shim	Shim Screw	Wrench	Wrench (sold separately)
																 For Clamp	 For Shim
DWLN□ 12-3B	●	●	Inch	0.75	0.75	4.50	1.06	1.00	0.80	1/32	CP-2D	CS-2D	SP-2D	DW-32	SB-3080TR	LW-2.5	FT-10
16-3D	●	●		1.00	1.00	6.00	1.06	1.25	0.78								
DWLN□ 12-4B	●	●		0.75	0.75	4.50	1.34	1.25	0.80		CP-3D	CS-3D	SP-3D	DW-44	SB-4085TR	LW-3	FT-15
16-4D	●	●		1.00	1.00	6.00	1.34	1.25	0.78								
DWLN□ 2020K-08	○	○	mm	20	20	125	34	25	20	0.8	CP-3D	CS-3D	SP-3D	DW-44	SB-4085TR	LW-3	FT-15
2525M-08	○	○		25	25	150	34	32	20								

MWLN (External / Facing)





• Right-hand shown

Side Rake Angle:-5°
Angle of Inclination:-5°

Applicable Inserts

Toolholder	Insert	
MWLN□...-12-4B	WN□A WN□G WN□M	43..
MWLN□...-16-4D		

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Dimensions H1=h	H3	B	L1	L2	F1	Standard Corner-R(re)	Spare Parts: Clamp	Clamp Screw	Wrench	Shim	Shim Screw	Lock Pin	Wrench
																	
MWLN□ 12-4B	●		inch	0.75	0.45	0.75	4.50	1.19	1.00	1/32	CL-20	XNS-48	LW-156	IWSN432	S-46	NL46	LW-094
16-4D	●	●		1.00	0.48	1.00	6.00	1.19	1.25								

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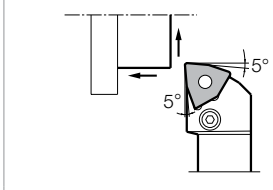
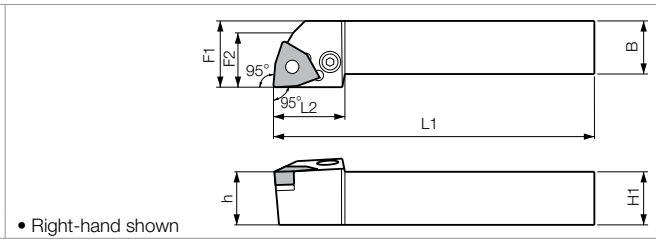
PWLN (External / Facing)





• Right-hand shown

Side Rake Angle: -6°
Angle of Inclination: -6°

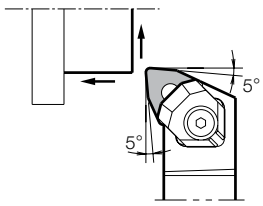
Applicable Inserts

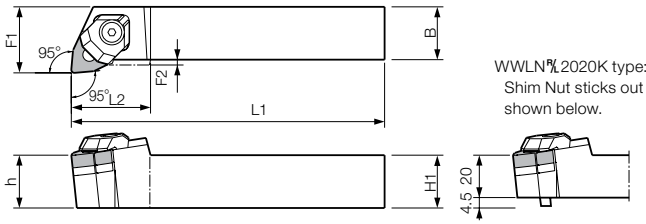
Toolholder	Insert	
PWLNR/L...12-3B	WN□G	33..
PWLNR/L...16-3D		
PWLNR/L...-06	WN□A WN□G WN□M	33..
PWLNR/L...-08		43..

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	H1=h	B	L1	L2	F1	F2	Standard Corner-R(rε)	Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PWLNR/L 12-3B	●		inch	0.75	0.75	4.50	0.87	1.00	-	1/32	LL-1N	LS-1N	LW-32N	LSP-1	PC-1	FH-2.5
16-3D	●			1.00	1.00	6.00	0.87	1.25	-							
PWLNR/L 1616H-06	○	○	mm	16	16	100	22	20	-	0.8	LL-1N	LS-1N	LW-32N	LSP-1	PC-1	FH-2.5
2020K-06	○	○		20	20	125	22	25	-							
2525M-06	○	○		25	25	150	22	32	-							
2020K-08	○	○		20	20	125	26	25	-	0.8	LL-2N	LS-2N	LW-42N	LSP-2	PC-2	LW-3
2525M-08	○	○		25	25	150	26	32	23							

WWLN (External / Facing)





WWLNR/L2020K type:
Shim Nut sticks out as shown below.

• Right-hand shown

Side Rake Angle: -6°
Angle of Inclination: -6°

Applicable Inserts

Toolholder	Insert	
WWLNR/L...-08	WN□A WN□G WN□M	43..

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	H1=h	B	L1	L2	F1	F2	Standard Corner-R(rε)	Clamp Set	Shim	Shim Pin	Shim Nut	Wrench
WWLNR/L 2020K-08	○	○	mm	20	20	125	30	25	-	1.2	WCS-8	WWN-42	WP5X15	WN-1	LW-3
2525M-08	●	○		25	25	150	30	32	2.5						

Applicable Inserts

Application	Finishing	Finishing-Medium	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing
Ref. Page	B43	B43	B43	B43	B44	B44	B44	B44	B45
Insert	WP (Wiper)	WQ (Wiper)	PP	PQ	CQ	CJ	GS	PG	PS
Size	43..	43..	43..	43..	43..	43..	33.., 43..	43..	43..
Application	Medium-Roughing / High Feed Rate	Roughing	Finishing	Medium	Soft Steel / Finishing	Soft Steel / Medium	Soft Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing
Ref. Page	B45	B45	B48	B48	B46	B46	B46	B47	B47
Insert	PT	Standard	R/L-S	R/L	XP	XQ	XS	MQ	MS
Size	43..	43..	33..	33..	43..	43..	43..	43..	43..
Application	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals	Cast Iron	Non-ferrous Metals	Hard Materials	
Ref. Page	B47	B48	B48	B48	B48	B96	C23	C13	
Insert	MU	C	ZS	GC	AH	Ceramic	PCD	CBN	
Size	43..	43..	43..	43..	43..	43..	43..	43..	

• In wedge lock, use of ceramic insert other than silicon nitride insert is not recommended due to strong restrain force.

Recommended Cutting Conditions D41-D42

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

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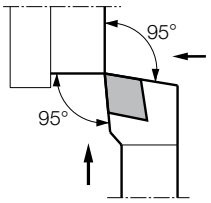
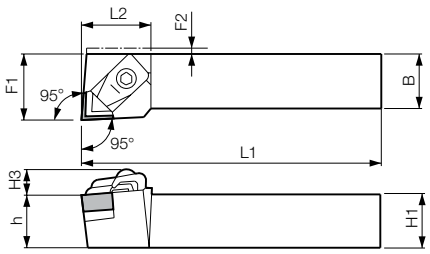
CCLN / HCLN (External / Facing)

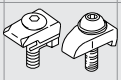




Side Rake Angle: -6°
Angle of Inclination: -6°

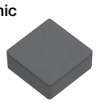
• Right-hand shown

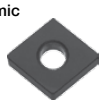
Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Dimensions H1=h	H3	B	L1	L2	F1	F2	Standard Corner-R(rε)	Spare Parts: Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw	Lock Pin	Wrench
													 CE HCL			 M S		
CCLN□ 2020K-12	○	○	mm	20	14	20	125	32	27	5	0.8	CB-16	CE-010	LW-4	SP-441 (SP-443)	M3X8 (M3X12)	-	-
2525M-12	○	○		25	14	25	150	32	32	-								
CCLN□ 3225P-16	○	○		32	14	25	170	35	32	-	0.8	CB-17	CE-220	LW-4	SP-454	M4X10	-	-
HCLN□ 16-4D	●		inch	1.00	0.535	1.00	6.00	1.26	1.25	-	1/32	HCB318	HCL008	LW-4	ICSN433 (ICSN453)	S-46	NL46L	LW-094

• Shim & Shim Screw: When using CN□□43 Insert, purchase spare parts in ( ) separately.

Applicable Inserts

Application	Cast Iron / Hard Materials	Hard Materials / Cast Iron
Ref. Page	B90	C19
Shape / Toolholder	Ceramic 	CBN (KBN900) 
CCLN□...-12	CNG45.., (CNG43..) CNM45	(CNM43..)
CCLN□...-16	CNG55..	-

Application	Cast Iron / Hard Materials	Cast Iron / Hard Materials
Ref. Page	B90	B90
Shape / Toolholder	Ceramic 	Ceramic 
HCLN□...16-4D	CNG 45.. (43..)	CN□A 45.. (43..)

Recommended Cutting Conditions ➡ **D41-D42**

Ceramic Insert Selection Guide

Select the suitable ceramic specifications (Corner-R(rε), Feed Rate, Chamfer, etc.) from the table below.

(No.45, Cutting Edge Angle: 0°~15)

Insert Shape	Corner-R (rε)	f (ipr) 0.004	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020	0.024	D.O.C.
RN	–	■	■	■	■	■	■	■	■	■	■	0.012~0.157
SN	2.0	■	■	■	■	■	■	■	■	■	■	0.012~0.157
	1.6	■	■	■	■	■	■	■	■			
EN	1.2	■	■	■	■	■	■					
CN	0.8	■	■	■	■							
	0.4	■	■									
TN	1.6	■	■	■	■	■	For Finishing					0.012~0.079
DN	1.2	■	■	■	■							
	0.8	■	■	■								
Chamfer		0.002"×20°		(0.004"~0.008")×(20°~25°)				0.012"×30°				–
Insert Thickness		5/16"										

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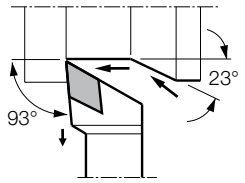
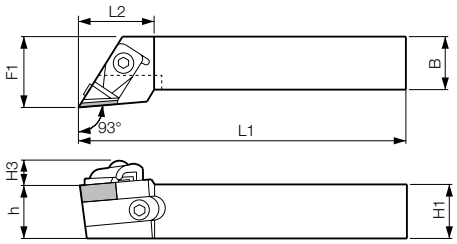
CDJN (External / Copying / Back Turning)

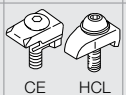




Side Rake Angle: -5°
Angle of Inclination: -8°

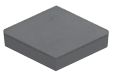
• Right-hand shown

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Dimensions H1=h	H3	B	L1	L2	F1	Standard Corner-R(rε)	Spare Parts: Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw	Lock Pin	Wrench
												 CE HCL		556  SP / IDSN	 HH S		
CDJN□ 2525M-15	○	○	mm	25	16	25	150	32	32	0.8	CB-14/15	CE-010	LW-4	556C□	HH5X16	-	-
3225P-15	○	○		32	16	25	170	32	32								

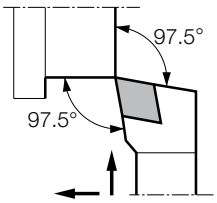
• Shim & Shim Screw : When using DN□□43 Insert, purchase spare parts in ( ) separately.
• Chipbreaker: CB-14 for Right-hand Toolholder, and CB-15 for Left-hand Toolholder.
• Shim: 556CR for Right-hand Toolholder, and 556CL for Left-hand Toolholder.

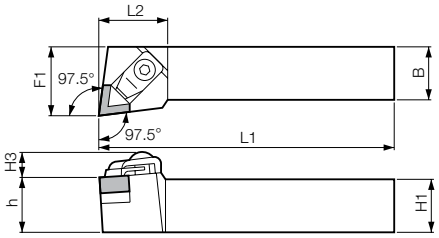
Applicable Inserts

Application	Cast Iron / Hard Materials
Ref. Page	B91
Shape / Toolholder	Ceramic 
CDJN□...-15	DNG45..

Recommended Cutting Conditions **D41-D42**

CELN (External / Facing)





Side Rake Angle: -6°
Angle of Inclination: -6°

• Right-hand shown

Toolholder Dimensions

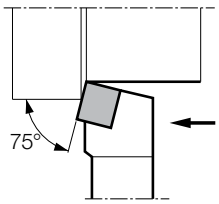
Part Number	Stock R	Stock L	Unit	Dimensions H1=h	H3	B	L1	L2	F1	Standard Corner-R(rε)	Spare Parts: Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw
															
CELN□ 2525M-13	○	○	mm	25	15	25	150	32	32	0.8	CB-16	CE-010	LW-4	SP-342	M3X8

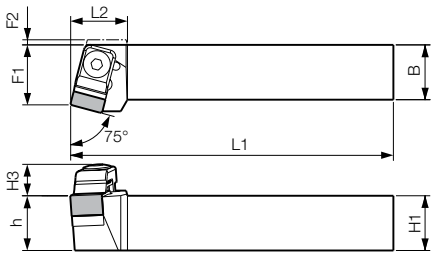
Applicable Inserts

Application	Cast Iron / Hard Materials
Ref. Page	B91
Shape / Toolholder	Ceramic 
CELN□...-13	ENG45..

Recommended Cutting Conditions **D41-D42**

CSRN / HSRN (External)

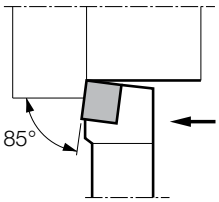


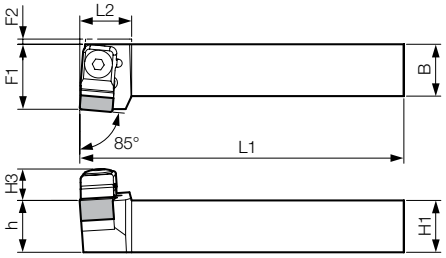


Side Rake Angle: -6°
Angle of Inclination: -4°

• Right-hand shown

CS-N (External)

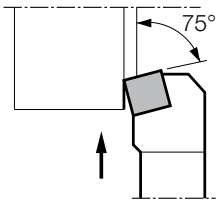


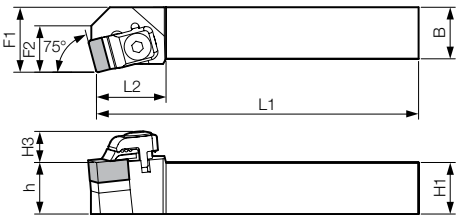


Side Rake Angle: -6°
Angle of Inclination: -4°

• Right-hand shown

CSKN (Facing)

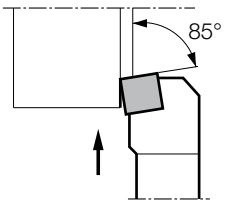


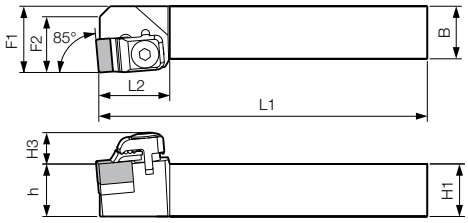


Side Rake Angle: -6°
Angle of Inclination: -4°

• Right-hand shown

CSYN (Facing)

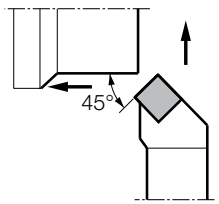


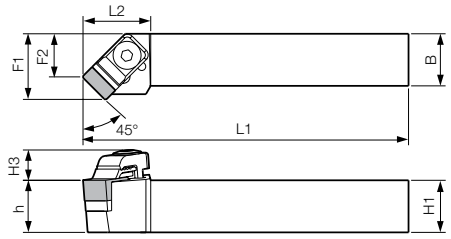


Side Rake Angle: -6°
Angle of Inclination: -4°

• Right-hand shown

CSSN (External / Facing / Chamfering)

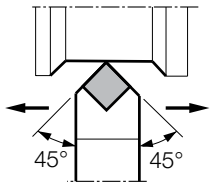


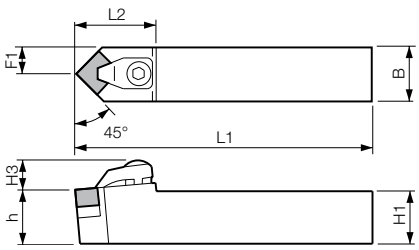


Side Rake Angle: -6°
Angle of Inclination: 0°

• Right-hand shown

CSDN / HSDN (External / Chamfering)





Back Rake Angle: -8.5°

Toolholder Dimensions

Part Number	Stock R	Stock N	Stock L	Unit	Dimensions H1=h	H3	B	L1	L2	F1	F2	Standard Corner-R(re)	Spare Parts: Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw	Lock Pin	Wrench
														020 220 040 HCL			M3 S		
CSRN□ 20-4E	●		●	inch	1.25	0.433	1.25	7.00	0.88	1.50	-	1/32	CB-11	CE-020	LW-4	SP-141	M3X8	-	-
CSRN□ 2020K-12	○		○	mm	20	12	20	125	22	22.0	2	0.8	CB-11	CE-020	LW-4	SP-141 (SP-143)	M3X8 (M3X12)	-	-
2525M-12	○		○		25	12	25	150	22	27.0	-								
3225P-12	○		○		32	12	25	170	22	27.0	-								
3225P-15	○				32	15	25	170	30	32.4	-	0.8	CB-51	CE-220	LW-4	SP-162	M4X10	-	-
4040R-15	○		○		40	15	40	200	30	43.0	-								
CS-N□ 2525M-12	○		○	mm	25	12	25	150	20	32.0	-	0.8	CB-11	CE-020	LW-4	SP-141 (SP-143)	M3X8 (M3X12)	-	-
CSKN□ 2020K-12	○		○		20	12	20	125	27	25.0	18	0.8	CB-11	CE-020	LW-4	SP-141 (SP-143)	M3X8 (M3X12)	-	-
2525M-12	○		○		25	12	25	150	27	32.0	18								
3225P-15	○				32	15	25	170	37	32.0	20	0.8	CB-51	CE-220	LW-4	SP-162	M4X10	-	-
CSYN□ 2020K-12	○		○		20	12	20	125	27	25.0	21	0.8	CB-11	CE-020	LW-4	SP-141 (SP-143)	M3X8 (M3X12)	-	-
2525M-12	○		○		25	12	25	150	27	32.0	21								
CSSN□ 16-4D	●		●	inch	1.00	0.433	1.00	6.00	1.00	1.25	0.90	1/32	CB-11	CE-020	LW-4	SP-141 (SP-143)	M3X8 (M3X12)	-	-
CSSN□ 2020K-12	○		○	mm	20	12	20	125	26	25.0	16	0.8	CB-11	CE-020	LW-4	SP-141 (SP-143)	M3X8 (M3X12)	-	-
2525M-12	○		○		25	12	25	150	26	32.0	23								
CSDNN 2020K-12		○		mm	20	13	20	125	32	10.0	-	0.8	-	CE-040	LW-4	SP-141 (SP-143)	M3X8 (M3X12)	-	-
2525M-12		○			25	13	25	150	32	12.5	-								
3225P-12		○			32	13	25	170	32	12.5	-								
HSRN□ 16-4D	●		●	inch	1.00	0.433	1.00	6.00	0.87	1.13	-	1/32	HCB300	HCL-000 (HCL-001)	LW-4	ISSN433 (ISSN453)	S-46	NL46L	LW-094
HSDNN 16-4D		●		inch	1.00	0.45	1.00	6.00	1.30	0.500	-	1/32	-	HCL-002	LW-4	ISSN433 (ISSN453)	S-46	NL46L	LW-094
20-4D		●			1.25	0.45	1.25	6.00	1.30	0.625	-								

• Shim & Shim Screw : When using SN□□43 Insert, purchase spare parts in ( ) separately.

Applicable Inserts

Application	Cast Iron / Hard Materials	Cast Iron / Hard Materials	Cast Iron	Hard Materials / Cast Iron	When using as toolholder for CBN tools (KBN900), prepare spare parts below separately.		
Ref. Page	B93, B94	B93	B32	C19			
Shape / Toolholder	Ceramic	Ceramic	Coated Carbide	CBN (KBN900)	Clamp Set	Shim	Shim Screw
							M3 S
CSRN□...-4E CSRN□...-12	SNG45.. (SNG43..) SNM45..	-	(SNM43..)	(SNM43..)	CE-030A	SP-143	M3X12
CSRN□...-15	SNG55..	-	-	-	-	-	-
CS-N□...-12	SNG45.. (SNG43..) SNM45..	-	(SNM43..)	(SNM43..)	CE-030A	SP-143	M3X12
CSKN□...-12	SNG45.. (SNG43..) SNM45..	-	(SNM43..)	(SNM43..)	CE-030A	SP-143	M3X12
CSKN□...-15	SNG55..	-	-	-	-	-	-
CSYN□...-12	SNG45.. (SNG43..) SNM45..	-	(SNM43..)	(SNM43..)	CE-030A	SP-143	M3X12
CSSN□...-4D CSSN□...-12	SNG45.. (SNG43..) SNM45..	-	(SNM43..)	(SNM43..)	CE-030A	SP-143	M3X12
CSDNN...-12	SNG45.. (SNG43..) SNM45..	-	(SNM43..)	(SNM43..)	*-	SP-143	M3X12
HSRN□...-4D	SNG45.. (SNG43..) SNM45..	(SNGA43..) (SNMA43..)	(SNM43..)	(SNM43..)	HCL-001	ISSN453	S-46
HSDNN...-4D	SNG45.. (SNG43..) SNM45..	(SNGA43..) (SNMA43..)	(SNM43..)	(SNM43..)	*-	ISSN453	S-46

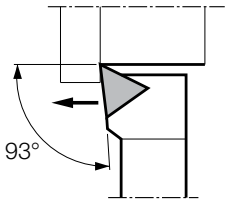
• Shim & Shim Screw : When using SN□□43 Insert, purchase spare parts in ( ) separately.
*CSDNN...-12: Clamp Set CE-040 is used continuously.

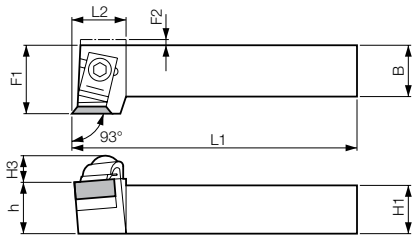
Recommended Cutting Conditions ➔ **D41-D42**

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

CTJN (External)

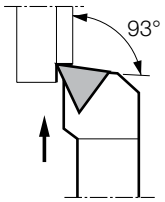


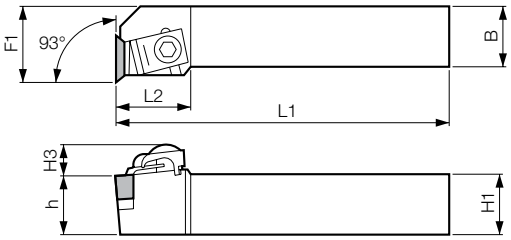


Side Rake Angle: -6°
Angle of Inclination: -4°

• Right-hand shown

CTUN (Facing)





Side Rake Angle: -6°
Angle of Inclination: -4°

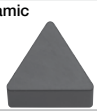
• Right-hand shown

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Dimensions H1=h	H3	B	L1	L2	F1	F2	Standard Corner-R(re)	Spare Parts: Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw
																
CTJN□□ 16-3D	●	●	inch	1.00	0.433	1.00	6.00	0.88	1.25	-	1/32	CB-12/13	CE-020	LW-4	SP-221 (SP-223)	M3X8 (M3X12)
16-4D	●	●		1.00	0.433	1.00	6.00	0.88	1.25	-						
CTJN□□ 2020K-16	○	○	mm	20	11	20	125	21	25	2	0.8	CB-12/13	CE-020	LW-4	SP-221 (SP-223)	M3X8 (M3X12)
2525M-16	○	○		25	11	25	150	21	32	-						
CTUN□□ 2020K-16	○	○		20	11	20	125	27	25	-	0.8	CB-13/12	CE-020	LW-4	SP-221 (SP-223)	M3X8 (M3X12)
2525M-16	○	○		25	11	25	150	27	32	-						

• CTJN (Chipbreaker): CB-12 for Right-hand Toolholder, CB-13 for Left-hand Toolholder.
CTUN (Chipbreaker): CB-13 for Right-hand Toolholder, CB-12 for Left-hand Toolholder.
• Shim & Shim Screw: When using TN□□33 Insert, purchase spare parts in ( ) separately.

Applicable Inserts

Application	Cast Iron / Hard Materials	Hard Materials / Cast Iron
Ref. Page	B95	C19
Shape / Toolholder	**Ceramic** 	**CBN (KBN900)** 
CTJN□□...-3D	TNG35.. (TNG33..) (TNM33..)	(TNM33..)
CTJN□□...-4D	TNG45.. (TNG43..) (TNM43..)	(TNM43..)
CTJN□□...-16	TNG35.. (TNG33..) (TNM33..)	(TNM33..)
CTUN□□...-16		

Recommended Cutting Conditions **D41-D42**

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
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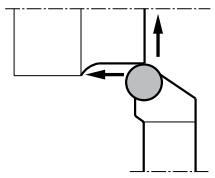
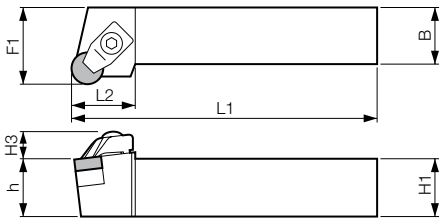
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

CRSN / HRSN (External / Facing)

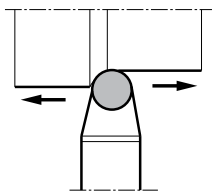


Side Rake Angle: -6°
Angle of Inclination: -6°

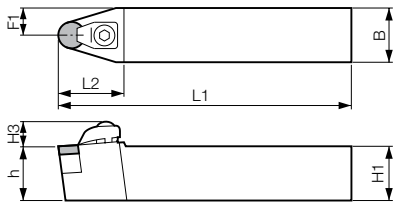


• Right-hand shown

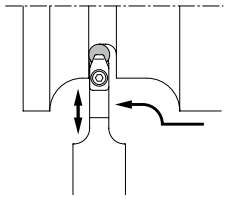
CRDN (External / Copying)

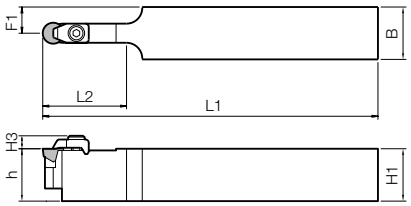


Back Rake Angle: -8.5°



CRDC (External / Copying)





Toolholder Dimensions

Part Number		Stock R	Stock N	Stock L	Unit	Dimensions H1=h	H3	B	L1	L2	F1	Spare Parts: Clamp Set (CE, HCL)	Wrench	Shim (SP, HSH)	Shim Screw (M, S)	Lock Pin	Wrench
CRSN/L	2020K-12	○		○	mm	20	11	20	125	26	25.0	CE-030	LW-4	SP-841 (SP-843)	M3X8 (M3X12)	-	-
	2525M-12	○		○		25	11	25	150	26	32.0						
	3225P-12	○		○		32	11	25	170	26	32.0						
CRDNN	16-4D		●		inch	1.00	0.433	1.00	6.00	1.13	0.500	CE-030	LW-4	SP-841 (SP-843)	M3X8	-	-
	20-4E		●			1.25	0.433	1.25	7.00	1.13	0.625						
CRDNN	2020K-12		○		mm	20	11	20	125	28	10.0	CE-030	LW-4	SP-841 (SP-843)	M3X8 (M3X12)	-	-
	2525M-12		○			25	11	25	150	28	12.5						
	3225P-12		○			32	11	25	170	28	12.5						
	3232P-15		○			32	13	32	170	35	16.0	CE-040	LW-4	SP-861	M4X10	-	-
	4040R-15		○			40	13	40	200	35	20.0						
HRSN/L	16-4D	●			inch	1.00	0.580	1.00	6.00	1.03	1.250	HCL-001	LW-4	IRSN43 (IRSN45)	S-46	NL46L	LW-094
	20-4D	●				1.25	0.580	1.25	6.00	1.03	1.500						
CRDCN	16-2		●		inch	1.00	0.20	1.00	8.00	1.00	0.500	HCL-017C	LW-2	HSH665A	-	-	-
	16-3		●			1.00	-	1.00	-	-	0.500	HCL-016	LW-3	HSH655			
	20-3		●			1.25	0.27	1.25	8.00	1.50	0.625						
	20-4		●			1.25	0.41	1.25	8.00	2.00	0.625	HCL-007	LW-4	HSH657			
	20-6		●			1.25	0.41	1.25	8.00	2.00	0.625	HCL-013	LW-4	HSH661			

• Shim & Shim Screw : When using RN□43 Insert, purchase spare parts in ( ) separately.

Applicable Inserts

Application	Cast Iron / Hard Materials
Ref. Page	B92
Shape / Toolholder	Ceramic
CRSN/L...-12	RNG45.. (RNG43..)
CRDNN...-4D/4E CRDNN...-12	RNG45.. (RNG43..)
CRDNN...-15	RNG55..
HRSN/L...-4D	RNG45.. (RNG43..)

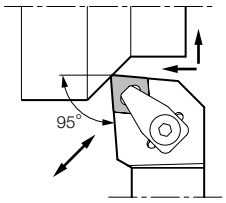
Hard Materials / Cast Iron	When using as toolholder for CBN tools (KBN900), prepare spare parts below separately.		
C19			
CBN (KBN900)	Clamp Set	Shim	Shim Screw (M, S)
(RNM43..)	CE-030A	SP-843	M3X12
(RNM43..)	CE-030A	SP-843	M3X12
-	-	-	-
(RNM43..)	HCL-001	IRSN45	S-46

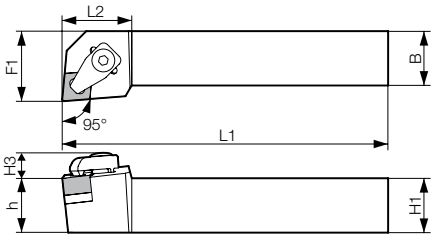
Application	Cast Iron / Hard Materials
Ref. Page	B98
Shape / Toolholder	Ceramic
CRDCN...-2	RCGX 24.., 102..
CRDCN...-3	RCGX 35.., 103..
CRDCN...-4	RCGX 45.., 104..
CRDCN...-6	RCGX 106..

Recommended Cutting Conditions D41-D42

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

CCLN-GX (External / Facing / Back Turning)





Side Rake Angle: -6°
Angle of Inclination: -6°

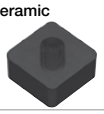
• Right-hand shown

Toolholder Dimensions

Part Number	Stock		Unit	Dimensions						Standard Corner-R(re)	Spare Parts			
											Clamp Set	Wrench	Shim	Shim Screw
	R	L		H1=h	H3	B	L1	L2	F1					
CCLN□ 2525M-12GX	○	□	mm	25	13	25	150	30	32	1.2	CE-410	LW-4	SP-441	M3X8

• CTJN (Chipbreaker): CB-12 for Right-hand Toolholder, CB-13 for Left-hand Toolholder.
CTUN (Chipbreaker): CB-13 for Right-hand Toolholder, CB-12 for Left-hand Toolholder.
• Shim & Shim Screw: When using TN□□33 Insert, purchase spare parts in ( ) separately.

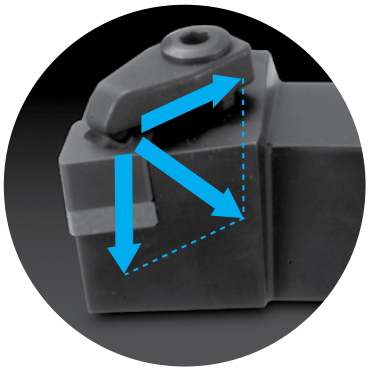
Applicable Inserts

Application	Cast Iron
Ref. Page	B90
Shape / Toolholder	Ceramic 
CCLN□...12GX	CNGX45..

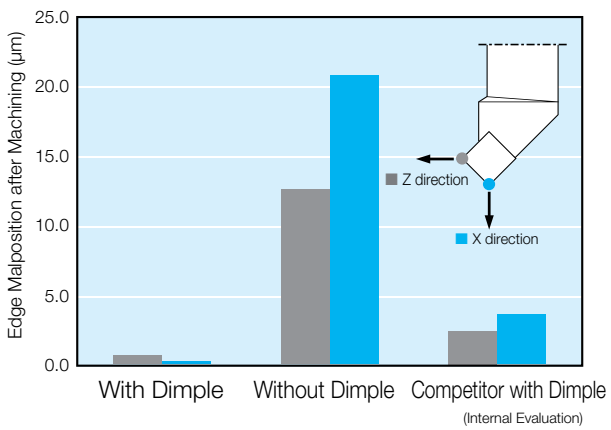
Recommended Cutting Conditions **D41-D42**

Features

- **Improved clamping stability due to the dimple design**
- **Improve machine stability and machinability**

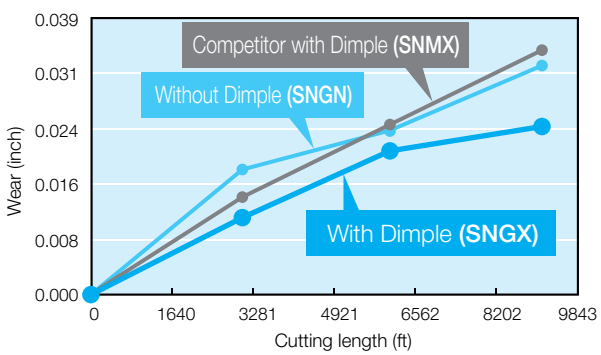


Edge Displacement



(Internal Evaluation)

Cutting Capability



Vc = 2620 sfm, D.O.C. = 0.059"-0.079", f = 0.024 ipr
NO.45 with Scale, Dry

(Internal Evaluation)

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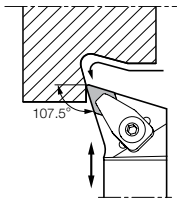
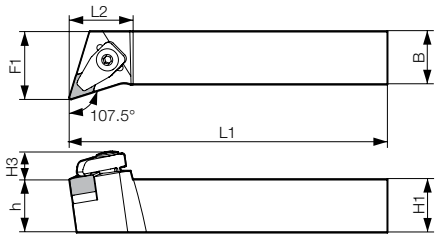
U.S. Stock Standard : ●
Made to Order : □
World Express (Shipping: 7-10 Business Days) : ○

CDHN-GX (External / Copying / Back Turning)

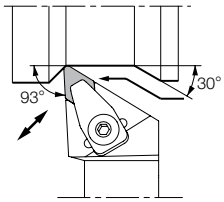


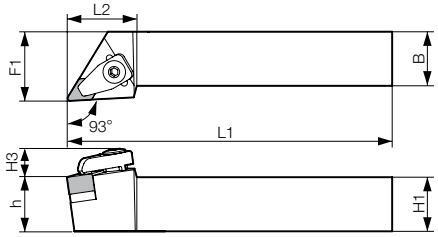


Side Rake Angle: -5°
Angle of Inclination: -8°

• Right-hand shown

CDJN-GX (External / Copying / Back Turning)





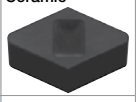
Side Rake Angle: -5°
Angle of Inclination: -8°

• Right-hand shown

Toolholder Dimensions

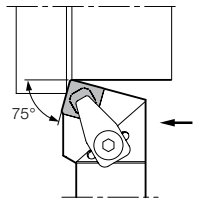
Part Number		Stock		Unit	Dimensions						Standard Corner-R(rε)	Spare Parts			
												Clamp Set	Wrench	Shim	Shim Screw
		R	L		H1=h	H3	B	L1	L2	F1					
CDHN●	2525M-12GX	□	□	mm	25	14	25	150	30	32	1.2	CE-410	LW-4	SP-521	M3X8
	2525M-15GX	□	□		25	15	25	150	33	32		CE-430		SP-541	
CDJN●	2525M-12GX	□	□		25	14	25	150	32	32	1.2	CE-410	LW-4	SP-521	M3X8
	2525M-15GX	□	□		25	15	25	150	38	32		CE-430		SP-541	

Applicable Inserts

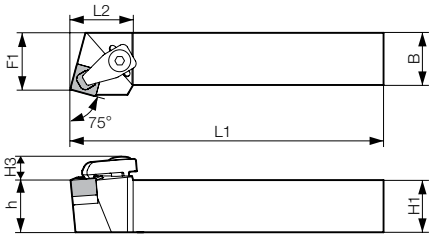
Application	Cast Iron
Ref. Page	B91
Shape / Toolholder	Ceramic 
CDHN● 2525M-12GX	DNGX35 …
2525M-15GX	DNGX45 …
CDJN● 2525M-12GX	DNGX35 …
2525M-15GX	DNGX45 …

Recommended Cutting Conditions **D41-D42**

CSRN-GX (External)

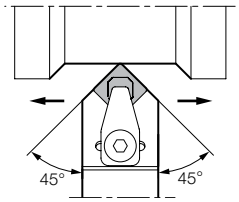


Side Rake Angle: -6°
Angle of Inclination: -4°

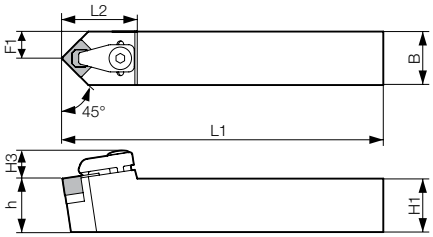


• Right-hand shown

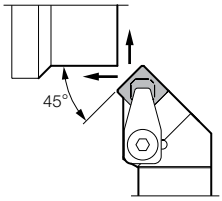
CSDN-GX (External / Chamfering)



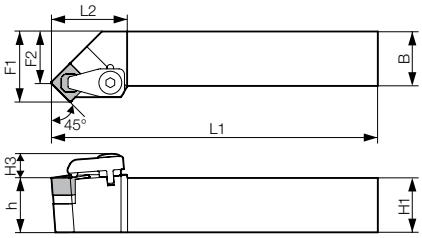
Back Rake Angle: -8.5°



CSSN-GX (External / Facing / Chamfering)



Side Rake Angle: -6°
Angle of Inclination: 0°



• Right-hand shown

Toolholder Dimensions

Part Number		Stock R	Stock N	Stock L	Unit	H1=h	H3	B	L1	L2	F1	F2	Standard Corner-R(rε)	Spare Parts: Clamp Set	Spare Parts: Wrench	Spare Parts: Shim	Spare Parts: Shim Screw
CSRN/L	2525M-12GX	○		□	mm	25	12	25	150	30	27.0	-	1.2	CE-410	LW-4	SP-141	M3X8
	2525M-15GX	□		□		25	13	25	150	35	27.0	-				SP-162	M4X10
CSDNN	2525M-12GX		□			25	13	25	150	35	12.5	-	1.2	CE-410	LW-4	SP-141	M3X8
	2525M-15GX		□			25	14	25	150	40	12.5	-				SP-162	M4X10
CSSN/L	2525M-12GX	○		○		25	12	25	150	35	32.0	23.6	1.2	CE-410	LW-4	SP-141	M3X8
	2525M-15GX	□		□		25	13	25	150	40	32.0	21.1				SP-162	M4X10

Applicable Inserts

Application		Cast Iron
Ref. Page		B94
Shape / Toolholder		Ceramic
CSRN/L	2525M-12GX	SNGX45 …
	2525M-15GX	SNGX55 …
CSDNN	2525M-12GX	SNGX45 …
	2525M-15GX	SNGX55 …
CSSN/L	2525M-12GX	SNGX45 …
	2525M-15GX	SNGX55 …

Recommended Cutting Conditions **D41-D42**

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(Technical Support) **800.823.7284 - Option 2**
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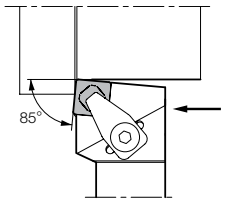
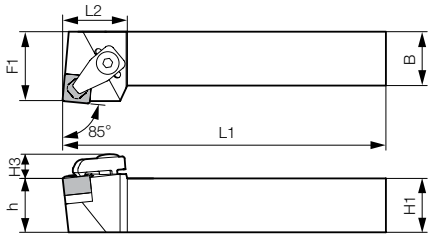
U.S. Stock Standard : ●
Made to Order : □
World Express (Shipping: 7-10 Business Days) : ○

CS-N-GX (External)

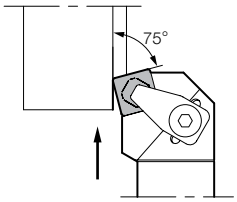


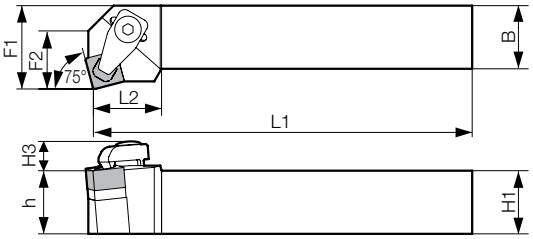


Side Rake Angle: -6°
Angle of Inclination: -4°

• Right-hand shown

CSKN-GX (Facing)

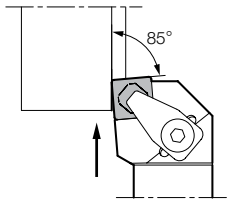


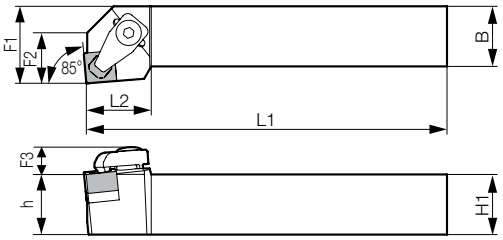


Side Rake Angle: -6°
Angle of Inclination: -4°

• Right-hand shown

CSYN-GX (Facing)





Side Rake Angle: -6°
Angle of Inclination: -4°

• Right-hand shown

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	H3	B	L1	L2	F1	F2	Standard Corner-R(rε)	Spare Parts Clamp Set	Wrench	Shim	Shim Screw
CS-N℀	2525M-12GX	□	□	mm	25	12	25	150	30	32	-	1.2	CE-410	LW-4	SP-141	M3X8
	2525M-15GX	□	□		25	13	25	150	30	32	-				SP-162	M4X10
CSKN℀	2525M-12GX	○	○		25	12	25	150	27	32	23	1.2	CE-410	LW-4	SP-141	M3X8
	2525M-15GX	□	□		25	13	25	150	26	32	23				SP-162	M4X10
CSYN℀	2525M-12GX	□	○		25	12	25	150	27	32	21	1.2	CE-410	LW-4	SP-141	M3X8
	2525M-15GX	□	□		25	13	25	150	29	32	23				SP-162	M4X10

Applicable Inserts

Application		Cast Iron
Ref. Page		B94
Shape / Toolholder		Ceramic
CS-N℀	2525M-12GX	SNGX45 …
	2525M-15GX	SNGX55 …
CSKN℀	2525M-12GX	SNGX45 …
	2525M-15GX	SNGX55 …
CSYN℀	2525M-12GX	SNGX45 …
	2525M-15GX	SNGX55 …

Recommended Cutting Conditions **D41-D42**

● : U.S. Stock Standard
□ : Made to Order
○ : World Express (Shipping: 7-10 Business Days)

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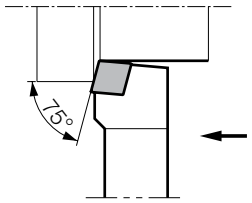
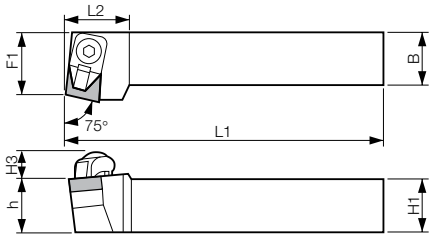
CCRN-A (External)

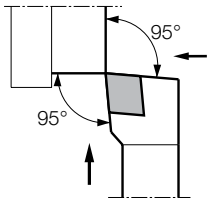


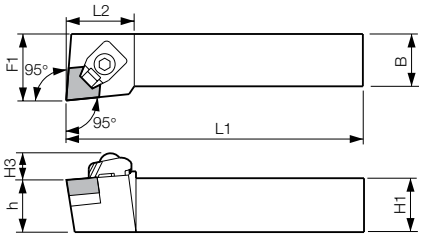


Side Rake Angle: -6°
Angle of Inclination: -6°

• Right-hand shown

CCLN-A (External / Facing)

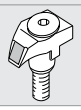




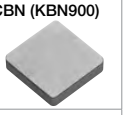
Side Rake Angle: -5°
Angle of Inclination: -5°

• Right-hand shown

Toolholder Dimensions

Part Number	Stock		Unit	Dimensions						Standard Corner-R(rε)	Spare Parts			
											Clamp Set	Wrench	Shim	Shim Screw
	R	L		H1=h	H3	B	L1	L2	F1					
CCRN□ 2525M-09A	○	○	mm	25	11	25	150	27	27	0.8	CE-030A	LW-4	SP-429	HH3X12
CCLN□ 2525M-09A	○	○		25	11	25	150	28	32	0.8	CE-030A	LW-4	SP-429	HH3X12

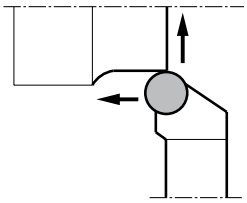
Applicable Inserts

Application	Hard Materials / Cast Iron
Ref. Page	C19
Shape / Toolholder	CBN (KBN900) 
CCRN□...-09A	CNM32..
CCLN□...-09A	

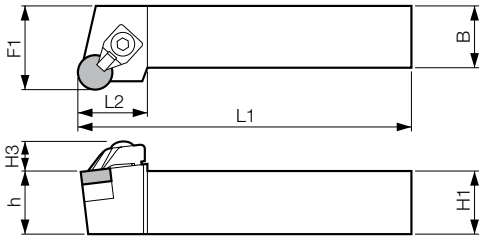
* For CNM43 Insert toolholder **D24**

Recommended Cutting Conditions **D41-D42**

CRSN-A (External / Facing)

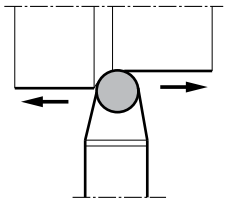


Side Rake Angle: -6°
Angle of Inclination: -6°

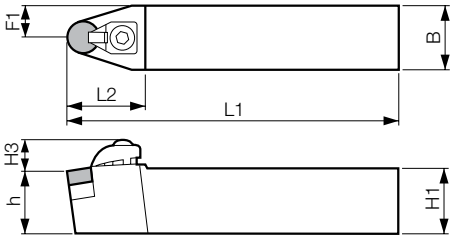


• Right-hand shown

CRDN-A (External / Copying))



Back Rake Angle: -8.5°



Toolholder Dimensions

Part Number		Stock R	Stock N	Stock L	Unit	Dimensions H1=h	H3	B	L1	L2	F1	Standard Corner-R(re)	Spare Parts: Clamp Set	Wrench	Shim	Shim	Shim Screw
CRSN/L	2525M-09A	○		○	mm	25	11	25	150	26	32.0	-	CE-030A	LW-4	SP-829	-	HH3X12
	3225P-09A	○		○		32	11	25	170	26	32.0						
	2525M-12A	○		○		25	11	25	150	26	32.0	-	CE-030A	LW-4	-	SP-849 (SP-843)	BH3X12
	3225P-12A	○		○		32	11	25	170	26	32.0						
CRDNN	2525M-09A		○			25	11	25	150	29	12.5	-	CE-030A	LW-4	SP-829	-	HH3X12
	3225P-09A		○			32	11	25	170	29	12.5						
	2525M-12A		○			25	11	25	150	28	12.5	-	CE-030A	LW-4	-	SP-849 (SP-843)	BH3X12
	3225P-12A		○			32	11	25	170	28	12.5						

Spare Parts: Shim Screw: HH, BH

• -12A toolholder Shim: When using RN□□1204 Insert, purchase spare parts: SP-843 in ( ) separately.

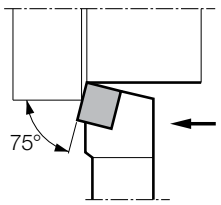
Applicable Inserts

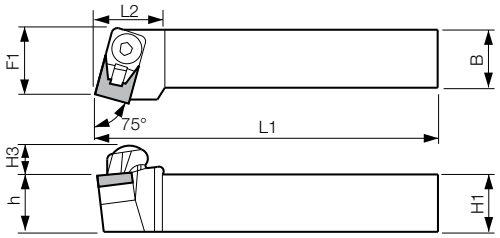
Application	Hard Materials / Cast Iron	Cast Iron / Hard Materials	When using as toolholder for ceramic tools, prepare spare parts below separately.	
Ref. Page	C19	B92		
Shape / Toolholder	CBN (KBN900)	Ceramic	Shim	Shim Screw
CRSN/L...-09A	RNM32	(RNG33)	SP-826	-
CRSN/L...-12A	RNM42 (RNM43)	(RNG43)	SP-843	M3X12
		(RNG45)	SP-841	M3X8
CRDNN...-09A	RNM32	(RNG33)	SP-826	-
CRDNN...-12A	RNM42 (RNM43)	(RNG43)	SP-843	M3X12
		(RNG45)	SP-841	M3X8

Recommended Cutting Conditions **D41-D42**

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

CSRN-A (External)

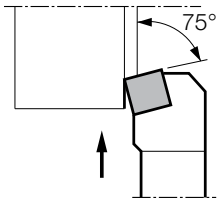


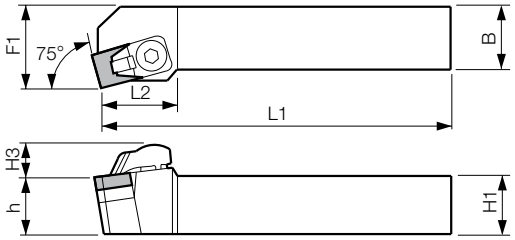


Side Rake Angle: -6°
Angle of Inclination: -4°

• Right-hand shown

CSKN-A (Facing)

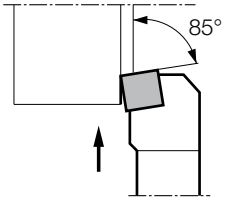


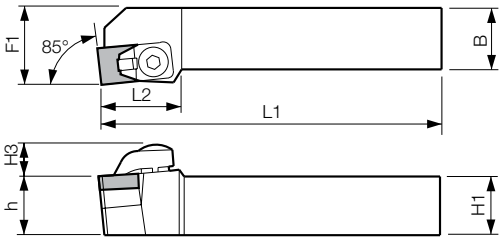


Side Rake Angle: -6°
Angle of Inclination: -4°

• Right-hand shown

CSYN-A (Facing)





Side Rake Angle: -6°
Angle of Inclination: -4°

• Right-hand shown

Toolholder Dimensions

Part Number	Stock R	Stock N	Stock L	Unit	Dimensions H1=h	H3	B	L1	L2	F1	Standard Corner-R(rε)	Spare Parts: Clamp Set	Wrench	Shim	Shim	Shim Screw
CSRN□ 2525M-09A	○		○	mm	25	11	25	150	22	27	0.8	CE-030A	LW-4	SP-129	-	HH3X12
2525M-12A	○		○		25	11	25	150	22	27				-	SP-148 (SP-143)	BH3X12
CSKNR 2525M-09A		○			25	11	25	150	27	32	0.8	CE-030A	LW-4	SP-129	-	HH3X12
2525M-12A		○			25	11	25	150	29	32				-	SP-148 (SP-143)	BH3X12
CSYN□ 2525M-09A	○		○		25	11	25	150	27	32	0.8	CE-030A	LW-4	SP-129	-	HH3X12
2525M-12A	○		○		25	11	25	150	27	32				-	SP-148 (SP-143)	BH3X12

• -12A toolholder Shim: When using SN□□43 Insert, purchase spare parts: SP-143 in ( ) separately.

Applicable Inserts

Application	Hard Materials / Cast Iron	Cast Iron
Ref. Page	C19	B32
Shape / Toolholder	CBN (KBN900)	Coated Carbide
CSRN□...-09A	SNM32..	-
CSRN□...-12A	SNM42.. (SNM43..)	(SNM43..)
CSKN□...-09A	SNM32..	-
CSKN□...-12A	SNM42.. (SNM43..)	(SNM43..)
CSYN□...-09A	SNM32..	-
CSYN□...-12A	SNM42.. (SNM43..)	(SNM43..)

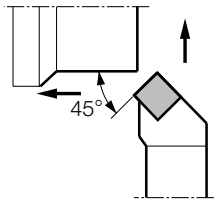
Cast Iron / Hard Materials	When using as toolholder for ceramic tools, prepare spare parts below separately. Chipbreaker	Clamp Set	Shim	Shim Screw
B93, B94				
Ceramic				
-	-	-	-	-
(SNG43..) (SNM43..)	CB-11	CE-020	SP-143	M3X12
(SNG45..) (SNM45..)			SP-141	M3X8
-	-	-	-	-
(SNG43..) (SNM43..)	CB-11	CE-020	SP-143	M3X12
(SNG45..) (SNM45..)			SP-141	M3X8
-	-	-	-	-
(SNG43..) (SNM43..)	CB-11	CE-020	SP-143	M3X12
(SNG45..) (SNM45..)			SP-141	M3X8

Recommended Cutting Conditions ➡ **D41-D42**

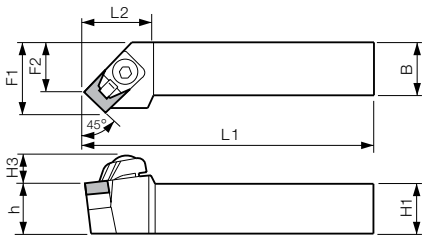
(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

CSSN-A (External / Facing / Chamfering)

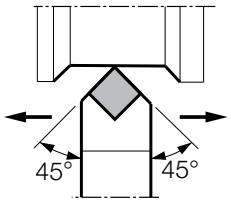


Side Rake Angle: -6°
Angle of Inclination: 0°

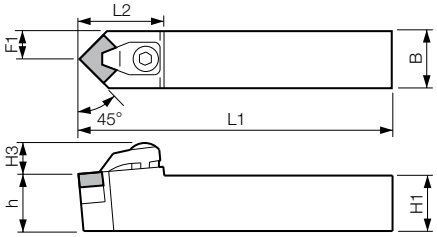


• Right-hand shown

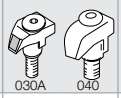
CSDN-A (External / Chamfering)



Back Rake Angle: -8.5°



Toolholder Dimensions

Part Number		Stock R	Stock N	Stock L	Unit	Dimensions H1=h	H3	B	L1	L2	F1	F2	Standard Corner-R(rε)	Spare Parts: Clamp Set	Spare Parts: Wrench	Spare Parts: Shim	Spare Parts: Shim	Spare Parts: Shim Screw
														 030A 040				 HH BH
CSSN□	2525M-09A	○		○	mm	25	11	25	150	26	32.0	25	0.8	CE-030A	LW-4	SP-129	-	HH3X12
	2525M-12A	○		○		25	11	25	150	26	32.0	23				-	SP-148 (SP-143)	BH3X12
CSDNN	2525M-09A		○			25	13	25	150	32	12.5	-	0.8	CE-040	LW-4	SP-129	-	HH3X12
	3225P-09A		○			32	13	25	170	32	12.5	-						
	2525M-12A		○			25	13	25	150	32	12.5	-				-	SP-148 (SP-143)	BH3X12

• -12A toolholder Shim: When using SN□□43 Insert, purchase spare parts: SP-143 in ( ) separately.

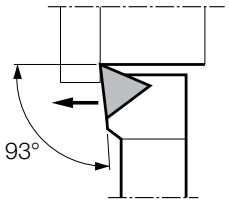
Applicable Inserts

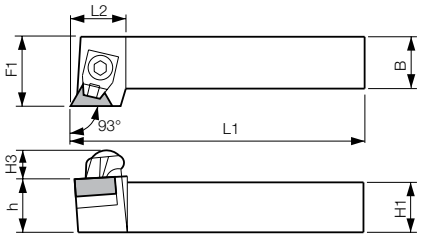
Application	Hard Materials / Cast Iron	Cast Iron	Cast Iron / Hard Materials	When using as toolholder for ceramic tools, prepare spare parts below separately. Chipbreaker	Clamp Set	Shim	Shim Screw
Ref. Page	C19	B32	B93, B94				
Shape / Toolholder	CBN (KBN900) 	Coated Carbide 	Ceramic 				
CSSN□...-09A	SNM32..	-	-	-	-	-	-
CSSN□...-12A	SNM42.. (SNM43..)	(SNM43..)	(SNG43..) (SNM43..)	CB-11	CE-020	SP-143	M3X12
			(SNG45..) (SNM45..)			SP-141	M3X8
CSDNN...-09A	SNM32..	-	-	-	-	-	-
CSDNN...-12A	SNM42.. (SNM43..)	(SNM43..)	(SNG43..) (SNM43..)	-	-	SP-143	M3X12
			(SNG45..) (SNM45..)			SP-141	M3X8

Recommended Cutting Conditions ➡ **D41-D42**

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

CTJN-A (External)

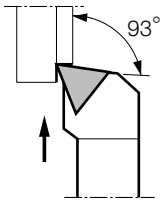


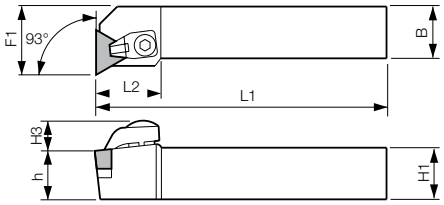


Side Rake Angle: -6°
Angle of Inclination: -4°

• Right-hand shown

CTUN-A (Facing)

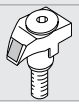




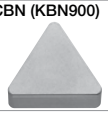
Side Rake Angle: -6°
Angle of Inclination: -4°

• Right-hand shown

Toolholder Dimensions

Part Number	Stock		Unit	Dimensions						Standard Corner-R(rε)	Spare Parts			
											Clamp Set	Wrench	Shim	Shim Screw
	R	L		H1=h	H3	B	L1	L2	F1					
CTJN□ 2525M-11A	○	○	mm	25	11	25	150	22	32	0.8	CE-030A	LW-4	SP-219	HH3X12
CTUN□ 2525M-11A	○	○		25	11	25	150	27	32	0.8	CE-030A	LW-4	SP-219	HH3X12
2525M-11A	○	○		32	11	25	170	26	32					

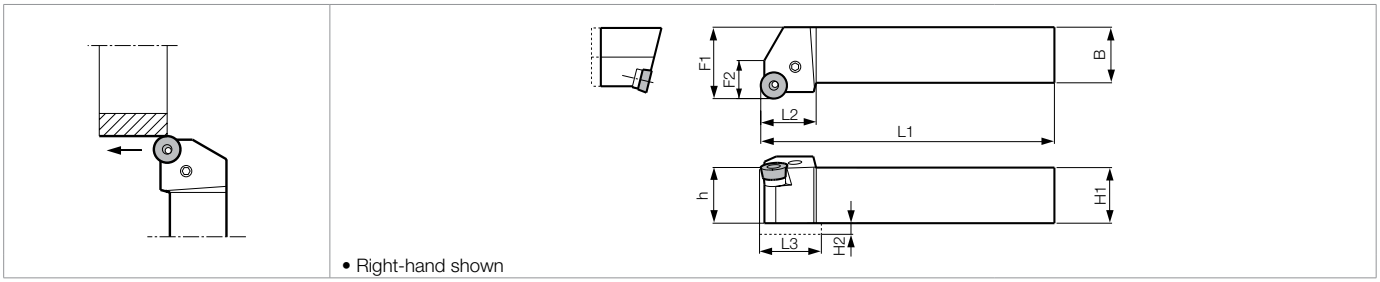
Applicable Inserts

Application	Hard Materials / Cast Iron	Cast Iron / Hard Materials
Ref. Page	C19	B95
Shape / Toolholder	**CBN (KBN900)** 	**Ceramic** 
CTJN□...-11A	TNM22..	TNG22..
CTUN□...-11A		

* TNM33 Insert toolholder is described in **D28**

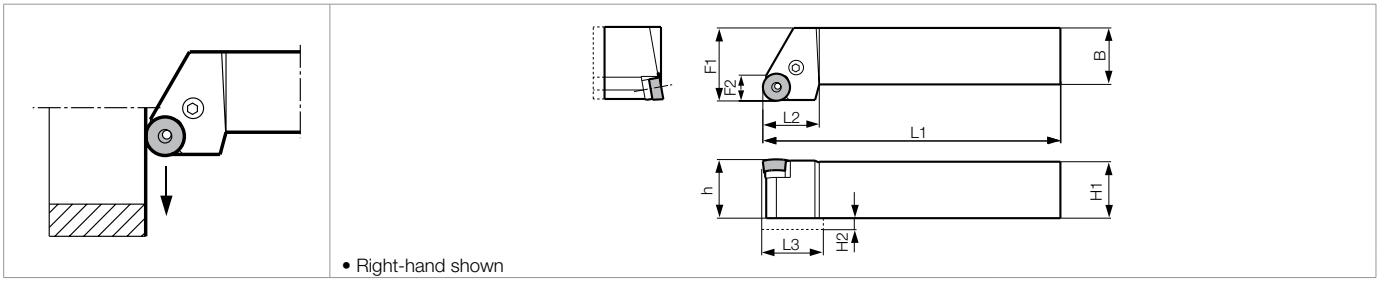
Recommended Cutting Conditions **D41-D42**

PRGC-BE (External)



• Right-hand shown

PRGC-BF (Facing)



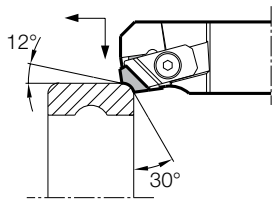
• Right-hand shown

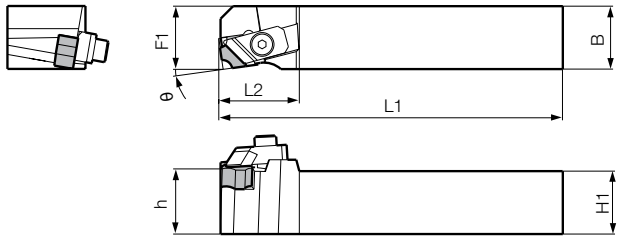
Toolholder Dimensions

Part Number		Stock	Unit	Dimensions								Spare Parts						Applicable Inserts ➡ B87
				H1=h	H2	B	L1	L2	L3	F1	F2	Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench	
PRGCR	2020K-12BE	○	mm	20	-	20	125	22	-	25	15	LL-1CN	LS-1N	LR-12C	LSP-1	PC-1	FH-2.5	RCMT 1204M0-BB
	2525M-12BE	○		25	-	25	150	25	-	32	17							
	2020K-16BE	○		20	5	20	125	27	27	29	22	LL-2C	LS-1T	LR-16C	LSP-2	PC-2	FH-2.5	RCMT 1606M0-BB
	2525M-16BE	○		25	-	25	150	27	-	32	22							
PRGCR	2020K-12BF	○		20	-	20	125	22	-	25	10	LL-1CN	LS-1N	LR-12C	LSP-1	PC-1	FH-2.5	RCMT 1204M0-BB
	2525M-12BF	○		25	-	25	150	25	-	32	11							
	2020K-16BF	○		20	5	20	125	27	27	25	17	LL-2C	LS-1T	LR-16C	LSP-2	PC-2	FH-2.5	RCMT 1606M0-BB
	2525M-16BF	○		25	-	25	150	27	-	32	17							

Recommended Cutting Conditions ➡ **D41-D42**

CBSN (External Round Chamfering)

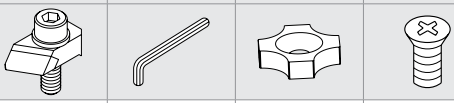




• Right-hand shown

Toolholder Dimensions

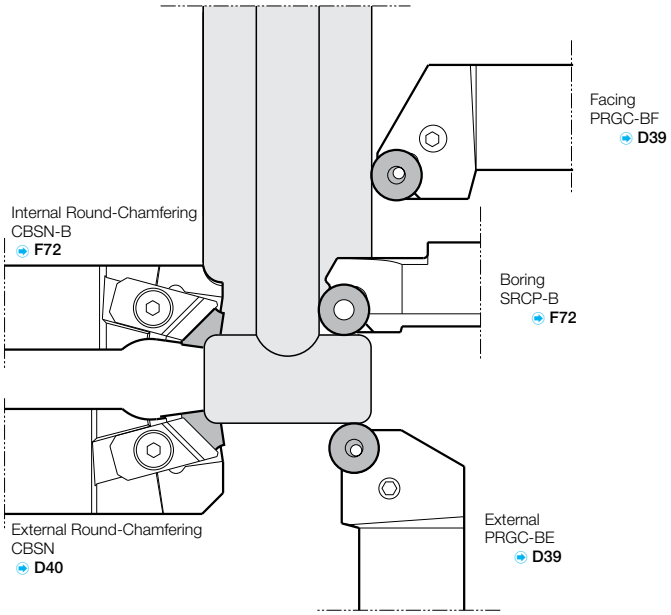
Part Number		Stock R	Stock L	Unit	Dimensions H1=h	B	L1	L2	F1	θ	Spare Parts: Clamp Set	Wrench	Shim	Shim Screw	Applicable Inserts
CBSN□	2020K-12	○	○	mm	20	20	125	32	20	9°	CP-RC□	LW-5	SP-RC	SP3X8	SNMF1204○○-21
	2525M-12	○	○		25	25	150	32	25						



• Clamp Set: CP-RCR for Right-hand Toolholder, and CP-RCL for Left-hand Toolholder.

Recommended Cutting Conditions **D41-D42**

Tooling for Bearing Machining



Recommended Cutting Conditions - External Turning (Negative Insert) [D.O.C. Indicates Radius]

ISO Classification	Workpiece Material	Hardness	Cutting Range	Applications	Recommended Chipbreaker	Recommended Insert Grade	Corner-R (rε)	Lower Limit - **Recommendation** - Upper Limit		
								Vc (sfm)	D.O.C. (in)	Feed Rate (ipr)
P	Low Carbon Steel Low Carbon Alloy	HB ≦ 300	Finishing (Small D.O.C.)	Continuous	XF	PV710	1/64	820 - **1150** - 1710	0.002 - **0.005** - 0.024	0.001 - **0.004** - 0.009
				Interruption		PV720	1/32	790 - **1050** - 1570	0.002 - **0.006** - 0.024	0.016 - **0.005** - 0.010
			Finishing (Gloss Oriented)	Continuous	XP	TN610	1/64	820 - **1050** - 1310	0.008 - **0.020** - 0.028	0.003 - **0.005** - 0.008
				Interruption		TN620	1/32	790 - **1020** - 1210	0.008 - **0.020** - 0.028	0.003 - **0.005** - 0.008
			Finishing (Tool Life Oriented)	Continuous	XP	PV710	1/64	820 - **980** - 1210	0.008 - **0.020** - 0.028	0.003 - **0.005** - 0.008
				Interruption		PV720	1/32	790 - **950** - 1120	0.008 - **0.020** - 0.028	0.003 - **0.005** - 0.008
			Finishing-Medium (Gloss Oriented)	Continuous	XQ	TN620	1/64	820 - **1050** - 1310	0.020 - **0.039** - 0.059	0.007 - **0.010** - 0.012
				Interruption		TN620	1/32	790 - **920** - 1120	0.020 - **0.039** - 0.059	0.007 - **0.010** - 0.012
			Finishing-Medium (Tool Life Oriented)	Continuous	XQ	PV710	1/32	820 - **980** - 1210	0.020 - **0.039** - 0.059	0.007 - **0.010** - 0.012
				Interruption		PV720	1/32	790 - **920** - 1120	0.020 - **0.039** - 0.059	0.007 - **0.010** - 0.012
			Medium-Roughing	Continuous	XS	PV720	1/32	720 - **850** - 1050	0.031 - **0.059** - 0.079	0.010 - **0.012** - 0.016
				Interruption		CA515	1/32	520 - **690** - 850	0.031 - **0.059** - 0.079	0.010 - **0.012** - 0.016
			Roughing	Continuous	PG	CA515	1/32	590 - **720** - 850	0.039 - **0.098** - 0.138	0.008 - **0.012** - 0.016
				Interruption		CA525	3/64	490 - **660** - 790	0.039 - **0.098** - 0.138	0.008 - **0.012** - 0.016
			Medium-Roughing High Feed Rate	Continuous	PT	CA515	1/32	490 - **660** - 790	0.059 - **0.118** - 0.177	0.010 - **0.014** - 0.018
				Interruption		CA525	3/64	390 - **590** - 720	0.059 - **0.118** - 0.177	0.010 - **0.014** - 0.018
			Roughing High Feed Rate	Continuous	PH	CA515	3/64	490 - **660** - 790	0.079 - **0.197** - 0.315	0.016 - **0.024** - 0.031
				Interruption		CA525	1/16	390 - **590** - 720	0.079 - **0.197** - 0.315	0.012 - **0.020** - 0.028
			Roughing (Low Cutting Force)	Continuous	PX (Single Side)	CA515	3/64	490 - **660** - 790	0.079 - **0.197** - 0.315	0.016 - **0.024** - 0.031
				Interruption		CA525	1/16	390 - **590** - 720	0.079 - **0.197** - 0.315	0.012 - **0.020** - 0.028
			Finishing (Time Oriented)	Continuous	WP (Wiper)	PV710	1/32	660 - **820** - 1050	0.012 - **0.020** - 0.039	0.008 - **0.012** - 0.016
				Interruption		CA515	1/32	520 - **720** - 920	0.012 - **0.020** - 0.039	0.008 - **0.012** - 0.016
	Medium Carbon Steel Medium Carbon Alloy	HB ≦ 300	Finishing-Medium (Time Oriented)	Continuous	WQ (Wiper)	PV710	1/32	590 - **720** - 920	0.039 - **0.079** - 0.118	0.008 - **0.012** - 0.016
				Interruption		CA525	1/32	430 - **590** - 790	0.039 - **0.079** - 0.118	0.008 - **0.012** - 0.016
			Finishing (Gloss Oriented)	Continuous	PP	TN610	1/64	660 - **820** - 1050	0.008 - **0.020** - 0.059	0.002 - **0.006** - 0.011
				Interruption			1/32	590 - **750** - 980	0.008 - **0.020** - 0.059	0.002 - **0.008** - 0.014
			Finishing (Tool Life Oriented)	Continuous	PP	PV710	1/64	660 - **820** - 1050	0.008 - **0.020** - 0.059	0.002 - **0.006** - 0.011
				Interruption		PV720	1/32	660 - **790** - 950	0.008 - **0.020** - 0.059	0.002 - **0.008** - 0.014
			Finishing-Medium (Gloss Oriented)	Continuous	PQ	TN610	1/32	590 - **750** - 980	0.020 - **0.059** - 0.098	0.004 - **0.008** - 0.012
				Interruption		TN620	3/64	520 - **720** - 850	0.020 - **0.059** - 0.098	0.004 - **0.007** - 0.010
			Finishing-Medium (Tool Life Oriented)	Continuous	PQ	PV710	1/32	520 - **690** - 920	0.020 - **0.059** - 0.098	0.004 - **0.008** - 0.012
				Interruption		CA525	1/32	460 - **660** - 790	0.020 - **0.059** - 0.098	0.004 - **0.007** - 0.010
			Medium-Roughing	Continuous	PG	CA515	1/32	490 - **660** - 790	0.039 - **0.098** - 0.138	0.008 - **0.012** - 0.016
				Interruption		CA525	3/64	390 - **520** - 660	0.039 - **0.098** - 0.138	0.008 - **0.012** - 0.016
			Medium-Roughing High Feed Rate	Continuous	PT	CA515	1/32	390 - **590** - 750	0.059 - **0.118** - 0.177	0.010 - **0.014** - 0.018
				Interruption		CA525	3/64	330 - **490** - 660	0.059 - **0.118** - 0.177	0.010 - **0.014** - 0.018
			Roughing High Feed Rate	Continuous	PH	CA515	3/64	390 - **590** - 750	0.079 - **0.197** - 0.315	0.016 - **0.024** - 0.031
				Interruption		CA525	1/16	330 - **490** - 660	0.079 - **0.197** - 0.315	0.012 - **0.020** - 0.028
			Roughing (Low Cutting Force)	Continuous	PX (Single Side)	CA515	3/64	390 - **590** - 750	0.079 - **0.197** - 0.315	0.016 - **0.024** - 0.031
				Interruption		CA525	1/16	330 - **490** - 660	0.079 - **0.197** - 0.315	0.012 - **0.020** - 0.028
	High Carbon Alloy	HB ≦ 280	Finishing (Gloss Oriented)	Continuous	PP	TN610	1/64	490 - **660** - 920	0.008 - **0.020** - 0.059	0.002 - **0.006** - 0.011
				Interruption		TN620	1/32	460 - **590** - 790	0.008 - **0.020** - 0.059	0.002 - **0.008** - 0.014
			Finishing (Tool Life Oriented)	Continuous	PP	PV710	1/64	390 - **590** - 850	0.008 - **0.020** - 0.059	0.002 - **0.006** - 0.011
				Interruption		CA515	1/32	330 - **490** - 660	0.008 - **0.020** - 0.059	0.002 - **0.008** - 0.014
			Finishing-Medium	Continuous	PQ	CA515	1/32	390 - **520** - 720	0.020 - **0.059** - 0.098	0.006 - **0.010** - 0.012
				Interruption		CA525	1/32	330 - **460** - 590	0.020 - **0.059** - 0.098	0.006 - **0.008** - 0.010
			Medium-Roughing	Continuous	PG	CA515	1/32	390 - **490** - 660	0.039 - **0.079** - 0.118	0.008 - **0.012** - 0.020
				Interruption		CA525	1/32	330 - **430** - 590	0.039 - **0.079** - 0.118	0.006 - **0.008** - 0.012
			Medium-Roughing High Feed Rate	Continuous	PT	CA515	1/32	330 - **460** - 590	0.059 - **0.118** - 0.177	0.010 - **0.014** - 0.018
				Interruption		CA525	3/64	260 - **390** - 520	0.059 - **0.118** - 0.177	0.010 - **0.014** - 0.018
			Roughing High Feed Rate	Continuous	PH	CA515	3/64	330 - **460** - 590	0.079 - **0.197** - 0.315	0.016 - **0.024** - 0.031
				Interruption		CA525	1/16	260 - **390** - 520	0.079 - **0.197** - 0.315	0.012 - **0.020** - 0.028
			Roughing (Low Cutting Force)	Continuous	PX (Single Side)	CA515	3/64	330 - **460** - 590	0.079 - **0.197** - 0.315	0.016 - **0.024** - 0.031
				Interruption		CA525	1/16	260 - **390** - 520	0.079 - **0.197** - 0.315	0.012 - **0.020** - 0.028

Recommended Cutting Conditions - External Turning (Negative Insert) [D.O.C. Indicates Radius]

ISO Classification	Workpiece Material	Hardness	Cutting Range	Applications	Recommended Chipbreaker	Recommended Insert Grade	Corner-R (rε)	Lower Limit - **Recommendation** - Upper Limit		
								Vc (sfm)	D.O.C. (in)	Feed Rate (ipr)
M	Stainless Steel	HB ≦ 220	Finishing (Gloss Oriented)	Continuous	PQ	TN620	1/32	390 - **520** - 660	0.020 - **0.039** - 0.059	0.003 - **0.006** - 0.008
				Interruption			1/32	330 - **390** - 490	0.020 - **0.039** - 0.059	0.002 - **0.004** - 0.006
			Finishing	Continuous	MQ	CA6515	1/64	390 - **590** - 790	0.020 - **0.039** - 0.059	0.003 - **0.006** - 0.008
				Interruption		CA6525	1/32	330 - **520** - 720	0.020 - **0.039** - 0.059	0.002 - **0.004** - 0.006
			Medium-Roughing (Chip Control Oriented)	Continuous	MS	CA6515	1/64	390 - **520** - 660	0.039 - **0.079** - 0.118	0.004 - **0.008** - 0.012
				Interruption		CA6525	1/32	260 - **460** - 590	0.039 - **0.079** - 0.118	0.008 - **0.012** - 0.016
			Medium-Roughing (Sharpness Oriented)	Continuous	MU	CA6515	1/64	390 - **520** - 660	0.039 - **0.079** - 0.118	0.006 - **0.010** - 0.014
				Interruption		CA6525	1/32	260 - **460** - 590	0.039 - **0.079** - 0.118	0.006 - **0.010** - 0.012
			Roughing	Continuous	Standard	CA6515	1/32	330 - **460** - 590	0.039 - **0.079** - 0.157	0.008 - **0.012** - 0.016
				Interruption		CA6525	3/64	260 - **390** - 490	0.039 - **0.079** - 0.157	0.008 - **0.012** - 0.016
	Stainless Steel	HB ≦ 300	Finishing (Gloss Oriented)	Continuous	PQ	TN620	1/32	330 - **390** - 490	0.020 - **0.039** - 0.059	0.002 - **0.004** - 0.006
				Interruption			1/32	260 - **330** - 390	0.020 - **0.039** - 0.059	0.002 - **0.003** - 0.004
			Finishing	Continuous	MQ	CA6515	1/64	330 - **390** - 490	0.020 - **0.039** - 0.059	0.003 - **0.006** - 0.008
				Interruption		CA6525	1/32	260 - **330** - 390	0.020 - **0.039** - 0.059	0.002 - **0.004** - 0.006
			Medium-Roughing (Chip Control Oriented)	Continuous	MS	CA6515	1/64	330 - **390** - 490	0.039 - **0.059** - 0.079	0.004 - **0.006** - 0.010
				Interruption		CA6525	1/32	260 - **330** - 390	0.039 - **0.079** - 0.118	0.004 - **0.006** - 0.008
			Medium-Roughing (Sharpness Oriented)	Continuous	MU	CA6515	1/64	330 - **390** - 490	0.039 - **0.059** - 0.079	0.004 - **0.006** - 0.010
				Interruption		CA6525	1/32	260 - **330** - 390	0.039 - **0.079** - 0.118	0.004 - **0.006** - 0.008
			Roughing	Continuous	Standard	CA6515	1/32	260 - **330** - 390	0.039 - **0.079** - 0.118	0.008 - **0.012** - 0.016
				Interruption		CA6525	3/64	200 - **260** - 330	0.039 - **0.079** - 0.157	0.008 - **0.012** - 0.016
K	Gray Cast Iron	HB ≦ 250	High Speed Machining	Continuous	Without Chipbreaker	KBN475	1/32	1310 - **2620** - 3940	0.002 - **0.008** - 0.020	0.004 - **0.008** - 0.012
				Continuous		KBN900	3/64	1640 - **2950** - 3940	0.004 - **0.020** - 0.039	0.002 - **0.004** - 0.008
				Interruption		KBN900	3/64	1640 - **2300** - 2950	0.020 - **0.039** - 0.059	0.002 - **0.004** - 0.008
			Finishing (Gloss Oriented)	Continuous	Standard	PV7005	1/32	980 - **1150** - 1310	0.020 - **0.039** - 0.059	0.004 - **0.008** - 0.012
				Interruption		PV720	1/32	490 - **660** - 980	0.020 - **0.039** - 0.059	0.003 - **0.006** - 0.008
			Finishing (Ceramic)	Continuous	Without Chipbreaker	KA30	3/64	980 - **1640** - 2300	0.012 - **0.020** - 0.039	0.004 - **0.008** - 0.012
				Continuous		PT600M	1/32	980 - **1480** - 1970	0.012 - **0.020** - 0.039	0.004 - **0.008** - 0.012
			Medium (Ceramic)	Continuous		CS7050	3/64	980 - **1480** - 1800	0.039 - **0.079** - 0.118	0.006 - **0.010** - 0.014
				Interruption		KS6050	3/64	820 - **1310** - 1640	0.039 - **0.079** - 0.118	0.006 - **0.008** - 0.012
			Medium	Continuous	Standard	CA4505	1/32	660 - **820** - 980	0.020 - **0.079** - 0.098	0.004 - **0.008** - 0.012
				Interruption		CA4515	3/64	490 - **660** - 820	0.020 - **0.079** - 0.098	0.003 - **0.006** - 0.008
			Roughing	Continuous	ZS	CA4505	1/32	660 - **820** - 980	0.039 - **0.079** - 0.157	0.008 - **0.012** - 0.016
				Interruption		CA4515	3/64	490 - **660** - 820	0.039 - **0.079** - 0.157	0.008 - **0.012** - 0.016
	Nodular Cast Iron	HB ≦ 270	High Speed Machining	Continuous	Without Chipbreaker	KBN60M	1/64	660 - **980** - 1310	0.004 - **0.012** - 0.020	0.004 - **0.006** - 0.008
				Continuous		PT600M	1/32	660 - **820** - 1150	0.004 - **0.020** - 0.039	0.004 - **0.008** - 0.016
			Finishing (Gloss Oriented)	Continuous	Standard	PV7005	1/32	490 - **820** - 980	0.020 - **0.039** - 0.059	0.004 - **0.008** - 0.012
				Interruption		PV720	1/32	390 - **660** - 820	0.020 - **0.039** - 0.059	0.003 - **0.006** - 0.008
			Medium	Continuous	Standard	CA4505	1/32	490 - **660** - 820	0.020 - **0.079** - 0.098	0.004 - **0.008** - 0.012
				Interruption		CA4515	3/64	390 - **590** - 720	0.020 - **0.079** - 0.098	0.003 - **0.006** - 0.008
			Roughing	Continuous	ZS	CA4505	1/32	490 - **660** - 820	0.039 - **0.079** - 0.157	0.008 - **0.012** - 0.016
				Interruption		CA4515	3/64	390 - **590** - 720	0.039 - **0.079** - 0.157	0.008 - **0.012** - 0.016
N	Non-ferrous Metals Copper Alloy Aluminum Aluminum Alloys	HB ≦ 100	High Speed Machining (Rainbow Surface Gross)	Continuous	Without Chipbreaker	KPD001	1/64	980 - **2620** - 6560	0.002 - **0.020** - 0.039	0.002 - **0.004** - 0.006
			Finishing (Long Tool Life)	Continuous	A3	PDL025	1/64	1310 - **1640** - 2300	0.020 - **0.039** - 0.079	0.004 - **0.008** - 0.010
				Interruption			1/32	1310 - **1640** - 2300	0.020 - **0.039** - 0.079	0.004 - **0.008** - 0.010
			Finishing	Continuous	A3	KW10	1/32	1310 - **1640** - 2300	0.020 - **0.039** - 0.079	0.004 - **0.008** - 0.010
				Interruption			1/32	1310 - **1640** - 2300	0.020 - **0.039** - 0.079	0.004 - **0.008** - 0.010
			Medium	Continuous	AH	KW10	1/32	660 - **980** - 1640	0.039 - **0.079** - 0.138	0.004 - **0.012** - 0.016
				Interruption			1/32	660 - **980** - 1640	0.039 - **0.079** - 0.138	0.004 - **0.012** - 0.016
S	Titanium Alloys	HB ≦ 400	Precision Finishing (Rainbow Surface Gross)	Continuous	Without Chipbreaker	KPD001	1/64	330 - **490** - 590	0.002 - **0.012** - 0.020	0.001 - **0.004** - 0.006
				Interruption			1/64	230 - **390** - 490	0.002 - **0.012** - 0.020	0.001 - **0.003** - 0.004
			Finishing	Continuous	MQ	SW05	1/64	130 - **230** - 330	0.008 - **0.020** - 0.039	0.002 - **0.008** - 0.012
				Interruption			1/64	130 - **230** - 330	0.008 - **0.020** - 0.039	0.002 - **0.006** - 0.008
			Medium	Continuous	MU	SW05	1/32	130 - **200** - 260	0.020 - **0.039** - 0.118	0.004 - **0.010** - 0.014
				Interruption			1/32	130 - **200** - 260	0.020 - **0.039** - 0.118	0.004 - **0.008** - 0.012
	Heat-resistant Alloys	HB ≦ 350	Finishing	Continuous	MQ	PR1310	1/64	130 - **200** - 260	0.008 - **0.020** - 0.059	0.001 - **0.003** - 0.005
				Interruption			1/32	130 - **200** - 260	0.008 - **0.020** - 0.059	0.002 - **0.004** - 0.006
			Medium	Continuous	MS	PR1310	1/32	130 - **200** - 260	0.020 - **0.039** - 0.079	0.002 - **0.004** - 0.006
				Interruption			3/64	130 - **200** - 260	0.020 - **0.039** - 0.079	0.004 - **0.006** - 0.008
H	Hardened Steel Hard Materials	40~50 HRC	Finishing	Continuous	PQ Standard	CA515	1/32	200 - **330** - 390	0.004 - **0.012** - 0.020	0.002 - **0.003** - 0.004
				Interruption			1/32	100 - **160** - 230	0.004 - **0.012** - 0.020	0.002 - **0.003** - 0.004
		40~50 HRC	Finishing	Continuous	Without Chipbreaker	PT600M	1/32	200 - **260** - 330	0.008 - **0.020** - 0.028	0.002 - **0.004** - 0.006
		50~65 HRC		Continuous			3/64	100 - **130** - 200	0.008 - **0.020** - 0.028	0.002 - **0.004** - 0.006
		50~68 HRC	Finishing	Continuous	ME MET	KBN05M	1/32	330 - **490** - 660	0.002 - **0.012** - 0.020	0.002 - **0.003** - 0.004
				Interruption			3/64	300 - **460** - 590	0.002 - **0.012** - 0.020	0.002 - **0.003** - 0.004
			Medium	Continuous	Without Chipbreaker	KBN900	3/64	260 - **330** - 390	0.020 - **0.039** - 0.079	0.002 - **0.004** - 0.008
				Interruption			Radius	230 - **300** - 360	0.012 - **0.028** - 0.039	0.002 - **0.004** - 0.006

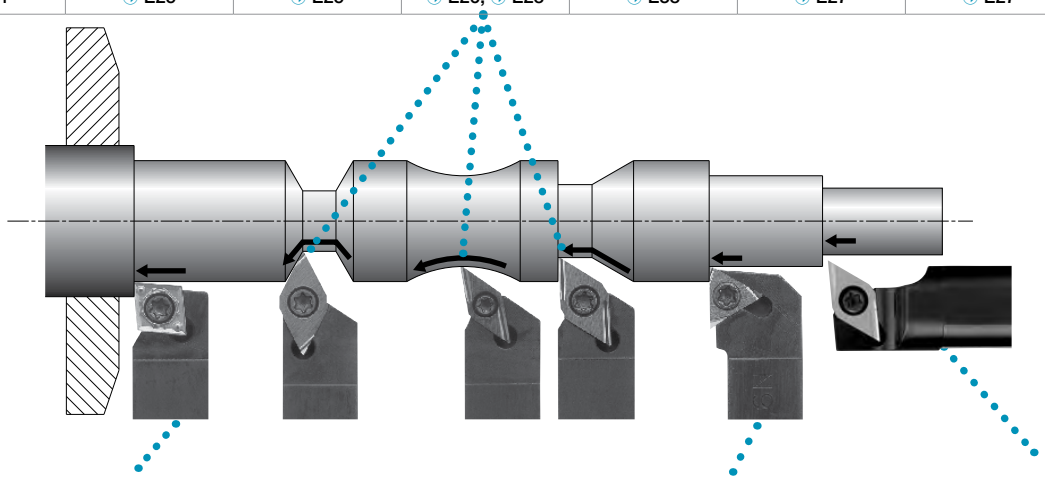
SMALL TOOLS

E

E1 - E51

External / Copying

						
ADJC-FF	**SDJC-FF**	**SDJC**	**SDLC-FF** **SDLP-FF**	**SDLN**	**SDNC-F**	**SDNC**
Back Clamp Without Offset	Screw Clamp Without Offset	Screw Clamp	Screw Clamp Without Offset	Screw Clamp Without Offset	Screw Clamp	Screw Clamp
➡ E24	➡ E25	➡ E25	➡ E26, ➡ E28	➡ E38	➡ E27	➡ E27



External / Facing

			
ACLC-FF	**SCLC-FF**	**SCLC**	**SCLN-FF**
Back Clamp Without Offset	Screw Clamp Without Offset	Screw Clamp	Screw Clamp Without Offset
➡ E22	➡ E23	➡ E23	➡ E38

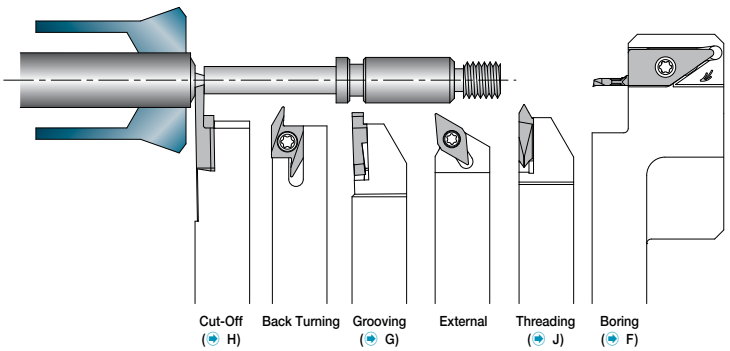
External

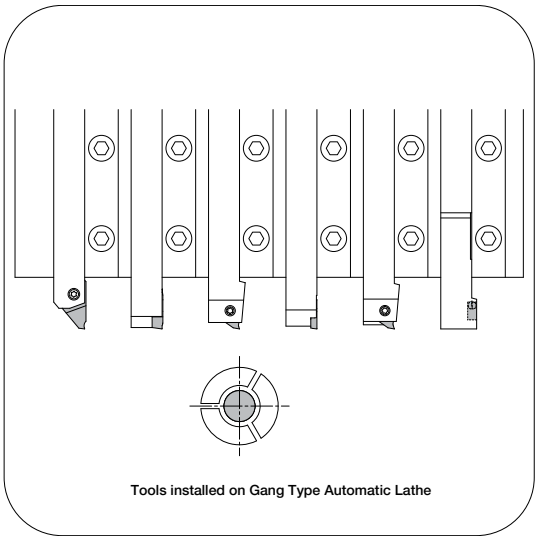
	
STGC(P)	**STLN-FF**
Screw Clamp	Screw Clamp Without Offset
➡ E29	➡ E39

External Sleeve Holder


S...SDLC
Screw Clamp Shank Dia. Ø0.625"~Ø1.000" Ø12.0mm~Ø25.4mm
➡ E35

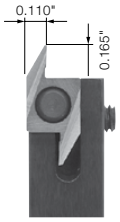
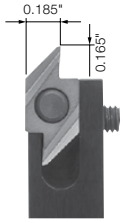
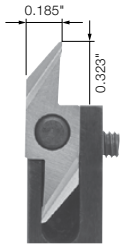
Tooling Example ① - CNC Automatic Lathe (Gang Type)

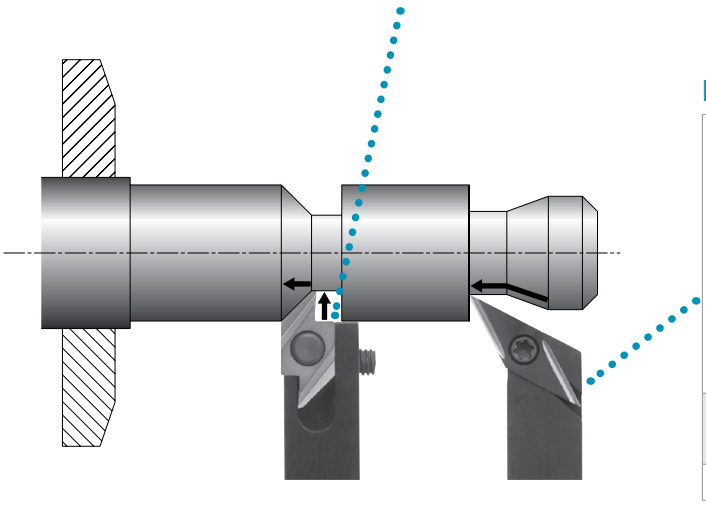




Tools installed on Gang Type Automatic Lathe

Back Turning

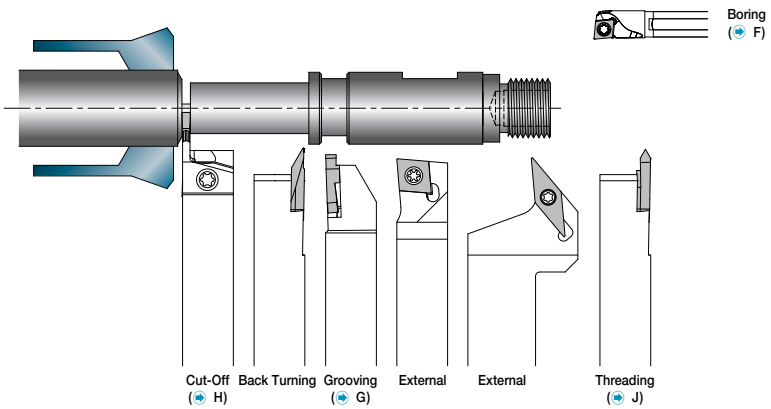
						
AABS-40F	**SABS-40F**	**AABW-40F**	**SABW-40F**	**AABW-50F**	**SABW-50F**	**KTKF**
Back Clamp Edge Width: 0.110" / 2.8mm D.O.C. ~0.158" / ~4.0mm	Screw Clamp Edge Width: 0.110" / 2.8mm D.O.C. ~0.158" / ~4.0mm	Back Clamp Edge Width: 0.185" / 4.7mm D.O.C. ~0.158" / ~4.0mm	Screw Clamp Edge Width: 0.185" / 4.7mm D.O.C. ~0.158" / ~4.0mm	Back Clamp Edge Width: 0.185" / 4.7mm D.O.C. ~0.197" / ~5.0mm	Screw Clamp Edge Width: 0.185" / 4.7mm D.O.C. ~0.197" / ~5.0mm	Screw Clamp Edge Width: 0.059"~0.150" / 1.5mm~3.8mm D.O.C. 0.071"~0.217" / 1.8mm~5.5mm
E17	E17	E18	E18	E19	E19	E12

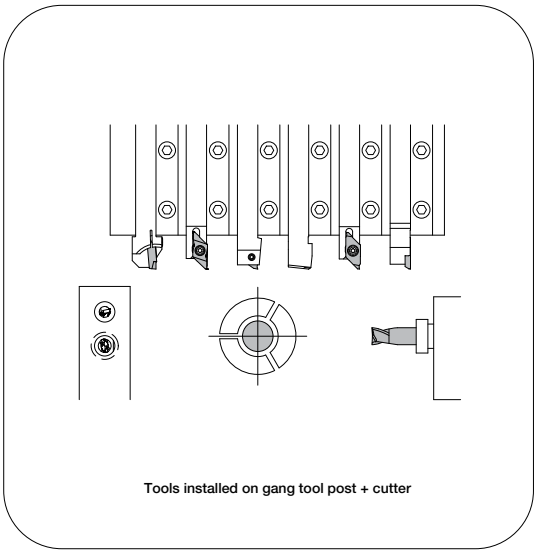


External / Facing / Copying / Undercutting

	
SVPB	**SVPP-FF**
Screw Clamp	Screw Clamp (Without Offset)
E31	E33

Tooling Example ② - CNC Automatic Lathe (Gang Type)





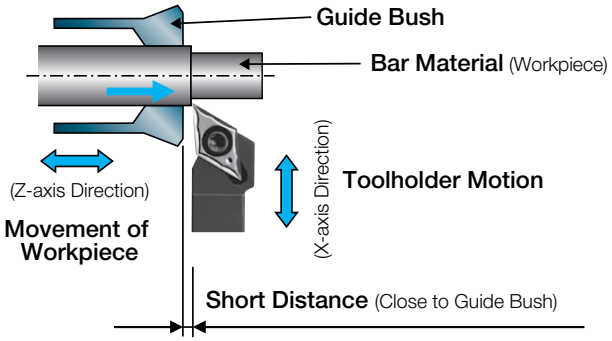
Goose-Neck Toolholder

for Swiss Tool Automatic Lathe (Gang Edge Tool Post)

Swiss Tool Automatic Lathe (Guide Bush System)

The Goose-neck Holder works with automatic lathes that do not move toolholders in longitudinal direction (Z-axis)

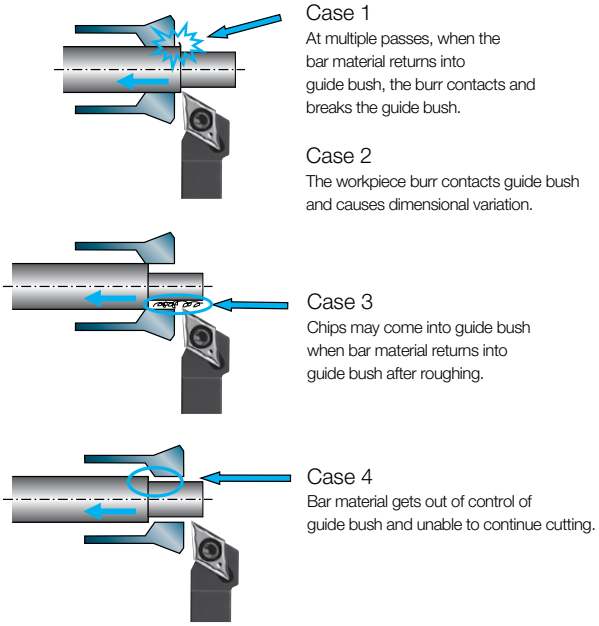
When Using a Conventional Toolholder



Tool position is fixed and workpiece moves longitudinally

Problems When Using a Conventional Toolholder

Problems When Machining with a Conventional Toolholder



Case 1
At multiple passes, when the bar material returns into guide bush, the burr contacts and breaks the guide bush.

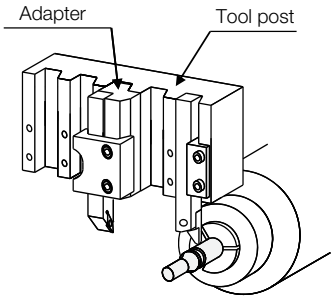
Case 2
The workpiece burr contacts guide bush and causes dimensional variation.

Case 3
Chips may come into guide bush when bar material returns into guide bush after roughing.

Case 4
Bar material gets out of control of guide bush and unable to continue cutting.

Toolholder Installation Problems When Using a Conventional Toolholder

1) Additional space is required for an adapter.
2) Toolholder's handling is difficult due to limited space.
3) It is necessary to buy an adapter.
4) An adapter may interfere with the next toolpost



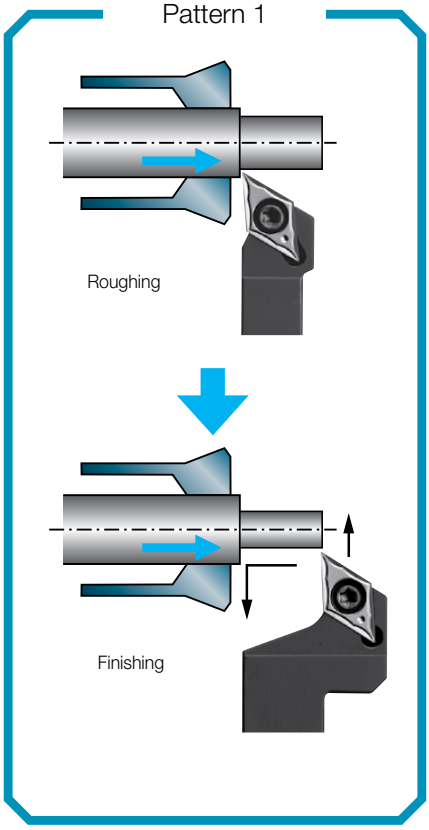
ADVANTAGES

of the Goose-Neck Holder

1) Additional finishing process improves machining precision
2) Chips do not enter guide bushing
3) Large chip evacuation space produces better chip control

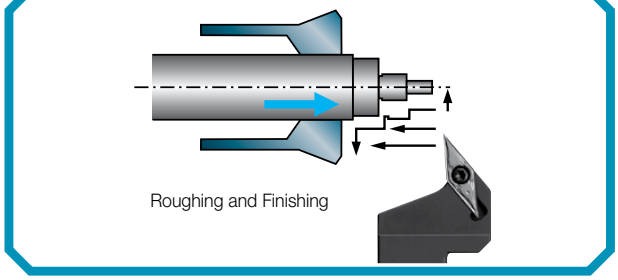
Available for machining after roughing without returning bar material into guide bushing, prevents damages and improves precision.

Pattern 1

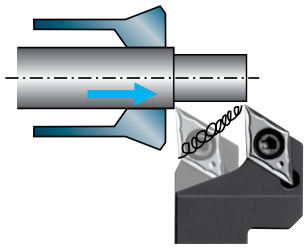


Available for machining from roughing to finishing with a single Goose-neck Holder.

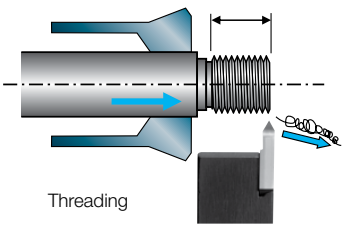
Pattern 2



For smooth chip control



Optimized location of the cutting edge makes enough space for smooth chip evacuation of long chipping materials

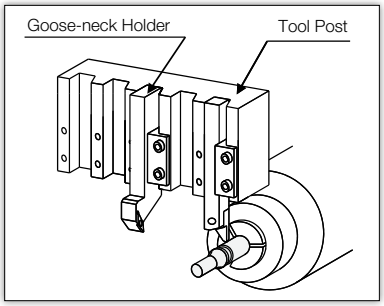


With conventional toolholders, chips can be entangled in guide bushing and damage workpiece

Advantages of Toolholder Installation

Using Goose-neck Holder

1) Maximum number of toolholders can be attached
2) No interference with next tool post

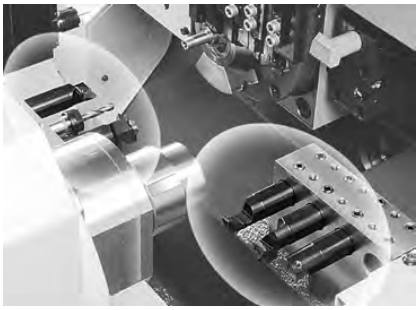


External Sleeve Holder

More Tools for CNC Automatic Lathe

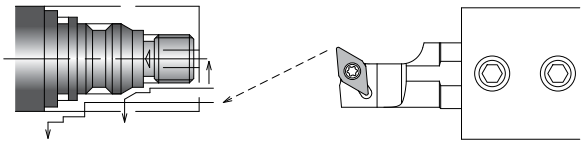
Use External Sleeve Holders ➡➡➡ With Attachable Tools During Intricate Part Machining

			
S...SCLC	**S...SDUC**	**S...SDLC**	**S...SVUB(C)**
Screw Clamp Shank Dia. Ø0.625"~Ø1.000" Ø12.0mm~Ø25.4mm	Screw Clamp Shank Dia. Ø0.625"~Ø1.000" Ø14.0mm~Ø25.4mm	Screw Clamp Shank Dia. Ø0.625"~Ø1.000" Ø12.0mm~Ø25.4mm	Screw Clamp Shank Dia. Ø0.625"~Ø1.000" Ø12.0mm~Ø25.4mm
➡ E34	➡ E35	➡ E35	➡ E36

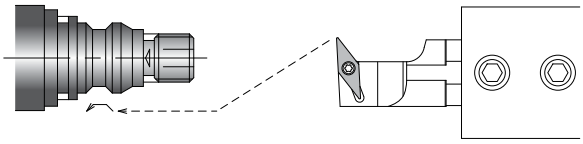


Tooling Example ③ - CNC Automatic Lathe (Opposed Gang Type)

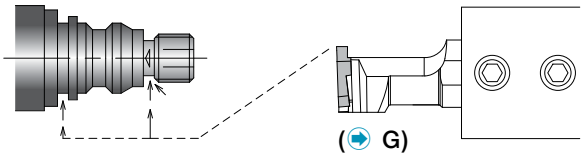
External / Facing



External / Copying

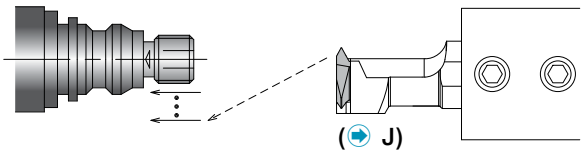


Grooving



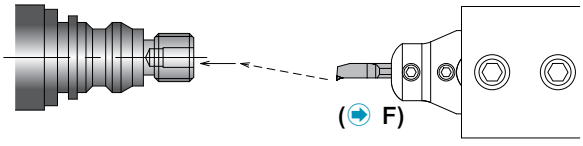
(➡ G)

Threading

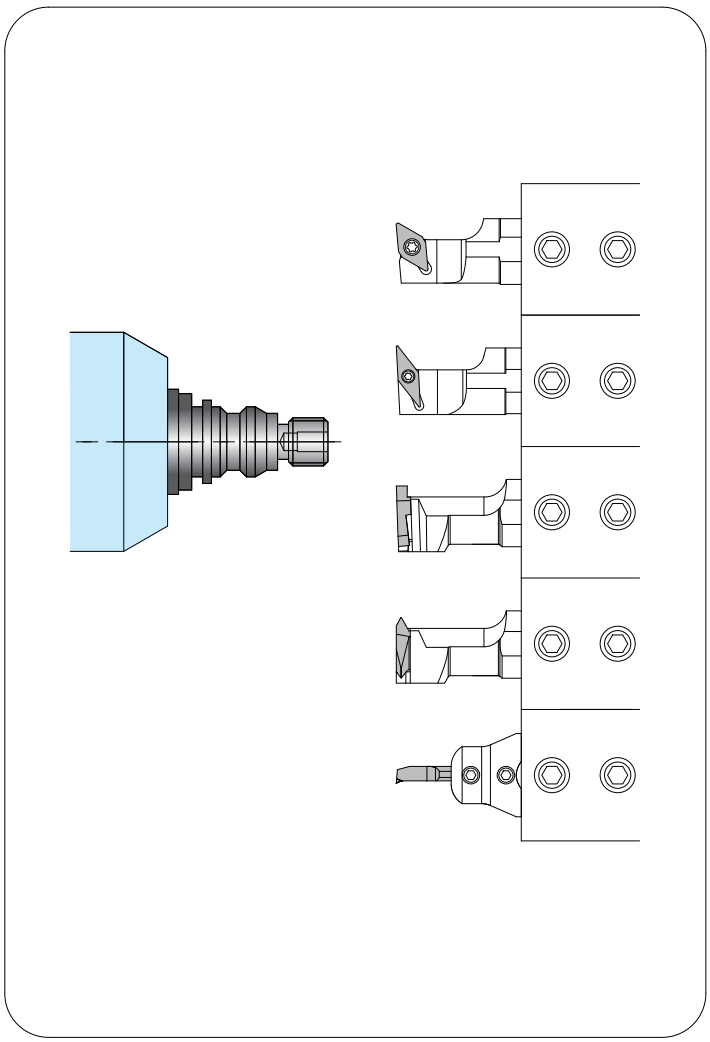


(➡ J)

Boring



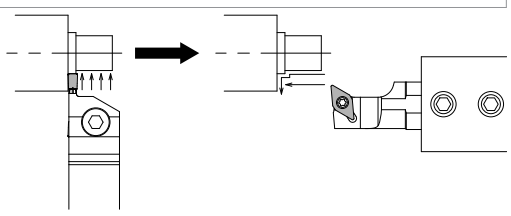
(➡ F)



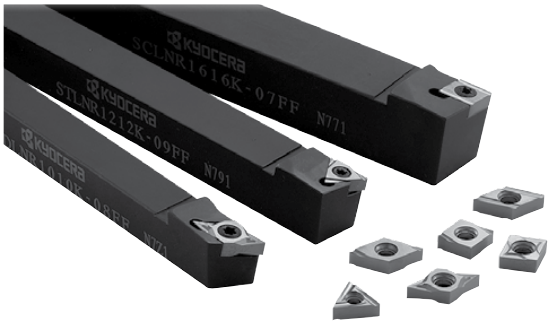
See **Page** ➡ **R30~R37** for Automatic Lathe List of Machine Manufacturer and Tooling Examples

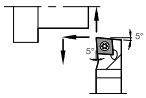
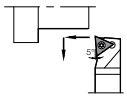
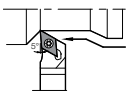
Examples of Finishing by Sleeve Holder

1) Roughing by Grooving Toolholder
2) Finishing by Sleeve Holder Improves Chip Control and Reduces Cutting Time



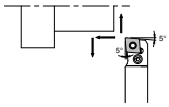
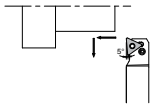
Double-Sided Swiss Tools (Screw Clamp)



Application	External / Facing	External / Up Facing	External / Copying
Cutting Edge Angle	95°	95°	95°
Screw Clamp (Without Offset)	 SCLN	 STLN	 SDLN
Ref. Page	E38	E39	E38

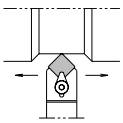
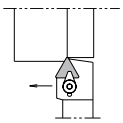
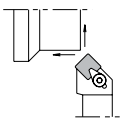
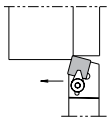
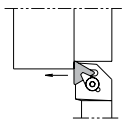
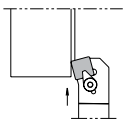
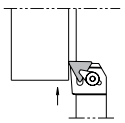
The double-sided design offers less cost per insert and more stability.
Sharp cutting performance equivalent to conventional positive inserts.

Double-Sided Toolholder for Automatic Lathe (Without Offset / Lever Lock)

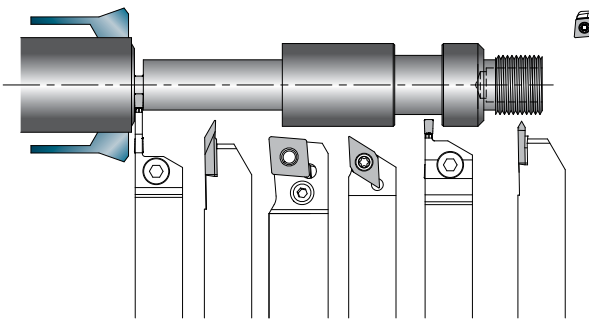
Application	External / Facing	External / Up Facing
Cutting Edge Angle	95°	95°
Lever Lock (Without Offset)	 PCLN-FF	 PTLN-FF
Ref. Page	E40	E41

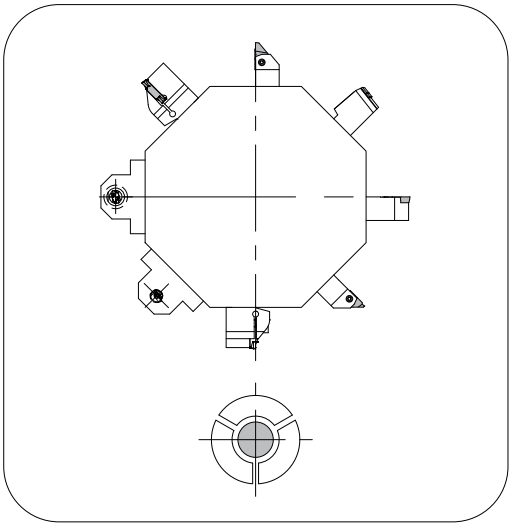
The Lever Lock type is available for small tools with external turning.

Top Clamp (For Insert without Hole)

Application	External / Chamfering		External / Facing / Chamfering	External		Facing	
Cutting Edge Angle	45°	60°	45°	75°	91°	15°	-1°
Top Clamp	 CSDP	 CTTP	 CSSP	 CSBP	 CTGP	 CSKP	 CTFP
Ref. Page	E42	E43	E42	E42	E43	E42	E43

Double-Sided Toolholder for Automatic Lathe (Without Offset / Lever Lock)





See Page R30~R37 for Automatic Lathe List of Machine Manufacturer and Tooling Examples

Achieving Better Chip Control During External Turning

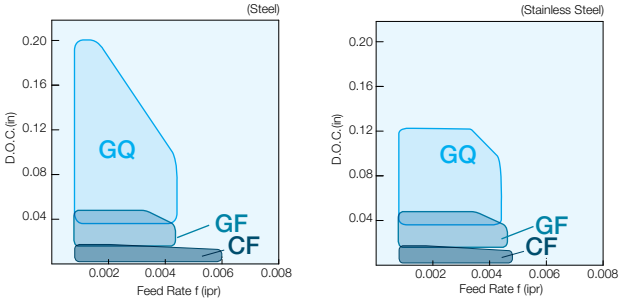
1) Use chipbreakers for various depths of cut

- Applicable to high precision cutting due to a finely ground sharp edge.
- The mirror polished insert provides improved adhesion resistance and surface finish.

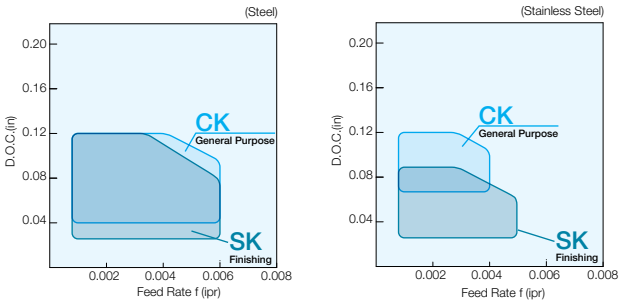
2) Improved chip control by cutting in 2 passes; roughing and finishing

- If chip control is not improved in 1 pass, use Goose-neck Holders or Sleeve Holders

Chip Processing



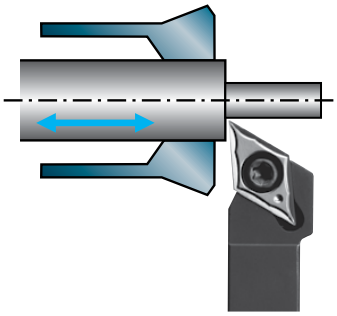
Low Resistance



Problems

Finishing with a General Toolholder

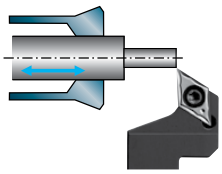
Bad Chip Control



After Roughing

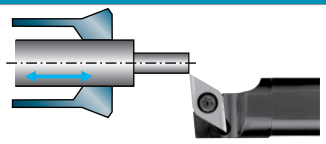
Solution ①

Finishing with a Goose-neck Holder



Solution ②

Finishing with a Sleeve Holder



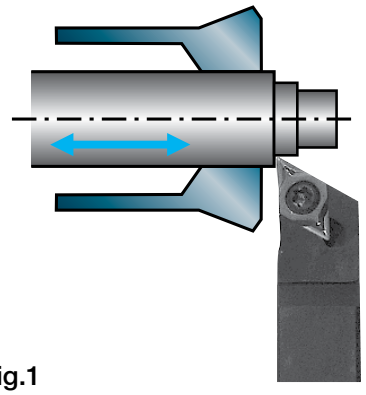
Choosing Toolholders to Improve Productivity

Application	Tooling Example	Toolholder	Advantages	Workpiece diameter	D.O.C. for medium to roughing of carbon steel
Medium to Roughing	SCLN-FF SDLN-FF STLN-FF	Small Double-Sided Tooling	Cost Reduction	Ø0.236" or more Ø6mm or more	D.O.C.=~0.098" D.O.C.=~2.5mm
	PCLN-FF PTLN-FF	Toolholder for Double Sided Tooling (Lever Lock) FP-TK Chipbreaker	Cost Reduction	Ø0.630" or more Ø16mm or more	D.O.C.=0.059"~0.197" D.O.C.=1.5~5.0mm
Medium to Roughing + Finishing	E9 Fig.1	Small Double-Sided tooling (Screw Clamp)	Cost Reduction	Ø0.630" or more Ø16mm or more	D.O.C.=~0.098" D.O.C.=~2.5mm
		Goose-neck Holder (Sleeve Holder)	Better Chip Control	-	-
	E9 Fig.2	Toolholder for Double-Sided Tooling (Lever Lock) FP-TK Chipbreaker	Cost Reduction	Ø0.630"~1.260" Ø16mm ~ Ø32mm	D.O.C.=0.059"~0.197" D.O.C.=1.5~5.0mm
		Goose-neck Holder (Sleeve Holder)	Better Chip Control	-	-
	E9 Fig.3	Grooving Toolholders	Long curled chips are evacuated toward a fixed direction.	Ø0.630"~1.260" Ø16mm ~ Ø32mm	D.O.C.=0.158" or more D.O.C.=4.0mm or more
		Goose-neck Holder (Sleeve Holder)	Better Chip Control	-	-

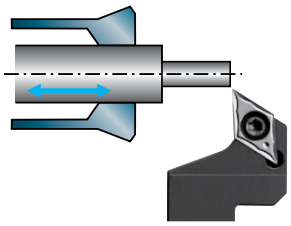
Tool Selection Examples for Productivity Improvement

Guideline for Roughing:
D.O.C. = ~0.098" / ~2.5mm

Roughing
Double-Sided Tooling for Automatic Lathe



Finishing ①
Goose-neck Holder



Finishing ②
External Sleeve Holder

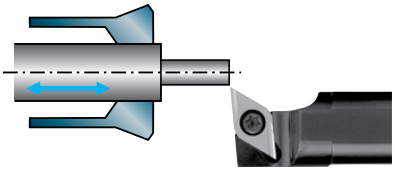
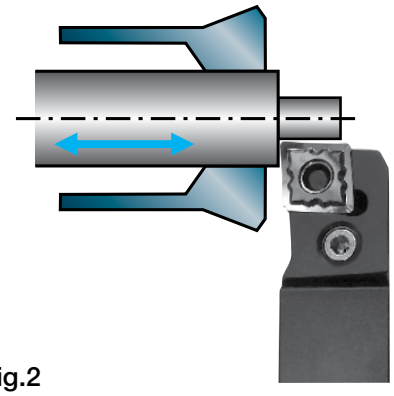


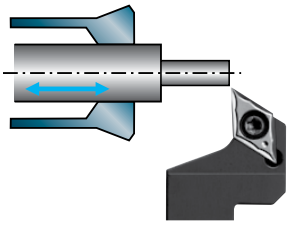
Fig.1

Guideline for Roughing:
D.O.C. = 0.059"~0.197" / 1.5mm~5.0mm

Roughing
Ground Insert with FP-TK Chipbreaker



Finishing ①
Goose-neck Holder



Finishing ②
External Sleeve Holder

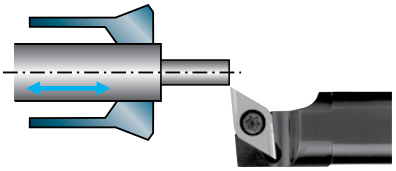
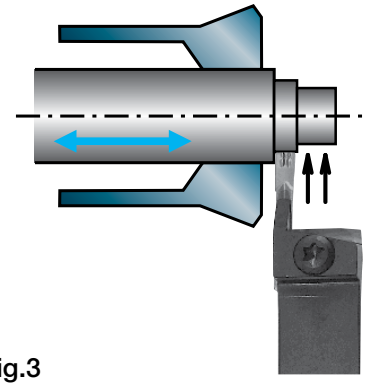


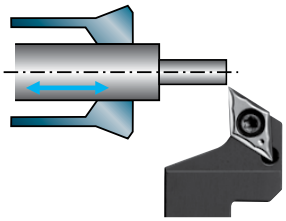
Fig.2

Guideline for Roughing:
D.O.C. = Over 0.158" / 4.0mm

Roughing
Grooving Toolholder



Finishing ①
Goose-neck Holder



Finishing ②
External Sleeve Holder

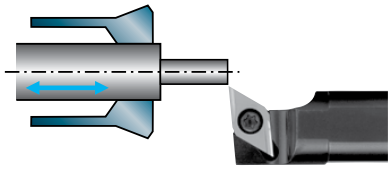
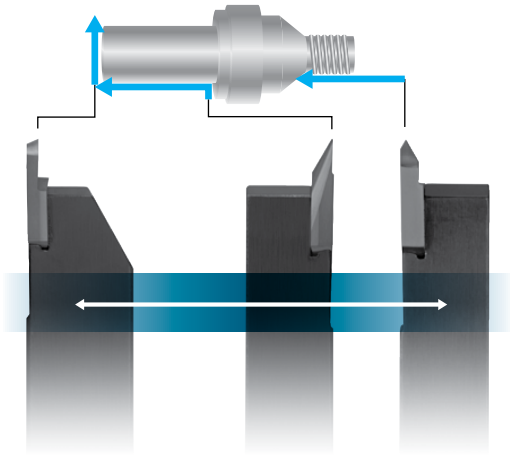


Fig.3

Small Parts Machining

KTKF

E12



Back Turning

TKFB

E12

NEW

GQ Chipbreaker

Double function chipbreaker
for improved chip control

PR1425
Insert grade for steel

PR1535
Insert grade for stainless HRSA

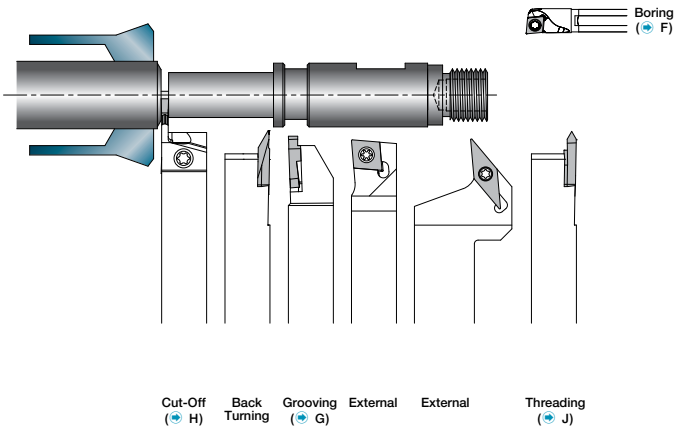
PR1225
Insert grade for stainless steel

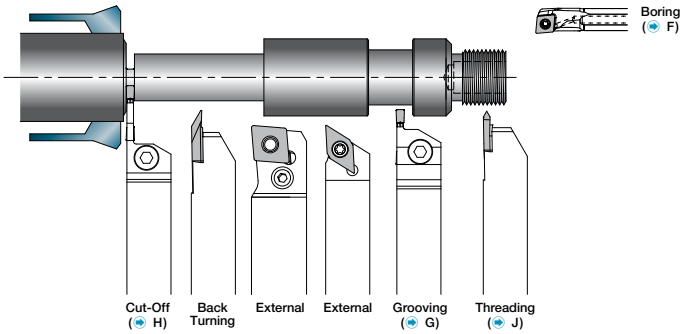
New "TKF..L-ASR" insert added to
"TKF-AS" PCD Inserts

GQ Chipbreaker

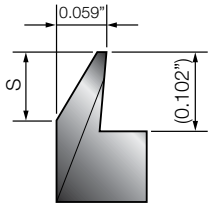
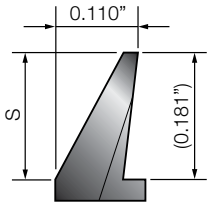
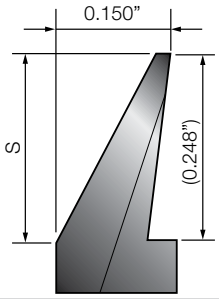
TKF-AS Type

Tooling Examples of KTKF Toolholders





Cutting Edge Shape

For Small D.O.C.		For General Purpose		For Large D.O.C.	
					
Part Number	Cutting Edge Length **S**	Part Number	Cutting Edge Length **S**	Part Number	Cutting Edge Length **S**
TKFB12R15..	0.083"	**TKFB12R28..**	0.165"	**TKFB16R38..**	0.228"
-	-	**TKFB12L28..**	0.173"	**TKFB16L38..**	0.244"
For small diameter workpieces or shorter lengths Minimum overhang length of toolholder, stable machining		For General Purpose Good Chip Control		Large D.O.C. Per Pass	

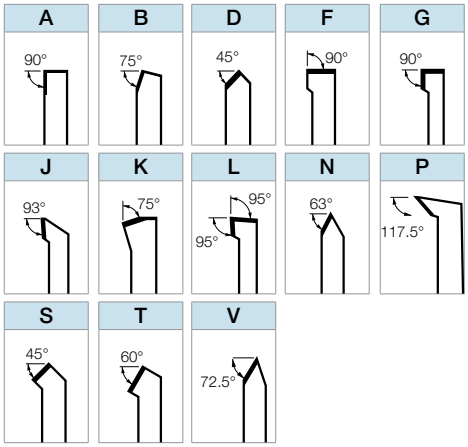
Square Shank Identification System

Clamping System	Insert Shape	Hand of Tool	Shank Size	Insert Size I.C.	Others
A : Back Clamp **C** : Top Clamp **P** : Level Lock **S** : Screw Clamp	**C** : 80° Rhombic **D** : 55° Rhombic **S** : 90° Square **T** : 60° Triangle **V** : 35° Rhombic	**R** : Right-Hand **L** : Left-Hand **N** : Neutral	Indicates the holder cross section. For square shanks this number will represent the number of sixteenths of width and height. (Ex. **6**/16 = 3/8" Square)	Number of 1/8ths on 1/4" I.C. and over.	Optional Code Optional Mark or Number (FF : Without Offset)

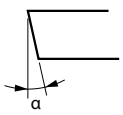
ANSI (inch)	S	C	L	C	R	6	–	2	JX	FF
ISO (metric)	S	C	L	C	R	12	12	JX	–	09	FF

Cutting Edge Angle	Insert Relief Angle	Shank Height	Shank Width	Toolholder Length	Insert Size

Cutting Edge Angle



Insert Relief Angle

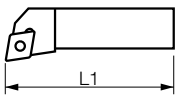


B : 5° Positive
C : 7° Positive
N : 0° Negative
P : 11° Positive

Shank Height (mm)

Shank Width (mm)

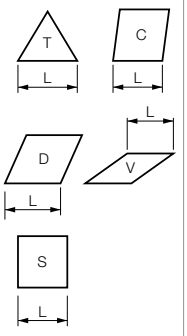
Toolholder Length



F : 80 (85)
H : 100

JX : 4.750" 120mm
K : 125mm
M : 150

Insert Size



• Some back turning toolholders have Kyocera's unique descriptions

External Sleeve Holder Identification System

	ANSI (in)	ISO (mm)		ANSI (in)	ISO (mm)
F:	3.00	80	**Q:**	7.00	180
G:	3.50	90	**R:**	8.00	200
H:	4.00	100	**S:**	10.00	250
J:	4.50	110	**T:**	12.00	300
K:	5.00	125	**U:**	14.00	350
L:	5.50	140	**V:**	16.00	400
M:	6.00	150	**W:**	18.00	450
N:	6.50	160	**Y:**	20.00	500
P:	6.75	170	**X:**	Special	

Shank	Toolholder Length	Clamping System	Insert Shape	Hand of Tool
S : Steel		**S** : Screw Clamp	**C** : 80° Rhombic **D** : 55° Rhombic **V** : 35° Rhombic	**L** : Left-Hand

ANSI (inch)	S	19	K	–	S	C	L	C	L	09
ISO (metric)	S	20	K	–	S	C	L	C	L	09

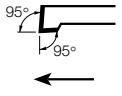
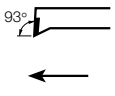
Shank Diameter	Cutting Edge Angle	Insert Relief Angle	Insert Size (mm)

Shank Diameter

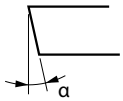
ANSI
A two-digit number that indicates the shank diameter in 1/16" increments.

ISO
Shank diameter in mm

Cutting Edge Angle

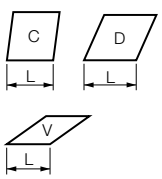
L	U
	

Insert Relief Angle



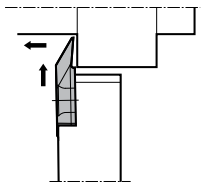
B : 5° Positive
C : 7° Positive

Insert Size (mm)



• The dimensions and specifications are subject to change for improvement without notice.
• Depending on the machine specifications such as attachment Dimensions, the symbol may not match the actual toolholder length.

KTKF / KTKF Goose-neck Holder



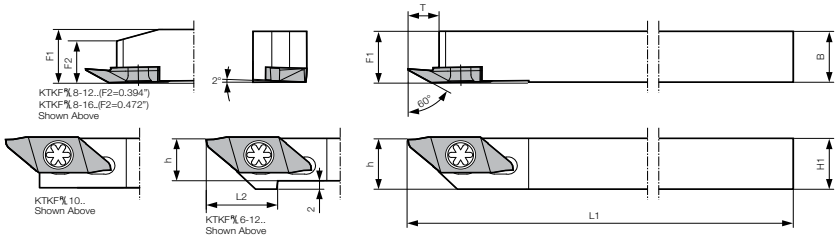
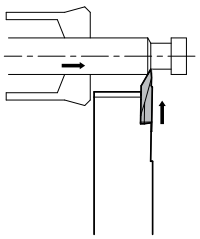


Fig.1

• Right-hand shown

Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder



Goose-neck Holder

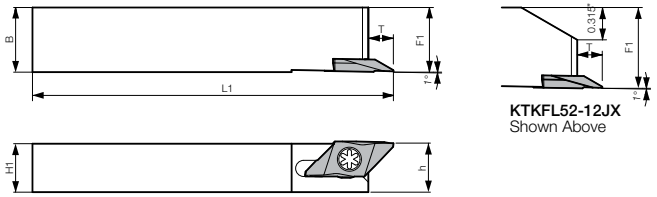


Fig.2

• Left-hand Shown

Left-hand Insert for Left-hand Toolholder

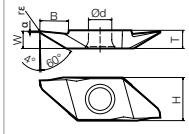
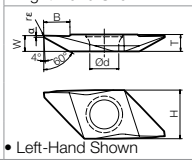
Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	B	L1	L2	F1	T	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts
KTKF□	6-12JX	●	●	inch	0.375	0.375	4.750	0.590	0.375	0.236				
	8-12JX	●	●		0.500	0.500	4.750	-	0.500	0.236	Fig.1	SB-4590TRWN	LTW-10S	TKFB12□...
	10-12JX	●	●		0.625	0.625	4.750	-	0.625	0.236				
KTKF□	6-16JX	●	●		0.375	0.375	4.750	0.787	0.375	0.315				
	8-16JX	●	●		0.500	0.500	4.750	-	0.500	0.315	Fig.1	SB-4590TRWN	LTW-10S	TKFB16□...
	10-16JX	●	●		0.625	0.625	4.750	-	0.625	0.315				
KTKF□	1010JX-12	●	○	mm	10	10	120	15	10	6				
	1212JX-12	●	○		12	12	120	-	12	6	Fig.1	SB-4590TRWN	LTW-10S	TKFB12□...
	1616JX-12	●	○		16	16	120	-	16	6				
	2020JX-12	●			20	20	120	-	20	6				
KTKF□	1010JX-16	○	○		10	10	120	20	10	8				
	1212JX-16	○	○		12	12	120	-	12	8	Fig.1	SB-4590TRWN	LTW-10S	TKFB16□...
	1616JX-16	○	○		16	16	120	-	16	8				
	2020JX-16	○			20	20	120	-	20	8				
KTKF□	1212F-12	○			12	12	85	-	12	6	Fig.1	SB-4590TRWN	LTW-10S	TKFB12□...
	1212F-16	○			12	12	85	-	12	8				TKFB16□...
KTKFL	52-12JX		●	inch	0.500	0.625	4.750	-	0.625	0.236	Fig.2	SB-4590TRWN	LTW-10S	TKFB12L...
	62.5-12JX		●		0.625	0.750	4.750	-	0.750	0.236				
KTKFL	1216JX-12		○	mm	12	16	120	-	16	6	Fig.2	SB-4590TRWN	LTW-10S	TKFB12L...
	1620JX-12		○		16	20	120	-	20	6				

• Dimensions T shows the distance from the toolholder to the cutting edge

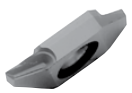
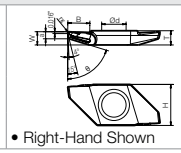
Recommended Cutting Conditions ➡ **E47**

Applicable Inserts ➡ B84

Insert (Photo Shows Right-Hand)	Part Number	Corner-R rε:mm (inch)
  • Right-Hand Shown	TKFB 12R15005M	<0.05 (<0.002)
	12R28005M	<0.05 (<0.002)
	12R28010M	<0.10 (<0.004)
	TKFB 16R38005M	<0.05 (<0.002)
	16R38010M	<0.10 (<0.004)
 • Left-Hand Shown	TKFB 12L28005MR	<0.05 (<0.002)
	12L28010MR	<0.10 (<0.004)
	TKFB 16L38005MR	<0.05 (<0.002)
	16L38010MR	<0.10 (<0.004)

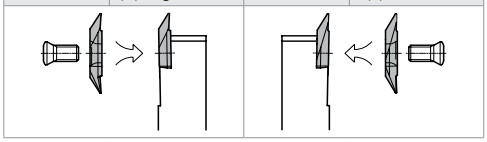
Recommended Cutting Conditions ➡ **E47**

Applicable Inserts (GQ Chipbreaker) ➡ B85

Insert (Photo Shows Right-Hand)	Part Number	Corner-R rε:mm (inch)
  • Right-Hand Shown	TKFB 12R28005-GQ	0.05 (<0.002)
	12R28015-GQ	0.15 (<0.006)
	TKFB 16R38005-GQ	0.05 (<0.002)
	16R38015-GQ	0.15 (<0.006)

Combination of Toolholders & Inserts (See Fig Below)

Toolholders	(R) Right-hand	Toolholders	(L) Left-hand
Inserts	(R) Right-hand	Inserts	(L) Left-hand



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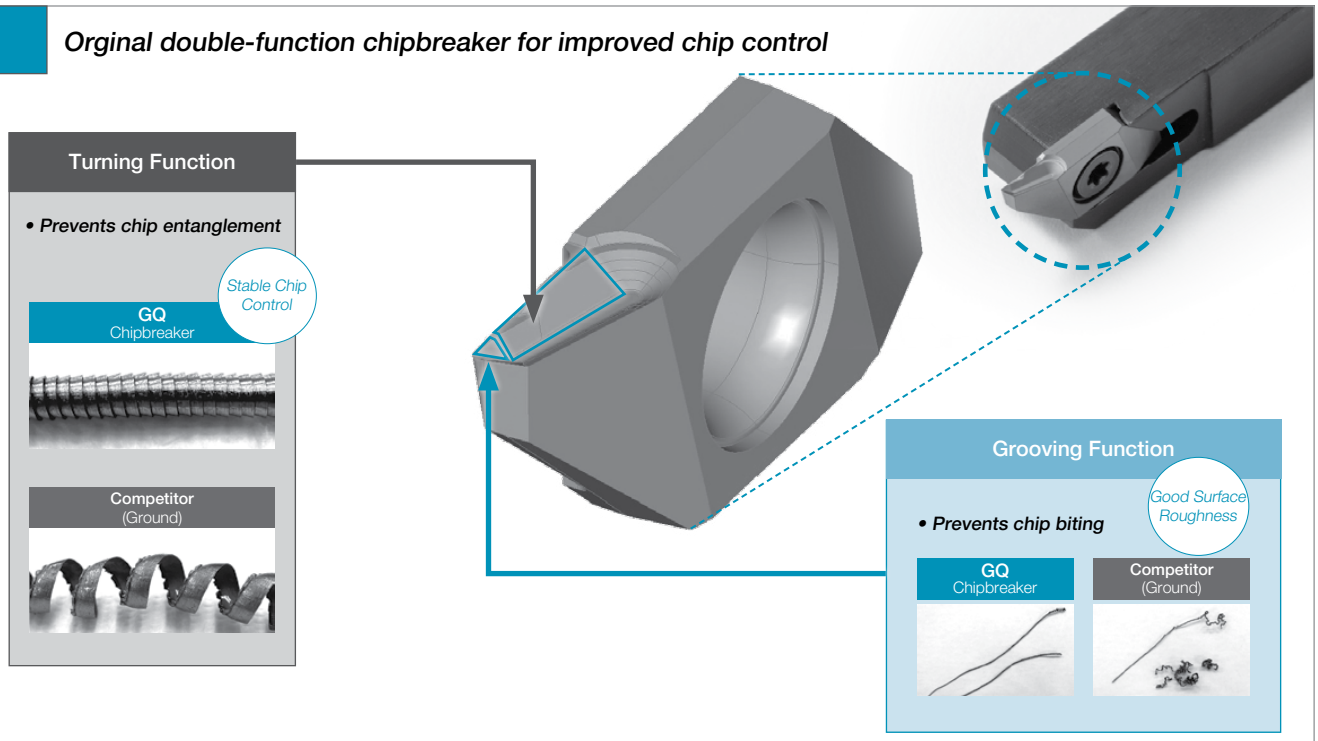
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

TKFB-GQ Chipbreaker

for Back-Turning

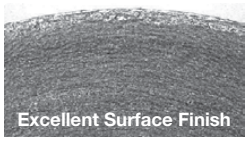
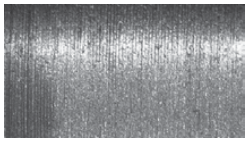
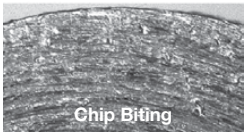
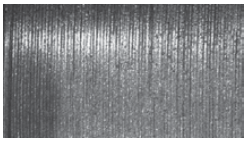
1 *Orginal double-function chipbreaker for improved chip control*



2 *Prevents chip biting and clogging for excellent surface finishes*

Surface Finish Comparison

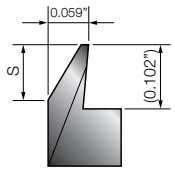
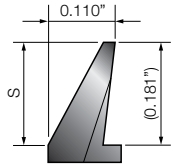
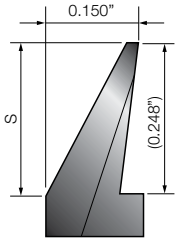
Cutting Conditions: Vc = 330sfm D.O.C. = 0.112" f = 0.008ipr (Grooving), 0.002ipr (Turning)
Workpiece: 1045 Steel

	GQ Chipbreaker		Competitor (Ground)	
	Facing	External	Facing	External
Worpiece Surface				
	Rz = 2.92 μm	Rz = 3.85 μm	Rz = 31.23 μm	Rz = 7.67 μm

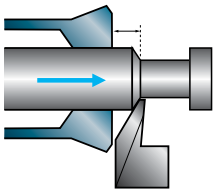
Reduced cycle time with excellent surface finish in a single pass!

Edge Tips Details and Selection Guide

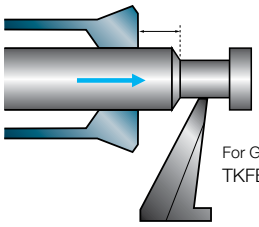
Cutting Edge Shape

For Small D.O.C.		For General Purpose		For Large D.O.C.	
					
Part Number	Cutting Edge Length **S**	Part Number	Cutting Edge Length **S**	Part Number	Cutting Edge Length **S**
TKFB12R15..	0.083"	**TKFB12R28..**	0.165"	**TKFB16R38..**	0.228"
-	-	**TKFB12L28..**	0.173"	**TKFB16L38..**	0.244"
For small diameter workpieces or short length Minimum overhang length of toolholder, stable machining		For general purpose Good chip control		D.O.C. per pass is large.	

How to Select



For Small D.O.C.
TKFB12R15..

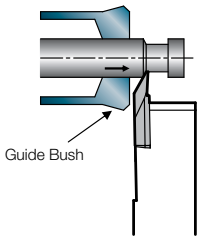
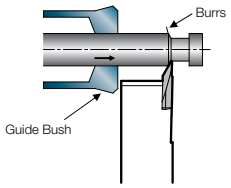


For General Purpose
TKFB12R28..

In case D.O.C. is same, if insert with narrower edge width is used, overhang length from guide bushing is shorter, which enables better stability due to less workpiece vibration.

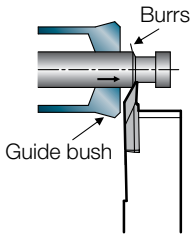
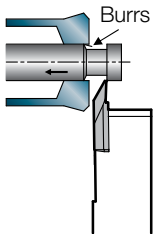
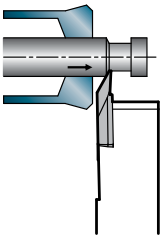
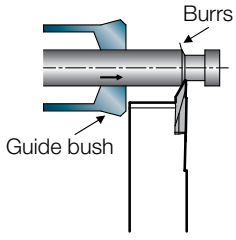
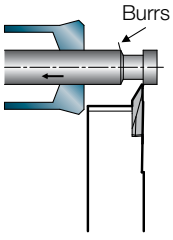
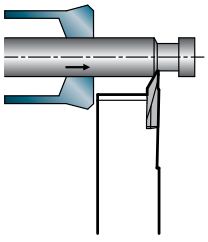
➡High Precision Cutting

Choosing Hand of Back Turning Toolholder

(R) Right-hand		Cutting close to guide bushing is possible Since TKFB12R15005M has a narrow cutting edge (width=0.059"), cutting close to guide bushing is possible ➡Good for small parts and high precision cutting
(L) Left-hand	Even if burrs occur, they will not return into the guide bush. 	Cutting with distance from guide bushing Good chip control due to large space between the guide bushing and the tool. ➡How to improve chip control for roughing to finishing In case of using a left-hand toolholder in finishing, the burred portions of workpiece do not return into the guide bushing, which enables stability of external diameter. Also, a Left-hand toolholder prevents wear of guide bushing due to chip biting.

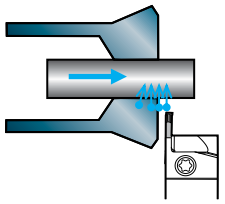
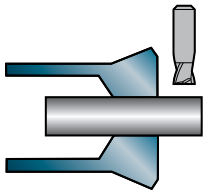
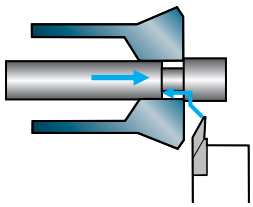
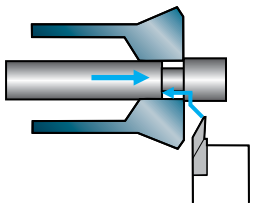
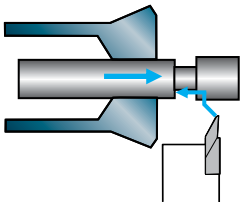
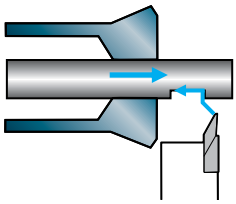
Workpiece Material Motion & How to Select Hand of Tool

When Roughing, Medium, & Finishing

	Roughing	Workpiece position after roughing	Finishing
(R) Right-hand			
(L) Left-hand			

※Good dimensional accuracy: If a Left-hand toolholder is used, burrs on workpiece generated during roughing do not damage the guide bushing during finishing.

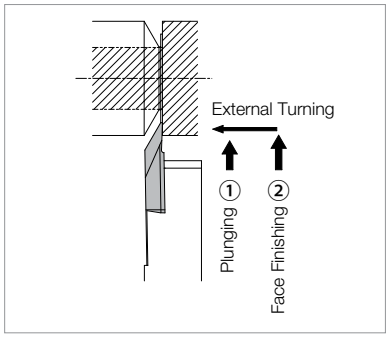
Chip Control Improvement During Back Turning

	① Chip control improvement by tool pass changes	② Chip control improvement by tool pass changes
Roughing / Pre-Stage Machining	● Roughing (1) GMM2420-020MW (Grooving) 	● Pre-stage Machining is Processed with Solid End Mill (1) 2FESW040-040-04 (Solid End Mill) 
Finishing (Countermeasure 1) Use Right-Hand Toolholder	(1) When Using TKFB12R28010M (Back Turning / Righ-hand)  **Advantages :** Smooth Surface Finish **Disadvantages :** If machining pass is long, the guide bushing can not support the workiece	(1) When Using TKFB12R28010M (Back Turning / Righ-hand)  **Advantages :** 1. Minimal deflection during long machining passes 2. Chips are broken into small pieces, though the workpiece material is elastic. **Disadvantages :** The pre-stage machining may cause fractures, because of interruption
Finishing (Countermeasure 2) Use Left-Hand Toolholder	(2) When Using TKFB12L28010M (Back Turning / Left-hand)  **Advantages :** 1. Smooth Surface Finish 2. High precision cutting if the machined portion does not contact the guide bushing **Disadvantages :** If machining pass is long, the guide bushing can not support the workiece	(2) When Using TKFB12L28010M (Back Turning / Left-hand)  **Advantages :** 1. Minimal deflection during long machining passes 2. Chips are broken into small pieces, though the workpiece material is elastic 3. High precision cutting if the machined portion does not contact the guide bushing **Disadvantages :** The pre-stage machining may cause fractures, because of interruption

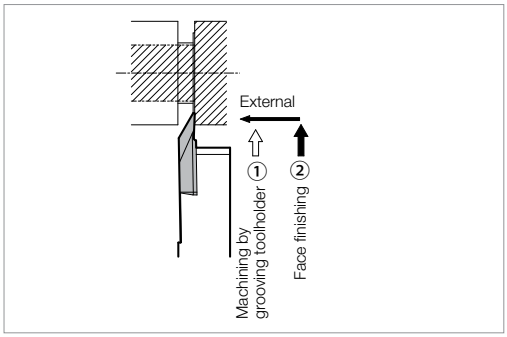
Peeled Surface Countermeasures During Face Back Turning

When peeled surface occurs on the workpiece face, please apply the countermeasures below.

● **Countermeasure 1** (Face Finishing)

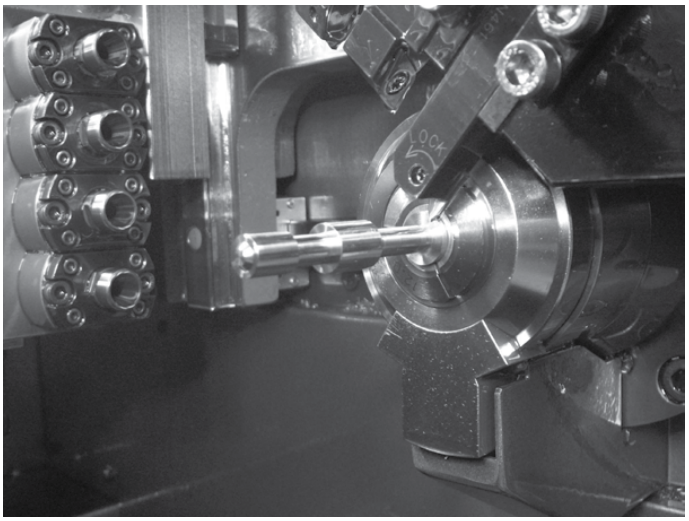


● **Countermeasure 2** (Face Finishing After Grooving)



TKF-AS Inserts

The KTKF toolholder can be used as multi-functional tooling for non-ferrous and non-metal when combined with a TKF-AS insert. (See Fig. 1)



Example of Spool Cutting

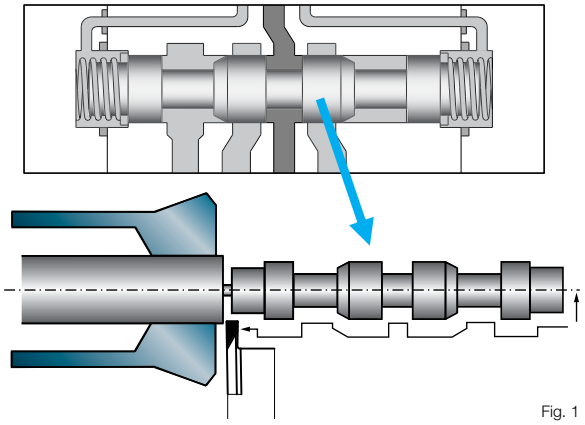
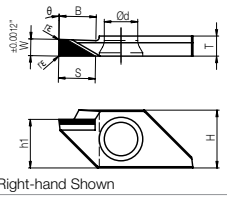
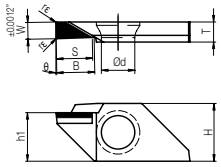
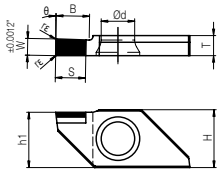


Fig. 1

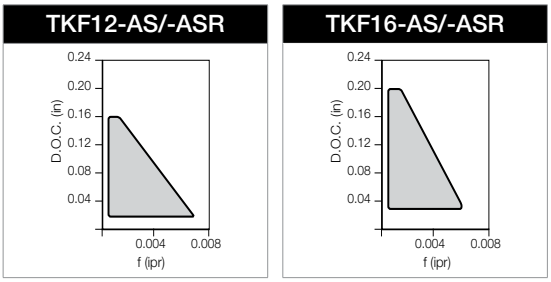
Example of the pass of KTKF toolholder + TKF-AS insert

Applicable Inserts C32

Inserts (Photo Shows Right-hand)		Part Number	
 Turning / Grooving	 • Right-hand Shown	TKF12R/L	200-AS
			250-AS
		TKF16R/L	250-AS
	 • Insert hand: L-hand / PCD edge hand: R-hand	TKF12L	200-ASR
			250-ASR
		TKF16L	250-ASR
 Grooving Inserts (Turning possible)	 • Right-hand Shown	TKF12R/L	150-NB
			200-NB
			250-NB
			250-NB4.5

Applicable Toolholder **E12**
Recommended Cutting Conditions **E47**

Applicable Range



※ PCD inserts are for traversing and grooving.
※ Cut-off is not recommended with these inserts.

Insert Identification System

TKF	12	R	200	-	AS	
TKF	12	L	200	-	AS	R

- Insert Type
- Insert Size
- Insert Hand: R : Right-hand; L : Left-hand
- Width (Edge Width)
- Name of Chipbreaker: AS : AS Chipbreaker; NB : Without Chipbreaker
- PCD Insert Hand: Without Indication: The edge hand is same as the insert hand.; R : Right-hand

Note 1) When using TKF-AS/-ASR insert with KTKF toolholder, the edge position is 1.0mm below the center. (See **Fig.2**) Please adjust the edge height at the parameter of the NC lathe or using soleplates.

2) When the edge height can not be adjusted, please use TKF-NB insert. (**Fig.3**)

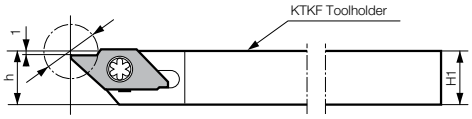


Fig.2 When TKF-AS/-ASR installed (the edge position: 1.0mm below the center)

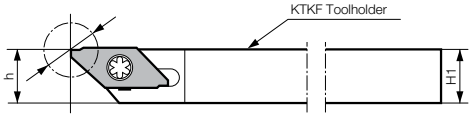
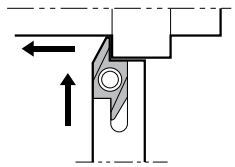
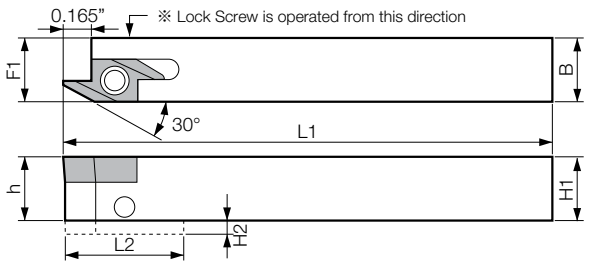


Fig.3 When TKF-NB installed

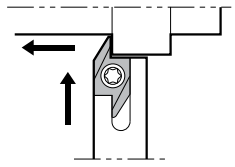
AABS Back Clamp (Edge Width: 0.110" • Depth 0.158" MAX)

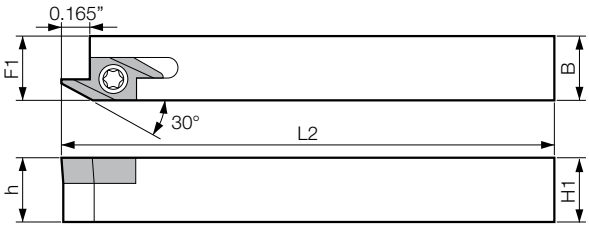




• Right-hand Shown

SABS Screw Clamp (Edge Width: 0.110" • Depth 0.158" MAX)



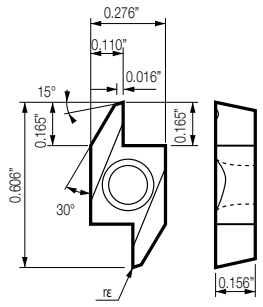


• Right-hand Shown

Toolholder Dimensions

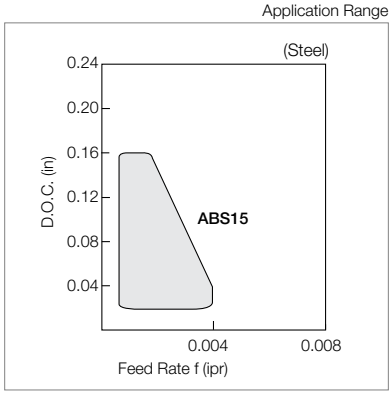
Part Number		Stock	Unit	Dimensions H1=h	H2	B	L1	L2	F1	Standard Corner-R(rε)	Spare Parts: Anchor Pin	Lock Screw	Clamp Screw	Wrench
AABSR	**6-15JXF**	●	inch	0.375	-	0.375	4.750	-	0.383	0.006	LPA-11	HSB4X8R	-	FH-2
	8-15JXF	●		0.500	-	0.500	4.750	-	0.508	0.006	LPA-13			
	10-15JXF	●		0.625	-	0.625	4.750	-	0.633	0.006	LPA-17			
AABSR	**1010JX-40F**	○	mm	10	-	10	120	-	10.2	0.15	LPA-11	HSB4X8R	-	FH-2
	1212JX-40F	○		12	-	12	120	-	12.2	0.15	LPA-13			
	1616JX-40F	○		16	-	16	120	-	16.2	0.15	LPA-17			
SABSR	**6-15JXF**	●	inch	0.375	-	0.375	4.750	-	0.383	0.006	-	-	SB-3080TR	FT-10
	8-15JXF	●		0.500	-	0.500	4.750	-	0.508					
	10-15JXF	●		0.625	-	0.625	4.750	-	0.633					
SABSR	**1010JX-40F**	○	mm	10	-	10	120	-	10.2	0.15	-	-	SB-3080TR	FT-10
	1212JX-40F	○		12	-	12	120	-	12.2					
	1616JX-40F	●		16	-	16	120	-	16.2					
SABSR	**1212F-40F**	○	mm	12	-	12	85	-	12.2	0.15	-	-	SB-3080TR	FT-10
	2020K-40F	○		20	-	20	125	-	20.2					

Applicable Inserts

Insert		Part Number	Corner-R rε : mm (inch)	Reference Page
		**ABS 15R4005**	0.05 (0.002)	**B86**
		15R4015	0.15 (0.006)	
		ABS 15R4005M	<0.05 (<0.002)	
		15R4015M	<0.15 (<0.006)	

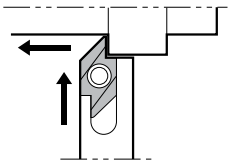
Recommended Cutting Conditions **E47**

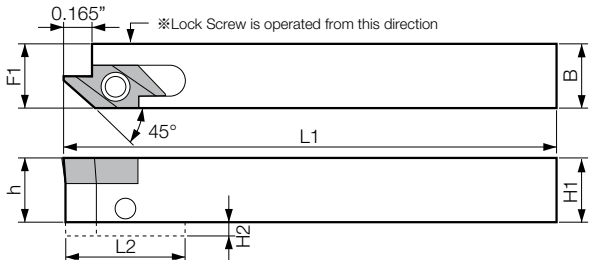
Application Range



● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

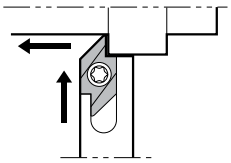
AABW Back Clamp (Edge Width: 0.185" • Depth 0.158" MAX)

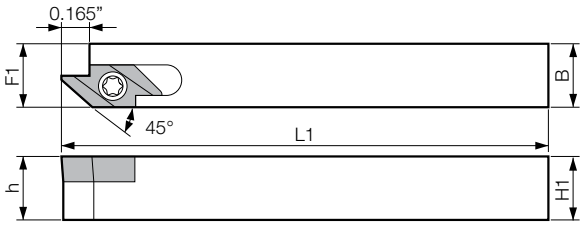




• Right-hand Shown

SABW Screw Clamp (Edge Width: 0.185" • Depth 0.158" MAX)



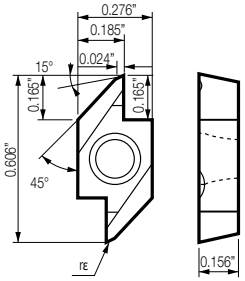


• Right-hand Shown

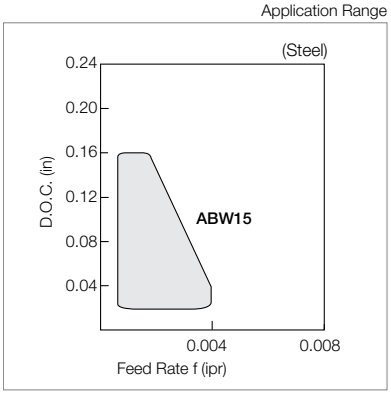
Toolholder Dimensions

Part Number	Stock	Unit	Dimensions						Standard Corner-R(rε)	Spare Parts			
			H1=h	H2	B	L1	L2	F1		Anchor Pin	Lock Screw	Clamp Screw	Wrench
AABWR 6-15JXF	●	inch	0.375	-	0.375	4.750	-	0.383	0.006	LPA-11	HSB4X8R	-	FH-2
8-15JXF	●		0.500	-	0.500	4.750	-	0.508	0.006	LPA-13			
10-15JXF	●		0.625	-	0.625	4.750	-	0.633	0.006	LPA-17			
AABWR 1010JX-40F	○	mm	10	-	10	120	-	10.2	0.15	LPA-11	HSB4X8R	-	FH-2
1212JX-50F	○		12	-	12	120	-	12.2	0.15	LPA-13			
1616JX-50F	●		16	-	16	120	-	16.2	0.15	LPA-17			
SABWR 6-15JXF	●	inch	0.375	-	0.375	4.750	-	0.383	0.006	-	-	SB-3080TR	FT-10
8-15JXF	●		0.500	-	0.500	4.750	-	0.508					
10-15JXF	●		0.625	-	0.625	4.750	-	0.633					
SABWR 1010JX-40F	○	mm	10	-	10	120	-	10.2	0.15	-	-	SB-3080TR	FT-10
1212JX-40F	○		12	-	12	120	-	12.2					
1616JX-40F	○		16	-	16	120	-	16.2					
SABWR 2020K-40F	○		20	-	20	125	-	20.2	0.15	-	-	SB-3080TR	FT-10

Applicable Inserts

Insert		Part Number	Corner-R rε : mm (inch)	Reference Page
		**ABW 15R4005**	0.05 (0.002)	➔ **B86**
		15R4015	0.15 (0.006)	
		ABW 15R4005M	<0.05 (<0.002)	
		15R4015M	<0.15 (<0.006)	

Application Range

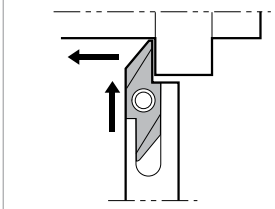


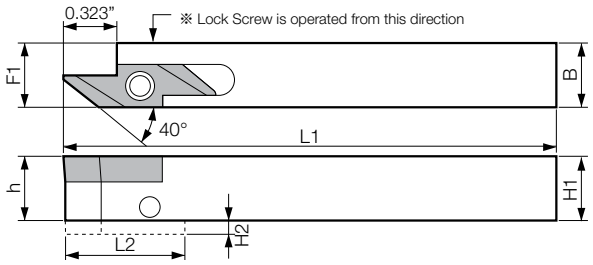
Recommended Cutting Conditions ➔ **E47**

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

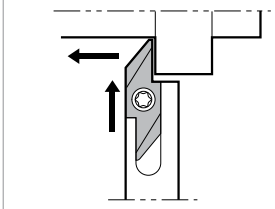
AABW Back Clamp (Edge Width: 0.185" • Depth 0.197" MAX)

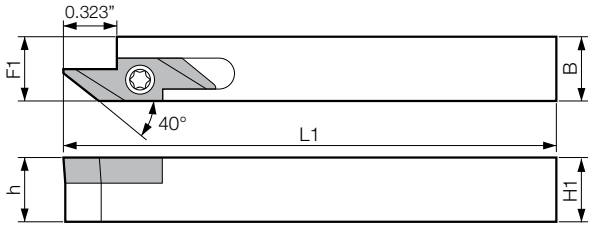




• Right-hand Shown

SABW Screw Clamp (Edge Width: 0.185" • Depth 0.197" MAX)





• Right-hand Shown

Toolholder Dimensions

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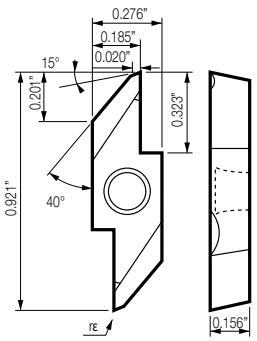
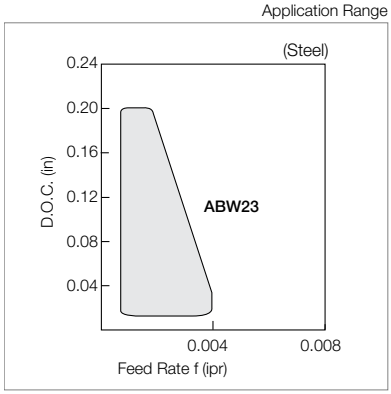
8-23JXF	●		0.500	-	0.500	4.750	-	0.508	0.006	LPA-13			
10-23JXF	●		0.625	-	0.625	4.750	-	0.633	0.006	LPA-17			
AABWR 1010JX-50F	○	mm	10	-	10	120	-	10.2	0.15	LPA-11	HSB4X8R	-	FH-2
1212JX-50F	○		12	-	12	120	-	12.2	0.15	LPA-13			
1616JX-50F	●		16	-	16	120	-	16.2	0.15	LPA-17			
SABWR 6-23JXF	●	inch	0.375	-	0.375	4.750	-	0.383	0.006	-	-	SB-3080TR	FT-10
8-23JXF	●		0.500	-	0.500	4.750	-	0.508					
10-23JXF	●		0.625	-	0.625	4.750	-	0.633					
SABWR 1010JX-50F	○	mm	10	-	10	120	-	10.2	0.15	-	-	SB-3080TR	FT-10
1212JX-50F	○		12	-	12	120	-	12.2					
1616JX-50F	○		16	-	16	120	-	16.2					
SABWR 2020K-50F	○		20	-	20	125	-	20.2	0.15	-	-	SB-3080TR	FT-10

Applicable Inserts

Insert	Part Number	Corner-R rε : mm (inch)	Reference Page
 	**ABW 23R5005**	0.05 (0.002)	**B86**
	23R5015	0.15 (0.006)	
	ABW 23R5005M	<0.05 (<0.002)	
	23R5015M	<0.15 (<0.006)	

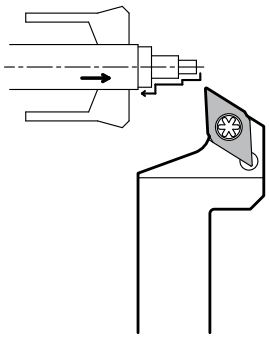
Application Range

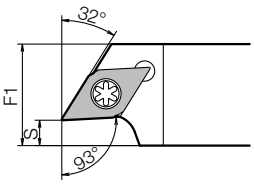


Recommended Cutting Conditions **E47**

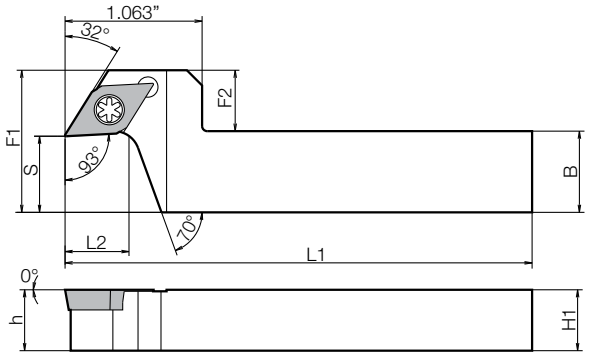
● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

SDJC (External / Copying)





SDJCR62.5-3JX-F3
SDJCR1620JX-11-F05
shown in figure above.



• Right-hand Shown

Toolholder Dimensions

Part Number		Stock	Unit	Dimensions							Standard Corner-R(re)	Spare Parts	
				H1=h	B	L1	L2	F1	F2	S		Clamp Screw	Wrench
SDJCR	**52-3JX-F3**	●	inch	0.500	0.625	4.750	0.488	0.687	0.062	0.187	0.008	SB-4085TR	FT-15
	52-3JX-F9	●		0.500	0.625	4.750	0.488	1.125	0.500	0.562			
	62.5-3JX-F3	●		0.625	0.750	4.750	0.488	0.750	-	0.187			
	62.5-3JX-F9	●		0.625	0.750	4.750	0.488	1.125	0.375	0.562			
SDJCR	**1216JX-11-F05**	○	mm	12	16	120	12.6	18	2	5	0.2	SB-4085TR	FT-15
	1216JX-11-F15	○		12	16	120	12.6	28	12	15			
	1620JX-11-F05	○		16	20	120	12.6	20	-	5			
	1620JX-11-F15	○		16	20	120	12.6	28	8	15			

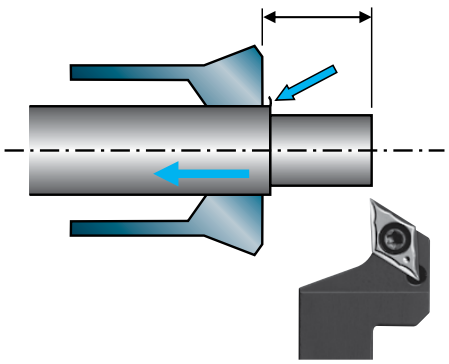
Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing	Finishing / Precision	Low Feed	Low Feed / Precision
Ref. Page	➡ **B59**	➡ **B59**	➡ **B60**	➡ **B60**	➡ **B60**	➡ **B60**	➡ **B62**	➡ **B62**	➡ **B63, B64**	➡ **B65**
Insert / Toolholder	**CF**	**GF**	**WP** (Wiper)	**PP**	**GK**	**GQ**	**R-F**	**R-FSF**	**(E/F) R-U**	**FR-USF**
SDJCR..-3JX-F.. **SDJCR..-11-F..**	DCGT325..	DCGT325..	DCMX325..	DCMT325..	DCMT325..	DCGT325..	DCGT325..	DCET325..	DCGT325..	DCET325..
Application	Low Feed	Low Feed / Precision	Low Carbon Steel / Finishing	Low Carbon Steel / Finishing-Medium	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard materials
Ref. Page	➡ **B64**	➡ **B64**	➡ **B61**	➡ **B61**	➡ **B61**	➡ **B65**	➡ **B65**	➡ **B65**	➡ **C25**	➡ **C15**
Insert / Toolholder	**(E/F)R-J**	**FR-JSF**	**XP**	**XQ**	**MQ**	Without Chipbreaker	**AH**	**R-A3**	**PCD**	**CBN**
SDJCR..-3JX-F.. **SDJCR..-11-F..**	DC_T325..	DCET325..	DCMT325..	DCMT325..	DCMT325..	DCGW325..	DCGT325..	DCGT325..	DCMT325..	DCMW325..

When using **WP** chipbreaker, program corrections are required. ➡ **F44**

Recommended Cutting Conditions ➡ **E46**

Goose-neck Designed for Multiple Passes, Both Roughing & Finishing!

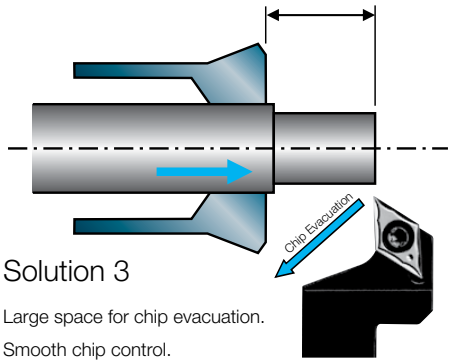


Solution 1

No breakage will occur because the burrs do not contact the guide bushing.

Solution 2

Longitudinal dimensions will be stable. External diameter will be stable by multiple pass machining (roughing and finishing).



Solution 3

Large space for chip evacuation. Smooth chip control.

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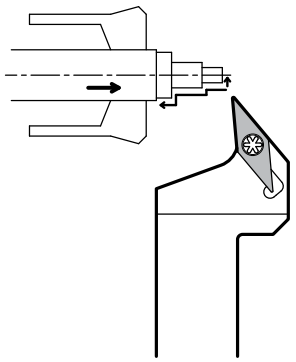
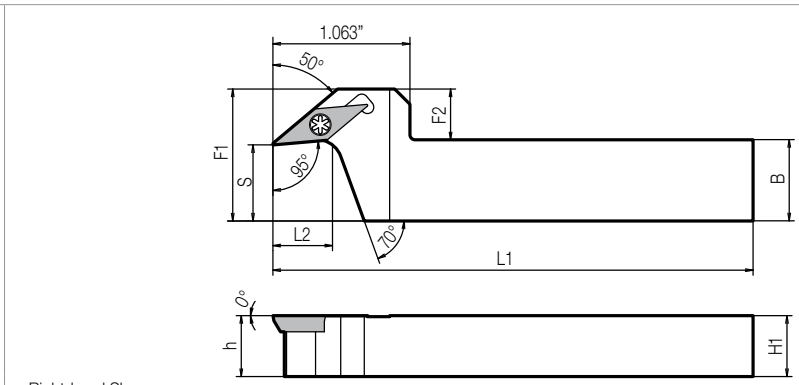
SVLP (External / Copying)





• Right-hand Shown

Toolholder Dimensions

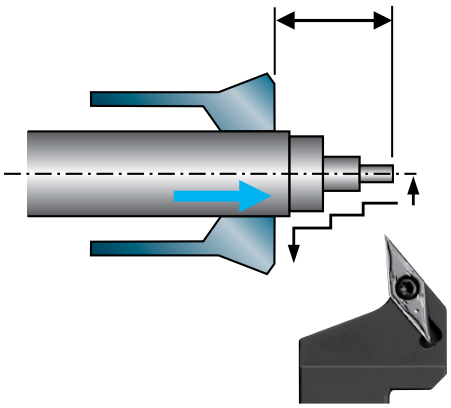
Part Number		Stock	Unit	Dimensions							Standard Corner-R(re)	Spare Parts	
				H1=h	B	L1	L2	F1	F2	S		Clamp Screw	Wrench
SVLPR	**52-2JX-F9**	●	inch	0.500	0.625	4.750	0.472	1.000	0.375	0.562	0.008	SB-2570TR	FT-15
	62.5-2JX-F9	●		0.625	0.750	4.750	0.472	1.000	0.250	0.562			
SVLPR	**1216JX-11-F15**	○	mm	12	16	120	12	26	10	15	0.2	SB-2570TR	FT-8
	1620JX-11-F15	○		16	20	120	12	26	6	15			

Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing / Precision	Low Feed	Low Feed / Precision
Ref. Page	➡ **B80**	➡ **B80**	➡ **B80**	➡ **B81**	➡ **B81**	➡ **B81**
Insert / Toolholder	**CF**	**CK**	**GF**	**R-FSF**	**FR-U**	**FR-USF**
SVLPR..-2JX-F.. **SVLPR..-11-F..**	VPGT22..	VPGT22..	VPGT22..	VPET22..	VPET22..	VPET22..

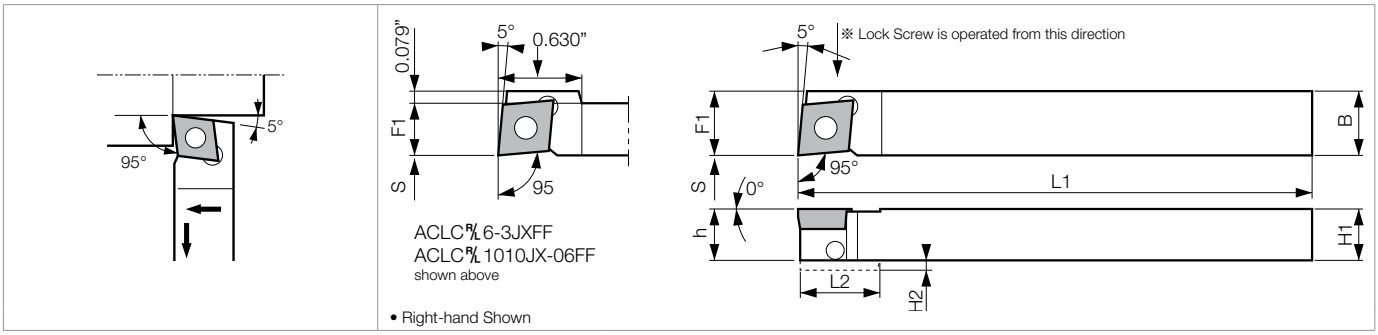
Recommended Cutting Conditions ➡ **E46**

One Toolholder for Complex Workpieces



Toolholder for VP type inserts.
Complex workpieces can be processed with one toolholder.
It is available for undercutting and external/face finishing.

■ ACLC-FF (Without Offset • External / Facing)



● Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Dimensions H1=h	H2	B	L1	L2	F1	S	Standard Corner-R(re)	Spare Parts Anchor Pin	Spare Parts Lock Screw	Spare Parts Wrench
ACLC□ 6-2JXFF	●	●	inch	0.375	-	0.375	4.750	-	0.375	0	0.008	LPF-11	HSB4X8□	FH-2
6-3JXFF	●	●		0.375	0.097	0.375	4.750	0.630	0.375	0	0.008	LPF-13		
8-3JXFF	●	●		0.500	-	0.500	4.750	-	0.500	0				
10-3JXFF	●	●		0.625	-	0.625	4.750	-	0.625	0	0.008	LPF-17		
ACLC□ 1010JX-06FF	○	○	mm	10	-	10	120	-	10	0	0.2	LPF-11	HSB4X8□	FH-2
1010JX-09FF	○	○		10	2	10	120	16	10	0	0.2	LPF-13		
1212JX-09FF	○	○		12	-	12	120	-	12	0				
1616JX-09FF	●	○		16	-	16	120	-	16	0	0.2	LPF-17		

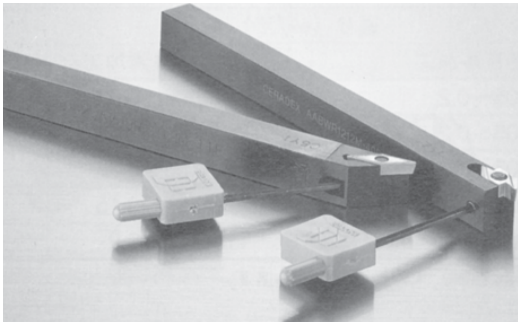
• Lock Screw : HSB4X8R for Right-hand Toolholder, HSB4X8L for Left-hand Toolholder

● Applicable Inserts

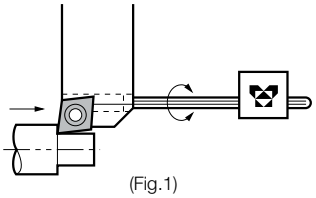
Application	Finishing	Finishing-Medium	Finishing-Medium	Low Feed	Stainlees Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Material
Ref. Page	➡ B52	➡ B53	➡ B53	➡ B52	➡ B54	➡ B57	➡ B56	➡ B57	➡ C24	➡ C14
Insert / Toolholder	GF	GK	GQ	(E/F)□-U	MQ	Without Chipbreaker	AH	□-A3	PCD	CBN
ACLC□..-2JXFF ACLC□..-06FF	CCGT215..	CCMT215..	CCGT215..	CCGT215..	-	CCGW215..	-	-	CCMT215.. CCGW215..	CCMW215..
ACLC□..-3JXFF ACLC□..-09FF	CCGT325..	CCMT325..	CCGT325..	CCGT325..	CCMT325..	CCGW325..	CCGT325..	CCGT325..	CCMT325.. CCGW325..	CCMW325..

Recommended Cutting Conditions ➡ **E46**

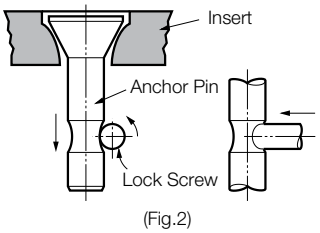
● Back Clamp Holders



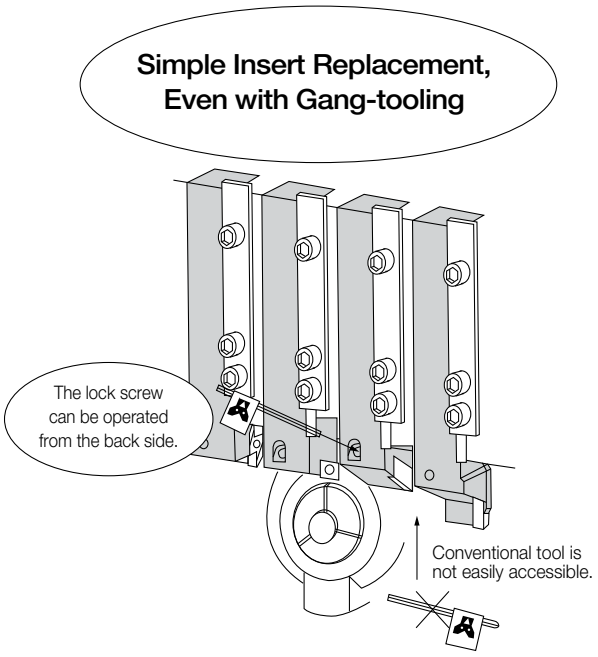
1. The lock screw can be operated from the back side and allows simple insert replacement on Swiss automatic lathes. (**Fig.1**)
2. Simple insert replacement by slightly turning the wrench.
3. Rigid clamping with anchor pin and lock screw. (**Fig.2**)



(Fig.1)



(Fig.2)



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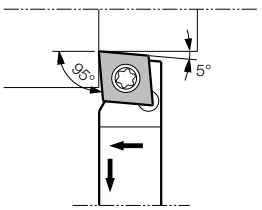
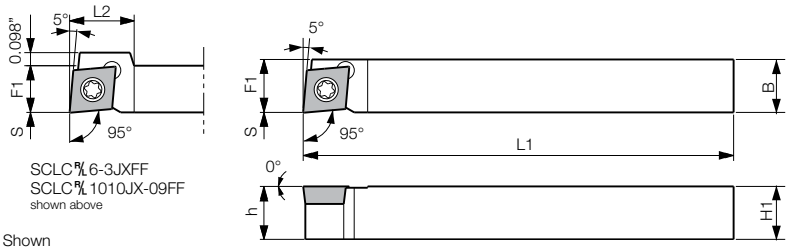


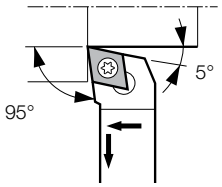


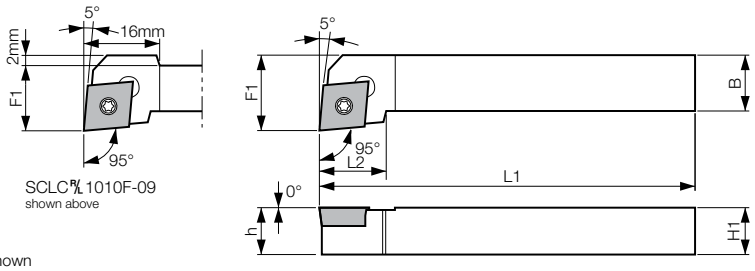
• Right-hand Shown

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	B	L1	L2	F1	S	Standard Corner-R(rε)	Spare Parts Clamp Screw	Spare Parts Wrench
SCLC□	6-2JXFF	●	●	inch	0.375	0.375	4.750	-	0.375	0	0.008	SB-2570TR	FT-8
	6-3JXFF	●	●		0.375	0.375	4.750	0.590	0.375	0	0.008	SB-4085TR	FT-15
	8-3JXFF	●	●		0.500	0.500	4.750	-	0.500	0			
	10-3JXFF	●	●		0.625	0.625	4.750	-	0.625	0			
SCLC□	0808F-06FF	○	○	mm	8	8	85	-	8	0	0.2	SB-2570TR	FT-8
	1212F-09FF	○	○		12	12	85	-	12	0	0.2	SB-4085TR	FT-15
SCLC□	1010JX-06FF	○	○		10	10	120	-	10	0	0.2	SB-2570TR	FT-8
	1010JX-09FF	○	○		10	10	120	15	10	0	0.2	SB-4085TR	FT-15
	1212JX-09FF	○	○		12	12	120	-	12	0			
	1616JX-09FF	●	○		16	16	120	-	16	0			

SCLC (External / Facing)





• Right-hand Shown

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	B	L1	L2	F1	F2	Standard Corner-R(rε)	Spare Parts Clamp Screw	Spare Parts Wrench	Spare Parts Wrench
SCLC□	6-2X	●	●	inch	0.375	0.375	3.000	0.354	0.500	0.382	0.004	SB-2570TR	FT-8	-
SCLC□	8-3A	●	●		0.500	0.500	4.000	0.551	0.625	0.507	0.004	SB-4085TR	FT-15	-
	10-3C	●	●		0.625	0.625	5.000	0.572	0.750	0.625				
	12-3C	●	●		0.750	0.750	5.000	0.572	0.875	0.750				
NEW	16-3D	●			1.000	1.000	6.000	0.790	1.250	1.000	0.008	SB-4085TR	FT-15	-
SCLC□	1010F-06	○	○	mm	10	10	80	9	12	9	0.2	SB-2570TR	FT-8	-
	1010F-09	○	○		10	10	80	14	14	13	0.2	SB-4085TR	FT-15	-
	1212H-09	○	○		12	12	100	14	16	13				
	1616H-09	○	○		16	16	100	15	20	14				
	2020K-09	○	○		20	20	125	20	25	17				
	2525M-09	○	○		25	25	150	22	32	21				
SCLC□	1616H-12	○	○		16	16	100	20	20	17	0.4	SB-5090TR	-	LTW-20
	2020K-12	○	○		20	20	125	22	25	20				
	2525M-12	○	○		25	25	150	22	32	22				

Applicable Inserts

Application	Finishing	Finishing-Medium	Finishing-Medium	Low Feed	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Material
Ref. Page	B52	B53	B52	B52	B54	B57	B56	B57	C24	C14
Insert / Toolholder	GF	GK	GQ	(E/F)□-U	MQ	Without Chipbreaker	AH	□-A3	PCD	CBN
SCLC□..-2.. SCLC□..-2JXFF SCLC□..-06FF/-06	CCGT215..	CCMT215..	CCGT215..	CCGT215..	-	CCGW215..	-	-	CCMT215.. CCGW215..	CCMW215..
SCLC□..-3.. SCLC□..-3JXFF SCLC□..-09FF/-09	CCGT325..	CCMT325..	CCGT325..	CCGT325..	CCMT325..	CCGW325..	CCGT325..	CCGT325..	CCMT325.. CCGW325..	CCMW325..
SCLC□..-12	-	CCMT43..	-	-	-	-	-	CCGT43..	-	-

Recommended Cutting Conditions ➡ **E46**

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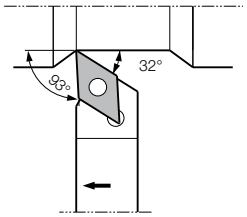
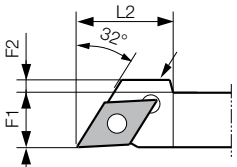
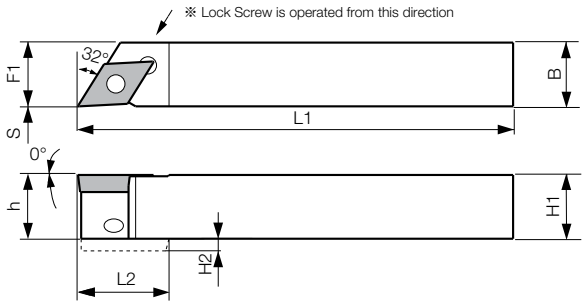
ADJC-FF (Without Offset • External / Copying)





ADJC□6-3JXFF
ADJC□1010JX-11FF
ADJC□1212JX-11FF
shown above

• Right-hand Shown



Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	H2	B	L1	L2	F1	F2	S	Standard Corner-R(re)	Spare Parts: Anchor Pin	Spare Parts: Lock Screw	Spare Parts: Wrench
ADJC□	6-2JXFF	●	●	inch	0.375	-	0.375	4.750	-	0.375	-	0	0.008	LPF-11	HSB4X8□	FH-2
	6-3JXFF	●	●		0.375	0.097	0.375	4.750	0.787	0.375	0.137	0	0.008	LPF-13		
	8-3JXFF	●	●		0.500	-	0.500	4.750	-	0.500	-	0				
	10-3JXFF	●	●		0.625	-	0.625	4.750	-	0.625	-	0	0.008	LPF-17		
ADJC□	1010JX-07FF	○	○	mm	10	-	10	120	-	10	-	0	0.2	LPF-11	HSB4X8□	FH-2
	1010JX-11FF	○	○		10	2	10	120	20	10	3	0	0.2	LPF-13		
	1212JX-11FF	○	○		12	-	12	120	20	12	1	0				
	1616JX-11FF	●	○		16	-	16	120	-	16	-	0	0.2	LPF-17		

• Lock Screw : HSB4X8R for Right-hand Toolholder, HSB4X8L for Left-hand Toolholder

Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing	Finishing / Precision	Low Feed
Ref. Page	B59	B59	B59 B60	B60	B60	B60	B60	B62	B62	B63
Insert / Toolholder	CF	GF	CK	WP (Wiper)	PP	GK	GQ	□-F	□-FSF	(E/F) □-U
ADJC□..-2JXFF ADJC□..-07FF	DCGT215..	DCGT215..	DCGT215..	DCMX215..	DCMT215..	DCMT215..	DCGT215..	DCGT215..	DCET215..	DCGT215..
ADJC□..-3JXFF ADJC□..-11FF	DCGT325..	DCGT325..	DCGT325..	DCMX325..	DCMT325..	DCMT325..	DCGT325..	DCGT325..	DCET325..	DCGT325..
Application	Low Feed / Precision	Low Feed	Low Carbon Steel / Finishing	Low Carbon Steel / Finishing-Medium	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard materials
Ref. Page	B63	B64	B61	B61	B61	B65	B65	B65	C25	C15
Insert / Toolholder	F□-USF	(E/F)□-J	XP	XQ	MQ	Without Chipbreaker	AH	□-A3	PCD	CBN
ADJC□..-2JXFF ADJC□..-07FF	DCET215..	DCET215..	DCMT215..	-	DCMT215..	DCGW215..	-	-	DCMT215..	DCMW215..
ADJC□..-3JXFF ADJC□..-11FF	DCET325..	DC_T325..	DCMT325..	DCMT325..	DCMT325..	DCGW325..	DCGT325..	DCGT325..	DCMT325..	DCMW325..

When using **WP** chipbreaker, program corrections are required. **F44**

Recommended Cutting Conditions **E46**

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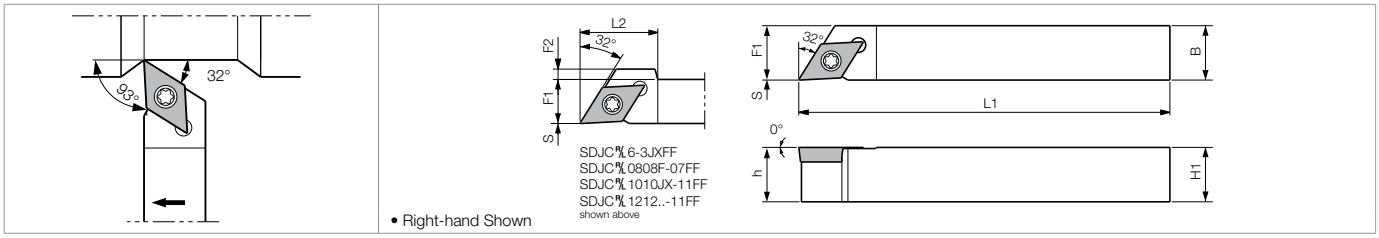
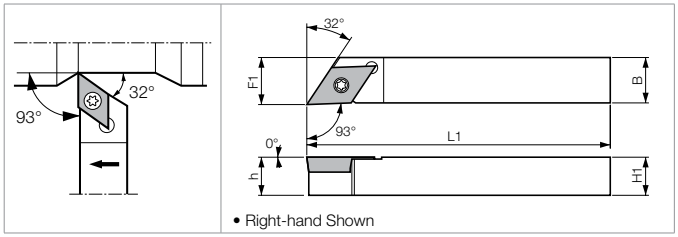
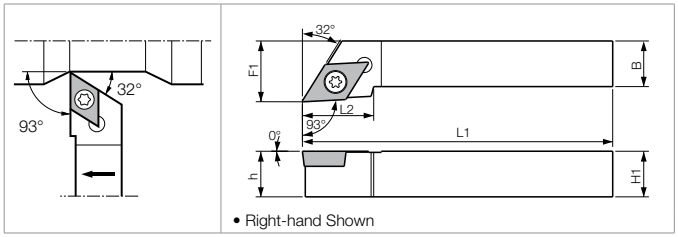
SDJC-FF (Without Offset • External / Copying)



SDJC-F (External / Copying)



SDJC (External / Copying)



Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	B	L1	L2	F1	F2	S	Standard Corner-R(re)	Spare Parts: Clamp Screw	Spare Parts: Wrench
SDJC□	6-2JXFF	●	●	inch	0.375	0.375	4.750	-	0.375	-	0	0.008	SB-2570TR	FT-8
	6-3JXFF	●	●		0.375	0.375	4.750	0.787	0.375	0.137	0			
	8-3JXFF	●	●		0.500	0.500	4.750	-	0.500	-	0	0.008	SB-4085TR	FT-15
	10-3JXFF	●	●		0.625	0.625	4.750	-	0.625	-	0			
SDJC□	0808F-07FF	○	○	mm	8	8	85	14	8	0.5	0	0.2	SB-2570TR	FT-8
	1212F-11FF	○	○		12	12	85	20	12	1.0	0	0.2	SB-4085TR	FT-15
SDJC□	1010JX-07FF	○	○		10	10	120	-	10	-	0	0.2	SB-2570TR	FT-8
	1010JX-11FF	○	○		10	10	120	20	10	3.0	0			
	1212JX-11FF	○	○		12	12	120	20	12	1.0	0	0.2	SB-4085TR	FT-15
	1616JX-11FF	●	○		16	16	120	-	16	-	0			
SDJC□	6-2CF	●	●	inch	0.375	0.375	5.000	-	0.395	-	-	0.004	SB-2570TR	FT-8
SDJC□	8-3DF	●	●		0.500	0.500	6.000		0.520	-	-	1/32	SB-4085TR	FT-15
SDJC□	6-2X	●	●		0.375	0.375	3.000	0.472	0.500	-	-		SB-2570TR	FT-8
SDJC□	8-3A	●	●		0.500	0.500	4.000	0.709	0.625			0.004	SB-4085TR	FT-15
	10-3C	●	●		0.625	0.625	5.000	0.709	0.750	-	-			
	12-3C	●	●		0.750	0.750			0.875					
NEW	16-3D	●			1.000	1.000	6.000	0.810	1.250			0.008		
SDJC□	1010F-07	○	○	mm	10	10	80	12	12	-	-	0.2	SB-2570TR	FT-8
SDJC□	1010F-11	○	○		10	10	80	18	12	-	-			
	1212H-11	○	○		12	12	100	18	16	-	-			
	1616H-11	○	○		16	16	100	18	20	-	-	0.2	SB-4085TR	FT-15
	2020K-11	○	○		20	20	125	18	25	-	-			
	2525M-11	○	○		25	25	150	23	32	-	-			

Applicable Inserts

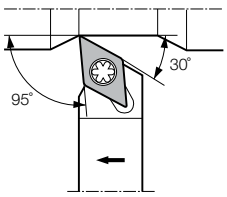
Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing	Finishing / Precision	Low Feed
Ref. Page	B59	B59	B59 B60	B60	B60	B60	B60	B62	B62	B63
Insert / Toolholder	CF	GF	CK	WP (Wiper)	PP	GK	GQ	□-F	□-FSF	(E/F) □-U
SDJC□..-2.. SDJC□..-07FF / -07	DCGT215..	DCGT215..	DCGT215..	DCMX215..	DCMT215..	DCMT215..	DCGT215..	DCGT215..	DCET215..	DCGT215..
SDJC□..-3.. SDJC□..-11FF / -11	DCGT325..	DCGT325..	DCGT325..	DCMX325..	DCMT325..	DCMT325..	DCGT325..	DCGT325..	DCET325..	DCGT325..
Application	Low Feed / Precision	Low Feed	Low Carbon Steel / Finishing	Low Carbon Steel / Finishing-Medium	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard materials
Ref. Page	B63	B64	B61	B61	B61	B65	B65	B65	C25	C15
Insert / Toolholder	F□-USF	(E/F) □-J	XP	XQ	MQ	Without Chipbreaker	AH	□-A3	PCD	CBN
SDJC□..-2.. SDJC□..-07FF / -07	DCET215..	DCET215..	DCMT215..	-	DCMT215..	DCGW215..	-	-	DCMT215..	DCMW215..
SDJC□..-3.. SDJC□..-11FF / -11	DCET325..	DC_T325..	DCMT325..	DCMT325..	DCMT325..	DCGW325..	DCGT325..	DCGT325..	DCMT325..	DCMW325..

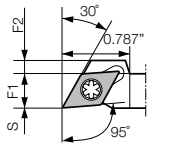
When using **WP** chipbreaker, program corrections are required. ➡ **F44**

Recommended Cutting Conditions ➡ **E46**

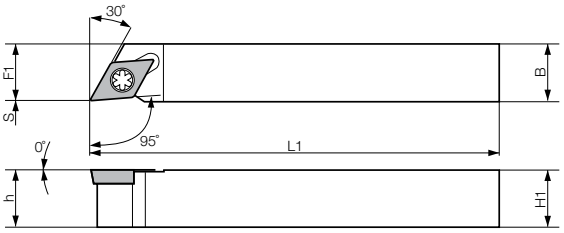
● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

SDLC-FF (Without Offset • External / Copying)





SDLC□6-3JXFF
SDLC□8-3JXFF
SDLC□1010..-11FF
SDLC□1212..-11FF
shown above

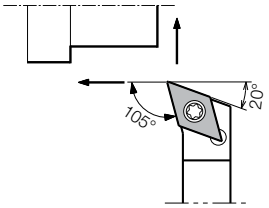


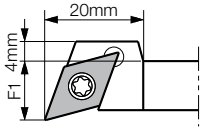
• Right-hand Shown

Toolholder Dimensions

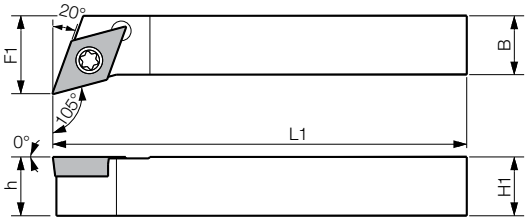
Part Number		Stock R	Stock L	Unit	Dimensions H1=h	B	L1	F1	F2	S	Standard Corner-R(re)	Spare Parts Clamp Screw	Spare Parts Wrench
SDLC□	6-2JXFF	●	●	inch	0.375	0.375	4.750	0.375	-	0	0.008	SB-2570TR	FT-8
	6-3JXFF	●	●		0.375	0.375	4.750	0.375	0.176	0	0.008	SB-4085TR	FT-15
	8-3JXFF	●	●		0.500	0.500	4.750	0.500	0.051	0			
	10-3JXFF	●	●		0.625	0.625	4.750	0.625	-	0			
SDLC□	1010JX-07FF	○	○	mm	10	10	120	10	-	0	0.2	SB-2570TR	FT-8
	1212JX-07FF	○	○		12	12	120	12	-	0			
	1616JX-07FF	○	○		16	16	120	16	-	0			
SDLC□	1010JX-11FF	○	○		10	10	120	10	4	0	0.2	SB-4085TR	FT-15
	1212JX-11FF	○	○		12	12	120	12	2	0			
	1616JX-11FF	○	○		16	16	120	16	-	0			
SDLC□	1212F-07FF	○			12	12	85	12	-	0	0.2	SB-2570TR	FT-8
SDLC□	1010F-11FF	○	○		10	10	80	10	4	0	0.2	SB-4085TR	FT-15
	1212F-11FF	○			12	12	85	12	2	0			
	1616H-11FF	○			16	16	100	16	-	0			

SDXC (External / Facing / Copying)





SDXC□1010JX-11
shown above



• Right-hand Shown

Toolholder Dimensions

Part Number		Stock R	Stock L	Dimensions (mm) H1=h	B	L1	F1	Standard Corner-R(re)	Spare Parts Clamp Screw	Spare Parts Wrench
SDXC□	1010JX-07	○	○	10	10	120	12	0.2	SB-2570TR	FT-8
	1010JX-11	○	○	10	10	120	12	0.2	SB-4085TR	FT-15
	1212JX-11	○	○	12	12	120	16	0.2		
	1616JX-11	○	○	16	16	120	20	0.2		

Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing	Finishing / Precision	Low Feed
Ref. Page	➡ B59	➡ B59	➡ B59 ➡ B60	➡ B60	➡ B60	➡ B60	➡ B60	➡ B62	➡ B62	➡ B63
Insert / Toolholder	CF	GF	CK	WP (Wiper)	PP	GK	GQ	□-F	□-FSF	(E/F) □-U
SDLC□..-2JXFF / -07FF SDXC□..-07	DCGT215..	DCGT215..	DCGT215..	DCMX215..	DCMT215..	DCMT215..	DCGT215..	DCGT215..	DCET215..	DCGT215..
SDLC□..-3JXFF / -11FF SDXC□..-11	DCGT325..	DCGT325..	DCGT325..	DCMX325..	DCMT325..	DCMT325..	DCGT325..	DCGT325..	DCET325..	DCGT325..
Application	Low Feed / Precision	Low Feed	Low Carbon Steel / Finishing	Low Carbon Steel / Finishing-Medium	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard materials
Ref. Page	➡ B63	➡ B64	➡ B61	➡ B61	➡ B61	➡ B65	➡ B65	➡ B65	➡ C25	➡ C15
Insert / Toolholder	F□-USF	(E/F)□-J	XP	XQ	MQ	Without Chipbreaker	AH	□-A3	PCD	CBN
SDLC□..-2JXFF / -07FF SDXC□..-07	DCET215..	DCET215..	DCMT215..	-	DCMT215..	DCGW215..	-	-	DCMT215..	DCMW215..
SDLC□..-3JXFF / -11FF SDXC□..-11	DCET325..	DC_T325..	DCMT325..	DCMT325..	DCMT325..	DCGW325..	DCGT325..	DCGT325..	DCMT325..	DCMW325..

Recommended Cutting Conditions ➡ **E46**

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
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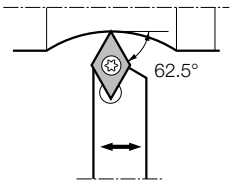
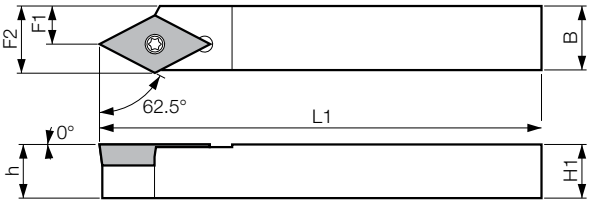
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

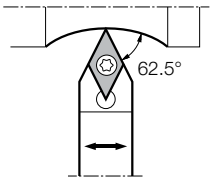
SDNC-F (External / Copying)

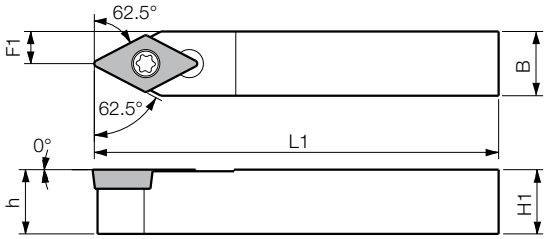




• Right-hand Shown

SDNC (External / Copying)





Toolholder Dimensions

Part Number	Stock			Unit	Dimensions					Standard Corner-R(re)	Spare Parts	
											Clamp Screw	Wrench
	R	N	L		H1=h	B	L1	F1	F2			
SDNC□ 6-2JXF	●		●	inch	0.375	0.375	4.750	0.257	0.395	0.008	SB-2570TR	FT-8
SDNC□ 1010JX-07F	○		○	mm	10	10	120	7	10.5	0.2	SB-2570TR	FT-8
SDNCN 6-2JX		●		inch	0.375	0.375	4.750	0.187	-	0.008	SB-2570TR	FT-8
8-2JX		●			0.500	0.500	4.750	0.250	-			
6-3JX		●			0.375	0.375	4.750	0.187	-	0.008	SB-4085TR	FT-15
8-3JX		●			0.500	0.500	4.750	0.250	-			
10-3JX		●			0.625	0.625	4.750	0.312	-			
SDNCN 1010JX-07		○		mm	10	10	120	5	-	0.2	SB-2570TR	FT-8
1212JX-07		○			12	12	120	6	-			
SDNCN 1010JX-11		○			10	10	120	5	-	0.2	SB-4085TR	FT-15
1212JX-11		○			12	12	120	6	-			
1616JX-11		●			16	16	120	8	-			
SDNCN 0808F-07		○			8	8	85	4	-	0.2	SB-2570TR	FT-8
SDNCN 1010F-11		○			10	10	80	5	-	0.2	SB-4085TR	FT-15
1212F-11		○			12	12	85	6	-			
1616H-11		○			16	16	100	8	-			

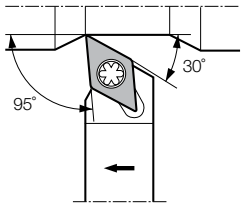
Applicable Inserts

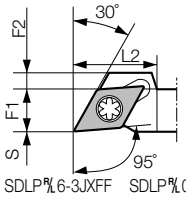
Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing	Finishing / Precision	Low Feed
Ref. Page	➡ B59	➡ B59	➡ B59 ➡ B60	➡ B60	➡ B60	➡ B60	➡ B60	➡ B62	➡ B62	➡ B63
Insert / Toolholder	CF	GF	CK	WP (Wiper)	PP	GK	GQ	□-F	□-FSF	(E/F) □-U
SDNC□..-2JXF / -07F SDNCN..-07	DCGT215..	DCGT215..	DCGT215..	DCMX215..	DCMT215..	DCMT215..	DCGT215..	DCGT215..	DCET215..	DCGT215..
SDNCN..-3JX / -11	DCGT325..	DCGT325..	DCGT325..	DCMX325..	DCMT325..	DCMT325..	DCGT325..	DCGT325..	DCET325..	DCGT325..
Application	Low Feed / Precision	Low Feed	Low Carbon Steel / Finishing	Low Carbon Steel / Finishing-Medium	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard materials
Ref. Page	➡ B63	➡ B64	➡ B61	➡ B61	➡ B61	➡ B65	➡ B65	➡ B65	➡ C25	➡ C15
Insert / Toolholder	F□-USF	(E/F)□-J	XP	XQ	MQ	Without Chipbreaker	AH	□-A3	PCD	CBN
SDNC□..-2JXF / -07F SDNCN..-07	DCET215..	DCET215..	DCMT215..	-	DCMT215..	DCGW215..	-	-	DCMT215..	DCMW215..
SDNCN..-3JX / -11	DCET325..	DC_T325..	DCMT325..	DCMT325..	DCMT325..	DCGW325..	DCGT325..	DCGT325..	DCMT325..	DCMW325..

Recommended Cutting Conditions ➡ **E46**

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

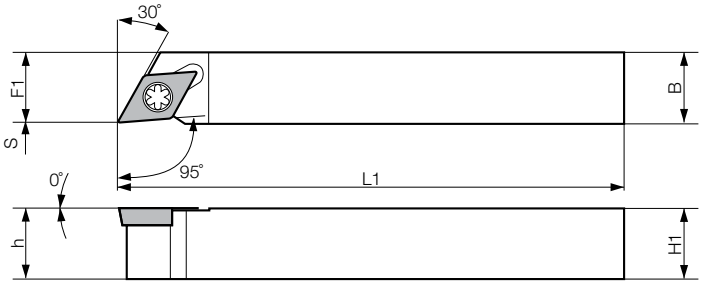
SDLP-FF (Without Offset • External / Copying)





SDLP R/L 6-3JXFF
SDLP R/L 8-3JXFF
shown above

SDLP R/L 0808F-07FF
SDLP R/L 1212F-11FF
SDLP R/L 1010JX-11FF
SDLP R/L 1212JX-11FF
shown above



• Right-hand Shown

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	B	L1	L2	F1	F2	S	Standard Corner-R(rε)	Spare Parts: Clamp Screw	Spare Parts: Wrench
SDLP R/L	6-2JXFF	●	●	inch	0.375	0.375	4.750	-	0.375	-	0	0.008	SB-2570TR	FT-8
	6-3JXFF	●	●		0.375	0.375	4.750	-	0.375	0.176	0	0.008	SB-4085TR	FT-15
	8-3JXFF	●	●		0.500	0.500	4.750	0.375	0.500	0.051	0			
	10-3JXFF	●	●		0.625	0.625	4.750	-	0.625	-	0			
SDLP R/L	0808F-07FF	○	○	mm	8	8	85	14	8	0.5	0	0.2	SB-2570TR	FT-8
	1212F-11FF	○			12	12	85	20	12	2.0	0	0.2	SB-4085TR	FT-15
SDLP R/L	1010JX-07FF	○	○		10	10	120	-	10	-	0	0.2	SB-2570TR	FT-8
	1010JX-11FF	○	○		10	10	120	20	10	4.0	0	0.2	SB-4085TR	FT-15
	1212JX-11FF	○	○		12	12	120	20	12	2.0	0			
	1616JX-11FF	○	○		16	16	120	-	16	-	0			

Applicable Inserts

Application	Finishing / Precision	Low Feed / Precision
Ref. Page	B65	B65
Insert / Toolholder	R/L-FSF 	FR/L-USF 
SDLP R/L ..-2JXFF SDLP R/L ..-07FF	DPET215..	DPET215..
SDLP R/L ..-3JXFF SDLP R/L ..-11FF	DPET325..	DPET325..

Recommended Cutting Conditions → **E46**

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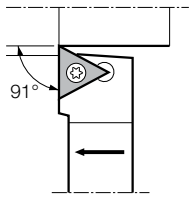
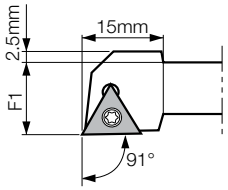
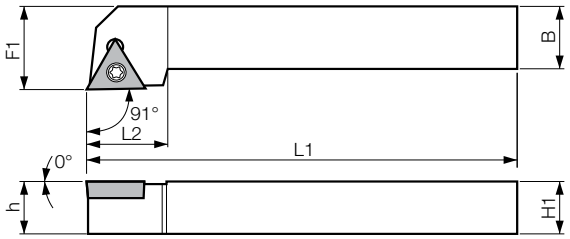
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

STGC(P) (External)





STGC(P)□1010F-11
shown above



• Right-hand Shown

Toolholder Dimensions

Part Number		Stock		Dimensions (mm)					Standard Corner-R(rε)	Spare Parts	
										Clamp Screw	Wrench
		R	L	H1=h	B	L1	L2	F1			
STGC□	0808E-08	○	○	8	8	70	12	10	0.2	SB-2050TR	FT-6
	1010F-08	○	○	10	10	80	12	12			
STGC□	1010F-11	○	○	10	10	80	15	14	0.4	SB-2570TR	FT-8
	1212H-11	○	○	12	12	100	15	16			
	1616H-11	○	○	16	16	100	15	20			
	2020K-11	○	○	20	20	125	15	25			
	2525M-11	○	○	25	25	150	20	32			
STGP□	0808E-08	○		8	8	70	12	10	0.2	SB-2050TR	FT-6
	1010F-08	○	○	10	10	80	12	12			
STGP□	1010F-11	○	○	10	10	80	15	14	0.2	SB-3080TR	FT-10
	1212H-11	○	○	12	12	100	15	16			
	1616H-11	○	○	16	16	100	15	20			

Applicable Inserts (STGC)

Application	Low Feed	Low Feed / Precision	Cast Iron	Non-ferrous Metals	Non-ferrous Metals
Ref. Page	➡ B69	➡ B69	➡ B70	➡ B69	➡ C26
Insert / Toolholder	(E/F) □-U	F□-USF	Without Chipbreaker	□-A3	PCD
STGC□..-08	TCGT1515..	TCET1515..	TCGW1515..	-	TCMT1515..
STGC□..-11	TCGT22..	TCET22..	TCGW22..	TCGT22..	TCMT22.. TCGW22..

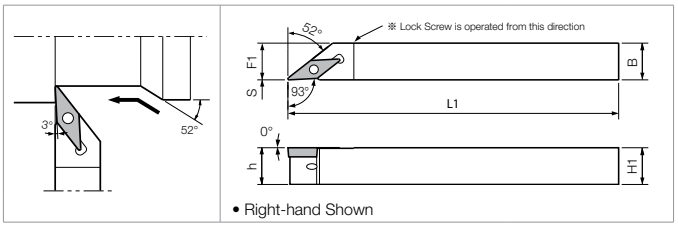
Applicable Inserts (STGP)

Application	Minute D.O.C.	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Low Feed / Precision	Medium	Low Carbon Steel / Finishing	Low Carbon Steel / Finishing-Medium	Cast Iron
Ref. Page	➡ B71	➡ B71	➡ B71	➡ B72	➡ B73	➡ B73	➡ B73	➡ B71	➡ B72	➡ B74
Insert / Toolholder	CF	PP	HQ	□	□-FSF	F□-USF	□-H	XP	XQ	Without Chipbreaker
STGP□..-08	TPGT1515..	-	-	TPGH1515..	TPET1515..	TPET1515..	-	-	-	TPGB1515..
STGP□..-11	-	TPMT22..	TPMT22..	TPGH22..	TPET22..	TPET22..	TPGH22..	TPMT22..	TPMT22..	TPGB22..

Application	Non-ferrous Metals	Hard Materials
Ref. Page	➡ C26 ~ C28	➡ C16
Insert / Toolholder	PCD	CBN
STGP□..-08	TPMH1515.. TPGB1515..	TPGB1515..
STGP□..-11	TPMH22.. TPGB22..	TPGB22..

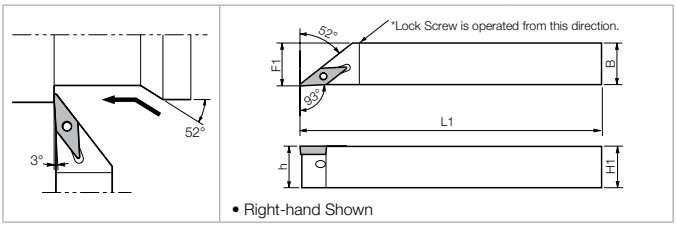
Recommended Cutting Conditions ➡ **E46**

AVJB-FF (Without Offset • External / Copying)



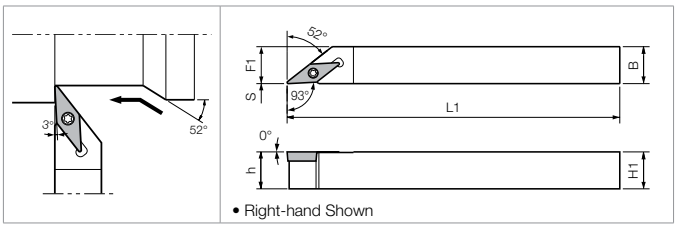
• Right-hand Shown

AVJB-F (External / Copying)



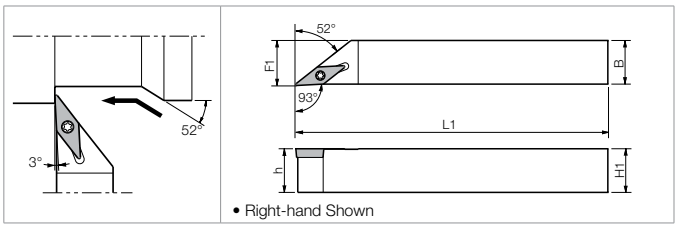
• Right-hand Shown

SVJB-FF (Without Offset • External / Copying)



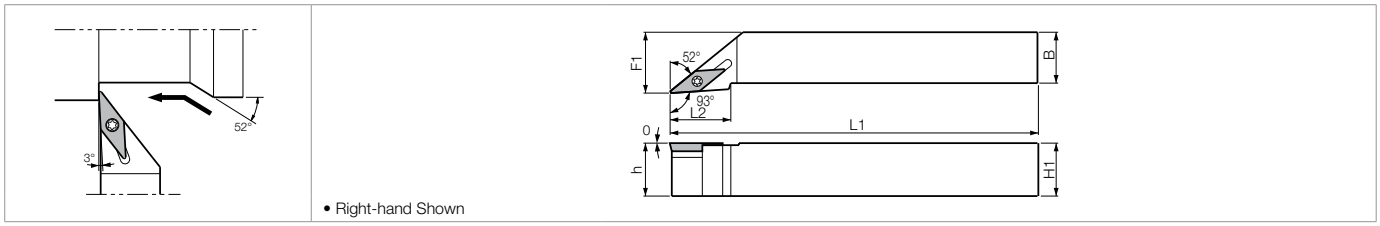
• Right-hand Shown

SVJB-F (External / Copying)



• Right-hand Shown

SVJB (External / Copying)



• Right-hand Shown

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	B	L1	L2	F1	S	Standard Corner-R(rε)	Spare Parts: Anchor Pin	Lock Screw	Clamp Screw	Wrench	Shim	Shim Screw	Wrench
AVJB□	6-2JXFF	●	●	inch	0.375	0.375	4.750	-	0.375	0	0.016	LPF-11	HSB4X8□	-	FH-2	-	-	-
	8-2JXFF	●	●		0.500	0.500	4.750	-	0.500			LPF-1113						
	10-2JXFF	●	●		0.625	0.625	4.750	-	0.625			LPF-1117						
AVJB□	1010JX-11FF	○	○	mm	10	10	120	-	10	0	0.4	LPF-11	HSB4X8□	-	FH-2	-	-	-
	1212JX-11FF	●	○		12	12	120	-	12			LPF-1113						
	1616JX-11FF	●	○		16	16	120	-	16			LPF-1117						
AVJB□	6-2CF	●	●	inch	0.375	0.375	5.000	-	0.395	-	1/64	LPF-11	HSB4X8□	-	FH-2	-	-	-
	8-2DF	●	●		0.500	0.500	6.000	-	0.520			LPF-1113						
SVJB□	6-2JXFF	●	●	inch	0.375	0.375	4.750	-	0.375	0	0.016	-	-	SB-2570TR	FT-8	-	-	-
	8-2JXFF	●	●		0.500	0.500	4.750	-	0.500									
	10-2JXFF	●	●		0.625	0.625	4.750	-	0.625									
SVJB□	1010JX-11FF	●	○	mm	10	10	120	-	10	0	0.4	-	-	SB-2570TR	FT-8	-	-	-
	1212JX-11FF	○	○		12	12	120	-	12									
	1616JX-11FF	○	○		16	16	120	-	16									
NEW	2020JX-11FF	○	○		20	20	120	-	20									
SVJB□	6-2CF	●	●	inch	0.375	0.375	5.000	-	0.395	-	1/64	-	-	SB-2570TR	FT-8	-	-	-
	8-2DF	●	●		0.500	0.500	6.000	-	0.520									
SVJB□	6-2X	●	●		0.375	0.375	3.000	0.895	0.500	-	1/64	-	-	SB-2570TR	FT-8	-	-	-
SVJB□	8-2A	●	●		0.500	0.500	4.000	0.895	0.625	-	1/64	-	-	SB-2570TR	FT-8	-	-	-
	12-3C	●	●		0.750	0.750	5.000	1.220	0.875		1/32			SB-4085TR	T-15			
NEW	16-3D	●			1.000	1.000	6.000	1.250	1.250		0.008							
SVJB□	2020K-11	○	○	mm	20	20	125	30	25	-	0.4	-	-	SB-2570TR	FT-8	-	-	-
	2525M-11	○	●		25	25	150	35	32									
SVJB□	2020K-16N	○	○		20	20	125	30	25	-	0.8	-	-	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4
	2525M-16N	●	○		25	25	150	30	32									

• Lock Screw : HSB4X8R for Right-hand Toolholder, HSB4X8L for Left-hand Toolholder

Applicable Inserts

Application	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Finishing-Medium	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials
Ref. Page	➡ B77	➡ B77	➡ B77	➡ B78	➡ B77	➡ B78	➡ B79	➡ B79	➡ C28	➡ C17
Insert / Toolholder	GP	VF	HQ	□-F	□-FSF	□-Y	AH	□-A3	PCD	CBN
☐VJB□..-2.. ☐VJB□..-11FF / -11	VBMT22..	VBMT22..	VBMT22..	VBGT22..	VBET22..	VBGT22..	-	-	VBMT22..	VBGW22..
SVJB□..-3.. SVJB□..-16N	VBMT33..	VBMT33..	VBMT33..	-	-	VBGT33..	VCGT33..	VCGT33..	VBMT33..	VBGW33..

Recommended Cutting Conditions ➡ **E46**

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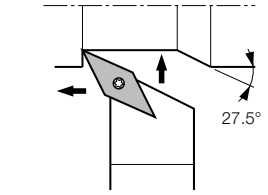
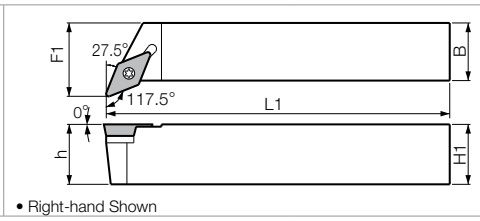
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

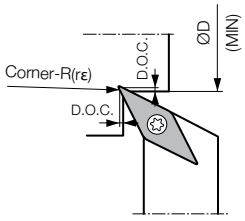
SVPB (External / Facing / Copying / Undercutting)





• Right-hand Shown

Undercutting Diameter of SVPB

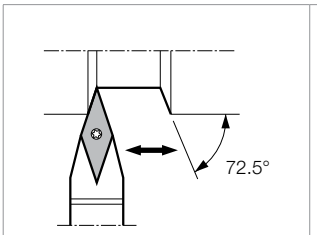


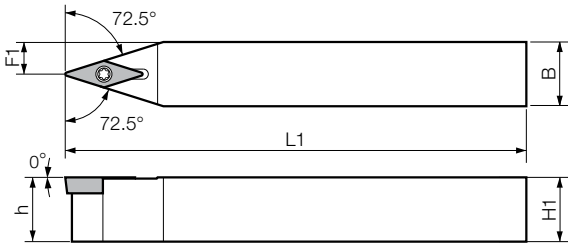
Corner-R (rε)	D.O.C.	ØD (MIN)
0.016	0.020	Ø0.984
	0.039	Ø1.181
0.032	0.020	Ø1.772
	0.039	Ø2.165

Toolholder Dimensions

Part Number		Stock R	Stock L	Dimensions (mm) H1=h	B	L1	L2	F1	Standard Corner-R(rε)	Spare Parts: Clamp Screw	Wrench	Shim	Shim Screw	Wrench
SVPBR/L	1010JX-11	○	○	10	10	120	-	14.5	0.4	SB-2570TR	FT-8	-	-	-
	1212JX-11	○	○	12	12	120	-	16.5						
	1616JX-11	○	○	16	16	120	-	20.5						
SVPBR/L	2020K-11	○	○	20	20	125	-	25.0	0.4	SB-2570TR	FT-8	-	-	-
	2525M-11	○	○	25	25	150	-	32.0						
SVPBR/L	2020K-16N	○	○	20	20	125	-	25.0	0.8	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4
	2525M-16N	○	○	25	25	150	-	32.0						

SVVB (External / Copying)





Toolholder Dimensions

Part Number		Stock	Unit	Dimensions H1=h	B	L1	F1	Standard Corner-R(rε)	Spare Parts: Clamp Screw	Wrench	Shim	Shim Screw	Wrench
SVVBN	6-2JX	●	inch	0.375	0.375	4.750	0.187	0.016	SB-2570TR	FT-8	-	-	-
	8-2JX	●		0.500	0.500	4.750	0.250						
	10-2JX	●		0.625	0.625	4.750	0.312						
SVVBN	1212F-11	○	mm	12	12	85	6.0	0.4	SB-2570TR	FT-8	-	-	-
SVVBN	1010JX-11	○		10	10	120	5.0	0.4	SB-2570TR	FT-8	-	-	-
	1212JX-11	○		12	12	120	6.0						
	1616JX-11	○		16	16	120	8.0						
SVVBN	1010F-11	○		10	10	80	5.0	0.4	SB-2570TR	FT-8	-	-	-
	1616H-11	○		16	16	100	8.0						
	2020K-11	○		20	20	125	10.0						
	2525M-11	○		25	25	150	12.5						
SVVBN	2020K-16N	○		20	20	125	10.0	0.8	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4
	2525M-16N	○		25	25	150	12.5						

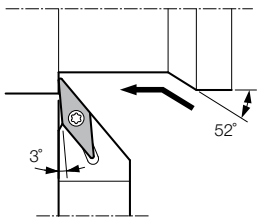
Applicable Inserts

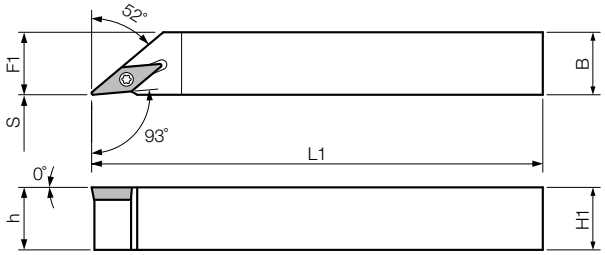
Application	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Finishing-Medium	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials
Ref. Page	➡ B77	➡ B77	➡ B77	➡ B78	➡ B77	➡ B78	➡ B79	➡ B79	➡ C28	➡ C17
Insert / Toolholder	GP	VF	HQ	R/L-F	R/L-FSF	R/L-Y	AH	R/L-A3	PCD	CBN
SVPBR/L..-11	VBMT22..	VBMT22..	VBMT22..	VBGT22..	VBET22..	VBGT22..	-	-	VBMT22..	VBGW22..
SVVBN..-2JXFF SVVBN..-11										
SVPBR/L..-16N	VBMT33..	VBMT33..	VBMT33..	-	-	VBGT33..	VCGT33..	VCGT33..	VBMT33..	VBGW33..
SVVBN..-16N										

Recommended Cutting Conditions ➡ **E46**

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

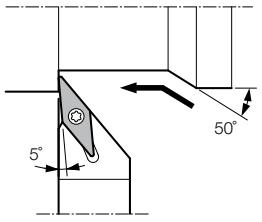
SVJP-FF (Without Offset • External / Copying)

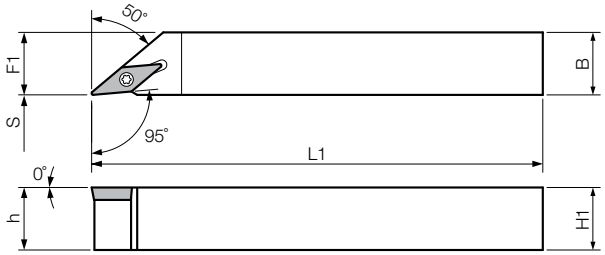




• Right-hand Shown

SVLP-FF (Without Offset • External / Copying)





• Right-hand Shown

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Dimensions H1=h	B	L1	F1	S	Standard Corner-R(re)	Spare Parts: Clamp Screw	Spare Parts: Wrench
SVJP□ 8-2JXFF	●	●	inch	0.500	0.500	4.750	0.500	0	0.008	SB-2570TR	FT-8
SVJP□ 10-2JXFF	●	●	inch	0.625	0.625	4.750	0.625	0	0.008	SB-2570TR	FT-8
SVJP□ 1212F-11FF	○	○	mm	12	12	85	12	0	0.2	SB-2570TR	FT-8
SVJP□ 1212JX-11FF	○	○	mm	12	12	120	12	0	0.2	SB-2570TR	FT-8
SVJP□ 1616JX-11FF	○	○	mm	16	16	120	16	0	0.2	SB-2570TR	FT-8
NEW SVJP□ 2020JX-11FF	○	○	mm	20	20	120	20	0	0.2	SB-2570TR	FT-8
SVLP□ 6-15JXFF	●	●	inch	0.375	0.375	4.750	0.375	0	0.004	SB-2550TR	FT-6
SVLP□ 8-15JXFF	●	●	inch	0.500	0.500	4.750	0.500	0	0.004	SB-2550TR	FT-6
SVLP□ 10-15JXFF	●	●	inch	0.625	0.625	4.750	0.625	0	0.004	SB-2550TR	FT-6
SVLP□ 8-2JXFF	●	●	inch	0.500	0.500	4.750	0.500	0	0.008	SB-2570TR	FT-8
SVLP□ 10-2JXFF	●	●	inch	0.625	0.625	4.750	0.625	0	0.008	SB-2570TR	FT-8
SVLP□ 1010JX-08FF	○	○	mm	10	10	120	10	0	0.1	SB-2050TR	FT-6
SVLP□ 1212JX-08FF	○	○	mm	12	12	120	12	0	0.1	SB-2050TR	FT-6
SVLP□ 1616JX-08FF	○	○	mm	16	16	120	16	0	0.1	SB-2050TR	FT-6
SVLP□ 1212JX-11FF	○	○	mm	12	12	120	12	0	0.2	SB-2570TR	FT-8
SVLP□ 1616JX-11FF	○	○	mm	16	16	120	16	0	0.2	SB-2570TR	FT-8
SVLP□ 1212F-08FF	○		mm	12	12	85	12	0	0.1	SB-2050TR	FT-6
SVLP□ 1212F-11FF	○		mm	12	12	85	12	0	0.2	SB-2570TR	FT-8

Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing / Precision	Low Feed	Low Feed / Precision
Ref. Page	➡ B80	➡ B80	➡ B80	➡ B81	➡ B81	➡ B81
Insert / Toolholder	CF	CK	GF	□-FSF	F□-U	F□-USF
SVLP□...-15JXFF SVLP□...-08FF	-	VPGT1515..	-	VPET1515..	-	VPET1515..
SV□P□...-2JXFF SV□P□...-11FF	VPGT22..	VPGT22..	VPGT22..	VPET22..	VPET22..	VPET22..

Recommended Cutting Conditions ➡ **E46**

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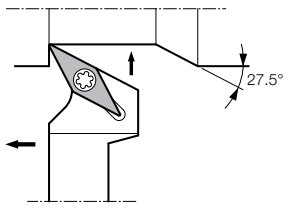
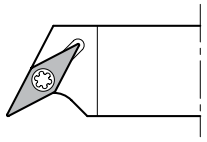
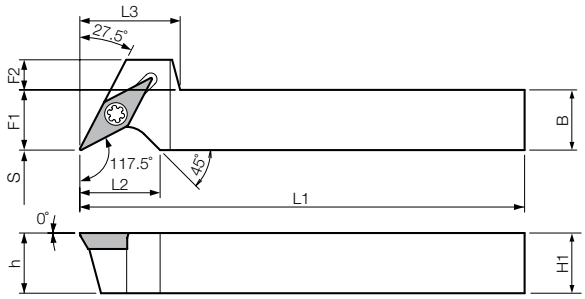
SVPP-FF (Without Offset • External / Facing / Copying / Undercutting)





SVPPR10-15JXFF
SVPPR1616..-08FF
shows above



• Right-hand Shown

Toolholder Dimensions

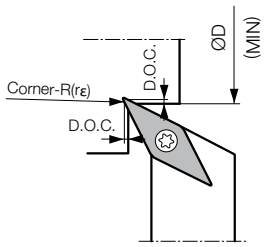
Part Number		Stock	Unit	Dimensions								Standard Corner-R(rε)	Spare Parts	
				H1=h	B	L1	L2	L3	F1	F2	S		Clamp Screw	Wrench
SVPPR	6-15JXFF	●	inch	0.375	0.375	4.750	0.472	0.630	0.375	0.176	0	0.004	SB-2050TR	FT-6
	8-15JXFF	●		0.500	0.500	4.750	0.551	0.630	0.500	0.051	0			
	10-15JXFF	●		0.625	0.625	4.750	0.787	-	0.625	-	0			
	6-2JXFF	●		0.375	0.375	4.750	0.630	0.787	0.375	0.334	0	0.008	SB-2570TR	FT-8
	8-2JXFF	●		0.500	0.500	4.750	0.630	0.787	0.500	0.209	0			
	10-2JXFF	●		0.625	0.625	4.750	0.787	0.787	0.625	0.084	0			
SVPPR	1010JX-08FF	○	mm	10	10	120	12	16	10.0	4	0	0.1	SB-2050TR	FT-6
	1212JX-08FF	○		12	12	120	12	16	12.0	2	0			
	1616JX-08FF	○		16	16	120	12	-	16.0	-	0			
SVPPR	1010JX-11FF	○		10	10	120	16	20	10.0	8	0	0.2	SB-2570TR	FT-8
	1212JX-11FF	○		12	12	120	16	20	12.0	6	0			
	1616JX-11FF	○		16	16	120	16	20	16.0	2	0			
SVPPR	1212F-08FF	○		12	12	85	12	16	12.0	2	0	0.1	SB-2050TR	FT-6
	1212F-11FF	○		12	12	85	16	20	12.0	6	0	0.2	SB-2570TR	FT-8

Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing / Precision	Low Feed	Low Feed / Precision
Ref. Page	➡ **B80**	➡ **B80**	➡ **B80**	➡ **B81**	➡ **B81**	➡ **B81**
Insert / Toolholder	**CF**	**CK**	**GF**	**F%-FSF**	**F%-U**	**F%-USF**
SVPPR...-15JXFF SVPPR...-08FF	-	VPGT1515..	-	VPET1515..	-	VPET1515..
SVPPR...-2JXFF SVPPR...-11FF	VPGT22..	VPGT22..	VPGT22..	VPET22..	VPET22..	VPET22..

Recommended Cutting Conditions ➡ **E46**

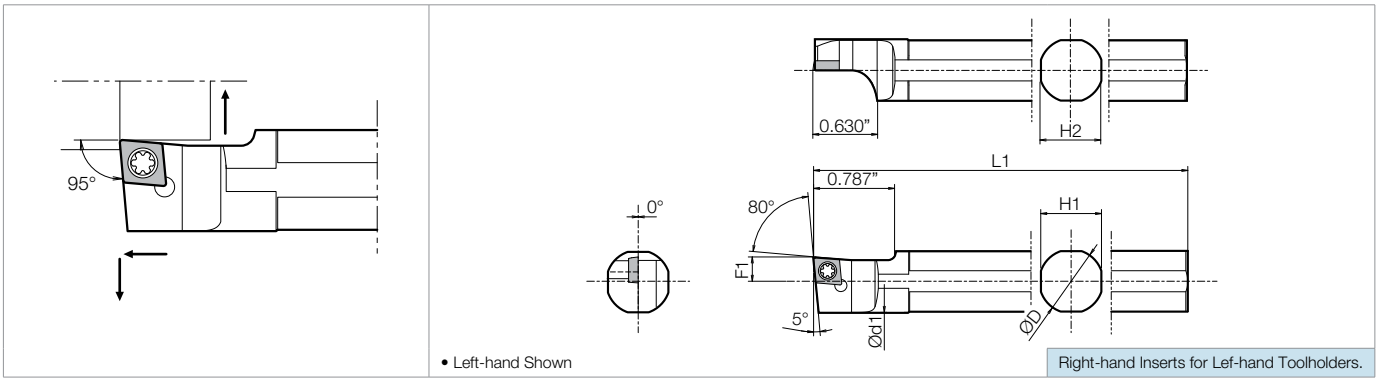
Undercutting Diameter of SVPP-FF



(in)

Corner-R(rε)	D.O.C.	ØD (MIN)
0.008	0.020	Ø0.787
	0.039	Ø0.984

S...SCLC (External / Facing)



• Left-hand Shown

Right-hand Inserts for Lef-hand Toolholders.

Toolholder Dimensions

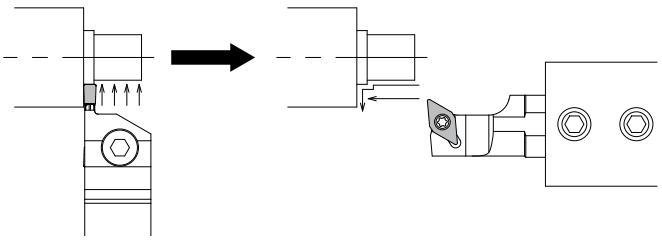
Part Number	Stock	Unit	Dimensions					Standard Corner-R(rε)	Spare Parts	
			ØD	L1	F1	Ød1	H1=H2		Clamp Screw	Wrench
S15F -SCLCL06	●	inch	0.625	3.346	0.236	0.606	0.590	0.016	SB-2570TR	FT-8
S19G -SCLCL06	○		0.750	3.543	0.236	0.724	0.669			
S19K -SCLCL06	○		0.750	4.724	0.236	0.724	0.669			
S19G -SCLCL09	●		0.750	3.543	0.393	0.724	0.669	0.016	SB-4065TR	FT-5
S19K -SCLCL09	○		0.750	4.724	0.393	0.724	0.669			
S25K -SCLCL09	●		1.000	4.724	0.393	0.976	0.905			
S12F -SCLCL06	○	mm	12.000	80	6	13.4	11	0.4	SB-2560TR	FT-8
S14H -SCLCL06	○		14.000	100	6	13.4	13			
S16F -SCLCL06	○		16.000	85	6	15.4	15	0.4	SB-2570TR	
S20G -SCLCL06	○		20.000	90	6	19.4	18			
S20K -SCLCL06	○		20.000	120	6	19.4	18			
S20G -SCLCL09	○		20.000	90	10	19.4	18	0.4	SB-4065TR	FT-15
S20K -SCLCL09	○		20.000	120	10	19.4	18			
S25.0H -SCLCL09	○		25.000	100	10	24.4	23			

Applicable Inserts

Application	Finishing	Finishing-Medium	Finishing-Medium	Low Feed	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials
Ref. Page	B52	B53	B52, B53	B56	B54	B57	B56	B57	C24	C14
Insert / Toolholder	**GF**	**GK**	**GQ**	**(E/F)R-U**	**MQ**	**Without Chipbreaker**	**AH**	**R-A3**	**PCD**	**CBN**
S...SCLCL06	CCGT215..	CCMT215..	CCGT215..	CCGT215..	-	CCGW215..	-	-	CCMT215.. CCGW215..	CCMW215..
S...SCLCL09	CCGT325..	CCMT325..	CCGT325..	CCGT325..	CCMT325..	CCGW325..	CCGT325..	CCGT325..	CCMT325.. CCGW325..	CCMW325..

Recommended Cutting Conditions **E46**

Finishing with Sleeve Holder



1) Roughing by grooving toolholder

2) Finishing by Sleeve Holder improves chip control and reduces cutting time

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
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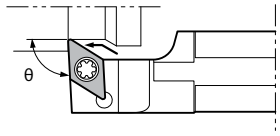
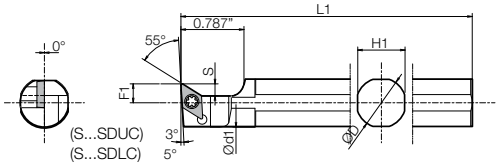
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

S...SDUC (External / Copying) / S...SDLC (External / Copying)



θ = 93° (S...SDUC)
θ = 95° (S...SDLC)



• Left-hand Shown

Right-hand Inserts for Lef-hand Toolholders.

Toolholder Dimensions

Part Number		Stock	Unit	Dimensions						Standard Corner-R(rε)	Spare Parts	
				ØD	L1	F1	Ød1	H1=H2	S		Clamp Screw	Wrench
S15F	**-SDUCL07**	●	inch	0.625	3.346	0.236	0.606	0.590	0.150	0.016	SB-2560TR	FT-8
S19G	**-SDUCL07**	●		0.750	3.543	0.236	0.724	0.669	0.150			
S19K	**-SDUCL07**	○		0.750	4.724	0.236	0.724	0.669	0.150			
S19G	**-SDUCL11**	●		0.750	3.543	0.393	0.724	0.669	0.228	0.016	SB-4085TR	FT-15
S19K	**-SDUCL11**	○		0.750	4.724	0.393	0.724	0.669	0.228			
S25K	**-SDUCL11**	●		1.000	4.724	0.393	0.976	0.905	0.228			
S15F	**-SDLCL07**	●		0.625	3.346	0.236	0.606	0.590	0.150	0.016	SB-2560TR	FT-8
S19G	**-SDLCL07**	●		0.750	3.543	0.236	0.724	0.669	0.150			
S19K	**-SDLCL07**	○		0.750	4.724	0.236	0.724	0.669	0.150			
S19G	**-SDLCL11**	●		0.750	3.543	0.393	0.724	0.669	0.228	0.016	SB-4085TR	FT-15
S19K	**-SDLCL11**	○		0.750	4.724	0.393	0.724	0.669	0.228			
S25K	**-SDLCL11**	●		1.000	4.724	0.393	0.976	0.905	0.228			
S14H	**-SDUCL07**	○	mm	14.000	100	6	13.4	13	3.8	0.4	SB-2560TR	FT-8
S20G	**-SDUCL07**	○		20.000	90	6	19.4	18	3.8			
S20K	**-SDUCL07**	○		20.000	120	6	19.4	18	3.8			
S20G	**-SDUCL11**	○		20.000	90	10	19.4	18	5.8	0.4	SB-4085TR	FT-15
S20K	**-SDUCL11**	○		20.000	120	10	19.4	18	5.8			
S22K	**-SDUCL11**	●		22.000	120	10	21.4	20	5.8			
S25.0H	**-SDUCL11**	○		25.000	100	10	24.4	23	5.8			
S12F	**-SDLCL07**	○		12.000	80	6	13.4	11	3.8	0.4	SB-2560TR	FT-8
S14H	**-SDLCL07**	○		14.000	100	6	13.4	13	3.8			
S16F	**-SDLCL07**	○		16.000	85	6	15.4	15	3.8			
S20G	**-SDLCL07**	○		20.000	90	6	19.4	18	3.8			
S20K	**-SDLCL07**	○		20.000	120	6	19.4	18	3.8			
S20G	**-SDLCL11**	○		20.000	90	10	19.4	18	5.8	0.4	SB-4085TR	FT-15
S20K	**-SDLCL11**	○		20.000	120	10	19.4	18	5.8			
S22K	**-SDLCL11**	●		22.000	120	10	21.4	20	5.8			
S25.0H	**-SDLCL11**	○		25.000	100	10	24.4	23	5.8			

Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing	Finishing / Precision	Low Feed
Ref. Page	B59	B59	B59, B60	B60	B60	B60	B60	B62	B62	B63
Insert / Toolholder	**CF**	**GF**	**CK**	**WP** (Wiper)	**PP**	**GK**	**GQ**	**R-F**	**R-FSF**	**(E/F) R-U**
S...SD□CL07	DCGT215..	DCGT215..	DCGT215..	DCMX215..	DCMT215..	DCMT215..	DCGT215..	DCGT215..	DCET215..	DCGT215..
S...SD□CL11	DCGT325..	DCGT325..	DCGT325..	DCMX325..	DCMT325..	DCMT325..	DCGT325..	DCGT325..	DCET325..	DCGT325..
Application	Low Feed / Precision	Low Feed	Low Carbon Steel / Finishing	Low Carbon Steel/ Finishing-Medium	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard materials
Ref. Page	B63	B64	B61	B61	B61	B65	B65	B65	C25	C15
Insert / Toolholder	**FR-USF**	**(E/F)R-J**	**XP**	**XQ**	**MQ**	**Without Chipbreaker**	**AH**	**R-A3**	**PCD**	**CBN**
S...SD□CL07	DCET215..	DCET215..	DCMT215..	-	DCMT215..	DCGW215..	-	-	DCMT215..	DCMW215..
S...SD□CL11	DCET325..	DC_T325..	DCMT325..	DCMT325..	DCMT325..	DCGW325..	DCGT325..	DCGT325..	DCMT325..	DCMW325..

When using **WP** chipbreaker, program corrections are required. ➡ **F44**

Recommended Cutting Conditions ➡ **E46**

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

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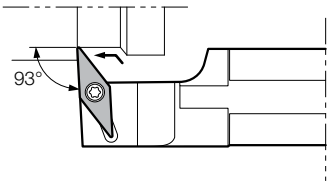
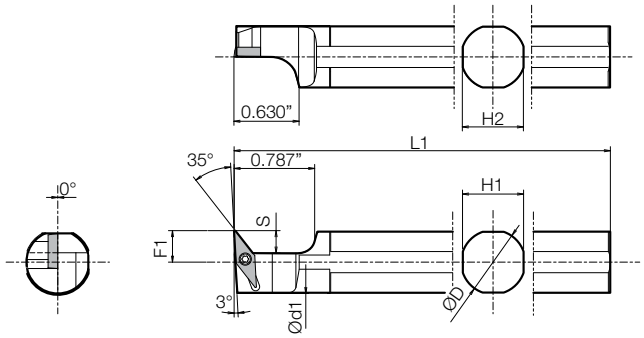
S...SVUB(C) (External / Copying)





• Left-hand Shown

Right-hand Inserts for Lef-hand Toolholders.

Toolholder Dimensions

Part Number	Stock	Unit	Dimensions						Standard Corner-R(rε)	Spare Parts	
			ØD	L1	F1	Ød1	H1=H2	S		Clamp Screw	Wrench
S15F -SVUCL08	●	inch	0.625	3.346	0.315	0.606	0.591	0.217	0.016	SB-2050TR	FT-6
S19G -SVUBL11	○		0.750	3.543	0.413	0.724	0.669	0.315			
S19K -SVUBL11	○		0.750	4.724	0.413	0.724	0.669	0.315			
S25K -SVUBL11	●		1.000	4.724	0.413	0.976	0.906	0.315			
S12F -SVUCL08	○	mm	12.000	80	7.5	13.4	11	5.5	0.4	SB-2050TR	FT-6
S14H -SVUCL08	○		14.000	100	7.5	13.4	13	5.5			
S16F -SVUCL08	○		16.000	85	8.0	15.4	15	5.5			
S20G -SVUBL11	○		20.000	90	10.5	19.4	18	8.0	0.4	SB-2570TR	FT-8
S20K -SVUBL11	○		20.000	120	10.5	19.4	18	8.0			
S25.0H -SVUBL11	○		25.000	100	10.5	24.4	23	8.0			

Applicable Inserts

Application	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Finishing-Medium	Non-ferrous Metals	Hard Materials
Ref. Page	B77	B77, B79	B77, B79	B78	B77	B78	C28	C17
Insert / Toolholder	**GP**	**VF**	**HQ**	**R-F**	**R-FSF**	**R-Y**	**PCD**	**CBN**
S...SVUCL08	-	VCMT1515..	VCMT1515..	-	-	-	VCMT1515..	VCGW1515..
S...SVUBL11	VBMT22..	VBMT22..	VBMT22..	VBGT22..	VBET22..	VBGT22..	VBMT22..	VBGW22..

Recommended Cutting Conditions **E46**

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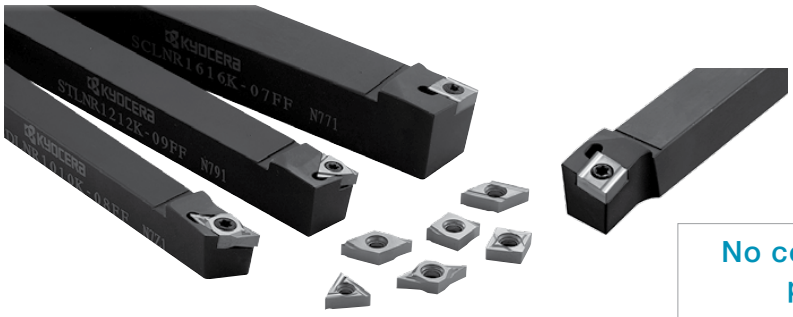
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

Toolholders for Small Double Sided Tooling (Screw Clamp, Without offset)

Specially designed negative inserts (double-sided) for small workpieces enable sharp cutting equivalent to positive inserts, achieving high productivity due to economical double-edge inserts



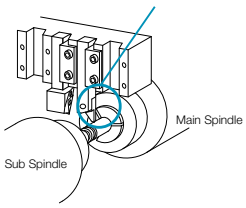
Double-sided Inserts for small part precision cutting

TNGU18... TNGG3...

Small Negative Insert Conventional Negative Insert

No constraint of tool position against tool post in the newly designed small double-sided insert.

The conventional toolholders for negative insert can interfere with sub spindle.



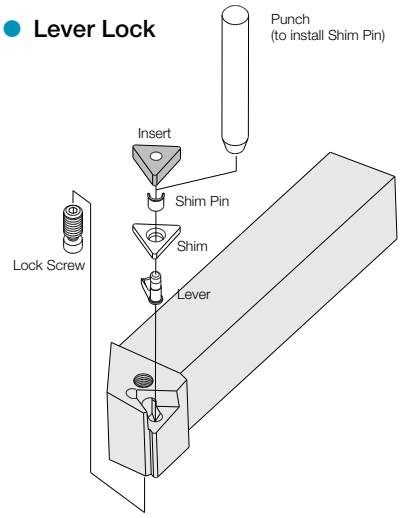
No interferance with sub spindle

Toolholders for Small Double Sided Tooling (Lever Lock, Without offset)

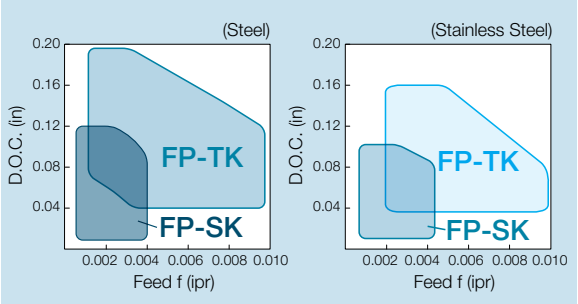
For medium to large D.O.C. rates with automatic lathes (when cutting workpieces of medium to large dia.)

Sharp cutting oriented FP-SK/TK Chipbreaker with polished and sharp edge preparation.

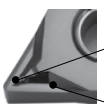
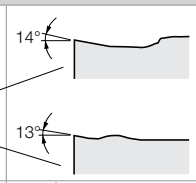
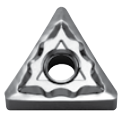
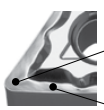
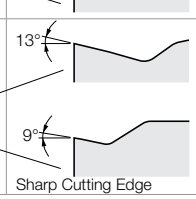
● **Lever Lock**



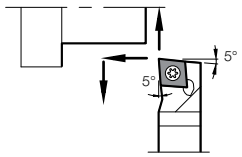
● **Applicable Chipbreaker Range**

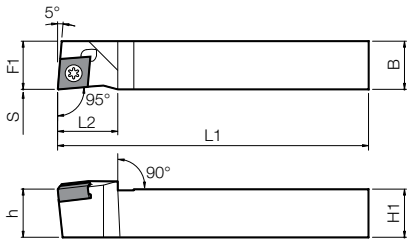


● **Chipbreaker Shape & Advantages**

Design			Advantages
FP-SK		 	Polished chipbreaker. Smooth chip control and less adhesion. (for finishing-medium)
FP-TK		 	Polished chipbreaker. Smooth chip control and less adhesion. (when cutting medium to large diameter workpieces)

SCLN (Without Offset • External / Facing)





Side Rake Angle : - 6°
Inclination Angle : - 6°

• Right-hand Shown

Toolholder Dimensions

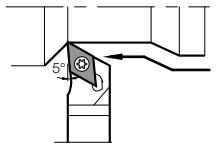
Part Number		Stock	Unit	Dimensions						Standard Corner-R(re)	Spare Parts		Applicable Inserts
				H1=h	B	L1	L2	F1	S		Clamp Screw	Wrench	
SCLNR	**6-2.4FF**	●	inch	0.375	0.375	6.00	0.590	0.375	0	0.008	SB-3080TR	LTW-10SS	CNGU242.. CNMU242..
	8-2.4DF	●		0.500	0.500	6.00	0.590	0.500	0				
	10-2.4CF	●		0.625	0.625	5.00	0.590	0.625	0				
SCLNR	**1010K-07FF**	●	mm	10	10	120	15	10	0	0.2	SB-3080TR	LTW-10SS	CNGU242.. CNMU242..
	1212F-07FF	●		12	12	85	15	12	0				
	1212K-07FF	●		12	12	120	15	12	0				
	1616K-07FF	●		16	16	120	15	16	0				

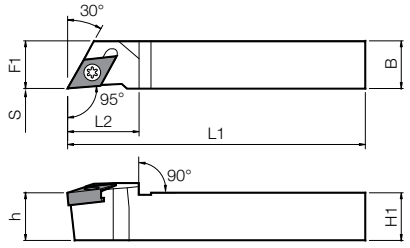
Applicable Inserts

Application	Finishing-Medium	Medium-Roughing	Finishing	Low Feed
Ref. Page	B49	B49	B49	B49
Insert / Toolholder	**SK**	**GK**	**FR-F**	**(F/E)R-U**
SCLNR...-2.4... SCLNR...-07FF	CNGU242..	CNMU242..	CNGU242..	CNGU242..

Recommended Cutting Conditions **E39**

SDLN (Without Offset • External / Copying)





Side Rake Angle : - 6°
Inclination Angle : - 7°

• Right-hand Shown

Toolholder Dimensions

Part Number		Stock	Unit	Dimensions						Standard Corner-R(re)	Spare Parts		Applicable Inserts
				H1=h	B	L1	L2	F1	S		Clamp Screw	Wrench	
SDLNR	**6-2.2FF**	●	inch	0.375	0.375	6.00	0.708	0.375	0	0.008	SB-3080TR	LTW-10SS	DNGU222.. DNMU222..
	8-2.2DF	●		0.500	0.500	6.00	0.708	0.500	0				
	10-2.2CF	●		0.625	0.625	5.00	0.708	0.625	0				
SDLNR	**1010K-08FF**	●	mm	10	10	120	18	10	0	0.2	SB-3080TR	LTW-10SS	DNGU222.. DNMU222..
	1212F-08FF	●		12	12	85	18	12	0				
	1212K-08FF	●		12	12	120	18	12	0				
	1616K-08FF	●		16	16	120	18	16	0				

Applicable Inserts

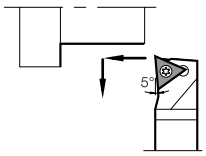
Application	Finishing-Medium	Medium-Roughing	Finishing	Low Feed
Ref. Page	B50	B50	B50	B50
Insert / Toolholder	**SK**	**GK**	**FR-F**	**(F/E)R-U**
SDLNR...2.2... SDLNR...-08FF	DNGU222..	DNMU222..	DNGU222..	DNGU222..

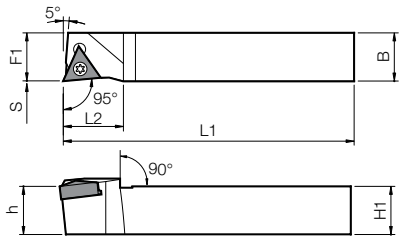
Recommended Cutting Conditions **E39**

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

STLN (Without Offset • External / Up Facing)





Side Rake Angle : - 6°
Inclination Angle : - 7°

• Right-hand Shown

Toolholder Dimensions

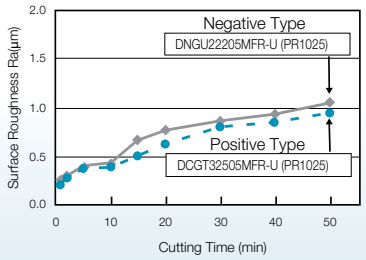
Part Number		Stock	Unit	Dimensions H1=h	B	L1	L2	F1	S	Standard Corner-R(rε)	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts
STLNR	**6-1.8FF**	●	inch	0.375	0.375	6.00	0.590	0.375	0	0.008	SB-2570TR	LTW-8SS	TNGU182..
	8-1.8DF	●		0.500	0.500	6.00	0.590	0.500	0				
	10-1.8CF	●		0.625	0.625	5.00	0.590	0.625	0				
STLNR	**1010K-09FF**	●	mm	10	10	120	15	10	0	0.2	SB-2570TR	LTW-8SS	TNGU182..
	1212F-09FF	●		12	12	85	15	12	0				
	1212K-09FF	●		12	12	120	15	12	0				
	1616K-09FF	●		16	16	120	15	16	0				

Applicable Inserts

Application	Finishing	Low Feed
Ref. Page	B51	B51
Insert / Toolholder	FR-F	(E/F)R-U
STLNR...1.8... STLNR...-09FF	TNGU182..	TNGU182..

Double-sided design allows both edges to be used. Compared to the positive type, the double-sided design offers less cost per insert and more stability.

Surface roughness comparison (Sharp edge)



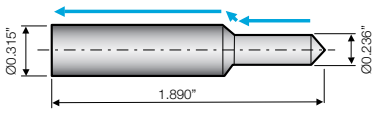
<Cutting Conditions>
Workpiece Material : 1045 Steel Vc = 325 sfm, D.O.C. = 0.059", f = 0.0012 ipr, Wet

(Internal Evaluation)

Case Studies

303 Stainless Steel

• Spool
<0.236" Dia. portion>
• Vc = 225 sfm
• D.O.C. = 0.049"
• f = 0.001 ipr
• Wet
<0.315" Dia. portion>
• Vc = 425 sfm
• D.O.C. = 0.001"
• f = 0.001 ipr
• Wet



Required Surface 0.8μmRa

DNGU22205MF-SK (PR1025)	60,000 pcs/Insert (4 edges)
Competitor D (DCGT)	20,000 pcs/Insert (2 edges)

Competitor D (DCGT) machined 10,000 pcs/edge. PR1025 machined 15,000 pcs/edge resulting in 3 times longer tool life per insert.

(User Evaluation)

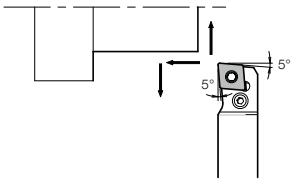
Recommended Cutting Conditions

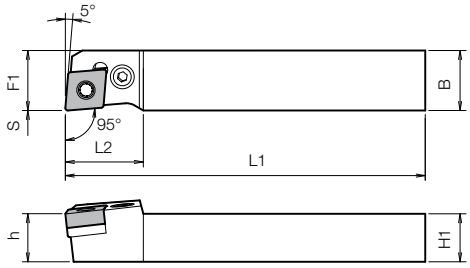
Workpiece Material	Grades PR1005	PR1025	PR1225	PR1425
Free-Cutting Steel	● Vc=325sfm (200~500)	-	-	-
Carbon Steel / Alloy Steel	◔ Vc=325sfm (200~500)	◔ Vc=325sfm (200~500)	◔ Vc=325sfm (200~500)	● Vc=400sfm (200~650)
Stainless Steel	-	◔ Vc=325sfm (200~500)	● Vc=250sfm (175~500)	○ Vc=325sfm (250~500)

● : Continuous to Light interruption / 1st Recommendation
◔ : Continuous to Light interruption / 2nd Recommendation
● : Continuous / 1st Recommendation
○ : Continuous / 2nd Recommendation

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

PCLN-FF (Without Offset • External / Facing)





Side Rake Angle : - 6°
Inclination Angle : - 6°

• Right-hand Shown

Toolholder Dimensions

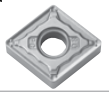
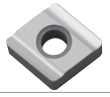
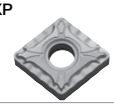
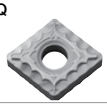
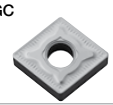
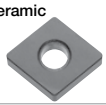
Part Number		Stock	Dimensions (mm)						Standard Corner-R(rε)	Spare Parts					
			H1=h	B	L1	L2	F1	S		Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PCLNR	**1620JX-12FF**	○	16	20	120	26	20	0	0.8	LL-2N	LS-2N	LC-42N	LSP-2	PC-2	LW-3
	2020JX-12FF	○	20	20	120	26	20	0							

Applicable Inserts (1st Recommendation)

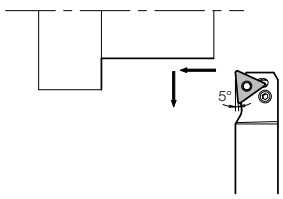
Application	Finishing-Medium	Medium-Roughing
Ref. Page	B18	B18
Insert / Toolholder	**FP-SK** 	**FP-TK** 
PCLNR...-12FF	CNGG43..	CNGG43..

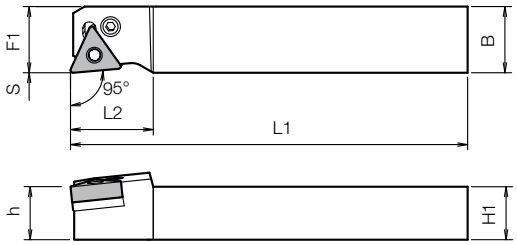
Recommended Cutting Conditions **E39**

Applicable Inserts (CN□□ Optional)

Application	Finishing	Finishing-Medium	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing
Ref. Page	B14	B14	B14	B14	B14	B15	B15	B15
Insert	**WP (Wiper)** 	**WQ (Wiper)** 	**PP** 	**PQ** 	**CQ** 	**CJ** 	**GS** 	**PG** 
Size	**43..**	**43..**	**43..**	**43..**	**43..**	**43..**	**43..**	**43..**
Application	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate	Roughing	Roughing	Single Sided / Roughing / High Feed Rate	Medium	Medium-Roughing / Low Cutting Force
Ref. Page	B15	B15	B16	B16	B16	B17	B21	B21
Insert	**PS** 	**HS** 	**PT** 	**Standard** 	**PH** 	**PX** 	**R** 	**R-25R** 
Size	**43..**	**43..**	**43..**	**43..**	**43..**	**43..**	**43..**	**43..**
Application	Soft Steel / Small D.O.C.	Soft Steel / Finishing	Soft Steel / Medium	Soft Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron
Ref. Page	B17	B17	B17	B17	B19	B19	B19	B19
Insert	**XF** 	**XP** 	**XQ** 	**XS** 	**MQ** 	**MS** 	**MU** 	**C** 
Size	**43..**	**43..**	**43..**	**43..**	**43..**	**43..**	**43..**	**43..**
Application	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials
Ref. Page	B19	B20	B20	B90	B20	B20	C23	C6, C7
Insert	**ZS** 	**GC** 	**Without Chipbreaker** 	**Ceramic** 	**AH** 	**A3** 	**PCD** 	**CBN** 
Size	**43..**	**43..**	**43..**	**43..**	**43..**	**43..**	**43..**	**43..**

PTLN-FF (Without Offset • External / Up Facing)





Side Rake Angle : - 6°
Inclination Angle : - 6°

• Right-hand Shown

Toolholder Dimensions

Part Number		Stock	Dimensions (mm)						Standard Corner-R(rε)	Spare Parts					
			H1=h	B	L1	L2	F1	S		Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PTLNR	**1620JX-16FF**	○	16	20	120	24	20	0	0.8	LL-1N	LS-1N	LT-32N ※LT-32N-20	LSP-1	PC-1	FH-2.5
	2020JX-16FF	○	20	20	120	24	20	0							

※ When using inserts whose corner R(rε) is greater than 1.6mm, please purchase and use **LT-32N-20** shim to prevent workpiece and shim interference

Applicable Inserts (1st Recommendation)

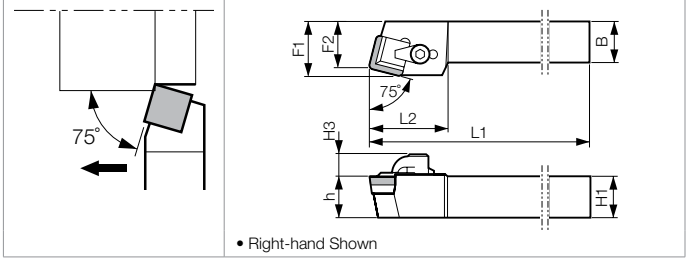
Application	Finishing-Medium	Medium-Roughing
Ref. Page	B36	B36, B37
Insert / Toolholder	**FP-SK**	**FP-TK**
PTLNR...-16FF	TNGG33..	TNGG33..

Recommended Cutting Conditions **E39**

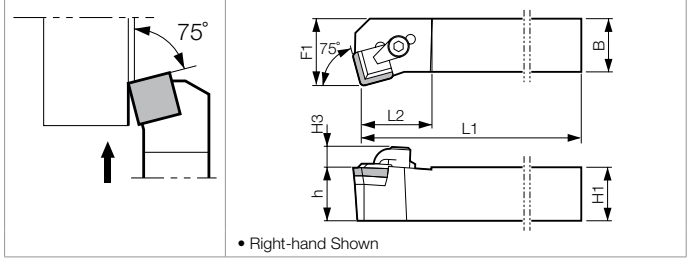
Applicable Inserts (TN□□ Optional)

Application	Finishing	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate	Medium-Roughing / High Feed Rate	Roughing
Ref. Page	B33	B33	B33	B34	B34	B34	B35	B35	B35
Insert	**PP**	**PQ**	**CQ**	**GS**	**PG**	**PS**	**PT**	**GT**	**PH**
Size	33..	33..	33..	33..	33..	33..	33..	33..	33..
Application	Single Sided / Roughing / High Feed Rate	Roughing	Finishing	Finishing-Roughing	Medium-Roughing / Low Cutting Force	Soft Steel / Small D.O.C.	Soft Steel / Finishing	Soft Steel / Medium	Soft Steel / Roughing
Ref. Page	B35	B35	B40	B40	B40	B36	B36	B36	B36
Insert	**PX**	**Standard**	**R-S**	**R-** □	**R-25R**	**XF**	**XP**	**XQ**	**XS**
Size	33..	33..	33..	33..	33..	33..	33..	33..	33..
Application	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals
Ref. Page	B37	B37	B37	B38	B38	B38	B38	B95	B39
Insert	**MQ**	**MS**	**MU**	**C**	**ZS**	**GC**	**Without Chipbreaker**	**Ceramic**	**AH**
Size	33..	33..	33..	33..	33..	33..	33..	33..	33..
Application	Non-ferrous Metals	Non-ferrous Metals	Hard Materials						
Ref. Page	B39	C23	C11						
Insert	**R-A3**	**PCD**	**CBN**						
Size	33..	33..	33..						

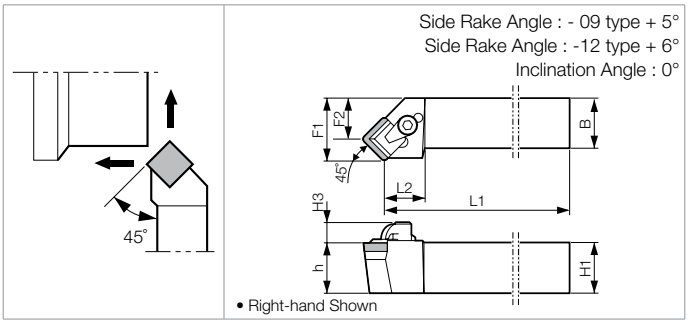
CSBP (External)



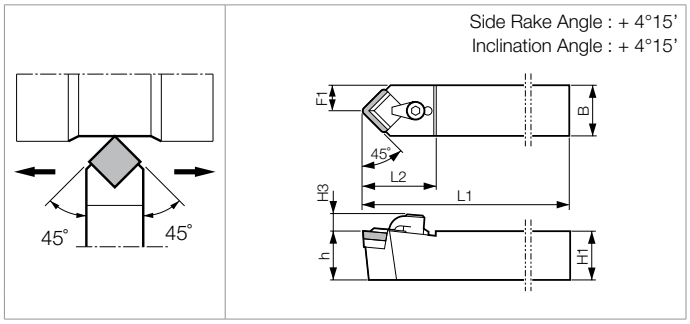
CSKP (Facing)



CSSP (External / Facing / Chamfering)



CSDP (External / Chamfering)

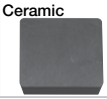


Toolholder Dimensions

Part Number	Stock			Dimensions (mm)							Standard Corner-R(re)	Spare Parts				
												Clamp Set	Wrench	Shim	Shim Screw	*Chipbreaker
	R	N	L	H1=h	H3	B	L1	L2	F1	F2						
CSBPR 1212F-09N	○			12	7.5	12	80	23	15.7	13	0.4	CPS-2P	LW-2.5	-	-	CB-S3220
CSKPR 1616H-09N	○			16	7.5	16	100	21	20.0	-	0.4	CPS-2P	LW-2.5	-	-	CB-S3220
CSKPR 2020K-12N	○			20	8.5	20	125	28	25.0	-	0.8	CPS-3	LW-3	KPS-42	SP3X8	CB-S4220
2525M-12N	○			25	8.5	25	150	28	32.0	-						
CSSP℞ 1212F-09N	○		○	12	7.5	12	80	15	16.0	9	0.4	CPS-2P	LW-2.5	-	-	CB-S3220
1616H-09N	○		○	16	7.5	16	100	16	20.0	13						
CSSP℞ 2020K-12N	○		○	20	8.5	20	125	19	25.0	16	0.8	CPS-3	LW-3	KPS-42	SP3X8	CB-S4220
2525M-12N	○		○	25	8.5	25	150	19	32.0	23						
CSDPN 2020K-12N		○		20	8.5	20	125	32	10.0	-	0.8	CPS-3	LW-3	KPS-42	SP3X8	CB-S4220
2525M-12N		○		25	8.5	25	150	32	12.5	-						

* Chipbreaker is not included. Purchase separately.

Applicable Inserts

Application	Medium	Medium	Finishing-Medium	Cast Iron	Cast Iron	Non-ferrous Metals
Ref. Page	B67	B67	B67	B67	B97	C29
Insert / Toolholder	G 	Standard 	℞ 	Without Chipbreaker 	Ceramic 	PCD 
CSBPR...-09N	SPMR32..	SPMR32..	SPGR32..	SPM32.. SPG32..	SPG32..	-
CSKPR...-09N	SPMR32..	SPMR32..	SPGR32..	SPM32.. SPG32..	SPG32..	-
CSKPR...-12N	SPMR42..	SPMR42..	SPGR42..	SPM42.. SPG42..	SPG42..	SPG42..
CSSP℞...-09N	SPMR32..	SPMR32..	SPGR32..	SPM32.. SPG32..	SPG32..	-
CSSP℞...-12N	SPMR42..	SPMR42..	SPGR42..	SPM42.. SPG42..	SPG42..	SPG42..
CSDPN...-12N	SPMR42..	SPMR42..	SPGR42..	SPM42.. SPG42..	SPG42..	SPG42..

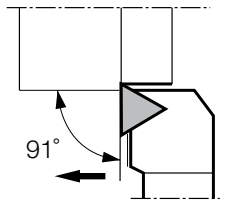
· CSKPR: Left-hand Insert for Right-hand Toolholder.
· CSSP℞: For External Turning, Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.
For Facing, Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Recommended Cutting Conditions ➡ **E46**

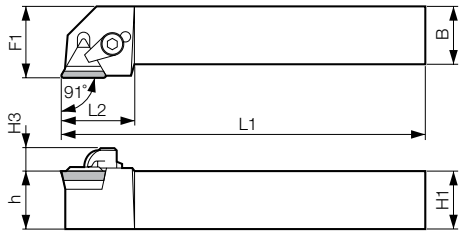
(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

CTGP (External)

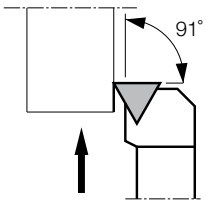


• Right-hand Shown

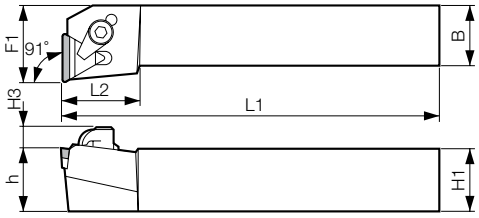


Side Rake Angle : + 6°
Inclination Angle : 0°

CTFP (Facing)

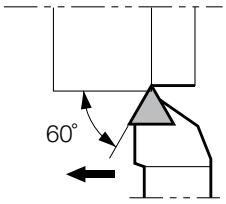


• Right-hand Shown

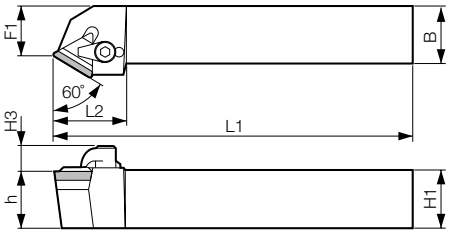


Side Rake Angle : + 6°
Inclination Angle : 0°

CTTP (External / Chamfering)



• Right-hand Shown



Side Rake Angle : + 6°
Inclination Angle : 0°

Toolholder Dimensions

Part Number		Stock		Dimensions (mm)						Standard Corner-R(rε)	Spare Parts				
											Clamp Set	Wrench	Shim	Shim Screw	*Chipbreaker
		R	L	H1=h	H3	B	L1	L2	F1						
CTGP□	1212F-11N	○	○	12	8.0	12	80	18.0	16	0.4	CPS-2P	LW-2.5	-	-	CB-T2212
	1616H-11N	○	○	16	8.0	16	100	18.0	20						
CTGP□	2020K-16N	○	○	20	8.5	20	125	26.0	25	0.8	CPS-3	LW-3	KPT-32	SP3X8	CB-T3220
	2525M-16N	○	○	25	8.5	25	150	26.0	32						
CTFP□	1212F-11N	○	○	12	8.0	12	80	18.0	16	0.4	CPS-2P	LW-2.5	-	-	CB-T2212
	1616H-11N	○	○	16	8.0	16	100	18.0	20						
CTFP□	2020K-16N	○	○	20	8.5	20	125	22.0	25	0.8	CPS-3	LW-3	KPT-32	SP3X8	CB-T3220
	2525M-16N	○	○	25	8.5	25	150	22.0	32						
CTTP□	1212F-11N	○	○	12	8.0	12	80	22.5	9	0.4	CPS-2P	LW-2.5	-	-	CB-T2212
	1616H-11N	○		16	8.0	16	100	22.5	13						
CTTP□	2020K-16N	○		20	8.5	20	125	28.0	17	0.8	CPS-3	LW-3	KPT-32	SP3X8	CB-T3220
	2525M-16N	○	○	25	8.5	25	150	28.0	22						

* Chipbreaker is not included. Purchase separately.

Applicable Inserts

Application	Finishing	Finishing	Finishing-Medium	Medium	Medium	Finishing-Medium	Cast Iron	Cast Iron	Non-ferrous Metals	Hard Materials
Ref. Page	B75	B75	B75	B75	B75	B76	B76	B97	C29	C18
Insert / Toolholder	GP	DP	HQ	G	Standard	□-□	Without Chipbreaker	Ceramic	PCD	CBN
CTGP□...-11N	TPMR22..	TPMR22..	TPMR22..	TPMR22..	TPMR22..	TPGR22..	TPMN22.. TPGN22..	TPGN22..	TPGN22..	TPGN22..
CTGP□...-16N	TPMR32..	TPMR32..	TPMR32..	TPMR32..	TPMR32..	TPGR32..	TPMN32.. TPGN32..	TPGN32..	TPGN32..	TPGN32..
CTFP□...-11N	TPMR22..	TPMR22..	TPMR22..	TPMR22..	TPMR22..	TPGR22..	TPMN22.. TPGN22..	TPGN22..	TPGN22..	TPGN22..
CTFP□...-16N	TPMR32..	TPMR32..	TPMR32..	TPMR32..	TPMR32..	TPGR32..	TPMN32.. TPGN32..	TPGN32..	TPGN32..	TPGN32..
CTTP□...-11N	TPMR22..	TPMR22..	TPMR22..	TPMR22..	TPMR22..	TPGR22..	TPMN22.. TPGN22..	TPGN22..	TPGN22..	TPGN22..
CTTP□...-16N	TPMR32..	TPMR32..	TPMR32..	TPMR32..	TPMR32..	TPGR32..	TPMN32.. TPGN32..	TPGN32..	TPGN32..	TPGN32..

· CTFP□: Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Recommended Cutting Conditions E46

KSTB...CCET

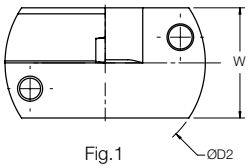


Fig.1

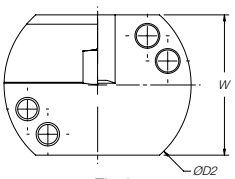
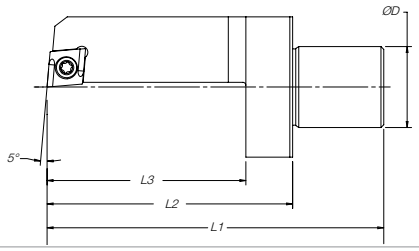


Fig.2



Toolholder Dimensions

Part Number	Stock	Applicable Inserts B54		Dimensions (inch) ØD	L1	L2	L3	W	ØD2	Spare Parts: Clamp Screw	Spare Parts: Wrench	Fig.	Reference Machine
KSTB SR16/20 CCET215	●	CCET CCGT	215	0.866	3.323	2.250	1.875	1.1	2.0	SB-2560TR	FT-8	1	SR16, SR20
KSTB SR16/20 CCET325	●		325	0.866	3.323	2.250	1.875	1.1	2.0	SB-4085TR	FT-15	1	SR16, SR20
KSTB SR32J CCET325	●		325	0.866	3.605	2.625	2.125	1.5	2.0	SB-4085TR	FT-15	2	SR32J

KSTB...DCET

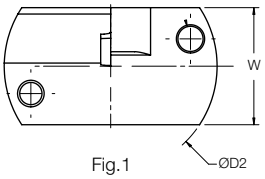


Fig.1

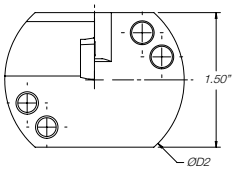
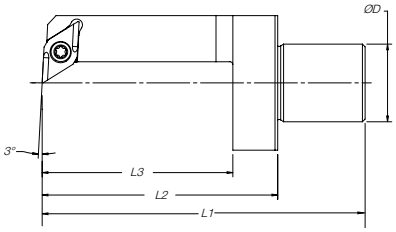


Fig.2



Toolholder Dimensions

Part Number	Stock	Applicable Inserts B62		Dimensions (inch) ØD	L1	L2	L3	W	ØD2	Spare Parts: Clamp Screw	Spare Parts: Wrench	Fig.	Reference Machine
KSTB SR16/20 DCET215	●	DCET DCGT	215	0.866	3.323	2.250	1.875	1.1	2.0	SB-2560TR	FT-8	1	SR16, SR20
KSTB SR16/20 DCET325	●		325	0.866	3.323	2.250	1.875	1.1	2.0	SB-4085TR	FT-15	1	SR16, SR20
KSTB SR32J DCET325	●		325	0.866	3.605	2.625	2.125	1.5	2.0	SB-4085TR	FT-15	2	SR32J

KSTB...VBET

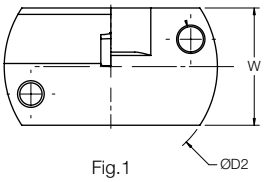


Fig.1

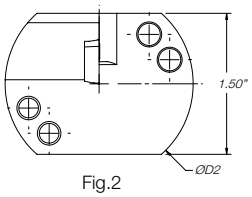
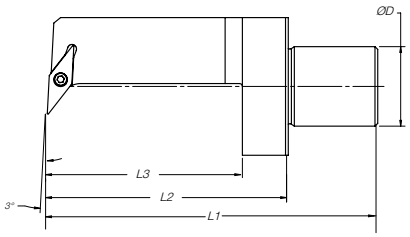


Fig.2



Toolholder Dimensions

Part Number	Stock	Applicable Inserts B77		Dimensions (inch) ØD	L1	L2	L3	W	ØD2	Spare Parts: Clamp Screw	Spare Parts: Wrench	Fig.	Reference Machine
KSTB SR16/20 VBET22	●	VBET	22	0.866	3.323	2.250	1.875	1.1	2.0	SB-2570TR	FT-8	1	SR16, SR20
KSTB SR32J VBET22	●		22	0.866	3.605	2.625	2.125	1.5	2.0	SB-2570TR	FT-8	2	SR32J

Note: All KSTB holders are right-hand, which require neutral or left-hand inserts

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KSTB...TGF

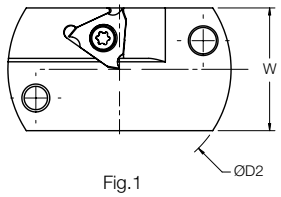


Fig.1

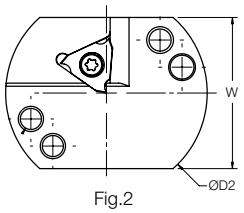
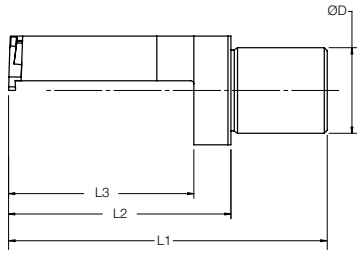


Fig.2



Toolholder Dimensions

Part Number	Stock	Applicable Inserts	Dimensions (inch)						Spare Parts		Fig.	Reference Machine
			ØD	L1	L2	L3	W	ØD2	Clamp Screw	Wrench		
KSTB SR16/20 TGF32	●	TGF32L..	0.866	3.323	2.250	1.875	1.1	2.0	SB-4070TRS	FT-10	1	SR16, SR20
KSTB SR32J TGF32	●		0.866	3.605	2.625	2.125	1.5	2.0	SB-4070TRS	FT-10	2	SR32J

KSTB...TT

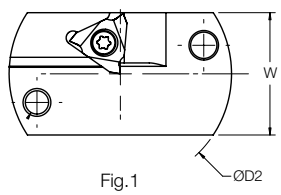


Fig.1

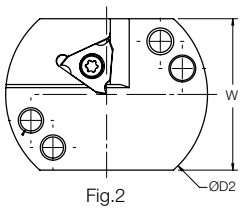
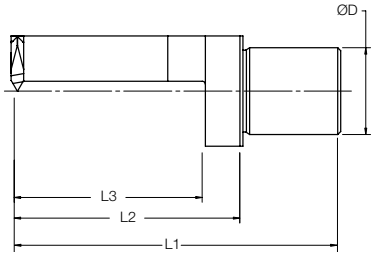


Fig.2



Toolholder Dimensions

Part Number	Stock	Applicable Inserts	Dimensions (inch)						Spare Parts		Fig.	Reference Machine
			ØD	L1	L2	L3	W	ØD2	Clamp Screw	Wrench		
KSTB SR16/20 TT32	●	TT32..	0.866	3.323	2.250	1.875	1.1	2.0	SB-4070TRS	FT-10	1	SR16, SR20
KSTB SR32J TT32	●		0.866	3.605	2.625	2.125	1.5	2.0	SB-4070TRS	FT-10	2	SR32J

Note: All KSTB holders are right-hand, which require neutral or left-hand inserts

Recommended Cutting Conditions - External Turning (Positive Insert)

[D.O.C. Indicates Radius]

ISO Classification	Workpiece Material	Hardness	Cutting Range	Application	Recommended Chipbreaker	Recommended Grade	Corner-R (rε)	Lower Limit - **Recommendation** - Upper Limit		
								Vc (sfm)	D.O.C. (in)	Feed Rate f (ipr)
P	Low-carbon Steel Low-carbon Alloy 1010, 4115, 5115 etc.	HB ≦ 300	Precision Finishing	Continuous	F	PR1425	0.002	325 - **500** - 650	0.002 - **0.003** - 0.006	0.001 - **0.002** - 0.004
				Interrupted		PR1425	0.008	250 - **400** - 525	0.002 - **0.004** - 0.008	0.001 - **0.004** - 0.006
			Precision Finishing (Molded Chipbreaker)	Continuous	CF	PR1425	0.008	325 - **500** - 650	0.001 - **0.002** - 0.004	0.001 - **0.002** - 0.005
			Finishing	Continuous	GF	PR1425	0.008	325 - **450** - 600	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
				Interrupted		PR1425	0.016	250 - **400** - 525	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
			Finishing-Medium	Continuous	GQ	PR1425	0.008	250 - **400** - 525	0.031 - **0.118** - 0.197	0.001 - **0.002** - 0.004
				Interrupted		PR1425	0.016	200 - **325** - 450	0.031 - **0.079** - 0.118	0.001 - **0.002** - 0.004
			Low Feed & Large D.O.C.	Continuous	J , U	PR1425	0.008	250 - **325** - 450	0.020 - **0.079** - 0.138	0.001 - **0.002** - 0.004
	Medium-carbon Steel Medium-carbon Alloy 1045, 4137 etc.	HB ≦ 330	Precision Finishing	Continuous	F	PR1425	0.002	325 - **500** - 650	0.002 - **0.003** - 0.006	0.001 - **0.002** - 0.004
				Interrupted		PR1425	0.008	250 - **400** - 525	0.002 - **0.004** - 0.008	0.001 - **0.004** - 0.006
			Precision Finishing (Molded Chipbreaker)	Continuous	CF	PR1425	0.008	325 - **500** - 650	0.001 - **0.002** - 0.004	0.001 - **0.002** - 0.005
			Finishing	Continuous	GF	PR1425	0.008	325 - **450** - 600	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
				Interrupted		PR1425	0.016	250 - **400** - 525	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
			Finishing-Medium	Continuous	GQ	PR1425	0.008	250 - **400** - 525	0.031 - **0.118** - 0.197	0.001 - **0.002** - 0.004
				Interrupted		PR1425	0.016	200 - **325** - 450	0.031 - **0.079** - 0.118	0.001 - **0.002** - 0.004
			Low Feed & Large D.O.C.	Continuous	J , U	PR1425	0.008	250 - **325** - 450	0.020 - **0.079** - 0.138	0.001 - **0.002** - 0.004
	High-carbon Alloy D2, H13 etc.	HB ≦ 280	Precision Finishing	Continuous	F	PR1425	0.002	325 - **500** - 650	0.002 - **0.003** - 0.006	0.001 - **0.002** - 0.004
				Interrupted		PR1425	0.008	250 - **400** - 525	0.002 - **0.004** - 0.008	0.001 - **0.004** - 0.006
			Precision Finishing (Molded Chipbreaker)	Continuous	CF	PR1425	0.008	325 - **500** - 650	0.001 - **0.002** - 0.004	0.001 - **0.002** - 0.005
			Finishing	Continuous	GF	PR1425	0.008	325 - **450** - 600	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
				Interrupted		PR1425	0.016	250 - **400** - 525	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
			Finishing-Medium	Continuous	GQ	PR1425	0.008	250 - **400** - 525	0.012 - **0.059** - 0.118	0.001 - **0.002** - 0.004
				Interrupted		PR1425	0.016	200 - **325** - 450	0.012 - **0.039** - 0.079	0.001 - **0.002** - 0.004
			Low Feed & Large D.O.C.	Continuous	J , U	PR1425	0.008	250 - **325** - 450	0.020 - **0.079** - 0.138	0.001 - **0.002** - 0.004
M	Stainless Steel 303, 304, 316, 420 etc.	HB ≦ 220	Finishing	Continuous	GF	PR1225	0.008	250 - **325** - 400	0.004 - **0.012** - 0.020	0.001 - **0.002** - 0.004
				Interrupted		PR1535	0.016	200 - **250** - 325	0.012 - **0.020** - 0.039	0.002 - **0.004** - 0.006
			Medium	Continuous	GQ	PR1225	0.008	250 - **325** - 400	0.020 - **0.059** - 0.118	0.001 - **0.003** - 0.005
				Interrupted		PR1535	0.016	200 - **250** - 325	0.020 - **0.039** - 0.079	0.002 - **0.004** - 0.006
	Stainless Steel S17400 etc.	HB ≦ 300	Finishing	Continuous	GF	PR1225	0.008	125 - **200** - 250	0.004 - **0.012** - 0.020	0.001 - **0.002** - 0.004
				Interrupted		PR1535	0.016	100 - **175** - 225	0.012 - **0.020** - 0.039	0.002 - **0.004** - 0.006
			Medium	Continuous	GQ	PR1225	0.008	125 - **200** - 250	0.020 - **0.039** - 0.079	0.001 - **0.003** - 0.005
				Interrupted		PR1535	0.016	100 - **175** - 225	0.020 - **0.039** - 0.059	0.002 - **0.004** - 0.006
K	Gray Cast Iron NO.35 NO.45 NO.50 etc.	HB ≦ 250	Finishing	Continuous	Conventional	CA4505	0.016	325 - **400** - 500	0.008 - **0.020** - 0.039	0.004 - **0.006** - 0.008
				Interrupted		CA4505	0.016	250 - **325** - 400	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.006
			Medium	Continuous	Conventional	CA4505	0.016	325 - **400** - 500	0.020 - **0.039** - 0.079	0.004 - **0.006** - 0.008
				Interrupted		CA4505	0.031	250 - **325** - 400	0.020 - **0.039** - 0.079	0.002 - **0.004** - 0.006
	Nodular Cast Iron 65-45-12 80-60-03 etc.	HB ≦ 270	Finishing	Continuous	Conventional	CA4515	0.016	250 - **325** - 400	0.008 - **0.020** - 0.039	0.004 - **0.006** - 0.008
				Interrupted		CA4515	0.016	200 - **250** - 325	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.006
			Medium	Continuous	Conventional	CA4515	0.016	250 - **325** - 400	0.020 - **0.039** - 0.079	0.004 - **0.006** - 0.008
				Interrupted		CA4515	0.031	200 - **250** - 325	0.020 - **0.039** - 0.079	0.002 - **0.004** - 0.006
N	Non-ferrous Metals Copper Alloy Aluminum Alloy (Si 10% Under) etc.	HB ≦ 100	High Speed Finishing (Rainbow Colored Finish)	Continuous	Without Chipbreaker	KPD001	0.008	500 - **825** - 1150	0.002 - **0.004** - 0.012	0.002 - **0.004** - 0.006
			Finishing (Long Tool Life)	Continuous	F , FSF	PDL025	0.008	325 - **500** - 650	0.002 - **0.012** - 0.020	0.001 - **0.003** - 0.004
				Interrupted		PDL025	0.016	325 - **500** - 650	0.002 - **0.012** - 0.020	0.001 - **0.003** - 0.004
			Finishing	Continuous	F , FSF	KW10	0.008	325 - **500** - 650	0.002 - **0.012** - 0.020	0.001 - **0.003** - 0.004
				Interrupted		KW10	0.016	325 - **500** - 650	0.002 - **0.012** - 0.020	0.001 - **0.003** - 0.004
			Medium	Continuous	U , USF	KW10	0.008	325 - **500** - 650	0.008 - **0.020** - 0.059	0.001 - **0.004** - 0.008
				Interrupted		KW10	0.016	325 - **500** - 650	0.008 - **0.020** - 0.059	0.001 - **0.004** - 0.008
S	Titanium Alloy Ti-6Al-4V etc.	HB ≦ 400	Precision Finishing (Rainbow Colored Finish)	Continuous	Without Chipbreaker	KPD001	0.008	325 - **400** - 500	0.002 - **0.004** - 0.012	0.001 - **0.003** - 0.004
				Interrupted		KPD001	0.016	225 - **325** - 400	0.002 - **0.004** - 0.012	0.001 - **0.003** - 0.004
			Medium	Continuous	FSF , USF	KW10	0.016	100 - **175** - 225	0.004 - **0.020** - 0.039	0.001 - **0.004** - 0.008
				Interrupted		KW10	0.016	100 - **175** - 225	0.004 - **0.020** - 0.039	0.001 - **0.004** - 0.008
	Heat-restistant Alloys Inconel 625 Inconel 718	HB ≦ 350	Finishing	Continuous	F , U Without Chipbreaker	KW10	0.016	25 - **100** - 175	0.004 - **0.012** - 0.020	0.001 - **0.002** - 0.004
				Interrupted		KW10	0.031	25 - **100** - 175	0.008 - **0.020** - 0.028	0.001 - **0.002** - 0.004
			Finishing	Continuous	MQ	PR1310	0.016	125 - **200** - 250	0.004 - **0.012** - 0.020	0.001 - **0.002** - 0.004
				Interrupted		PR1310	0.031	125 - **200** - 250	0.004 - **0.012** - 0.020	0.001 - **0.002** - 0.004
H	Hardened Steel Hard Materials D2, H13 etc.	40 ~ 50 HRC	Finishing	Continuous	GK	PR1425	0.008	125 - **200** - 250	0.004 - **0.012** - 0.020	0.001 - **0.003** - 0.004
				Interrupted		PR1425	0.016	125 - **200** - 250	0.004 - **0.012** - 0.020	0.001 - **0.003** - 0.004
		50 ~ 68 HRC	Finishing	Continuous	ME MET	KBN05M	0.008	250 - **400** - 500	0.004 - **0.012** - 0.020	0.001 - **0.003** - 0.004
				Interrupted		KBN05M	0.016	200 - **325** - 400	0.004 - **0.012** - 0.020	0.001 - **0.003** - 0.004

※ For machining free-cutting steels, use PR1005 at Vc=650sfm or less. For D.O.C. and feed rate (f), refer to specs for low carbon steels.

Recommended Cutting Conditions - Back Turning

KTKF E12

Workpiece Material		MEGACOAT NANO				MEGACOAT		Remarks
		PR1535		PR1425		PR1225		
		Grooving	Turning	Grooving	Turning	Grooving	Turning	
Carbon steel / Alloy Steel (1045, etc.)	Vc (sfm)	☆ 200 ~ 500		★ 250 ~ 650		☆ 200 ~ 500		Wet
	Feed (ipr)	0.0004 ~ 0.0012	0.0008 ~ 0.0059	0.0004 ~ 0.0012	0.0008 ~ 0.0059	0.0004 ~ 0.0012	0.0008 ~ 0.0059	
Stainless Steel (304 etc.)	Vc (sfm)	★ 200 ~ 425		☆ 200 ~ 500		☆ 200 ~ 425		
	Feed (ipr)	0.0004 ~ 0.0008	0.0008 ~ 0.0039	0.0004 ~ 0.0008	0.0008 ~ 0.0039	0.0004 ~ 0.0008	0.0008 ~ 0.0039	

Workpiece Material		PVD Coated Carbide		Carbide		PCD		Remarks
		PR1025		KW10		KPD001		
		Grooving	Turning	Grooving	Turning	Grooving	Turning	
Carbon steel / Alloy Steel (1045, etc.)	Vc (sfm)	☆ 200 ~ 500		-		-		Wet
	Feed (ipr)	0.0004 ~ 0.0012	0.0008 ~ 0.0059	-		-		
Stainless Steel (304 etc.)	Vc (sfm)	☆ 175 ~ 400		-		-		
	Feed (ipr)	0.0004 ~ 0.0008	0.0008 ~ 0.0039	-		-		
Cast Iron (Gray, Nodular etc.)	Vc (sfm)	-		175 ~ 325		-		
	Feed (ipr)	-		0.0004 ~ 0.0012	0.0008 ~ 0.00395	-		
Aluminum	Vc (sfm)	-		650 ~ 1475		200 ~ 500		
	Feed (ipr)	-		0.0004 ~ 0.0012	0.0008 ~ 0.00395	0.0004 ~ 0.0012	0.0008 ~ 0.00395	
Brass	Vc (sfm)	-		325 ~ 650		200 ~ 425		
	Feed (ipr)	-		0.0004 ~ 0.0008	0.0008 ~ 0.0039	0.0004 ~ 0.0008	0.0008 ~ 0.0039	

★ : 1st Recommendation
☆ : 2nd Recommendation

KTKF (GQ Chipbreaker) E12

Workpiece Material		MEGACOAT NANO				MEGACOAT		Remarks
		PR1535		PR1425		PR1225		
		Grooving	Turning	Grooving	Turning	Grooving	Turning	
Carbon steel / Alloy Steel (1045, etc.)	Vc (sfm)	☆ 200 ~ 500		★ 250 ~ 650		☆ 200 ~ 500		Wet
	Feed (ipr)	0.0004 ~ 0.0015	0.0008 ~ 0.0059	0.0004 ~ 0.0015	0.0008 ~ 0.0059	0.0004 ~ 0.0015	0.0008 ~ 0.0059	
Stainless Steel (304 etc.)	Vc (sfm)	★ 200 ~ 425		☆ 200 ~ 500		☆ 200 ~ 425		
	Feed (ipr)	0.0004 ~ 0.0012	0.0008 ~ 0.0039	0.0004 ~ 0.0012	0.0008 ~ 0.0039	0.0004 ~ 0.0012	0.0008 ~ 0.0039	

★ : 1st Recommendation
☆ : 2nd Recommendation

ABS15, ABW15, ABW23 E17~E19

Workpiece Material		MEGACOAT NANO		MEGACOAT		PVD Coated Carbide		Remarks
		PR1425		PR1225		PR1025 (PR930)		
		Grooving	Turning	Grooving	Turning	Grooving	Turning	
Carbon steel / Alloy Steel (1045, etc.)	Vc (sfm)	★ 250 ~ 600		☆ 200 ~ 500		☆ 250 ~ 325		Wet
	Feed (ipr)	0.0008	0.0008 ~ 0.0028	0.0008	0.0008 ~ 0.0028	0.0008	0.0008 ~ 0.0028	
Stainless Steel (304 etc.)	Vc (sfm)	☆ 125 ~ 425		★ 125 ~ 400		☆ 100 ~ 175		
	Feed (ipr)	0.0008	0.0008 ~ 0.0020	0.0008	0.0008 ~ 0.0020	0.0008	0.0008 ~ 0.0020	

★ : 1st Recommendation
☆ : 2nd Recommendation

Workpiece Material		Carbide		Remarks
		KW10		
		Grooving	Turning	
Aluminum	Vc (sfm)	500 ~ 650		Wet
	Feed (ipr)	0.0008	0.0008 ~ 0.0039	
Brass	Vc (sfm)	325 ~ 525		
	Feed (ipr)	0.0012	0.0008 ~ 0.0059	

New Part Description (Change in Overall Length) Reference Table for Small Tools (Back Clamp)

Conventional Toolholder						New Swiss Length Toolholder			
Insert Shape	Part Number	Overall Length	Spare Parts: Anchor Pin	Spare Parts: Lock Screw	Spare Parts: Wrench	Part Number	Overall Length	Notes	Ref. to Page
									
ABS15	AABSR6-15CF	5.00"	LPA-11	HSB4X8R	FH-2	AABSR6-15JXF	4.75"		E17
	AABSR8-15DF	6.00"	LPA-13			AABSR8-15JXF	4.75"		
	-	-	LPA-17			AABSR10-15JXF	4.75"		
	AABSR0810K-40F	125mm	LPA-11	HSB4x8R	FH-2	-	-	No Alternative	-
	AABSR1010K-40F	125mm				AABSR1010JX-40F	120mm		E17
	AABSR1212M-40F	150mm	LPA-13			AABSR1212JX-40F	120mm		
	AABSR1616M-40F	150mm	LPA-17			AABSR1616JX-40F	120mm		
ABW15	AABWR6-15CF	5.00"	LPA-11	HSB4X8R	FH-2	AABWR6-15JXF	4.75"		E18
	AABWR8-15DF	6.00"	LPA-13			AABWR8-15JXF	4.75"		
	-	-	LPA-17			AABWR10-15JXF	4.75"		
	AABWR0810K-40F	125mm	LPA-11	HSB4x8R	FH-2	-	-	No Alternative	-
	AABWR1010K-40F	125mm				AABWR1010JX-40F	120mm		E18
	AABWR1212M-40F	150mm	LPA-13			AABWR1212JX-40F	120mm		
	AABWR1616M-40F	150mm	LPA-17			AABWR1616JX-40F	120mm		
ABW23	AABWR6-23CF	5.00"	LPA-11	HSB4X8R	FH-2	AABWR6-23JXF	4.75"		E19
	AABWR8-23DF	6.00"	LPA-13			AABWR8-23JXF	4.75"		
	-	-	LPA-17			AABWR10-23JXF	4.75"		
	AABWR0810K-50F	125mm	LPA-11	HSB4x8R	FH-2	-	-	No Alternative	-
	AABWR1010K-50F	125mm				AABWR1010JX-50F	120mm		E19
	AABWR1212M-50F	150mm	LPA-13			AABWR1212JX-50F	120mm		
	AABWR1616M-50F	150mm	LPA-17			AABWR1616JX-50F	120mm		
CC..	ACLC□6-2CF	5.00"	LPF-11	HSB4X8□	FH-2	ACLC□6-2JXFF	4.75"		E22
	-	-	LPF-13			ACLC□6-3JXFF	4.75"		
	ACLC□8-3DF	6.00"				ACLC□8-3JXFF	4.75"		
	-	-	LPF-17			ACLC□10-3JXFF	4.75"		
	ACLC□0810K-06F	125mm	LPF-11	HSB4x8R (Right-hand toolholder) HSB4x8L (Left-hand toolholder)	FH-2	SCLC□0808F-06FF	120mm	Clamping system is different.	E23
	ACLC□1010K-06F	125mm				ACLC□1010JX-06FF	120mm		E22
	ACLC□1010K-09F	125mm	LPF-13			ACLC□1010JX-09FF	120mm		
	ACLC□1212M-09F	150mm				ACLC□1212JX-09FF	120mm		
	ACLC□1616M-09F	150mm	LPF-17			ACLC□1616JX-09FF	120mm		
DC..	ADJC□6-2CF	5.00"	LPF-11	HSB4X8□	FH-2	ADJC□6-2JXFF	4.75"		E24
	-	-	LPF-13			ADJC□6-3JXFF	4.75"		
	ADJC□8-3DF	6.00"				ADJC□8-3JXFF	4.75"		
	-	-	LPF-17			ADJC□10-3JXFF	4.75"		
	ADNCR6-2CF	5.00"	-	-	-	-	-	No Alternative	-
	ADNC□8-3DF	6.00"	-	-	-	-	-	No Alternative	
	ADJC□0810K-07F	125mm	LPF-11	HSB4x8R (Right-hand toolholder) HSB4x8L (Left-hand toolholder)	FH-2	SDJC□0808F-07FF	120mm	Clamping system is different.	E25
	ADJC□1010K-07F	125mm				ADJC□1010JX-07FF	120mm		E24
	ADJC□1010K-11F	125mm	LPF-13			ADJC□1010JX-11FF	120mm		
	ADJC□1212M-11F	150mm				ADJC□1212JX-11FF	120mm		
	ADJC□1616M-11F	150mm	LPF-17			ADJC□1616JX-11FF	120mm		
	ADNCR0810K-07F	125mm	LPF-11	HSB4x8R	FH-2	-	-	No Alternative	-
	ADNCR1010K-07F	125mm				SDNCN1010JX-07	120mm	Clamping system is different. Neutral	E27
	ADNCR1010K-11F	125mm	LPF-13			SDNCN1010JX-11	120mm		
	ADNCR1212M-11F	150mm				SDNCN1212JX-11	120mm		
	ADNCR1616M-11F	150mm	LPF-17			SDNCN1616JX-11	120mm		
VB..	AVJB□6-2CF	5.00"	LPF-11	HSB4X8□	FH-2	AVJB□6-2JXFF	4.75"		E30
	AVJB□8-2DF	6.00"	LPF-1113			AVJB□8-2JXFF	4.75"		
	-	-	LPF-1117			AVJB□10-2JXFF	4.75"		
	AVJB□1010K-11F	125mm	LPF-11	HSB4x8R (Right-hand toolholder) HSB4x8L (Left-hand toolholder)	FH-2	AVJB□1010JX-11FF	120mm		E30
	AVJB□1212M-11F	150mm	LPF-1113			AVJB□1212JX-11FF	120mm		
	AVJB□1616M-11F	150mm	LPF-1117			AVJB□1616JX-11FF	120mm		
	AVVB□1010K-11F	125mm	LPF-11	HSB4x8R (Right-hand toolholder) HSB4x8L (Left-hand toolholder)	FH-2	SVVBN1010JX-11	120mm	Clamping system is different. Neutral	E31
	AVVB□1212M-11F	150mm	LPF-1113			SVVBN1212JX-11	120mm		
	AVVB□1616M-11F	150mm	LPF-1117			SVVBN1616JX-11	120mm		

Note) The corresponding alternative toolholder may be different from the conventional toolholder in insert clamping system or insert size.
Make sure of their specifications by referring to the catalog or other documents.

New Part Description (Change in Overall Length) Reference Table for Small Tools (Screw Clamp)

Conventional Toolholder					New Swiss Length Toolholder			
Insert Shape	Part Number	Overall Length	Spare Parts: Clamp Screw	Spare Parts: Wrench	Part Number	Overall Length	Notes	Ref. to Page
	SABSR6-15CF	5.00"	SB-3080TR	FT-10	SABSR6-15JXF	4.75"		E17
	SABSR8-15DF	6.00"			SABSR8-15JXF	4.75"		
	-	-			SABSR10-15JXF	4.75"		
ABS15	SABSR0810K-40F	125mm	SB-3080TR	FT-10	-	-	No Alternative	-
	SABSR1010K-40F	125mm			SABSR1010JX-40F	120mm		E17
	SABSR1212M-40F	150mm			SABSR1212JX-40F	120mm		
	SABSR1616M-40F	150mm			SABSR1616JX-40F	120mm		
	SABWR6-15CF	5.00"	SB-3080TR	FH-2	SABWR6-15JXF	4.75"		E18
	SABWR8-15DF	6.00"			SABWR8-15JXF	4.75"		
	-	-			SABWR10-15JXF	4.75"		
ABW15	SABWR0810K-40F	125mm	SB-3080TR	FT-10	-	-	No Alternative	-
	SABWR1010K-40F	125mm			SABWR1010JX-40F	120mm		E19
	SABWR1212M-40F	150mm			SABWR1212JX-40F	120mm		
	SABWR1616M-40F	150mm			SABWR1616JX-40F	120mm		
	SABWR6-23CF	5.00"	SB-3080TR	FT-10	SABWR6-23JXF	4.75"		E19
	SABWR8-23DF	6.00"			SABWR8-23JXF	4.75"		
	-	-			SABWR10-23JXF	4.75"		
ABW23	SABWR0810K-50F	125mm	SB-3080TR	FT-10	-	-	No Alternative	-
	SABWR1010K-50F	125mm			SABWR1010JX-50F	120mm		E23
	SABWR1212M-50F	150mm			SABWR1212JX-50F	120mm		
	SABWR1616M-50F	150mm			SABWR1616JX-50F	120mm		
	SCLC□6-2X	3.00"	SB-2570TR	FT-8	SCLC□6-2JXFF	4.75"		E23
	SCAC□6-2C	5.00"	-	-	-	-	Cutting edge angle is different	
	SCGCR6-2X	3.00"	-	-	-	-		
	-	-	SB-4085TR	FT-15	SCLC□6-3JXFF	4.75"		
	SCLC□8-3A	4.00"			SCLC□8-3JXFF	4.75"	No Alternative	
	SCAC□8-3D	6.00"	-	-	-	-	Cutting edge angle is different	
	SCGCR8-3A	4.00"	-	-	-	-		
	SCLC□10-3C	5.00"	SB-4085TR	FT-15	SCLC□10-3JXFF	4.75"		
CC..	SCGCR10-3C	5.00"	-	-	-	-	Cutting edge angle is different	
	SCLC□12-3C	5.00"	-	-	-	←	No Alternative	
	SCAC□0808K-06	125mm	SB-2570TR	FT-8	SCLC□0808F-06FF	85mm	Cutting edge angle is different.	E23
	SCAC□1010K-06	125mm			SCLC□1010JX-06FF	120mm		
	SCAC□1010K-09	125mm	SB-4085TR	FT-15	SCLC□1010JX-09FF	120mm		
	SCAC□1212M-09	150mm			SCLC□1212JX-09FF	120mm		
	SCAC□1616M-09	150mm			SCLC□1616JX-09FF	120mm		
	SCACR1212F-09FF	85mm	SB-4085TR	FT-15	SCLCR1212JX-09FF	120mm		
	SCLC□0808E-06	70mm	SB-2570TR	FT-8	SCLC□0808F-06FF	85mm		
	SDJC□6-2CF	5.00"	SB-2570TR	FT-8	SDJC□6-2JXFF	4.75"		E25
	SDJC□6-2X	3.00"	-	-	-	-		
	-	-	SB-4085TR	FT-15	SDJC□6-3JXFF	4.75"		
	SDJC□8-3DF	6.00"			SDJC□8-3JXFF	4.75"		
	SDJC□8-3A	4.00"	-	-	-	-		
	SDJC□10-3C	5.00"	SB-4085TR	FT-15	SDJC□10-3JXFF	4.75"		
	SDJC□12-3C	5.00"	-	-	-	-	No Alternative	
DC..	-	-	SB-4085TR	FT-15	SDJCR52-3JX-F3	4.75"		E20
					SDJCR52-3JX-F9	4.75"		
					SDJCR62.5-3JX-F3	4.75"		
					SDJCR62.5-3JX-F9	4.75"		
	SDJC□0808F-07F	80mm	SB-2570TR	FT-8	SDJC□0808F-07FF	85mm		E25
	SDJC□1010F-07F	80mm			SDJC□1010JX-07FF	120mm		
	SDJC□1010F-11F	80mm	SB-4085TR	FT-15	SDJC□1010JX-11FF	120mm		
	SDJC□1212H-11F	100mm			SDJC□1212JX-11FF	120mm		
	SDJC□1616H-11F	100mm			SDJC□1616JX-11FF	120mm		
	-	-	SB-2570TR	FT-8	SDLC□6-2JXFF	4.75"		E26

Note) The corresponding alternative toolholder may be different from the conventional toolholder in insert clamping system or insert size.
Make sure of their specifications by referring to the catalog or other documents.

New Part Description (Change in Overall Length) Reference Table for Small Tools (Screw Clamp)

Conventional Toolholder					New Swiss Length Toolholder			
Insert Shape	Part Number	Overall Length	Spare Parts: Clamp Screw	Spare Parts: Wrench	Part Number	Overall Length	Notes	Ref. to Page
DC..	-	-	SB-4085TR	FT-15	SDLC□6-3JXFF	4.75"		E26
		-			SDLC□8-3JXFF	4.75"		
		-			SDLC□10-3JXFF	4.75"		
	SDLC□1010F-07FF	80mm	SB-2570TR	FT-8	SDLC□1010JX-07FF	120mm		E26
	SDLC□1212H-07FF	100mm			SDLC□1212F-07FF	85mm	Short length type	
					SDLC□1212JX-07FF	120mm		
	SDLC□1616H-07FF	100mm			SDLC□1616JX-07FF	120mm		
	SDLC□1212H-11FF	100mm	SB-4085TR	FT-15	SDLC□1212JX-11FF	120mm		
	SDLCL1616H-11FF	100mm			SDLCL1616JX-11FF	120mm		
	SDNC□6-2CF	5.00"	SB-2570TR	FT-8	SDNC□6-2JXF	4.75"		E27
	SDNCN6-2X	3.00"			SDNCN6-2JX	4.75"		
	-	-	SB-4085TR	FT-15	SDNCN6-3JX	4.75"		
		-	SB-2570TR	FT-8	SDNCN8-2JX	4.75"		
	SDNC□8-3DF	6.00"	SB-4085TR	FT-15	SDNCN8-3JX	4.75"		
	SDNCN8-3A	4.00"	-	-	-	-		
	SDNCN10-3C	5.00"	SB-4085TR	FT-15	SDNCN10-3JX	4.75"		
	SDNCN12-3C	5.00"	-	-	-	-	No Alternative	
	SDNC□1010F-07F	80mm	SB-2570TR	FT-8	SDNC□1010JX-07F	120mm		E27
	SDNC□1010F-11F	80mm	SB-4085TR	FT-15	SDNC□1010JX-07F	120mm	Insert size is different.	
					SDNCN1010JX-11	120mm	Neutral	
	SDNC□1212H-11F	100mm	SB-4085TR	FT-15	SDNCN1212F-11	85mm	Neutral Short length type	
					SDNCN1212JX-11	120mm	Neutral	
	SDNC□1616H-11F	100mm	SB-4085TR	FT-15	SDNCN1616JX-11	120mm	Neutral	
	SDNCN0808E-07	70mm	SB-2570TR	FT-8	SDNCN0808F-07	85mm		
	SDNCN1010F-07	80mm			SDNCN1010JX-07	120mm		
	SDNCN1212H-07	100mm			SDNCN1212JX-07	120mm		
	SDNCN1212H-11	100mm	SB-4085TR	FT-15	SDNCN1212F-11	85mm		
					SDNCN1212JX-11	120mm	Short length type	
	SDXC□1010F-07	80mm	SB-2570TR	FT-8	SDXC□1010JX-07	120mm		E26
	SDXC□1010F-11	80mm	SB-4085TR	FT-15	SDXC□1010JX-11	120mm		
	SDXC□1212H-11	100mm			SDXC□1212JX-11	120mm		
	SDXC□1616H-11	100mm			SDXC□1616JX-11	120mm		
DP..	-	-	SB-2570TR	FT-8	SDLP□6-2JXFF	4.75"		E28
		-	SB-4085TR	FT-15	SDLP□6-3JXFF	4.75"		
		-			SDLP□8-3JXFF	4.75"		
		-			SDLP□10-3JXFF	4.75"		
	SDLP□0808F-07F	80mm	SB-2570TR	FT-8	SDLP□0808F-07FF	85mm		E28
	SDLP□1010F-07F	80mm			SDLP□1010JX-07FF	120mm		
	SDLP□1010F-11F	80mm	SB-4085TR	FT-15	SDLP□1010JX-11FF	120mm		
	SDLP□1212H-11F	100mm			SDLP□1212JX-11FF	120mm		
	SDLP□1616H-11F	100mm			SDLP□1616JX-11FF	120mm		
VB..	SVJB□6-2CF	5.00"	SB-2570TR	FT-8	SVJB□6-2JXFF	4.75"		E30
	SVJB□6-2X	3.00"	-	-	-	-		
	SVJB□8-2DF	6.00"	SB-2570TR	FT-8	SVJB□8-2JXFF	4.75"		
	SVJB□8-2A	4.00"	-	-	-	4.75"		
	-		SB-2570TR	FT-8	SVJB□10-2JXFF	4.75"		
	SVJB□12-3C	5.00"	-	-	-	-	No Alternative	
	SVJB□1010F-11F	80mm	SB-2570TR	FT-8	SVJB□1010JX-11FF	120mm		E30
	SVJB□1212H-11F	100mm			SVJB□1212JX-11FF	120mm		
	SVJB□1616H-11F	100mm			SVJB□1616JX-11FF	120mm		
	SVPB□1010F-11	80mm	SB-2570TR	FT-8	SVPB□1010JX-11	120mm		E31
	SVPB□1212H-11	100mm			SVPB□1212JX-11	120mm		
	SVPB□1616H-11	100mm			SVPB□1616JX-11	120mm		

Note) The corresponding alternative toolholder may be different from the conventional toolholder in insert clamping system or insert size.
Make sure of their specifications by referring to the catalog or other documents.

New Part Description (Change in Overall Length) Reference Table for Small Tools (Screw Clamp)

Conventional Toolholder					New Swiss Length Toolholder			
Insert Shape	Part Number	Overall Length	Spare Parts: Clamp Screw	Spare Parts: Wrench	Part Number	Overall Length	Notes	Ref. to Page
VB..	-	-	SB-2570TR	FT-8	SVVBN6-2JX	4.75"		E31
		-			SVVBN8-2JX	4.75"		-
		-			SVVBN10-2JX	4.75"		
	SVVBN1212H-11	100mm	SB-2570TR	FT-8	SVVBN1212JX-11	120mm		E31
VP..	-	-	SB-2570TR	FT-8	SVJP□8-2JXFF	4.75"		E32
		-			SVJP□10-2JXFF	4.75"		
		-	SB-2550TR	FT-6	SVLP□6-15JXFF	4.75"		
		-			SVLP□8-15JXFF	4.75"		
		-			SVLP□10-15JXFF	4.75"		
		-	SB-2570TR	FT-8	SVLP□8-2JXFF	4.75"		
		-			SVLP□10-2JXFF	4.75"		
		-	SB-2570TR	FT-15	SVLPR52-2JX-F9	4.75"		E21
		-			SVLPR62.5-2JX-F9	4.75"		
	SVLP□1010F-08FF	80mm	SB-2050TR	FT-6	SVLP□1010JX-08FF	120mm		E32
	SVLP□1212H-08FF	100mm			SVLP□1212F-08FF	85mm	Short length type	
					SVLP□1212JX-08FF	120mm		
	SVLP□1616H-08FF	100mm			SVLP□1616JX-08FF	120mm		
	SVLP□1010F-11F	80mm	SB-2570TR	FT-8	SVLP□1010JX-08FF	120mm	Insert size is different.	
	SVLP□1212H-11F	100mm			SVLP□1212F-11FF	85mm	Short length type	
					SVLP□1212JX-11FF	120mm		
	SVLP□1616H-11F	100mm			SVLP□1616JX-11FF	120mm		
	-	-	SB-2570TR	FT-8	SVPPR6-2JXFF	4.75"		E33
		-			SVPPR8-2JXFF	4.75"		
		-			SVPPR10-2JXFF	4.75"		
		-	SB-2050TR	FT-6	SVPPR6-15JXFF	4.75"		
		-			SVPPR8-15JXFF	4.75"		
		-			SVPPR10-15JXFF	4.75"		
	SVPPR1010F-11	80mm	SB-2570TR	FT-8	SVPBR1010JX-11	120mm	Insert relief angle is different.	E31
					SVPPR1010JX-11FF	120mm	Without Offset	E33
	SVPPR1212H-11	100mm			SVPBR1212JX-11	120mm	Insert relief angle is different.	E31
					SVPPR1212JX-11FF	120mm	Without Offset	E33
	SVPPR1616H-11	100mm			SVPBR1616JX-11	120mm	Insert relief angle is different.	E31
					SVPPR1616JX-11FF	120mm	Without Offset	E33
	SVPPL1616H-11	100mm	SB-2570TR	FT-8	SVPBL1616JX-11	120mm	Insert relief angle is different.	E31
TC..	STGCR6-1.5X	3.00"	-	-	-	-	No Alternative	-
	STGC□8-2A	4.00"	-	-		-		
WP..	SWLP□8-2A	4.00"	-	-		-	No Alternative	
	SWLPR12-3C	5.00"	-	-		-		

Note) The corresponding alternative toolholder may be different from the conventional toolholder in insert clamping system or insert size.
Make sure of their specifications by referring to the catalog or other documents.

New Part Description Reference Table for Small Tools (Screw Clamp)
Toolholders for Back Turning

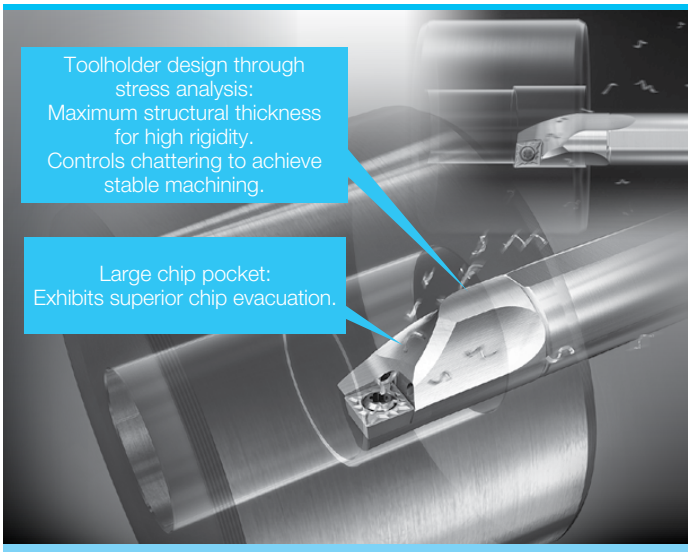
Conventional Toolholder					New Swiss Length Toolholder		
Insert Shape	Part Number	Overall length	Clamp Screw	Wrench	Part Number	Overall length	Ref. to Page
TKFB..	KTKF□1010K-12	125mm	SB-4590TRWN	LTW-10S	KTKF□1010JX-12	120mm	E12
	KTKF□1212M-12	150mm			KTKF□1212JX-12	120mm	
	KTKF□1616M-12	150mm			KTKF□1616JX-12	120mm	
	KTKF□1010K-16	125mm			KTKF□1010JX-16	120mm	
	KTKF□1212M-16	150mm			KTKF□1212JX-16	120mm	
	KTKF□1616M-16	150mm			KTKF□1616JX-16	120mm	

Note) The corresponding alternative toolholder may be different from the conventional toolholder in insert clamping system or insert size.
Make sure of their specifications by referring to the catalog or other documents.

BORING

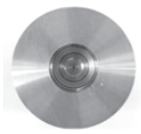
F1 - F104

New Dynamic Bar

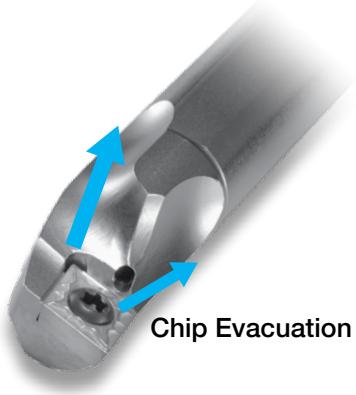


Dynamic design driven by the latest computer simulation technology.

Superior Chip Evacuation (External Coolant)

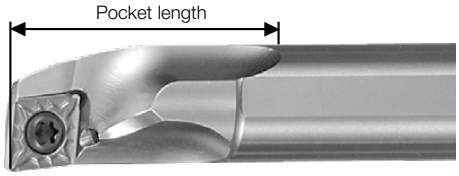
	Dynamic Bar	Competitor A	Competitor B
Inside the Workpiece			

In Competitor A and B's products chips remain inside the workpiece, but chips from Dynamic Bar are all evacuated from the workpiece.



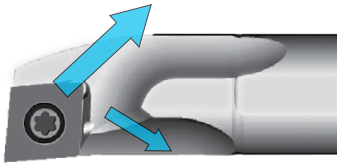
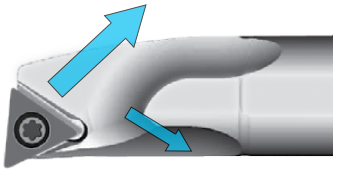
Chip Evacuation Direction

Pocket Length Comparison



Part Number	Pocket length (mm)	
	Dynamic Bar	Competitor A
A16-SCLPR09-18 type	37	29
A20-SCLCR09-22 type	48	32

Chip Evacuation Direction

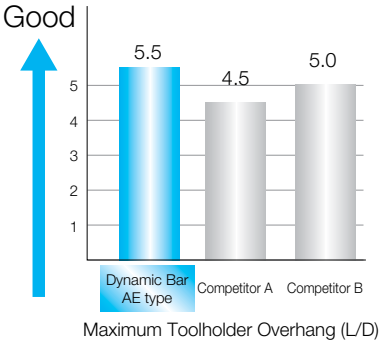
SCLC(P)	STLB(P)
	

Better Evacuation with Dual Chip Flow

Dynamic Bar with Superior Chip Evacuation

High rigidity and chattering resistance by using a special alloy the help of stress analysis technology.
Previously unattained surface finish and dimensional accuracy are now achieved.

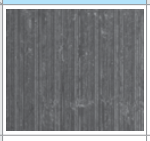
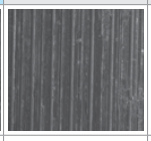
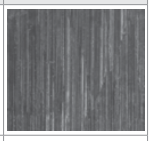
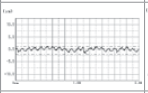
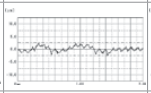
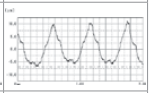
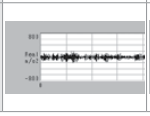
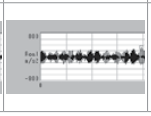
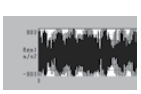
Anti-chatter Vibration Performance



<Cutting Conditions>
4415
Vc = 490 sfm
D.O.C. = 0.020"
f = 0.004 ipr
S16-SCLPR09
CPMH321L-Y

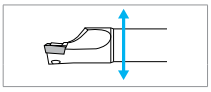
Surface Finish Comparison

Vibration of the Dynamic Bar was minimal even at high cutting speeds, enabling stable machining.

	Dynamic Bar	Competitor A	Competitor B
Surface Wall			
Surface Roughness	 Ra=0.4µm Rz=2.3µm	 Ra=0.6µm Rz=3.6µm	 Ra=3.4µm Rz=14.0µm
Oscillatory Waveform			

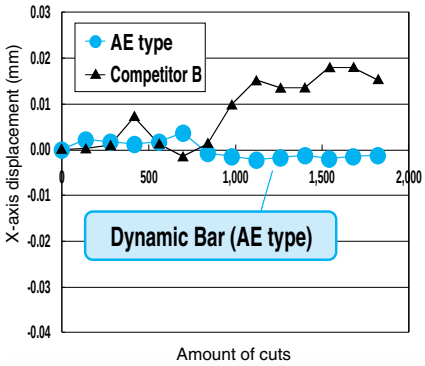
<Cutting Conditions>
4415
Vc = 690 sfm
D.O.C. = 0.020"
f = 0.004 ipr
A16Q-SCLPR09-18
CPMH321XP(PV7020)
L/D = 4
External Coolant

Direction of Vibration Measurement



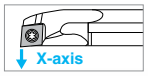
Cutting Point Precision

The AE Dynamic Bar maintains precise cutting edge positional accuracy through the use of a special alloy, thereby achieving high precision machining.



<Cutting Conditions>
SCM435
Vc = 590 sfm
D.O.C. = 0.079"
f = 0.008 ipr
S/A16Q-SCLPR09-18 type
CPMH090308(CA5525)
L/D = 4
External Coolant

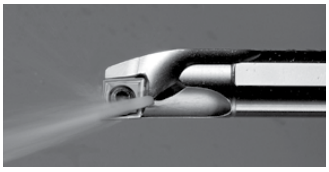
Direction of Measurement



Toolholder Lineup

• Excellent Bar (AE Type)

Excellent Bar with coolant hole (internal coolant) (A···AE) enables better chip evacuation.



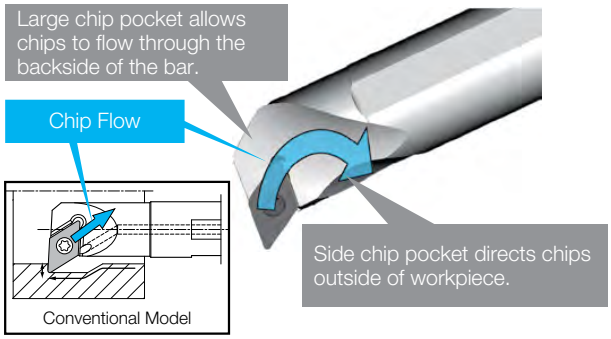
• Steel Bar

The steel shank bar (without coolant hole) provides superior cost performance

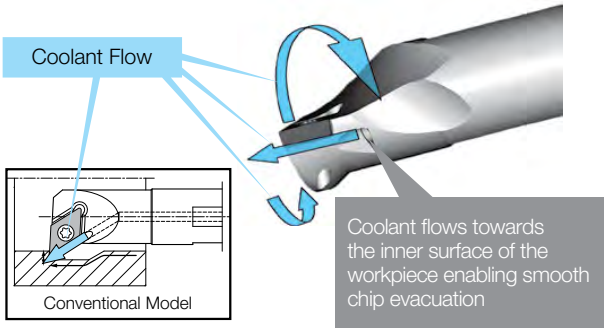
Advantages of Dynamic Bar SDUC

New Design and Concept Focusing on Chip Evacuation

Streamlined pocket enables an effective chip evacuation.

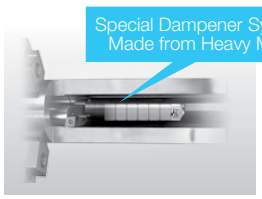


Coolant flows toward the workpiece's inner surface.



AD Bars Interchangeable Head Boring Bars with Anti-vibration Dampener System

- The AD (Advanced Dampener) system enables a maximum overhang of 6 times L/D.
- Highly efficient machining: The anti-vibration dampener effect enables large cutting-depths and high feed rates.
- Applicable for a variety of machining conditions due to the interchangeable head design.



Double Clamp Boring Bars for Negative Inserts

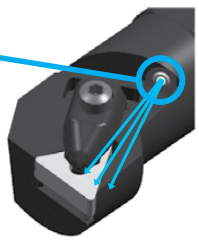
Stable machining with Double Clamp and Direction Adjustment Coolant Hole.

Improved Clamping Rigidity

Firmly clamp the insert in two directions with one action. Along with improving the accuracy of the insert position, long tool life can be achieved.

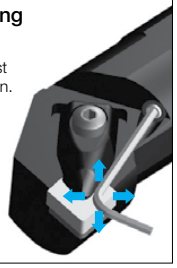
Direction Adjustment Mechanism Voolant Hole

Discharge direction of coolant is adjustable to focus directly on cutting edge.
*Not applicable to high-pressure coolant



Nozzle Setting

Use wrench to adjust coolant hole direction.



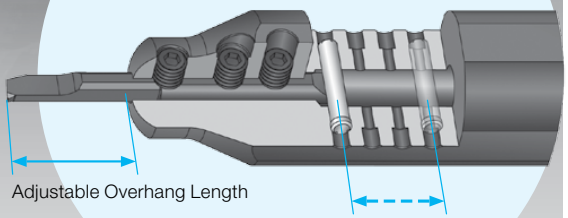
EZ Bar

Kyocera's Original EZ Adjust Structure

- Easy adjustment and high precision
- EZ Bar minimizes deviation with high rigidity clamping

MEGACOAT PR1225 for Stable Cutting and Extended Tool Life

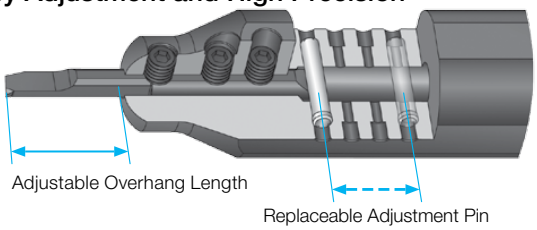
Kyocera's Original EZ Adjust Structure



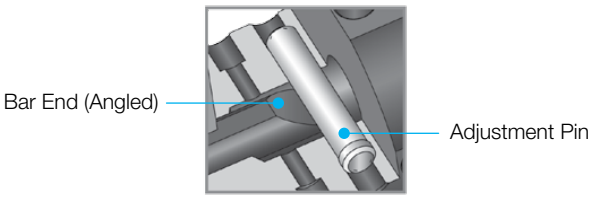
EZ Adjust Structure

Bar overhang is adjustable by replacing adjustment pin.
Internal coolant sleeve (EZH-CT) is available.

1 Easy Adjustment and High Precision



Excellent Clamping Force

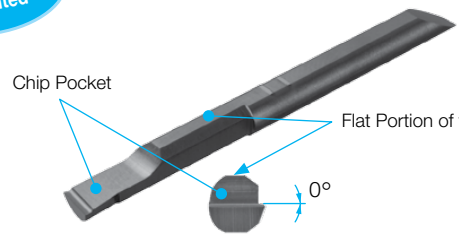


Bar is Firmly Clamped on the Slanted End by the Adjustment Pin

2 2 Bar Types

Precision Oriented

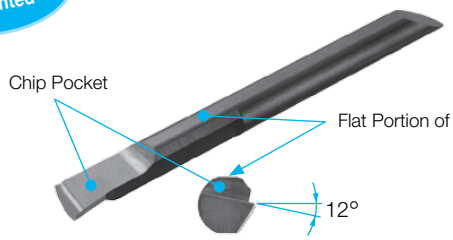
HP (High precision)



F16

Cost Oriented

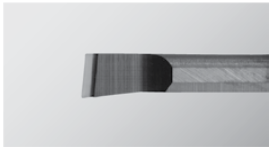
ST (standard)



F17

* Chip pocket angles are different.
* Even when using the same sleeve, the Min, Bore Dia. can be different depending on which bar is attach.

3 2 Chipbreakers for Various Applications

H Chipbreaker (Without Lead Angle)	F Chipbreaker (With Lead Angle)
	
Tough Edge (General Purpose)	Sharp Cutting (For Finishing)

2 Types of Corner-R (rε) for Each Chipbreaker
H Chipbreaker: 0.003", 0.006" (0.08mm, 0.15mm)
F Chipbreaker: 0.002", 0.006" (0.05mm, 0.15mm)

* Lineup Depends on Description

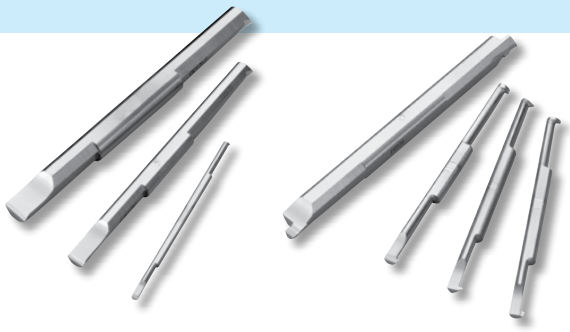
EZVB for Boring, Internal Profiling and Copying

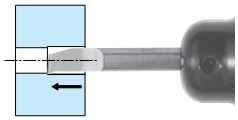
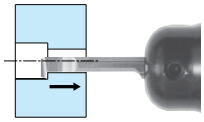
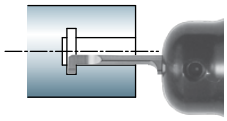
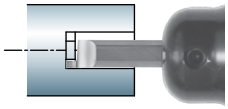
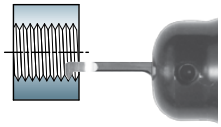
EZ Bar PLUS Indexable Type

800.823.7284
Visit us online at KyoceraPrecisionTools.com

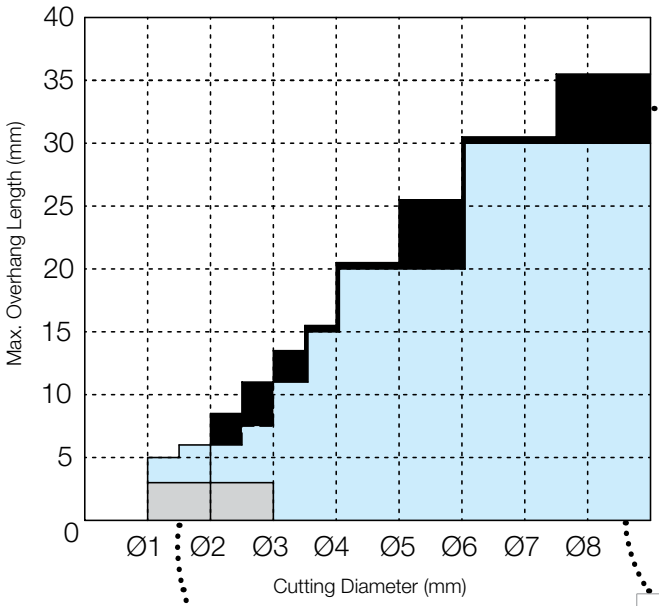
Micro Boring Double-Sided Micro-Bars

- 2 Cutting Edges
- Minimum Bore Diameter 0.079" (2.0mm)
- Adjustable Overhang Length
- Integral Shank is Adopted to Enable Installation of Standard Sleeves
- Sleeves are Applicable to Various Machine Manufacturers' Specifications



Boring	Back Boring	Grooving	Face Grooving	Threading
				
HPB ➡ **F36**	**HPBT** ➡ **F36**	**HPG** ➡ **G51**	**HPFG** ➡ **G79**	**HPT** ➡ **J32**
Min. Bore Dia.: Ø0.079"~Ø0.276" (Ø2mm~Ø7mm) Corner-R (rε): 0.002" (0.05mm)	Min. Bore Dia.: Ø0.158"~Ø0.276" (Ø4mm~Ø5mm) Corner-R (rε): 0.002" (0.05mm)	Min. Bore Dia.: Ø0.158"~Ø0.197" (Ø4mm~Ø7mm) Edge Width: 0.039"~0.079" (1~2mm) Depth: 0.039"~0.079" (1~2mm)	Min. Face Groove Dia.: Ø0.315" (Ø8mm) Edge Width: 0.039"~0.118" (1~3mm) Depth: 0.079"~0.118" (2~3mm)	Min. Pilot Hole Dia.: Ø0.177"~Ø0.315" (Ø4.5mm~Ø8mm) M : 0.75~1.50mm UN : 28~16 TPI W : 24~18 TPI Rc : 28~19 TPI

Usage Classification (Solid Bar type: Minimum Cutting Dia. 1mm)



EZ Bar
Easy Adjustment & High Precision

➡ F14

Twin Bars ➡ F34~F35

SVN ➡ F30

Square Shank Straight

S...SVN ➡ F31

Standard Round Shank

SVNS ➡ F30

Swiss IQ Bars ➡ F28

Boring Bar Identification System (Round Shank)

	Shank
S	Steel
A	Steel (with Coolant Hole)
C	Carbide
E	Carbide (with Coolant Hole)

	ANSI (in)	ISO (mm)		ANSI (in)	ISO (mm)
F:	3.00	80	Q:	7.00	180
G:	3.50	90	R:	8.00	200
H:	4.00	100	S:	10.00	250
J:	4.50	110	T:	12.00	300
K:	5.00	125	U:	14.00	350
L:	5.50	140	V:	16.00	400
M:	6.00	150	W:	18.00	450
N:	6.50	160	Y:	20.00	500
P:	6.75	170	X:	Special	

Toolholder Length

Clamping System

- **C :** Top Clamp
- **M :** Multi Lock
- **P :** Lock Pin Only or Lever Lock
- **S :** Screw Clamp
- **W :** Wedge Lock

Insert Shape

- **C :** 80° Rhombic
- **D :** 55° Rhombic
- **J :** 70° Rhombic
- **R :** Round
- **S :** 90° Square
- **T :** 60° Triangle
- **V :** 35° Rhombic
- **W :** 80° Trigon

Hand of Tool

- **R :** Right-hand
- **L :** Left-hand

Others

Manufacturer's Optional Mark or Number

- **A :** Dynamic Bar
- **AE :** Excellent Bar (Dynamic Bar type)
- **E :** Excellent Bar

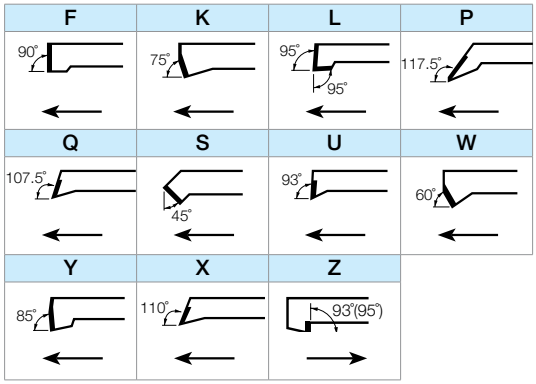
	Shank	Toolholder Length		Clamping System		Insert Shape	Hand of Tool		Others
ANSI (inch)	S	08	M	– S	C	L	P	R	3	– AE
ISO (metric)	S	12	M	– S	C	L	P	R	09	– 16 A

Shank Diameter

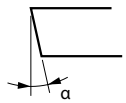
ANSI
A two-digit number that indicates the shank diameter in 1/16" increments.

ISO
Shank diameter in mm

Cutting Edge Angle



Insert Relief Angle

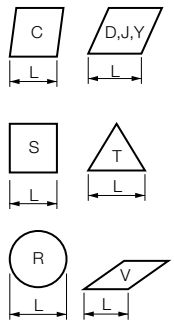


- **B :** 5° Positive
- **C :** 7° Positive
- **D :** 15° Positive
- **E :** 20° Positive
- **N :** 0° Negative
- **P :** 11° Positive

Insert Size

ANSI
Number of 1/8 increments of I.C.

ISO

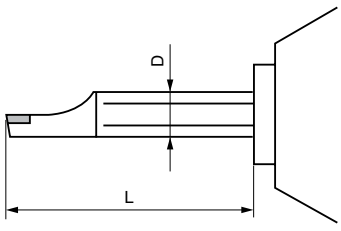


Min. Bore Dia.

- Anti-vibration interchangeable head mechanism Boring Bar "AD Bar"
  For the identification system for boring bars with interchangeable head, Ref. to page F73

Guidelines for Overhang Length of Boring Bar (Workpiece Material 1045)

Overhang Length (L / D)	Shank Material
3	Steel
4	Steel (Dynamic Bar)
5	Excellent
5.5	Excellent (Dynamic Bar)
6	AD Bars (with Anti-vibration Dampener System)
7	Carbide

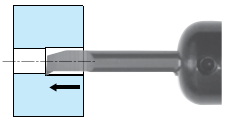
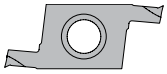
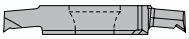
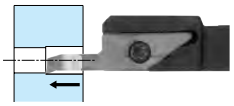
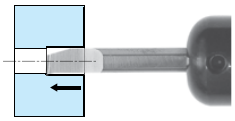
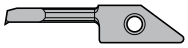
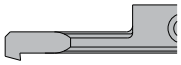
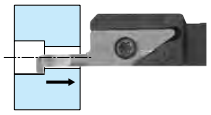
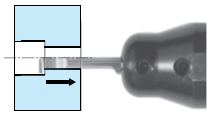
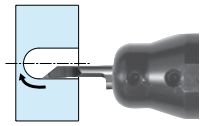


Carbide Shank Boring Bar

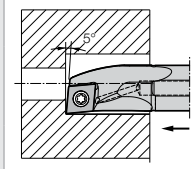
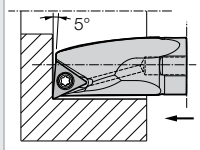
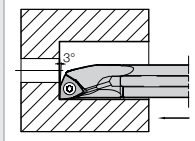
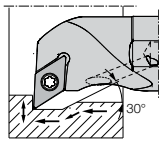
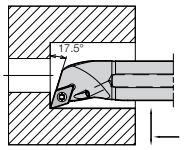
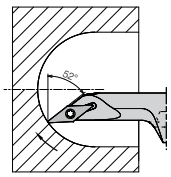
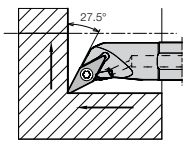
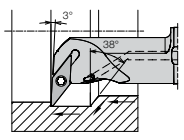
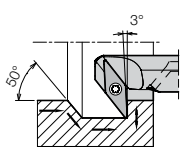
Short Shank Series

Short Shank Types with length of 1/2 and 2/3 of standard type are available. (1/2 or 2/3 is shown at the end of the description) When installing on machines, no additional machining (to change toolholder length) is required.

Solid Micro Bars

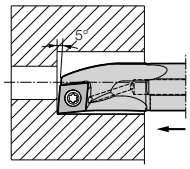
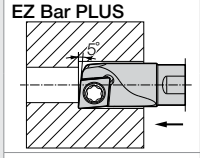
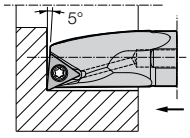
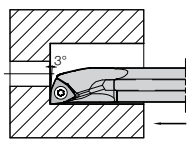
Application	Solid Micro Bars	Shape	Shank Type Max. Overhang Length L/D	Min. Bore Dia. ØA (mm) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	Toolholder / Sleeve Ref. Page	Application
Boring	**EZB-HP** EZ Bar → F16		Solid L/D = ~5			●	●	●	●	●		●		●				→ F22~ → F27	
	EZB-ST EZ Bar → F17		Solid L/D = ~5			●	●	●	●	●	●		●		●		●		
	EZB-NB EZ Bar (MEGACOAT) → F18		Solid L/D = ~5			●	●	●	●	●	●		●		●		●		
	EZB-NB CBN EZ Bar → F18		Solid L/D = ~5					●		●		●		●		●			
	EZB-NB PCD EZ Bar → F18		Solid L/D = ~5							●		●		●		●			
	TWB Twin Bars → F34		Solid	●	●	●	●	●										→ F34	
	TWBT Twin Bars → F35		Solid	●	●	●	●	●										→ F35	
	VNB-S Swiss IQ Bars → F28		Solid	●	●	●	●	●	●	●								→ F30 → F31	
	VNB Swiss IQ Bars → F28		Solid			●		●		●		●		●		●			
	VNBX-S Swiss IQ Bars → F32		Solid	●	●	●		●	●	●								→ F33	
	HPB Double-Sided Micro-Bars → F36		Solid L/D = ~5			●		●		●		●		●		●		→ F26 → F27	
	PSB-S Micro Bars → F37		Solid L/D = ~5			●		●		●		●		●		●		→ F94	
Back Boring	**VNBT** Swiss IQ Bars → F28		Solid							●		●						→ F30 → F31	
	HPBT Double-Sided Micro-Bars → F36		Solid L/D = ~5							●		●						→ F26~ → F27	
	PSBT-S Micro Bars → F37		Solid L/D = ~5							●		●						→ F94	
Copying	**EZVB** NEW EZ Bar → F21		Solid						●		●		●		●			→ F23~ → F27	

Dynamic Bars (inch)

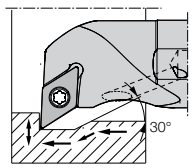
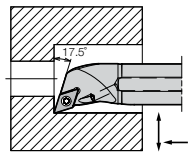
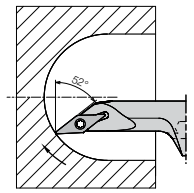
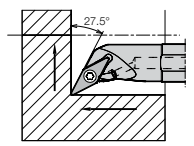
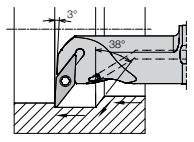
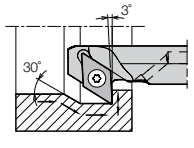
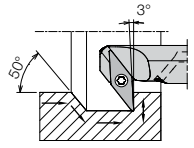
Application	Shape	Boring Bar Type	Shank Type Max. Overhang Length L/D	Coolant Hole		Min. Bore Dia. ØA (in)																						Toolholder / Sleeve Ref. Page
				Yes	No	0.240	0.312	0.392	0.413	0.450	0.480	0.512	0.551	0.580	0.630	0.700	0.770	0.787	0.790	0.825	0.930	0.980	1.180	1.200	1.240	1.300	1.340	
Boring / Internal Facing		A...SCLC-AE	Excellent L/D = ~5.5	●							●			● (0.600)			●				●			●				F38
		E...SCLC-A	Carbide L/D = ~7.0	●							●			● (0.600)			●											
		A...SCLP-AE	Excellent L/D = ~5.5	●					●		●			●		●				●				●				F40
		A...STLB(P)-AE	Excellent L/D = ~5.5	●				●			●			●		●				●					● (1.280)			F52
		S...STLB-AE	Excellent L/D = ~5.5		○		●																					
Boring		A...SWUB(P)-AE	Excellent L/D = ~5.5	●							● (0.472)				●		●				●			●				F66
		S...SWUB-AE	Excellent L/D = ~5.5		○	●	●																					
Copying		A...SDUC-AE	Excellent L/D = ~5.5	●									●		●			●				● (1.063)				●			F44
		E...SDUC-A	Carbide L/D = ~7.0	●									●		●			●										
		A...SDQC-AE	Excellent L/D = ~5.5	●								●			●			●				●						F46
		E...SDQC-A	Carbide L/D = ~7.0	●								●			●			●										
		A...SVJB-AE	Excellent L/D = ~5.5	●																		● (0.984)	●					F58
		A...SVPC(B)-AE	Excellent L/D = ~5.5	●											●				●			●	●		●			F60
		A...SVUC(B)-AE	Excellent L/D = ~5.5	●											●				●			●					●	F62
Back Boring		A...SVZC(B)-AE	Excellent L/D = ~5.5	●											●				●			●					●	

Min. Bore Dia. ØA is indicated by the figure under ● depending on the boring bar size.

Dynamic Bars / EZ Bar PLUS (metric)

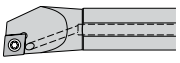
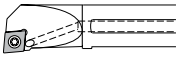
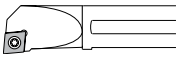
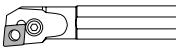
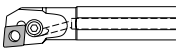
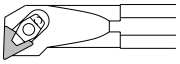
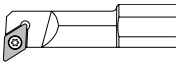
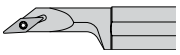
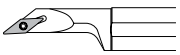
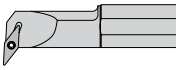
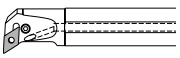
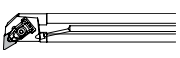
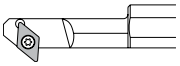
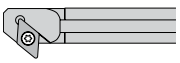
Application	Shape	Boring Bar Type	Shank Type Max. Overhang Length L/D	Coolant Hole Yes	Coolant Hole No	Min. Bore Dia. ØA (mm) 5	6	7	8	10	12	13	14	16	18	20	22	23	25	26	27	30	31	32	34	40	50	Toolholder / Sleeve Ref. Page
Boring / Internal Facing		A...SCLC-AE	Excellent L/D = ~5.5	●						●	●		●		●		●				●							F38
		S...SCLC-AE	Excellent L/D = ~5.5		○	●	●	●	●																			
		S...SCLC-A	Steel L/D = ~4.0		○					●	●		●		●		●				●							
		C...SCLC-A	Carbide L/D = ~7.0		○	●	●	●	●																			
		E...SCLC-A	Carbide L/D = ~7.0	●						●	●		●		●		●				●							
		A...SCLP-AE	Excellent L/D = ~5.5	●							●		●	●	●		●				●							
		S...SCLP-A	Steel L/D = ~4.0		○						●		●	●	●		●				●							
		E...SCLP-A	Carbide L/D = ~7.0	●							●		●	●	●		●				●							
	EZ Bar PLUS 	S...SCLC-EZ	Steel L/D = ~3.0		○	●		●																			F20
		C...SCLC-EZ	Carbide L/D = ~5.0		○	●		●																			
		A...STLP-AE	Excellent L/D = ~5.5	●						●	●		●	●	●		●		●		●							F52
		S...STLB-AE			○				●																			
		S...STLB(P)-A	Steel L/D = ~4.0		○				●	●	●		●	●	●		●				●							
		E...STLP-A	Carbide L/D = ~7.0	●						●	●		●	●	●		●		●		●							
		C...STLB-A			○				●																			
		A...STLC-AE	Excellent L/D = ~5.5	●						●	●		●		●		●											F51
		S...STLC-A	Steel L/D = ~4.0		○					●	●		●		●		●											
Boring		S...SWUB-AE	Excellent L/D = ~5.5		○		●	●	●																			F66
		A...SWUB(P)-AE	Excellent L/D = ~5.5	●						●	●		●		●		●											
		S...SWUB(P)-A	Steel L/D = ~4.0		○		●	●	●	●	●		●		●		●											
		C...SWUB-A	Carbide L/D = ~7.0		○		●	●	●																			
		E...SWUB(P)-A	Carbide L/D = ~7.0	●						●	●		●		●		●											

Dynamic Bars (metric)

Application	Shape	Boring Bar Type	Shank Type Max. Overhang Length L/D	Coolant Hole Yes	Coolant Hole No	Min. Bore Dia. ØA (mm) 5	6	7	8	10	12	13	14	16	18	20	22	23	25	26	27	30	31	32	34	40	50	Toolholder / Sleeve Ref. Page
Copying		A...SDUC-AE	Excellent L/D = ~5.5	●									●	●		●		●			●			●				
		S...SDUC-A	Steel L/D = ~4.0		○								●	●		●		●			●			●				→ F44
		E...SDUC-A	Carbide L/D = ~7.0	●									●	●		●		●			●			●				
		A...SDQC-AE	Excellent L/D = ~5.5	●								●		●		●			●			●						
		S...SDQC-A	Steel L/D = ~4.0		○							●		●		●			●			●						→ F46
		E...SDQC-A	Carbide L/D = ~7.0	●								●		●		●			●			●						
		A...SVJB(C)-AE	Excellent L/D = ~5.5	●										●		●			●			●				●	●	
		A...SVJP-AE		●										●														
		S...SVJB(C)-A	Steel L/D = ~4.0		○									●		●			●			●				●	●	→ F58
		S...SVJP-A			○									●														
		A...SVPB(C)-AE	Excellent L/D = ~5.5	●									●		●		●			●			●			●		
		S...SVPB(C)-A	Steel L/D = ~4.0		○								●		●		●			●			●			●		→ F60
		E...SVPB(C)-A	Carbide L/D = ~7.0	●									●		●		●			●			●					
		A...SVUB(C)-AE	Excellent L/D = ~5.5	●										●		●			●						●	●		
		S...SVUB(C)-A	Steel L/D = ~4.0		○									●		●			●						●	●		→ F62
		E...SVUB(C)-A	Carbide L/D = ~7.0	●											●				●			29			●			
Back Boring		A...SDZC-AE	Excellent L/D = ~5.5	●									●	●		●		●			●			●				
		S...SDZC-A	Steel L/D = ~4.0		○								●	●		●		●			●			●				→ F47
		E...SDZC-A	Carbide L/D = ~7.0	●									●	●		●		●			●							
		A...SVZB(C)-AE	Excellent L/D = ~5.5	●										●		●			●						●	●		
		S...SVZB(C)-A	Steel L/D = ~4.0		○									●		●			●						●	●		→ F62

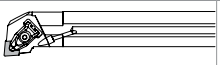
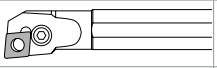
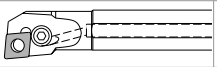
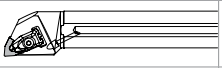
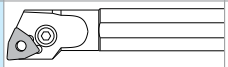
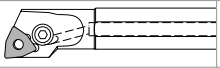
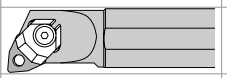
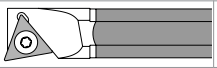
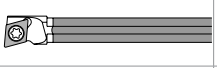
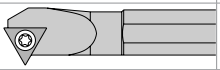
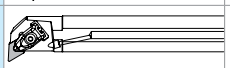
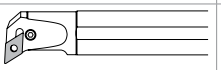
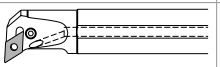
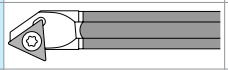
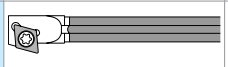
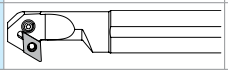
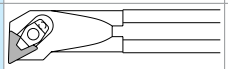
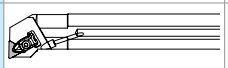
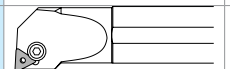
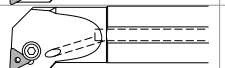
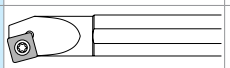
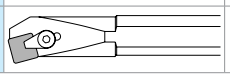
Min. Bore Dia. ØA is indicated by the figure under ● depending on the boring bar size.

Boring Bars (inch)

Application	Boring Bar Type	Shape	Shank Type Max. Overhang Length L/D	Coolant Hole Yes	Coolant Hole No	Insert Type	Min. Bore Dia. ØA (in) 0.240	0.312	0.394	0.415	0.472	0.480	0.550	0.600	0.630	0.709	0.770	0.787	0.790	0.912	0.984	1.180	1.250	1.260	1.340	1.500	1.570	1.750	2.020	Toolholder / Sleeve Ref. Page
Boring / Internal Facing	A...SCLP(C)-E		Excellent L/D = ~5.0	●		Positive			●		●				● (0.632)	●					●									
	S...SCLC-E		Excellent L/D = ~5.0		○	Positive	● (0.197)																							
	A...SCLC		Steel L/D = ~3.0	●		Positive				●		●		●			●													F42
	S...SCLP(C)		Steel L/D = ~3.0		○	Positive			●		●				●			● (0.788)			●				● (1.338)					
	C...SCLP(C)		Carbide L/D = ~7.0		○	Positive	● (0.197)		●		●				●			● (0.788)			●									
	NEW A...DCLN		Steel L/D = ~3.0	●		Negative																	●			●		●		F77
	S...PCLN		Steel L/D = ~3.0		○	Negative																			● (1.550)				●	F78
	A...PCLN		Steel L/D = ~3.0	●		Negative													●		● (1.060)			●						
	NEW A...DWLN		Steel L/D = ~3.0	●		Negative																	●			●		●		F87
Boring	S...STUP(B)		Steel L/D = ~3.0		○	Positive		●	● (0.392)		●				●			●		●										F55
	S...SWUB		Steel L/D = ~3.0		○	Negative	●	●																						F68
	C...SWUB		Carbide L/D = ~7.0		○	Positive	●	●																						F69
	S...CTUP		Steel L/D = ~3.0		○	Positive									● (0.625)						● (1.060)				● (1.350)					F71
Copying	S...SDUC		Steel L/D = ~3.0		○	Positive							● (0.564)				● (0.750)				● (0.980)									F48
	S...STWP		Steel L/D = ~3.0		○	Positive					● (0.476)				●			● (0.786)			● (0.970)		● (1.240)							F56
	S...SVJB-E		Excellent L/D = ~5.0		○	Positive																●					●			F64
	S...SVJB		Steel L/D = ~3.0		○	Positive									●			● (0.780)			●									
	S...SVUC(B)-E		Excellent L/D = ~5.0		○	Positive									●				●		● (0.980)				●		●			F65
	A...PDUN		Steel L/D = ~3.0	●		Negative															● (1.060)			●			●			F79
	NEW A...DDUN		Steel L/D = ~3.0	●		Negative																				●		●		F80
Back Boring	S...SDZC		Steel L/D = ~3.0		○	Positive							●		●			●			●									F49
	S...SVZC(B)-E		Excellent L/D = ~5.0		○	Positive									●				●		● (0.980)				●		●			F65

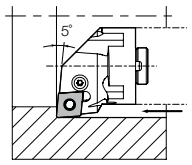
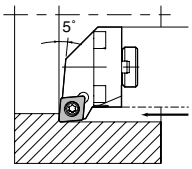
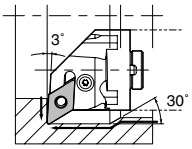
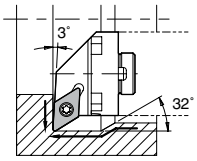
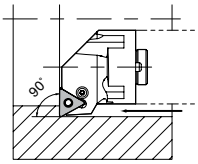
Min. Bore Dia. ØA is indicated by the figure under ● depending on the boring bar size.

Boring Bars (metric)

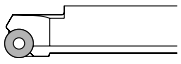
Application	Boring Bar Type	Overview Shape	Shank Type Max. Overhang Length L/D	Coolant Hole Yes	Coolant Hole No	Insert Type	Min. Bore Dia. ØA (mm) 5	6	7	8	10	12	14	16	18	20	25	30	32	40	50	63	Toolholder / Sleeve Ref. Page
Boring / Internal Facing	NEW A...DCLN12		Steel L/D = ~3.0	●		Negative													●	●	●		F77
	S...PCLN○○		Steel L/D = ~3.0		○	Negative										●	● 27		●	●	●		F78
	A...PCLN09		Steel L/D = ~3.0	●		Negative										●	● 27		●				
	NEW A...DWLN08		Steel L/D = ~3.0	●		Negative													●	●	●		F87
	S...PWLN○○		Steel L/D = ~3.0		○	Negative										●	● 27		●	●	●		F86 F88
	A...PWLN06		Steel L/D = ~3.0	●		Negative										●	● 27		●				F86
	S...WWLN08-E		Excellent L/D = ~5.0		○	Negative											● 28		● 34	●			F88
	C...STXP(B)		Carbide L/D = ~7.0		○	Positive			● 7.5	● 9	● 11												F57
	C...SJLC		Carbide L/D = ~7.0		○	Positive	● 5.5																F50
Copying	S...STWP-E		Excellent L/D = ~5.0		○	Positive						●		●		●	●		●				F56
	S...STWP		Steel L/D = ~3.0		○	Positive						●		●		●	●						
	NEW A...DDUN15		Steel L/D = ~3.0	●		Negative														●	●	●	F80
	S...PDUN11		Steel L/D = ~3.0		○	Negative											● 27		●	●			F79
	A...PDUN11		Steel L/D = ~3.0	●		Negative											● 27		●	●			
	S...PDUN15		Steel L/D = ~3.0		○	Negative													●	● 44	● 54		F81
	S...PDQN15		Steel L/D = ~3.0		○	Negative													●	● 44	● 54		F81
Back Boring	C...STZB		Carbide L/D = ~7.0		○	Positive				● 8.5													F57
	C...SJZC		Carbide L/D = ~7.0		○	Positive		● 6.5															F50
	S...PDZN15		Steel L/D = ~3.0		○	Negative													●	● 44	● 54		F81
Boring	S...CTUP		Steel L/D = ~3.0		○	Positive								●		●	● 27		● 34	● 43	●		F71
	NEW A...DTFN○○		Steel L/D = ~3.0	●		Negative													●	●	●		F84
	S...PTUN○○		Steel L/D = ~3.0		○	Negative										●	●	●	●	●	●		F85
	A...PTUN11		Steel L/D = ~3.0	●		Negative										●	●		●				
	NEW A...DSKN12		Steel L/D = ~3.0	●		Negative													●	●	●		F83
	S...SSKP		Steel L/D = ~3.0		○	Positive										●	●						F70
	S...CSKP		Steel L/D = ~3.0		○	Positive										●	● 27		● 34	● 43			

Min. Bore Dia. ØA is indicated by the figure under ● depending on the boring size.

AD Bars Interchangeable Head Boring Bars with Anti-vibration Dampener System

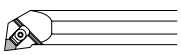
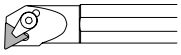
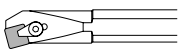
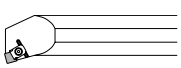
Application	Boring Bar Type	Shape	Shank Type Max. Overhang Length L/D	Coolant Hole Yes	Coolant Hole No	Insert Type	Min. Bore Dia. ØA (mm) 7	8	10	12	14	16	18	20	25	30	32	40	43	50	63	Toolholder / Sleeve Ref. Page
Boring / Internal Facing	HA...PCLN12		Anti-Vibration Dampener L/D = ~5.5	●		Negative												●		●	●	F73
Boring / Internal Facing	HA...SCLC09		Anti-Vibration Dampener L/D = ~6.0	●		Positive												●				F75
Copying	HA...PDUN15		Anti-Vibration Dampener L/D = ~6.0	●		Negative													●	●	●	F74
Copying	HA...SDUC11		Anti-Vibration Dampener L/D = ~6.0	●		Positive												●				F75
Boring	HA...PTFN16		Anti-Vibration Dampener L/D = ~6.0	●		Negative												●		●	●	F74

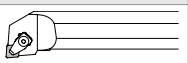
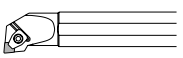
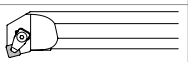
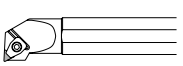
Toolholders for Bearing Machining (Square Shank)

Application	Boring Bar Type	Shape	Min. Bore Dia. ØA (mm) 20	25	30	32	40	50	Toolholder / Sleeve Ref. Page
Boring	SRCP-B		●			●			F72

Application	Boring Bar Type	Shape	Min. Bore Dia. ØA (mm) 20	25	30	32	40	50	Toolholder / Sleeve Ref. Page
Round-Chamfering	CBSN-B		●						F72

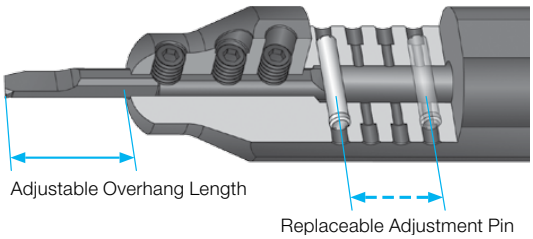
Boring Bars for Ceramic / Solid CBN Tools (L/D = ~3)

Application	Boring Bar Type	Shape	Min. Bore Dia. ØA (mm) 16	18	20	25	30	32	40	50	Toolholder / Sleeve Ref. Page
Boring / Internal Facing	S...CELN									●	F77
Boring	S...CTUP		●		●	● 27		● 34	● 43	●	F71
Boring	S...CSKP				●	● 27		● 34	● 43		F70
Boring	S...CSKN						● 1.18 in		● 1.57 in	●	F89

Application	Boring Bar Type	Shape	Min. Bore Dia. ØA (mm) 20	25	30	32	40	50	Toolholder / Sleeve Ref. Page
Boring / Internal Facing	S···CCLN-GX						●	●	F90
Boring / Internal Facing	S···CCLN-A						● 40 mm	● 50 mm	F91
					● 1.18 in		● 1.57 in		
Boring	S···CSKN-GX						●	●	F90
Boring	S···CTUN-A				● 30 mm				F91
					● 1.18 in				
Boring / Copying	S···CDUN-GX						●	●	F90

Min. Bore Dia. ØA is indicated by the figure under ● depending on the boring size.

Kyocera's Original EZ Adjust Structure

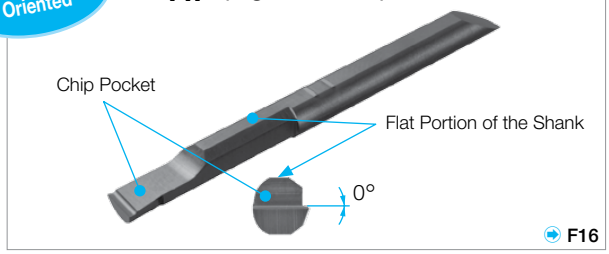


- Easy Adjustment and High Precision
- EZ Bar Minimizes Deviation with High Rigidity Clamping Force
- Wide of Tooling for Various Applications

2 Types of Bars

Precision Oriented

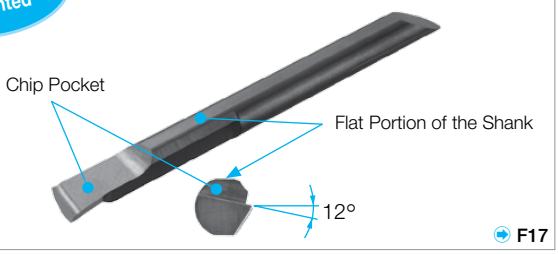
HP (High Precision)



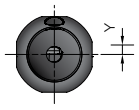
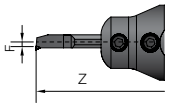
F16

Cost Oriented

ST (Standard)



F17

Insert Setting Image		Insert Tolerance	Offset (F)	Overall length (Z)	Edge Height (Y)	Min. Bore Dia.
 Y = Edge Height	 F = Offset Z = Insert length	Precision-oriented HP Type (High Precision)	±0.025mm	±0.05mm	+0.05/0mm	Same as Shank Dia.
		Cost-oriented ST Type (Standard)	±0.060mm	±0.10mm	+0.06/0mm	Not same as Shank Dia.

* See "Dimensions" page for details.

"EZ Bar PLUS" Indexable EZ Bar Lineup Expansion

3 Types of Sleeves

NEW **EZH-CT**

High Precision, with Coolant Hole (Adjustable)

EZH-HP

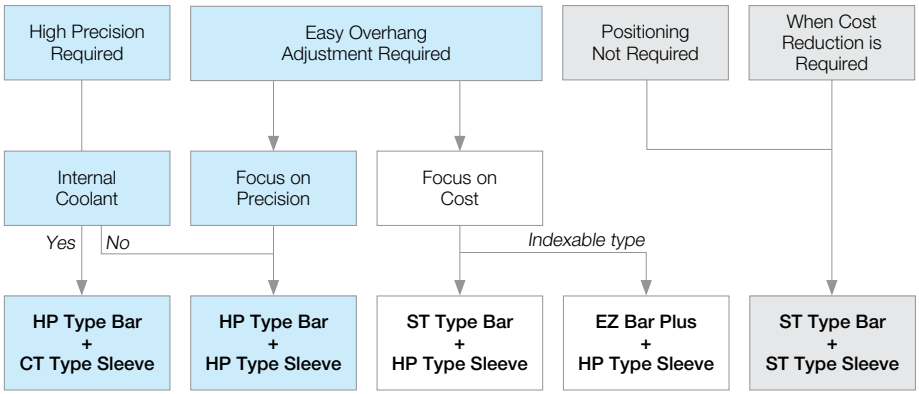
Overhang Length is Adjustable (Adjustable)

EZH-ST

Not-Adjustable

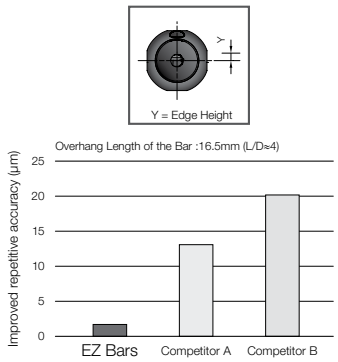
800.823.7284
Visit us online at KyoceraPrecisionTools.com

How to Select Bars and Sleeves for Each Application



HP Type Bar + CT/HP Type Sleeve

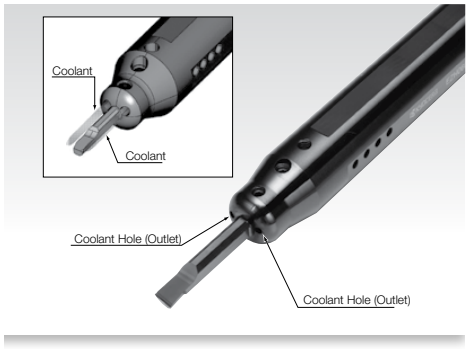
Excellent repeatability and drastic tool change time reduction



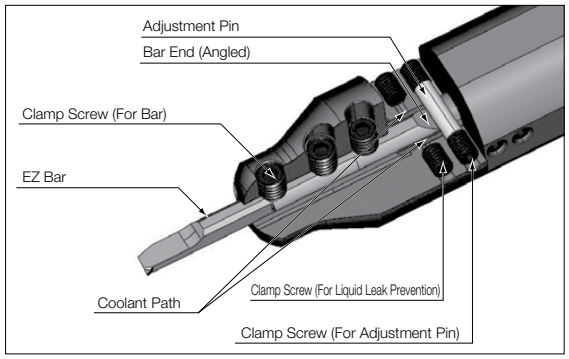
EZH-CT Type (high precision / with coolant hole) is added in the EZH sleeve lineup!

Kyocera's unique EZ adjust structure and internal coolant system improve dimensional accuracy and surface roughness!

EZH-CT Coolant System



EZH-CT Internal Stucture



How to Set Bar in Sleeve

How to use adjustment pin and prevent coolant leakage (Fig.1)

① Put the adjustment pin into the hole according to the overhang length and push it into the sleeve using the wrench "LW-1.5".

② Tighten the clamp screw for the adjustment pin "HS3X4P" using the wrench "LW-1.5" from both sides of the sleeve.

③ Put the additional clamp screws "HS3X4P" into the un-used adjustment pin holes to prevent coolant leakage using the wrench "LW-1.5" and fix them from both sides of the sleeve.

How to secure the bar (Fig.2)

① With the chip pocket upward, set the bar into the sleeve. Press the angled face of the bar end with the adjustment pin. Make sure that the bar does not rotate. **(Fig.3)**

② Tighten the clamp screw with wrench "LW-2" and secure the bar. (Use "LW-1.5" if shank dia. is 3mm or less.)

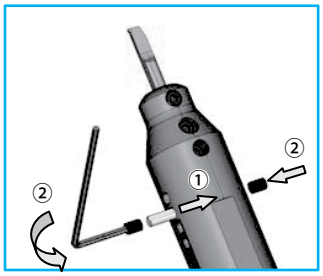


Fig.1 How to use the adjustment pin

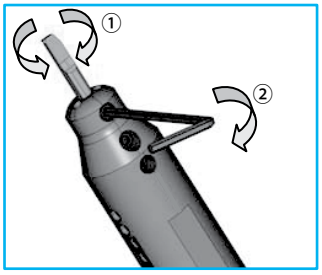


Fig.2 How to secure the bar

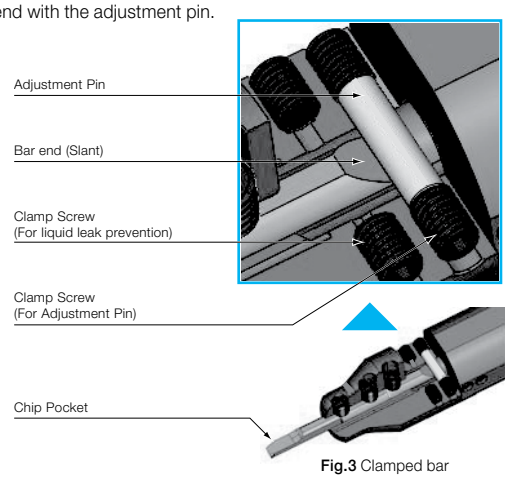
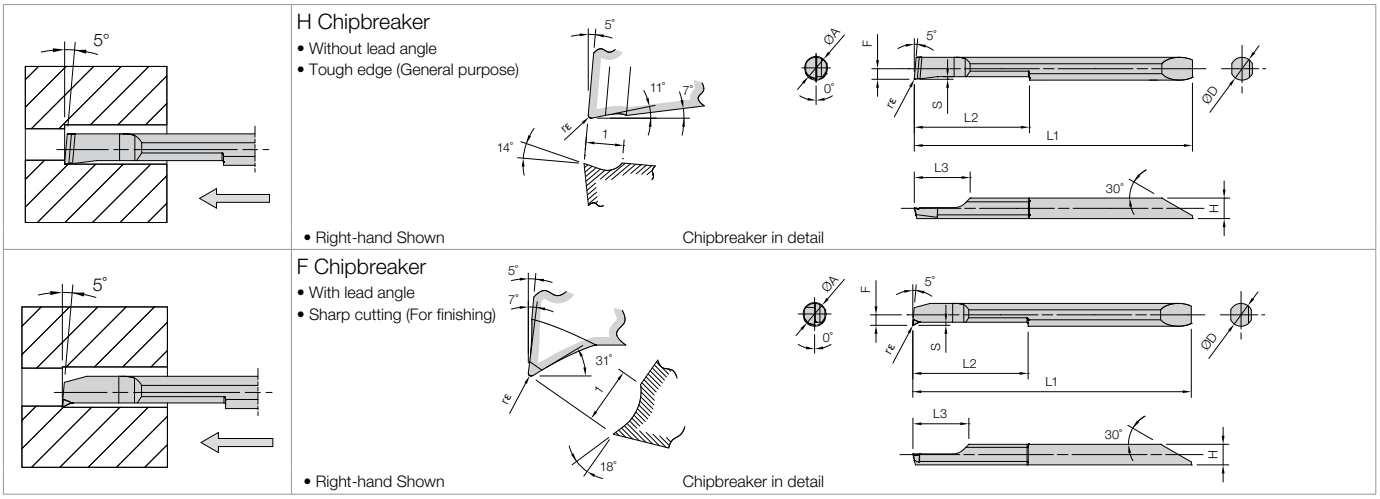


Fig.3 Clamped bar

EZB-HP (Boring)



EZ Bar Dimensions (metric)

Part Number		Min. Bore Dia.	Dimensions (mm)								Grade		Applicable Sleeve ➡ F22~F27
											MEGACOAT	Carbide	
		ØA	ØD	H	L1	L2	L3	F	S	rε	PR1225	GW05	
EZBR	020020HP-008H	2.0	2.0	1.8	32.0	8.0	4.9	0.85	0.25	0.08 ±0.015	●	○	EZH020…
	025025HP-008H	2.5	2.5	2.3	35.0	10.5	4.9	1.10	0.25	0.08 ±0.015	●		EZH025…
	025025HP-015H	2.5	2.5	2.3	35.0	10.5	4.9	1.10	0.25	0.15 ±0.020	●		
	030030HP-008H	3.0	3.0	2.7	38.9	13.0	6.9	1.35	0.30	0.08 ±0.015	●	○	EZH030…
	030030HP-015H	3.0	3.0	2.7	38.9	13.0	6.9	1.35	0.30	0.15 ±0.020	●		
	035035HP-008H	3.5	3.5	3.2	41.9	15.0	6.9	1.60	0.40	0.08 ±0.015	●		EZH035…
	035035HP-015H	3.5	3.5	3.2	41.9	15.0	6.9	1.60	0.40	0.15 ±0.020	●		
	040040HP-008H	4.0	4.0	3.6	48.8	20.0	9.8	1.85	0.40	0.08 ±0.015	●	○	EZH040…
	040040HP-015H	4.0	4.0	3.6	48.8	20.0	9.8	1.85	0.40	0.15 ±0.020	●		
	050050HP-008H	5.0	5.0	4.6	58.1	25.0	9.8	2.35	0.50	0.08 ±0.015	●	○	EZH050…
	050050HP-015H	5.0	5.0	4.6	58.1	25.0	9.8	2.35	0.50	0.15 ±0.020	●		
	060060HP-008H	6.0	6.0	5.6	66.1	30.0	11.8	2.85	0.60	0.08 ±0.015	●	○	EZH060…
	060060HP-015H	6.0	6.0	5.6	66.1	30.0	11.8	2.85	0.60	0.15 ±0.020	●		
EZBR	020020HP-005F	2.0	2.0	1.8	32.0	8.0	4.9	0.85	0.25	0.05 ±0.010	●		EZH020…
	025025HP-005F	2.5	2.5	2.3	35.0	10.5	4.9	1.10	0.30	0.05 ±0.010	●		EZH025…
	025025HP-015F	2.5	2.5	2.3	35.0	10.5	4.9	1.10	0.30	0.15 ±0.020	●		
	030030HP-005F	3.0	3.0	2.7	38.9	13.0	6.9	1.35	0.40	0.05 ±0.010	●		EZH030…
	030030HP-015F	3.0	3.0	2.7	38.9	13.0	6.9	1.35	0.40	0.15 ±0.020	●		
	035035HP-005F	3.5	3.5	3.2	41.9	15.0	6.9	1.60	0.50	0.05 ±0.010	●		EZH035…
	035035HP-015F	3.5	3.5	3.2	41.9	15.0	6.9	1.60	0.50	0.15 ±0.020	●		
	040040HP-005F	4.0	4.0	3.6	48.8	20.0	9.8	1.85	0.50	0.05 ±0.010	●		EZH040…
	040040HP-015F	4.0	4.0	3.6	48.8	20.0	9.8	1.85	0.50	0.15 ±0.020	●		
	050050HP-005F	5.0	5.0	4.6	58.1	25.0	9.8	2.35	0.70	0.05 ±0.010	●		EZH050…
	050050HP-015F	5.0	5.0	4.6	58.1	25.0	9.8	2.35	0.70	0.15 ±0.020	●		
	060060HP-005F	6.0	6.0	5.6	66.1	30.0	11.8	2.85	0.90	0.05 ±0.010	●		EZH060…
	060060HP-015F	6.0	6.0	5.6	66.1	30.0	11.8	2.85	0.90	0.15 ±0.020	●		

Tolerance: Offset ±0.025mm (of the reference pin), overall length ±0.05mm, edge height +0.05/0mm

Recommended Cutting Conditions ➡ F19

EZ Bar Identification System

EZ B R 020 020 HP - 008 H

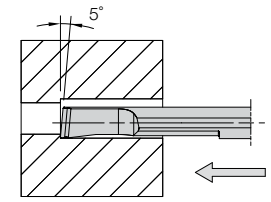
EZ	Application	Insert Hand	Min. Bore Dia.	Shank Dia.	Precision	Corner-R (rε)	Chipbreaker
Symbol of Bar	**B**: B-Boring Bar	**R**: Right-hand	020 : 2.0mm 025 : 2.5mm	020 : 2.0mm 025 : 2.5mm	**HP**: High Precision **ST**: Standard	008 : 0.08mm 015 : 0.15mm	**H**: H Chipbreaker (without lead angle) **F**: F Chipbreaker (with lead angle) **NB**: Without chipbreaker

EZ Bars are sold in 1 piece boxes.

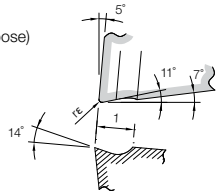
(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

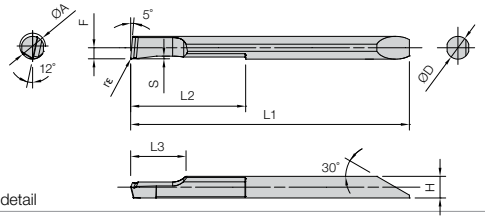
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

EZB-ST (Boring)



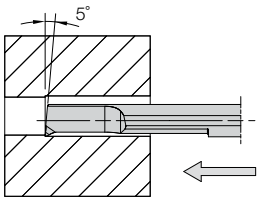
H Chipbreaker
- Without lead angle
- Tough edge (General purpose)



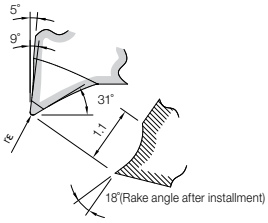


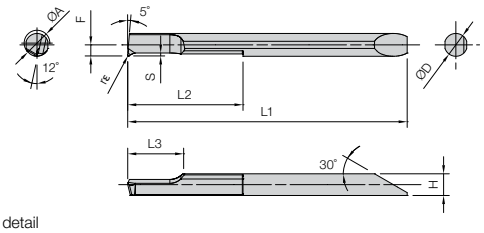
• Right-hand Shown

Chipbreaker in detail



F Chipbreaker
- With lead angle
- Sharp cutting (For finishing)





• Right-hand Shown

Chipbreaker in detail

EZ Bar Dimensions (metric)

Part Number		Min. Bore Dia.	Dimensions (mm)								Grade MEGACOAT	Applicable Sleeve ➡ F22~F27
		ØA	ØD	H	L1	L2	L3	F	S	rε	PR1225	
EZBR	020017ST-008H	2.0	1.7	1.5	27.3	7.0	4.7	0.79	0.19	0.08 ±0.015	●	EZH017…
	025020ST-008H	2.5	2.0	1.82	32.0	8.0	4.8	0.94	0.16	0.08 ±0.015	●	EZH020…
	025020ST-015H	2.5	2.0	1.82	32.0	8.0	4.8	0.94	0.16	0.15 ±0.020	●	
	030025ST-008H	3.0	2.5	2.3	35.0	10.5	4.8	1.19	0.15	0.08 ±0.015	●	EZH025…
	030025ST-015H	3.0	2.5	2.3	35.0	10.5	4.8	1.19	0.15	0.15 ±0.020	●	
	035030ST-008H	3.5	3.0	2.8	39.0	13.0	6.8	1.44	0.18	0.08 ±0.015	●	EZH030…
	035030ST-015H	3.5	3.0	2.8	39.0	13.0	6.8	1.44	0.18	0.15 ±0.020	●	
	040035ST-008H	4.0	3.5	3.3	42.0	15.0	6.7	1.69	0.24	0.08 ±0.015	●	EZH035…
	040035ST-015H	4.0	3.5	3.3	42.0	15.0	6.7	1.69	0.24	0.15 ±0.020	●	
	045040ST-008H	4.5	4.0	3.8	49.0	20.0	9.7	1.94	0.27	0.08 ±0.015	●	EZH040…
	045040ST-015H	4.5	4.0	3.8	49.0	20.0	9.7	1.94	0.27	0.15 ±0.020	●	
	055050ST-008H	5.5	5.0	4.8	58.2	25.0	9.7	2.44	0.33	0.08 ±0.015	●	EZH050…
	055050ST-015H	5.5	5.0	4.8	58.2	25.0	9.7	2.44	0.33	0.15 ±0.020	●	
	065060ST-008H	6.5	6.0	5.8	66.2	30.0	11.8	2.94	0.38	0.08 ±0.015	●	EZH060…
	065060ST-015H	6.5	6.0	5.8	66.2	30.0	11.8	2.94	0.38	0.15 ±0.020	●	
	075070ST-008H	7.5	7.0	6.8	74.2	35.0	11.7	3.44	0.44	0.08 ±0.015	●	EZH070…
	075070ST-015H	7.5	7.0	6.8	74.2	35.0	11.7	3.44	0.44	0.15 ±0.020	●	
EZBR	020017ST-005F	2.0	1.7	1.5	27.3	7.0	4.7	0.79	0.20	0.05 ±0.010	●	EZH017…
	025020ST-005F	2.5	2.0	1.82	32.0	8.0	4.8	0.94	0.16	0.05 ±0.010	●	EZH020…
	025020ST-015F	2.5	2.0	1.82	32.0	8.0	4.8	0.94	0.16	0.15 ±0.020	●	
	030025ST-005F	3.0	2.5	2.3	35.0	10.5	4.8	1.19	0.20	0.05 ±0.010	●	EZH025…
	030025ST-015F	3.0	2.5	2.3	35.0	10.5	4.8	1.19	0.20	0.15 ±0.020	●	
	035030ST-005F	3.5	3.0	2.8	39.0	13.0	6.8	1.44	0.26	0.05 ±0.010	●	EZH030…
	035030ST-015F	3.5	3.0	2.8	39.0	13.0	6.8	1.44	0.26	0.15 ±0.020	●	
	040035ST-005F	4.0	3.5	3.3	42.0	15.0	6.7	1.69	0.33	0.05 ±0.010	●	EZH035…
	040035ST-015F	4.0	3.5	3.3	42.0	15.0	6.7	1.69	0.33	0.15 ±0.020	●	
	045040ST-005F	4.5	4.0	3.8	49.0	20.0	9.7	1.94	0.31	0.05 ±0.010	●	EZH040…
	045040ST-015F	4.5	4.0	3.8	49.0	20.0	9.7	1.94	0.31	0.15 ±0.020	●	
	055050ST-005F	5.5	5.0	4.8	58.2	25.0	9.7	2.44	0.45	0.05 ±0.010	●	EZH050…
	055050ST-015F	5.5	5.0	4.8	58.2	25.0	9.7	2.44	0.45	0.15 ±0.020	●	
	065060ST-005F	6.5	6.0	5.8	66.2	30.0	11.7	2.94	0.59	0.05 ±0.010	●	EZH060…
	065060ST-015F	6.5	6.0	5.8	66.2	30.0	11.7	2.94	0.59	0.15 ±0.020	●	
	075070ST-005F	7.5	7.0	6.8	74.2	35.0	11.7	3.44	0.65	0.05 ±0.010	●	EZH070…
	075070ST-015F	7.5	7.0	6.8	74.2	35.0	11.7	3.44	0.65	0.15 ±0.020	●	

Tolerance: Offset ±0.06mm (of the reference pin), overall length ±0.1mm, edge height +0.06/0mm

Recommended Cutting Conditions ➡ F19

EZ Bars are sold in 1 piece boxes.

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

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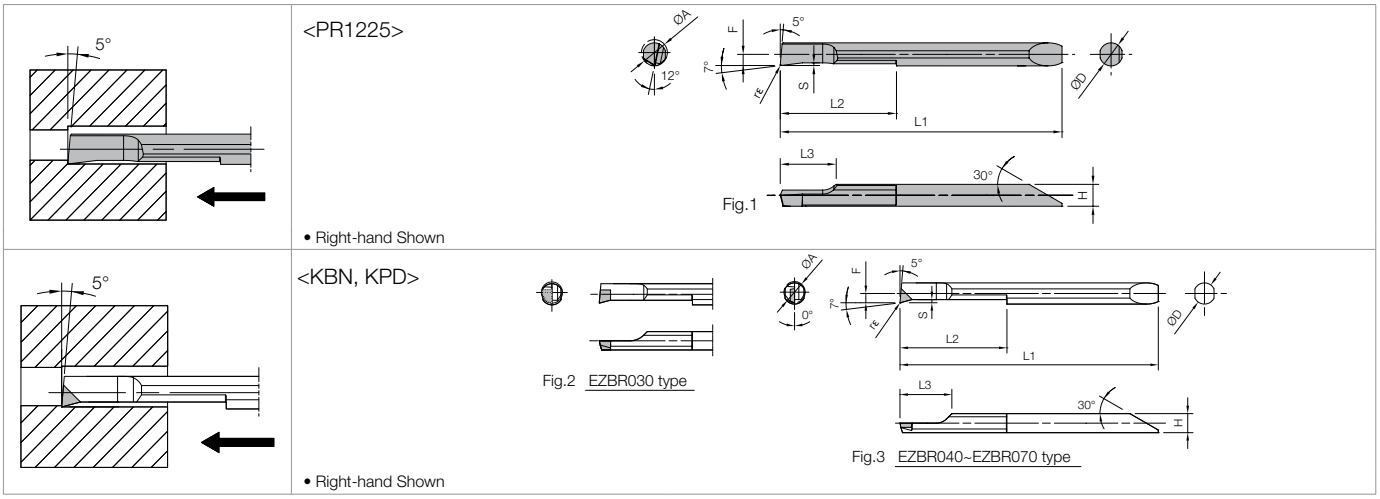
EZB-NB (Boring)



EZ Bar Dimensions (metric)

Part Number		Min. Bore Dia.	Dimensions (mm)								Drawing	Grade			Applicable Sleeve ➡ F22~F27
												MEGACOAT	CBN	PCD	
		ØA	ØD	H	L1	L2	L3	F	S	rε		PR1225	KBN05M	KPD001	
EZBR	020017-005NB	2.0	1.7	1.50	27.3	7.0	4.7	0.79	0.20	±0.015 0.050	Fig.1	○			EZH017…
	025020-005NB	2.5	2.0	1.82	32.0	8.0	4.8	0.94	0.16			○			EZH020…
	030025-005NB	3.0	2.5	2.30	35.0	10.5	4.8	1.19	0.16			○			EZH025…
	035030-005NB	3.5	3.0	2.80	39.0	13.0	6.8	1.44	0.19			○			EZH030…
	040035-005NB	4.0	3.5	3.30	42.0	15.0	6.7	1.69	0.25			○			EZH035…
	045040-005NB	4.5	4.0	3.80	49.0	20.0	9.7	1.94	0.28			●			EZH040…
	055050-005NB	5.5	5.0	4.80	58.2	25.0	9.7	2.44	0.33			●			EZH050…
	065060-005NB	6.5	6.0	5.80	66.2	30.0	11.7	2.94	0.39			○			EZH060…
	075070-005NB	7.5	7.0	6.80	74.2	35.0	11.7	3.44	0.45			○			EZH070…
EZBR	030030-003NB	3.0	3.0	2.60	38.8	13.0	6.8	1.25	0.30	±0.015 0.035	Fig.2		○		EZH030…
	040040-003NB	4.0	4.0	3.60	48.8	20.0	9.8	1.75	0.50		Fig.3		○	○	EZH040…
	050050-003NB	5.0	5.0	4.60	58.1	25.0	9.8	2.25	0.50				○	○	EZH050…
	060060-003NB	6.0	6.0	5.60	66.1	30.0	11.8	2.75	0.50				○	○	EZH060…
	070070-003NB	7.0	7.0	6.60	74.1	35.0	11.8	3.25	0.50				○	○	EZH070…
EZBR	040040-003NB	4.0	4.0	3.60	48.8	20.0	9.8	1.75	0.50	±0.015 0.035	Fig.3		○	○	EZH040…
	050050-003NB	5.0	5.0	4.60	58.1	25.0	9.8	2.25	0.50				○	○	EZH050…
	060060-003NB	6.0	6.0	5.60	66.1	30.0	11.8	2.75	0.50				○	○	EZH060…
	070070-003NB	7.0	7.0	6.60	74.1	35.0	11.8	3.25	0.50				○	○	EZH070…

Recommended Cutting Conditions ➡ F19

Edge Preparation

Grade	Edge Preparation	Notes
PR1225	Sharp Edge	-
KBN05M	T00815	0.003" × 15° Chamfered Cutting Edge
KPD001	Sharp Edge	-

EZ Bars are sold in 1 piece boxes.

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Recommended Cutting Conditions

H Chipbreaker (EZB-HP...H Type / EZB-ST...H Type)

Workpiece Material	Insert Grade (Vc : sfm)		EZB020/025		EZB030/035		EZB040/045		EZB050/055/060/065/075		Notes
	MEGACOAT	Carbide	Depth of Cut: D.O.C. (inch), Feed: f (ipr)								
	PR1225	**GW05**	D.O.C.	f	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	100~330	-	~0.0118	~0.0012	~0.0157	~0.0016	~0.0177	~0.0028	~0.0197	~0.0039	Wet
Stainless Steel	100~260	-	~0.0079	~0.0008	~0.0118	~0.0012	~0.0138	~0.0020	~0.0157	~0.0028	
Non-ferrous Material	-	~330	~0.0118	~0.0020	~0.0157	~0.0024	~0.0177	~0.0039	~0.0197	~0.0059	

F Chipbreaker (EZB-HP...F Type / EZB-ST...F Type)

Workpiece Material	Insert Grade (Vc : sfm)	EZB020/025		EZB030/035		EZB040/045		EZB050/055/060/065/075		Notes
	MEGACOAT	Depth of Cut: D.O.C. (inch), Feed: f (ipr)								
	PR1225	D.O.C.	f	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	100~330	~0.0079	~0.0012	~0.0079	~0.0020	~0.0118	~0.0028	~0.0118	~0.0028	Wet
Stainless Steel	100~260	~0.0079	~0.0008	~0.0079	~0.0012	~0.0098	~0.0020	~0.0098	~0.0020	

NB (Without Chipbreaker)

Workpiece Material	Insert Grade (Vc : sfm)	EZB020/025		EZB030/035		EZB040/045		EZB050/055/060/065/075		Notes
	MEGACOAT	Depth of Cut: D.O.C. (inch), Feed: f (ipr)								
	PR1225	D.O.C.	f	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	100~330	~0.0118	~0.0012	~0.0157	~0.0016	~0.0177	~0.0028	~0.0197	~0.0039	Wet
Stainless Steel	100~260	~0.0079	~0.0008	~0.0118	~0.0012	~0.0138	~0.0020	~0.0157	~0.0028	
Non-ferrous Material	200~330	~0.0118	~0.0020	~0.0157	~0.0024	~0.0177	~0.0028	~0.0197	~0.0039	

Workpiece Material	Insert Grade (Vc : sfm)		EZB030		EZB040/045		EZB050/060/070		Notes
	MEGACOAT CBN	PCD	Depth of Cut: D.O.C. (inch), Feed: f (ipr)						
	KBN05M	**KPD001**	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Non-ferrous Material	-	~980	-	-	~0.0177	~0.0039	~0.0197	~0.0059	Wet
Hardened Materials	~330	-	~0.0028	~0.0012	~0.0039	~0.0020	~0.0059	~0.0028	

EZ Bar Compatibility

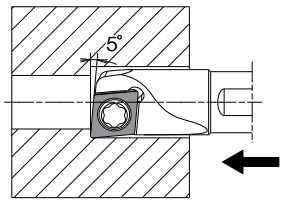
EZ Bar is compatible with conventional Micro-Bars

Sleeve \ Bar	**EZB...HP**	**EZB...ST/NB**	**HPB...**(Conventional)
EZH...CT/HP	✓	✓	※1 ※2 ✓ (Compatible)
EZH...ST	✓	✓	※1 ✓ (Compatible)
PSH...(Discontinued Sleeve)	※1 ✓ (Compatible)	※1 ✓ (Compatible)	✓

※1 Some diameters of conventional Micro-Bars are incompatible
※2 Use them without Adjustment Pins. Overhang length of bar is not adjustable.

S-SCLC-EZ NEW

Maximum overhand length - L/D = ~3



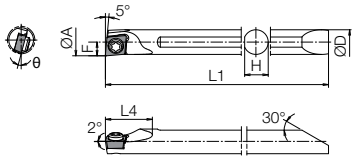


Fig.1

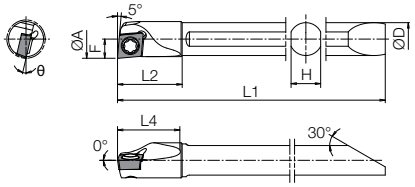


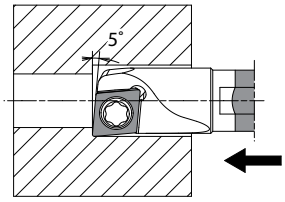
Fig.2

• Right-hand shown

• Left-hand insert for Right-hand toolholder

C-SCLC-EZ NEW

Maximum overhand length - L/D = ~5



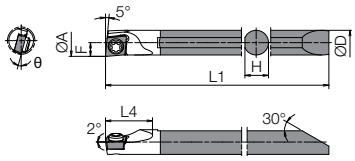


Fig.3

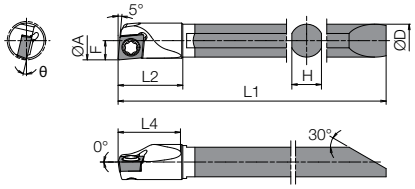


Fig.4

• Right-hand shown

• Left-hand insert for Right-hand toolholder

Toolholder Dimensions

Part Number		Stock (R)	Min. Bore Dia.	Dimensions (mm)							θ	Standard Corner-R(re)	Coolant Hole	Drawing	Spare Parts		Applicable Sleeve → F25
			ØA	ØD	H	L1	L2	L3	L4	F					Clamp Screw	Wrench	
Steel	S045X-SCLCR03-050EZ	●	5	4.5	4.3	42.4	-	-	8.5	2.5	15°	0.2	No	Fig.1	SB-1635TR	FT-6	EZH045…
	S060X-SCLCR04-070EZ	●	7	6.0	5.4	53.9	11.8	-	11.5	3.5	13°	0.2	No	Fig.2	SB-2035TR		EZH060…
Carbide	C045X-SCLCR03-050EZ	●	5	4.5	4.3	51.4	-	-	8.5	2.5	15°	0.2	No	Fig.3	SB-1635TR		EZH045…
	C060X-SCLCR04-070EZ	●	7	6.0	5.4	65.9	11.8	-	11.5	3.5	13°	0.2	No	Fig.4	SB-2035TR		EZH060…

Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing / Precision	Non-ferrous Metals	Hard Material
Ref. Page	→ B48	→ B54, B55	→ B54	→ C24	→ C14
Insert / Toolholder	CF	L-F	L-FSF	PCD	CBN
...SCLCR03-...	CCGT1109..	CCGT1109..	CCET1109..	-	CCMW1109..
...SCLCR04-...	CCGT1411..	CCGT1411..	CCET1411..	CCGW1411..	CCMW1411..

Recommended Cutting Conditions → **F103~F104**

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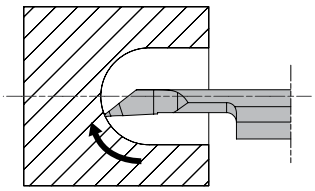
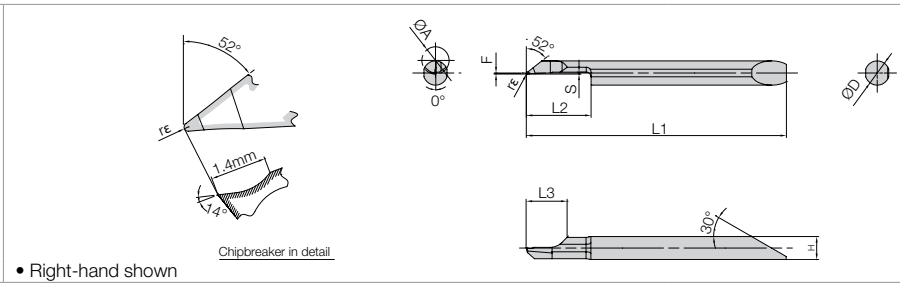
NEW ITEMS!

EZVB (Boring / Internal Facing / Internal Profiling) NEW





• Right-hand shown

Toolholder Dimensions

Part Number		Min. Bore Dia.	Dimensions (mm)							Grade	Applicable Sleeve F23~F27
										MEGACOAT	
		ØA	ØD	H	L1	L2	L3	F	S	rε	PR1225	
EZVBR	035030-010	3.5	3	2.8	38.0	8	5.8	0.17	0.22	±0.015 0.100	●	EZH030…
	045040-010	4.5	4	3.8	43.0	10	6.8	0.17	0.26		●	EZH040…
	055050-010	5.5	5	4.8	50.2	12	7.7	0.17	0.29		●	EZH050…
	065060-010	6.5	6	5.8	55.2	14	8.6	0.17	0.32		●	EZH060…

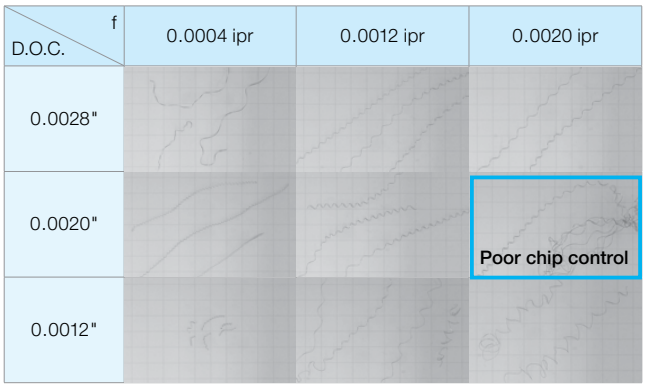
Recommended Cutting Conditions

Workpiece Material	Insert Grade (Vc : sfm)	EZVB035		EZVB045		EZVB055/065		Notes
	MEGACOAT	Depth of Cut: D.O.C. (inch), Feed: f (ipr)						
	PR1225	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	100~330	~0.0020	~0.0016	~0.0028	~0.0028	~0.0039	~0.0028	Wet
Stainless Steel	100~260	~0.0012	~0.0012	~0.0020	~0.0020	~0.0028	~0.0020	

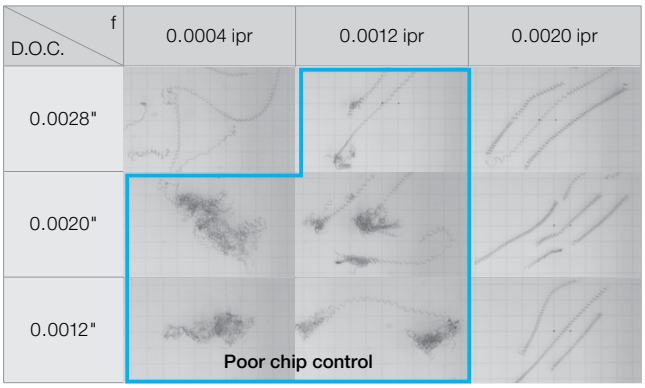
EZVB (Boring / Internal Facing / Internal Profiling)

Stable Machining with Better Chip Control

EZVBR045040-010



Competitor



Vc = 330 sfm Workpiece: Stainless Steel (Wet)

EZH-CT (Sleeve) NEW

With Coolant Hole and EZ Adjust Structure

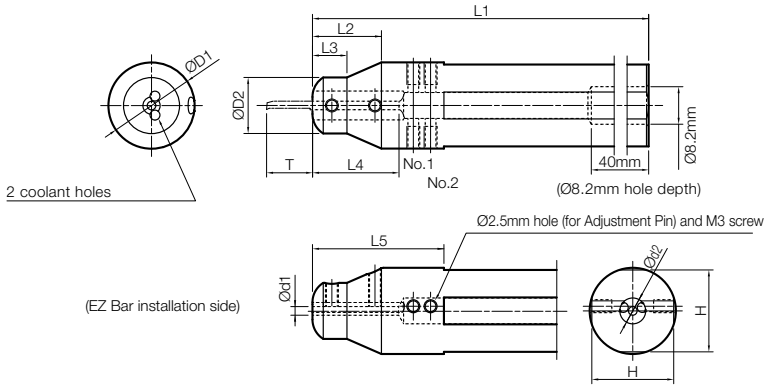


Fig.1

Part Number		Stock	Dimensions (mm)										T (mm) Overhang Length of Bar ※2				Drawing	Applicable EZ Bar ➡ F16~F18 ➡ J28
			Ød1	ØD1	ØD2	Ød2	H	L1	L2	L3	※1L4	L5	Adjustment Pin Setting Position No.1	No.2	No.3	No.4		
EZH	01719CT-120	●	1.7	0.75"	13	6	18.0	120	16	8	16	30.5	7.5	3.5	-	-	Fig.1	EZBR...017...
	01720CT-120	○	1.7	20	13	6	19.0	120	16	8	16	30.5						
	01722CT-135	○	1.7	22	13	6	21.0	135	16	8	16	41.5						
	01725.0CT-135	○	1.7	25	13	6	24.0	135	16	8	16	30.5						
	01725.4CT-120	●	1.7	1.00"	13	6	24.4	120	16	8	16	30.5						
EZH	02019CT-120	●	2.0	0.75"	13	6	18.0	120	16	8	20	30.5	8.5	4.5	-	-	Fig.1	EZBR...020... ※3 HPB型 0202...
	02020CT-120	○	2.0	20	13	6	19.0	120	16	8	20	30.5						
	02022CT-135	○	2.0	22	13	6	21.0	135	16	8	20	41.5						
	02025.0CT-135	○	2.0	25	13	6	24.0	135	16	8	20	30.5						
	02025.4CT-120	●	2.0	1.00"	13	6	24.4	120	16	8	20	30.5						
EZH	02519CT-120	●	2.5	0.75"	13	6	18.0	120	16	8	20	30.5	11.0	7.0	-	-	Fig.1	EZBR...025... EZTR...025...
	02520CT-120	○	2.5	20	13	6	19.0	120	16	8	20	30.5						
	02522CT-135	○	2.5	22	13	6	21.0	135	16	8	20	41.5						
	02525.0CT-135	○	2.5	25	13	6	24.0	135	16	8	20	30.5						
	02525.4CT-120	●	2.5	1.00"	13	6	24.4	120	16	8	20	30.5						

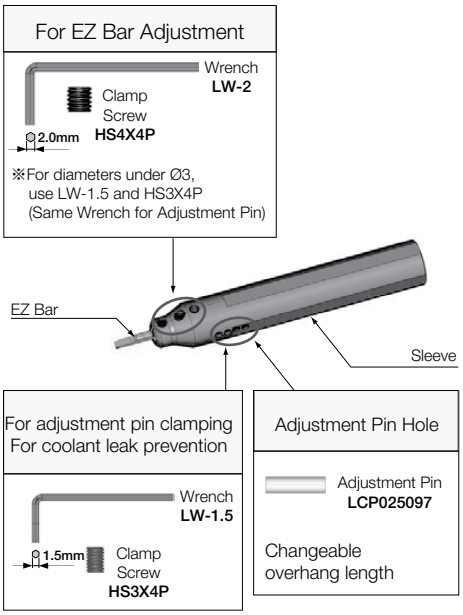
※1: L4 shows Ød1 length
※2: Dimension T shows overhang length of the EZB Bar when attached to sleeve.
※3: HP type bars are not adjustable.
• Choose sleeves (Ød1) to match ØD dimension of bar.

Spare Parts (for EZH-CT Sleeves)

Part Number		Spare Parts: Clamp Screw	Wrench	Clamp Screw	Wrench	Adjustment Pin
EZH	017...CT-..	HS3X4P (for adjustment pin, coolant leak prevention and bar)	LW-1.5 Tightening Torque 1N • m	-	-	LCP025097
	020...CT-..					
	025...CT-..					
	030...CT-..					
EZH	035...CT-..	HS3X4P (for adjustment pin, coolant leak prevention and bar)	LW-1.5 Tightening Torque 1N • m	HS4X4P (for bar)	LW-2 Tightening Torque 2N • m	LCP025097
	040...CT-..					
	050...CT-..					
	060...CT-..					
	070...CT-..					

1) If shank dia. is Ø2.5mm or less, use 6 clamp screws (HS3X4P), distributed as follows:
For adjustment pin.....2 pcs
For coolant leak prevention.....2 pcs
For bar.....2 pcs

2) If shank dia. is Ø3.0mm, use 9 clamp screws (HS3X4P), distributed as follows:
For adjustment pin.....2 pcs
For coolant leak prevention.....4 pcs
For bar.....3 pcs



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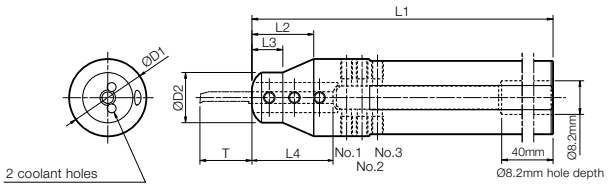
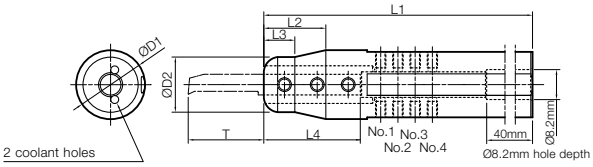
NEW ITEMS!

EZH-CT (Sleeve) NEW

With Coolant Hole and EZ Adjust Structure





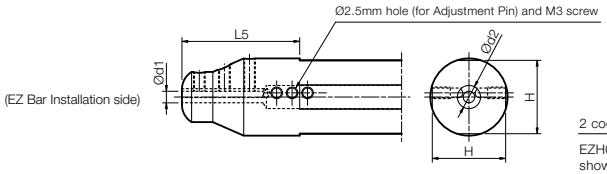
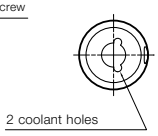


Fig.2



EZH07..CT coolant hole shape is as shown on the figure above.

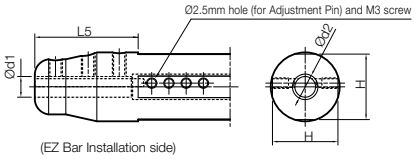


Fig.3

Part Number		Stock	Dimensions (mm)								※1L4	L5	T (mm) Overhang Length of Bar ※2				Drawing	Applicable EZ Bar or EZ Bar PLUS ➡ F16~F18 ➡ F20~F21 ➡ G48, G76 ➡ J28
			Ød1	ØD1	ØD2	Ød2	H	L1	L2	L3			Adjustment Pin Setting Position No.1	No.2	No.3	No.4		
EZH	03019CT-120	●	3.0	0.75"	13	6.0	18.0	120	16	8	21	30.5	13.5	9.5	5.5	-	Fig.2	EZBR...030... EZVBR035030-... EZGR...030-... EZTR...030-... ※3 HPB刃0303-...
	03020CT-120	○	3.0	20	13	6.0	19.0	120	16	8	21	30.5						
	03022CT-135	○	3.0	22	13	6.0	21.0	135	16	8	21	41.5						
	03025.0CT-135	○	3.0	25	13	6.0	24.0	135	16	8	21	30.5						
	03025.4CT-120	●	3.0	1.00"	13	6.0	24.4	120	16	8	21	30.5						
EZH	03519CT-120	●	3.5	0.75"	13	6.0	18.0	120	16	8	21	31.1	15.5	11.5	7.5	-	Fig.2	EZBR...035... EZTR...035-...
	03520CT-120	○	3.5	20	13	6.0	19.0	120	16	8	21	31.1						
	03522CT-135	○	3.5	22	13	6.0	21.0	135	16	8	21	41.5						
	03525.0CT-135	○	3.5	25	13	6.0	24.0	135	16	8	21	31.1						
	03525.4CT-120	●	3.5	1.00"	13	6.0	24.4	120	16	8	21	31.1						
EZH	04019CT-120	●	4.0	0.75"	13	6.0	18.0	120	16	8	22	32.7	20.5	16.5	12.5	8.5	Fig.3	EZBR...040... EZVBR045040-... EZGR...040-... EZFGR...040-... EZTR...040-... ※3 HP...04-...
	04020CT-120	○	4.0	20	13	6.0	19.0	120	16	8	22	32.7						
	04022CT-135	○	4.0	22	13	6.0	21.0	135	16	8	22	41.5						
	04025.0CT-135	○	4.0	25	13	6.0	24.0	135	16	8	22	32.7						
	04025.4CT-120	●	4.0	1.00"	13	6.0	24.4	120	16	8	22	32.7						
EZH	05019CT-120	●	5.0	0.75"	16	6.0	18.0	120	18	9	26	30.0	25.5	20.5	15.5	10.5	Fig.3	EZBR...050... EZVBR055050-... EZGR...050-... EZFGR...050-... EZTR...050-... ※3 HP...05-...
	05020CT-120	○	5.0	20	16	6.0	19.0	120	18	9	26	30.0						
	05022CT-135	○	5.0	22	16	6.0	21.0	135	18	9	26	44.0						
	05025.0CT-135	○	5.0	25	16	6.0	24.0	135	18	9	26	30.0						
	05025.4CT-120	●	5.0	1.00"	16	6.0	24.4	120	18	9	26	30.0						
EZH	06019CT-120	●	6.0	0.75"	16	7.4	18.0	120	18	9	28	30.0	30.5 (18.5)	25.5 (13.5)	20.5 (-)	15.5 (-)	Fig.3	EZBR...060... EZVBR065060-... EZGR...060-... EZTR...060-..._060X-...-070EZ ※3 HP...0606-...
	06020CT-120	●	6.0	20	16	7.4	19.0	120	18	9	28	30.0						
	06022CT-135	●	6.0	22	16	7.4	21.0	135	18	9	28	41.5						
	06025.0CT-135	○	6.0	25	16	7.4	24.0	135	18	9	28	30.0						
	06025.4CT-120	●	6.0	1.00"	16	7.4	24.4	120	18	9	28	30.0						
EZH	07019CT-120	●	7.0	0.75"	16	7.4	18.0	120	18	9	29	30.0	35.5	30.5	25.5	20.5	Fig.3	EZBR...070... EZGR...070-... EZFGR...070-... EZTR...070-... ※3 HP...07-...
	07020CT-120	○	7.0	20	16	7.4	19.0	120	18	9	29	30.0						
	07022CT-135	○	7.0	22	16	7.4	21.0	135	18	9	29	44.0						
	07025.0CT-135	○	7.0	25	16	7.4	24.0	135	18	9	29	30.0						
	07025.4CT-120	●	7.0	1.00"	16	7.4	24.4	120	18	9	29	30.0						

※1: L4 shows Ød1 length
※2: Dimension T shows overhang length of the EZB Bar when attached to sleeve. Dimensions in ( ) show overhand length of EZ Bar PLUS.
※3: HP type bars are not adjustable.
• Choose sleeves (Ød1) to match ØD dimension of bar.

EZ Bar Mounting Procedure ➡ F15

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

EZH-HP (Sleeve)

Adjustable

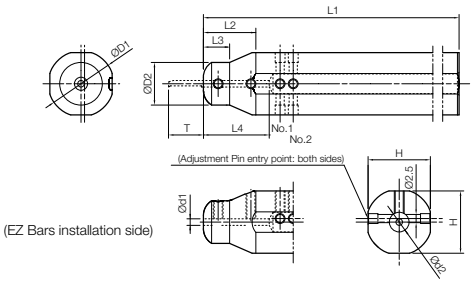


Fig.1

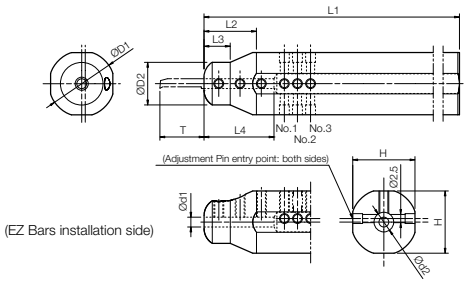


Fig.2

Part Number		Stock	Dimensions (mm)									T (mm) Overhang Length of Bar ※2				Drawing	Applicable EZ Bar → F16~F18 → F21 → G48, G76 → J28
			Ød1	ØD1	ØD2	Ød2	H	L1	L2	L3	※1L4	Adjustment Pin Setting Position No.1	No.2	No.3	No.4		
EZH	01716HP-100	○	1.7	16	13	6	15.0	100	16	8	16	7.5	3.5	-	-	Fig.1	EZBR…017…
	01719HP-120	●	1.7	0.75"	13	6	18.0	120	16	8	16						
	01720HP-120	○	1.7	20	13	6	19.0	120	16	8	16						
	01722HP-135	○	1.7	22	13	6	21.0	135	16	8	16						
	01725.0HP-135	○	1.7	25	13	6	24.0	135	16	8	16						
	01725.4HP-120	●	1.7	1.00"	13	6	24.4	120	16	8	16						
EZH	02016HP-100	○	2.0	16	13	6	15.0	100	16	8	20	8.5	4.5	-	-	Fig.1	EZBR…020… ※3 HPB R/L 0202-...
	02019HP-120	●	2.0	0.75"	13	6	18.0	120	16	8	20						
	02020HP-120	○	2.0	20	13	6	19.0	120	16	8	20						
	02022HP-135	○	2.0	22	13	6	21.0	135	16	8	20						
	02025.0HP-135	○	2.0	25	13	6	24.0	135	16	8	20						
	02025.4HP-120	●	2.0	1.00"	13	6	24.4	120	16	8	20						
EZH	02516HP-100	○	2.5	16	13	6	15.0	100	16	8	20	11.0	7.0	-	-	Fig.1	EZBR…025… EZTR…025-…
	02519HP-120	●	2.5	0.75"	13	6	18.0	120	16	8	20						
	02520HP-120	○	2.5	20	13	6	19.0	120	16	8	20						
	02522HP-135	○	2.5	22	13	6	21.0	135	16	8	20						
	02525.0HP-135	○	2.5	25	13	6	24.0	135	16	8	20						
	02525.4HP-120	●	2.5	1.00"	13	6	24.4	120	16	8	20						
EZH	03016HP-100	○	3.0	16	13	6	15.0	100	16	8	21	13.5	9.5	5.5	-	Fig.2	EZBR…030… EZVBR035030-... EZGR…030-… EZTR…030-… ※3 HPB R/L 0303-...
	03019HP-120	●	3.0	0.75"	13	6	18.0	120	16	8	21						
	03020HP-120	○	3.0	20	13	6	19.0	120	16	8	21						
	03022HP-135	○	3.0	22	13	6	21.0	135	16	8	21						
	03025.0HP-135	○	3.0	25	13	6	24.0	135	16	8	21						
	03025.4HP-120	●	3.0	1.00"	13	6	24.4	120	16	8	21						
EZH	03516HP-100	○	3.5	16	13	6	15.0	100	16	8	22	15.5	11.5	7.5	-	Fig.2	EZBR…035… EZTR…035…
	03519HP-120	●	3.5	0.75"	13	6	18.0	120	16	8	22						
	03520HP-120	○	3.5	20	13	6	19.0	120	16	8	22						
	03522HP-135	○	3.5	22	13	6	21.0	135	16	8	22						
	03525.0HP-135	○	3.5	25	13	6	24.0	135	16	8	22						
	03525.4HP-120	●	3.5	1.00"	13	6	24.4	120	16	8	22						
EZH	04016HP-100	○	4.0	16	13	6	15	100	16	8	24	20.5	16.5	12.5	8.5	Fig.4 (F23)	EZBR…040… EZVBR045040-... EZGR…040-… EZFGR…040-… EZTR…040-… ※3 HP…04-…
	04019HP-120	●	4.0	19.05	13	6	18	120	16	8	24						
	04020HP-120	○	4.0	20	13	6	19	120	16	8	24						
	04022HP-135	○	4.0	22	13	6	21	135	16	8	24						
	04025.0HP-135	○	4.0	25	13	6	24	135	16	8	24						
	04025.4HP-120	●	4.0	25.4	13	6	24.4	120	16	8	24						

※1: L4 shows Ød1 length
※2: Dimension T shows overhang length of the EZB Bar when attached to sleeve.
※3: HP type bars are not adjustable.
• Choose sleeves (Ød1) to match ØD dimension of bar.

Spare Parts (for EZH-HP Sleeves)

Part Number		Spare Parts					Applicable EZB Bar and EZ Bar PLUS	
		Clamp Screw	Wrench	Clamp Screw	Wrench	Adjustment Pin		
EZH	017...HP-..	HS3X4P (for adjustment pin and bar)	LW-1.5 Tightening Torque 1N • m	-	-	LCP025140	EZBR…017…	
	020...HP-..						EZBR…020…	
	025...HP-..						EZBR…025…	EZ_R…025-…
	030...HP-..						EZBR…030…	EZ_R…030-…
EZH	035...HP-..	HS3X4P (only for adjustment pin)	LW-1.5 Tightening Torque 1N • m	HS4X4P (for bar)	LW-2 Tightening Torque 2N • m	LCP025140	EZBR…035…	EZ_R…035-…
	040...HP-..						EZBR…040…	EZ_R…040-…
	045...HP-..						_045X-…-050EZ	
	050...HP-..						EZBR…050…	EZ_R…050-…
	060...HP-..						EZBR…060…	EZ_R…060-…
							_060X-…-070EZ	
	070...HP-..						EZBR…070…	EZ_R…070-…

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U.S. Stock Standard : ●
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EZH-HP (Sleeve)

Adjustable

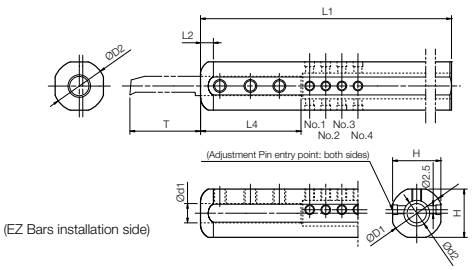

Fig.3

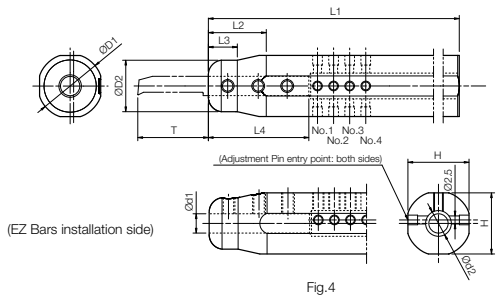

Fig.4

Part Number		Stock	Dimensions (mm)									T (mm) Overhang Length of Bar ※2				Drawing	Applicable EZ Bar or EZ Bar PLUS → F16~F18 → F20~F21 → G48, G76 → J28
			Ød1	ØD1	ØD2	Ød2	H	L1	L2	L3	※1L4	Adjustment Pin Setting Position No.1	No.2	No.3	No.4		
EZH	04516HP-100	○	4.5	16	16	6	15.0	100	4	-	25.3	23.0 (14)	18.5 (9.5)	14.0 (-)	9.5 (-)	Fig.3	_045X-…050EZ
	04519HP-120	○	4.5	0.75"	16	6	18.0	120	18	9	25.3					Fig.4	
	04520HP-120	○	4.5	20	16	6	19.0	120	18	9	25.3						
	04522HP-135	○	4.5	22	16	6	21.0	135	18	9	25.3						
	04525.0HP-135	○	4.5	25	16	6	24.0	135	18	9	25.3						
	04525.4HP-120	○	4.5	1.00"	16	6	24.4	120	18	9	25.3						
EZH	05016HP-100	○	5.0	16	16	6	15.0	100	4	-	29.0	25.5	20.5	15.5	10.5	Fig.3	EZBR…050… EZVBR055050-… EZGR…050-… EZFGR…050-… EZTR…050… ※3 HP…05-…
	05019HP-120	●	5.0	0.75"	16	6	18.0	120	18	9	29.0					Fig.4	
	05020HP-120	○	5.0	20	16	6	19.0	120	18	9	29.0						
	05022HP-135	○	5.0	22	16	6	21.0	135	18	9	29.0						
	05025.0HP-135	○	5.0	25	16	6	24.0	135	18	9	29.0						
	05025.4HP-120	●	5.0	1.00"	16	6	24.4	120	18	9	29.0						
EZH	06016HP-100	○	6.0	16	16	8	15.0	100	4	-	31.0	30.5 (18.5)	25.5 (13.5)	20.5 (-)	15.5 (-)	Fig.3	EZBR…060… EZVBR065060-… EZGR…060-… EZTR…060-… _060X-…-070EZ ※3 HP…0606-…
	06019HP-120	●	6.0	0.75"	16	8	18.0	120	18	9	31.0					Fig.4	
	06020HP-120	○	6.0	20	16	8	19.0	120	18	9	31.0						
	06022HP-135	○	6.0	22	16	8	21.0	135	18	9	31.0						
	06025.0HP-135	○	6.0	25	16	8	24.0	135	18	9	31.0						
	06025.4HP-120	●	6.0	1.00"	16	8	24.4	120	18	9	31.0						
EZH	07016HP-100	○	7.0	16	16	8	15.0	100	4	-	33.0	35.5	30.5	25.5	20.5	Fig.3	EZBR…070… EZGR…070-… EZFGR…070-… EZTR…070-… ※3 HP…07-…
	07019HP-120	●	7.0	0.75"	16	8	18.0	120	18	9	33.0					Fig.4	
	07020HP-120	○	7.0	20	16	8	19.0	120	18	9	33.0						
	07022HP-135	○	7.0	22	16	8	21.0	135	18	9	33.0						
	07025.0HP-135	○	7.0	25	16	8	24.0	135	18	9	33.0						
	07025.4HP-120	●	7.0	1.00"	16	8	24.4	120	18	9	33.0						

※1: L4 shows Ød1 length
※2: Dimension T shows overhang length of the EZB Bar when attached to sleeve. Dimensions in ( ) show overhand length of EZ Bar PLUS.
※3: HP type bars are not adjustable.
• Choose sleeves (Ød1) to match ØD dimension of bar.

EZ Bar Identification System

EZ H 017 16 HP - 100

EZ Symbol of Bar	Application	Shank Dia. of EZB Bar	Sleeve Shank Dia.	Precision	Overall Length of Sleeve
	H-Sleeve	017 : 1.7mm	16 : 16.00mm	CT: High Precision with Coolant Hole	100 : 100mm
		025 : 2.5mm	25.4 : 25.40mm	HP: Precision / ST: Standard	120 : 120mm

EZ Bar Mounting Procedure

● How to use adjustment pin (Fig.1)

① Put the adjustment pin into the hole.
② Push it into the sleeve, using the wrench "LW-1.5."
③ Tighten the clamp screw "HS3X4P" with wrench "LW-1.5" to fix the adjustment screw.

●How to secure bar (Fig.2)

① With the chip pocket upward, set the bar in sleeve.
Press the slant of the end of the bar against the adjustment pin.
Make sure that the bar does not rotate. (Fig.3)
② Tighten the clamp screw with wrench "LW-2"and secure the bar.
(Use "LW-1.5" if shank dia. is 3mm or less.)

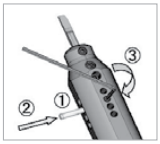

Fig. 1:
How to use adjustment pin

Fig. 2:
How to secure bar

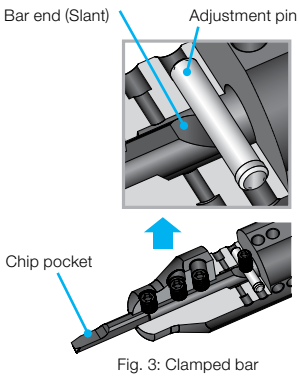

Fig. 3: Clamped bar

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

EZH-ST (Sleeve)

NOT Adjustable

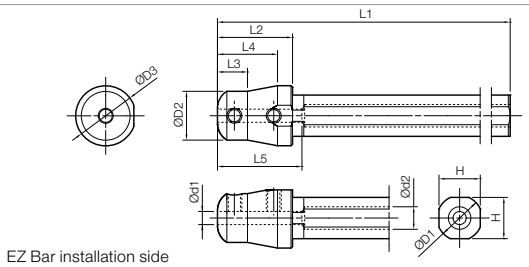

Fig.1

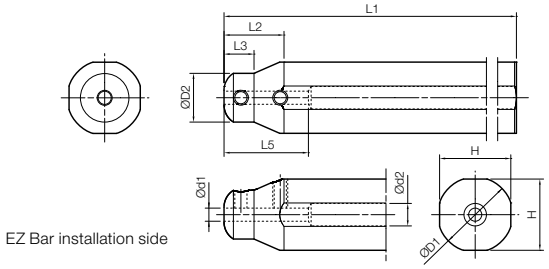

Fig.2

Part Number		Stock	Dimensions (mm)											Drawing	Applicable EZ Bar ➡ F16~F18 ➡ F21, F36 ➡ G48, G51, G76, G79 ➡ J28, J32
			Ød1	ØD1	ØD2	ØD3	Ød2	H	L1	L2	L3	L4	※L5		
EZH	01712ST-80	○	1.7	12	13	16	6	11.0	80	20	8	16	16	Fig.1	EZBR…017…
	01716ST-100	○	1.7	16	13	-	6	15.0	100	16	8	-	16	Fig.2	
	01719ST-120	○	1.7	0.75"	13	-	6	18.0	120	16	8	-	16		
	01720ST-120	○	1.7	20	13	-	6	19.0	120	16	8	-	16		
	01722ST-135	●	1.7	22	13	-	6	21.0	135	16	8	-	16		
	01725.0ST-135	○	1.7	25	13	-	6	24.0	135	16	8	-	16		
	01725.4ST-120	○	1.7	1.00"	13	-	6	24.4	120	16	8	-	16		
EZH	02512ST-80	○	2.5	12	13	16	6	11.0	80	20	8	16	20	Fig.1	EZBR…025… EZTR…025-…
	02516ST-100	○	2.5	16	13	-	6	15.0	100	16	8	-	20	Fig.2	
	02519ST-120	○	2.5	0.75"	13	-	6	18.0	120	16	8	-	20		
	02520ST-120	○	2.5	20	13	-	6	19.0	120	16	8	-	20		
	02522ST-135	○	2.5	22	13	-	6	21.0	135	16	8	-	20		
	02525.0ST-135	○	2.5	25	13	-	6	24.0	135	16	8	-	20		
	02525.4ST-120	○	2.5	1.00"	13	-	6	24.4	120	16	8	-	20		
EZH	03512ST-80	○	3.5	12	13	16	6	11.0	80	20	8	16	22	Fig.1	EZBR…035… EZTR…035-…
	03516ST-100	○	3.5	16	13	-	6	15.0	100	16	8	-	22	Fig.2	
	03519ST-120	○	3.5	0.75"	13	-	6	18.0	120	16	8	-	22		
	03520ST-120	○	3.5	20	13	-	6	19.0	120	16	8	-	22		
	03522ST-135	○	3.5	22	13	-	6	21.0	135	16	8	-	22		
	03525.0ST-135	○	3.5	25	13	-	6	24.0	135	16	8	-	22		
	03525.4ST-120	○	3.5	1.00"	13	-	6	24.4	120	16	8	-	22		

※:L5 shows Ød1 length
- Choose sleeves (Ød1) to match ØD dimension of bar.
- Adjustment pin cannot be installed in EZH-ST sleeves. To adjust overhang of EZB insert, please use EZH-CT or EZH-HP sleeves.

※:L5 shows Ød1 length
- Choose sleeves (Ød1) to meet with ØD dimension of bar.
- Adjustment pin cannot be installed in EZH-ST sleeves. To adjust overhang of EZB insert, please use EZH-CT or EZH-HP sleeves.

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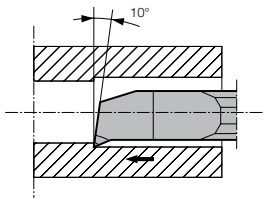
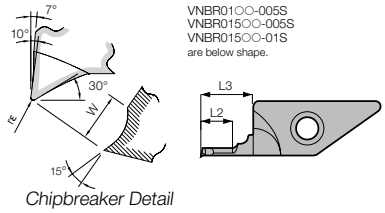
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

Spare Parts (for EZH-ST Sleeves)

Part Number	Spare Parts		Applicable EZ Bar		EZ Bar PLUS	Double-Sided Micro-Bars
	Clamp Screw	Wrench	**EZB-HP EZB-ST EZB-NB**	**EZG EZFG EZT**	**S-SCLC C-SCLC**	**HP**
						
EZH 017...ST-..	HS3X4P	LW-1.5 Tightening Torque 1N • m	EZBR...017...	-	-	-
020...ST-..			EZBR...020...	-	-	HPB®0202-...
025...ST-..			EZBR...025...	EZTR...025-...	-	-
030...ST-..			EZBR...030...	EZ_R...030-...	-	HPB®0303-...
EZH 035...ST-..	HS4X4P	LW-2 Tightening Torque 2N • m	EZBR...035...	EZTR...035-...	-	-
040...ST-..			EZBR...040...	EZ_R...040-...	-	HP...04-...
050...ST-..			EZBR...050...	EZ_R...050-...	-	HP...05-...
060...ST-..			EZBR...060...	EZ_R...060-...	_060X-...-070EZ	HP...0606-...
070...ST-..			EZBR...070...	EZ_R...070-...	-	HP...07-...

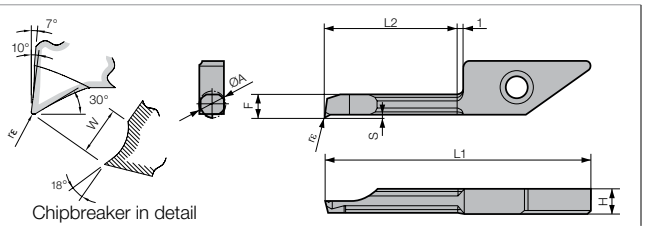
VNB-S (Boring) [Corner-R(rε) Minus tolerance]





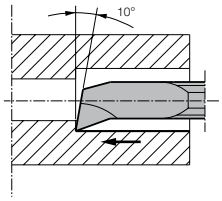
Chipbreaker Detail

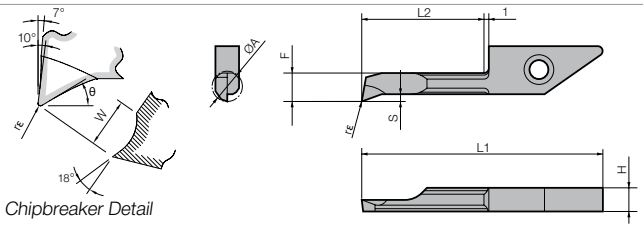
• Right-hand shown



Chipbreaker in detail

VNB (Boring)



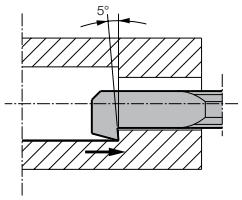


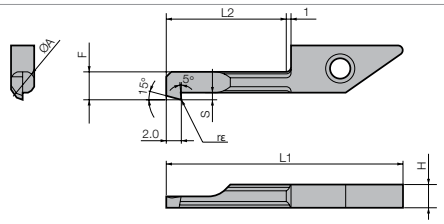
Chipbreaker Detail

• Right-hand shown

-NB Type (Without Chipbreaker)	
Top Shape	Grades
	Coated Carbide Carbide
	PCD

VNBT (Back Boring)





• Right-hand shown

Insert Dimensions (VNB-S)

Part Number		Min.Bore Dia.	Dimensions (mm)								Grade				
											MEGA COAT	PVD Coated Carbide	Carbide	PCD	
		ØA	H	L1	L2	L3	F	S	rε	W	PR1225	PR930	KW10	KPD001	KPD010
VNBR	0103-005S	1.0	3.9	26.5	3.0	7	0.85	0.20	+0 -0.02 0.05	0.7		○			
	0105-005S	1.0	3.9	26.5	5.0	7	0.85	0.20				○			
	01503-005S	1.5	3.9	26.5	3.0	7	1.3	0.20				○			
	01505-005S	1.5	3.9	26.5	5.0	7	1.3	0.20				○			
	0206-005S	2.0	3.9	26.5	6.0	-	1.8	0.25	+0 -0.02 0.05	0.8		○			
	025075-005S	2.5	3.9	28.1	7.5	-	2.1	0.40				○			
	0311-005S	3.0	3.9	30.8	11.0	-	2.6	0.40				○			
	03515-005S	3.5	3.9	34.8	15.0	-	3.0	0.50				○			
	0411-005S	4.0	3.9	30.8	11.0	-	3.5	0.50				○			
	0420-005S	4.0	3.9	39.8	20.0	-	3.5	0.50				○			
VNBR	01503-01S	1.5	3.9	26.5	3.0	7	1.3	0.20	+0 -0.03 0.10	0.7		○			
	01505-01S	1.5	3.9	26.5	5.0	7	1.3	0.20				○			
	0206-01S	2.0	3.9	26.5	6.0	-	1.8	0.25	+0 -0.03 0.10	0.8		○			
	025075-01S	2.5	3.9	28.1	7.5	-	2.1	0.40				○			
	0311-01S	3.0	3.9	30.8	11.0	-	2.6	0.40				○			
	03515-01S	3.5	3.9	34.8	15.0	-	3.0	0.50				○			
	0411-01S	4.0	3.9	30.8	11.0	-	3.5	0.50				○			
	0420-01S	4.0	3.9	39.8	20.0	-	3.5	0.50				○			
VNBR	0411-02S	4.0	3.9	30.8	11.0	-	3.5	0.50	+0 -0.04 0.20	0.8		○			
	0420-02S	4.0	3.9	39.8	20.0	-	3.5	0.50				○			

Recommended Cutting Conditions ➔ **F102**

Swiss IQ Bars are sold in 5 piece boxes.

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U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

Insert Dimensions (VNB / VNB-NB / VNBT)

Part Number		Min. Bore Dia.	Dimensions (mm)								Grade				
											MEGA COAT	PVD Coated Carbide	Carbide	PCD	
		ØA	H	L1	L2	F	S	rε	W	θ	PR1225	PR930	KW10	KPD001	KPD010
VNBR	0206-003	2	3.9	26.5	6	1.8	0.25	0.03	1.2	24°		○	○		
	0311-003	3	3.9	30.8	11	2.6	0.40	0.03	1.8	24°		●	●		
	0411-003	4	3.9	30.8	11	3.5	0.50	0.03	2.7	23°		●	●		
	0420-003	4	3.9	39.8	20	3.5	0.50					●	●		
	0511-003	5	3.9	30.8	11	4.5	0.70	0.03	3.0	23°		●	●		
	0520-003	5	3.9	39.8	20	4.5	0.70					●	●		
	0620-003	6	3.9	39.8	20	5.3	1.00	0.03	3.0	24°		●	●		
	0630-003	6	3.9	49.8	30	5.3	1.00					○	○		
	0720-003	7	3.9	39.8	20	6.2	1.00					●	●		
	0730-003	7	3.9	49.8	30	6.2	1.00					○	○		
VNBR	0206-01	2	3.9	26.5	6	1.8	0.25	0.10	1.2	24°		○	○		
	0311-01	3	3.9	30.8	11	2.6	0.40	0.10	1.8	24°		○	○		
	0411-01	4	3.9	30.8	11	3.5	0.50	0.10	2.7	23°		○	○		
	0420-01	4	3.9	39.8	20	3.5	0.50					○	○		
	0511-01	5	3.9	30.8	11	4.5	0.70	0.10	3.0	23°		○	○		
	0520-01	5	3.9	39.8	20	4.5	0.70					○	○		
	0620-01	6	3.9	39.8	20	5.3	1.00	0.10	3.0	24°		○	○		
	0630-01	6	3.9	49.8	30	5.3	1.00					○			
	0720-01	7	3.9	39.8	20	6.2	1.00					○	○		
	0730-01	7	3.9	49.8	30	6.2	1.00					○			
VNBR	0206-02	2	3.9	26.5	6	1.8	0.25	0.20	1.2	24°		○	○		
	0311-02	3	3.9	30.8	11	2.6	0.40	0.20	1.8	24°		○	○		
	0411-02	4	3.9	30.8	11	3.5	0.50	0.20	2.7	23°		○	○		
	0420-02	4	3.9	39.8	20	3.5	0.50					○	○		
	0511-02	5	3.9	30.8	11	4.5	0.70	0.20	3.0	23°		○	●		
	0520-02	5	3.9	39.8	20	4.5	0.70					○	●		
	0620-02	6	3.9	39.8	20	5.3	1.00	0.20	3.0	24°	○	●	○		
	0630-02	6	3.9	49.8	30	5.3	1.00					●	○		
	0720-02	7	3.9	39.8	20	6.2	1.00					○	○		
	0730-02	7	3.9	49.8	30	6.2	1.00					○	○		
VNBR	0206-003NB	2	3.9	26.5	6	1.8	0.25	0.03	-	15°		○	○		
	0311-003NB	3	3.9	30.8	11	2.6	0.40					○	○		
	0411-003NB	4	3.9	30.8	11	3.5	0.50					○	○		
	0420-003NB	4	3.9	39.8	20	3.5	0.50					○	○		
	0511-003NB	5	3.9	30.8	11	4.5	0.70					○	○		
	0520-003NB	5	3.9	39.8	20	4.5	0.70					○	○		
	0620-003NB	6	3.9	39.8	20	5.3	1.00					○	○		
	0630-003NB	6	3.9	49.8	30	5.3	1.00					○	○		
	0720-003NB	7	3.9	39.8	20	6.2	1.00					○	○		
	0730-003NB	7	3.9	49.8	30	6.2	1.00					○	○		
VNBR	0206-02NB	2	3.9	26.5	6	1.8	0.25	0.20	-	15°			○		
	0311-02NB	3	3.9	30.8	11	2.6	0.40						○		
	0411-02NB	4	3.9	30.8	11	3.5	0.50						○	○	○
	0420-02NB	4	3.9	39.8	20	3.5	0.50						○	○	○
	0511-02NB	5	3.9	30.8	11	4.5	0.70						○	○	○
	0520-02NB	5	3.9	39.8	20	4.5	0.70						○	○	○
	0620-02NB	6	3.9	39.8	20	5.3	1.00						○	○	○
	0630-02NB	6	3.9	49.8	30	5.3	1.00						○	○	○
	0720-02NB	7	3.9	39.8	20	6.2	1.00						○	○	○
	0730-02NB	7	3.9	49.8	30	6.2	1.00						○	○	○
VNBTR	0411-003	4	3.9	30.8	11	3.6	1.00	0.03	-	-		○	○		
	0420-003	4	3.9	39.8	20	3.6	1.00					○			
	0511-003	5	3.9	30.8	11	4.6	1.30					○	○		
	0520-003	5	3.9	39.8	20	4.6	1.30					○			
VNBTR	0411-01	4	3.9	30.8	11	3.6	1.00	0.10	-	-		○	○		
	0420-01	4	3.9	39.8	20	3.6	1.00					○			
	0511-01	5	3.9	30.8	11	4.6	1.30					○	○		
	0520-01	5	3.9	39.8	20	4.6	1.30					○			

Recommended Cutting Conditions ➡ F102

Swiss IQ Bars are sold in 5 piece boxes. *PCD Inserts are sold in 1 piece boxes.*

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

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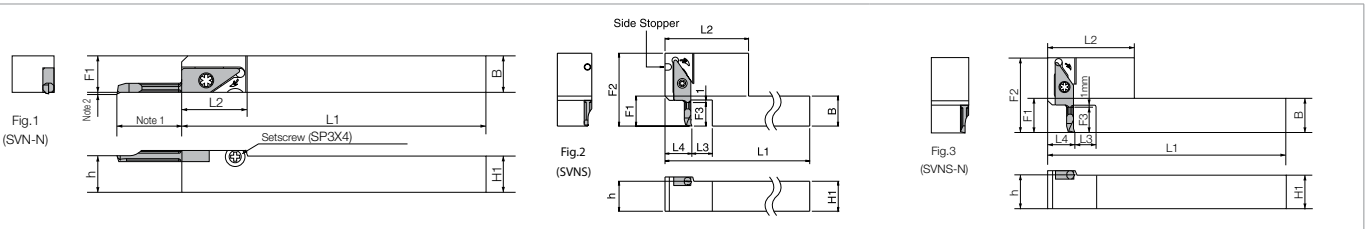
SVN-N (Without Side Stopper) ■ SVNS (With Side Stopper) ■ SVNS-N (Without Side Stopper / Without Setscrew)



• Right-hand shown

• Right-hand Insert for Right-hand Toolholder

Toolholder Dimensions

Note 1 & Note 2 : See Insert Dimension Table. (➡ **F28~F29**)

Part Number		Stock	Unit	Dimensions									Drawing	Spare Parts					Applicable Inserts
				H1=h	B	L1	L2	L3	L4	F1	F2	F3		Clamp Screw	Wrench	Side Stopper	Wrench	Set Screw	➡ **F28~F29** ➡ **G50** ➡ **G78** ➡ **J34**
SVNR	**1010H-12N**	○	mm	10	10	100	22	-	-	10	-	-	Fig.1	SB-3080TR	FT-10	-	-	SP3X4	VNBR....-... VNBTR....-... VNGR....-.. VNFGR....-.. VNTR....-..
	1212K-12N	○		12	12	125	22	-	-	12	-	-							
	1616K-12N	○		16	16	125	22	-	-	16	-	-							
	2020K-12N	○		20	20	125	22	-	-	20	-	-							
	2525M-12N	○		25	25	150	22	-	-	25	-	-							
SVNSR	**6-12-11**	●	inch	0.375	0.375	5.0	1.772	0.394	0.472	0.375	1.299	0.433	Fig.2	SB-3080TR	LTW-10S	HS3X4	LW-1.5	-	(VNBR..11-...)※ (VNBTR..11-...)※ (VNGR....-11)※ (VNTR...-11)※
	8-12-11	●		0.500	0.500	6.0	1.772	0.394	0.472	0.500	1.299	0.433							
	8-12-20	●		0.500	0.500	6.0	1.772	0.394	0.492	0.500	1.654	0.787							(VNBR..20-...)※ (VNBTR..20-...)※ (VNGR....-20)※
	12-12-11	●		0.750	0.750	8.0	1.772	0.630	0.472	0.750	1.299	0.433							(VNBR..11-...)※ (VNBTR..11-...)※ (VNGR....-11)※ (VNTR...-11)※
	12-12-20	●		0.750	0.750	8.0	1.772	0.630	0.492	0.750	1.654	0.787							(VNBR..20-...)※ (VNBTR..20-...)※ (VNGR....-20)※
SVNSR	**1010K-12-06N**	○	mm	10	10	125	45	10	12	10	29	6	Fig.3	SB-3080TR	LTW-10S	-	-	-	(VNBR..06-...)
	1010K-12-11N	○		10	10	125	45	10	12	10	33	11	Fig.3	SB-3080TR	LTW-10S	-	-	-	(VNBR..11-...)※ (VNBTR..11-...)※ (VNGR....-11)※ (VNTR...-11)※
	1212M-12-06N	○		12	12	150	45	10	12	12	29	6	Fig.3	SB-3080TR	LTW-10S	-	-	-	(VNBR..06-...)
	1212M-12-11N	○		12	12	150	45	10	12	12	33	11	Fig.3	SB-3080TR	LTW-10S	-	-	-	(VNBR..11-...)※ (VNBTR..11-...)※ (VNGR....-11)※ (VNTR...-11)※
	1212M-12-20N	○		12	12	150	45	10	13	12	42	20	Fig.3	SB-3080TR	LTW-10S	-	-	-	(VNBR..20-...)※ (VNBTR..20-...)※ (VNGR....-20)※
	1616M-12-06N	○		16	16	150	45	16	12	16	29	6	Fig.3	SB-3080TR	LTW-10S	-	-	-	(VNBR..06-...)
	1616M-12-11N	○		16	16	150	45	16	12	16	33	11	Fig.3	SB-3080TR	LTW-10S	-	-	-	(VNBR..11-...)※ (VNBTR..11-...)※ (VNGR....-11)※ (VNTR...-11)※
	1616M-12-20N	○		16	16	150	45	16	13	16	42	20	Fig.3	SB-3080TR	LTW-10S	-	-	-	(VNBR..20-...)※ (VNBTR..20-...)※ (VNGR....-20)※

※ All Swiss IQ Bar Inserts are used with SVNSR Toolholder, but when setting the cutting edge at the toolholder face level as shown in Fig. 2, use the Insert shown in ( ).
In that case, the toolholder dimension F3 becomes the same as L2 of Insert Dimension.

1) SVN-N / S...SVN-N / S-SVN-SN Toolholders (without side stopper) retain high index accuracy by easy restraint.

2) For high-rigidity clamping, (e.g. when varying load direction of undercutting, internal and external, or face cutting by one tool), changing the SP3X4 screw to a HS3X4 screw (sold separately) enables the toolholder's rigid clamping equivalent to the side stopper holders.

Spare Parts (Optional)

Screw (Side Stopper)	Wrench
	
HS3X4	LW-1.5

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World Express (Shipping: 7-10 Business Days) : ○

S...SVN (With Side Stopper : Standard) S...SVN-N (Without Side Stopper : Standard) S...SVN-SN (Without Side Stopper : Straight)

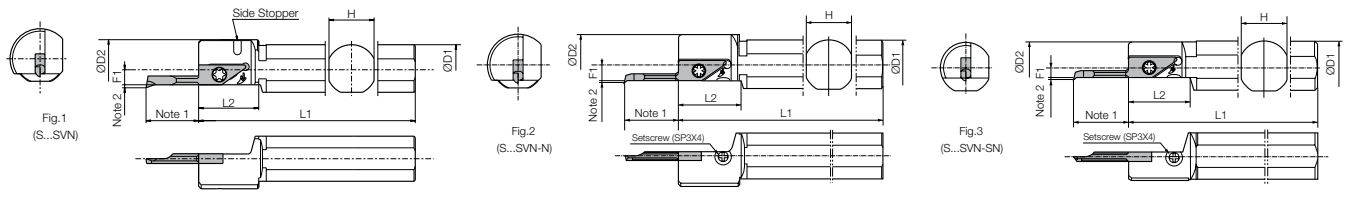


Fig.1 (S...SVN) Fig.2 (S...SVN-N) Fig.3 (S...SVN-SN)

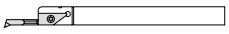
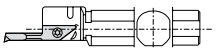
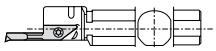
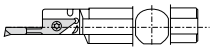
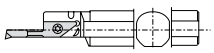
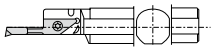
• Right-hand shown • Right-hand Insert for Right-hand Toolholder

Note 1 & Note 2 : See Insert Dimension Table. (➡ F28~F29)

Toolholder Dimensions

Part Number	Stock	Unit	Dimensions ØD1	ØD2	H	L1	L2	F1	Drawing	Spare Parts: Clamp Screw	Wrench	Side Stopper	Wrench	Set Screw	Applicable Inserts
S08-SVNR12	●	inch	0.500	0.787	0.480	3.500	0.906	0.157	Fig.1	SB-3080TR	FT-10	HS3X4	LW-1.5	-	➡ F28~F29 ➡ G50 ➡ G78 ➡ J34 VNBR....-.. VNBTR....-... VNGR....-.. VNFGR....-.. VNTR...-..
S10-SVNR12	●		0.625	0.945	0.584	4.000	0.906	0.236				HS3X8			
S12F-SVNR12N	○	mm	12	20.0	11	80	23	4	Fig.2	SB-3080TR	FT-10	-	-	SP3X4	VNBR....-.. VNBTR....-... VNGR....-.. VNFGR....-.. VNTR...-..
S14G-SVNR12N	○		14	20.0	13	90	23	4							
S16H-SVNR12N	○		16	24.0	15	100	23	6							
S19H-SVNR12N	●	inch	0.750	0.945	0.669	3.937	0.945	0.236							
S19N-SVNR12N	○		0.750	0.945	0.669	6.299	0.945	0.236							
S20H-SVNR12N	○	mm	20	24.0	18	100	24	6							
S25H-SVNR12N	●	inch	1.000	1.181	0.905	3.937	0.945	0.236							
S25Q-SVNR12N	○		1.000	1.181	0.905	7.086	0.945	0.236							
S20H-SVNR12SN	○	mm	20	19.5	18	100	23	4	Fig.3	SB-3080TR	FT-10	-	-	SP3X4	
S22K-SVNR12SN	●		22	21.5	20	125	23	4							
S25.0G-SVNR12SN	○		25	24.5	23	90	23	4							

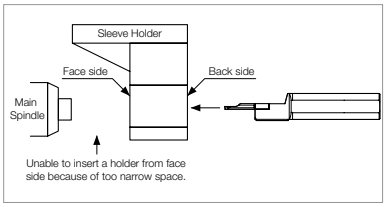
Swiss IQ Bar Selection

Gang-Type (Horizontal)	Gang-Type	Gang-Type (Front Loading Sleeve Type)	Gang-Type (Back Loading Sleeve Type)
			
Square Shank (Straight)	Square Shank (L-Shape)	Square Shank	Square Shank
		—	—
Round Shank (Standard)		Round Shank (Standard)	Round Shank (Standard)
			—
Round Shank (Straight)		Round Shank (Straight)	Round Shank (Straight)
			

Recommended toolholder may change according to machines used and actual position.
Automatic lathes have various toolpost types other than those above.

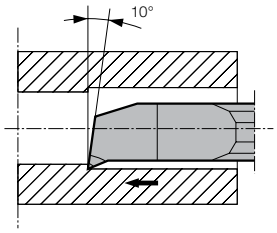
Q: There are standard types (head dia. is larger than shank) and straight types for round shanks. What is each one used for?

A: The straight type is used when it cannot be inserted from the face side of the sleeve holder and can be inserted only from the back side due to space limitation (Refer to Fig. below). On the other hand, the standard type should be installed when it can be inserted from the face side. The head end is used for positioning as stopper.

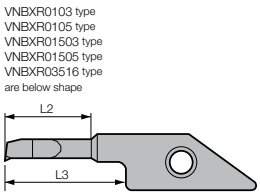


● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

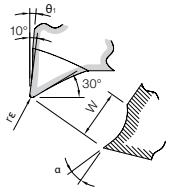
VNBX-S (Boring) [Corner-R(rε) Minus Tolerance]



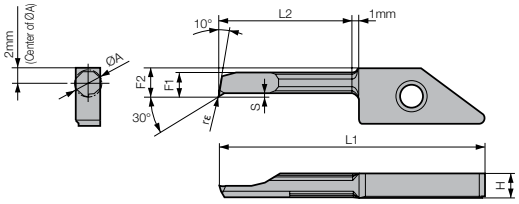
VNBXR0103 type
VNBXR0105 type
VNBXR01503 type
VNBXR01505 type
VNBXR03516 type
are below shape



• Right-hand shown



Chipbreaker Detail



Insert Dimensions (VNBX-S)

Part Number	Min. Bore Dia.	Dimensions (mm)											Grade
													PVD Coated Carbide
	ØA	H	L1	L2	L3	F1	F2	S	rε	W	θ1	α	PR930
VNBXR 0103-005S	1.0	3.9	26.5	3	7	0.85	2.95	0.20	+0 -0.02 0.05	0.7	7°	15°	○
0105-005S	1.0	3.9	26.5	5	7	0.85	2.95	0.20					○
01503-005S	1.5	3.9	26.5	3	7	1.30	2.95	0.20					○
01505-005S	1.5	3.9	26.5	5	7	1.30	2.95	0.20					○
0206-005S	2.0	3.9	26.5	6	-	1.80	3.00	0.25	+0 -0.02 0.05	0.8	8°	18°	○
0311-005S	3.0	3.9	30.8	11	-	2.60	3.50	0.40					○
03511-005S	3.5	3.9	30.8	11	-	3.10	3.75	0.45					○
03516-005S	3.5	3.9	39.8	16	21	3.10	3.75	0.45					○
0411-005S	4.0	3.9	30.8	11	-	3.50	4.00	0.50					○
0420-005S	4.0	3.9	39.8	20	-	3.50	4.00	0.50					○
VNBXR 01503-01S	1.5	3.9	26.5	3	7	1.30	2.95	0.20	+0 -0.03 0.10	0.7	7°	15°	○
01505-01S	1.5	3.9	26.5	5	7	1.30	2.95	0.20					○
0206-01S	2.0	3.9	26.5	6	-	1.80	3.00	0.25	+0 -0.03 0.10	0.8	8°	18°	○
0311-01S	3.0	3.9	30.8	11	-	2.60	3.50	0.40					○
03511-01S	3.5	3.9	30.8	11	-	3.10	3.75	0.45					○
03516-01S	3.5	3.9	39.8	16	21	3.10	3.75	0.45					○
0411-01S	4.0	3.9	30.8	11	-	3.50	4.00	0.50					○
0420-01S	4.0	3.9	39.8	20	-	3.50	4.00	0.50					○
VNBXR 0411-02S	4.0	3.9	30.8	11	-	3.50	4.00	0.50	+0 -0.04 0.20	0.8	8°	18°	○
0420-02S	4.0	3.9	39.8	20	-	3.50	4.00	0.50					○

Recommended Cutting Conditions ➡ **F102**

● VNBX-S Attachment holder for VNBX-S Swiss IQ Bar

1. VNBX-S Attachment holder for VNBX-S Swiss IQ Bar is below (See page ➡ **F33**).
   ① SVNS-XN (Without Side Stopper)
   ② S…SVN-XN (Without Side Stopper)
   ③ S…SVN-SXN (Without Side Stopper)
2. Above holder assures high index accuracy by easy restraint.
3. A holder which attaches setscrews (without side stopper) can be used as binding effect holder as with side stopper holder, once taking off the setscrew, and insert a screw (HS3X4: sold separately) with wrench (LW-1.5: sold separately).

Spare Parts (Optional)

Screw (Side Stopper)	Wrench
	
HS3X4	LW-1.5

Swiss IQ Bars are sold in 5 piece boxes.

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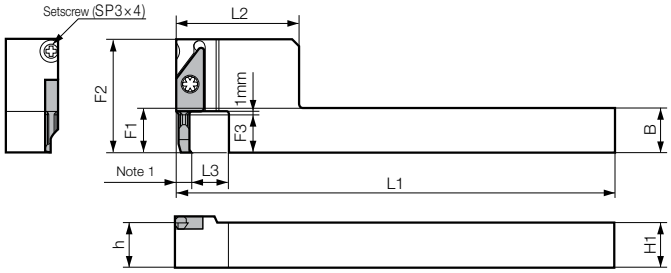
World Express (Shipping: 7-10 Business Days) : ○

SVNS-XN (Square Shank: L-shape)



• Right-hand shown • Right-hand Insert for Right-hand Toolholder

Note 1 dimension is same size as applicable insert (VNBX) F2 dimension

Toolholder Dimensions

Part Number		Stock	Dimensions (mm)								Spare Parts			Applicable Inserts ➡ F32
			H1=h	B	L1	L2	L3	F1	F2	F3	Clamp Screw	Wrench	Setscrew	
SVNSR	1010K-12-06XN	○	10	10	125	45	10	10	29	6	SB-3080TR	LTW-10S	SP3X4	(VNBXR02..)
	1010K-12-11XN	○	10	10	125	45	10	10	33	11				(VNBXR..11..)
	1212M-12-06XN	○	12	12	150	45	10	12	29	6				(VNBXR02..)
	1212M-12-11XN	○	12	12	150	45	10	12	33	11				(VNBXR..11..)
	1212M-12-20XN	○	12	12	150	45	10	12	42	20				(VNBXR0420..)
	1616M-12-06XN	○	16	16	150	45	16	16	29	6				(VNBXR02..)
	1616M-12-11XN	○	16	16	150	45	16	16	33	11				(VNBXR..11..)
	1616M-12-20XN	○	16	16	150	45	16	16	42	20				(VNBXR0420..)

※ All Swiss IQ Bar Inserts are used with an SVNS-XN Toolholder, however, when setting the cutting edge at the face level of the toolholder as shown in Fig., use the insert shown in ( ).

S...SVN-XN (Round Shank: Standard)

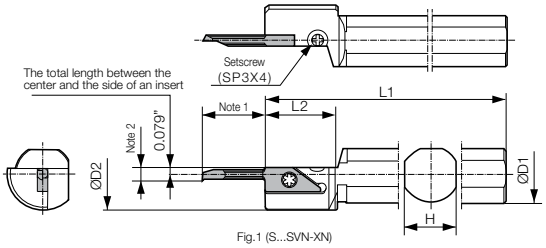


Fig.1 (S...SVN-XN)

• Right-hand shown

S...SVN-SXN (Round Shank: Straight)

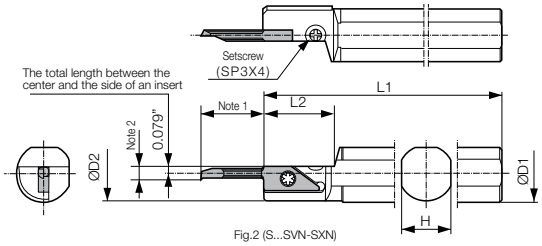


Fig.2 (S...SVN-SXN)

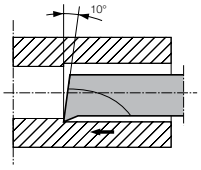
• Right-hand Insert for Right-hand Toolholder

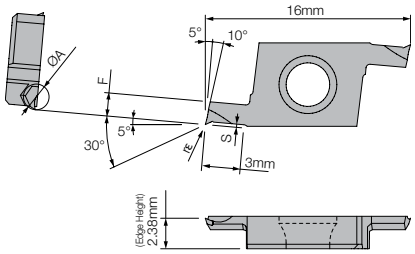
1. Note 1 dimension shows the applicable insert (VNBX) L2 dimension +1 mm.
2. Note 2 dimension is same size as applicable insert (VNBX) F2 dimension

Toolholder Dimensions (Holder center axis core and insert center are coaxial type)

Part Number	Stock	Unit	Dimensions					Drawing	Spare Parts			Applicable Inserts ➡ F32
			ØD1	ØD2	H	L1	L2		Clamp Screw	Wrench	Setscrew	
S12F-SVNR12XN	○	mm	12	20.0	11	80	23	Fig.1	SB-3080TR	FT-10	SP3X4	VNBXR...
S14G-SVNR12XN	○		14	20.0	13	90	23					
S16H-SVNR12XN	○		16	24.0	15	100	23					
S19H-SVNR12XN	○	inch	0.750	0.945	0.669	3.937	0.945					
S19N-SVNR12XN	○		0.750	0.945	0.669	6.299	0.945					
S20H-SVNR12XN	○	mm	20	24.0	18	100	24					
S25H-SVNR12XN	○	inch	1.000	1.181	0.905	3.937	0.945					
S25Q-SVNR12XN	○		1.000	1.181	0.905	7.086	0.945					
S19H-SVNR12SXN	○		0.750	0.728	0.669	3.397	0.905	Fig.2	SB-3080TR	FT-10	SP3X4	VNBXR...
S20H-SVNR12SXN	○	mm	20	19.5	18	100	23					
S22K-SVNR12SXN	○		22	21.5	20	125	23					
S25.0G-SVNR12SXN	○		25	24.5	23	90	23					

TWB (Micro Boring: Horizontal Type) [Corner-R(rε) Tolerance: +0/-0.02mm, +0/-0.03mm]





• Right-hand shown

Part Number		Min.Bore Dia.	Dimensions (mm)			Insert Grade
						PVD Coated Carbide
		ØA	F	S	rε	PR1025
TWBR	01003-005	1.0	0.85	0.20	+0 -0.02 0.05	○
	01503-005	1.5	1.30	0.20		○
	02003-005	2.0	1.75	0.25		○
	02503-005	2.5	2.10	0.30		○
	03003-005	3.0	2.40	0.40		○
TWBR	01503-010	1.5	1.30	0.20	+0 -0.03 0.10	○
	02003-010	2.0	1.75	0.25		○
	02503-010	2.5	2.10	0.30		○
	03003-010	3.0	2.30	0.40		○

STW (Square Shank for Horizontal Type Inserts)

(For Left-hand toolholder for grooving, please see ➔ G80)

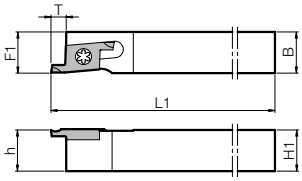


Fig.1

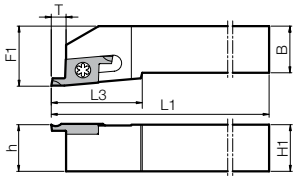


Fig.2

• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number	Stock	Dimensions (mm)								Drawing	Spare Parts		Applicable Inserts Above
		H1=h	B	L1	L2	L3	F1	F2	T		Clamp Screw	Wrench	
STWR 1212F-15	○	12	12	85	-	-	12	-	3	Fig.1	SB-3080TR	LTW-10S	TWBR○○○○○-○○○

S...-STW (Round Shank for Horizontal Type Inserts)

(For Left-hand toolholder for grooving, please see ➔ G80)

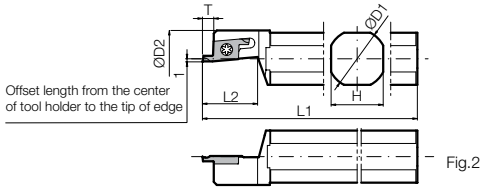


Fig.2

• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number	Stock	Dimensions (mm)							Drawing	Spare Parts		Applicable Inserts Above
		ØD1	ØD2	H	L1	L2	L3	T		Clamp Screw	Wrench	
S20G- STWR15	○	20.000	19.5	18	90	18	-	3	Fig.2	SB-3080TR	LTW-10S	TWBR○○○○○-○○○
S25.0J- STWR15	○	25.000	24.5	23	110	22	-	3				

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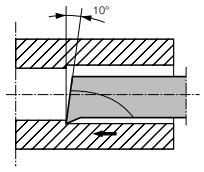
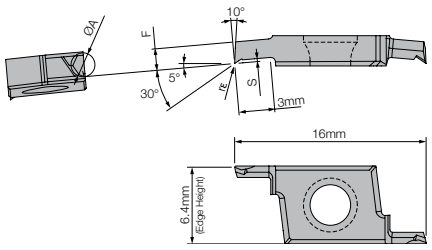
TWBT (Micro Boring: Vertical Type) [Corner-R(rε) Tolerance: +0/-0.02mm, +0/-0.03mm]

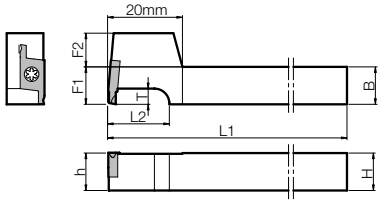




• Right-hand shown

Part Number	Min.Bore Dia.	Dimensions (mm)			Insert Grade
					PVD Coated Carbide
	ØA	F	S	rε	PR1025
TWBTR 01003-005	1.0	0.85	0.20	+0 -0.02 0.05	○
01503-005	1.5	1.30	0.20		○
02003-005	2.0	1.75	0.25		○
02503-005	2.5	2.10	0.30		○
03003-005	3.0	2.30	0.40		○
TWBTR 01503-010	1.5	1.30	0.20	+0 -0.03 0.1	○
02003-010	2.0	1.75	0.25		○
02503-010	2.5	2.10	0.30		○
03003-010	3.0	2.30	0.40		○

STWS (Square Shank for Vertical Type: L-shape)



• Right-hand shown

Toolholder Dimensions

Part Number	Stock	Dimensions (mm)								Drawing	Spare Parts		Applicable Inserts
		H1=h	B	L1	L2	L3	F1	F2	T		Clamp Screw	Wrench	F35 G81
STWSR 1212JX-15T	○	12	12	120	16	-	12	7	3	-	SB-3080TR	LTW-10S	TWBTR○○○○○-○○○ TWFGTR○○○
1616JX-15T	○	16	16	120	20	-	16	3	3	-			
STWSR 1010F-15T	○	10	10	85	16	-	10	9	3	-	SB-3080TR	LTW-10S	TWBTR○○○○○-○○○ TWFGTR○○○
1212F-15T	●	12	12	85	16	-	12	7	3	-			

Recommended Cutting Conditions (TWB / TWBT)

Workpiece Material	Recommended Grade (Vc sfm)	TWBR01003 TWBR01503 TWBTR01003 TWBTR01503		TWBR02003 TWBR02503 TWBR03003 TWBTR02003 TWBTR02503 TWBTR03003		Remarks
	PVD Coated Carbide	Depth of Cut: D.O.C. (inch), Feed: f (ipr)				
	PR1025	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	★ 100~330	~0.0039	~0.0004	~0.0079	~0.0012	Wet
Stainless Steel	★ 100~260	~0.0039	~0.0004	~0.0079	~0.0008	

★ : 1st Recommendation

Twin Bars are sold in 5 piece boxes.

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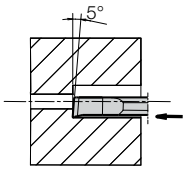
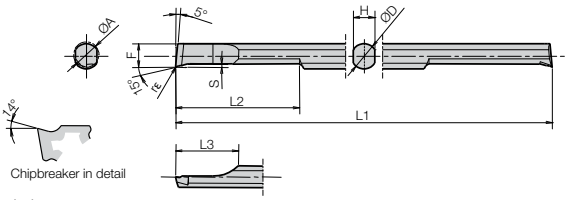
○ : World Express (Shipping: 7-10 Business Days)

HPB (Boring)

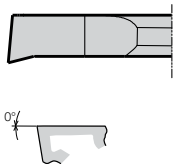


Applicable Sleeves ➡ **F26, F27**

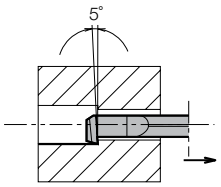


• Right-hand shown

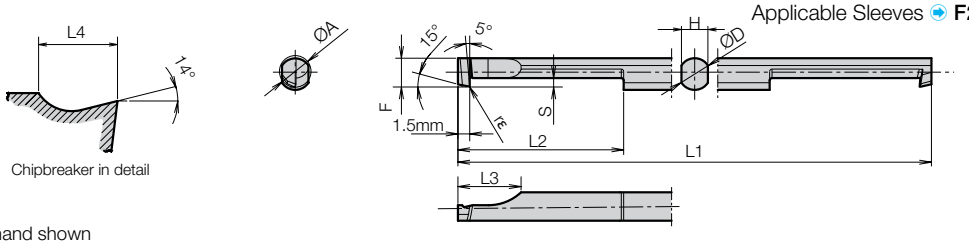
NB Type Top Shape
(Without Chipbreaker)



HPBT (Back Boring)



Applicable Sleeves ➡ **F26, F27**



• Right-hand shown

Micro-Bar Dimensions

Part Number		Min. Bore Dia.	Dimensions (mm)								Grade	
											PVD Coated	Carbide
		ØA	ØD	H	L1	L2	L3	F	S	rε	**PR930**	**KW10**
HPBR/L	**0202-005**	2	2	1.70	50	10	5	1.75	0.25	+0 -0.02 0.05	Ⓛ	Ⓡ
	0303-005	3	3	2.50	50	15	7	2.70	0.30		○	Ⓡ
	0404-005	4	4	3.35	60	20	10	3.65	0.50		Ⓛ	Ⓡ
	0505-005	5	5	4.30	70	25	12	4.55	0.50		Ⓡ	Ⓡ
	0606-005	6	6	5.20	70	25	12	5.50	0.50		○	Ⓡ
	0707-005	7	7	6.20	80	25	12	6.45	0.50		○	Ⓡ
HPBR/L	**0202-005NB**	2	2	1.70	50	10	5	1.75	0.25	+0 -0.02 0.05	Ⓡ	Ⓡ
	0303-005NB	3	3	2.50	50	15	7	2.70	0.30		Ⓡ	Ⓡ
	0404-005NB	4	4	3.35	60	20	10	3.65	0.50		Ⓡ	Ⓡ
	0505-005NB	5	5	4.30	70	25	12	4.55	0.50		Ⓡ	Ⓡ
	0606-005NB	6	6	5.20	70	25	12	5.50	0.50		Ⓡ	Ⓡ
	0707-005NB	7	7	6.20	80	25	12	6.45	0.50		Ⓡ	Ⓡ
HPBTR/L	**0404-005**	4	4	3.35	60	21	8	3.65	1.00	+0 -0.02 0.05	○	Ⓡ
	0505-005	5	5	4.30	70	26	8	4.55	1.30		○	Ⓡ

Applicable Sleeves

Micro Bars		Sleeves ➡ **F26, F27**	
HPBR/L	**0202-...**	**EZH**	**02...**
	0303-...		**03...**
	0404-...		**04...**
	0505-...		**05...**
	0606-...		**06...**
	0707-...		**07...**
HPBTR/L	**0404-...**	**EZH**	**04...**
	0505-...		**05...**

Recommended Cutting Conditions

Workpiece Material	Insert Grade (Vc : sfm)		HPB02		HPB03		HPB04 HPBT04		HPB05/06/07 HPBT05		Remarks
	PVD Coated	Carbide	Depth of Cut: D.O.C. (inch), Feed: f (ipr)								
	PR930	**KW10**	D.O.C.	f	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	★ 100~330	-	~0.0118	~0.0012	~0.0157	~0.0016	~0.0177	~0.0028	~0.0197	~0.0039	Wet
Stainless Steel	★ 100~260	-	~0.0118	~0.0008	~0.0157	~0.0012	~0.0177	~0.0020	~0.0197	~0.0028	
Non-ferrous Material	-	★ 100~330	~0.0118	~0.0020	~0.0157	~0.0024	~0.0177	~0.0039	~0.0197	~0.0059	

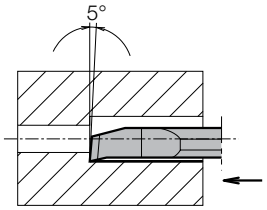
★ : 1st Recommendation

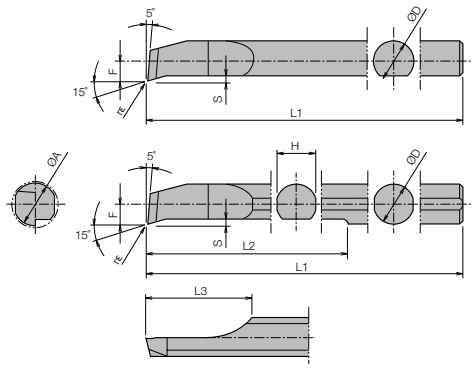
Micro Bars sold in 1 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

PSB-S (Internal Boring)

NOTE: *PSB-S bars will be phased out and replaced with* ***EZB*** *type bars. See* **F16**

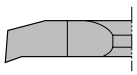
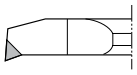




• Right-hand shown

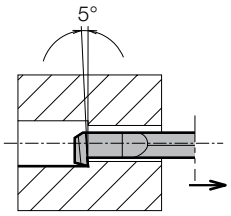
Applicable Sleeves **F94**

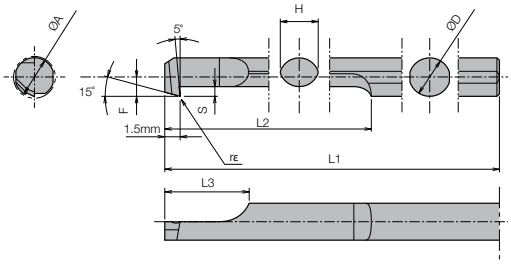
PSBR/L 0202 Type
PSBR/L 0303 Type
Shown on left

NBS Type (Without Chipbreaker)	
Top Shape	Grades
	Coated Carbide Carbide
	CBN, PCD

PSBT-S (Back Boring)

NOTE: *PSBT-S bars will be phased out and replaced with* ***HPBT*** *type bars. See* **F36**





• Right-hand shown

Applicable Sleeves **F94**

Micro-Bar Dimensions

Part Number		Min. Bore Dia.	Dimensions (mm)								Grade						
											PVD Coated		Carbide	CBN		PCD	
		ØA	ØD	H	L1	L2	L3	F	S	rε	PR915	PR930	KW10	KBN510	KBN525	KPD001	KPD010
PSBR/L	0202-50S	2	1.8	-	50	-	5	0.9	0.25	0.05		○	○				
	0303-50S	3	2.8	-	50	-	7	1.4	0.30			○	Ⓡ				
	0404-60S	4	3.8	3.6	60	30	10	1.9	0.50			○	Ⓡ				
	0505-70S	5	4.8	4.4	70	40	12	2.4	0.50			○	Ⓡ				
	0606-70S	6	5.8	5.2	70	45	12	2.9	0.50			○	Ⓡ				
	0707-80S	7	6.8	6.2	80	50	12	3.4	0.50			○	Ⓡ				
PSBR/L	0202-50NBS	2	1.8	-	50	-	5	0.9	0.25	0.05		Ⓡ	Ⓡ				
	0303-50NBS	3	2.8	-	50	-	7	1.4	0.30			Ⓡ	Ⓡ	Ⓡ	Ⓡ		
	0404-60NBS	4	3.8	3.6	60	30	10	1.9	0.50			Ⓡ	Ⓡ	Ⓡ	Ⓡ	Ⓡ	Ⓡ
	0505-70NBS	5	4.8	4.4	70	40	12	2.4	0.50			Ⓡ	Ⓡ	Ⓡ	Ⓡ	Ⓡ	○
	0606-70NBS	6	5.8	5.2	70	45	12	2.9	0.50			Ⓡ	Ⓡ	Ⓡ	Ⓡ	Ⓡ	Ⓡ
	0707-80NBS	7	6.8	6.2	80	50	12	3.4	0.50			Ⓡ	Ⓡ	Ⓡ	Ⓡ	Ⓡ	Ⓡ
PSBTR/L	0415-60S	4	3.8	3.6	60	20	8	1.9	1.00	0.05		○	Ⓡ				
	0515-70S	5	4.8	4.6	70	20	8	2.4	1.30			○	Ⓡ				

Recommended Cutting Conditions

Workpiece Material	Insert Grade (Vc : sfm)						PSBO2		PSB03		PSB04 PSBT04		PSB05 PSB06 PSB07 PSBT05		Remarks
	PVD Coated		Carbide	CBN	PCD		Depth of Cut: D.O.C. (inch), Feed: f (ipr)								
	PR915	PR930	KW10	KBN510 KBN525	KPD001	KPD010	D.O.C.	f	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	-	★ 100~330	-	-	-	-	~0.0118	~0.0012	~0.0157	~0.0016	~0.0177	~0.0028	~0.0197	~0.0039	Wet
Stainless Steel	-	★ 100~260	-	-	-	-	~0.0118	~0.0008	~0.0157	~0.0012	~0.0177	~0.0020	~0.0197	~0.0028	
Non-Ferrous Material	-	-	☆ ~330	-	★ ~980	☆ ~980	~0.0118	~0.0020	~0.0157	~0.0024	~0.0177	~0.0039	~0.0197	~0.0059	
Hardened Material	-	-	-	★ ~330	-	-	-	-	~0.0028	~0.0012	~0.0039	~0.0020	~0.0059	~0.0028	

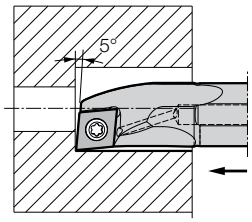
★ : 1st Recommendation ☆ : 2nd Recommendation

Micro Bars sold in 1 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

A/S-SCLC-AE Excellent Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~5.5**)



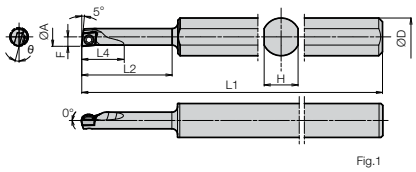


Fig.1

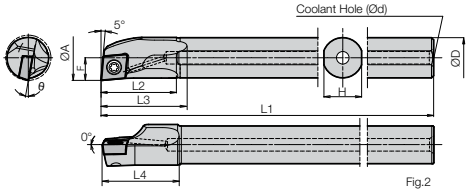


Fig.2

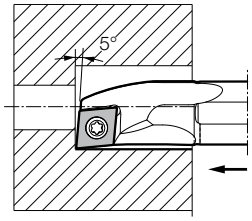
Shank Dia. ØD	Coolant Hole Dia. Ød
Ø8mm	Ø2.5mm
Ø0.375" Ø10mm	Ø3.0mm
Ø0.500" Ø12mm	Ø4.0mm
Ø0.625" Ø16mm	Ø5.0mm
Ø0.750" Ø20mm	Ø5.0mm
Ø1.000" Ø25mm	Ø5.0mm

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-SCLC-A Steel Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~4**)



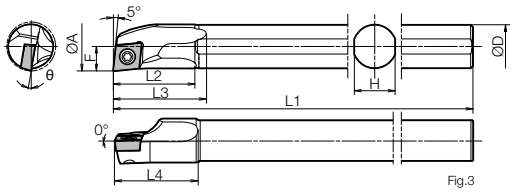


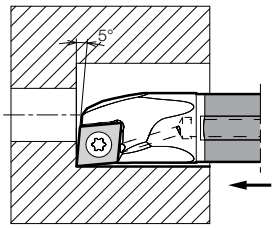
Fig.3

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

C/E-SCLC-A Carbide Shank Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~7**)



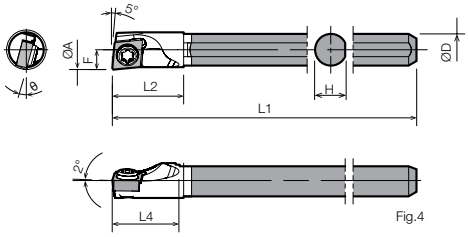


Fig.4

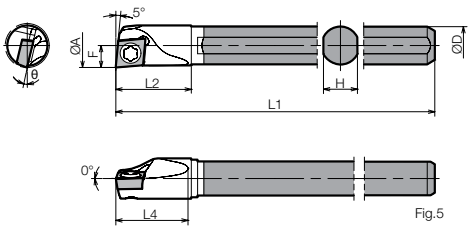


Fig.5

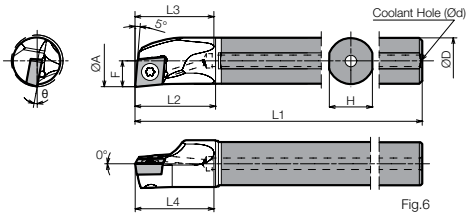


Fig.6

Shank Dia. ØD	Coolant Hole Dia. Ød
Ø8mm	Ø3mm
Ø0.375" Ø10mm	Ø3mm
Ø0.500" Ø12mm	Ø4mm
Ø0.625" Ø16mm	Ø4mm
Ø20mm	Ø6mm
Ø25mm	Ø6mm

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

	Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	L3	L4	F	θ	Standard Corner-R(re)	Coolant Hole	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench
Excellent Bar	A06M-SCLC□2AE	●	●	inch	0.480	0.375	0.336	6.000	0.787	0.937	0.803	0.236	12°	1/64	Yes	Fig.2	SB-2545TR	FT-8
	A08M-SCLC□2AE	●	●		0.600	0.500	0.461	6.000	0.945	1.217	0.969	0.276	10°					
	A10R-SCLC□3AE	●	●		0.770	0.625	0.586	8.000	1.181	1.339	1.205	0.354	10°	1/64	Yes	Fig.2	SB-4065TR	FT-15
	A12S-SCLC□3AE	●	●		0.930	0.750	0.711	10.000	1.417	1.874	1.437	0.413	8°					
	A16T-SCLC□3AE	●	●		1.200	1.000	0.961	12.000	1.811	2.189	1.827	0.531	6°					
	S10H-SCLC□03-05AE	○	○	mm	5	10	9.0	100	24	-	11	2.5	15°	0.2	No	Fig.1	SB-1635TR	FT-6
	S10H-SCLC□03-06AE	○	○		6	10	9.0	100	28	-	13	3.0	13°					
	S10H-SCLC□04-07AE	○	○		7	10	9.0	100	32	-	15	3.5	13°	0.2	No	Fig.1	SB-2035TR	FT-6
	S10H-SCLC□04-08AE	○	○		8	10	9.0	100	37	-	15	4.0	11°					
	A08X-SCLC□06-10AE	○	○		10	8	7.0	120	16	20	17	5.0	14°	0.4	Yes	Fig.2	SB-2545TR	FT-8
	A10L-SCLC□06-12AE	○	○		12	10	9.0	140	20	25	21	6.0	12°					
	A12M-SCLC□06-14AE	○	○		14	12	11.0	150	24	30	25	7.0	10°					
	A16Q-SCLC□09-18AE	○	○		18	16	15.0	180	30	34	31	9.0	10°	0.4	Yes	Fig.2	SB-4065TR	FT-15
	A20R-SCLC□09-22AE	○	○		22	20	19.0	200	36	49	37	11.0	8°					
	A25S-SCLC□09-27AE	○	○		27	25	24.0	250	46	55	46	13.5	6°					
Steel	S08X-SCLC□06-10A	○	○	mm	10	8	7.0	120	16	20	17	5.0	14°	0.4	No	Fig.3	SB-2545TR	FT-8
	S10L-SCLC□06-12A	○	○		12	10	9.0	140	20	25	21	6.0	12°					
	S12M-SCLC□06-14A	○	○		14	12	11.0	150	24	30	25	7.0	10°					
	S16Q-SCLC□09-18A	○	○		18	16	15.0	180	30	34	31	9.0	10°	0.4	No	Fig.3	SB-4065TR	FT-15
	S20R-SCLC□09-22A	○	○		22	20	19.0	200	36	49	37	11.0	8°					
	S25S-SCLC□09-27A	○	○		27	25	24.0	250	46	55	46	13.5	6°					
Carbide	E06N-SCLC□2A	●	●	inch	0.480	0.375	0.336	6.300	0.787	0.764	0.764	0.236	12°	1/64	Yes	Fig.6	SB-2545TR	FT-8
	E06N-SCLC□2A-2/3	□	□		0.480	0.375	0.336	4.200	0.787	0.764	0.764	0.236	12°					
	E08Q-SCLC□2A	●	●		0.600	0.500	0.461	7.100	0.906	0.882	0.882	0.276	10°					
	E08Q-SCLC□2A-2/3	□	□		0.600	0.500	0.461	4.800	0.906	0.882	0.882	0.276	10°					
	E10X-SCLC□3A	●	●		0.770	0.625	0.586	8.700	1.102	1.079	1.079	0.354	10°					
	E10X-SCLC□3A-2/3	□	□		0.770	0.625	0.586	5.800	1.102	1.079	1.079	0.354	10°					
	C04G-SCLC□03-05A	○	○	mm	5	4	3.8	90	9	-	8	2.5	15°	0.2	No	Fig.4	SB-1635TR	FT-6
	C05H-SCLC□03-06A	●	○		6	5	4.4	100	11	-	11	3.0	13°	0.2	No	Fig.5	SB-1635TR	FT-6
	C06J-SCLC□04-07A	○	○		7	6	5.4	110	12	-	12	3.5	13°	0.2	No	Fig.5	SB-2035TR	FT-6
	C07K-SCLC□04-08A	○	○		8	7	6.4	125	13	-	13	4.0	11°					
	E08L-SCLC□06-10A	○	○		10	8	7.0	140	16	15	15	5.0	14°	0.4	Yes	Fig.6	SB-2545TR	FT-8
	E08L-SCLC□06-10A-2/3	○			10	8	7.0	90	16	15	15	5.0	14°					
	E10N-SCLC□06-12A	○	○		12	10	9.0	160	20	19	19	6.0	12°					
	E10N-SCLC□06-12A-2/3	●			12	10	9.0	105	20	19	19	6.0	12°					
	E12Q-SCLC□06-14A	○	○		14	12	11.0	180	23	22	22	7.0	10°					
	E12Q-SCLC□06-14A-2/3	○			14	12	11.0	120	23	22	22	7.0	10°					
	E16X-SCLC□09-18A	○	○		18	16	15.0	220	28	27	27	9.0	10°	0.4	Yes	Fig.6	SB-4065TR	FT-15
	E16X-SCLC□09-18A-2/3	○			18	16	15.0	145	28	27	27	9.0	10°					
	E20S-SCLC□09-22A	○	○		22	20	19.0	250	32	31	31	11.0	8°					
	E20S-SCLC□09-22A-2/3	○			22	20	19.0	165	32	31	31	11.0	8°					
	E25T-SCLC□09-27A	○	○		27	25	24.0	300	38	37	37	13.5	6°					
	E25T-SCLC□09-27A-2/3	○			27	25	24.0	200	38	37	37	13.5	6°					

Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Medium	Finishing-Medium	Finishing	Finishing / Precision
Ref. Page	B52	B52	B53	B53	B53	B53	B53	B52, B53	B54, B55	B54
Insert / Toolholder	CF	GF	WP (Wiper)	PP	GK	HQ	Standard	GQ	□-F	□-FSF
...SCLC□03-...	CCGT1109..	-	-	-	-	-	-	-	CCGT1109..	CCET1109..
...SCLC□04-...	CCGT1411..	-	-	-	-	-	-	-	CCGT1411..	CCET1411..
...SCLC□2... ...SCLC□06-...	-	CCGT215..	CCMT215..	CCMT215..	CCMT215..	CCMT215..	CCGT215..	CCGT215..	-	-
...SCLC□3... ...SCLC□09-...	-	CCGT325..	CCMT325	CCMT325	CCMT325	CCMT325..	CCGT325.. CCMT325..	CCGT325..	-	-

Application	Low Feed	Low Feed / Precision	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	B55, B56	B55	B54	B57	B59	B56	C24	C14
Insert / Toolholder	(E/F)□-U	F□-USF	MQ	Without Chipbreaker	AH	A3	PCD	CBN
...SCLC□03-...	-	-	-	-	-	-	-	CCMW1109..
...SCLC□04-...	-	-	-	-	-	-	CCGW1411..	CCMW1411..
...SCLC□2... ...SCLC□06-...	CCGT215..	CCET215..	-	CCGW215..	-	-	CCMT215.. CCGW215..	CCMW215..
...SCLC□3... ...SCLC□09-...	CCGT325..	CCET325..	CCMT325..	CCGW325..	CCGT325..	CCGT325..	CCMT325.. CCGW325..	CCMW325..

Recommended Cutting Conditions ➡ **F103~F104**

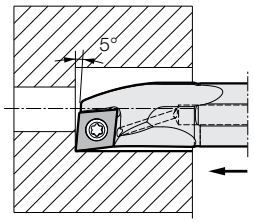
Applicable Sleeve ➡ **F93~F96**

● : U.S. Stock Standard
□ : Made to Order
○ : World Express (Shipping: 7-10 Business Days)

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

A-SCLP-AE Excellent Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~5.5**)



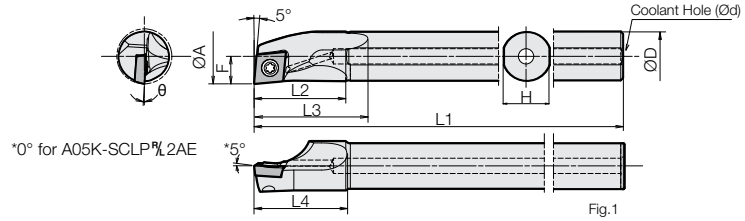


Fig.1

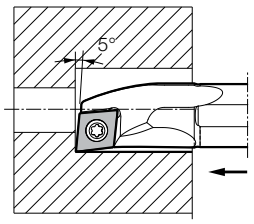
Shank Dia. ØD	Coolant Hole Dia. Ød
Ø0.312"	Ø2.5mm
Ø0.375" Ø10mm	Ø3mm
Ø0.500" Ø12mm	Ø4mm
Ø0.625" Ø16mm	Ø5mm
Ø0.750" Ø20mm	Ø5mm
Ø1.000" Ø25mm	Ø5mm

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-SCLP-A Steel Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~4**)



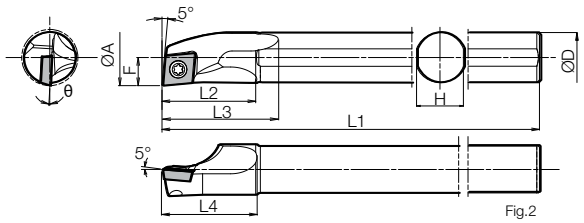


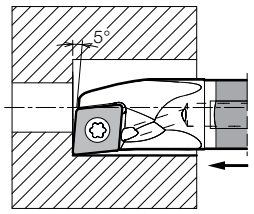
Fig.2

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

E-SCLP-A Carbide Shank Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~7**)



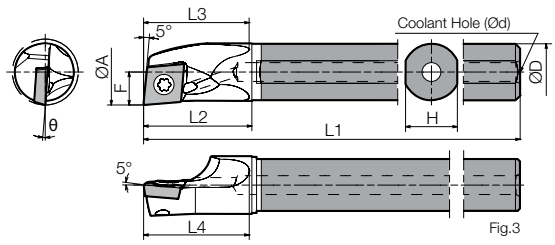


Fig.3

Shank Dia. ØD	Coolant Hole Dia. Ød
Ø10mm	Ø3mm
Ø12mm	Ø4mm
Ø16mm	Ø4mm
Ø20mm	Ø6mm
Ø25mm	Ø6mm

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

	Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	L3	L4	F	θ	Standard Corner-R(rε)	Coolant Hole	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench
Excellent Bar	A05K-SCLP□2AE	●	●	inch	0.413	0.312	0.273	5	0.630	0.760	0.669	0.197	10.0°	1/64	Yes	Fig.1	SB-2545TR	FT-8
	A06M-SCLP□2.5AE	●	●		0.480	0.375	0.336	6	0.787	0.961	0.791	0.236	5.0°	1/64	Yes	Fig.1	SB-3060TR	FT-10
	A08M-SCLP□2.5AE	●	●		0.580	0.500	0.461	6	0.945	1.201	0.961	0.276	4.0°					
	A10R-SCLP□3AE	●	●		0.700	0.625	0.586	8	1.181	1.461	1.189	0.354	3.5°	1/64	Yes	Fig.1	SB-4065TR	FT-15
	A12S-SCLP□3AE	●	●		0.825	0.750	0.711	10	1.417	1.780	1.421	0.413	2.0°					
	A16T-SCLP□3AE	●	●		1.200	1.000	0.961	12	1.811	2.185	1.815	0.531	0.0°					
	A10L-SCLP□08-12AE	○	○	mm	12	10	9	140	20	25	20	6	5.0°	0.4	Yes	Fig.1	SB-3060TR	FT-10
	A12M-SCLP□08-14AE	○	○		14	12	11	150	24	29	24	7	4.0°					
	A12M-SCLP□09-16AE	○	○		16	12	11	150	24	31	24	8	4.0°	0.4	Yes	Fig.1	SB-4065TR	FT-15
	A16Q-SCLP□09-18AE	○	○		18	16	15	180	30	37	30	9	3.5°					
	A20R-SCLP□09-22AE	○	○		22	20	19	200	36	47	37	11	2.0°					
	A25S-SCLP□09-27AE	○	○		27	25	24	250	46	55	46	13.5	0.0°					
Steel	S10L-SCLP□08-12A	○	○	mm	12	10	9	140	20	25	20	6	5.0°	0.4	No	Fig.2	SB-3060TR	FT-10
	S12M-SCLP□08-14A	○	○		14	12	11	150	24	29	24	7	4.0°					
	S12M-SCLP□09-16A	○	○		16	12	11	150	24	31	24	8	4.0°	0.4	No	Fig.2	SB-4065TR	FT-15
	S16Q-SCLP□09-18A	○	○		18	16	15	180	30	37	30	9	3.5°					
	S20R-SCLP□09-22A	○	○		22	20	19	200	36	47	37	11	2.0°					
	S25S-SCLP□09-27A	○	○		27	25	24	250	46	55	46	13.5	0.0°					
Carbide	E10N-SCLP□08-12A	○	○	mm	12	10	9	160	20	19	19	6	5°	0.4	Yes	Fig.3	SB-3060TR	FT-10
	E10N-SCLP□08-12A-2/3	○			12	10	9	105	20	19	19	6	5°					
	E10N-SCLP□08-12A-1/2	○			12	10	9	80	20	19	19	6	5°					
	E12Q-SCLP□08-14A	○	○		14	12	11	180	23	22	22	7	4°					
	E12Q-SCLP□08-14A-2/3	○		mm	14	12	11	120	23	22	22	7	4°					
	E12Q-SCLP□08-14A-1/2	○			14	12	11	90	23	22	22	7	4°					
	E12Q-SCLP□09-16A	○	○		16	12	11	180	23	22	22	8	5°	0.4	Yes	Fig.3	SB-4065TR	FT-15
	E12Q-SCLP□09-16A-2/3	○			16	12	11	120	23	22	22	8	5°					
	E12Q-SCLP□09-16A-1/2	○			16	12	11	90	23	22	22	8	5°					
	E16X-SCLP□09-18A	○	○		18	16	15	220	28	27	27	9	3.5°					
	E16X-SCLP□09-18A-2/3	○			18	16	15	145	28	27	27	9	3.5°					
	E16X-SCLP□09-18A-1/2	○			18	16	15	110	28	27	27	9	3.5°					
	E20S-SCLP□09-22A	○	○	mm	22	20	19	250	32	31	31	11	2°					
	E20S-SCLP□09-22A-2/3	○			22	20	19	165	32	31	31	11	2°					
	E20S-SCLP□09-22A-1/2	○			22	20	19	125	32	31	31	11	2°					
	E25T-SCLP□09-27A	○	○		27	25	24	300	38	37	37	13.5	0°					
	E25T-SCLP□09-27A-2/3	○			27	25	24	200	38	37	37	13.5	0°					

Applicable Inserts

Application	Finishing	Finishing	Finishing-Medium	Medium	Finishing-Medium	Low Carbon Steel/ Finishing	Low Carbon Steel/ Finishing-Medium	Cast Iron	Non-ferrous Metals	Hardened Materials
Ref. Page	B58	B58	B58	B58	B58	B58	B58	B58	C25	C14
Insert / Toolholder	PP	GP	HQ	Standard	□-Y	XP	XQ	Without Chipbreaker	PCD	CBN
...SCLP□2AE...	-	-	-	CPGT215..	-	-	-	-	-	-
...SCLP□2.5AE... ...SCLP□08-...	CPMT2515..	CPMT2515..	CPMH2515..	CPMH2515..	CPMH2515..	CPMT2515..	-	CPMB2515..	CPMH2515..	CPGB2515..
...SCLP□3AE... ...SCLP□09-...	CPMT32..	CPMT32..	CPMH32..	CPMH32..	CPMH32..	CPMT32..	CPMT32..	CPMB32..	CPMH32..	CPGB32..

Recommended Cutting Conditions → **F103~F104**

Applicable Sleeve → **F94~F96**

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

A-SCLP(C)-E Excellent Twin Hole Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~5**)

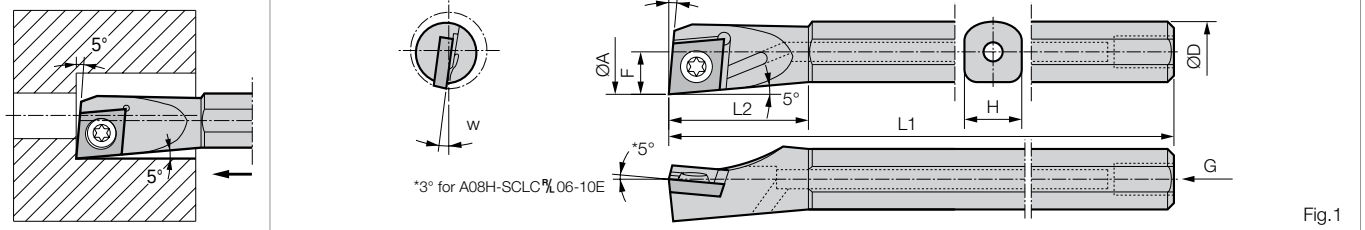


Fig.1

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-SCLP(C) Steel Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~3**)

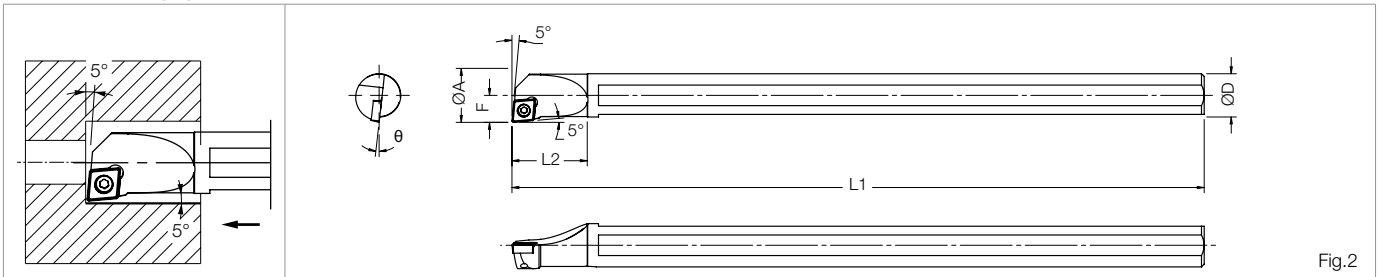


Fig.2

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

A-SCLC Steel Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~3**)

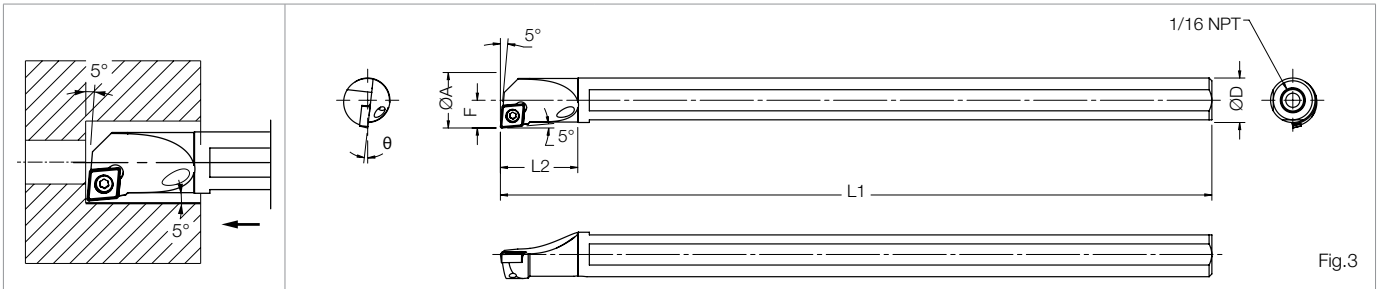


Fig.3

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

C-SCLP(C) Carbide Shank Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~7**)

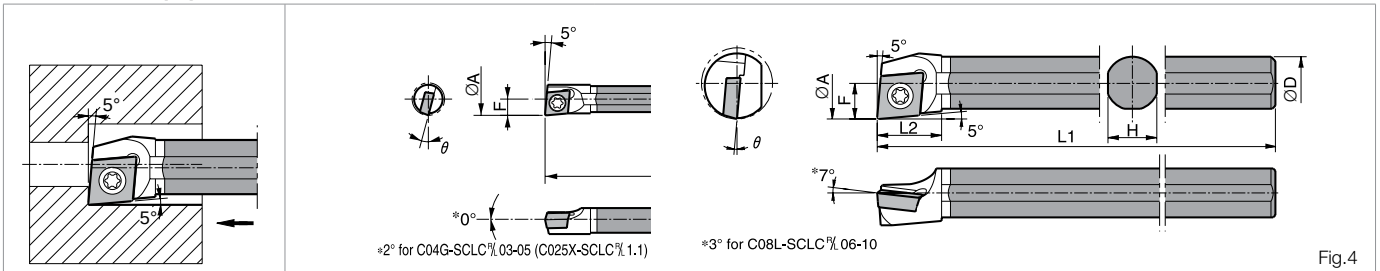


Fig.4

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

	Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	F	G	θ	Standard Corner-R(rε)	Coolant Hole	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench
Excellent Bar	S06H-SCLC□1.1E	●		inch	0.197	0.375	0.335	4.00	0.900	0.098	-	15°	1/64	Yes	Fig.1	SB-1635TR	FT-6
	A05H-SCLC□2E	●			0.394	0.312	0.281	4.00	0.650	0.197	#10-32	12°		Yes		SB-2545TR	FT-8
	A06X-SCLP□2.5E	●			0.472	0.375	0.336	4.75	0.900	0.236	#10-32	5°		Yes		SB-3STR	
	A08X-SCLP□3E	●			0.632	0.500	0.461	4.75	1.140	0.315	1/4-28	4°		Yes		SB-4TR	FT-15
	A10M-SCLP□3E	●			0.709	0.625	0.586	6.00	1.220	0.354	5/16-24	3°		Yes			
	A12X-SCLP□3E	●			0.984	0.750	0.709	7.00	1.450	0.492	5/16-24	0°		Yes			
Steel	S05K-SCLC□2	●	●	inch	0.394	0.312	-	5.00	0.625	0.197		12°	0.004	No	Fig.2	SB-2545TR	FT-8
	S06M-SCLP□2.5	●	●		0.472	0.375	-	6.00	1.000	0.236		5°	1/64	No		SB-3STR	FT-10
	S08M-SCLP□3	●	●		0.630	0.500	-	6.00	1.180	0.315		4°	1/64	No		SB-4TR	FT-15
	S10X-SCLP□3	●	●		0.788	0.625	-	7.00	1.380	0.394		3°	1/64	No			
	S12R-SCLP□3	●	●		0.984	0.750	-	8.00	1.560	0.492		0°	1/64	No			
	S16T-SCLP□3	●	●		1.338	1.000	-	12.00	1.750	0.669		0°	1/64	No			
	A05K-SCLC□2	●		inch	0.415	0.313	-	5.0	0.870	0.218		11°	1/64	Yes	Fig.3	SB-2545TR	FT-8
	A06M-SCLC□2	●			0.480	0.375	-	6.0	0.870	0.250		8°	1/64	Yes			
	A08R-SCLC□2	●			0.600	0.500	-	8.0	0.870	0.312		6°	1/64	Yes			
	A10S-SCLC□2	●			0.770	0.625	-	10.0	0.870	0.406		4°	1/64	Yes			
Carbide	C025X-SCLC□1.1 **	●		inch	0.197	0.156	0.148	3.543	0.315	0.098		15°	0.008	No	Fig.4	SB-1635TR	FT-6
	C05K-SCLC□2	●			0.394	0.312	0.282	5.00	0.625	0.197		12°	0.004	No		SB-2545TR	FT-8
	C06M-SCLP□2.5	●			0.472	0.375	0.334	6.00	1.000	0.236		5°	1/64	No		SB-3STR	FT-10
	C08R-SCLP□3	●			0.630	0.500	0.480	8.00	1.180	0.315		4°	1/64	No		SB-4TR	FT-15
	C10S-SCLP□3	●			0.788	0.625	0.584	10.00	1.380	0.394		3°	1/64	No			
	C12S-SCLP□3	●			0.984	0.750	0.710	10.00	1.560	0.492		0°	1/64	No			

** Optional sleeve SL2.5-10 (0.625" dia.) is available. (Sleeve screw: SLS-2, sleeve wrench: LW-2)

Applicable Inserts [CP]

Application	Finishing	Finishing	Finishing-Medium	Medium	Finishing-Medium	Low Carbon Steel/ Finishing	Low Carbon Steel/ Finishing-Medium	Cast Iron	Non-ferrous Metals	Hardened Materials
Ref. Page	B58	B58	B58	B58	B58	B58	B58	B58	C25	C14
Insert / Toolholder	PP	GP	HQ	Standard	□-Y	XP	XQ	Without Chipbreaker	PCD	CBN
...SCLP□2.5 ...SCLP□2.5E	CPMT2515..	CPMT2515..	CPMH2515..	CPMH2515..	CPMH2515..	CPMT2515..	-	CPMB2515..	CPMH2515..	CPGB2515..
...SCLP□3 ...SCLP□3E	CPMT32..	CPMT32..	CPMH32..	CPMH32..	CPMH32..	CPMT32..	CPMT32..	CPMB32..	CPMH32..	CPGB32..

Applicable Inserts [CC]

Application	Minute D.O.C.	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Medium	Finishing-Medium	Finishing	Finishing / Precision	Low Feed
Ref. Page	B52	B52	B53	B53	B53	B53	B52, B53	B55	B54	B55, B56
Insert / Toolholder	CF	GF	PP	GK	HQ	Standard	GQ	□-F	□-FSF	(E/F)□-U
...SCLC□1.1 ...SCLC□1.1E	CCGT1109..	-	-	-	-	-	-	CCGT1109..	CCET1109..	-
...SCLC□2 ...SCLC□2E	-	CCGT215..	CCMT215..	CCMT215..	CCMT215..	CCGT215..	CCGT215..	-	-	CCGT215..

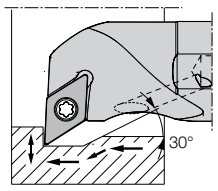
Application	Low Feed / Precision	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	B55	B54	B57	B56	B57	C24	C14
Insert / Toolholder	F□-USF	MQ	Without Chipbreaker	AH	A3	PCD	CBN
...SCLC□1.1 ...SCLC□1.1E	-	-	-	-	-	-	CCMW1109..
...SCLC□2 ...SCLC□2E	CCET215..	-	CCGW215..	-	-	CCMT215.. CCGW215..	CCMW215..

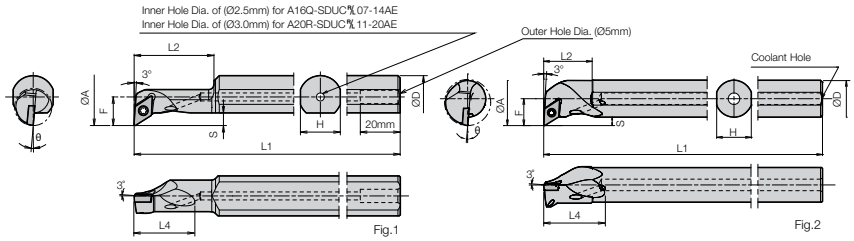
Recommended Cutting Conditions ➡ **F103~F104**

Applicable Sleeve ➡ **F94~F96**

A-SDUC-AE Excellent Bar (Copying)

(Max. Overhang Length **L/D = ~5.5**)





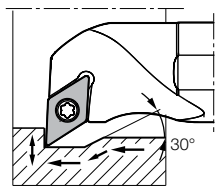
Shank Dia. ØD	Coolant Hole Dia. Ød
Ø10mm	Ø3mm
Ø12mm	Ø4mm
Ø16mm	Ø5mm
Ø20mm	Ø5mm
Ø25mm	Ø5mm

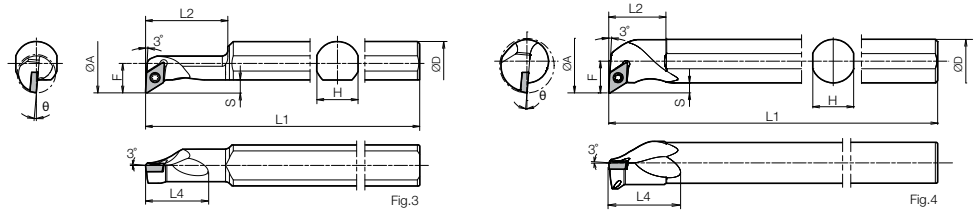
• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-SDUC-A Steel Bar (Copying)

(Max. Overhang Length **L/D = ~4**)



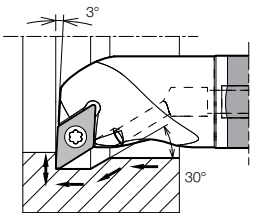


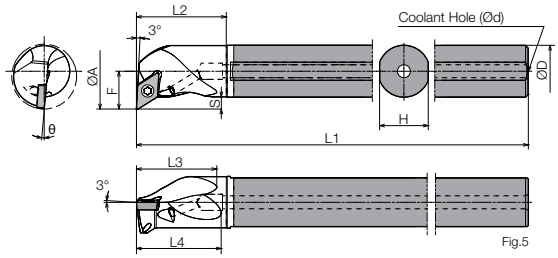
• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

E-SDUC-A Carbide Shank Bar (Copying)

(Max. Overhang Length **L/D = ~7**)





Shank Dia. ØD	Coolant Hole Dia. Ød
Ø0.375" Ø10mm	Ø3mm
Ø0.500" Ø12mm	Ø4mm
Ø0.625" Ø16mm	Ø4mm
Ø0.750" Ø20mm	Ø6mm
Ø1.000" Ø25mm	Ø6mm

• Right-hand shown

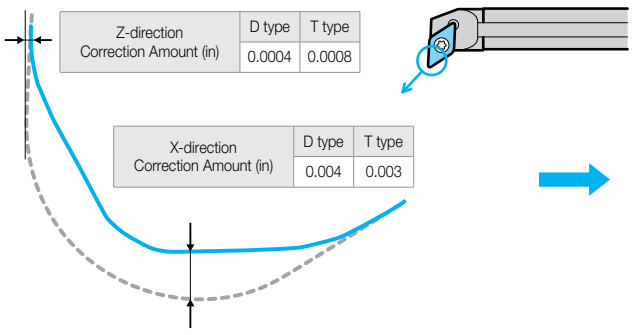
• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

WP Chipbreaker Edge Position Offset Adjustment

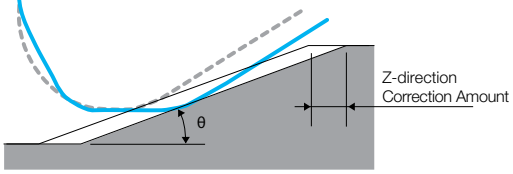
For D type and T type, cutting edge offsets are required.

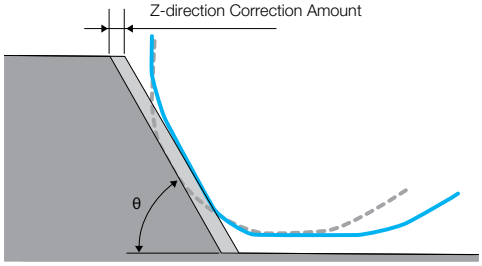
Z-direction Correction Amount (in)	D type	T type
	0.0004	0.0008

X-direction Correction Amount (in)	D type	T type
	0.004	0.003



For D type and T type, program corrections are required for ramping and profiling.





Ramping Angle θ	0°	5°	10°	15°	20°	25°
Z-direction Correction Amount (in) D type	0	-0.0055	-0.0059	-0.0063	-0.0063	-0.0067

Profiling Angle θ	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
Z-direction Correction Amount (in) D type	0.0000	0.0028	0.0024	0.0016	0.0012	0.0008	0.0004	0.0000	-	-	-
Z-direction Correction Amount (in) T type	0.0000	0.0028	0.0024	0.0020	0.0020	0.0016	0.0012	0.0008	0.0004	0.0004	0.0000

Profiling Angle θ	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°
Z-direction Correction Amount (in) D type	-0.0004	-0.0008	-0.0012	-0.0016	-0.0020	-0.0020	-0.0016	-0.0012	-0.0008	-0.0004	0.0000
Z-direction Correction Amount (in) T type	-	-	-	-0.0004	-0.0008	-0.0012	-0.0016	-0.0012	-0.0008	-0.0004	0.0000

Toolholder Dimensions

	Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	L3	L4	F	S	θ	Standard Corner-R(re)	Coolant Hole	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench
Excellent Bar	A06M-SDUC□2AE	●	●	inch	0.551	0.375	0.336	6.000	0.748	-	0.756	0.341	0.130	5°	1/64	Yes	Fig.1	SB-2560TR	FT-8
	A08M-SDUC□2AE	●	●		0.630	0.500	0.461	6.000	0.827	-	0.988	0.360	0.130	5°					
	A10R-SDUC□2AE	●	●		0.787	0.625	0.586	8.000	0.827	-	1.031	0.459	0.130	5°					
	A12S-SDUC□3AE	●	●		1.063	0.750	0.711	10.000	0.866	-	1.386	0.650	0.240	5°	1/64	Yes	Fig.1	SB-4065TR	FT-15
	A16T-SDUC□3AE	●	●		1.300	1.000	0.961	12.000	0.945	-	1.461	0.748	0.240	5°					
	A10L-SDUC□07-14AE	○	○	mm	14	10	9	140	19	-	20	8.7	3.3	5°	0.4	Yes	Fig.2	SB-2560TR	FT-8
	A16Q-SDUC□07-14AE	○	○		14	16	15	180	28	-	23	10.8	4.4	5°	0.4	Yes	Fig.1	SB-2560TR	FT-8
	A12M-SDUC□07-16AE	○	○		16	12	11	150	21	-	24	9.7	3.3	5°	0.4	Yes	Fig.2	SB-2560TR	FT-8
	A16Q-SDUC□07-20AE	○	○		20	16	15	180	21	-	26	11.7	3.3	5°					
	A20R-SDUC□11-20AE	○	○		20	20	19	200	48	-	30	15.6	6.1	5°	0.4	Yes	Fig.1	SB-4065TR	FT-15
	A16Q-SDUC□11-23AE	○	○		23	16	15	180	21	-	31	14.5	6.1	5°	0.4	Yes	Fig.2	SB-4065TR	FT-15
	A20R-SDUC□11-27AE	○			27	20	19	200	23	-	36	16.5	6.1	5°					
	A25S-SDUC□11-32AE	○	○		32	25	24	250	24	-	39	19.0	6.1	5°					
Steel	S10L-SDUC□07-14A	○	○	mm	14	10	9	140	19	-	20	8.7	3.3	5°	0.4	No	Fig.4	SB-2560TR	FT-8
	S16Q-SDUC□07-14A	○	○		14	16	15	180	28	-	23	10.8	4.4	5°	0.4	No	Fig.3	SB-2560TR	FT-8
	S12M-SDUC□07-16A	○	○		16	12	11	150	21	-	24	9.7	3.3	5°	0.4	No	Fig.4	SB-2560TR	FT-8
	S16Q-SDUC□07-20A	○	○		20	16	15	180	21	-	26	11.7	3.3	5°					
	S20R-SDUC□11-20A	○	○		20	20	19	200	48	-	30	15.6	6.1	5°	0.4	No	Fig.3	SB-4065TR	FT-15
	S16Q-SDUC□11-23A	○	○		23	16	15	180	21	-	31	14.5	6.1	5°	0.4	No	Fig.4	SB-4065TR	FT-15
	S20R-SDUC□11-27A	○	○		27	20	19	200	23	-	36	16.5	6.1	5°					
	S25S-SDUC□11-32A	○	○		32	25	24	250	24	-	39	19.0	6.1	5°					
Carbide	E06N-SDUC□2A	●	●	inch	0.551	0.375	0.336	6.300	0.776	-	0.697	0.341	0.130	5°	1/64	Yes	Fig.5	SB-2560TR	FT-8
	E06N-SDUC□2A-2/3	□	□		0.551	0.375	0.336	4.200	0.776	-	0.697	0.341	0.130	5°					
	E08Q-SDUC□2A	●	●		0.630	0.500	0.461	7.100	0.894	-	0.772	0.360	0.098	5°					
	E08Q-SDUC□2A-2/3	□	□		0.630	0.500	0.461	4.800	0.894	-	0.772	0.360	0.098	5°					
	E10X-SDUC□2A	●	●		0.787	0.625	0.586	8.700	1.091	-	0.976	0.459	0.130	5°					
	E10X-SDUC□2A-2/3	□	□		0.787	0.625	0.586	5.800	1.091	-	0.976	0.459	0.130	5°					
	E10N-SDUC□07-14A	○	○	mm	14	10	9	160	20	-	19	8.7	3.3	5°	0.4	Yes	Fig.5	SB-2560TR	FT-8
	E10N-SDUC□07-14A-2/3	○			14	10	9	105	20	-	19	8.7	3.3	5°					
	E12Q-SDUC□07-16A	○	○		16	12	11	180	23	-	22	9.7	3.3	5°					
	E12Q-SDUC□07-16A-2/3	○			16	12	11	120	23	-	22	9.7	3.3	5°					
	E16X-SDUC□07-20A	○	○		20	16	15	220	28	-	26	11.7	3.3	5°					
	E16X-SDUC□07-20A-2/3	●			20	16	15	145	28	-	26	11.7	3.3	5°					
	E16X-SDUC□11-23A	○	○		23	16	15	220	28	-	27	14.5	6.1	5°	0.4	Yes	Fig.5	SB-4065TR	FT-15
	E16X-SDUC□11-23A-2/3	○			23	16	15	145	28	-	27	14.5	6.1	5°					
	E20S-SDUC□11-27A	○	○		27	20	19	250	32	-	31	16.5	6.1	5°					
	E20S-SDUC□11-27A-2/3	●			27	20	19	165	32	-	31	16.5	6.1	5°					
	E25T-SDUC□11-32A	○	○		32	25	24	300	32	-	37	19.0	6.1	5°					
	E25T-SDUC□11-32A-2/3	○			32	25	24	200	38	-	37	19.0	6.1	5°					

Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Roughing	Finishing	Finishing / Precision	Low Feed
Ref. Page	B59	B59, B60	B60	B60	B60	B60	B61	B62	B62	B63, B64
Insert / Toolholder	CF	CK	WP (Wiper)	PP	GK	HQ	Standard	□-F	□-FSF	(E/F)□-U
...-SDUC□2AE... ...-SDUC□07-...	DCGT215..	DCGT215..	DCMX215..	DCMT215..	DCMT215..	DCMT215..	DCGT215..	DCGT215..	DCET215..	DCGT215..
...-SDQC□2AE... ...-SDQC□07-...										
...-SDZC□07-...										
...-SDUC□11-...	DCGT325..	DCGT325..	DCMX325..	DCMT325..	DCMT325..	DCMT325..	DCMT325.. DCGT325..	DCGT325..	DCET325..	DCGT325..
...-SDQC□11-...										
...-SDZC□11-...										

Application	Low Feed / Precision	Low Feed	Low Carbon Steel / Finishing	Low Carbon Steel / Finishing-Medium	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	B63	B64	B61	B61	B61	B65	B65	B65	C25	C15
Insert / Toolholder	F□-USF	(E/F)□-J	XP	XQ	MQ	Without Chipbreaker	AH	□-A3	PCD	CBN
...-SDUC□2AE... ...-SDUC□07-...	DCET215..	DCET215..	DCMT215..	-	DCMT215..	DCGW215..	-	-	DCMT215..	DCMW215..
...-SDQC□2AE... ...-SDQC□07-...										
...-SDZC□07-...										
...-SDUC□11-...	DCET325..	DC_T325..	DCMT325..	DCMT325..	DCMT325..	DCGW325..	DCGT325..	DCGT325..	DCMT325..	DCMW325..
...-SDQC□11-...										
...-SDZC□11-...										

When using **WP** chipbreaker, program corrections are required. → **F44**

Recommended Cutting Conditions → **F103~ F104**

Applicable Sleeve → **F94~F96**

※ TPMX-WP insert will not fit in A-SDQC-AE, S-SDQC-A, and E-SDQC-A type holders.

● : U.S. Stock Standard

□ : Made to Order

○ : World Express (Shipping: 7-10 Business Days)

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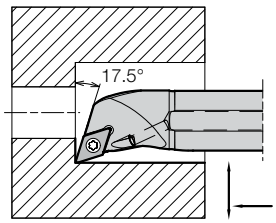
A-SDQC-AE Excellent Bar (Copying)

(Max. Overhang Length **L/D = ~5.5**)



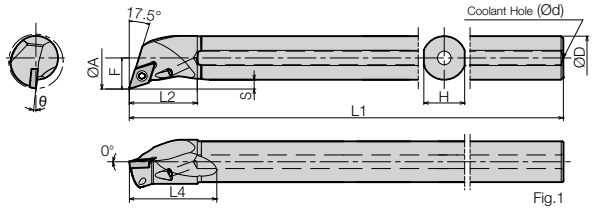


Fig.1

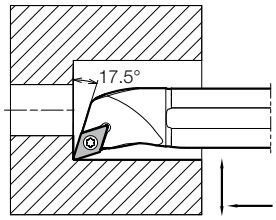
Shank Dia. ØD	Coolant Hole Dia. Ød
Ø0.375" Ø10mm	Ø3mm
Ø0.500" Ø12mm	Ø4mm
Ø0.625" Ø16mm	Ø5mm
Ø0.750" Ø20mm	Ø5mm
Ø25mm	Ø5mm

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-SDQC-A Steel Bar (Copying)

(Max. Overhang Length **L/D = ~4**)



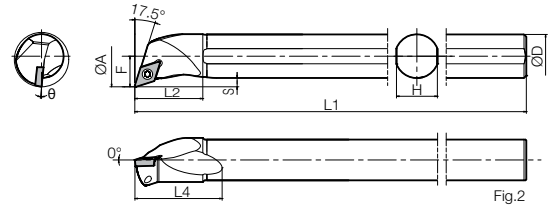


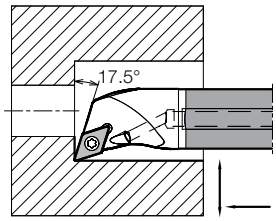
Fig.2

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

E-SDQC-A Carbide Shank Bar (Copying)

(Max. Overhang Length **L/D = ~7**)



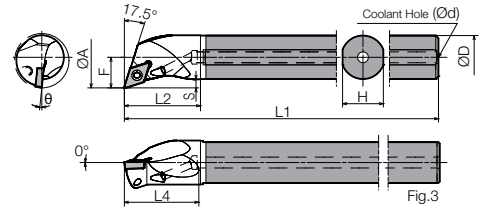


Fig.3

Shank Dia. ØD	Coolant Hole Dia. Ød
Ø0.375" Ø10mm	Ø3mm
Ø0.500" Ø12mm	Ø4mm
Ø0.625" Ø16mm	Ø4mm
Ø20mm	Ø6mm
Ø25mm	Ø6mm

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

	Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	L3	L4	F	S	θ	Standard Corner-R(rε)	Coolant Hole	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench
Excellent Bar	A06M-SDQC□2AE	●	●	inch	0.512	0.375	0.336	6 .0	0.736	0.736	0.783	0.295	0.083	10°	1/64	Yes	Fig.1	SB-2560TR	FT-8
	A08M-SDQC□2AE	●	●		0.630	0.500	0.461	6 .0	0.866	0.866	1.051	0.364	0.102	8°					
	A10R-SDQC□2AE	●	●		0.787	0.625	0.586	8 .0	0.984	0.984	1.256	0.443	0.102	6°					
	A12S-SDQC□3AE	●	●		0.980	0.750	0.711	10 .0	1.220	-	1.390	0.565	0.146	5°	1/64	Yes	Fig.1	SB-4065TR	FT-15
	A10L-SDQC□07-13AE	○	○	mm	13	10	9	140	19	-	21	7.50	2.1	10°	0.4	Yes	Fig.1	SB-2560TR	FT-8
	A12M-SDQC□07-16AE	○	○		16	12	11	150	22	-	25	9.25	2.6	8°					
	A16Q-SDQC□07-20AE	○	○		20	16	15	180	25	-	32	11.30	2.6	6°					
	A20R-SDQC□11-25AE	○	○		25	20	19	200	31	-	37	14.40	3.7	5°	0.4	Yes	Fig.1	SB-4065TR	FT-15
	A25S-SDQC□11-30AE	○	○		30	25	24	250	38	-	45	16.90	3.7	4°					
Steel	S10L-SDQC□07-13A	○	○	mm	13	10	9	140	19	-	21	7.50	2.1	10°	0.4	No	Fig.2	SB-2560TR	FT-8
	S12M-SDQC□07-16A	○	○		16	12	11	150	22	-	25	9.25	2.6	8°					
	S16Q-SDQC□07-20A	○	○		20	16	15	180	25	-	32	11.30	2.6	6°					
	S20R-SDQC□11-25A	○	○		25	20	19	200	31	-	37	14.40	3.7	5°	0.4	No	Fig.2	SB-4065TR	FT-15
	S25S-SDQC□11-30A	○	○		30	25	24	250	38	-	45	16.90	3.7	4°					
Carbide	E06N-SDQC□2A	□	□	inch	0.512	0.375	0.336	6.3	0.787	-	0.720	0.295	0.079	10°	1/64	Yes	Fig.3	SB-2560TR	FT-8
	E06N-SDQC□2A-2/3	□	□		0.512	0.375	0.336	4.2	0.787	-	0.720	0.295	0.079	10°					
	E08Q-SDQC□2A	□	□		0.630	0.500	0.461	7.1	0.906	-	0.835	0.364	0.102	8°					
	E08Q-SDQC□2A-2/3	□	□		0.630	0.500	0.461	4.8	0.906	-	0.835	0.364	0.102	8°					
	E10X-SDQC□2A	□	□		0.787	0.625	0.586	8.7	1.102	-	0.949	0.443	0.102	6°					
	E10X-SDQC□2A-2/3	□	□		0.787	0.625	0.586	5.8	1.102	-	0.949	0.443	0.102	6°					
	E10N-SDQC□07-13A	○	○	mm	13	10	9	160	20	-	19	7.50	2.1	10°	0.4	Yes	Fig.3	SB-2560TR	FT-8
	E10N-SDQC□07-13A-2/3	○			13	10	9	105	20	-	19	7.50	2.1	10°					
	E12Q-SDQC□07-16A	○	○		16	12	11	180	23	-	22	9.25	2.6	8°					
	E12Q-SDQC□07-16A-2/3	○			16	12	11	120	23	-	22	9.25	2.6	8°					
	E16X-SDQC□07-20A	○	○		20	16	15	220	28	-	27	11.30	2.6	6°					
	E16X-SDQC□07-20A-2/3	○			20	16	15	145	28	-	27	11.30	2.6	6°					
	E20S-SDQC□11-25A	○	○		25	20	19	250	32	-	31	14.40	3.7	5°	0.4	Yes	Fig.3	SB-4065TR	FT-15
	E20S-SDQC□11-25A-2/3	●			25	20	19	165	32	-	31	14.40	3.7	5°					
	E25T-SDQC□11-30A	○	●		30	25	24	300	38	-	37	16.90	3.7	4°					
	E25T-SDQC□11-30A-2/3	○			30	25	24	200	38	-	37	16.90	3.7	4°					

Applicable Inserts ➔ **F45**

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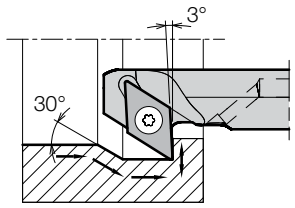
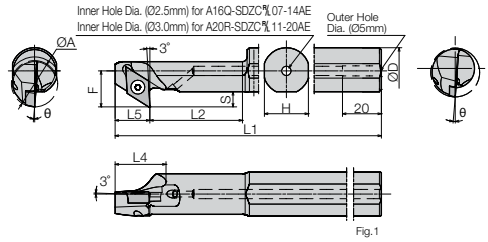
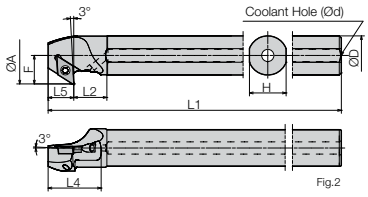
A-SDZC-AE Excellent Bar (Back Boring)

(Max. Overhang Length **L/D = ~5.5**)







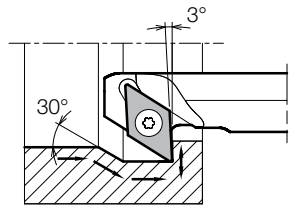
Shank Dia. ØD	Coolant Hole Dia. Ød
Ø10mm	Ø3mm
Ø12mm	Ø4mm
Ø16mm	Ø5mm
Ø20mm	Ø5mm
Ø25mm	Ø5mm

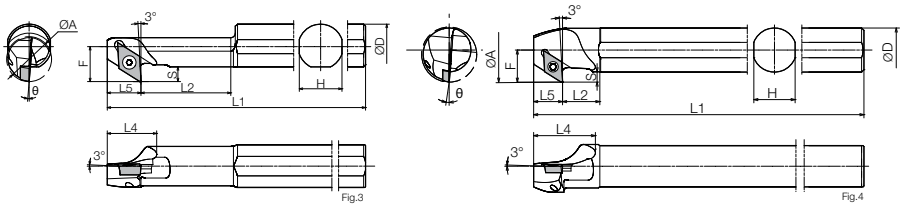
• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

S-SDZC-A Steel Bar (Back Boring)

(Max. Overhang Length **L/D = ~4**)



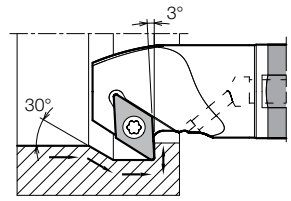


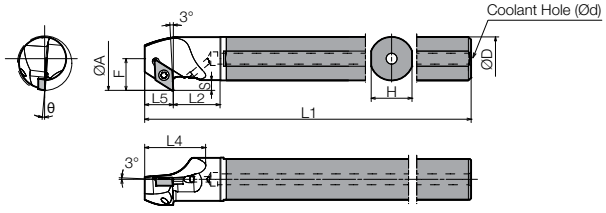
• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

E-SDZC-A Carbide Shank Bar (Back Boring)

(Max. Overhang Length **L/D = ~7**)





Shank Dia. ØD	Coolant Hole Dia. Ød
Ø10mm	Ø3mm
Ø12mm	Ø4mm
Ø16mm	Ø4mm
Ø20mm	Ø6mm

• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

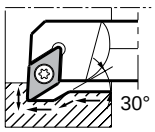
	Part Number	Stock R	Stock L	Min. Bore Dia. ØA	Dimensions (mm) ØD	H	L1	L2	L4	L5	F	S	θ	Standard Corner-R(rε)	Coolant Hole	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench
Excellent Bar	**A10L-SDZC□07-14AE**	○	○	14	10	9	140	14.0	16	9.5	8.7	3.3	5°	0.4	Yes	Fig.2	SB-2545TR	FT-8
	A16Q-SDZC□07-14AE	○	○	14	16	15	180	30.0	17	10.0	10.8	4.4	5°	0.4	Yes	Fig.1	SB-2545TR	FT-8
	A12M-SDZC□07-16AE	○	○	16	12	11	150	14.0	20	10.5	9.7	3.3	5°	0.4	Yes	Fig.2	SB-2560TR	FT-8
	A16Q-SDZC□07-20AE	○	○	20	16	15	180	14.0	22	10.5	11.7	3.3	5°					
	A20R-SDZC□11-20AE	○	○	20	20	19	200	40.0	24	15.0	15.6	6.1	5°	0.4	Yes	Fig.1	SB-4065TR	FT-15
	A16Q-SDZC□11-23AE	○	○	23	16	15	180	15.0	22	15.0	14.5	6.1	5°	0.4	Yes	Fig.2	SB-4065TR	FT-15
	A20R-SDZC□11-27AE	○	○	27	20	19	200	15.0	25	15.0	16.5	6.1	5°					
	A25S-SDZC□11-32AE	○	○	32	25	24	250	15.0	26	15.0	19.0	6.1	5°					
Steel	**S10L-SDZC□07-14A**	○	○	14	10	9	140	14.0	16	9.5	8.7	3.3	5°	0.4	No	Fig.4	SB-2545TR	FT-8
	S16Q-SDZC□07-14A	○	○	14	16	15	180	30.0	17	10.0	10.8	4.4	5°	0.4	No	Fig.3	SB-2545TR	FT-8
	S12M-SDZC□07-16A	○	○	16	12	11	150	14.0	20	10.5	9.7	3.3	5°	0.4	No	Fig.4	SB-2560TR	FT-8
	S16Q-SDZC□07-20A	○	○	20	16	15	180	14.0	22	10.5	11.7	3.3	5°					
	S20R-SDZC□11-20A	○	○	20	20	19	200	40.0	24	15.0	15.6	6.1	5°	0.4	No	Fig.3	SB-4065TR	FT-15
	S16Q-SDZC□11-23A	○	○	23	16	15	180	15.0	22	15.0	14.5	6.1	5°	0.4	No	Fig.4	SB-4065TR	FT-15
	S20R-SDZC□11-27A	○	○	27	20	19	200	15.0	25	15.0	16.5	6.1	5°					
	S25S-SDZC□11-32A	○	○	32	25	24	250	15.0	26	15.0	19.0	6.1	5°					
Carbide	**E10N-SDZC□07-14A**	○		14	10	9	160	10.5	16	9.5	8.7	3.3	5°	0.4	Yes	Fig.5	SB-2545TR	FT-8
	E12Q-SDZC□07-16A	●		16	12	11	180	12.5	20	10.5	9.7	3.3	5°	0.4	Yes	Fig.5	SB-2560TR	FT-8
	E16X-SDZC□07-20A	○		20	16	15	220	17.5	22	10.5	11.7	3.3	5°					
	E16X-SDZC□11-23A	○		23	16	15	220	13.0	22	15.0	14.5	6.1	5°	0.4	Yes	Fig.5	SB-4065TR	FT-15
	E20S-SDZC□11-27A	○		27	20	19	250	17.0	25	15.0	16.5	6.1	5°					

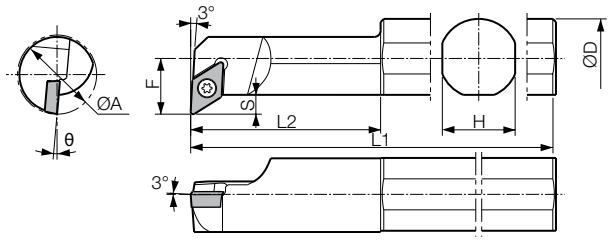
Applicable Inserts ➔ **F45**

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

S-SDUC Steel Bar (Copying)

(Max. Overhang Length **L/D = ~3**)





• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

	Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	F	S	θ	Standard Corner-R(re)	Coolant Hole	Spare Parts: Clamp Screw	Spare Parts: Wrench
Steel	**S08M-SDUC□2**	●	●	inch	0.564	0.500	0.480	6.00	1.125	0.346	0.145	5°	1/64	No	SB-2560TR	FT-8
Steel	**S10X-SDUC□2**	●	●	inch	0.564	0.625	0.584	7.00	1.125	0.346	0.145	5°	1/64	No	SB-2560TR	FT-8
Steel	**S12R-SDUC□3**	●	●	inch	0.750	0.750	0.710	8.00	1.500	0.476	0.224	5°	1/32	No	SB-4085TR	FT-15
Steel	**S16X-SDUC□3**	●	●	inch	0.980	1.000	0.970	9.00	2.360	0.693	0.240	5°	1/32	No	SB-4085TR	FT-15

Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Roughing	Finishing	Finishing / Precision	Low Feed	Low Feed / Precision
Ref. Page	B59	B59, B60	B60	B60	B60	B60	B61	B62	B62	B63, B64	B63
Insert / Toolholder	**CF**	**CK**	**WP** (Wiper)	**PP**	**GK**	**HQ**	**Standard**	**□-F**	**□-FSF**	**(E/F)□-U**	**F□-USF**
...-SDUC□2	DCGT215..	DCGT215..	DCMX215..	DCMT215..	DCMT215..	DCMT215..	DCGT215..	DCGT215..	DCET215..	DCGT215..	DCET215..
...-SDUC□3	DCGT325..	DCGT325..	DCMX325..	DCMT325..	DCMT325..	DCMT325..	DCMT325.. DCGT325..	DCGT325..	DCET325..	DCGT325..	DCET325..

Application	Low Feed	Low Feed / Precision	Low Carbon Steel/ Finishing	Low Carbon Steel/ Finishing-Medium	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	B64	B64	B61	B61	B61	B65	B65	B65	C25	C15
Insert / Toolholder	**(E/F)□-J**	**F□-JSF**	**XP**	**XQ**	**MQ**	Without Chipbreaker	**AH**	**□-A3**	**PCD**	**CBN**
...-SDUC□2	DCET215..	-	DCMT215..	-	DCMT215..	DCGW215..	-	-	DCMT215..	DCMW215..
...-SDUC□3	DCET325.. DCGT325..	DCET325..	DCMT325..	DCMT325..	DCMT325..	DCGW325..	DCGT325..	DCGT325..	DCMT325..	DCMW325..

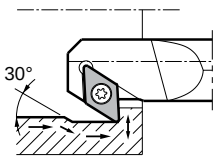
When using **WP** chipbreaker, program corrections are required. → **F44**

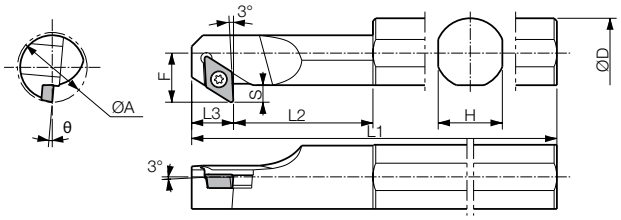
Recommended Cutting Conditions → **F103~F104**

Applicable Sleeve → **F94~F96**

S-SDZC Steel Bar (Back Boring)

(Max. Overhang Length **L/D = ~3**)





• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

	Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	L3	F	S	θ	Standard Corner-R(re)	Coolant Hole	Spare Parts: Clamp Screw	Spare Parts: Wrench
Steel	**S10Q-SDZC□2**	●	●	inch	0.550	0.625	0.596	7.00	1.18	0.491	0.410	0.173	5°	1/64	No	SB-2560TR	FT-8
Steel	**S10X-SDZC□2**	●	●	inch	0.630	0.625	0.596	7.00	1.52	0.491	0.449	0.173	5°	1/64	No	SB-2560TR	FT-8
Steel	**S12R-SDZC□3**	●		inch	0.787	0.750	0.710	8.00	1.60	0.590	0.595	0.240	5°	1/32	No	SB-4085TR	FT-15
Steel	**S16X-SDZC□3**	●	●	inch	0.984	1.000	0.960	9.00	2.09	0.590	0.693	0.240	5°	1/32	No	SB-4085TR	FT-15

Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Roughing	Finishing	Finishing / Precision	Low Feed	Low Feed / Precision
Ref. Page	B59	B59, B60	B60	B60	B60	B60	B61	B62	B62	B63, B64	B63
Insert / Toolholder	**CF**	**CK**	**WP** (Wiper)	**PP**	**GK**	**HQ**	**Standard**	**□-F**	**□-FSF**	**(E/F)□-U**	**F□-USF**
...-SDZC□2	DCGT215..	DCGT215..	DCMX215..	DCMT215..	DCMT215..	DCMT215..	DCGT215..	DCGT215..	DCET215..	DCGT215..	DCET215..
...-SDZC□3	DCGT325..	DCGT325..	DCMX325..	DCMT325..	DCMT325..	DCMT325..	DCMT325.. DCGT325..	DCGT325..	DCET325..	DCGT325..	DCET325..

Application	Low Feed	Low Feed / Precision	Low Carbon Steel/ Finishing	Low Carbon Steel/ Finishing-Medium	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	B64	B64	B61	B61	B61	B65	B65	B65	C25	C15
Insert / Toolholder	**(E/F)□-J**	**F□-JSF**	**XP**	**XQ**	**MQ**	Without Chipbreaker	**AH**	**□-A3**	**PCD**	**CBN**
...-SDZC□2	DCET215..	-	DCMT215..	-	DCMT215..	DCGW215..	-	-	DCMT215..	DCMW215..
...-SDZC□3	DCET325.. DCGT325..	DCET325..	DCMT325..	DCMT325..	DCMT325..	DCGW325..	DCGT325..	DCGT325..	DCMT325..	DCMW325..

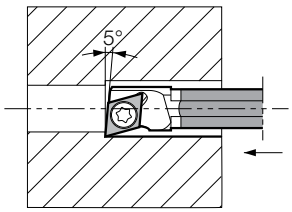
When using **WP** chipbreaker, program corrections are required. F44

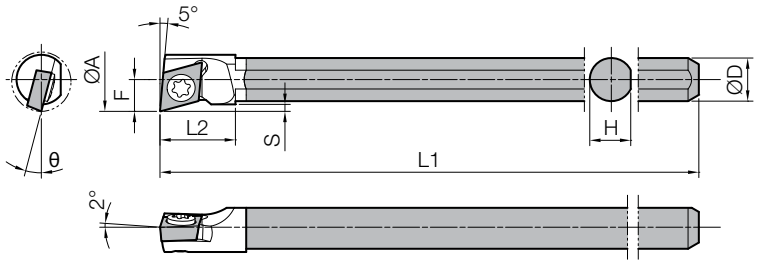
Recommended Cutting Conditions **F103~F104**

Applicable Sleeve **F94~F96**

C-SJLC Carbide Shank Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~7**)



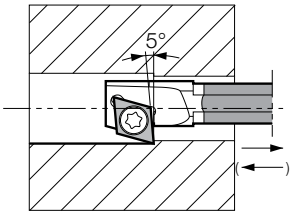


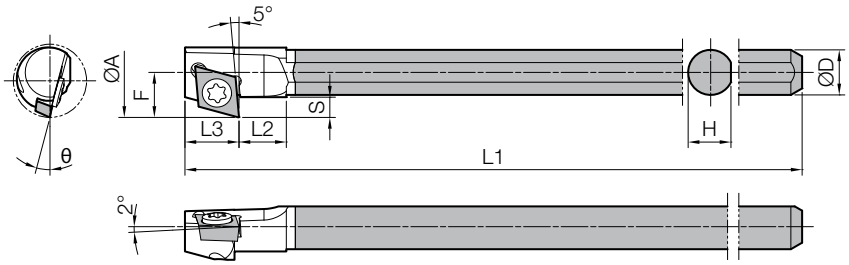
• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

C-SJZC Carbide Shank Bar (Back Boring)

(Max. Overhang Length **L/D = ~7**)





• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

※ When using R-hand Toolholder, Use R-hand insert for machining in this direction (→)
Use L-hand insert for machining in this direction (←)

Toolholder Dimensions

Part Number	Previous Part Number	Stock		Min. Bore Dia.	Dimensions (mm)							θ	Standard Corner-R(re)	Spare Parts	
														Clamp Screw	Wrench
		R	L	ØA	ØD	H	L1	L2	L3	F	S				
C04X-SJLC□03-055	**SJLC□ 05504B-03W**	○	○	5.5	4	3.8	91	7	-	2.95	0.65	15°	0.03	SB-1635TR	FT-6
C04X-SJZC□03-065	**SJZC□ 06504B-03W**	○	○	6.5	4	3.8	93	4	4.8	4.00	1.80	15°	0.03		

Applicable Inserts

Application	Finishing	Finishing / Precision
Ref. Page	B66	B66
Insert / Toolholder	□-F 	□-FSF 
...-SJLC□03-...	JCGT1109..	JCET1109..
...-SJZC□03-...	JCGT1109..	JCET1109..

Recommended Cutting Conditions **F103~F104**

Applicable Sleeve **F93, F95, F96**

Features of C-SJLC

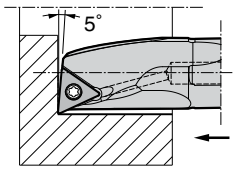
1. Well balanced design minimizing bore diameter yet maintaining a smaller insert radius.
2. High flexibility of tool pass during pecking.
3. Good surface finish at internal facing.

Features of C-SJZC

1. Back boring bars for workpieces which require high concentric circle accuracy and are unavailable for chuck change.
2. Available for back boring and pecking.
3. Large clearance between cutting edge and holder (1.8mm).

A-STLC-AE Excellent Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~5.5**)



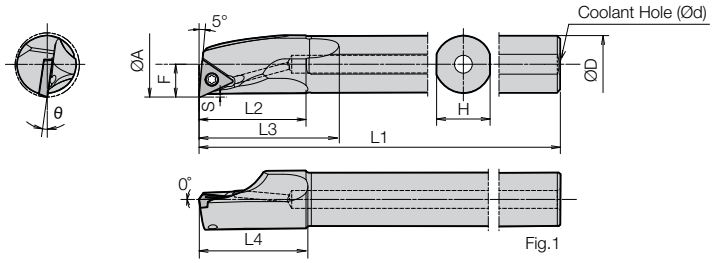


Fig.1

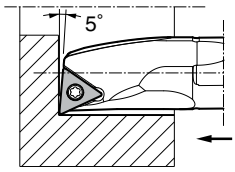
Shank Dia. ØD	Coolant Hole Dia. Ød
Ø8mm	Ø2.5mm
Ø10mm	Ø3.0mm
Ø12mm	Ø4.0mm
Ø16mm	Ø5.0mm
Ø20mm	Ø5.0mm

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-STLC-A Steel Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~4**)



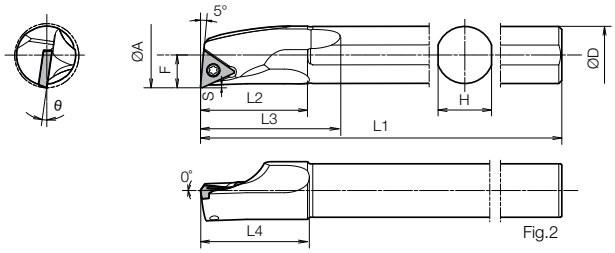


Fig.2

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

	Part Number	Stock R	Stock L	Min. Bore Dia. ØA	Dimensions (mm) ØD	H	L1	L2	L3	L4	F	S	θ	Standard Corner-R(rε)	Coolant Hole	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench
Excellent Bar	A08X-STLC**R**09-10AE	○	○	10	8	7	120	16	22	16	5.0	0.5	14°	0.4	Yes	Fig.1	SB-2250TR	FT-7
	A10L-STLC**R**09-12AE	○	○	12	10	9	140	20	26	20	6.2	0.9	12°					
	A10L-STLC**R**11-12AE	○	○	12	10	9	140	20	26	20	6.2	0.9	12°	0.4	Yes	Fig.1	SB-2560TR	FT-8
	A12M-STLC**R**11-14AE	○	○	14	12	11	150	24	30	25	7.2	0.7	10°					
	A16Q-STLC**R**11-18AE	○	○	18	16	15	180	30	39	31	9.2	0.7	8°					
	A20R-STLC**R**11-22AE	○	○	22	20	19	200	36	44	36	11.2	0.7	6°					
Steel	S08X-STLC**R**09-10A	○	○	10	8	7	120	16	22	16	5.0	0.5	14°	0.4	No	Fig.2	SB-2250TR	FT-7
	S10L-STLC**R**09-12A	○	○	12	10	9	140	20	26	20	6.2	0.9	12°					
	S10L-STLC**R**11-12A	○	○	12	10	9	140	20	26	20	6.2	0.9	12°	0.4	No	Fig.2	SB-2560TR	FT-8
	S12M-STLC**R**11-14A	○	○	14	12	11	150	24	30	25	7.2	0.7	10°					
	S16Q-STLC**R**11-18A	○	○	18	16	15	180	30	39	31	9.2	0.7	8°					
	S20R-STLC**R**11-22A	○	○	22	20	19	200	36	44	36	11.2	0.7	6°					

Applicable Insert

Application	Finishing	Finishing-Medium
Ref. Page	B68	B68
Insert / Toolholder	**WP** (Wiper) 	**HQ** 
...-STLC**R**09-...	TCMX1815..	TCMT1815..
...-STLC**R**11-...	TCMX215..	TCMT215..

When using **WP** chipbreaker, program corrections are required. **F44**

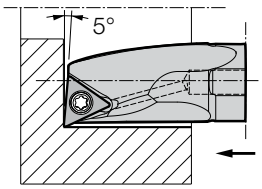
Recommended Cutting Conditions **F103~F104**

Applicable Sleeve **F94~F96**

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

A/S-STLB(P)-AE Excellent Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~5.5**)



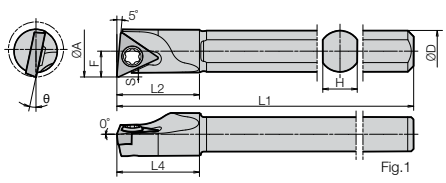


Fig.1

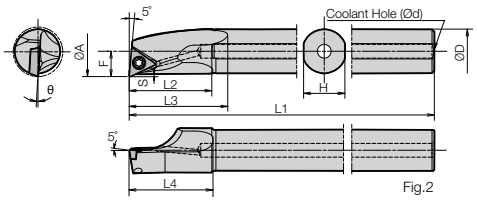


Fig.2

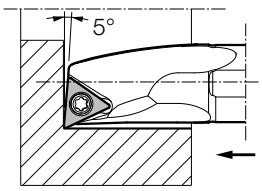
Shank Dia. ØD	Coolant Hole Dia. Ød
Ø0.312" Ø8mm	Ø2.5mm
Ø0.375" Ø10mm	Ø3.0mm
Ø0.500" Ø12mm	Ø4.0mm
Ø0.625" Ø16mm	Ø5.0mm
Ø0.750" Ø20mm	Ø5.0mm
Ø1.000" Ø25mm	Ø5.0mm

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-STLB(P)-A Steel Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~4**)



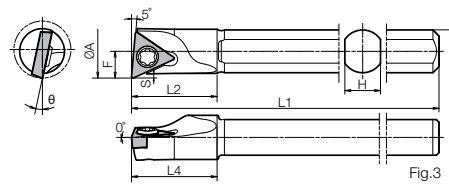


Fig.3

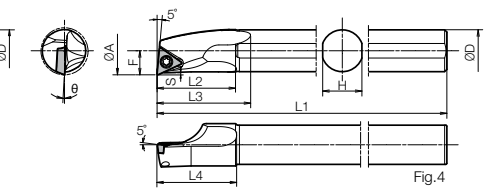


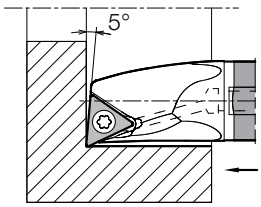
Fig.4

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

E(C)-STLB(P)-A Carbide Shank Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~7**)



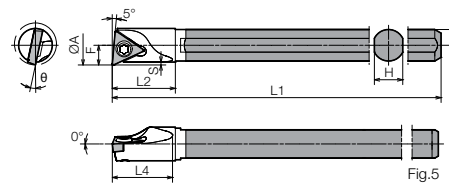


Fig.5

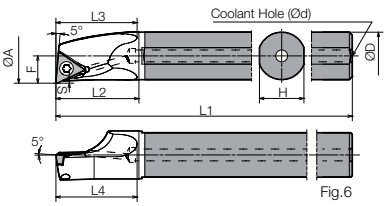


Fig.6

Shank Dia. ØD	Coolant Hole Dia. Ød
Ø8mm	Ø3mm
Ø10mm	Ø3mm
Ø12mm	Ø4mm
Ø16mm	Ø4mm
Ø20mm	Ø6mm
Ø25mm	Ø6mm

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

	Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	L3	L4	F	S	θ	Standard Corner-R(rε)	Coolant Hole	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench
Excellent Bar	S04H-STLB□1.2AE	●	●	inch	0.312	0.250	0.211	4	0.472	-	0.469	0.150	0.025	12.0°	0.008	No	Fig.1	SB-2035TR	FT-6
	A05K-STLB□1.2AE	●	●		0.392	0.312	0.273	5	0.630	0.839	0.650	0.201	0.031	12.0°	0.008	Yes	Fig.2		
	A05K-STLP□1.8AE	●	●		0.392	0.312	0.273	5	0.630	0.850	0.646	0.197	0.022	10.0°	1/64	Yes	Fig.2	SB-2545TR	FT-8
	A06M-STLP□1.8AE	●	●		0.480	0.375	0.336	6	0.787	0.949	0.807	0.244	0.036	8.0°					
	A06M-STLP□2AE	●	●		0.480	0.375	0.336	6	0.787	0.961	0.807	0.236	0.030	10.0°	1/64	Yes	Fig.2	SB-3060TR	FT-10
	A08M-STLP□2AE	●	●		0.580	0.500	0.461	6	0.945	1.228	0.953	0.283	0.032	7.0°					
	A10R-STLP□2AE	●	●		0.700	0.625	0.586	8	1.181	1.402	1.193	0.362	0.036	3.5°					
	A12S-STLP□2AE	●	●		0.825	0.750	0.711	10	1.417	1.744	1.425	0.421	0.031	2°					
	A16T-STLP□3AE	●	●		1.280	1.000	0.961	12	1.811	2.173	1.815	0.539	0.031	0°	1/64	Yes	Fig.2	SB-4065TR	FT-15
	S06H-STLB□06-08AE	○	○	mm	8	6	5.0	100	12	-	12	3.8	0.5	12°	0.2	No	Fig.1	SB-2035TR	FT-6
	NEW A08X-STLP□08-10AE	○	○		10	8	7.0	120	16	22	16	5.0	0.5	10°	0.4	Yes	Fig.2	SB-1TR	FT-6
	A08X-STLP□09-10AE	○	○		10	8	7.0	120	16	22	16	5.0	0.5	10°	0.4	Yes	Fig.2	SB-2545TR	FT-8
	A10L-STLP□09-12AE	○	○		12	10	9.0	140	20	25	20	6.2	0.9	8°					
	A10L-STLP□11-12AE	○	○		12	10	9.0	140	20	26	20	6.0	0.7	10°	0.4	Yes	Fig.2	SB-3060TR	FT-10
	A12M-STLP□11-14AE	○	○		14	12	11.0	150	24	30	24	7.2	0.8	7°					
	NEW A12M-STLP□09-16AE	○	○		16	12	11.0	150	24	30	24	8.0	0.6	5°	0.4	Yes	Fig.2	SB-2545TR	FT-8
	A16Q-STLP□11-18AE	○	○		18	16	15.0	180	30	36	30	9.2	0.7	3.5°	0.4	Yes	Fig.2	SB-3060TR	FT-10
	A20R-STLP□11-22AE	○	○		22	20	19.0	200	36	46	37	11.2	0.7	2°					
	NEW A20R-STLP□16-25AE	○	○		25	20	19.0	200	36	46	37	13.0	0.7	0°	0.4	Yes	Fig.2	SB-4065TR	FT-15
	A25S-STLP□16-27AE	○	○		27	25	24.0	250	46	55	46	13.7	0.7	0°					
Steel	S06H-STLB□06-08A	○	○	mm	8	6	5.0	100	12	-	12	3.8	0.5	12°	0.2	No	Fig.3	SB-2035TR	FT-6
	NEW S08X-STLP□08-10A	○	○		10	8	7.0	120	16	22	16	5.0	0.5	10°	0.4	No	Fig.4	SB-1TR	FT-6
	S08X-STLP□09-10A	○	○		10	8	7.0	120	16	22	16	5.0	0.5	10°	0.4	No	Fig.4	SB-2545TR	FT-8
	S10L-STLP□09-12A	○	○		12	10	9.0	140	20	25	20	6.2	0.9	8°					
	S10L-STLP□11-12A	○	○		12	10	9.0	140	20	26	20	6.0	0.7	10°	0.4	No	Fig.4	SB-3060TR	FT-10
	S12M-STLP□11-14A	○	○		14	12	11.0	150	24	30	24	7.2	0.8	7°					
	NEW S12M-STLP□09-16A	○	○		16	12	11.0	150	24	30	24	8.0	0.6	5°	0.4	No	Fig.4	SB-2545TR	FT-8
	S16Q-STLP□11-18A	○	○		18	16	15.0	180	30	36	30	9.2	0.7	3.5°	0.4	No	Fig.4	SB-3060TR	FT-10
	S20R-STLP□11-22A	○	○		22	20	19.0	200	36	46	37	11.2	0.7	2°					
	S25S-STLP□16-27A	○	○		27	25	24.0	250	46	55	46	13.7	0.7	0°	0.4	No	Fig.4	SB-4065TR	FT-15
Carbide	C06J-STLB□06-08A	○	○	mm	8	6	5.4	110	12	-	12	3.8	0.5	12°	0.2	No	Fig.5	SB-2035TR	FT-6
	NEW E08L-STLP□08-10A	○	○		10	8	7.0	140	16	15	15	5.0	0.5	10°	0.4	Yes	Fig.6	SB-1TR	FT-6
	E08L-STLP□09-10A	○	○		10	8	7.0	140	16	15	15	5.0	0.5	10°	0.4	Yes	Fig.6	SB-2545TR	FT-8
	E10N-STLP□09-12A	○	○		12	10	9.0	160	20	19	19	6.2	0.9	8°					
	E10N-STLP□09-12A-2/3	○			12	10	9.0	105	20	19	19	6.2	0.9	8°					
	E10N-STLP□09-12A-1/2	○			12	10	9.0	80	20	19	19	6.2	0.9	8°					
	E10N-STLP□11-12A	○	○		12	10	9.0	160	20	19	19	6.0	0.7	10°					
	E10N-STLP□11-12A-2/3	○			12	10	9.0	105	20	19	19	6.0	0.7	10°					
	E10N-STLP□11-12A-1/2	○			12	10	9.0	80	20	19	19	6.0	0.7	10°					
	E12Q-STLP□11-14A	○	○		14	12	11.0	180	23	22	22	7.2	0.8	7°	0.4	Yes	Fig.6	SB-3060TR	FT-10
	E12Q-STLP□11-14A-2/3	○			14	12	11.0	120	23	22	22	7.2	0.8	7°					
	E12Q-STLP□11-14A-1/2	○			14	12	11.0	90	23	22	22	7.2	0.8	7°					
	NEW E12Q-STLP□09-16A	○	○		16	12	11.0	180	23	22	22	8.0	0.6	5°					
	E12Q-STLP□09-16A-2/3	○			16	12	11.0	120	23	22	22	8.0	0.6	5°	0.4	Yes	Fig.6	SB-2545TR	FT-8
	E12Q-STLP□09-16A-1/2	○			16	12	11.0	90	23	22	22	8.0	0.6	5°					
	E16X-STLP□11-18A	○	○		18	16	15.0	220	28	27	27	9.2	0.7	3.5°					
	E16X-STLP□11-18A-2/3	○			18	16	15.0	145	28	27	27	9.2	0.7	3.5°					
	E16X-STLP□11-18A-1/2	○			18	16	15.0	110	28	27	27	9.2	0.7	3.5°	0.4	Yes	Fig.6	SB-3060TR	FT-10
	E20S-STLP□11-22A	○	○		22	20	19.0	250	32	31	31	11.2	0.7	2°					
	E20S-STLP□11-22A-2/3	○			22	20	19.0	165	32	31	31	11.2	0.7	2°					
	E20S-STLP□11-22A-1/2	○			22	20	19.0	125	32	31	31	11.2	0.7	2°					
	NEW E20S-STLP□16-25A	○	○		25	20	19.0	250	32	31	31	13.0	0.7	0°					
	E20S-STLP□16-25A-2/3	○			25	20	19.0	165	32	31	31	13.0	0.7	0°					
	E20S-STLP□16-25A-1/2	○			25	20	19.0	125	32	31	31	13.0	0.7	0°	0.4	Yes	Fig.6	SB-4065TR	FT-15
	E25T-STLP□16-27A	○	○		27	25	24.0	300	38	37	37	13.7	0.7	0°					
	E25T-STLP□16-27A-2/3	○			27	25	24.0	200	38	37	37	13.7	0.7	0°					

Applicable Inserts ➡ **F54**

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Medium	Low Feed / Precision
Ref. Page	**B68, B71**	**B71**	**B71**	**B71**	**B68**	**B71**	**B68, B72**	**B73**	**B73**	**B73**
Insert / Toolholder	**CF** 	**WP** (Wiper) 	**PP** 	**GP** 	**DP** 	**HQ** 	**P** 	**P-FSF** 	**P-H** 	**FP-USF** 
...-STLBP1.2... ...-STLBP06-...	TBGT121..	-	-	-	TBMT121..	-	TBGT121..	-	-	-
...-STLPP08-...	TPGT1515..	-	-	-	-	-	TPGH1515..	TPET1515..	-	TPET1515..
...-STLPP1.8... ...-STLPP09-...	TPGT1815..	TPMX1815..	TPMT1815..	TPMT1815..	-	TPMT1815..	TPGH1815..	-	-	-
...-STLPP2... ...-STLPP11-...	-	TPMX22..	TPMT22..	TPMT22..	-	TPMT22..	TPGH22..	TPET22..	TPGH22..	TPET22..
...-STLPP16-...	-	-	-	TPMT32..	-	TPMT32..	TPGH32..	-	TPGH32..	-

Application	Low Carbon Steel/ Finishing	Low Carbon Steel / Finishing-Medium	Cast Iron	Non-ferrous Metals	Hardened Materials
Ref. Page	**B71**	**B72**	**B68, B74**	**C26~C28**	**C16**
Insert / Toolholder	**XP** 	**XQ** 	**Without Chipbreaker** 	**PCD** 	**CBN** 
...-STLBP1.2... ...-STLBP06-...	-	-	TBGW121..	TBMT121.. TBGW121..	-
...-STLPP08-...	-	-	TPGB1515..	TPMH1515.. TPGB1515..	TPGB1515..
...-STLPP1.8... ...-STLPP09-...	TPMT1815..	-	TPGB1815..	TPMH1815.. TPGB1815..	TPGB1815..
...-STLPP2... ...-STLPP11-...	TPMT22..	TPMT22..	TPGB22..	TPMH22.. TPGB22..	TPGB22..
...-STLPP16-...	TPMT32..	TPMT32..	TPGB32..	TPMH32.. TPGB32..	TPGB32..

When using **WP** chipbreaker, program corrections are required. **F44**

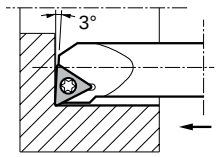
Recommended Cutting Conditions **F103~F104**

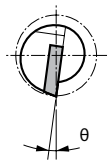
Applicable Toolholders **F53**

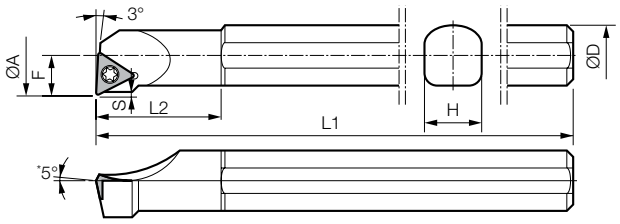
Applicable Sleeve **F94~F96**

S-STUP(B) Steel Bar (Boring)

(Max. Overhang Length **L/D = ~3**)







• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

	Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	F	S	θ	Standard Corner-R(re)	Coolant Hole	Spare Parts: Clamp Screw	Spare Parts: Wrench
Steel	**S04H-STUB□1.2**	●		inch	0.312	0.250	0.224	4.00	0.50	0.148	0.023	12°	1/64	No	SB-1STR	FT-6
	S05K-STUP□1.5	●			0.392	0.313	0.270	5.00	0.75	0.196	0.020	13°	1/64	No	SB-1TR	FT-6
	S06M-STUP□1.8	●	●		0.472	0.375	0.356	6.00	1.01	0.236	0.015	13°	1/64	No	SB-2TR	FT-8
	S08M-STUP□1.8	●	●		0.630	0.500	0.480	6.00	1.18	0.315	0.090	10°				
	S10X-STUP□2	●	●		0.787	0.625	0.584	7.00	1.38	0.394	0.100	7°	1/64	No	SB-3TR	FT-10
	S12R-STUP□2	●	●		0.912	0.750	0.710	8.00	1.58	0.456	0.115	5°				

Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Medium	Low Feed / Precision	Low Carbon Steel/ Finishing
Ref. Page	B68, B71	B71	B71	B68	B71	B68, B72	B73	B73	B73	B71
Insert / Toolholder	CF	PP	GP	DP	HQ	□	□-FSF	□-H	F□-USF	XP
...-STUB□1.2	TBGT121..	-	-	TBMT121..	-	TBGT121..	-	-	-	-
...-STUP□1.5	TPGT1515..	-	-	-	-	TPGH1515..	TPET1515..	-	TPET1515..	-
...-STUP□1.8	TPGT1815..	TPMT1815..	TPMT1815..	-	TPMT1815..	TPGH1815..	-	-	-	TPMT1815..
...-STUP□2	-	TPMT22..	TPMT22..	-	TPMT22..	TPGH22..	TPET22..	TPGH22..	TPET22..	TPMT22..

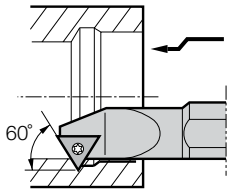
Application	Low Carbon Steel / Finishing-Medium	Cast Iron	Non-ferrous Metals	Hardened Materials
Ref. Page	B72	B68, B74	C26~C28	C16
Insert / Toolholder	XQ	Without Chipbreaker	PCD	CBN
...-STUB□1.2	-	TBGW121..	TBMT121.. TBGW121..	-
...-STUP□1.5	-	TPGB1515..	TPMH1515.. TPGB1515..	TPGB1515..
...-STUP□1.8	-	TPGB1815..	TPMH1815.. TPGB1815..	TPGB1815..
...-STUP□2	TPMT22..	TPGB22..	TPMH22.. TPGB22..	TPGB22..

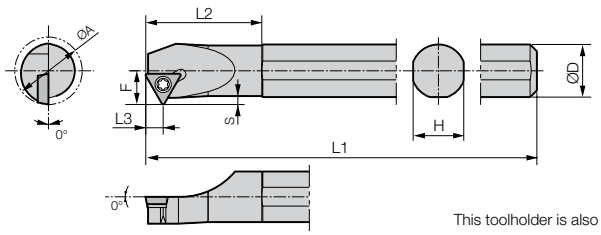
Recommended Cutting Conditions ➡ **F103~F104**

Applicable Sleeve ➡ **F94~F96**

S-STWP-E Excellent Bar (Copying)

(Max. Overhang Length **L/D = ~5**





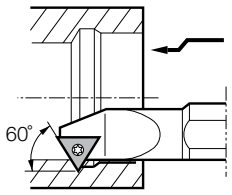
This toolholder is also available for threading. (➡ **J35**)

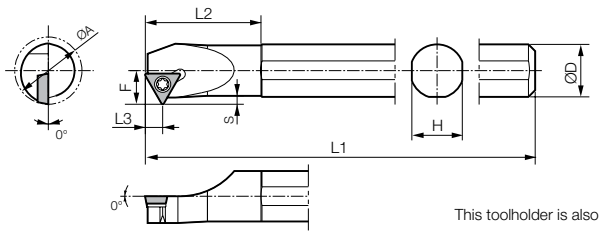
• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-STWP Steel Bar (Copying)

(Max. Overhang Length **L/D = ~3**)





This toolholder is also available for threading. (➡ **J35**)

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder.

Toolholder Dimensions

Part Number	Previous Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	L3	F	S	θ	Standard Corner-R(rε)	Spare Parts: Clamp Screw	Spare Parts: Wrench
S06M-STWPR/L2		●			0.476	0.375	0.350	6.00	0.91	0.205	0.238	0.056	0°			
S08M-STWPR/L2		●			0.630	0.500	0.476	6.00	1.20	0.205	0.315	0.700	0°			
S10X-STWPR/L2	-	●		inch	0.786	0.625	0.600	7.00	1.40	0.205	0.393	0.860	0°	1/64	SB-3STR	FT-10
S12R-STWPR/L2		●			0.970	0.750	0.726	8.00	1.60	0.205	0.485	0.115	0°			
S16R-STWPR/L2		●			1.240	1.000	0.974	8.00	2.00	0.205	0.620	0.125	0°			
S10M-STWPR/L11-12E		○	○		12	10	9.2	150	23	5.5	6.0	1.0	0°	0.1	SB-3STR	FT-10
S12M-STWPR/L11-16E		○	○		16	12	11.0	150	30	5.5	8.0	1.5	0°			
S16R-STWPR/L11-20E		○	○		20	16	15.0	200	35	5.5	10.0	2.0	0°	0.1	SB-3TR	FT-10
S20X-STWPR/L11-25E	-	○	○		25	20	19.0	220	40	5.5	12.5	2.5	0°			
S20X-STWPR/L16-25E		○	○		25	20	19.0	220	40	7.7	14.0	4.0	0°	0.8	SB-4TR	FT-15
S25X-STWPR/L16-32E		○	○	mm	32	25	23.0	270	42	7.7	16.5	4.0	0°			
S10M-STWPR/L11-12	SITR/L 1210-11	○			12	10	9.2	150	23	5.5	6.0	1.0	0°	0.1	SB-3STR	FT-10
S12M-STWPR/L11-16	SITR/L 1612-11	○			16	12	11.0	150	30	5.5	8.0	1.5	0°			
S16Q-STWPR/L11-20	2016-11	○			20	16	15.0	180	35	5.5	10.0	2.0	0°	0.1	SB-3TR	FT-10
S20R-STWPR/L11-25	2520-11	○			25	20	19.0	200	40	5.5	12.5	2.5	0°			

Applicable Inserts

Application	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Medium	Low Feed / Precision	Low Carbon Steel / Finishing	Low Carbon Steel / Finishing-Medium
Ref. Page	➡ B71	➡ B71	➡ B71	➡ B72	➡ B73	➡ B73	➡ B73	➡ B71	➡ B72
Insert / Toolholder	PP	GP	HQ	R/L	R/L-FSF	R/L-H	R/L-USF	XP	XQ
...-STWPR/L2 ...-STWPR/L11-12(E)	-	-	-	TPGH215..	-	-	-	-	-
...-STWPR/L11-16~25(E)	TPMT22..	TPMT22..	TPMT22..	TPGH22..	TPET22..	TPGH22..	TPET22..	TPMT22..	TPMT22..
...-STWPR/L16-...	-	TPMT32..	TPMT32..	TPGH32..	-	TPGH32..	-	TPMT32..	TPMT32..

Application	Cast Iron	Non-ferrous Metals	Hardened Materials
Ref. Page	➡ B74	➡ C26~C28	➡ C16
Insert / Toolholder	Without Chipbreaker	PCD	CBN
...-STWPR/L2 ...-STWPR/L11-12(E)	TPGB215..	-	-
...-STWPR/L11-16~25(E)	TPGB22..	TPMH22.. TPGB22..	TPGB22..
...-STWPR/L16-...	TPGB32..	TPMH32.. TPGB32..	TPGB32..

When using **WP** chipbreaker, program corrections are required. ➡ **F44**

※ **TPMX-WP insert will not fit in S-STWP-E and S-STWP type holders.**

Recommended Cutting Conditions ➡ **F103 ~104**

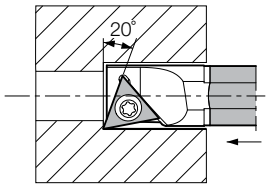
Applicable Sleeve ➡ **F94~ F96**

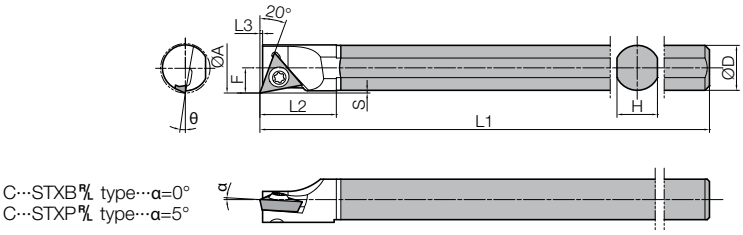
(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

C-STXP(B) Carbide Shank Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~7**)





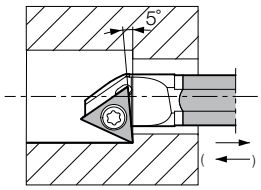
C···STXBR/L type···α=0°
C···STXPR/L type···α=5°

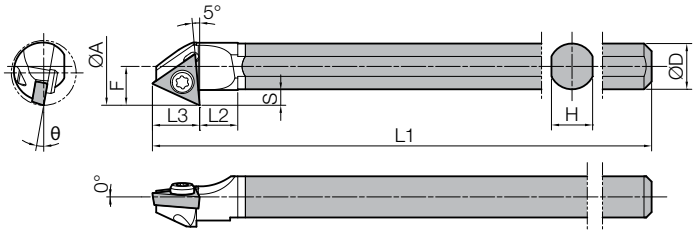
• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

C-STZB Carbide Shank Bar (Back Boring)

(Max. Overhang Length **L/D = ~7**)





• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

※ When using R-hand Toolholder, Use R-hand insert for machining in this direction (→)
Use L-hand insert for machining in this direction (←)

Toolholder Dimensions

Part Number	Previous Part Number	Stock		Min. Bore Dia.	Dimensions (mm)							θ	Standard Corner-R(re)	Spare Parts	
														Clamp Screw	Wrench
		R	L	ØA	ØD	H	L1	L2	L3	F	S				
C06J-STXBR/L 06-075	**STXBR/L 07506B-06W**	○	○	7.5	6	5.4	110	11	0.5	3.75	0.5	10°	0.03	SB-1STR	FT-6
C08X-STXPR/L 08-09	**STXPR/L 09008B-08W**	○	○	9.0	8	7.0	143	14	0.6	4.60	0.5	10°	0.03	SB-1TR	
C10X-STXPR/L 09-11	**11010B-09W**	○	○	11.0	10	9.0	164	17	0.6	5.60	0.5	10°	0.03	SB-2TR	FT-8
C06J-STZBR/L 06-085	**STZBR/L 08506B-06W**	○		8.5	6	5.4	110	5	5.7	5.10	2.0	10°	0.03	SB-1STR	FT-6

Applicable Inserts

Application	Minute ap	Finishing	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Low Feed / Precision	Low Carbon Steel / Finishing
Ref. Page	B68, B71	B71	B71	B68	B71	B68, B72	B73	B73	B71
Insert / Toolholder	CF	PP	GP	DP	HQ	R/L	R/L-FSF	FR/L-USF	XP
									
...-STXBR/L 06-...	TBGT121..	-	-	TBMT121..	-	TBGT121..	-	-	-
...-STXPR/L 08-...	TPGT1515..	-	-	-	-	TPGH1515..	TPET1515..	TPET1515..	-
...-STXPR/L 09-...	TPGT1815..	TPMT1815..	TPMT1815..	-	TPMT1815..	TPGH1815..	-	-	TPMT1815..
...-STZBR/L 06-...	TBGT121..	-	-	TBMT121..	-	TBGT121..	-	-	-

Application	Cast Iron	Non-ferrous Metals	Hardened Materials
Ref. Page	B68, B74	C26~C28	C16
Insert / Toolholder	Without Chipbreaker	PCD	CBN
			
...-STXBR/L 06-...	TBGW121..	TBMT121..	-
...-STXPR/L 08-...	TPGB1515..	TPMH1515.. TPGB1515..	TPGB1515..
...-STXPR/L 09-...	TPGB1815..	TPMH1815.. TPGB1815..	TPGB1815..
...-STZBR/L 06-...	TBGW121..	TBMT121..	-

※ **TPMX-WP insert will not fit in C-STXP type holders.**

Recommended Cutting Conditions → **F103~104**

Applicable Sleeve → **F93~F96**

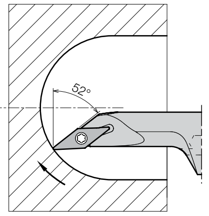
C...STXP(B) Type Boring Bar Cutting Conditions

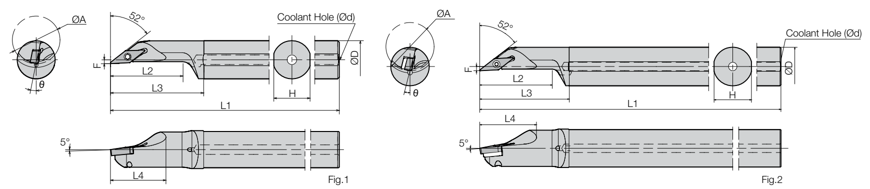
Toolholder Part Number	Insert Part Number (Grades)	Vc : sfm	D.O.C.	f (ipr)	Coolant
C06J-STXBR/L 06-075	TBGT0601003 L/R (PR930)	100~330	0.0008~0.0039	0.0008~0.0016	Yes
C08X-STXPR/L 08-09	TPGH080201 L/R (PR930)	100~330	0.0020~0.0059	0.0012~0.0031	Yes
C10X-STXPR/L 09-11	TPGH090201 L/R (PR930)	100~330	0.0020~0.0059	0.0012~0.0031	Yes

(Workpiece Material: Alloy Steel)

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

A-SVJP(C)(B)-AE Excellent Bar (Internal Spherical Machining / Internal Facing / Copying) (Max. Overhang Length **L/D = ~5.5**)



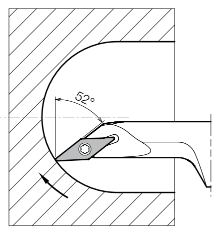


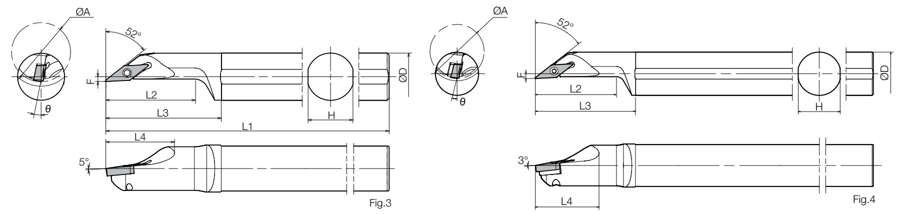
Shank Dia. ØD	Coolant Hole Dia. Ød
Ø12mm	Ø4mm
Ø16mm	Ø4mm
Ø0.750" Ø20mm	Ø5mm
Ø1.000" Ø25mm	Ø5mm
Ø32mm	Ø7mm
Ø40mm	Ø9mm

* No shim for SVJP(C)R/L08 or SVJBR/L11.

Please see F59 for Cutting Instructions
• Right-hand shown
• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-SVJP(C)(B)-A Steel Bar (Internal Spherical Machining / Internal Facing / Copying) (Max. Overhang Length **L/D = ~4**)





* No shim for SVJP(C)R/L08 / SVJBR/L11.

Please see F59 for Cutting Instructions
• Right-hand shown
• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

	Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	ØD	H	L1	L2	L3	L4	F	S	θ	Standard Corner-R(rε)	Coolant Hole	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench
Excellent Bar	A12S-SVJBR/L2AE	●	●	inch	0.984	0.750	0.711	10	1.476	-	1.173	0.079	-	5°	1/64	Yes	Fig.1	SB-2050TR	FT-6
	A16T-SVJBR/L2AE	●	●		1.180	1.000	0.961	12	1.772	-	1.280	0.138	-	5°					
	A12M-SVJPR/L08-16AE	○	○	mm	16	12	11	150	26	33	21	2.0	-	5°	0.2	Yes	Fig.1	SB-2050TR	FT-6
	A12M-SVJCR/L08-16AE	○	○		16	12	11	150	26	33	20	2.0	-	5°	0.4	Yes	Fig.1	SB-2050TR	FT-6
	A16Q-SVJCR/L08-20AE	○	○		20	16	15	180	36	43	22	2.0	-	5°					
	A20R-SVJBR/L11-25AE	○	○		25	20	19	200	37.5	48	30	2.0	-	5°	0.4	Yes	Fig.1	SB-2570TR	FT-8
	A25S-SVJBR/L11-30AE	○	○		30	25	24	250	45	58	33	3.5	-	5°					
	A32S-SVJBR/L16-40AE	○	○		40	32	31	250	60	74	45	3.5	-	8°	0.4	Yes	Fig.2	SB-40125TRN	FT-15
	A40T-SVJBR/L16-50AE	○	○		50	40	39	300	75	91	49	4.5	-	7°					
Steel	S12M-SVJPR/L08-16A	○	○		16	12	11	150	26	33	21	2.0	-	5°	0.2	No	Fig.3	SB-2050TR	FT-6
	S12M-SVJCR/L08-16A	○	○		16	12	11	150	26	33	20	2.0	-	5°	0.4	No	Fig.3	SB-2050TR	FT-6
	S16Q-SVJCR/L08-20A	○	○		20	16	15	180	36	43	22	2.0	-	5°					
	S20R-SVJBR/L11-25A	○	○		25	20	19	200	37.5	48	30	2.0	-	5°	0.4	No	Fig.3	SB-2570TR	FT-8
	S25S-SVJBR/L11-30A	○	○		30	25	24	250	45	58	33	3.5	-	5°					
	S32S-SVJBR/L16-40A	●	○		40	32	31	250	60	74	45	3.5	-	8°	0.4	No	Fig.4	SB-40125TRN	FT-15
	S40T-SVJBR/L16-50A	○	○		50	40	39	300	75	91	49	4.5	-	7°	0.4	No	Fig.4	SB-40125TRN	FT-15

Applicable Inserts

Application	Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Low Feed / Precision	Non-ferrous Metals	Non-ferrous Metals
Ref. Page	B80	B77, B79	B77, B79	B77	B77, B79	B78	B77, B81	B81	B79	B79
Toolholder \ Insert	CK	VF	PP	GP	HQ	R/L-F	R/L-FSF	FR/L-USF	AH	R/L-A3
...-SVJPR/L08-...	VPGT1515..	-	-	-	-	-	VPET1515..	VPET1515..	-	-
...-SVJCR/L08-...	-	VCMT1515..	VCMT1515..	-	VCMT1515..	-	-	-	-	-
...-SVJBR/L2AE ...-SVJBR/L11-...	-	VBMT22..	VBMT22..	VBMT22..	VBMT22..	VBGT22..	VBET22..	-	-	-
...-SVJBR/L16-...	-	VBMT33..	VBMT33..	VBMT33..	VBMT33..	-	-	-	VCGT33..	VCGT33..

Application	Non-ferrous Metals	Hardened Materials
Ref. Page	C28	C17
Toolholder \ Insert	PCD	CBN
...-SVJPR/L08-...	-	-
...-SVJCR/L08-...	VCMT1515..	VCGW1515..
...-SVJBR/L2AE ...-SVJBR/L11-...	VBMT22..	VBGW22..
...-SVJBR/L16-...	VBMT33..	VBGW33..

* Use of VBGT1103..-Y / VBGT1604..-Y with A-SVJB-AE / S-SVJB-A is not recommended.

Spare Parts (See P24 for spare parts of old products.)

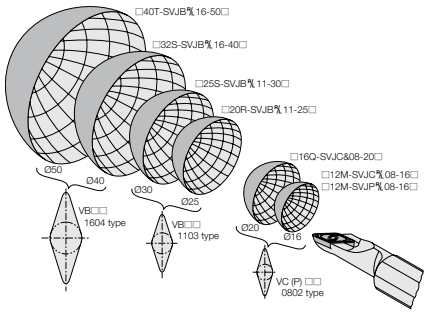
Part Number	Spare Parts: Shim	Spare Parts: Shim Screw	Spare Parts: Wrench (for Shim Screw)
□32S-SVJBR/L16-40A□	SVN-32N	SS-4N	LW-4
□40T-SVJBR/L16-50A□	SVN-32N	SS-4N	LW-4

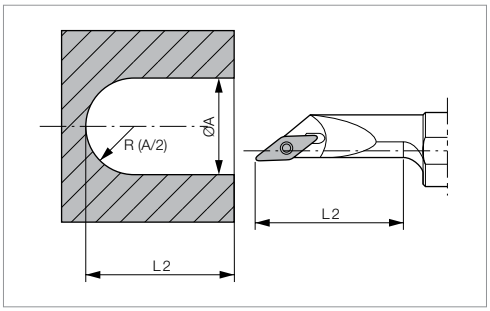
Recommended Cutting Conditions F103~104
Applicable Sleeve F94~F96

A...SVJP(C)-○, S...SVJP(C)-○ Excellent Bar (Internal Spherical Machining / Internal Facing)

〔Refer to Page ➡ **F58** (Dynamic Bar)〕

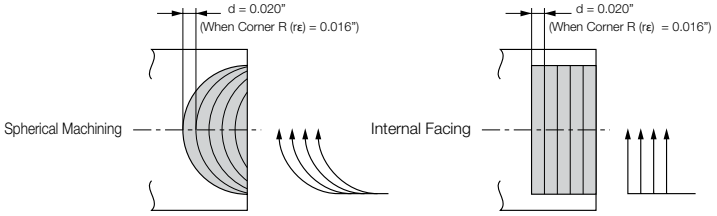
1. Application Range





2. Machining Method

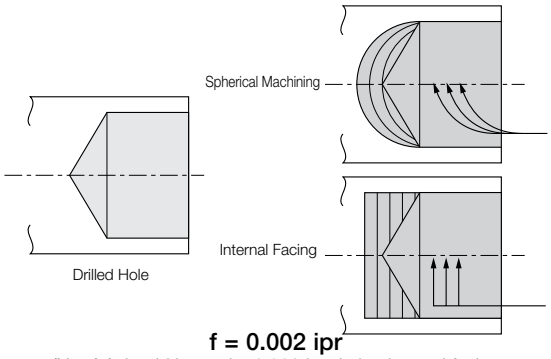
In Cases with No Existing Hole



f = 0.002 ipr

(Note) f should be under 0.002 ipr at internal facing

In Cases with Drilled Hole

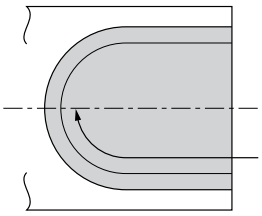


f = 0.002 ipr

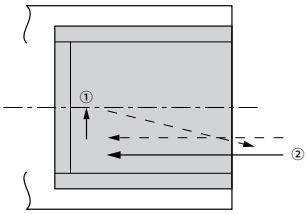
(Note) f should be under 0.002 ipr during internal facing

Finishing

Spherical Machining

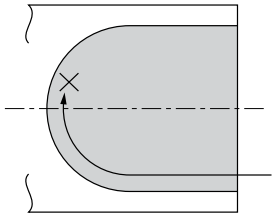


Internal Facing

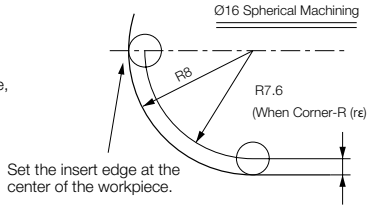


Machining Process
1. Finish the internal face firstly.
2. Next, finish the internal diameter.

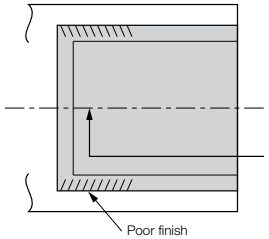
3. Caution



When machining past the center of the workpiece, insert breakage may occur.

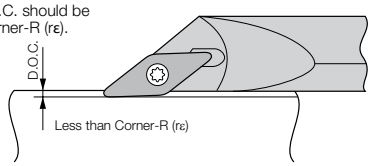


Adjust the machining program of radius smaller by Corner-R (rε) value.



Machining of this kind is available, but the oblique part may be scratched by chips.

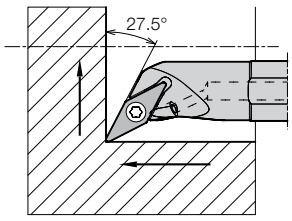
For internal profiling, D.O.C. should be less than the value of Corner-R (rε).

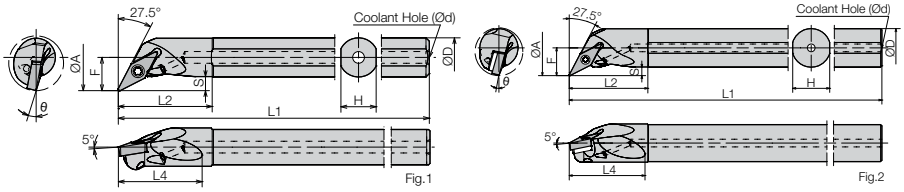


[Burrs may occur, if D.O.C. is bigger than Corner-R (rε)]

A-SVPC(B)-AE Excellent Bar (Copying / Undercutting)

(Max. Overhang Length **L/D = ~5.5**)





* No shim for SVPC□08 or SVPB□11.

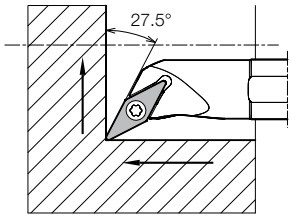
Shank Dia. ØD	Coolant Hole Dia. Ød
Ø0.375" Ø10mm	Ø3mm
Ø0.500" Ø12mm	Ø4mm
Ø0.625" Ø16mm	Ø5mm
Ø0.750" Ø20mm	Ø5mm
Ø1.000" Ø25mm	Ø5mm
Ø32mm	Ø5mm

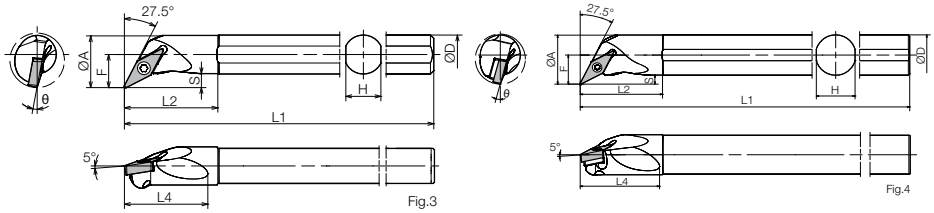
• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-SVPC(B)-A Steel Bar (Copying / Undercutting)

(Max. Overhang Length **L/D = ~4**)





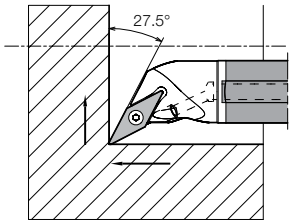
* No shim for SVPC□08 or SVPB□11.

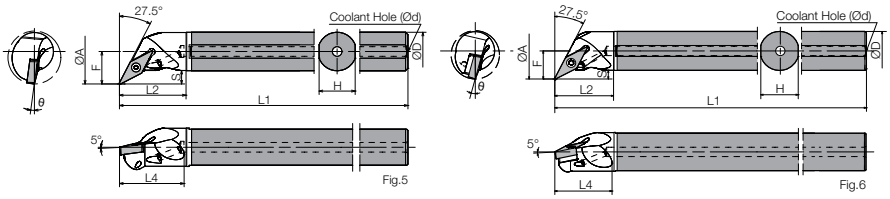
• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

E-SVPC(B)-A Carbide Shank Bar (Copying / Undercutting)

(Max. Overhang Length **L/D = ~7**)





* No shim for SVPC□08 or SVPB□11.

Shank Dia. ØD	Coolant Hole Dia. Ød
Ø10mm	Ø3mm
Ø12mm	Ø4mm
Ø16mm	Ø4mm
Ø20mm	Ø6mm
Ø25mm	Ø6mm

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

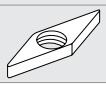
Toolholder Dimensions

	Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	L3	L4	F	S	θ	Standard Corner-R(re)	Coolant Hole	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench
Excellent Bar	A06M-SVPC□1.5AE	●	●	inch	0.630	0.375	0.336	6	0.945	-	0.843	0.335	0.118	8°	1/64	Yes	Fig.1	SB-2570TR	FT-8
	A08M-SVPB□2AE	●	●		0.790	0.500	0.461	6	1.142	-	1.000	0.433	0.177	8°					
	A10R-SVPB□2AE	●	●		0.980	0.625	0.586	8	1.378	-	1.283	0.531	0.197	5°					
	A12S-SVPB□2AE	●	●		1.180	0.750	0.711	10	1.575	-	1.528	0.610	0.197	5°					
	A16T-SVPB□3AE	●	●		1.240	1.000	0.961	12	2.008	-	1.937	0.709	0.197	13°	1/64	Yes	Fig.2	SB-40125TRN	FT-15
	A10L-SVPC□08-14AE	○	○	mm	14	10	9	140	24	-	21.0	8.5	3.0	8°	0.4	Yes	Fig.1	SB-2050TR	FT-6
	A12M-SVPB□11-18AE	○	○		18	12	11	150	29	-	26.0	11.0	4.5	8°	0.4	Yes	Fig.1	SB-2570TR	FT-8
	A16Q-SVPB□11-22AE	○	○		22	16	15	180	35	-	33.0	13.5	5.0	5°					
	A20R-SVPB□11-26AE	○	○		26	20	19	200	41	-	39	15.5	5.0	5°					
	A25S-SVPB□16-31AE	○	○		31	25	24	250	51	-	49	18.0	5.0	13°	0.4	Yes	Fig.2	SB-40125TRN	FT-15
	A32S-SVPB□16-40AE	●	○		40	32	31	250	54	-	53	23.0	6.5	9°					
Steel	S10L-SVPC□08-14A	○	○	mm	14	10	9	140	24	-	21.0	8.5	3.0	8°	0.4	No	Fig.3	SB-2050TR	FT-6
	S12M-SVPB□11-18A	○	○		18	12	11	150	29	-	26.0	11.0	4.5	8°	0.4	No	Fig.3	SB-2570TR	FT-8
	S16Q-SVPB□11-22A	○	○		22	16	15	180	35	-	33.0	13.5	5.0	5°					
	S20R-SVPB□11-26A	○	○		26	20	19	200	41	-	39	15.5	5.0	5°					
	S25S-SVPB□16-31A	○	○		31	25	24	250	51	-	49	18.0	5.0	13°	0.4	No	Fig.4	SB-40125TRN	FT-15
	S32S-SVPB□16-40A	○	○		40	32	31	250	54	-	53	23.0	6.5	9°					
Carbide	E10N-SVPC□08-14A	○		mm	14	10	9	160	20	-	18.5	8.5	3.0	8°	0.4	Yes	Fig.5	SB-2050TR	FT-6
	E12Q-SVPB□11-18A	○			18	12	11	180	23	-	22.0	11.0	4.5	8°	0.4	Yes	Fig.5	SB-2570TR	FT-8
	E16X-SVPB□11-22A	○			22	16	15	220	28	-	27.0	13.5	5.0	5°					
	E20S-SVPB□11-26A	○			26	20	19	250	32	-	31	15.5	5.0	5°					
	E25T-SVPB□16-31A	○			31	25	24	300	38	-	37	18.0	5.0	13°	0.4	Yes	Fig.6	SB-40125TRN	FT-15

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

Spare Parts (See P24 for spare parts of old products.)

Part Number	Spare Parts		
	Shim	Shim Screw	Wrench (for Shim Screw)
			
□25□-SVPB□16-31A□	SVN-32N	SS-4N	LW-4
□32S-SVPB□16-40A□			
A16T-SVPB□3AE			

Applicable Inserts

Application	Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Finishing-Medium	Low Feed / Precision	Non-ferrous Metals
Ref. Page	-	B77, B79	B77, B79	B77	B77, B79	B78	B77, B79	B78	-	B79
Insert / Toolholder	CK	VF	PP	GP	HQ	□-F	□-FSF	□-Y	F□-USF	AH
										
...-SVPC□1.5AE ...-SVPC□08-...	-	VCMT1515..	VCMT1515..	-	VCMT1515..	-	-	-	-	-
...-SVPB□2AE... ...-SVPB□11-...	-	VBMT22..	VBMT22..	VBMT22..	VBMT22..	VBGT22..	VBET22..	VBGT22..	-	-
...-SVPB□3AE ...-SVPB□16-...	-	VBMT33..	VBMT33..	VBMT33..	VBMT33..	-	-	VBGT33..	-	VCGT33..

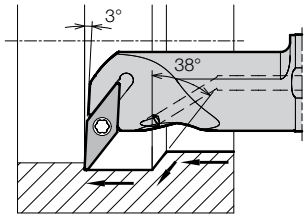
Application	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	B79	C28	C17
Insert / Toolholder	□-A3	PCD	CBN
			
...-SVPC□1.5AE... ...-SVPC□08-...	-	VCMT1515..	VCGW1515..
...-SVPB□2AE... ...-SVPB□11-...	-	VBMT22..	VBGW22..
...-SVPB□3AE ...-SVPB□16-...	VCGT33..	VBMT33..	VBGW33..

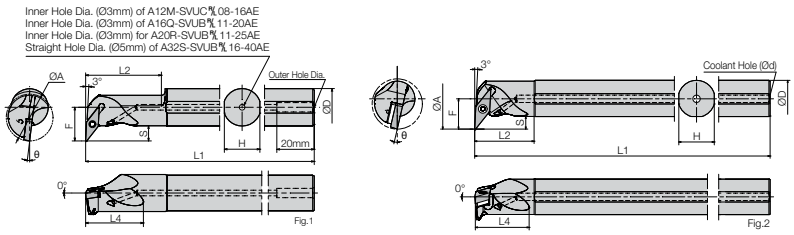
Recommended Cutting Conditions **F103~F104**

Applicable Sleeve **F94~F96**

A-SVUC(B)-AE Excellent Bar (Copying)

(Max. Overhang Length **L/D = ~5.5**)





Shank Dia. ØD	Outer Hole Dia.	Coolant Hole Dia. Ød
Ø0.500" Ø12mm	Ø4mm	-
Ø0.625" Ø16mm	Ø5mm	-
Ø0.750" Ø20mm	Ø5mm	-
Ø1.000" Ø25mm	-	Ø5mm
Ø32mm	-	Ø5mm

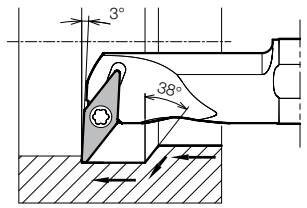
* No shim for SVUC□08 / SVUB□11.

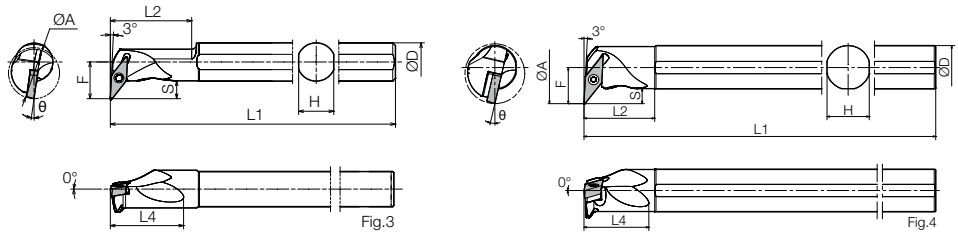
• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-SVUC(B)-A Steel Bar (Copying)

(Max. Overhang Length **L/D = ~4**)





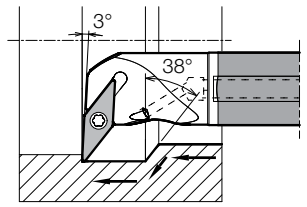
* No shim for SVUC□08 / SVUB□11.

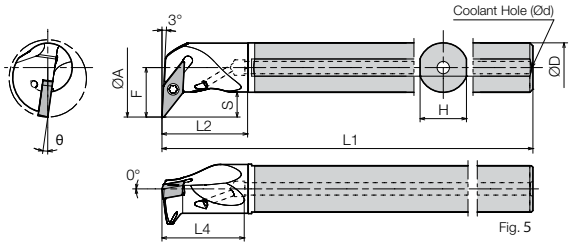
• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

A-SVUC(B)-A Carbide Shank Bar (Copying)

(Max. Overhang Length **L/D = ~7**)





Shank Dia. ØD	Coolant Hole Dia. Ød
Ø12mm	Ø4mm
Ø16mm	Ø4mm
Ø20mm	Ø6mm
Ø25mm	Ø6mm

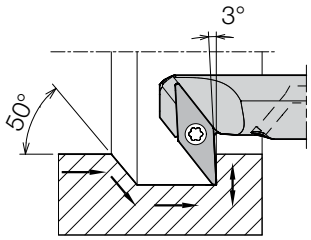
* Shim is attached only for SVUBR16

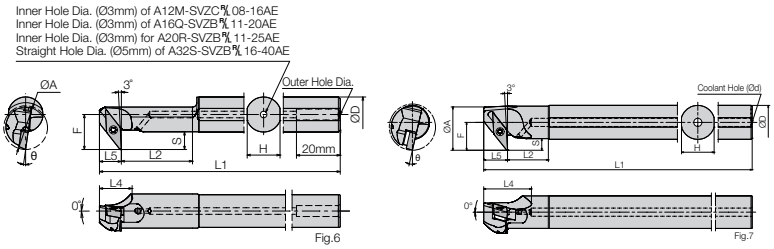
• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

A-SVZC(B)-AE Excellent Bar (Back Boring)

(Max. Overhang Length **L/D = ~5.5**)





Shank Dia. ØD	Outer Hole Dia.	Coolant Hole Dia. Ød
Ø12mm	Ø4mm	-
Ø16mm	Ø5mm	-
Ø20mm	Ø5mm	-
Ø25mm	-	Ø5mm
Ø32mm	-	Ø5mm

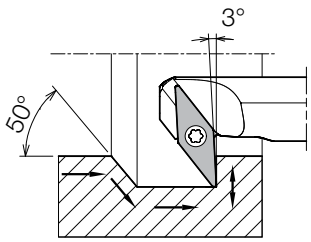
* No shim for SVZC□08 / SVZB□11

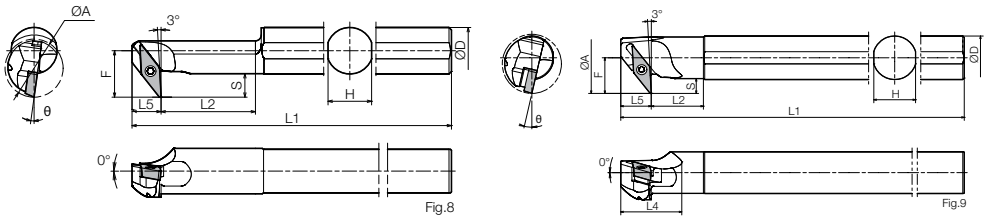
• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

A-SVZC(B)-A Steel Bar (Back Boring)

(Max. Overhang Length **L/D = ~4**)





* No shim for SVZC□08 / SVZB□11

• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

	Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	L4	L5	F	S	θ	Standard Corner-R(re)	Coolant Hole	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench
Excellent Bar	A08M-SVUC□1.5AE	●	●	inch	0.630	0.500	0.461	6	1.004	0.906	-	0.453	0.217	8°	1/64	Yes	Fig.1	SB-2050TR	FT-6
	A10R-SVUB□2AE	●	●		0.790	0.625	0.586	8	1.280	1.063	-	0.630	0.315	8°	1/64	Yes	Fig.1	SB-2570TR	FT-8
	A12S-SVUB□2AE	●	●		0.980	0.750	0.711	10	0.000	0.000	-	0.000	0.315	7°					
	A16T-SVUB□3AE	●	●		1.340	1.000	0.961	12	1.583	1.453	-	0.807	0.335	13°	1/64	Yes	Fig.2	SB-40125TRN	FT-15
	A12M-SVUC□08-16AE	○	○	mm	16	12	11	150	25.5	23	-	11.5	5.5	8°	0.4	Yes	Fig.1	SB-2050TR	FT-6
	A16Q-SVUB□11-20AE	○	○		20	16	15	180	32.5	27	-	16.0	8.0	8°	0.4	Yes	Fig.1	SB-2570TR	FT-8
	A20R-SVUB□11-25AE	○	○		25	20	19	200	40.5	31	-	18.0	8.0	7°					
	A25S-SVUB□16-34AE	○	○		34	25	24	250	40.0	37	-	20.5	8.5	13°	0.4	Yes	Fig.2	SB-40125TRN	FT-15
	A32S-SVUB□16-40AE	○	○		40	32	31	250	84.0	47	-	28.0	12.0	9°	0.4	Yes	Fig.1	SB-40125TRN	FT-15
	A08M-SVZC□1.5AE	●	●	inch	0.630	0.500	0.461	6	-	1.299	0.579	0.453	0.217	8°	1/64	Yes	Fig.1	SB-2050TR	FT-6
	A10R-SVZB□2AE	●			0.790	0.625	0.586	8	-	1.673	0.799	0.630	0.315	8°	1/64	Yes	Fig.1	SB-2570TR	FT-8
	A12S-SVZB□2AE	●	●		0.980	0.750	0.711	10	-	1.988	0.894	0.709	0.315	7°					
	A16T-SVZB□3AE	●	●		1.340	1.000	0.961	12	-	1.870	1.362	0.807	0.335	13°	1/64	Yes	Fig.2	SB-40125TRN	FT-15
Steel	S12M-SVUC□08-16A	○	○	mm	16	12	11	150	25.5	23	-	11.5	5.5	8°	0.4	No	Fig.3	SB-2050TR	FT-6
	S16Q-SVUB□11-20A	○	○		20	16	15	180	32.5	27	-	16.0	8.0	8°	0.4	No	Fig.3	SB-2570TR	FT-8
	S20R-SVUB□11-25A	○	○		25	20	19	200	40.5	31	-	18.0	8.0	7°					
	S25S-SVUB□16-34A	○	○		34	25	24	250	40.0	37	-	20.5	8.5	13°	0.4	No	Fig.4	SB-40125TRN	FT-15
	S32S-SVUB□16-40A	○	○		40	32	31	250	84.0	47	-	28.0	12.0	9°	0.4	No	Fig.3		
Carbide	E12Q-SVUC□08-18A	○		mm	18	12	11	180	23.0	22	-	11.5	5.5	8°	0.4	Yes	Fig.5	SB-2050TR	FT-6
	E16X-SVUB□11-25A	○			25	16	15	220	28.0	27	-	16.0	8.0	8°	0.4	Yes	Fig.5	SB-2570TR	FT-8
	E20S-SVUB□11-29A	○			29	20	19	250	32.0	30	-	18.0	8.0	7°					
	E25T-SVUB□16-34A	○			34	25	24	300	38.0	37	-	21.0	8.5	13°	0.4	Yes	Fig.5	SB-40125TRN	FT-15
Excellent Bar	A12M-SVZC□08-16AE	○	○	mm	16	12	11	150	25.5	14	7.5	11.5	5.5	8°	0.4	Yes	Fig.6	SB-2050TR	FT-6
	A16Q-SVZB□11-20AE	○	○		20	16	15	180	32.5	20	10.0	16.0	8.0	8°	0.4	Yes	Fig.6	SB-2570TR	FT-8
	A20R-SVZB□11-25AE	○	○		25	20	19	200	40.5	23	10.0	18.0	8.0	7°					
	A25S-SVZB□16-34AE	○	○		34	25	24	250	30.0	34	17.5	20.5	8.5	13°	0.4	Yes	Fig.7	SB-40125TRN	FT-15
	A32S-SVZB□16-40AE	○	○		40	32	31	250	72.5	36	17.5	28.0	12.0	9°	0.4	Yes	Fig.6	SB-40125TRN	FT-15
Steel	S12M-SVZC□08-16A	○	○	mm	16	12	11	150	25.5	14	7.5	11.5	5.5	8°	0.4	No	Fig.8	SB-2050TR	FT-6
	S16Q-SVZB□11-20A	○	○		20	16	15	180	32.5	20	10.0	16.0	8.0	8°	0.4	No	Fig.8	SB-2570TR	FT-8
	S20R-SVZB□11-25A	○	○		25	20	19	200	40.5	23	10.0	18.0	8.0	7°					
	S25S-SVZB□16-34A	○	○		34	25	24	250	30.0	34	17.5	20.5	8.5	13°	0.4	No	Fig.9	SB-40125TRN	FT-15
	S32S-SVZB□16-40A	○	○		40	32	31	250	72.5	36	17.5	28.0	12.0	9°	0.4	No	Fig.8	SB-40125TRN	FT-15

Applicable Inserts

Application	Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Finishing-Medium	Low Feed / Precision	Non-ferrous Metals
Ref. Page	-	B77, B79	B77, B79	B77	B77, B79	B78	B77	B78	-	B79
Insert / Toolholder	CK	VF	PP	GP	HQ	□-F	□-FSF	□-Y	F□-USF	AH
...-SVUC□1.5AE ...-SVUC□08-...	-	VCMT1515..	VCMT1515..	-	VCMT1515..	-	-	-	-	-
...-SVUB□2AE ...-SVUB□11-...	-	VBMT22..	VBMT22..	VBMT22..	VBMT22..	VBGT22..	VBET22..	VBGT22..	-	-
...-SVUB□3AE ...-SVUB□16-...	-	VBMT33..	VBMT33..	VBMT33..	VBMT33..	-	-	VBGT33..	-	VCGT33..
...-SVZC□1.5AE ...-SVZC□08-...	-	VCMT1515..	VCMT1515..	-	VCMT1515..	-	-	-	-	-
...-SVZC□2AE ...-SVZB□11-...	-	VBMT22..	VBMT22..	VBMT22..	VBMT22..	VBGT22..	VBET22..	VBGT22..	-	-
...-SVZC□3AE ...-SVZB□16-...	-	VBMT33..	VBMT33..	VBMT33..	VBMT33..	-	-	VBGT33..	-	VCGT33..

Application	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	B79	C28	C17
Insert / Toolholder	□-A3	PCD	CBN
...-SVUC□1.5AE ...-SVUC□08-...	-	VCMT1515..	VCGW1515..
...-SVUB□2AE ...-SVUB□11-...	-	VBMT22..	VBGW22..
...-SVUB□3AE ...-SVUB□16-...	VCGT33..	VBMT33..	VBGW33..
...-SVZC□1.5AE ...-SVZC□08-...	-	VCMT1515..	VCGW1515..
...-SVZB□2AE ...-SVZB□11-...	-	VBMT22..	VBGW22..
...-SVZB□3AE ...-SVZB□16-...	VCGT33..	VBMT33..	VBGW33..

Spare Parts (See P24 for spare parts of old products.)

Part Number	Spare Parts: Shim	Spare Parts: Shim Screw	Spare Parts: Wrench (for Shim Screw)
□25□-SVUB□16-34A□ □32S-SVUB□16-40A□ □25S-SVZB□16-34A□ □32S-SVZB□16-40A□ A16T-SVUB□3AE A16T-SVZB□3AE	SVN-32N	SS-4N	LW-4

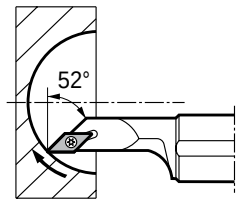
Recommended Cutting Conditions **F103~F104**

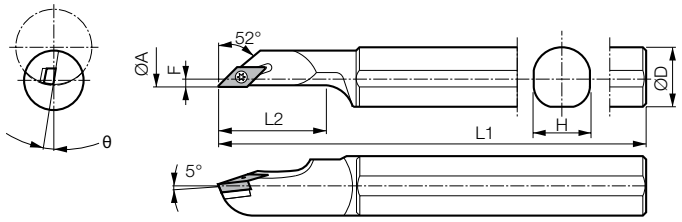
Applicable Sleeve **F94~ F96**

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

S-SVJB-E Excellent Bar (Internal Spherical Machining / Internal Facing)

(Max. Overhang Length **L/D = ~5**)



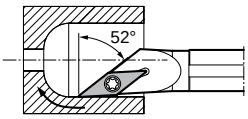


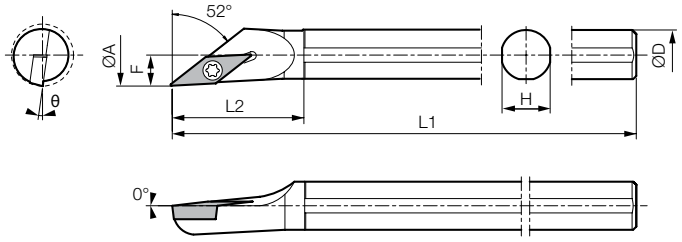
• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-SVJB Steel Bar (Internal Spherical Machining / Internal Facing)

(Max. Overhang Length **L/D = ~3**)





• Right-hand shown

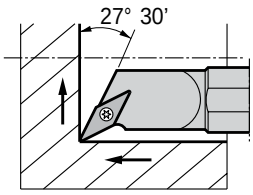
• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

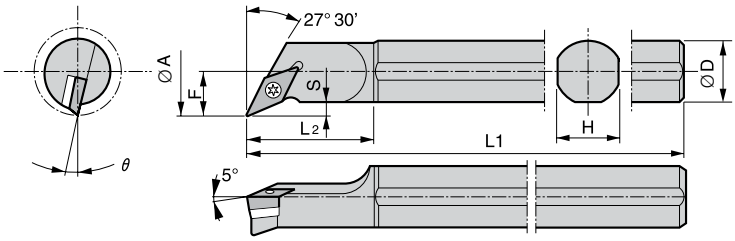
Toolholder Dimensions

	Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	F	θ	Standard Corner-R(rε)	Coolant Hole	Spare Parts: Clamp Screw	Wrench	Shim	Wrench
Excellent Bar	**S16S-SVJBR 2E**	●	●	inch	1.18	1.00	0.97	10.00	2.92	-	5°	0.4	No	SB-2570TR	FT-8	-	-
Excellent Bar	**S20S-SVJBR 3E**	●	●	inch	1.57	1.25	1.18	10.0	2.92	-	8°	0.8	No	SB-40115TR	FT-15	SVN-32	FT-6
Steel	**S08M-SVJBR 2**	●	●	inch	0.620	0.500	0.480	6.00	1.25	0.310	8°	1/64	No	SB-2570TR	FT-8	-	-
Steel	**S10X-SVJBR 2**	●	●	inch	0.780	0.625	0.584	7.00	1.44	0.390	8°						
Steel	**S12R-SVJBR 3**	●	●	inch	0.984	0.750	0.710	8.00	1.86	0.492	8°	1/32		SB-4085TR	FT-15	-	-

S-SVPB(C)-E Excellent Bar (Copying / Undercutting)

(Max. Overhang Length **L/D = ~5**)





• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

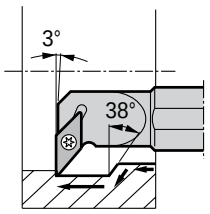
	Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	F	S	θ	Standard Corner-R(rε)	Coolant Hole	Spare Parts: Clamp Screw	Wrench	Shim	Shim Screw	Wrench
Excellent Bar	**S06M-SVPCR 1.5E**	●	●	inch	0.63	0.38	0.33	6.0	0.98	0.315	0.138	8°	0.4	No	SB-2050TR	FT-6	-	-	-
Excellent Bar	**S08M-SVPBR 2E**	●	●	inch	0.79	0.50	0.46	6.00	1.10	0.315	0.163	8°	0.4	No	SB-2570TR	-	-	-	-
Excellent Bar	**S10Q-SVPBR 2E**	●	●	inch	0.98	0.63	0.59	7.00	1.10	0.492	0.194	5°							
Excellent Bar	**S16X-SVPBR 3E**	●	●	inch	1.34	1.0	0.97	9.00	2.26	0.807	0.335	13°	0.8	No	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
Excellent Bar	**S20S-SVPBR 3E**	●	●	inch	1.57	1.25	1.18	10.0	2.17	0.866	0.256	9°							

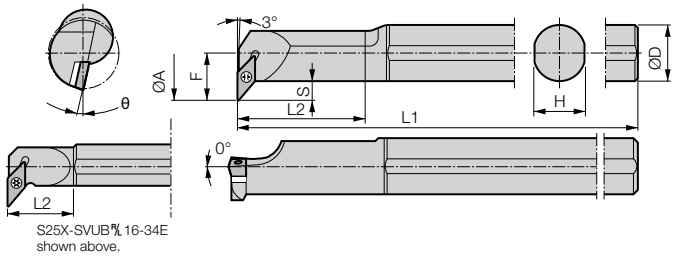
(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

S-SVUC(B)-E Excellent Bar (Copying)

(Max. Overhang Length **L/D = ~5**)





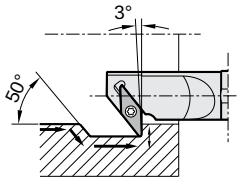
S25X-SVUBR/L16-34E shown above.

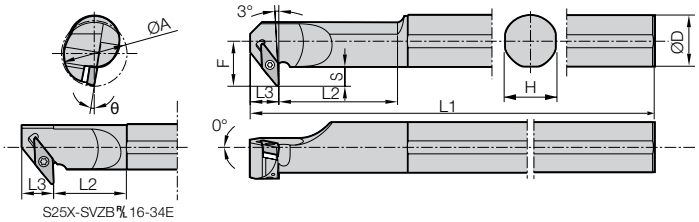
• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-SVZC(B)-E Excellent Bar (Back Boring)

(Max. Overhang Length **L/D = ~5**)





S25X-SVZBR/L16-34E shown above.

• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	L3	F	S	θ	Standard Corner-R(rε)	Coolant Hole	Spare Parts: Clamp Screw	Wrench	Shim	Shim Screw	Wrench
Excellent Bar	S08M-SVUCR/L1.5E	●	●	inch	0.63	0.50	0.46	6.00	1.10	-	0.433	0.217	8°	0.4	No	SB-2050TR	FT-6	-	-	-
	S10Q-SVUBR/L2E	●	●		0.79	0.63	0.59	7.00	1.28	-	0.610	0.315	8°	0.4	No	SB-2570TR	FT-8	-	-	-
	S12R-SVUBR/L2E	●	●		0.98	0.75	0.71	8.00	1.59	-	0.689	0.355	7°							
	S16X-SVUBR/L3E	●	●		1.34	1.00	0.97	9.00	1.97	-	0.689	0.195	13°	0.8	No	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
	S20S-SVUBR/L3E	●	●		1.57	1.25	1.18	10.00	3.31	-	1.080	0.472	9°							
	S08M-SVZCR/L1.5E	●	●		0.63	0.50	0.46	6.00	1.10	0.295	0.433	0.217	8°	0.4	No	SB-2050TR	FT-6	-	-	-
	S10Q-SVZBR/L2E	●	●		0.79	0.63	0.59	7.00	1.50	-	0.610	0.315	8°	0.4	No	SB-2570TR	FT-8	-	-	-
	S12R-SVZBR/L2E	●	●		0.98	0.75	0.71	8.00	1.73	-	0.689	0.355	7°							
	S16X-SVZBR/L3E	●	●		1.34	1.0	0.97	9.00	2.26	-	0.669	0.195	13°		No	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
	S20S-SVZBR/L3E	●	●		1.57	1.25	1.18	10.0	2.85	-	1.08	0.472	9°							

Applicable Inserts

Application	Finishing	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Finishing-Medium	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	B77, B79	B77, B79	B77	B77, B79	B78	B77	B78	B79	B79	C28	C17
Insert / Toolholder	VF	PP	GP	HQ	R/L-F	R/L-FSF	R/L-Y	AH	R/L-A3	PCD	CBN
...-SVPCR/L1.5E ...-SVUCR/L1.5E ...-SVZCR/L1.5E	VCMT1515..	VCMT1515..	-	VCMT1515..	-	-	-	-	-	VCMT1515..	VCGW1515..
...-SVJBR/L2 ...-SVJBR/L2E ...-SVPBR/L2E ...-SVUBR/L2E ...-SVZBR/L2E	VBMT22..	VBMT22..	VBMT22..	VBMT22..	VBGT22..	VBET22..	VBGT22..	-	-	VBMT22..	VBGW22..
...-SVJBR/L3 ...-SVJBR/L3E ...-SVPBR/L3E ...-SVUBR/L3E ...-SVZBR/L3E	VBMT33..	VBMT33..	VBMT33..	VBMT33..	-	-	VBGT33..	VCGT33..	VCGT33..	VBMT33..	VBGW33..

Recommended Cutting Conditions → **F103~F104**

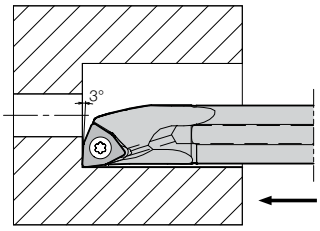
Applicable Sleeve → **F94~ F96**

● : U.S. Stock Standard

○ : World Express (Shipping: 7-10 Business Days)

S/A-SWUB(P)-AE Excellent Bar (Boring)

(Max. Overhang Length **L/D = ~5.5**)



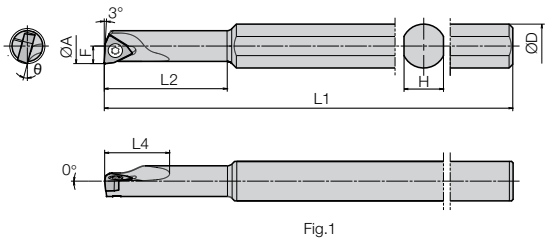
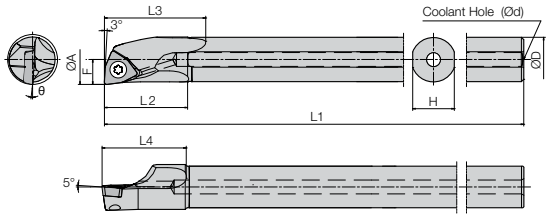


Fig.1



0° for A08X-SWUB□08-10AE, A10L-SWUB□08-12AE

Fig.2

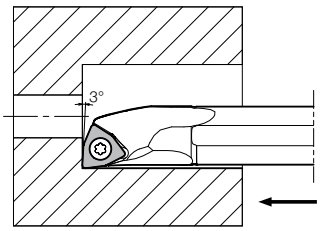
Shank Dia. ØD	Coolant Hole Dia. Ød
Ø8mm	Ø2.5mm
Ø0.375" Ø10mm	Ø3.0mm
Ø0.500" Ø12mm	Ø4.0mm
Ø0.625" Ø16mm	Ø5.0mm
Ø0.750" Ø20mm	Ø5.0mm
Ø1.000"	Ø5.0mm

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-SWUB(P)-A Steel Bar (Boring)

(Max. Overhang Length **L/D = ~4**)



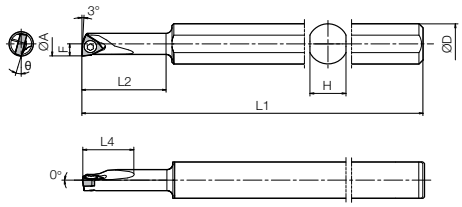
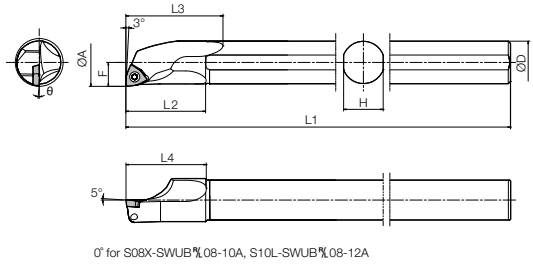


Fig.3



0° for S08X-SWUB□08-10A, S10L-SWUB□08-12A

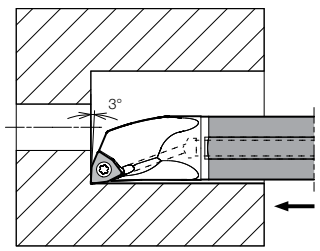
Fig.4

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

E(C)-SWUB(P)-A Carbide Shank Bar (Boring)

(Max. Overhang Length **L/D = ~7**)



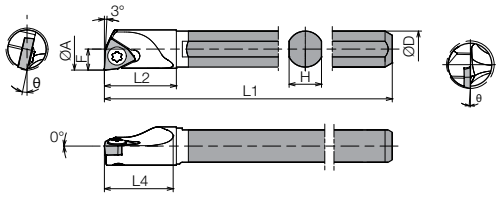
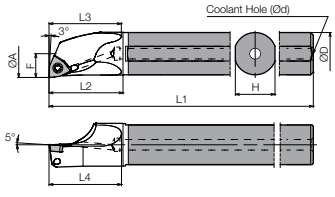


Fig.5



0° for E08L-SWUB□08-10A, E10N-SWUB□08-12A, E10N-SWUB□08-12A-2/3, E10N-SWUB□08-12A-1/2

Fig.6

Shank Dia. ØD	Coolant Hole Dia. Ød
Ø5mm	-
Ø6mm	-
Ø7mm	-
Ø8mm	Ø3mm
Ø10mm	Ø3mm
Ø12mm	Ø4mm
Ø16mm	Ø4mm
Ø20mm	Ø6mm

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

	Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	L3	L4	F	S	θ	Standard Corner-R(rε)	Coolant Hole	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench
Excellent Bar	S06H-SWUB□1.2AE	●	●	inch	0.240	0.375	0.336	4	0.827	-	0.504	0.118	-	15.0°	0.01	No	Fig.1	SB-2035TR	FT-6
	S06H-SWUB□1.5AE	●	●		0.312	0.375	0.336	4	1.102	-	0.583	0.157	-	15.0°					
	A06M-SWUB□1.5AE	●	●		0.472	0.375	0.336	6	0.787	0.945	0.795	0.236	-	10.0°	0.01	Yes	Fig.2	SB-2050TR	FT-6
	A08M-SWUP□2AE	●	●		0.630	0.500	0.461	6	0.945	1.220	0.957	0.276	-	4.0°	1/64	Yes	Fig.2	SB-2545TR	FT-8
	A10R-SWUP□3AE	●	●		0.770	0.625	0.586	8	1.181	1.433	1.193	0.354	-	3.5°	1/32	Yes	Fig.2	SB-4065TR	FT-15
	A12S-SWUP□3AE	●	●		0.930	0.750	0.711	10	1.417	1.740	1.425	0.413	-	2°					
	A16T-SWUP□3AE	●	●		1.200	1.000	0.961	12	1.811	2.169	1.827	0.531	-	0°					
	S10H-SWUB□06-06AE	○	○	mm	6	10	9	100	21	-	13	3.0	-	15.0°	0.2	No	Fig.1	SB-2035TR	FT-6
	S10H-SWUB□06-07AE	○	○		7	10	9	100	25	-	15	3.5	-	13.0°					
	S10H-SWUB□08-08AE	○	○		8	10	9	100	28	-	15	4.0	-	15.0°					
	A08X-SWUB□08-10AE	○	○		10	8	7	120	16	21	16	5.0	-	13.0°	0.2	Yes	Fig.2	SB-2050TR	FT-6
	A10L-SWUB□08-12AE	○	○		12	10	9	140	20	25	20	6.0	-	10.0°					
	A12M-SWUP□11-14AE	○	○		14	12	11	150	24	30	24	7.0	-	4.0°	0.4	Yes	Fig.2	SB-2545TR	FT-8
	A16Q-SWUP□11-18AE	○	○		18	16	15	180	30	37	30	9.0	-	1.0°					
	A16Q-SWUP□16-18AE	○	○		18	16	15	180	30	37	30	9.0	-	3.5°	0.8	Yes	Fig.2	SB-4065TR	FT-15
	A20R-SWUP□16-22AE	○	○		22	20	19	200	36	46	37	11.0	-	2.0°					
Steel	S10H-SWUB□06-06A	○	○	mm	6	10	9	100	21	-	13	3.0	-	15.0°	0.2	No	Fig.3	SB-2035TR	FT-6
	S10H-SWUB□06-07A	○	○		7	10	9	100	25	-	15	3.5	-	13.0°					
	S10H-SWUB□08-08A	○	○		8	10	9	100	28	-	15	4.0	-	15.0°					
	S08X-SWUB□08-10A	○	○		10	8	7	120	16	21	16	5.0	-	13.0°	0.2	No	Fig.4	SB-2050TR	FT-6
	S10L-SWUB□08-12A	○	○		12	10	9	140	20	25	20	6.0	-	10.0°					
	S12M-SWUP□11-14A	○	○		14	12	11	150	24	30	24	7.0	-	4.0°	0.4	No	Fig.4	SB-2545TR	FT-8
	S16Q-SWUP□11-18A	○	○		18	16	15	180	30	37	30	9.0	-	1.0°					
	S16Q-SWUP□16-18A	○	○		18	16	15	180	30	37	30	9.0	-	3.5°	0.8	No	Fig.4	SB-4065TR	FT-15
	S20R-SWUP□16-22A	○	○		22	20	19	200	36	46	37	11.0	-	2.0°					
Carbide	C05H-SWUB□06-06A	○	○	mm	6	5	4.4	100	11	-	11	3.0	-	15.0°	0.2	No	Fig.5	SB-2035TR	FT-6
	C06J-SWUB□06-07A	○	○		7	6	5.4	110	12	-	12	3.5	-	13.0°					
	C07K-SWUB□08-08A	○	○		8	7	6.4	125	13	-	13	4.0	-	15.0°					
	E08L-SWUB□08-10A	○	○		10	8	7	140	16	15	15	5.0	-	13.0°	0.2	Yes	Fig.6	SB-2050TR	FT-6
	E10N-SWUB□08-12A	○	○		12	10	9	160	20	19	19	6.0	-	10.0°					
	E10N-SWUB□08-12A-2/3	○			12	10	9	105	20	19	19	6.0	-	10.0°					
	E10N-SWUB□08-12A-1/2	○			12	10	9	80	20	19	19	6.0	-	10.0°					
	E12Q-SWUP□11-14A	○	○		14	12	11	180	23	22	22	7.0	-	4.0°	0.4	Yes	Fig.6	SB-2545TR	FT-8
	E12Q-SWUP□11-14A-2/3	○			14	12	11	120	23	22	22	7.0	-	4.0°					
	E12Q-SWUP□11-14A-1/2	○			14	12	11	90	23	22	22	7.0	-	4.0°					
	E16X-SWUP□11-18A	○	○		18	16	15	220	28	27	27	9.0	-	1.0°					
	E16X-SWUP□11-18A-2/3	○			18	16	15	145	28	27	27	9.0	-	1.0°					
	E16X-SWUP□11-18A-1/2	○			18	16	15	110	28	27	27	9.0	-	1.0°					
	E16X-SWUP□16-18A	○	○		18	16	15	220	28	27	27	9.0	-	3.5°	0.8	Yes	Fig.6	SB-4065TR	FT-15
	E16X-SWUP□16-18A-2/3	○			18	16	15	145	28	27	27	9.0	-	3.5°					
	E16X-SWUP□16-18A-1/2	○			18	16	15	110	28	27	27	9.0	-	3.5°					
	E20S-SWUP□16-22A	○	○		22	20	19	250	32	31	31	11.0	-	2.0°					
	E20S-SWUP□16-22A-2/3	●			22	20	19	165	32	31	31	11.0	-	2.0°					
	E20S-SWUP□16-22A-1/2	○			22	20	19	125	32	31	31	11.0	-	2.0°					

Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing-Medium	Finishing	Finishing-Medium	Cast Iron	Non-ferrous Metals	Hardened Materials
Ref. Page	B82	B83	B82	B83	B82	B83	B83	C28, C29	C18
Insert / Toolholder	CF	GP	□-DP	HQ	□-F	□-Y	Without Chipbreaker	PCD	CBN
...-SWUB□1.2AE... ...-SWUB□06-...	WBGT121..	-	WBMT121..	-	WBGT121..	-	WBGW121..	WBMT121..	WBGW121..
...-SWUB□1.5AE... ...-SWUB□08-...	-	-	WBMT1515..	-	WBGT1515..	-	WBGW1515..	WBMT1515..	WBGW1515..
...-SWUP□2AE... ...-SWUP□11-...	-	WPMT215..	-	WPMT215..	-	WPGT215..	WPGW215..	WPMT215..	-
...-SWUP□3AE... ...-SWUP□16-...	-	WPMT32..	-	WPMT32..	-	WPGT32..	WPGW32..	-	-

Recommended Cutting Conditions F103~F104

Applicable Sleeve F93~F96

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

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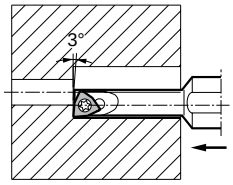
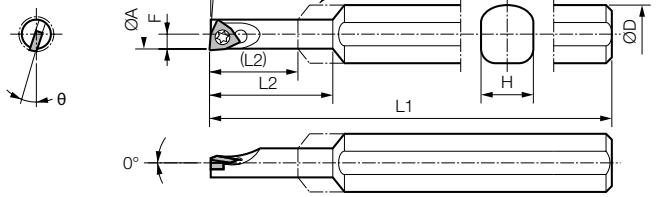
S-SWUB Steel Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~3**)





• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

	Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	F	θ	Standard Corner-R(re)	Coolant Hole	Spare Parts: Clamp Screw	Spare Parts: Wrench
Steel	**S06H-SWUB**R**1.2**	●	●	inch	0.240	0.375	0.356	4.00	0.825	0.115	15°	0.004	No	SB-2040TR	FT-6
Steel	**S06X-SWUB**R**1.5**	●	●	inch	0.312	0.375	0.356	4.33	1.102	0.156	15°	1/64	No	SB-2050TR	FT-6

Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Cast Iron	Non-ferrous Metals	Hardened Materials
Ref. Page	B82	B82	B82	B83	C28, C29	C18
Insert / Toolholder	CF	R-DP	R-F	Without Chipbreaker	PCD	CBN
...-SWUBR1.2	WBGT121..	WBMT121..	WB_T121..	WBGW121..	WBMT121..	WBGW121..
...-SWUBR1.5	-	WBMT1515..	WB_T1515..	WBGW1515..	WBMT1515..	WBGW1515..

Recommended Cutting Conditions → **F103~F104**

Applicable Sleeve → **F93~ F96**

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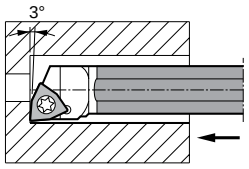
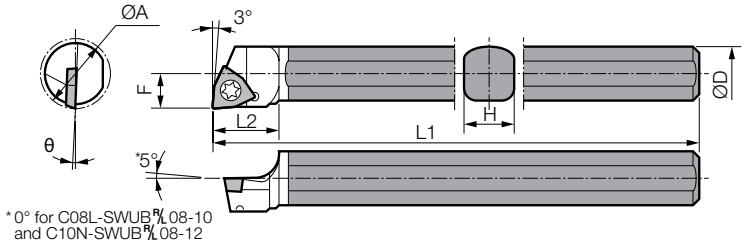
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

C-SWUB Carbide Shank Bar (Boring)

(Max. Overhang Length **L/D = ~7**)





*0° for C08L-SWUB□08-10 and C10N-SWUB□08-12

• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

	Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	F	S	θ	Standard Corner-R(re)	Coolant Hole	Spare Parts: Clamp Screw	Spare Parts: Wrench
Carbide	**C0325K-SWUB□1.2**	●	●	inch	0.240	0.203	0.180	5.00	0.50	0.118	15°	1/64	1/64	No	SB-2040TR	FT-6
	C045K-SWUB□1.5	●	●		0.312	0.281	0.252	5.00	0.55	0.157	15°	1/64	1/64		SB-2050TR	FT-6

Applicable Inserts

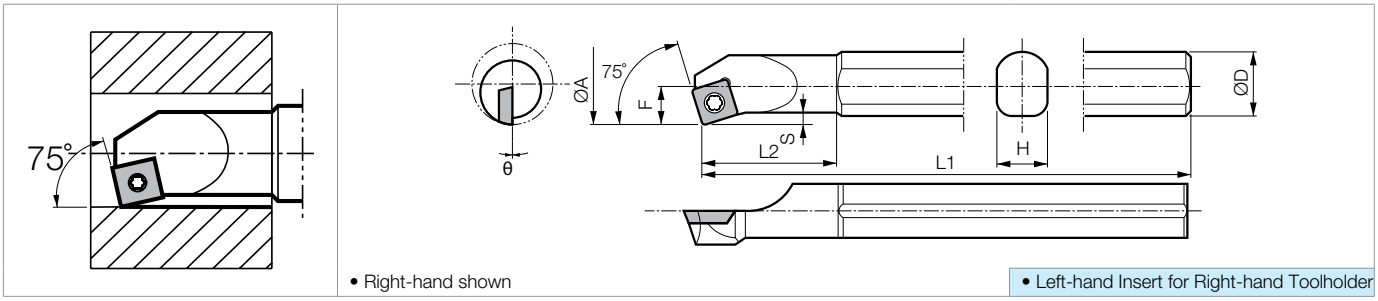
Application	Minute D.O.C.	Finishing	Finishing	Cast Iron	Non-ferrous Metals	Hardened Materials
Ref. Page	B82	B82	B82	B83	C28, C29	C18
Insert / Toolholder	CF	□-DP	□-F	Without Chipbreaker	PCD	CBN
...-SWUB□1.2	WBGT121..	WBMT121..	WB_T121..	WBGW121..	WBMT121..	WBGW121..
...-SWUB□1.5	-	WBMT1515..	WB_T1515..	WBGW1515..	WBMT1515..	WBGW1515..

Recommended Cutting Conditions **F103~F104**

Applicable Sleeve **F93~ F96**

S-SSKP (Boring)

(Max. Overhang Length **L/D = ~3**)



• Right-hand shown

• Left-hand Insert for Right-hand Toolholder

Toolholder Dimensions

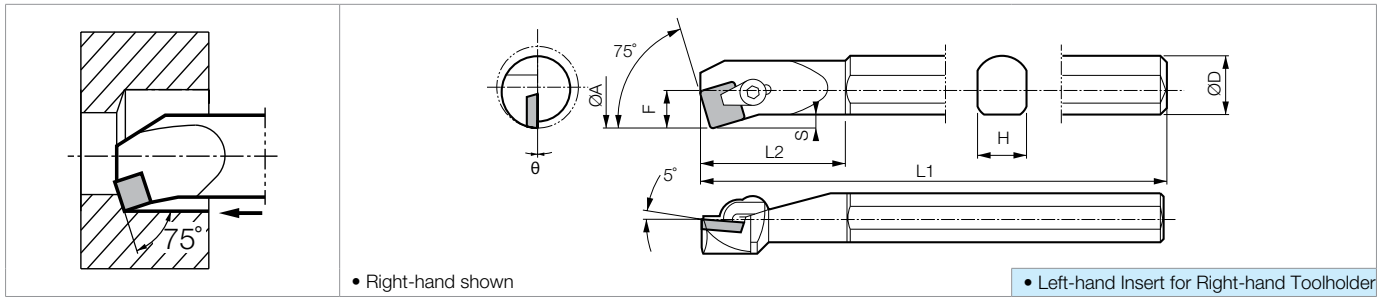
Part Number	Previous Part Number	Stock	Unit	Min. Bore Dia.	Dimensions						θ	Standard Corner-R(rε)	Spare Parts	
													Clamp Screw	Wrench
				ØA	ØD	H	L1	L2	F	S				
S16Q-SSKPR09-20	**SSKPR 2016B-09**	○	mm	20	16	14	180	30	10.0	2.0	-3°	0.8	SB-4TR	FT-15
S20R-SSKPR09-25	**2520B-09**	○		25	20	18	200	35	12.5	2.5	0°			

Applicable Inserts

Application	Finishing
Ref. Page	B67
Insert / Toolholder	ℛ
...-SSKPℛ09...	SPGH32..

S-CSKP (Boring)

(Max. Overhang Length **L/D = ~3**)



• Right-hand shown

• Left-hand Insert for Right-hand Toolholder

Toolholder Dimensions

Part Number	Previous Part Number	Stock	Unit	Min. Bore Dia.	Dimensions						θ	Standard Corner-R(rε)	Spare Parts			
													Clamp Set	Wrench		Shim	Shim Screw
				ØA	ØD	H	L1	L2	F	S							
S16N-CSKPR09-20	**CSKPR 2016B-09**	○	mm	20	16	14	160	40	10.0	2.0	0°	0.8	CPS-2	FH-2.5	-	-	-
S20Q-CSKPR09-27	**2720B-09**	○		27	20	18	180	45	13.5	3.5	0°						
S25X-CSKPR12-34	**3425B-12**	○		34	25	23	220	60	17.0	4.5	0°	0.8	CPS-3	-	LW-3	-	-
S32S-CSKPR12-43	**4332B-12**	○		43	32	30	250	75	21.5	5.5	0°	0.8	CPS-3	-	LW-3	KPS-42	SP3X10

Applicable Inserts

Application	Medium	Medium	Finishing-Medium	Cast Iron	Cast Iron	Non-ferrous Metals
Ref. Page	B67	B67	B67	B67	B97	C29
Insert / Toolholder	**G**	**Standard**	ℛ	**Without Chipbreaker**	**Ceramic**	**PCD**
...-CSKPR09...	SPMR32..	SPMR32..	SPGR32..	SPM32.. SPG32..	SPG32..	-
...-CSKPR12...	SPMR42..	SPMR42..	SPGR42..	SPM42.. SPG42..	SPG42..	SPG42..

Recommended Cutting Conditions ➡ **F103~F104**

Applicable Sleeves ➡ **F95~F96**

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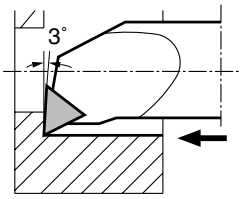
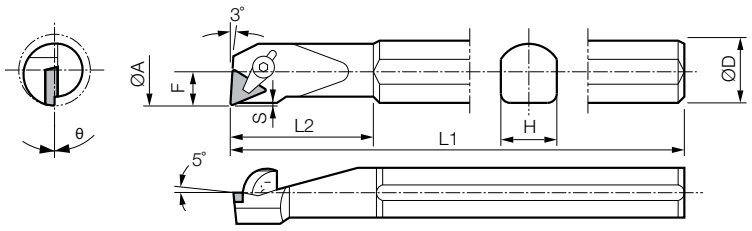
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

S-CTUP Steel Bar (Boring)

(Max. Overhang Length **L/D = ~3**)





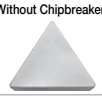
• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number	Previous Part Number	Stock		Unit	Min. Bore Dia.	Dimensions						θ	Standard Corner-R(rε)	Spare Parts					
														Clamp Set		Wrench		Shim	Shim Screw
		R	L		ØA	ØD	H	L1	L2	F	S								
S10X-CTUP□**2**	-	●		inch	0.625	0.625	0.584	7.00	1.25	0.313	0.03	0°	1/64	-	CPS-2S	FT-15	-	-	-
S12X-CTUP□**2**		●			1.060	0.750	0.710	7.00	1.50	0.520	0.05	0°	1/64	-	CPS-2	-	LW-2.5		
S16R-CTUP□**3**		●			1.350	1.000	0.910	8.00	2.10	0.669	0.04	0°	1/32	-	CPS-3	-	LW-3	-	-
S12L-CTUP□**09-16**	**CTUP**□ **1612B-09**	○		mm	16	12	11	140	32	8.0	0.5	0°	0.4	CPS-1	-	FH-2	-	-	-
S16N-CTUP□**11-20**	**2016B-11**	○	○		20	16	14	160	30	10.0	0.5	0°	0.4	-	CPS-2	FH-2.5	-	-	-
S20Q-CTUP□**11-27**	**2720B-11**	○	○		27	20	18	180	40	13.5	1.3	0°							
S25X-CTUP□**16-34**	**3425B-16**	○	○		34	25	23	220	60	17.0	1.0	0°	0.8	-	CPS-3	-	LW-3	-	-
S32S-CTUP□**16-43**	**4332B-16**	○	○		43	32	30	250	70	21.5	1.0	0°	0.8	-	CPS-3	-	LW-3	KPT-32	SP3X10
S40X-CTUP□**16-50**	**5040B-16**	○	○		50	40	37	315	80	25.0	1.0	0°							

Applicable Inserts

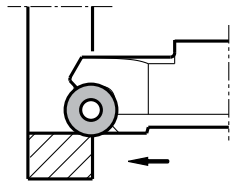
Application	Finishing	Finishing-Medium	Medium	Medium	Finishing	Finishing-Medium	Cast Iron	Cast Iron	Non-ferrous Metals	Hardened Materials
Ref. Page	➡ B75	➡ B75	➡ B75	➡ B75	➡ B75	➡ B76	➡ B76	➡ B97	➡ C29	➡ C18
Insert / Toolholder	**GP** 	**HQ** 	**G** 	**Standard** 	**□-F** 	**□-□** 	**Without Chipbreaker** 	**Ceramic** 	**PCD** 	**CBN** 
...-CTUPR09-...	-	-	TPMR1815..	-	TPGR1815..	-	TPG1815..	-	-	-
...-CTUP□**11-...**	TPMR22..	TPMR22..	TPMR22..	TPMR22..	-	TPGR22..	TPM22.. TPG22..	TPG22..	TPG22..	TPG22..
...-CTUP□**16-...**	TPMR32..	TPMR32..	TPMR32..	TPMR32..	-	TPGR32..	TPM32.. TPG32..	TPG32..	TPG32..	TPG32..

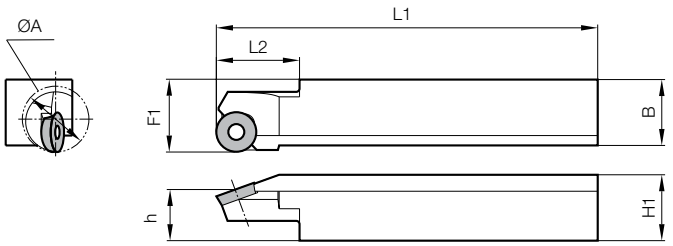
Recommended Cutting Conditions ➡ **F103~F104**

Applicable Sleeve ➡ **F94~F96**

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

SRCP-B (Boring)



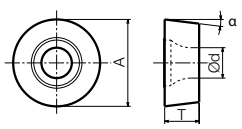


• Right-hand shown

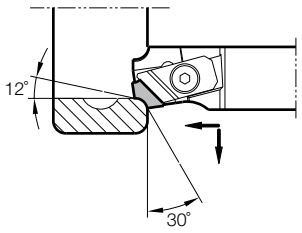
Toolholder Dimensions

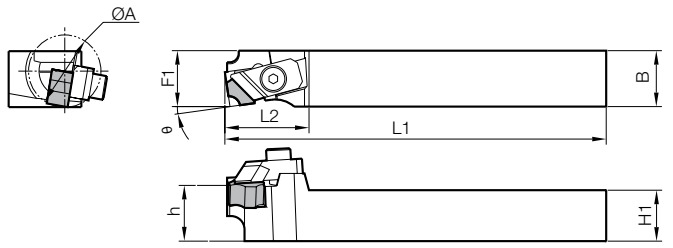
Part Number		Stock		Min. Bore Dia.	Dimensions (mm)						Spare Parts			Applicable Inserts → B87
											Clamp Screw	Wrench		
		R	L	ØA	H1	h	B	L1	L2	F1				
SRCP□	2020B-12-A20	○	○	20	20	15.5	20	125	25	22	SB-4TR	FT-15	-	RPMT1203M0-BB
	2525B-16-A32	○	○	32	25	20.0	25	150	31	27	SB-5090TR	-	LTW-20	RPMT1604M0-BB

Applicable Inserts

Insert			Part Number		Dimensions (mm)			Angle (°)
					A	T	ØD	α
			RPMT	1203M0-BB	12.0	3.18	4.4	11°
				1604M0-BB	16.0	4.76	5.5	11°

CBSN-B (Internal Round Chamfering)





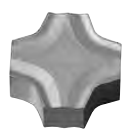
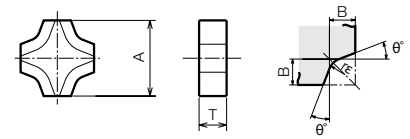
• Right-hand shown

Toolholder Dimensions

Part Number		Stock		Min. Bore Dia.	Dimensions (mm)						θ	Spare Parts		Applicable Inserts → B87
												Clamp Set	Wrench	
		R	L	ØA	H1	h	B	L1	L2	F1				
CBSN□	2020B-12-A20	○	○	20	20	21	20	125	32	20	9°	CP-RC□	LW-5	SNMF1204○○-21
	2525B-12-A20	○	○	20	25	26	25	150	32	25	9°			

· Clamp Set: CP-RCR for Right-hand Toolholder, and CP-RCL for Left-hand Toolholder.

Applicable Inserts

Insert			Part Number		Dimensions (mm)				Angle (°)
					A	T	B	rε	θ
			SNMF	120406-21	12.70	4.76	1.5	0.6	21°
				120410-21	12.70	4.76	3.0	1.0	21°
				120416-21	12.70	4.76	3.1	1.6	21°
				120421-21	12.70	4.76	3.2	2.1	21°
				120426-21	12.70	4.76	3.3	2.6	21°

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Identification System for Interchangeable Heads

H	A	32	P	C	L	N	R	12	–	40
Interchangeable Head	Applicable Adapter Diameter		Clamping System	Insert Shape			Hand of Tool			

P : Lock Pin (Lever Lock)
S : Screw Clamp

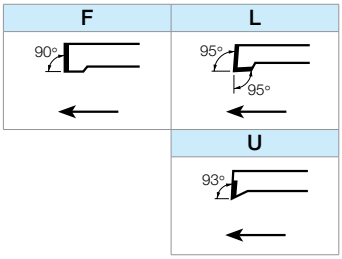
C : 80° Rhombic
D : 55° Rhombic
T : 60° Triangle

R : Right-hand
L : Left-hand

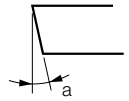
Type of Head

A	Steel Head with Coolant Hole

Cutting Edge Angle

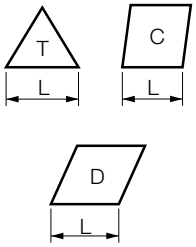


Insert Relief Angle



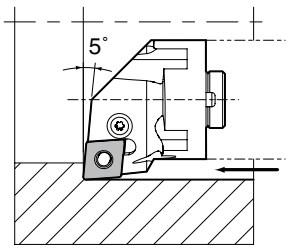
C : 7° Positive
N : 0° Negative

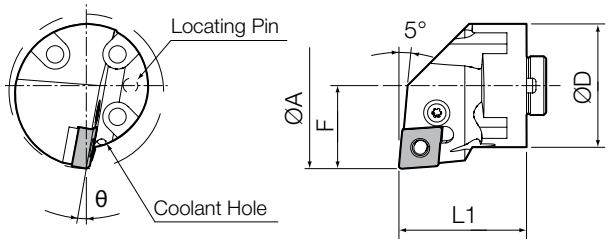
Insert Size



Min. Bore Dia.

HA...PCLN12 (Boring / Internal Facing, with Coolant Hole)





• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)			θ	Standard Corner-R(re)	Spare Parts						Applicable Boring Adapter ➡ F76
	R	L	ØA	ØD	L1	F			Lever	Lock Screw	Shim	Shim Pin	*Punch	Wrench	
HA32PCLNR/L12-40	○	○	40	32	41	22	10°	0.8	LL-2K	LS-2P	LC-4K	LSP-3K	*PC-2K	LTP-15	AD32U
HA40PCLNR/L12-50	○	○	50	40	41	27	10°								AD40V
HA50PCLNR/L12-63	○	○	63	50	41	35	10°								AD50W

* Punch (*PC-2K): Not included. Purchase separately.

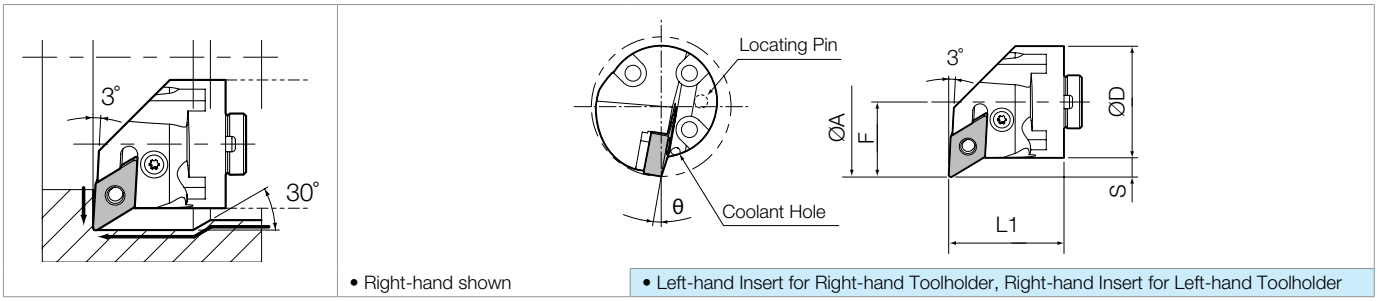
Applicable Inserts

Toolholder Part Number	Insert Part Number		Ref. to Page			
			Cermet / Coated Carbide / Carbide	Ceramic	PCD	CBN
HA32PCLNR/L12-40	CN□A CN□G CN□M	33..	➡ B14~B21	➡ B90	➡ C23	➡ C6, C7
HA40PCLNR/L12-50						
HA50PCLNR/L12-63						

Recommended Cutting Conditions ➡ F103~F104

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

HA...PDUN15 (Copying, with Coolant Hole)



• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)				θ	Standard Corner-R(rε)	Spare Parts						Applicable Boring Adapter ➡ F76
	R	L	ØA	ØD	L1	F	S			Lever	Lock Screw	Shim	Shim Pin	*Punch	Wrench	
HA32PDUN□15-43	○	○	43	32	41	25	9	12°	0.8	LL-3K	LS-3P	LD-4K43 (LD-4K)	LSP-3K	*PC-2K	LTP-15	AD32U
HA40PDUN□15-50	○	○	50	40	41	27	7	10°								AD40V
HA50PDUN□15-63	○	○	63	50	41	35	10	10°								AD50W

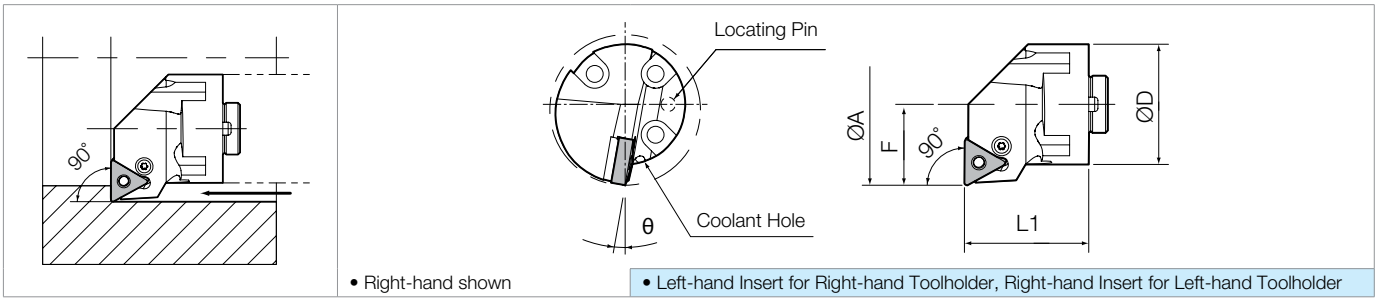
* Punch (*PC-2K): Not included. Purchase separately.
* Shim:LD-4K43 is attached to Toolholder. When using DN□□1506 Insert, purchase LD-4K separately.

Applicable Inserts

Toolholder Part Number	Insert Part Number				Ref. to Page			
	Shim: LD-4K43		Shim: LD-4K		Cermet / Coated Carbide / Carbide	Ceramic	PCD	CBN
HA32PDUN□15-43 HA40PDUN□15-50 HA50PDUN□15-63	DN□A DN□G DN□M	43..	DN□A DN□G DN□M	44..	➡ B22~B27	➡ B91	➡ C23	➡ C8, C9

Recommended Cutting Conditions ➡ F103~F104

HA...PTFN16 (Internal, with Coolant Hole)



• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)			θ	Standard Corner-R(rε)	Spare Parts						Applicable Boring Adapter ➡ F76
	R	L	ØA	ØD	L1	F			Lever	Lock Screw	Shim	Shim Pin	*Punch	Wrench	
HA32PTFN□16-40	○	○	40	32	41	22	10°	0.8	LL-1K	LS-1P	LT-3K	LSP-2K	*PC-2K	LTP-10	AD32U
HA40PTFN□16-50	○	○	50	40	41	27	10°								AD40V
HA50PTFN□16-63	○	○	63	50	41	35	8°								AD50W

* Punch (*PC-2K): Not included. Purchase separately.

Applicable Inserts

Toolholder Part Number	Insert Part Number		Ref. to Page			
			Cermet / Coated Carbide / Carbide	Ceramic	PCD	CBN
HA32PTFN□16-40 HA40PTFN□16-50 HA50PTFN□16-63	TN□A TN□G TN□M	33..	➡ B33~B40	➡ B95	➡ C23	➡ C11

Reference

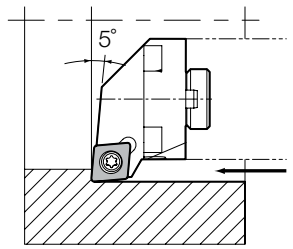
Wrenches (LTP-10, LTP-15) are Torx Plus.
The size of Torx Plus is engraved on the long shaft.

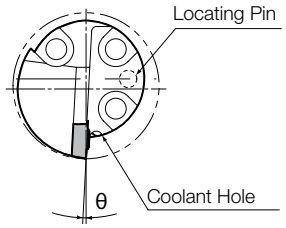
Wrench Part Number	LTP-10	LTP-15
Engraved Size	10IP	15IP

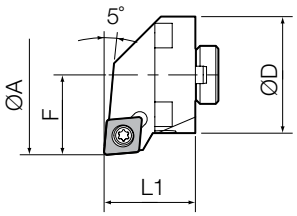
Recommended Cutting Conditions
➡ F103~F104

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

HA...SCLC09 (Boring / Internal Facing, with Coolant Hole)







• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

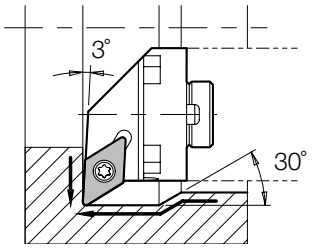
Part Number	Stock		Min. Bore Dia.	Dimensions (mm)				θ	Standard Corner-R(rε)	Spare Parts		Applicable Boring Adapter ➡ F76	Applicable Inserts
	R	L	ØA	ØD	L1	F	S			Clamp Screw	Wrench		
HA32SCLCR/L09-40	○	○	40	32	25	22	-	3°	0.8	SB-3580TR	FTS-15	AD32U	CC..325..

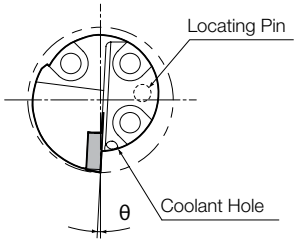
Applicable Inserts

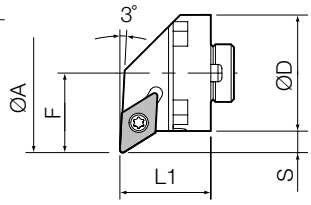
Insert Part Number	Ref. to Page		
	Cermet / Coated Carbide / Carbide	PCD	CBN
CC..325..	➡ B52~B57	➡ C24	➡ C14

Recommended Cutting Conditions ➡ F103~F104

HA...SDUC11 (Copying, with Coolant Hole)







• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)				θ	Standard Corner-R(rε)	Spare Parts		Applicable Boring Adapter ➡ F76	Applicable Inserts
	R	L	ØA	ØD	L1	F	S			Clamp Screw	Wrench		
HA32SDUCR/L11-40	○	○	40	32	25	22	6	3°	0.8	SB-3580TR	FTS-15	AD32U	DC..325..

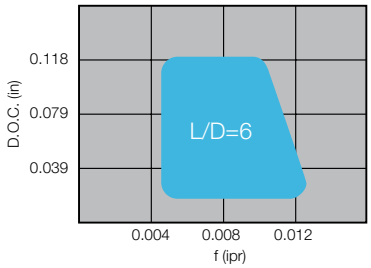
Applicable Inserts

Insert Part Number	Ref. to Page		
	Cermet / Coated Carbide / Carbide	PCD	CBN
DC..325..	➡ B59~B65	➡ C24	➡ C14

Recommended Cutting Conditions ➡ F103~F104

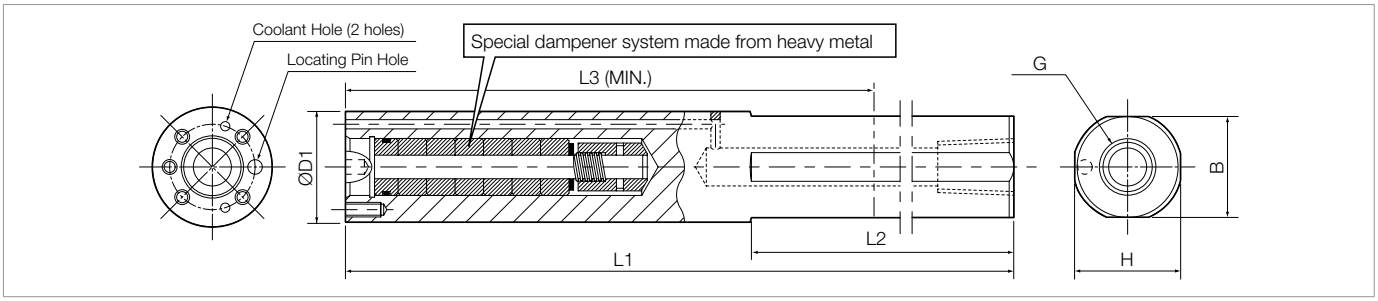
Possible Machining Area (Guide-Line for Overhang Length of AD Bars)

(4140 Vc = 500sfm ap = 0.020~0.118" f = 0.004 ~0.012ipr TNMG332)



● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

Boring Adapter (with Coolant Hole / Anti-Vibration Dampener System)



Toolholder Dimensions

Part Number	Stock	Dimensions (mm)							Spare Parts		
									Clamp Bolt		Wrench
		ØD	H	B	L1	L2	L3 (MIN.)	G			
AD 32U	○	32	31	29	310	200	200	Rp3/8	HH5X20 (3 pcs)	HH5X30 (1 pcs)	LW-4
AD 40V	○	40	39	37	360	248	228	Rp3/8			
AD 50W	○	50	47	47	410	280	276	Rp3/8	HH6X20 (3 pcs)	HH6X30 (1 pcs)	LW-5

Note) L3 (MIN.) dimension indicates the minimum length in case of the back end of boring adapter is cut for use.
Do not shorten it to less than L3 (MIN.).

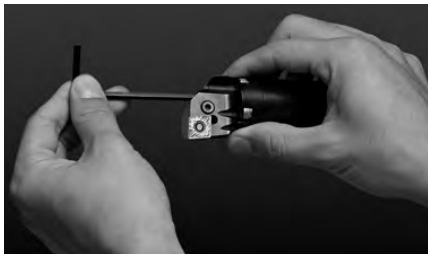
Combinations of Boring Adapter and Interchangeable Head

Interchangeable Head Part Number		Boring Adapter			
		Base Part Number	Clamp Bolt		Wrench
HA32	**PCLN□12-40**	AD32U	HH5X20	HH5X30	LW-4
	PDUN□15-43				
	PTFN□16-40				
	SCLC□09-40		HH5X20		
	SDUC□11-40				
HA40	**PCLN□12-50**	AD40V	HH5X20	HH5X30	
	PDUN□15-50				
	PTFN□16-50				
HA50	**PCLN□12-63**	AD50W	HH6X20	HH6X30	LW-5
	PDUN□15-63				
	PTFN□16-63				

How to Exchange Heads

1. Remove the boring head.

2. Align the boring head with the installing position.

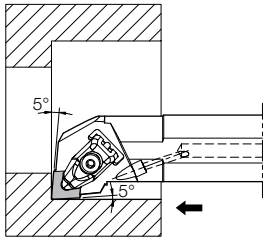


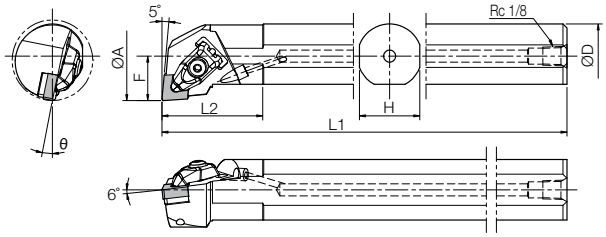
3. Tighten three screws to clamp the boring head.

   For lever lock type Interchangeable head, use 2 short bolts for upper clamping hole and 1 long bolt for lower clamping hole.
   HA32 SCLC□09-40 and
   HA32 SDUC□11-40
   use HH5 X 20 for all 3 bolts.

A-DCLN (Boring / Internal Facing) NEW

(Max. Overhang Length **L/D = ~3**)





• Right-hand shown

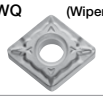
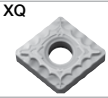
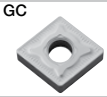
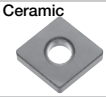
• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number	Stock		Unit	Min. Bore Dia.	Dimensions					θ	Standard Corner-R(rε)	Spare Parts							
												Clamp	Screw	Spring	Shim	Shim Screw	Nozzle	Wrench	Wrench (sold separately)
	R	L		ØA	ØD	H	L1	L2	F										
A16T-DCLN□4	●		inch	1.25	1.00	0.905	12.0	1.575	0.640	12°	1/32	CP-3D	CS-3D	SP-3D	DC-42	SB-4085TR	DN10	LW-3	FT-15
A20T-DCLN□4	●			1.50	1.25	1.181	12.0	1.614	0.765	11°									
A24T-DCLN□4	●			1.75	1.50	1.374	12.0	2.362	0.905	13°									
A25R-DCLN□12-32	○		mm	32	25	23	200	42	17	11°	0.8	CP-3D	CS-3D	SP-3D	DC-42	SB-4085TR	DN10	LW-3	FT-15
A32S-DCLN□12-40	○	○		40	32	30	250	50	22	11°									
A40T-DCLN□12-50	○	○		50	40	37	300	60	27	11°	0.8	CP-3D	CS-3D	SP-3D	DC-42	SB-4085TR	DN20	LW-3	FT-15

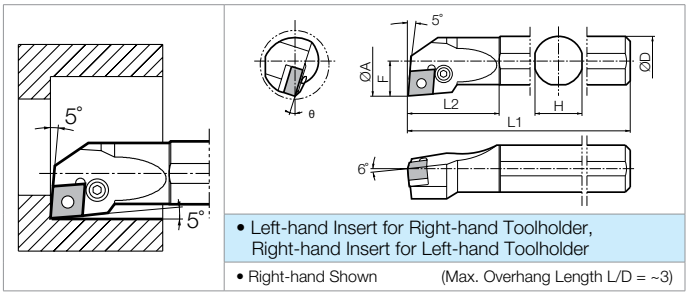
*When using inserts whose corner-R(rε) is greater than 1.60mm, it will be necessary additional modifications of the shim in order to prevent workpiece and shim from interfering each other.
*Not applicable to high-pressure coolant.

Applicable Inserts

Application	Finishing	Finishing-Medium	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing
Ref. Page	B14	B14	B14	B14	B14	B14	B14	B15	B15	B15
Insert / Toolholder	WP (Wiper)	WQ (Wiper)	PP	GP	PQ	HQ	CQ	CJ	GS	PG
										
...-DCLN□12-...	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..
Application	Medium-Roughing	Medium-Roughing / High Feed Rate	Roughing	Single Sided / Roughing / High Feed Rate	Medium	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing
Ref. Page	B15	B16	B16	B17	B21	B17	B17	B17	B19	B19
Insert / Toolholder	PS	PT	Standard	PX	□	XP	XQ	XS	MQ	MS
										
...-DCLN□12-...	CNMG43..	CNMG43..	CNMG43..	CNMM43..	CNGG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..
Application	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	B19	B19	B19	B20	B20	B90	B20	B20	C23	C6, C7
Insert / Toolholder	MU	C	ZS	GC	Without Chipbreaker	Ceramic	AH	□-A3	PCD	CBN
										
...-DCLN□12-...	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMA43.. CNGA43..	CNMA43.. CNGA43..	CN_G43..	CNGG43..	CNMM43..	CNGA43..

Recommended Cutting Conditions **F103~F104**

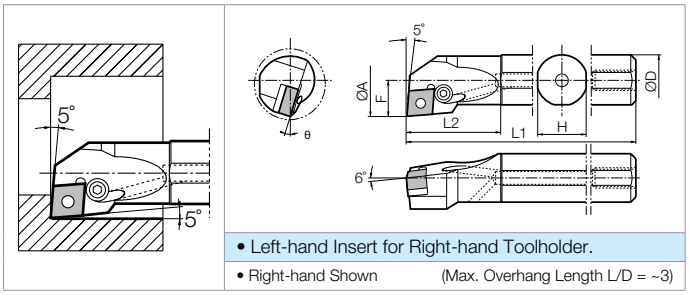
S-PCLN○○ (Boring / Internal Facing)



• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

• Right-hand Shown (Max. Overhang Length L/D = ~3)

A-PCLN Twin-Hole Bar (Boring / Internal Facing, with Coolant Hole)



• Left-hand Insert for Right-hand Toolholder.

• Right-hand Shown (Max. Overhang Length L/D = ~3)

Toolholder Dimensions

Part Number	Previous Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	F	θ	Standard Corner-R(re)	Spare Parts: Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
S16M-PCLNR/L09-20	PCLNR/L 2016B-09	○	○	mm	20	16	15	150	34	11.0	16°	0.8	LL-03SN	LS-03SN	-	P-03S	-	FH-2.5
S20Q-PCLNR/L09-27	2720B-09	○	○	mm	27	20	19	180	37	14.2	17°	0.8	LL-1N	LS-1SN	LC-32N	LSP-1	PC-1	FH-2.5
S25R-PCLNR/L09-32	3225B-09	○	○	mm	32	25	24	200	42	15.7	15°	0.8	LL-1N	LS-1SN	LC-32N	LSP-1	PC-1	FH-2.5
S20S-PCLNR/L4	-	●		inch	1.55	1.25	1.17	10.00	2.00	0.75	10°	1/32	LL-2N	LS-2N	LC-42NR/L	LSP-2	PC-2	LW-3
S24T-PCLNR/L4	-	●		inch	2.02	1.50	1.42	12.00	2.50	1.00	10°	1/32	LL-2N	LS-2N	LC-42NR/L	LSP-2	PC-2	LW-3
NEW S25R-PCLNR/L12-32	-	○	○	mm	32	25	24	200	42	16.3	16°	0.8	LL-2N	LS-2N	LC-42NR/L	LSP-2	PC-2	LW-3
S32S-PCLNR/L12-40	PCLNR/L 4032B-12	○	○	mm	40	32	30	250	50	21.0	10°	0.8	LL-2N	LS-2N	LC-42NR/L	LSP-2	PC-2	LW-3
S40T-PCLNR/L12-50	5040B-12	○	○	mm	50	40	37	300	60	25.0	10°	0.8	LL-2N	LS-2N	LC-42NR/L	LSP-2	PC-2	LW-3
A10M-PCLNR/L3	-	●	●	inch	0.79	0.63	0.59	6.00	1.34	-	16°	1/32	LL-03SN	LS-03SN	-	P-03S	-	FH-2.5
A12Q-PCLNR/L3	-	●	●	inch	1.06	0.75	0.71	7.00	1.46	-	17°	1/32	LL-1N	LS-1SN	LC-32N	LSP-1	PC-1	FH-2.5
A16Q-PCLNR/L3	-	●	●	inch	1.26	1.00	0.97	7.00	1.65	-	15°	1/32	LL-1N	LS-1SN	LC-32N	LSP-1	PC-1	FH-2.5
A16M-PCLNR/L09-20	PCLNR/L 2016B-09H	○		mm	20	16	15	150	34	11.0	16°	0.8	LL-03SN	LS-03SN	-	P-03S	-	FH-2.5
A20Q-PCLNR/L09-27	PCLNR/L 2720B-09H	○		mm	27	20	19	180	37	14.2	17°	0.8	LL-1N	LS-1SN	LC-32N	LSP-1	PC-1	FH-2.5
A25R-PCLNR/L09-32	3225B-09H	○		mm	32	25	24	200	42	15.7	15°	0.8	LL-1N	LS-1SN	LC-32N	LSP-1	PC-1	FH-2.5

· LC-42NR for Right-hand Toolholder, LC-42NL for Left-hand Toolholder.

Applicable Inserts

Application	Finishing	Finishing-Medium	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing
Ref. Page	B14	B14	B14	B14	B14	B14	B14	B15	B15	B15
Insert / Toolholder	WP (Wiper)	WQ (Wiper)	PP	GP	PQ	HQ	CQ	CJ	GS	PG
...-PCLNR/L3 ...-PCLNR/L09-...	-	-	-	CNMG33..	-	CNMG33..	-	-	CNMG33..	-
...-PCLNR/L4-... ...-PCLNR/L12-...	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..
Application	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate	Roughing	Single Sided / Roughing / High Feed Rate	Finishing	Medium	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Roughing
Ref. Page	B15	B15	B16	B16	B17	B21	B21	B17	B17	B17
Insert / Toolholder	PS	HS	PT	Standard	PX	R/L-S	R/L	XP	XQ	XS
...-PCLNR/L3 ...-PCLNR/L09-...	-	-	-	-	-	CNGG33..	CNGG33..	-	-	-
...-PCLNR/L4-... ...-PCLNR/L12-...	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMM43..	-	CNGG43..	CNMG43..	CNMG43..	CNMG43..
Application	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals	Non-ferrous Metals
Ref. Page	B19	B19	B19	B20	B20	B20	B20	B90	B20	B20
Insert / Toolholder	MQ	MS	MU	C	ZS	GC	Without Chipbreaker	Ceramic	AH	R/L-A3
...-PCLNR/L3 ...-PCLNR/L09-...	-	-	-	-	-	-	-	-	-	-
...-PCLNR/L4-... ...-PCLNR/L12-...	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMA43.. CNGA43..	CNMA43.. CNGA43..	CN_G43..	CNGG43..
Application	Non-ferrous Metals	Hardened Materials								
Ref. Page	C23	C6, C7								
Insert / Toolholder	PCD	CBN								
...-PCLNR/L3 ...-PCLNR/L09-...	-	-								
...-PCLNR/L4-... ...-PCLNR/L12-...	CNMM43..	CNGA43..								

Recommended Cutting Conditions ➡ **F103~F104**

Applicable Coolant Sleeve / Joint

Toolholder Part Number	Applicable Coolant Sleeve	Applicable Coolant Joint
A16M-PCLNR/L09-20	SHC1640-70, SHC1650-95	SJS-8
A20Q-PCLNR/L09-27	SHC2040-70, SHC2050-95	
A25R-PCLNR/L09-32	SHC2540-70, SHC2550-95	

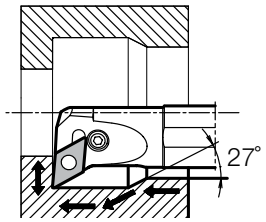
· For Coolant Sleeve, Coolant Joint, ref. to page ➡ **F93~F94**

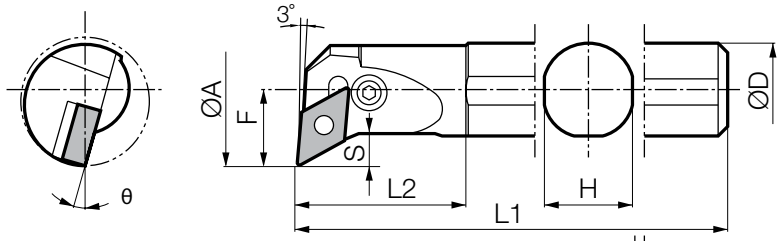
(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

S-PDUN3/11 (Copying)

(Max. Overhang Length **L/D = ~3**)



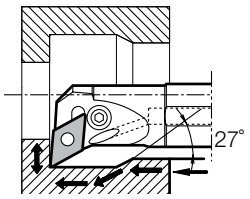


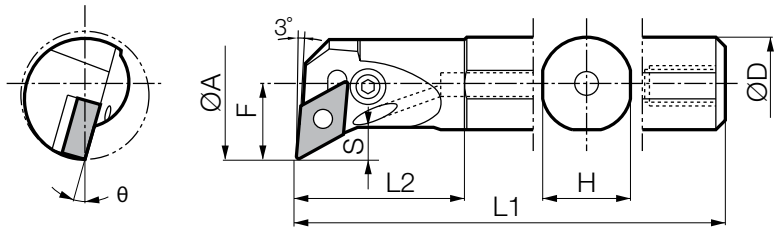
• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

A-PDUN3/11 Twin-Hole Bar (Copying, with Coolant Hole)

(Max. Overhang Length **L/D = ~3**)





• Right-hand shown

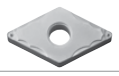
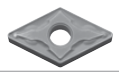
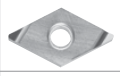
• Left-hand Insert for Right-hand Toolholder.

※ When using R-hand Toolholder, Use R-hand insert for machining in this direction (→)
Use L-hand insert for machining in this direction (←)

Toolholder Dimensions

Part Number	Previous Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions (mm) ØD	H	L1	L2	F	S	θ	Standard Corner-R(re)	Spare Parts: Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
																			
A12Q-PDUN□3	-	●	●	inch	1.06	0.75	0.71	7.00	1.37	-	-	17°	0.8	LL-1D	LS-1S	LD-32	LSP-1	PC-1	FH-2.5
A16R-PDUN□3		●	●		1.26	1.00	0.97	8.00	1.37	-	-	15°							
A20S-PDUN□3		●	●		1.57	1.25	1.18	10.00	1.37	-	-	12°							
S20Q-PDUN□11-27	PDUN□ 2720B-11	○	○	mm	27	20	19	180	35	16	7.6	17°	0.4	LL-1DN	LS-1SN	LD-32N	LSP-1	PC-1	FH-2.5
S25R-PDUN□11-32	3225B-11	○	○		32	25	24	200	40	17	7.6	15°							
S32S-PDUN□11-40	4032B-11	○	○		40	32	31	250	45	22	8.5	12°							
A20Q-PDUN□11-27	PDUN□ 2720B-11H	○			27	20	19	180	35	16	7.6	17°	0.4	LL-1DN	LS-1SN	LD-32N	LSP-1	PC-1	FH-2.5
A25R-PDUN□11-32	3225B-11H	○			32	25	24	200	40	17	7.6	15°							
A32S-PDUN□11-40	4032B-11H	○			40	32	31	250	45	22	8.5	12°							

Applicable Inserts

Application	Finishing	Finishing-Medium	Medium-Roughing	Finishing	Medium
Ref. Page	→ B22	→ B22	→ B23	→ B27	→ B27
Insert / Toolholder	GP	HQ	GS	□-S	□
					
...-PDUN□3 ...-PDUN□11-...	DNMG33..	DNMG33..	DNMG33..	DNGG33..	DNGG33..

Recommended Cutting Conditions → **F103~F104**

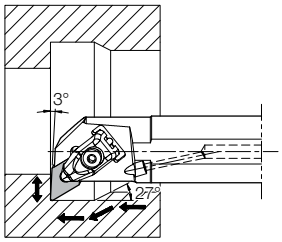
Applicable Coolant Sleeve / Joint

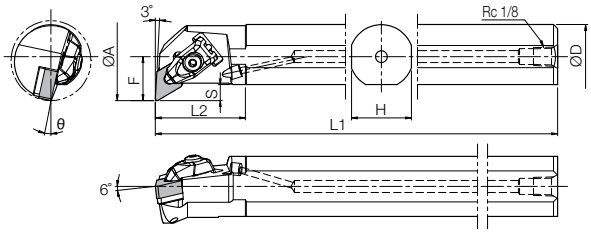
Toolholder Part Number	Applicable Coolant Sleeve	Applicable Coolant Joint
A20Q-PDUNR11-27	SHC2040-70, SHC2050-95	SJS-8
A25R-PDUNR11-32	SHC2540-70, SHC2550-95	
A32S-PDUNR11-40	-	

· For Coolant Sleeve, Coolant Joint, ref. to page → **F93~F94**

A-DDUN (Boring / Copying with Coolant) NEW

(Max. Overhang Length **L/D = ~3**)





• Right-hand shown

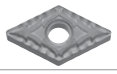
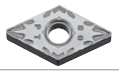
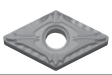
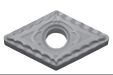
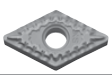
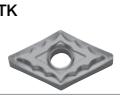
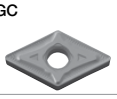
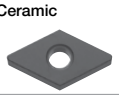
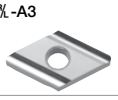
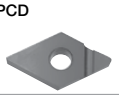
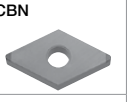
• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	F	S	θ	Standard Corner-R(rε)	Spare Parts: Clamp	Screw	Spring	Shim	Shim Screw	Nozzle	Wrench	Wrench (sold separately)
																			 For Clamp	 For Shim
A16T-DDUN□4	●		inch	1.500	1.000	0.905	12	1.575	0.750	0.297	15°	1/32	CP-3D	CS-3D	SP-3D	DC-42 *DD-42-16	SB-4085TR	DN10	LW-3	FT-15
A20T-DDUN□4	●		inch	1.750	1.250	1.181	12	1.772	0.905	0.299	13°	1/32	CP-3D	CS-3D	SP-3D	DC-42 *DD-42-16	SB-4085TR	DN10	LW-3	FT-15
A32S-DDUN□15-40	○	○	mm	40	32	30	250	45	22	8.0	12°	0.8	CP-3D	CS-3D	SP-3D	DC-42 *DD-42-16	SB-4085TR	DN10	LW-3	FT-15
A40T-DDUN□15-50	○	○	mm	50	40	37	300	55	27	8.5	12°	0.8	CP-3D	CS-3D	SP-3D	DC-42 *DD-42-16	SB-4085TR	DN10	LW-3	FT-15
A50U-DDUN□15-63	○	○	mm	63	50	47	350	65	35	10.5	12°	0.8	CP-3D	CS-3D	SP-3D	DC-42 *DD-42-16	SB-4085TR	DN20	LW-3	FT-15

When using inserts whose corner-R(rε) is greater than 1.60mm, please purchase a shim (DD-42-16) with * mark and use it in order to prevent workpiece and shim from interfering each other.
*Not applicable to high-pressure coolant.

Applicable Inserts

Application	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate	Roughing
Ref. Page	B22	B22	B22	B23	B23	B23	B24	B24	B24
Insert / Toolholder	**PP** 	**PQ** 	**CQ** 	**CJ** 	**GS** 	**PG** 	**PS** 	**PT** 	**Standard** 
...-DDUN□4 ...-DDUN□15-...	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..
Application	Roughing	Single Sided / Roughing / High Feed Rate	Medium	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing
Ref. Page	B24	B25	B27	B25	B25	B25	B26	B26	B26
Insert / Toolholder	**PH** 	**PX** 	**□** 	**XP** 	**XQ** 	**XS** 	**MQ** 	**MS** 	**MU** 
...-DDUN□4 ...-DDUN□15-...	DNMG43..	DNMM43..	DNGG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..
Application	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	B26	B26	B27	B27	B91	B27	B27	C23	C8, C9
Insert / Toolholder	**TK** 	**C** 	**ZS** 	**GC** 	**Ceramic** 	**AH** 	**□-A3** 	**PCD** 	**CBN** 
...-DDUN□4 ...-DDUN□15-...	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNGA43..	DN_G43..	DNGG43..	DNMM43..	DNGA43..

Recommended Cutting Conditions → **F103~F104**

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
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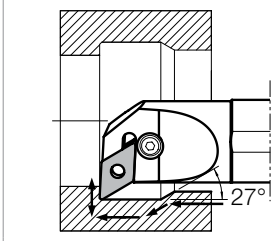
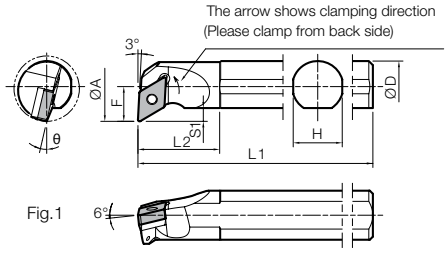
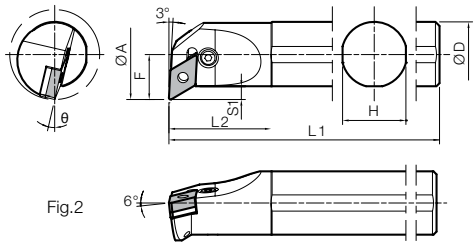
S-PDUN15 (Copying)

(Max. Overhang Length **L/D = ~3**)





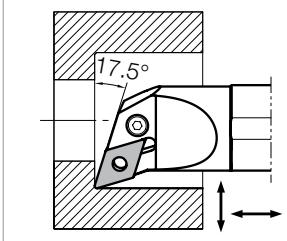


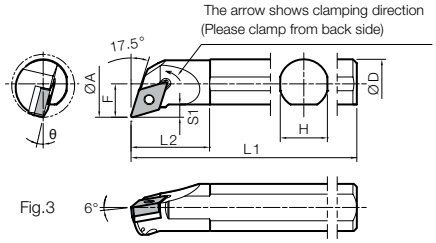
• Right-hand shown

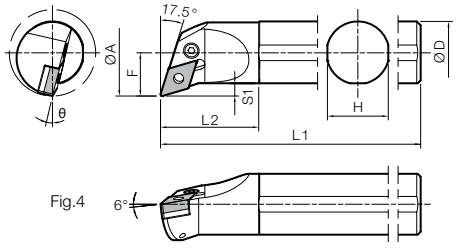
• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-PDQN15 (Copying)

(Max. Overhang Length **L/D = ~3**)





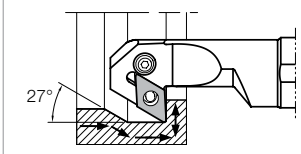


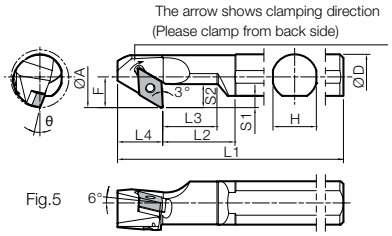
• Right-hand shown

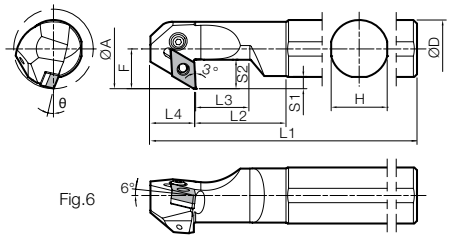
• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-PDZN15 (Back Boring)

(Max. Overhang Length **L/D = ~3**)







• Right-hand shown

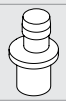
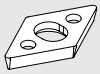
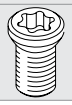
• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)									θ	Standard Corner-R(re)	Drawing	Applicable Inserts ➡ F82	
	R	L	ØA	ØD	H	L1	L2	L3	L4	F	S1	S2					
S25R-PDUNR/L15-32	●	○	32	25	24	200	40	-	-	17	6.5	-	13°	0.8	Fig.1	DN□A DN□G DN□M	43..
S32S-PDUNR/L15-44	○	○	44	32	31	250	50	-	-	22	6.5	-	13°	0.8	Fig.2		
S40T-PDUNR/L15-54	○	○	54	40	39	300	65	-	-	27	7.5	-	12°				
S25R-PDQNR/L15-32	○	○	32	25	24	200	40	-	-	17	6.5	-	13°	0.8	Fig.3	DN□A DN□G DN□M	43..
S32S-PDQNR/L15-44	○	○	44	32	31	250	50	-	-	22	6.5	-	13°	0.8	Fig.4		
S40T-PDQNR/L15-54	○	○	54	40	39	300	65	-	-	27	7.5	-	12°				
S25R-PDZNR/L15-32	○	○	32	25	24	225	40	30	25	17	6.5	13	13°	0.8	Fig.5	DN□A DN□G DN□M	43..
S32S-PDZNR/L15-44	○	○	44	32	31	275	50	30	25	22	6.5	16	13°	0.8	Fig.6		
S40T-PDZNR/L15-54	○	○	54	40	39	325	65	50	25	27	7.5	16	12°				

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

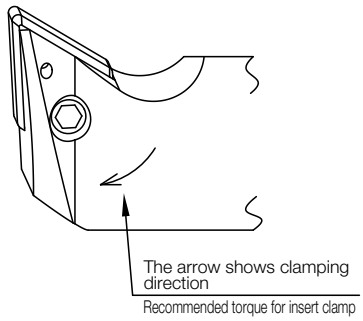
Spare Parts (Common)

Toolholder Part Number	Spare Parts									
	Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench	Lock Pin	Shim	Shim Screw	Wrench (for Shim Screw)
										
S25R - PD□N□15-32	-	-	-	-	-	LW-3	PP-4	PD-42	SB-2050TR	FT-6
S32S - PD□N□15-44	LL-3N	LS-2N	LD-42 *LD-42-20	LSP-2	PC-2	LW-3	-	-	-	-
S40T - PD□N□15-54										

· Shim When using inserts whose corner-R(rε) = 1.60mm or larger for S25R-PD□N□15-32, use shim modified by additional processing to prevent interference between workpiece and shim. When using inserts whose corner-R(rε) = 1.60mm or larger for S32S-PD□N□15-44 and S40T-PD□N□15-54, purchase and use shim with * mark separately to prevent interference between workpiece and shim.

How to Change S25R-PD□N□15-32 Inserts

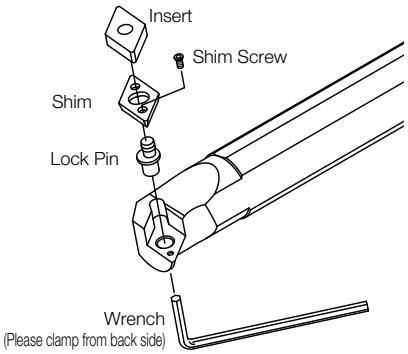
· Please replace S25R-PD□N□15-32 insert from the back side



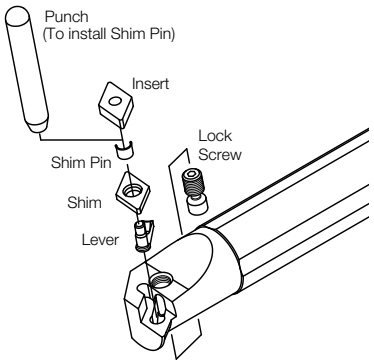
Back side of toolholder

How to Assemble Spare Parts

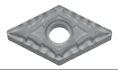
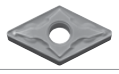
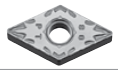
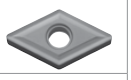
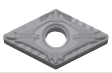
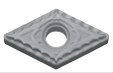
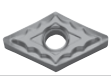
· S25R-PD□N□15-32 (Pin Lock)



· S32S-PD□N□15-44 (Lever Lock)
· S40T-PD□N□15-54 (Lever Lock)



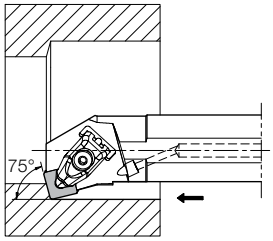
Applicable Inserts

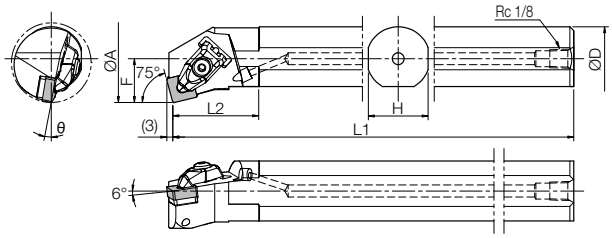
Application	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate	Roughing
Ref. Page	B22	B22	B22	B23	B23	B23	B24	B24	B24
Insert / Toolholder	**PP**	**PQ**	**CQ**	**CJ**	**GS**	**PG**	**PS**	**PT**	**Standard**
									
...-PD□N□15-...	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..
Application	Roughing	Single Sided / Roughing / High Feed Rate	Medium	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing
Ref. Page	B24	B25	B27	B25	B25	B25	B26	B26	B26
Insert / Toolholder	**PH**	**PX**	**□**	**XP**	**XQ**	**XS**	**MQ**	**MS**	**MU**
									
...-PD□N□15-...	DNMG43..	DNMM43..	DNGG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..
Application	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	B26	B26	B27	B27	B91	B27	B27	C23	C8, C9
Insert / Toolholder	**TK**	**C**	**ZS**	**GC**	**Ceramic**	**AH**	**□-A3**	**PCD**	**CBN**
									
...-PD□N□15-...	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNGA43..	DN_G43..	DNGG43..	DNMM43..	DNGA43..

Recommended Cutting Conditions → **F103~F104**

A-DSKN (Boring)

(Max. Overhang Length **L/D = ~3**)





• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)						θ	Standard Corner-R(rε)	Spare Parts							
												Clamp	Screw	Spring	Shim	Shim Screw	Nozzle	Wrench	Wrench (sold separately)
	R	L	ØA	ØD	H	L1	L2	F	S									 For Clamp	 For Shim
A25R-DSKN□12-32	○	○	32	25	23	200	43	17	-	11°	0.8	CP-3D	CS-3D	SP-3D	DS-42	SB-4085TR	DN10	LW-3	FT-15
A32S-DSKN□12-40	○	○	40	32	30	250	43	22	-	11°									
A40T-DSKN□12-50	○	○	50	40	37	300	53	27	-	11°	0.8	CP-3D	CS-3D	SP-3D	DS-42	SB-4085TR	DN20	LW-3	FT-15

*Not applicable to high-pressure coolant.

Applicable Inserts

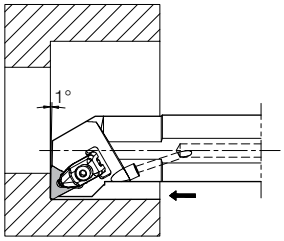
Application	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate	Roughing	Roughing	Single Sided / Roughing / High Feed Rate
Ref. Page	B29	B29	B29	B29	B29	B29	B30	B30
Insert / Toolholder	**PQ**	**PG**	**PS**	**HS**	**PT**	**Standard**	**PH**	**PX**
								
...DSKN□12...	SNMG43..	SNMG43..	SNMG43..	SNMG43..	SNMG43..	SNMG43..	SNMG43..	SNMM43..
Application	Finishing-Roughing	Medium-Roughing / Low Cutting Force	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Cast Iron
Ref. Page	B32	B32	B30	B30	B30	B31	B31	B31
Insert / Toolholder	**□-□**	**□-25R**	**XP**	**XQ**	**XS**	**MQ**	**MS**	**C**
								
...DSKN□12...	SNGG43..	SNGG43..	SNMG43..	SNMG43..	SNMG43..	SNMG43..	SNMG43..	SNMG43..
Application	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Hardened Materials			
Ref. Page	B31	B31	B32	B90	C10			
Insert / Toolholder	**ZS**	**GC**	Without Chipbreaker	**Ceramic**	**CBN**			
								
...DSKN□12...	SNMG43..	SNMG43..	SN□A43..	SN□A43..	SNGA43..			

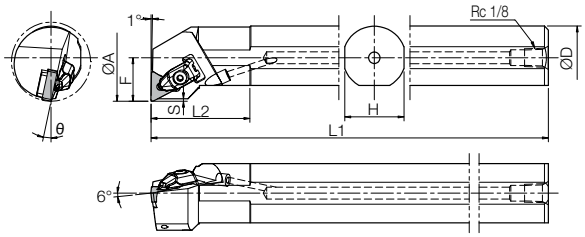
Recommended Cutting Conditions **F103~F104**

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

A-DTFN (Boring)

(Max. Overhang Length **L/D = ~3**)





• Right-hand shown

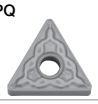
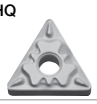
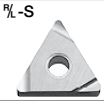
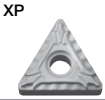
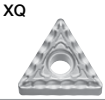
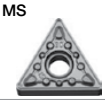
• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)						θ	Standard Corner-R(rε)	Spare Parts							
												Clamp	Screw	Spring	Shim	Shim Screw	Nozzle	Wrench	Wrench (sold separately)
	R	L	ØA	ØD	H	L1	L2	F	S									 For Clamp	 For Shim
A25R-DTFN□16-32	○	○	32	25	23	200	42	17	0.8	12°	0.8	CP-2D	CS-2D	SP-3D	DT-32	SB-3080TR	DN10	LW-2.5	FT-10
A32S-DTFN□16-40	○	○	40	32	30	250	50	22	1.2	12°									
A40T-DTFN□22-50	○	○	50	40	37	300	60	27	1.5	12°	0.8	CP-3D	CS-3D	SP-3D	DT-42	SB-4085TR	DN20	LW-3	FT-15

*Not applicable to high-pressure coolant.

Applicable Inserts

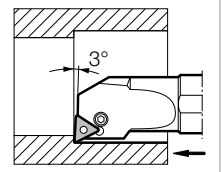
Application	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate
Ref. Page	B33	B33	B33	B33	B33	B34	B34	B34	B34	B35
Insert / Toolholder	**PP** 	**GP** 	**PQ** 	**HQ** 	**CQ** 	**GS** 	**PG** 	**PS** 	**HS** 	**PT** 
...-DTFN□16-...	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..
...-DTFN□22-...	-	-	-	-	TNMG43..	-	-	TNMG43..	TNMG43..	-
Application	Medium-Roughing / High Feed Rate	Roughing	Finishing	Medium-Roughing	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing
Ref. Page	B35	B35	B40	B40	B36	B36	B36	B37	B37	B37
Insert / Toolholder	**GT** 	**Standard** 	**□-S** 	**□-□** 	**XP** 	**XQ** 	**XS** 	**MQ** 	**MS** 	**MU** 
...-DTFN□16-...	TNMG33..	TNMG33..	TNGG33..	TNGG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..
...-DTFN□22-...	-	TNMG43..	-	TNGG43..	-	-	-	-	-	-
Application	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	B37	B38	B38	B38	B38	B95	B39	B39	C23	C11
Insert / Toolholder	**□-ST** 	**C** 	**ZS** 	**GC** 	Without Chipbreaker 	Ceramic 	**AH** 	**□-A3** 	**PCD** 	**CBN** 
...-DTFN□16-...	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMA33.. TNGA33..	TNGA33..	TN_G33..	TNGG33..	TNMM33..	TNGA33..
...-DTFN□22-...	-	-	-	-	-	-	-	-	-	-

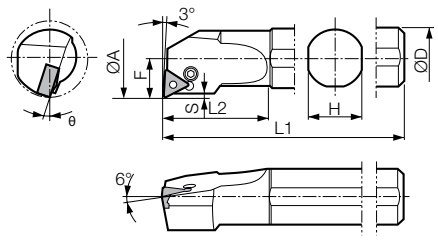
Recommended Cutting Conditions → **F103~F104**

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

S-PTUN11/16 (Boring)

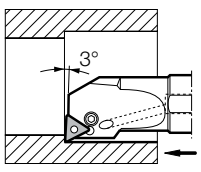


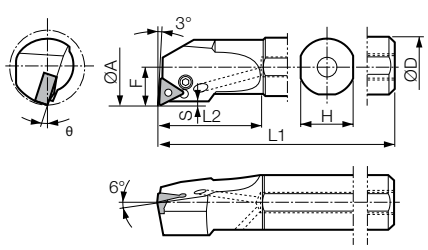


• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

• Right-hand Shown (Max. Overhang Length L/D = ~3)

A-PTUN11 Twin-Hole Bar (Internal, with Coolant Hole)





• Left-hand Insert for Right-hand Toolholder.

• Right-hand Shown (Max. Overhang Length L/D = ~3)

Toolholder Dimensions

Part Number	Previous Part Number	Stock R	Stock L	Min. Bore Dia. ØA	Dimensions (mm) ØD	H	L1	L2	F	S	θ	Standard Corner-R(rε)	Spare Parts: Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
S16M-PTUN□11-20	PTUN□ 2016B-11	○	○	20	16	15	150	34	11.0	0.3	18°	0.8	LL-03TN	LS-03SN	-	P-03S	-	FH-2.5
S20Q-PTUN□11-25	2520B-11	○	○	25	20	19	180	37	13.2	0.2	17°							
S25R-PTUN□11-32	3225B-11	○	○	32	25	24	200	42	15.7	0.3	16°							
S16M-PTUN□16-20	-	○	○	20	16	15	150	34	11.0	1.3	18°	0.8	LL-03SN	LS-03SN	-	P-03S	-	FH-2.5
NEW S20Q-PTUN□16-25		○	○	25	20	19	180	37	13.2	1.3	17°							
S25R-PTUN□16-30		○	○	30	25	24	200	42	15.5	1.3	13°							
S32S-PTUN□16-40		○	○	40	32	30	250	50	22.0	0.7	13°	0.8	LL-1N	LS-1N	LT-32N *LT-32N-20	LSP-1	PC-1	FH-2.5
S40T-PTUN□16-50		○	○	50	40	37	300	60	27.0	0.6	11°							
A16M-PTUN□11-20	PTUN□ 2016B-11H	○		20	16	15	150	34	11.0	0.3	18°	0.8	LL-03TN	LS-03SN	-	P-03S	-	FH-2.5
A20Q-PTUN□11-25	2520B-11H	○		25	20	19	180	37	13.2	0.2	17°							
A25R-PTUN□11-32	3225B-11H	○		32	25	24	200	42	15.7	0.3	16°							

· When using inserts whose corner-R(rε) = 1.60mm or larger, purchase and use shim with * mark separately to prevent interference between workpiece and shim.

Applicable Inserts

Application	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate
Ref. Page	B33	B33	B33	B33	B33	B34	B34	B34	B34	B35
Insert / Toolholder	PP	GP	PQ	HQ	CQ	GS	PG	PS	HS	PT
...-PTUN□11-...	-	TNMG23..	-	TNMG23..	-	TNMG23..	-	-	-	-
...-PTUN□16-...	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..
Application	Medium-Roughing / High Feed Rate	Roughing	Finishing	Medium-Roughing	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing
Ref. Page	B35	B35	B40	B40	B36	B36	B36	B37	B37	B37
Insert / Toolholder	GT	Standard	□-S	□-□	XP	XQ	XS	MQ	MS	MU
...-PTUN□11-...	-	-	TNGG23..	TNGG23..	-	-	-	-	-	-
...-PTUN□16-...	TNMG33..	TNMG33..	TNGG33..	TNGG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..
Application	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	B37	B38	B38	B38	B38	B95	B39	B39	C23	C11
Insert / Toolholder	□-ST	C	ZS	GC	Without Chipbreaker	Ceramic	AH	□-A3	PCD	CBN
...-PTUN□11-...	-	-	-	-	-	-	-	-	-	-
...-PTUN□16-...	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMA33.. TNGA33..	TNGA33..	TN_G33..	TNGG33..	TNMM33..	TNGA33..

Applicable Coolant Sleeve / Joint

Recommended Cutting Conditions → **F103~F104**

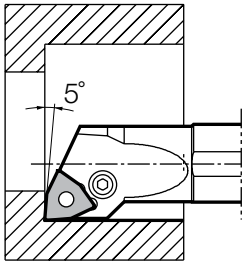
Toolholder Part Number	Applicable Coolant Sleeve	Applicable Coolant Joint
A16M-PTUN□11-20	SHC1640-70, SHC1650-95	SJS-8
A20Q-PTUN□11-25	SHC2040-70, SHC2050-95	
A25R-PTUN□11-32	SHC2540-70, SHC2550-95	

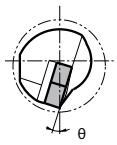
· For Coolant Sleeve, Coolant Joint, ref. to page → **F95~F96**

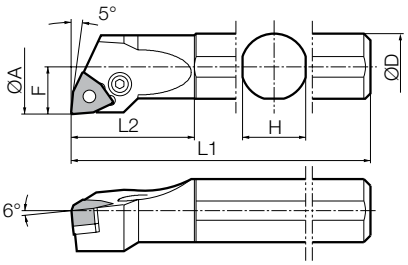
● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

S-PWLN06 (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~3**)





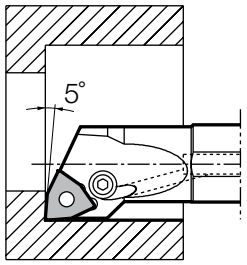


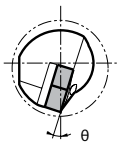
• Right-hand shown

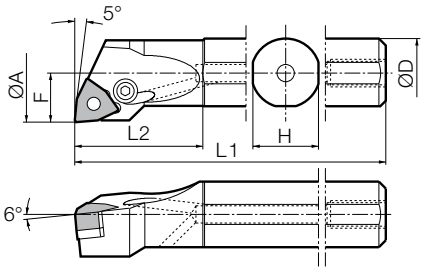
• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

A-PWLN06 Twin-Hole Bar (Boring / Internal Facing, with Coolant Hole)

(Max. Overhang Length **L/D = ~3**)







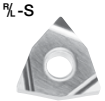
• Right-hand shown

• Left-hand Insert for Right-hand Toolholder.

Toolholder Dimensions

Part Number	Previous Part Number	Stock R	Stock L	Min. Bore Dia. ØA	Dimensions (mm) ØD	H	L1	L2	F	θ	Standard Corner-R(rε)	Spare Parts: Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
S16M-PWLN□06-20	**PWLN□ 2016B-06**	○	○	20	16	15	150	34	11.0	16°	0.8	LL-03SN	LS-03SN	-	P-03S	-	FH-2.5
S20Q-PWLN□06-27	**PWLN□ 2720B-06**	○	○	27	20	19	180	37	14.2	17°	0.8	LL-1N	LS-1SN	LW-32N	LSP-1	PC-1	FH-2.5
S25R-PWLN□06-32	**3225B-06**	○	○	32	25	24	200	42	15.7	15°							
A16M-PWLN□06-20	**2016B-06H**	○		20	16	15	150	34	11.0	16°	0.8	LL-03SN	LS-03SN	-	P-03S	-	FH-2.5
A20Q-PWLN□06-27	**PWLN□ 2720B-06H**	○		27	20	19	180	37	14.2	17°	0.8	LL-1N	LS-1SN	LW-32N	LSP-1	PC-1	FH-2.5
A25R-PWLN□06-32	**PWLN□ 3225B-06H**	○		32	25	24	200	42	15.7	15°							

Applicable Inserts

Application	Finishing	Finishing-Medium	Medium-Roughing	Finishing	Medium
Ref. Page	B43	B44	B44	B48	B48
Insert / Toolholder	GP	HQ	GS	□-S	□
					
...-PWLN□06-...	WNMG33..	WNMG33..	WNMG33..	WNGG33..	WNGG33..

Recommended Cutting Conditions ➡ **F103~F104**

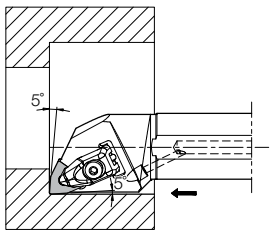
Applicable Coolant Sleeve / Joint

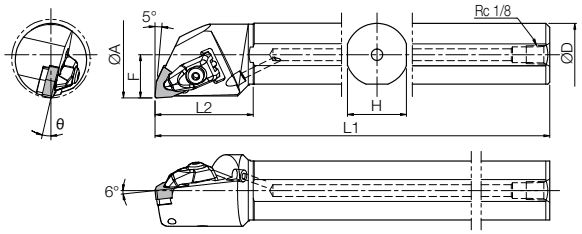
Toolholder Part Number	Applicable Coolant Sleeve	Applicable Coolant Joint
A16M-PWLNR06-20	SHC1640-70, SHC1650-95	SJS-8
A20M-PWLNR06-27	SHC2040-70, SHC2050-95	
A25R-PWLNR06-32	SHC2540-70, SHC2550-95	

· For Coolant Sleeve, Coolant Joint, ref. to page ➡ **F95~F96**

A-DWLN (Boring / Internal Facing) NEW

(Max. Overhang Length **L/D = ~3**)





• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number	Stock		Unit	Min. Bore Dia.	Dimensions						θ	Standard Corner-R(rε)	Spare Parts							
													Clamp	Screw	Spring	Shim	Shim Screw	Nozzle	Wrench	Wrench (sold separately)
	R	L		ØA	ØD	H	L1	L2	F	S									 For Clamp	 For Shim
A16T-DWLN□**4**	●		inch	1.250	1.000	0.905	12	1.575	0.64	-	12°	1/32	CP-3D	CS-3D	SP-3D	DC-42	SB-4085TR	DN10	LW-3	FT-15
A20T-DWLN□**4**	●			1.500	1.250	1.181	12	1.614	0.765	-	11°									
A24T-DWLN□**4**	●			1.750	1.500	1.374	12	2.362	0.905	-	13°									
A25R-DWLN□**08-32**	○	○	mm	32	25	23	200	50	17	-	13°	0.8	CP-3D	CS-3D	SP-3D	DW-42	SB-4085TR	DN10	LW-3	FT-15
A32S-DWLN□**08-40**	○	○		40	32	30	250	50	22	-	13°									
A40T-DWLN□**08-50**	○	○		50	40	37	300	60	27	-	13°	0.8	CP-3D	CS-3D	SP-3D	DW-42	SB-4085TR	DN20	LW-3	FT-15

*Not applicable to high-pressure coolant.

Applicable Inserts

Application	Finishing	Finishing-Medium	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate
Ref. Page	B43	B43	B43	B43	B44	B44	B44	B44	B45	B45
Insert / Toolholder	**WP** (Wiper)	**WQ** (Wiper)	**PP**	**PQ**	**CQ**	**CJ**	**GS**	**PG**	**PS**	**PT**
...-DWLN□**4** **...-DWLN**□**08 -...**	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..

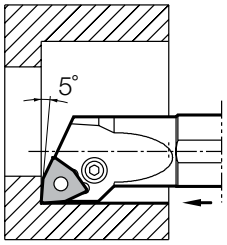
Application	Roughing	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Non-ferrous Metals
Ref. Page	B45	B46	B46	B46	B47	B47	B47	B48	B48	B48
Insert / Toolholder	**Standard**	**XP**	**XQ**	**XS**	**MQ**	**MS**	**MU**	**C(GC)**	**ZS**	**AH**
...-DWLN□**4** **...-DWLN**□**08 -...**	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNGG43..

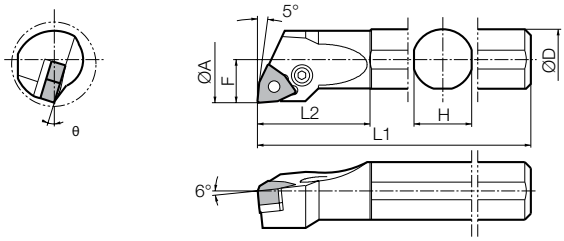
Application	Cast Iron	Non-ferrous Metals	Hardened Materials
Ref. Page	B96	C23	C13
Insert / Toolholder	**Ceramic**	**CBN**	
...-DWLN□**4** **...-DWLN**□**08 -...**	WNGA43..	WNMM43..	WNGA43..

Recommended Cutting Conditions → **F103~F104**

S-PWLN08 (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~3**)





• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

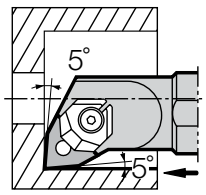
Toolholder Dimensions

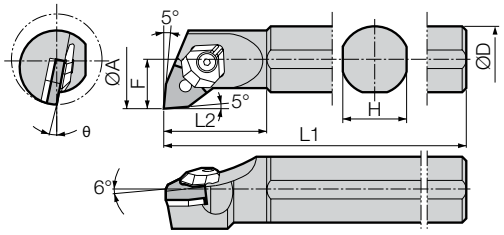
Part Number	Previous Part Number	Stock R	Stock L	Min. Bore Dia. ØA	Dimensions (mm) ØD	H	L1	L2	F	θ	Standard Corner-R(rε)	Spare Parts: Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
S32S-PWLNR/L08-40	-	○	○	40	32	30	250	50	22	10°	0.8	LL-2N	LS-2N	LW-42NR/L	LSP-2	PC-2	LW-3
S40T-PWLNR/L08-50		○	○	50	40	37	300	60	27	10°							

· Shim: LW-42NR for Right-hand Toolholder, LW-42NL for Left-hand Toolholder.

S-WWLN08-E Excellent Bar (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~5**)





• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number	Previous Part Number	Stock R	Stock L	Min. Bore Dia. ØA	Dimensions (mm) ØD	H	L1	L2	F	θ	Standard Corner-R(rε)	Spare Parts: Clamp Set	Wrench	Shim	Shim Pin	Wrench
S25S-WWLNR/L08-34	-	○		34	25	24	250	40	17	11°	0.8	WCS-8	LW-3	WWP-42	WP5X11	LW-2
S32S-WWLNR/L08-40		○	○	40	32	30	250	50	20	10°						
S25S-WWLNR/L08-28E	WWLNR/L 2825B-08E	○	○	28	25	24	250	36	14	13°	1.2	WCS-8	LW-3	WWP-42 *WWP -42-16	WP5X11	LW-2
S25S-WWLNR/L08-34E	3425B-08E	○	○	34	25	24	250	40	17	11°						
S32S-WWLNR/L08-40E	4032B-08E	○	○	40	32	30	250	50	20	10°						

· When using inserts whose corner-R(rε) = 1.60mm or larger, purchase and use shim with * mark separately to prevent interference between workpiece and shim.

Applicable Inserts

Application	Finishing	Finishing-Medium	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate	Roughing
Ref. Page	B43	B43	B43	B43	B44	B44	B44	B44	B45	B45	B45
Insert / Toolholder	WP (Wiper)	WQ (Wiper)	PP	PQ	CQ	CJ	GS	PG	PS	PT	Standard
...-PWLNR/L08 -... / ...-WWLNR/L08 -...	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..
Application	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	B46	B46	B46	B47	B47	B47	B48	B48	B48	C23	C13
Insert / Toolholder	XP	XQ	XS	MQ	MS	MU	C(GC)	ZS	AH	PCD	CBN
...-PWLNR/L08 -... / ...-WWLNR/L08 -...	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNGG43..	WNMM43..	WNGA43..

· In wedge lock, use of ceramic insert other than silicon nitride insert is not recommended due to strong restraint force.

Recommended Cutting Conditions → **F103~F104**

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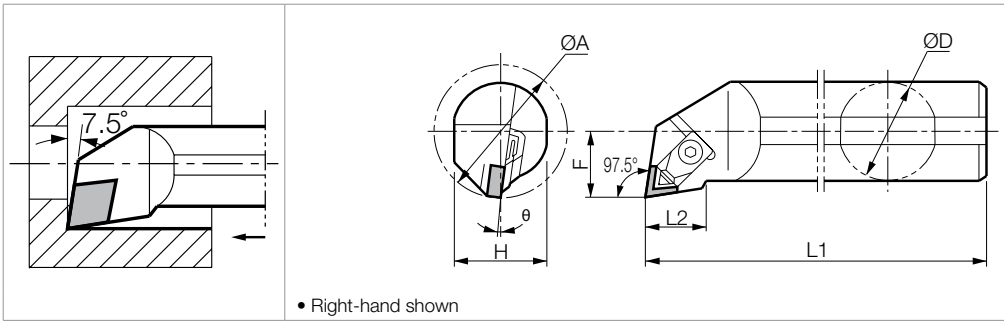
S-CELN (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~3**)



• Right-hand shown

Applicable Inserts

Cast Iron / Hardened Materials
B91
Ceramic

ENG45..

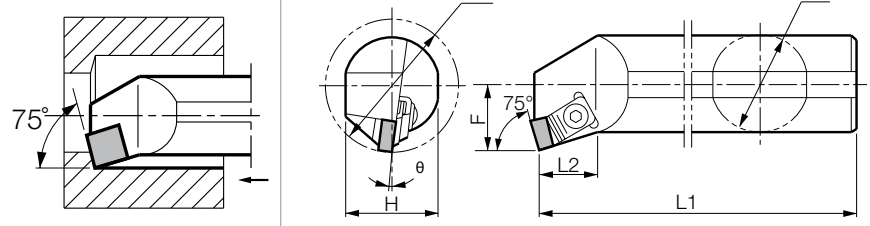
Toolholder Dimensions

Recommended Cutting Conditions **F103~F104**

Part Number	Previous Part Number	Stock	Min. Bore Dia.	Dimensions (mm)					θ	Standard Corner-R(rε)	Spare Parts				
			ØA	ØD	H	L1	L2	F			Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw
															
S40T-CELNR13-50	**CELNR 5040B-13**	○	50	40	37	300	32	27	12°	0.8	CB-16	CE-010	LW-4	SP-341P	M3X8

S-CSKN (Boring)

(Max. Overhang Length **L/D = ~3**)



• Right-hand shown

Applicable Inserts

Cast Iron / Hardened Materials	Cast Iron	Cast Iron / Hardened Materials
B93	B32	C19
Ceramic	**Coated Carbide**	**CBN (KBN900)**
		
SNG45..(43..) SNM45..	(SNM43..)	(SNM43..)

Toolholder Dimensions

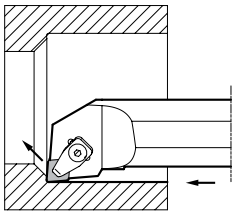
Recommended Cutting Conditions **F103~F104**

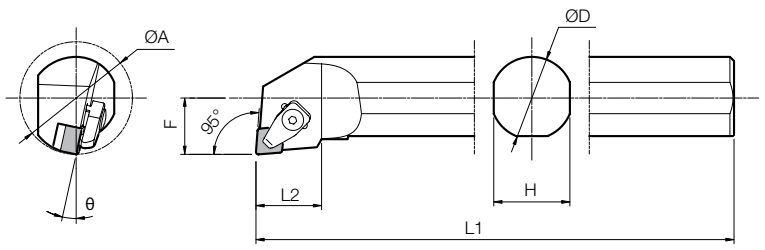
Part Number	Previous Part Number	Stock		Unit	Min. Bore Dia.	Dimensions					θ	Standard Corner-R(rε)	Spare Parts				
		R	L		ØA	ØD	H	L1	L2	F			Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw
																	
S40T-CSKN□12-50	**CSKN□ 5040B-12**	○	○	mm	50	40	37	300	26	27	10.5°	0.8	CB-13/12	CE-320	LW-4	SP-141P (SP-143P)	M3X8 (M3X12)
S16X-CSKN□3	-		●	inch	1.18	1.00	0.97	9.00	1.65	0.591	10.0°	0.8	-	CE-360S	LW-4	SP-130A	BH3X12

· Chipbreaker: CB-13 for Right-hand Toolholder, CB-12 for Left-hand Toolholder.
· Shim & Shim Screw : When using SN□□43 Insert, purchase spare parts in ( ) separately.

S-CCLN-GX (Boring / Internal Facing)

(Max. Overhang Length **L/D = ~3**)





• Right-hand shown

Applicable Inserts

Cast Iron

B90

Ceramic

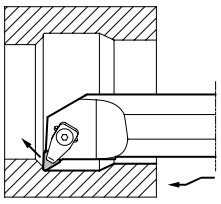
CNGX45..

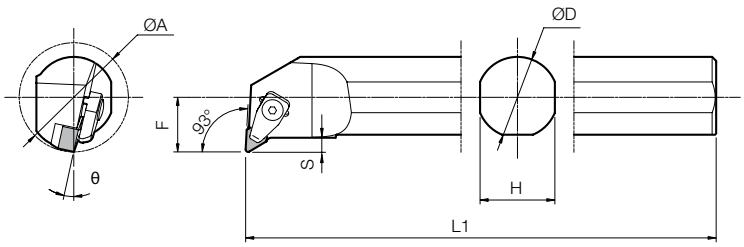
Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)					θ	Standard Corner-R(rε)	Spare Parts				Recommended Cutting Conditions
	R	L	ØA	ØD	H	L1	L2	F			Clamp Set	Wrench	Shim	Shim Screw	
S32S-CCLNR/L12-40GX	□	□	40	32	30	250	32	22	14°	1.2	CE-410	LW-4	-	-	F103~F104
S40T-CCLNR/L12-50GX	○	○	50	40	37	300	32	27	12°	1.2	CE-410	LW-4	SP-441P	M3X8	

S-CDUN-GX (Boring / Copying)

(Max. Overhang Length **L/D = ~3**)





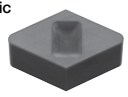
• Right-hand shown

Applicable Inserts

Cast Iron

B91

Ceramic



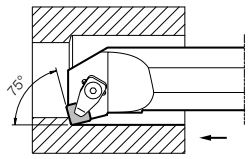
DNGX35..

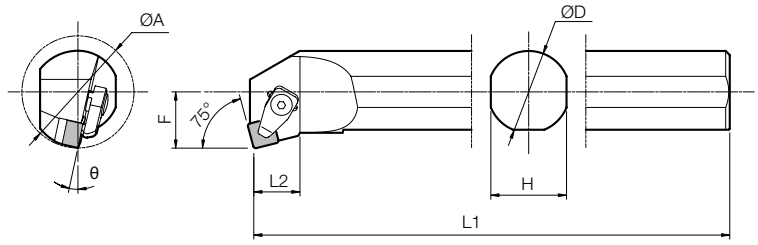
Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)					θ	Standard Corner-R(rε)	Spare Parts				Recommended Cutting Conditions
	R	L	ØA	ØD	H	L1	L2	F			Clamp Set	Wrench	Shim	Shim Screw	
S32S-CDUNR/L12-40GX	□	□	40	32	30	250	7.5	22	14°	1.2	CE-410	LW-4	-	-	F103~F104
S40T-CDUNR/L12-50GX	□	□	50	40	37	300	7.5	27	12°	1.2	CE-410	LW-4	SP-521P	M3X8	

S-CSKN-GX (Boring)

(Max. Overhang Length **L/D = ~3**)





• Right-hand shown

Applicable Inserts

Cast Iron

B94

Ceramic

SNGX45..

Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)					θ	Standard Corner-R(rε)	Spare Parts				Recommended Cutting Conditions
	R	L	ØA	ØD	H	L1	L2	F			Clamp Set	Wrench	Shim	Shim Screw	
S32S-CSKNR/L12-40GX	□	□	40	32	30	250	22.5	22	14°	1.2	CE-410	LW-4	-	-	F103~F104
S40T-CSKNR/L12-50GX	○	○	50	40	37	300	22.5	27	12°	1.2	CE-410	LW-4	SP-141P	M3X8	

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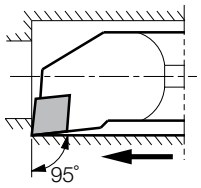
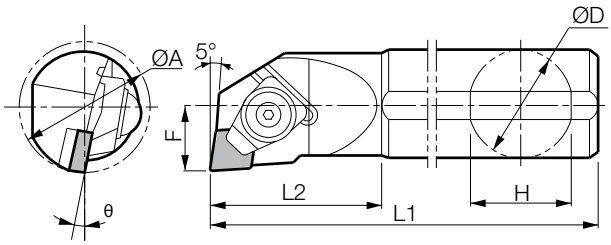
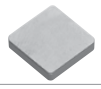
S-CCLN-A (Boring / Internal Facing)





• Right-hand shown

Applicable Inserts

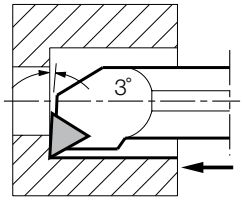
Hardened Materials / Cast Iron
C19
CBN (KBN900)

CNM32..

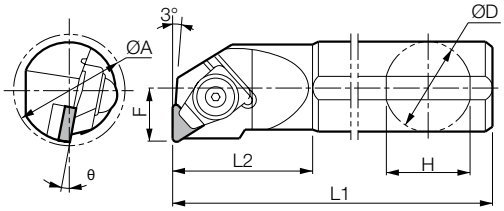
Toolholder Dimensions

Recommended Cutting Conditions **F103~F104**

Part Number	Previous Part Number	Stock		Unit	Min. Bore Dia.	Dimensions					θ	Standard Corner-R(rε)	Spare Parts			
		R	L		ØA	ØD	H	L1	L2	F			Clamp Set	Wrench	Shim	Shim Screw
																
S32S-CCLN□09-40A	**CCLN□ 4032B-09A**	○	○	mm	40	32	30	250	50	22	8°	0.8	CE-360S	LW-4	SP-420A	BH3X6

S-CTUN-A (Boring)





• Right-hand shown

Applicable Inserts

Hardened Materials / Cast Iron	Hardened Materials / Cast Iron
C19	B95
CBN (KBN900)	Ceramic
	
TNM22..	TNG22..

Toolholder Dimensions

Recommended Cutting Conditions **F103~F104**

Part Number	Previous Part Number	Stock		Unit	Min. Bore Dia.	Dimensions (mm)					θ	Standard Corner-R(rε)	Spare Parts			
		R	L		ØA	ØD	H	L1	L2	F			Clamp Set	Wrench	Shim	Shim Screw
																
S25X-CTUN□11-30A	**CTUN□3025B-11A**	○		mm	30	25	24	220	40	15	10°	0.8	CE-360S	LW-4	SP-210A	BH3X6

EZH Sleeves EZ Bar Sleeves (Listed by Sleeve Shank Dia.)

Sleeve Part Number				Applicable Inserts					
EZH-CT (Adjustable Overhang Length with Coolant Hole)	EZH-HP (Adjustable Overhang Length)	EZH-ST	Sleeve Shank Dia ØD1 (mm)	EZB	EZG EZFG EZT EZVB	EZ Bar Plus	HP	Shank Dia ØD (mm)	Applicable Machine Manufacturer
		EZH 01712ST-80		EZBR ...017...			-	1.7	
		02012ST-80		EZBR ...020...	-		HPB®L 0202-...	2.0	
		02512ST-80		EZBR ...025...	EZ__ ...025-...		-	2.5	
		03012ST-80		EZBR ...030...	EZ__ ...030-...		HPB®L 0303-...	3.0	
-	-	03512ST-80	12.00	EZBR ...035...	EZ__ ...035-...	-	-	3.5	(General Purpose)
		04012ST-80		EZBR ...040...	EZ__ ...040-...		HP__ ..04-...	4.0	
		05012ST-80		EZBR ...050...	EZ__ ...050-...		HP__ ..05-...	5.0	
		06012ST-80		EZBR ...060...	EZ__ ...060-...		HP__ 0606-...	6.0	
		07012ST-80		EZBR ...070...	EZ__ ...070-...		HP__ ..07-...	7.0	
	EZH 01716HP-100	EZH 01716ST-100		EZBR ...017...			-	1.7	
	02016HP-100	02016ST-100		EZBR ...020...	-		HPB®L 0202-...	2.0	
	02516HP-100	02516ST-100		EZBR ...025...	EZ__ ...025-...		-	2.5	
	03016HP-100	03016ST-100		EZBR ...030...	EZ__ ...030-...	-	HPB®L 0303-...	3.0	
	03516HP-100	03516ST-100		EZBR ...035...	EZ__ ...035-...		-	3.5	
-	04016HP-100	04016ST-100	16.00	EZBR ...040...	EZ__ ...040-...		HP__ ..04-...	4.0	(General Purpose)
	04516HP-100	-		-	-	_045X- ...-050EZ	-	4.5	
	05016HP-100	05016ST-100		EZBR ...050...	EZ__ ...050-...	-	HP__ ..05-...	5.0	
	06016HP-100	06016ST-100		EZBR ...060...	EZ__ ...060-...	_060X- ...-070EZ	HP__ 0606-...	6.0	
	07016HP-100	07016ST-100		EZBR ...070...	EZ__ ...070-...	-	HP__ ..07-...	7.0	
EZH 01719CT-120	EZH 01719HP-120	EZH 01719ST-120		EZBR ...017...			-	1.7	
02019CT-120	02019HP-120	02019ST-120		EZBR ...020...	-		HPB®L 0202-...	2.0	
02519CT-120	02519HP-120	02519ST-120		EZBR ...025...	EZ__ ...025-...		-	2.5	
03019CT-120	03019HP-120	03019ST-120		EZBR ...030...	EZ__ ...030-...	-	HPB®L 0303-...	3.0	
03519CT-120	03519HP-120	03519ST-120		EZBR ...035...	EZ__ ...035-...		-	3.5	
04019CT-120	04019HP-120	04019ST-120	19.05	EZBR ...040...	EZ__ ...040-...		HP__ ..04-...	4.0	Citizen Machinery
-	04519HP-120	-		-	-	_045X- ...-050EZ	-	4.5	
05019CT-120	05019HP-120	05019ST-120		EZBR ...050...	EZ__ ...050-...	-	HP__ ..05-...	5.0	
06019CT-120	06019HP-120	06019ST-120		EZBR ...060...	EZ__ ...060-...	_060X- ...-070EZ	HP__ 0606-...	6.0	
07019CT-120	07019HP-120	07019ST-120		EZBR ...070...	EZ__ ...070-...	-	HP__ ..07-...	7.0	
EZH 01720CT-120	EZH 01720HP-120	EZH 01720ST-120		EZBR ...017...			-	1.7	
02020CT-120	02020HP-120	02020ST-120		EZBR ...020...	-		HPB®L 0202-...	2.0	
02520CT-120	02520HP-120	02520ST-120		EZBR ...025...	EZ__ ...025-...		-	2.5	
03020CT-120	03020HP-120	03020ST-120		EZBR ...030...	EZ__ ...030-...	-	HPB®L 0303-...	3.0	
03520CT-120	03520HP-120	03520ST-120		EZBR ...035...	EZ__ ...035-...		-	3.5	
04020CT-120	04020HP-120	04020ST-120	20.00	EZBR ...040...	EZ__ ...040-...		HP__ ..04-...	4.0	Amada Machine Tools Eguro Tsugami Citizen Machinery (General Purpose)
-	04520HP-120	-		-	-	_045X- ...-050EZ	-	4.5	
05020CT-120	05020HP-120	05020ST-120		EZBR ...050...	EZ__ ...050-...	-	HP__ ..05-...	5.0	
06020CT-120	06020HP-120	06020ST-120		EZBR ...060...	EZ__ ...060-...	_060X- ...-070EZ	HP__ 0606-...	6.0	
07020CT-120	07020HP-120	07020ST-120		EZBR ...070...	EZ__ ...070-...	-	HP__ ..07-...	7.0	
EZH 01722CT-135	EZH 01722HP-135	EZH 01722ST-135		EZBR ...017...			-	1.7	
02022CT-135	02022HP-135	02022ST-135		EZBR ...020...	-		HPB®L 0202-...	2.0	
02522CT-135	02522HP-135	02522ST-135		EZBR ...025...	EZ__ ...025-...		-	2.5	
03022CT-135	03022HP-135	03022ST-135		EZBR ...030...	EZ__ ...030-...	-	HPB®L 0303-...	3.0	
03522CT-135	03522HP-135	03522ST-135		EZBR ...035...	EZ__ ...035-...		-	3.5	
04022CT-135	04022HP-135	04022ST-135	22.00	EZBR ...040...	EZ__ ...040-...		HP__ ..04-...	4.0	Star Micronics Nomura DS Tsugami
-	04522HP-135	-		-	-	_045X- ...-050EZ	-	4.5	
05022CT-135	05022HP-135	05022ST-135		EZBR ...050...	EZ__ ...050-...	-	HP__ ..05-...	5.0	
06022CT-135	06022HP-135	06022ST-135		EZBR ...060...	EZ__ ...060-...	_060X- ...-070EZ	HP__ 0606-...	6.0	
07022CT-135	07022HP-135	07022ST-135		EZBR ...070...	EZ__ ...070-...	-	HP__ ..07-...	7.0	
EZH 01725.0CT-135	EZH 01725.0HP-135	EZH 01725.0ST-135		EZBR ...017...			-	1.7	
02025.0CT-135	02025.0HP-135	02025.0ST-135		EZBR ...020...	-		HPB®L 0202-...	2.0	
02525.0CT-135	02525.0HP-135	02525.0ST-135		EZBR ...025...	EZ__ ...025-...		-	2.5	
03025.0CT-135	03025.0HP-135	03025.0ST-135		EZBR ...030...	EZ__ ...030-...	-	HPB®L 0303-...	3.0	
03525.0CT-135	03525.0HP-135	03525.0ST-135		EZBR ...035...	EZ__ ...035-...		-	3.5	
04025.0CT-135	04025.0HP-135	04025.0ST-135	25.00	EZBR ...040...	EZ__ ...040-...		HP__ ..04-...	4.0	Amada Machine Tools Eguro Tsugami Citizen Machinery (General Purpose)
-	04525.0HP-135	-		-	-	_045X- ...-050EZ	-	4.5	
05025.0CT-135	05025.0HP-135	05025.0ST-135		EZBR ...050...	EZ__ ...050-...	-	HP__ ..05-...	5.0	
06025.0CT-135	06025.0HP-135	06025.0ST-135		EZBR ...060...	EZ__ ...060-...	_060X- ...-070EZ	HP__ 0606-...	6.0	
07025.0CT-135	07025.0HP-135	07025.0ST-135		EZBR ...070...	EZ__ ...070-...	-	HP__ ..07-...	7.0	
EZH 01725.4CT-120	EZH 01725.4HP-120	EZH 01725.4ST-120		EZBR ...017...			-	1.7	
02025.4CT-120	02025.4HP-120	02025.4ST-120		EZBR ...020...	-		HPB®L 0202-...	2.0	
02525.4CT-120	02525.4HP-120	02525.4ST-120		EZBR ...025...	EZ__ ...025-...		-	2.5	
03025.4CT-120	03025.4HP-120	03025.4ST-120		EZBR ...030...	EZ__ ...030-...	-	HPB®L 0303-...	3.0	
03525.4CT-120	03525.4HP-120	03525.4ST-120		EZBR ...035...	EZ__ ...035-...		-	3.5	
04025.4CT-120	04025.4HP-120	04025.4ST-120	25.40	EZBR ...040...	EZ__ ...040-...		HP__ ..04-...	4.0	Citizen Machinery
-	04525.4HP-120	-		-	-	_045X- ...-050EZ	-	4.5	
05025.4CT-120	05025.4HP-120	05025.4ST-120		EZBR ...050...	EZ__ ...050-...	-	HP__ ..05-...	5.0	
06025.4CT-120	06025.4HP-120	06025.4ST-120		EZBR ...060...	EZ__ ...060-...	_060X- ...-070EZ	HP__ 0606-...	6.0	
07025.4CT-120	07025.4HP-120	07025.4ST-120		EZBR ...070...	EZ__ ...070-...	-	HP__ ..07-...	7.0	

- Choose sleeves (Ød1) to meet with ØD dimension of bar.
- Adjustment Pin cannot be installed to EZH-ST sleeves. To adjust overhang of the bar, please use EZH-CT/HP sleeves.
- Machine manufacturers in random order.

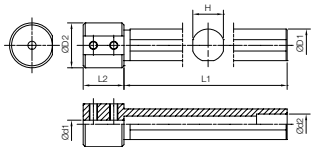
EZH Sleeves and Applicable Inserts / Toolholders (Listed by Sleeve Shank Dia.)

Shank Size (Hole Dia. : mm)		017 (1.7mm)	020 (2.0mm)	025 (2.5mm)	03 (3.0mm)	035 (3.5mm)
EZH-CT Sleeve Part Number (Internal Coolant) EZH-HP Sleeve Part Number (Adjustable Overhang Length)		EZH 01716HP-100	EZH 02016HP-100	EZH 02516HP-100	EZH 03016HP-100	EZH 03516HP-100
		01719CT/HP-120	02019CT/HP-120	02519CT/HP-120	03019CT/HP-120	03519CT/HP-120
		01720CT/HP-120	02020CT/HP-120	02520CT/HP-120	03020CT/HP-120	03520CT/HP-120
		01722CT/HP-135	02022CT/HP-135	02522CT/HP-135	03022CT/HP-135	03522CT/HP-135
		01725.0CT/HP-135	02025.0CT/HP-135	02525.0CT/HP-135	03025.0CT/HP-135	03525.0CT/HP-135
		01725.4CT/HP-120	02025.4CT/HP-120	02525.4CT/HP-120	03025.4CT/HP-120	03525.4CT/HP-120
EZH-ST Sleeve Part Number		EZH 01712ST-80	EZH 02012ST-80	EZH 02512ST-80	EZH 03012ST-80	EZH 03512ST-80
		01716ST-100	02016ST-100	02516ST-100	03016ST-100	03516ST-100
		01719ST-120	02019ST-120	02519ST-120	03019ST-120	03519ST-120
		01720ST-120	02020ST-120	02520ST-120	03020ST-120	03520ST-120
		01722ST-135	02022ST-135	02522ST-135	03022ST-135	03522ST-135
		01725.0ST-135	02025.0ST-135	02525.0ST-135	03025.0ST-135	03525.0ST-135
		01725.4ST-120	02025.4ST-120	02525.4ST-120	03025.4ST-120	03525.4ST-120
EZ Bar	Boring Bar		EZBR 020020HP-	EZBR 025025HP-	EZBR 030030HP-	EZBR 035035HP-
		EZBR 020017ST-	EZBR 025020ST-	EZBR 030025ST-	EZBR 035030ST-	EZBR 040035ST-
		EZBR 020017-···NB	EZBR 025020-···NB	EZBR 030025-···NB	EZBR ···030-···NB	EZBR 040035-···NB
	Internal Grooving				EZVBR 035030-	
					EZGR 030030-	
	Face Grooving					
	Internal Threading			EZTR 030025-	EZTR 035030-	EZTR 040035-
EZ Bar - Plus						
2-Edge Micro-Bar	Boring Bar		HPB®0202-	HPB®0303-		
	Internal Grooving					
	Face Grooving					
	Internal Threading					
Boring Bar						

Shank Size (Hole Dia. : mm)		04 (4.0mm)	045 (4.5mm)	05 (5.0mm)	06 (6.0mm)	07 (7.0mm)
EZH-CT Sleeve Part Number (Internal Coolant) EZH-HP Sleeve Part Number (Adjustable Overhang Length)		EZH 04016HP-100	EZH 04516HP-100	EZH 05016HP-100	EZH 06016HP-100	EZH 07016HP-100
		04019CT/HP-120	04519HP-120	05019CT/HP-120	06019CT/HP-120	07019CT/HP-120
		04020CT/HP-120	04520HP-120	05020CT/HP-120	06020CT/HP-120	07020CT/HP-120
		04022CT/HP-135	04522HP-135	05022CT/HP-135	06022CT/HP-135	07022CT/HP-135
		04025.0CT/HP-135	04525.0HP-135	05025.0CT/HP-135	06025.0CT/HP-135	07025.0CT/HP-135
		04025.4CT/HP-120	04525.4HP-120	05025.4CT/HP-120	06025.4CT/HP-120	07025.4CT/HP-120
EZH-ST Sleeve Part Number		EZH 04012ST-80		EZH 05012ST-80	EZH 06012ST-80	EZH 07012ST-80
		04016ST-100		05016ST-100	06016ST-100	07016ST-100
		04019ST-120		05019ST-120	06019ST-120	07019ST-120
		04020ST-120		05020ST-120	06020ST-120	07020ST-120
		04022ST-135		05022ST-135	06022ST-135	07022ST-135
		04025.0ST-135		05025.0ST-135	06025.0ST-135	07025.0ST-135
		04025.4ST-120		05025.4ST-120	06025.4ST-120	07025.4ST-120
EZ Bar	Boring Bar	EZBR 040040HP-		EZBR 050050HP-	EZBR 060060HP-	
		EZBR 045040ST-		EZBR 055050ST-	EZBR 065060ST-	EZBR 075070ST-
		EZBR ···040-···NB		EZBR ···050-···NB	EZBR ···060-···NB	EZBR ···070-···NB
		EZVBR 045040-		EZVBR 055050-	EZVBR 065060-	
	Internal Grooving	EZGR 040040-		EZGR 050050-	EZGR 060060-	EZGR ···070-···
	Face Grooving	EZFGR 050040-		EZFGR 060050-		EZFGR080070-
	Internal Threading	EZTR 050040-		EZTR 060050-	EZTR 070060-	EZTR 080070-
EZ Bar - Plus			S045X-SCLCR03-050EZ		S060X-SCLCR04-070EZ	
			C045X-SCLCR03-050EZ		C060X-SCLCR04-070EZ	
2-Edge Micro-Bar	Boring Bar	HPB®0404-		HPB®0505-	HPB®0606-	HPB®0707-
		HPBT®0404-		HPBT®0505-		
	Internal Grooving	HPG®0404-		HPG®0505-	HPG®0606-	HPG®0707-
	Face Grooving					HPFG®0807-
	Internal Threading	HPT®04504-		HPT®06005-		HPT®07507-
Boring Bar		C04-····		C05-····	C06-····	C07-····
					S06-····	

Note 1) When attaching Double-sided Micro Bars to EZH-CT/HP Sleeve (Adjustable overhang length), detach Adjustable Pin. Overhang length of bar is not adjustable.

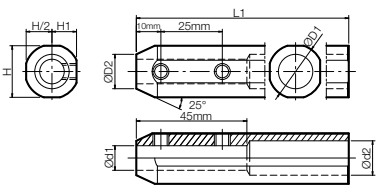
Sleeves for Micro Bars

Shape	Part Number	Previous Part Number	Stock	Unit	Dimensions ØD1	ØD2	Ød1	Ød2	H	L1	L2	Spare Parts Screw	Wrench
 (Tip-Bar installation side)	PH 0212-60	PH -0212	○	mm	12	19	1.8	6	11	60	20	HS3X4	LW-1.5
	0312-60	-0312	○		12	19	2.8						
	0412-60	-0412	○		12	19	3.8	6	11	60	20	HS4X4	LW-2
	0512-60	-0512	○		12	19	4.8						
	0612-60	-0612	○		12	19	5.8	8	11	60	20	HS4X4	LW-2
	0712-60	-0712	○		12	19	6.8						
	PH 0216-80	PH -0216	○		16	22	1.8	Rp¼ (PS¼)	15	80	20	HS3X4	LW-1.5
	0316-80	-0316	○		16	22	2.8						
	0416-80	-0416	○		16	22	3.8	Rp¼ (PS¼)	15	80	20	HS4X4	LW-2
	0516-80	-0516	○		16	22	4.8						
	0616-80	-0616	○		16	22	5.8						
	0716-80	-0716	○		16	22	6.8						
	PH 10-3MM	-	●	inch	0.625	0.750	0.110	3/8-24 UNF	0.575	3.213	0.787	SLS-1	LW-2
	10-4MM		●		0.625	0.875	0.150						
	10-6MM		●		0.625	0.875	0.228						
	10-7MM		●		0.625	0.875	0.268						

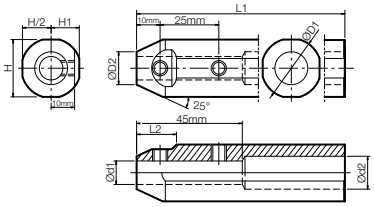
Description Table for PH Sleeves and Applicable Toolholders

Shank Size (Hole Dia. : mm)		..-2mm / 02.. (0.071" / 1.8mm)	..-3mm / 03.. (0.110" / 2.8mm)	..-4mm / 04.. (0.150" / 3.8mm)	..-5mm / 05.. (0.189" / 4.8mm)	..-6mm / 06.. (0.228" / 5.8mm)	..-7mm / 07.. (0.268" / 6.8mm)
PH Type Sleeve Part Numbers		PH10-2MM	PH10-3MM	PH10-4MM	PH10-5MM	PH10-6MM	PH10-7MM
		PH0212-60	PH0312-60	PH0412-60	PH0512-60	PH0612-60	PH0712-60
		PH0216-80	PH0316-80	PH0416-80	PH0516-80	PH0616-80	PH0716-80
1-Edge Micro Bars	Boring Bars	PSB R/L 0202-	PSB R/L 0303-	PSB R/L 0404-	PSB R/L 0505-	PSB R/L 0606-	PSB R/L 0707-
				PSBT R/L 0415-	PSBT R/L 0515-		
	Internal Grooving			PSG R/L 0510-	PSG R/L 0610-	PSG R/L 0710-	PSG R/L 0810-
				PSG R/L 0520-	PSG R/L 0620-	PSG R/L 0720-	PSG R/L 0820-
	Face Grooving						PSFG R/L 0810-
							PSFG R/L 0820-
							PSFG R/L 0830-
	Internal Threading			PSTR0604-	PSTR0805-		

SHA Sleeves (Applicable Toolholders F96)



(Toolholder installation side) **Fig.1**



(Toolholder installation side) **Fig.2**

Part Number	Stock	Dimensions (mm) Ød1	ØD1	ØD2	Ød2	H	H1	L1	L2	Drawing	Spare Parts Screw	Wrench	Applicable Machine Manufacturer
SHA 0820-120	○	8	20.00	14	12	19.0	9.25	120	-	Fig.1	HS6X4P	LW-3	Amada Machine Tools, Eguro, Tsugami, Citizen Machinery
1020-120	○	10	20.00	14	12	19.0	9.25	120	-	Fig.1			
SHA 0825.0-135	○	8	25.00	14	14	24.0	11.5	135	17	Fig.2			
1025.0-135	○	10	25.00	14	14	24.0	11.5	135	17	Fig.2			
1225.0-135	○	12	25.00	16	14	24.0	11.5	135	17	Fig.2			
SHA 0819-120	○	8	19.05	14	12	18.0	8.75	120	-	Fig.1	HS6X4P	LW-3	Citizen Machinery
1019-120	○	10	19.05	14	12	18.0	8.75	120	-	Fig.1			
SHA 0820-120	○	8	20.00	14	12	19.0	9.25	120	-	Fig.1			
1020-120	○	10	20.00	14	12	19.0	9.25	120	-	Fig.1			
SHA 0825.4-120	○	8	25.40	14	14	24.4	12.0	120	17	Fig.2			
1025.4-120	○	10	25.40	14	14	24.4	12.0	120	17	Fig.2			
1225.4-120	○	12	25.40	16	14	24.4	12.0	120	17	Fig.2			
SHA 0822-125	○	8	22.00	14	14	21.0	10.0	125	-	Fig.1	HS6X4P	LW-3	Star Micronics, Nomura DS
1022-125	○	10	22.00	14	14	21.0	10.0	125	-	Fig.1			
1222-125	○	12	22.00	16	14	21.0	10.0	125	-	Fig.1			
SHA 0823-120	○	8	23.00	14	14	22.0	10.5	120	16	Fig.2	HS6X4P	LW-3	Nomura DS
1023-120	○	10	23.00	14	14	22.0	10.5	120	16	Fig.2			
1223-120	○	12	23.00	16	14	22.0	10.5	120	16	Fig.2			

※ : Length of Ød1…45mm (All SHA sleeves) • Choose sleeves (Ød1) to meet with ØD dimension of toolholder. • Machine manufacturers are in random order.

(Customer Service) 800.823.7284 - Option 1
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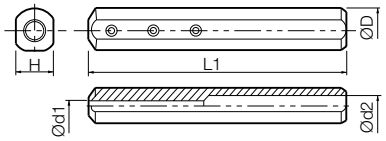
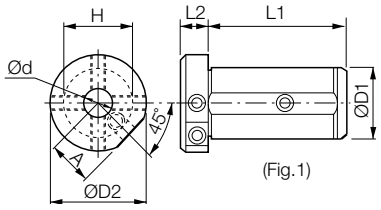
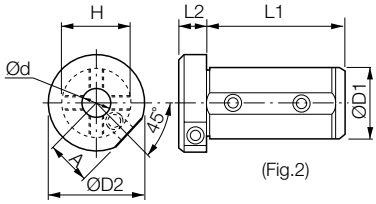
Sleeves for Boring Bars

Shape	Part Number	Previous Part Number	Stock	Unit	Dimensions ØD	Ød1	Ød2	H	L1	Spare Parts Screw	Wrench
 (Toolholder installation side)	SH 0416-100	SH -0516	○	mm	16	4	5	14	100	HS4X4	LW-2
	0516-100	-0616	○		16	5	6	14	100		
	0616-100	-0716	○		16	6	7	14	100		
	0716-100	-0816	○		16	7	8	14	100		
	SH 0820-120	SH -1020	○		20	8	9	18	120	HS4X4	LW-2
	1020-120	-1220	○		20	10	11	18	120		
	1225-150	-1625	○		25	12	13	23	150	HS5X5	LW-2.5
	1632-180	-2032	○		32	16	18	30	180	HS5X5	LW-2.5
	2032-180	-2532	○		32	20	22	30	180		
	SL -1		●	inch	0.625	0.203	0.250	0.292	4.00	SLS-1	LW-2
	-2	-	●		0.625	0.281	0.312	0.292	4.00	SLS-2	
	-2.5-10		●		0.625	0.156	0.197	0.292	4.00	SLS-1	

Coolant Sleeve Dimensions



(Fig.1)



(Fig.2)

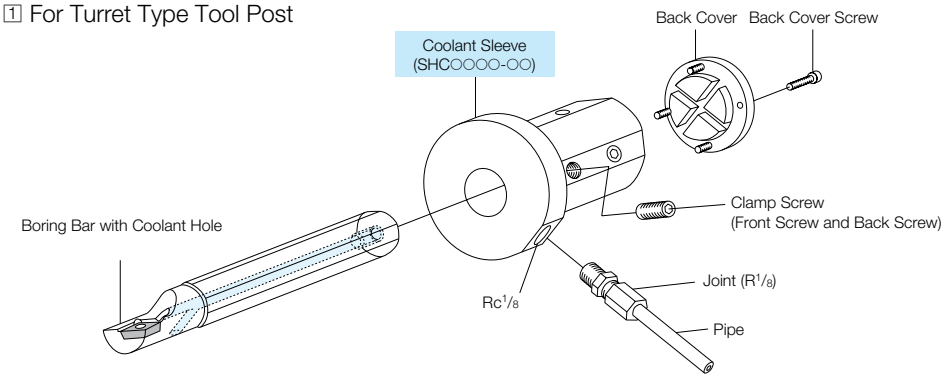
Accessories
- Back Cover / SHL-4···SHC○○40-70
  SHL-5···SHC○○50-95
- Back Cover Screw
- Shank Clamp Screw

(Note) To stabilize the Toolholder and to prevent coolant leaks, tighten all 4 screws of coolant sleeve securely.

Part Number	Previous Part Number	Stock	Dimensions (mm) ØD1	ØD2	Ød	L1	L2	H	A	Drawing	Spare Parts Front Screw	Wrench	Back Screw	Wrench	Back Cover	Back Cover Screw	Wrench
SHC 0840-70	SHC -084070	○	40	56	8	70	16	38	27.0	Fig.1	HS6X22	LW-3	HS6X14	LW-3	SHL-4	HH3X6	LW-2.5
1040-70	-104070	○	40	56	10	70	16	38	27.0								
1240-70	-124070	○	40	56	12	70	16	38	27.0	Fig.2	HS10X10	LW-5	HS10X10	LW-5	SHL-4	HH3X6	LW-2.5
1640-70	-164070	○	40	56	16	70	16	38	27.0								
2040-70	-204070	○	40	56	20	70	16	38	27.0	Fig.1	HS10X10	LW-5	HS6X6	LW-3	SHL-4	HH3X6	LW-2.5
2540-70	-254070	○	40	56	25	70	16	38	27.0								
SHC 0850-95	SHC -085095	○	50	65	8	95	16	47	30.5	Fig.1	HS6X22	LW-3	HS6X14	LW-3	SHL-5	HH3X12	LW-2.5
1050-95	-105095	○	50	65	10	95	16	47	30.5								
1250-95	-125095	○	50	65	12	95	16	47	30.5	Fig.2	HS10X10	LW-5	HS10X10	LW-5	SHL-5	HH3X12	LW-2.5
1650-95	-165095	○	50	65	16	95	16	47	30.5								
2050-95	-205095	○	50	65	20	95	16	47	30.5								
2550-95	-255095	○	50	65	25	95	16	47	30.5								

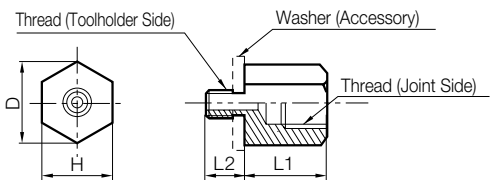
How to Install

1 For Turret Type Tool Post



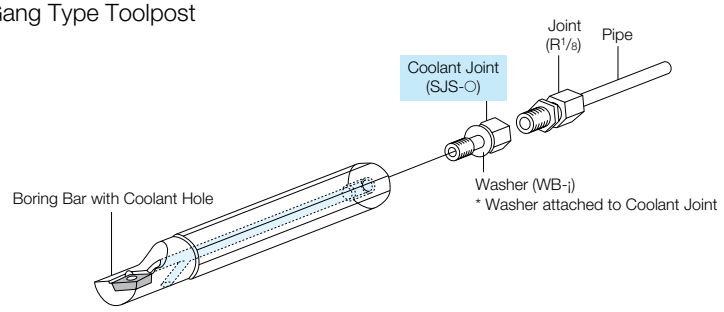
● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

Coolant Joint Dimensions *This Coolant Joint is not applicable for Dynamic Bar



Part Number	Stock	Dimensions (mm)				Thread (Toolholder Side)	Thread (Joint Side)	Spare Parts Washer
		D	L1	L2	H			
SJS-5	○	15	15	7	13	M5XP0.8	Rc1/8 (PT1/8)	WB-5
SJS-6	○	15	15	9	13	M6XP1.0	Rc1/8 (PT1/8)	WB-6
SJS-8	○	15	15	13	13	M8XP1.25	Rc1/8 (PT1/8)	WB-8

2 For Gang Type Toolpost



List of Toolholders and Applicable Joints

Toolholder Part Number	Applicable Coolant Joint
A08-----OOE	SJS-5
A10-----OOE	
A12-----OOE	SJS-6
A16-----OOE	SJS-8
A20-----OOE	
A25-----OOE	
E08-----OO	SJS-5
E10-----OO	
E12-----OO	SJS-6
E16-----OO	SJS-8
E20-----OO	

* This Coolant Joint is not applicable for Dynamic Bar

SHA / SH / SHC Sleeves and Applicable Toolholders (Listed by Shank Dia.)

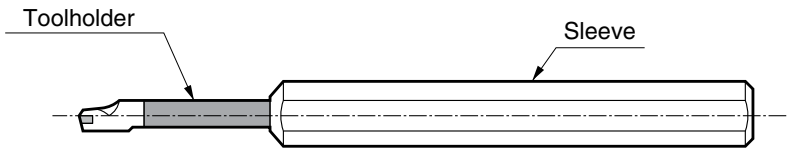
Shank Size (Hole Dia. : mm)	04 (4mm)	05 (5mm)	06 (6mm)	07 (7mm)	08 (8mm)	10 (10mm)	12 (12mm)	16 (16mm)	20 (20mm)	25 (25mm)
SHA / SH / SHC Sleeve Part Numbers	SH0416-100	SH0516-100	SH0616-100	SH0716-100	SH0820-120	SH1020-120	SH1225-150	SH1632-180	SH2032-180	
					SHA0819-120	SHA1019-120				
					SHA0820-120	SHA1020-120				
					SHA0822-125	SHA1022-125	SHA1222-125			
					SHA0823-120	SHA1023-120	SHA1223-120			
					SHA0825.0-135	SHA1025.0-135	SHA1225.0-135			
					SHA0825.4-120	SHA1025.4-120	SHA1225.4-120			
					SHC0840-70	SHC1040-70	SHC1240-70	SHC1640-70	SHC2040-70	SHC2540-70
					SHC0850-95	SHC1050-95	SHC1250-95	SHC1650-95	SHC2050-95	SHC2550-95
Boring Bars Part Numbers					A08-····	A10-····	A12-····	A16-····	A20-····	A25-····
	C04-····	C05-····	C06-····	C07-····	C08-····	C10-····	C12-····	C16-····	C20-····	C25-····
					E08-····	E10-····	E12-····	E16-····	E20-····	E25-····
			S06-····		S08-····	S10-····	S12-····	S16-····	S20-····	S25-····
Internal Grooving Toolholder Part Numbers					SIGER0808A-EH	SIGER1010B-EH	SIGER1412C-EH	SIGER1616C-EH	SIGER2020D-EH	SIGER2525E-EH
						SIGER1210B-EH	SIGER1612C-EH			KIGBA3525-16
					SIGER0808A-WH	SIGER1010B-WH	SIGER1412C-WH	KIGM2016B-3V	KIGM2520B-3V	KIGM3225B-4V
						SIGER1210B-WH	SIGER1612C-WH			KITG3525T-16
					SIGER1008B-WH-90	SIGER1210B-WH-90	SIGER1412C-WH-90			
							GIVR1412-1SE	GIVR1216-1SS	GIVR1420-1S	GIVR2025-1B
							GIVR1612-1AE	GIVR2016-1BE	GIVR1620-1A	GIVR2025-2B
								GIVR2016-2BE	GIVR2520-1CE	GIVR3225-1CE
								GIVR1616-1AW	GIVR2720-2CE	GIVR3225-2CE
									GIVR2020-1BW	GIVR2525-1CW
									GIVR2020-2BW	GIVR2525-2CW
Internal Threading Toolholder Part Numbers							SINR0612S-06E	SINR0816S-08E	SINR2420S-16	CINR3025S-16
								SINR1216S-11E	SINR2420S-22	CINR3025S-22
								SINR1516S-11		
								SINR1616S-16		
								SINR2016S-16		

* For SHA sleeves, please ref. to page **F94**
For SH / SHC sleeves, please ref. to page **F95**

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

C...-AS (Assembly List)

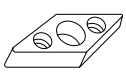
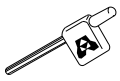


Assembly configuration

Assembly (Discontinued Part Number)	Toolholder (Discontinued Part Number)	Alternative Toolholder (Dynamic Bar)	Sleeve Part Number	Notes
C04G-SCLCR03-05-AS	C04G-SCLCR03-05	C04G-SCLCR03-05A	SH0416-100	-
SCLCL03-05-AS	SCLCL03-05	SCLCL03-05A		
C05H-SCLCR03-06-AS	C05H-SCLCR03-06	C05H-SCLCR03-06A	SH0516-100	
SCLCL03-06-AS	SCLCL03-06	SCLCL03-06A		
C05H-SWUBR06-06-AS	C05H-SWUBR06-06	C05H-SWUBR06-06A	SH0516-100	
SWUBL06-06-AS	SWUBL06-06	SWUBL06-06A		
C06J-SCLCR04-07-AS	C06J-SCLCR04-07	C06J-SCLCR04-07A	SH0616-100	
SCLCL04-07-AS	SCLCL04-07	SCLCL04-07A		
C06J-SWUBR06-07-AS	C06J-SWUBR06-07	C06J-SWUBR06-07A	SH0616-100	
SWUBL06-07-AS	SWUBL06-07	SWUBL06-07A		
C07K-SCLCR04-08-AS	C07K-SCLCR04-08	C07K-SCLCR04-08A	SH0716-100	
SCLCL04-08-AS	SCLCL04-08	SCLCL04-08A		
C07K-SWUBR08-08-AS	C07K-SWUBR08-08	C07K-SWUBR08-08A	SH0716-100	
SWUBL08-08-AS	SWUBL08-08	SWUBL08-08A		
C08L-STUPR08-10-AS	C08L-STUPR08-10	E08L-STLPR08-10A	SH0820-120	Difference of Alternative Toolholder No Coolant Hole → With Coolant Hole Front Cutting Edge Angle 3° → 5°
C10N-STUPR09-12-AS	C10N-STUPR09-12	E10N-STLPR09-12A	SH1020-120	
C10N-STUPR11-12-AS	C10N-STUPR11-12	E10N-STLPR11-12A		
C12Q-STUPR09-16-AS	C12Q-STUPR09-16	E12Q-STLPR09-16A	SH1225-150	
C12Q-STUPR11-14-AS	C12Q-STUPR11-14	E12Q-STLPR11-14A		
C12Q-STUPR11-16-AS	C12Q-STUPR11-16			
C16X-STUPR11-18-AS	C16X-STUPR11-18	E16X-STLPR11-18A	SH1632-180	
C16X-STUPR11-20-AS	C16X-STUPR11-20			
C20S-STUPR11-25-AS	C20S-STUPR11-25	E20S-STLPR11-22A	SH2032-180	
C20S-STUPR16-25-AS	C20S-STUPR16-25	E20S-STLPR16-25A		

* "AS" indicates an assembly of toolholder and sleeve.
You can purchase the toolholder and sleeve and assemble them to make the corresponding assembly part.

Former Parts List (Boring Bar)

Part Number (Previous Part Number)	Spare Parts				
	Clamp Screw	Wrench	Shim	Shim Screw	Wrench
					
S32S-SVJBR16-40E S40T-SVJBR16-50E	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
S25X-SVPBR16-34E S32S-SVPBR16-40E	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
S25X-SVUBR16-34E S32S-SVUBR16-40E	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
S25X-SVZBR16-34E S32S-SVZBR16-40E	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6

· **S32S-SVJBR16-40E** and **S40T-SVJBR16-50E** have been replaced by **A32S-SVJBR16-40AE** and **A40T-SVJBR16-50AE** respectively. Ref. to page F58
· **S25X-SVPBR16-34E** and **S32S-SVPBR16-40E** have been replaced by **A25S-SVPBR16-31AE** and **A32S-SVPBR16-40AE** respectively. Ref. to page F60
· **S25X-SVUBR16-34E** and **S32S-SVUBR16-40E** have been replaced by **A25S-SVUBR16-34AE** and **A32S-SVUBR16-40AE** respectively. Ref. to page F63
· **S25X-SVZBR16-34E** and **S32S-SVZBR16-40E** have been replaced by **A25S-SVZBR16-34AE** and **A32S-SVZBR16-40AE** respectively. Ref. to page F63

Alternative Toolholder Reference Table for Boring Bar

Conventional Toolholder				Alternative Toolholder					
				Dynamic Bar (1st Recommendation)			Dynamic Bar (2nd Recommendation)		
Shank type	Insert Shape	Coolant Hole	Part Number	Coolant Hole	Part Number	Ref. to Page	Coolant Hole	Part Number	Ref. to Page
Excellent Bar	CC..	No	S08X-SCLC□06-10E	Yes	A08X-SCLC□06-10AE	F39	No	S08X-SCLC□06-10A	F39
			S10H-SCLC□03-05E	No	S10H-SCLC□03-05AE		-	-	-
			S10H-SCLC□03-06E		S10H-SCLC□03-06AE				
			S10J-SCLC□04-07E		S10H-SCLC□04-07AE				
			S10J-SCLC□04-08E		S10H-SCLC□04-08AE				
		Yes	A08H-SCLC□06-10E	Yes	A08X-SCLC□06-10AE		No	S08X-SCLC□06-10A	F39
	CP..	No	S10M-SCLP□08-12E	Yes	A10L-SCLP□08-12AE	F41	No	S10L-SCLP□08-12A	F41
			S12M-SCLP□08-14E		A12M-SCLP□08-14AE			S12M-SCLP□08-14A	
			S12M-SCLP□09-16E		A12M-SCLP□09-16AE			S12M-SCLP□09-16A	
			S16Q-SCLP□09-18E		A16Q-SCLP□09-18AE			S16Q-SCLP□09-18A	
			S16R-SCLP□09-20E						
			S20X-SCLP□09-25E		A20R-SCLP□09-22AE			S20R-SCLP□09-22A	
		Yes	A10X-SCLP□08-12E	Yes	A10L-SCLP□08-12AE	F41	No	S10L-SCLP□08-12A	F41
			A12X-SCLP□08-14E		A12M-SCLP□08-14AE			S12M-SCLP□08-14A	
			A12X-SCLP□09-16E		A12M-SCLP□09-16AE			S12M-SCLP□09-16A	
			A16M-SCLP□09-18E		A16Q-SCLP□09-18AE			S16Q-SCLP□09-18A	
			A16M-SCLP□09-20E						
			A20Q-SCLP□09-25E		A20R-SCLP□09-22AE			S20R-SCLP□09-22A	
	DC..	No	S10M-SDUC□07-14E	Yes	A10L-SDUC□07-14AE	F45	No	S10L-SDUC□07-14A	F45
			S12M-SDUC□07-16E		A12M-SDUC□07-16AE			S12M-SDUC□07-16A	
			S16Q-SDUC□07-20E		A16Q-SDUC□07-20AE			S16Q-SDUC□07-20A	
			S16Q-SDUC□11-25E		A16Q-SDUC□11-23AE			S16Q-SDUC□11-23A	
			S20Q-SDUC□11-32E		A20R-SDUC□11-27AE			S20R-SDUC□11-27A	
		No	S10M-SDZC□07-14E	Yes	A10L-SDZC□07-14AE	F47	No	S10L-SDZC□07-14A	F47
			S12M-SDZC□07-16E		A12M-SDZC□07-16AE			S12M-SDZC□07-16A	
			S16Q-SDZC□07-20E		A16Q-SDZC□07-20AE			S16Q-SDZC□07-20A	
			S16Q-SDZC□11-25E		A16Q-SDZC□11-23AE			S16Q-SDZC□11-23A	
			S20Q-SDZC□11-32E		A20R-SDZC□11-27AE			S20R-SDZC□11-27A	
	TB..	No	S06H-STUB□06-08E	No	S06H-STLB□06-08AE	F53	No	S06H-STLB□06-08A	F53
	TP..	No	S08K-STUP□08-10E	Yes	A08X-STLP□08-10AE	F53	No	S08X-STLP□08-10A	F53
			S10M-STUP□09-12E		A10L-STLP□09-12AE			S10L-STLP□09-12A	
			S10M-STUP□11-12E		A10L-STLP□11-12AE			S10L-STLP□11-12A	
			S12M-STUP□09-16E		A12M-STLP□09-16AE			S12M-STLP□09-16A	
			S12M-STUP□11-14E		A12M-STLP□11-14AE			S12M-STLP□11-14A	
			S12M-STUP□11-16E						
			S16R-STUP□11-18E		A16Q-STLP□11-18AE			S16Q-STLP□11-18A	
			S16R-STUP□11-20E						
			S20X-STUP□11-25E		A20R-STLP□11-22AE			S20R-STLP□11-22A	
			S20X-STUP□16-25E		A20R-STLP□16-25AE		-	-	-
			S25X-STUP□16-32E		A25S-STLP□16-27AE		No	S25S-STLP□16-27A	F53
		Yes	A08H-STUP□08-10E	Yes	A08X-STLP□08-10AE	F53	No	S08X-STLP□08-10A	F53
			A10X-STUP□09-12E		A10L-STLP□09-12AE			S10L-STLP□09-12A	
			A10X-STUP□11-12E		A10L-STLP□11-12AE			S10L-STLP□11-12A	
			A12X-STUPR09-16E		A12M-STLPR09-16AE			S12M-STLPR09-16A	
			A12X-STUP□11-14E		A12M-STLP□11-14AE			S12M-STLP□11-14A	
			A12X-STUPR11-16E		A12M-STLPR11-14AE			S12M-STLPR11-14A	
			A16M-STUP□11-18E		A16Q-STLP□11-18AE			S16Q-STLP□11-18A	
			A16M-STUP□11-20E						
			A20Q-STUP□11-25E		A20R-STLP□11-22AE			S20R-STLP□11-22A	
			A20Q-STUP□16-25E		A20R-STLP□16-25AE		-	-	-
			A25R-STUP□16-32E		A25S-STLP□16-27AE		No	S25S-STLP□16-27A	F53
	VB..	No	S20R-SVJB□11-25E	Yes	A20R-SVJB□11-25AE	F58	No	S20R-SVJB□11-25A	F58
			S25S-SVJB□11-30E		A25S-SVJB□11-30AE			S25S-SVJB□11-30A	
			S32S-SVJB□16-40EN		A32S-SVJB□16-40AE			S32S-SVJB□16-40A	
			S40T-SVJB□16-50EN		A40T-SVJB□16-50AE			S40T-SVJB□16-50A	

Note) The corresponding replacements may be different from the conventional parts in minimum processing diameter or applicable insert size.
Make sure of their specifications by referring to the catalog or other documents.

Alternative Toolholder Reference Table for Boring Bar

Conventional Toolholder				Alternative Toolholder					
				Dynamic Bar (1st Recommendation)			Dynamic Bar (2nd Recommendation)		
Shank type	Insert Shape	Coolant Hole	Part Number	Coolant Hole	Part Number	Ref. to Page	Coolant Hole	Part Number	Ref. to Page
Excellent Bar	VB..	No	S12M-SVPB□11-20E	Yes	A12M-SVPB□11-18AE	F60	No	S12M-SVPB□11-18A	F60
			S16Q-SVPB□11-25E		A16Q-SVPB□11-22AE			S16Q-SVPB□11-22A	
			S25X-SVPB□16-34EN		A25S-SVPB□16-31AE			S25S-SVPB□16-31A	
			S32S-SVPB□16-40EN		A32S-SVPB□16-40AE			S32S-SVPB□16-40A	
		No	S16Q-SVUB□11-20E	Yes	A16Q-SVUB□11-20AE	F63	No	S16Q-SVUB□11-20A	F63
			S20R-SVUB□11-25E		A20R-SVUB□11-25AE			S20R-SVUB□11-25A	
			S25X-SVUB□16-34EN		A25S-SVUB□16-34AE			S25S-SVUB□16-34A	
			S32S-SVUB□16-40EN		A32S-SVUB□16-40AE			S32S-SVUB□16-40A	
		No	S16Q-SVZB□11-20E	Yes	A16Q-SVZB□11-20AE	F63	No	S16Q-SVZB□11-20A	F63
			S20R-SVZB□11-25E		A20R-SVZB□11-25AE			S20R-SVZB□11-25A	
			S25X-SVZB□16-34EN		A25S-SVZB□16-34AE			S25S-SVZB□16-34A	
			S32S-SVZB□16-40EN		A32S-SVZB□16-40AE			S32S-SVZB□16-40A	
	VC..	No	S12M-SVJC□08-16E	Yes	A12M-SVJC□08-16AE	F58	No	S12M-SVJC□08-16A	F58
			S16Q-SVJC□08-20E		A16Q-SVJC□08-20AE			S16Q-SVJC□08-20A	
		No	S10M-SVPC□08-16E	Yes	A10L-SVPC□08-14AE	F60	No	S10L-SVPC□08-14A	F60
		No	S12M-SVUC□08-16E	Yes	A12M-SVUC□08-16AE	F63	No	S12M-SVUC□08-16A	F63
		No	S12M-SVZC□08-16E	Yes	A12M-SVZC□08-16AE	F63	No	S12M-SVZC□08-16A	F63
	VP..	No	S12M-SVJP□08-16E	Yes	A12M-SVJP□08-16AE	F58	No	S12M-SVJP□08-16A	F58
	WB..	No	S08K-SWUB□08-10E	Yes	A08X-SWUB□08-10AE	F67	No	S08X-SWUB□08-10A	F67
			S10M-SWUB□08-12E		A10L-SWUB□08-12AE			S10L-SWUB□08-12A	
			S10H-SWUB□06-06E	No	S10H-SWUB□06-06AE			S10H-SWUB□06-06A	
			S10H-SWUB□06-07E		S10H-SWUB□06-07AE			S10H-SWUB□06-07A	
			S10J-SWUB□08-08E		S10H-SWUB□08-08AE			S10H-SWUB□08-08A	
	WP..	No	S12M-SWUP□11-14E	Yes	A12M-SWUP□11-14AE	F67	No	S12M-SWUP□11-14A	F67
			S12M-SWUP□11-16E						
			S16N-SWUP□11-18E		A16Q-SWUP□11-18AE			S16Q-SWUP□11-18A	
			S16Q-SWUP□16-20E		A16Q-SWUP□16-18AE			S16Q-SWUP□16-18A	
			S20R-SWUP□16-25E		A20R-SWUP□16-22AE			S20R-SWUP□16-22A	
Steel Bar	CC..	No	S08X-SCLC□06-10	No	S08X-SCLC□06-10A	F39	-	-	-
	CP..	No	S10M-SCLP□08-12	No	S10L-SCLP□08-12A	F41	-	-	-
			S12M-SCLP□08-14		S12M-SCLP□08-14A				
			S12M-SCLP□09-16		S12M-SCLP□09-16A				
			S16N-SCLP□09-18		S16Q-SCLP□09-18A				
			S16Q-SCLP□09-20						
			S20R-SCLP□09-25		S20R-SCLP□09-22A				
			S25S-SCLP□09-30		S25S-SCLP□09-27A				
	DC..	No	S16Q-SDUC□07-14	No	S16Q-SDUC□07-14A	F45	-	-	-
			S16Q-SDUC□07-16						
			S20R-SDUC□11-20		S20R-SDUC□11-20A				
			S25X-SDUC□11-25		S16Q-SDUC□11-23A		No	S25S-SDUC□11-32A	F45
		No	S16Q-SDZC□07-14	No	S16Q-SDZC□07-14A	F47	-	-	-
			S16Q-SDZC□07-16						
			S20R-SDZC□11-20		S20R-SDZC□11-20A				
			S25X-SDZC□11-25		S16Q-SDZC□11-23A		No	S25S-SDZC□11-32A	F47
	TB..	No	S06H-STUB□06-08	No	S06H-STLB□06-08A	F53	-	-	-
	TP..	No	S08K-STUP□08-10	No	S08X-STLP□08-10A	F53	-	-	-
			S10M-STUP□09-12		S10L-STLP□09-12A				
			S12M-STUP□09-16		S12M-STLP□09-16A				
			S16Q-STUP□11-20		S16Q-STLP□11-18A				
			S20R-STUP□11-25		S20R-STLP□11-22A				
			S25X-STUP□16-32		S25S-STLP□16-27A				
	WB..	No	S10H-SWUB□06-06	No	S10H-SWUB□06-06A	F67	-	-	-
			S10H-SWUB□06-06-15						
			S10H-SWUB□06-07		S10H-SWUB□06-07A				
			S10J-SWUB□08-08		S10H-SWUB□08-08A				
			S10J-SWUB□08-08-20						

Note) The corresponding replacements may be different from the conventional parts in minimum processing diameter or applicable insert size.
Make sure of their specifications by referring to the catalog or other documents.

Alternative Toolholder Reference Table for Boring Bar

Conventional Toolholder				Alternative Toolholder					
				Dynamic Bar (1st Recommendation)			Dynamic Bar (2nd Recommendation)		
Shank type	Insert Shape	Coolant Hole	Part Number	Coolant Hole	Part Number	Ref. to Page	Coolant Hole	Part Number	Ref. to Page
Carbide Shank Boring Bar	CC..	No	C04G-SCLC□03-05	No	C04G-SCLC□03-05A	F39	-	-	-
			C05H-SCLC□03-06		C05H-SCLC□03-06A				
			C06J-SCLC□04-07		C06J-SCLC□04-07A				
			C07K-SCLC□04-08		C07K-SCLC□04-08A				
			C08L-SCLC□06-10	Yes	E08L-SCLC□06-10A				
		Yes	E08L-SCLC□06-10						
	CP..	No	C10N-SCLP□08-12	Yes	E10N-SCLP□08-12A	F41	-	-	-
			C10N-SCLPR08-12-1/2		E10N-SCLPR08-12A-1/2				
			C10N-SCLPR08-12-2/3		E10N-SCLPR08-12A-2/3				
			C12Q-SCLP□09-16		E12Q-SCLP□09-16A				
			C12Q-SCLPR09-16-1/2		E12Q-SCLPR09-16A-1/2				
			C12Q-SCLPR09-16-2/3		E12Q-SCLPR09-16A-2/3				
			C16X-SCLP□09-20		E16X-SCLP□09-18A				
			C16X-SCLPR09-20-1/2		E16X-SCLPR09-18A-1/2				
			C16X-SCLPR09-20-2/3		E16X-SCLPR09-18A-2/3				
			C20S-SCLP□09-25		E20S-SCLP□09-22A				
			C20S-SCLPR09-25-1/2		E20S-SCLPR09-22A-1/2				
			C20S-SCLPR09-25-2/3		E20S-SCLPR09-22A-2/3				
		Yes	E10N-SCLP□08-12	Yes	E10N-SCLP□08-12A	F41	-	-	-
			E12Q-SCLP□09-16		E12Q-SCLP□09-16A				
			E16X-SCLP□09-20		E16X-SCLP□09-18A				
			E20S-SCLP□09-25		E20S-SCLP□09-22A				
	DC..	No	C10N-SDUC□07-14	Yes	E10N-SDUC□07-14A	F45	-	-	-
			C12Q-SDUC□07-16		E12Q-SDUC□07-16A				
			C12Q-SDUC□11-20						
			C16X-SDUC□11-25		E16X-SDUC□11-23A				
			C20S-SDUC□11-32		E20S-SDUC□11-27A				
	TB..	No	C10L-STUB□06-08	No	C06J-STLB□06-08A	F53	-	-	-
	TP..	No	C08L-STUP□08-10	Yes	E08L-STLP□08-10A				
			C10N-STUP□09-12		E10N-STLP□09-12A				
			C10N-STUPR09-12-1/2		E10N-STLPR09-12A-1/2				
			C10N-STUPR09-12-2/3		E10N-STLPR09-12A-2/3				
			C10N-STUP□11-12		E10N-STLP□11-12A				
			C10N-STUPR11-12-1/2		E10N-STLPR11-12A-1/2				
			C10N-STUPR11-12-2/3		E10N-STLPR11-12A-2/3				
			C12Q-STUP□09-16		E12Q-STLP□09-16A				
			C12Q-STUPR09-16-1/2		E12Q-STLPR09-16A-1/2				
			C12Q-STUPR09-16-2/3		E12Q-STLPR09-16A-2/3				
			C12Q-STUP□11-14		E12Q-STLP□11-14A				
			C12Q-STUPR11-14-1/2		E12Q-STLPR11-14A-1/2				
			C12Q-STUPR11-14-2/3		E12Q-STLPR11-14A-2/3				
			C12Q-STUP□11-16		E12Q-STLP□11-14A				
			C12Q-STUPR11-16-1/2		E12Q-STLPR11-14A-1/2				
			C12Q-STUPR11-16-2/3		E12Q-STLPR11-14A-2/3				

Note) The corresponding replacements may be different from the conventional parts in minimum processing diameter or applicable insert size.
Make sure of their specifications by referring to the catalog or other documents.

Alternative Toolholder Reference Table for Boring Bar

Conventional Toolholder				Alternative Toolholder					
				Dynamic Bar (1st Recommendation)			Dynamic Bar (2nd Recommendation)		
Shank type	Insert Shape	Coolant Hole	Part Number	Coolant Hole	Part Number	Ref. to Page	Coolant Hole	Part Number	Ref. to Page
Carbide Shank Boring Bar	TP..	No	C16X-STUP□11-18	Yes	E16X-STLP□11-18A	F53	-	-	-
			C16X-STUPR11-18-1/2		E16X-STLPR11-18A-1/2				
			C16X-STUPR11-18-2/3		E16X-STLPR11-18A-2/3				
			C16X-STUP□11-20		E16X-STLP□11-18A				
			C16X-STUPR11-20-1/2		E16X-STLPR11-18A-1/2				
			C16X-STUPR11-20-2/3		E16X-STLPR11-18A-2/3				
			C20S-STUP□11-25		E20S-STLP□11-22A				
			C20S-STUPR11-25-1/2		E20S-STLPR11-22A-1/2				
			C20S-STUPR11-25-2/3		E20S-STLPR11-22A-2/3				
			C20S-STUP□16-25		E20S-STLP□16-25A				
			C20S-STUPR16-25-1/2		E20S-STLPR16-25A-1/2				
			C20S-STUPR16-25-2/3		E20S-STLPR16-25A-2/3				
		Yes	E08L-STUP□08-10	Yes	E08L-STLP□08-10A	F53	-	-	-
			E10N-STUP□09-12		E10N-STLP□09-12A				
			E10N-STUP□11-12		E10N-STLP□11-12A				
			E12Q-STUP□09-16		E12Q-STLP□09-16A				
			E12Q-STUP□11-14		E12Q-STLP□11-14A				
			E12Q-STUP□11-16						
			E16X-STUP□11-18		E16X-STLP□11-18A				
			E16X-STUP□11-20						
			E20S-STUPR11-25		E20S-STLPR11-22A				
			E20S-STUPR16-25		E20S-STLPR16-25A				
	WB..	No	C05H-SWUB□06-06	No	C05H-SWUB□06-06A	F67	-	-	-
			C06J-SWUB□06-07		C06J-SWUB□06-07A				
			C07K-SWUB□08-08		C07K-SWUB□08-08A				
			C08L-SWUB□08-10	Yes	E08L-SWUB□08-10A				
			C10N-SWUB□08-12		E10N-SWUB□08-12A				
			C10N-SWUBR08-12-1/2		E10N-SWUBR08-12A-1/2				
			C10N-SWUBR08-12-2/3		E10N-SWUBR08-12A-2/3				
	WP..	No	C12Q-SWUP□11-14	Yes	E12Q-SWUP□11-14A	F67	-	-	-
			C12Q-SWUPR11-14-1/2		E12Q-SWUPR11-14A-1/2				
			C12Q-SWUPR11-14-2/3		E12Q-SWUPR11-14A-2/3				
			C12Q-SWUP□11-16		E12Q-SWUP□11-14A				
			C12Q-SWUPR11-16-1/2		E12Q-SWUPR11-14A-1/2				
			C12Q-SWUPR11-16-2/3		E12Q-SWUPR11-14A-2/3				
			C16X-SWUP□11-18		E16X-SWUP□11-18A				
			C16X-SWUPR11-18-1/2		E16X-SWUPR11-18A-1/2				
			C16X-SWUPR11-18-2/3		E16X-SWUPR11-18A-2/3				
			C16X-SWUP□16-20		E16X-SWUP□16-18A				
			C16X-SWUPR16-20-1/2		E16X-SWUPR16-18A-1/2				
			C16X-SWUPR16-20-2/3		E16X-SWUPR16-18A-2/3				
			C20S-SWUP□16-25		E20S-SWUP□16-22A				
			C20S-SWUPR16-25-1/2		E20S-SWUPR16-22A-1/2				
			C20S-SWUPR16-25-2/3		E20S-SWUPR16-22A-2/3				

Note) The corresponding replacements may be different from the conventional parts in minimum processing diameter or applicable insert size.
Make sure of their specifications by referring to the catalog or other documents.

Recommended Cutting Conditions (VNB-S)

Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: sfm)						VNB01-S VNB015-S		VNB02-S ~ VNB04-S		Notes
	MEGA COAT	PVD	Carbide	CBN	PCD						
	PR1225	PR930	KW10	KBN510	KPD001	KPD010	D.O.C. (inch), f (ipr)				
							D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	★ 100~390	☆ 100~330					~0.0039	~0.0004	~0.0079	~0.0012	Wet
Stainless Steel	★ 100~300	☆ 100~260					~0.0039	~0.0004	~0.0079	~0.0008	

★ : 1st Recommendation
☆ : 2nd Recommendation

Recommended Cutting Conditions (VNB / VNB-NB / VNBT)

Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: sfm)						VNB02		VNB03		VNB004 VNBT04		VNB05 VNB06 VNB07 VNBT05		Notes
	MEGA COAT	PVD	Carbide	CBN	PCD										
	PR1225	PR930	KW10	KBN510	KPD001	KPD010	D.O.C. (inch), f (ipr)								
							D.O.C.	f	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	★ 100~390	☆ 100~330					~0.0118	~0.0012	~0.0157	~0.0016	~0.0177	~0.0028	~0.0197	~0.0039	
Stainless Steel	★ 100~330	☆ 100~260					~0.0118	~0.0008	~0.0157	~0.0012	~0.0177	~0.0020	~0.0197	~0.0028	Wet
Non-ferrous Metals			☆ ~330		★ ~980	☆ ~980	~0.0118	~0.0020	~0.0157	~0.0024	~0.0177	~0.0039	~0.0197	~0.0059	

★ : 1st Recommendation
☆ : 2nd Recommendation

Recommended Cutting Conditions (VNBX-S)

Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: sfm)							VNBX01-S VNBX015-S		VNBX02-S ~ VNBX04-S		Notes
	PVD Coated Carbide			Carbide	CBN	PCD						
	PR630	PR915	PR930	KW10	KBN510	KPD001	KPD010	D.O.C. (inch), f (ipr)				
								D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel			★ 100~330					~0.0039	~0.0004	~0.0079	~0.0012	Wet
Stainless Steel			★ 100~260					~0.0039	~0.0004	~0.0079	~0.0008	

★ : 1st Recommendation

Recommended Cutting Conditions - Boring (Positive Insert)

[D.O.C. Indicates Radius]

ISO Classification	Workpiece Material	Hardness	Cutting Range	Application	Recommended Chipbreaker	Recommended Insert Grade	Corner-R (rε)	Lower Limit - **Recommendation** - Upper Limit		
								Vc (sfm)	D.O.C. (inch)	Feed Rate f (ipr)
P※	Low-carbon Steel Low-carbon Alloy	HB ≦ 300	Finishing (Solid Type)	Continuous	EZB-F EZB-H	PR1225	0.002	100 - **230** - 360	0.0020 - **0.0039** - 0.0079	0.0004 - **0.0016** - 0.0028
				Interrupted			0.006	100 - **200** - 300	0.0020 - **0.0039** - 0.0079	0.0012 - **0.0028** - 0.0039
			Finishing	Continuous	F	PR1425	0.004	130 - **260** - 390	0.0020 - **0.0031** - 0.0039	0.0012 - **0.0020** - 0.0028
				Interrupted			0.008	130 - **230** - 330	0.0020 - **0.0039** - 0.0059	0.0012 - **0.0028** - 0.0039
			Finishing-Medium	Continuous	CF	PR1425	0.004	130 - **260** - 390	0.0020 - **0.0059** - 0.0098	0.0012 - **0.0020** - 0.0028
				Interrupted			0.008	130 - **230** - 330	0.0020 - **0.0059** - 0.0098	0.0012 - **0.0028** - 0.0039
	Medium-carbon Steel Medium-carbon Alloy	HB ≦ 300	Finishing (Solid Type)	Continuous	EZB-F EZB-H	PR1225	0.002	100 - **230** - 360	0.0020 - **0.0039** - 0.0079	0.0004 - **0.0016** - 0.0028
				Interrupted			0.006	100 - **200** - 300	0.0020 - **0.0039** - 0.0079	0.0012 - **0.0028** - 0.0039
			Finishing	Continuous	F	PR1425	0.004	130 - **260** - 390	0.0020 - **0.0031** - 0.0039	0.0012 - **0.0020** - 0.0028
				Interrupted			0.008	130 - **230** - 390	0.0020 - **0.0039** - 0.0059	0.0012 - **0.0028** - 0.0039
			Finishing-Medium	Continuous	CF	PR1425	0.004	130 - **260** - 390	0.0020 - **0.0059** - 0.0098	0.0012 - **0.0020** - 0.0028
				Interrupted			0.008	130 - **230** - 330	0.0020 - **0.0059** - 0.0098	0.0012 - **0.0028** - 0.0039
	High-carbon Alloy	HB ≦ 280	Finishing (Solid Type)	Continuous	EZB-F EZB-H	PR1225	0.002	100 - **230** - 360	0.0020 - **0.0039** - 0.0079	0.0004 - **0.0016** - 0.0028
				Interrupted			0.006	100 - **200** - 300	0.0020 - **0.0039** - 0.0079	0.0012 - **0.0028** - 0.0039
			Finishing	Continuous	F	PR1425	0.004	130 - **260** - 390	0.0020 - **0.0031** - 0.0039	0.0012 - **0.0020** - 0.0028
				Interrupted			0.008	130 - **230** - 330	0.0020 - **0.0039** - 0.0059	0.0012 - **0.0028** - 0.0039
			Finishing-Medium	Continuous	CF	PR1425	0.004	130 - **260** - 390	0.0020 - **0.0059** - 0.0098	0.0012 - **0.0020** - 0.0028
				Interrupted			0.008	130 - **230** - 330	0.0020 - **0.0059** - 0.0098	0.0012 - **0.0028** - 0.0039
M	Stainless Steel	HB ≦ 220	Finishing (Solid Type)	Continuous	EZB-F EZB-H	PR1225	0.002	100 - **200** - 260	0.0020 - **0.0039** - 0.0079	0.0004 - **0.0012** - 0.0020
				Interrupted			0.006	100 - **200** - 260	0.0020 - **0.0039** - 0.0079	0.0008 - **0.0020** - 0.0028
			Finishing	Continuous	F	PR1225 PR1535	0.004	100 - **200** - 260	0.0020 - **0.0031** - 0.0039	0.0012 - **0.0020** - 0.0028
				Interrupted			0.008	100 - **200** - 260	0.0020 - **0.0039** - 0.0059	0.0012 - **0.0028** - 0.0039
			Finishing-Medium	Continuous	CF	PR1225 PR1535	0.004	100 - **200** - 260	0.0020 - **0.0059** - 0.0098	0.0012 - **0.0020** - 0.0028
				Interrupted			0.008	100 - **200** - 260	0.0020 - **0.0059** - 0.0098	0.0012 - **0.0028** - 0.0039
	Stainless Steel	HB ≦ 300	Finishing (Solid Type)	Continuous	EZB-F EZB-H	PR1225	0.002	100 - **200** - 260	0.0020 - **0.0039** - 0.0079	0.0004 - **0.0012** - 0.0020
				Interrupted			0.006	100 - **200** - 260	0.0020 - **0.0039** - 0.0079	0.0008 - **0.0020** - 0.0028
			Finishing	Continuous	F	PR1225 PR1535	0.004	100 - **200** - 260	0.0020 - **0.0031** - 0.0039	0.0012 - **0.0020** - 0.0028
				Interrupted			0.008	100 - **200** - 260	0.0020 - **0.0039** - 0.0059	0.0012 - **0.0028** - 0.0039
			Finishing-Medium	Continuous	CF	PR1225 PR1535	0.004	100 - **200** - 260	0.0020 - **0.0059** - 0.0098	0.0012 - **0.0020** - 0.0028
				Interrupted			0.008	100 - **200** - 260	0.0020 - **0.0059** - 0.0098	0.0012 - **0.0028** - 0.0039
K	Gray Cast Iron	HB ≦ 250	Finishing (Solid Type)	Continuous	(VNB) (VNB-NB)	KW10	0.001	100 - **200** - 330	0.0020 - **0.0031** - 0.0039	0.0012 - **0.0020** - 0.0028
				Interrupted			0.008	100 - **200** - 330	0.0020 - **0.0039** - 0.0059	0.0012 - **0.0028** - 0.0039
			Finishing	Continuous	F	KW10	0.004	100 - **200** - 330	0.0020 - **0.0031** - 0.0039	0.0012 - **0.0020** - 0.0028
				Interrupted			0.008	100 - **200** - 260	0.0020 - **0.0039** - 0.0059	0.0012 - **0.0028** - 0.0039
			Finishing-Medium	Continuous	Without Chipbreaker	KW10	0.008	100 - **200** - 330	0.0039 - **0.0079** - 0.0118	0.0012 - **0.0020** - 0.0028
				Interrupted			1/64	100 - **200** - 260	0.0039 - **0.0079** - 0.0118	0.0012 - **0.0028** - 0.0039
	Nodular Cast Iron	HB ≦ 270	Finishing (Solid Type)	Continuous	(VNB) (VNB-NB)	KW10	0.001	100 - **200** - 260	0.0020 - **0.0031** - 0.0039	0.0012 - **0.0020** - 0.0028
				Interrupted			0.008	100 - **200** - 260	0.0020 - **0.0039** - 0.0059	0.0012 - **0.0028** - 0.0039
			Finishing	Continuous	F, U	KW10	0.004	100 - **200** - 260	0.0020 - **0.0031** - 0.0039	0.0012 - **0.0020** - 0.0028
				Interrupted			0.008	100 - **200** - 260	0.0020 - **0.0039** - 0.0059	0.0012 - **0.0028** - 0.0039
			Finishing-Medium	Continuous	Without Chipbreaker	KW10	0.008	100 - **200** - 330	0.0039 - **0.0079** - 0.0118	0.0012 - **0.0020** - 0.0028
				Interrupted			1/64	100 - **200** - 260	0.0039 - **0.0079** - 0.0118	0.0012 - **0.0028** - 0.0039
N	Non-ferrous Metals Copper Alloy Aluminum Aluminum Alloy	HB ≦ 100	High Speed Finishing (Rainbow Surface Gloss)	Continuous	Without Chipbreaker	KPD001	0.002	490 - **660** - 980	0.0020 - **0.0039** - 0.0118	0.0020 - **0.0039** - 0.0059
			Finishing (Long Tool Life)	Continuous	F, U	PDL025	0.004	330 - **490** - 660	0.0020 - **0.0118** - 0.0197	0.0012 - **0.0039** - 0.0079
				Interrupted			0.008	330 - **490** - 660	0.0020 - **0.0118** - 0.0197	0.0012 - **0.0039** - 0.0079
			Finishing	Continuous	F, U	KW10	0.004	330 - **490** - 660	0.0020 - **0.0118** - 0.0197	0.0012 - **0.0039** - 0.0079
				Interrupted			0.008	330 - **490** - 660	0.0020 - **0.0118** - 0.0197	0.0012 - **0.0039** - 0.0079
S	Titanium Alloy	HB ≦ 400	Precision Finishing (Rainbow Surface Gloss)	Continuous	Without Chipbreaker	KPD001	0.004	330 - **390** - 490	0.0020 - **0.0039** - 0.0118	0.0012 - **0.0028** - 0.0039
				Interrupted			0.008	230 - **330** - 390	0.0020 - **0.0039** - 0.0118	0.0012 - **0.0028** - 0.0039
			Finishing	Continuous	F, U	KW10	0.004	70 - **130** - 200	0.0020 - **0.0079** - 0.0197	0.0012 - **0.0039** - 0.0079
				Interrupted			0.008	70 - **130** - 200	0.0020 - **0.0079** - 0.0197	0.0012 - **0.0039** - 0.0079
	Heat-restistant Alloys	HB ≦ 350	Finishing (Solid Type)	Continuous	(VNB)	KW10	0.008	30 - **100** - 160	0.0020 - **0.0039** - 0.0118	0.0012 - **0.0020** - 0.0039
				Interrupted			0.008	30 - **100** - 160	0.0020 - **0.0039** - 0.0118	0.0012 - **0.0020** - 0.0031
			Finishing	Continuous	F, U	KW10	0.008	30 - **100** - 160	0.0020 - **0.0079** - 0.0157	0.0012 - **0.0020** - 0.0039
				Interrupted			0.008	30 - **100** - 160	0.0020 - **0.0079** - 0.0157	0.0012 - **0.0020** - 0.0039
H	Hardened Steel Hardened Materials	40 ~ 50 HRC	Finishing	Continuous	(VNB)	PR930	0.008	100 - **160** - 230	0.0020 - **0.0039** - 0.0157	0.0004 - **0.0008** - 0.0020
				Interrupted			0.008	100 - **160** - 230	0.0020 - **0.0039** - 0.0079	0.0004 - **0.0008** - 0.0012
		45 ~ 68 HRC	Finishing	Continuous	ME MES	KBN05M	0.008	200 - **330** - 460	0.0020 - **0.0039** - 0.0079	0.0008 - **0.0020** - 0.0039
				Interrupted			1/64	200 - **260** - 390	0.0020 - **0.0039** - 0.0079	0.0008 - **0.0020** - 0.0039

Recommended Cutting Conditions - Boring (Positive Insert)

[D.O.C. Indicates Radius]

ISO Classification	Workpiece Material	Hardness	Cutting Range	Application	Recommended Chipbreaker	Recommended Grade	Corner-R (rε)	Lower Limit - **Recommendation** - Upper Limit		
								Vc (sfm)	D.O.C. (inch)	Feed Rate f (ipr)
P※	Low-carbon Steel Low-carbon Alloy	HB ≦ 300	Precision Finishing	Continuous	F,U	TN620	0.004	820 - **980** - 1150	0.002 - **0.012** - 0.020	0.001 - **0.004** - 0.006
				Interruption		PR1425	0.008	390 - **560** - 720	0.002 - **0.012** - 0.020	0.001 - **0.004** - 0.006
			Finishing	Continuous	XP	PV7010	1/64	660 - **820** - 980	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
				Interruption		CA525	1/64	490 - **660** - 820	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
			Finishing-Medium	Continuous	XQ	PV7010	1/64	490 - **660** - 820	0.020 - **0.039** - 0.079	0.004 - **0.006** - 0.010
				Interruption		CA525	1/64	330 - **490** - 660	0.020 - **0.039** - 0.059	0.004 - **0.006** - 0.008
			Medium	Continuous	Standard	PV720	1/32	330 - **490** - 660	0.039 - **0.059** - 0.098	0.004 - **0.006** - 0.012
				Interruption		CA525	1/32	260 - **390** - 490	0.039 - **0.059** - 0.079	0.004 - **0.006** - 0.008
	Medium-carbon Steel Medium-carbon Alloy	HB ≦ 300	Precision Finishing	Continuous	F,U	TN620	0.008	490 - **660** - 820	0.002 - **0.012** - 0.020	0.001 - **0.004** - 0.006
				Interruption		PR1425	1/64	390 - **460** - 560	0.002 - **0.012** - 0.020	0.001 - **0.004** - 0.006
			Finishing	Continuous	PP	PV7010	1/64	490 - **660** - 820	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
				Interruption		CA525	1/64	390 - **590** - 660	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
			Finishing-Medium	Continuous	HQ	PV7010	1/64	390 - **590** - 720	0.020 - **0.039** - 0.079	0.004 - **0.006** - 0.010
				Interruption		CA525	1/64	330 - **490** - 660	0.020 - **0.039** - 0.059	0.004 - **0.006** - 0.008
			Medium	Continuous	Standard	PV720	1/32	330 - **490** - 660	0.039 - **0.059** - 0.098	0.004 - **0.006** - 0.012
				Interruption		CA525	1/32	260 - **390** - 490	0.039 - **0.059** - 0.079	0.004 - **0.006** - 0.008
	High-carbon Alloy	HB ≦ 280	Precision Finishing	Continuous	F,U	TN620	0.008	390 - **490** - 590	0.002 - **0.012** - 0.020	0.001 - **0.004** - 0.006
				Interruption		PR1425	1/64	360 - **430** - 520	0.002 - **0.012** - 0.020	0.001 - **0.004** - 0.006
			Finishing	Continuous	PP	PV7010	1/64	390 - **490** - 590	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
				Interruption		CA525	1/64	330 - **390** - 490	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
			Finishing-Medium	Continuous	HQ	PV7010	1/64	390 - **490** - 590	0.020 - **0.039** - 0.079	0.004 - **0.006** - 0.010
				Interruption		CA525	1/64	330 - **390** - 490	0.020 - **0.039** - 0.059	0.004 - **0.006** - 0.008
			Medium	Continuous	Standard	CA515	1/32	330 - **390** - 490	0.039 - **0.059** - 0.098	0.004 - **0.006** - 0.012
				Interruption		CA525	1/32	260 - **330** - 390	0.039 - **0.059** - 0.079	0.004 - **0.006** - 0.008
M	Stainless Steel	HB ≦ 220	Finishing	Continuous	MQ	CA6525	1/64	390 - **490** - 590	0.008 - **0.020** - 0.031	0.002 - **0.003** - 0.004
				Interruption		PR1535	1/32	330 - **390** - 490	0.008 - **0.020** - 0.031	0.002 - **0.003** - 0.004
			Medium	Continuous	Standard	CA6525	1/64	390 - **490** - 590	0.020 - **0.039** - 0.059	0.002 - **0.004** - 0.008
				Interruption		PR1535	1/32	330 - **390** - 490	0.020 - **0.039** - 0.059	0.002 - **0.004** - 0.008
	Stainless Steel	HB ≦ 300	Finishing	Continuous	MQ	CA6525	1/64	260 - **330** - 390	0.008 - **0.028** - 0.039	0.002 - **0.004** - 0.006
				Interruption		PR1535	1/32	200 - **260** - 330	0.008 - **0.028** - 0.039	0.002 - **0.004** - 0.006
			Medium	Continuous	Standard	CA6525	1/64	260 - **330** - 390	0.020 - **0.039** - 0.059	0.002 - **0.004** - 0.008
				Interruption		PR1535	1/32	200 - **260** - 330	0.020 - **0.039** - 0.059	0.002 - **0.004** - 0.008
K	Gray Cast Iron	HB ≦ 250	High Speed Machining	Continuous	Without Chipbreaker	KBN475	1/64	1310 - **1640** - 1970	0.002 - **0.008** - 0.020	0.002 - **0.004** - 0.006
				Interruption		PT600M	1/32	660 - **820** - 1150	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.006
			Finishing (Gloss Oriented)	Continuous	Standard	PV7005	1/32	660 - **820** - 980	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
				Interruption		TN620	1/32	390 - **590** - 750	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
			Finishing	Continuous	Standard	CA4505	1/64	490 - **590** - 660	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
				Interruption		CA4515	1/32	330 - **490** - 590	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
			Medium	Continuous	Standard Without Chipbreaker	CA4505	1/32	330 - **490** - 660	0.020 - **0.039** - 0.079	0.004 - **0.006** - 0.008
				Interruption		CA4515	1/32	260 - **390** - 490	0.020 - **0.039** - 0.079	0.002 - **0.004** - 0.006
	Nodular Cast Iron	HB ≦ 270	High Speed Machining	Continuous	Without Chipbreaker	KBN475	1/64	660 - **980** - 1310	0.002 - **0.008** - 0.020	0.001 - **0.002** - 0.004
				Interruption		PT600M	1/32	490 - **660** - 820	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.006
			Finishing (Gloss Oriented)	Continuous	Standard	PV7005	1/32	490 - **660** - 820	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
				Interruption		TN620	1/32	390 - **490** - 660	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
			Finishing	Continuous	Standard	CA4505	1/64	390 - **490** - 590	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
				Interruption		CA4515	1/32	330 - **390** - 490	0.008 - **0.020** - 0.039	0.002 - **0.004** - 0.008
N	Non-ferrous Metals Copper Alloy Aluminum Aluminum Alloys	HB ≦ 100	Medium	Continuous	Standard	CA4505	1/32	330 - **390** - 490	0.020 - **0.039** - 0.079	0.002 - **0.004** - 0.008
				Interruption		CA4515	1/32	260 - **330** - 390	0.020 - **0.039** - 0.079	0.002 - **0.004** - 0.006
			High Speed Machining (Rainbow Surface Gloss)	Continuous	Without Chipbreaker	KPD001	0.008	660 - **1310** - 3280	0.002 - **0.004** - 0.012	0.002 - **0.004** - 0.006
			Finishing (Long Tool Life)	Continuous	F, U	PDL025	1/64	330 - **660** - 1310	0.002 - **0.020** - 0.039	0.001 - **0.004** - 0.008
				Interruption			1/64	330 - **660** - 1310	0.002 - **0.020** - 0.039	0.001 - **0.004** - 0.008
			Finishing	Continuous	F, U	KW10	1/64	330 - **660** - 1310	0.002 - **0.020** - 0.039	0.001 - **0.004** - 0.008
				Interruption			1/64	330 - **660** - 1310	0.002 - **0.020** - 0.039	0.001 - **0.004** - 0.008
S	Titanium Alloy	HB ≦ 400	Precision Finishing (Rainbow Surface Gloss)	Continuous	Without Chipbreaker	KPD001	0.008	330 - **390** - 490	0.002 - **0.004** - 0.012	0.001 - **0.003** - 0.004
				Interruption			1/64	230 - **330** - 390	0.002 - **0.004** - 0.012	0.001 - **0.003** - 0.004
			Finishing	Continuous	F,U	KW10	0.008	100 - **160** - 230	0.002 - **0.020** - 0.039	0.001 - **0.004** - 0.008
				Interruption			1/64	100 - **160** - 230	0.002 - **0.020** - 0.039	0.001 - **0.004** - 0.008
	Heat-resistant Alloys	HB ≦ 350	Finishing	Continuous	F,U	KW10	1/64	30 - **100** - 160	0.002 - **0.020** - 0.039	0.001 - **0.004** - 0.008
				Interruption			1/64	30 - **100** - 160	0.002 - **0.020** - 0.039	0.001 - **0.004** - 0.008
			Finishing	Continuous	MQ	PR1310	1/64	130 - **200** - 260	0.004 - **0.012** - 0.020	0.001 - **0.002** - 0.004
				Interruption			1/32	130 - **200** - 260	0.004 - **0.012** - 0.020	0.001 - **0.002** - 0.004
H	Hardened Steel Hardened Materials	40~50 HRC	Finishing	Continuous	HQ Standard	CA515	1/32	200 - **260** - 330	0.002 - **0.012** - 0.020	0.002 - **0.003** - 0.004
				Interruption			1/32	100 - **160** - 230	0.002 - **0.012** - 0.020	0.002 - **0.003** - 0.004
		45~68 HRC	Finishing	Continuous	ME MET	KBN05M	1/64	330 - **460** - 590	0.004 - **0.008** - 0.012	0.001 - **0.003** - 0.004
				Interruption			1/32	300 - **390** - 520	0.004 - **0.008** - 0.012	0.001 - **0.003** - 0.004
			Medium	Continuous	Without Chipbreaker (Negative)	KBN900	1/32	200 - **260** - 330	0.012 - **0.028** - 0.039	0.001 - **0.004** - 0.006

GROOVING

G1 - G132

KGD Grooving (External Grooving & Turning) (G19~G29)

· Integral Type

Type	KGD
Edge Width	0.079" ~ 0.315" (2.00mm ~ 8.00mm)
Grooving Depth	0.079" ~ 1.181" (6.00mm ~ 30.00mm)
Ref. Page	G20

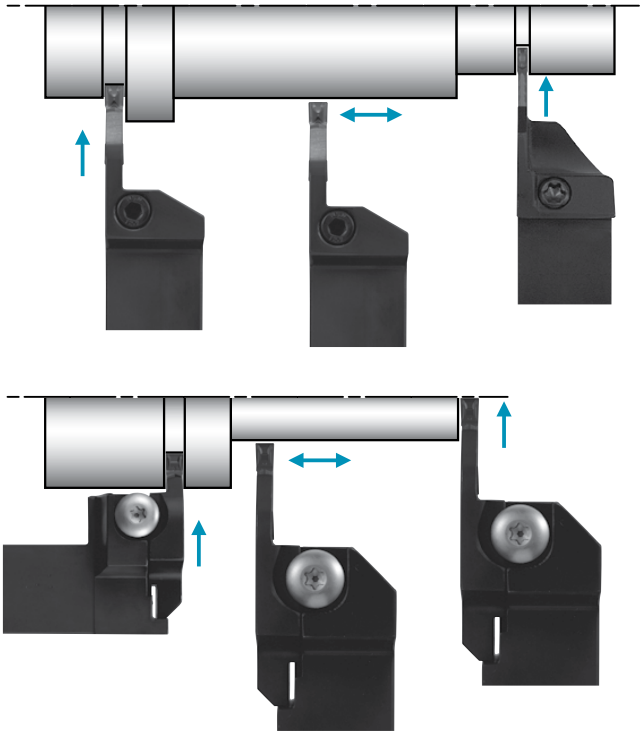
· Integral Type for Small Parts

Type	KGD
Edge Width	0.079" ~ 0.157" (2.00mm ~ 4.00mm)
Grooving Depth	0.394" ~ 0.827" (10.00mm ~ 21.00mm)
Ref. Page	G19

· SwitchBlade Type

Type	*KGDS-S
Edge Width	0.118" (3.00mm)
Grooving Depth	0.394" (10.00mm)
Ref. Page	G24

* The SwitchBlade Type toolholders can accept all the blades if their hand is matching.

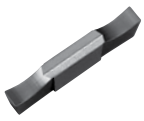


· SwitchBlade Type

Type	*KGD-S
Edge Width	0.079" ~ 0.197" (2.00mm ~ 5.00mm)
Grooving Depth	0.394" ~ 0.984" (10.00mm ~ 25.00mm)
Ref. Page	G22

* The SwitchBlade Type toolholders can accept all the blades if their hand is matching.

GS Low Cutting Force



GL Low Feed

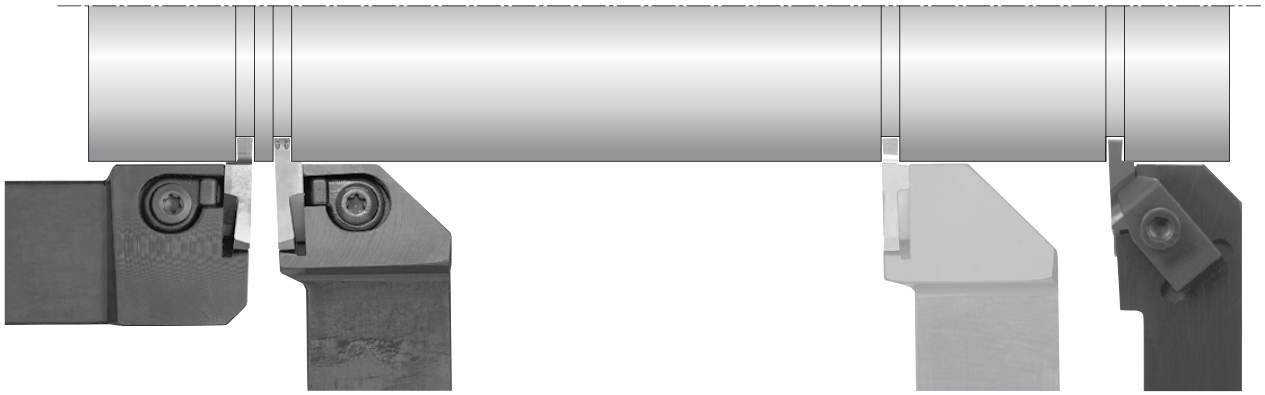
GM General Purpose

PH High Feed Rate

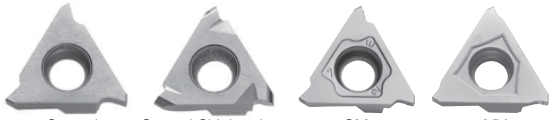
CM Copying

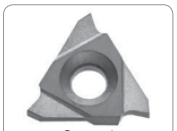
External Grooving (G6~G14, G26~G32)

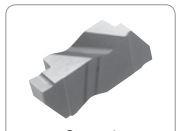
Shallow Grooving [Grooving Depth : ~0.197" (5mm)]



Type	KGBAS	KGBA	KTG	KKC
Edge Width	0.031" ~ 0.189" (0.33mm ~ 4.80mm)	0.031" ~ 0.189" (0.33mm ~ 4.80mm)	0.030" ~ 0.177" (0.75mm ~ 4.50mm)	0.031" ~ 0.250"
Grooving Depth	0.032" ~ 0.197" (0.80mm ~ 5.00mm)	0.032" ~ 0.197" (0.80mm ~ 5.00mm)	0.079" ~ 0.197" 2.00mm ~ 5.00mm)	0.050" ~ 0.250"
Ref. Page	G11	G11	G14	G31



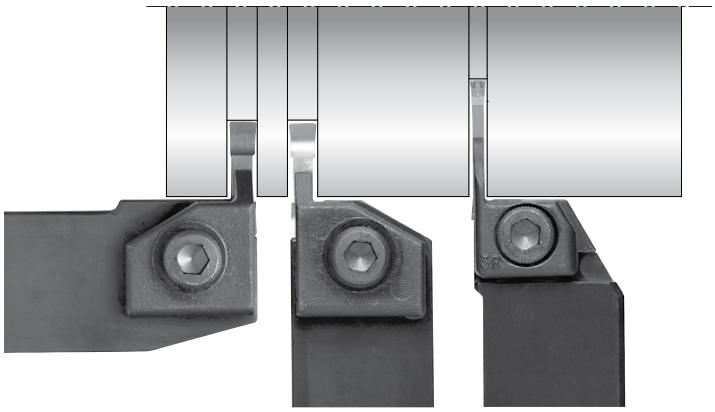




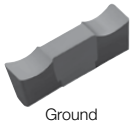
Edge Shape	General (Square)	Full-R (Round)	GM Chipbreaker	MY Chipbreaker
				

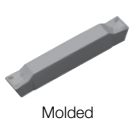
* KTG will be phased out and switched to KGBA

Deep Grooving [Grooving Depth : ~0.984" (25mm)]



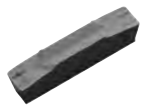
Type	KGHS	KGH	KGA
Edge Width	0.157" ~ 0.315" (4.00mm ~ 8.00mm)	0.157" ~ 0.472" (4.00mm ~ 12.00mm)	0.118" ~ 0.197" (3.00mm ~ 5.00mm)
Grooving Depth	0.512" (13.00mm)	0.512" ~ 0.669" (13.00mm ~ 17.00mm)	0.787" ~ 0.984" (20.00mm ~ 25.00mm)
Ref. Page	G40	G40	G41



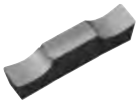


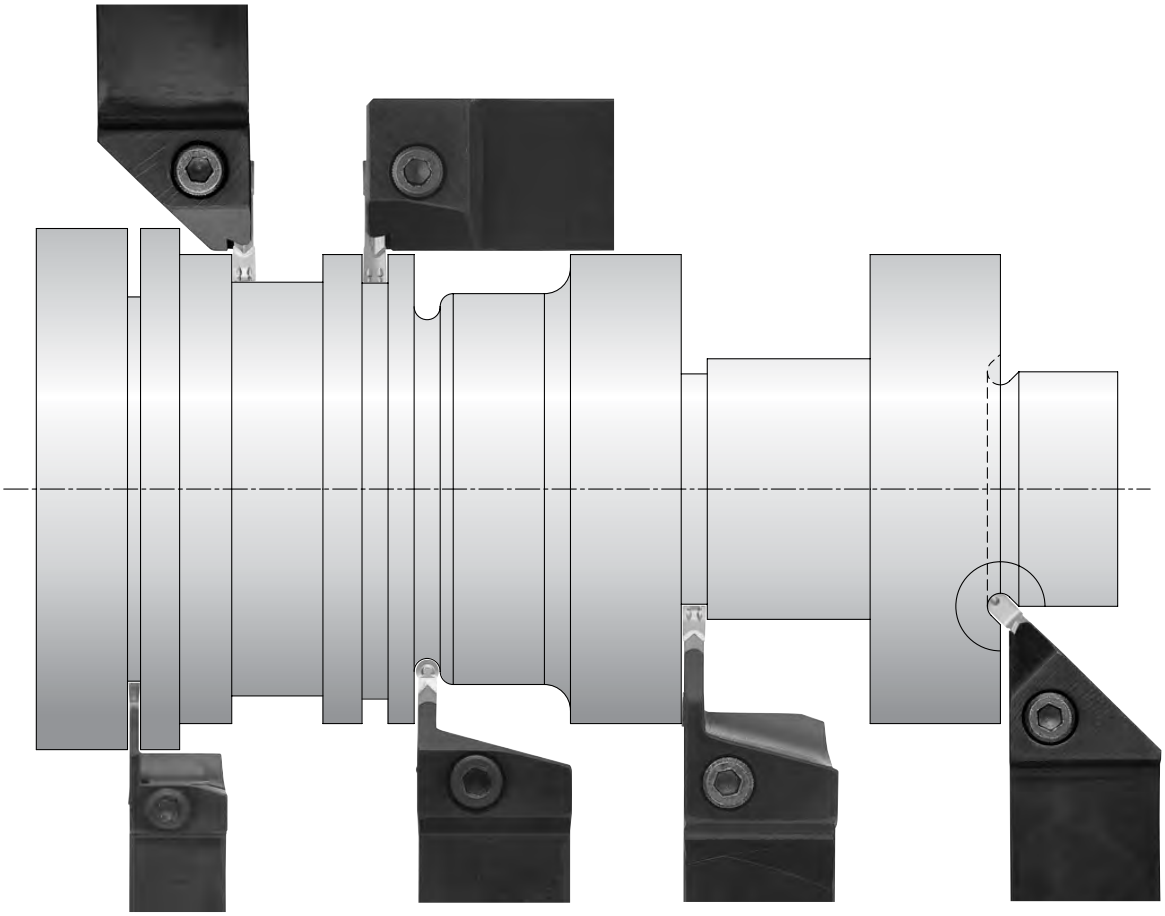
KGM Grooving (External Grooving & Turning) (G32~G39)

Type	KGMM	KGMS
Edge Width	0.118" ~ 0.197" (3.00mm ~ 5.00mm)	0.118" ~ 0.197" (3.00mm ~ 5.00mm)
Grooving Depth	0.189" (4.80mm)	0.189" (4.80mm)
Ref. Page	G38	G38

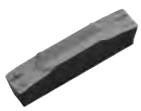

Molded Chipbreaker


Molded Chipbreaker Full-R

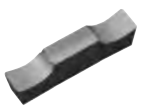

Ground Chipbreaker



Type	KGM	KGM	KGM-T	KGMU
Edge Width	0.079" ~ 0.118" (1.50mm ~ 4.00mm)	0.118" ~ 0.157" (3.00mm ~ 8.00mm)	0.079" ~ 0.236" (2.00mm ~ 6.00mm)	0.118" ~ 0.197" (3.00mm ~ 5.00mm)
Grooving Depth	0.394" ~ 0.492" (10.00mm ~ 16.00mm)	0.354" (9.00mm ~ 25.00mm)	0.669" ~ 1.181" (17.00mm ~ 30.00mm)	0.138" ~ 0.177" (3.50mm ~ 4.50mm)
Ref. Page	G36	G36	G37	G39


Molded Chipbreaker


Molded Chipbreaker Full-R


Ground Chipbreaker


Deep Grooving / Cut-off


Molded Chipbreaker Full-R

External Grooving of Precision Parts (G12, G13, G19, G36)

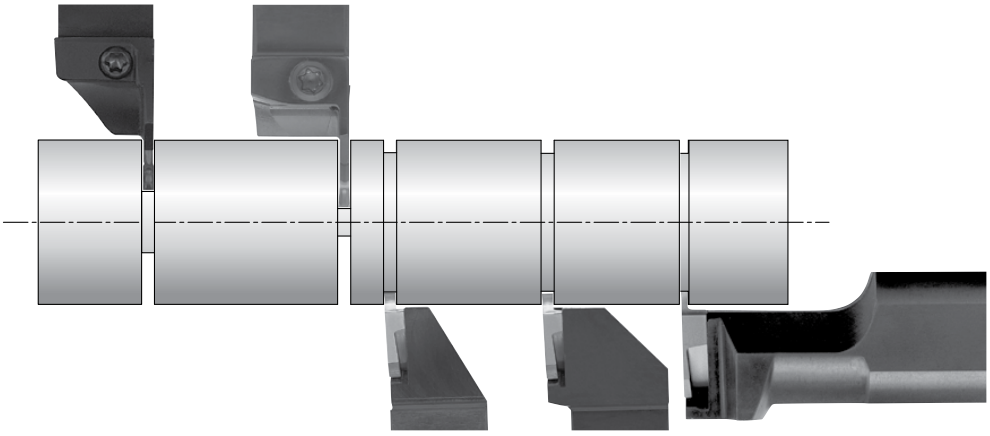
For Automatic Lathe

Type	KGD
Edge Width	0.079" ~ 0.157" (2.00mm ~ 4.00mm)
Grooving Depth	0.394" ~ 0.827" (10.00mm ~ 21.00mm)
Ref. Page	G19

Type	KGM
Edge Width	0.079" ~ 0.118" (1.50mm ~ 4.00mm)
Grooving Depth	0.394" ~ 0.492" (10.00mm ~ 16.00mm)
Ref. Page	G36

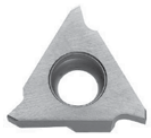
Molded Chipbreaker

Ground Chipbreaker



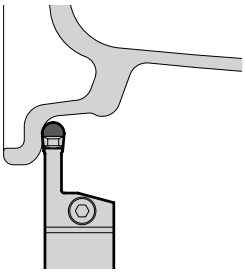
Type	KTGF-F	KTGF
Edge Width	0.013" ~ 0.098" (0.33mm ~ 2.50mm)	
Grooving Depth	0.032" ~ 0.098" (0.80mm ~ 2.50mm)	
Ref. Page	G12	

S-KTGF
0.013" ~ 0.098" (0.33mm ~ 2.50mm)
0.032" ~ 0.098" (0.80mm ~ 2.50mm)
G13



Ground Chipbreaker

For Aluminum Wheel External Grooving (External / Facing / Copying) (G44)



Type	KGMW
Edge Width	0.236" ~ 0.315" (6.00mm ~ 8.00mm)
Grooving Depth	0.984" (25.00mm)
Ref. Page	G44

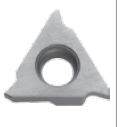
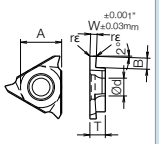
1-edge PCD

GBA Inserts (Inch)

Part Number	A	T	Ød
	(in)		
GBA32_	0.375	0.125	0.173
GBA43_	0.500	0.187	0.217
GBA43R480	0.500	0.197	0.217

P	Carbon Steel / Alloy Steel	●	◔
M	Stainless Steel		●
K	Cast Iron		
N	Non-ferrous Metals		
S	Titanium Alloy		●
H	Hard materials (≤40HRC)		●
	Hard materials (≥40HRC)		

Classification of Usage
◕ : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Unit	Dimensions (in) W	B	rε	MEGACOAT Cermet PV7040	MEGA COAT PR1215	Applicable Toolholders	Ref. Page for Toolholder
 	GBA32R 031N	-	inch	0.031	0.079	0.002	●	●	KGBAR…3 KGBAR…16 KGBASR…16	G11 G62 (Internal)
	041N	-		0.041	0.079	0.002	●	●		
	047N	-		0.047	0.079	0.008	●	●		
	058N	-		0.058	0.079	0.008	●	●		
	062N	-		0.062	0.079	0.008	●	●		
	078N	-		0.078	0.098	0.008	●	●		
	094N	-		0.094	0.098	0.008	●	●		
	GBA43R 031N	-	inch	0.031	0.079	0.008	●	●	KGBAR…4-15 KGBAR…22-15 KGBASR…22-15	
	047N	-		0.047	0.079	0.008	●	●		
	062N	-		0.062	0.138	0.008	●	●		
	072N	-		0.072	0.138	0.008	●	●		
	078N	-		0.078	0.138	0.008	●	●		
	088N	-		0.088	0.138	0.008	●	●		
	094N	-		0.094	0.157	0.012	●	●	KGBAR…4-25 KGBAR…22-25 KGBASR…22-25 KGBAR…22-25T5 KGBASR…22-25T5	
	097N	-		0.097	0.157	0.012	●	●		
	105N	-		0.105	0.157	0.012	●	●		
	109N	-		0.109	0.157	0.012		●		
	110N	-		0.110	0.157	0.012	●	●		
	125N	-		0.125	0.157	0.012	●	●		
	141N	-		0.141	0.197	0.012		●	KGBAR…4-35 KGBAR…22-35 KGBASR…22-35	
	142N	-		0.142	0.197	0.012	●	●		
	156N	-		0.156	0.197	0.016	●	●		
	172N	-		0.172	0.197	0.016		●		
	178N	-		0.178	0.197	0.016	●	●		
	188N	-		0.188	0.197	0.016		●		

• Dimension B shows available grooving depth

Recommended Cutting Conditions ➔ G123

Inserts are sold in 5 piece boxes.

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

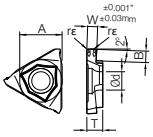
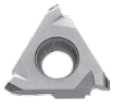
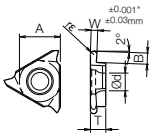
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

GBA Inserts (Inch)

Part Number	A (in)	T (in)	Ød (in)
GBA32_	0.375	0.125	0.173
GBA43_	0.500	0.187	0.217
GBA43R/L480	0.500	0.197	0.217

P	Carbon Steel / Alloy Steel	●	◔
M	Stainless Steel		●
K	Cast Iron		
N	Non-ferrous Metals		
S	Titanium Alloy		●
H	Hard materials (≤40HRC)		●
	Hard materials (≥40HRC)		

Classification of Usage
◔ : Light Interruption / 1st Choice
◷ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Unit	Dimensions (in) W	B	rε	MEGACOAT Cermet PV7040	MEGA COAT PR1215	Applicable Toolholders	Ref. Page for Toolholder
 Molded Chipbreaker MY Chipbreaker  	GBA43R/L 078MYN	-	inch	0.078	0.138	0.008		●	KGBAR/L…4-15 KGBAR/L…22-15 KGBASR/L…22-15	G11 G62 (Internal)
	094MYN	-		0.094	0.157	0.012		●	KGBAR/L…4-25 KGBAR/L…22-25 KGBASR/L…22-25 KGBAR/L…22-25T5 KGBASR/L…22-25T5	
	125MYN	-		0.125	0.157	0.012		●		
	156MYN	-		0.156	0.197	0.016		●	KGBAR/L…4-35 KGBAR/L…22-35 KGBASR/L…22-35	
 Full-R (Round)  	GBA32R 031R	-	inch	0.062	0.079	0.031		●	KGBAR/L…3 KGBAR/L…16 KGBASR/L…16	
	047R	-		0.094	0.098	0.047		●		
	GBA43R/L 031R	-	inch	0.062	0.138	0.031		●	KGBAR/L…4-15 KGBAR/L…22-15 KGBASR/L…22-15	
	047R	-		0.094	0.157	0.047		●	KGBAR/L…4-25 KGBAR/L…22-25 KGBASR/L…22-25 KGBAR/L…22-25T5 KGBASR/L…22-25T5	
	062R	-		0.125	0.157	0.062		●		
	078R	-		0.156	0.197	0.078		●	KGBAR/L…4-35 KGBAR/L…22-35 KGBASR/L…22-35	
	094R	-		0.188	0.197	0.094		●		

• Dimension B shows available grooving depth

Recommended Cutting Conditions ➔ G123

Inserts are sold in 5 piece boxes.

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

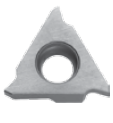
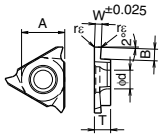
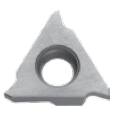
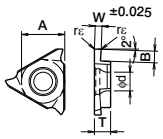
GBA Inserts (Metric)

(mm)

Part Number	A	T	Ød
GBA32_	9.525	3.18	4.4
GBA43_	12.700	4.76	5.5
GBA43R/L480	12.700	5.00	5.5

		PV7040	TC40	TN90	TN6020	PR1215	PR1115	PR905	PR930	KW10
P	Carbon Steel / Alloy Steel	●				●	◔		◔	
M	Stainless Steel					●	◕		◔	
K	Cast Iron							◕		◔
N	Non-ferrous Metals									◕
S	Titanium Alloy									◕
H	Hard materials (≤40HRC)					●	○		○	
	Hard materials (≥40HRC)									

Classification of Usage
◕ : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Dimensions (mm) W	B	rε	*MC	Cermet			MEGA COAT	PVD Coated Carbide				Carbide	Applicable Toolholders	Ref. Page for Toolholder
 	GBA32R/L 033-005 ※1	-	0.33	0.8	0.05						○	○				KGBAR/L…16 KGBASR/L…16 KIGBAR/L…16 (Internal)	G11 G62 (Internal)
	050-005 ※2	GBA32R/L 050 ※2	0.50	1.0	0.05			○		●	○	○	●	○			
	050-005 ※2	-	0.50	1.2	0.05			○		●	○	○	●	○			
	075-005	GBA32R/L 075	0.75	2.0	0.05	○		○		●	○	○	●	○			
	095-005	095	0.95	2.0	0.05			○		●	○	○	●	○			
	100-005	100	1.00	2.0	0.05	○		○		●	●	○	●	○			
	110-005	110	1.10	2.0	0.05						○	○					
	120-005	120	1.20	2.0	0.05					●	○	○					
	125-020	125	1.25	2.0	0.20	○		○		Ⓡ	○	○	●	○			
	130-020	130	1.30	2.0	0.20					●	○	○					
	140-020	140	1.40	2.5	0.20					●	○	○					
	145-020	145	1.45	2.0	0.20			○		●	○	○	Ⓛ	○			
	145-020	-	1.45	2.5	0.20			○		●	○	○	Ⓛ	○			
	150-020	GBA32R/L 150	1.50	2.0	0.20	○		○		●	○	○	●	○			
	150-020	-	1.50	2.5	0.20	○		○		●	○	○	●	○			
	160-020	GBA32R/L 160	1.60	2.5	0.20					●	○	○					
	170-020	170	1.70	2.5	0.20					●	○	○					
	175-020	GBA32R/L 175	1.75	2.0	0.20			○		●	○	○	●	○			
	175-020	-	1.75	2.5	0.20			○		●	○	○	●	○			
	200-020	GBA32R/L 200	2.00	2.5	0.20	○		○		●	○	Ⓛ	●	○			
	225-020	225	2.25	2.5	0.20					●	○	○					
	250-020	250	2.50	2.5	0.20			○		●	○	○	●	○			
	300-020	300	3.00	2.5	0.20					●	○	○					
	GBA43R/L 125-010	-	1.25	2.0	0.10					●	Ⓛ					KGBAR/L…22-15 KGBASR/L…22-15 KIGBAR/L…22-15 (Internal)	
	125-020	GBA43R/L 125	1.25	2.0	0.20	○	○	○		●	○	○	●	○			
	140-020	140	1.40	3.5	0.20					●	○	○					
	145-020	145	1.45	2.0	0.20		○	○		●	○	○	○	○			
	145-020	-	1.45	3.5	0.20		○	○		●	○	○	○	○			
	150-010	-	1.50	3.5	0.10					●	○						
	150-020	GBA43R/L 150	1.50	3.5	0.20	○	○	○		●	Ⓛ	○	●	○			
	170-020	170	1.70	3.5	0.20					●	○	○					
	175-020	175	1.75	3.5	0.20		○	Ⓡ		●	○	○	Ⓛ	○			
	185-020	185	1.85	3.5	0.20		○	○		●	○	○	●	○			
	195-020	195	1.95	3.5	0.20						Ⓛ	○					
	200-010	-	2.00	3.5	0.10					●	○						
	200-020	GBA43R/L 200	2.00	3.5	0.20	○	Ⓡ	●		●	○	○	●	○			
	225-020	225	2.25	3.5	0.20					●	○	○					
	230-020	230	2.30	3.5	0.20		○	○		●	○	○	●	○			
	250-010	-	2.50	5.0	0.10					●	○					★1	
	250-030	GBA43R/L 250	2.50	4.0	0.30	○	○	○		●	Ⓡ	○	●	○		★2	
	250-030	-	2.50	5.0	0.30	○	○	○		●	Ⓡ	○	●	○		★1	
	265-030	GBA43R/L 265	2.65	4.0	0.30		○	○		●	○	○	●	○		★2	
	265-030	-	2.65	5.0	0.30		○	○		●	○	○	●	○		★1	
	280-030	GBA43R/L 280	2.80	4.0	0.30		○	○		●	●	○	Ⓛ	○		★2	
	280-030	-	2.80	5.0	0.30		○	○		●	●	○	Ⓛ	○		★1	
	300-010	-	3.00	5.0	0.10					●	○						
	300-030	GBA43R/L 300	3.00	4.0	0.30	○	○	○		●	Ⓡ	○	●	○		★2	
	300-030	-	3.00	5.0	0.30	○	○	○		●	Ⓡ	○	●	○		★1	
	325-030	GBA43R/L 325	3.25	5.0	0.30						Ⓡ	Ⓡ				★2	
	330-030	330	3.30	4.0	0.30		○	○		●	Ⓡ	○	●	○			
	330-030	-	3.30	5.0	0.30		○	○		●	Ⓡ	○	●	○		★1	
 	GBA43R/L 350-010	-	3.50	5.0	0.10					●	○					KGBAR/L…22-35 KGBASR/L…22-35 KIGBAR/L…22 (Internal)	
	350-030	GBA43R/L 350	3.50	5.0	0.30		○	○		●	○	○	●	○			
	400-010	-	4.00	5.0	0.10					●	○						
	400-040	GBA43R/L 400	4.00	5.0	0.40	○	○	○		●	○	○	●	○			
	430-040	430	4.30	5.0	0.40		○	Ⓡ		●	○	○	●	○			
	450-040	450	4.50	5.0	0.40		○	Ⓡ		●	○	○	●	○			
	480-040	480	4.80	5.0	0.40		○	Ⓡ		●	○	○	●	○			

- Dimension B shows available grooving depth.

※1 : The edge width tolerance of GBA32R/L 033-005 : $0.33^{+0.02}_{-0.03}$
※2 : The edge width tolerance of GBA32R/L 050-005 : $0.50^{+0.05}_{-0.00}$
*MC indicates MEGACOAT Cermet.

★1: KGBAR/L…22-25T5, KGBASR/L…22-25T5, KIGBAR/L…22
★2: KGBAR/L…22-25T5, KGBASR/L…22-25T5, KGBAR/L…22-25, KGBASR/L…22-25, KIGBAR/L…22

Recommended Cutting Conditions ➡ G123

Inserts are sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

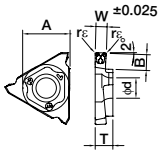
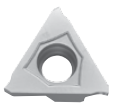
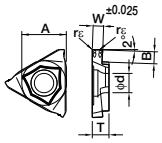
GBA Inserts (Metric)

(mm)

Part Number	A	T	Ød
GBA32_	9.525	3.18	4.4
GBA43_	12.70	4.76	5.5
GBA43R/L480	12.70	5.00	5.5

		NEW				
P	Carbon Steel / Alloy Steel	●	○	❶	㋑	㋑
M	Stainless Steel			●	❶	㋑
K	Cast Iron					
N	Non-ferrous Metals					
S	Titanium Alloy					
H	Hard materials (≤40HRC)			●	○	○
	Hard materials (≥40HRC)					

Classification of Usage
❶ : Light Interruption / 1st Choice
㋑ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Dimensions (mm) W	B	rε	Cermet TN620	Cermet TN6020	MEGA COAT PR1215	PVD Coated Carbide PR1115	PVD Coated Carbide PR930	Applicable Toolholders	Ref. Page for Toolholder
NEW  Molded Chipbreaker GM Chipbreaker  	GBA43R/L 140-010GM	-	1.40	3.5	0.10	○		○			KGBAR/L…22-15 KGBASR/L…22-15 KIGBAR/L…22 (Internal)	G11 G62 (Internal)
	150-020GM		1.50	3.5	0.20	○		Ⓡ				
	175-020GM		1.75	3.5	0.20	○		○				
	185-020GM		1.85	3.5	0.20	○		○				
	200-020GM		2.00	3.5	0.20	○		Ⓡ				
	230-020GM		2.30	3.5	0.20	○		Ⓛ				
	250-030GM		2.50	5.0	0.30	○		○			KGBAR/L…22-25T5 KGBASR/L…22-25T5 KIGBAR/L…22 (Internal)	
	265-030GM		2.65	5.0	0.30	○		○				
	300-030GM		3.00	5.0	0.30	○		○				
	330-030GM		3.30	5.0	0.30	○		○				
	350-030GM		3.50	5.0	0.30	○		○			KGBAR/L…22-35 KGBASR/L…22-35 KIGBAR/L…22 (Internal)	
	400-040GM		4.00	5.0	0.40	○		●				
 Molded Chipbreaker MY Chipbreaker  	GBA43R/L 175-020MY	GBA43R/L 175MY	1.75	3.5	0.20		○	●	○	○	KGBAR/L…22-15 KGBASR/L…22-15 KIGBAR/L…22 (Internal)	
	185-020MY	185MY	1.85	3.5	0.20		○	●	○	○		
	200-020MY	200MY	2.00	3.5	0.20		Ⓡ	●	Ⓡ	Ⓡ		
	230-020MY	230MY	2.30	3.5	0.20		○	●	Ⓛ	○		
	250-030MY	GBA43R/L 250MY	2.50	4.0	0.30		Ⓡ	●	○	Ⓡ	★2	
	250-030MY	-	2.50	5.0	0.30		Ⓡ	●	○	Ⓡ	★1	
	265-030MY	GBA43R/L 265MY	2.65	4.0	0.30		○	●	○	○	★2	
	265-030MY	-	2.65	5.0	0.30		○	●	○	○	★1	
	300-030MY	GBA43R/L 300MY	3.00	4.0	0.30		○	●	○	Ⓡ	★2	
	300-030MY	-	3.00	5.0	0.30		○	●	○	Ⓡ	★1	
	330-030MY	GBA43R/L 330MY	3.30	4.0	0.30		Ⓡ	●	○	Ⓡ	★2	
	330-030MY	-	3.30	5.0	0.30		Ⓡ	●	○	Ⓡ	★1	
	350-030MY	GBA43R/L 350MY	3.50	5.0	0.30		○	●	○	○	KGBAR/L…22-35 KGBASR/L…22-35 KIGBAR/L…22 (Internal)	
	400-040MY	400MY	4.00	5.0	0.40		○	●	Ⓛ	Ⓡ		

• Dimension B shows available grooving depth.
*MC stands for MEGACOAT Cermet.

Recommended Cutting Conditions G123

★1: KGBAR/L…22-25T5, KGBASR/L…22-25T5, KIGBAR/L…22
★2: KGBAR/L…22-25T5, KGBASR/L…22-25T5, KGBAR/L…22-25, KGBASR/L…22-25, KIGBAR/L…22

Rake Angle (α) after Installment of GBA-GM

α (°)	Insert Part Number
10°	GBA43R/L150-020GM
15°	GBA43R/L175-020GM ~ GBA43R/L265-030GM
12°	GBA43R/L300-030GM ~ GBA43R/L400-040GM

Rake Angle (α) after Installment of GBA-MY

α (°)	Insert Part Number
15°	GBA43R/L175-020MY ~ GBA43R/L350-030MY
14°	GBA43R/L400-040MY

Inserts are sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

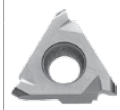
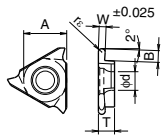
GBA Inserts (Metric)

(mm)

Part Number	A	T	Ød
GBA32_	9.525	3.18	4.4
GBA43_	12.700	4.76	5.5
GBA43R480	12.700	5.00	5.5

		NEW							
P	Carbon Steel / Alloy Steel	●	○		◕	◔		◔	
M	Stainless Steel				●	◕		◔	
K	Cast Iron						◕		◔
N	Non-ferrous Metals								◕
S	Titanium Alloy								◕
H	Hard materials (≤40HRC)				●	○		○	
	Hard materials (≥40HRC)								

Classification of Usage
◕ : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Dimensions (mm) W	B	rε	*MC PV7040	Cermet TN620	Cermet TN90	MEGA COAT PR1215	PVD Coated Carbide PR1115	PVD Coated Carbide PR905	PVD Coated Carbide PR930	Carbide KW10	Applicable Toolholders	Ref. Page for Toolholder
 Molded Chipbreaker	GBA32R 200-100R	-	2.00	2.5	1.00				Ⓡ	Ⓡ				KGBAR…16 KGBASL…16 KIGBAL…16 (Internal)	G11 G62 (Internal)
	300-150R	-	3.00	2.5	1.50				Ⓡ	Ⓡ					
Full-R (Round)	GBA43R 100-050R	GBA43R 050R	1.00	2.0	0.50	○			●	Ⓛ	○			KGBAR…22-15 KGBASR…22-15 KIGBAR…22 (Internal)	
	150-075R	075R	1.50	3.5	0.75	○			●	○	○				
	200-100R	100R	2.00	3.5	1.00	○			●	Ⓛ	○				
	250-125R	125R	2.50	4.0	1.25				●	○	○			KGBAR…22-25 KGBASR…22-25 KGBAR…22-25T5 KGBASR…22-25T5 KIGBAR…22 (Internal)	
	300-150R	150R	3.00	4.0	1.50			○	●	Ⓡ	○	Ⓡ	○		
	400-200R	200R	4.00	5.0	2.00				●	○	○			KGBAR…22-35 KGBASR…22-35 KIGBAR…22 (Internal)	

• Dimension B shows available grooving depth.
*MC stands for MEGACOAT Cermet.

Recommended Cutting Conditions ➡ G123

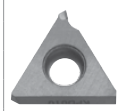
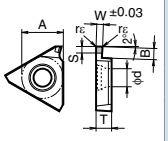
GBA Inserts (Metric)

(mm)

Part Number	A	T	Ød
GBA32_	9.525	3.18	4.4
GBA43_	12.700	4.76	5.5
GBA43R480	12.700	5.00	5.5

P	Carbon Steel / Alloy Steel				
M	Stainless Steel			●	
K	Cast Iron				
N	Non-ferrous Metals			●	
S	Titanium Alloy				
H	Hard materials (≤40HRC)				
	Hard materials (≥40HRC)	○	●		

Classification of Usage
◕ : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Dimensions (mm) W	B	rε	CBN KBN510	CBN KBN525	PCD KPD001	PCD KPD010	Applicable Toolholders	Ref. Page for Toolholder
 1-Edge	GBA32R 125-010	GBA32R 125	1.25	2.0	0.1				Ⓡ	KGBAR…16 KGBASL…16 KIGBAL…16 (Internal)	G11 G62 (Internal)
 GBA32 S=1.7 GBA43 S=1.9	150-010	150	1.50	2.0	0.1			Ⓡ	Ⓡ		
	GBA43R 125-010	GBA43R 125	1.25	2.0	0.1		Ⓡ		○	KGBAR…22-15 KGBASR…22-15 KIGBAR…22 (Internal)	
	125-020	125	1.25	2.0	0.2	○	○				
	150-010	150	1.50	3.5	0.1		Ⓛ	○	○		
	150-020	150	1.50	3.5	0.2	Ⓛ	○				
	200-010	200	2.00	3.5	0.1			Ⓛ	○		
	200-020	200	2.00	3.5	0.2	Ⓛ	○				
	300-020	300	3.00	4.0	0.2		Ⓡ			KGBAR…22-25 KGBASR…22-25 KGBAR…22-25T5 KGBASR…22-25T5 KIGBAR…22 (Internal)	

• Dimension B shows available grooving depth

Recommended Cutting Conditions ➡ G123

GBA type applicable for KGBA / KGBAS type toolholders is also usable for KGB / KGBS type toolholders.

Rake Angle (α) after Installment of GBA

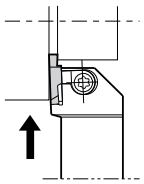
GBA32R○○○-○○○		GBA43R○○○-○○○		GBA43R○○○-○○○R (Full-R)		
α (°)	Insert Grade	α (°)	Insert Grade	α (°)	Insert Grade	Full-R
10°	TN90,PV7040,PR930 PR1115,PR1215,PR905 KPD001,KPD010	0°	KBN510, KBN525	10°	TN90,PV7040,PR930 PR1115,PR1215,PR905	050R~150R
		10°	TC40,TN90,PV7040,PR930 PR1115,PR1215,PR905 KPD001, KPD010	14°	TN90,PV7040,PR930 PR1115,PR1215,PR905	200R
20°	KW10	20°	KW10	14°	KW10	050R~200R

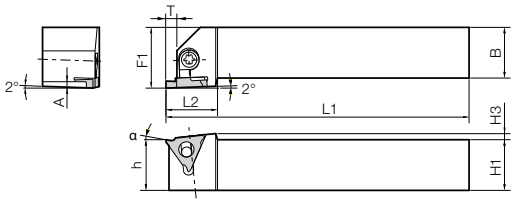
For GM Chipbreaker and MY Chipbreaker, see page ➡ G9

Inserts are sold in 10 piece boxes. *CBN & PCD Inserts are sold in 1 piece boxes.*

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

KGBA





• Right-hand shown

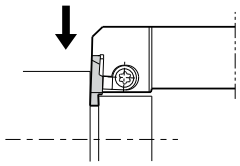
• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

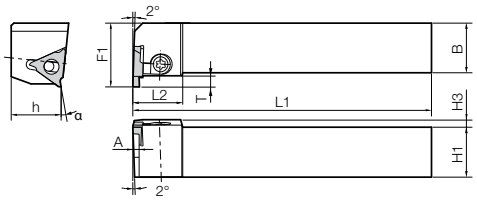
Alternative Toolholder Reference Table

KGBA ←	(KGB)
KGBA□□…22-15	KGB□□…22-15
KGBA□□…22-25	KGB□□…22-25
KGBA□□…22-35	KGB□□…22-35
KGBA□□…22-25T5	KGB□□…22-25 (Available grooving depth has a limit)

· Short shank type is not available for KGB / KGBS.

KGBAS





• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Alternative Toolholder Reference Table

KGBAS ←	(KGBS)
KGBAS□□…22-15	KGBS□□…22-15
KGBAS□□…22-25	KGBS□□…22-25
KGBAS□□…22-35	KGBS□□…22-35
KGBAS□□…22-25T5	KGBS□□…22-25 (Available grooving depth has a limit)

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	H3	B	L1	L2	F1	A	T	Spare Parts: Clamp Set	Spare Parts: Wrench	Applicable Insert ➡ G6~G10
KGBA□□	12-3	●	●	inch	0.750	0.160	0.750	5.000	0.945	1.000	-	0.098	LGBA-16□□S	FT-15	GBA32□□ Type
	16-3	●	●		1.000	0.160	1.000	6.000	0.945	1.250	-	0.098			
	12-4-15	●	●		0.750	0.160	0.750	5.000	1.004	1.000	0.039	0.157	LGBA-22□□S	FT-15	GBA43□□ Type
	16-4-15	●	●		1.000	0.160	1.000	6.000	1.004	1.250	0.039	0.157			
	12-4-25	●	●		0.750	0.160	0.750	5.000	1.004	1.000	0.079	0.177			
	12-4-25T	□	□		0.750	0.160	0.750	5.000	1.004	1.000	0.079	0.217			
	16-4-25T	□	□		1.000	0.160	1.000	6.000	1.004	1.250	0.079	0.177			
	12-4-35	●	●		0.750	0.160	0.750	5.000	1.004	1.000	0.118	0.217			
	16-4-35	●	●		1.000	0.160	1.000	6.000	1.004	1.250	0.079	0.217			
KGBA□□	2020K-16	○	○	mm	20	4.0	20	125	24.0	25	-	2.5	LGBA-16□□S	FT-15	GBA32□□ Type
	2525M-16	○	○		25	4.0	25	150	24.0	30	-	2.5			
	2020K22-15	○	○		20	4.0	20	125	25.5	25	1.0	4.0	LGBA-22□□S	FT-15	GBA43□□ Type
	2525M22-15	●	○		25	4.0	25	150	25.5	30	1.0	4.0			
	2020K22-25	○	○		20	4.0	20	125	25.5	25	2.0	4.5			
	2525M22-25	○	○		25	4.0	25	150	25.5	30	2.0	4.5			
	2020K22-25T5	○	○		20	4.0	20	125	25.5	25	2.0	5.5			
	2525M22-25T5	○	○		25	4.0	25	150	25.5	30	2.0	5.5			
	2020K22-35	○	○		20	4.0	20	125	25.5	25	3.0	5.5			
	2525M22-35	○	○		25	4.0	25	150	25.5	30	3.0	5.5			
	2020H22-15*	○			20	4.0	20	100	25.5	25	1.0	4.0			
	2020H22-25*	○			20	4.0	20	100	25.5	25	2.0	4.5			
	2020H22-35*	○			20	4.0	20	100	25.5	25	3.0	5.5			
KGBAS□□	12-3	●		inch	0.750	0.152	0.750	5.000	0.984	0.984	-	0.098	LGBA-16LS	FT-15	GBA32L Type
	16-3	●			1.000	0.172	1.000	6.000	0.984	1.181	-	0.098			
	12-4-15	●			0.750	0.160	0.750	5.000	0.984	1.062	0.039	0.157	LGBA-22LS	FT-15	GBA43L Type
	16-4-15	●			1.000	0.180	1.000	6.000	0.984	1.260	0.039	0.157			
	12-4-25	●			0.750	0.160	0.750	5.000	0.984	1.062	0.079	0.177			
	16-4-25	●			1.000	0.197	1.000	6.000	0.984	1.250	0.079	0.177			
	12-4-35	●			0.750	0.160	0.750	5.000	0.984	1.062	0.118	0.217			
	16-4-35	●			1.000	0.180	1.000	6.000	0.984	1.260	0.118	0.217			
KGBAS□□	2020K-16	○	○	mm	20	4.0	20	125	25	25	-	2.5	LGBA-16□□S	FT-15	GBA32□□ Type
	2525M-16	○	○		25	4.5	25	150	25	30	-	2.5			
	2020K22-15	○	○		20	4.5	20	125	25	27	1.0	4.0	LGBA-22□□S	FT-15	GBA43□□ Type
	2525M22-15	○	○		25	5.0	25	150	25	32	1.0	4.0			
	2020K22-25	○	○		20	4.5	20	125	25	27	2.0	4.5			
	2525M22-25	○	○		25	5.0	25	150	25	32	2.0	4.5			
	2020K22-25T5	○	○		20	4.5	20	125	25	27	2.0	5.5			
	2525M22-25T5	○	○		25	5.0	25	150	25	32	2.0	5.5			
	2020K22-35	○	○		20	4.5	20	125	25	27	3.0	5.5			
	2525M22-35	○	○		25	5.0	25	150	25	32	3.0	5.5			

• Dimension T shows the distance from the Toolholder to the cutting edge Reference dimension B in applicable insert table for available grooving depth.

* mark indicates short shank type

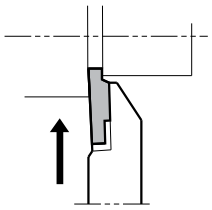
• Clamp Set : KGBA□□…LGBA-○○RS for Right-hand Toolholder, and LGBA-○○LS for Left-hand Toolholder.
KGBAS□□…LGBA-○○LS for Right-hand Toolholder, and LGBA-○○RS for Left-hand Toolholder.

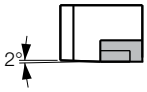
External Grooving Toolholders KGBA Short Shank Types Are Available

For NC lathe and HSK tooling, KGBAR2020K-○○ (Overall length 125mm) short shank type KGBAR2020H22-○○ (Overall length 100mm) is available., meaning it is no longer necessary for users to cut-down the shank.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only) □ : Made to Order
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

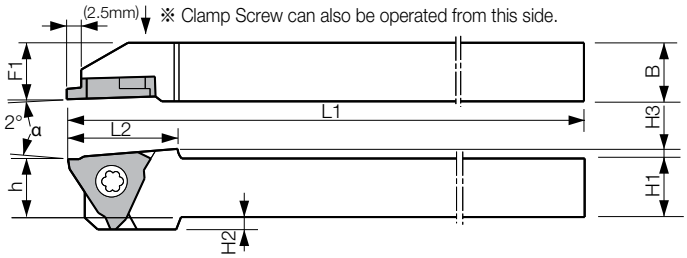
KTGF-F (Without Offset)





α (°)	Insert Grade
20°	PR1115, PR1215 PR930, KW10
11°	KPD001
6°	TC40

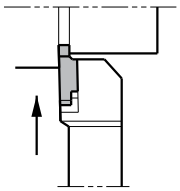
• Right-hand shown

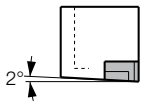


• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

KTGF (With Offset)

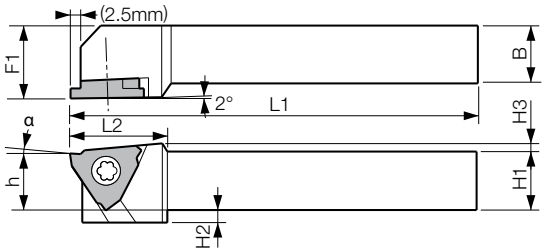
· Short shank type is not available for KGB / KGBS.





α (°)	Insert Grade
20°	PR1115, PR1215 PR930, KW10
11°	KPD001
6°	TC40

• Right-hand shown



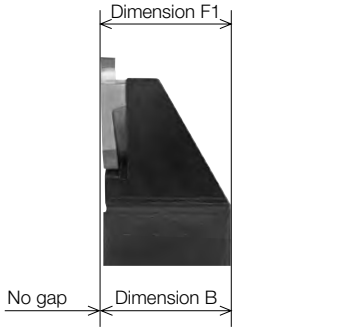
• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

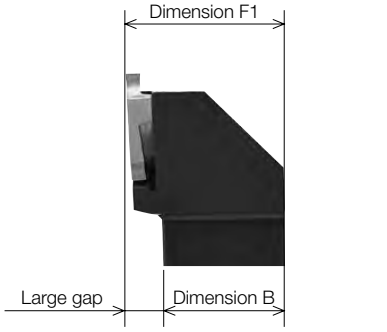
Part Number		Stock R	Stock L	Unit	Dimensions H1=h	H2	H3	B	L1	L2	F1	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts G13
KTGF□	6-3JXF	●	●	inch	0.375	0.079	0.098	0.375	4.750	0.728	0.383	SB-4070TRW	FT-8	TGF32□
	8-3JXF	●	●		0.500	-	0.098	0.098	4.750	0.728	0.500			
	10-3JXF	●	●		0.625	-	0.098	-	4.750	0.728	0.098			
KTGF□	1010JX-16F	○	○	mm	10	2	2.5	10	120	18.5	10	SB-4070TRW	FT-8	
	1212JX-16F	○	○		12	-	2.5	12	120	18.5	12			
	1616JX-16F	○	○		16	-	2.5	16	120	18.5	16			
KTGF□	1212F-16F	○			12	-	2.5	12	85	18.5	12	SB-4070TRW	FT-8	
KTGF□	1010F-16	○	○		10	4	2.5	10	80	18.5	12	SB-4070TRS	FT-10	
	1212H-16	○	○		12	2	2.5	12	100	18.5	16			
	1616H-16	○	○		16	-	2.5	16	100	18.5	20			
	2020K-16	○	○		20	-	2.5	20	125	20.0	25			
	2525M-16	○	○		25	-	2.5	25	150	20.0	32			

Usage Difference Between KTGF-F and KTGF Toolholders

It is necessary to use "Without Offset" in operating the automatic lathe.

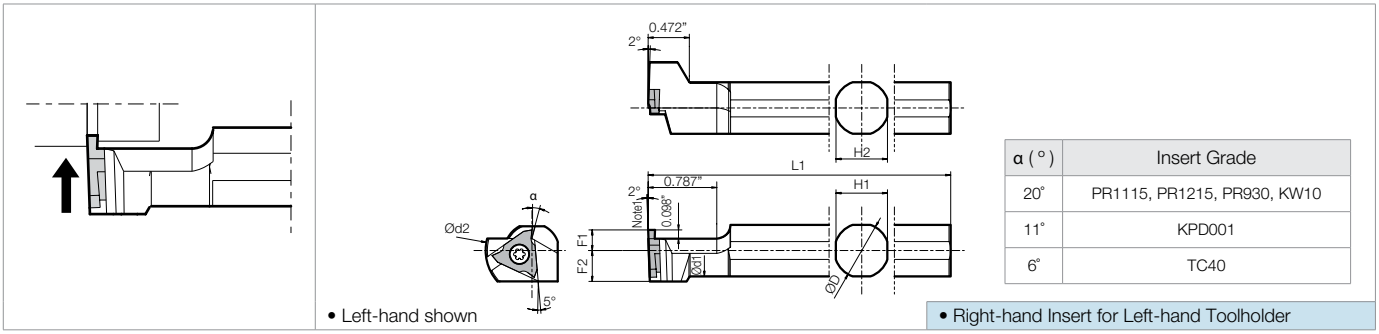


KTGF-F (without offset type)



KTGF (with offset type)

S-KTGF (Sleeve Holder)



α (°)	Insert Grade
20°	PR1115, PR1215, PR930, KW10
11°	KPD001
6°	TC40

• Left-hand shown

• Right-hand Insert for Left-hand Toolholder

Note1) Reference dimension B in applicable insert table for available grooving depth. available grooving depth

Toolholder Dimensions

Part Number	Stock	Unit	Dimensions							Spare Parts		Applicable Inserts Below
			ØD	L1	F1	F2	Ød1	Ød2	H1=H2	Clamp Screw	Wrench	
S12F-KTGFL16	○	mm	12.0	80	6	9.0	11.0	27	11	SB-4070TRS	FT-10	TGF32□
S14H-KTGFL16	○		14.0	100	6	9.0	13.0	27	13			
S15F-KTGFL16	●	inch	0.625	3.35	0.236	0.354	0.575	1.063	0.591			
S16F-KTGFL16	○	mm	16.0	85	6	9.0	14.6	27	15			
S19G-KTGFL16	●	inch	0.750	3.54	0.236	0.413	0.693	1.063	0.669			
S19K-KTGFL16	○		0.750	4.73	0.236	0.413	0.693	1.063	0.669			
S20G-KTGFL16	○	mm	20.0	90	6	11.0	18.6	27	18			
S20K-KTGFL16	○		20.0	120	6	11.0	18.6	27	18			
S25.0H-KTGFL16	○		25.0	100	10	14.0	23.6	32	23			
S25K-KTGFL16	●	inch	1.000	4.73	3.940	0.551	0.929	1.260	0.906			

Applicable Inserts

P	Carbon Steel / Alloy Steel		●	◔	◔		
M	Stainless Steel		●	◔	●		
K	Cast Iron					●	
N	Non-ferrous Metals					●	●
S	Titanium Alloy					●	●
H	Hard materials (≤40HRC)		●	○	○		
	Hard materials (≥40HRC)						

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

(in)

Part Number	A	T	Ød
TGF32_	0.375	0.125	0.177

Insert (Right-handed Insert Shown)	Part Number	Unit	Dimensions W	B	rε	Cermet TC40	MEGA COAT PR1215	PVD Coated Carbide PR930	PVD Coated Carbide PR1115	Carbide KW10	PCD KPD001	Applicable Toolholders	Ref. Page for Toolholder
General (Square) (Corner is C Shape) TGF32□○○○	TGF32□ 031N	inch	0.031	0.078	0.004		●					KTGF□...16F KTGF□...16 S...KTGFL16	G12 G13
	041N		0.041	0.078	0.004		●						
	047N		0.047	0.078	0.004		●						
	058N		0.058	0.078	0.004		●						
	062N		0.062	0.078	0.004		●						
	078N		0.078	0.098	0.004		●						
	094N		0.094	0.098	0.004		●						
	TGF32□ 033-005	mm	0.33	0.8	0.05		Ⓡ	Ⓡ	Ⓡ				
	050-005		0.50	1.2	0.05	Ⓡ	○	○	Ⓛ	Ⓡ			
	075-010		0.75	2.0	0.10	Ⓡ	○	○	Ⓛ	Ⓡ			
	095-010		0.95	2.0	0.10	Ⓡ	○	○	Ⓛ	Ⓡ			
	100-010		1.00	2.0	0.10	Ⓡ	○	○	Ⓛ	Ⓡ			
	120-010		1.20	2.0	0.10		○						
	125-010		1.25	2.0	0.10	Ⓡ	○	○	Ⓛ	Ⓡ	Ⓡ		
	140-010		1.40	2.0	0.10		○						
	145-010		1.45	2.0	0.10	Ⓡ	○	○	Ⓛ	Ⓡ			
	150-010		1.50	2.0	0.10	Ⓡ	○	○	Ⓛ	Ⓡ	Ⓡ		
	175-010		1.75	2.0	0.10	Ⓡ	○	○	Ⓛ	Ⓡ			
	200-010		2.00	2.5	0.10	Ⓡ	○	○	Ⓛ	Ⓡ	Ⓡ		
	250-010		2.50	2.5	0.10	Ⓡ	○	○	Ⓛ	Ⓡ			
General (Square) (Corner is R Shape) TGF32□ ○○○-○○○	TGF32□ 125-010	inch	1.25	2.0	0.10	Ⓡ	○	○	Ⓛ	Ⓡ	Ⓡ		
1 Edge	150-010		1.50	2.0	0.10	Ⓡ	○	○	Ⓛ	Ⓡ	Ⓡ		
	200-010		2.00	2.5	0.10	Ⓡ	○	○	Ⓛ	Ⓡ	Ⓡ		

125~150 S=1.7mm
200 S=1.9mm

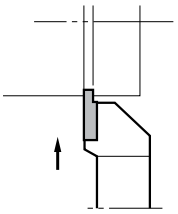
• Dimension B shows available grooving depth

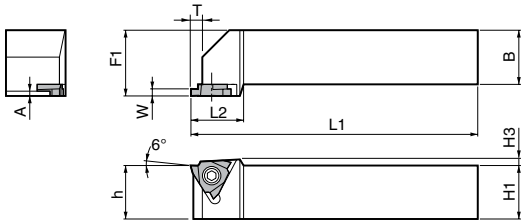
Recommended Cutting Conditions ➔ G124

Inserts are sold in 10 piece boxes. *CBN & PCD Tools are sold in 1 piece boxes.*

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

KTG (Will be phased out and switched to **KGBA** ➡ G11)





• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	H3	B	L1	L2	F1	A	T	Spare Parts: Clamp Screw		Spare Parts: Wrench	
KTG□	2020K-16	○	○	mm	20	3.0	20	125	20	25	-	2.5	SB-4TR	-	FT-15	-
	2525M-16	○	○		25	3.0	25	150	20	30	-	2.5				
	2020K22-15	○	○		20	3.0	20	125	25	25	1.0	4.0	-	GS-50	-	LW-3
	2525M22-15	○	○		25	3.0	25	150	25	30	1.0	4.0				
	2020K22-25	○	○		20	3.0	20	125	25	25	2.0	4.5				
	2525M22-25	○	○		25	3.0	25	150	25	30	2.0	4.5				
	2020K22-35	○	○		20	3.0	20	125	25	25	3.0	5.5				
	2525M22-35	○	○		25	3.0	25	150	25	30	3.0	5.5				

• Dimension T shows the distance from the Toolholder to the cutting edge. Reference dimension B in applicable insert table for available grooving depth.

* GBA Insert cannot be installed in this toolholder.

Applicable Inserts

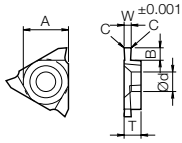
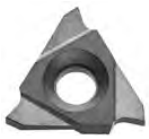
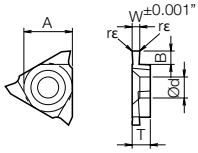
(TG insert will be phased out and switched to **GBA** ➡ G6~G10)

(mm)

Part Number	A	T	Ød
TG32_	9.525	3.18	4.5
TG43_	12.700	4.76	5.5

P	Carbon Steel / Alloy Steel	
M	Stainless Steel	
K	Cast Iron	
N	Non-ferrous Metals	
S	Titanium Alloy	
H	Hard materials (≤40HRC)	
	Hard materials (≥40HRC)	

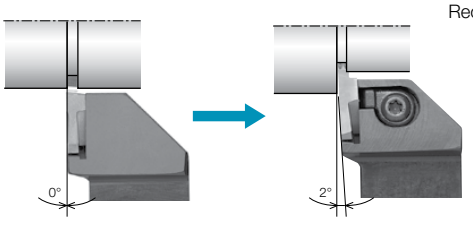
Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)		Part Number		Unit	Dimensions W	Dimensions B	Dimensions C or rε	Cermet TN60	Applicable Toolholders	Ref. Page for Toolholder
General (Square) (Corner is Chamfered) TG32 type	 (Corner is Chamfered)	TG32□	075	mm	0.75	2.0	C0.1	○	KTG□…16	➡ G14
			095		0.95	2.0		○		
			125		1.25	2.0		○		
			145		1.45	2.0		○		
			150		1.50	2.0		○		
			175		1.75	2.0		○		
			200		2.00	2.0		○		
 General (Square) (Corner is R shape) TG43 type		TG43□	150		1.50	3.5	0.2	○	KTG□…22-15	
			175		1.75	3.5		○		
			200		2.00	3.5		○		
			230		2.30	3.5		○		
			250		2.50	4.0	0.3	○	KTG□…22-25	➡ G14
			265		2.65	4.0		○		
			280		2.80	4.0		○		
			300		3.00	4.0		○		
			330		3.30	4.0		○		
			350		3.50	5.0	0.3	○	KTG□…22-35	
			400		4.00	5.0	0.4	○	KTG□…22-35	
			430		4.30	5.0		○		
			450		4.50	5.0		○		

• Dimension B: shows available grooving depth.

* KTG will be switched to KGBA.
Machining against the wall is available.
* For applicable insert, TG insert will be switched to GBA.
Change Insert Grade TN60 for TN90.
There are various types of GBA insert grades available depending on the user's cutting condition requirements.
* Check the corner-R(rε)of the insert when changing.

Recommended Cutting Conditions ➡ G124



Inserts are sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

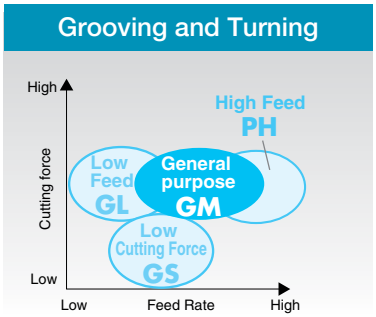
KGD Insert Lineup

Smooth Chip Control
Introducing new chipbreakers designed to cover a variety of workpiece materials.

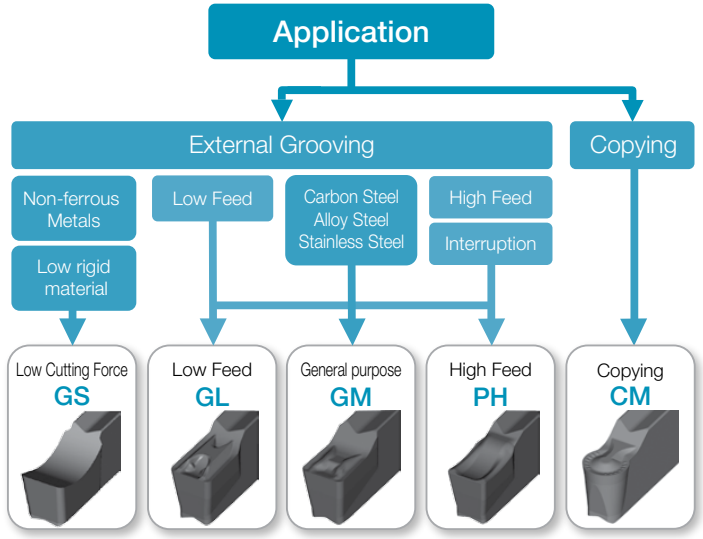
High Precision Edge Preparation
High precision molding technology with tolerance ±0.03mm (2, 3, 4mm types).

MEGACOAT Techology
Long tool life and high efficiency machining achieved by superior oxidation and wear resistance.

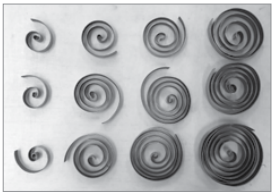
● Application Map



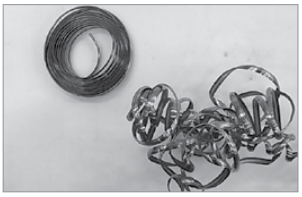
● Chipbreaker Selection



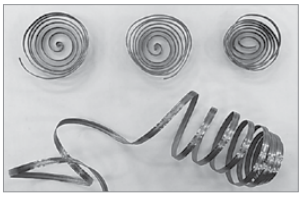
● Comparison of Chip Control - Structural Steel Vc = 490 sfm, f = 0.006 ipr



GM Chipbreaker



Competitor A

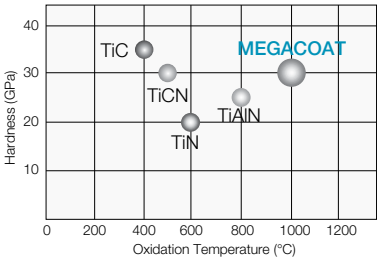


Competitor B

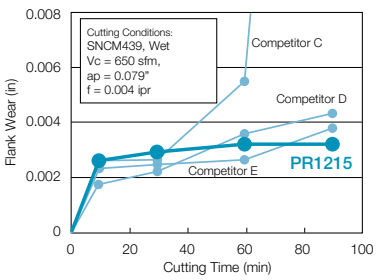
Better chip control than competitors

Reduces damage of cutting edge caused by crushing chips

● MEGACOAT Features



● Wear Resistance Comparison



PR1225
1st recommendation for cut-off, grooving, and traversing.

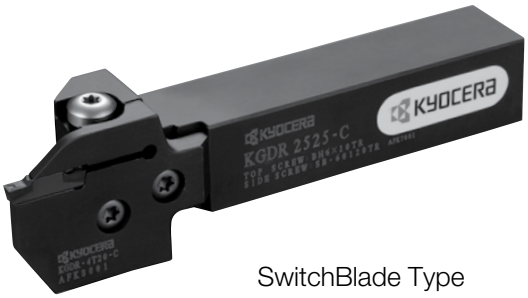
PR1215
Superior wear resistance, recommended for grooving and cut-off under stable conditions.

1st recommendation for machining of cast iron

KGD Toolholder

Integral Type and SwitchBlade Type (Toolholder + Blade) are available

Integral Type

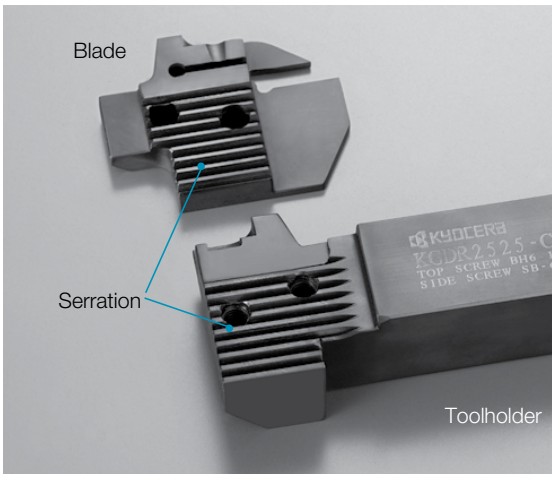


SwitchBlade Type

High Rigidity SwitchBlade Type Toolholder

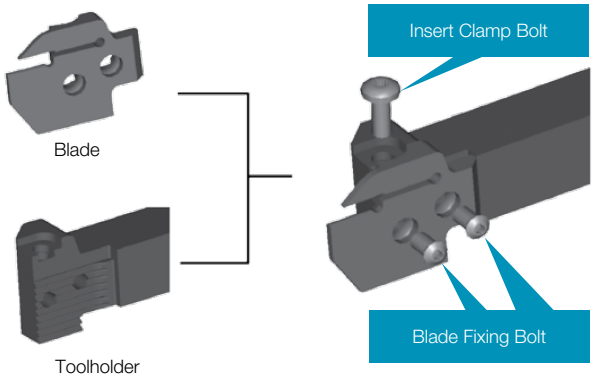
Adaptable to wide applications by changing blades

Deals with various edge widths and cutting depths by changing the blade and toolholder combination.
Even if the blade is broken, you only need to replace the broken part.



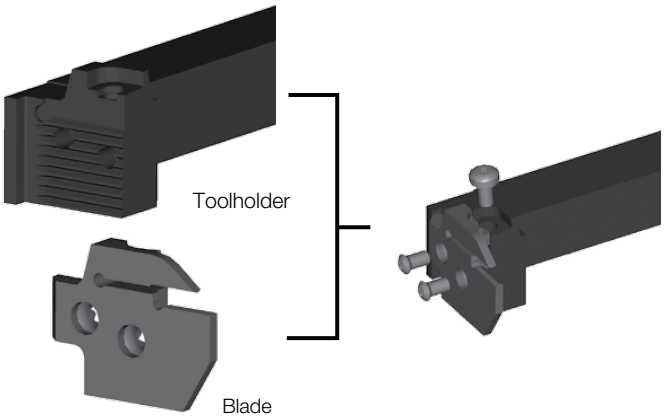
Structure of Toolholder Unit (Toolholder + Blade)

KGD-S (0°SwitchBlade Type)



*Note for the toolholder and blade combination of
0° SwitchBlade Type
Toolholder (KGDR/L ○○○○-C)
+
Blade (KGDR/L-○T○○-C)
➡Right-hand Blade for Right-hand Toolholder,
Left-hand Blade for Left-hand Toolholder.

KGDS-S (90°SwitchBlade Type)



*Note for the toolholder and blade combination of
90° SwitchBlade Type
Toolholder (KGDSR/L ○○○○-C)
+
Blade (KGDR/L ○T○○-C)
➡Left-hand Blade for Right-hand Toolholder,
Right-hand Blade for Left-hand Toolholder.

NEW ITEMS!

GDM / GDMS / GDG

Classification of Usage
- ● : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

				NEW			
P	Carbon Steel / Alloy Steel	●	○		●	◔	
M	Stainless Steel			●	◔	◔	
K	Cast Iron					●	
N	Non-ferrous Metals						●
S	Titanium Alloy			●			◔
H	Hard materials (≤40HRC)				○		
	Hard materials (≥40HRC)						

Insert (Right-handed Insert Shown)			Part Number		Dimensions (inch) W inch	W mm	W Tolerance	rε	M	L	H	Cermet TN620	Cermet TN90	MEGACOAT NANO PR1535	MEGA COAT PR1225	MEGA COAT PR1215	Carbide GW15	Ref. Page for Toolholder
Grooving & Traversing	General Purpose 2-edge		GDM	2420N-020GM	0.094	2.4	±0.0012	0.008	0.077	0.787	0.169	○	○	●	●	●		G19 ~ G24
				3020N-020GM	0.118	3.0		0.008	0.091	0.787	0.169	○	○	●	●	●		
				3020N-040GM	0.118	3.0		0.016	0.091	0.787	0.169	○	○	●	●	●		
				4020N-020GM	0.157	4.0		0.008	0.130	0.787	0.169	○	○	●	●	●		
				4020N-040GM	0.157	4.0		0.016	0.130	0.787	0.169	○	○	●	●	●		
				4020N-080GM	0.157	4.0		0.032	0.130	0.787	0.169	○	○	●	●	●		
				5020N-040GM	0.197	5.0	±0.0016	0.016	0.165	0.787	0.169	○	○	●	●	●		G20 ~ G24
				5020N-080GM	0.197	5.0		0.032	0.165	0.787	0.169	○	○	●	●	●		
				6020N-040GM	0.236	6.0		0.016	0.205	0.787	0.169	○	○	●	●	●		
				6020N-080GM	0.236	6.0		0.032	0.205	0.787	0.169	○	○	●	●	●		
				8030N-080GM	0.315	8.0	±0.0020	0.032	0.236	1.181	0.217			●	●	●		G20
	General Purpose 1-edge		GDMS	2220N-020GM	0.087	2.2	±0.0012	0.008	0.069	0.787	0.169	○	○	○	●	●		G19 ~ G24
				3020N-040GM	0.118	3.0		0.016	0.091	0.787	0.169	○	○	○	●	●		
				4020N-040GM	0.157	4.0		0.016	0.130	0.787	0.169	○	○	○	●	●		
				5020N-080GM	0.197	5.0	±0.0016	0.032	0.165	0.787	0.169	○	○	○	●	●		G20 ~ G24
				6020N-080GM	0.236	6.0		0.032	0.205	0.787	0.169	○	○	○	●	●		
	Low Feed 2-edge		GDM	2420N-020GL	0.094	2.4	±0.0012	0.008	0.077	0.787	0.169	○	○	●	●	●		G19 ~ G24
				3020N-020GL	0.118	3.0		0.008	0.091	0.787	0.169	○	○	●	●	●		
				3020N-040GL	0.118	3.0		0.016	0.091	0.787	0.169	○	○	●	●	●		
				4020N-020GL	0.157	4.0		0.008	0.130	0.787	0.169	○	○	●	●	●		
				4020N-040GL	0.157	4.0		0.016	0.130	0.787	0.169	○	○	●	●	●		
				5020N-040GL	0.197	5.0	±0.0016	0.016	0.165	0.787	0.169	○	○	●	●	●		G20 ~ G24
				6020N-040GL	0.236	6.0		0.016	0.205	0.787	0.169	○	○	●	●	●		
Grooving	Low Cutting Force 2-edge		GDG	2520N-020GS	0.098	2.5	±0.0008	0.008	0.079	0.787	0.169	○	○	●	●	●	●	G20 ~ G24
				3020N-020GS	0.118	3.0		0.008	0.091	0.787	0.169	○	○	●	●	●	●	
				3520N-020GS	0.138	3.5		0.008	0.110	0.787	0.169	○	○	●	●	●	●	
				4020N-040GS	0.157	4.0		0.016	0.130	0.787	0.169	○	○	●	●	●	●	
				5020N-040GS	0.197	5.0		0.016	0.165	0.787	0.169	○	○	●	●	●	●	G20 ~ G24
				6020N-040GS	0.236	6.0		0.016	0.205	0.787	0.169	○	○	●	●	●	●	
				8030N-040GS	0.315	8.0	±0.0008	0.016	0.236	1.181	0.217	○	○	●	●	●	●	G20
Full-R / Copying	2-edge		GDM	3020N-150R-CM	0.118	3.0	±0.0012	0.059	0.091	0.787	0.169	○	○	●	●	●		G19 ~ G24
				4020N-200R-CM	0.157	4.0		0.079	0.130	0.787	0.169	○	○	●	●	●		
				5020N-250R-CM	0.197	5.0	±0.0016	0.098	0.165	*0.827	0.169	○	○	●	●	●		G20 ~ G24
				6020N-300R-CM	0.236	6.0		0.120	0.205	*0.827	0.169	○	○	●	●	●		
Grooving & Cut-off	High Feed 2-edge		GDM	2020N-020PH	0.079	2.0	±0.0012	0.008	0.059	0.787	0.169			●	●	●		G19 ~ G24
				3020N-030PH	0.118	3.0		0.012	0.091	0.787	0.169			●	●	●		
				4020N-030PH	0.157	4.0		0.012	0.130	0.787	0.169			●	●	●		
	High Feed 1-edge		GDMS	2020N-020PH	0.079	2.0	±0.0012	0.008	0.059	0.787	0.169			○	●	●		G19 ~ G24
				3020N-030PH	0.118	3.0		0.012	0.091	0.787	0.169			○	●	●		
				4020N-030PH	0.157	4.0		0.012	0.130	0.787	0.169			○	●	●		

*GDM50/60-CM differes from other descriptions in length (L) to avoid interference of a toolholder with workpiece.

Recommended Cutting Conditions ➔ G27~G28

Insert Identification System

Tolerance	Width	Hand of Tool	Chipbreaker	
M : M-Class	**20** : 2mm	**N** : Neutral	**GM**: Grooving & Traversing	**CM**: Copying
G : G-Class	**30** : 3mm		**GL**: Low Feed	**PH** : High Feed
	40 : 4mm		**GS**: Low Cutting Force	**NB** : Without Chipbreaker

G D	M	S	30	20	N	-	040	GM
Series	No. of Edges		Insert Length				Corner-R (rε)	

No. of Edges	Insert Length	Corner-R (rε)
No Indication : 2-edge	**20** : 20mm	**020** : 0.2mm
S : 1-edge	**30** : 30mm	**040** : 0.4mm
		150R : 1.5mm (Full-R)

Inserts are sold in 10 piece boxes.

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

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(Technical Support) **800.823.7284 - Option 2**
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GDGS (CBN / PCD) NEW

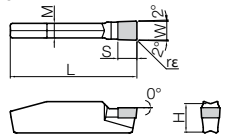
Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

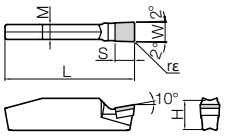
K	Cast Iron				Ref. Page for Toolholder
N	Non-ferrous Metals			●	
S	Titanium Alloy			●	
H	Hard materials (≤40HRC)				
	Hard materials (≥40HRC)	●			
	Powdered Steel		●		

Insert (Right-handed Insert Shown)	Part Number	Dimensions (mm) W inch	W mm	W Tolerance	rε	M	L	H	S	Angle (°) θ	MEGA CBN KBN05M	CBN KBN570	PCD KPD001	Ref. Page for Toolholder
Grooving	GDGS 2020N-020NB	0.079	2.0	±0.0012"	0.008	0.071	0.787	0.169	0.114	-		○	○	G19 ~ G24
	3020N-020NB	0.118	3.0		0.008	0.091	0.787	0.169	0.114				○	
	3020N-040NB	0.118	3.0		0.016	0.091	0.787	0.169	0.114		●	○		
	4020N-020NB	0.158	4.0		0.008	0.130	0.787	0.169	0.114				○	
	4020N-040NB	0.158	4.0		0.016	0.130	0.787	0.169	0.114		●	○		
	5020N-020NB	0.197	5.0		0.008	0.165	0.787	0.169	0.114				○	G20 ~ G24
	5020N-040NB	0.197	5.0		0.016	0.165	0.787	0.169	0.114		○	○		
	6020N-020NB	0.236	6.0		0.008	0.205	0.787	0.169	0.114				○	
	6020N-040NB	0.236	6.0		0.016	0.205	0.787	0.169	0.114		○	○		

NEW

1-Edge

CBN


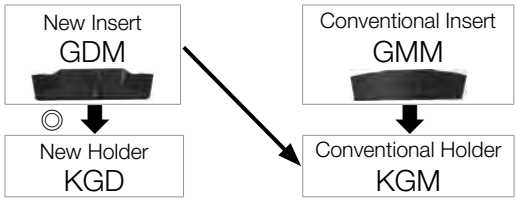
PCD


Recommended Cutting Conditions ➔ G27~G28

KGD • KGM Combinations

● **Insert Setting Angle of KGD / KGM Toolholders**

KGD...0°	Conventional Tools KGM...5°
	



Installing conventional inserts into the new toolholder is not recommended.

Toolholder Identification System

K G D | **R** | **1616** | **JX** - **3** | **D38** (Integral Type for Automatic Lathe)

Toolholder Hand	Shank Size	Toolholder Length	Applicable Inserts	Cutting Dia.
R : Right-hand **L** : Left-hand	**16**×**16**mm	**120mm**	GDM/GDMS **3~4**mm	ØDmax **38**mm

K G D | **R** | **1616** | **H** - **2** **T** **06** (Integral Type)

Toolholder Hand	Shank Size	Toolholder Length	Applicable Inserts	Max. Depth of Cut
R : Right-hand **L** : Left-hand	**16**×**16**mm	**100mm**	GDM/GDMS **2~3mm**	**06** : 06mm

K G D / **K G D S** | **R** | **2020** | **X** - **3** **T** **10** **S** (Separate Type / Unit Description)

Toolholder Hand	Shank Size	Toolholder Type	Applicable Inserts	Max. Depth of Cut
R : Right-hand **L** : Left-hand	**20**×**20**mm	Unit Description	GDM/GDMS **3~4**mm	**10** : 10mm

Inserts are sold in 10 piece boxes.

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

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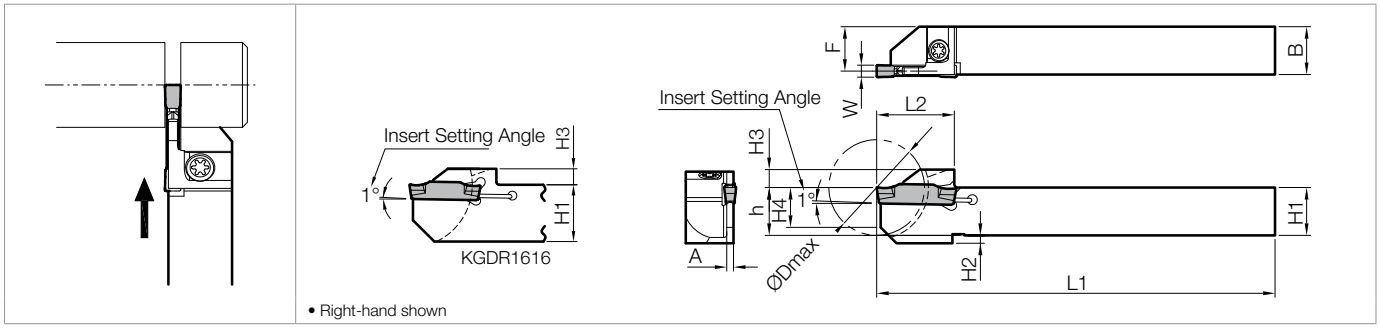
KGD (for Small Parts Machining)

Insert Width: 0.059"~0.158" / 1.3mm~4.0mm



• Right-hand shown

Toolholder Dimensions (Inch Size)

Part Number	Stock		Cut-Off Dia.	Dimensions (inch)									Insert Width W (inch)		Spare Parts	
															Clamp Screw	Wrench
	R	L	ØDmax	H1=h	H2	H3	H4	B	L1	L2	F	A	MIN	MAX		
KGD□ 6-1.5JX	●	●	0.787	0.375	0.098	0.177	0.315	0.375	4.75	0.709	0.351	0.047	-	0.059	SB-40120TR	LTW-15S
8-1.5JX	●	●	0.944	0.500	0.051	0.177	0.394	0.500	4.75	0.768	0.476	0.047	-	0.059		
KGD□ 6-2JX	●	●	0.787	0.375	0.098	0.177	0.315	0.375	4.75	0.709	0.342	0.067	0.078	0.118	SB-40120TR	LTW-15S
8-2JX	●	●	0.944	0.500	0.051	0.177	0.394	0.500	4.75	0.768	0.467	0.067	0.078	0.118		
10-2JX	●	●	1.259	0.625	-	0.177	0.394	0.625	4.75	0.965	0.592	0.067	0.078	0.118		
KGD□ 6-2.4JX	●	●	0.787	0.375	0.098	0.177	0.315	0.375	4.75	0.709	0.336	0.079	0.094	0.118	SB-40120TR	LTW-15S
8-2.4JX	●	●	0.944	0.500	0.051	0.177	0.394	0.500	4.75	0.768	0.461	0.079	0.094	0.118		
10-2.4JX	●	●	1.259	0.625	-	0.177	0.394	0.625	4.75	0.965	0.586	0.079	0.094	0.118		
KGD□ 8-3JX	●	●	0.944	0.500	0.051	0.177	0.394	0.500	4.75	0.768	0.453	0.094	0.118	0.118	SB-40120TR	LTW-15S
10-3JX	●	●	1.259	0.625	-	0.177	0.394	0.625	4.75	0.965	0.578	0.094	0.118	0.158		
KGD□ 10-3D38JX	●	●	1.496	0.625	-	0.236	0.394	0.625	4.75	1.142	0.578	0.094	0.118	0.158	SE-50125TR	LTW-20
12-3D42JX	●	●	1.653	0.750	-	0.236	0.551	0.750	4.75	1.220	0.703	0.094	0.118	0.158		
43-3D42JX	●	●	1.653	0.750	-	0.236	0.551	0.500	4.75	1.220	0.453	0.094	0.118	0.158		

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above. Insert table ➔ **G17~G18**

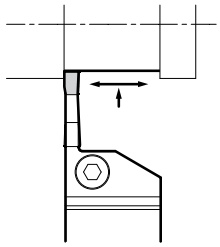
Toolholder Dimensions (Metric Size)

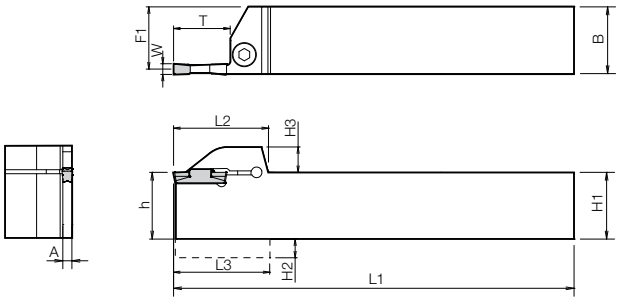
Part Number	Stock		Cut-Off Dia.	Dimensions (mm)									Insert Width W (mm)		Spare Parts	
															Clamp Screw	Wrench
	R	L	ØDmax	H1=h	H2	H3	H4	B	L1	L2	F	A	MIN	MAX		
KGD□ 1010JX-1.3	○	○	20	10	2	4.5	8	10	120	18.0	9.50	1.0	1.3	1.5	SB-40120TR	LTW-15S
1212JX-1.3	○	○	24	12	2	4.5	10	12	120	19.5	11.50	1.0	1.3	1.5		
KGD□ 1010JX-1.5	○	○	20	10	2	4.5	8	10	120	18.0	9.40	1.2	-	1.5	SB-40120TR	LTW-15S
1212JX-1.5	○	○	24	12	2	4.5	10	12	120	19.5	11.40	1.2	-	1.5		
KGD□ 1010JX-2	○	○	20	10	2	4.5	8	10	120	18.0	9.15	1.7	2.0	3.0	SB-40120TR	LTW-15S
1212JX-2	○	○	24	12	2	4.5	10	12	120	19.5	11.15	1.7	2.0	3.0		
1616JX-2	○	●	32	16	-	4.5	10	16	120	24.5	15.15	1.7	2.0	3.0		
KGD□ 1010JX-2.4	○	○	20	10	2	4.5	8	10	120	18.0	9.00	2.0	2.4	3.0	SB-40120TR	LTW-15S
1212JX-2.4	○	○	24	12	2	4.5	10	12	120	19.5	11.00	2.0	2.4	3.0		
1616JX-2.4	○	○	32	16	-	4.5	10	16	120	24.5	15.00	2.0	2.4	3.0		
KGD□ 1212JX-3	○	○	24	12	2	4.5	10	12	120	19.5	10.80	2.4	3.0	3.0	SB-40120TR	LTW-15S
1616JX-3	○	○	32	16	-	4.5	10	16	120	24.5	14.80	2.4	3.0	4.0		
KGD□ 1212F-1.3	○	○	24	12	2	4.5	10	12	85	19.5	11.50	1.0	1.3	1.5	SB-40120TR	LTW-15S
1212F-1.5	○	○	24	12	2	4.5	10	12	85	19.5	11.40	1.2	-	1.5		
1212F-2	○	○	24	12	2	4.5	10	12	85	19.5	11.15	1.7	2.0	3.0		
1212F-2.4	○	○	24	12	2	4.5	10	12	85	19.5	11.00	2.0	2.4	3.0		
KGD□ 1616JX-3D38	○	○	38	16	-	6.0	10	16	120	29.0	14.80	2.4	3.0	4.0	SE-50125TR	LTW-20
2012JX-3D42	○	○	42	20	-	6.0	14	12	120	31.0	10.80	2.4	3.0	4.0		
2020JX-3D42	○	○	42	20	-	6.0	14	20	120	31.0	18.80	2.4	3.0	4.0		

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above. Insert table ➔ **G17~G18**

Note) 1. 4mm width Insert can be installed in KGD□1212JX-3, but is not recommended due to the toolholder's rigidity.
2. Recommended tightening torque of clamp screw : 2.0N·m (Clamp screw : SB-40120TR), 2.5N·m (Clamp screw : SE-50125TR)
3. When machining the material greater than Ø36mm with KGD□…-3D38 or KGD□…-3D42 toolholders, please use 1-edge inserts.

KGD (Integral-Style)





• Right-hand shown

Toolholder Dimensions (Inch Size)

Width (in)	Max. Grooving Depth (in)	Part Number	Stock R	Stock L	H1=h	H2	H3	B	L1	L2	L3	F1	A	T*	Insert Width W (in) MIN	Insert Width W (in) MAX	Spare Parts: Clamp Bolt	Spare Parts: Wrench
0.079" (2mm)	0.669" (17mm)	KGD% 12-2T17	●	●	0.75	-	0.374	0.75	4.92	1.28	-	0.71	0.067	0.669 (17mm)	0.079	0.118	HH5X16	LW-4
		16-2T17	●	●	1.00	-	0.374	1.00	5.90	1.28	-	0.96	0.067	0.669 (17mm)	0.079	0.118	HH5X25	
0.118" (3mm)	0.393" (10mm)	KGD% 12-3T10	●	●	0.75	-	0.374	0.75	4.92	1.20	-	0.70	0.094	0.393 (10mm)	0.118	0.157	HH5X16	LW-4
		16-3T10	●	●	1.00	-	0.374	1.00	5.90	1.20	-	0.95	0.094	0.393 (10mm)	0.118	0.157	HH5X25	
	0.787" (20mm)	KGD% 12-3T20	●	●	0.75	-	0.374	0.75	4.92	1.35	-	0.70	0.094	0.787 (20mm)	0.118	0.157	HH5X16	
		16-3T20	●	●	1.00	-	0.374	1.00	5.90	1.39	-	0.95	0.094	0.787 (20mm)	0.118	0.157	HH5X25	
0.158" (4mm)	0.393" (10mm)	KGD% 12-4T10	●	●	0.75	-	0.374	0.75	4.92	1.20	-	0.68	0.133	0.393 (10mm)	0.157	0.197	HH5X16	LW-4
		16-4T10	●	●	1.00	-	0.374	1.00	5.90	1.20	-	0.93	0.133	0.393 (10mm)	0.157	0.197	HH5X25	
	0.787 (20mm)	KGD% 12-4T20	●	●	0.75	-	0.374	0.75	4.92	1.35	-	0.68	0.133	0.787 (20mm)	0.157	0.197	HH5X16	
		16-4T20	●	●	1.00	-	0.374	1.00	5.90	1.39	-	0.93	0.133	0.787 (20mm)	0.157	0.197	HH5X25	
	0.984 (25mm)	KGD% 16-4T25	●	●	1.00	-	0.374	1.00	5.90	1.59	-	0.93	0.133	0.990 (25mm)	0.157	0.197	HH5X25	
0.197" (5mm)	0.393 (10mm)	KGD% 12-5T10	●	●	0.75	-	0.374	0.75	4.92	1.20	-	0.66	0.173	0.393 (10mm)	0.197	0.236	HH5X16	LW-4
		16-5T10	●	●	1.00	-	0.374	1.00	5.90	1.20	-	0.91	0.173	0.393 (10mm)	0.197	0.236	HH5X25	
	0.669 (17mm)	KGD% 12-5T17	●	●	0.75	-	0.374	0.75	4.92	1.47	-	0.66	0.173	0.669 (17mm)	0.197	0.236	HH5X16	
		16-5T17	●	●	1.00	-	0.374	1.00	5.90	1.47	-	0.91	0.173	0.669 (17mm)	0.197	0.236	HH5X25	
	0.984 (25mm)	KGD% 16-5T25	●	●	1.00	-	0.374	1.00	5.90	1.59	-	0.91	0.173	0.990 (25mm)	0.197	0.236	HH5X25	
0.236" (6mm)	0.591 (15mm)	KGD% 16-6T15	●	●	1.00	-	0.374	1.00	5.90	1.28	-	0.89	0.208	0.590 (15mm)	0.236	0.236	HH5X25	LW-4
	1.181 (30mm)	KGD% 16-6T30	●	●	1.00	-	0.374	1.00	5.90	1.79	-	0.89	0.208	1.181 (30mm)	0.236	0.236		
0.315" (8mm)	0.984 (25mm)	KGD% 16-8T25	●	●	1.00	0.26	0.374	1.00	5.90	1.65	1.69	0.88	0.236	0.990 (25mm)	0.315	0.315	HH6X25	LW-5

* T dimension shows the distance from the toolholder to the cutting edge.
When using 2-edge insert, the maximum grooving depth is 0.709" (18mm).

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above.
Insert table ➔ **G17~G18**

(Customer Service) **800.823.7284 - Option 1**
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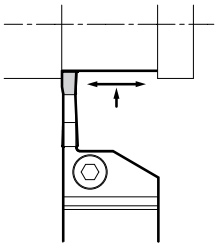
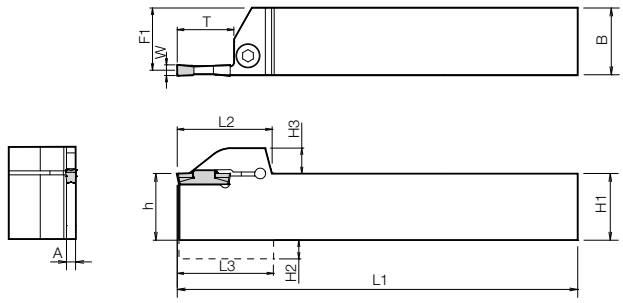
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

KGD (Integral-Style)





• Right-hand shown

Toolholder Dimensions (Metric Size)

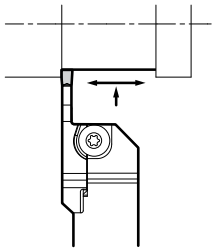
Width (mm)	Max. Grooving Depth (mm)	Part Number	Stock R	Stock L	Dimensions (mm) H1=h	H2	H3	B	L1	L2	L3	F1	A	T*	Insert Width W (mm) MIN	MAX	Spare Parts: Clamp Bolt	Spare Parts: Wrench
2	6	KGD 1616H-2T06	○	○	16	4.0	9.5	16	100	27.7	28.0	15.2	1.7	6	2.0	3.0	HH5X16	LW-4
		2020K-2T06	○	○	20	-	9.5	20	125	28.0	-	19.2	1.7	6	2.0	3.0		
		2525M-2T06	●	○	25	-	9.5	25	150	28.0	-	24.2	1.7	6	2.0	3.0	HH5X25	LW-4
	10	KGD 1616H-2T10	○	○	16	4.0	9.5	16	100	30.2	30.5	15.2	1.7	10	2.0	3.0	HH5X16	LW-4
		2020K-2T10	○	○	20	-	9.5	20	125	30.5	-	19.2	1.7	10	2.0	3.0		
		2525M-2T10	○	○	25	-	9.5	25	150	30.5	-	24.2	1.7	10	2.0	3.0	HH5X25	LW-4
	17	KGD 1616H-2T17	○	●	16	4.0	9.5	16	100	31.2	31.5	15.2	1.7	17	2.0	3.0	HH5X16	LW-4
		2012K-2T17	○	○	20	-	9.5	12	125	32.5	-	11.2	1.7	17	2.0	3.0		
		2020K-2T17	○	○	20	-	9.5	20	125	32.5	-	19.2	1.7	17	2.0	3.0		
		2525M-2T17	○	○	25	-	9.5	25	150	32.5	-	24.2	1.7	17	2.0	3.0	HH5X25	LW-4
NEW 2.4	17	KGD 2012K-2.4T17	○	○	20	-	9.5	12	125	32.5	-	11.0	2.0	17	2.4	3.0	HH5X16	LW-4
		2020K-2.4T17	○	○	20	-	9.5	20	125	32.5	-	19.0	2.0	17	2.4	3.0		
3	6	KGD 1616H-3T06	○	○	16	4.0	9.5	16	100	27.7	28.0	14.8	2.4	6	3.0	4.0	HH5X16	LW-4
		2020K-3T06	○	○	20	-	9.5	20	125	28.0	-	18.8	2.4	6	3.0	4.0		
		2525M-3T06	○	○	25	-	9.5	25	150	28.0	-	23.8	2.4	6	3.0	4.0	HH5X25	LW-4
	10	KGD 1616H-3T10	○	○	16	4.0	9.5	16	100	30.2	30.5	14.8	2.4	10	3.0	4.0	HH5X16	LW-4
		2020K-3T10	○	○	20	-	9.5	20	125	30.5	-	18.8	2.4	10	3.0	4.0		
		2525M-3T10	○	○	25	-	9.5	25	150	30.5	-	23.8	2.4	10	3.0	4.0	HH5X25	LW-4
	20	KGD 1616H-3T20	○	○	16	4.0	9.5	16	100	34.2	34.5	14.8	2.4	20	3.0	4.0	HH5X16	LW-4
		2012K-3T20	○	○	20	-	9.5	12	125	34.5	-	10.8	2.4	20	3.0	4.0		
		2020K-3T20	○	○	20	-	9.5	20	125	34.5	-	18.8	2.4	20	3.0	4.0		
		2525M-3T20	○	○	25	-	9.5	25	150	35.5	-	23.8	2.4	20	3.0	4.0	HH5X25	LW-4
4	10	KGD 2020K-4T10	○	○	20	-	9.5	20	125	30.5	-	18.3	3.4	10	4.0	5.0	HH5X16	LW-4
		2525M-4T10	○	○	25	-	9.5	25	150	30.5	-	23.3	3.4	10	4.0	5.0	HH5X25	LW-4
	20	KGD 2020K-4T20	○	○	20	-	9.5	20	125	34.5	-	18.3	3.4	20	4.0	5.0	HH5X16	LW-4
		2525M-4T20	○	○	25	-	9.5	25	150	35.5	-	23.3	3.4	20	4.0	5.0	HH5X25	LW-4
	25	KGD 2525M-4T25	○	○	25	-	9.5	25	150	40.5	-	23.3	3.4	25	4.0	5.0		
5	10	KGD 2020K-5T10	○	○	20	-	9.5	20	125	30.5	-	17.8	4.4	10	5.0	6.0	HH5X16	LW-4
		2525M-5T10	○	○	25	-	9.5	25	150	30.5	-	22.8	4.4	10	5.0	6.0	HH5X25	LW-4
	17	KGD 2020K-5T17	○	○	20	-	9.5	20	125	37.5	-	17.8	4.4	17	5.0	6.0		
		2525M-5T17	○	○	25	-	9.5	25	150	37.5	-	22.8	4.4	17	5.0	6.0		
	25	KGD 2525M-5T25	○	○	25	-	9.5	25	150	40.5	-	22.8	4.4	25	5.0	6.0		
6	15	KGD 2525M-6T15	○	○	25	-	9.5	25	150	32.5	-	22.4	5.3	15	6.0	6.0	HH5X25	LW-4
	30	KGD 2525M-6T30	○	○	25	-	9.5	25	150	45.5	-	22.4	5.3	30	6.0	6.0		
8	25	KGD 2525M-8T25	○	○	25	7.0	9.5	25	150	43.3	44.2	22.0	6.0	25	8.0	8.0	HH6X25	LW-5
		3232P-8T25	○	○	32	-	9.5	32	170	43.3	-	29.0	6.0	25	8.0	8.0		

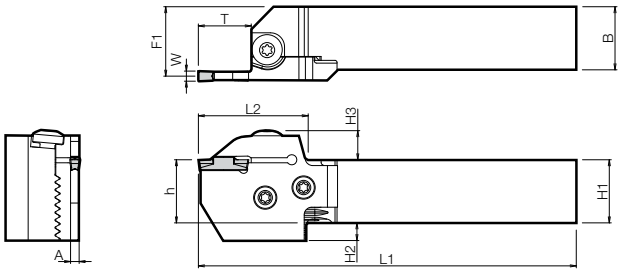
* T dimension shows the distance from the toolholder to the cutting edge.
When using 2-edge insert, the maximum grooving depth is 0.709" (18mm).

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above.
Insert table ➡ **G17~G18**

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

KGD-S (0° SwitchBlade Type)





• Right-hand shown (Right-hand Blade and Right-hand Toolholder)

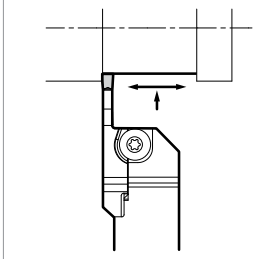
Toolholder Dimensions (Blade + Toolholder) (Inch Size)

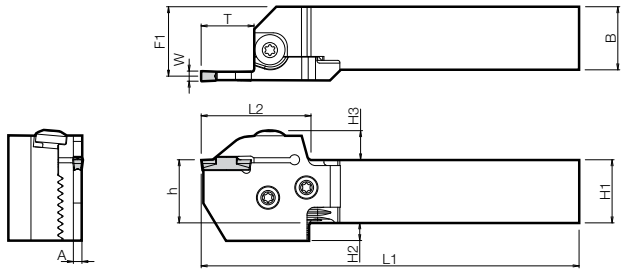
Shank Angle	Width (in)	Max. Grooving Depth (in)	Unit Part Number (Standard Stock Part Number)	Stock R	Stock L	Blade Part Number ➡ G25	Toolholder Part Number ➡ G25	Dimensions (in) H1=h	H2	H3	B	L1	L2	F1	A	T	Width W (in) MIN	MAX
0°	0.079" (2mm)	0.669 (17mm)	KGD□ 12X-2T17S	●	●	KGD□-2T17-C	KGD□12-C	0.75	0.472	0.456	0.75	4.80	1.57	0.88	0.067	0.669 (17mm)	0.079	0.118
			16X-2T17S	●	●		KGD□16-C	1.00	0.275	0.456	1.00	5.78	1.57	1.13	0.067	0.669 (17mm)	0.079	0.118
0°	0.118" (3mm)	0.393 (10mm)	KGD□ 12X-3T10S	●	●	KGD□-3T10-C	KGD□12-C	0.75	0.472	0.456	0.75	4.52	1.29	0.86	0.094	0.393 (10mm)	0.118	0.157
			16X-3T10S	●	●		KGD□16-C	1.00	0.275	0.456	1.00	5.51	1.29	1.11	0.094	0.393 (10mm)	0.118	0.157
		0.787 (20mm)	KGD□ 12X-3T20S	●	●	KGD□-3T20-C	KGD□12-C	0.75	0.472	0.456	0.75	4.92	1.68	0.86	0.094	0.669 (17mm)	0.118	0.157
			16X-3T20S	●	●		KGD□16-C	1.00	0.275	0.456	1.00	5.90	1.68	1.11	0.094	0.669 (17mm)	0.118	0.157
0°	0.158" (4mm)	0.393 (10mm)	KGD□ 12X-4T10S	●	●	KGD□-4T10-C	KGD□12-C	0.75	0.472	0.456	0.75	4.52	1.29	0.84	0.133	0.393 (10mm)	0.157	0.197
			16X-4T10S	●	●		KGD□16-C	1.00	0.275	0.456	1.00	5.51	1.29	1.09	0.133	0.393 (10mm)	0.157	0.197
		0.787 (20mm)	KGD□ 12X-4T20S	●	●	KGD□-4T20-C	KGD□12-C	0.75	0.472	0.456	0.75	4.92	1.68	0.84	0.133	0.790 (20mm)	0.157	0.197
			16X-4T20S	●	●		KGD□16-C	1.00	0.275	0.456	1.00	5.90	1.68	1.09	0.133	0.790 (20mm)	0.157	0.197
		0.984 (25mm)	KGD□ 12X-4T25S	●	●	KGD□-4T25-C	KGD□12-C	0.75	0.472	0.456	0.75	5.11	1.88	0.84	0.133	0.990 (25mm)	0.157	0.197
			16X-4T25S	●	●		KGD□16-C	1.00	0.275	0.456	1.00	6.10	1.88	1.09	0.133	0.990 (25mm)	0.157	0.197
0°	0.197" (5mm)	0.393 (10mm)	KGD□ 12X-5T10S	●	●	KGD□-5T10-C	KGD□12-C	0.75	0.472	0.456	0.75	4.52	1.29	0.82	0.173	0.393 (10mm)	0.197	0.236
			16X-5T10S	●	●		KGD□16-C	1.00	0.275	0.456	1.00	5.51	1.29	1.07	0.173	0.393 (10mm)	0.197	0.236
		0.984 (25mm)	KGD□ 16X-5T25S	●	●	KGD□-5T25-C	KGD□16-C	1.00	0.275	0.456	1.00	6.10	1.88	1.07	0.173	0.990 (25mm)	0.197	0.236

Note) 1. When using the toolholder in normal mounting position, the lower jaw of toolholder may interfere with the tool presetter.
2. The toolholder and blade descriptions are printed on the toolholder body. (Unit description is not printed.)
KGD-S: Right-hand Blade for Right-hand Toolholder, Left-hand Blade for Left-hand Toolholder.
The toolholder is applicable for all blade with suitable hand.
3. In case the unit description is not available (No Unit Part Number), please purchase toolholder and blade separately.
4. Dimension T : Maximum depth to which processing can be made. If the dimension T is 0.787" (20mm) or more, the maximum groove-depth of groove made by the 2-edge insert will be 0.709" (18mm).

Applicable Inserts ➡ G17~G18

KGD-S (0° SwitchBlade Type)





• Right-hand shown (Right-hand Blade and Right-hand Toolholder)

Toolholder Dimensions (Blade + Toolholder) (Metric Size)

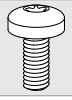
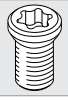
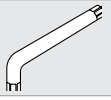
Shank Angle	Width (mm)	Max. Groving Depth (mm)	Shank Size (mm)	Unit Part Number (Standard Stock Part Number)	Stock R	Stock L	Blade Part Number ➡ G25	Toolholder Part Number ➡ G25	Dimensions (mm) H1=h	H2	H3	B	L1	L2	F1	A	T	Width W (mm) MIN	Width W (mm) MAX
0°	2	17	□20	KGD□ 2020X-2T17S	○	○	KGD□-2T17-C	KGD□2020-C	20	12	11.6	20	122	40	23.4	1.7	17	2.0	3.0
			□25	2525X-2T17S	○	○		KGD□2525-C	25	7	11.6	25	147	40	28.4	1.7	17		
			□32	No Unit Part Number ➡				KGD□3232-C	32	-	11.6	32	167	40	35.4	1.7	17		
0°	3	10	□20	KGD□ 2020X-3T10S	○	○	KGD□-3T10-C	KGD□2020-C	20	12	11.6	20	115	33	23.0	2.4	10	3.0	4.0
			□25	2525X-3T10S	○	○		KGD□2525-C	25	7	11.6	25	140	33	28.0	2.4	10		
			□32	3232X-3T10S	○	○		KGD□3232-C	32	-	11.6	32	160	33	35.0	2.4	10		
0°	3	20	□20	KGD□ 2020X-3T20S	○	○	KGD□-3T20-C	KGD□2020-C	20	12	11.6	20	125	43	23.0	2.4	20	3.0	4.0
			□25	2525X-3T20S	○	○		KGD□2525-C	25	7	11.6	25	150	43	28.0	2.4	20		
			□32	3232X-3T20S	○	○		KGD□3232-C	32	-	11.6	32	170	43	35.0	2.4	20		
0°	4	10	□20	KGD□ 2020X-4T10S	○	○	KGD□-4T10-C	KGD□2020-C	20	12	11.6	20	115	33	22.5	3.4	10	4.0	5.0
			□25	2525X-4T10S	○	○		KGD□2525-C	25	7	11.6	25	140	33	27.5	3.4	10		
			□32	3232X-4T10S		○		KGD□3232-C	32	-	11.6	32	160	33	34.5	3.4	10		
0°	4	20	□20	KGD□ 2020X-4T20S	○	○	KGD□-4T20-C	KGD□2020-C	20	12	11.6	20	125	43	22.5	3.4	20	4.0	5.0
			□25	2525X-4T20S	○	○		KGD□2525-C	25	7	11.6	25	150	43	27.5	3.4	20		
			□32	3232X-4T20S	○	○		KGD□3232-C	32	-	11.6	32	170	43	34.5	3.4	20		
0°	4	25	□20	KGD□ 2020X-4T25S	○	○	KGD□-4T25-C	KGD□2020-C	20	12	11.6	20	130	48	22.5	3.4	25	4.0	5.0
			□25	2525X-4T25S	○	○		KGD□2525-C	25	7	11.6	25	155	48	27.5	3.4	25		
			□32	3232X-4T25S	○	○		KGD□3232-C	32	-	11.6	32	175	48	34.5	3.4	25		
0°	5	10	□20	KGD□ 2020X-5T10S	○	○	KGD□-5T10-C	KGD□2020-C	20	12	11.6	20	115	33	22.0	4.4	10	5.0	6.0
			□25	2525X-5T10S	○	○		KGD□2525-C	25	7	11.6	25	140	33	27.0	4.4	10		
			□32	3232X-5T10S	○	○		KGD□3232-C	32	-	11.6	32	160	33	34.0	4.4	10		
0°	5	25	□20	KGD□ 2020X-5T25S	○	○	KGD□-5T25-C	KGD□2020-C	20	12	11.6	20	130	48	22.0	4.4	25	5.0	6.0
			□25	2525X-5T25S	○	○		KGD□2525-C	25	7	11.6	25	155	48	27.0	4.4	25		
			□32	3232X-5T25S	○	○		KGD□3232-C	32	-	11.6	32	175	48	34.0	4.4	25		

Note) 1. When using the toolholder in normal mounting position, the lower jaw of toolholder may interfere with the tool presetter.
2. The toolholder and blade descriptions are printed on the toolholder body. (Unit description is not printed.)
KGD-S: Right-hand Blade for Right-hand Toolholder, Left-hand Blade for Left-hand Toolholder.
The toolholder is applicable for all blade with suitable hand.
3. In case the unit description is not available (No Unit Part Number), please purchase toolholder and blade separately.
4. Dimension T : Maximum depth to which processing can be made. If the dimension T is 0.787" (20mm) or more, the maximum groove-depth of groove made by the 2-edge insert will be 0.709" (18mm).

Applicable Inserts ➡ G17~G18

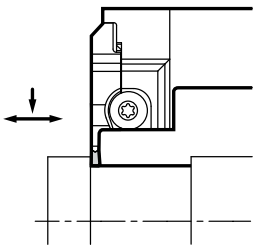
Spare Parts (Common with SwitchBlade Types)

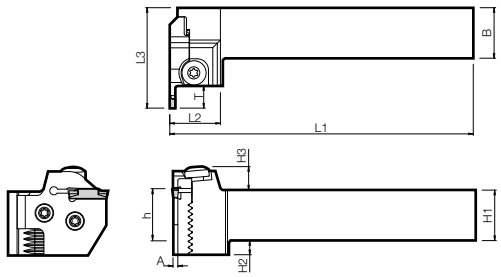
* The parts are included in the toolholder and unit.

Unit Part Number	Spare Parts: Clamp Bolt (for Insert Clamp)	Spare Parts: Clamp Bolt (for Blade)	Spare Parts: Wrench
			
KGD□·····S	BH6X10TR	SB-60120TR	LTW-25

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

KGDS-S (90° SwitchBlade Type)





• Right-hand shown (Left-hand Blade and Right-hand Toolholder)

Toolholder Dimensions (Toolholder + Blade) (Metric Size)

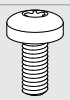
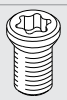
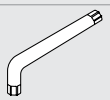
Shank Angle	Width (mm)	Max. Groving Depth (mm)	Shank Size (mm)	Blade Part Number ➡ G25	Toolholder Part Number ➡ G25	Unit Part Number (Standard Stock Part Number)	Stock R	Stock L	H1=h	H2	H3	B	L1	L2	L3	F1	A	T	Width W (mm) MIN	Width W (mm) MAX
90°	2	17	□20	KGD□-2T17-C	KGDS□2020-C	-	-	-	20	12	11.6	20	125	27.7	56.7	-	1.7	17	2.0	3.0
			□25		KGDS□2525-C	-	-	-	25	7	11.6	25	150	27.7	56.7	-	1.7	17	2.0	3.0
	3	10	□20	KGD□-3T10-C	KGDS□2020-C	KGDS□ 2020X-3T10S	○	○	20	12	11.6	20	125	27.7	49.7	-	2.4	10	3.0	4.0
			□25		KGDS□2525-C	2525X-3T10S	○	○	25	7	11.6	25	150	27.7	49.7	-	2.4	10	3.0	4.0
	3	20	□20	KGD□-3T20-C	KGDS□2020-C	-	-	-	20	12	11.6	20	125	27.7	59.7	-	2.4	20	3.0	4.0
			□25		KGDS□2525-C	-	-	-	25	7	11.6	25	150	27.7	59.7	-	2.4	20	3.0	4.0
	4	10	□20	KGD□-4T10-C	KGDS□2020-C	-	-	-	20	12	11.6	20	125	27.7	49.7	-	3.4	10	4.0	5.0
			□25		KGDS□2525-C	-	-	-	25	7	11.6	25	150	27.7	49.7	-	3.4	10	4.0	5.0
	4	20	□20	KGD□-4T20-C	KGDS□2020-C	-	-	-	20	12	11.6	20	125	27.7	59.7	-	3.4	20	4.0	5.0
			□25		KGDS□2525-C	-	-	-	25	7	11.6	25	150	27.7	59.7	-	3.4	20	4.0	5.0
	4	25	□20	KGD□-4T25-C	KGDS□2020-C	-	-	-	20	12	11.6	20	125	27.7	64.7	-	3.4	25	4.0	5.0
			□25		KGDS□2525-C	-	-	-	25	7	11.6	25	150	27.7	64.7	-	3.4	25	4.0	5.0
	5	10	□20	KGD□-5T10-C	KGDS□2020-C	-	-	-	20	12	11.6	20	125	27.7	49.7	-	4.4	10	5.0	6.0
			□25		KGDS□2525-C	-	-	-	25	7	11.6	25	150	27.7	49.7	-	4.4	10	5.0	6.0
	5	25	□20	KGD□-5T25-C	KGDS□2020-C	-	-	-	20	12	11.6	20	125	27.7	64.7	-	4.4	25	5.0	6.0
			□25		KGDS□2525-C	-	-	-	25	7	11.6	25	150	27.7	64.7	-	4.4	25	5.0	6.0

Note) 1. When using the toolholder in normal mounting position, the lower jaw of toolholder may interfere with the tool presetter.
2. The toolholder and blade descriptions are printed on the toolholder body. (Unit description is not printed.)
KGD-S: Right-hand Blade for Right-hand Toolholder, Left-hand Blade for Left-hand Toolholder.
The toolholder is applicable for all blade with suitable hand.
4. Dimension T : Maximum depth to which processing can be made. If the dimension T is 0.787" (20mm) or more, the maximum groove-depth of groove made by the 2-edge insert will be 0.709" (18mm).

Applicable Inserts ➡ G17~G18

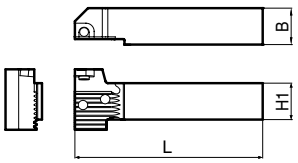
Spare Parts (Common with SwitchBlade Types)

* The parts are included in the toolholder and unit.

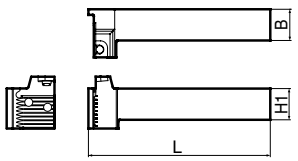
Unit Part Number	Spare Parts: Clamp Bolt (for Insert Clamp)	Spare Parts: Clamp Bolt (for Blade)	Spare Parts: Wrench
			
KGD□·····S	BH6X10TR	SB-60120TR	LTW-25

● Toolholder

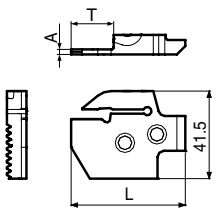
KGD-S (0° SwitchBlade Type)

Shape of 0° type Right-handed Insert Shown	Toolholder Part Number		Stock R	Stock L	Unit	Dimensions L	Dimensions B	Dimensions H1
	KGDR/L	12-C	●	●	inch	4.09	0.75	0.75
		16-C	●	●		5.08	1.00	1.00
	KGDR/L	2020-C	○	○	mm	104	20	20
		2525-C	○	○		129	25	25
		3232-C	○	○		149	32	32

KGDS-S (90° SwitchBlade Type)

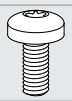
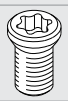
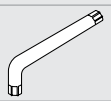
Shape of 90° type Right-handed Insert Shown	Toolholder Part Number		Stock R	Stock L	Unit	Dimensions L	Dimensions B	Dimensions H1
	KGDSR/L	12-C	●	●	inch	4.80	0.75	0.75
		16-C	●	●		5.79	1.00	1.00
	KGDSR/L	2020-C	○	○	mm	122	20	20
		2525-C	○	○		147	25	25

● Blade

Shape of Blade Right-handed Insert Shown	Blade Part Number		Stock R	Stock L	Uniy	Dimensions (mm) L	Dimensions (mm) T	Dimensions (mm) A
	KGDR/L	-2T17-C	●	●	mm	51.2	17.2	1.7
		-3T10-C	●	●		44.2	10.2	2.4
		-3T20-C	●	●		53.2	20.2	2.4
		-4T10-C	●	●		44.2	10.2	3.4
		-4T20-C	●	●		54.2	20.2	3.4
		-4T25-C	●	●		59.2	25.2	3.4
		-5T10-C	●	●		44.2	10.2	4.4
		-5T25-C	●	●		59.2	25.2	4.4

● Spare Parts (Common with SwitchBlade Types)

* The parts are included in the toolholder and unit.

Unit Part Number	Spare Parts: Clamp Bolt (for Insert Clamp)	Spare Parts: Clamp Bolt (for Blade)	Spare Parts: Wrench
			
KGDR/L·····S KGDSR/L·····S	BH6X10TR	SB-60120TR	LTW-25

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

Setting the Insert

1. Completely eliminate chips from the insert mounting part. (see **Fig.1**)
2. Put the insert into the toolholder and push until it contacts the holder's surface for fixing the insert's back end. (see **Fig.2**, **Fig.3**)
3. Keeping the insert pushed against the toolholder's locating surface, tighten the insert clamp bolt at an appropriate torque.
4. Make sure there is no gap between the insert and the toolholder's locating surface and that the insert is set straight. (see **Fig.2**, **Fig.3**)

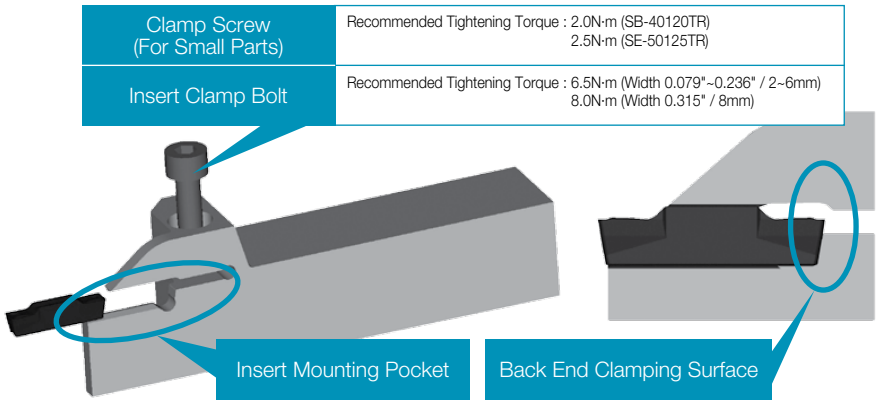


Fig.1 Fig.2

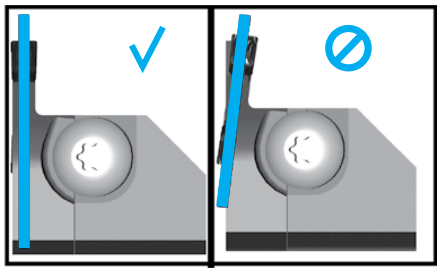


Fig.3

Setting the blade (SwitchBlade Type toolholder)

1. Use compressed air or other measures to remove chips and dust from the serration part. (see **Fig.1**)
2. Mate and fit the serrations of the blade and toolholder, and also fit the blade end to the toolholder. (see **Fig.2)**
3. Tighten the blade fixing screws at an appropriate torque. You can tighten them in any order. (see **Fig.2)**
   (Recommended tightening torque : 8N·m)
4. Set the insert after setting the blade.

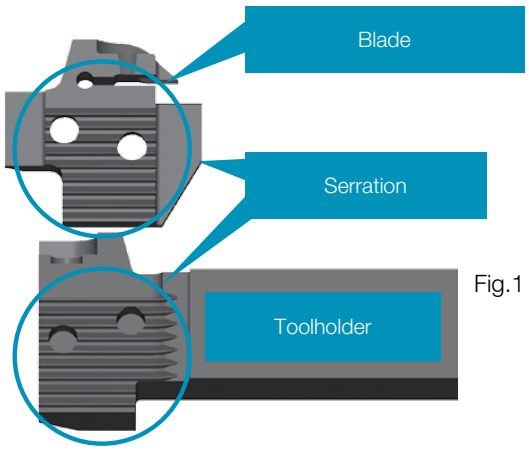


Fig.1

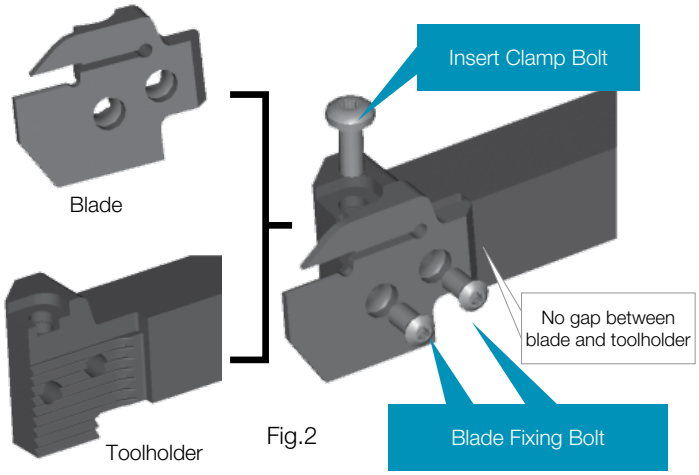
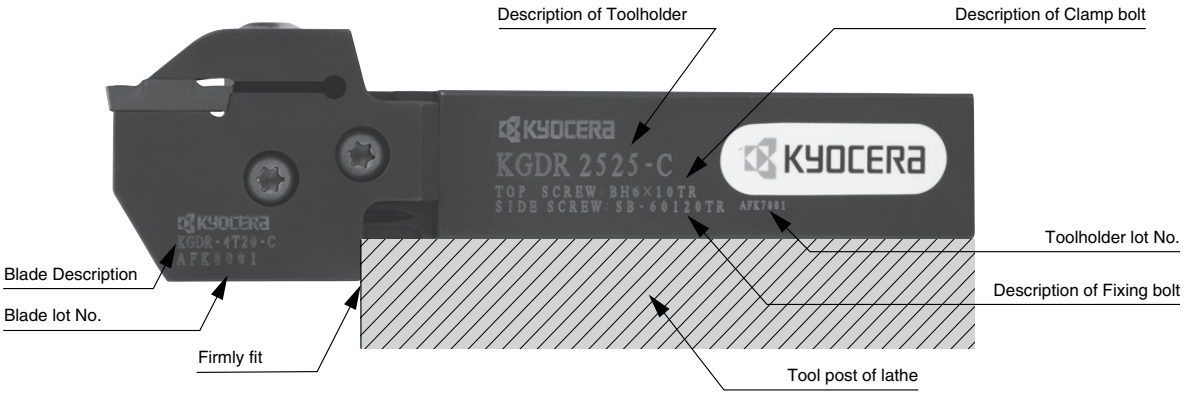


Fig.2

SwitchBlade Type Toolholder Identification System and Their Setting to Lathe

● Firmly fit the lower jaw to the tool post of the lathe.



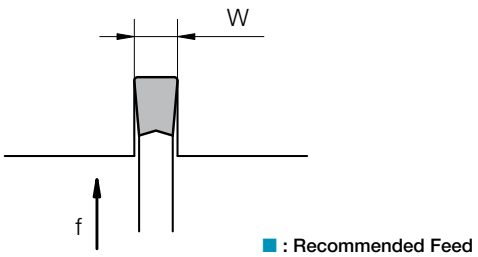
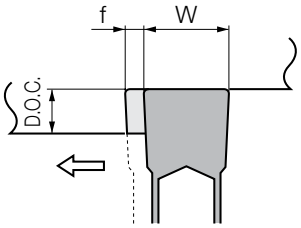
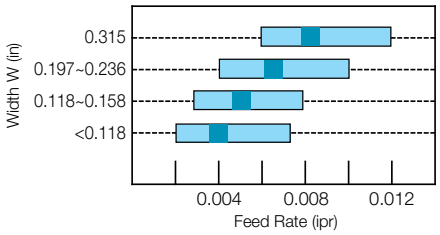
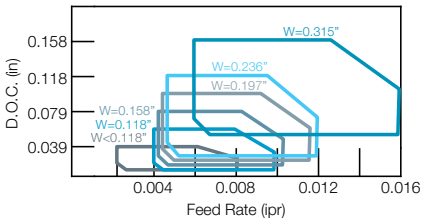
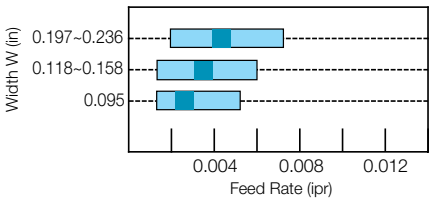
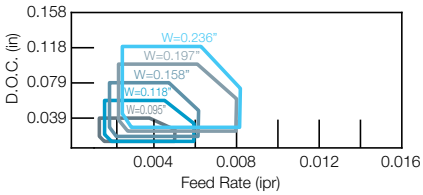
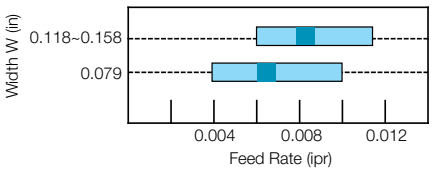
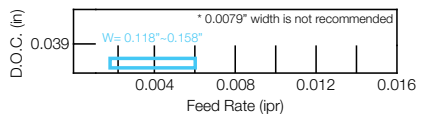
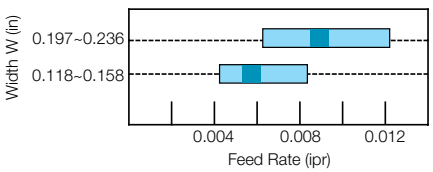
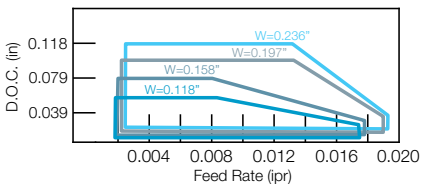
Recommended Cutting Conditions (Vc)

Workpiece Material	Chipbreaker	Recommended Insert Grade (Vc : sfm)								Notes
		Cermet	MEGACOAT NANO	MEGACOAT		Carbide	MEGACOAT CBN	CBN	PCD	
		TN90	PR1535	PR1225	PR1215	GW15	KBN05M	KBN570	KPD001	
Carbon Steel	GM GL CM PH GS	☆ 330~720	☆ 260~660	★ 260~660	☆ 330~660	-	-	-	-	Wet
Alloy Steel		☆ 260~660	☆ 230~590	★ 230~590	☆ 260~590	-	-	-	-	
Stainless Steel		☆ 230~590	★ (PH) 200~490	★ 200~490	☆ 200~490	-	-	-	-	
Cast Iron		-	-	-	★ 330~660	-	-	-	-	
Aluminum	GS NB	-	-	-	-	☆ 660~1640	-	-	★ 490~6560	
Brass		-	-	-	-	☆ 330~660	-	-	★ 660~2620	
Hardened Material	NB	-	-	-	-	-	★ 260~490	-	-	
Powdered Steel		-	-	-	-	-	-	★ 330~820	-	

★ : 1st Recommendation ☆ : 2nd Recommendation

Recommended Cutting Conditions (Feed Rate / D.O.C.)

(Workpiece Material : 1049)

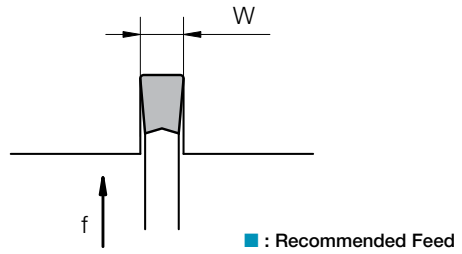
Chipbreaker	Grooving	Traversing
		
GM (General Purpose)		
GL (Low Feed)		
PH (High Feed)		
CM (Copying)		

1) The above values reflect a T dimension that is 0.669" (17mm) or less.
2) If the toolholder is not for the 0.315" (8mm) width insert and its T dimension is over 0.669" (17mm), set the values for longitudinal turning to less than 90% of those above.

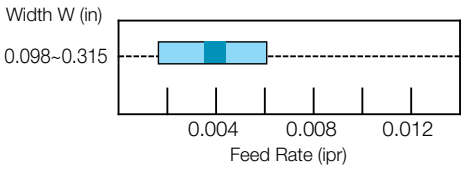
◆ Recommended Cutting Conditions (Feed Rate / D.O.C.)

(Workpiece Material : 1049)

Chipbreaker: Grooving



GS (Low Cutting Force)

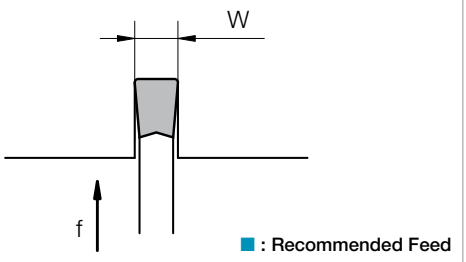


※ When traversing, keep D.O.C. less than the Corner-R(rε)

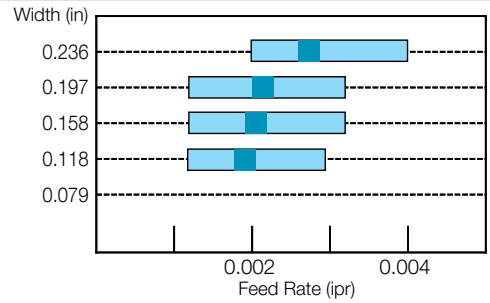
1) The above values reflect a T dimension that is 0.669" (17mm) or less.

◆ Recommended Cutting Conditions (Feed Rate)

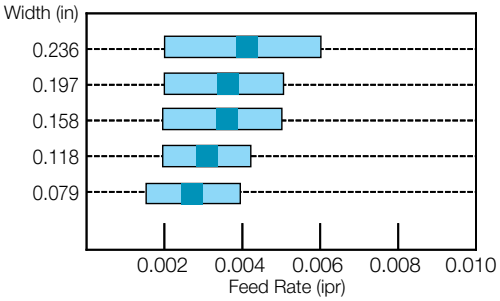
Workpiece Material / Insert Grade: Grooving



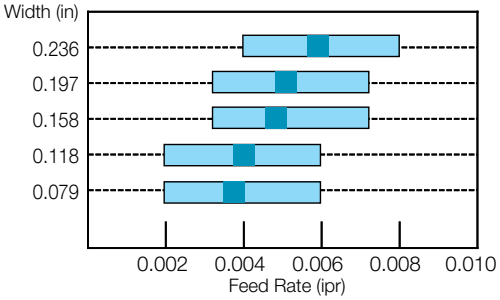
Hard Material — KBN05M



Powdered Steel — KBN570



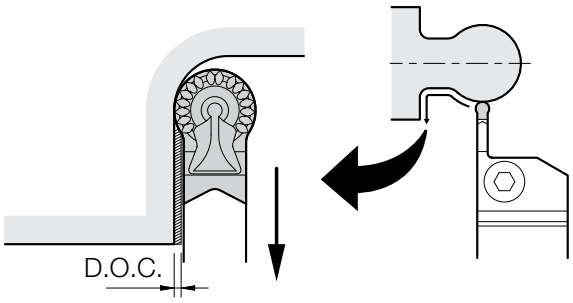
Non-ferrous Metals — KPD001



◆ CM Chipbreakers (Back Turning)

● Estimated maximum cutting amount (D.O.C.) for back turning.

Part Number		Max. D.O.C. (in) Toolholder Part Number				
		KGD...-2T...	KGD...-3T...	KGD...-4T...	KGD...-5T...	KGD...-6T...
GDM	3020N-150R-CM	0.009	0.008	-	-	-
	4020N-200R-CM	-	0.009	0.008	-	-
	5020N-250R-CM	-	-	0.012	0.008	-
	6020N-300R-CM	-	-	-	0.012	0.010

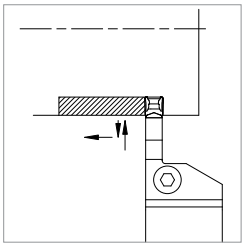


Guide for External Machining

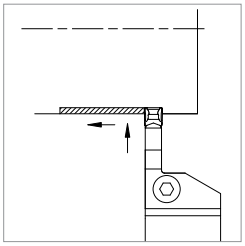
① (Turning After Grooving)

1. Grooving Depths Over 0.020" : At Roughing (**Fig.1**)
   Before traversing, pull the tool back about 0.004" after grooving, instead of traversing subsequent to grooving.
   (Failure to pull the tool back before traverse cutting will result in an unbalanced load applied on only one side of the cutting edge.)

2. Grooving Depths Under 0.020" : At Finishing (**Fig.2**)
   Traversing subsequent to grooving is possible because shallow groove depths relate a small load on the cutting edge.
   (Dwell-motion is not necessary)



Before traversing, pull the tool back about 0.004" after grooving.
(Grooving depth over 0.020" : At roughing)
Fig.1



Traversing subsequent to grooving.
(Grooving depth under 0.020" : At Finishing)
Fig.2

②

1. When widening the groove width, apply the "Step Turning" as shown in **Fig.3**

2. The widened groove and side walls should be finished last.
   (For better chip control, D.O.C. over 0.020" is recommended.)

Note: If the workpiece is not supported at the center, reduce the feed rate when grooving towards center

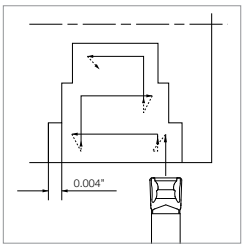
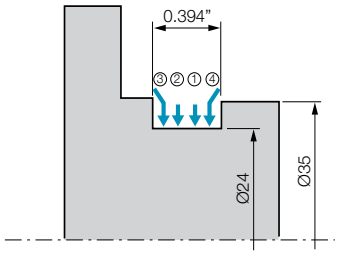


Fig.3

Case Studies

5120H (Grooving)

- Gear
- Vc = 370~540 sfm
- f = 0.002 ipr
- Wet
- GDM4020N-040GM (PR1225)
- KGDL2525X-3T10S



GM Chipbreaker (PR1225)	1,500 pcs/C
Competitor K (PVD Coated Carbide)	250 pcs/C

6X Longer Life

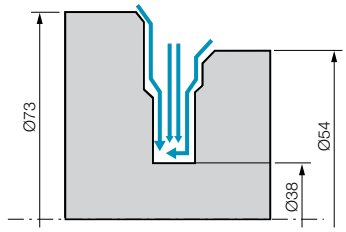
- KGD type grooving toolholder + GM chipbreaker (PR1225) showed 6 times longer tool life than that of Competitor K.
- Good chip control without burned chips.

Competitor K | GM Chipbreaker

(User Evaluation)

Structural Steel (Grooving Turning)

- Gear
- Vc = 560 sfm
- f = 0.006 ipr (Roughing)
  0.004 ipr (Finishing)
- D.O.C = 0.008" (Finishing)
- Wet
- GDM4020N-040GM (PR1215)
- KGDR2525X-4T20S



GM Chipbreaker (PR1215)	250 pcs/C
Competitor L (Roughing: PVD Coated Carbide) (Finishing: Cermet)	200 pcs/C

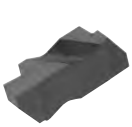
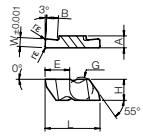
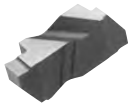
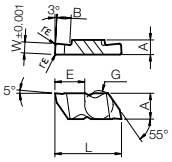
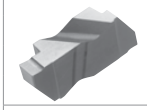
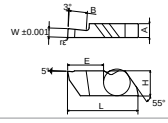
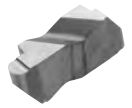
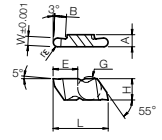
- GM chipbreaker reduced occurrence rate of tangle of chips (occurrence rate 80% ➡ 10%). The problem was persistent with Competitor L. Machining productivity is improved.

Chips easily tangled | Competitor L (Finishing)

Smooth chip control | GM Chipbreaker (Finishing)

(User Evaluation)

KCG / KCGP / KCGDP / KCRP

Insert (Right-handed Insert Shown)		Part Number	W (inch)	W (mm)	B	rε	A	L	H	E	Insert Grade: Cermet TC40	Cermet TC60	MEGA COAT CVD PR1215	PVD PR660	PVD PR930	Carbide KW10	Ceramic A65
	 KCG2..:G=Ø.1875" KCG3..:G=Ø.3750"	KCG 2062R/L	0.062	1.57	0.110	0.008	0.150	0.540	0.219	0.270							●
		2125R/L	0.125	3.18													Ⓛ
		3062R/L	0.062	1.57	0.094	0.008	0.195	0.810	0.344	0.405							Ⓡ
		3094R/L	0.094	2.39	0.150												●
		3125R/L	0.125	3.18													Ⓡ
		3156R/L	0.156	3.96													●
	 KCGP2..:G=Ø.1875" KCGP3..:G=Ø.3750" KCGP4..:G=Ø.3750"	KCGP 2031R/L	0.031	0.79	0.050	0.003	0.150	0.540	0.219	0.270	●	●	●	●	●	●	
		2041R/L	0.041	1.04							●	●	●		Ⓡ		
		2047R/L	0.047	1.19							●	●	●	●	●	●	
		KCGP 2058R/L	0.058	1.47	0.110	0.008	0.150	0.540	0.219	0.270	●		●				
		2062R/L	0.062	1.57							●	●	●	●	●	●	
		KCGP 2094R/L	0.094	2.39	0.110	0.008	0.150	0.540	0.219	0.270	●		●	●	●	●	
		2125R/L	0.125	3.18							●		●	●	●	Ⓡ	
		KCGP 3031R/L	0.031	0.79	0.050	0.008	0.195	0.810	0.344	0.405	●		●		●		
		3047R/L	0.047	1.19	0.075						●	●	●	●	●	Ⓡ	
		3062R/L	0.062	1.57	0.094						●	●	●	●	●	●	
		3072R/L	0.072	1.83							●	●	●		●		
		KCGP 3078R/L	0.078	1.98	0.094	0.008	0.195	0.810	0.344	0.405	●	Ⓡ	●	●	●		
		3088R/L	0.088	2.24							●	Ⓛ	●		●		
		KCGP 3094R/L	0.094	2.39	0.150	0.008	0.195	0.810	0.344	0.405	●	●	●	●	●	●	
		3097R/L	0.097	2.46							●				●		
		3105R/L	0.105	2.67							●		●		●		
		KCGP 3110R/L	0.110	2.79	0.150	0.008	0.195	0.810	0.344	0.405	●		●		●		
		3122R/L	0.122	3.10							●				●		
		3125R/L	0.125	3.18							●	●	●	●	●	●	
		KCGP 3142R/L	0.142	3.61	0.150	0.008	0.195	0.810	0.344	0.405	●				●		
		3156R/L	0.156	3.96							●	Ⓡ	●	Ⓛ	●		
		3178R/L	0.178	4.52							●				●		
		KCGP 3185R/L	0.185	4.70	0.150	0.008	0.195	0.810	0.344	0.405	●				●		
		3189R/L	0.189	4.80							●	●	●	Ⓛ	●	●	
		KCGP 4125R/L	0.125	3.18	0.150	0.008	0.255	1.272	0.453	0.636	●		●		●		
		4189R/L	0.189	4.80	0.250	0.018					●		●		●		
		4213R/L	0.213	5.41							●				●		
		KCGP 4219R/L	0.219	5.56	0.250	0.018	0.255	1.272	0.453	0.636	●				●		
		4250R/L	0.250	6.35							●		●		●		
		KCGDP 3062R/L	0.062	1.57	0.125	0.008	0.195	0.886	0.344	0.405	●		●		●		
		3094R/L	0.094	2.39	0.250	0.008	0.195	0.990	0.344	0.505	●		●		●		
		3125R/L	0.125	3.18							●		●		●		
		3189R/L	0.189	4.80	0.250	0.023					●				●		
	 KCRP2..:G=Ø.1875" KCRP3..:G=Ø.3750" KCRP4..:G=Ø.3750"	KCRP 2031R/L	0.062	1.57	0.094	0.031	0.150	0.540	0.219	0.270		Ⓡ	●	Ⓡ	Ⓡ		
		2039R/L	0.078	1.98	0.110	0.039									●		
		2047R/L	0.094	2.39	0.150	0.047							●				
		2062R/L	0.125	3.18	0.150	0.062						Ⓡ	●				
		KCRP 3031R/L	0.062	1.57	0.094	0.031	0.195	0.810	0.344	0.405	●	Ⓡ	●	●	●	Ⓛ	
		3047R/L	0.094	2.39	0.150	0.047					●		●	●	●		
		3062R/L	0.125	3.18	0.150	0.062					●		●	●	●		
		KCRP 3078R/L	0.156	3.96	0.150	0.078	0.195	0.810	0.344	0.405	●				●		
		3094R/L	0.188	4.78	0.150	0.094					●		●		●		
		KCRP 4125R/L	0.250	6.35	0.250	0.125	0.255	1.272	0.453	0.636	●		●	Ⓡ	●		

• Dimension B shows available Grooving Depth.

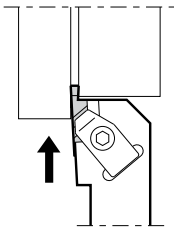
Applicable Toolholders ➔ G31, G71

Recommended Cutting Conditions (Cera-Notch)

Workpiece Material	Cermet Feeds (ipr)	Carbide Feeds (ipr)	Recommended Insert Grade (Vc : sfm) Cermet TC40	Cermet TC60	MEGACOAT PR1215	Carbide PR660	Carbide PR930	Carbide KW10	Ceramic A65
Carbon Steel	0.002~0.005	0.002~0.010	300~900	250~900	300~800	200~550	250~650	-	-
Alloy Steel	0.002~0.005	0.002~0.010	250~800	250~800	300~750	100~500	150~550	-	-
Stainless Steel	0.002~0.005	0.002~0.010	-	200~600	300~600	100~550	100~550	-	-
Tool Steel	0.002~0.005	0.002~0.010	200~650	200~650	300~600	-	100~550	-	-
Hardened Steel (>45Rc)	-	-	-	-	-	-	-	-	250~500*
Gray Cast Iron	0.003~0.006	0.002~0.012	200~700	-	300~700	-	-	-	500~1000
Ductile Iron	0.003~0.006	0.002~0.012	-	150~600	300~600	-	-	-	500~1000
Aluminum	0.002~0.008	0.002~0.012	150~1600	-	-	-	-	500~1600	-

Speeds & Feeds listed are for external grooving. Reduce parameters by 10% for internal grooving.
*Feeds = 0.003~0.008 ipr

KKC



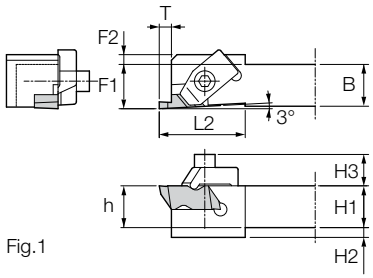


Fig.1

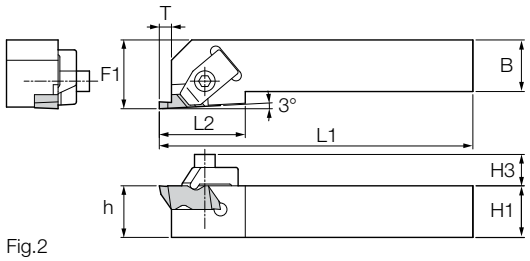


Fig.2

Right-hand shown

Toolholder Dimensions

Part Number	Stock		Unit	Dimensions									Drawing	Spare Parts		
														Clamp	Clamp Screw	Wrench
	R	L		H1=h	H2	H3	B	L1	L2	F1	F2	T*				
KKC…1212M-2-150F	●		mm	12	-	9.2	12	150	19.05	12.25	-	3.5	Fig.1	CKC-2…	SKC-2	(7/64 hex)
KKC…6-2X	●	●	inch	0.375	-	0.362	0.375	2.500	0.750	0.562	-	0.138	Fig.2	CKC-2…	SKC-2	(7/64 hex)
6-2CF	●	●		0.375	0.125	0.362	0.375	5.000	0.750	0.385	0.125	0.138	Fig.1			
8-2X	●	●		0.500	-	0.362	0.500	3.500	0.750	0.750	-	0.138	Fig.2			
8-2DF	●	●		0.500	-	0.362	0.500	6.000	0.750	0.510	-	0.138	Fig.1			
10-2DF	●	●		0.625	-	0.362	0.625	6.00	0.750	0.635	-	0.138	Fig.1			
12-2B	●	●		0.750	-	0.362	0.750	4.50	0.750	1.000	-	0.138	Fig.2	CKC-2…	SKC-2	(7/64 hex)
12-2C	●			0.750	-	0.362	0.750	5.00	0.750	1.000	-	0.138	Fig.2			
16-2C	●	●		1.000	-	0.362	1.000	5.00	0.750	1.250	-	0.138	Fig.2			
16-2D	●	●		1.000	-	0.362	1.000	6.00	0.750	1.250	-	0.138	Fig.2			
12-3B	●	●		0.750	-	0.465	0.750	4.50	1.250	1.000	-	0.210	Fig.2	CKC-3…	SKC-3	LW-156
12-3C	●	●		0.750	-	0.465	0.750	5.00	1.250	1.000	-	0.210	Fig.2			
16-3C	●	●		1.000	-	0.465	1.000	5.00	1.250	1.250	-	0.210	Fig.2			
16-3D	●	●		1.000	-	0.465	1.000	6.00	1.250	1.250	-	0.210	Fig.2			
20-3D	●	●		1.250	-	0.465	1.250	6.00	1.250	1.500	-	0.210	Fig.2			
16-4D	●	●		1.000	-	0.465	1.000	6.00	1.380	1.250	-	0.294	Fig.2			
20-4D	●	●		1.250	-	0.465	1.250	6.00	1.380	1.500	-	0.294	Fig.2			

* T dimension shows the distance from the toolholder to the cutting edge.

- Note: Right hand bars require right hand inserts and clamps
  Left hand bars require left hand inserts and clamps

Applicable Inserts ➔ G30

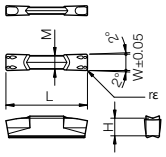
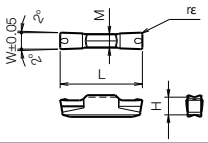
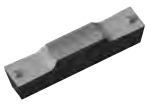
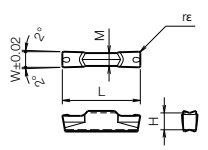
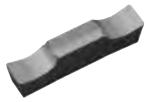
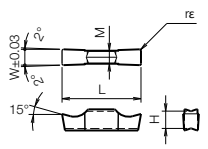
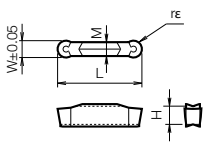
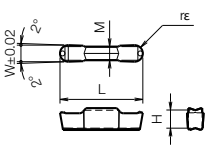
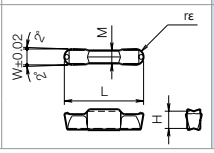
Applicable Inserts

Toolholder	Inserts ➔ G30	
	2-Edge Use	1-Edge Use
KKC… …-2	KCGP-2, KCG-2, KCRP-2	
KKC… …-3	KCGP-3, KCG-3, KCRP-3	KCGDP-3
KKC… …-4	KCGP-4, KCRP-4	

GMM / GMG

Classification of Usage
- ◕ : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

		Cermet	CVD Coated Carbide	PVD Coated Carbide			Carbide
		TN90	CR9025	PR915	PR930	PR905	KW10
P	Carbon Steel / Alloy Steel			◔	◕		
M	Stainless Steel			◕	◔		
K	Cast Iron					◕	◔
N	Non-ferrous Metals						◕
S	Titanium Alloy						◕
H	Hard materials (≤40HRC)			○	●		
	Hard materials (≥40HRC)						

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	W inch	W mm	rε	M	L	H	TN90	CR9025	PR915	PR930	PR905	KW10	Ref. Page for Toolholder
 Chip Control Oriented M-Class	 GMM2420-02	GMM 2420-020MW	GMM 2420-02	0.095	2.4	0.008	0.075	0.787	0.169	●	●	○	○	○	●	
		3020-020MW	3020-02	0.118	3.0	0.008	0.091			○	○	○	○	○	○	
		3020-040MW	3020-04			0.016				●		○	●	○	●	
		4020-020MW	4020-02	0.158	4.0	0.008	0.130			○	○	○	○	○	○	
		4020-040MW	4020-04			0.016				●	●	●	●	○	●	G36 G37
		4020-080MW	4020-08			0.031				○	○	○	○	○	○	
		5020-040MW	5020-04	0.197	5.0	0.016	0.165			○	○	●	○	○	○	
		5020-080MW	5020-08			0.031				○	●	○	●	○	●	
		6020-040MW	6020-04	0.236	6.0	0.016	0.205				○	●	○	○	○	
		6020-080MW	6020-08			0.031				●	○	○	●	○	○	
		8030-080MW	8030-08	0.315	8.0	0.031	0.236	1.181	0.217		○		●	○	○	G36,G68
 Sharp Cutting Oriented M-Class		GMM 3020-020MS	GMM 3020-02MS	0.118	3.0	0.008	0.091	0.787	0.169	○	○	○	○		○	
		3020-040MS	3020-04MS			0.016				○	○	○	○		○	
		4020-040MS	4020-04MS	0.158	4.0		0.130			○	○	○	●		○	G36 G37
		5020-040MS	5020-04MS	0.197	5.0	0.016	0.165			○		●	○		○	
		6020-040MS	6020-04MS	0.236	6.0		0.205				○		●		○	
 Sharp Cutting Oriented Precision Class		GMG 3020-000MS	GMG 3020-00	0.118	3.0	0.000	0.091	0.787	0.169		●	○	○		●	
		3020-020MS	3020-02			0.008				○	●	○	○		●	
		3020-040MS	3020-04			0.016				○	●	○	○		●	
		4020-020MS	4020-02	0.158	4.0	0.008	0.130			○	○	●	○		○	
		4020-040MS	4020-04			0.016				○	●	○	●		○	G36 G37
		4020-080MS	4020-08			0.031				○	●	○	○		○	
		5020-040MS	5020-04	0.197	5.0	0.016	0.165			○	●	○	○		●	
		5020-080MS	5020-08			0.031				○	○	○	○		○	
		6020-040MS	6020-04	0.236	6.0	0.016	0.205				●		○		○	
		6020-080MS	6020-08			0.031				○	○		○		●	
 Sharp-Cutting Oriented / Precision Class Ground Chipbreaker		GMG 2520-030MG	GMG 2520-03MG	0.098	2.5	0.012	0.079	0.787	0.169	○		○	○	○	○	
		3020-030MG	3020-03MG	0.118	3.0		0.091			○	○	○	○	○	○	
		3520-030MG	3520-03MG	0.138	3.5		0.110			○	○	○	○	○	○	G36 G37
		4020-040MG	4020-04MG	0.158	4.0		0.130			○	○	○	○	○	○	
		5020-040MG	5020-04MG	0.197	5.0	0.016	0.165			○	○	○	○	○	○	
		6020-040MG	6020-04MG	0.236	6.0		0.205			○	○		○	○	○	
		8030-050MG	8030-05MG	0.315	8.0	0.020	0.236	1.181	0.217	○	○		○	○	○	G36,G68
 Chip Control Oriented / M Class / Full-R / Copying		GMM 3020-150R	GMM 3020-15R	0.118	3.0	0.059	0.091	0.787	0.169	●	●	○	○	○	○	
		4020-200R	4020-20R	0.158	4.0	0.079	0.130			○	●	○	○	○	○	G36 G37
		5020-250R	5020-25R	0.197	5.0	0.098	0.165			○	●	○	○	○	○	
		6020-300R	6020-30R	0.236	6.0	0.118	0.205			●	○	○	○	○	○	
 Sharp-Cutting Oriented / Precision Class Full-R / Copying		GMG 3020-150R	GMG 3020-15R	0.118	3.0	0.059	0.091	0.787	0.169	○	●		○		○	
		4020-200R	4020-20R	0.158	4.0	0.079	0.130			○	●		○		○	G36 G37
		5020-250R	5020-25R	0.197	5.0	0.098	0.165				●		○		●	
		6020-300R	6020-30R	0.236	6.0	0.118	0.205				●		○		○	
 Undercutting Chip Control Oriented		GMG 3020-150RU	GMG 3020-15RU	0.118	3.0	0.059	0.091	0.787	0.169		○		○		○	
		4020-200RU	4020-20RU	0.158	4.0	0.079	0.130				○		○		○	G36 G37 G39
		5020-250RU	5020-25RU	0.197	5.0	0.098	0.165				○		○		○	

Recommended Cutting Conditions ➔ G129

Inserts are sold in 10 piece boxes.

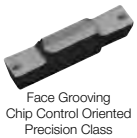
(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

GMM / GMGA / FGG

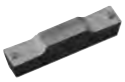
Classification of Usage
- ◕ : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

		Cermet	CVD Coated Carbide	PVD Coated Carbide		Carbide	Ref. Page for Toolholder
		TN90	CR9025	PR915	PR930	KW10	
P	Carbon Steel / Alloy Steel			◔	◕		
M	Stainless Steel			◕	◔		
K	Cast Iron					◕	
N	Non-ferrous Metals					◕	
S	Titanium Alloy					◕	
H	Hard materials (≤40HRC)			○	●		
	Hard materials (≥40HRC)						

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Dimensions (in) W inch	W mm	rε	M	L	H	Cermet TN90	CVD Coated Carbide CR9025	PVD Coated Carbide PR915	PVD Coated Carbide PR930	Carbide KW10	Ref. Page for Toolholder
 Sharp-Cutting Oriented / Precision Class / Full-R / Copying	GMGA 6020-300R	GMGA 6020-30R	0.236	6.0	0.118	0.169	0.787	0.169					○	G36 G37
 Sharp Cutting Oriented / Precision Class / Full-R / Copying	GMGA 8030-400R	GMGA 8030-40R	0.315	8.0	0.157	0.236	1.181	0.217					○	G36 G68
 Chip Control Oriented / M Class	GMM 3014-04	-	0.118	3.0	0.016	0.091	0.551	0.169	○	○	●	○	○	
 Chip Control Oriented / M Class Full-R / Copying	GMM 3014-15R	-	0.118	3.0	0.059	0.091	0.551	0.169	○	○		○	○	G38
 Undercutting Chip Control Oriented	GMM 3014-15RU	-	0.118	3.0	0.059	0.091	0.551	0.169				○		
 Face Grooving Chip Control Oriented Precision Class	FGG 3020-02	-	0.118	3.0	0.008	0.091	0.787	0.169	○	○		○	○	G38
	4020-04		0.158	4.0	0.016	0.130				○		○	○	
	5020-04		0.197	5.0	0.016	0.165				○		○	○	

Recommended Cutting Conditions ➔ G129

Chipbreakers

Series	Insert	Features
GMM...MW		Excellent chip evacuation during grooving, traversing, and cut-off.
GMG...MG		Low cutting forces with ground chipbreaker.
GMG...MS GMM...MS		Grooving, traversing and cut-off operations have minimum cutting forces with positive edge
GMM...MT		Small corner-R(rε) minimizes the core which remains in the center of the face.
GMM...TK		Large corner-R(rε) with stable performance during cut-off.
GMM...NB		Flat rake face without chipbreaker. Good performance for brass.

Edge Preparation

Edge Preparation	Chamfered + Honed Cutting Edge Corner-R(rε) = 0.05	Chamfered + Honed Cutting Edge Sharp Corner
		
MT-Chipbreaker	CR9025 / PR915	PR930 / KW10
Edge Preparation	Chamfered + Honed Cutting Edge Corner-R(rε) = 0.20~0.30	Sharp Edge Corner-R(rε) = 0.20~0.30
		
TK-Chipbreaker	CR9025 / PR915	PR930 / KW10
Edge Preparation	Honed Cutting Edge Corner-R(rε) = 0.05	Sharp Edge Sharp Corner
		
Without Chipbreaker (-NB)	CR9025	PR930 / KW10

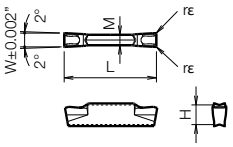
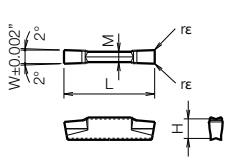
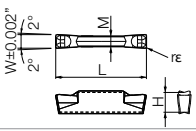
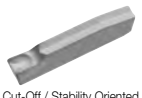
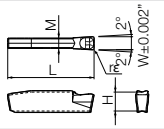
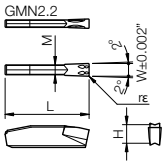
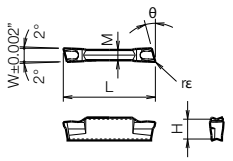
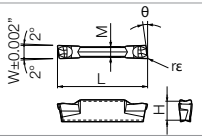
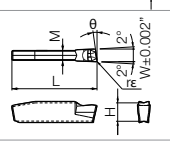
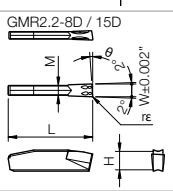
• Sharp Edge Spec. can reduce cutting resistance 40% less than that of chamfer edge

Inserts are sold in 10 piece boxes.

GMM / GMN / GM®

Classification of Usage
- ● : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

P	Carbon Steel / Alloy Steel			◔	●	
M	Stainless Steel			●	◔	
K	Cast Iron					●
N	Non-ferrous Metals					●
S	Titanium Alloy					●
H	Hard materials (≤40HRC)			○	●	
	Hard materials (≥40HRC)					

Insert (Right-handed Insert Shown)	Part Number	Dimensions (in) W inch	W mm	rε	M	L	H	Angle (°) θ	Cermet TN90	CVD Coated Carbide CR9025	PVD Coated Carbide PR915	PVD Coated Carbide PR930	Carbide KW10	Ref. Page for Toolholder
 Deep Grooving / Cut-Off Sharp Cutting Oriented		GMM 1520-MT	0.059	1.5	0.000 0.002	0.047	0.787	0.169	-				●	●	
		2020-MT	0.079	2.0	0.000 0.002	0.059						●		●	○	
		2520-MT	0.098	2.5	0.000 0.002	0.075					○	○		●	○	
		3020-MT	0.118	3.0	0.000 0.002	0.091					○	●		●	○	
 Deep Grooving / Cut-Off Sharp Cutting Oriented Without Chipbreaker		GMM 1520-NB	0.059	1.5	0.000 0.002	0.047	0.787	0.169	-				○	○	
		2020-NB	0.079	2.0	0.000 0.002	0.059					○			○	○	
		2520-NB	0.098	2.5	0.000 0.002	0.075					○			○	○	
		3020-NB	0.118	3.0	0.000 0.002	0.091					○			○	○	
 Deep Grooving / Cut-Off Stability Oriented		GMM 2020-TK	0.079	2.0	0.008	0.059	0.787	0.169	-			○	●	○	
		2520-TK	0.098	2.5	0.008	0.075					○	○	○	○	
		3020-TK	0.118	3.0	0.010	0.091					○	●	●	○	
 Cut-Off / Stability Oriented 1-Edge		GMN 2-TK	0.079	2.0	0.008	0.059	0.787	0.169	-			○	○	○	
		3-TK	0.118	3.0	0.010	0.091					○	○	○	○	
		4-TK	0.158	4.0	0.012	0.130					○	●	○	○	
 Deep Grooving / Cut-Off 1-Edge		GMN 2.2	0.087	2.2	0.007	0.071	0.787	0.169	-	○	●		○	●	
		3	0.118	3.0	0.008	0.091				○	●		●	●	
		4	0.158	4.0	0.010	0.130				○			●	●	G36 G37
		5	0.197	5.0	0.031	0.165					○		○	○	
		6	0.236	6.0	0.031	0.205					○		○	○	
 Cut-Off / Sharp Cutting Oriented with Lead Angle		GMM 1520®-MT-15D	0.059	1.5	0.000 0.002	0.047	0.787	0.169	15°			Ⓡ	●	Ⓡ	
		2020®-MT-15D		2.0	0.000 0.002	0.059					○	Ⓡ	●	○	
		2520®-MT-15D	0.098	2.5	0.000 0.002	0.075					○	Ⓡ	●	○	
		3020®-MT-15D		3.0	0.000 0.002	0.091					●	Ⓡ	●	Ⓛ	
 Cut-Off / Stability Oriented With Lead Angle		GMM 2020®-TK-8D	0.079	2.0	0.008	0.059	0.787	0.169	8°			Ⓡ	Ⓡ	Ⓡ	
		2520®-TK-8D	0.098	2.5	0.008	0.075					Ⓡ	Ⓡ	Ⓡ	Ⓡ	
		3020®-TK-8D	0.118	3.0	0.010	0.091					Ⓡ	Ⓡ	Ⓡ	Ⓡ	
 Cut-Off / Stability Oriented 1-Edge with Lead Angle		GM® 2-TK-8D	0.079	2.0	0.008	0.059	0.787	0.169	8°			Ⓡ	Ⓡ	Ⓡ	
		3-TK-8D	0.118	3.0	0.010	0.091					Ⓡ	Ⓡ	Ⓡ	Ⓡ	
		4-TK-8D	0.158	4.0	0.012	0.130						Ⓡ	Ⓡ	Ⓡ	
 Cut-Off Sharp Cutting Oriented 1-Edge with Lead Angle		GM® 2.2-8D	0.087	2.2	0.007	0.071	0.787	0.169	8°	Ⓡ	Ⓡ		Ⓡ	Ⓡ	
		2.2-15D			0.000				15°	Ⓡ	Ⓡ		Ⓡ	Ⓡ	
		3-4D	0.118	3.0	0.008	0.091			4°	Ⓡ	●		○	Ⓡ	
		3-15D	0.118	3.0	0.008				15°		Ⓡ				
		4-4D	0.158	4.0	0.010	0.130			4°		○		Ⓡ		

Recommended Cutting Conditions ➡ G129

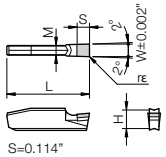
Inserts are sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

GMN

Classification of Usage
- ● : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

					Ref. Page for Toolholder
P	Carbon Steel / Alloy Steel			●	
M	Stainless Steel				
K	Cast Iron				
N	Non-ferrous Metals			●	
S	Titanium Alloy			●	
H	Hard materials (≤40HRC)				
	Hard materials (≥40HRC)	○	●		



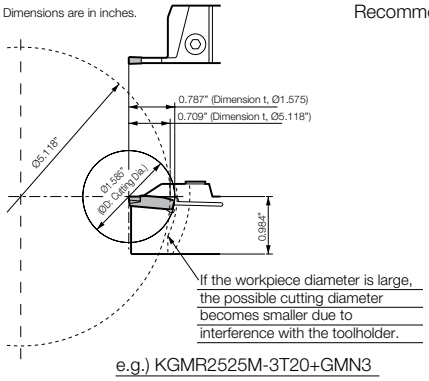
Insert	Part Number	Dimensions (in) W inch	W mm	rε	M	L	H	S	CBN KBN510	CBN KBN525	PCD KPD001	PCD KPD010	Ref. Page for Toolholder
	GMN 2	0.079	2.0	0.008	0.071						○	○	
				0.016					○	○			
	3	0.118	3.0	0.008	0.091						○	○	
				0.016					○	○			
	4	0.158	4.0	0.008	0.130	0.787	0.169	0.114			○	○	→ G36
				0.016					○	○			→ G37
	5	0.197	5.0	0.008	0.165						○	○	
				0.016					○	○			
	6	0.236	6.0	0.008	0.205							○	
				0.016					○	○			

Recommended Cutting Conditions → G129

KGM / KGM-T Available Cutting Diameter

There is a limit to available grooving depth depending on the workpiece diameter

Dimensions are in inches.



e.g.) KGMR2525M-3T20+GMN3

KGM Available Cutting Diameter Table

Toolholders		ØD Cutting Diameter																
KGM℠	0810K-1.5-125	-	-	-	-	-	-	-	-	-	-	-	-	10mm	14mm	16mm	32mm	
	1010○-1.5…	-	-	-	-	-	-	-	20mm	25mm	32mm	40mm	60mm	∞	∞	∞	∞	
	1212○-1.5…	-	-	-	-	25mm	26mm	28mm	32mm	36mm	40mm	60mm	100mm					
	0810K-2-125	-	-	-	-	-	-	-	-	-	-	-	-	10mm	14mm	16mm	32mm	
	6-2-5								0.80"	1.00"	1.28"	1.60"	2.40"					
	1010○-2…	-	-	-	-	-	-	-	20mm	25mm	32mm	40mm	60mm					
	8-2-6					1.00"	1.04"	1.12"	2.00"									∞
	1212○-2…	-	-	-	-	25mm	26mm	28mm	50mm	∞	∞	∞	∞					
	1616○-2…	32mm	40mm	50mm	60mm	80mm	100mm	∞	∞					∞	∞	∞	∞	
	1010○-2.5…	-	-	-	-	-	-	-	20mm	25mm	32mm	40mm	60mm					
	1212○-2.5…	-	-	-	-	25mm	26mm	28mm	32mm	36mm	40mm	60mm	100mm					
	1616○-2.5…	32mm	40mm	50mm	60mm	80mm	100mm	∞	∞	∞	∞	∞	∞					
	1616○-3…	32mm	40mm	50mm	60mm	80mm	100mm											
Available Grooving Depth T (in)		0.64"	0.60"	0.56"	0.52"	0.50"	0.48"	0.44"	0.40"	0.36"	0.32"	0.28"	0.24"	0.20"	0.16"	0.12"	0.08"	0.04"
Available Grooving Depth T (mm)		16mm	15mm	14mm	13mm	12.5mm	12mm	11mm	10mm	9mm	8mm	7mm	6mm	5mm	4mm	3mm	2mm	1mm

KGM-T Available Cutting Diameter Table (GMN, GM℠ When Using 1-edge Insert)

Toolholders		ØD Cutting Diameter											
KGM℠	2012K-2T17	-	-	-	-	-	-	-	-	66mm	80mm	130mm	260mm	
	12-2T	-	-	-	-	-	-	-	-	2.64"	3.20"	5.20"	10.40"	
	2020K-2T17	-	-	-	-	-	-	-	-	66mm	80mm	130mm	260mm	
	16-2T	-	-	-	-	-	-	-	-	2.64"	3.20"	5.20"	10.40"	
	2525M-2T1710	-	-	-	-	-	-	-	-	66mm	80mm	130mm	260mm	
	1616H-3T20	-	-	-	-	-	40mm	54mm	70mm	100mm	180mm			
	2012K-3T20	-	-	-	-	-	40mm	90mm	130mm	240mm				
	12-3T	-	-	-	-	-	1.60"	3.60"	5.20"	9.60"				
	2020K-3T20	-	-	-	-	-	40mm	90mm	130mm	240mm				
	16-3T	-	-	-	-	-	1.60"	3.60"	5.20"	9.60"				∞
	2525M-3T20	-	-	-	-	-	40mm	90mm	130mm	240mm				
	12-4T	-	-	-	-	-	1.60"	3.60"	5.20"	9.60"				
	2020K-4T20	-	-	-	-	-	40mm	90mm	130mm	240mm	∞	∞	∞	
	2525M-4T20	-	-	-	-	-	40mm	90mm	130mm	240mm				
	16-4T	-	-	2.00"	5.60"	9.60"								
	2525M-4T25	-	-	50mm	140mm	240mm								
	16-5T	-	-	2.00"	5.60"	9.60"								
	2525M-5T25	-	-	50mm	140mm	240mm	∞	∞	∞	∞				
	3232P-5T25	-	-	50mm	280mm	600mm								
	2525M-6T30	100mm	300mm	∞	∞	∞								
Available Grooving Depth T (in)		1.20"	1.08"	1.00"	0.92"	0.88"	0.80"	0.76"	0.72"	0.68"	0.64"	0.60"	0.56"	<0.52"
Available Grooving Depth T (mm)		30mm	27mm	25mm	23mm	22mm	20mm	19mm	18mm	17mm	16mm	15mm	14mm	<13mm

CBN & PCD Inserts are sold in 1 piece boxes.

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

(Customer Service) **800.823.7284 - Option 1**
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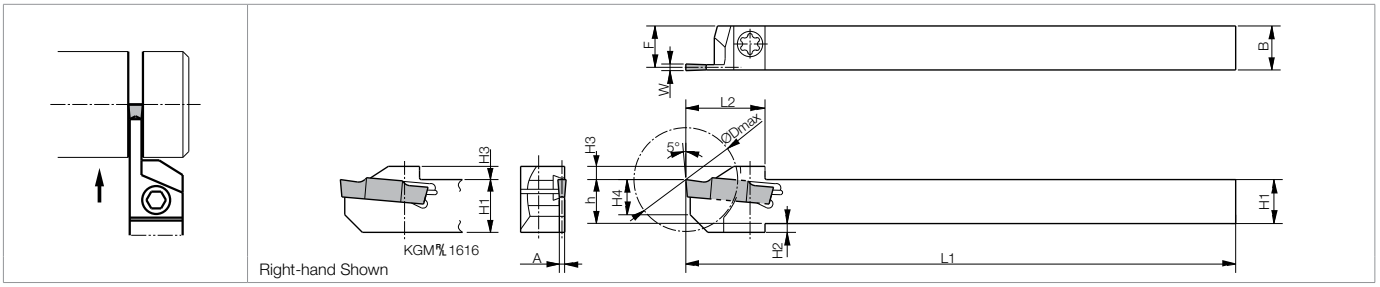
KGM (Small Parts) Will be phased out and switched to KGD ➔ G19

Insert Width : 0.079"~0.118" / 1.5mm~4.0mm



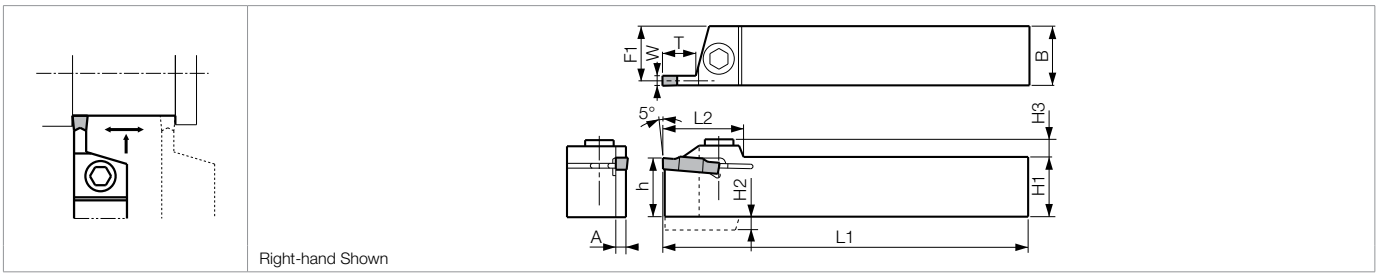
Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Cut-Off Dia. ØDmax	Dimensions H1=h	H2	H3	H4	B	L1	L2	F	A	Insert Width W MIN	Insert Width W MAX	Spare Parts: Clamp Screw	Spare Parts: Wrench
KGM 6-2-5	●	●	inch	0.787	0.375	0.079	0.117	0.316	0.375	5.000	0.750	0.342	0.067	0.079	0.118	SE-40120TR	LTW-15S
8-2-6	●	●		0.984	0.500	0.051	0.138	0.394	0.500	6.000	0.830	0.467	0.067	0.079	0.118		
KGM 1010JX-1.5	○	○	mm	20	10	2	3	8	10	120	18.0	9.40	1.2	1.5	2.0	SE-40120TR	LTW-15S
1212JX-1.5	○	○		25	12	2	4	10	12	120	20.5	11.40	1.2	1.5	2.0		
KGM 1010JX-2	○	○		20	10	2	3	8	10	120	18.0	9.15	1.7	2.0	3.0	SE-40120TR	LTW-15S
1212JX-2	○	○		25	12	2	4	10	12	120	19.0	11.15	1.7	2.0	3.0		
1616JX-2	●	●		32	16	-	4	9	16	120	24.5	15.15	1.7	2.0	3.0	SE-50125TR	LTW-20
KGM 1212JX-2.5	○			25	12	2	4	10	12	120	20.5	11.00	2.0	2.4	3.0	SE-40120TR	LTW-15S
1616JX-2.5		●		32	16	-	4	9	16	120	25.5	15.00	2.0	2.4	3.0	SE-50125TR	LTW-20
KGM 1616JX-3	○	○		32	16	-	4	9	16	120	25.5	14.80	2.4	3.0	4.0	SE-50125TR	LTW-20
KGM 1212F-1.5-85	○			25	12	2	4	10	12	85	19.0	11.40	1.2	1.5	2.0	SE-40120TR	LTW-15S
1212F-2-85	○			25	12	2	4	10	12	85	19.0	11.15	1.7	2.0	3.0		
1212F-2.5-85	○			25	12	2	4	10	12	85	19.0	11.00	2.0	2.4	3.0		

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above. Insert table ➔ **G32~G35**

KGM Will be phased out and switched to KGD ➔ G20~G23

Insert Width : 0.750"~1.000" / 3mm~6mm



Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Dimensions H1=h	H2	H3	B	L1	L2	F1	A	T	Insert Width W MIN	Insert Width W MAX	Spare Parts: Clamp Screw	Clamp Screw	Wrench	Wrench
KGM 12-3	●		inch	0.750	-	0.217	0.750	5.000	1.070	0.702	0.094	0.354	0.118	0.157	-	HH5X16	-	LW-4
16-3	●			1.000	-	0.217	1.000	6.000	1.070	0.953	0.094	0.354	0.118	0.157		HH5X25		
KGM 1212H-3	○	○	mm	12	4	6	12	100	27	10.8	2.4	9	3.0	3.0	SB-5TR	-	LTW-20	-
1616H-3	●	○		16	4	7	16	100	27	14.8	2.4	9	3.0	4.0	-	HH5X16	-	LW-4
2020K-3	○	○		20	-	7	20	125	27	18.8	2.4	9	3.0	4.0				
2525M-3	○	○		25	-	7	25	150	27	23.8	2.4	9	3.0	4.0		HH5X25		
KGM 2020K-4	○	○		20	-	7	20	125	27	18.3	3.4	10	4.0	5.0	-	HH5X16	-	LW-4
2525M-4	○	○		25	-	7	25	150	27	23.3	3.4	10	4.0	5.0		HH5X25		
KGM 2020K-5	○	○		20	-	7	20	125	27	17.8	4.4	10	5.0	6.0	-	HH5X16	-	LW-4
2525M-5	○	○		25	-	7	25	150	27	22.8	4.4	10	5.0	6.0		HH5X25		
3232P-5	○	○		32	-	7	32	170	27	29.8	4.4	10	5.0	6.0				
KGM 2525M-8	○	○		25	7.5	10.5	25	150	40	22.0	6.0	25	8.0	8.0	-	HH6X25	-	LW-5
3232P-8	○	○		32	-	10.5	32	170	40	29.0	6.0	25	8.0	8.0				

- Dimension T shows available grooving depth
- 4.0mm width insert can be installed in KGM 1212H-3, but is not recommended due to the toolholder's rigidity

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above.
Insert table ➔ **G32~G35**

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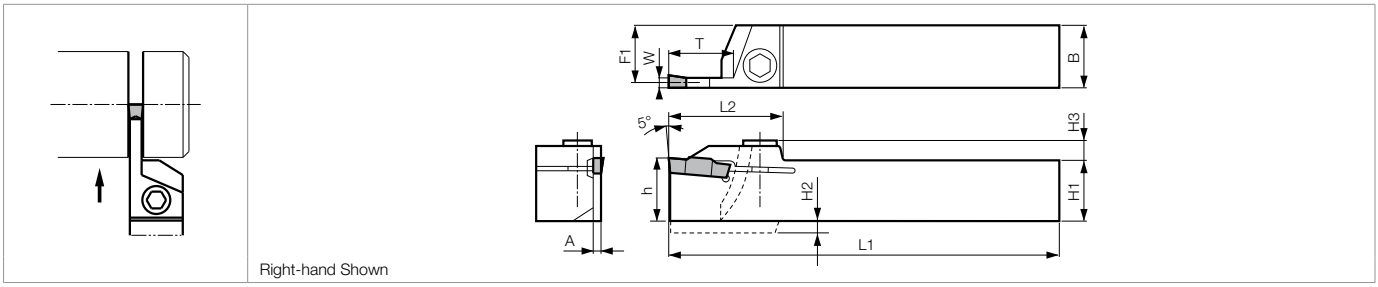
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

KGM-T Will be phased out and switched to KGD ➔ G20~G21

Insert Width : 0.078"~0.236" / 2.0mm~5.0mm



Right-hand Shown

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Dimensions H1=h	H2	H3	B	L1	L2	F1	A	T	Insert Width W MIN	Insert Width W MAX	Spare Parts Clamp Screw	Spare Parts Clamp Screw	Spare Parts Wrench	Spare Parts Wrench
KGM□ 12-2T	●	●		0.75	-	0.24	0.75	5.0	1.30	0.717	0.067	0.669	0.078	0.118	-	HH5X16	-	LW-4
16-2T	●			1.00	-	0.24	1.00	6.0	1.30	0.967	0.067	0.669				HH5X25		
KGM□ 12-3T	●	●		0.75	-	0.24	0.75	5.0	1.42	0.702	0.094	0.787	0.118	0.157	-	HH5X16	-	
16-3T	●	●	inch	1.00	-	0.24	1.00	6.0	1.42	0.953	0.094	0.787				HH5X25		
KGM□ 12-4T	●	●		0.75	-	0.24	0.75	5.0	1.42	0.683	0.133	0.787	0.157	0.197	-	HH5X16	-	
16-4T	●			1.00	-	0.24	1.00	6.0	1.22	0.933	0.133	0.984				HH5X25		
KGM□ 16-5T	●	●		1.00	-	0.24	1.00	6.0	1.22	0.913	0.173	0.984	0.197	0.236	-	HH5X25	-	-
KGM□ 2012K-2T17	○	○		20	-	7	12	125	33	11.15	1.7	17	2.0	3.0	SB-5TR	-	LTW-20	-
2020K-2T17	○	○		20	-	7	20	125		19.15			2.0	3.0	-	HH5X16	-	LW-4
2525M-2T17	○	○		25	-	7	25	150		24.15			2.0	3.0		HH5X25		
KGM□ 1616H-3T20	●	●		16	4	7	16	100	36	14.8	2.4	20	3.0	4.0	-	HH5X16	-	LW-4
2012K-3T20	○	○		20	-	7	12	125		10.8			3.0	4.0	SB-5TR	-	LTW-20	-
2020K-3T20	○	○		20	-	7	20			18.8			3.0	4.0	-	HH5X16	-	LW-4
2525M-3T20	○	○	mm	25	-	7	25	150		23.8			3.0	4.0		HH5X25		
KGM□ 2020K-4T20	○	○		20	-	7.5	20	125	36	18.3	3.4	20	4.0	5.0	-	HH5X16	-	LW-4
2525M-4T20	○	○		25	-	7.5	25	150		23.3			4.0	5.0		HH5X25		
2525M-4T25	○	○		25	-	7.5			41			25	4.0	5.0				
KGM□ 2525M-5T25	○	○		25	-	8.5	25	150	42	22.8	4.4	25	5.0	6.0	-	HH5X25	-	LW-4
3232P-5T25	○	○		32	-	8.5	32	170		29.8			5.0	6.0				
KGM□ 2525M-6T30	○	○		25	-	9.5	25	150	45	22.4	5.2	30	6.0	6.0	-	HH5X25	-	LW-4

- Dimension T shows the distance from the toolholder to the cutting edge. Refer to table on ➔ **G35** for relationship between available grooving depth and cutting diameter
- When using GMG / GMM type 2-edge insert, set groove depth under 0.591"(15mm)

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above. Insert table ➔ **G32~G35**

Applicable Inserts

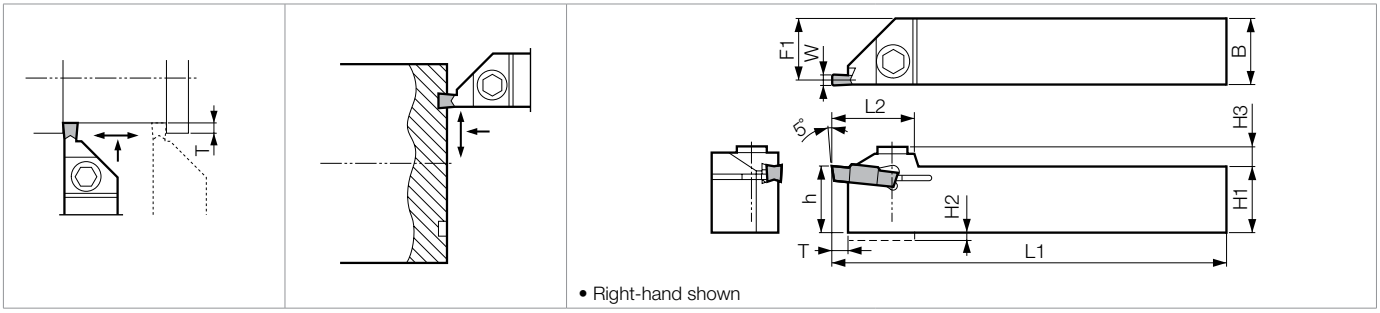
Application	Grooving / Traversing	Grooving / Traversing	Grooving	Full-R / Copying	Full-R / Copying	Deep Grooving / Cut-Off	Deep Grooving / Cut-Off	Deep Grooving / Cut-Off	Deep Grooving / Cut-Off	Deep Grooving / Cut-Off	Deep Grooving
Ref. Page	➔ G32	➔ G32	➔ G32	➔ G32	➔ G33	➔ G34	➔ G34	➔ G34	➔ G34	➔ G34	➔ G35
Insert / Toolholder	MW	MS	MG			MT	NB	TK	TK		CBN • PCD
KGM□...1.5	-	-	-	-	-	GMM1520...MT GMM2020...MT GMM1520□...MT GMM2020□...MT	GMM1520...NB GMM2020...NB	GMM2020...TK GMM2020□...TK	GMN2...TK GM□2...TK	-	-
KGM□...-2- KGM□...-2(T)	GMM2420...MW GMM3020...MW	GMG3020...MS GMM3020...MS	GMG2520...MG GMG3020...MG	GMG3020...R GMM3020...R	-	GMM2020...MT GMM2520...MT GMM3020...MT GMM2020□...MT GMM2520□...MT GMM3020□...MT	GMM2020...NB GMM2520...NB GMM3020...NB	GMM2020...TK GMM2520...TK GMM3020...TK GMM2020□...TK GMM2520□...TK GMM3020□...TK	GMN2...TK GMN3...TK GM□2...TK GM□3...TK	GMN2.2 GMN3 GM□2.2 GM□3	GMN2 GMN3
KGM□...2.5	GMM2420...MW GMM3020...MW	GMG3020...MS GMM3020...MS	GMG2520...MG GMG3020...MG	GMG3020...R GMM3020...R	-	GMM2520...MT GMM3020...MT GMM2520□...MT GMM3020□...MT	GMM2520...NB GMM3020...NB	GMM2520...TK GMM3020...TK GMM2520□...TK GMM3020□...TK	GMN3...TK GM□3...TK	GMN3 GM□3	GMN3
KGM□...-3(T)	GMM3020...MW GMM4020...MW	GMG3020...MS GMM3020...MS GMG4020...MS GMM4020...MS	GMG3020...MG GMG3520...MG GMG4020...MG	GMG3020...R GMM3020...R GMG4020...R GMM4020...R	-	GMM3020...MT GMM3020□...MT	GMM3020...NB	GMM3020...TK GMM3020□...TK	GMN3...TK GMN4...TK GM□3...TK GM□4...TK	GMN3 GMN4 GM□3 GM□4	GMN3 GMN4
KGM□...-4(T)	GMM4020...MW GMM5020...MW	GMG4020...MS GMM4020...MS GMG5020...MS GMM5020...MS	GMG4020...MG GMG5020...MG	GMG4020...R GMM4020...R GMG5020...R GMM5020...R	-	-	-	-	GMN4...TK GM□4...TK	GMN4 GMN5 GM□4	GMN4 GMN5
KGM□...-5(T)	GMM5020...MW GMM6020...MW	GMG5020...MS GMM5020...MS GMG6020...MS GMM6020...MS	GMG5020...MG GMG6020...MG	GMG5020...R GMM5020...R GMG6020...R GMM6020...R	GMGA6020..R	-	-	-	-	GMN5 GMN6	GMN5 GMN6
KGM□...-6T	GMM6020..MW	GMG6020..MS GMM6020..MS	GMG6020..MG	GMG6020..R GMM6020..R	GMGA6020..R	-	-	-	-	GMN6	GMN6
KGM□...8	GMM8030..MW	-	GMG8030..MG	-	GMGA8030..R	-	-	-	-	-	-

- If using a full-R insert, you need to modify the corner of insert adapter part (dimension A) of toolholder.

Recommended Cutting Condtions ➔ **G129**
Recommended Cutting Condtions (CBN / PCD) ➔ **G128**

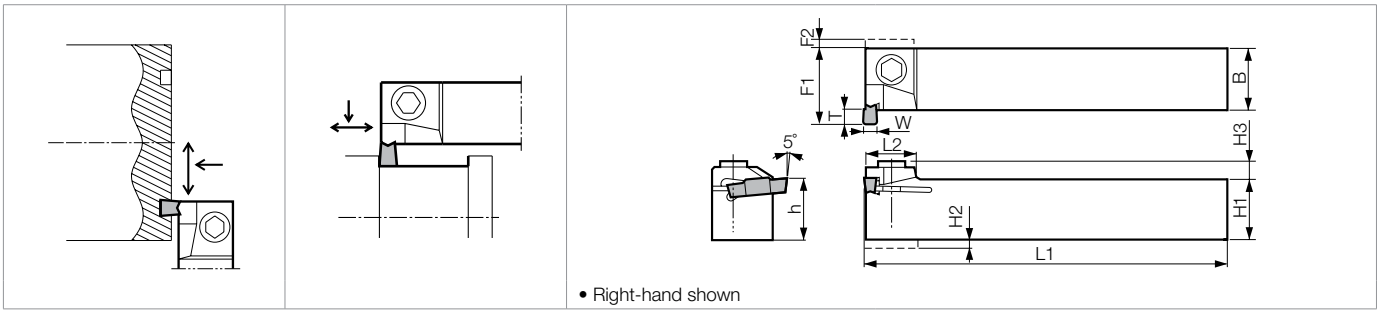
● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

KGMM



• Right-hand shown

KGMS



• Right-hand shown

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	H1=h	H2	H3	B	L1	L2	F1	F2	T	Insert Width W (mm) MIN	Insert Width W (mm) MAX	Spare Parts: Screw		Spare Parts: Wrench	
KGMMR/L 1212H-3	○	○	mm	12	4	5	12	100	25	10.8	-	4.8	3.0	5.0	SB-5TR	-	LTW-20	-
1616H-3	○	○		16	-		16			14.8					-	HH5X16	-	LW-4
2020K-3	○	○		20		6	20	125		18.8								
2525M-3	○	○		25			25	150		23.8					-	HH5X25	-	LW-4
KGMSR/L 1212H-3	○	○		12	4	5	12	100	17	17	1.5	4.8	3.0	3.0	SB-5TR	-	LTW-20	-
1616H-3	○	○		16	-		16			21.5			3.0	5.0	GS-50	-	-	LW-3
2020K-3	○	○		20		6	20	125		25	-				-	HH5X16	-	LW-4
2525M-3	○	○		25			25	150		30					-	HH5X25	-	LW-4

• Dimension T shows available grooving depth. (Ref. to the table ➡ **G39** for Face Grooving)

Applicable Inserts [External Grooving]

Application	Grooving / Traversing	Grooving / Traversing	Grooving	Full-R / Copying	Grooving	Grooving	Grooving	Grooving	Grooving	Grooving
Ref. Page	➡ G32, G33	➡ G32	➡ G32	➡ G32, G33	➡ G34	➡ G34	➡ G34	➡ G34	➡ G34	➡ G35
Insert / Toolholder	(MW)	MS	MG		MT	NB	TK	TK		CBN • PCD
KGMSR/L 1212H-3	GMM3014..	-	-	GMM3014..R	-	-	-	-	-	-
KGMMR/L···3 KGMSR/L···3	GMM3020..MW GMM4020..MW GMM5020..MW	GMG3020..MS GMM3020..MS GMG4020..MS GMM4020..MS GMG5020..MS GMM5020..MS	GMG3020..MG GMG3520..MG GMG4020..MG GMG5020..MG	GMG3020..R GMM3020..R GMG4020..R GMM4020..R GMG5020..R GMM5020..R	GMM3020..MT	GMM3020..NB	GMM3020..TK	GMN3..TK GMN4..TK	GMN3 GMN4 GMN5	GMN3 GMN4 GMN5

Applicable Inserts [Face Grooving]

Application	Grooving / Traversing	Undercutting	Grooving / Traversing	Grooving / Traversing	Grooving	Full-R / Copying	Grooving	Grooving	Grooving	Grooving
Ref. Page	➡ G33	➡ G32, G33	➡ G32	➡ G32	➡ G32	➡ G32	➡ G34	➡ G34	➡ G34	➡ G34
Insert / Toolholder			MW	MS	MG		MT	NB	TK	
KGMSR/L 1212H-3	-	GMM3014..RU	-	-	-	-	-	-	-	-
KGMMR/L···3 KGMSR/L···3	FGGR/L3020.. FGGR/L4020.. FGGR/L5020..	GMG3020..RU GMG4020..RU GMG5020..RU	GMM3020..MW GMM4020..MW GMM5020..MW	GMG3020..MS GMM3020..MS GMG4020..MS GMM4020..MS GMG5020..MS GMM5020..MS	GMG3020..MG GMG3520..MG GMG4020..MG GMG5020..MG	GMG3020..R GMM3020..R GMG4020..R GMM4020..R GMG5020..R GMM5020..R	GMM3020..MT	GMM3020..NB	GMM3020..TK	GMN3 GMN4 GMN5 GMN3..TK GMN4..TK

Recommended Cutting Condtions ➡ **G129**
Recommended Cutting Condtions (CBN / PCD) ➡ **G128**

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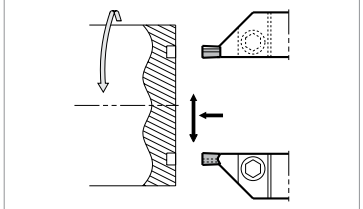
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

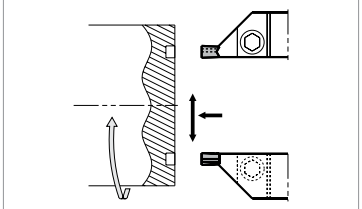
Selection of Insert & Toolholder (Face Grooving)

Case of KGMM

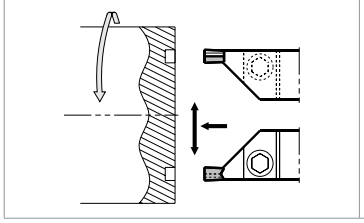
Toolholder	Left-hand (L)
Insert	Left-hand (L)



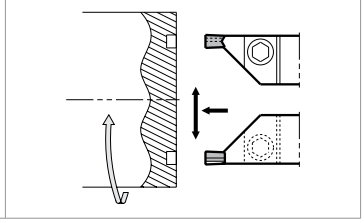
Toolholder	Right-hand (R)
Insert	Right-hand (R)



Toolholder	Right-hand (R)
Insert	Left-hand (L)

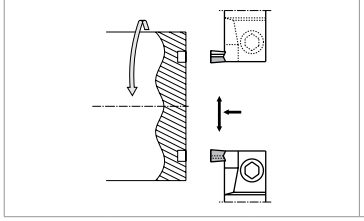


Toolholder	Left-hand (L)
Insert	Right-hand (R)

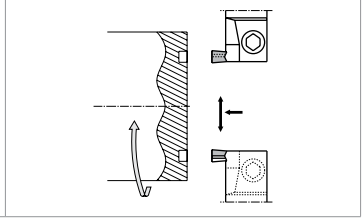


Case of KGMS

Toolholder	Right-hand (R)
Insert	Left-hand (L)

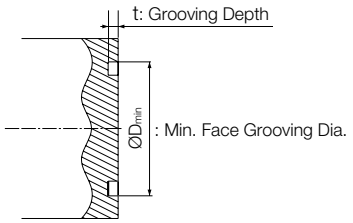


Toolholder	Left-hand (L)
Insert	Right-hand (R)



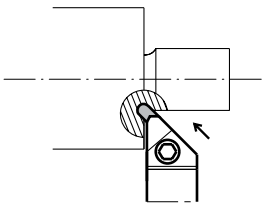
Min. Cutting Dia. & Grooving Depth (Face Grooving)

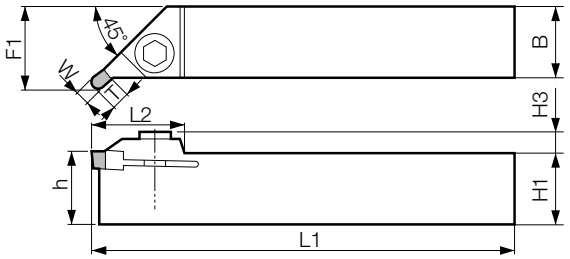
KGMM / KGMS (Common)



Part Number	ØDmin	t
GMG/GMM3020-○○□□	Ø100mm	4.8mm
GMG/GMM4020-○○□□		
GMG/GMM5020-○○□□		
FGG℞3020-02	Ø22mm	4.3mm
FGG℞4020-04	Ø28mm	4.8mm
FGG℞5020-04	Ø30mm	
GMG3020-150RU	Ø22mm	4.3mm
GMG4020-200RU	Ø28mm	4.8mm
GMG5020-250RU	Ø30mm	

KGMU (External Undercutting Toolholder)





• Right-hand shown

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Dimensions H1=h	H3	B	L1	L2	F1	T	Insert Width W (mm) MIN	MAX	Spare Parts Clamp Bolt	Wrench
KGMU℞ 2020K	○	○	mm	20	6	20	125	28.5	23.6	4.8	3.0	5.0 (6.0)	HH5X16	LW-4
2525M	○	○		25	6	25	150	28.5	28.6	4.8			HH5X25	LW-4

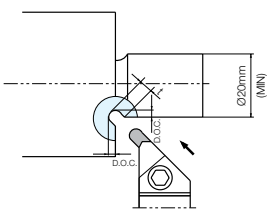
• Dimension T shows the distance from the Toolholder to the cutting edge. Ref. to the table below for the available Grooving Depth.
Dimension F1 shows at GMM5020-RU. ( ) indicates external grooving inserts when installed.

Applicable Inserts

Application	Undercutting
Ref. Page	G32
Insert / Toolholder	
KGMU℞ 2020K	GMG3020..RU
2525M	GMG4020..RU GMG5020..RU

• External grooving inserts (grooving width 3mm~6mm) will be attached.
(In case of using GMG○○20-○○○□□, GMM○○20-○○○□□, GMN○ insert)

Undercut Depth t

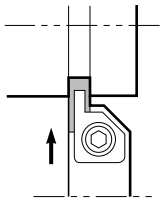


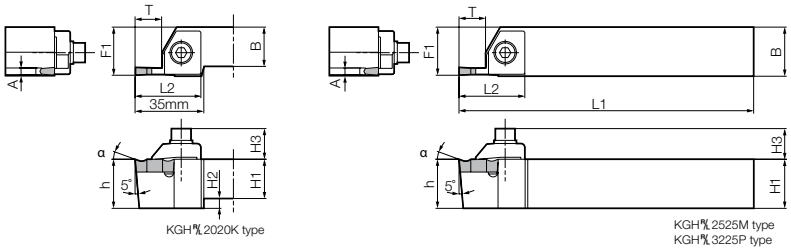
Part Number	Undercut Depth t (mm)	Distance from the face of the workpiece. D.O.C. (mm)
GMG3020-150RU	3.5	1.8
GMG4020-200RU	4.0	1.9
GMG5020-250RU	4.5	2.1

*In case of undercutting for the diameter over 100mm, external grooving inserts GMG○○20-○○○□□, GMM○○20-○○○□□,GMN○ are also available.

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

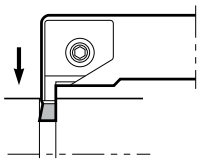
KGH

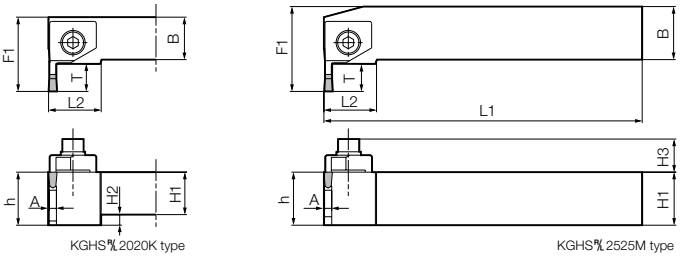




• Right-hand shown

KGHS





• Right-hand shown

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	H2	H3	B	L1	L2	F1	A	T	Spare Parts Clamp	Clamp Bolt	Washer	Spring	Wrench
KGH□	2020K-4	○	○	mm	20	5	15.6	20	125	33.5	24.5-24.8	3.4	13	CGH-1□	HH6X25	W-6	SP-6	LW-5
	2525M-4	○	○		25	-	15.6	25	150	33.5	24.5-24.8	3.4	13					
	2020K-5	○	○		20	5	15.6	20	125	33.5	25.0-25.8	4.2	13					
	2525M-5	○	○		25	-	15.6	25	150	33.5	25.0-25.8	4.2	13					
	3225P-5	○	○		32	-	15.6	25	170	33.5	25.0-25.8	4.2	13					
	2020K-7	○	○		20	5	15.6	20	125	33.5	24.5-25.0	5.8	13	CGH-2□	HH6X25	W-6	SP-6	LW-5
	2525M-7	○	○		25	-	15.6	25	150	33.5	24.5-25.0	5.8	13					
	2525M-10	○	○		25	-	16.1	25	150	41.0	25.5-26.5	9.0	17	CGH-3□	HH6X25	W-6	SP-6	LW-5
	3225P-10	○			32	-	16.1	25	170	41.0	25.5-26.5	9.0	17					
KGHS□	2020K-4	○	○		20	5	15.6	20	125	25.0	35.0	3.4	13	CGH-1□	HH6X25	W-6	SP-6	LW-5
	2525M-4	○	○		25	-	15.6	25	150	25.0	40.0	3.4	13					
	2020K-5	○	○		20	5	15.6	20	125	25.0	35.0	4.2	13					
	2525M-5	○	○		25	-	15.6	25	150	25.0	40.0	4.2	13					

- Dimension T shows available grooving depth.
- Dimension F1 of KGH□ Toolholder depends on the insert's edge width.
- Clamp KGH□ ... CGH-○R for Right-hand Toolholder, and CGH-○L for Left-hand Toolholder.
  KGHS□ ... CGH-○L for Right-hand Toolholder, and CGH-○R for Left-hand Toolholder.

Applicable Inserts ➡ **G41**

Rake Angle (α) after Installment of GH / GHU

GH-○○○○-○○		GHU○○-○○	
α (°)	Insert Grade	α (°)	Insert Grade
0°	A65, A66N, PT600M	10°	TN60 CR9025
10°	TC40		
20°	TN90, TC60M PR930 KW10		

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
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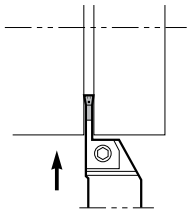
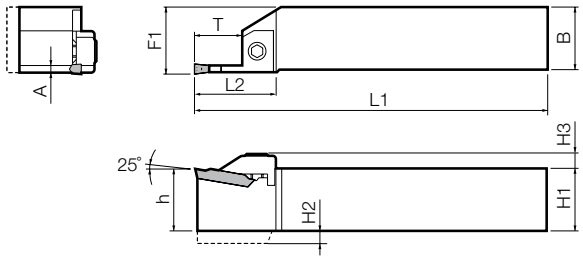
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

KGA





• Right-hand shown

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	H2	H3	B	L1	L2	F1	A	T	Spare Parts Clamp	Clamp Bolt	Spring	Wrench
KGA R/L	2020K-3	○	○	mm	20	5	6	20	125	37	21.5	2.3	20	CGA-3 R/L	HH6X20	SP-6	LW-5
	2525M-3	○	○		25	-	6	25	150	37	26.5	2.3	20				
	2020K-4	○			20	5	6	20	125	37	21.5	3.3	20	CGA-4 R/L	HH6X20	SP-6	LW-5
	2525M-4	○	○		25	-	6	25	150	37	26.5	3.3	20				
	2020K-5	○			20	5	6	20	125	42	21.5	4.3	25	CGA-5 R/L	HH6X20	SP-6	LW-5
	2525M-5	○	○		25	-	6	25	150	42	26.5	4.3	25				

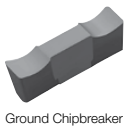
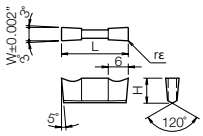
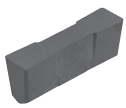
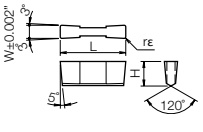
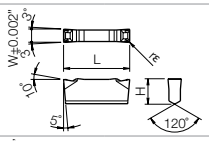
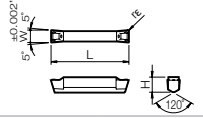
- Dimension T shows available grooving depth.
- Clamp: CGA-○R for Right-hand Toolholder, and CGA-○L for Left-hand Toolholder.

Applicable Inserts (in)

Part Number	L	H
GH4020-○○~GH8020-○○	0.787	0.295
GH10025-05~GH12025-05	0.984	0.295
GHU○○-○○	0.787	0.295
GA30 , GA40	0.984	0.197
GA50	1.181	0.197

		Cermet					CVD Coated Carbide	PVD Coated Carbide	Carbide	Ceramic		
		TN60	TN90	TC40	TC60	CR9025	PR930	KW10	A65	A66N	PT600M
P	Carbon Steel / Alloy Steel						●				
M	Stainless Steel						●				
K	Cast Iron							●	○		●
N	Non-ferrous Metals							●			
S	Titanium Alloy							●			
H	Hard materials (≤40HRC)						●				
	Hard materials (≥40HRC)									○	●

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

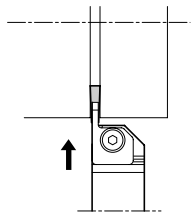
Insert (Right-handed Insert Shown)		Part Number		Dimensions (in) M	Dimensions (in) rε	Applicable Toolholders	Ref. Page for Toolholder
 Ground Chipbreaker		GH	4020-02	0.157	0.008		
			4020-05		0.020	KGH R/L…4 KGHS R/L…4	
			4520-02	0.177	0.008		
			4520-05		0.020		
			5020-02	0.197	0.008		
			5020-05		0.020		
			5520-02	0.217	0.008		
			5520-05		0.020	KGH R/L…5 KGHS R/L…5	
			6020-02	0.236	0.008		
			6020-05		0.020		
 Ceramic	 Ceramic insert is above shape.		6520-02	0.256	0.008		→ G40
			6520-05		0.020		
			7020-02	0.276	0.008		
			7020-05		0.020		
			7520-02	0.295	0.008	KGH R/L…7 KGHS R/L…7	
			7520-05		0.020		
			8020-02	0.315	0.008		
			8020-05		0.020		
			10025-05	0.394	0.020	KGH R/L…10	
			12025-05	0.472	0.020		
 Molded Chipbreaker		GHU	40-20	0.157	0.010	KGH R/L…4 KGHS R/L…4	
			50-20	0.197	0.012	KGH R/L…5 KGHS R/L…5	→ G40
			60-20	0.236	0.012		
		GA	30	0.118	0.008	KGA R/L…3	
			40	0.157	0.010	KGA R/L…4	→ G41
			50	0.197	0.012	KGA R/L…5	

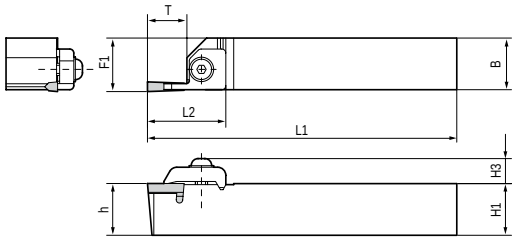
Recommended Cutting Conditions → **G125~G126**

Inserts are sold in 10 piece boxes.

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

EGT





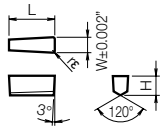
• Right-hand shown

Toolholder Dimensions

Part Number	Stock		Unit	Dimensions								Spare Parts	
												Clamp Set	Wrench
	R	L		H1=h	H2	H3	B	L1	L2	F1	T		
EGTR/L 16-1	●		inch	1.00	-	0.43	1.00	7.00	1.34	1.0085~1.0285	0.63	R HCL-009 L HCL-011	LW-156

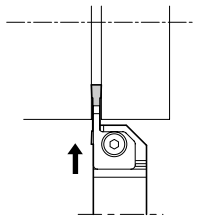
• Clamp Set: ETGR/L… HCL-009 for Right-hand Toolholder, HCL-011 for Left-hand Toolholder

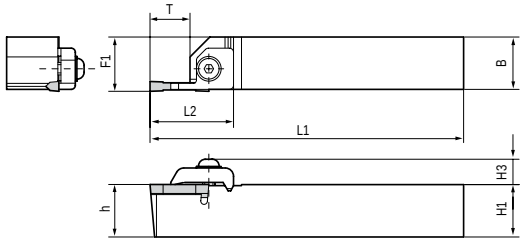
Applicable Inserts

Insert Right-handed Insert Shown		Part Number	Previous Part Number	Unit	Dimensions					Insert Grade
					W		rε	L	H	Ceramic
					inch	mm				**A65**
		**GG 157-20 T00320**	-	inch	0.157	4.0	0.020	0.591	0.197	●
		197-32 T00320	-		0.197	5.0	0.032	0.591	0.197	●

• Dimension B shows available Grooving Depth.

KDB





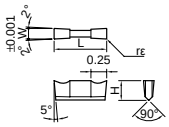
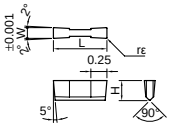
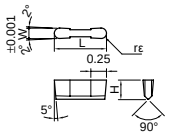
• Right-hand shown

Toolholder Dimensions

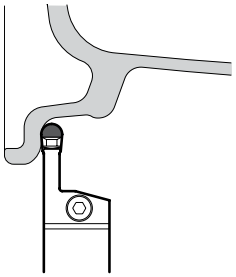
Part Number	Stock		Unit	Dimensions								Spare Parts	
												Clamp Set	Wrench
	R	L		H1=h	H2	H3	B	L1	L2	F1	T		
KDB□ 16-1	●		inch	1.00	-	0.45	1.00	6.00	-	1.0050~1.0360	0.75	R HCL-009 L HCL-011	LW-156

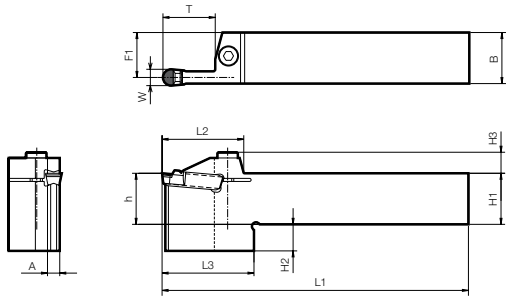
• Clamp Set: KDB□… HCL-009 for Right-hand Toolholder, HCL-011 for Left-hand Toolholder

Applicable Inserts

Insert		Part Number	Unit	Dimensions							Insert Grade	
				W		B	rε	A	L	H	Cermet	Ceramic
				inch	mm						TC30	A65
		DB 125R15	inch	0.125	3.18	-	0.015	-	1.125	0.250	●	
		187R15		0.187	4.75	-	0.015	-	1.125	0.250	●	
		187R30		0.187	4.75	-	0.030	-	1.125	0.250	●	
		DB 125R15 T00420		0.125	3.18	-	0.015	-	1.125	0.250		●
		187R15 T00420		0.187	4.75	-	0.015	-	1.125	0.250		●
		187R30 T00420		0.187	4.75	-	0.030	-	1.125	0.250		●
		DB 125FNR T00420		0.125	3.18	-	0.063	-	1.125	0.250		●
		187FNR T00420		0.187	4.75	-	0.094	-	1.125	0.250		●

KGMW (External / Facing / Copying)



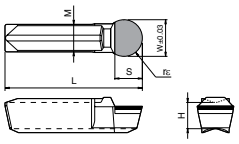
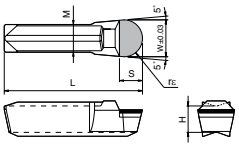


• Right-hand shown

Toolholder Dimensions

Part Number	Stock		Dimensions (mm)										Spare Parts		Applicable Inserts
													Clamp Bolt	Wrench	
	R	L	H1=h	H2	H3	B	L1	L2	L3	F1	A	T			
KGMW R/L 2525M-6	○		25	13	10.3	25	150	40	55	22.8	4.4	25	HH6X25	LW-5	GMGW6030-30R

Applicable Inserts

Insert		Part Number	Dimensions (mm)						No. of Edges	PCD
			W	rε	L	H	M	S		KPD001
		**GMGW 6030-30R**	6	3	30	5.5	5	4.5	1	○
		8030-40R	8	4	30	5.5	6	6.0	1	○
		**GMGW 8030-40R-HR**	8	4	30	5.5	6	5.0	1	○

• GMGW inserts are exclusively used for KGMW type toolholder. It cannot be used for other toolholder because of its different installation angle.
• GMGW inserts Edge Preparation: R-honed Cutting Edge.

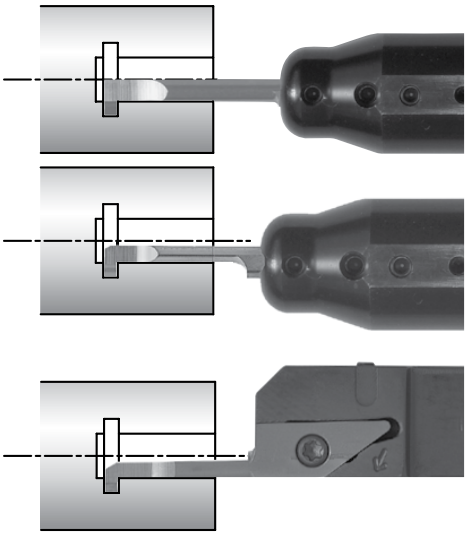
Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grade (Vc sfm)	① f (feed) during Grooving (ipr)
	PCD	② f (feed) during Traversing (ipr)
	KPD001	③ D.O.C. during Traversing (in)
Aluminum	★ 490~8860	① 0.0020~0.0120
		② 0.0080~0.0310
		③ MAX 0.118

★ : 1st Recommendation

Small Diameter Internal Grooving Ø0.118"~ / (Ø3mm)~ (G48~G51)

EZ Bar / Double-Sided Micro Bar / Swiss IQ Bar



Type	EZG
Min. Bore Dia.	0.118"~0.315" (3.00mm~8.00mm)
Edge Width	0.020"~0.079" (0.50mm ~ 2.00mm)
Grooving Depth	0.039"~0.079" (1.00mm ~ 2.00mm)
Ref. Page	G48

EZ Bars

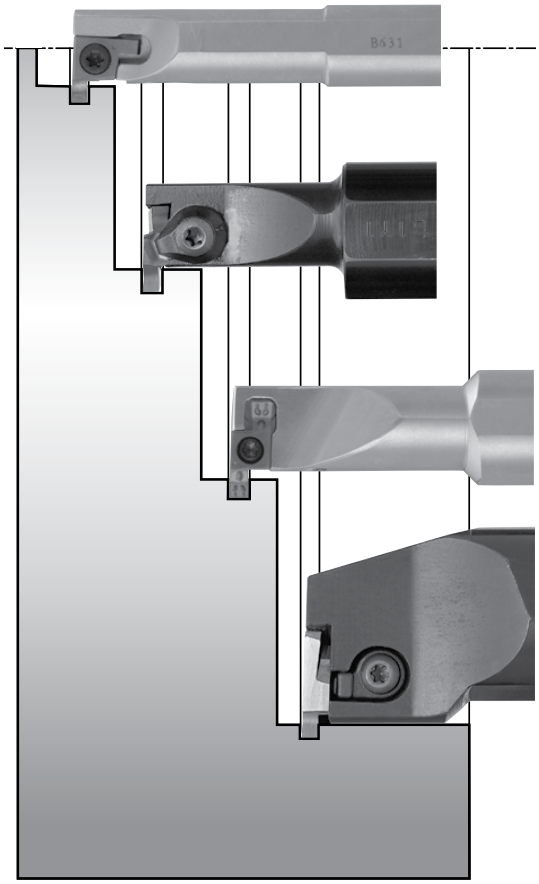
Type	HPG
Min. Bore Dia.	0.158"~0.276" (4.0mm~7.0mm)
Edge Width	0.039"~0.079" (1.0mm ~ 2.0mm)
Grooving Depth	0.039"~0.079" (1.0mm ~ 2.0mm)
Ref. Page	G51

Double-Sided Micro Bars

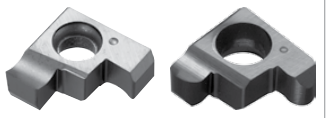
Type	VNG
Min. Bore Dia.	0.158"~0.276" (4.0mm~7.0mm)
Edge Width	0.039"~0.079" (1.0mm ~ 2.0mm)
Grooving Depth	0.032"~0.079" (0.8mm ~ 2.0mm)
Ref. Page	G50

Swiss IQ Bars

Internal Shallow Grooving Ø0.315"~ / (Ø8mm)~ (G52~G71)

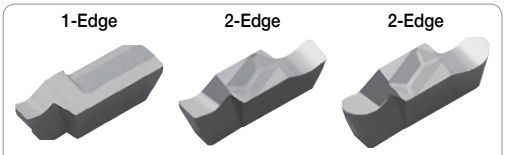


Type	SIGE
Min. Bore Dia.	0.315"~0.375" (8.0mm~12.00mm)
Edge Width	0.039"~0.118" (1.0mm ~ 3.0mm)
Grooving Depth	0.059"~0.087" (1.5mm ~ 2.2mm)
Ref. Page	G55



2-Edge: Ground Chipbreaker; 2-Edge: Ground Chipbreaker Full-R

Type	GIV
Min. Bore Dia.	0.472"~0.984" (12.0mm~40.0mm)
Edge Width	0.031"~0.197" (1.0mm~5.0mm)
Grooving Depth	0.067"~0.248" (1.7mm~6.3mm)
Ref. Page	G60

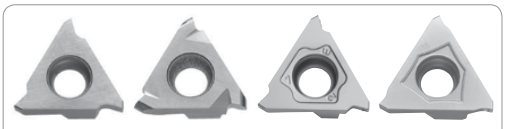


1-Edge: Ground Chipbreaker; 2-Edge: Ground Chipbreaker; 2-Edge: Ground Chipbreaker Full-R

Type	SIGE
Min. Bore Dia.	0.551"~1.575" (14.0mm~40.0mm)
Edge Width	0.039"~0.197" (1.0mm~5.0mm)
Grooving Depth	0.098"~0.256" (2.5mm~6.5mm)
Ref. Page	G55

2-Edge: Molded Chipbreaker; 2-Edge: Ground Chipbreaker; 2-Edge: Ground Chipbreaker Full-R

Type	KIGBA
Min. Bore Dia.	1.378"~1.575" (35.0mm~40.0mm)
Edge Width	0.013"~0.189" (0.33mm~4.8mm)
Grooving Depth	0.032"~0.110" (0.8mm~2.8mm)
Ref. Page	G62

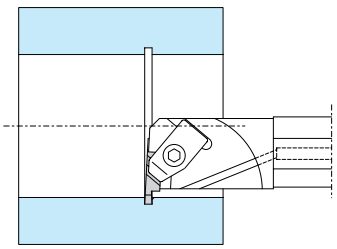


Ground Chipbreaker; Ground Chipbreaker Full-R; GM Chipbreaker; MY Chipbreaker

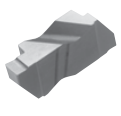
Type	KITG
Min. Bore Dia.	1.378"~1.772" (35.0mm~45.0mm)
Edge Width	0.296"~0.177" (0.75mm~4.5mm)
Grooving Depth	0.079"~0.098" (2.0mm~2.5mm)
Ref. Page	G63

Ground Chipbreaker

*KITG will be phased out and switched to KIGBA.

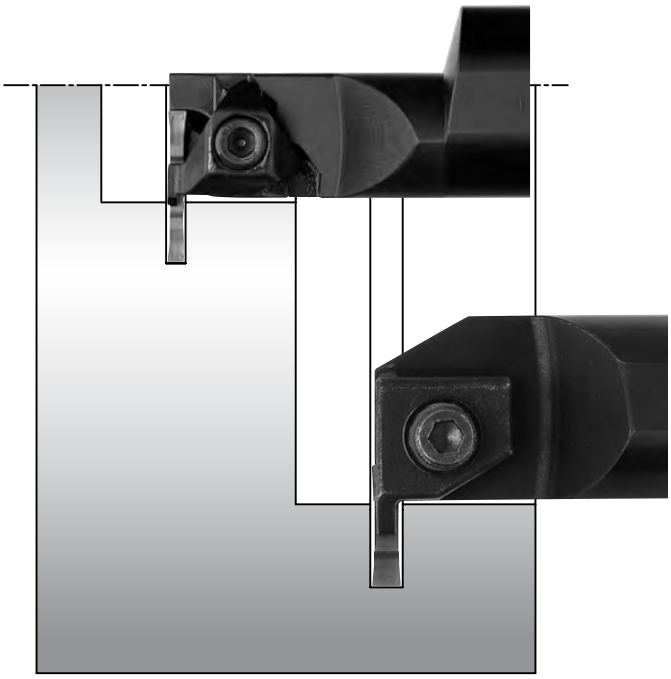


Type	A-KKC
Min. Bore Dia.	1.000"~2.750"
Edge Width	0.031"~0.189"
Grooving Depth	0.040"~0.140"
Ref. Page	G71

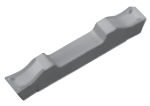


Ground Chipbreaker

Internal Deep Grooving (G67, G69)

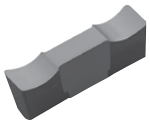


Type	KGIA
Min. Bore Dia.	1.260"~2.598" (32.0mm~66.0mm)
Edge Width	0.118"~0.197" (3.0mm ~ 5.0mm)
Grooving Depth	0.394"~0.591" (10.0mm ~ 15.0mm)
Ref. Page	G69



Molded Chipbreaker

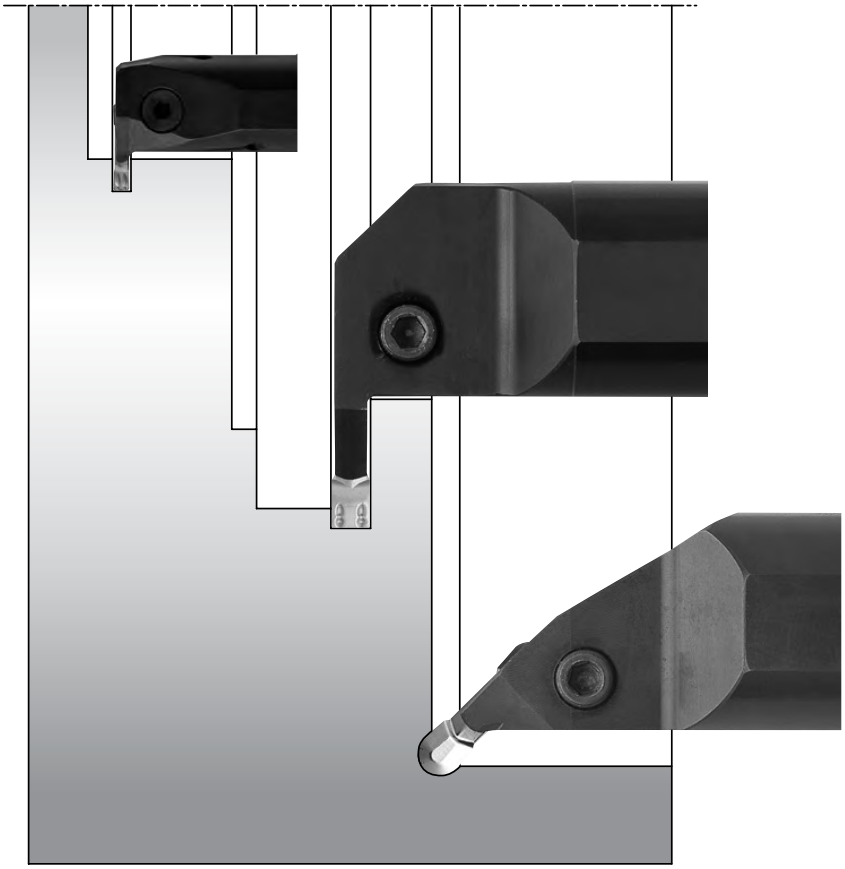
Type	KIGH
Min. Bore Dia.	1.772"~2.559" (45.0mm~65.0mm)
Edge Width	1.575"~0.315" (4.0mm~8.0mm)
Grooving Depth	0.472" (12.0mm)
Ref. Page	G67



Ground Chipbreaker

Molded Chipbreaker

Internal Grooving & Traversing Ø0.787"~ (Ø20mm~)
(➔ G64, G66, G68)



Type	KGDI
Min. Bore Dia.	0.709"~1.575" (18.0mm~40.0mm)
Edge Width	0.079"~0.197" (2.0mm~5.0mm)
Grooving Depth	0.177"~0.433" (4.5mm~11.0mm)
Ref. Page	➔ G64

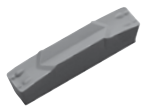
Type	KIGM-V
Min. Bore Dia.	0.787"~1.575" (20.0mm~40.0mm)
Edge Width	0.118"~0.197" (3.0mm~5.0mm)
Grooving Depth	0.217"~0.433" (5.5mm~11.0mm)
Ref. Page	➔ G66

Molded Chipbreaker

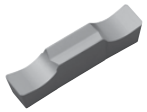
Molded Chipbreaker Full-R

Type	KIGM-8
Min. Bore Dia.	2.559" (65.0mm)
Edge Width	0.315" (8.0mm)
Grooving Depth	0.787" (20mm)
Ref. Page	➔ G68

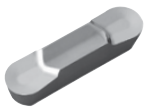
Type	KIGMU-8
Min. Bore Dia.	2.559" (65.0mm)
Edge Width	0.315" (8.0mm)
Grooving Depth	0.087" (2.2mm)
Ref. Page	➔ G68



Molded Chipbreaker



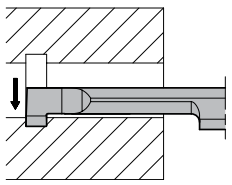
Ground Chipbreaker

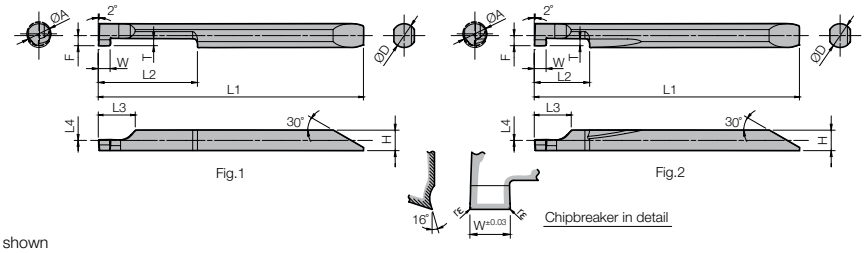


Molded Chipbreaker Full-R

SMALL DIAMETER INTERNAL GROOVING EZ BARS

EZG (Small Diameter Internal Grooving) NEW





• Right-hand shown

Micro Bar Dimensions

Part Number	Min. Bore Dia.	Dimensions (mm)										Drawing	MEGACOAT	Applicable Sleeves
	ØA	W±0.03*	rε	ØD	H	L1	L2	L3	L4	F	T		PR1225	F22~F27
EZGR 040040-050	4	0.5	±0.013 0.05	4	3.45	44.7	12	6.2	0	1.70	1.0	Fig.2	●	EZH040.. PSH04..
040040-100	4	1.0		4	3.45	44.7	12	6.2	0	1.70	1.0		●	
040040-150	4	1.5		4	3.45	44.7	12	6.2	0	1.70	1.0		●	
040040-200	4	2.0		4	3.45	44.7	12	6.2	0	1.70	1.0		●	
050050-100	5	1.0		5	4.30	52.8	20	6.7	0	2.15	1.5	Fig.1	●	EZH050.. PSH05..
050050-150	5	1.5		5	4.30	52.8	20	6.7	0	2.15	1.5		●	
050050-200	5	2.0		5	4.30	52.8	20	6.7	0	2.15	1.5		●	
060060-100	6	1.0		6	5.15	60.7	20	7.6	0	2.65	2.0	Fig.1	●	EZH060.. PSH06..
060060-150	6	1.5		6	5.15	60.7	20	7.6	0	2.65	2.0		●	
060060-200	6	2.0		6	5.15	60.7	20	7.6	0	2.65	2.0		●	
070070-100	7	1.0		7	6.20	63.7	25	7.6	0	3.05	2.0	Fig.1	●	EZH070.. PSH07..
070070-150	7	1.5		7	6.20	63.7	25	7.6	0	3.05	2.0		●	
070070-200	7	2.0		7	6.20	63.7	25	7.6	0	3.05	2.0		●	
080070-100	8	1.0		7	6.20	63.7	25	7.6	0	3.45	2.0		●	
080070-150	8	1.5		7	6.20	63.7	25	7.6	0	3.45	2.0		●	
080070-200	8	2.0		7	6.20	63.7	25	7.6	0	3.45	2.0		●	
EZGR 030030-050S	3	0.5	±0.013 0.05	3	2.50	38.7	5	4.8	0	1.25	0.8	Fig.2	●	EZH030.. PSH03..
030030-100S	3	1.0		3	2.50	38.7	5	4.8	0	1.25	0.8		●	
040040-050S	4	0.5		4	3.45	44.7	8	6.2	0	1.70	1.0	Fig.2	●	EZH040.. PSH04..
040040-100S	4	1.0		4	3.45	44.7	8	6.2	0	1.70	1.0		●	
040040-150S	4	1.5		4	3.45	44.7	8	6.2	0	1.70	1.0		●	
040040-200S	4	2.0		4	3.45	44.7	8	6.2	0	1.70	1.0		●	
050050-100S	5	1.0		5	4.30	52.8	10	6.7	0	2.15	1.5	Fig.2	●	EZH050.. PSH05..
050050-150S	5	1.5		5	4.30	52.8	10	6.7	0	2.15	1.5		●	
050050-200S	5	2.0		5	4.30	52.8	10	6.7	0	2.15	1.5		●	
060060-100S	6	1.0		6	5.15	60.7	10	7.6	0	2.65	2.0	Fig.2	●	EZH060.. PSH06..
060060-150S	6	1.5		6	5.15	60.7	10	7.6	0	2.65	2.0		●	
060060-200S	6	2.0		6	5.15	60.7	10	7.6	0	2.65	2.0		●	
070070-100S	7	1.0		7	6.20	63.7	10	7.6	0	3.05	2.0	Fig.2	●	EZH070.. PSH07..
070070-150S	7	1.5		7	6.20	63.7	10	7.6	0	3.05	2.0		●	
070070-200S	7	2.0		7	6.20	63.7	10	7.6	0	3.05	2.0		●	
080070-100S	8	1.0		7	6.20	63.7	10	7.6	0	3.45	2.0		●	
080070-150S	8	1.5		7	6.20	63.7	10	7.6	0	3.45	2.0		●	
080070-200S	8	2.0		7	6.20	63.7	10	7.6	0	3.45	2.0		●	

• Dimension T: Available grooving depth
• "S" in description denotes stub length

EZ Bar Identification System

EZ G R 030 030 – 050 S

EZ Symbol of Bar	Application	Hand of Tool	Min. Bore Dia.	Shank Dia.	Groove Width	Type
	G:Internal Grooving	**R**:Right-hand	**030** : 3mm **040** : 4mm ...	**030** : 3mm **040** : 4mm ...	**050** : 0.5mm **100** : 1.0mm ...	**S**: Short Type (L2 dimension)

Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grade (Vc sfm) MEGACOAT PR1225	EZGR030030-...S	EZGR040040-... EZGR050050-... EZGR040040-...S EZGR050050-...S	EZGR060060-... EZGR070070-... EZGR080070-... EZGR060060-...S EZGR070070-...S EZGR080070-...S	Notes
		Feed Rate (ipr)			
Carbon Steel / Alloy Steel	★ 100~330	~0.0008	~0.0012	~0.0020	Wet
Stainless Steel	★ 100~260	~0.0004	~0.0008	~0.0012	

★ : 1st Recommendation

EZ Bars are sold in 1 piece boxes.

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

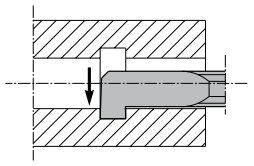
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

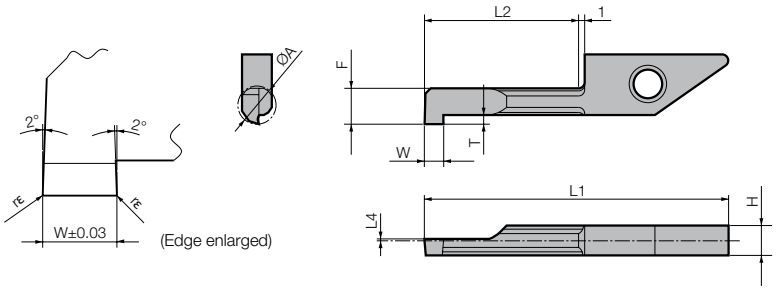
APPLICABLE SLEEVES FOR INTERNAL GROOVING INSERTS

Sleeve Part Number				Applicable Insert for Small Diameter Internal Grooving			Applicable Machine Manufacturer
EZH-CT (Adjustable Overhang Length / with Coolant Hole) → F22	EZH-HP (Adjustable Overhang Length) → F24	EZH-ST → F26	Sleeve Shank Dia. ØD1 (mm)	EZG	HPG	Shank Dia. ØD (mm)	
-	-	EZH 03012ST-80	12.00	EZGR ...030-...	-	3	(General purpose)
		04012ST-80		...040-...	HPG® 0404-...	4	
		05012ST-80		...050-...	0505-...	5	
		06012ST-80		...060-...	0606-...	6	
		07012ST-80		...070-...	0707-...	7	
-	EZH 03016HP-100	EZH 03016ST-100	16.00	EZGR ...030-...	-	3	(General purpose)
	04016HP-100	04016ST-100		...040-...	HPG® 0404-...	4	
	05016HP-100	05016ST-100		...050-...	0505-...	5	
	06016HP-100	06016ST-100		...060-...	0606-...	6	
	07016HP-100	07016ST-100		...070-...	0707-...	7	
EZH 03019CT-120	EZH 03019HP-120	EZH 03019ST-120	19.05	EZGR ...030-...	-	3	Citizen Machinery
04019CT-120	04019HP-120	04019ST-120		...040-...	HPG® 0404-...	4	
05019CT-120	05019HP-120	05019ST-120		...050-...	0505-...	5	
06019CT-120	06019HP-120	06019ST-120		...060-...	0606-...	6	
07019CT-120	07019HP-120	07019ST-120		...070-...	0707-...	7	
EZH 03020CT-120	EZH 03020HP-120	EZH 03020ST-120	20.00	EZGR ...030-...	-	3	Amada Machine Tools Eguro Tsugami Citizen Machinery (General purpose)
04020CT-120	04020HP-120	04020ST-120		...040-...	HPG® 0404-...	4	
05020CT-120	05020HP-120	05020ST-120		...050-...	0505-...	5	
06020CT-120	06020HP-120	06020ST-120		...060-...	0606-...	6	
07020CT-120	07020HP-120	07020ST-120		...070-...	0707-...	7	
EZH 03022CT-135	EZH 03022HP-135	EZH 03022ST-135	22.00	EZGR ...030-...	-	3	Star Micronics Nomura DS Tsugami
04022CT-135	04022HP-135	04022ST-135		...040-...	HPG® 0404-...	4	
05022CT-135	05022HP-135	05022ST-135		...050-...	0505-...	5	
06022CT-135	06022HP-135	06022ST-135		...060-...	0606-...	6	
07022CT-135	07022HP-135	07022ST-135		...070-...	0707-...	7	
EZH 03025.0CT-135	EZH 03025.0HP-135	EZH 03025.0ST-135	25.00	EZGR ...030-...	-	3	Amada Machine Tools Eguro Tsugami Citizen Machinery (General purpose)
04025.0CT-135	04025.0HP-135	04025.0ST-135		...040-...	HPG® 0404-...	4	
05025.0CT-135	05025.0HP-135	05025.0ST-135		...050-...	0505-...	5	
06025.0CT-135	06025.0HP-135	06025.0ST-135		...060-...	0606-...	6	
07025.0CT-135	07025.0HP-135	07025.0ST-135		...070-...	0707-...	7	
EZH 03025.4CT-120	EZH 03025.4HP-120	EZH 03025.4ST-120	25.40	EZGR ...030-...	-	3	Citizen Machinery
04025.4CT-120	04025.4HP-120	04025.4ST-120		...040-...	HPG® 0404-...	4	
05025.4CT-120	05025.4HP-120	05025.4ST-120		...050-...	0505-...	5	
06025.4CT-120	06025.4HP-120	06025.4ST-120		...060-...	0606-...	6	
07025.4CT-120	07025.4HP-120	07025.4ST-120		...070-...	0707-...	7	

- Choose sleeves (Ød1) to meet with ØD dimension of Internal Grooving Inserts.
- Adjustment Pin cannot be installed to EZH-ST Sleeves. To adjust overhang of the bar, please use EZH-CT/HP Sleeves.
- Machine manufacturers in random order.

VNG





• Right-hand shown

Dimensions

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

P	Carbon Steel / Alloy Steel	●	○			
M	Stainless Steel	●	○			
K	Cast Iron			●		
N	Non-ferrous Metals				●	
S	Titanium Alloy				●	
H	Hard materials (≤40HRC)	○	○			
	Hard materials (≥40HRC)					

Part Number		Min. Bore Dia.	Dimensions (mm)											MEGA COAT	PVD	Carbide	PCD		Ref. Page for Toolholder
			W		rε	ØD	H	L1	L2	L3	L4	F	T						
		ØA	inch	mm										PR1225	PR930	KW10	KPD001	KPD010	
VNGR	0410-11	4	0.039	1.0	0.05	-	3.9	30.8	11	-	0.1	3.5	0.8		●	●			
	0420-11	4	0.079	2.0	0.05	-	3.9	30.8	11	-	0.1	3.5	0.8		●	●			
	0510-11	5	0.039	1.0	0.05	-	3.9	30.8	11	-	0.1	4.4	1.0		●	●			
	0520-11	5	0.079	2.0	0.05	-	3.9	30.8	11	-	0.1	4.4	1.0		●	●			
	0610-20	6	0.039	1.0	0.05	-	3.9	39.8	20	-	0.3	5.2	1.8		●	●			
	0620-20	6	0.079	2.0	0.05	-	3.9	39.8	20	-	0.3	5.2	1.8		●	●			
	0710-20	7	0.039	1.0	0.05	-	3.9	39.8	20	-	0.3	6.2	2.0		●	●			
	0720-20	7	0.079	2.0	0.05	-	3.9	39.8	20	-	0.3	6.2	2.0		●	●			F30
VNGR	0410-11NB	4	0.039	1.0	0.05	-	3.9	30.8	11	-	0.1	3.5	0.8				□	□	F31
	0420-11NB	4	0.079	2.0	0.05	-	3.9	30.8	11	-	0.1	3.5	0.8				□	□	
	0510-11NB	5	0.039	1.0	0.05	-	3.9	30.8	11	-	0.1	4.4	1.0				□	□	
	0520-11NB	5	0.079	2.0	0.05	-	3.9	30.8	11	-	0.1	4.4	1.0				□	□	
	0610-20NB	6	0.039	1.0	0.05	-	3.9	39.8	20	-	0.3	5.2	1.8				□	□	
	0620-20NB	6	0.079	2.0	0.05	-	3.9	39.8	20	-	0.3	5.2	1.8				□	□	
	0710-20NB	7	0.039	1.0	0.05	-	3.9	39.8	20	-	0.3	6.2	2.0				□	□	
	0720-20NB	7	0.079	2.0	0.05	-	3.9	39.8	20	-	0.3	6.2	2.0				□	□	

• Dimension T : Available grooving depth
• Dimension L4 indicates the cutting edge is above the tool's center position

Recommended Cutting Conditions

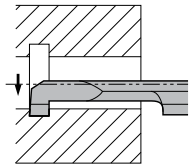
Workpiece Material	Recommended Insert Grade (Vc sfm)			VNG04 VNG05	VNG06 VNG07	Notes
	MEGACOAT	PVD	Carbide			
	PR1225	PR930	KW10	Feed Rate (ipr)		
Carbon Steel / Alloy Steel	★ 100~325	☆ 100~100	-	~0.0012	~0.0020	Wet
Stainless Steel	★ 100~250	☆ 100~250	-	~0.0008	~0.0012	
Non-ferrous Metals	-	-	★ ~975	~0.0020	~0.0031	

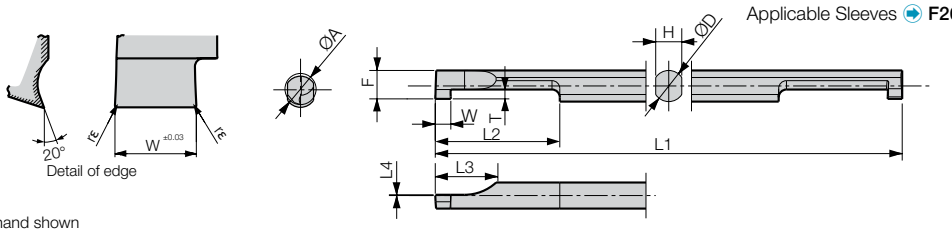
★ : 1st Recommendation ☆ : 2nd Recommendation

Swiss IQ Bars are sold in 5 piece boxes. *CBN & PCD Inserts are sold in 1 piece boxes.*

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com
U.S. Stock Standard : ●
Made to Order : □
World Express (Shipping: 7-10 Business Days) : ○

HPG (Double-sided Micro Bars)





Applicable Sleeves ➡ **F26, F27**

• Right-hand shown

Dimensions

Part Number	Min. Bore Dia.	Dimensions (mm)											PVD Coated Carbide		Carbide	
	ØA	W±0.0012"	W±0.03mm	rε	ØD	H	L1	L2	L3	L4	F	T	PR930		KW10	
		inch	mm										R	L	R	L
HPGℛ 0404-10	4	0.039	1	+0 -0.02 0.05	4	3.35	60	15	8	0	3.65	1.0	○	○	○	
0404-20	4	0.079	2		4	3.35	60	15	8	0	3.65	1.0	○	○	○	
0505-10	5	0.039	1		5	4.30	70	20	8	0	4.55	1.5	○	○	○	
0505-20	5	0.079	2		5	4.30	70	20	8	0	4.55	1.5	○	○	○	
0606-10	6	0.039	1		6	5.20	70	20	10	0	5.50	2.0	○	○	○	
0606-20	6	0.079	2		6	5.20	70	20	10	0	5.50	2.0	○	○	○	
0707-10	7	0.039	1		7	6.20	80	25	10	0	6.45	2.0	○	○	○	
0707-20	7	0.079	2		7	6.20	80	25	10	0	6.45	2.0	○	○	○	

• Dimension T: Available grooving depth

Description of Micro Bar and Applicable Sleeve

Micro Bar Part Number	Applicable Sleeves ➡ F26, F27	
HPGℛ 0404-..	EZH	04..-..
0505-..		05..-..
0606-..		06..-..
0707-..		07..-..

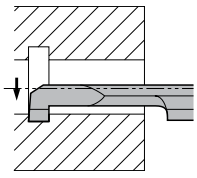
Recommended Cutting Conditions

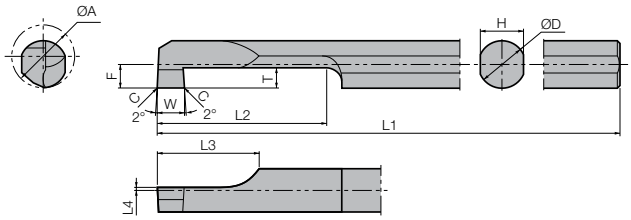
Workpiece Material	Recommended Insert Grade (Vc sfm)		HPGℛ 04 HPGℛ 05	HPGℛ 06 HPGℛ 07	Notes
	PVD Coated Carbide	Carbide			
	PR930	KW10	Feed Rate (ipr)		
Carbon Steel / Alloy Steel	★ 100~330	-	~0.0012	~0.0020	Wet
Stainless Steel	★ 100~260	-	~0.0008	~0.0012	
Non-ferrous Metals	-	★ ~980	~0.0020	~0.0031	

★ : 1st Recommendation ☆ : 2nd Recommendation

PSG-S (Micro Bars)

This insert will be switched to EZG.





• Right-hand shown

Dimensions

Part Number	Min. Bore Dia.	Dimensions (mm)											PVD Coated Carbide	Carbide	Ref. Page for Applicable Sleeves
	ØA	W±0.0012"	W±0.03mm	C	ØD	H	L1	L2	L3	L4	F	T	PR930	KW10	
		inch	mm												
PSGℛ 0510-60S	5	0.039	1	0.05	3.8	3.6	60	15	8	0.1	1.86	1.5		○	➡ F94
0520-60S	5	0.079	2	0.10	3.8	3.6	60	15	8	0.1	1.86	1.5		○	
0610-70S	6	0.039	1	0.05	4.8	4.4	70	20	8	0.3	2.36	2.0	○	○	
0620-70S	6	0.079	2	0.10	4.8	4.4	70	20	8	0.3	2.36	2.0	○	○	
0710-70S	7	0.039	1	0.05	5.8	5.2	70	20	10	0.3	2.86	2.0	○	○	
0720-70S	7	0.079	2	0.10	5.8	5.2	70	20	10	0.3	2.86	2.0	○	○	
0810-80S	8	0.039	1	0.05	6.8	6.2	80	25	10	0.3	3.38	2.0	○	○	
0820-80S	8	0.079	2	0.10	6.8	6.2	80	25	10	0.3	3.38	2.0	○	○	

• Dimension T: Available grooving depth
• Dimension L4 indicates the cutting edge is above the Tool's Center Position.

Recommended Cutting Conditions ➡ **G126**

Micro Bars are sold in 1 piece boxes.

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

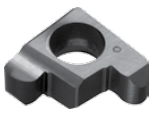
Applicable Inserts

(in)

Part Number	A	L	H	Ød
GE□...-A	0.263	0.256	0.102	0.098
GER...-AR				
GE□...-B	0.333	0.323	0.125	0.106
GER...-BR				

		Cermet	MEGACOAT	PVD Coated Carbide	Carbide	
		TN6020	PR1225	PR1025	GW15	KW10
P	Carbon Steel / Alloy Steel		●	◔		
M	Stainless Steel		●	◔		
K	Cast Iron					◔
N	Non-ferrous Metals					●
S	Titanium Alloy					●
H	Hard materials (≤40HRC)		●	○		

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)	Part Number	Unit	Dimensions (in) W inch	W mm	B	C	rε	Cermet TN6020	MEGACOAT PR1225	PVD Coated Carbide PR1025	Carbide GW15	Carbide KW10	Applicable Toolholders	Ref. Page for Toolholder
 2-Edge	GE□ 031-002A	inch	0.031	0.79	0.037	0.071	0.002			●			SIGE□...A-EH SIGE□...A-WH	G55 G56
	041-002A		0.041	1.04	0.059	0.071	0.002			●				
	047-002A		0.047	1.19	0.059	0.071	0.002			●				
	058-002A		0.058	1.47	0.059	0.071	0.002			●				
	062-004A		0.062	1.57	0.059	0.071	0.004			●				
	072-004A		0.072	1.83	0.059	0.071	0.004			●				
	078-004A		0.078	1.98	0.059	0.071	0.004			●				
	GE□ 100-005A	inch	0.039	1.00	0.059	0.071	0.002	●	○	●		○	SIGE□...A-EH SIGE□...A-WH	G55 G56
	120-005A		0.047	1.20	0.059	0.071	0.002	●	○	●		○		
	125-005A		0.049	1.25	0.059	0.071	0.002	●	○	●		○		
	150-010A		0.059	1.50	0.059	0.071	0.004	●	○	●		○		
	200-010A		0.079	2.00	0.059	0.071	0.004	●	○	●		○		
	GE□ 031-002B	inch	0.031	0.79	0.044	0.102	0.002			●			SIGE□...B-EH SIGE□...B-WH SIGER...B-WH-90	G55 G56 G57
	041-002B		0.041	1.04	0.087	0.102	0.002			●				
	047-002B		0.047	1.19	0.087	0.102	0.002			●				
	058-002B		0.058	1.47	0.087	0.102	0.002			●				
	062-004B		0.062	1.57	0.087	0.102	0.004			●				
	072-004B		0.072	1.83	0.087	0.102	0.004			●				
	078-004B		0.078	1.98	0.087	0.102	0.004			●				
	088-004B		0.088	2.24	0.087	0.102	0.004			●				
	094-004B		0.094	2.39	0.087	0.102	0.004			●				
	097-004B		0.097	2.46	0.087	0.102	0.004			●				
	105-008B		0.105	2.67	0.087	0.102	0.008			●				
	110-008B		0.110	2.79	0.087	0.102	0.008			●				
	122-008B		0.122	3.10	0.087	0.102	0.008			●				
	GE□ 100-005B	inch	0.039	1.00	0.087	0.102	0.002	●	○	●		○	SIGE□...B-EH SIGE□...B-WH SIGER...B-WH-90	G55 G56 G57
	120-005B		0.047	1.20	0.087	0.102	0.002	●	○	●		○		
	125-005B		0.049	1.25	0.087	0.102	0.002	●	○	●		○		
	145-010B		0.057	1.45	0.087	0.102	0.004	●	○	●		○		
	150-010B		0.059	1.50	0.087	0.102	0.004	●	○	●		○		
	200-010B		0.079	2.00	0.087	0.102	0.004	●	○	●		○		
	250-020B		0.098	2.50	0.087	0.102	0.008	●	○	●		○		
	300-020B		0.118	3.00	0.087	0.102	0.008	●	○	●		○		
 2-Edge Full-R	GER 100-050AR	inch	0.039	1.00	0.059	0.071	0.020		○	○		○	SIGER...A-EH SIGER...A-WH	G55 G56
	200-100AR		0.079	2.00	0.059	0.071	0.039		○	○		○		
	GER 100-050BR		0.039	1.00	0.087	0.102	0.020		○	○		○	SIGER...B-EH SIGER...B-WH SIGER...B-WH-90	G55 G56 G57
	200-100BR		0.079	2.00	0.087	0.102	0.039		○	○		○		

• Dimension B : Available grooving depth

Recommended Cutting Conditions G58

Inserts are sold in 10 piece boxes.

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

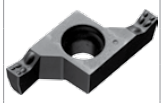
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

Applicable Inserts

(in)

Part Number	A	L	H	Ød
GER...-CM	0.228	0.452	0.159	0.110
GER...-DM	0.268	0.647	0.199	0.134
GER...-EM	0.376	0.853	0.219	0.173

					Classification of Usage
P	Carbon Steel / Alloy Steel	●	◔		● : Light Interruption / 1st Choice
M	Stainless Steel	●	◔		◔ : Light Interruption / 2nd Choice
K	Cast Iron			◔	● : Continuous / 1st Choice
N	Non-ferrous Metals			●	○ : Continuous / 2nd Choice
S	Titanium Alloy			●	
H	Hard materials (≤40HRC)	●	○		
	Hard materials (≥40HRC)				

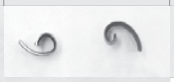
Insert (Right-handed Insert Shown)	Part Number	Unit	Dimensions (in) W inch	W mm	B	C	rε	Cermet TN6020	MEGACOAT PR1225	PVD Coated Carbide PR1025	Carbide GW15	Carbide KW10	Applicable Toolholders	Ref. Page for Toolholder
 GER100-010CM~250-020M	GER 150-010CM	inch	0.059	1.50	0.098	0.106	0.004		●	●			SIGER...C-EH SIGER...C-WH SIGER...C-WH-90	G55 G56 G57
	200-010CM		0.079	2.00	0.098	0.106	0.004		●	●				
	250-020CM		0.098	2.50	0.098	0.106	0.008		●	●				
	300-020CM		0.118	3.00	0.098	0.106	0.008		●	●				
	350-020CM		0.138	3.50	0.098	0.106	0.008		●	●				
GER150-010DM~200-010DM GER150-010EM~200-010EM	GER 150-010DM		0.059	1.50	0.118	0.189	0.004		●	●			SIGER...D-EH	
	200-010DM		0.079	2.00	0.126	0.189	0.004		●	●				
	230-020DM		0.091	2.30	0.126	0.189	0.008		●	●				
	250-020DM		0.098	2.50	0.126	0.189			●	●				
	300-020DM		0.118	3.00	0.177	0.189	0.008		●	●				
	350-020DM		0.138	3.50	0.177	0.189			●	●				
GER230-020DM~250-020DM GER250-020EM~400-020EM	400-020DM		0.157	4.00	0.177	0.189			●	●				
	GER 150-010EM		0.059	1.50	0.118	0.268	0.004		●	●			SIGER...E-EH	G55
	200-010EM		0.079	2.00	0.126	0.268	0.004		●	●				
	250-020EM		0.098	2.50	0.177	0.268	0.008		●	●				
	300-020EM		0.118	3.00	0.177	0.268			●	●				
GER300-020CM~350-020CM GER300-020DM~400-020DM GER450-020EM~500-020EM	350-020EM		0.138	3.50	0.217	0.268	0.008		●	●				
	400-020EM		0.157	4.00	0.217	0.268			○	●				
	450-020EM		0.177	4.50	0.256	0.268	0.008		●	●				
	500-020EM		0.197	5.00	0.256	0.268			●	●				

2-Edge Molded Chipbreaker

• Dimension B shows available grooving depth.

Recommended Cutting Conditions G58

Chip Evacuation Comparison (Molded Chipbreaker)

Toolholder \ f (ipr)	SCM415 (Min. Bore Dia.) 0.0020"	0.0028"	0.0039"	Evaluation
SIGER1612C-EH GER300-020CM (PR1025)				Good Chip Control
Competitor A (Width 0.1181")			Insert Cracks	Unstable Chip Control and Biting
Competitor B (Width 0.1181")				Unstable Chip Control and Biting

(Vc = 330 sfm, D.O.C. = 0.079", Wet) (Internal Evaluation)

Chip Evacuation Comparison
(Min. Cutting Dia. Ø0.3150")

Toolholder \ f (ipr)	SCM415 0.0008"	Evaluation
SIGER0808A-EH GER200-010A (PR1025)		Good Chip Control
Competitor C (Width 0.079")		Unstable Chip Control and Biting

(Vc = 175 sfm, D.O.C. = 0.049", Wet) (Internal Evaluation)

Inserts are sold in 10 piece boxes.

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

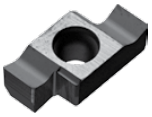
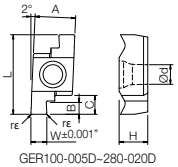
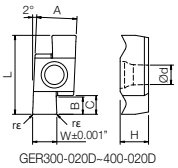
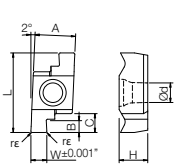
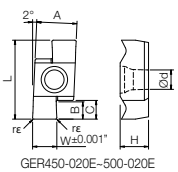
Applicable Inserts

(in)

Part Number	A	L	H	Ød
GE□...-C	0.228	0.452	0.159	0.110
GER...-CR				
GE□...-D	0.268	0.647	0.199	0.134
GER...-DR				
GE□...-E	0.376	0.853	0.219	0.173

		Cermet	MEGACOAT	PVD Coated Carbide	Carbide	
P	Carbon Steel / Alloy Steel		●	◔		
M	Stainless Steel		●	◔		
K	Cast Iron					◔
N	Non-ferrous Metals					●
S	Titanium Alloy					●
H	Hard materials (≤40HRC)		●	○		
	Hard materials (≥40HRC)					

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)	Part Number	Unit	Dimensions (in) W inch	W mm	B	C	rε	TN6020	PR1225	PR1025	GW15	KW10	Applicable Toolholders	Ref. Page for Toolholder
 2-Edge	GE□ 100-005C		0.039	1.00	0.098	0.106	0.002	○	○	Ⓡ	○		SIGE□...C-EH SIGE□...C-WH SIGER...C-WH-90	G55 G56 G57
	120-005C		0.047	1.20	0.098	0.106		Ⓡ	○	○	Ⓡ			
	125-005C		0.049	1.25	0.098	0.106		○	Ⓡ	○	○			
	140-005C		0.055	1.40	0.098	0.106		Ⓡ	Ⓡ	○	Ⓡ			
	145-010C		0.057	1.45	0.098	0.106	0.004	○	Ⓡ	○	○			
	150-010C		0.059	1.50	0.098	0.106		○	○	○	○			
	170-010C		0.067	1.70	0.098	0.106		Ⓡ	Ⓡ	○	Ⓡ			
	185-010C		0.073	1.85	0.098	0.106		Ⓡ	Ⓡ	○	Ⓡ			
	195-010C		0.077	1.95	0.098	0.106		Ⓡ	Ⓡ	○	Ⓡ			
	200-010C		0.079	2.00	0.098	0.106		○	○	○	○			
	250-020C		0.098	2.50	0.098	0.106	0.008	○	○	○	○			
	300-020C		0.118	3.00	0.098	0.106		○	○	○	○			
	350-020C		0.138	3.50	0.098	0.106		○	Ⓡ	○	○			
	GE□ 100-005D		0.039	1.00	0.098	0.189	0.002	○	○	○	○		SIGE□...D-EH	
	140-005D		0.055	1.40	0.098	0.189		Ⓡ	○	○	Ⓡ			
 GER100-005D~280-020D	145-010D		0.057	1.45	0.098	0.189	0.004	○	Ⓡ	○	○			
	150-010D		0.059	1.50	0.118	0.189		○	○	○	○			
	170-010D		0.067	1.70	0.118	0.189		Ⓡ	○	○	Ⓡ			
	185-010D		0.073	1.85	0.118	0.189		Ⓡ		○	Ⓡ			
	195-010D		0.077	1.95	0.118	0.189		Ⓡ		○	Ⓡ			
	200-010D		0.079	2.00	0.126	0.189		○	○	○	○			
	225-010D		0.089	2.25	0.126	0.189		Ⓡ	○	●	Ⓡ			
 GER300-020D~400-020D	230-020D		0.091	2.30	0.126	0.189	0.008	○	○	○	○			
	250-020D		0.098	2.50	0.126	0.189		○	○	○	○			
	275-020D		0.108	2.75	0.126	0.189		Ⓡ		○	Ⓡ			
	280-020D		0.110	2.80	0.126	0.189		Ⓡ		○	Ⓡ			
	300-020D		0.118	3.00	0.177	0.189		○	○	○	○			
	330-020D	inch	0.130	3.30	0.177	0.189		Ⓡ		○	Ⓡ			
	350-020D		0.138	3.50	0.177	0.189		○	Ⓡ	○	○			
	400-020D		0.158	4.00	0.177	0.189		○	○	○	○			
 2-Edge	GE□ 100-005E		0.039	1.00	0.098	0.268	0.002	○	○	○	○		SIGE□...E-EH	G55
	150-010E		0.059	1.50	0.118	0.268	0.004	○	○	○	○			
	170-010E		0.067	1.70	0.118	0.268		Ⓡ	○	○	Ⓡ			
	185-010E		0.073	1.85	0.118	0.268		Ⓡ		○	Ⓡ			
	195-010E		0.077	1.95	0.118	0.268		Ⓡ		○	Ⓡ			
 GER100-005E~430-020E	200-010E		0.079	2.00	0.126	0.268		○	Ⓡ	○	○			
	225-010E		0.089	2.25	0.126	0.268		Ⓡ	Ⓡ	○	Ⓡ			
	230-020E		0.091	2.30	0.126	0.268	0.008	Ⓛ	Ⓡ	○	○			
	250-020E		0.098	2.50	0.177	0.268		○	○	○	○			
	275-020E		0.108	2.75	0.177	0.268		Ⓡ	Ⓛ	○	Ⓡ			
	280-020E		0.110	2.80	0.177	0.268		Ⓡ	○	○	Ⓡ			
	300-020E		0.118	3.00	0.177	0.268		○	○	○	○			
	330-020E		0.130	3.30	0.177	0.268		Ⓡ	Ⓡ	○	Ⓡ			
 GER450-020E~500-020E	350-020E		0.138	3.50	0.217	0.268		○	Ⓡ	○	○			
	400-020E		0.158	4.00	0.217	0.268		○	Ⓡ	○	○			
	430-020E		0.169	4.30	0.217	0.268		Ⓡ	Ⓡ	○	Ⓡ			
	450-020E		0.177	4.50	0.256	0.268		○	Ⓡ	○	○			
	460-020E		0.181	4.60	0.256	0.268		Ⓡ	Ⓡ	○	Ⓡ			
	500-020E		0.197	5.00	0.256	0.268		○	Ⓡ	○	○			
 2-edge Full-R	GER 200-100CR		0.079	2.00	0.098	0.106	0.039		○	○	○		SIGER...C-EH SIGER...C-WH SIGER...C-WH-90	G55 G56 G57
	250-125CR		0.098	2.50	0.098	0.106	0.049		○	○	○			
	300-150CR		0.118	3.00	0.098	0.106	0.059		○	○	○			
	GER 200-100DR		0.079	2.00	0.126	0.189	0.039		○	○	○		SIGER...D-EH	G55
	300-150DR		0.118	3.00	0.177	0.189	0.059		○	○	○			

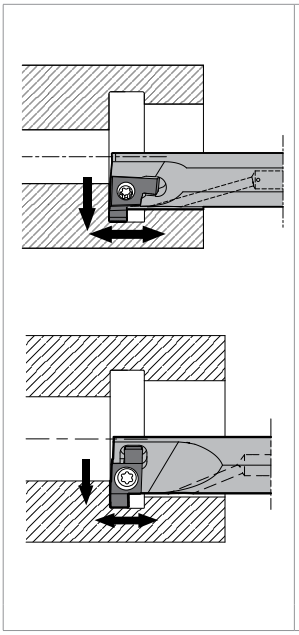
• Dimension B : Available grooving depth

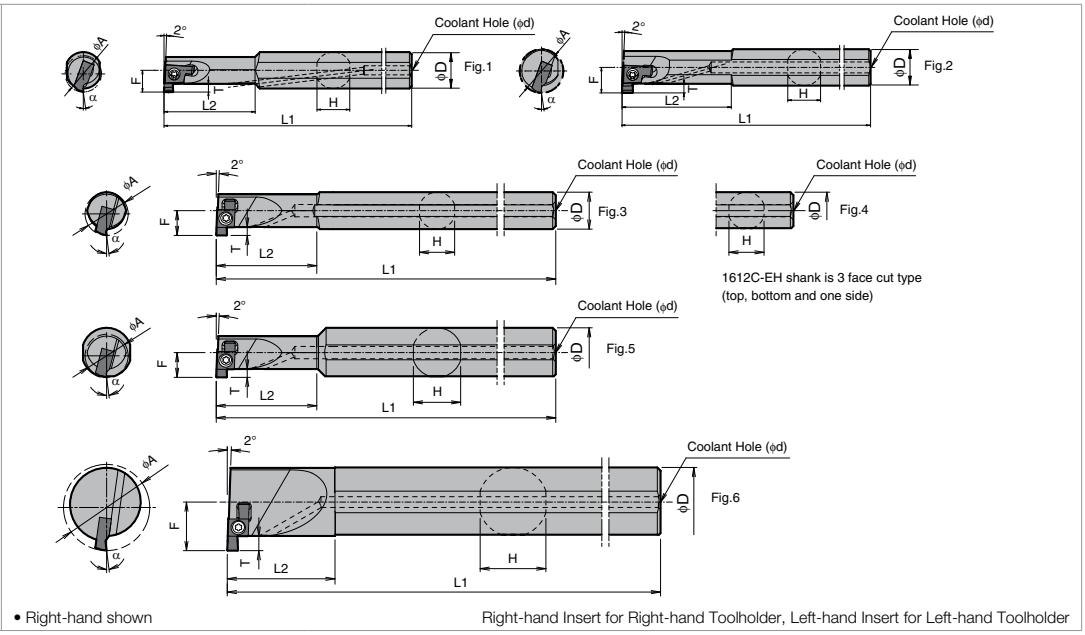
Recommended Cutting Conditions G58

Inserts are sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

SIGE-EH Excellent Bar (With Coolant Hole)





• Right-hand shown

Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	F	T	Ød	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench FT	Spare Parts: Wrench DT	Applicable Inserts ➔ G52~G54
SIGE®	05EH	●	●	inch	0.313	0.315	0.283	3.940	0.787	0.177	0.059	0.158	Fig.1	SB-2045TRN	FT-6	-	GE®100-005A~GE®200-010A GER100-050AR~GER200-100AR
	06EH	●	●		0.394	0.394	0.354	4.920	0.984	0.232	0.087	0.158	Fig.1	SB-2255TR	-	DT-7	GE®100-005B~GE®300-020B GER100-050BR~GER200-100BR
	0809C-EH	●	●		0.551	0.500	0.460	5.900	1.300	0.315	0.098	0.158	Fig.2	SB-2570TR	FT-8	-	GE®100-005C~GE®350-020C GER150-010CM~GER350-020CM GER200-100CR~GER300-150CR
	0810C-EH	●	●		0.630	0.500	0.460	5.900	0.788	0.335	0.098	0.158	Fig.3				
	1213D-EH	●	●		0.790	0.750	0.710	7.09	1.575	0.477	0.177	0.196	Fig.5	SB-3080TR	FT-10	-	GE®100-005D~GE®400-020D GER150-010DM~GER400-020DM GER200-100DR~GER300-150DR
	1616E-EH	●	●		1.000	1.000	0.960	7.88	1.772	0.614	0.255	0.196	Fig.5	SB-4085TR	FT-15	-	GE®100-005E~GE®500-020E GER150-010EM~GER500-020EM
	2020E-EH	●	●		1.250	1.250	1.170	8.66	2.166	0.748	0.255	0.196					
	2025E-EH	●	●		1.575	1.250	1.170	9.84	1.772	0.906	0.255	0.196	Fig.6				
SIGE®	0808A-EH	○	○	mm	8	8	7.2	100	20	4.8	1.5	3	Fig.1	SB-2045TRN	FT-6	-	GE®100-005A~GE®200-010A GER100-050AR~GER200-100AR
	1010B-EH	○	○		10	10	9.0	125	25	6.2	2.2	3	Fig.1	SB-2255TR	-	DT-7	GE®100-005B~GE®300-020B GER100-050BR~GER200-100BR
	1210B-EH	○	○		12	10	9.0	125	30	7.0	2.2	3	Fig.2				
	1412C-EH	○	○		14	12	11.4	150	33	8.0	2.5	4	Fig.3	SB-2570TR	FT-8	-	GE®100-005C~GE®350-020C GER150-010CM~GER350-020CM GER200-100CR~GER300-150CR
	1612C-EH	○	○		16	12	11.4	150	20	8.5	2.5	4	Fig.4				
	1616C-EH	○	○		16	16	15.0	160	36	9.0	2.5	5	Fig.5				
	2020D-EH	○	○		20	20	19.0	180	40	12.1	4.5	5	Fig.5	SB-3080TR	FT-10	-	GE®100-005D~GE®400-020D GER150-010DM~GER400-020DM GER200-100DR~GER300-150DR
	2525E-EH	○	○		25	25	24.0	200	45	15.6	6.5	5	Fig.5	SB-4085TR	FT-15	-	GE®100-005E~GE®500-020E GER150-010EM~GER500-020EM
	3232E-EH	○	○		32	32	30.4	220	55	19.0	6.5	5					
	4032E-EH	○	○		40	32	30.4	250	45	23.0	6.5	5	Fig.6				

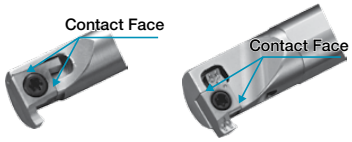
• Dimension T shows available grooving depth. Available Groove Depth : "B" Dimension of Insert.

Features

- Traditional top clamp has been replaced with a screw clamp only. This design creates a large chip pocket that provides excellent chip evacuation

- Cost effective chip control from a 3-D molded chipbreaker

- Cutting Edge is Protected in the Pocket

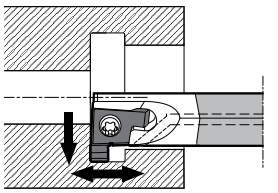


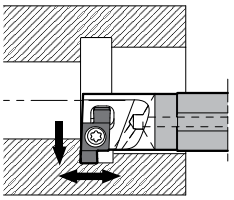
- 8mm Minimum Cutting Diameter with 2-Edge Design

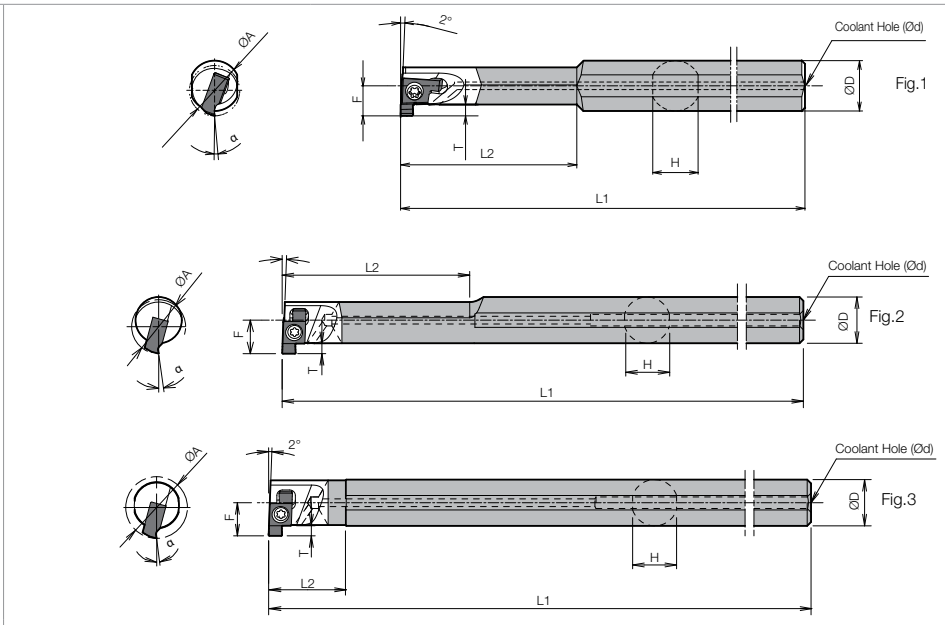
GER···M type

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

SIGE-WH Carbide Shank Bar (With Coolant Hole)







• Right-hand shown

Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number		Stock R	Stock L	Min. Bore Dia. ØA	Dimensions (mm) ØD	H	L1	L2	F	T	Ød	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench		Applicable Inserts → G52~G54
SIGE℠	0808A-WH	○	○	8	8	7.2	125	28	4.8	1.5	3	Fig.1	SB-2045TRN	FT-6	-	GE℠100-005A~GE℠200-010A GER100-050AR~GER200-100AR
	1010B-WH	●	○	10	10	9.0	125	35	6.2	2.2	3	Fig.1	SB-2255TR	-	DT-7	GE℠100-005B~GE℠300-020B GER100-050BR~GER200-100BR
	1210B-WH	○	○	12	10	9.0	140	45	7.0	2.2	3					
	1412C-WH	○	○	14	12	11.4	150	50	8.7	2.5	4	Fig.2	SB-2570TR	FT-8	-	GE℠100-005C~GE℠350-020C GER150-010CM~GER350-020CM GER200-100CR~GER300-150CR
	1612C-WH	○	○	16	12	11.4	180	20	8.5	2.5	4	Fig.3				

• Dimension T: Available grooving depth

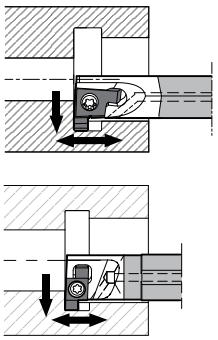
Applicable Inserts and Rake Angle (α) After Installment of Insert

Toolholder		Ground Chipbreaker	α (°)	Molded Chipbreaker	α (°)
SIGE℠	05EH	GE℠100-005A~GE℠200-010A GER100-050AR~GER200-100AR	5°	-	-
	06EH	GE℠100-005B~GE℠300-020B GER100-050BR~GER200-100BR	5°	-	-
SIGE℠	0808A-EH	GE℠100-005A~GE℠200-010A GER100-050AR~GER200-100AR	5°	-	-
	0809C-EH 0810C-EH	GE℠100-005C~GE℠350-020C GER200-100CR~GER300-150CR	8	GER150-010CM~GER350-020CM	10°
	1010B-EH 1210B-EH	GE℠100-005B~GE℠300-020B GER100-050BR~GER200-100BR	5°	-	-
	1213D-EH	GE℠100-005D~GE℠400-020D GER200-100DR~GER300-150DR	9°	GER150-010DM~GER400-020DM	10°
	1412C-EH 1612C-EH 1616C-EH	GE℠100-005C~GE℠350-020C GER200-100CR~GER300-150CR	8°	GER150-010CM~GER350-020CM	10°
	1616E-EH	GE℠100-005E~GE℠500-020E	10°	GER150-010EM~GER500-020EM	10°
	2020D-EH	GE℠100-005D~GE℠400-020D GER200-100DR~GER300-150DR	9°	GER150-010DM~GER400-020DM	10°
	2020E-EH 2025E-EH 2525E-EH 3232E-EH 4032E-EH	GE℠100-005E~GE℠500-020E	10°	GER150-010EM~GER500-020EM	10°
SIGE℠	0808A-WH	GE℠100-005A~GE℠200-010A GER100-050AR~GER200-100AR	5°	-	-
	1010B-WH 1210B-WH 1008B-WH-90 1210B-WH-90	GE℠100-005B~GE℠300-020B GER100-050BR~GER200-100BR	5°	-	-
	1412C-WH 1612C-WH 1412C-WH-90	GE℠100-005C~GE℠350-020C GER200-100CR~GER300-150CR	8°	GER150-010CM~GER350-020CM	10°

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

SIGE-WH-90 Carbide Shank Bar (With Coolant Hole)



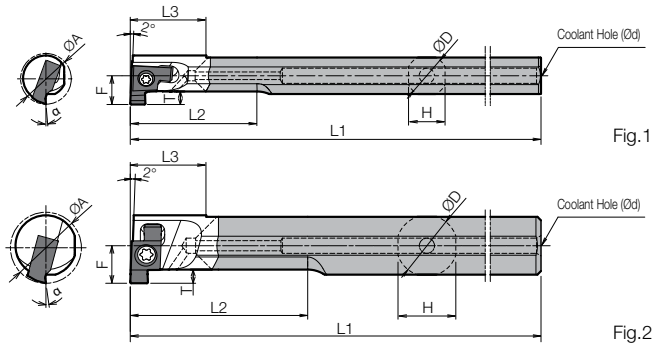


Fig.1

Fig.2

• Right-hand shown

Right-hand Insert for Right-hand Toolholder

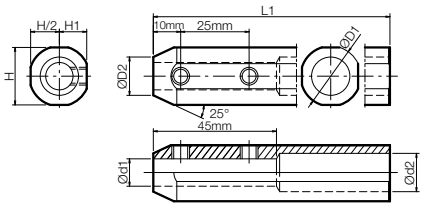
Toolholder Dimensions

Part Number		Stock	Min. Bore Dia.	Dimensions (mm)								Drawing	Spare Parts		Applicable Inserts
													Clamp Screw	Wrench	G52~G54
			ØA	ØD	H	L1	L2	*L3	F	T	Ød				
SIGER	1008B-WH-90	○	10	8	7.2	90	25	15	5.6	2.2	3	Fig.1	SB-2255TR	FT-7	GER100-005B~GER300-020B GER100-050BR~GER200-100BR
	1210B-WH-90	○	12	10	9.4	90	30	15	6.6	2.2	3				
	1412C-WH-90	○	14	12	11.4	90	35	15	7.4	2.5	3	Fig.2	SB-2570TR	FT-8	GER100-005C~GER350-020C GER150-010CM~GER350-020CM GER200-100CR~GER300-150CR

*Dimension L3 shows minimum overhang length.

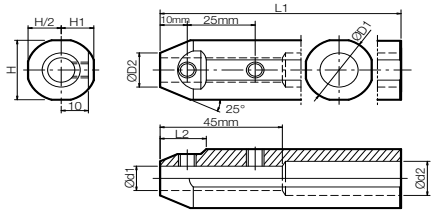
• Ref. to Page G56 for applicable Insert & Rake Angle (α) after Installment of Insert.

Applicable Sleeves



Holder Installation Side

Fig.1



Holder Installation Side

Fig.2

Part Number		Stock	Dimensions (mm)								Drawing	Spare Parts		Applicable Machine Manufacturer
												Screw	Wrench	
			Ød1	ØD1	ØD2	Ød2	H	H1	L1	L2				
SHA	0820-120	□	8	20.00	14	12	19.0	9.25	120	-	Fig.1	HS6x4P	LW-3	Amada Machine Tools Eguro Tsugami Citizen Machinery
	1020-120	□	10	20.00	14	12	19.0	9.25	120	-				
SHA	0825.0-135	○	8	25.00	14	14	24.0	11.50	135	17	Fig.2	HS6x4P	LW-3	
	1025.0-135	○	10	25.00	14	14	24.0	11.50	135	17				
	1225.0-135	□	12	25.00	16	14	24.0	11.50	135	17				
SHA	0819-120	□	8	19.05	14	12	18.0	8.75	120	-	Fig.1	HS6x4P	LW-3	Citizen Machinery
	1019-120	□	10	19.05	14	12	18.0	8.75	120	-				
SHA	0820-120	□	8	20.00	14	12	19.0	9.25	120	-				
	1020-120	□	10	20.00	14	12	19.0	9.25	120	-				
SHA	0825.4-120	□	8	25.40	14	14	24.4	12.00	120	17	Fig.2	HS6x4P	LW-3	
	1025.4-120	○	10	25.40	14	14	24.4	12.00	120	17				
	1225.4-120	□	12	25.40	16	14	24.4	12.00	120	17				
SHA	0822-125	□	8	22.00	14	14	21.0	10.00	125	-	Fig.1	HS6x4P	LW-3	Star Micronics Nomura DS
	1022-125	□	10	22.00	14	14	21.0	10.00	125	-				
	1222-125	□	12	22.00	16	14	21.0	10.00	125	-				
SHA	0823-120	□	8	23.00	14	14	22.0	10.50	120	16	Fig.2	HS6x4P	LW-3	Nomura DS
	1023-120	□	10	23.00	14	14	22.0	10.50	120	16				
	1223-120	□	12	23.00	16	14	22.0	10.50	120	16				

※ : Length of Ød1…45mm (All types of SHA sleeves)

• Choose sleeves (Ød1) to meet with ØD dimension of toolholder.

• Machine manufacturers are in random order.

● : U.S. Stock Standard
□ : Made to Order
○ : World Express (Shipping: 7-10 Business Days)

Recommended Cutting Conditions (Ground Chipbreaker : GE✓...A(R), GE✓...B(R))

Workpiece Material	Recommended Insert Grade (Vc sfm)				① f (feed) during Grooving (ipr) ② f (feed) during Traversing (ipr) ③ D.O.C. during Traversing (in)			Notes
	Cermet	MEGA COAT	PVD	Carbide				
	TN6020	**PR1225**	**PR1025**	**KW10**	GE✓ 100~200-010A 100~200-100AR	GE✓ 100~200-010B 100~200-100BR	GE✓ 250~300-020B	
Carbon Steel	☆ 160~260	★ 160~260	☆ 160~260	-	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0020	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0020	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0039	Wet
Alloy Steel	☆ 160~260	★ 160~260	☆ 160~260	-	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0020	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0020	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0039	
Stainless Steel	-	★ 160~260	☆ 160~260	-	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0020	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0020	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0039	
Cast Iron	-	-	-	★ 160~260	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0020	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0020	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0039	
Aluminum	-	-	-	★ 160~330	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0039	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0039	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0079	
Brass	-	-	-	★ 160~330	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0039	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0039	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0079	

• Use PVD coated grade or uncoated carbide for traversing with edge width 0.0394"(1mm). (GE✓100-005A/100-005B)

★ : 1st Recommendation ☆ : 2nd Recommendation

Recommended Cutting Conditions (Ground Chipbreaker : GE✓...C(R),GE✓...D(R),GE✓...E)

Workpiece Material	Recommended Insert Grade (Vc sfm)				① f (feed) during Grooving (ipr) ② f (feed) during Traversing (ipr) ③ D.O.C. during Traversing (in)							Notes
	Cermet	MEGA COAT	PVD	Carbide								
	TN6020	**PR1225**	**PR1025**	**GW15**	GE✓ 100~200-010C 200-100CR	GE✓ 250~350-020C 250~300-150CR						
					GE✓ 100~145-010D	GE✓ 150~195-010D	GE✓ 200~280-020D 200-100DR		GE✓ 300~400-020D 300-150DR			
					GE✓ 100-010E	GE✓ 150~195-010E	GE✓ 200~225-010E 230-020E	GE✓ 250~330-020E		GE✓ 350~430-020E	GE✓ 450~500-020E	
Carbon Steel	☆ 390~590	★ 200~460	☆ 200~460	-	① 0.0012~0.0031 ② 0.0012~0.0031 ③ Max. 0.0118	① 0.0012~0.0031 ② 0.0012~0.0031 ③ Max. 0.0118	① 0.0016~0.0035 ② 0.0016~0.0035 ③ Max. 0.0118	① 0.0016~0.0035 ② 0.0016~0.0035 ③ Max. 0.0118	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0197	Wet
Alloy Steel	☆ 330~520	★ 200~390	☆ 200~390	-	① 0.0012~0.0028 ② 0.0012~0.0039 ③ Max. 0.0118	① 0.0012~0.0028 ② 0.0012~0.0039 ③ Max. 0.0118	① 0.0016~0.0031 ② 0.0016~0.0031 ③ Max. 0.0118	① 0.0016~0.0031 ② 0.0016~0.0031 ③ Max. 0.0118	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0197	
Stainless Steel	☆ 230~430	★ 200~360	☆ 200~360	-	① 0.0012~0.0028 ② 0.0012~0.0039 ③ Max. 0.0118	① 0.0012~0.0028 ② 0.0012~0.0039 ③ Max. 0.0118	① 0.0016~0.0031 ② 0.0016~0.0031 ③ Max. 0.0118	① 0.0016~0.0031 ② 0.0016~0.0031 ③ Max. 0.0118	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0197	
Cast Iron	-	-	-	★ 200~330	① 0.0012~0.0031 ② 0.0012~0.0031 ③ Max. 0.0118	① 0.0012~0.0031 ② 0.0012~0.0031 ③ Max. 0.0118	① 0.0016~0.0035 ② 0.0016~0.0035 ③ Max. 0.0118	① 0.0016~0.0035 ② 0.0016~0.0035 ③ Max. 0.0118	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0197	
Aluminum	-	-	-	★ 490~980	① 0.0020~0.0047 ② 0.0020~0.0047 ③ Max. 0.0197	① 0.0020~0.0047 ② 0.0020~0.0047 ③ Max. 0.0197	① 0.0020~0.0059 ② 0.0020~0.0059 ③ Max. 0.0197	① 0.0020~0.0059 ② 0.0020~0.0059 ③ Max. 0.0197	① 0.0031~0.0059 ② 0.0031~0.0059 ③ Max. 0.0315	① 0.0031~0.0059 ② 0.0031~0.0059 ③ Max. 0.0315	① 0.0031~0.0059 ② 0.0031~0.0059 ③ Max. 0.0315	
Brass	-	-	-	★ 330~820	① 0.0020~0.0047 ② 0.0020~0.0047 ③ Max. 0.0197	① 0.0020~0.0047 ② 0.0020~0.0047 ③ Max. 0.0197	① 0.0020~0.0059 ② 0.0020~0.0059 ③ Max. 0.0197	① 0.0020~0.0059 ② 0.0020~0.0059 ③ Max. 0.0197	① 0.0031~0.0059 ② 0.0031~0.0059 ③ Max. 0.0315	① 0.0031~0.0059 ② 0.0031~0.0059 ③ Max. 0.0315	① 0.0031~0.0059 ② 0.0031~0.0059 ③ Max. 0.0315	

• Use PVD coated grade or uncoated carbide for traversing with edge width 0.0394"(1mm). (GE✓100-010C / 100-010D / 100-010E)

★ : 1st Recommendation ☆ : 2nd Recommendation

Recommended Cutting Conditions (Molded Chipbreaker : GER...CM, GER...DM, GER...EM)

Workpiece Material	Recommended Insert Grade (Vc sfm)				① f (feed) during Grooving (ipr) ② f (feed) during Traversing (ipr) ③ D.O.C. during Traversing (in)						Notes
	Cermet	MEGA COAT	PVD	Carbide							
	TN6020	**PR1225**	**PR1025**	**GW15**	GER 150~200-010CM	GER 250~350-020CM					
					GER 150~200-010DM		GER 230~250-020DM	GER 300~400-020DM			
					GER 150~200-010EM			GER 250~350-020EM	GER 350~400-020EM	GER 450~500-020CM	
Carbon Steel	-	★ 200~520	☆ 200~520	-	① 0.0012~0.0039 ② 0.0012~0.0039 ③ Max. 0.0394	① 0.0012~0.0047 ② 0.0012~0.0039 ③ Max. 0.0591	① 0.0016~0.0047 ② 0.0016~0.0039 ③ Max. 0.0591	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0591	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0591	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0591	Wet
Alloy Steel	-	★ 200~460	☆ 200~460	-	① 0.0012~0.0039 ② 0.0012~0.0039 ③ Max. 0.0394	① 0.0012~0.0039 ② 0.0012~0.0039 ③ Max. 0.0591	① 0.0016~0.0047 ② 0.0016~0.0039 ③ Max. 0.0591	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0591	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0591	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0591	
Stainless Steel	-	★ 200~360	☆ 200~360	-	① 0.0012~0.0031 ② 0.0012~0.0039 ③ Max. 0.0394	① 0.0012~0.0031 ② 0.0012~0.0039 ③ Max. 0.0591	① 0.0016~0.0031 ② 0.0016~0.0039 ③ Max. 0.0591	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0591	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0591	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0591	

★ : 1st Recommendation ☆ : 2nd Recommendation

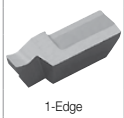
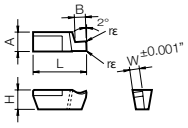
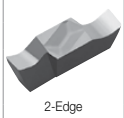
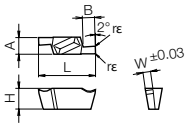
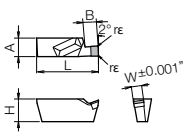
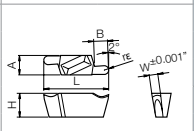
Applicable Inserts (GIV / GIV-E / GIV-W)

(in)

Part Number	A	L	H
GV□…SS	0.142	0.354	0.118
GV□…S	0.157	0.433	0.157
GV□…A	0.157	0.472	0.197
GV□…B	0.177	0.591	0.217
GV□…C	0.228	0.827	0.256

Classification of Usage
- ● : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

P	Carbon Steel / Alloy Steel				●	◔				
M	Stainless Steel				●	◔				
K	Cast Iron						●			
N	Non-ferrous Metals						●	●		
S	Titanium Alloy						●	●		
H	Hard materials (≤40HRC)				○	○				
	Hard materials (≥40HRC)									

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Unit	Dimensions (in) W inch	W mm	B	rε	Cermet TN90	Cermet TC40	Cermet TC60M	MEGACOAT PR1225	PVD Coated Carbide PR930	Carbide KW10	PCD KPD010	Applicable Toolholders ➔ G61
 1-Edge 	GV□100-020SS	GV□100SS	inch	0.039	1.00	0.091	0.008	®			○	®	○		GIV□…1SS
	GV□125-020SS	GV□125SS		0.049	1.25	0.091		®			○	®	○		
	GV□145-020SS	GV□145SS		0.057	1.45	0.091		®			○	○	○		
	GV□200-020SS	GV□200SS		0.079	2.00	0.091		®			○	®	○		
	GV□250-020SS	GV□250SS		0.098	2.50	0.091		®			○	®	○		
	GV□300-020SS	GV□300SS		0.118	3.00	0.091		®			○	○	○		
	GV□100-020S	GV□100S		0.039	1.00	0.091	0.008	®	○		○	○	○		GIV□…1S GIV□…1SE
	GV□125-020S	GV□125S		0.049	1.25	0.091		®	○		®	®	○		
	GV□145-020S	GV□145S		0.057	1.45	0.091		®	○		®	®	○		
	GV□185-020S	GV□185S		0.073	1.85	0.091		®	○		®	®	○		
	GV□200-020S	GV□200S		0.079	2.00	0.091		®	○		○	○	○		
	GV□250-020S	GV□250S		0.098	2.50	0.091		®	○		○	®	○		
	GV□340-020S	GV□340S		0.134	3.40	0.091			○		®	®	○		
 2-Edge 	GV□100-020A	GV□100A		0.039	1.00	0.091	0.008	®	○		○	®	○		GIV□…1A GIV□…1AE GIV□…1AW
	GV□125-020A	GV□125A		0.049	1.25	0.091		®	○		○	®	○		
	GV□145-020A	GV□145A		0.057	1.45	0.091		®	○		○	®	○	®	
	GV□185-020A	GV□185A		0.073	1.85	0.091		®	○		○	®	○		
	GV□200-020A	GV□200A		0.079	2.00	0.091		○	○		○	○	○	®	
	GV□250-020A	GV□250A		0.098	2.50	0.091		®	○		○	®	○		
	GV□300-020A	GV□300A		0.118	3.00	0.091		®	○		®	®	○		
	GV□340-020A	GV□340A		0.134	3.40	0.091		®	○		®	®	○		
	GV□145-020B	GV□145B		0.057	1.45	0.110	0.008	®	○		○	○	○		GIV□…1B GIV□…1BE GIV□…1BW
	GV□185-020B	GV□185B		0.073	1.85	0.110		®	○		®	®	®		
	GV□200-020B	GV□200B		0.079	2.00	0.126		○	○		○	○	○	®	
	GV□230-020B	GV□230B		0.091	2.30	0.126		○	○		○	○	®		
	GV□250-020B	GV□250B		0.098	2.50	0.126		®	○		○	○	○	®	
	GV□280-020B	GV□280B		0.110	2.80	0.126		®	○		®	®	®		GIV□…2B GIV□…2BE GIV□…2BW
	GV□300-020B	GV□300B		0.118	3.00	0.165		○	○		○	○	○		
	GV□340-020B	GV□340B		0.134	3.40	0.165		®	○		®	®	®		
	GV□400-020B	GV□400B		0.157	4.00	0.165		®	○		®	®	○		
	GV□280-020C	GV□280C		0.110	2.80	0.177	0.008	○	○		○	®	○		GIV□…1C GIV□…1CE GIV□…1CW
	GV□300-020C	GV□300C		0.118	3.00	0.177		○	○		○	○	○		
	GV□340-020C	GV□340C		0.134	3.40	0.217	0.008	®	○		○	○	○		
	GV□400-020C	GV□400C		0.157	4.00	0.217		○	○		○	○	○		
	GV□430-020C	GV□430C		0.169	4.30	0.248	0.008	®	○		®	®	○		GIV□…2C GIV□…2CE GIV□…2CW
	GV□460-020C	GV□460C		0.181	4.60	0.248			○		®	®	○		
	GV□500-020C	GV□500C		0.197	5.00	0.248		®	○		○	○	○		
 1-Edge 	GV□145-020A	GV□145A		0.057	1.45	0.091	0.008	®	○		○	®	○	®	GIV□…1A GIV□…1AE GIV□…1AW
	GV□200-020A	GV□200A		0.079	2.00	0.091		○	○		○	○	○	®	
	GV□300-020A	GV□300A		0.118	3.00	0.091		®	○		®	®	○		
	GV□200-020B	GV□200B		0.079	2.00	0.126	0.008	○	○		○	○	○	®	GIV□…1B GIV□…1BE GIV□…1BW
	GV□250-020B	GV□250B		0.098	2.50	0.126		®	○		○	○	○	®	
	GV□300-020B	GV□300B		0.118	3.00	0.165		○	○		○	○	○		GIV□…2B□
	GV□300-020C	GV□300C		0.118	3.00	0.177	0.008	○	○		○	○	○		GIV□…1C□
	GV□400-020C	GV□400C		0.157	4.00	0.217		○	○		○	○	○		GIV□…2C□
 2-Edge Full-R 	GV□200-100AR	GV□100AR		0.079	2.00	0.091	0.039				○	○	®		GIV□…1A GIV□…1AE GIV□…1AW
	GV□250-125AR	GV□125AR		0.098	2.50	0.091	0.049				®	®	®		
	GV□300-150AR	GV□150AR		0.118	3.00	0.091	0.059				®	®	®		
	GVR200-100BR	GVR100BR		0.079	2.00	0.126	0.039	○			○	○	○		GIV□…1B□
	GVR300-150BR	GVR150BR		0.118	3.00	0.165	0.059	○			○	○	○		GIV□…2B□

- Dimension B : Available grooving depth

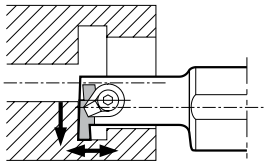
Inserts are sold in 10 piece boxes.

CBN & PCD Inserts are sold in 1 piece boxes.

Recommended Cutting Condtions ➔ G127
Applicable Toolholders ➔ G61

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

GIV



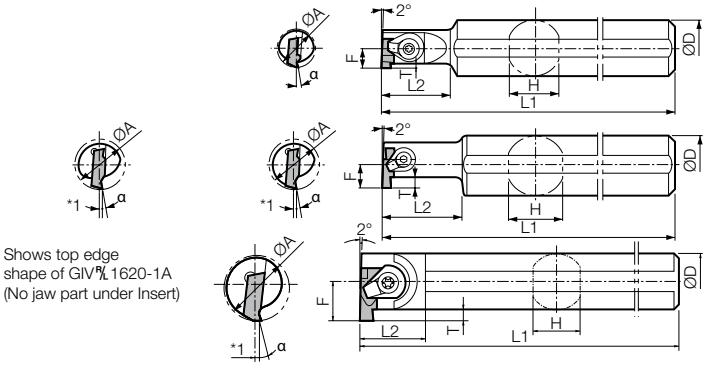


Fig.1

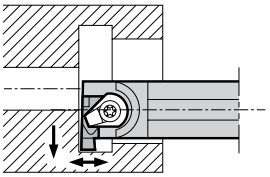
Fig.2

Fig.3

• Right-hand shown

Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

GIV-E Excellent Bar



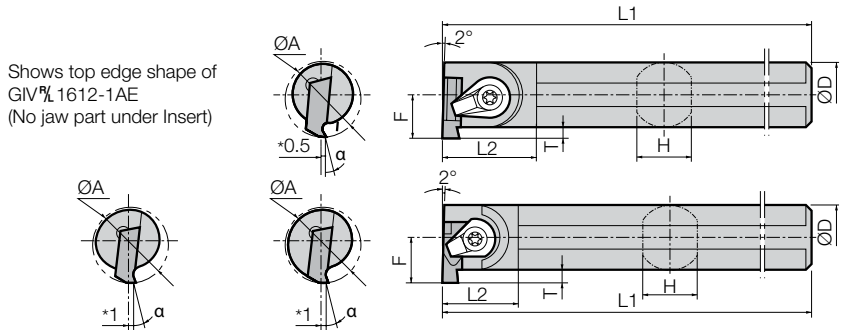


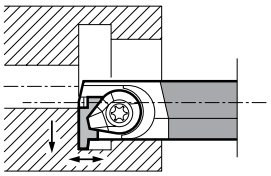
Fig.4

Fig.5

• Right-hand shown

Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

GIV-W Carbide Shank Bar



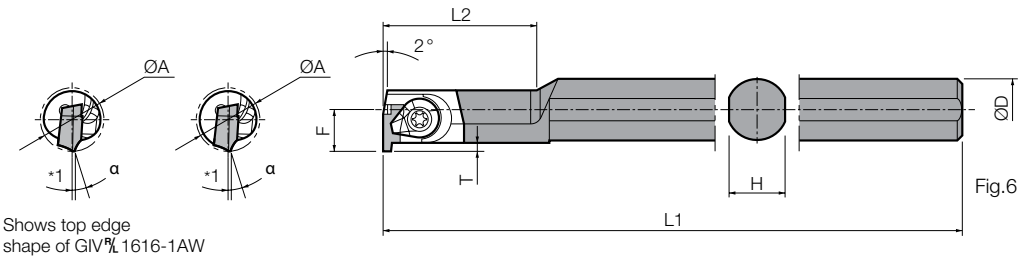


Fig.6

• Right-hand shown

Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

Applicable Inserts and Rake Angle (α) After Installment of Insert

Toolholder	Insert Part Number ➔ G59		Rake Angle (α)	
	General Grooving (Square)	Full-R Grooving (Round)	TC40	TN90,TC60M PR930,PR1225 KW10
GIV□…1SS	GV□100~300-020SS	-	10°	15°
GIV□…1S	GV□100~340-020S	-	10°	15°
GIV□…1SE	GV□100~340-020S	-	3°	8°
GIV□…1A(□)	GV□100~340-020A	GV□200-100AR~300-150AR	3°	8°
GIV□…1B(□)	GV□145~250-020B	GV□200-100BR	4°	9°
GIV□…2B(□)	GV□280~400-020B	GV□300-150BR		
GIV□…1C(□)	GV□280~340-020C	-	5°	10°
GIV□…2C(□)	GV□400~500-020C	-		

*** GIV, GIV-E and GIV-W are designed to set the cutting edge height 1mm above the center height. (0.5mm for GIV□1612-1AE)**

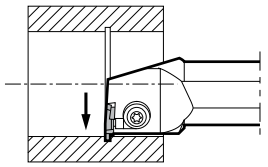
Toolholder Dimensions

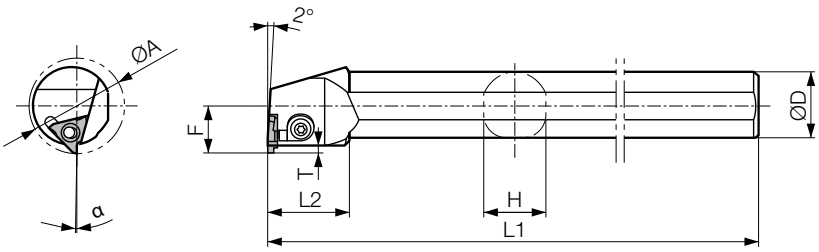
Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	ØD	H	L1	L2	F	T	Drawing	Spare Parts: Clamp Set		Spare Parts: Wrench	Spare Parts: Wrench	Ref. Page for Applicable Inserts
SI-GIV® 10-09	●		inch	0.472	0.625	0.590	5.910	0.787	0.236	0.087	Fig.1	CPS-4V	-	FT-10	-	
12-12	●			0.630	0.750	0.710	6.300	1.100	0.314	0.090	Fig.2	CPS-5V	-	FT-15	-	
16-15	●			0.790	1.000	0.960	7.100	1.380	0.394	0.125						
20-21	●			0.984	1.250	1.170	7.875	1.700	0.492	0.177	Fig.2	-	CPS-6V	-	LW-3	
GIV® 1216-1SS	○	○	mm	12	16	15.0	150	20	6.0	2.2	Fig.1	CPS-4V	-	FT-10	-	
1420-1S	○	○		14	20	19.0	150	24	7.0	2.2	Fig.1	CPS-5F	-	FT-15	-	
1620-1A	○	○		16	20	19.0	160	28	8.0	2.2	Fig.2	CPS-5V	-	FT-15	-	
2025-1B	○	○		20	25	23.0	180	35	10.0	Note 1) 2.8	Fig.2	CPS-5V	-	FT-15	-	
2025-2B	○	○		20	25	23.0	180	35	10.0	Note 2) 3.2						
2532-1C	○	○		25	32	30.0	200	43	12.5	Note 3) 4.5	Fig.2	-	CPS-6V	-	LW-3	
3232-1C	○	○		32	32	30.0	220	52	16.0	Note 3) 4.5						
4032-1C	○	○		40	32	30.0	250	43	21.0	Note 3) 4.5	Fig.3	-	CPS-6V	-	LW-3	
2532-2C	○	○		25	32	30.0	200	43	12.5	Note 4) 5.5	Fig.2	-	CPS-6V	-	LW-3	
3232-2C	○	○		32	32	30.0	220	52	16.0	Note 4) 5.5						
4032-2C	○	○		40	32	30.0	250	43	22.2	Note 4) 5.5	Fig.3	-	CPS-6V	-	LW-3	
GIV® 1412-1SE	○	○		14	12	11.4	150	18	7.7	1.7	Fig.4	CPS-5F	-	FT-15	-	→ G59
1612-1AE	○	○		16	12	11.4	150	19	8.2	2.2	Fig.5	CPS-5V	-	FT-15	-	
2016-1BE	○	○		20	16	15.2	180	20	11.2	Note 1) 2.8	Fig.5	CPS-5V	-	FT-15	-	
2016-2BE	○	○		20	16	15.2	180	19	11.7	Note 5) 3.2						
2520-1CE	○	○		25	20	19.0	200	25	14.5	Note 6) 4.5	Fig.5	-	CPS-6V	-	LW-3	
3225-1CE	○	○		32	25	24.0	220	24	17.5	Note 7) 4.5						
4032-1CE	○	○		40	32	31.0	240	29	21.0	Note 7) 4.5						
2720-2CE	○	○		27	20	19.0	200	25	16.2	Note 4) 5.5						
3225-2CE	○	○		32	25	24.0	220	24	18.7	Note 4) 5.5						
4032-2CE	○	○		40	32	31.0	240	29	22.2	Note 4) 5.5						
GIV® 1616-1AW	○	○		16	16	15.0	175	48	10.6	2.2	Fig.6	CPS-5V	-	FT-15	-	
2020-1BW	○	○		20	20	19.0	220	60	14.6	Note 1) 2.8	Fig.6	CPS-5V	-	FT-15	-	
2020-2BW	○	○		20	20	19.0	220	60	14.6	Note 2) 3.2						
2525-1CW	○	○		25	25	24.0	260	70	19.1	Note 3) 4.5	Fig.6	-	CPS-6V	-	LW-3	
2525-2CW	○	○		25	25	24.0	260	70	19.1	Note 4) 5.5						

- Dimension T shows available grooving depth.

Note 1: GV®200~250-020B Insert can be used up to a Groove Depth 3.2mm.
Note 2: GV®300~400-020B Insert can be used up to a Groove Depth 4.2mm.
Note 3: GV®340-020C Insert can be used up to a Groove Depth 5.5mm.
Note 4: GV®430~500-020C Insert can be used up to a Groove Depth 6.3mm.
Note 5: GV®300~400-020B Insert can be used up to a Groove Depth 3.8mm. (When using GIV®2016-2BE)
Note 6: GV®340-020C Insert can be used up to a Groove Depth 4.7mm. (When using GIV®2520-1CE)
Note 7: GV®340-020C Insert can be used up to a Groove Depth 5.3mm. (When using GIV®3225-1CE, GIV®4032-1CE)
If you need any of insert groove depth specified in notes 1 to 7, modify the dimension T of toolholder.

KIGBA





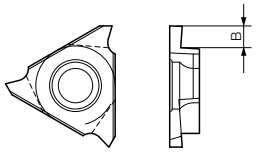
• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	F	*T	Spare Parts: Clamp Set	Spare Parts: Wrench	Applicable Inserts (G6~G10)
KIGBA□ 16-3	●	●	inch	1.38	1.00	0.92	9.0	1.18	0.69	0.12	LGBA-16□S	FT-15	GBA32□ Type
20-4	●	●	inch	1.57	1.25	1.18	10.0	1.18	0.90	0.12	LGBA-22□S	FT-15	GBA43□ Type
KIGBA□ 3525-16	○	○	mm	35	25	23	220	30	17.5	2.8	LGBA-16□S	FT-15	GBA32□ type
4032-22	○	○	mm	40	32	30	250	30	23.0	3.0	LGBA-22□S	FT-15	GBA43□ type

*Dimension T shows the distance from the Toolholder to the cutting edge.
Available Grooving Depth depends on the insert.
KIGBA□3525-16: Dimension B of the applicable insert (GBA32 type)
4032-22: Dimension B of the applicable insert (GBA43 type)
1. 2.0mm (Dimension B < 2.8mm)
2. 2.8mm (Dimension B≧2.8mm)



• Clamp Set : LGBA-○○LS for Right-hand Toolholder, and LGBA-○○RS for Left-hand Toolholder.

Rake Angle (α) after Installment of GBA

GBA32□○○○-○○○ α (°)	GBA32□○○○-○○○ Insert Grade	GBA43□○○○-○○○ α (°)	GBA43□○○○-○○○ Insert Grade	GBA43□○○○-○○○R (Full-R) α (°)	GBA43□○○○-○○○R (Full-R) Insert Grade	Full-R
+1°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR905 KPD001, KPD010	-9°	KBN510, KBN525	+1°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR905	050R~150R
		+1°	TN620, TC40, TN90, PV7040 PR930, PR1115, PR1215, PR905 KPD001, KPD010	+5°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR905	200R
+11°	KW10	+11°	KW10	+5°	KW10	050R~200R

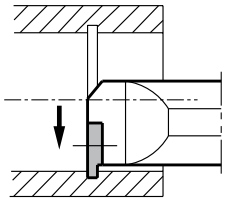
Rake Angle (α) after Installment of GBA-GM

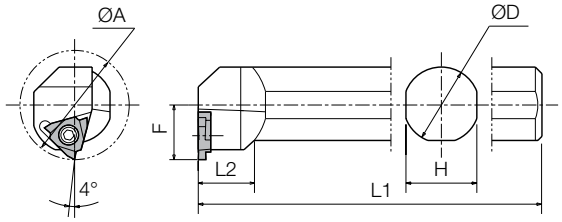
α (°)	Insert Part Number
+1°	GBA43□150-020GM
+6°	GBA43□175-020GM ~ GBA43□265-030GM
+3°	GBA43□300-030GM ~ GBA43□400-040GM

Rake Angle (α) after Installment of GBA-MY

α (°)	Insert Part Number
+6°	GBA43□175-020MY ~ GBA43□350-030MY
+5°	GBA43□400-040MY

KITG (Will be phased out and switched to **KIGBA** G62)

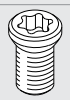
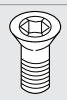
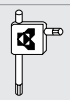
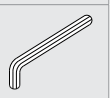




• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)					Spare Parts			
									Clamp Screw		Wrench	
	R	L	ØA	ØD	H	L1	L2	F				
KITG 3525T-16	○	○	35	25	23	220	18	17.5	SB-4TR	-	FT-15	-
4532T-22	○	○	45	32	30	250	20	22.5	-	GS-50	-	LW-3

• Available Grooving Depth: KITG 3525T-16=2.0mm, KITG 4532T-22=2.5mm

* KITG will be switched to KIGBA as an Internal Large Diameter Shallow Grooving Toolholder; however, it will continue to be sold as Internal Threading Toolholder **J27**

• GBA Insert cannot be installed to this toolholder.

Applicable Inserts

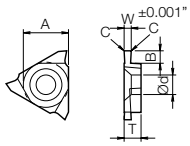
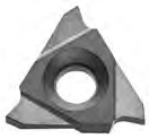
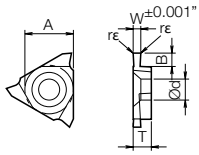
(TG insert will be switched to **GBA** **G6~G10**)

(in)

Part Number	A	T	Ød
TG32_	0.375	0.125	0.177
TG43_	0.500	0.187	0.217

P	Carbon Steel / Alloy Steel	
M	Stainless Steel	
K	Cast Iron	
N	Non-ferrous Metals	
S	Titanium Alloy	
H	Hard materials (≤40HRC)	
	Hard materials (≥40HRC)	

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)		Part Number	Unit	Dimensions (in) W	Dimensions (in) B	Dimensions (in) C or rε	Cermet TN60	Applicable Toolholders	Ref. Page for Toolholder
 General (Square) (Corner is Chamfered) TG32 type		TG32 075	inch	0.030	0.079	(C) 0.004	○	KITG…16	G63
		095		0.037			○		
		125		0.049			○		
		145		0.057			○		
		150		0.059			○		
		175		0.069			○		
		200		0.079			○		
 General (Square) (Corner is R shape) TG43 type		TG43 150	inch	0.059	0.138	0.008	○	KITG…22	G63
		175		0.069			○		
		200		0.079			○		
		230		0.091			○		
		250		0.098	0.157	0.012	○		
		265		0.104			○		
		280		0.110			○		
		300		0.118			○		
		330		0.130			○		
		350		0.138	0.197	0.012	○		
		400		0.157		0.016	○		
		430		0.169			○		
		450		0.177			○		

• Dimension B: shows available grooving depth.

Recommended Cutting Conditions **G124**

* KITG will be switched to KIGBA.
Machining against the wall is available.
* For applicable insert, TG insert will be switched to GBA.
Change Insert Grade TN60 for TN90.
There are various types of GBA insert grades available depending on the user's cutting condition requirements.
* Check the corner-R(rε)of the insert when changing.

Inserts are sold in 10 piece boxes.

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

(Customer Service) **800.823.7284 - Option 1**
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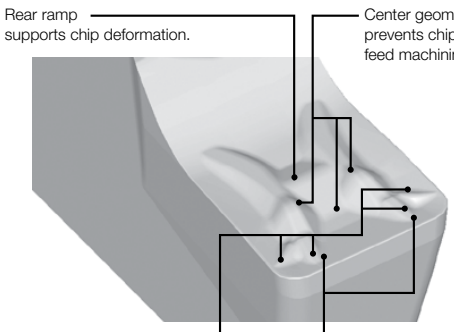
KGDI NEW Internal Grooving

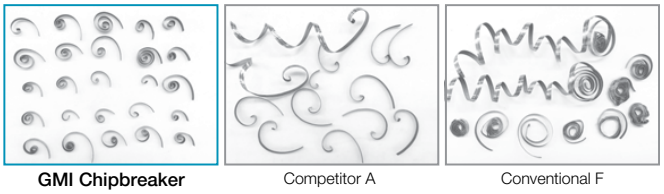
Stable Machining with Excellent Chip Control and Smooth Chip Evacuation

1 Excellent Chip Control with GMI Chipbreaker for Internal Grooving

Evenly breaks chips in various cutting conditions with newly designed chipbreaker geometry.
Good chip control even in finishing applications with small depths of cut.



Chip Control Comparison (Internal Evaluation)

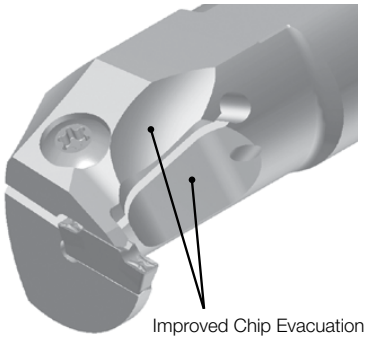


Smooth chip control with stable chip shape compared with Competitor A and Conventional F.
Prevents frequent machine stops caused by tangled chips.

Cutting Conditions: Vc = 330 sfm, f = 0.003 ipr Toolholder: KGDIR3225B-3
Insert: GDM3015N-040GMI Workpiece: 5120 Steel

2 Smooth Chip Evacuation by Creating Chip Pocket

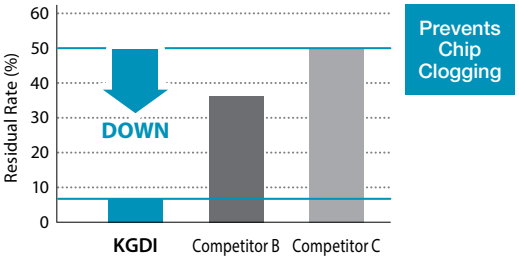
Smooth chip evacuation when grooving and finishing.

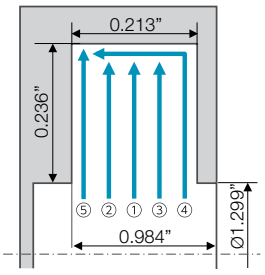


Improved Chip Evacuation with Innovative Chip Pockets

Cutting Conditions:
Vc = 100 m/min
①: D.O.C. = 0.118", ②③: D.O.C. = 0.039", ④⑤: D.O.C. = 0.008"
f = 0.003 ipr
Toolholder: KGDIR3225B-3
Insert: GDM3015N-040GMI
Workpiece: 4131 Steel

Residual Chips (Internal Evaluation)



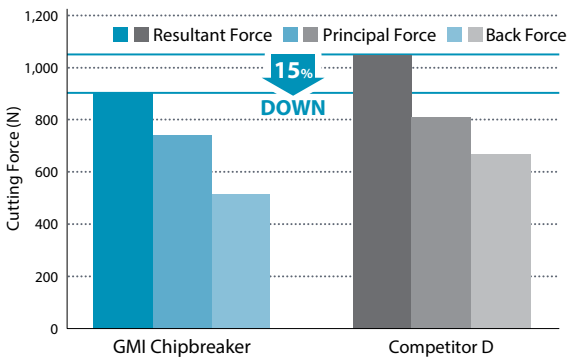


Chips remaining in machined bore were greatly reduced compared with Competitor B and C.

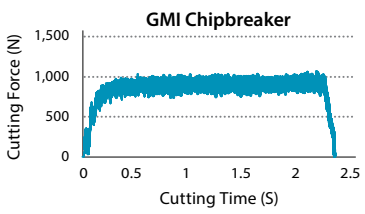
3 Low Cutting Forces and Stable Machining

GMI chipbreaker prevents chip clogging and reduces cutting forces.

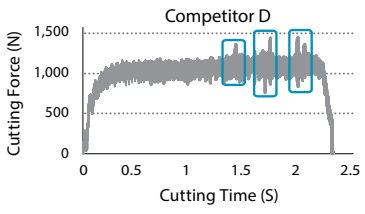
Cutting Force Comparison (Internal Evaluation)



Cutting Conditions: Vc = 490 sfm, f = 0.004 ipr Toolholder: KGDIR3225B-3
Insert: GDM3015N-040GMI Workpiece: 4131 Steel

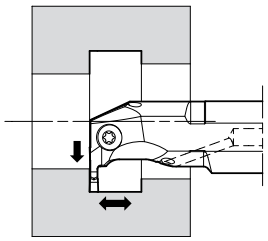


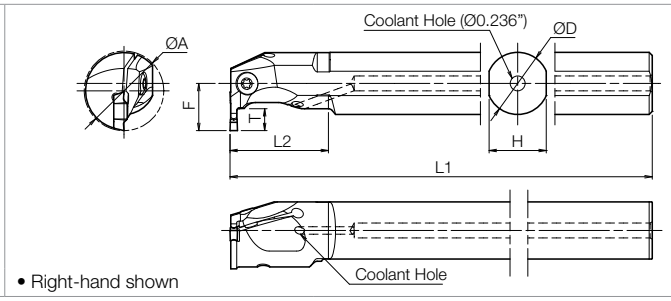
Stable machining with few changes in cutting force.



Instantaneous increase of cutting force due to clogged chips.

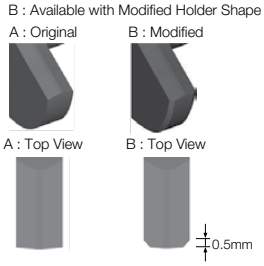
KGDI NEW





• Right-hand shown

A : Available with Original Holder Shape
B : Available with Modified Holder Shape (Below)



Toolholder Dimensions

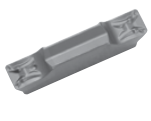
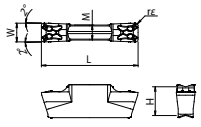
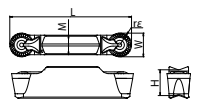
Part Number		Stock R	Stock L	Unit	Min. Bore Dia. ØA GMI	Min. Bore Dia. ØA CM	ØD	H	L1	L2	F	T	Edge Width W MIN	Edge Width W MAX	Spare Parts: Clamp Screw	Spare Parts: Clamp Screw	Spare Parts: Wrench	Spare Parts: Wrench
KGDIR	10B-2	●		inch	0.709	-	0.625	0.591	6	0.984	0.374	0.177	0.079	0.079	GS-50	-	LW-3	-
	12B-2	●			0.984		0.75	0.709	7	1.181	0.571	0.236	0.079	0.079				
	16B-2	●			1.260		1	0.906	8	1.575	0.748	0.276	0.079	0.079	-	SB-5TR	-	LTW-20
KGDIR	10B-3	●			0.787	0.827	0.625	0.591	6	0.984	0.453	0.217	0.118	0.118	GS-50	-	LW-3	-
	12B-3	●			0.984	1.024	0.75	0.709	7	1.181	0.571	0.236	0.118	0.118				
	16B-3	●			1.260	1.299	1	0.906	8	1.575	0.748	0.315	0.118	0.118	-	SB-5TR	-	LTW-20
KGDIR	16B-4	●			1.260	A: 1.575 B: 1.299	1	0.906	8	1.575	0.748	0.335	0.157	0.197	-	SB-5TR	-	LTW-20
	20B-4	●			1.575	A: 1.890 B: 1.614	1.25	1.142	8.5	1.969	0.925	0.433	0.157	0.197				
KGDIR	16B-5	●			1.260	A: 1.457 B: 1.338	1	0.906	8	1.575	0.748	0.335	0.197	0.197	-	SB-5TR	-	LTW-20
	20B-5	●			1.575	A: 1.772 B: 1.653	1.25	1.142	8.5	1.969	0.925	0.433	0.197	0.197				
KGDI℞	1816B-2	○	○	mm	18	-	16	15	150	25	9.5	4.5	2	2	GS-50	-	LW-3	-
	2520B-2	○	○		25		20	18	180	30	14.5	6	2	2				
	3225B-2	○	○		32		25	23	200	40	19	7	2	2	-	SB-5TR	-	LTW-20
KGDI℞	2016B-3	○	○		20	21	16	15	150	25	11.5	5.5	3	3	GS-50	-	LW-3	-
	2520B-3	○	○		25	26	20	18	180	30	14.5	6	3	3				
	3225B-3	○	○		32	33	25	23	200	40	19	8	3	3	-	SB-5TR	-	LTW-20
KGDI℞	3225B-4	○	○		32	40 (34*)	25	23	200	40	19	8.5	4	5	-	SB-5TR	-	LTW-20
	4032B-4	○	○		40	48 (42*)	32	29	220	50	23.5	11	4	5				
KGDI℞	3225B-5	○	○		32	37 (34*)	25	23	200	40	19	8.5	5	5	-	SB-5TR	-	LTW-20
	4032B-5	○	○		40	45 (42*)	32	29	220	50	23.5	11	5	5				

* Possible by slightly chamfering toolholder's tip about 0.5 mm

Applicable Inserts

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

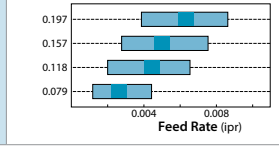
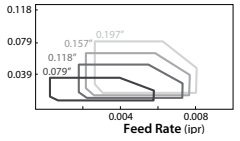
P	Carbon Steel / Alloy Steel	●	◔	●	◔
M	Stainless Steel		●	◔	◔
K	Cast Iron				●

Insert		Part Number	Dimensions (in) W in	W mm	rε	M	L	H	Cermet TN620	MEGACOAT NANO PR1535	MEGACOAT PR1225	MEGACOAT PR1215	Applicable Toolholders
		GDM 2013N-020GMI	0.079	2.0	0.008	0.059	0.531	0.169	○	●	●	○	KGDI℞...-2
		3015N-040GMI	0.118	3.0	0.016	0.094	0.610	0.181	○	●	●	○	KGDI℞...-3
		4020N-040GMI	0.157	4.0	0.016	0.134	0.787	0.169	○	●	●	○	KGDI℞...-4
		5020N-040GMI	0.197	5.0	0.016	0.173	0.787	0.169	○	●	●	○	KGDI℞...-4 ...-5
		5020N-080GMI	0.197	5.0	0.031	0.173	0.787	0.169	○	●	●	○	KGDI℞...-4 ...-5
		GDM 3015N-150R-CM	0.118	3.0	0.059	0.091	0.642	0.181	○	●	●	○	KGDI℞...-3
		4020N-200R-CM	0.157	4.0	0.079	0.130	0.787	0.169	○	●	●	●	KGDI℞...-4
		5020N-250R-CM	0.197	5.0	0.098	0.165	0.827	0.169	○	●	●	●	KGDI℞...-4 ...-5

* Tolerance: ±0.03mm for W = 2.0 and 3.0 and 4.0, ±0.04mm for W = 5.0

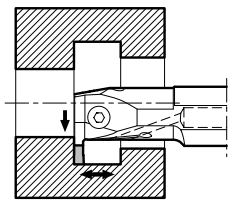
Recommended Cutting Conditions

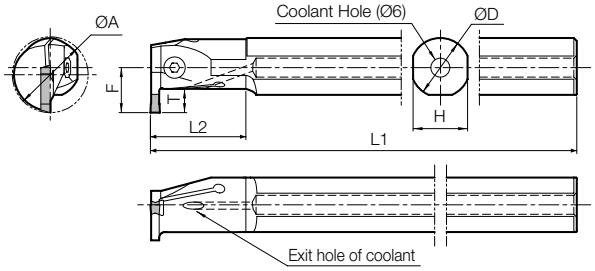
Workpiece Material	Chipbreaker	Recommended Insert Grade (Vc sfm) Cermet TN620	MEGACOAT NANO PR1535	MEGACOAT PR1225	MEGACOAT PR1215	Notes
Carbon Steel	GMI CM	☆ 330~720	☆ 260~490	★ 260~660	☆ 330~660	Wet
Alloy Steel		☆ 260~660	☆ 230~490	★ 230~590	☆ 260~590	
Stainless Steel		☆ 230~590	★ 200~490	★ 200~490	☆ 200~490	
Cast Iron		-	-	-	★ 330~660	

Chipbreaker	Grooving	Turning
GMI (General Purpose)		

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

KIGM-V (Will be phased out and switched to KGDI ➔ G64~G65)





• Right-hand shown

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	F	T	Edge Width W MIN	MAX	Spare Parts: Clamp Screw		Wrench	
KIGM® 10B-3V	●	●	inch	0.787	0.625	0.591	6.000	0.984	0.453	0.217	0.118	0.118	GS-50	-	LW-3	-
12B-3V	●	●		0.966	0.750	0.709	7.000	1.260	0.571	0.217	0.118	0.118				
16B-3V	●	●		1.260	1.000	0.906	8.000	1.575	0.748	0.315	0.118	0.118	-	SB-5TR	-	LTW-20
16B-4V	●	●		1.260	1.000	0.906	8.000	1.575	0.748	0.335	0.157	0.197				
20B-4V	●	●		1.550	1.250	1.140	8.500	1.969	0.925	0.433	0.157	0.197				
KIGM® 2016B-3V	○	○	mm	20	16	15	150	25	11.5	5.5	3	3	GS-50	-	LW-3	-
2520B-3V	○	○		25	20	18	180	32	14.5	6.0	3	3				
3225B-3V	●	●		32	25	23	200	40	19.0	8.0	3	3	-	SB-5TR	-	LTW-20
3225B-4V	○	○		32	25	23	200	40	19.0	8.5	4	5	-	SB-5TR	-	LTW-20
4032B-4V	●	○		40	32	29	220	50	23.5	11.0	4	5				

• Dimension T shows available grooving depth.

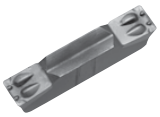
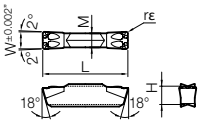
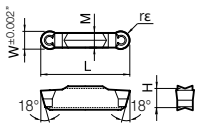
Applicable Inserts

(in)

Part Number	L	H
GMM3015…V(□)	0.610	0.169
GMM4020…V(□)	0.787	0.169
GMM5020…V(□)	0.787	0.169

P	Carbon Steel / Alloy Steel			◔	●		
M	Stainless Steel			●	◔		
K	Cast Iron					●	◔
N	Non-ferrous Metals						●
S	Titanium Alloy						●
H	Hard materials (≤40HRC)			○	●		
	Hard materials (≥40HRC)						

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert		Part Number	Previous Part Number	Dimensions (in) W	rε	M	Cermet TN90	CVD Coated Carbide CR9025	PVD Coated Carbide PR915	PR930	PR905	Carbide KW10	Applicable Toolholders
 Chip Control Oriented M Class		GMM 3015-040V	GMM 3015-04V	0.118	0.016	0.091	○	○	○	●	○	○	KIGM® 2016B-3V KIGM® 2520B-3V KIGM® 3225B-3V
		4020-040V	4020-04V	0.157	0.016	0.130	○	○	○	●	○	○	KIGM® 3225B-4V KIGM® 4032B-4V
		5020-080V	5020-08V	0.197	0.031	0.165	○	○	●	●	○	○	
 Chip Control Oriented M Class Full-R / Copying		GMM 3015-150VR	GMM 3015-15VR	0.118	0.059	0.091	○	○		○	○	○	KIGM® 2016B-3V KIGM® 2520B-3V KIGM® 3225B-3V
		4020-200VR	4020-20VR	0.157	0.079	0.130		○		○	○	○	KIGM® 3225B-4V KIGM® 4032B-4V
		5020-250VR	5020-25VR	0.197	0.098	0.165		○		○	○	○	

• It is not recommended to use this for KIGM-V Internal Grooving Toolholders against GMM...V / GMM...VR which the front relief angle is 18°, because the relief angle of the insert used for GMM4020-04 toolholder is 10°.

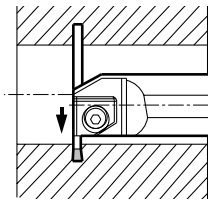
Recommended Cutting Conditions ➔ G129

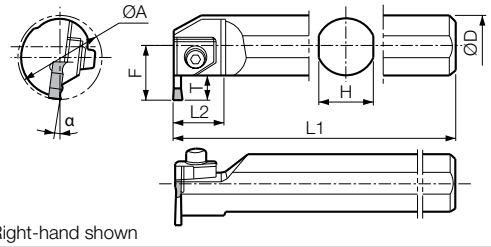
Inserts are sold in 10 piece boxes.

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

KIGH





• Right-hand shown

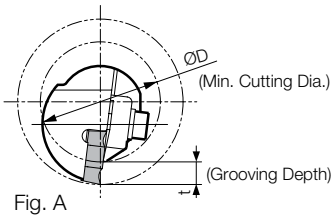


Fig. A

Toolholder Dimensions

Part Number		Stock	Min. Bore Dia.	Dimensions (mm)						Spare Parts				
										Clamp	Clamp Bolt	Washer	Spring	Wrench
			ØA	ØD	H	L1	L2	F	T					
KIGHR	4532B-4	○	45	32	30	200	27	28.2	12	CGH-1L	HH6X25	W-6	SP-6	LW-5
	5540B-4	○	55	40	38	250	27	32.3	12					
	6550B-4	○	65	50	48	300	27	37.3	12					
	4532B-5	○	45	32	30	200	27	28.2	12	CGH-1L	HH6X25	W-6	SP-6	LW-5
	5540B-5	○	55	40	38	250	27	32.3	12					
	6550B-5	○	65	50	48	300	27	37.3	12					
	5540B-7	○	55	40	38	250	27	32.3	12	CGH-2L	HH6X25	W-6	SP-6	LW-5
	6550B-7	○	65	50	48	300	27	37.3	12					

- Dimension T shows the distance from the Toolholder to the cutting edge. For the available Grooving Depth (t), ref. to "List of Min. Available Cutting Diameter and Groove Depth".
- Dimension L2 depends on the width of the installed Insert.

Rake Angle (α) after Installment of GH / GHU

GH○○○○-○○		GHU○○-○○	
α (°)	Insert Grade	α (°)	Insert Grade
-5°	A65, A66N, PT600M	+5°	TN60 CR9025
+5°	TC40		
+15°	TN90, TC60M PR930 KW10		

List of the Min. Cutting Diameter and Grooving Depth (Refer to Fig.A)

Part Number		ØD (Min. Cutting Dia.)					
KIGHR	4532B-○	Ø110	Ø70	Ø65	Ø60	Ø55	Ø45
	5540B-○	Ø70	Ø60	Ø55			
	6550B-○	Ø65					
Available Grooving Depth t (mm)		12.0	11.5	11.0	10.0	9.0	under 8.0

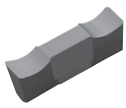
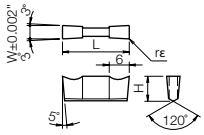
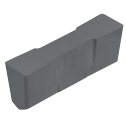
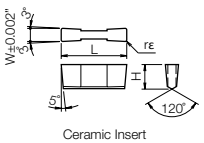
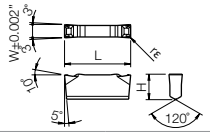
Applicable Inserts

(mm)

Part Number	L	H
GH4020-○○~GH8020-○○	20	7.5
GHU○○-○○	20	

P	Carbon Steel / Alloy Steel						●						
M	Stainless Steel						●						
K	Cast Iron							●	○			●	
N	Non-ferrous Metals							●					
S	Titanium Alloy							●					
H	Hard materials (≤40HRC)						●						
	Hard materials (≥40HRC)										○	●	

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

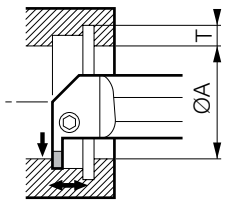
Insert		Part Number		Dimensions (mm)		Cermet				CVD Coated Carbide / PVD Coated Carbide		Carbide	Ceramic			Applicable Toolholders
				W	rε	TN60	TN90	TC40	TC60	CR9025	PR930	KW10	A65	A66N	PT600M	
 Ground Chipbreaker		GH	4020-02	4.0	0.20		○	○	○		○	○				KIGHR4532B-4 KIGHR5540B-4 KIGHR6550B-4
			4020-05	4.0	0.50		○	○	○		○	○	○	○	○	
			4520-02	4.5	0.20			○								
			4520-05	4.5	0.50			○								
			5020-02	5.0	0.20		○	○	○		○	○				KIGHR4532B-5 KIGHR5540B-5 KIGHR6550B-5
			5020-05	5.0	0.50		○	○	○		○	○	○	○	○	
			5520-02	5.5	0.20			○								
			5520-05	5.5	0.50			○								
			6020-02	6.0	0.20		○	○	○		○	○				
			6020-05	6.0	0.50		○	○	○		○	○	○		○	
			6520-02	6.5	0.20			○								
			6520-05	6.5	0.50			○								
 Ceramic	 Ceramic Insert		7020-02	7.0	0.20		○	○	○		○	○				KIGHR5540B-7 KIGHR6550B-7
			7020-05	7.0	0.50		○	○	○		○	○	○		○	
			7520-02	7.5	0.20			○								
			7520-05	7.5	0.50			○								
			8020-02	8.0	0.20		○	○	○		○	○				
			8020-05	8.0	0.50		○	○	○		○	○				
 Molded Chipbreaker		GHU	40-20	4.0	0.25	○				○						KIGHR…○○○○B-4
			50-20	5.0	0.30	○				○						KIGHR…○○○○B-5
			60-20	6.0	0.30	○				○						

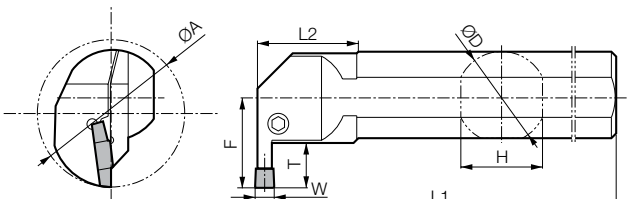
Recommended Cutting Conditions ➡ **G125**

Inserts are sold in 10 piece boxes.

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

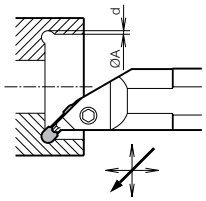
KIGM-8 (8mm-Width Insert / Large Internal Diameter Deep Grooving)

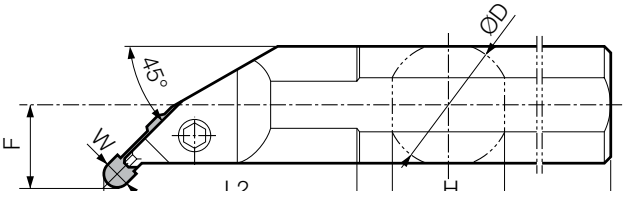




• Right-hand shown

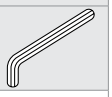
KIGMU-8 (8mm-Width Insert / Large Internal Diameter Undercut Grooving)





• Right-hand shown

Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)							Insert Width W (mm)		Spare Parts	
													Clamp Bolt	Wrench
	R	L	ØA	ØD	H	L1	L2	F	T	d	MIN	MAX		
KIGM□ 6540B-8	○	○	65	40	36	300	41	41	20	-	8	8	HH6X20	LW-5
KIGMUR 6540B-8	○		65	40	36	300	83	26	-	2.2	8	8	HH6X20	LW-5

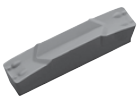
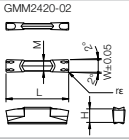
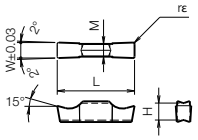
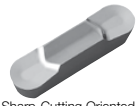
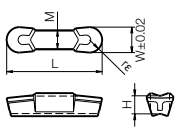
- Dimension T shows available grooving depth.
- Dimension d shows the distance from the Internal face of the workpiece.

Applicable Inserts

Part Number	L	H
GMM8030-080MW	30.0	5.5
GMG8030-050MG	30.0	5.5
GMGA8030-400R	30.0	5.5

P	Carbon Steel / Alloy Steel			◔	●		
M	Stainless Steel			●	◔		
K	Cast Iron					●	◔
N	Non-ferrous Metals						●
S	Titanium Alloy						●
H	Hard materials (≤40HRC)			○	●		
	Hard materials (≥40HRC)						

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)		Part Number	Previous Part Number	Dimensions (mm)			Cermet	CVD Coated Carbide	PVD Coated Carbide			Carbide	Applicable Toolholders	Ref. Page for Toolholder
				W	rε	M	TN90	CR9025	PR915	PR930	PR905	KW10		
 Chip Control Oriented M Class	 GMM2420-02	GMM 8030-080MW	GMM 8030-08	8.0	0.8	6.0		○		●	○	○	KIGM□...8 KIGMUR...8	G68
 Sharp-Cutting Oriented / Precision Class Ground Chipbreaker		GMG 8030-050MG	GMG 8030-05MG	8.0	0.5	6.0	○	○		○	○	○		
 Sharp-Cutting Oriented / Precision Class Full-R / Copying		GMGA 8030-400R	GMGA 8030-40R	8.0	4.0	6.0						○		

- If using a full-R insert with KIGM-8 type toolholder, you need to modify the corner of insert adapter of toolholder.

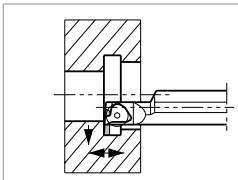
Recommended Cutting Conditions G129

Inserts are sold in 10 piece boxes.

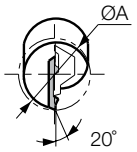
(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

KGIA



Integral Type



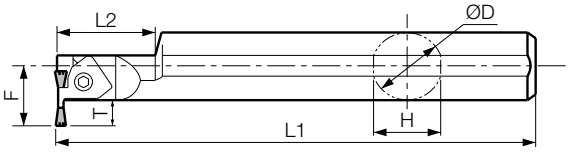
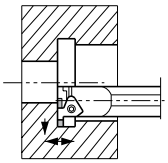
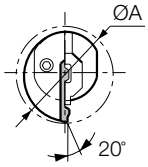


Fig. 1



SwitchBlade Type



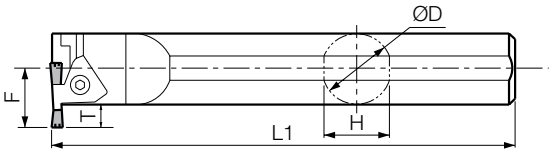


Fig. 2

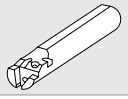
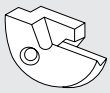
• Right-hand shown

Toolholder Dimensions

Part Number		Stock	Min. Bore Dia.	Dimensions (mm)						Drawing	Spare Parts			
											Clamp	Clamp Bolt	Spring	Wrench
			ØA	ØD	H	L1	L2	F	T					
KGIAR	**3232B-3**	○	32	32	30.4	200	45	26.5	10	Fig.1	CGIA-3R	HH5X15	SP-5	LW-4
	4332B-3	○	43	32	30.0	200	-	26.3	10	Fig.2	CGIA-3R	HH5X15	SP-5	LW-4
	5140B-3	○	51	40	38.0	250	-	30.3	10					
	3232B-4	○	32	32	30.4	200	45	26.5	10	Fig.1	CGIA-4R	HH5X15	SP-5	LW-4
	4332B-4	○	43	32	30.0	200	-	26.3	10	Fig.2	CGIA-4R	HH5X15	SP-5	LW-4
	5140B-4	○	51	40	38.0	250	-	30.3	10					
	5640B-5	○	56	40	38.0	250	-	35.3	15	Fig.2	CGIA-5R	HH5X15	SP-5	LW-4
	6650B-5	○	66	50	48.0	250	-	40.3	15					

• Dimension T shows available grooving depth.

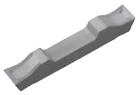
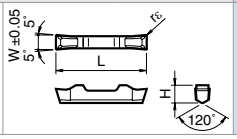
Composition

Type	Toolholder Part Number		Spare Parts			
			Toolholder	Blade	Clamp Screw	Wrench
						
Integral Type	**KGIAR**	**3232B-3**	-	-	-	-
Separate Type		**4332B-3**	KGIAR32H	BGIAR43-3	SB-40140TR	FT-15
		5140B-3	KGIAR40H	BGIAR51-3	SB-40140TR	FT-15
Integral Type		**3232B-4**	-	-	-	-
SwitchBlade Type		**4332B-4**	KGIAR32H	BGIAR43-4	SB-40140TR	FT-15
		5140B-4	KGIAR40H	BGIAR51-4	SB-40140TR	FT-15
SwitchBlade Type		**5640B-5**	KGIAR40H	BGIAR56-5	SB-40140TR	FT-15
		6650B-5	KGIAR50H	BGIAR66-5	SB-40140TR	FT-15

Applicable Inserts

P	Carbon Steel / Alloy Steel	○	●
M	Stainless Steel	○	●
K	Cast Iron		
N	Non-ferrous Metals		
S	Titanium Alloy		
H	Hard materials (≤40HRC)	○	●
	Hard materials (≥40HRC)		

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert Right-handed Insert Shown		Part Number	Dimensions (mm)				Cermet	CVD Coated Carbide	Applicable Toolholders
			W	rε	L	H	TN60	CR9025	
 Molded Chipbreaker		**GIA 30**	3.0	0.20	25	5.0	○	○	KGIAR…3
		40	4.0	0.25	25	5.0	○	○	KGIAR…4
		50	5.0	0.30	30	5.0	○	●	KGIAR…5

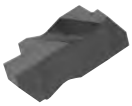
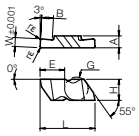
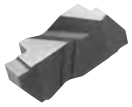
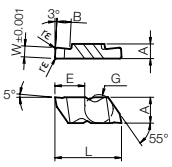
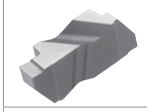
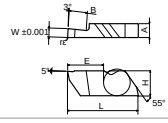
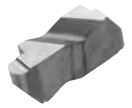
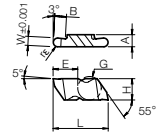
Recommended Cutting Conditions ➡ **G126**

Inserts are sold in 10 piece boxes.

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

KCG / KCGP / KCGDP / KCRP

Insert (Right-handed Insert Shown)	Part Number	W (inch)	W (mm)	B	rε	A	L	H	E	Cermet TC40	Cermet TC60	MEGA COAT CVD PR1215	PVD PR660	PVD PR930	Carbide KW10	Ceramic A65
  KCG2..:G=Ø.1875" KCG3..:G=Ø.3750"	KCG 2062R/L	0.062	1.57	0.110	0.008	0.150	0.540	0.219	0.270							●
	2125R/L	0.125	3.18													Ⓛ
	3062R/L	0.062	1.57	0.094	0.008	0.195	0.810	0.344	0.405							Ⓡ
	3094R/L	0.094	2.39	0.150												●
	3125R/L	0.125	3.18													Ⓡ
	3156R/L	0.156	3.96													●
  KCGP2..:G=Ø.1875" KCGP3..:G=Ø.3750" KCGP4..:G=Ø.3750"	KCGP 2031R/L	0.031	0.79	0.050	0.003	0.150	0.540	0.219	0.270	●	●	●	●	●	●	
	2041R/L	0.041	1.04							●	●	●		Ⓡ		
	2047R/L	0.047	1.19							●	●	●	●	●	●	
	KCGP 2058R/L	0.058	1.47	0.110	0.008	0.150	0.540	0.219	0.270	●		●				
	2062R/L	0.062	1.57							●	●	●	●	●	●	
	KCGP 2094R/L	0.094	2.39	0.110	0.008	0.150	0.540	0.219	0.270	●		●	●	●	●	
	2125R/L	0.125	3.18							●		●	●	●	Ⓡ	
	KCGP 3031R/L	0.031	0.79	0.050	0.008	0.195	0.810	0.344	0.405	●		●		●		
	3047R/L	0.047	1.19	0.075						●	●	●	●	●	Ⓡ	
	3062R/L	0.062	1.57	0.094						●	●	●	●	●	●	
	3072R/L	0.072	1.83							●	●	●		●		
	KCGP 3078R/L	0.078	1.98	0.094	0.008	0.195	0.810	0.344	0.405	●	Ⓡ	●	●	●		
	3088R/L	0.088	2.24							●	Ⓛ	●		●		
	KCGP 3094R/L	0.094	2.39	0.150	0.008	0.195	0.810	0.344	0.405	●	●	●	●	●	●	
	3097R/L	0.097	2.46							●				●		
	3105R/L	0.105	2.67							●		●		●		
	KCGP 3110R/L	0.110	2.79	0.150	0.008	0.195	0.810	0.344	0.405	●		●		●		
	3122R/L	0.122	3.10							●				●		
	3125R/L	0.125	3.18							●	●	●	●	●	●	
	KCGP 3142R/L	0.142	3.61	0.150	0.008	0.195	0.810	0.344	0.405	●				●		
	3156R/L	0.156	3.96							●	Ⓡ	●	Ⓛ	●		
	3178R/L	0.178	4.52							●				●		
	KCGP 3185R/L	0.185	4.70	0.150	0.008	0.195	0.810	0.344	0.405	●				●		
	3189R/L	0.189	4.80							●	●	●	Ⓛ	●	●	
	KCGP 4125R/L	0.125	3.18	0.150	0.008	0.255	1.272	0.453	0.636	●		●		●		
	4189R/L	0.189	4.80	0.250	0.018					●		●		●		
	4213R/L	0.213	5.41							●				●		
	KCGP 4219R/L	0.219	5.56	0.250	0.018	0.255	1.272	0.453	0.636	●				●		
	4250R/L	0.250	6.35							●		●		●		
 	KCGDP 3062R/L	0.062	1.57	0.125	0.008	0.195	0.886	0.344	0.405	●		●		●		
	3094R/L	0.094	2.39	0.250	0.008	0.195	0.990	0.344	0.505	●		●		●		
	3125R/L	0.125	3.18							●		●		●		
	3189R/L	0.189	4.80	0.250	0.023					●				●		
  KCRP2..:G=Ø.1875" KCRP3..:G=Ø.3750" KCRP4..:G=Ø.3750"	KCRP 2031R/L	0.062	1.57	0.094	0.031	0.150	0.540	0.219	0.270		Ⓡ	●	Ⓡ	Ⓡ		
	2039R/L	0.078	1.98	0.110	0.039									●		
	2047R/L	0.094	2.39	0.150	0.047							●				
	2062R/L	0.125	3.18	0.150	0.062						Ⓡ	●				
	KCRP 3031R/L	0.062	1.57	0.094	0.031	0.195	0.810	0.344	0.405	●	Ⓡ	●	●	●	Ⓛ	
	3047R/L	0.094	2.39	0.150	0.047					●		●	●	●		
	3062R/L	0.125	3.18	0.150	0.062					●		●	●	●		
	KCRP 3078R/L	0.156	3.96	0.150	0.078	0.195	0.810	0.344	0.405	●				●		
	3094R/L	0.188	4.78	0.150	0.094					●		●		●		
	KCRP 4125R/L	0.250	6.35	0.250	0.125	0.255	1.272	0.453	0.636	●		●	Ⓡ	●		

NEW

Insert Grade

- Dimension B shows available Grooving Depth.

Applicable Toolholders ➔ **G31, G71**

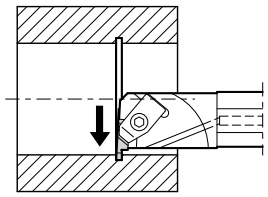
Recommended Cutting Conditions (Cera-Notch)

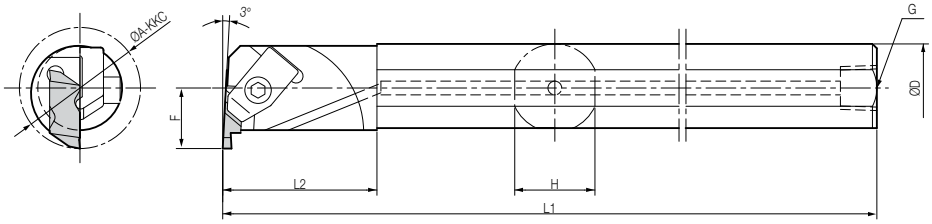
Workpiece Material	Cermet Feeds (ipr)	Carbide Feeds (ipr)	Recommended Insert Grade (Vc : sfm)						
			Cermet		MEGACOAT	Carbide			Ceramic
			TC40	TC60	PR1215	PR660	PR930	KW10	A65
Carbon Steel	0.002~0.005	0.002~0.010	300~900	250~900	300~800	200~550	250~650	-	-
Alloy Steel	0.002~0.005	0.002~0.010	250~800	250~800	300~750	100~500	150~550	-	-
Stainless Steel	0.002~0.005	0.002~0.010	-	200~600	300~600	100~550	100~550	-	-
Tool Steel	0.002~0.005	0.002~0.010	200~650	200~650	300~600	-	100~550	-	-
Hardened Steel (>45Rc)	-	-	-	-	-	-	-	-	250~500*
Gray Cast Iron	0.003~0.006	0.002~0.012	200~700	-	300~700	-	-	-	500~1000
Ductile Iron	0.003~0.006	0.002~0.012	-	150~600	300~600	-	-	-	500~1000
Aluminum	0.002~0.008	0.002~0.012	150~1600	-	-	-	-	500~1600	-

Speeds & Feeds listed are for external grooving. Reduce parameters by 10% for internal grooving.
*Feeds = 0.003~0.008 ipr

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

A-KKC





• Right-hand shown • Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

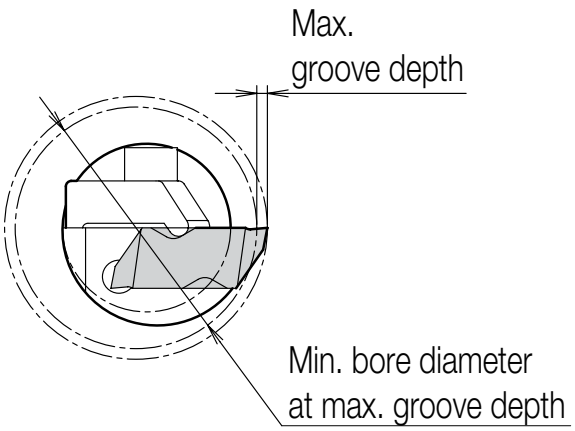
Part Number	Stock		Unit	Min. Bore Dia.	Dimensions (in)						Spare Parts		
											Clamp	Clamp Screw	Wrench
	R	L		ØA	ØD	H	L1	L2	F	G			
A10M-KKCR-2	●		inch	1.000	0.625	0.596	6.00	1.153	0.500	1/8-27 NPT	CKC-2L	SKC-2	(7/64 Hex)
A10S-KKCR-2	●			1.000	0.625	0.596	10.00	1.153	0.500	1/8-27 NPT			
A12R-KKCR-2	●			1.125	0.750	0.596	8.00	1.153	0.562	1/8-27 NPT			
A12S-KKCR-2	●			1.125	0.750	0.596	10.00	1.153	0.562	1/8-27 NPT			
A16T-KKC$^{R}_{L}$-2	●	●		1.375	1.000	0.596	12.00	1.153	0.688	1/8-27 NPT	CKC-3R/L	SKC-3	(LW-156)
A16X-KKC$^{R}_{L}$-3	●			1.375	1.000	0.596	9.00	1.153	0.688	1/8-27 NPT			
A16T-KKC$^{R}_{L}$-3	●	●		1.375	1.000	0.596	12.00	1.153	0.688	1/4-18 NPT			
A20U-KKC$^{R}_{L}$-3	●	●		1.750	1.250	0.596	14.00	1.153	0.875	1/4-18 NPT			
A24U-KKC$^{R}_{L}$-3	●	●		2.000	1.500	0.596	14.00	1.153	1.000	1/4-18 NPT			
A28U-KKC$^{R}_{L}$-3	●			2.250	1.750	0.596	14.00	1.153	1.125	1/4-18 NPT			
A32V-KKC$^{R}_{L}$-3	●	●		2.500	2.000	0.596	16.00	1.153	1.250	1/4-18 NPT			
A28U-KKC$^{R}_{L}$-4	●	●		2.500	1.750	0.596	14.00	1.153	1.250	1/4-18 NPT			
A32V-KKC$^{R}_{L}$-4	●	●		2.750	2.000	0.596	16.00	1.153	1.375	1/4-18 NPT			

• Note: Right hand bars require left hand inserts and clamps. Left hand bars require right hand inserts and clamps

Applicable Insert

Toolholder	Insert ➔ **G70**
A-KKC$^{R}_{L}$ ...-2	**KCGP-2, KCG-2, KCRP-2**
A-KKC$^{R}_{L}$ ...-3	**KCGP-3, KCG-3, KCRP-3**
A-KKC$^{R}_{L}$ ...-4	**KCGP-4, KCRP-4**

Cutting Diameter Table



(inch)

Insert Size	B Dimension	Max Groove Depth	Min Bore Dia.
KCG-2 KCGP-2 KCRP-2	0.050	0.040	1.000
	0.110	0.110 0.102 0.098 0.080	2.500 1.750 1.500 1.000
KCG-3 KCGP-3 KCRP-3	0.075	0.050	1.325
	0.094	0.080 0.070 0.065	1.250 1.625 1.325
	0.150	0.140 0.135 0.128 0.115 0.100	2.375 2.125 1.875 1.625 1.375
KCGP-4 KCRP-4	0.150	0.140	2.750
	0.250	0.240 0.235 0.230 0.208 0.190	5.750 5.000 4.500 3.250 2.500

• "B" dimension is same as the "B dimension" of the available insert.

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

Face Grooving Dia. ØD

Face grooving diameter (ØD) is the suitable value for the initial grooving on the unprocessed workpiece.
(Ref. to Fig.1).

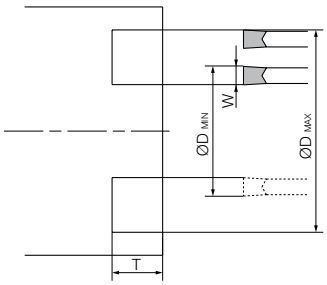
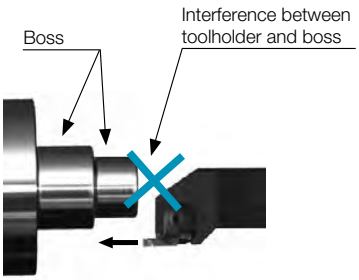
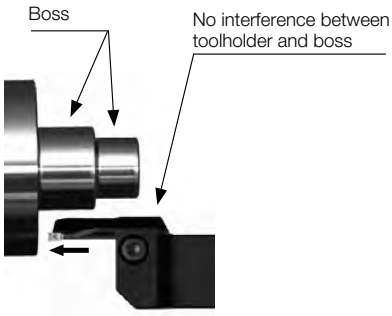


Fig.1

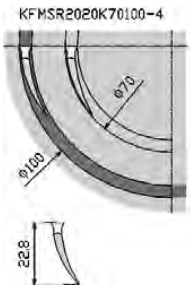
Caution for Face Grooving

1) When face grooving, the suitable toolholder depends on the length of the boss

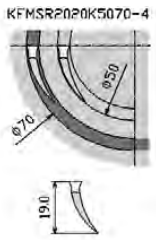




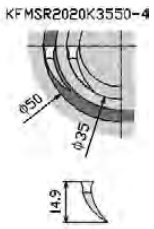
2) Selection of Face Grooving Toolholder



Shape of below Jaw



Shape of below Jaw

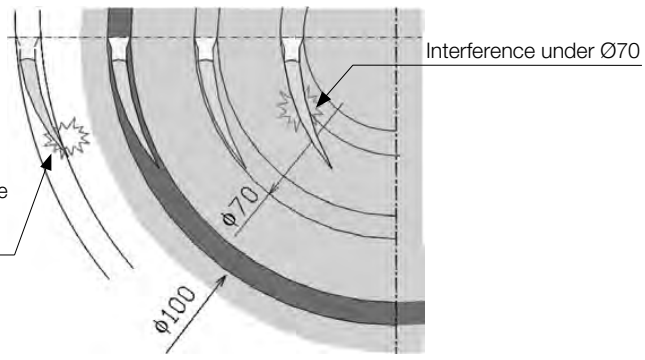


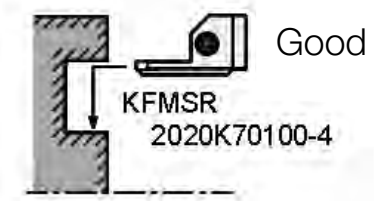
Shape of below Jaw

Wider grooving (turning) should be performed from the outside inwards.

3) Interference of Face Grooving Toolholder

e.g.) KFMSR2525M70100-4

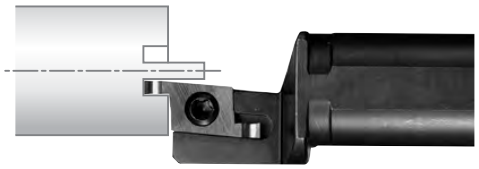




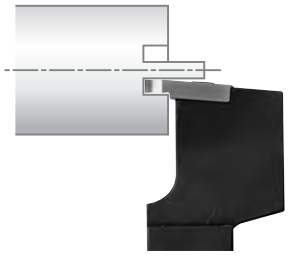
- Example of usage for the face grooving toolholder. When face grooving, KFMSR2525M70100-4 should be between Ø70~Ø100 for grooving the outer diameter at first. If the workpiece is machined at a diameter Ø100 or Ø70, the jaw of toolholder interferes with the workpiece.

Small Diameter Face Grooving Ø0.236" (Ø6mm)~

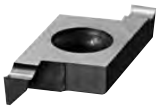
Type	STW
Min. Face Groove Dia.	0.236" (6.0mm)
Edge Width	0.020"~0.079" (0.5mm ~ 2.0mm)
Grooving Depth	0.039"~0.118" (1.0mm ~ 3.0mm)
Ref. Page	G80



Type	S...-STW
Min. Face Groove Dia.	0.236" (6.0mm)
Edge Width	0.020"~0.079" (0.5mm ~ 2.0mm)
Grooving Depth	0.039"~0.118" (1.0mm ~ 3.0mm)
Ref. Page	G80



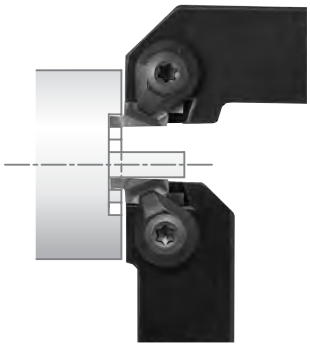
Type	STWS
Min. Face Groove Dia.	0.236" (6.0mm)
Edge Width	0.020"~0.079" (0.5mm ~ 2.0mm)
Grooving Depth	0.039"~0.118" (1.0mm ~ 3.0mm)
Ref. Page	G81



Twin Bar Horizontal Type

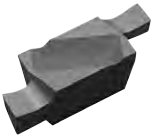
Twin Bar Vertical Type

Small Diameter Face Grooving Ø0.315" (Ø8mm)~



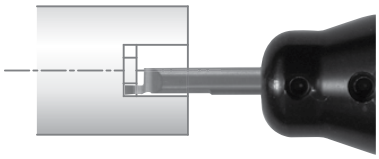
Type	GFVS-AA
Min. Face Groove Dia.	0.315" (8.0mm)
Edge Width	0.039"~0.118" (1.0mm ~ 3.0mm)
Grooving Depth	0.0866" (2.2mm)
Ref. Page	G108

Type	GFVT-AA
Min. Face Groove Dia.	0.315" (8.0mm)
Edge Width	0.039"~0.118" (1.0mm ~ 3.0mm)
Grooving Depth	0.0866" (2.2mm)
Ref. Page	G108

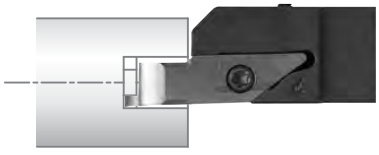


Ground Chipbreaker

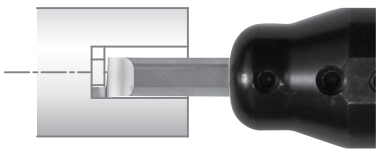
Small Diameter Face Grooving Ø0.197"~, Ø0.315"~ (Ø5mm~, Ø8mm~)



Type	EZFG
Min. Face Groove Dia.	0.197", 0.236", 0.315" (5.0mm, 6.0mm, 8.0mm)
Edge Width	0.039"~0.118" (1.0mm ~ 3.0mm)
Grooving Depth	0.079"~0.118" (1.5mm ~ 3.0mm)
Ref. Page	G76



Type	VNFG
Min. Face Groove Dia.	0.315" (8.0mm)
Edge Width	0.039"~0.118" (1.0mm ~ 3.0mm)
Grooving Depth	0.079"~0.118" (2.0mm ~ 3.0mm)
Ref. Page	G78



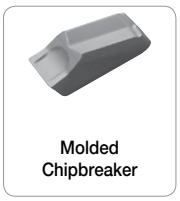
Type	HPFG
Min. Face Groove Dia.	0.315" (8.0mm)
Edge Width	0.039"~0.118" (1.0mm ~ 3.0mm)
Grooving Depth	0.079"~0.118" (2.0mm ~ 3.0mm)
Ref. Page	G79

EZ-Bar

Swiss IQ Bar

Double-Sided Micro Bar

Face Grooving Ø0.787" (Ø20mm)~



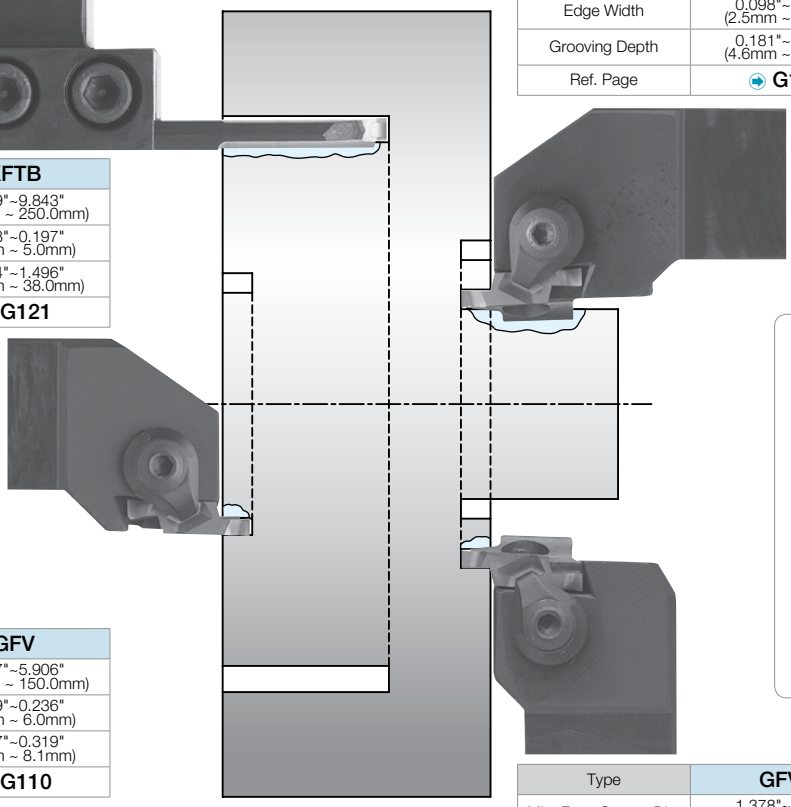
Molded Chipbreaker

Type	KFTB
Min. Face Groove Dia.	2.559"~9.843" (65.0mm ~ 250.0mm)
Edge Width	0.158"~0.197" (4.0mm ~ 5.0mm)
Grooving Depth	0.984"~1.496" (25.0mm ~ 38.0mm)
Ref. Page	G121

Ground Chipbreaker

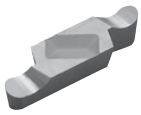
Ground Chipbreaker Full-R

Type	GFV
Min. Face Groove Dia.	0.787"~5.906" (20.0mm ~ 150.0mm)
Edge Width	0.079"~0.236" (2.0mm ~ 6.0mm)
Grooving Depth	0.087"~0.319" (2.2mm ~ 8.1mm)
Ref. Page	G110



Type	GFVS
Min. Face Groove Dia.	1.378"~5.906" (35.0mm ~ 150.0mm)
Edge Width	0.098"~0.236" (2.5mm ~ 6.0mm)
Grooving Depth	0.181"~0.319" (4.6mm ~ 8.1mm)
Ref. Page	G112

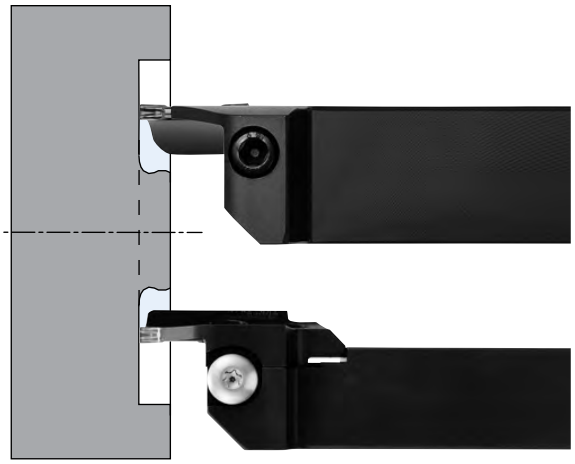
Ground Chipbreaker



Ground Chipbreaker Full-R

Type	GFVT
Min. Face Groove Dia.	1.378"~5.906" (35.0mm ~ 150.0mm)
Edge Width	0.098"~0.236" (2.5mm ~ 6.0mm)
Grooving Depth	0.181"~0.319" (4.6mm ~ 8.1mm)
Ref. Page	G112

KGDF Face Grooving Ø0.984" (Ø25mm)~ (G82~G107)



Type	KGDF-Z
Min. Face Groove Dia.	1.969" (50.0mm)
Edge Width	0.118"~0.197" (3.0mm ~ 5.0mm)
Grooving Depth	0.591" (15.0mm)
Ref. Page	G94

Type	*KGDF
Min. Face Groove Dia.	0.984" (25.0mm)
Edge Width	0.079"~0.236" (2.0mm ~ 6.0mm)
Grooving Depth	0.236"~1.260" (6.0mm ~ 32.0mm)
Ref. Page	G86

*The SwitchBlade type toolholders can accept all the blades if their hand is matching.

Grooving and Turning
GM

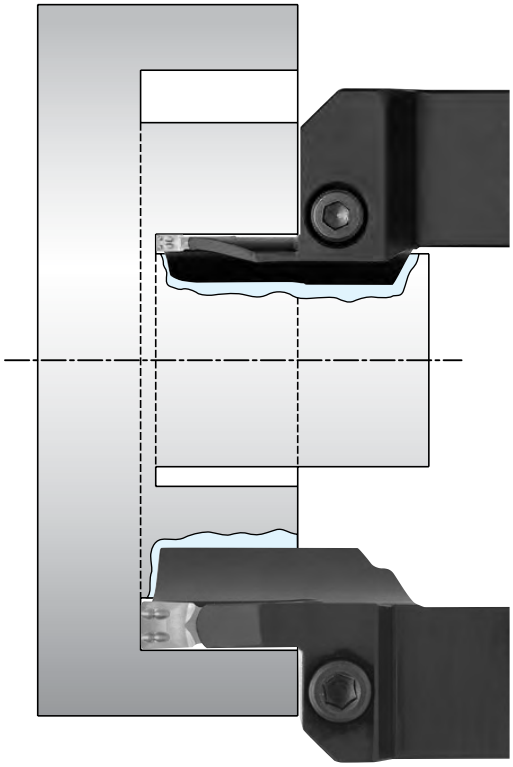
Deep grooving and Turning
DM

High Feed Rate
GH

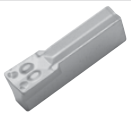
Full Radius (R)
CM

NEW

Face Grooving & Turning Ø0.984" (Ø25mm)~

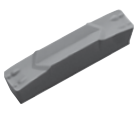


Type	KFMS
Min. Face Groove Dia.	0.984"~9.252" (25.0mm~235.0mm)
Edge Width	0.118"~0.236" (3.0mm ~ 6.0mm)
Grooving Depth	0.512"~1.260" (13.0mm ~ 32.0mm)
Ref. Page	G118

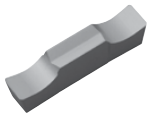


Molded Chipbreaker

Type	KFMS-8
Min. Face Groove Dia.	2.126"~6.102" (54.0mm~155.0mm)
Edge Width	0.315" (8.0mm)
Grooving Depth	0.984" (25.0mm)
Ref. Page	G120



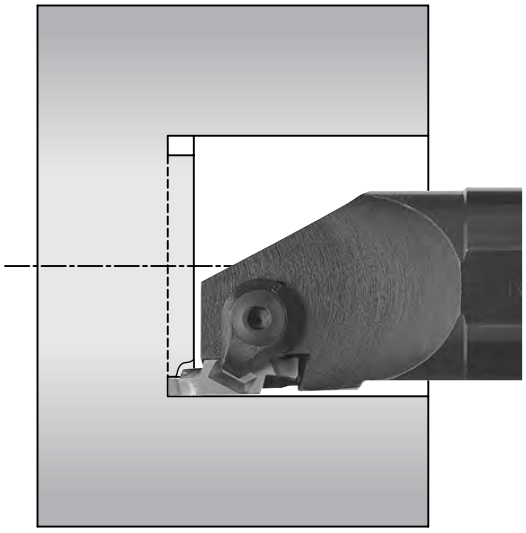
Molded Chipbreaker



Ground Chipbreaker

Molded Chipbreaker Full-R

Face Grooving Ø1.378" (Ø35mm)~

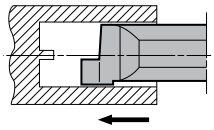


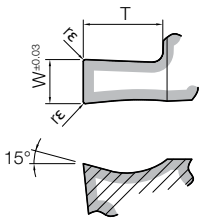
Type	GIFV
Min. Face Groove Dia.	1.378"~1.969" (35.0mm~50.0mm)
Edge Width	0.079"~0.236" (2.0mm~6.0mm)
Grooving Depth	0.087"~0.319" (2.2mm~8.1mm)
Ref. Page	G122

Ground Chipbreaker

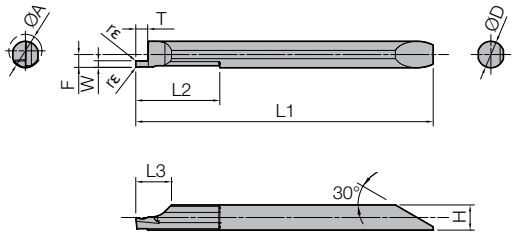
Ground Chipbreaker Full-R

EZFG





Detail of edge



• Right-hand shown

Dimensions

Part Number	Min. Face Groove Dia.	Dimensions (mm)									MEGACOAT	Applicable Sleeve ➡ G77
	ØA	W±0.03	rε	ØD	H	L1	L2	L3	F	T	PR1225	
EZFGR 050040-100	5	1.0	±0.013 0.05	4	3.8	45.0	12	5.4	1.9	1.5	○	EZH040..
050040-150		1.5								2.0	○	
EZFGR 060050-100	6	1.0	±0.013 0.05	5	4.8	53.2	15	6.9	2.4	1.5	●	EZH050..
060050-150		1.5								2.5	○	
060050-200		2.0								3.0	○	
EZFGR 080070-100	8	1.0	±0.013 0.05	7	6.8	64.2	25	7.9	3.4	2.0	○	EZH070..
080070-150		1.5		7						2.5	○	
080070-200		2.0		7						3.0	○	
080070-300		3.0		7							○	

• Dimension T : Available grooving depth

Recommended Cutting Conditions

Workpiece Material	Insert Grade (Vc:sfm) / MEGACOAT	EZFGR050040-100 EZFGR060050-100 EZFGR080070-100	EZFGR050040-150 EZFGR060050-150 EZFGR080070-150	EZFGR060050-200 EZFGR080070-200	EZFGR080070-300	Notes
	PR1225	**Feed Rate (ipr)**				
Carbon Steel / Alloy Steel	★ 100~330	~0.0008	~0.0012	~0.0016	~0.0020	Wet
Stainless Steel	★ 100~260	~0.0004	~0.0008	~0.0008	~0.0012	

★ : 1st Recommendation

EZ-Bar Sleeve Identification System (Face Grooving)

EZ FG R 050 040 – 100

EZ Symbol of Bar	Application	Hand of Tool	Min. Bore Dia.	Shank Dia.	Groove Width
	FG : Face Grooving	**R** : Right-hand	**050** : 5mm	**040** : 4mm	**100** : 1.0mm
			060 : 6mm	**050** : 5mm	**150** : 1.5mm
			080 : 8mm	**070** : 7mm	**200** : 2.0mm
					300 : 3.0mm

EZ Bars are sold in 1 piece boxes.

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
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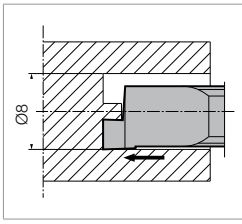
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

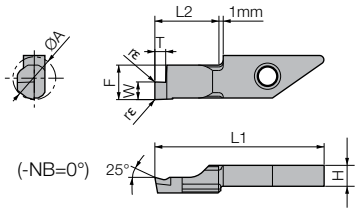
Applicable Sleeves

Sleeve Part Number				Applicable Insert for Internal Face Grooving			
EZH-CT (Adjustable Overhang Length / with Coolant Hole) → F22	EZH-HP (Adjustable Overhang Length) → F24	EZH-ST → F26	Sleeve Shank Dia. ØD1 (mm)	EZFG	HPFG	Shank Dia. ØD (mm)	Applicable Machine Manufacturer
-	-	EZH 04012ST-80	12.00	EZFGR ...040-...	-	4	(General purpose)
		05012ST-80		...050-...	-	5	
		07012ST-80		...070-...	HPFG□□ 0807-...	7	
-	EZH 04016HP-100	EZH 04016ST-100	16.00	EZFGR ...040-...	-	4	(General purpose)
	05016HP-100	05016ST-100		...050-...	-	5	
	07016HP-100	07016ST-100		...070-...	HPFG□□ 0807-...	7	
EZH 04019CT-120	EZH 04019HP-120	EZH 04019ST-120	19.05	EZFGR ...040-...	-	4	Citizen Machinery
05019CT-120	05019HP-120	05019ST-120		...050-...	-	5	
07019CT-120	07019HP-120	07019ST-120		...070-...	HPFG□□ 0807-...	7	
EZH 04020CT-120	EZH 04020HP-120	EZH 04020ST-120	20.00	EZFGR ...040-...	-	4	Amada Machine Tools / Eguro / Tsugami / Citizen Machinery / (General purpose)
05020CT-120	05020HP-120	05020ST-120		...050-...	-	5	
07020CT-120	07020HP-120	07020ST-120		...070-...	HPFG□□ 0807-...	7	
EZH 04022CT-135	EZH 04022HP-135	EZH 04022ST-135	22.00	EZFGR ...040-...	-	4	Star Micronics / Nomura DS / Tsugami
05022CT-135	05022HP-135	05022ST-135		...050-...	-	5	
07022CT-135	07022HP-135	07022ST-135		...070-...	HPFG□□ 0807-...	7	
EZH 04025.0CT-135	EZH 04025.0HP-135	EZH 04025.0ST-135	25.00	EZFGR ...040-...	-	4	Amada Machine Tools / Eguro / Tsugami / Citizen Machinery / (General purpose)
05025.0CT-135	05025.0HP-135	05025.0ST-135		...050-...	-	5	
07025.0CT-135	07025.0HP-135	07025.0ST-135		...070-...	HPFG□□ 0807-...	7	
EZH 04025.4CT-120	EZH 04025.4HP-120	EZH 04025.4ST-120	25.40	EZFGR ...040-...	-	4	Citizen Machinery
05025.4CT-120	05025.4HP-120	05025.4ST-120		...050-...	-	5	
07025.4CT-120	07025.4HP-120	07025.4ST-120		...070-...	HPFG□□ 0807-...	7	

- Choose sleeves (Ød1) to meet with ØD dimension of EZ Bars.
- Adjustment Pin cannot be installed to EZH-ST Sleeves. To adjust overhang of the bar, please use EZH-CT/HP sleeves.
- Machine manufacturers in random order.

VNFG (Swiss IQ Bar)





• Right-hand shown

Dimensions

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

P	Carbon Steel / Alloy Steel	●	○				Ref. Page for Toolholder
M	Stainless Steel	●	○				
K	Cast Iron			●			
N	Non-ferrous Metals			○	●		
S	Titanium Alloy			○	●		
H	Hard materials (≤40HRC)	○	○				
	Hard materials (≥40HRC)						

Part Number	Face Grooving Dia. ØA		Dimensions (mm)								MEGA COAT	PVD Coated Carbide	Carbide	PCD		Ref. Page for Toolholder
	MIN	MAX	$W^{\pm 0.001}$ inch	$W^{\pm 0.03}$ mm	rε	H	L1	L2	F	T	PR1225	PR930	KW10	KPD001	KPD010	
VNFGR 0810-10	8 (0)	∞ (∞)	0.039	1.0	0.05	3.9	29.6	10	7.3	2.0	○	○	○			
0820-10			0.079	2.0	0.05	3.9	29.6	10	7.3	2.0		○	○			
0830-10			0.118	3.0	0.05	3.9	29.6	10	7.3	3.0		○	○			F30 F31
VNFGR 0820-10NB			0.079	2.0	0.05	3.9	29.6	10	7.3	2.0				□	□	
0830-10NB			0.118	3.0	0.05	3.9	29.6	10	7.3	3.0				□	□	

• Dimension T : Available grooving depth

• Face grooving diameter ØA MIN (0) means that you can make the initial groove within MIN - MAX and then widen it to the center.

Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grade (Vc sfm)			VNFG0810	VNFG0820	VNFG0830	Notes
	MEGACOAT	PVD Coated Carbide	Carbide				
	PR1225	**PR930**	**KW10**	**Feed Rate (ipr)**			
Carbon Steel / Alloy Steel	★ 100~330	☆ 100~330	-	~0.0008	~0.0016	~0.0020	Wet
Stainless Steel	★ 100~260	☆ 100~260	-	~0.0004	~0.0008	~0.0012	
Non-ferrous Metals	-	-	★ ~980	~0.0016	~0.0024	~0.0031	

★ : 1st Recommendation ☆ : 2nd Recommendation

Swiss IQ Bars are sold in 5 piece boxes. *CBN & PCD Inserts are sold in 1 piece boxes.*

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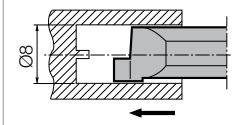
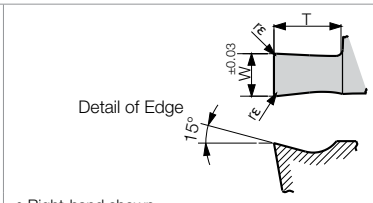
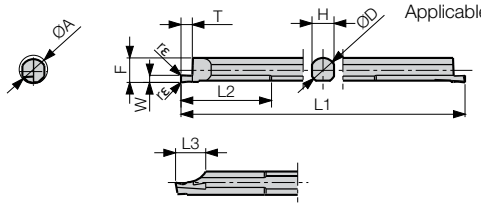
U.S. Stock Standard : ●
Made to Order : □
World Express (Shipping: 7-10 Business Days) : ○

HPFG (Face Grooving (Small Dia.))







Applicable Sleeves ➡ **F27**

• Right-hand shown

Dimensions

Part Number	Face Grooving Dia. ØA		Dimensions (mm)										Insert Grade			
													PVD Coated Carbide		Carbide	
	MIN	MAX	$W^{\pm 0.001}$	$W^{\pm 0.03}$	rε	ØD	H	L1	L2	L3	F	T	PR930		KW10	
			inch	mm									R	L	R	L
HPFG® 0807-10	8 (0)	∞ (∞)	0.039	1.0	+0 -0.02 0.05	7	6.2	80	25	8.5	6.9	2	○	○	○	
0807-20			0.079	2.0		7	6.2	80	25	8.5	6.9	3	○	○	○	
0807-30			0.118	3.0		7	6.2	80	25	8.5	6.9	3	○	○	○	

• Dimension T : Available grooving depth

• Face grooving diameter ØD MIN (0) means that you can make the initial groove within MIN - MAX and then widen it to the center.

Applicable Sleeves ➡ **G46**

Micro Bars are sold in 10 piece boxes.

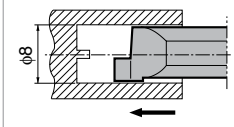
Recommended Cutting Conditions

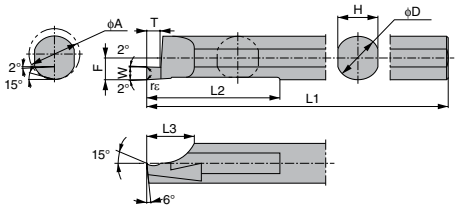
Workpiece Material	Recommended Insert Grade (Vc sfm)		HPFG® 0807-10	HPFG® 0807-20	HPFG® 0807-30	Remarks
	PVD Coated Carbide	Carbide				
	PR930	**KW10**	**Feed Rate (ipr)**			
Carbon Steel / Alloy Steel	★ 100~330	-	~0.0008	~0.0016	~0.0020	Wet
Stainless Steel	★ 100~260	-	~0.0004	~0.0008	~0.0012	
Non-ferrous Metals	-	★ ~980	~0.0016	~0.0024	~0.0031	

★ : 1st Recommendation

PSFG-S (Micro Bar)

This bar will be phased out and switched to **EZFG** ➡ **G76**.





• Right-hand shown

Part Number	Face Grooving Dia. ØA		Dimensions (mm)										PVD Coated Carbide	Carbide	Ref. Page for Applicable Sleeves
	MIN	MAX	$W^{\pm 0.001}$	$W^{\pm 0.03}$	rε	ØD	H	L1	L2	L3	F	T	PR930	KW10	
			inch	mm											
PSFG® 0810-20S	8 (0)	∞ (∞)	0.039	1.0	0.05	6.8	6.2	80	25.5	7	3.4	2.0	○	○	➡ **F94**
0820-20S			0.079	2.0	0.05	6.8	6.2	80	25.5	7	3.4	2.0	○	○	
0830-20S			0.118	3.0	0.05	6.8	6.2	80	25.5	7	3.4	2.0	○	○	

• Dimension T : Available grooving depth

• Face grooving diameter ØA MIN (0) means that you can make the initial groove within MIN - MAX and then widen it to the center.

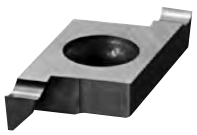
Recommended Cutting Conditions

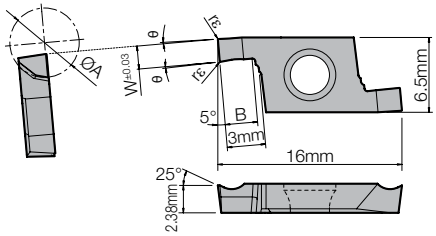
Workpiece Material	Recommended Insert Grade (Vc sfm)		PSFG® 0810	PSFG® 0820	PSFG® 0830	Notes
	PVD Coated Carbide	Carbide				
	PR930	**KW10**	**Feed Rate (ipr)**			
Carbon Steel / Alloy Steel	★ 100~330	-	~0.0008	~0.0016	~0.0020	Wet
Stainless Steel	★ 100~260	-	~0.0004	~0.0008	~0.0012	
Non-ferrous Metals	-	★ ~980	~0.0016	~0.0024	~0.0031	

★ : 1st Recommendation

Swiss IQ Bars are sold in 1 piece boxes.

TWFG (Horizontal Type)





• Left-hand Shown

Part Number	Face Grooving Dia. ØA MIN	Face Grooving Dia. ØA MAX	W inch	W mm	rε	B	θ	Insert Grade PVD Coated Carbide PR1025	Insert Grade Carbide KW10
TWFGL 050	6 (0)	∞ (∞)	0.020	0.50	0.05	1.0	1.5°	○	○
080			0.031	0.80	0.05	1.5	1.5°	○	○
100			0.039	1.00	0.05	2.2	2.0°	○	○
125			0.049	1.25	0.05	2.2	2.0°	○	○
150			0.059	1.50	0.05	2.2	2.0°	○	○
180			0.071	1.80	0.05	3.0	2.0°	○	○
200			0.079	2.00	0.05	3.0	2.0°	○	○

• Dimension B : Available grooving depth

• Face grooving diameter ØA MIN (0) means that you can make the initial groove within MIN - MAX and then widen it to the center.

STW (Square Shank for Horizontal Type)

Right-hand toolholder for boring, see Page F34

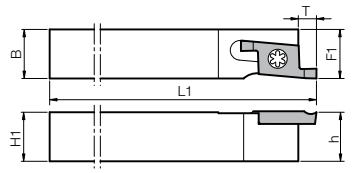


Fig.1

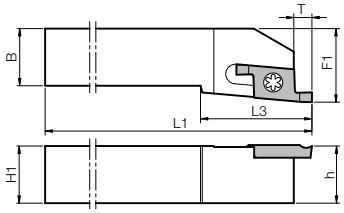


Fig.2

• Left-hand Shown

Toolholder Dimensions

Part Number	Stock	Dimensions (mm) H1=h	B	L1	L2	L3	F1	F2	T	F3	Drawing	Spare Parts Clamp Screw	Spare Parts Wrench	Applicable Inserts Above
STWL 1616K-15	○	16	16	125	-	-	16	-	3	-	Fig.1	SB-3080TR	LTW-10S	TWFGL ○○○
2020K-15	○	20	20	125	-	25	25	-	3	-	Fig.2	SB-3080TR	LTW-10S	TWFGL ○○○
2525M-15	○	25	25	150	-	25	32	-	3	-				

• Dimension T shows the distance from the Toolholder to the cutting edge. Available Groove Depth : "B" Dimension of insert.

S...-STW (Round Shank for Horizontal Type)

Right-hand toolholder for boring, see Page F34

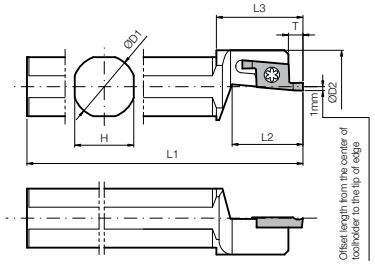


Fig.1

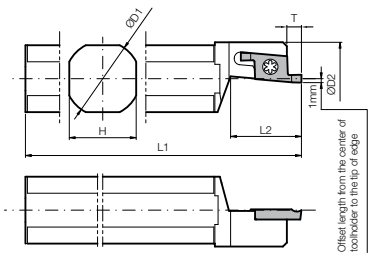


Fig.2

• Left-hand Shown

Toolholder Dimensions

Part Number	Stock	Dimensions (mm) ØD1	ØD2	H	L1	L2	L3	T	Drawing	Spare Parts Clamp Screw	Spare Parts Wrench	Applicable Inserts Above
S12F- STWL15	○	12.000	20.0	11	80	18	22	3	Fig.1	SB-3080TR	LTW-10S	TWFGL ○○○
S16F- STWL15	○	16.000	20.0	15	85	18	22	3				
S19G- STWL15	○	19.050	18.5	17	90	18	-	3	Fig.2	SB-3080TR	LTW-10S	TWFGL ○○○
S19K- STWL15	○	19.050	18.5	17	120	18	-	3				
S20K- STWL15	○	20.000	19.5	18	120	18	-	3				
S22K- STWL15	○	22.000	21.5	20	125	22	-	3				
S25.0J- STWL15	○	25.000	24.5	23	110	22	-	3				
S25K- STWL15	○	25.400	25.0	23	120	22	-	3				

• Dimension T shows the distance from the Toolholder to the cutting edge. Available Groove Depth : "B" Dimension of insert.

Micro Bars are sold in 5 piece boxes

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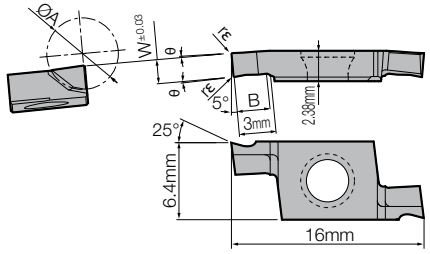
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

TWFGT (Vertical Type)



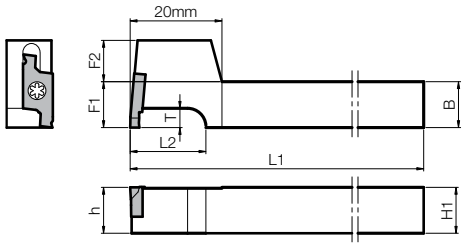
• Right-hand shown

Part Number	Face Grooving Dia. ØA MIN	Face Grooving Dia. ØA MAX	Dimensions (mm) W inch	W mm	rε	B	Angle (°) θ	Insert Grade PVD Coated Carbide PR1025	Insert Grade Carbide KW10
TWFGTR 050	6 (0)	∞ (∞)	0.020	0.50	0.05	1.0	1.5°	○	○
TWFGTR 080			0.031	0.80	0.05	1.5	1.5°	○	○
TWFGTR 100			0.039	1.00	0.05	2.2	2.0°	○	○
TWFGTR 125			0.049	1.25	0.05	2.2	2.0°	○	○
TWFGTR 150			0.059	1.50	0.05	2.2	2.0°	○	○
TWFGTR 180			0.071	1.80	0.05	3.0	2.0°	○	○
TWFGTR 200			0.079	2.00	0.05	3.0	2.0°	○	○

• Dimension B : Available grooving depth

• Face grooving diameter ØA MIN (0) means that you can make the initial groove within MIN - MAX and then widen it to the center.

STWS (Square Shank for Vertical Type : L-Shape)



• Right-hand shown

Toolholder Dimensions

Part Number	Stock	Dimensions (mm) H1=h	B	L1	L2	L3	F1	F2	T	F3	Drawing	Spare Parts Clamp Screw	Spare Parts Wrench	Applicable Inserts G81 F35
STWSR 1212JX-15T	○	12	12	120	16	-	12	7	3	-	-	SB-3080TR	LTW-10S	TWFGTR ○○○
1616JX-15T	○	16	16	120	20	-	16	3	3	-	-			
STWSR 1010F-15T	○	10	10	85	16	-	10	9	3	-	-			
1212F-15T	●	12	12	85	16	-	12	7	3	-	-			

• Dimension T shows the distance from the Toolholder to the cutting edge. Available Groove Depth : "B" Dimension of insert.

Recommended Cutting Conditions (TWFG / TWFGT)

Workpiece Material	Recommended Insert Grade (Vc sfm) PVD Coated Carbide PR1025	Carbide KW10	TWFGL050 TWFGL080 TWFGL100 TWFGTR050 TWFGTR080 TWFGTR100	TWFGL125 TWFGL150 TWFGTR125 TWFGTR150	TWFGL180 TWFGL200 TWFGTR180 TWFGTR200	Notes
			Feed Rate (ipr)			
Carbon Steel / Alloy Steel	★ 100~330	-	~0.0008	~0.0012	~0.0016	Wet
Stainless Steel	★ 100~260	-	~0.0004	~0.0008	~0.0008	
Non-ferrous Metals	-	★ ~980	~0.0012	~0.0016	~0.0024	

★ : 1st Recommendation

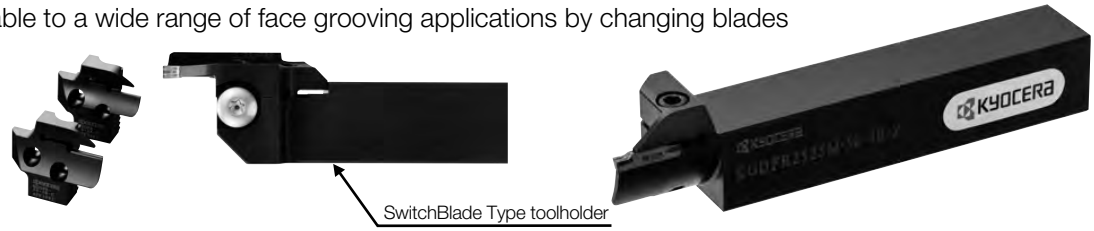
Twin Bars are sold in 5 piece boxes

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

Features

SwitchBlade type toolholder (toolholder + blade) and Integral type toolholder are available.

Adaptable to a wide range of face grooving applications by changing blades

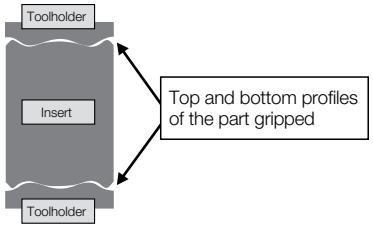


New insert clamping system "W Grip"

Unique "W Grip" (insert anti-slip structure) provides stable machining quality

1) Prevents abnormal machining surface and / or insert breakage resulting from slip of insert.
2) Improves repetitive installation accuracy of insert

GDFM and GDFMS inserts are not applicable to KGD external grooving and cut-off toolholders.



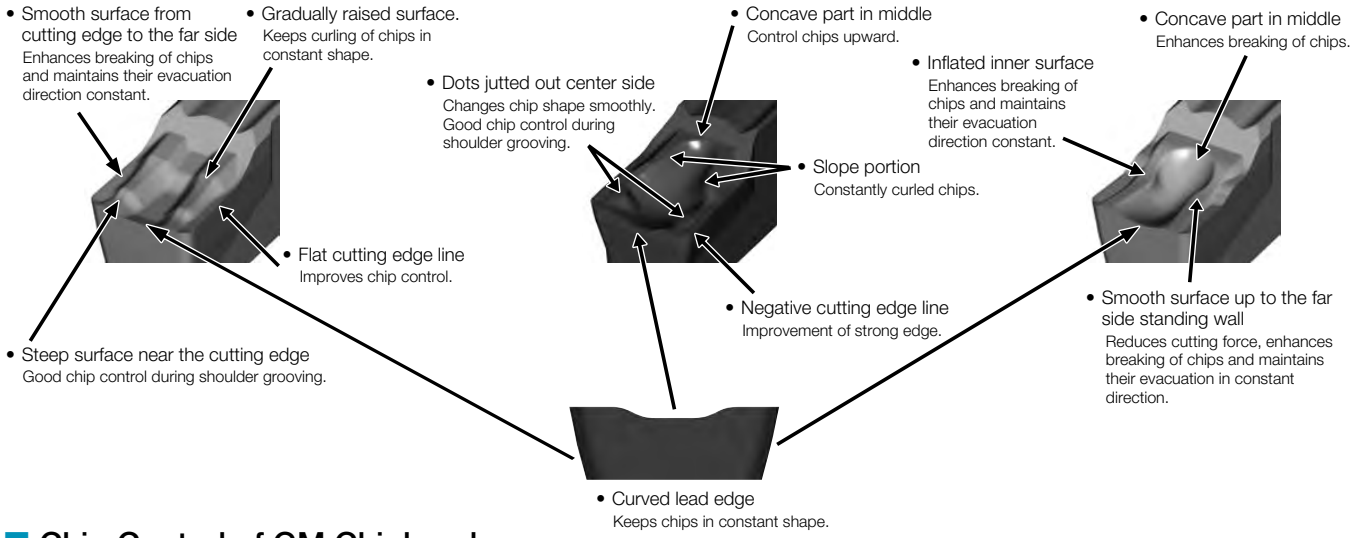
W Grip technology

Smooth chip control

For general purpose GM Chipbreaker, For high feed grooving GH Chipbreaker, For deep grooving DM Chipbreaker

Advantages of Chipbreaker

For General Purpose GM Chipbreaker	For High Feed Grooving GH Chipbreaker	For Deep Grooving DM Chipbreaker

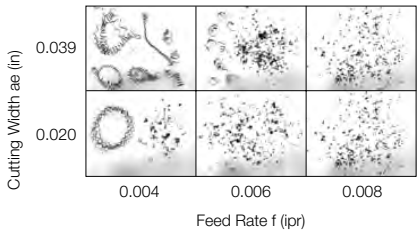


Chip Control of GM Chipbreaker

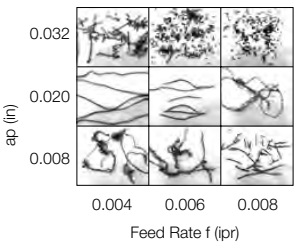
<Cutting Conditions>
Vc=490sfm f=0.002~0.008ipr GDFM5020N-040GM 4118 Wet

Face Grooving(Ø2.440" / Ø62)

Side Grooving



Turning



High precision edge preparation

High precision molding technology with tolerance ±0.03mm (Edge width 2, 3, 4mm types)

Highly-reputed MEGACOAT technology

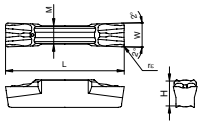
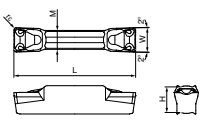
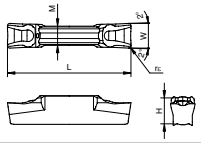
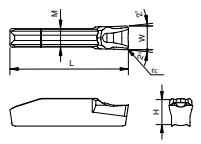
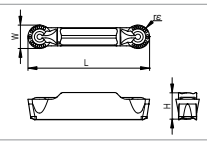
Long tool life and high efficiency machining achieved by superior oxidation resistance and wear resistance.

NEW ITEMS!

GDFM / GDFMS

Classification of Usage
- ◕ : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

P	Carbon Steel / Alloy Steel	●		◕	◔	
M	Stainless Steel			◕	◔	
K	Cast Iron				◕	
N	Non-ferrous Metals					
S	Titanium Alloy					
H	Hard materials (≤40HRC)					
	Hard materials (≥40HRC)					

Insert			Part Number		Dimensions (in) W in	W mm	W Tolerance	rε	M	L	H	Cermet TN620	Cermet TN90	MEGA COAT PR1225	MEGA COAT PR1215	Ref. Page for Toolholder
Grooving and Turning			GDFM	2020N-020GM	0.079	2.0	0.0012	0.008	0.059	0.787	0.154		○	●	●	
				3020N-030GM	0.118	3.0	0.0012	0.012	0.091	0.787	0.169		●	●	●	
				4020N-040GM	0.157	4.0	0.0012	0.016	0.130	0.787	0.169		○	●	●	
				5020N-040GM	0.197	5.0	0.0016	0.016	0.165	0.787	0.169		○	●	●	
				NEW 5020N-080GM	0.197	5.0	0.0016	0.031	0.165	0.787	0.169		○	○	○	
				6020N-040GM	0.236	6.0	0.0016	0.016	0.205	0.787	0.169		○	●	●	
				NEW 6020N-080GM	0.236	6.0	0.0016	0.031	0.205	0.787	0.169		○	○	○	
Grooving and Turning (High Feed)	NEW 		GDFM	4020N-040GH	0.157	4.0	0.0012	0.016	0.130	0.787	0.169			○	○	
				5020N-040GH	0.197	5.0	0.0016	0.016	0.165	0.787	0.169			○	○	
				5020N-080GH	0.197	5.0	0.0016	0.031	0.165	0.787	0.169			○	○	
				6020N-040GH	0.236	6.0	0.0016	0.016	0.205	0.787	0.169			○	○	
				6020N-080GH	0.236	6.0	0.0016	0.031	0.205	0.787	0.169			○	○	
Deep Grooving and Turning			GDFM	3020N-030DM	0.118	3.0	0.0012	0.012	0.091	0.787	0.169		○	●	●	G86 ~ G104
				4020N-040DM	0.157	4.0	0.0012	0.016	0.130	0.787	0.169		○	●	●	
				5020N-040DM	0.197	5.0	0.0016	0.016	0.165	0.787	0.169		○	●	●	
				6020N-040DM	0.236	6.0	0.0016	0.016	0.205	0.787	0.169		○	●	●	
	 1-Edge		GDFMS	3020N-030DM	0.118	3.0	0.0012	0.012	0.091	0.787	0.169		○	●	●	
				4020N-040DM	0.157	4.0	0.0012	0.016	0.130	0.787	0.169		○	●	●	
				5020N-040DM	0.197	5.0	0.0016	0.016	0.165	0.787	0.169		○	●	●	
				6020N-040DM	0.236	6.0	0.0016	0.016	0.205	0.787	0.169		○	●	●	
Full Radius (R) Grooving	NEW  Full (R)		GDFM	3020N-150R-CM	0.118	3.0	0.0012	0.059	0.083	0.787	0.169	○		●	○	
				4020N-200R-CM	0.157	4.0	0.0012	0.079	0.122	0.827	0.177	○		●	○	
				5020N-250R-CM	0.197	5.0	0.0016	0.098	0.161	0.827	0.177	○		●	○	
				6020N-300R-CM	0.236	6.0	0.0016	0.118	0.197	0.866	0.177	○		●	○	

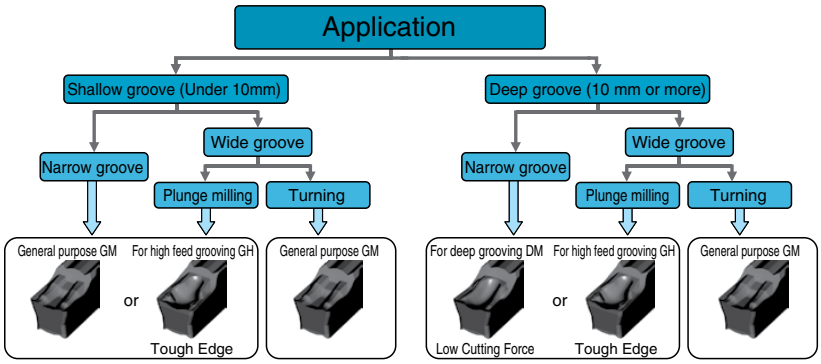
Recommended Cutting Conditions ➔ G106

Inserts Identification System

GDF | M | S | 30 | 20 | N | – | 030 | DM

Series	Tolerance Symbol	No. of edge	Width	Insert Length	Hand of Tool	Corner-R (rε)	Chipbreaker Symbol
	M : Class M	**No Indication** : 2-Edge	**20** : 2mm	**20** : 20mm	**N** : Neutral	**020** : 0.2mm	**GM** : Grooving and Turning
		S: 1-Edge	**30** : 3mm			**030** : 0.3mm	**DM** : Grooving
			:			**040** : 0.4mm	**GH** : High feed grooving

Chipbreaker Selection



* If chip control is not stable when using the general GM chipbreaker for grooving, change the chipbreaker to the DM chipbreaker for deep grooving or GH chipbreaker for high feed grooving.

Inserts are sold in 10 piece boxes.

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

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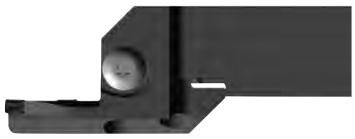
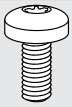
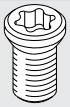
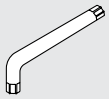
KGDF

Toolholder Assembly Identification

Unit Description (Unit Description is not printed.)	Blade (Blade Description is printed.)	Toolholder (Toolholder Description is printed.)
Left-hand : KGDFL...S	Left-hand : KGDFL...-C	Right-hand : KGDR...-C
 • Left-hand shown	 • Left-hand shown	 • Right-hand shown
Right-hand : KGDFR...S	Right-hand : KGDFR...-C	Left-hand : KGDL...-C
 • Right-hand shown	 • Right-hand shown	 • Left-hand shown

- Right-hand Blade for Left-hand Toolholder, Left-hand Blade for Right-hand Toolholder.
- The Unit Description is not printed on the product. It is printed on the box label.
- Combination of the toolholder and blade (both separately sold) can make up the corresponding assembly.
- The insert clamping bolt (BH6x10TR), blade fixing bolt (SB-60120TR) and wrench (LTW-25) which are included in the toolholder can be used.

Clamp Bolt (for Insert Clamp)	Clamp Bolt (for Blade)	Wrench
		
BH6X10TR	SB-60120TR	LTW-25

Face Grooving Toolholder Assembly Identification System

Hand of Tool	Toolholder Shank Size	Toolholder Length	Width	Symbol of Assembly Toolholder
R:Right-hand	**2020** : U20	**X** : Special	**2** : 2mm	**S** : indicates the unit description
L:Left-hand	**2525** : U25		**3** : 3mm	
			:	

KGDF | **R** | **2020** | **X** | **25** – **3** | **A** | **S**

Series	Min. Diameter in Face Grooving		Grooving Depth	
KGDF Face Grooving	Indicates the minimum external diameter suitable for the initial face grooving.	* For the minimum external diameter which can be applied to the initial face grooving (you can also use 1-edge insert), see the MIN. value of "Face Grooving Dia. ØD" in the dimension tables of toolholders and blades.	**A** : 6~13mm **B** : 13~15mm	2-Edge Insert (1-Edge Insert can also be used.)
	25 : 25mm		**C** : 20~25mm **D** : 32mm	1-Edge Insert
	:			
	235 : 235mm			

Face Grooving Dia. ØD

Face grooving diameter (ØD) is the suitable value for the initial grooving on the unprocessed workpiece (Ref. Fig.1).
Then, you can widen it up to the center towards the inside (excluding the models listed in the right table) and towards the outside according to machine limits.

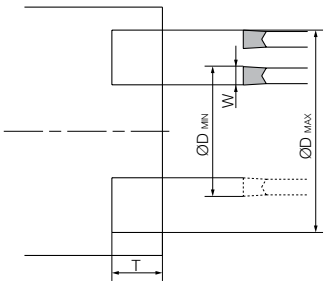
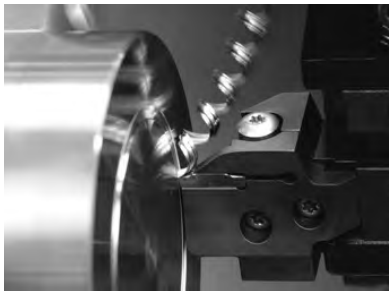
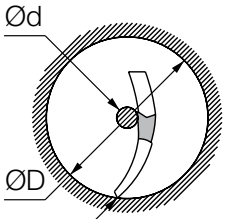


Fig.1



Limit of Turning toward Center

Turning towards the Center causes the toolholder to interfere with the groove wall depending on the initial cut's diameter.

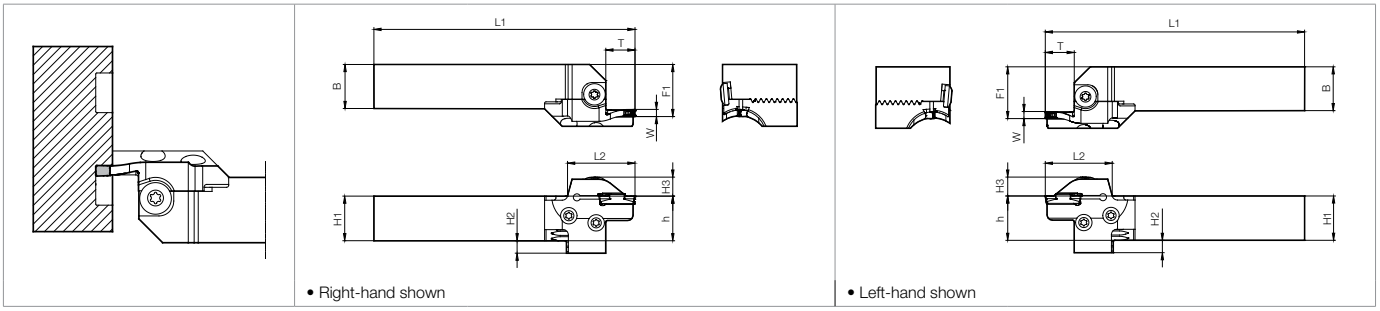


Remaining Boss Dia. Ød

Part Number	ØD (mm)			
	25	26	27	28 and over
	Ød (mm)			
KGDFR/L 2020X25-3AS	4	2	0	(No remaining Boss) 0
2525X25-3AS				
KGDFR/L 2020X25-4AS	6	3	0	
2525X25-4AS				
KGDFR/L 2020X25-5AS	7	4	1	
2525X25-5AS				
KGDFR/L 2020X25-6AS	9	4	1	
2525X25-6AS				

e.g.)
If a groove of external diameter Ø25mm is created using KGDFR2020X25-3AS and turning is made toward the inside, a Ø4mm portion will be left in middle due to interference of toolholder.

KGDF Face Grooving 0° SwitchBlade Toolholders (Inch-Size)



• Right-hand shown

• Left-hand shown

Toolholder Dimensions (0.118" width)

Shank Angle	Insert Width W (in)	Max. Grooving Depth (in)	Face Grooving Dia. ØD (in) MIN	Face Grooving Dia. ØD (in) MAX	Unit Part Number	Toolholder Part Number → G25	Stock R	Stock L	Blade Part Number → G105	Stock R	Stock L	Dimensions (in) H1=h	H2	H3	B	L1	L2	F1	T
0°	0.118	0.512	0.984	1.181	No Unit Part Number. Please order Toolholder and Blade separately.	KGDL12-C		●	KGDFR -25-3A-C	●		0.750	0.510	0.457	0.750	4.650	1.420	0.927	0.512
			1.181	1.575					-30-3A-C	●									
			1.575	1.969					-40-3A-C	●									
		0.591	1.969	2.559					-50-3B-C	●		0.750	0.510	0.457	0.750	4.720	1.500	0.927	0.591
			2.559	3.346					-65-3B-C	●									
			3.346	4.331					-85-3B-C	●									
			4.331	5.709					-110-3B-C	●									
		0.866	1.969	2.559					-50-3C-C	●		0.750	0.510	0.457	0.750	5.000	1.770	0.927	0.866
			2.559	3.346					-65-3C-C	●									
		0.984	3.346	4.331					-85-3C-C	●		0.750	0.510	0.457	0.750	5.120	1.890	0.927	0.984
			4.331	5.709					-110-3C-C	●									
		0.512	0.984	1.181	No Unit Part Number. Please order Toolholder and Blade separately.	KGDL16-C		●	KGDFR -25-3A-C	●		1.000	0.260	0.457	1.000	5.630	1.420	1.177	0.512
			1.181	1.575					-30-3A-C	●									
			1.575	1.969					-40-3A-C	●									
		0.591	1.969	2.559					-50-3B-C	●		1.000	0.260	0.457	1.000	5.710	1.500	1.177	0.591
			2.559	3.346					-65-3B-C	●									
			3.346	4.331					-85-3B-C	●									
			4.331	5.709					-110-3B-C	●									
		0.866	1.969	2.559					-50-3C-C	●		1.000	0.260	0.457	1.000	5.980	1.770	1.177	0.866
			2.559	3.346					-65-3C-C	●									
		0.984	3.346	4.331					-85-3C-C	●		1.000	0.260	0.457	1.000	6.100	1.890	1.177	0.984
			4.331	5.709					-110-3C-C	●									
0°	0.118	0.512	0.984	1.181	No Unit Part Number. Please order Toolholder and Blade separately.	KGDR12-C	●		KGDFL -25-3A-C		●	0.750	0.510	0.457	0.750	4.650	1.420	0.927	0.512
			1.181	1.575					-30-3A-C		●								
			1.575	1.969					-40-3A-C		●								
		0.591	1.969	2.559					-50-3B-C		●	0.750	0.510	0.457	0.750	4.720	1.500	0.927	0.591
			2.559	3.346					-65-3B-C		●								
			3.346	4.331					-85-3B-C		●								
			4.331	5.709					-110-3B-C		●								
		0.866	1.969	2.559					-50-3C-C		●	0.750	0.510	0.457	0.750	5.000	1.770	0.927	0.866
			2.559	3.346					-65-3C-C		●								
		0.984	3.346	4.331					-85-3C-C		●	0.750	0.510	0.457	0.750	5.120	1.890	0.927	0.984
			4.331	5.709					-110-3C-C		●								
		0.512	0.984	1.181	No Unit Part Number. Please order Toolholder and Blade separately.	KGDR16-C	●		KGDFL -25-3A-C		●	1.000	0.260	0.457	1.000	5.630	1.420	1.177	0.512
			1.181	1.575					-30-3A-C		●								
			1.575	1.969					-40-3A-C		●								
		0.591	1.969	2.559					-50-3B-C		●	1.000	0.260	0.457	1.000	5.710	1.500	1.177	0.591
			2.559	3.346					-65-3B-C		●								
			3.346	4.331					-85-3B-C		●								
			4.331	5.709					-110-3B-C		●								
		0.866	1.969	2.559					-50-3C-C		●	1.000	0.260	0.457	1.000	5.980	1.770	1.177	0.866
			2.559	3.346					-65-3C-C		●								
		0.984	3.346	4.331					-85-3C-C		●	1.000	0.260	0.457	1.000	6.100	1.890	1.177	0.984
			4.331	5.709					-110-3C-C		●								

- R-hand Blade for L-hand Toolholder, L-hand Blade for R-hand Toolholder
- Blade and tool holder are available to assemble when purchasing individually.
- Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

Applicable Inserts → **G83**

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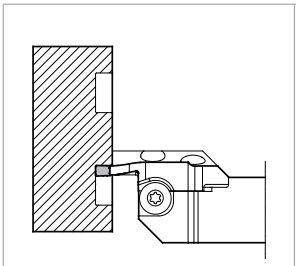
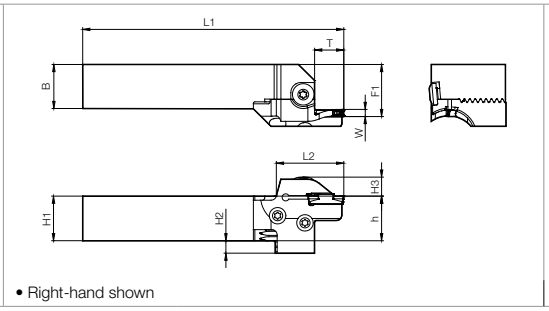
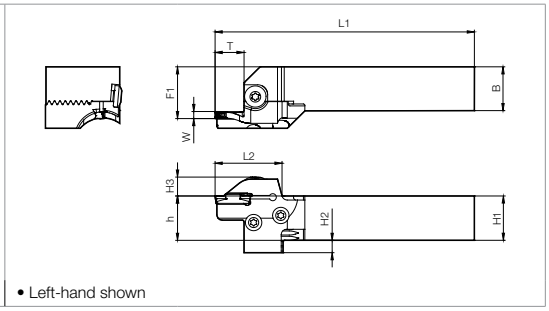
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

KGDF Face Grooving 0° SwitchBlade Toolholders (Inch-Size)





• Right-hand shown



• Left-hand shown

Toolholder Dimensions (0.158" width)

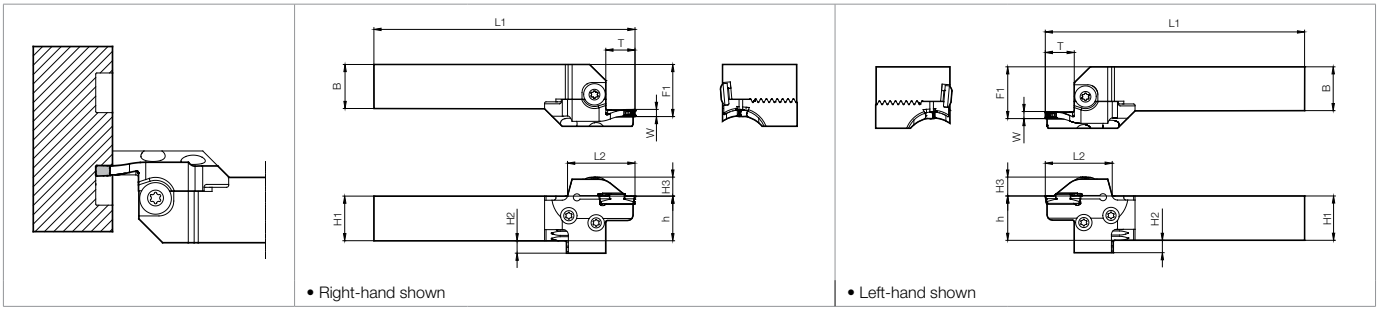
Shank Angle	Insert Width W (in)	Max. Grooving Depth (in)	Face Grooving Dia. ØD (in) MIN	Face Grooving Dia. ØD (in) MAX	Unit Part Number	Toolholder Part Number → G25	Stock R	Stock L	Blade Part Number → G105	Stock R	Stock L	Dimensions (in) H1=h	H2	H3	B	L1	L2	F1	T
0°	0.158	0.512	0.984	1.378	No Unit Part Number. Please order Toolholder and Blade separately.	KGDL12-C		●	KGDFR -25-4A-C	●		0.750	0.510	0.457	0.750	4.650	1.420	0.927	0.512
		0.591	1.378	1.969					-35-4B-C	●		0.750	0.510	0.457	0.750	4.720	1.500	0.927	0.591
			1.969	2.756					-50-4B-C	●									
			2.756	3.937					-70-4B-C	●									
			3.937	5.906					-100-4B-C	●									
			5.906	8.661					-150-4B-C	●									
			8.661	∞					-220-4B-C	●									
		0.984	1.378	1.969					-35-4C-C	●		0.750	0.510	0.457	0.750	5.120	1.890	0.927	0.984
			1.969	2.756					-50-4C-C	●									
			2.756	3.937					-70-4C-C	●									
			3.937	5.906					-100-4C-C	●									
			5.906	8.661					-150-4C-C	●									
			8.661	∞					-220-4C-C	●									
		0.512	0.984	1.378	No Unit Part Number. Please order Toolholder and Blade separately.	KGDL16-C		●	KGDFR -25-4A-C	●		1.000	0.260	0.457	1.000	5.630	1.420	1.177	0.512
		0.591	1.378	1.969					-35-4B-C	●		1.000	0.260	0.457	1.000	5.710	1.500	1.177	0.591
			1.969	2.756					-50-4B-C	●									
			2.756	3.937					-70-4B-C	●									
			3.937	5.906					-100-4B-C	●									
			5.906	8.661					-150-4B-C	●									
			8.661	∞					-220-4B-C	●									
		0.984	1.378	1.969					-35-4C-C	●		1.000	0.260	0.457	1.000	6.100	1.890	1.177	0.984
			1.969	2.756					-50-4C-C	●									
			2.756	3.937					-70-4C-C	●									
			3.937	5.906					-100-4C-C	●									
			5.906	8.661					-150-4C-C	●									
			8.661	∞					-220-4C-C	●									
0°	0.158	0.512	0.984	1.378	No Unit Part Number. Please order Toolholder and Blade separately.	KGDR12-C	●		KGDFL -25-4A-C		●	0.750	0.510	0.457	0.750	4.650	1.420	0.927	0.512
		0.591	1.378	1.969					-35-4B-C		●	0.750	0.510	0.457	0.750	4.720	1.500	0.927	0.591
			1.969	2.756					-50-4B-C		●								
			2.756	3.937					-70-4B-C		●								
			3.937	5.906					-100-4B-C		●								
			5.906	8.661					-150-4B-C		●								
			8.661	∞					-220-4B-C		●								
		0.984	1.378	1.969					-35-4C-C		●	0.750	0.510	0.457	0.750	5.120	1.890	0.927	0.984
			1.969	2.756					-50-4C-C		●								
			2.756	3.937					-70-4C-C		●								
			3.937	5.906					-100-4C-C		●								
			5.906	8.661					-150-4C-C		●								
			8.661	∞					-220-4C-C		●								
		0.512	0.984	1.378	No Unit Part Number. Please order Toolholder and Blade separately.	KGDR16-C	●		KGDFL -25-4A-C		●	1.000	0.260	0.457	1.000	5.630	1.420	1.177	0.512
		0.591	1.378	1.969					-35-4B-C		●	1.000	0.260	0.457	1.000	5.710	1.500	1.177	0.591
			1.969	2.756					-50-4B-C		●								
			2.756	3.937					-70-4B-C		●								
			3.937	5.906					-100-4B-C		●								
			5.906	8.661					-150-4B-C		●								
			8.661	∞					-220-4B-C		●								
		0.984	1.378	1.969					-35-4C-C		●	1.000	0.260	0.457	1.000	6.100	1.890	1.177	0.984
			1.969	2.756					-50-4C-C		●								
			2.756	3.937					-70-4C-C		●								
			3.937	5.906					-100-4C-C		●								
			5.906	8.661					-150-4C-C		●								
			8.661	∞					-220-4C-C		●								

Applicable Inserts → G83

- R-hand Blade for L-hand Toolholder, L-hand Blade for R-hand Toolholder
- Blade and tool holder are available to assemble when purchasing individually.
- Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

KGDF Face Grooving 0° SwitchBlade Toolholders (Inch-Size)



• Right-hand shown

• Left-hand shown

Toolholder Dimensions (0.197" width)

Shank Angle	Insert Width W (in)	Max. Grooving Depth (in)	Face Grooving Dia. ØD (in) MIN	Face Grooving Dia. ØD (in) MAX	Unit Part Number	Toolholder Part Number → G25	Stock R	Stock L	Blade Part Number → G105	Stock R	Stock L	Dimensions (in) H1=h	H2	H3	B	L1	L2	F1	T
0°	0.197	0.591	0.984	1.378	No Unit Part Number. Please order Toolholder and Blade separately.	KGDL12-C		●	KGDFR -25-5B-C	●		0.750	0.510	0.457	0.750	4.720	1.500	0.927	0.591
			1.378	1.969					-35-5B-C	●									
			1.969	2.953					-50-5B-C	●									
			2.953	4.528					-75-5B-C	●									
			4.528	7.087					-115-5B-C	●									
			7.087	9.252					-180-5B-C	●									
			9.252	∞					-235-5B-C	●									
		0.787	0.984	1.378					-25-5C-C	●		0.750	0.510	0.457	0.750	4.920	1.690	0.927	0.787
		0.984	1.378	1.969					-35-5C-C	●		0.750	0.510	0.457	0.750	5.120	1.890	0.927	0.984
			1.969	2.953					-50-5C-C	●									
			2.953	4.528					-75-5C-C	●									
			4.528	7.087					-115-5C-C	●									
			7.087	9.252					-180-5C-C	●									
			9.252	∞					-235-5C-C	●									
		0.591	0.984	1.378	No Unit Part Number. Please order Toolholder and Blade separately.	KGDL16-C		●	KGDFR -25-5B-C	●		1.000	0.260	0.457	1.000	5.700	1.500	1.177	0.591
			1.378	1.969					-35-5B-C	●									
			1.969	2.953					-50-5B-C	●									
			2.953	4.528					-75-5B-C	●									
			4.528	7.087					-115-5B-C	●									
			7.087	9.252					-180-5B-C	●									
			9.252	∞					-235-5B-C	●									
		0.787	0.984	1.378					-25-5C-C	●		1.000	0.260	0.457	1.000	5.900	1.690	1.177	0.787
		0.984	1.378	1.969					-35-5C-C	●		1.000	0.260	0.457	1.000	6.100	1.890	1.177	0.984
			1.969	2.953					-50-5C-C	●									
			2.953	4.528					-75-5C-C	●									
			4.528	7.087					-115-5C-C	●									
			7.087	9.252					-180-5C-C	●									
			9.252	∞					-235-5C-C	●									
0°	0.197	0.591	0.984	1.378	No Unit Part Number. Please order Toolholder and Blade separately.	KGDR12-C	●		KGDFL -25-5B-C		●	0.750	0.510	0.457	0.750	4.720	1.500	0.927	0.591
			1.378	1.969					-35-5B-C		●								
			1.969	2.953					-50-5B-C		●								
			2.953	4.528					-75-5B-C		●								
			4.528	7.087					-115-5B-C		●								
			7.087	9.252					-180-5B-C		●								
			9.252	∞					-235-5B-C		●								
		0.787	0.984	1.378					-25-5C-C		●	0.750	0.510	0.457	0.750	4.920	1.690	0.927	0.787
		0.984	1.378	1.969					-35-5C-C		●	0.750	0.510	0.457	0.750	5.120	1.890	0.927	0.984
			1.969	2.953					-50-5C-C		●								
			2.953	4.528					-75-5C-C		●								
			4.528	7.087					-115-5C-C		●								
			7.087	9.252					-180-5C-C		●								
			9.252	∞					-235-5C-C		●								
		0.591	0.984	1.378	No Unit Part Number. Please order Toolholder and Blade separately.	KGDR16-C	●		KGDFL -25-5B-C		●	1.000	0.260	0.457	1.000	5.700	1.500	1.177	0.591
			1.378	1.969					-35-5B-C		●								
			1.969	2.953					-50-5B-C		●								
			2.953	4.528					-75-5B-C		●								
			4.528	7.087					-115-5B-C		●								
			7.087	9.252					-180-5B-C		●								
			9.252	∞					-235-5B-C		●								
		0.787	0.984	1.378					-25-5C-C		●	1.000	0.260	0.457	1.000	5.900	1.690	1.177	0.787
		0.984	1.378	1.969					-35-5C-C		●	1.000	0.260	0.457	1.000	6.100	1.890	1.177	0.984
			1.969	2.953					-50-5C-C		●								
			2.953	4.528					-75-5C-C		●								
			4.528	7.087					-115-5C-C		●								
			7.087	9.252					-180-5C-C		●								
			9.252	∞					-235-5C-C		●								

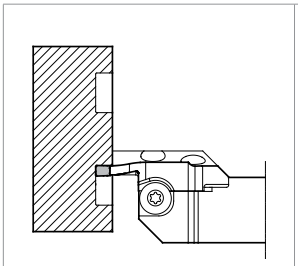
- R-hand Blade for L-hand Toolholder, L-hand Blade for R-hand Toolholder
- Blade and tool holder are available to assemble when purchasing individually.
- Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

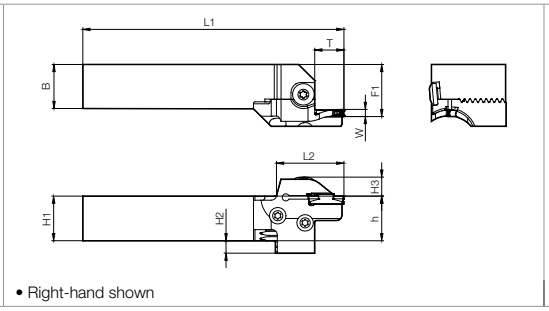
Applicable Inserts → G83

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

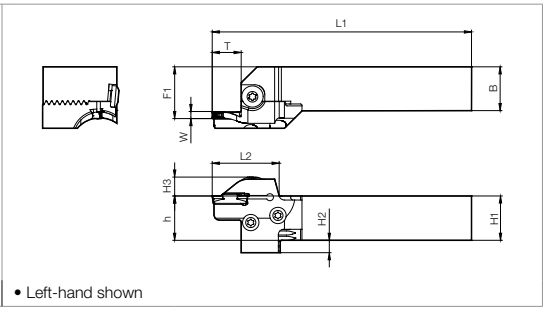
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

KGDF Face Grooving 0° SwitchBlade Toolholders (Inch-Size)





• Right-hand shown



• Left-hand shown

Toolholder Dimensions (0.236" width)

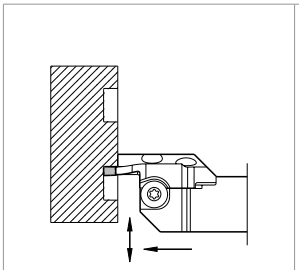
Shank Angle	Insert Width W (in)	Max. Grooving Depth (in)	Face Grooving Dia. ØD (in) MIN	Face Grooving Dia. ØD (in) MAX	Unit Part Number	Toolholder Part Number → G25	Stock R	Stock L	Blade Part Number → G105	Stock R	Stock L	Dimensions (in) H1=h	H2	H3	B	L1	L2	F1	T
0°	0.236	0.591	0.984	1.378	No Unit Part Number. Please order Toolholder and Blade separately.	KGDL12-C		●	KGDFR -25-6B-C	●		0.750	0.510	0.457	0.750	4.720	1.500	0.927	0.591
			1.378	1.969					-35-6B-C	●									
			1.969	2.953					-50-6B-C	●									
			2.953	4.528					-75-6B-C	●									
			4.528	7.087					-115-6B-C	●									
			7.087	9.252					-180-6B-C	●									
			9.252	∞					-235-6B-C	●									
		0.787	0.984	1.378					-25-6C-C	●		0.750	0.510	0.457	0.750	4.920	1.690	0.927	0.787
		0.984	1.378	1.969					-35-6C-C	●		0.750	0.510	0.457	0.750	5.120	1.890	0.927	0.984
			1.969	2.953					-50-6C-C	●									
			2.953	4.528					-75-6C-C	●									
			4.528	7.087					-115-6C-C	●									
			7.087	9.252					-180-6C-C	●									
			9.252	∞					-235-6C-C	●									
		0.591	0.984	1.378	No Unit Part Number. Please order Toolholder and Blade separately.	KGDL16-C		●	KGDFR -25-6B-C	●		1.000	0.260	0.457	1.000	5.700	1.500	1.177	0.591
			1.378	1.969					-35-6B-C	●									
			1.969	2.953					-50-6B-C	●									
			2.953	4.528					-75-6B-C	●									
			4.528	7.087					-115-6B-C	●									
			7.087	9.252					-180-6B-C	●									
			9.252	∞					-235-6B-C	●									
		0.787	0.984	1.378					-25-6C-C	●		1.000	0.260	0.457	1.000	5.900	1.690	1.177	0.787
		0.984	1.378	1.969					-35-6C-C	●		1.000	0.260	0.457	1.000	6.100	1.890	1.177	0.984
			1.969	2.953					-50-6C-C	●									
			2.953	4.528					-75-6C-C	●									
			4.528	7.087					-115-6C-C	●									
			7.087	9.252					-180-6C-C	●									
			9.252	∞					-235-6C-C	●									
0°	0.236	0.591	0.984	1.378	No Unit Part Number. Please order Toolholder and Blade separately.	KGDR12-C	●		KGDFL -25-6B-C		●	0.750	0.510	0.457	0.750	4.720	1.500	0.927	0.591
			1.378	1.969					-35-6B-C		●								
			1.969	2.953					-50-6B-C		●								
			2.953	4.528					-75-6B-C		●								
			4.528	7.087					-115-6B-C		●								
			7.087	9.252					-180-6B-C		●								
			9.252	∞					-235-6B-C		●								
		0.787	0.984	1.378					-25-6C-C		●	0.750	0.510	0.457	0.750	4.920	1.690	0.927	0.787
		0.984	1.378	1.969					-35-6C-C		●	0.750	0.510	0.457	0.750	5.120	1.890	0.927	0.984
			1.969	2.953					-50-6C-C		●								
			2.953	4.528					-75-6C-C		●								
			4.528	7.087					-115-6C-C		●								
			7.087	9.252					-180-6C-C		●								
			9.252	∞					-235-6C-C		●								
		0.591	0.984	1.378	No Unit Part Number. Please order Toolholder and Blade separately.	KGDR16-C	●		KGDFL -25-6B-C		●	1.000	0.260	0.457	1.000	5.700	1.500	1.177	0.591
			1.378	1.969					-35-6B-C		●								
			1.969	2.953					-50-6B-C		●								
			2.953	4.528					-75-6B-C		●								
			4.528	7.087					-115-6B-C		●								
			7.087	9.252					-180-6B-C		●								
			9.252	∞					-235-6B-C		●								
		0.787	0.984	1.378					-25-6C-C		●	1.000	0.260	0.457	1.000	5.900	1.690	1.177	0.787
		0.984	1.378	1.969					-35-6C-C		●	1.000	0.260	0.457	1.000	6.100	1.890	1.177	0.984
			1.969	2.953					-50-6C-C		●								
			2.953	4.528					-75-6C-C		●								
			4.528	7.087					-115-6C-C		●								
			7.087	9.252					-180-6C-C		●								
			9.252	∞					-235-6C-C		●								

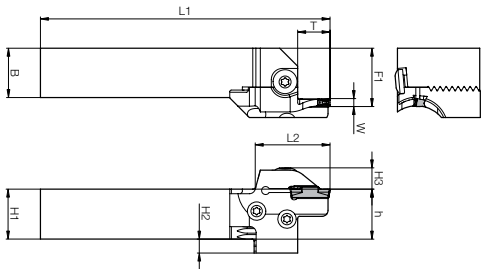
- R-hand Blade for L-hand Toolholder, L-hand Blade for R-hand Toolholder
- Blade and tool holder are available to assemble when purchasing individually.
- Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

Applicable Inserts → G83

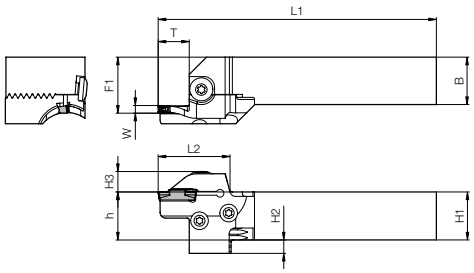
● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

KGDF Face Grooving 0° SwitchBlade Toolholders (Metric-Size)





• Right-hand shown (Right-hand Blade and Left-hand Toolholder)



• Left-hand shown (Left-hand Blade and Right-hand Toolholder)

Toolholder Dimensions (2mm width)

Shank Angle	Insert Width W (mm)	Shank Size (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. ØD (mm) MIN	Face Grooving Dia. ØD (mm) MAX	Unit Part Number (Standard Stock Description)	Stock R	Stock L	Blade Part Number ➡ G25	Toolholder Part Number ➡ G105	Dimensions (mm) H1=h	H2	H3	B	L1	L2	F1	T
0°	2	□20	6	25	30	KGDFR 2020X25-2AS	○		KGDFR -25-2A-C	KGDL2020-C	20	12	11.6	20	115	33	24.5	6
				30	35	2020X30-2AS	○		-30-2A-C									
				35	45	2020X35-2AS	○		-35-2A-C									
				45	60	2020X45-2AS	○		-45-2A-C									
				60	80	2020X60-2AS	○		-60-2A-C									
				80	100	2020X80-2AS	○		-80-2A-C									
				100	130	2020X100-2AS	○		-100-2A-C									
			13	25	30	No Unit Part Number ➡			-25-2B-C		20	12	11.6	20	118	36	24.5	13
			15	30	35				-30-2B-C		20	12	11.6	20	120	38	24.5	15
				35	45				-35-2B-C									
				45	60				-45-2B-C									
				60	80				-60-2B-C									
				80	100				-80-2B-C									
				100	130				-100-2B-C									
		□25	6	25	30	KGDFR 2525X25-2AS	○		KGDFR -25-2A-C	KGDL2525-C	25	7	11.6	25	140	33	29.5	6
				30	35	2525X30-2AS	○		-30-2A-C									
				35	45	2525X35-2AS	○		-35-2A-C									
				45	60	2525X45-2AS	○		-45-2A-C									
				60	80	2525X60-2AS	○		-60-2A-C									
				80	100	2525X80-2AS	○		-80-2A-C									
				100	130	2525X100-2AS	○		-100-2A-C									
			13	25	30	No Unit Part Number ➡			-25-2B-C		25	7	11.6	25	143	36	29.5	13
			15	30	35				-30-2B-C		25	7	11.6	25	145	38	29.5	15
				35	45				-35-2B-C									
				45	60				-45-2B-C									
				60	80				-60-2B-C									
				80	100				-80-2B-C									
				100	130				-100-2B-C									
		□32	6	25	30	No Unit Part Number ➡			KGDFR -25-2A-C	KGDL3232-C	32	-	11.6	32	160	33	36.5	6
				30	35				-30-2A-C									
				35	45				-35-2A-C									
				45	60				-45-2A-C									
				60	80				-60-2A-C									
				80	100				-80-2A-C									
				100	130				-100-2A-C									
			13	25	30				-25-2B-C		32	-	11.6	32	163	36	36.5	13
			15	30	35				-30-2B-C		32	-	11.6	32	165	38	36.5	15
				35	45				-35-2B-C									
				45	60				-45-2B-C									
				60	80				-60-2B-C									
				80	100				-80-2B-C									
				100	130				-100-2B-C									

Note) 1. In case the unit description is not available (No Unit Part Number), please purchase toolholder and blade separately.
2. Dimension T shows the distance from the Toolholder to the cutting edge. (If the dimension T is 20mm or more, the maximum groove-depth of groove made by the 2-edge insert will be 18mm.)

Applicable Inserts ➡ G83

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
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U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

Toolholder Dimensions (3mm / 4mm width)

Shank Angle	Insert Width W (mm)	Shank Size (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. ØD (mm) MIN	MAX	Unit Part Number (Standard Stock Description)	Stock R	Stock L	Blade Part Number → G25	Toolholder Part Number → G105	H1=h	H2	H3	B	L1	L2	F1	T
0°	3	□20	13	25	30	KGDF□ 2020X25-3AS	○	○	KGDF□ -25-3A-C	KGD□2020-C	20	12	11.6	20	118	36	24.5	13
				30	40	2020X30-3AS	○	○	-30-3A-C									
				40	50	2020X40-3AS	○	○	-40-3A-C									
			15	50	65	2020X50-3BS	○	○	-50-3B-C		20	12	11.6	20	120	38	24.5	15
				65	85	2020X65-3BS	○	○	-65-3B-C									
				85	110	2020X85-3BS	○	○	-85-3B-C									
				110	145	2020X110-3BS	○	○	-110-3B-C									
			22	50	65	2020X50-3CS	○	○	-50-3C-C		20	12	11.6	20	127	45	24.5	22
				65	85	2020X65-3CS	○	○	-65-3C-C									
			25	85	110	2020X85-3CS	○	○	-85-3C-C		20	12	11.6	20	130	48	24.5	25
				110	145	2020X110-3CS	○	○	-110-3C-C									
		□25	13	25	30	KGDF□ 2525X25-3AS	○	○	KGDF□ -25-3A-C	KGD□2525-C	25	7	11.6	25	143	36	29.5	13
				30	40	2525X30-3AS	○	○	-30-3A-C									
				40	50	2525X40-3AS	●	○	-40-3A-C									
			15	50	65	2525X50-3BS	○	○	-50-3B-C		25	7	11.6	25	145	38	29.5	15
				65	85	2525X65-3BS	○	○	-65-3B-C									
				85	110	2525X85-3BS	○	○	-85-3B-C									
				110	145	2525X110-3BS	○	○	-110-3B-C									
			22	50	65	2525X50-3CS	○	○	-50-3C-C		25	7	11.6	25	152	45	29.5	22
				65	85	2525X65-3CS	○	○	-65-3C-C									
			25	85	110	2525X85-3CS	○	○	-85-3C-C		25	7	11.6	25	155	48	29.5	25
				110	145	2525X110-3CS	○	○	-110-3C-C									
		□32	13	25	30	No Unit Part Number ➡			KGDF□ -25-3A-C	KGD□3232-C	32	-	11.6	32	163	36	36.5	13
				30	40				-30-3A-C									
				40	50				-40-3A-C									
			15	50	65				-50-3B-C		32	-	11.6	32	165	38	36.5	15
				65	85				-65-3B-C									
				85	110				-85-3B-C									
				110	145				-110-3B-C									
			22	50	65				-50-3C-C		32	-	11.6	32	172	45	36.5	22
				65	85				-65-3C-C									
			25	85	110				-85-3C-C		32	-	11.6	32	175	48	36.5	25
				110	145				-110-3C-C									
	4	□20	13	25	35	KGDF□ 2020X25-4AS	○	○	KGDF□ -25-4A-C	KGD□2020-C	20	12	11.6	20	118	36	24.5	13
			15	35	50	2020X35-4BS	○	○	-35-4B-C		20	12	11.6	20	120	38	24.5	15
				50	70	2020X50-4BS	○	○	-50-4B-C									
				70	100	2020X70-4BS	○	○	-70-4B-C									
				100	150	2020X100-4BS	○	○	-100-4B-C									
				150	220	2020X150-4BS	○	○	-150-4B-C									
				220	∞	2020X220-4BS	○	○	-220-4B-C									
			25	35	50	2020X35-4CS	○	○	-35-4C-C		20	12	11.6	20	130	48	24.5	25
				50	70	2020X50-4CS	○	○	-50-4C-C									
				70	100	2020X70-4CS	○	○	-70-4C-C									
				100	150	2020X100-4CS	○	○	-100-4C-C									
				150	220	2020X150-4CS	○	○	-150-4C-C									
				220	∞	2020X220-4CS	○	○	-220-4C-C									
		□25	13	25	35	KGDF□ 2525X25-4AS	○	○	KGDF□ -25-4A-C	KGD□2525-C	25	7	11.6	25	143	36	29.5	13
			15	35	50	2525X35-4BS	○	○	-35-4B-C		25	7	11.6	25	145	38	29.5	15
				50	70	2525X50-4BS	○	○	-50-4B-C									
				70	100	2525X70-4BS	○	○	-70-4B-C									
				100	150	2525X100-4BS	○	○	-100-4B-C									
				150	220	2525X150-4BS	○	○	-150-4B-C									
				220	∞	2525X220-4BS	○	○	-220-4B-C									
			25	35	50	2525X35-4CS	○	○	-35-4C-C		25	7	11.6	25	155	48	29.5	25
				50	70	2525X50-4CS	○	○	-50-4C-C									
				70	100	2525X70-4CS	○	○	-70-4C-C									
				100	150	2525X100-4CS	○	○	-100-4C-C									
				150	220	2525X150-4CS	○	○	-150-4C-C									
				220	∞	2525X220-4CS	○	○	-220-4C-C									
		□32	13	25	35	No Unit Part Number ➡			KGDF□ -25-4A-C	KGD□3232-C	32	-	11.6	32	163	36	36.5	13
			15	35	50				-35-4B-C		32	-	11.6	32	165	38	36.5	15
				50	70				-50-4B-C									
				70	100				-70-4B-C									
				100	150				-100-4B-C									
				150	220				-150-4B-C									
				220	∞				-220-4B-C									
			25	35	50				-35-4C-C		32	-	11.6	32	175	48	36.5	25
				50	70				-50-4C-C									
				70	100				-70-4C-C									
				100	150				-100-4C-C									
				150	220				-150-4C-C									
				220	∞				-220-4C-C									

Note) 1. In case the unit description is not available (No Unit Part Number), please purchase toolholder and blade separately.
2. Dimension T shows the distance from the Toolholder to the cutting edge. (If the dimension T is 20mm or more, the maximum groove-depth of groove made by the 2-edge insert will be 18mm.)

Applicable Inserts ➡ G83

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
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Toolholder Dimensions (5mm width)

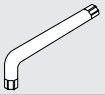
Shank Angle	Insert Width W (mm)	Shank Size (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. ØD (mm) MIN	Face Grooving Dia. ØD (mm) MAX	Unit Part Number (Standard Stock Description)	Stock R	Stock L	Blade Part Number ➡ G25	Toolholder Part Number ➡ G105	Dimensions (mm) H1=h	H2	H3	B	L1	L2	F1	T
0°	5	□20	15	25	35	KGDF℄ 2020X25-5BS	○	○	KGDF℄ -25-5B-C	KGD℄2020-C	20	12	11.6	20	120	38	24.5	15
				35	50	2020X35-5BS	○	○	-35-5B-C									
				50	75	2020X50-5BS	○	○	-50-5B-C									
				75	115	2020X75-5BS	○	○	-75-5B-C									
				115	180	2020X115-5BS	○	○	-115-5B-C									
				180	235	2020X180-5BS	○	○	-180-5B-C									
				235	∞	2020X235-5BS	○	○	-235-5B-C									
			20	25	35	2020X25-5CS	○	○	-25-5C-C		20	12	11.6	20	125	43	24.5	20
			25	35	50	2020X35-5CS	○	○	-35-5C-C		20	12	11.6	20	130	48	24.5	25
				50	75	2020X50-5CS	○	○	-50-5C-C									
				75	115	2020X75-5CS	○	○	-75-5C-C									
				115	180	2020X115-5CS	○	○	-115-5C-C									
				180	235	2020X180-5CS	○	○	-180-5C-C									
				235	∞	2020X235-5CS	○	○	-235-5C-C									
			32	75	115	No Unit Part Number ➡			-75-5D-C		20	12	11.6	20	137	55	24.5	32
				115	180				-115-5D-C									
				180	235				-180-5D-C									
				235	∞				-235-5D-C									
		□25	15	25	35	KGDF℄ 2525X25-5BS	○	○	KGDF℄ -25-5B-C	KGD℄2525-C	25	7	11.6	25	145	38	29.5	15
				35	50	2525X35-5BS	○	○	-35-5B-C									
				50	75	2525X50-5BS	○	○	-50-5B-C									
				75	115	2525X75-5BS	○	○	-75-5B-C									
				115	180	2525X115-5BS	○	○	-115-5B-C									
				180	235	2525X180-5BS	○	○	-180-5B-C									
				235	∞	2525X235-5BS	○	○	-235-5B-C									
			20	25	35	2525X25-5CS	○	○	-25-5C-C		25	7	11.6	25	150	43	29.5	20
			25	35	50	2525X35-5CS	○	○	-35-5C-C		25	7	11.6	25	155	48	29.5	25
				50	75	2525X50-5CS	○	○	-50-5C-C									
				75	115	No Unit Part Number ➡			-75-5C-C									
				115	180				-115-5C-C									
				180	235				-180-5C-C									
				235	∞				-235-5C-C									
			32	75	115	KGDF℄ 2525X75-5DS	○	○	-75-5D-C		25	7	11.6	25	162	55	29.5	32
				115	180	2525X115-5DS	○	○	-115-5D-C									
				180	235	2525X180-5DS	○	○	-180-5D-C									
				235	∞	2525X235-5DS	○	○	-235-5D-C									
		□32	15	25	35	No Unit Part Number ➡			KGDF℄ -25-5B-C	KGD℄3232-C	32	-	11.6	32	165	38	36.5	15
				35	50				-35-5B-C									
				50	75				-50-5B-C									
				75	115				-75-5B-C									
				115	180				-115-5B-C									
				180	235				-180-5B-C									
				235	∞				-235-5B-C									
			20	25	35				-25-5C-C		32	-	11.6	32	170	43	36.5	20
			25	35	50				-35-5C-C		32	-	11.6	32	175	48	36.5	25
				50	75				-50-5C-C									
				75	115				-75-5C-C									
				115	180				-115-5C-C									
				180	235				-180-5C-C									
				235	∞				-235-5C-C									
			32	75	115				-75-5D-C		32	-	11.6	32	182	55	36.5	32
				115	180				-115-5D-C									
				180	235				-180-5D-C									
				235	∞				-235-5D-C									

Note) 1. In case the unit description is not available (No Unit Part Number), please purchase toolholder and blade separately.
2. Dimension T shows the distance from the Toolholder to the cutting edge. (If the dimension T is 20mm or more, the maximum groove-depth of groove made by the 2-edge insert will be 18mm.)

Applicable Inserts ➡ G83

Spare Parts (Common with SwitchBlade types)

* The parts are included in the toolholder and unit.

Unit Part Number	Spare Parts: Clamp Bolt (for Insert Clamp)	Spare Parts: Clamp Bolt (for Blade)	Spare Parts: Wrench
			
KGDF℄·····S	BH6X10TR	SB-60120TR	LTW-25

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
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Toolholder Dimensions (6mm width)

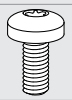
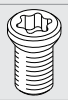
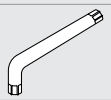
Shank Angle	Insert Width W (mm)	Shank Size (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. ØD (mm) MIN	Face Grooving Dia. ØD (mm) MAX	Unit Part Number (Standard Stock Description)	Stock R	Stock L	Blade Part Number ➡ G25	Toolholder Part Number ➡ G105	Dimensions (mm) H1=h	H2	H3	B	L1	L2	F1	T
0°	6	□20	15	25	35	KGDF□ 2020X25-6BS	○	○	KGDF□ -25-6B-C	KGD□2020-C	20	12	11.6	20	120	38	24.5	15
				35	50	2020X35-6BS	○	○	-35-6B-C									
				50	75	2020X50-6BS	○	○	-50-6B-C									
				75	115	2020X75-6BS	○	○	-75-6B-C									
				115	180	2020X115-6BS	○	○	-115-6B-C									
				180	235	2020X180-6BS	○	○	-180-6B-C									
				235	∞	2020X235-6BS	○	○	-235-6B-C									
			20	25	35	2020X25-6CS	○	○	-25-6C-C		20	12	11.6	20	125	43	24.5	20
			25	35	50	2020X35-6CS	○	○	-35-6C-C		20	12	11.6	20	130	48	24.5	25
				50	75	2020X50-6CS	○	○	-50-6C-C									
				75	115	2020X75-6CS	○	○	-75-6C-C									
				115	180	2020X115-6CS	○	○	-115-6C-C									
				180	235	2020X180-6CS	○	○	-180-6C-C									
				235	∞	2020X235-6CS	○	○	-235-6C-C									
			32	75	115	No Unit Part Number ➡			-75-6D-C		20	12	11.6	20	137	55	24.5	32
				115	180				-115-6D-C									
				180	235				-180-6D-C									
				235	∞				-235-6D-C									
		□25	15	25	35	KGDF□ 2525X25-6BS	○	○	KGDF□ -25-6B-C	KGD□2525-C	25	7	11.6	25	145	38	29.5	15
				35	50	2525X35-6BS	○	○	-35-6B-C									
				50	75	2525X50-6BS	○	○	-50-6B-C									
				75	115	2525X75-6BS	○	○	-75-6B-C									
				115	180	2525X115-6BS	○	○	-115-6B-C									
				180	235	2525X180-6BS	○	○	-180-6B-C									
				235	∞	2525X235-6BS	○	○	-235-6B-C									
			20	25	35	2525X25-6CS	○	○	-25-6C-C		25	7	11.6	25	150	43	29.5	20
			25	35	50	2525X35-6CS	○	○	-35-6C-C		25	7	11.6	25	155	48	29.5	25
				50	75	2525X50-6CS	○	○	-50-6C-C									
				75	115	No Unit Part Number ➡			-75-6C-C									
				115	180				-115-6C-C									
				180	235				-180-6C-C									
				235	∞				-235-6C-C									
			32	75	115	KGDF□ 2525X75-6DS	○	○	-75-6D-C		25	7	11.6	25	162	55	29.5	32
				115	180	2525X115-6DS	○	○	-115-6D-C									
				180	235	2525X180-6DS	○	○	-180-6D-C									
				235	∞	2525X235-6DS	○	○	-235-6D-C									
		□32	15	25	35	No Unit Part Number ➡			KGDF□ -25-6B-C	KGD□3232-C	32	-	11.6	32	165	38	36.5	15
				35	50				-35-6B-C									
				50	75				-50-6B-C									
				75	115				-75-6B-C									
				115	180				-115-6B-C									
				180	235				-180-6B-C									
				235	∞				-235-6B-C									
			20	25	35				-25-6C-C		32	-	11.6	32	170	43	36.5	20
			25	35	50				-35-6C-C		32	-	11.6	32	175	48	36.5	25
				50	75				-50-6C-C									
				75	115				-75-6C-C									
				115	180				-115-6C-C									
				180	235				-180-6C-C									
				235	∞				-235-6C-C									
			32	75	115				-75-6D-C		32	-	11.6	32	182	55	36.5	32
				115	180				-115-6D-C									
				180	235				-180-6D-C									
				235	∞				-235-6D-C									

Note) 1. In case the unit description is not available (No Unit Part Number), please purchase toolholder and blade separately.
2. Dimension T shows the distance from the Toolholder to the cutting edge. (If the dimension T is 20mm or more, the maximum groove-depth of groove made by the 2-edge insert will be 18mm.)

Applicable Inserts ➡ G83

Spare Parts (Common with SwitchBlade types)

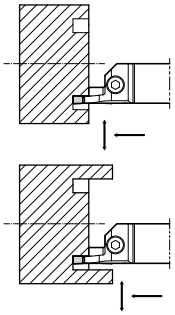
* The parts are included in the toolholder and unit.

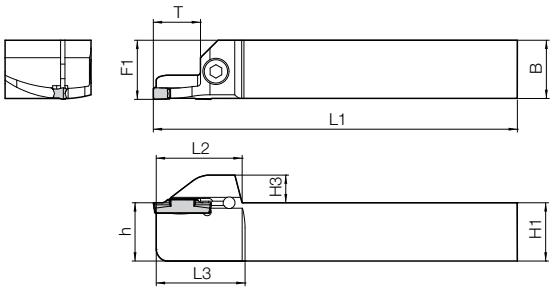
Unit Part Number	Spare Parts: Clamp Bolt (for Insert Clamp)	Spare Parts: Clamp Bolt (for Blade)	Spare Parts: Wrench
			
KGDF□·····S	BH6X10TR	SB-60120TR	LTW-25

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

FACE GROOVING TOOLHOLDERS (INTEGRAL TYPE)

KGDF-Z NEW





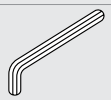
• Right-hand shown

Toolholder Dimensions (3mm / 4mm / 5mm width)

Insert Width W (mm)	Shank Size (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. ØD (mm)		Part Number	Stock		Dimensions (mm)							
			MIN	MAX		R	L	H1=h	H3	B	L1	L2	L3	F1	T
3	□20	15	50	65	KGDF[R/L] 2020K50-3B-Z	○	○	20	9.5	20	125	30.5	31	20.3	15
			65	85	2020K65-3B-Z	○	○								
			85	110	2020K85-3B-Z	○	○								
			110	145	2020K110-3B-Z	○	○								
	□25		50	65	KGDF[R/L] 2525M50-3B-Z	○	○	25	9.5	25	150	30.5	31	25.3	15
			65	85	2525M65-3B-Z	○	○								
			85	110	2525M85-3B-Z	○	○								
			110	145	2525M110-3B-Z	○	○								
4	□20	15	50	70	KGDF[R/L] 2020K50-4B-Z	○	○	20	9.5	20	125	30.5	31	20.3	15
			70	100	2020K70-4B-Z	○	○								
			100	150	2020K100-4B-Z	○	○								
	□25		50	70	KGDF[R/L] 2525M50-4B-Z	○	○	25	9.5	25	150	30.5	31	25.3	15
			70	100	2525M70-4B-Z	○	○								
			100	150	2525M100-4B-Z	○	○								
5	□20	15	50	75	KGDF[R/L] 2020K50-5B-Z	○	○	20	9.5	20	125	30.5	31	20.3	15
			75	115	2020K75-5B-Z	○	○								
			115	180	2020K115-5B-Z	○	○								
	□25		50	75	KGDF[R/L] 2525M50-5B-Z	○	○	25	9.5	25	150	30.5	31	25.3	15
			75	115	2525M75-5B-Z	○	○								
			115	180	2525M115-5B-Z	○	○								

Applicable Inserts ➡ G83

Spare Parts

Part Number	Spare Parts	
	Clamp Bolt	Wrench
		
KGDF[R/L]····-Z	HH5X16	LW-4

Toolholder Identification System (Integral Type)

KGDF | **R** | **2525** | **M** | **50** | **3** | **B** | **Z**

Series	Hand of Tool	Shank Size	Toolholder Length	Min. Face Groove Dia.	Width	Grooving Depth	Toolholder Type
KGDF Face Grooving	**R**:Right-hand	**2020** : □20mm	**K** : 125mm	**50** : 50mm	**3** : 3mm	**B** : 15mm	**Z** : Integral Type
	L:Left-hand	**2525** : □25mm	**M** : 150mm	:	**4** : 4mm		
				115 : 115mm	**5** : 5mm		

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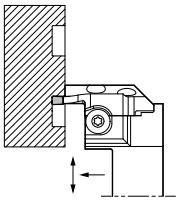
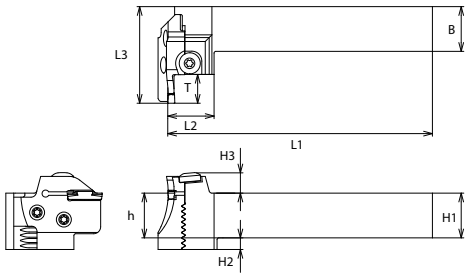
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

KGDF Face Grooving 90° SwitchBlade Toolholders (Inch-Size)



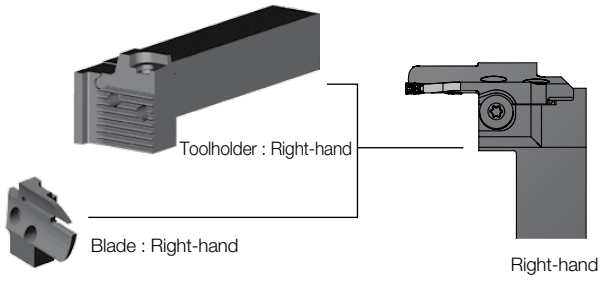


• Right-hand shown

Toolholder Dimensions (0.079" width)

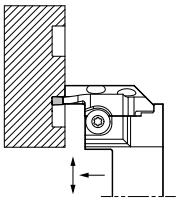
Shank Angle	Insert Width W (in)	Max. Grooving Depth (in)	Face Grooving Dia. ØD (in) MIN	Face Grooving Dia. ØD (in) MAX	Unit Part Number	Toolholder Part Number G25	Stock R	Stock L	Blade Part Number G105	Stock R	Stock L	Dimensions (in) H1=h	H2	H3	B	L1	L2	L3	T
90°	0.079	0.236	0.984	1.181	No Unit Part Number. Please order Toolholder and Blade separately.	KGDSR12-C	●		KGDFR -25-2A-C	●		0.750	0.510	0.457	0.750	4.921	0.988	1.957	0.236
			1.181	1.378					-30-2A-C	●									
			1.378	1.772					-35-2A-C	●									
			1.772	2.362					-45-2A-C	●									
			2.362	3.150					-60-2A-C	●									
			3.150	3.937					-80-2A-C	●									
			3.937	5.118					-100-2A-C	●									
		0.236	0.984	1.181	No Unit Part Number. Please order Toolholder and Blade separately.	KGDSR16-C	●		KGDFR -25-2A-C	●		1.000	0.260	0.457	1.000	5.910	0.988	1.957	0.236
			1.181	1.378					-30-2A-C	●									
			1.378	1.772					-35-2A-C	●									
			1.772	2.362					-45-2A-C	●									
			2.362	3.150					-60-2A-C	●									
			3.150	3.937					-80-2A-C	●									
			3.937	5.118					-100-2A-C	●									

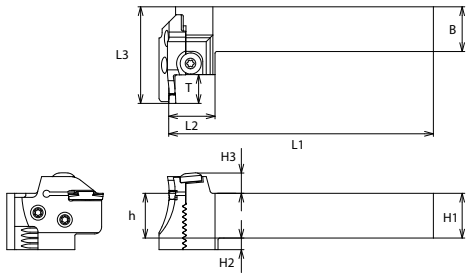
Applicable Inserts G83



- R-hand Blade for L-hand Toolholder, L-hand Blade for R-hand Toolholder
- Blade and tool holder are available to assemble when purchasing individually.
- Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

KGDF Face Grooving 90° SwitchBlade Toolholders (Inch-Size)





• Right-hand shown

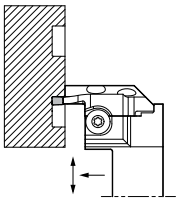
Toolholder Dimensions (0.118" width)

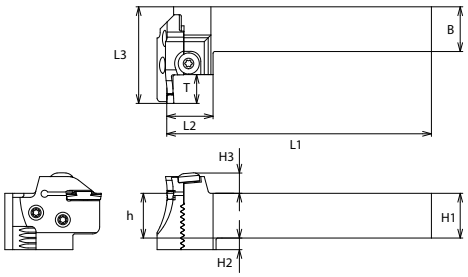
Shank Angle	Insert Width W (in)	Max. Grooving Depth (in)	Face Grooving Dia. ØD (in) MIN	Face Grooving Dia. ØD (in) MAX	Unit Part Number	Toolholder Part Number → G25	Stock R	Stock L	Blade Part Number → G105	Stock R	Stock L	Dimensions (in) H1=h	H2	H3	B	L1	L2	L3	T
90°	0.118	0.512	0.984	1.181	No Unit Part Number. Please order Toolholder and Blade separately.	KGDS R/L 12-C	●	●	KGDF R/L -25-3A-C	●	●	0.750	0.510	0.457	0.750	4.921	0.988	2.075	0.512
			1.181	1.575					-30-3A-C	●	●								
			1.575	1.969					-40-3A-C	●	●								
		0.591	1.969	2.559					-50-3B-C	●	●							2.154	0.591
			2.559	3.346					-65-3B-C	●	●								
			3.346	4.331					-85-3B-C	●	●								
			4.331	5.709					-110-3B-C	●	●								
		0.866	1.969	2.559					-50-3C-C	●	●							2.350	0.866
			2.559	3.346					-65-3C-C	●	●								
		0.984	3.346	4.331					-85-3C-C	●	●							2.429	0.984
			4.331	5.709					-110-3C-C	●	●								
		0.512	0.984	1.181	No Unit Part Number. Please order Toolholder and Blade separately.	KGDS R/L 16-C	●	●	KGDF R/L -25-3A-C	●	●	1.000	0.260	0.457	1.000	5.906	0.988	2.075	0.512
			1.181	1.575					-30-3A-C	●	●								
			1.575	1.969					-40-3A-C	●	●								
		0.591	1.969	2.559					-50-3B-C	●	●							2.154	0.591
			2.559	3.346					-65-3B-C	●	●								
			3.346	4.331					-85-3B-C	●	●								
			4.331	5.709					-110-3B-C	●	●								
		0.866	1.969	2.559					-50-3C-C	●	●							2.350	0.866
			2.559	3.346					-65-3C-C	●	●								
		0.984	3.346	4.331					-85-3C-C	●	●							2.429	0.984
			4.331	5.709					-110-3C-C	●	●								

Applicable Inserts → G83

- R-hand Blade for L-hand Toolholder, L-hand Blade for R-hand Toolholder
- Blade and tool holder are available to assemble when purchasing individually.
- Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

KGDF Face Grooving 90° SwitchBlade Toolholders (Inch-Size)





• Right-hand shown

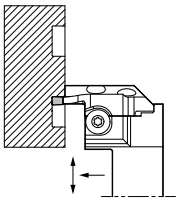
Toolholder Dimensions (0.157" width)

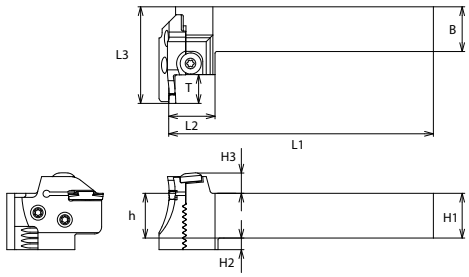
Shank Angle	Insert Width W (in)	Max. Grooving Depth (in)	Face Grooving Dia. ØD (in) MIN	Face Grooving Dia. ØD (in) MAX	Unit Part Number	Toolholder Part Number → G25	Stock R	Stock L	Blade Part Number → G105	Stock R	Stock L	Dimensions (in) H1=h	H2	H3	B	L1	L2	L3	T
90°	0.157	0.512	0.984	1.378	No Unit Part Number. Please order Toolholder and Blade separately.	KGDS[R/L]12-C	●	●	KGDF[R/L]-25-4A-C	●	●	0.750	0.510	0.457	0.750	4.921	0.988	2.075	0.512
		0.591	1.378	1.969					-35-4B-C	●	●							2.154	0.591
			1.969	2.756					-50-4B-C	●	●								
			2.756	3.937					-70-4B-C	●	●								
			3.937	5.906					-100-4B-C	●	●								
			5.906	8.661					-150-4B-C	●	●								
			8.661	∞					-220-4B-C	●	●								
		0.984	1.378	1.969					-35-4C-C	●	●							2.550	0.984
			1.969	2.756					-50-4C-C	●	●								
			2.756	3.937					-70-4C-C	●	●								
			3.937	5.906					-100-4C-C	●	●								
			5.906	8.661					-150-4C-C	●	●								
			8.661	∞					-220-4C-C	●	●								
		0.512	0.984	1.378	No Unit Part Number. Please order Toolholder and Blade separately.	KGDS[R/L]16-C	●	●	KGDF[R/L]-25-4A-C	●	●	1.000	0.260	0.457	1.000	5.906	0.988	2.075	0.512
		0.591	1.378	1.969					-35-4B-C	●	●							2.154	0.591
			1.969	2.756					-50-4B-C	●	●								
			2.756	3.937					-70-4B-C	●	●								
			3.937	5.906					-100-4B-C	●	●								
			5.906	8.661					-150-4B-C	●	●								
			8.661	∞					-220-4B-C	●	●								
		0.984	1.378	1.969					-35-4C-C	●	●							2.550	0.984
			1.969	2.756					-50-4C-C	●	●								
			2.756	3.937					-70-4C-C	●	●								
			3.937	5.906					-100-4C-C	●	●								
			5.906	8.661					-150-4C-C	●	●								
			8.661	∞					-220-4C-C	●	●								

Applicable Inserts → G83

- R-hand Blade for L-hand Toolholder, L-hand Blade for R-hand Toolholder
- Blade and tool holder are available to assemble when purchasing individually.
- Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

KGDF Face Grooving 90° SwitchBlade Toolholders (Inch-Size)





• Right-hand shown

Toolholder Dimensions (0.197" width)

Shank Angle	Insert Width W (in)	Max. Grooving Depth (in)	Face Grooving Dia. ØD (in) MIN	Face Grooving Dia. ØD (in) MAX	Unit Part Number	Toolholder Part Number G25	Stock R	Stock L	Blade Part Number G105	Stock R	Stock L	Dimensions (in) H1=h	H2	H3	B	L1	L2	L3	T
90°	0.197	0.591	0.984	1.378	No Unit Part Number. Please order Toolholder and Blade separately.	KGDS□12-C	●	●	KGDF□-25-5B-C	●	●	0.750	0.510	0.457	0.750	4.921	0.927	2.154	0.591
			1.378	1.969					-35-5B-C	●	●								
			1.969	2.953					-50-5B-C	●	●								
			2.953	4.528					-75-5B-C	●	●								
			4.528	7.087					-115-5B-C	●	●								
			7.087	9.252					-180-5B-C	●	●								
			9.252	∞					-235-5B-C	●	●								
		0.787	0.984	1.378					-25-5C-C	●	●					4.921		2.350	0.787
		0.984	1.378	1.969					-35-5C-C	●	●					4.921		2.547	0.984
			1.969	2.953					-50-5C-C	●	●								
			2.953	4.528					-75-5C-C	●	●								
			4.528	7.087					-115-5C-C	●	●								
			7.087	9.252					-180-5C-C	●	●								
			9.252	∞					-235-5C-C	●	●								
		1.260	2.953	4.528					-75-5D-C	●	●					4.921		2.823	1.260
			4.528	7.087					-115-5D-C	●	●								
			7.087	9.252					-180-5D-C	●	●								
			9.252	∞					-235-5D-C	●	●								
		0.591	0.984	1.378	No Unit Part Number. Please order Toolholder and Blade separately.	KGDS□16-C	●	●	KGDF□-25-5B-C	●	●	1.000	0.260	0.457	1.000	5.906	1.177	2.154	0.591
			1.378	1.969					-35-5B-C	●	●								
			1.969	2.953					-50-5B-C	●	●								
			2.953	4.528					-75-5B-C	●	●								
			4.528	7.087					-115-5B-C	●	●								
			7.087	9.252					-180-5B-C	●	●								
			9.252	∞					-235-5B-C	●	●								
		0.787	0.984	1.378					-25-5C-C	●	●					5.906		2.350	0.787
		0.984	1.378	1.969					-35-5C-C	●	●					5.906		2.547	0.984
			1.969	2.953					-50-5C-C	●	●								
			2.953	4.528					-75-5C-C	●	●								
			4.528	7.087					-115-5C-C	●	●								
			7.087	9.252					-180-5C-C	●	●								
			9.252	∞					-235-5C-C	●	●								
		1.260	2.953	4.528					-75-5D-C	●	●					5.906		2.823	1.260
			4.528	7.087					-115-5D-C	●	●								
			7.087	9.252					-180-5D-C	●	●								
			9.252	∞					-235-5D-C	●	●								

- R-hand Blade for L-hand Toolholder, L-hand Blade for R-hand Toolholder
- Blade and tool holder are available to assemble when purchasing individually.
- Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

Applicable Inserts G83

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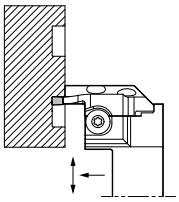
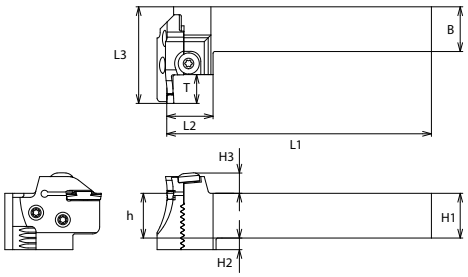
KGDF Face Grooving 90° SwitchBlade Toolholders (Inch-Size)





• Right-hand shown

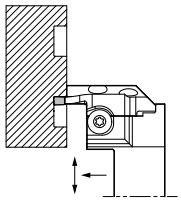
Toolholder Dimensions (0.236" width)

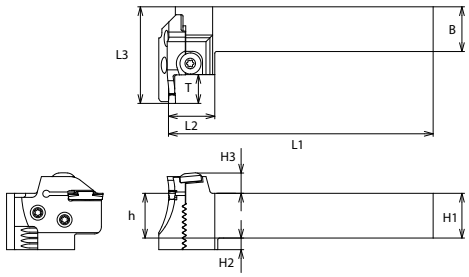
Shank Angle	Insert Width W (in)	Max. Grooving Depth (in)	Face Grooving Dia. ØD (in) MIN	Face Grooving Dia. ØD (in) MAX	Unit Part Number	Toolholder Part Number → G25	Stock R	Stock L	Blade Part Number → G105	Stock R	Stock L	Dimensions (in) H1=h	H2	H3	B	L1	L2	L3	T
90°	0.236	0.591	0.984	1.378	No Unit Part Number. Please order Toolholder and Blade separately.	KGDS R/L 12-C	●	●	KGDF R/L -25-6B-C	●	●	0.750	0.510	0.457	0.750	4.921	0.988	2.154	0.591
			1.378	1.969					-35-6B-C	●	●								
			1.969	2.953					-50-6B-C	●	●								
			2.953	4.528					-75-6B-C	●	●								
			4.528	7.087					-115-6B-C	●	●								
			7.087	9.252					-180-6B-C	●	●								
			9.252	∞					-235-6B-C	●	●								
		0.787	0.984	1.378					-25-6C-C	●	●					4.921		2.350	0.787
		0.984	1.378	1.969					-35-6C-C	●	●					4.921		2.547	0.984
			1.969	2.953					-50-6C-C	●	●								
			2.953	4.528					-75-6C-C	●	●								
			4.528	7.087					-115-6C-C	●	●								
			7.087	9.252					-180-6C-C	●	●								
			9.252	∞					-235-6C-C	●	●								
		1.260	2.953	4.528					-75-6D-C	●	●					4.921		2.823	1.260
			4.528	7.087					-115-6D-C	●	●								
			7.087	9.252					-180-6D-C	●	●								
			9.252	∞					-235-6D-C	●	●								
		0.591	0.984	1.378	No Unit Part Number. Please order Toolholder and Blade separately.	KGDS R/L 16-C	●	●	KGDF R/L -25-6B-C	●	●	1.000	0.260	0.457	1.000	5.906	0.988	2.154	0.591
			1.378	1.969					-35-6B-C	●	●								
			1.969	2.953					-50-6B-C	●	●								
			2.953	4.528					-75-6B-C	●	●								
			4.528	7.087					-115-6B-C	●	●								
			7.087	9.252					-180-6B-C	●	●								
			9.252	∞					-235-6B-C	●	●								
		0.787	0.984	1.378					-25-6C-C	●	●					5.906		2.350	0.787
		0.984	1.378	1.969					-35-6C-C	●	●					5.906		2.547	0.984
			1.969	2.953					-50-6C-C	●	●								
			2.953	4.528					-75-6C-C	●	●								
			4.528	7.087					-115-6C-C	●	●								
			7.087	9.252					-180-6C-C	●	●								
			9.252	∞					-235-6C-C	●	●								
		1.260	2.953	4.528					-75-6D-C	●	●					5.906		2.823	1.260
			4.528	7.087					-115-6D-C	●	●								
			7.087	9.252					-180-6D-C	●	●								
			9.252	∞					-235-6D-C	●	●								

- R-hand Blade for L-hand Toolholder, L-hand Blade for R-hand Toolholder
- Blade and tool holder are available to assemble when purchasing individually.
- Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

Applicable Inserts → G83

KGDF Face Grooving 90° SwitchBlade Toolholders (Metric-Size)





• Right-hand shown

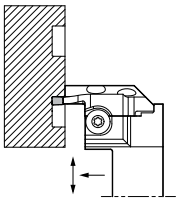
Toolholder Dimensions (2mm width)

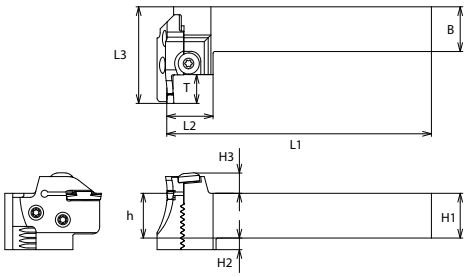
Shank Angle	Insert Width W (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. ØD (mm) MIN	Face Grooving Dia. ØD (mm) MAX	Unit Part Number	Toolholder Part Number → G25	Stock R	Stock L	Blade Part Number → G105	Stock R	Stock L	Dimensions (mm) H1=h	H2	H3	B	L1	L2	L3	T
90°	2	6	25	30	No Unit Part Number. Please order Toolholder and Blade separately.	KGDSR2020-C	○		KGDFR -25-2A-C	●		20	12	11.6	20	125	27.7	49.7	6
			30	35					-30-2A-C	●									
			35	45					-35-2A-C	●									
			45	60					-45-2A-C	●									
			60	80					-60-2A-C	●									
			80	100					-80-2A-C	●									
			100	130					-100-2A-C	●									
		6	25	30	No Unit Part Number. Please order Toolholder and Blade separately.	KGDSR2525-C	○		KGDFR -25-2A-C	●		25	7	11.6	25	150	27.7	49.7	6
			30	35					-30-2A-C	●									
			35	45					-35-2A-C	●									
			45	60					-45-2A-C	●									
			60	80					-60-2A-C	●									
			80	100					-80-2A-C	●									
			100	130					-100-2A-C	●									

Applicable Inserts → G83

- R-hand Blade for L-hand Toolholder, L-hand Blade for R-hand Toolholder
- Blade and tool holder are available to assemble when purchasing individually.
- Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

KGDF Face Grooving 90° SwitchBlade Toolholders (Metric-Size)





• Right-hand shown

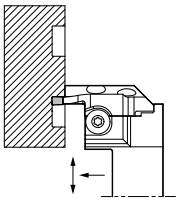
Toolholder Dimensions (3mm width)

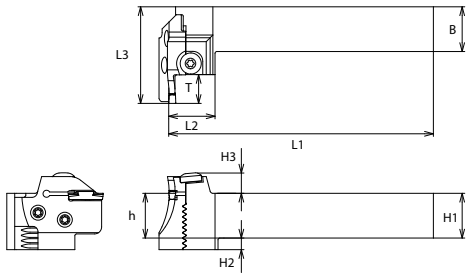
Shank Angle	Insert Width W (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. ØD (mm) MIN	Face Grooving Dia. ØD (mm) MAX	Unit Part Number	Toolholder Part Number → G25	Stock R	Stock L	Blade Part Number → G105	Stock R	Stock L	Dimensions (mm) H1=h	H2	H3	B	L1	L2	L3	T
90°	3	13	25	30	No Unit Part Number. Please order Toolholder and Blade separately.	KGDS□2020-C	○	○	KGDF□-25-3A-C	●	●	20	12	11.6	20	125	27.7	52.7	13
			30	40					-30-3A-C	●	●								
			40	50					-40-3A-C	●	●								
		15	50	65					-50-3B-C	●	●							54.7	15
			65	85					-65-3B-C	●	●								
			85	110					-85-3B-C	●	●								
			110	145					-110-3B-C	●	●								
		22	50	65					-50-3C-C	●	●							59.7	22
			65	85					-65-3C-C	●	●								
		25	85	110					-85-3C-C	●	●							61.7	25
			110	145					-110-3C-C	●	●								
		13	25	30	No Unit Part Number. Please order Toolholder and Blade separately.	KGDS□2525-C	○	○	KGDF□-25-3A-C	●	●	25	7	11.6	25	150	27.7	52.7	13
			30	40					-30-3A-C	●	●								
			40	50					-40-3A-C	●	●								
		15	50	65					-50-3B-C	●	●							54.7	15
			65	85					-65-3B-C	●	●								
			85	110					-85-3B-C	●	●								
			110	145					-110-3B-C	●	●								
		22	50	65					-50-3C-C	●	●							59.7	22
			65	85					-65-3C-C	●	●								
		25	85	110					-85-3C-C	●	●							61.7	25
			110	145					-110-3C-C	●	●								

Applicable Inserts → G83

- R-hand Blade for L-hand Toolholder, L-hand Blade for R-hand Toolholder
- Blade and tool holder are available to assemble when purchasing individually.
- Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

KGDF Face Grooving 90° SwitchBlade Toolholders (Metric-Size)





• Right-hand shown

Toolholder Dimensions (4mm width)

Shank Angle	Insert Width W (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. ØD (mm) MIN	Face Grooving Dia. ØD (mm) MAX	Unit Part Number	Toolholder Part Number → G25	Stock R	Stock L	Blade Part Number → G105	Stock R	Stock L	H1=h	H2	H3	B	L1	L2	L3	T
90°	4	13	25	35	No Unit Part Number. Please order Toolholder and Blade separately.	KGDS□2020-C	○	○	KGDF□-25-4A-C	●	●	20	12	11.6	20	125	27.7	52.7	13
		15	35	50					-35-4B-C	●	●							54.7	15
			50	70					-50-4B-C	●	●								
			70	100					-70-4B-C	●	●								
			100	150					-100-4B-C	●	●								
			150	220					-150-4B-C	●	●								
			220	∞					-220-4B-C	●	●								
		25	35	50					-35-4C-C	●	●							64.7	25
			50	70					-50-4C-C	●	●								
			70	100					-70-4C-C	●	●								
			100	150					-100-4C-C	●	●								
			150	220					-150-4C-C	●	●								
			220	∞					-220-4C-C	●	●								
		13	25	35	No Unit Part Number. Please order Toolholder and Blade separately.	KGDS□2525-C	○	○	KGDF□-25-4A-C	●	●	25	7	11.6	25	150	27.7	52.7	13
		15	35	50					-35-4B-C	●	●							54.7	15
			50	70					-50-4B-C	●	●								
			70	100					-70-4B-C	●	●								
			100	150					-100-4B-C	●	●								
			150	220					-150-4B-C	●	●								
			220	∞					-220-4B-C	●	●								
		25	35	50					-35-4C-C	●	●							64.7	25
			50	70					-50-4C-C	●	●								
			70	100					-70-4C-C	●	●								
			100	150					-100-4C-C	●	●								
			150	220					-150-4C-C	●	●								
			220	∞					-220-4C-C	●	●								

Applicable Inserts → G83

- R-hand Blade for L-hand Toolholder, L-hand Blade for R-hand Toolholder
- Blade and tool holder are available to assemble when purchasing individually.
- Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
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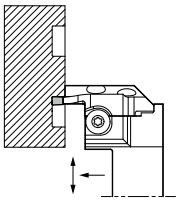
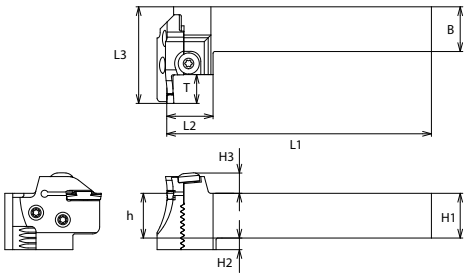
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

KGDF Face Grooving 90° SwitchBlade Toolholders (Metric-Size)





• Right-hand shown

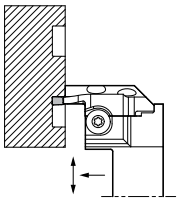
Toolholder Dimensions (5mm width)

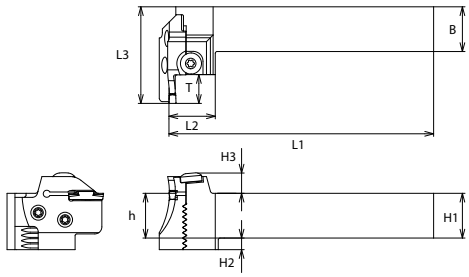
Shank Angle	Insert Width W (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. ØD (mm) MIN	MAX	Unit Part Number	Toolholder Part Number → G25	Stock R	Stock L	Blade Part Number → G105	Stock R	Stock L	H1=h	H2	H3	B	L1	L2	L3	T
90°	5	15	25	35	No Unit Part Number. Please order Toolholder and Blade separately.	KGDS□2020-C	○	○	KGDF□-25-5B-C	●	●	20	12	11.6	20	125	27.7	54.7	15
			35	50					-35-5B-C	●	●								
			50	75					-50-5B-C	●	●								
			75	115					-75-5B-C	●	●								
			115	180					-115-5B-C	●	●								
			180	235					-180-5B-C	●	●								
			235	∞					-235-5B-C	●	●								
		20	25	35					-25-5C-C	●	●							59.7	20
		25	35	50					-35-5C-C	●	●							64.7	25
			50	75					-50-5C-C	●	●								
			75	115					-75-5C-C	●	●								
			115	180					-115-5C-C	●	●								
			180	235					-180-5C-C	●	●								
			235	∞					-235-5C-C	●	●								
		32	75	115					-75-5D-C	●	●							71.7	32
			115	180					-115-5D-C	●	●								
			180	235					-180-5D-C	●	●								
			235	∞					-235-5D-C	●	●								
		15	25	35	No Unit Part Number. Please order Toolholder and Blade separately.	KGDS□2525-C	○	○	KGDF□-25-5B-C	●	●	25	7	11.6	25	150	27.7	54.7	15
			35	50					-35-5B-C	●	●								
			50	75					-50-5B-C	●	●								
			75	115					-75-5B-C	●	●								
			115	180					-115-5B-C	●	●								
			180	235					-180-5B-C	●	●								
			235	∞					-235-5B-C	●	●								
		20	25	35					-25-5C-C	●	●							59.7	20
		25	35	50					-35-5C-C	●	●							64.7	25
			50	75					-50-5C-C	●	●								
			75	115					-75-5C-C	●	●								
			115	180					-115-5C-C	●	●								
			180	235					-180-5C-C	●	●								
			235	∞					-235-5C-C	●	●								
		32	75	115					-75-5D-C	●	●							71.7	32
			115	180					-115-5D-C	●	●								
			180	235					-180-5D-C	●	●								
			235	∞					-235-5D-C	●	●								

- R-hand Blade for L-hand Toolholder, L-hand Blade for R-hand Toolholder
- Blade and tool holder are available to assemble when purchasing individually.
- Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

Applicable Inserts → G83

KGDF Face Grooving 90° SwitchBlade Toolholders (Metric-Size)





• Right-hand shown

Toolholder Dimensions (6mm width)

Shank Angle	Insert Width W (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. ØD (mm) MIN	Face Grooving Dia. ØD (mm) MAX	Unit Part Number	Toolholder Part Number → G25	Stock R	Stock L	Blade Part Number → G105	Stock R	Stock L	Dimensions (mm) H1=h	H2	H3	B	L1	L2	L3	T
90°	6	15	25	35	No Unit Part Number. Please order Toolholder and Blade separately.	KGDS□2020-C	○	○	KGDF□-25-6B-C	●	●	20	12	11.6	20	125	27.7	54.7	15
			35	50					-35-6B-C	●	●								
			50	75					-50-6B-C	●	●								
			75	115					-75-6B-C	●	●								
			115	180					-115-6B-C	●	●								
			180	235					-180-6B-C	●	●								
			235	∞					-235-6B-C	●	●								
		20	25	35					-25-6C-C	●	●							59.7	20
		25	35	50					-35-6C-C	●	●							64.7	25
			50	75					-50-6C-C	●	●								
			75	115					-75-6C-C	●	●								
			115	180					-115-6C-C	●	●								
			180	235					-180-6C-C	●	●								
			235	∞					-235-6C-C	●	●								
		32	75	115					-75-6D-C	●	●							71.7	32
			115	180					-115-6D-C	●	●								
			180	235					-180-6D-C	●	●								
			235	∞					-235-6D-C	●	●								
		15	25	35	No Unit Part Number. Please order Toolholder and Blade separately.	KGDS□2525-C	○	○	KGDF□-25-6B-C	●	●	25	7	11.6	25	150	27.7	54.7	15
			35	50					-35-6B-C	●	●								
			50	75					-50-6B-C	●	●								
			75	115					-75-6B-C	●	●								
			115	180					-115-6B-C	●	●								
			180	235					-180-6B-C	●	●								
			235	∞					-235-6B-C	●	●								
		20	25	35					-25-6C-C	●	●							59.7	20
		25	35	50					-35-6C-C	●	●							64.7	25
			50	75					-50-6C-C	●	●								
			75	115					-75-6C-C	●	●								
			115	180					-115-6C-C	●	●								
			180	235					-180-6C-C	●	●								
			235	∞					-235-6C-C	●	●								
		32	75	115					-75-6D-C	●	●							71.7	32
			115	180					-115-6D-C	●	●								
			180	235					-180-6D-C	●	●								
			235	∞					-235-6D-C	●	●								

- R-hand Blade for L-hand Toolholder, L-hand Blade for R-hand Toolholder
- Blade and tool holder are available to assemble when purchasing individually.
- Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

Applicable Inserts → G83

Face Grooving Toolholder Assembly Identification System

Hand of Tool
R:Right-hand
L:Left-hand

Width	
2 : 2mm	**5** : 5mm
3 : 3mm	**6** : 6mm
4 : 4mm	

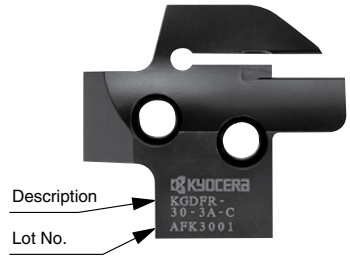
Blade Symbol
C : Applicable to toolholder with suffix "-C"

KGDF **R** – **25** – **3** **A** – **C**

Series
KGDF Face Grooving

Min. Diameter in Face Grooving
Indicates the minimum external diameter suitable for the initial face grooving.
25 : 25mm
:
235 : 235mm

Grooving Depth	
A : 13mm	2-Edge Insert (1-Edge Insert can also be used.)
B : 15mm	
C : 20~25mm	1-Edge Insert
D : 32mm	



Example of printing of blade number

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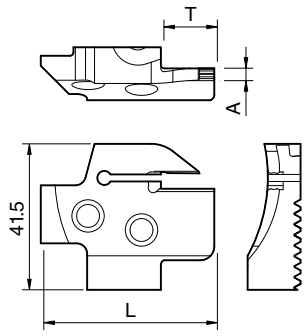
World Express (Shipping: 7-10 Business Days) : ○

Blade Dimensions

Shape	Blade Part Number	Stock R	Stock L	Dimensions (in) L	Dimensions (in) T	Dimensions (in) A	Face Grooving Dia. ØD (in) MIN	Face Grooving Dia. ØD (in) MAX	Width (in) W	Applicable Inserts ➡ G83	Toolholder Part Number ➡ G25
 Right-hand shown	KGDFR -25-2A-C	●		1.746	0.236	0.059	0.984	1.181	0.079	GDFM 2020N-020GM	KGDR/L....-C KGDSR/L....-C
	-30-2A-C	●					1.181	1.378			
	-35-2A-C	●					1.378	1.772			
	-45-2A-C	●					1.772	2.362			
	-60-2A-C	●					2.362	3.150			
	-80-2A-C	●					3.150	3.937			
	-100-2A-C	●					3.937	5.118			
	KGDF R/L -25-3A-C	●	●	1.864	0.512	0.079	0.984	1.181	0.118	GDFM 3020N-030GM GDFM 3020N-030DM GDFMS 3020N-030DM	
	-30-3A-C	●	●				1.181	1.575			
	-40-3A-C	●	●				1.575	1.969			
	-50-3B-C	●	●	1.943	0.591	0.079	1.969	2.559			
	-65-3B-C	●	●				2.559	3.346			
	-85-3B-C	●	●				3.346	4.331			
	-110-3B-C	●	●				4.331	5.709			
	-50-3C-C	●	●	2.219	0.866	0.079	1.969	2.559			
	-65-3C-C	●	●				2.559	3.346			
	-85-3C-C	●	●	2.337	0.984	0.079	3.346	4.331			
	-110-3C-C	●	●				4.331	5.709			
	KGDF R/L -25-4A-C	●	●	1.864	0.512	0.118	0.984	1.378	0.157	GDFM 4020N-040GM GDFM 4020N-040GH GDFM 4020N-040DM GDFMS 4020N-040DM	
	-35-4B-C	●	●	1.943	0.591	0.118	1.378	1.969			
	-50-4B-C	●	●				1.969	2.756			
	-70-4B-C	●	●				2.756	3.937			
	-100-4B-C	●	●				3.937	5.906			
	-150-4B-C	●	●				5.906	8.661			
	-220-4B-C	●	●				8.661	∞			
	-35-4C-C	●	●	2.337	0.984	0.118	1.378	1.969			
	-50-4C-C	●	●				1.969	2.756			
	-70-4C-C	●	●				2.756	3.937			
	-100-4C-C	●	●				3.937	5.906			
	-150-4C-C	●	●				5.906	8.661			
	-220-4C-C	●	●				8.661	∞			
	KGDF R/L -25-5B-C	●	●	1.943	0.591	0.157	0.984	1.378	0.197	GDFM 5020N-040GM GDFM 5020N-080GM GDFM 5020N-040GH GDFM 5020N-080GH GDFM 5020N-040DM GDFMS 5020N-040DM	
	-35-5B-C	●	●				1.378	1.969			
	-50-5B-C	●	●				1.969	2.953			
	-75-5B-C	●	●				2.953	4.528			
	-115-5B-C	●	●				4.528	7.087			
	-180-5B-C	●	●				7.087	9.252			
	-235-5B-C	●	●				9.252	∞			
	-25-5C-C	●	●	2.140	0.787	0.157	0.984	1.378			
	-35-5C-C	●	●	2.337	0.984	0.157	1.378	1.969			
	-50-5C-C	●	●				1.969	2.953			
	-75-5C-C	●	●				2.953	4.528			
	-115-5C-C	●	●				4.528	7.087			
	-180-5C-C	●	●				7.087	9.252			
	-235-5C-C	●	●				9.252	∞			
	-75-5D-C	●	●	2.612	1.260	0.157	2.953	4.528			
	-115-5D-C	●	●				4.528	7.087			
	-180-5D-C	●	●				7.087	9.252			
	-235-5D-C	●	●				9.252	∞			
	KGDF R/L -25-6B-C	●	●	1.943	0.591	0.197	0.984	1.378	0.236	GDFM 6020N-040GM GDFM 6020N-080GM GDFM 6020N-040GH GDFM 6020N-080GH GDFM 6020N-040DM GDFMS 6020N-040DM	
	-35-6B-C	●	●				1.378	1.969			
	-50-6B-C	●	●				1.969	2.953			
	-75-6B-C	●	●				2.953	4.528			
	-115-6B-C	●	●				4.528	7.087			
	-180-6B-C	●	●				7.087	9.252			
	-235-6B-C	●	●				9.252	∞			
	-25-6C-C	●	●	2.140	0.787	0.197	0.984	1.378			
	-35-6C-C	●	●	2.337	0.984	0.197	1.378	1.969			
	-50-6C-C	●	●				1.969	2.953			
	-75-6C-C	●	●				2.953	4.528			
	-115-6C-C	●	●				4.528	7.087			
	-180-6C-C	●	●				7.087	9.252			
	-235-6C-C	●	●				9.252	∞			
	-75-6D-C	●	●	2.612	1.260	0.197	2.953	4.528			
	-115-6D-C	●	●				4.528	7.087			
	-180-6D-C	●	●				7.087	9.252			
	-235-6D-C	●	●				9.252	∞			

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

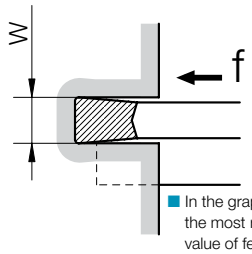
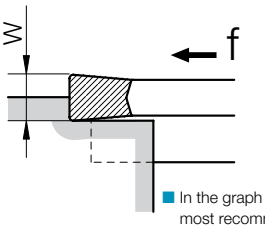
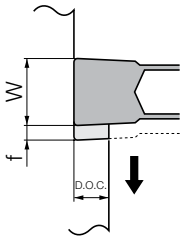
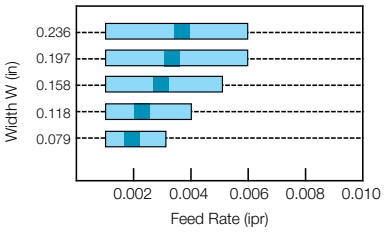
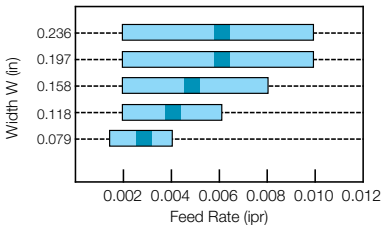
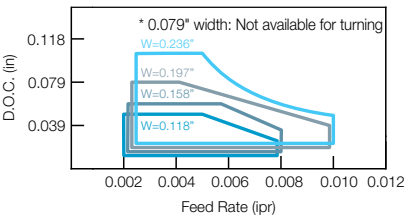
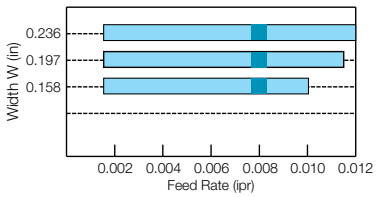
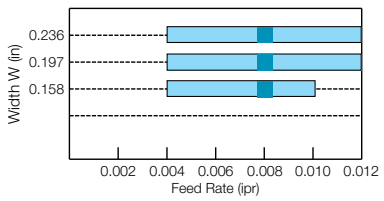
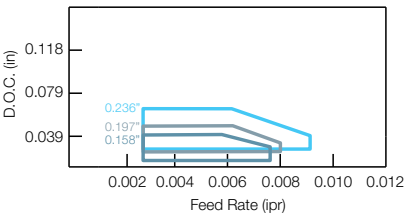
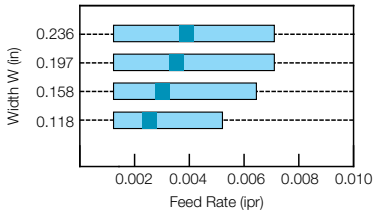
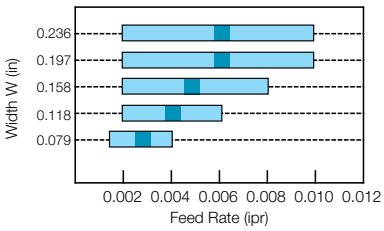
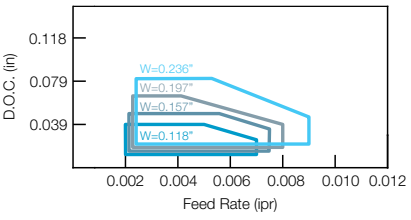
Recommended Cutting Conditions (Vc)

Workpiece Material	Recommended Insert Grade (Vc : sfm)				Notes
	Cermet		MEGACOAT		
	TN620	TN90	PR1225	PR1215	
Carbon Steel	☆ 200~660	☆ 260~660	★ 200~520	☆ 260~520	Wet
Alloy Steel	☆ 200~520	☆ 230~520	★ 200~490	☆ 200~490	
Stainless Steel	-	-	★ 160~390	☆ 160~390	
Cast Iron	-	-	-	★ 260~520	

★ : 1st Recommendation ☆ : 2nd Recommendation

Recommended Cutting Conditions (Feed Rate • D.O.C.)

(Workpiece Material : 1049)

Chipbreaker	Grooving	Shoulder Grooving (Side Grooving)	Traversing
	 ■ In the graph indicates the most recommended value of feed (f)	 ■ In the graph indicates the most recommended value of feed (f)	
GM (Grooving and Traversing)			
GH (Grooving, Traversing and High Feed Grooving)			
DM (Deep grooving and Turning)			

● When shouldering,

- If D.O.C. is set smaller, set feed higher.
- If D.O.C. is set larger, set feed lower.

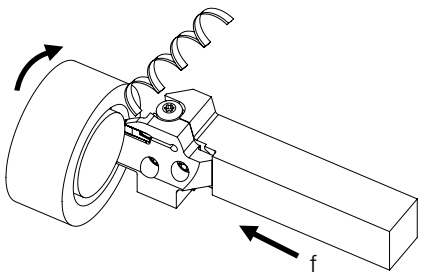
Face Grooving Guide

1) Toolholder Selection

Check the range of applicable "face grooving diameter" as well as the groove width and depth.

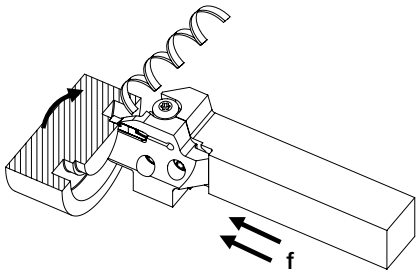
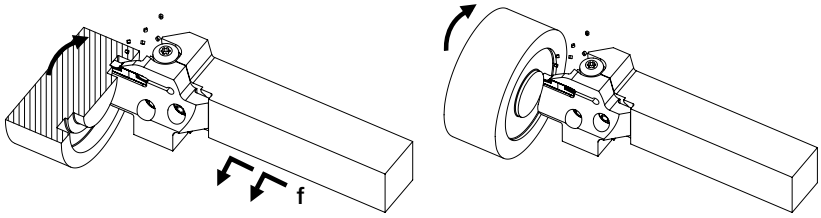
2) Cutting conditions (Feed rate : f)

When machining on steel, set the feed rate (f) so that chips are created in a helical form in cut-off.



3) How to widen the groove (Plunge machining and Turning)

Start machining from the outside and then proceed to the inside.
Chip control will be better in this way.

Plunge milling (Grooving + Side grooving)	Traversing
	

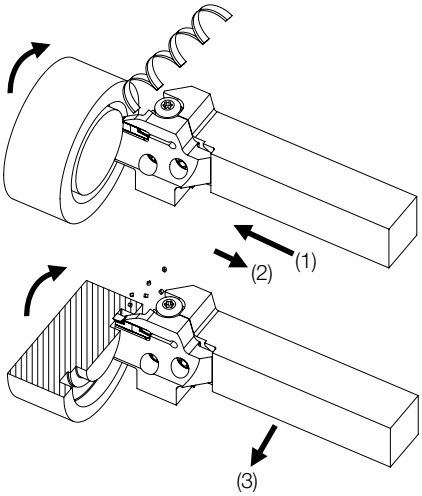
4) Guide for turning

A. When the cutting amount (D.O.C.) is over 0.020"

(1) Perform plunging.

(2) Return the cutting by 0.004".

(3) Perform turning. (Ref. to Fig.1)



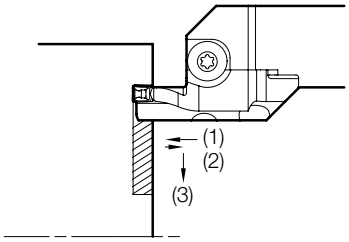


Fig.1

● **When widening the face groove width (Ref. to Fig.2)**

Apply the “Step Turning”.
Then perform finishing.

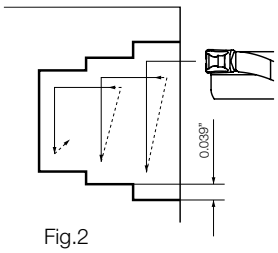


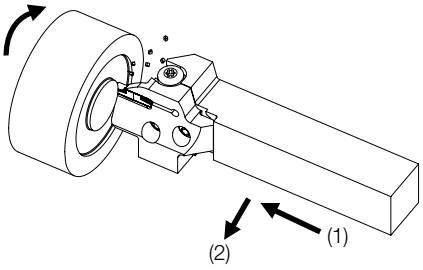
Fig.2

B. When the cutting amount (D.O.C.) is under 0.020"

(1) Perform plunging.

(2) Perform turning.

Machining without interruption is possible.
(Ref. to Fig.3)



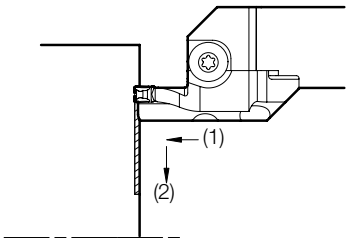
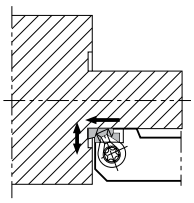
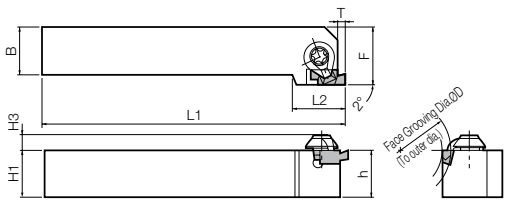


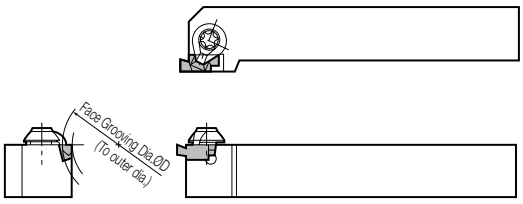
Fig.3

GFVS-AA





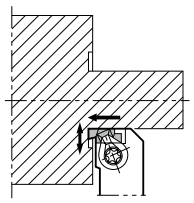
• Right-hand shown

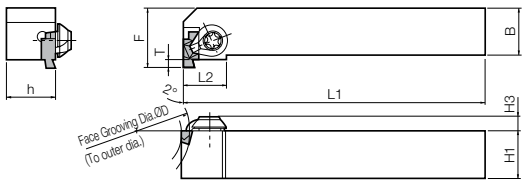


• Left-hand shown

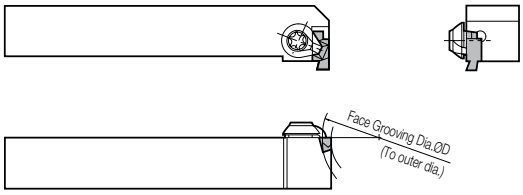
• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

GFVT-AA





• Right-hand shown



• Left-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Part Number		Stock		Dimensions (mm)								Face Grooving Dia. ØD		Spare Parts		Applicable Inserts ➔ G109
		R	L	H1	h	H3	B	L1	L2	F	T	MIN	MAX	Clamp Set	Wrench	
GFVS□L	2020K-08AA	○	○	20	20	5.5	20	125	18	25	2.2	8 (0)	∞ (∞)	CPS-5V	FT-15	GVF□L100-005AA ~ GVF□L300-005AA
	2525M-08AA	○	○	25	25	5.5	25	150	18	32	2.2					
GFVT□L	2020K-08AA	○	○	20	20	5.5	20	125	14	25	2.2	20 25	∞ (∞)	CPS-5V	FT-15	GVF□L100-005AA ~ GVF□L300-005AA
	2525M-08AA	○	○	25	25	5.5	25	150	14	32	2.2					

Note 1. Dimension T shows available grooving depth.

2. The value ( ) of Face Grooving Dia. (ØD MAX.) is the maximum outer diameter value after the initial groove between MIN.~MAX. (It is possible to widen the groove to infinity ∞).
The value ( ) of Face Grooving Dia. (ØD MIN.) is the minimum diameter of the boss which remains in the center when widening the groove width to a smaller value after the initial groove between MIN.~MAX.

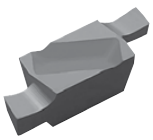
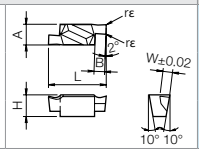
Applicable Inserts

(mm)

Part Number		A	L	H
GVF□	100-…AA	4.3	12	4.5
	200-…AA	4.3	12	4.5
	300-…AA	4.3	12	4.5

P	Carbon Steel / Alloy Steel	●	○	
M	Stainless Steel	●	○	
K	Cast Iron			◕
N	Non-ferrous Metals			◕
S	Titanium Alloy			◕
H	Hard materials (≤40HRC)	●	○	
	Hard materials (≥40HRC)			

Classification of Usage
◕ : Light Interruption / 1st Choice
◴ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

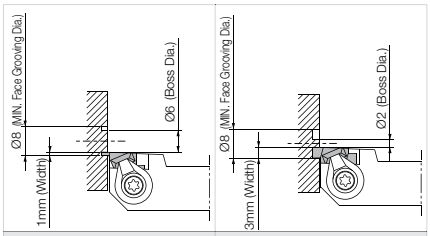
Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Dimensions (mm) W	B	rε	MEGA COAT PR1225	PVD PR930	Carbide KW10	Applicable Toolholders	Ref. Page for Toolholder
	GVF□ 100-005AA	GVF□ 100AA	1.00	2.2	0.05	○	○	Ⓛ	GFVS□…-08AA GFVT□…-08AA	➡ G108
	200-005AA	200AA	2.00	2.2		○	○	○		
	300-005AA	300AA	3.00	2.2		○	○	○		

- Dimension B: shows available grooving depth.
- GVF□…005AA inserts are not compatible with GVF□…–OOOA (Ref. to Page ➡ **G116**) inserts because their Side Relief Angle is 10°.

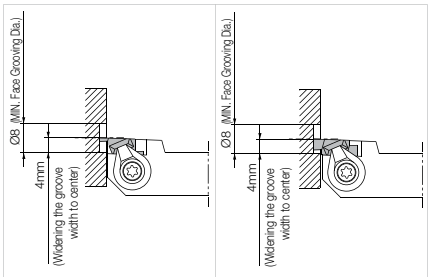
Face Grooving Diameter of GFVS-AA (also GFVT-AA)

Part Number		Face Grooving Dia. ØD MIN	MAX	Applicable Inserts
GFVS□	2020K-08AA	Ø8	∞	GVF□100-005AA ~ GVF□300-005AA
	2525M-08AA			
GFVT□	2020K-08AA	(0)	(∞)	
	2525M-08AA			

- It is available to infinity ∞ in case of machining the first groove bigger than MIN.
- When machining towards the outer diameter then there is no MAX. limit to the further groove machining.
- Refer to the machining of the initial groove with MIN.(Ø8)
  If the initial groove is made smaller than this, the toolholder interferes with the workpiece.
- When widening the groove width to inner diameter.
  For machining up to the center of the workpiece regardless of insert width.



Installing GVFL100-005AA | Installing GVFL300-005AA



Installing GVFL100-005AA | Installing GVFL300-005AA

Recommended Cutting Conditions (GFVS-AA / GFVT-AA)

Workpiece Material	Recommended Insert Grade (Vc sfm) MEGACOAT PR1225	PVD PR930	Carbide KW10	Grooving Feed Rate (ipr)	Traversing D.O.C.	Traversing Feed Rate (ipr)	Notes
Carbon Steel / Alloy Steel	★ 160~330	☆ 160~330	-	0.0004~0.0020	Max 0.0197	0.0004~0.0020	Wet
Stainless Steel	★ 160~260	☆ 160~260	-	0.0004~0.0012	Max 0.0118	0.0004~0.0008	
Non-ferrous Metals	-	-	★ ~660	0.0004~0.0031	Max 0.0197	0.0004~0.0031	

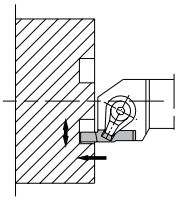
* D.O.C. has to be set for less than corner-R (rε) when turning of edge width 0.039" (GVF□100-005AA).

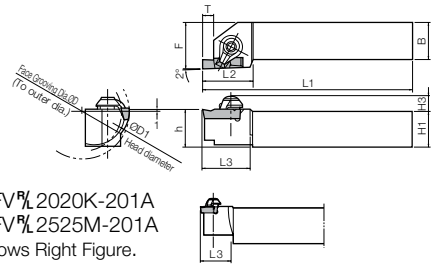
★ : 1st Recommendation ☆ : 2nd Recommendation

Inserts are sold in 10 piece boxes.

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

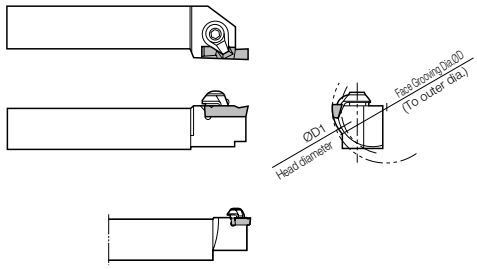
GFV





GFV R/L 2020K-201A
GFV R/L 2525M-201A
Shows Right Figure.

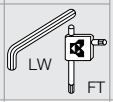
• Right-hand shown



• Left-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

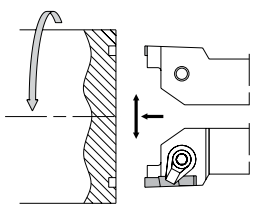
Toolholder Dimensions

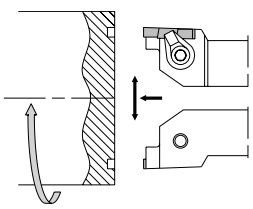
Part Number	Stock		Dimensions (mm)										Face Grooving Dia. ØD		Spare Parts			Applicable Inserts G116
															Clamp Set		Wrench	
	R	L	H1	h	H3	B	L1	L2	L3	F	T	ØD1	MIN	MAX				
GFV R/L 2020K-201A	○	○	20	21	6.5	20	125	20	19	25	2.2	40	20 (12)	∞	CPS-5V	-	FT-15	GVF R/L 200~340-020A GVF R/L 200-…~300-…AR
2525M-201A	○	○	25	26	6.5	25	150	23	22	32	2.2	40						
GFV R/L 2020K-351B	○	○	20	21	8.0	20	125	28	26	25	4.6	35	35 (25)	50 (∞)	-	CPS-6V	LW-3	GVF R/L 250~350-020B GVF R/L 300-150BR
2525M-351B	○	○	25	26	8.0	25	150	30	28	32	4.6	35						
2020K-352B	○	○	20	21	8.0	20	125	28	26	25	5.1	35						GVF R/L 400~490-020B GVF R/L 400-200BR
2525M-352B	○	○	25	26	8.0	25	150	30	28	32	5.1	35						
2020K-501B	○	○	20	21	8.0	20	125	28	26	25	4.6	50	50 (25)	70 (∞)	-	CPS-6V	LW-3	GVF R/L 250~350-020B GVF R/L 300-150BR
2525M-501B	○	○	25	26	8.0	25	150	30	28	32	4.6	50						
2020K-502B	○	○	20	21	8.0	20	125	28	26	25	5.1	50						GVF R/L 400~490-020B GVF R/L 400-200BR
2525M-502B	○	○	25	26	8.0	25	150	30	28	32	5.1	50						
2020K-701B	○	○	20	21	8.0	20	125	28	26	25	4.6	70	70 (25)	100 (∞)	-	CPS-6V	LW-3	GVF R/L 250~350-020B GVF R/L 300-150BR
2525M-701B	○	○	25	26	8.0	25	150	30	28	32	4.6	70						
2020K-702B	○	○	20	21	8.0	20	125	28	26	25	5.1	70						GVF R/L 400~490-020B GVF R/L 400-200BR
2525M-702B	○	○	25	26	8.0	25	150	30	28	32	5.1	70						
GFV R/L 2525M-501C	○	○	25	26	9.5	25	150	35	33	32	6.6	50	50 (25)	70 (∞)	-	CPS-8V	LW-4	GVF R/L 350~450-040C
2525M-502C	○	○	25	26	9.5	25	150	35	33	32	8.1	50						GVF R/L 500~600-040C
2525M-701C	○	○	25	26	9.5	25	150	35	33	32	6.6	70	70 (25)	100 (∞)	-	CPS-8V	LW-4	GVF R/L 350~450-040C
2525M-702C	○	○	25	26	9.5	25	150	35	33	32	8.1	70						GVF R/L 500~600-040C
2525M-1001C	○	○	25	26	9.5	25	150	35	35	32	6.6	100	100 (25)	150 (∞)	-	CPS-8V	LW-4	GVF R/L 350~450-040C
2525M-1002C	○	○	25	26	9.5	25	150	35	35	32	8.1	100						GVF R/L 500~600-040C
2525M-1501C	○	○	25	26	9.5	25	150	35	35	32	6.6	150	150 (25)	250 (∞)	-	CPS-8V	LW-4	GVF R/L 350~450-040C
2525M-1502C	○	○	25	26	9.5	25	150	35	35	32	8.1	150						GVF R/L 500~600-040C

Note 1. Dimension T shows available grooving depth.
2. ØD1 shows toolholder head diameter to L3.
3. The value ( ) of Face Grooving Dia. (ØD MAX.) is the maximum outer diameter value after the initial groove between MIN.~MAX. (It is possible to widen the groove to infinity ∞).
The value ( ) of Face Grooving Dia. (ØD MIN.) is the minimum diameter of the boss which remains in the center when widening the groove width to a smaller value after the initial groove between MIN.~MAX.
4. Standard toolholders are designed with the edge position 1.0mm above the center. When using non-standard Toolholders, set the Edge position 1.0mm above the center.

Selection of Toolholder & Insert

Toolholder	Right-hand (R)		Toolholder	Left-hand (L)
Insert	Right-hand (R)		Insert	Left-hand (L)





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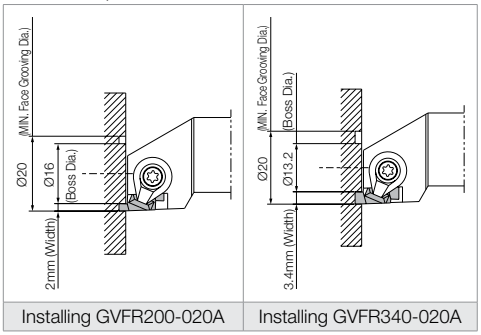
Face Grooving Diameter of GFV

(1) e.g.) GFV**R/L**…-201A

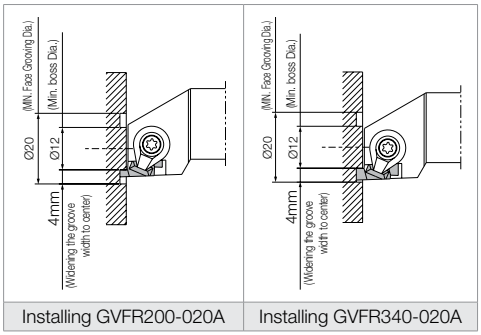
Part Number		Face Grooving Dia. ØD MIN	Face Grooving Dia. ØD MAX	Applicable Inserts
GFV**R/L**	2020K-201A	20 (12)	∞ (∞)	GVF**R/L**200~340-020A GVF**R/L**200-…~300-…AR
	2525M-201A			

- It is available to infinity ∞ in case of machining the first groove bigger than MIN.
- When machining towards the outer diameter then there is no MAX. limit to the further groove machining.
- When widening the groove width to inner diameter.
  Face groove diameter ØD MIN. (12) is the limit; the toolholder interferes with the workpiece in case of smaller than Ø12.
  The toolholder interferes with the workpiece when closer to the center.

- When machining the initial groove on the face at MIN.Ø20
  If the initial groove is made smaller than this, the toolholder interferes with the workpiece.
  Boss Dia. depends on insert width.



Installing GVFR200-020A | Installing GVFR340-020A



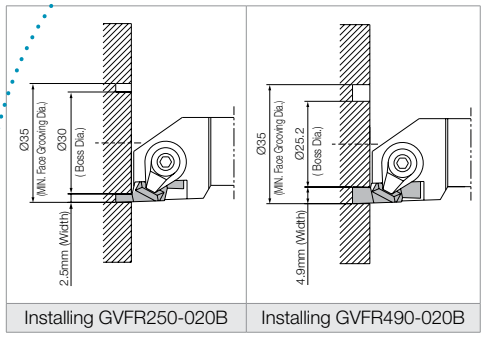
Installing GVFR200-020A | Installing GVFR340-020A

(2) e.g.) GFV**R/L**…-351B/352B (same as GFV**R/L**…-○○○B or GFV**R/L**…-○○○C)

Part Number		Face Grooving Dia. ØD MIN	Face Grooving Dia. ØD MAX	Applicable Inserts
GFV**R/L**	2020K-351B	35 (25)	50 (∞)	GVF**R/L**200~340-020A GVF**R/L**200-…~300-…AR
	2525M-351B			
	2020K-352B			
	2525M-352B			

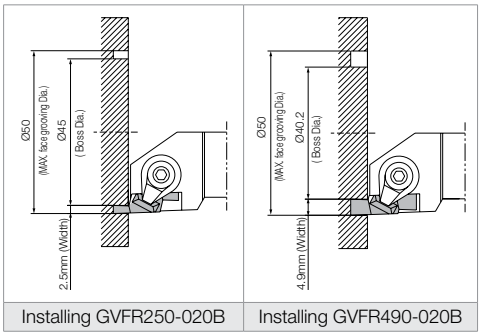
- It is possible to widen the groove to infinity ∞ when machining the initial groove within MIN.-MAX. and then widening to outer diameter.

- When machining the initial groove on the face at MIN. Ø35
  If the initial groove is made smaller than this, the toolholder interferes with the workpiece.
  Boss Dia. depends on insert width.



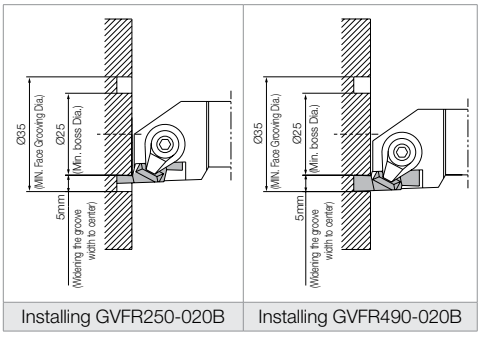
Installing GVFR250-020B | Installing GVFR490-020B

- When machining the initial groove on the face at MAX. Ø50mm.
  If the initial groove is made smaller than this, the toolholder interferes with the workpiece.
  Boss Dia. depends on insert width.

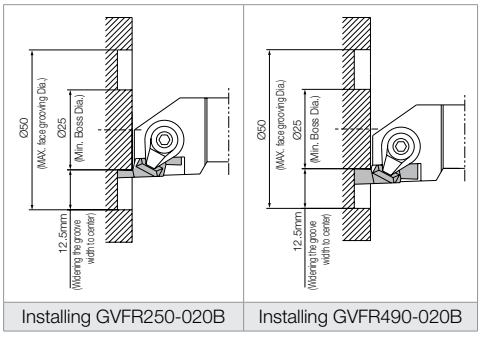


Installing GVFR250-020B | Installing GVFR490-020B

- When widening the groove width to inner diameter.
  Face Grooving Dia.ØD MIN.(Ø25mm Boss Dia.) is the limitation regardless of insert width, even widening the groove width to the center from the initial groove at ØD MIN.(Ø35mm) or ØD MAX.(Ø50mm).
  The toolholder interferes with the workpiece when closer to the center.



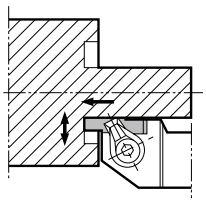
Installing GVFR250-020B | Installing GVFR490-020B

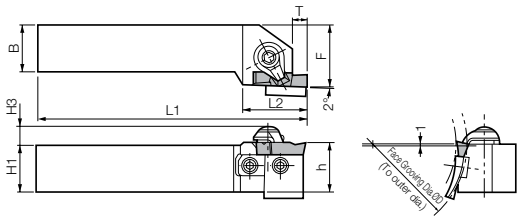


Installing GVFR250-020B | Installing GVFR490-020B

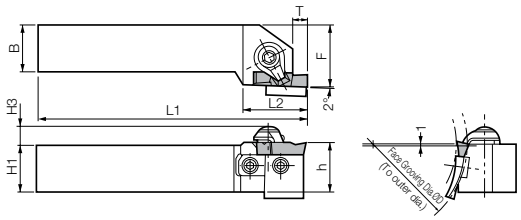
GFVS

This toolholder can machine various face grooving diameters by replacing the Blade.





• Right-hand shown

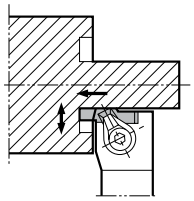


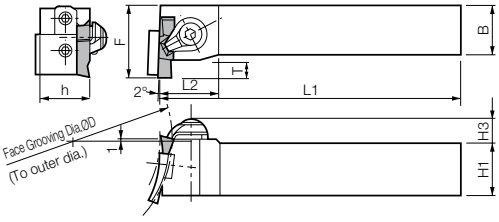
• Left-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

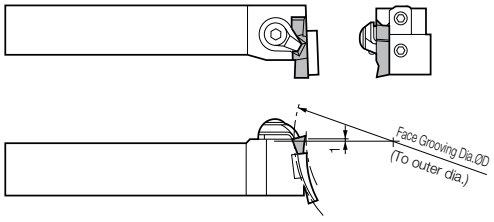
GFVT

This toolholder can machine various face grooving diameters by replacing the Blade.





• Right-hand shown

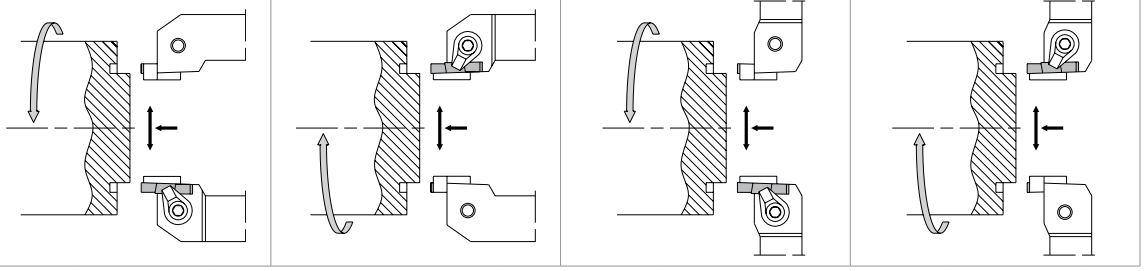


• Left-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Selection of Toolholder & Insert

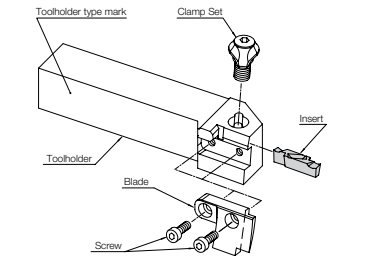
GFVS				GFVT			
Toolholder	Right-hand (R)	Toolholder	Left-hand (L)	Toolholder	Right-hand (R)	Toolholder	Left-hand (L)
Insert	Left-hand (L)	Insert	Right-hand (R)	Insert	Left-hand (L)	Insert	Right-hand (R)

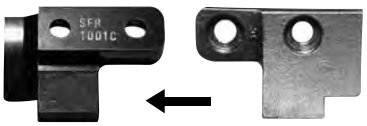


Combination of Base-Holder & Blade (Inch Size)

Part Number of Toolholder (Stamped Below)	Stock R	Stock L	Blade Part Number	Toolholder Part Number (Integrated Tool)
GFVS□12-HB **GFVT□12-HB**	●	●	**SF□ -351B**	**GFVS□12 -351B** **GFVT□12 -352B**
	●	●	**-352B**	
			-501B	**-501B**
			-502B	**-502B**
			-701B	**-701B**
			-702B	**-702B**
GFVS□16-HB **GFVT□16-HB**	●	●	**SF□ -351B**	**GFVS□16 -351B** **GFVT□16 -352B**
	●	●	**-352B**	
			-501B	**-501B**
			-502B	**-502B**
			-701B	**-701B**
			-702B	**-702B**
GFVS□16-HC **GFVT□16-HC**	●	●	**SF□ -501C**	**GFVS□16 -501C** **GFVT□16 -502C**
	●	●	**-502C**	
			-701C	**-701C**
			-702C	**-702C**
			-1001C	**-1001C**
			-1002C	**-1002C**
			-1501C	**-1501C**
			-1502C	**-1502C**

Example of Installation (GFVS)





Blade (Back side) (With Blade Description)

Blade (Face side)

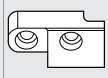
How to refer to the face grooving toolholder and blade

Q: Though "GFVSR16-HC" is marked on the face grooving toolholder, the size of cutting dia. is unknown. How can it be found out?

A: Take off the blade. Description of the blade is listed on the back of the blade. Using the description, check the description of the toolholder in the catalog. If "SFR-1001C" is integrated to "GFVSR16-HC", the description of the toolholder is "GVFSR16-1001C"

- Right-hand Blade for Right-hand Toolholder, Left-hand Blade for Left-hand Toolholder.
- Installation of GFVT type is also pursuing example of installation of GFVS type.

● Toolholder Dimensions (Inch Size)

Part Number	Stock		Dimensions (in)								Face Grooving Dia. ØD		Spare Parts				Applicable Inserts ➔ G116
													Clamp Set	Wrench	Blade	Screw	
	R	L	H1	h	H3	B	L1	L2	F	T	MIN	MAX					
GFVS□ 12-351B	●	●	0.75	0.79	0.315	0.75	5.00	1.18	1.00	0.20	35 (25)	50 (∞)	CPS-6V	LW-3	SF□-351B	HH4X12	GVF□250~350-020B GVF□300-150BR
16-351B	●	●	1.00	1.04		1.00	6.00	1.26	1.25	(0.18)							
12-352B	●	●	0.75	0.79		0.75	5.00	1.18	1.00	0.20					SF□-352B		GVF□400~490-020B GVF□400-200BR
16-352B	●	●	1.00	1.04		1.00	6.00	1.26	1.25	(0.20)							
12-501B	●	●	0.75	0.79		0.75	5.00	1.18	1.00	0.20	50 (25)	70 (∞)			SF□-501B		GVF□250~350-020B GVF□300-150BR
16-501B	●	●	1.00	1.04		1.00	6.00	1.26	1.25	(0.18)							
12-502B	●	●	0.75	0.79		0.75	5.00	1.18	1.00	0.20					SF□-502B		GVF□400~490-020B GVF□400-200BR
16-502B	●	●	1.00	1.04		1.00	6.00	1.26	1.25	(0.20)							
12-701B	●	●	0.75	0.79		0.75	5.00	1.18	1.00	0.20	70 (25)	100 (∞)			SF□-701B		GVF□250~350-020B GVF□300-150BR
16-701B	●	●	1.00	1.04		1.00	6.00	1.26	1.25	(0.18)							
12-702B	●	●	0.75	0.79		0.75	5.00	1.18	1.00	0.20					SF□-702B		GVF□400~490-020B GVF□400-200BR
16-702B	●	●	1.00	1.04		1.00	6.00	1.26	1.25	(0.20)							
GFVS□ 16-501C	●	●	1.00	1.04	0.374	1.00	6.00	1.38	1.25	0.32 (0.26)	50 (25)	70 (∞)	CPS-8V	LW-4	SF□-501C	HH4X12	GVF□350~450-040C
16-502C	●	●								0.32 (0.32)					SF□-502C		GVF□500~600-040C
16-701C	●	●								0.32 (0.26)	70 (25)	100 (∞)			SF□-701C		GVF□350~450-040C
16-702C	●	●								0.32 (0.32)					SF□-702C		GVF□500~600-040C
16-1001C	●	●								0.32 (0.26)	100 (25)	150 (∞)			SF□-1001C		GVF□350~450-040C
16-1002C	●	●								0.32 (0.32)					SF□-1002C		GVF□500~600-040C
16-1501C	●	●								0.32 (0.26)	150 (25)	250 (∞)			SF□-1501C		GVF□350~450-040C
16-1502C	●	●								0.32 (0.32)					SF□-1502C		GVF□500~600-040C
GFVT□ 12-351B	●	●	0.75	0.79	0.315	0.75	5.00	0.87	1.18	0.20	35 (25)	50 (∞)	CPS-6V	LW-3	SF□-351B	HH4X12	GVF□250~350-020B GVF□300-150BR
16-351B	●	●	1.00	1.04		1.00	6.00	0.98	1.38	(0.18)							
12-352B	●	●	0.75	0.79		0.75	5.00	0.87	1.18	0.20					SF□-352B		GVF□400~490-020B GVF□400-200BR
16-352B	●	●	1.00	1.04		1.00	6.00	0.98	1.38	(0.20)							
12-501B	●	●	0.75	0.79		0.75	5.00	0.87	1.18	0.20	50 (25)	70 (∞)			SF□-501B		GVF□250~350-020B GVF□300-150BR
16-501B	●	●	1.00	1.04		1.00	6.00	0.98	1.38	(0.18)							
12-502B	●	●	0.75	0.79		0.75	5.00	0.87	1.18	0.20					SF□-502B		GVF□400~490-020B GVF□400-200BR
16-502B	●	●	1.00	1.04		1.00	6.00	0.98	1.38	(0.20)							
12-701B	●	●	0.75	0.79		0.75	5.00	0.87	1.18	0.20	70 (25)	100 (∞)			SF□-701B		GVF□250~350-020B GVF□300-150BR
16-701B	●	●	1.00	1.04		1.00	6.00	0.98	1.38	(0.18)							
12-702B	●	●	0.75	0.79		0.75	5.00	0.87	1.18	0.20					SF□-702B		GVF□400~490-020B GVF□400-200BR
16-702B	●	●	1.00	1.04		1.00	6.00	0.98	1.38	(0.20)							
GFVT□ 16-501C	●	●	1.00	1.04	0.374	1.00	6.00	1.06	1.50	0.32(0.26)	50 (25)	70 (∞)	CPS-8V	LW-4	SF□-501C	HH4X12	GVF□350~450-040C
16-502C	●	●								0.32(0.32)					SF□-502C		GVF□500~600-040C
16-701C	●	●								0.32(0.26)	70 (25)	100 (∞)			SF□-701C		GVF□350~450-040C
16-702C	●	●								0.32(0.32)					SF□-702C		GVF□500~600-040C
16-1001C	●	●								0.32(0.26)	100 (25)	150 (∞)			SF□-1001C		GVF□350~450-040C
16-1002C	●	●								0.32(0.32)					SF□-1002C		GVF□500~600-040C
16-1501C	●	●								0.32(0.26)	150 (25)	250 (∞)			SF□-1501C		GVF□350~450-040C
16-1502C	●	●								0.32(0.32)					SF□-1502C		GVF□500~600-040C

Note 1. Dimension T shows the distance from the Toolholder to the cutting edge. The grooving depth is the mentioned in ( ).

2. The value ( ) of Face Grooving diameter. (ØD MAX.) is the maximum outer diameter value after the initial groove between MIN.~MAX. (It is possible to widen the groove to infinity ∞).
   The value ( ) of Face Grooving diameter. (ØD MIN.) is the minimum diameter of the boss which remains in the center when widening the groove width to a smaller value after the initial groove between MIN.~MAX.

3. Standard toolholders are designed with the edge position 0.039" above the center.
   When using non-standard Toolholders, set the Edge position 0.039" above the center.

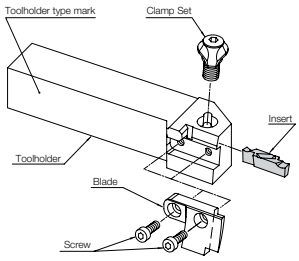
4. GFVS and GFVT are composed of a base body and a blade.
   If the blade should be damaged, replace it with a new blade as listed in the left table.
   (e.g.) GFVSR12-HB+SFR-351B = GFVSR12-351B
   (e.g.) GFVTR12-HB+SFR-351B = GFVTR12-351B

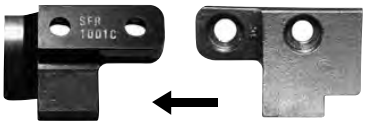
● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

Combination of Base-Holder & Blade (Metric Size)

Part Number of Toolholder (Stamped Below)	Stock R	Stock L	Blade Part Number	Toolholder Part Number (Integrated Tool)
GFVSR/L 2020K-HB GFVTR/L 2020K-HB	○ ○	○ ○	SFR/L -351B -352B -501B -502B -701B -702B	GFVSR/L 2020K -351B GFVTR/L 2020K -352B -501B -502B -701B -702B
GFVSR/L 2525M-HB GFVTR/L 2525M-HB	○ ○	○ ○	SFR/L -351B -352B -501B -502B -701B -702B	GFVSR/L 2525M -351B GFVTR/L 2525M -352B -501B -502B -701B -702B
GFVSR/L 2525M-HC GFVTR/L 2525M-HC	○ ○	○ ○	SFR/L -501C -502C -701C -702C -1001C -1002C -1501C -1502C	GFVSR/L 2525M -501C GFVTR/L 2525M -502C -701C -702C -1001C -1002C -1501C -1502C

Example of Installation (GFVS)





Blade (Back side) (With Blade Description)

Blade (Face side)

How to refer to the face grooving toolholder and blade

Q: Though "GFVSR2525M-HC" is marked on the face grooving toolholder, the size of cutting dia. is unknown. How can it be found out?

A: Take off the blade. Description of the blade is listed on the back of the blade. Using the description, check the description of the toolholder in the catalog. If "SFR-1001C" is integrated to "GFVSR2525M-HC", the description of the toolholder is "GVFSR2525M-1001C"

- Right-hand Blade for Right-hand Toolholder, Left-hand Blade for Left-hand Toolholder.
- Installation of GFVT type is also pursuing example of installation of GFVS type.

Toolholder Dimensions (Metric Size)

Part Number	Stock R	Stock L	H1	h	H3	B	L1	L2	F	T	Face Grooving Dia. ØD MIN	Face Grooving Dia. ØD MAX	Spare Parts: Clamp Set	Spare Parts: Wrench	Spare Parts: Blade	Spare Parts: Screw	Applicable Inserts (G116)
GFVSR/L 2020K-351B	○	○	20	21	8.0	20	125	30	25	5.1	35 (25)	50 (∞)	CPS-6V	LW-3	SFR/L-351B	HH4X12	GVFR/L250~350-020B GVFR/L300-150BR
2525M-351B	○	○	25	26	8.0	25	150	32	32	(4.6)							
2020K-352B	○	○	20	21	8.0	20	125	30	25	5.1					SFR/L-352B		GVFR/L400~490-020B GVFR/L400-200BR
2525M-352B	○	○	25	26	8.0	25	150	32	32	(5.1)							
2020K-501B	○	○	20	21	8.0	20	125	30	25	5.1	50 (25)	70 (∞)			SFR/L-501B		GVFR/L250~350-020B GVFR/L300-150BR
2525M-501B	○	○	25	26	8.0	25	150	32	32	(4.6)							
2020K-502B	○	○	20	21	8.0	20	125	30	25	5.1					SFR/L-502B		GVFR/L400~490-020B GVFR/L400-200BR
2525M-502B	○	○	25	26	8.0	25	150	32	32	(5.1)							
2020K-701B	○	○	20	21	8.0	20	125	30	25	5.1	70 (25)	100 (∞)			SFR/L-701B		GVFR/L250~350-020B GVFR/L300-150BR
2525M-701B	○	○	25	26	8.0	25	150	32	32	(4.6)							
2020K-702B	○	○	20	21	8.0	20	125	30	25	5.1					SFR/L-702B		GVFR/L400~490-020B GVFR/L400-200BR
2525M-702B	○	○	25	26	8.0	25	150	32	32	(5.1)							
GFVSR/L 2525M-501C	○	○	25	26	9.5	25	150	32	32	8.1(6.6)	50 (25)	70 (∞)	CPS-8V	LW-4	SFR/L-501C	HH4X12	GVFR/L350~450-040C
2525M-502C	○	○	25	26	9.5	25	150	32	32	8.1(8.1)					SFR/L-502C		GVFR/L500~600-040C
2525M-701C	○	○	25	26	9.5	25	150	32	32	8.1(6.6)	70 (25)	100 (∞)			SFR/L-701C		GVFR/L350~450-040C
2525M-702C	○	○	25	26	9.5	25	150	32	32	8.1(8.1)					SFR/L-702C		GVFR/L500~600-040C
2525M-1001C	○	○	25	26	9.5	25	150	32	32	8.1(6.6)	100 (25)	150 (∞)			SFR/L-1001C		GVFR/L350~450-040C
2525M-1002C	○	○	25	26	9.5	25	150	32	32	8.1(8.1)					SFR/L-1002C		GVFR/L500~600-040C
2525M-1501C	○	○	25	26	9.5	25	150	32	32	8.1(6.6)	150 (25)	250 (∞)			SFR/L-1501C		GVFR/L350~450-040C
2525M-1502C	○	○	25	26	9.5	25	150	32	32	8.1(8.1)					SFR/L-1502C		GVFR/L500~600-040C
GFVTR/L 2020K-351B	○	○	20	21	8.0	20	125	22	30	5.1	35 (25)	50 (∞)	CPS-6V	LW-3	SFR/L-351B	HH4X12	GVFR/L250~350-020B GVFR/L300-150BR
2525M-351B	○	○	25	26	8.0	25	150	25	35	(4.6)							
2020K-352B	○	○	20	21	8.0	20	125	22	30	5.1					SFR/L-352B		GVFR/L400~490-020B GVFR/L400-200BR
2525M-352B	○	○	25	26	8.0	25	150	25	35	(5.1)							
2020K-501B	○	○	20	21	8.0	20	125	22	30	5.1	50 (25)	70 (∞)			SFR/L-501B		GVFR/L250~350-020B GVFR/L300-150BR
2525M-501B	○	○	25	26	8.0	25	150	25	35	(4.6)							
2020K-502B	○	○	20	21	8.0	20	125	22	30	5.1					SFR/L-502B		GVFR/L400~490-020B GVFR/L400-200BR
2525M-502B	○	○	25	26	8.0	25	150	25	35	(5.1)							
2020K-701B	○	○	20	21	8.0	20	125	22	30	5.1	70 (25)	100 (∞)			SFR/L-701B		GVFR/L250~350-020B GVFR/L300-150BR
2525M-701B	○	○	25	26	8.0	25	150	25	35	(4.6)							
2020K-702B	○	○	20	21	8.0	20	125	22	30	5.1					SFR/L-702B		GVFR/L400~490-020B GVFR/L400-200BR
2525M-702B	○	○	25	26	8.0	25	150	25	35	(5.1)							
GFVTR/L 2525M-501C	○	○	25	26	9.5	25	150	27	38	8.1(6.6)	50 (25)	70 (∞)	CPS-8V	LW-4	SFR/L-501C	HH4X12	GVFR/L350~450-040C
2525M-502C	○	○	25	26	9.5	25	150	27	38	8.1(8.1)					SFR/L-502C		GVFR/L500~600-040C
2525M-701C	○	○	25	26	9.5	25	150	27	38	8.1(6.6)	70 (25)	100 (∞)			SFR/L-701C		GVFR/L350~450-040C
2525M-702C	○	○	25	26	9.5	25	150	27	38	8.1(8.1)					SFR/L-702C		GVFR/L500~600-040C
2525M-1001C	○	○	25	26	9.5	25	150	27	38	8.1(6.6)	100 (25)	150 (∞)			SFR/L-1001C		GVFR/L350~450-040C
2525M-1002C	○	○	25	26	9.5	25	150	27	38	8.1(8.1)					SFR/L-1002C		GVFR/L500~600-040C
2525M-1501C	○	○	25	26	9.5	25	150	27	38	8.1(6.6)	150 (25)	250 (∞)			SFR/L-1501C		GVFR/L350~450-040C
2525M-1502C	○	○	25	26	9.5	25	150	27	38	8.1(8.1)					SFR/L-1502C		GVFR/L500~600-040C

Note 1. Dimension T shows the distance from the Toolholder to the cutting edge. The grooving depth is the mentioned in ( ).
2. The value ( ) of Face Grooving diameter. (ØD MAX.) is the maximum outer diameter value after the initial groove between MIN.~MAX. (It is possible to widen the groove to infinity ∞).
The value ( ) of Face Grooving diameter. (ØD MIN.) is the minimum diameter of the boss which remains in the center when widening the groove width to a smaller value after the initial groove between MIN.~MAX.
3. Standard toolholders are designed with the edge position 1.0mm above the center.
When using non-standard Toolholders, set the Edge position 1.0mm above the center.
4. GFVS and GFVT are composed of a base body and a blade.
If the blade should be damaged, replace it with a new blade as listed in the left table.
(e.g.) GFVSR2020K-HB+SFR-351B = GFVSR2020K-351B
(e.g.) GFVTR2020K-HB+SFR-351B = GFVTR2020K-351B

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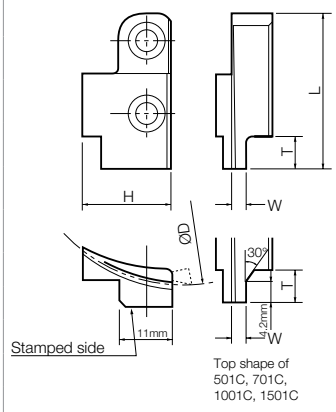
Blade Dimensions

Shape	Blade Part Number		Stock R	Stock L	Dimensions (mm) L	H	T	W	Face Grooving Dia. ØD (mm) MIN	MAX	Applicable Inserts	Applicable Toolholders
 Right-hand shown	SF□	-351B	●	●	30.5	11	4.7	2.0	35	50	GVF□250~350-020B GVF□300-150BR	GFV(S/T)□○○○○□-○○○B (Toolholder Stamp (GFV(S/T)□○○○○□-HB))
		-352B	●	●	30.5	11	4.7	3.4	35	50	GVF□400~490-020B GVF□400-200BR	
	SF□	-501B	●	●	30.5	15	4.7	2.0	50	70	GVF□250~350-020B GVF□300-150BR	
		-502B	●	●	30.5	15	4.7	3.4	50	70	GVF□400~490-020B GVF□400-200BR	
	SF□	-701B	●	●	30.5	17	4.7	2.0	70	100	GVF□250~350-020B GVF□300-150BR	
		-702B	●	●	30.5	17	4.7	3.4	70	100	GVF□400~490-020B GVF□400-200BR	
	SF□	-501C	●	●	35.0	15	7.5	2.8	50	70	GVF□350~450-040C	GFV(S/T)□○○○○□-○○○C (Toolholder Stamp (GFV(S/T)□○○○○□-HC))
		-502C	●	●	35.0	15	7.5	4.3	50	70	GVF□500~600-040C	
	SF□	-701C	●	●	35.0	20	7.5	2.8	70	100	GVF□350~450-040C	
		-702C	●	●	35.0	20	7.5	4.3	70	100	GVF□500~600-040C	
	SF□	-1001C	●	●	35.0	23	7.5	2.8	100	150	GVF□350~450-040C	
		-1002C	●	●	35.0	23	7.5	4.3	100	150	GVF□500~600-040C	
• Right-hand Blade for Right-hand Toolholder, Left-hand Blade for Left-hand Toolholder.	SF□	-1501C	●	●	35.0	23	7.5	2.8	150	250	GVF□350~450-040C	
		-1502C	●	●	35.0	23	7.5	4.3	150	250	GVF□500~600-040C	

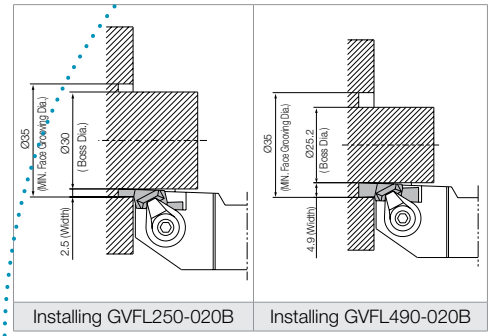
Face Groove Diameter of GFVS / GFVT

e.g.) GFVS□…-351B/352B
(same as GFVS□…-○○○B, …-○○○C ➡ G114
GFVT□…-○○○B, …-○○○C ➡ G114)

Part Number		Face Grooving Dia. ØD MIN	Face Grooving Dia. ØD MAX	Applicable Inserts
GFVS□	2020K-351B	35 (25)	50 (∞)	GVF□250~350-020B GVF□300-150BR
	2525M-351B			
	2020K-352B			GVF□400~490-020B GVF□400-200BR
	2525M-352B			

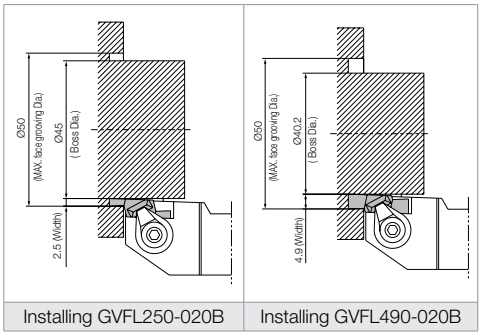
- It is possible to widen the groove to infinity ∞ when machining the initial groove within MIN.-MAX. and then widening to outer diameter.

- When machining the initial groove on the face at MIN. Ø35
  If the initial groove is made smaller than this, the toolholder interferes with the workpiece.
  Boss Dia. depends on insert width.



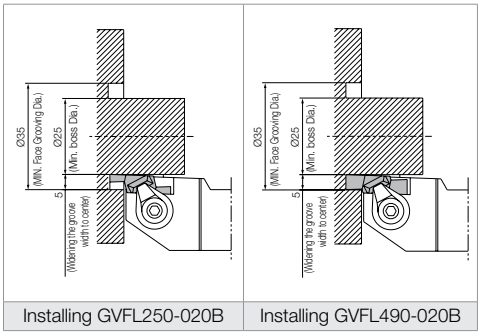
Installing GVFL250-020B | Installing GVFL490-020B

- When machining the initial groove on the face at MAX. Ø50.
  If the first groove is bigger than this, the toolholder interferes with the workpiece.
  Boss Dia. depends on insert width.

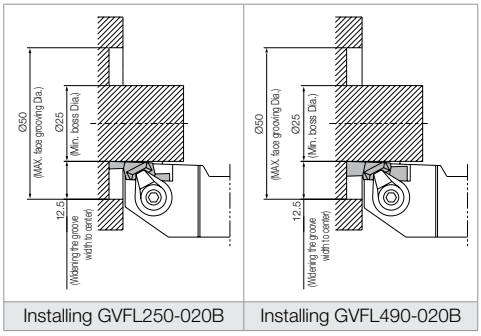


Installing GVFL250-020B | Installing GVFL490-020B

- When widening the groove width to inner diameter.
  Face Grooving Dia. ØD MIN.(Ø25 Boss Dia.) is the limitation regardless of insert width, even widening the groove width to the center from the initial groove at ØD MIN.(Ø35) or ØD MAX.(Ø50).
  The toolholder interferes with the workpiece when closer to the center.



Installing GVFL250-020B | Installing GVFL490-020B



Installing GVFL250-020B | Installing GVFL490-020B

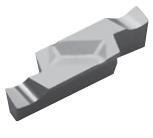
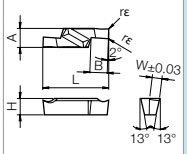
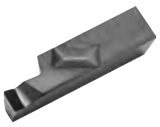
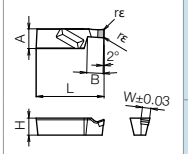
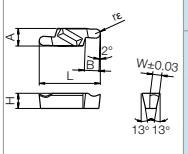
Applicable Inserts

(mm)

Part Number	A	L	H
GVF…-○○○A	4.3	12	4.5
…-○○○B	5.8	20	5.0
…-○○○C	7.0	27	7.0
····-○○○AR	4.3	12	4.5
····-○○○BR	5.8	20	5.0

P	Carbon Steel / Alloy Steel				●	◔		
M	Stainless Steel				●	◔		
K	Cast Iron						●	
N	Non-ferrous Metals						●	●
S	Titanium Alloy						●	●
H	Hard materials (≤40HRC)				●	○		
	Hard materials (≥40HRC)							

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Dimensions (mm) W in	W mm	B	rε	Cermet TN90	Cermet TC40	Cermet TC60M	MEGA PR1225	PVD PR930	Carbide KW10	PCD KPD001	PCD KPD010	Applicable Toolholders	Ref. Page for Toolholder
 	GVF…200-020A	GVF…200A	0.079	2.00	0.091	0.008	○	○		●	○	○			GFV…-201A GIFV…-201A	G110 G122
	230-020A	230A	0.091	2.30	0.091			○		●	○	○				
	250-020A	250A	0.098	2.50	0.091		Ⓡ	○		●	○	○				
	270-020A	270A	0.106	2.70	0.091			○		●	○	○				
	290-020A	290A	0.114	2.90	0.091			○		●	○	○				
	340-020A	340A	0.134	3.40	0.091			○		●	○	○				
	GVF…250-020B	GVF…250B	0.098	2.50	0.189	0.008	○	○		●	○	○		○	GFV…-○○1B GFVS…-○○1B GFVT…-○○1B GIFV…-○○1B	
	300-020B	300B	0.118	3.00	0.189		○	●		●	●	○		○		
	350-020B	350B	0.138	3.50	0.189		○	○		●	○	○				
	400-020B	400B	0.157	4.00	0.209	0.008	○	○		●	○	○			GFV…-○○2B GFVS…-○○2B GFVT…-○○2B GIFV…-○○2B	
	430-020B	430B	0.169	4.30	0.209			○		●	○	○				
	460-020B	460B	0.181	4.60	0.209			○		●	○	○				
	490-020B	490B	0.193	4.90	0.209			○		●	○	○				
	GVF…350-040C	GVF…350C	0.138	3.50	0.268	0.016	○	○		●	○	○			GFV…-○○1C GFVS…-○○1C GFVT…-○○1C GIFV…-○○1C	
	400-040C	400C	0.157	4.00	0.268		○	○		●	○	○				
	450-040C	450C	0.177	4.50	0.268			○		●	○	○				
	500-040C	500C	0.197	5.00	0.327		○	Ⓛ		●	Ⓛ	○			GFV…-○○2C GFVS…-○○2C GFVT…-○○2C GIFV…-○○2C	G110 G112 G122
	550-040C	550C	0.217	5.50	0.327			○		●	○	○				
	600-040C	600C	0.236	6.00	0.327			○		●	Ⓡ	○				
 1-Edge 	GVF…250-020B	GVF…250B	0.098	2.50	0.189	0.008	○	○		●	○	○		○	GFV…-○○1B GFVS…-○○1B GFVT…-○○1B GIFV…-○○1B	
	300-020B	300B	0.118	3.00	0.189		○	●		●	●	○		○		
	400-020B	400B	0.157	4.00	0.209		○	○		●	○	○	□	□	GFV…-○○2B GFVS…-○○2B GFVT…-○○2B GIFV…-○○2B	
	GVF…350-020C	-	0.138	3.50	0.268	0.008							□	□	GFV…-○○1C GFVS…-○○1C GFVT…-○○1C GIFV…-○○1C	
	400-020C	-	0.157	4.00	0.268								□	□		
	GVF…350-040C	GVF…350C	0.138	3.50	0.268	0.016	○	○		●	○	○	□	□		
	400-040C	400C	0.157	4.00	0.268		○	○		●	○	○	□	□		
 Full-R 	GVF…200-100AR	GVF…100AR	0.079	2.00	0.091	0.039				●	○	○			GFV…-201A GIFV…-201A	G110 G122
	250-125AR	125AR	0.098	2.50	0.091	0.049				●	○	○				
	300-150AR	150AR	0.118	3.00	0.091	0.059				●	○	○				
	GVF…300-150BR	GVF…150BR	0.118	3.00	0.189	0.059				●	○	○			GFV…-○○1B GFVS…-○○1B GFVT…-○○1B GIFV…-○○1B	G110 G112 G122
	400-200BR	200BR	0.157	4.00	0.209	0.079				●	○	○			GFV…-○○2B GFVS…-○○2B GFVT…-○○2B GIFV…-○○2B	

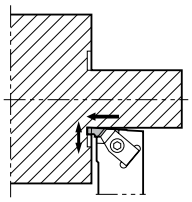
- Dimension B: shows available grooving depth.
- MEGA indicates MEGACOAT

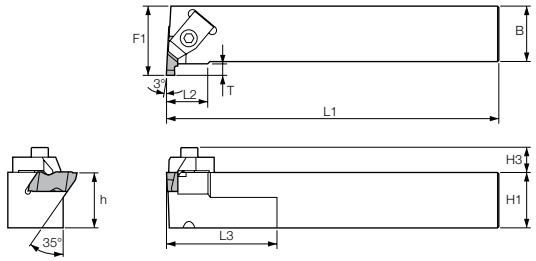
Recommended Cutting Conditions → G127

Inserts are sold in 10 piece boxes. *CBN & PCD Inserts are sold in 1 piece boxes.*

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only) □ : Made to Order
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

KKCE





• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

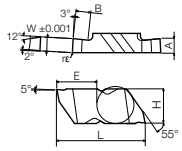
Part Number	Stock		Dimensions (inch)								Spare Parts		
											Clamp	Clamp Screw	Wrench
	R	L	H1	H3	B	L1	L2	F1	L3	T			
KKCER/L **12-3B**	●	●	0.750	0.465	0.750	4.500	0.750	1.125	2.000	0.210	CKC-3	SKC-3	LW-156
16-3D	●	●	1.000	0.465	1.000	6.000	0.750	1.250	2.000	0.210			
20-3D	●	●	1.250	0.465	1.250	6.000	0.750	1.500	2.000	0.210			

Applicable Inserts

Application	Face Grooving
Ref. Page	**Below**
Insert / Toolholder	
KKCER/L**...3**	KCF_3...

Face Grooving Limits		
Insert Part Number	Maximum Groove Depth	Minimum Groove Diameter
KCFP3...	0.060	0.940
	0.094	1.200
	0.125	1.420
	0.150	1.630

KCFP Inserts

Insert Right-handed Insert Shown		Part Number	Unit	Dimensions (in)								Insert Grade					
				W		B	rε	A	L	H	E	Cermet		PVD		Carbide	Ceramic
				(in)	(mm)							TC40	TC60	PR630	PR930	KW10	A65
		**KCFP 3125**R/L	inch	0.125	3.15	0.150	0.008	0.195	0.886	0.344	0.405				●		
		3156R/L		0.156	3.97	0.150	0.008	0.195	0.886	0.344	0.405				●		
		3189R/L		0.189	4.80	0.150	0.023	0.195	0.886	0.344	0.405				●		

• Dimension B shows available Grooving Depth.

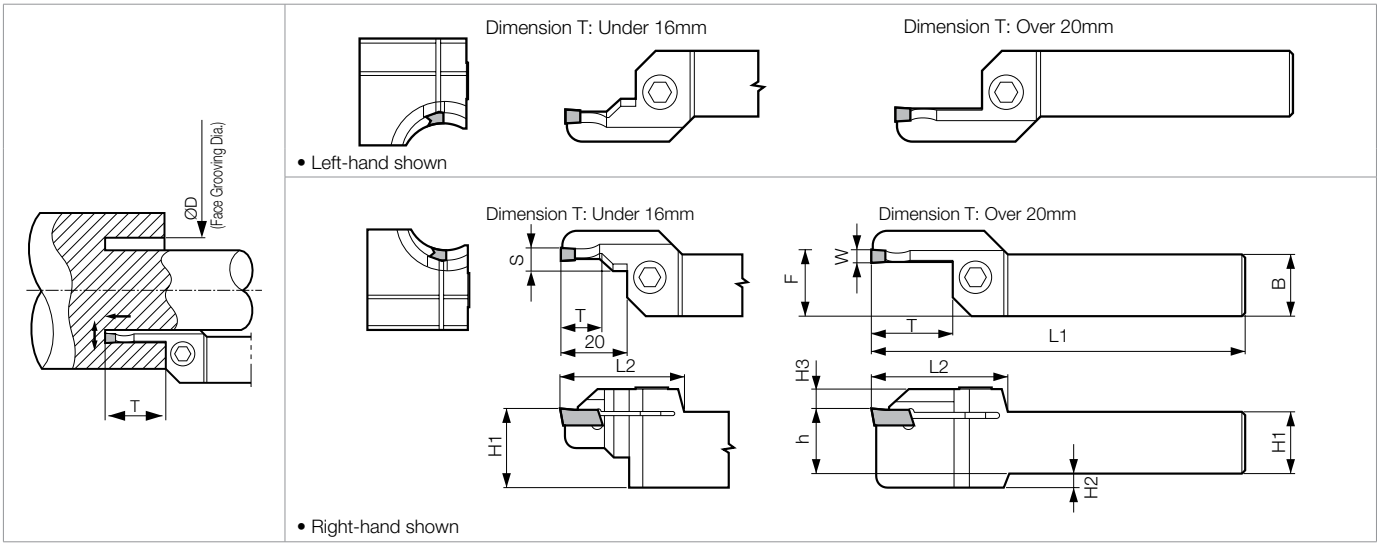
Recommended Cutting Conditions (Cera-Notch)

Workpiece Material	Cermet Feeds (ipr)	Carbide Feeds (ipr)	Recommended Insert Grade (Vc : sfm)						
			Cermet		MEGACOAT	Carbide			Ceramic
			TC40	**TC60**	**PR1215**	**PR660**	**PR930**	**KW10**	**A65**
Carbon Steel	0.002~0.005	0.002~0.010	300~900	250~900	300~800	200~550	250~650	-	-
Alloy Steel	0.002~0.005	0.002~0.010	250~800	250~800	300~750	100~500	150~550	-	-
Stainless Steel	0.002~0.005	0.002~0.010	-	200~600	300~600	100~550	100~550	-	-
Tool Steel	0.002~0.005	0.002~0.010	200~650	200~650	300~600	-	100~550	-	-
Hardened Steel (>45Rc)	-	-	-	-	-	-	-	-	250~500*
Gray Cast Iron	0.003~0.006	0.002~0.012	200~700	-	300~700	-	-	-	500~1000
Ductile Iron	0.003~0.006	0.002~0.012	-	150~600	300~600	-	-	-	500~1000
Aluminum	0.002~0.008	0.002~0.012	150~1600	-	-	-	-	500~1600	-

Speeds & Feeds listed are for external grooving. Reduce parameters by 10% for internal grooving.
*Feeds = 0.003~0.008 ipr

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

KFMS (will be phased out and switched to KGDF → G86~G93)



Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	H2	H3	B	L1	L2	F	S	T	Width (mm) W	Face Grooving Dia. ØD MIN	Face Grooving Dia. ØD MAX	Spare Parts: Clamp Bolt	Spare Parts: Wrench
KFMS	16-3-4050	●		inch	1.000	-	0.393	1.000	6.000	1.539	1.027	0.240	0.512	0.118	1.575	1.969	HH5X25	LW-4
	16-3-5065	●								1.618		-	0.866		1.969	2.559		
KFMS	2020K2530-3	○		mm	20	-	10	20	125	39	20.7	6.1	13	3	25	30	HH5X20	LW-4
	2020K3040-3	○													30	40		
	2020K4050-3	○													40	50		
	2020K5065-3	○								41		-	22		50	65		
	2020K6585-3	○													65	85		
	2020K85110-3	○				5				44			25		85	110		
	2020K110145-3	○													110	145		
	2525M2530-3	○	○		25	-	10	25	150	39	25.7	6.1	13		25	30	HH5X25	LW-4
	2525M3040-3	○	○												30	40		
	2525M4050-3	○	○												40	50		
	2525M5065-3	○	○							41		-	22		50	65		
	2525M6585-3	○	○												65	85		
	2525M85110-3	○	○										25		85	110		
	2525M110145-3	○	○												110	145		
KFMS	2020K2535-4	○		mm	20	-	10	20	125	39	20.7	7.1	12	4	25	35	HH5X20	LW-4
	2020K3550-4	○											20		35	50		
	2020K5070-4	○								44		-	25		50	70		
	2020K70100-4	○													70	100		
	2020K100150-4	○													100	150		
	2020K150220-4	○													150	220		
	2020K220800-4	○													220	∞		
	2525M2535-4	○	○		25	-	10	25	150	39	25.7	7.1	12		25	35	HH5X25	LW-4
	2525M3550-4	○	○										20		35	50		
	2525M5070-4	○	○							44		-	25		50	70		
	2525M70100-4	○	○												70	100		
	2525M100150-4	○	○												100	150		
	2525M150220-4	○	○												150	220		
	2525M220800-4	○	○												220	∞		

Applicable Inserts → G119

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U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

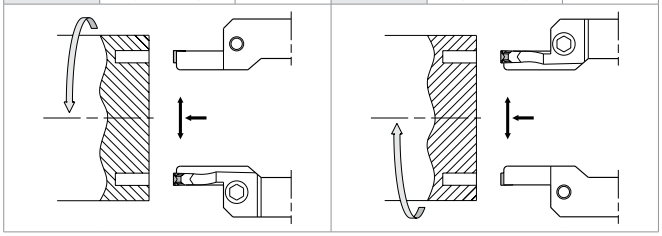
Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	H1=h	H2	H3	B	L1	L2	F	S	T	Width W	Face Grooving Dia. ØD MIN	Face Grooving Dia. ØD MAX	Spare Parts: Clamp Bolt	Spare Parts: Wrench
KFMS® 16-5-75115	●		inch	1.000	-	0.393	1.000	6.000	2.012	1.027 (1.047)	-	1.260	0.197 (0.236)	2.953	4.528	HH5X25	LW-4
16-5-115180	●													4.528	7.087		
16-5-180235	●													7.087	9.252		
KFMS® 2020K2535-5	○		mm	20	-	10	20	125	39	20.7 (21.2)	-	20	5 (6)	25	35	HH5X20	LW-4
2020K3550-5	○													35	50		
2020K5075-5	○				5			125	44			25		50	75		
2020K75115-5	○													75	115		
2020K115180-5	○													115	180		
2020K180235-5	○													180	235		
2020K235800-5	○													235	∞		
2525M2535-5	○	○		25	-	10	25	150	39	25.7 (26.2)	-	20	5 (6)	25	35	HH5X25	LW-4
2525M3550-5	○	○												35	50		
2525M5075-5	○	○							44			25		50	75		
2525M75115-5	○	○												75	115		
2525M115180-5	○	○							51			32		115	180		
2525M180235-5	○	○												180	235		
2525M235800-5	○	○												235	∞		

- Dimension T shows available grooving depth.
- Face Grooving Dia. ØD: The diameter range of the initial groove.
- For KFMS®····-5 toolholder can hold a 0.236" width insert. ( ) value shows the dimension of a 0.236" width insert.

Selection of Toolholder & Insert

Toolholder	Right-hand (R)	Toolholder	Left-hand (L)
Insert	(No Hand)	Insert	(No Hand)



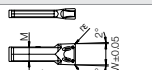
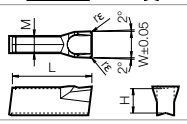
Applicable Inserts

(in)

Part Number	L	H
FMM30-03 FMM60-04	0.472	0.138
FMN3 FMN6	0.472	0.138

P	Carbon Steel / Alloy Steel	●
M	Stainless Steel	●
K	Cast Iron	● ◔
N	Non-ferrous Metals	◔ ●
S	Titanium Alloy	●
H	Hard materials (≤40HRC)	○

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

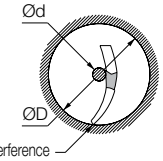
Insert	Part Number	Dimensions (in) W inch	W mm	rε	M	Cermet TN90	CVD Coated Carbide CR9025	PVD Coated Carbide PR915	PR930	PR905	Carbide KW10	Applicable Toolholders
 Face Grooving Chip Control Oriented / M Class		FMM 30-03	0.118	3.0	0.012	0.079	○	●	○	●	○	●	KFMS®…-3(...)
		40-04	0.157	4.0	0.016	0.102	○	●	○	●	○	●	KFMS®…-4(...)
		50-04	0.197	5.0	0.016	0.134	○	●	○	○	○	○	KFMS®…-5(...)
		60-04	0.236	6.0	0.016	0.157	○	●		○	○	○	
 Face Grooving Sharp-Cutting Oriented / M Class		FMN 3	0.118	3.0	0.010	0.079	○	○		●		○	KFMS®…-3(...)
		4	0.157	4.0	0.010	0.102	○			○		○	KFMS®…-4(...)
		5	0.197	5.0	0.010	0.134	○	○		○		○	KFMS®…-5(...)
		6	0.236	6.0	0.010	0.157		○		○		○	

- FMN type inserts are only for Deep Grooving and not applicable for Turning.

Recommended Cutting Conditions ➔ G126

Limit of Turning Toward Center

It causes the toolholder to interfere with the groove wall depending on the initial cut's diameter.



Remaining Boss Dia. Ød

Part Number	ØD 25	ØD 26	ØD 27	ØD 28 and over
	Ød			
KFMS® 2020K2530-3	4	2	0	0
KFMS® 2525M2530-3				
KFMS® 2020K2535-4	6	3	0	
KFMS® 2525M2535-4				
KFMS® 2020K2535-5	7 *(5)	4 *(2)	1 *(0)	(No remaining Boss)
KFMS® 2525M2535-5				

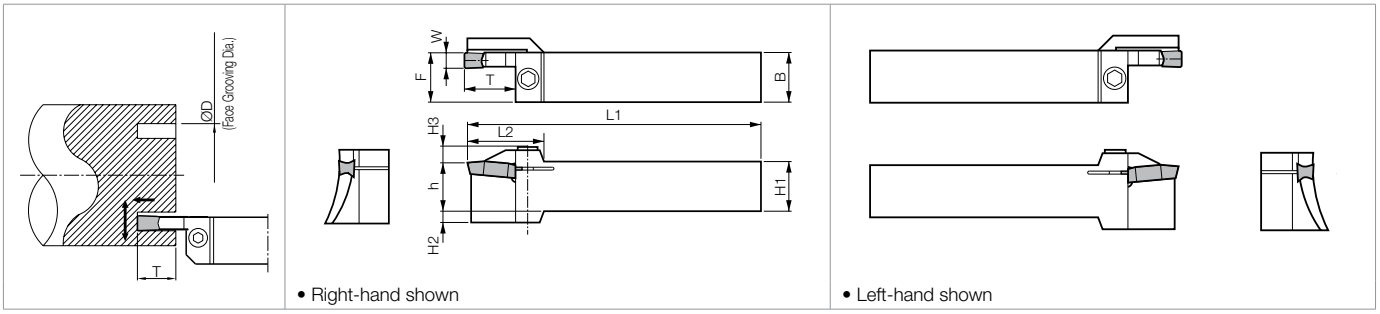
e.g.) KFMSR 2525M2530-3 with Ø25 as first cut towards the center, it will cause a rubbing with the toolholder cartridge if Ød is 4.0mm.

*( ) value shows the Dimension using FMM60-04 Insert.

Inserts are sold in 10 piece boxes.

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

KFMS-8



• Right-hand shown

• Left-hand shown

Toolholder Dimensions

Part Number		Stock R	Stock L	Dimensions (mm) H1=h	H2	H3	B	L1	L2	F	T	W	Face Grooving Dia. ØD MIN	Face Grooving Dia. ØD MAX	Spare Parts: Clamp Bolt	Spare Parts: Wrench
KFMS R/L	2525M5464-8	○	○	25	-	9	25	150	41	26	25	8	54 (0)	64 (∞)	HH6X25	LW-5
	2525M6382-8	○	○	25	2.4	9	25	150	41	26	25	8	63 (0)	82 (∞)		
	2525M80115-8	○	○	25	6.0	8	25	150	40	26	25	8	80 (0)	115 (∞)		
	2525M105160-8	○	○	25	6.0	8	25	150	40	26	25	8	105 (0)	160 (∞)		
	2525M155510-8	○	○	25	6.0	8	25	150	43	26	25	8	155 (0)	510 (∞)		
	3232P155510-8	○		32	-	8	32	170	43	33	25	8				

- Dimension T shows available grooving depth.
- The value ( ) of Face Grooving Dia. (ØD MAX.) is the maximum outer diameter value after the initial groove between MIN.~MAX. (It is possible to widen the groove to infinity ∞).
  The value ( ) of Face Grooving Dia. (ØD MIN.) is the minimum diameter of the boss which remains in the center when widening the groove width to a smaller value after the initial groove between MIN.~MAX..

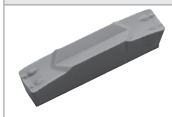
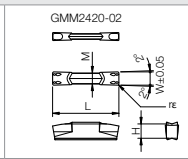
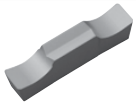
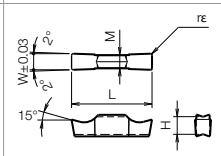
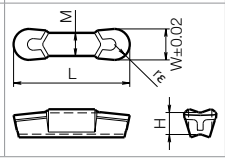
Applicable Inserts

(mm)

Part Number		L	H
GMM	8030-080MW	30	5.5
GMG	8030-050MG	30	5.5
GMGA	8030-400R	30	5.5

P	Carbon Steel / Alloy Steel				●			
M	Stainless Steel				◔			
K	Cast Iron					●	◔	
N	Non-ferrous Metals						●	
S	Titanium Alloy							●
H	Hard materials (≤40HRC)				●			
	Hard materials (≥40HRC)							

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert		Part Number	Previous Part Number	Dimensions (mm) W	rε	M	Cermet TN90	CVD Coated Carbide CR9025	PVD Coated Carbide PR915	PVD Coated Carbide PR930	PVD Coated Carbide PR905	Carbide KW10	Applicable Toolholders
 Chip Control Oriented / M Class	 GMM2420-02	GMM 8030-080MW	GMM 8030-08	8.0	0.8	6.0		○		●	○	○	KFMS R/L…8
 Sharp-Cutting Oriented / Precision Class Ground Chipbreaker		GMG 8030-050MG	GMG 8030-05MG	8.0	0.5	6.0	○	○		○	○	○	
 Sharp-Cutting Oriented / Precision Class Full-R / Copying		GMGA 8030-400R	GMGA 8030-40R	8.0	4.0	6.0						○	

- If using a full-R insert with KIGM-8 type toolholder, you need to modify the corner of insert adapter of toolholder.

Recommended Cutting Conditions ➔ G129

Inserts are sold in 10 piece boxes.

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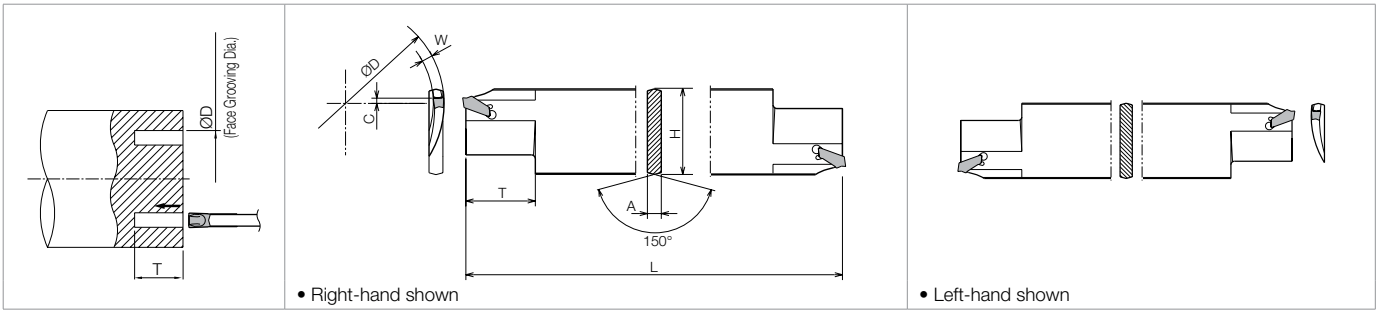
KFTB-S



• Right-hand shown

• Left-hand shown

Toolholder Dimensions

Part Number		Stock R	Stock L	Dimensions (mm) *H	L	A	T	C	W	Face Grooving Dia. ØD MIN	MAX	Spare Parts Releasing Wrench	Applicable Inserts	Applicable Blades ➡ H29
KFTB℀	65100-4S	○	○	32	150	5.2	25	4	4.0	65	100	LTK-5	FTK4	KTKTB 20-32, 25-32, 32-32
	90150-4S	○	○	32	150	5.2	30	0	4.0	90	150			
	150250-4S	○	○	32	150	5.2	30	0	4.0	140	250			
	250800-4S	○	○	32	150	3.2	30	0	4.0	230	∞			
KFTB℀	90150-5S	○	○	32	150	5.2	30	0	5.0	90	150	LTK-5	FTK5	KTKTBF 25-32, 32-32
	150250-5S	○	○	32	150	5.2	32	0	5.0	150	250			
	250800-5S	○	○	32	150	4.0	38	0	5.0	250	∞			

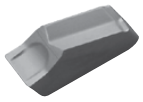
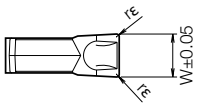
- Dimension T shows available grooving depth.
- TFace Grooving Dia.ØD: The diameter range of the initial groove.
- The insert has Self-Clamping system and it is not suitable for tight tolerance grooves (tolerance±0.05mm).
- KFTB℀65100-4S toolholder is designed with the edge position 4mm above the Center.

* Dimension H shows the length between virtual tops.

Applicable Inserts

P	Carbon Steel / Alloy Steel	●
M	Stainless Steel	●
K	Cast Iron	●
N	Non-ferrous Metals	●
S	Titanium Alloy	●
H	Hard materials (≤40HRC)	○
	Hard materials (≥40HRC)	

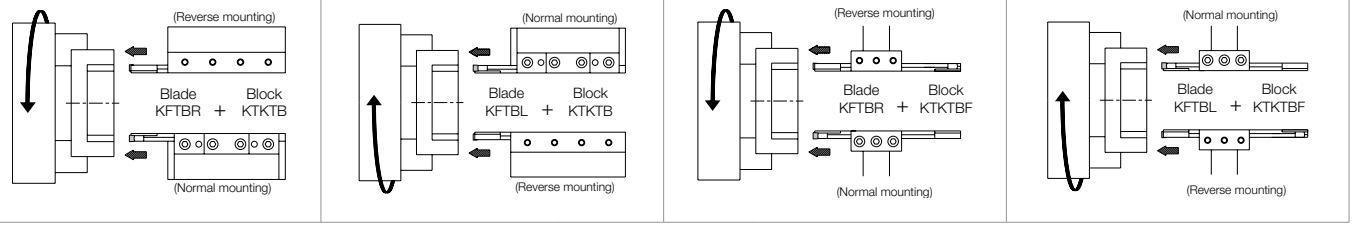
Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert		Part Number		Dimensions (mm) W	rε	Cermet TN90	CVD Coated Carbide CR9025	PVD Coated Carbide PR660	PVD Coated Carbide PR930	Carbide KW10	Applicable Toolholders
		FTK	4	4.0	0.25	○	○	○	○	○	KFTB℀ 65100-4S KFTB℀ 90150-4S KFTB℀ 150250-4S KFTB℀ 250800-4S
			5	5.0		○	○	○	○	○	KFTB℀ 90150-5S KFTB℀ 150250-5S KFTB℀ 250800-5S

Recommended Cutting Conditions ➡ G128

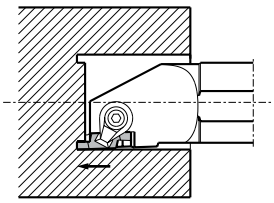
Selection of Blade and Insert

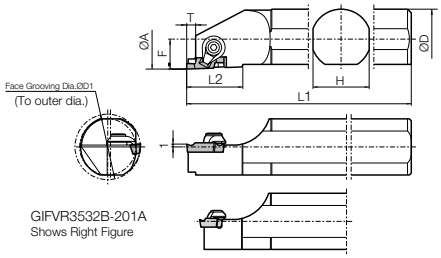
Combination of Blade + KTKTB			Combination of Blade + KTKTBF		
Blade	Right-hand (R)		Blade	Right-hand (R)	
Insert	Neutral		Insert	Neutral	
Blade	Left-hand (L)		Blade	Left-hand (L)	
Insert	Neutral		Insert	Neutral	



● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

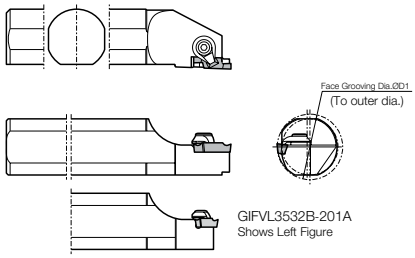
GIFV





GIFVR3532B-201A
Shows Right Figure

• Right-hand shown



GIFVL3532B-201A
Shows Left Figure

• Left-hand shown

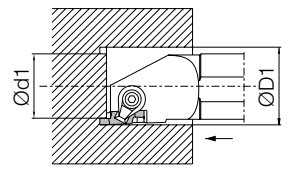
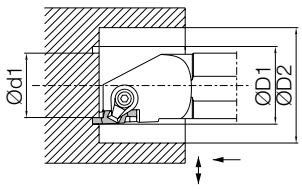
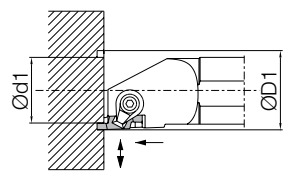
• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Part Number	Stock		Dimensions (mm)							Face Grooving Dia. ØD		Spare Parts				Applicable Inserts G116
												Clamp Set		Wrench		
	R	L	ØA	ØD	H	L1	L2	F	T	MIN	MAX					
GIFVR/L **3532B-201A**	○	○	35	32	30	250	23	16	2.2	35 (12)	∞	CPS-5V	-	FT-15	-	GVFR/L...-...A GVFR/L...-...AR
GIFVR/L **3532B-351B**	○	○	35	32	30	250	30	16	4.6	35 (25)	50 (∞)	-	CPS-6V	-	LW-3	GVFR/L250~350-020B GVFR/L300-150BR
3532B-352B	○	○	35	32	30	250	30	16	5.1	35 (25)	50 (∞)					GVFR/L400~490-020B GVFR/L400-200BR
5032B-501B	○	○	50	32	30	250	30	16	4.6	50 (25)	70 (∞)					GVFR/L250~350-020B GVFR/L300-150BR
5032B-502B	○	○	50	32	30	250	30	16	5.1	50 (25)	70 (∞)					GVFR/L400~490-020B GVFR/L400-200BR
GIFVR/L **5032B-501C**	○	○	50	32	30	250	35	16	6.6	50 (25)	70 (∞)	-	CPS-8V	-	LW-4	GVFR/L350~450-040C
5032B-502C	○	○	50	32	30	250	35	16	8.1	50 (25)	70 (∞)					GVFR/L500~600-040C

Note 1. Dimension T shows available grooving depth.
2. Standard toolholders are designed with the edge position 1.0mm above the center.

Face Grooving Dia. ØD1 depends on the application.

Applications	Part Number	Face Grooving Dia. Ød1 (mm)	Face Grooving Dia. ØD (mm)			Notes
		(MIN)	MIN	MAX	(MAX)	
	**GIFV**R/L **3532B-201A**	-	35	∞	∞	-
	GIFVR/L **3532B-351B**			50		
	3532B-352B		50	70		
	5032B-501B					
	5032B-502B					
	GIFVR/L **5032B-501C**					
	5032B-502C					
	**GIFV**R/L **3532B-201A**	12	35	∞	∞	If ØD2 ≧ 58-2W, the Face Grooving Dia. can be expanded to Ød1 (MIN.) toward the Center. W = Edge Width If ØD2 ≧ 75-2W, the Face Grooving Dia. can be expanded to Ød1 (MIN.) toward the Center. W = Edge Width
	GIFVR/L **3532B-351B**	25		50		
	3532B-352B		50	70		
	5032B-501B					
	5032B-502B					
	GIFVR/L **5032B-501C**					
	5032B-502C					
	**GIFV**R/L **3532B-201A**	12	35	∞	∞	-
	GIFVR/L **3532B-351B**	25		50		
	3532B-352B		50	70		
	5032B-501B					
	5032B-502B					
	GIFVR/L **5032B-501C**					
	5032B-502C					

- The value ( ) of Face Grooving Dia. (ØD1 MAX.) is the maximum outer diameter value after the initial groove between MIN.~MAX. (It is possible to widen the groove to infinity ∞)
- The value ( ) of Face Grooving Dia. (Ød1 MIN.) is the minimum diameter of the boss which remains in the center when widening the groove width to a smaller value after the initial groove between MIN.~MAX.

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GBA (Ground Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)											① f (feed) during Grooving (ipr) / ② f (feed) during Traversing (ipr) / ③ D.O.C. during Traversing (in)				Notes
	MC	Cermet			MEGA	PVD			Carbide	CBN	PCD					
	PV7040	TN620	TC40	TN90	PR1215	PR930	PR1115	PR905	KW10	KBN510 KBN525	KPD001 (KPD010)	GBA○○%033 ~ 100 031N ~ 041N	GBA○○%125 ~ 200 047N ~ 078N	GBA○○%230 ~ 300 094N ~ 109N	GBA○○%330 ~ 400 125N ~ 156N	GBA○○%400 ~ 480 172N ~ 188N	
Carbon Steel	☆ 490~790	★ 260~720	☆ 490~720	☆ 490~720	★ 260~660	☆ 260~590	☆ 260~590	-	-	-	-	① 0.0012~0.0031 ② Traversing N/A ③ Traversing N/A	① 0.0016~0.0035 ② 0.0016~0.0035 ③ MAX 0.012	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.031	
Alloy Steel	☆ 430~720	★ 260~660	☆ 430~660	☆ 430~660	★ 260~590	☆ 260~520	☆ 260~520	-	-	-	-	① 0.0012~0.0028 ② Traversing N/A ③ Traversing N/A	① 0.0016~0.0031 ② 0.0016~0.0031 ③ MAX 0.012	① 0.0020~0.0035 ② 0.0020~0.0035 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.031	
Stainless Steel	-		-	☆ 230~490	☆ 200~490	☆ 200~430	★ 200~430	-	-	-	-	① 0.0012~0.0028 ② Traversing N/A ③ Traversing N/A	① 0.0016~0.0031 ② 0.0016~0.0031 ③ MAX 0.012	① 0.0020~0.0035 ② 0.0020~0.0035 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.031	
Cast Iron	-		-	-	-	-	-	★ 260~590	☆ 200~390	★ 490~1310	-	① 0.0012~0.0031 ② Traversing N/A ③ Traversing N/A	① 0.0016~0.0035 ② 0.0016~0.0035 ③ MAX 0.012	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.031	Wet
Aluminum	-		-	-	-	-	-	-	★ 490~1310	-	★ 490~6560	① 0.0020~0.0047 ② Traversing N/A ③ Traversing N/A	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.020	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.031	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	
Brass	-		-	-	-	-	-	-	★ 490~980	-	★ 660~2620	① 0.0020~0.0047 ② Traversing N/A ③ Traversing N/A	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.020	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.031	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	
Hardened Materials	-		-	-	-	-	-	-	-	★ 260~390	-	① - ② - ③ -	① 0.0008~0.0020 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0028 ② 0.0004~0.0016 ③ MAX 0.004	① - ② - ③ -	① - ② - ③ -	

• Above cutting condition is for external grooving. Set both cutting speed and feed 10% higher for internal grooving.
* MC indicates MEGACOAT Cermet. MEGA indicates MEGACOAT.

★ : 1st Recommendation ☆ : 2nd Recommendation

GBA (GM Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)		① f (feed) during Grooving (ipr) / ② f (feed) during Traversing (ipr) / ③ D.O.C. during Traversing (in)				Notes
	Cermet	MEGACOAT					
	TN620	PR1215	GBA43%150~020GM	GBA43%175-020GM~230-020GM	GBA43%250-030GM~350-030GM	GBA43%400-040GM	
Carbon Steel	★ 260~720	☆ 260~720	① 0.0012~0.0047 ② 0.0012~0.0031 ③ MAX 0.012	① 0.0012~0.0047 ② 0.0012~0.0035 ③ MAX 0.012	① 0.0016~0.0059 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0059 ② 0.0020~0.0039 ③ MAX 0.031	
Alloy Steel	★ 260~660	☆ 260~660	① 0.0012~0.0047 ② 0.0012~0.0031 ③ MAX 0.012	① 0.0012~0.0047 ② 0.0012~0.0035 ③ MAX 0.012	① 0.0016~0.0059 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0059 ② 0.0020~0.0039 ③ MAX 0.031	Wet
Stainless Steel	-	★ 200~490	① 0.0012~0.0039 ② 0.0012~0.0031 ③ MAX 0.012	① 0.0012~0.0039 ② 0.0012~0.0035 ③ MAX 0.012	① 0.0016~0.0047 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0016~0.0047 ② 0.0020~0.0039 ③ MAX 0.031	

• Above cutting condition is for external grooving. Set both cutting speed and feed 20% higher for internal grooving.

★ : 1st Recommendation ☆ : 2nd Recommendation

GBA (MY Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)								① f (feed) during Grooving (ipr) / ② f (feed) during Traversing (ipr) / ③ D.O.C. during Traversing (in)					Notes
	Cermet		MEGA	PVD		Carbide	CBN	PCD						
	TN6020	TC40	PR1215	PR930	PR1115	KW10	KBN510	KPD001 (KPD010)	GBA43% 175MY~200MY / GBA43% 078MYN~200MY	GBA43% 230MY~265MY / GBA43% 094MYN	GBA43% 300MY	GBA43% 330MY~350MY / GBA43% 125MYN	GBA43% 400MY / GBA43% 156MYN	
Carbon Steel	☆ 490~720	-	★ 260~660	☆ 260~660	☆ 260~660	-	-	-	① 0.0012~0.0031 ② 0.0012~0.0031 ③ MAX 0.012	① 0.0016~0.0035 ② 0.0016~0.0035 ③ MAX 0.012	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.031	
Alloy Steel	☆ 430~660	-	★ 260~590	☆ 260~590	☆ 260~590	-	-	-	① 0.0012~0.0028 ② 0.0012~0.0039 ③ MAX 0.012	① 0.0016~0.0031 ② 0.0016~0.0031 ③ MAX 0.012	① 0.0020~0.0035 ② 0.0020~0.0035 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.031	Wet
Stainless Steel	☆ 230~490	-	☆ 200~490	☆ 200~490	★ 200~490	-	-	-	① 0.0012~0.0028 ② 0.0012~0.0039 ③ MAX 0.012	① 0.0016~0.0031 ② 0.0016~0.0031 ③ MAX 0.012	① 0.0020~0.0035 ② 0.0020~0.0035 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.031	

• Above cutting condition is for external grooving. Set both cutting speed and feed 10% higher for internal grooving.
* MEGA indicates MEGACOAT.

★ : 1st Recommendation ☆ : 2nd Recommendation

GB (Ground Chipbreaker) will be phased out and switched to **GBA**

Workpiece Material	Recommended Insert Grade (Vc sfm)								① f (feed) during Grooving (ipr)					Notes
	Cermet			PVD		Carbide	CBN	PCD	② f (feed) during Traversing (ipr)					
									③ D.O.C. during Traversing (in)					
	TN90	TC40	TC60M	PR630	PR930	KW10	KBN510	KPD001 (KPD010)	GB○○R/L 050 ~ 100	GB○○R/L 125 ~ 200	GB○○R/L 230 ~ 300	GB○○R/L 330 ~ 400	GB○○R/L 400 ~ 480	
Carbon Steel	-	☆ 490~720	☆ 330~490	☆ 260~660	★ 260~590	-	-	-	① 0.0012~0.0031 ② Traversing N/A ③ Traversing N/A	① 0.0016~0.0035 ② 0.0016~0.0035 ③ MAX 0.012	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.031	Wet
Alloy Steel	-	☆ 430~660	☆ 260~430	☆ 260~590	★ 260~520	-	-	-	① 0.0012~0.0028 ② Traversing N/A ③ Traversing N/A	① 0.0016~0.0031 ② 0.0016~0.0031 ③ MAX 0.012	① 0.0020~0.0035 ② 0.0020~0.0035 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.031	
Stainless Steel	-	-	☆ 200~330	☆ 200~490	★ 200~430	-	-	-	① 0.0012~0.0028 ② Traversing N/A ③ Traversing N/A	① 0.0016~0.0031 ② 0.0016~0.0031 ③ MAX 0.012	① 0.0020~0.0035 ② 0.0020~0.0035 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.031	
Cast Iron	-	-	-	-		★ 200~330	-	-	① 0.0012~0.0031 ② Traversing N/A ③ Traversing N/A	① 0.0016~0.0035 ② 0.0016~0.0035 ③ MAX 0.012	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.031	
Aluminum	-	-	-	-	-	★ 490~1310	-	★ 490~6560	① 0.0020~0.0047 ② Traversing N/A ③ Traversing N/A	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.020	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.031	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	
Brass	-	-	-	-	-	★ 490~980	-	★ 660~2620	① 0.0020~0.0047 ② Traversing N/A ③ Traversing N/A	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.020	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.031	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	

★ : 1st Recommendation ☆ : 2nd Recommendation

TGF (Ground Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)							① f (feed) during Grooving (ipr)				Notes
	Cermet	MEGA	PVD		Carbide	CBN	PCD	② f (feed) during Traversing (ipr)				
								③ D.O.C. during Traversing (in)				
	TC40	PR1215	PR930	PR1115	KW10	KBN510	KPD001 (KPD010)	TGF32R/L 033~050~005	TGF32R/L 075~095~010	TGF32R/L 100~145~010	TGF32R/L 150~250~010	
Carbon Steel	☆ 490~720	★ 260~590	☆ 260~590	☆ 260~590	-	-	-	① 0.0004~0.0020 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0028 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	Wet
Alloy Steel	☆ 430~660	★ 260~520	☆ 260~520	☆ 260~520	-	-	-	① 0.0004~0.0016 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0024 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	
Stainless Steel	-	☆ 200~430	☆ 200~430	★ 200~430	-	-	-	① 0.0004~0.0016 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0024 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	
Cast Iron	-	-	-	-	★ 200~330	-	-	① 0.0004~0.0020 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0028 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	
Aluminum	-	-	-	-	★ 490~1310	-	★ 490~6560	① 0.0004~0.0020 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0028 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	
Brass	-	-	-	-	★ 490~980	-	★ 660~2620	① 0.0004~0.0016 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0024 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	

* MEGA indicates MEGACOAT.

★ : 1st Recommendation ☆ : 2nd Recommendation

TG (Ground Chipbreaker) will be phased out and switched to **GBA**

Workpiece Material	Recommended Insert Grade (Vc sfm)								Feed Rate (ipr)					Notes
	Cermet			PVD		Carbide	CBN	PCD						
	TN60	TC40	TC60M	PR630	PR930	KW10	KBN510	KPD001 (KPD010)	TG○○R/L 075~095	TG○○R/L 125~200	TG○○R/L 230~300	TG○○R/L 330~400	TG○○R/L 430~450	
Carbon Steel	★ 490~720	-	-	-	-	-	-	-	0.0012~0.0028	0.0012~0.0031	0.0020~0.0039	0.0020~0.0047	0.0020~0.0047	Wet
Alloy Steel	★ 430~660	-	-	-	-	-	-	-	0.0008~0.0024	0.0012~0.0028	0.0020~0.0035	0.0020~0.0039	0.0020~0.0039	

* Above cutting condition is for external grooving. Set both cutting speed and feed 10% lower for internal grooving.

★ : 1st Recommendation ☆ : 2nd Recommendation

GH (Ground Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)								① f (feed) during Grooving (ipr)				Notes
	Cermet			PVD	Carbide	Ceramic			② f (feed) during Traversing (ipr)				
	TN90	TC40	TC60M	PR930	KW10	A65	A66N	PT600M	③ D.O.C. during Traversing (in)				
									GH 40~50...	GH 55~70...	GH 75~80...	GH 100~120...	
Carbon Steel	☆ 490~720	☆ 490~720	☆ 330~490	★ 260~590	-	-	-	-	① 0.0028~0.0079	① 0.0028~0.0079	① 0.0039~0.0098	① 0.0059~0.0118	
									② 0.0028~0.0059	② 0.0028~0.0059	② 0.0039~0.0079	② 0.0059~0.0098	
									③ MAX 0.039	③ MAX 0.039	③ MAX 0.059	③ MAX 0.079	
Alloy Steel	☆ 430~660	☆ 430~660	☆ 260~430	★ 260~520	-	-	-	-	① 0.0028~0.0071	① 0.0028~0.0071	① 0.0039~0.0091	① 0.0059~0.0106	
									② 0.0028~0.0051	② 0.0028~0.0051	② 0.0039~0.0071	② 0.0059~0.0087	
									③ MAX 0.039	③ MAX 0.039	③ MAX 0.059	③ MAX 0.079	
Stainless Steel	☆ 230~490	-	☆ 200~330	★ 200~430	-	-	-	-	① 0.0028~0.0063	① 0.0028~0.0063	① 0.0039~0.0083	① 0.0059~0.0098	
									② 0.0028~0.0051	② 0.0028~0.0051	② 0.0039~0.0071	② 0.0059~0.0087	
									③ MAX 0.039	③ MAX 0.039	③ MAX 0.059	③ MAX 0.079	
Cast Iron	-	-	-	-	★ 200~330	☆ 490~980	☆ 490~980	☆ 490~980	**KW10**	**KW10**	**KW10**	**KW10**	Wet
									① 0.0028~0.0079	① 0.0028~0.0079	① 0.0039~0.0098	① 0.0059~0.0118	
									② 0.0028~0.0059	② 0.0028~0.0059	② 0.0039~0.0079	② 0.0059~0.0098	
									③ MAX 0.039	③ MAX 0.039	③ MAX 0.059	③ MAX 0.079	
									A65 / A66N	**A65 / A66N**	**A65 / A66N**	**A65 / A66N**	
									① 0.0012~0.0028	① 0.0012~0.0028	① 0.002~0.0035	① 0.002~0.0035	
									② Traversing N/A	② Traversing N/A	② Traversing N/A	② Traversing N/A	
									③ Traversing N/A	③ Traversing N/A	③ Traversing N/A	③ Traversing N/A	
Aluminum	-	-	-	-	★ 490~1310	-	-	-	① 0.0028~0.0079	① 0.0028~0.0079	① 0.0039~0.0098	① 0.0059~0.0118	
									② 0.0028~0.0059	② 0.0028~0.0059	② 0.0039~0.0079	② 0.0059~0.0098	
									③ MAX 0.039	③ MAX 0.039	③ MAX 0.059	③ MAX 0.079	
Brass	-	-	-	-	★ 490~980	-	-	-	① 0.0028~0.0079	① 0.0028~0.0079	① 0.0039~0.0098	① 0.0059~0.0118	
									② 0.0028~0.0059	② 0.0028~0.0059	② 0.0039~0.0079	② 0.0059~0.0098	
									③ MAX 0.039	③ MAX 0.039	③ MAX 0.059	③ MAX 0.079	
Hardened Materials	-	-	-	-	-	☆ 130~260	☆ 130~260	☆ 130~260	① 0.0008~0.0020	① 0.0008~0.0020	① 0.0008~0.002	① -	
									② 0.0004~0.0012	② 0.0004~0.0012	② 0.0004~0.0016	② -	
									③ MAX 0.004	③ MAX 0.008	③ MAX 0.008	③ -	

* Above cutting condition is for external grooving. Set both cutting speed and feed 10% lower for internal grooving.

★ : 1st Recommendation ☆ : 2nd Recommendation

GHU (Molded Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)								① f (feed) during Grooving (ipr)			Notes
	Cermet			CVD	PVD		Ceramic		② f (feed) during Traversing (ipr)			
	TN60	TC40	TC60M	CR9025	PR630	PR930	A65	A66N	③ D.O.C. during Traversing (in)			
									GHU 40~20	GHU 50~20	GHU 60~20	
Carbon Steel	☆ 430~660	-	-	☆ 260~590	-	-	-	-	① 0.0024~0.0047	① 0.0024~0.0047	① 0.0024~0.0059	
									② 0.0020~0.0039	② 0.0020~0.0039	② 0.0020~0.0047	
									③ MAX 0.039	③ MAX 0.039	③ MAX 0.059	
Alloy Steel	☆ 330~590	-	-	☆ 260~520	-	-	-	-	① 0.0024~0.0047	① 0.0024~0.0047	① 0.0024~0.0059	
									② 0.0020~0.0039	② 0.0020~0.0039	② 0.0020~0.0047	Wet
									③ MAX 0.039	③ MAX 0.039	③ MAX 0.059	
Stainless Steel	-	-	-	☆ 200~430	-	-	-	-	① 0.0024~0.0039	① 0.0024~0.0039	① 0.0024~0.0047	
									② 0.0020~0.0031	② 0.0020~0.0031	② 0.0020~0.0039	
									③ MAX 0.031	③ MAX 0.031	③ MAX 0.047	

* Above cutting condition is for external grooving. Set both cutting speed and feed 10% lower for internal grooving.

★ : 1st Recommendation ☆ : 2nd Recommendation

GA (Molded Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)								① f (feed) during Grooving (ipr)			Notes
	Cermet				CVD	PVD		Carbide	② f (feed) during Traversing (ipr)			
	TN60	TN90	TC40	TC60M	CR9025	PR630	PR930	KW10	③ D.O.C. during Traversing (in)			
									GA 30	GA 40	GA 50	
Carbon Steel	☆ 430~660	-	-	-	★ 260~590	-	-	-	① 0.0024~0.0071 ② 0.0020~0.0059 ③ MAX 0.031	① 0.0024~0.0083 ② 0.0020~0.0067 ③ MAX 0.039	① 0.0024~0.0098 ② 0.0020~0.0079 ③ MAX 0.051	Wet
Alloy Steel	☆ 330~590	-	-	-	★ 260~520	-	-	-	① 0.0024~0.0059 ② 0.0020~0.0047 ③ MAX 0.012	① 0.0024~0.0071 ② 0.0020~0.0059 ③ MAX 0.020	① 0.0024~0.0087 ② 0.0020~0.0071 ③ MAX 0.031	
Stainless Steel	-	-	-	-	★ 200~430	-	-	-	① 0.0024~0.0039 ② 0.0020~0.0031 ③ MAX 0.031	① 0.0024~0.0039 ② 0.0020~0.0031 ③ MAX 0.031	① 0.0024~0.0047 ② 0.0020~0.0039 ③ MAX 0.047	

★ : 1st Recommendation ☆ : 2nd Recommendation

GIA (Molded Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)								① f (feed) during Grooving (ipr)			Notes
	Cermet				CVD	PVD		Carbide	② f (feed) during Traversing (ipr)			
	TN60	TN90	TC40	TC60M	CR9025	PR630	PR930	KW10	③ D.O.C. during Traversing (in)			
									GIA 30	GIA 40	GIA 50	
Carbon Steel	☆ 200~390	-	-	-	★ 200~390	-	-	-	① 0.0016~0.0031 ② 0.0008~0.0031 ③ MAX 0.012	① 0.0016~0.0035 ② 0.0008~0.0031 ③ MAX 0.016	① 0.0020~0.0039 ② 0.0020~0.0031 ③ MAX 0.020	Wet
Alloy Steel	☆ 200~330	-	-	-	★ 200~330	-	-	-	① 0.0016~0.0028 ② 0.0008~0.0028 ③ MAX 0.012	① 0.0016~0.0028 ② 0.0008~0.0028 ③ MAX 0.016	① 0.0020~0.0031 ② 0.0020~0.0031 ③ MAX 0.020	
Stainless Steel	-	-	-	-	★ 200~260	-	-	-	① 0.0016~0.0028 ② 0.0008~0.0028 ③ MAX 0.012	① 0.0016~0.0028 ② 0.0008~0.0028 ③ MAX 0.016	① 0.0020~0.0031 ② 0.0020~0.0031 ③ MAX 0.020	

★ : 1st Recommendation ☆ : 2nd Recommendation

PSG-S (Micro Bars)

Workpiece Material	Recommended Insert Grade (Vc sfm)		PSG05	PSG06 PSG07 PSG08	Notes
	PVD	Carbide			
	PR630	KW10	Feed Rate (ipr)		
Carbon Steel	★ 100~330	-	~0.0012	~0.0020	Wet
Alloy Steel	★ 100~260	-	~0.0008	~0.0012	
Stainless Steel	-	★ ~980	~0.0020	~0.0031	

Note for using the grooving Micro-Bars PSG-S type

How to Install

Internal small dia. grooving requires accurate installation because an error of insert height or angle can affect the machining precision. When installing, set the cutting edge higher than the center line as shown in the Table 1. The cutting edge of all the PSG-S type Micro-Bars is designed to be higher than the center line. (L4 of Micro-Bars dimension)

★ : 1st Recommendation

FMM / FNM

Workpiece Material	Recommended Insert Grade (Vc sfm)						Face Grooving (FMM / FMN)			Traversing (FMM)			Notes
	Cermet	CVD	PVD			Carbide	Edge Width (in)			Edge Width (in)			
	TN90	CR9025	PR915	PR930	PR905	KW10	0.1181	0.1575	0.1969 / 0.2362	0.1181	0.1575	0.1969 / 0.2362	
							Feed Rate (ipr)			Feed Rate (ipr)			
Carbon Steel	☆ 330~720	☆ 260~660	☆ 260~660	★ 260~660	-	-	0.0012~0.0020	0.0012~0.0031	0.0020~0.0039	0.0020~0.0039	0.0020~0.0098	0.0039~0.0118	Wet
Alloy Steel	☆ 260~660	☆ 230~590	☆ 230~590	★ 230~590	-	-	0.0012~0.0020	0.0012~0.0031	0.0020~0.0039	0.0020~0.0039	0.0020~0.0098	0.0039~0.0118	
Stainless Steel	☆ 230~520	☆ 200~490	★ 200~490	☆ 200~490	-	-	0.0012~0.0020	0.0012~0.0031	0.0020~0.0039	0.0020~0.0039	0.0020~0.0098	0.0039~0.0118	
Cast Iron	-	-	-	-	★ 260~590	☆ 230~490	0.0012~0.0020	0.0012~0.0031	0.0020~0.0039	0.0020~0.0039	0.0020~0.0098	0.0039~0.0118	
Aluminum	-	-	-	-	-	★ 660~1640	0.0012~0.0020	0.0012~0.0031	0.0020~0.0039	0.0020~0.0039	0.0020~0.0098	0.0039~0.0118	
Brass	-	-	-	-	-	★ 330~660	0.0012~0.0020	0.0012~0.0031	0.0020~0.0039	0.0020~0.0039	0.0020~0.0098	0.0039~0.0118	

- Set the feed rate 1/100 of edge width on the first groove and check chip evacuation.
- FMN type Inserts are only for Deep Grooving, and when used for turning, set to D.O.C. = 0.079" and under.

★ : 1st Recommendation ☆ : 2nd Recommendation

Turning Conditions

① **FMM Toolholder**

	Recommended Cutting Conditions	
D.O.C. (MAX) (in)	Under 50% of Edge Width	D.O.C. ≤ 0.0197w
f (MAX) (ipr)	Under 3~5% of Edge Width	f≤ [0.0012(Min.) ~ 0.0020(Max.)] w

- (D.O.C.) x (f) should be as follows.

Edge Width (in) / Load (in²)	0.1181	0.1575	0.1969	0.2362
D.O.C. x Feed Rate (f)	~0.004	~0.006	~0.010	~0.014

- D.O.C. x f ≤ 0.0004w²

GV (Ground Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)						① f (feed) during Grooving (ipr)						Notes
	Cermet			MEGA	PVD	Carbide	② f (feed) during Traversing (ipr)						
							③ D.O.C. during Traversing (in)						
	TN90	TC40	TC60M	PR1225	PR930	KW10	GV型 100-300-...SS 100-300-...S GV型 100-340-...A 200-300-...AR	GV型 145-185-...B	GV型 200-280-...B GV型 200-100BR	GV型 300-400-...B GV型 300-150BR	GV型 280-300-...C	GV型 340-400-...C	GV型 430-500-...C	
Carbon Steel	☆ 390~590	☆ 390~590	☆ 260~390	★ 260~520	☆ 260~460	-	① 0.0012~0.0031 ② 0.0012~0.0031 ③ MAX 0.012	① 0.0012~0.0031 ② 0.0012~0.0031 ③ MAX 0.012	① 0.0016~0.0035 ② 0.0016~0.0035 ③ MAX 0.012	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0016~0.0035 ② 0.0020~0.0039 ③ MAX 0.012	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.020	Wet
Alloy Steel	☆ 330~520	☆ 330~520	☆ 260~330	★ 260~460	☆ 260~390	-	① 0.0012~0.0028 ② 0.0012~0.0039 ③ MAX 0.012	① 0.0012~0.0028 ② 0.0012~0.0039 ③ MAX 0.012	① 0.0016~0.0031 ② 0.0016~0.0031 ③ MAX 0.012	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0016~0.0031 ② 0.0020~0.0039 ③ MAX 0.012	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	
Stainless Steel	☆ 230~430	-	☆ 200~330	★ 200~430	☆ 200~360	-	① 0.0012~0.0028 ② 0.0012~0.0039 ③ MAX 0.012	① 0.0012~0.0028 ② 0.0012~0.0039 ③ MAX 0.012	① 0.0016~0.0031 ② 0.0016~0.0031 ③ MAX 0.012	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0016~0.0031 ② 0.0020~0.0039 ③ MAX 0.012	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	
Cast Iron	-	-	-	-	-	★ 200~330	① 0.0012~0.0031 ② 0.0012~0.0031 ③ MAX 0.012	① 0.0012~0.0031 ② 0.0012~0.0031 ③ MAX 0.012	① 0.0016~0.0035 ② 0.0016~0.0035 ③ MAX 0.012	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0016~0.0035 ② 0.0016~0.0035 ③ MAX 0.012	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.020	
Aluminum	-	-	-	-	-	★ 490~980	① 0.0020~0.0047 ② 0.0020~0.0047 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0047 ③ MAX 0.020	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.020	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.020	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	
Brass	-	-	-	-	-	★ 330~820	① 0.0020~0.0047 ② 0.0020~0.0047 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0047 ③ MAX 0.020	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.020	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.020	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	

* Use MEGACOAT, PVD coated grade or carbide for turning with edge width 0.0394" (1mm) (GV型100SS/100S/100A)

★ : 1st Recommendation ☆ : 2nd Recommendation

GVF (Ground Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)							① f (feed) during Grooving (ipr)				Notes
	Cermet				MEGA	PVD	Carbide	② f (feed) during Traversing (ipr)				
								③ D.O.C. during Traversing (in)				
	TN60	TN90	TC40	TC60M	PR1225	PR930	KW10	GVF型 200~340...A GVF型 200-100AR ~300-150AR	GVF型 250~350...B GVF型 300-150BR	GVF型 400~490...B GVF型 400-200BR	GVF型 350~450...C	GVF型 500~600...C	
Carbon Steel	-	☆ 490~720	☆ 490~720	☆ 330~490	★ 260~660	☆ 260~590	-	① 0.0012~0.0031 ② 0.0012~0.0031 ③ MAX 0.012	① 0.0016~0.0035 ② 0.0016~0.0035 ③ MAX 0.012	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.031	Wet
Alloy Steel	-	☆ 430~660	☆ 430~660	☆ 260~430	★ 260~590	☆ 260~520	-	① 0.0012~0.0028 ② 0.0012~0.0039 ③ MAX 0.012	① 0.0016~0.0031 ② 0.0016~0.0031 ③ MAX 0.012	① 0.0020~0.0035 ② 0.0020~0.0035 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.031	
Stainless Steel	-	☆ 230~490	-	☆ 200~330	★ 260~490	☆ 200~430	-	① 0.0012~0.0028 ② 0.0012~0.0039 ③ MAX 0.012	① 0.0016~0.0031 ② 0.0016~0.0031 ③ MAX 0.012	① 0.0020~0.0035 ② 0.0020~0.0035 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.031	
Cast Iron	-	-	-	-	-	-	★ 200~330	① 0.0012~0.0031 ② 0.0012~0.0031 ③ MAX 0.012	① 0.0016~0.0035 ② 0.0016~0.0035 ③ MAX 0.012	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.031	
Aluminum	-	-	-	-	-	-	★ 490~1310	① 0.0020~0.0047 ② 0.0020~0.0047 ③ MAX 0.020	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.020	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.031	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	
Brass	-	-	-	-	-	-	★ 490~980	① 0.0020~0.0047 ② 0.0020~0.0047 ③ MAX 0.020	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.020	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.031	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	

- Apply a sufficient amount of coolant.
- The D.O.C. should be under 0.020" (0.5mm) if a good surface finish is required.

★ : 1st Recommendation ☆ : 2nd Recommendation

FTK

	Recommended Insert Grade (Vc sfm)					Edge Width (in)		Notes
	Cermet	CVD	PVD		Carbide	0.1575	0.1969	
	TN90	**CR9025**	**PR660**	**PR930**	**KW10**	Feed Rate (ipr)		
Carbon Steel	☆ 390~660	★ 260~590	☆ 200~430	☆ 200~430	-	0.0020~0.0059	0.0020~0.0059	Wet
Alloy Steel	☆ 330~520	★ 230~490	☆ 200~430	☆ 200~430	-	0.0020~0.0059	0.0020~0.0059	
Stainless Steel	☆ 260~490	☆ 200~460	★ 160~390	☆ 160~390	-	0.0020~0.0059	0.0020~0.0059	
Cast Iron	-	-	-	-	★ 160~330	0.0039~0.0118	0.0039~0.0118	
Aluminum	-	-	-	-	★ 660~1480	0.0020~0.0098	0.0020~0.0098	
Brass	-	-	-	-	★ 330~660	0.0020~0.0098	0.0020~0.0098	

★ : 1st Recommendation ☆ : 2nd Recommendation

GMN (CBN / PCD)

Workpiece Material	Recommended Insert Grade (Vc sfm)		① f (feed) during Grooving (ipr) ② f (feed) during Traversing (ipr) ③ D.O.C. during Traversing (in)				Notes
	CBN	PCD					
	KBN510 KBN525	**KPD001 (KPD010)**	GMN 2	GMN 3	GMN 4 GMN 5	GMN 6	
Aluminum	-	★ 490~6560	① 0.0020~0.0059	① 0.0020~0.0059	① 0.0031~0.0071	① 0.0039~0.0079	Wet
			② 0.0020~0.0059	② 0.0020~0.0059	② 0.0031~0.0071	② 0.0039~0.0079	
			③ MAX 0.020	③ MAX 0.031	③ MAX 0.031	③ MAX 0.031	
Brass	-	★ 660~2620	① 0.0020~0.0059	① 0.0020~0.0059	① 0.0031~0.0071	① 0.0039~0.0079	
			② 0.0020~0.0059	② 0.0020~0.0059	② 0.0031~0.0071	② 0.0039~0.0079	
			③ MAX 0.020	③ MAX 0.031	③ MAX 0.031	③ MAX 0.031	
Cast Iron	★ 490~1310	-	① 0.0016~0.0035	① 0.0020~0.0039	① 0.0020~0.0047	① 0.0020~0.0059	
			② 0.0016~0.0035	② 0.0020~0.0039	② 0.0020~0.0047	② 0.0020~0.0059	
			③ MAX 0.012	③ MAX 0.020	③ MAX 0.020	③ MAX 0.031	
Hardened Materials	★ 260~390	-	① 0.0008~0.0020	① 0.0012~0.0028	① 0.0012~0.0031	① 0.0020~0.0039	
			② 0.0004~0.0012	② 0.0004~0.0020	② 0.0012~0.0031	② 0.0020~0.0039	
			③ MAX 0.004	③ MAX 0.008	③ MAX 0.012	③ MAX 0.016	

★ : 1st Recommendation ☆ : 2nd Recommendation

GMG / GMM / GMN / GMGA

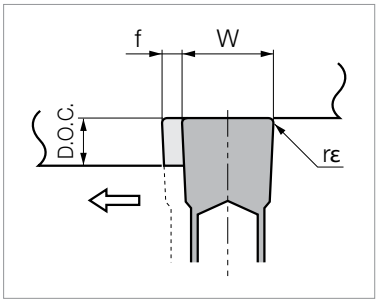
Workpiece Material	Recommended Insert Grade (Vc sfm)						Grooving				Traversing				Notes
	Cermet	CVD	PVD			Carbide	Edge Width (in)				Edge Width (in)				
	TN90	CR9025	PR915	PR930	PR905	KW10	0.0787~0.1181	0.1575	0.1969	0.2362/0.3150	0.0787~0.1181	0.1575	0.1969	0.2362/0.3150	
							Feed Rate (ipr)				Feed Rate (ipr)				
Carbon Steel	☆ 330~720	☆ 260~660	☆ 260~660	★ 260~660	-	-	0.0020~0.0059	0.0039~0.0098	0.0059~0.0138	0.0079~0.0138	0.0039~0.0079	0.0059~0.0118	0.0079~0.0157	0.0098~0.0157	Wet
Alloy Steel	☆ 260~660	☆ 230~590	☆ 230~590	★ 230~590	-	-	0.0020~0.0059	0.0039~0.0098	0.0059~0.0138	0.0079~0.0138	0.0039~0.0079	0.0059~0.0118	0.0079~0.0157	0.0098~0.0157	
Stainless Steel	☆ 230~520	☆ 200~490	★ 200~490	☆ 200~490	-	-	0.0020~0.0059	0.0039~0.0079	0.0059~0.0138	0.0079~0.0138	0.0039~0.0079	0.0059~0.0098	0.0079~0.0157	0.0098~0.0157	
Cast Iron	-	-	-	-	★ 330~660	☆ 230~490	0.0020~0.0079	0.0039~0.0118	0.0059~0.0157	0.0079~0.0157	0.0039~0.0098	0.0059~0.0138	0.0079~0.0177	0.0098~0.0177	
Aluminum	-	-	-	-	-	★ 660~1640	0.0020~0.0079	0.0031~0.0098	0.0039~0.0098	0.0047~0.0118	0.0039~0.0079	0.0039~0.0098	0.0039~0.0098	0.0059~0.0118	
Brass	-	-	-	-	-	★ 330~660	0.0020~0.0059	0.0031~0.0079	0.0039~0.0098	0.0047~0.0118	0.0039~0.0079	0.0039~0.0098	0.0039~0.0098	0.0059~0.0118	

★ : 1st Recommendation ☆ : 2nd Recommendation

Turning Conditions

① **KGM Toolholder**

	Recommended Cutting Conditions	
D.O.C.(MAX) (in)	Under 80% of Edge Width	D.O.C.≤0.0315w
f (MAX) (ipr)	Under 10% of Edge Width	f≤0.0039w



• (D.O.C.) x (f) should not exceed ½ of D.O.C.(MAX) x f(MAX)

Edge Width (in) / Load (in²)	0.0787~0.0984	0.1181	0.1575	0.1969	0.2362	0.3150
D.O.C. x Feed Rate (f)	~0.0079	~0.0142	~0.0252	~0.0394	~0.0567	~0.1008

• D.O.C. x f ≤ ½ x 0.0315w x 0.0039w = 0.0016w²

② **KGM-T Toolholder** (Deep Grooving)

Use KGM-T toolholder under 90% lower cutting conditions than the KGM Toolholder

③ **KGMM / KGMS / KFMS-8 Toolholder**

	Recommended Cutting Conditions	
D.O.C.(MAX) (in)	Under 50% of Edge Width	D.O.C.≤0.0197w
f (MAX) (ipr)	Under 4% of Edge Width	f≤0.0016w

• (D.O.C.) x (f) should not exceed ½ of D.O.C.(MAX) x f(MAX)

Edge Width (in) / Load (in²)	0.0787~0.0984	0.1181	0.1575	0.1969	0.2362	0.3150
D.O.C. x Feed Rate (f)	~0.0039	~0.0071	~0.0126	~0.0197	~0.0283	~0.0504

• D.O.C. x f ≤ 0.0008w²

④ **KIGM Toolholder**

	Recommended Cutting Conditions	
D.O.C.(MAX) (in)	Under 70% of Edge Width	D.O.C.≤0.0276w
f (MAX) (ipr)	Under 8% of Edge Width	f≤0.0031w

• (D.O.C.) x (f) should be as follows. (under 70% of KGM)

Edge Width (in) / Load (in²)	0.1181	0.1575	0.1969
D.O.C. x Feed Rate (f)	~0.0098	~0.0173	~0.0276

• D.O.C. x f ≤ 0.0016w²

GMG / GMM / GMGA 8030 (Face Grooving)

Workpiece Material	Recommended Insert Grade (Vc sfm)						Face Grooving	Traversing	Notes
	Cermet	CVD	PVD			Carbide	Edge Width (in)	Edge Width (in)	
	TN90	CR9025	PR915	PR930	PR905	KW10	0.3150	0.3150	
							Feed Rate (ipr)	Feed Rate (ipr)	
Carbon Steel	☆ 330~720	☆ 260~520	☆ 260~520	★ 260~520	-	-	0.0039~0.0079	0.0039~0.0098	Wet
Alloy Steel	☆ 260~520	☆ 230~520	☆ 230~520	★ 230~520	-	-	0.0039~0.0079	0.0039~0.0098	
Stainless Steel	☆ 230~460	☆ 200~430	★ 200~430	☆ 200~430	-	-	0.0039~0.0079	0.0039~0.0098	
Cast Iron	-	-	-	-	★ 260~590	☆ 230~430	0.0039~0.0118	0.0039~0.0138	
Aluminum	-	-	-	-	-	★ 660~980	0.0031~0.0098	0.0031~0.0118	
Brass	-	-	-	-	-	★ 330~490	0.0031~0.0098	0.0031~0.0118	

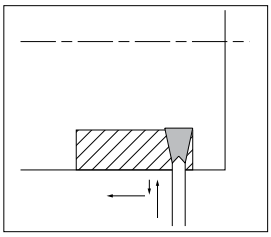
★ : 1st Recommendation ☆ : 2nd Recommendation

Guide for External Grooving

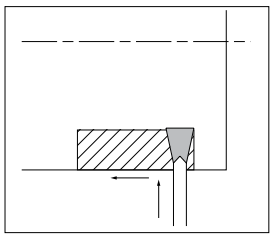
Point (I) (Turning after Grooving)

1) Grooving Depth Over 0.5mm: At roughing (Refer to Fig.1)
Before turning, pull the tool back about 0.1mm after grooving, instead of turning subsequent to grooving.
(Failure to pull the tool back before traverse machining will result in an unbalanced load applied on only one side of the cutting edge.)

2) Grooving Depth under 0.5mm: At finishing (Refer to Fig.2)
Turning subsequent to grooving is possible because shallow groove depths relate a small load on the cutting edge.
(Retention time is not necessary.)



Before turning, pull the tool back about 0.1mm after grooving.
(Grooving Depth Over 0.5mm: At roughing)
Fig.1



Turning subsequent to grooving is possible because there is only a small force on the cutting edge.
(Grooving Depth under 0.5mm: At finishing)
Fig.2

Point (II)

1) When widening the groove width
(Refer to Fig.3), apply the “Step Turning” as shown in Fig.3.

2) The widened groove and side walls should be finished last.
(For better chip control, ap over 0.5mm is recommended.)

Note) If the workpiece is not supported at the center, reduce the feed rate when grooving towards center.

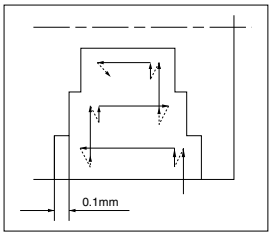


Fig.3

Guide for Face Grooving

<Toolholder Selection>

(1) Choose the best tool depending on the groove width.
The Cutting Dia. ØD listed in the catalog indicates the depth of the first plunge of face grooving as shown in Fig.1.

(2) Confirm Grooving Depth (dimension T)

(3) It is recommended to install the toolholder in the reverse position. (Fig. 2)
(This will provide smooth chip flow and chip clearance.)

<Guide for Turning>

Turning direction should be from the outer diameter to the inner diameter as shown in Fig.3
This improves chip evacuation.

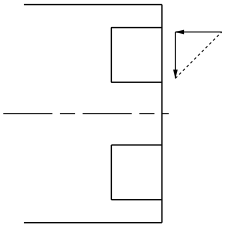


Fig.3

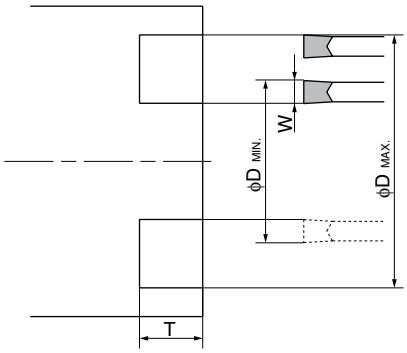


Fig.1

Toolholder	Right-hand (R)	Toolholder	Left-hand (L)
Insert	(No Hand)	Insert	(No Hand)

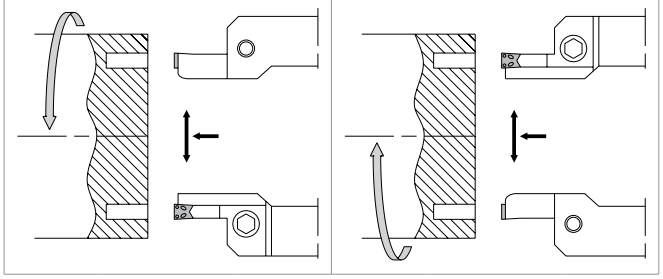
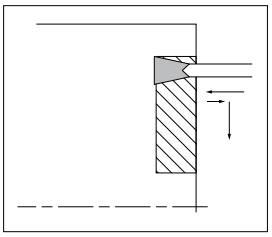


Fig.2 Toolholder's Hand and Rotation

Guide for External Grooving (Continued)

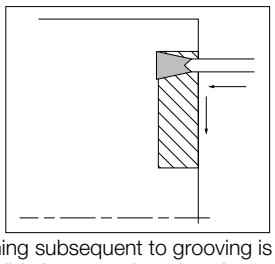
Point (I) (Turning after Grooving)

1) Grooving Depth Over 0.5mm: At roughing (Refer to Fig.4)
Before turning, pull the tool back about 0.1mm after grooving, instead of turning subsequent to grooving.
(Failure to pull the tool back before traverse machining will result in an unbalanced load applied on only one side of the cutting edge.)



Before turning, pull the tool back about 0.1mm after grooving.
(Grooving Depth Over 0.5mm: At roughing)
Fig.4

2) Grooving Depth under 0.5mm: At finishing (Refer to Fig.5)
Turning subsequent to grooving is possible because shallow groove depths relate a small load on the cutting edge.
(Retention time is not necessary.)



Turning subsequent to grooving is possible because there is only a small force on the cutting edge.
(Grooving Depth under 0.5mm: At finishing)
Fig.5

Point (II)

1) When widening the groove width, apply the “Step Turning” as shown in Fig. 6.
2) The widened groove and side walls should be finished last.
(For better chip control, ap over 0.5mm is recommended.)

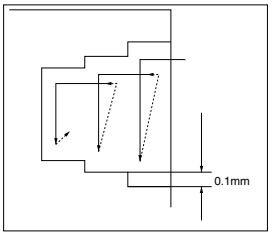


Fig.6

Trouble shooting

Trouble	Countermeasures
Whitish trace remains at the groove bottom.	(1) Increase the cutting speed for finishing process only. (This can handle most of the cases.) If the method is not successful, try (2) as follows. (2) Check the insert edge's parallelness. [Adjustment: Apply the insert edge to the work face and adjust the toolholder within the angle of ±5'. (Fig.7)]
Chips are entangled.	(1) Install the toolholder in the reverse position. Adjust the coolant flow to the cutting edge. (2) When widening the groove, do not machine one deep groove. Instead, repeat shallow grooving and turning.
Insert cracks when turning.	Reverse the facing direction.
Groove is not straight.	Check the edge's parallelness. Decrease the feed rate.

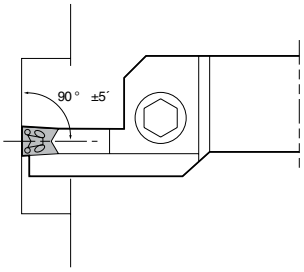


Fig.7

Guide for Grooving with Cermet Insert (Steel)

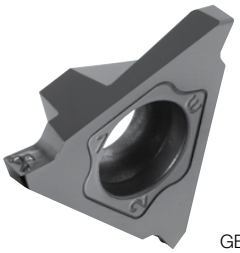
1. Set the feed under 0.0047" ipr (0.0020"~0.0039" ipr normally).
2. Coolant is recommended.
3. Set the cutting speed Vc = 490~720 sfm.
4. Set the toolholder overhang as short as possible.

How to Improve Surface Finish (when surface roughness below 3µm Rz is required)

1. Increase the cutting speed (Vc = 720 sfm MAX.)
2. Program retention time at the groove bottom.
3. Apply a light hone to the cutting edge.

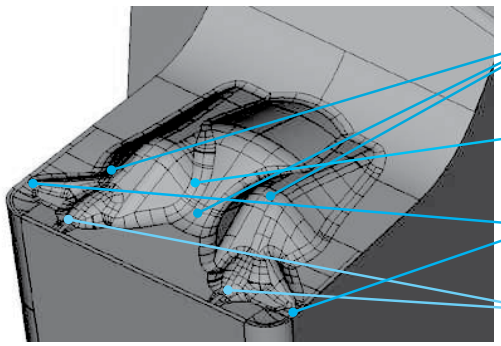
Chip Control of Grooving Insert with Molded Chipbreaker

1. Good chip control to cover wide application range stable chip control at high cutting speed, covering wide range of feed rate
2. Improved chip control and excellent surface finish
   Superior chip control performance and MEGACOAT PR1215 realizes the excellent surface quality
3. Chip control improvement at automated production line.
   (prevent frequent machine stop)



GBA type GM chipbreaker

Multi Bump Design



Center bump and dent squeeze chips for better control.

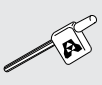
Helps modifying chip shape.

Stable chip control during shouldering and chamfering.

Front Bump: Stabilize chip control at low feed rates.

Smooth chip control due to optimized bump design of the chipbreaker

Alternative Toolholder Reference Table for Grooving Toolholder

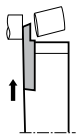
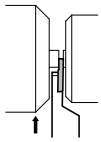
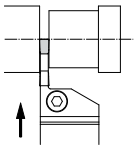
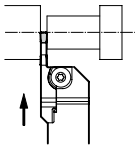
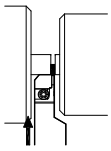
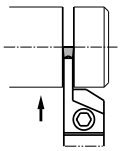
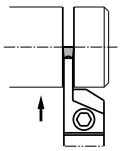
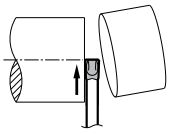
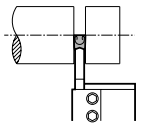
Conventional Toolholder						Alternative Toolholder			
Part Number	Overall length (mm)	Spare Parts: Clamp Screw	Spare Parts: Wrench	Spare Parts: Wrench	Part Number	Overall length (mm)	Notes	Reference Page
								
KTGF 1010K-16F	125	SB-4070TRW	FT-8	-	KTGF 1010JX-16F	120		G12
1212M-16F	150				1212JX-16F	120		
1616M-16F	150				1616JX-16F	120		
KGM 0810K-1.5-125	125	SE-40120TR	-	LTW-15S	-	-	No replacement	G36
1010K-1.5-125	125				KGM 1010JX-1.5	120		
1212M-1.5-150	150				1212JX-1.5	120		
KGM 0810K-2-125	125	SE-40120TR	-	LTW-15S	-	-	No replacement	
1010K-2-125	125				KGM 1010JX-2	120		
1212M-2-150	150				1212JX-2	120		
1616M-2-150	150	SE-50125TR	-	LTW-20	1616JX-2	120		
KGM 1010K-2.5-125	125	SE-40120TR	-	LTW-15S	KGM 1010JX-2.5	120		
1212M-2.5-150	150				1212JX-2.5	120		
1616M-2.5-150	150	SE-50125TR	-	LTW-20	1616JX-2.5	120		
KGM 1616M-3-150	150	SE-50125TR	-	LTW-20	KGM 1616JX-3	120		

Note) The corresponding replacements may be different from the conventional parts in insert clamping system or insert size.
Make sure their specifications referring to the catalog or other documents.

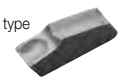
CUT-OFF

H1 - H33

Product Lineup

Small Diameter Cut-Off	**Small Diameter Cut-Off** *Cut-Off Diameter* Ø0.197"~Ø0.472" ~Ø0.630" (Ø5mm~Ø12mm) (~Ø16mm)	**KTKF** (H8)  Width : (0.020"~0.079") Width : (0.5mm~2.0mm)		**Sub Spindle Tooling** *Cut-Off Diameter* Ø0.236"~Ø0.472" Ø0.551"~Ø0.630" (Ø6mm~Ø12mm) (Ø14mm ~Ø16mm)	**KTKFS** (H10)  Width : (0.039"~0.079") Width : (1.0mm~2.0mm)
KGD	**Bolt Clamp** *Cut-Off Diameter* Ø0.472"~Ø1.575" (Ø12mm~Ø50mm)	**KGD** (H14)  Width : (0.079"~0.158") Width : (1.3mm~4.0mm)	**KGD-S** (H17)  Width : (0.079"~0.158") Width : (1.3mm~4.0mm)	**Sub Spindle Tooling** *Cut-Off Diameter* Ø0.236"~Ø0.472" Ø0.551"~Ø0.630" (Ø6mm~Ø12mm) (Ø24mm)	**KGDS** (H15)  Width : (1.3mm~3.0mm)
KGM	**Bolt Clamp** *Cut-Off Diameter* Ø0.709"~Ø1.575" (Ø18mm~Ø60mm)	**KGM** (H24)  Width : 0.059"~0.158",0.118"~0.236" Width : (1.5mm~4mm, 3mm~8mm)	**KGM-T** (H25)  Width : 0.079"~0.197" Width : (2mm~6mm)		
KTKB **KTKH** (1-edge Insert)	**Toolholders** *Cut-Off Diameter* Ø1.181"~Ø2.441" (Ø30mm~Ø79mm)	**KTKH-S** (H30)  Width : (0.020"~0.079") Width : (2.2mm~5.1mm)		**Blade Type** *Cut-Off Diameter* Ø0.551"~Ø0.630" (Ø32mm~Ø120mm)	**KTKB-S(S)** (H28)  Width : (0.020"~0.079") Width : (0.5mm~2.0mm)

Cut-Off Tools

Series Name	Shape	Advantage	Applications
For Small Diameter Cut-Off		1) Insert clamp is side screw type from the side 2) 2-edge insert 3) Max. Cut-off Dia. : Ø0.630" (Ø16mm)	1) For cut-off and grooving of small workpieces 2) For small parts machining
KGD		1) Insert is clamped from top side 2) 1-edge and 2-edge inserts available 3) Integral type and separate type are available 4) Max. Cut-off Dia. : Ø1.969" (Ø50mm)	1) PM Chipbreaker ··· For Cut-Off 2) PH Chipbreaker ··· For Cut-Off (High Feed Rate) For Grooving 3) PG Chipbreaker ··· For Cut-Off (for Small Parts Machining) Sharp-Cutting Oriented 4) PF Chipbreaker ··· For Cut-Off (for Small Parts Machining) Low Feed 5) PQ Chipbreaker ··· For Cut-Off (for Small Parts Machining) Medium Feed
KGM		1) Insert is clamped from top side 2) 1-edge and 2-edge inserts available 3) Max. Cut-off Dia. : Ø2.362" (Ø60mm)	1) For cut-off and grooving of small workpieces 2) For automatic lathe, small machine 3) TMR-Chipbreaker provides stable chip control up to high feed rate ranges
KTKB **KTKH**		1) Self-Clamping System Tap the insert lightly with a plastic hammer to set it in the pocket 2) 1-edge insert 3) Blade type and Integral Shank type 4) Max. Cut-off Dia. : Ø4.724" (Ø120mm)	1) For cut-off and deep grooving 2) Standard chipbreaker is general cut-off type Feed rate: over 0.004ipr  P-Chipbreaker is for cut-off at low feed rates Feed rate: 0.001~0.003ipr 

Tool Selection

		Small Diameter Cut-Off	KGD	KGM	KTKB / KTKH
Insert	1. Insert's Edge Number 1-edge Insert··· For Larger Dia. Workpiece (Max. 4.724" / Ø120mm)	-	-	-	✓
	2-edge Insert··· For Smaller Dia. Workpiece Cost per corner is reduced	✓	✓	✓	-
	2. Use a neutral angle insert if there is no restriction to the size of boss left on part. (See **Fig.3** Below)	TKF...S TKF...NB TKFS...S	GDM GDMS	GMM	TKN
	3. Use an angled insert to reduce the size of the remaining boss.	TKF...DR	GDM-R/L (Fig. 2)	GMM-R/L (Fig. 2)	TKR/L (Fig. 1)
	4. Use a sharp-cornered lead-angled insert to make the remaining boss much smaller when machining small parts and thin parts.	TKF...DR	-	GMM-R/L (Fig. 2)	-
	5. Use the minimum width insert suitable for the machining.	✓	✓	✓	✓
Tololholder	1. Use a suitable toolholder (blade) for the workpiece dia.	✓	✓	✓	✓
	2. Use a more rigid toolholder (blade).	✓	✓	✓	✓
	3. Use a side screw or self clamp toolholder if there is no space for clamping tools from top side (for small tools).	✓	-	-	-

How to Select Cut-Off Inserts

1) Use a neutral angle insert, when remaining boss is not a concern. (See **Fig.1**)

2) Use an angled insert to reduce the remaining boss. (See **Fig.2**)

3) Use a sharp-edged insert with lead angle to minimize the remaining boss when cutting small parts and thin parts. (See **Fig.3**)

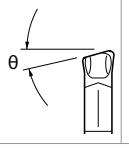
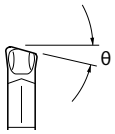
Lead Angle Hand	N (Neutral)	R (Right-Hand)	L (Left-Hand)
			
	• Angled (θ) insert can reduce burr when cutting off. • When using a larger lead angle (θ), cutting resistance becomes smaller. The feed rate should be reduced.		

Fig.1

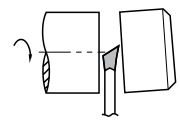
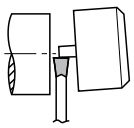
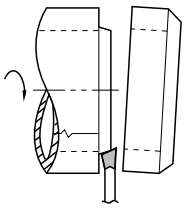
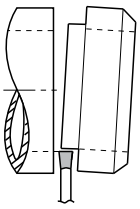
Lead Angle Hand	With Lead Angle (Right-Hand)	Without Lead Angle (Neutral)
		
		

Fig.2

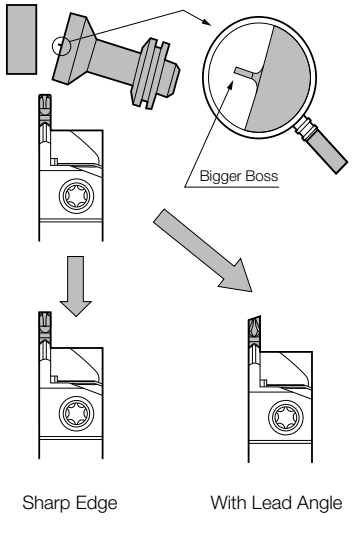


Fig.3

Caution

1) Set the cutting edge height 0.004"-0.008" above the center height
2) Always apply sufficient coolant to the cutting edge
3) Constant spindle revolution is recommended to obtain stable tool life
4) Cut-off as close to the chuck as possible
5) Decrease the feed rate from 1/2 to 1/3 when diameter is same as cut-off width
• Overuse of insert and toolholder (blade) may cause insert breakage and toolholder (blade) damage. • Do not rework the insert and toolholder (blade) to prevent damage • Clean the insert pocket well with compressed air when replacing insert

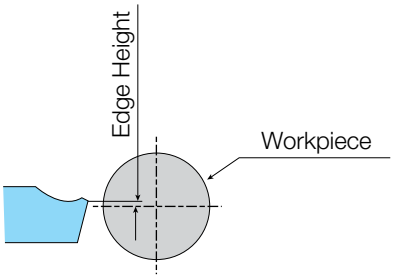
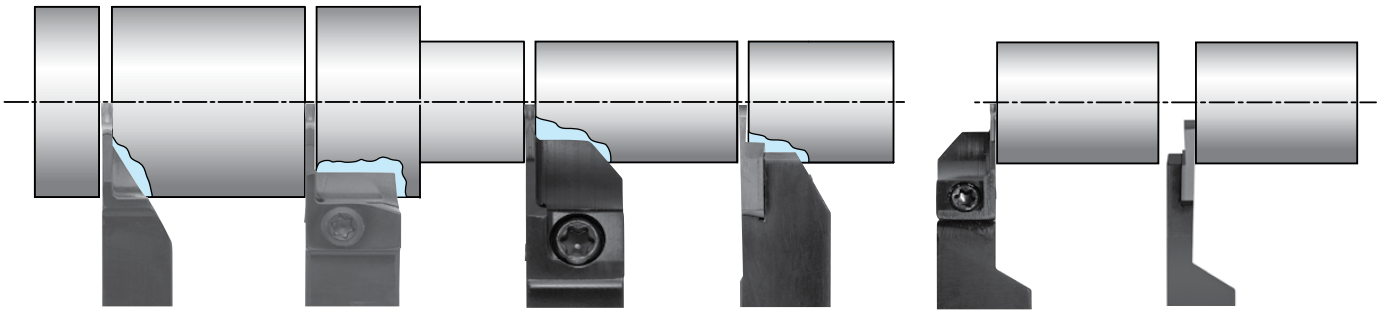


Fig.4

Small Diameter Cut-Off ~Ø1.653" / ~45mm

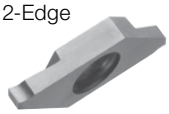
Small Shank



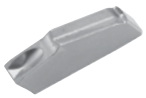
KTKH-S	KGM	KGD	KTKF	KGDS	KTKFS
Cut-Off Dia. ~Ø1.300" ~Ø45mm	Cut-Off Dia. ~Ø0.984" ~Ø32mm	Cut-Off Dia. ~Ø1.653" ~Ø42mm	Cut-Off Dia. ~Ø0.625" ~Ø16mm	Cut-Off Dia. ~Ø24mm	Cut-Off Dia. ~Ø0.630" ~Ø16mm
Shank 0.375"~0.500" 10mm~25mm	Shank 0.375"~0.500" 10mm~16mm	Shank 0.0.375"~0.750" 10mm~20mm	Shank 0.375"~0.625" 10mm~20mm	Shank 16mm	Shank 0.375"~0.500" 10mm~12mm
Edge Width 0.063"~0.094" 2.2mm~4.1mm	Edge Width 0.079"~0.118" 1.5mm~4.0mm	Edge Width 0.059"~0.157" 1.3mm~4.0mm	Edge Width 0.020"~0.079" 0.5mm~2.0mm	Edge Width 1.3mm~3.0mm	Edge Width 0.059"~0.098" 1.0mm~2.0mm
Self Clamp	Top Clamp	Top Clamp	Lateral Side Clamp	Top Clamp	Lateral Side Clamp
H30 ~ H31	H24	H14	H8	H15	H10

KTKF
KTKFS

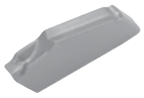
2-Edge



Low Resistance
Cut-Off Chipbreaker

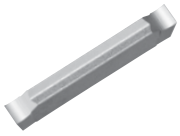


Chipbreaker for
General Cut-Off

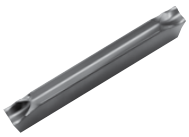


Chipbreaker for
Low Feed Cut-Off

2-Edge



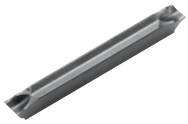
Sharp Cutting
PG Chipbreaker



Low Feed
PF Chipbreaker

Medium Feed
PQ Chipbreaker

(15° Lead Angle)



(15° Lead Angle)

(15° Lead Angle)

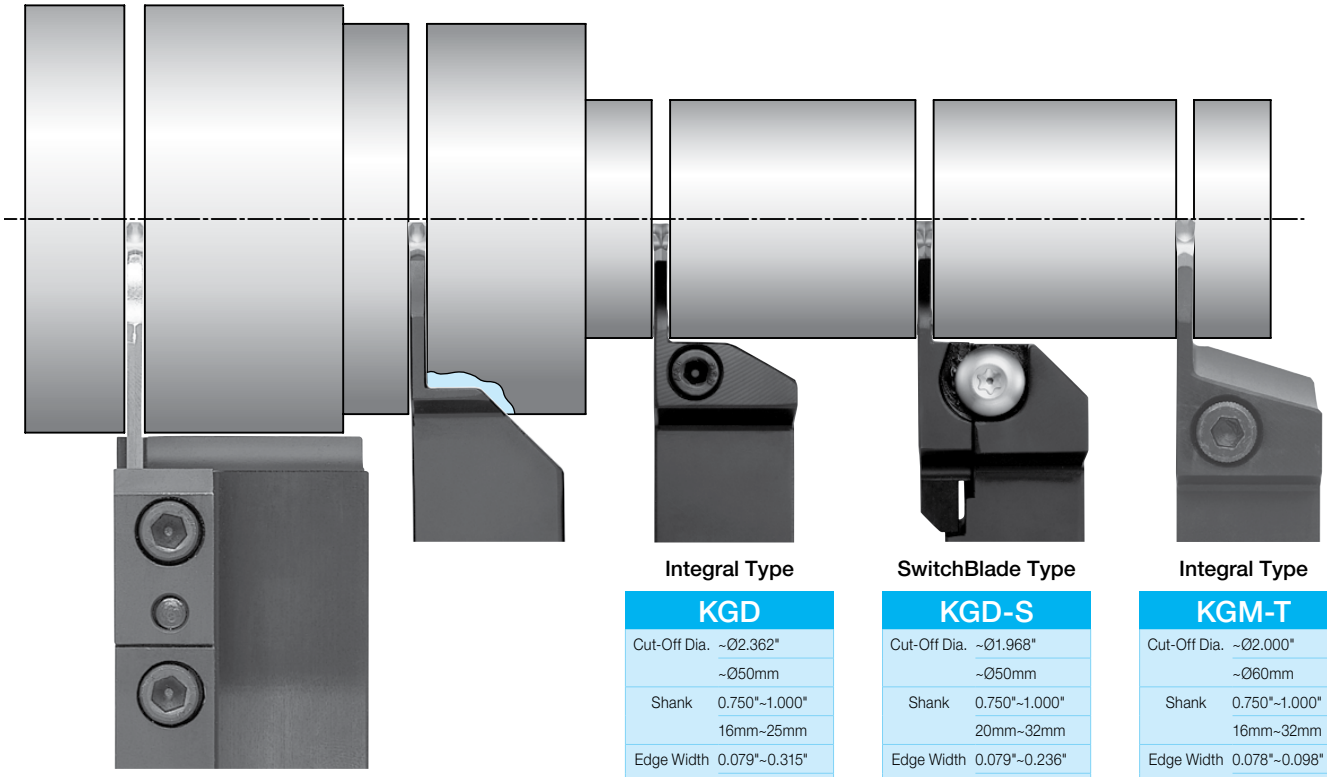
Chipbreaker Edge Shape	Cut-Off (Self Clamp) H27		
	General Cut-Off		Low Feed Cut-Off
	Chamfer + Honed	Sharp Edge	R Honed
			

KTKH-S H30
(Self Clamp)

KGD H14
(Top Clamp)

KTKF H8
(Side Screw Clamp)

General Cut-Off ~Ø3.100" / ~120mm



Blade + Toolblock

KTKB	
Cut-Off Dia.	~Ø120mm
Shank	16mm~32mm
Edge Width	1.6mm~9.6mm
Clamp	Self Clamp

H28 ~ H29

Integral Type

KTKH-S	
Cut-Off Dia.	~Ø3.100"
	~Ø79mm
Shank	0.750"~1.000"
	20mm~25mm
Edge Width	0.087"~0.201"
	3.1mm~5.1mm
Clamp	Self Clamp

H30 ~ H31

Chipbreaker for General Cut-Off

Chipbreaker for Low Feed Cut-Off

Integral Type

KGD	
Cut-Off Dia.	~Ø2.362"
	~Ø50mm
Shank	0.750"~1.000"
	16mm~25mm
Edge Width	0.079"~0.315"
	2.0mm~4.0mm
Clamp	Top Clamp

H16 ~ H17

SwitchBlade Type

KGD-S	
Cut-Off Dia.	~Ø1.968"
	~Ø50mm
Shank	0.750"~1.000"
	20mm~32mm
Edge Width	0.079"~0.236"
	2.0mm~4.0mm
Clamp	Top Clamp

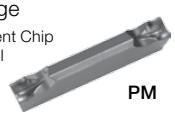
H18 ~ H19

Integral Type

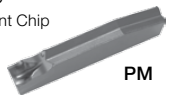
KGM-T	
Cut-Off Dia.	~Ø2.000"
	~Ø60mm
Shank	0.750"~1.000"
	16mm~32mm
Edge Width	0.078"~0.098"
	2.0mm~6.0mm
Clamp	Top Clamp

H25

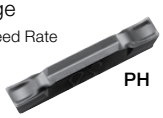
2-Edge
Excellent Chip Control
PM



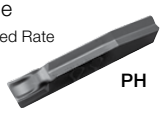
1-Edge
Excellent Chip Control
PM



2-Edge
High Feed Rate
PH



1-Edge
High Feed Rate
PH



2-Edge
Chipbreaker for Sharp Cutting

2-Edge
Chipbreaker for Stability

1-Edge
Chipbreaker for Stability

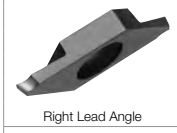
Blade + Toolblock	SwitchBlade Type	Integral Type		
				
KTKB ➡ H28	KGD-S ➡ H18	KTKH-S ➡ H30	KGD ➡ H16	KGM ➡ H25

CUT-OFF TOOLHOLDERS (SMALL DIAMETER)

TKF12

Classification of Usage
- ● : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

		MEGACOAT NANO PR1425	MEGACOAT NANO PR1535	MEGACOAT PR1225	PVD Coated Carbide PR1025	DLC PDL025	Carbide KW10
P	Carbon Steel / Alloy Steel	●	◔	◔	◔		
M	Stainless Steel	◔	●	◔	◔		
K	Cast Iron						●
N	Non-ferrous Metals					●	◔

Insert (Right-handed Insert Shown)	Part Number	W inch	W mm	ØD Max	rε	T	H	Ød	Angle (°) θ	Ref. Page for Toolholder
 Right Lead Angle	TKF12R/L 050-S-16DR	0.020	0.50	0.197	0.001	0.118	0.343	0.197	16°	H8
	TKF12R/L 070-S-16DR	0.028	0.70	0.315	0.001	0.118	0.343	0.197	16°	
	TKF12R/L 100-S-16DR	0.039	1.00	0.472	0.001	0.118	0.343	0.197	16°	
	NEW TKF12R/L 125-S-16DR	0.049	1.25	0.472	0.001	0.118	0.343	0.197	16°	
	TKF12R/L 150-S-16DR	0.059	1.50	0.472	0.001	0.118	0.343	0.197	16°	
	TKF12R/L 200-S-16DR	0.079	2.00	0.472	0.001	0.118	0.343	0.197	16°	
	TKF12R/L 050-S	0.020	0.50	0.197	0.001	0.118	0.343	0.197	0°	
	TKF12R/L 070-S	0.028	0.70	0.315	0.001	0.118	0.343	0.197	0°	
	TKF12R/L 100-S	0.039	1.00	0.472	0.001	0.118	0.343	0.197	0°	
	NEW TKF12R/L 125-S	0.049	1.25	0.472	0.001	0.118	0.343	0.197	0°	
	TKF12R/L 150-S	0.059	1.50	0.472	0.001	0.118	0.343	0.197	0°	
	TKF12R/L 200-S	0.079	2.00	0.472	0.001	0.118	0.343	0.197	0°	
 Right Lead Angle Tough Edge	TKF12R/L 100-T-16DR	0.039	1.00	0.472	0.003	0.118	0.343	0.197	16°	
	TKF12R/L 150-T-16DR	0.059	1.50	0.472	0.003	0.118	0.343	0.197	16°	
	TKF12R/L 200-T-16DR	0.079	2.00	0.472	0.003	0.118	0.343	0.197	16°	
 Tough Edge	TKF12R/L 100-T	0.039	1.00	0.472	0.003	0.118	0.343	0.197	0°	
	TKF12R/L 150-T	0.059	1.50	0.472	0.003	0.118	0.343	0.197	0°	
	TKF12R/L 200-T	0.079	2.00	0.472	0.003	0.118	0.343	0.197	0°	
 Right Lead Angle	TKF12R/L 050-NB-20DR	0.020	0.50	0.197	0.000	0.118	0.343	0.197	20°	
	TKF12R/L 070-NB-20DR	0.028	0.70	0.315	0.000	0.118	0.343	0.197	20°	
	TKF12R/L 100-NB-20DR	0.039	1.00	0.472	0.000	0.118	0.343	0.197	20°	
	TKF12R/L 150-NB-20DR	0.059	1.50	0.472	0.000	0.118	0.343	0.197	20°	
	TKF12R/L 200-NB-20DR	0.079	2.00	0.472	0.000	0.118	0.343	0.197	20°	
 Without Chipbreaker	TKF12R/L 050-NB	0.020	0.50	0.197	0.000	0.118	0.343	0.197	0°	
	TKF12R/L 070-NB	0.028	0.70	0.315	0.000	0.118	0.343	0.197	0°	
	TKF12R/L 100-NB	0.039	1.00	0.472	0.000	0.118	0.343	0.197	0°	
	TKF12R/L 150-NB	0.059	1.50	0.472	0.000	0.118	0.343	0.197	0°	
	TKF12R/L 200-NB	0.079	2.00	0.472	0.000	0.118	0.343	0.197	0°	

	MEGACOAT NANO PR1425	MEGACOAT NANO PR1535	MEGACOAT PR1225	PVD Coated Carbide PR1025	DLC PDL025	Carbide KW10
NEW TKF12R/L 125-S-16DR	●	●	●		○	
TKF12R/L 100-T-16DR	●	●	●			
TKF12R/L 150-T-16DR	●	●	●			
TKF12R/L 200-T-16DR	●	●	●			
TKF12R/L 100-T	●	●	●			
TKF12R/L 150-T	●	●	●			
TKF12R/L 200-T	●	●	●			

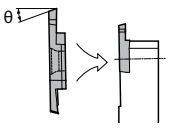
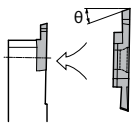
- Lead angle shows the angle when installed in the toolholder.
- As Fig.1 of **H8** shows, the cutting diameter of the insert is measured when the lead edge passes 0.039" past the center line of part.

Indication of Description

TKF 12 R 050 - S - 16D R

Insert Name	Insert Size	Insert Hand	Width	Name of Chipbreaker	Lead Angle (θ) (Front Cutting Edge Angle)	Lead Angle Hand
		R: Right-Hand		S: S-Chipbreaker		R: R-Hand
		L: Left-Hand		T: T-Chipbreaker (Tough Edge)		R: L-Hand
				NB: Without Chipbreaker		

Table 1

Toolholder	R-Hand (R)	Toolholder	L-Hand (L)
Insert	R-Hand (R)	Insert	L-Hand (L)
Lead Angle	R-Hand (R)	Lead Angle	R-Hand (R)
			

Inserts are sold in 10 piece boxes

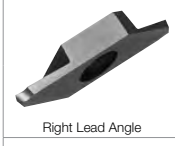
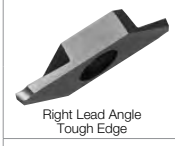
● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

NEW ITEMS!

TKF16

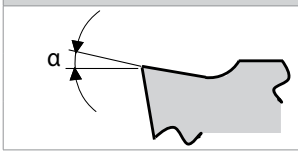
Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

		PR1425	PR1535 (NEW)	PR1225	PR1025 (NEW)	PDL025	KW10
P	Carbon Steel / Alloy Steel	●	◔	◔	◔		
M	Stainless Steel	◔	●	◔	◔		
K	Cast Iron						●
N	Non-ferrous Metals					●	◔

Insert (Right-handed Insert Shown)	Part Number	W inch	W mm	ØD Max	rε	T	H	Ød	Angle θ	PR1425	PR1535	PR1225	PR1025	PDL025	KW10	Ref. Page for Toolholder
 Right Lead Angle	TKF16R/L 150-S-16DR	0.059	1.5	0.630	0.002	0.157	0.374	0.197	16°	●	●	●	Ⓡ	○	○	H8
	200-S-16DR	0.079	2.0	0.630	0.002	0.157	0.374	0.197	16°	●	●	●	Ⓛ	○	○	
	TKF16R/L 150-S	0.059	1.5	0.630	0.002	0.157	0.374	0.197	0°	●	●	●	Ⓡ	○	○	
	200-S	0.079	2.0	0.630	0.002	0.157	0.374	0.197	0°	●	●	●	Ⓡ	○	○	
 Right Lead Angle Tough Edge	TKF16R/L 150-T-16DR	0.059	1.5	0.630	0.003	0.157	0.374	0.197	16°	●	●	●				
	200-T-16DR	0.079	2.0	0.630	0.003	0.157	0.374	0.197	16°	●	●	●				
 Tough Edge	TKF16R/L 150-T	0.059	1.5	0.630	0.003	0.157	0.374	0.197	0°	●	●	●				
	200-T	0.079	2.0	0.630	0.003	0.157	0.374	0.197	0°	●	●	●				
 Right Lead Angle Without Chipbreaker	TKF16R/L 150-NB-20DR	0.059	1.5	0.630	0.000	0.157	0.374	0.197	20°	●	●		○		○	
	200-NB-20DR	0.079	2.0	0.630	0.000	0.157	0.374	0.197	20°	●	●		Ⓡ		○	
 Without Chipbreaker	TKF16R/L 150-NB	0.059	1.5	0.630	0.000	0.157	0.374	0.197	0°	●	●		○		○	
	200-NB	0.079	2.0	0.630	0.000	0.157	0.374	0.197	0°	●	●		Ⓛ		○	

• Lead angle shows the angle when installed in the toolholder.
• As Fig.1 of H8 shows, the cutting diameter of the insert is measured when the lead edge passes 0.039" past the center line of part.

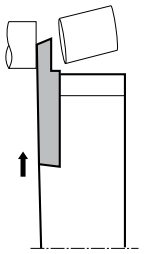
Descriptions of Chipbreaker Edge Shape

Edge Shape \ Chipbreaker	S-Chipbreaker α (°)	S-Chipbreaker Part Number	T-Chipbreaker (Tough Edge) α (°)	T-Chipbreaker (Tough Edge) Part Number	NB Chipbreaker α (°)	NB Chipbreaker Part Number
	15°	TKF12...-S	12°	TKF...-T TKF...-T-16DR	0°	TKF...-NB TKF...-NB-20DR
	20°	TKF16...-S TKF16...-S-16DR				
	25°	TKF12...-S-16DR				

Inserts are sold in 10 piece boxes

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

KTKF (For Small Diameter Cut-Off)



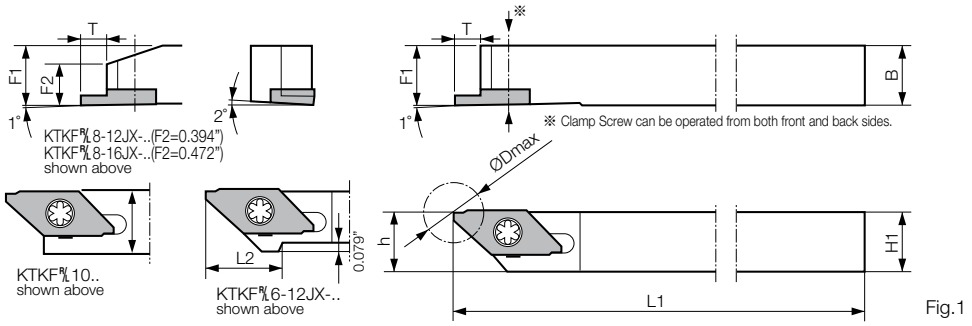
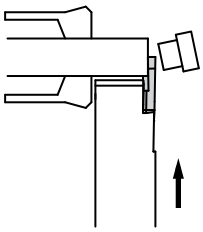


Fig.1

Right-hand Shown

Right-hand Insert for Right-hand Toolholder



(Goose-neck Holder)

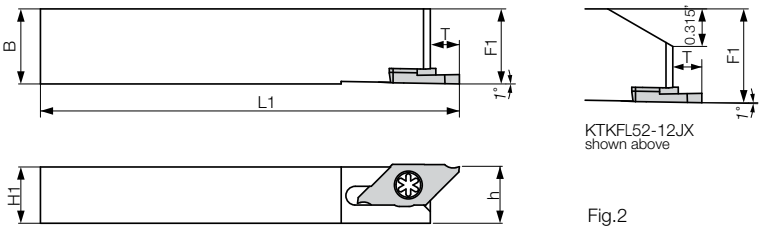


Fig.2

Left-hand Shown

Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	H1=h	B	L1	L2	F1	T	Shape	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts ➡ H6~H7
KTKF□ 6-12JX	●	●	inch	0.375	0.375	4.750	0.590	0.375	0.236	Fig.1	SB-4590TRWN	LTW-10S	TKF12□...
8-12JX	●	●		0.500	0.500	4.750	-	0.500	0.236	Fig.1			
10-12JX	●	●		0.625	0.625	4.750	-	0.625	0.236	Fig.1			
KTKF□ 6-16JX	●	●		0.375	0.375	4.750	0.787	0.375	0.630	Fig.1	SB-4590TRWN	LTW-10S	TKF16□...
8-16JX	●	●		0.500	0.500	4.750	-	0.500	0.630	Fig.1			
10-16JX	●	●		0.625	0.625	4.750	-	0.625	0.630	Fig.1			
KTKF□ 52-12JX		●		0.500	0.625	4.750	-	0.625	0.236	Fig.1	SB-4590TRWN	LTW-10S	TKF12□...
62.5-12JX		●		0.625	0.750	4.750	-	0.750	0.236	Fig.1			
KTKF□ 1010JX-12	●	○	mm	10	10	120	15	10	6	Fig.1	SB-4590TRWN	LTW-10S	TKF12□...
1212JX-12	●	○		12	12	120	-	12	6	Fig.1			
1616JX-12	●	○		16	16	120	-	16	6	Fig.1			
2020JX-12	●			20	20	120	-	20	6	Fig.1			
KTKF□ 1010JX-16	○	○		10	10	120	20	10	8	Fig.1	SB-4590TRWN	LTW-10S	TKF16□...
1212JX-16	○	○		12	12	120	-	12	8	Fig.1			
1616JX-16	○	○		16	16	120	-	16	8	Fig.1			
2020JX-16	○			20	20	120	-	20	8	Fig.1			
KTKF□ 1212F-12	○			12	12	85	-	12	6	Fig.1	SB-4590TRWN	LTW-10S	TKF12□...
1212F-16	○			12	12	85	-	12	8	Fig.1			TKF16□...
KTKF□ 1216JX-12		○		12	16	120	-	16	6	Fig.2	SB-4590TRWN	LTW-10S	TKF12L...
1620JX-12		○		16	20	120	-	20	6	Fig.2			

- Dimension T shows the distance from the toolholder to the cutting edge.
- See Page ➡ **H6~H7** for actual cutting diameter.

Recommended Cutting Conditions ➡ **H32**

Note : Cutting diameter of -12 type toolholder (ØDmax) depends on the insert grooving width.

How to Use

1) When using main spindle only

Workpiece maximum ØD1 (**Fig.1**)=ØDmax
Even if the cutting edge runs beyond the center line, the insert does not contact the workpiece, since the workpiece falls off.
(The clearance between the insert and the workpiece is 0.008")

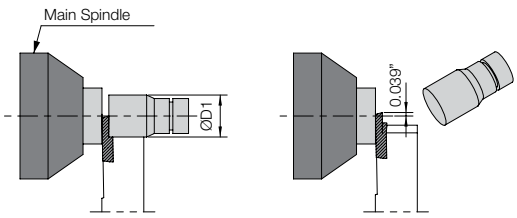


Fig.1
(When the edge is at the center)

Fig.2
(When the edge is 0.008" beyond the center)

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2) When using both Main and Sub spindles

In this case, when the cutting edge runs beyond the center line, the insert will contact the workpiece, since the workpiece does not fall off.
Therefore the programmed distance beyond the center must be considered.
e.g. When the cutting edge is programmed to run 1mm beyond the center.
Workpiece maximum, ØD2 (**Fig.4**) = [ØDmax - 0.039"×2] (in)
(The clearance between the insert and the workpiece is 0.008")

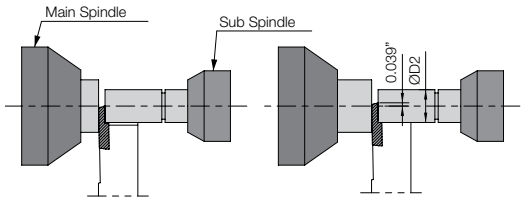


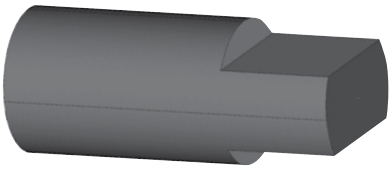
Fig.3 (When the edge is at the center)

Fig.4 (When the edge is 0.008" beyond the center)

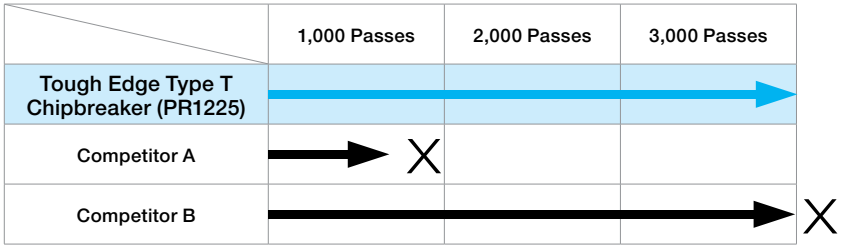
Tough Edge Type T Chipbreaker

Fracture Resistance Comparison (Interrupted Machining)

Cutting Conditions
Vc=250 f=0.0020ipr (Cut-Off 0.0006ipr)
Wet W1-9 (with flat cuts on two sides)
TKF12R200-T-16DR (PR1225)



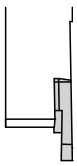
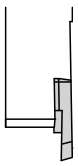
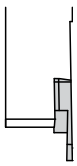
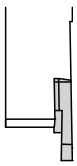
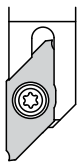
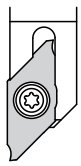
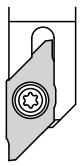
Worpiece (with flat cuts on two sides)



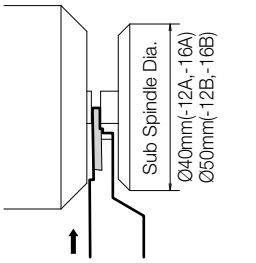
Compared to Competitor A and B, Tough Edge "T Chipbreaker" achieves superior fracture resistance during interrupted cutting.

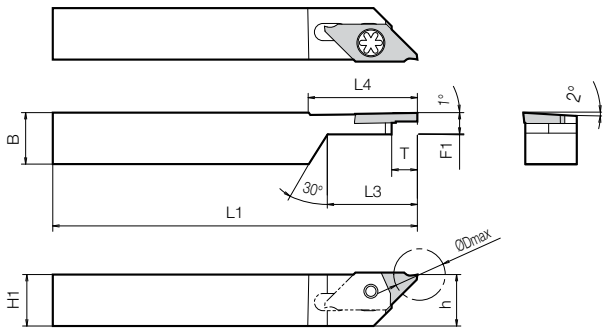
How to Select Edge Preparation

Troubleshooting

Problems	Countermeasures	Countermeasures						
		Lead Angle (θ)		Edge Width		Name of Chipbreaker		
		No (0°)	Yes	Narrower	Wider	S	T	NB
								
Insert Fracture	Insert Fracture Prevention	Effective			Effective		Effective	Effective
Long Cutting Time	Cutting Time Reduction	Effective			Effective		Effective	Effective
Entangled Chips	Chip Entanglement Prevention	Effective		Effective		Effective		
Large Boss Remains	Small Boss Remains		Effective	Effective		Effective		
Ring Remains (Hollow Workpiece)	Prevention of Ring		Effective	Effective		Effective		
Deformation of thin walled workpiece (pipe)	Preventing Deformation		Effective	Effective		Effective		

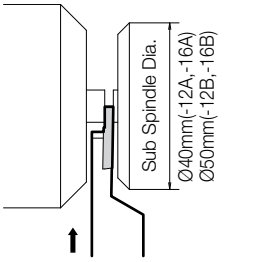
KTKFS (Small Diameter Cut-Off for Sub Spindle)

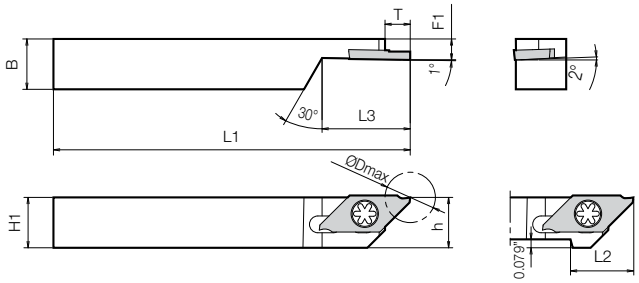




Right-hand Shown

Right-hand Insert for Right-hand Toolholder





KTKFSR/L6-12JX
KTKFSR/L6-16JX
KTKFSR/L1010K-12A
KTKFSR/L1010K-16A
only for left shape

Left-hand Shown

Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

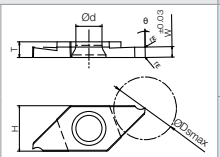
Part Number	Stock		Unit	Cut-Off Dia.	Dimensions								Spare Parts		Applicable Inserts ➡ H11
													Clamp Screw	Wrench	
	R	L		ØDmax	H1=h	B	L1	L2	L3	L4※	F1	T			
KTKFSR/L 6-12JX	●	●	inch	0.236~0.472	0.375	0.375	4.750	0.590	0.866	1.024	0.197	0.236	SB-4050TRN	LTW-10S	TKFS12R/L
8-12JX	●	●		0.236~0.472	0.500	0.500	4.750	-	1.024	1.024	0.197	0.236			
KTKFSR/L 6-16JX	●	●		0.551~0.630	0.375	0.375	4.750	0.787	0.866	1.181	0.197	0.315	SB-4050TRN	LTW-10S	TKFS16R/L
8-16JX	●	●		0.551~0.630	0.500	0.500	4.750	-	1.024	1.181	0.197	0.315			
KTKFSR/L 1010K-12A	○	○	mm	6~12	10	10	120	15	22	26	5	6	SB-4050TRN	LTW-10S	TKFS12R/L
1212F-12A	○	○		6~12	12	12	85	-	22	26	5	6			
1212K-12B	○	○		6~12	12	12	120	-	26	26	5	6			
KTKFSR/L 1010K-16A	○	○		14~16	10	10	120	20	22	30	5	8	SB-4050TRN	LTW-10S	TKFS16R/L
1212F-16A	○	○		14~16	12	12	85	-	22	30	5	8			
1212K-16B	○	○		14~16	12	12	120	-	26	30	5	8			

• Dimension T shows the distance from the toolholder to the cutting edge.

Recommended Cutting Conditions ➡ **H11**

※ Only Right-hand is available for L4 dimension

TKFS (ØDmax)

Insert (Right-handed Insert Shown)	Part Number	Dimensions (in) W inch	W mm	ØD Max
 	TKFS12R/L 100-S	0.039	0.039	0.236
	150-S	0.059	0.059	0.354
	200-S	0.079	0.079	0.472
	TKFS16R/L 150-S	0.059	0.059	0.551
	200-S	0.079	0.079	0.630

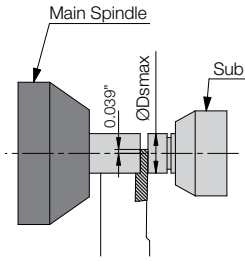


Fig.1

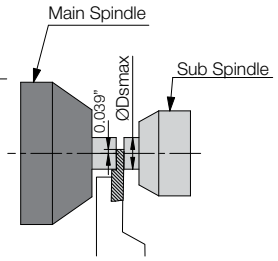


Fig.2

As **Fig.2** shows, the cutting diameter of the insert is measured when the lead edge passes 0.039" past the center line of part.

• As **Fig.1** shows, use KTKFL (Left-hand) when the distance between main spindle and sub spindle are long.

• As **Fig.2** shows, KTKFS is recommended when the workpiece diameters are small and the distance between the main spindle and sub spindle are short

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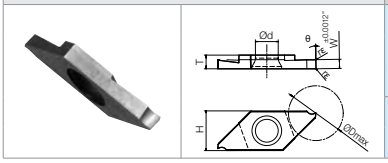
Applicable Inserts

Classification of Usage
- ● : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

		NEW				
P	Carbon Steel / Alloy Steel	●	◔	◔	◔	
M	Stainless Steel	◔	●	◔	◔	
K	Cast Iron					●
N	Non-ferrous Metals					●

Insert (Right-handed Insert Shown)	Part Number	W inch	W mm	ØD Max	rε	T	H	Ød	Angle θ	MEGACOAT NANO PR1425	MEGACOAT NANO PR1535	MEGACOAT PR1225	PVD Coated Carbide PR1025	Carbide KW10
	TKFS12R/L 100-S	0.039	1.0	0.236	0.002	0.087	0.343	0.173	0°	●	●	●	○	○
	TKFS12R/L 150-S	0.059	1.5	0.354						●	●	●	○	○
	TKFS12R/L 200-S	0.079	2.0	0.472						●	●	●	○	○
	TKFS12R/L 150-S	0.059	1.5	0.551	0.002	0.087	0.374	0.173	0°	●	●	●	○	○
	TKFS12R/L 200-S	0.079	2.0	0.630						●	●	●	○	○

- Lead angle shows the angle when installed in the toolholder.
- As Fig.1 of ➔ **H10** shows, the cutting diameter of the insert is measured when the lead edge passes 0.039" past the center line of part.

Recommended Cutting Conditions

Workpiece Material	Recommended Grade (Vc sfm) MEGACOAT NANO PR1425	MEGACOAT NANO PR1535	MEGA COAT PR1225	PVD Coated Carbide PR1025	Carbide KW10	TKFS12 Width 0.039" (1.0mm)	TKFS12 Width 0.059" (1.5mm)	TKFS12 Width 0.079" (2.0mm)	TKFS16 Width 0.059" (1.5mm)	TKFS16 Width 0.079" (2.0mm)	Notes
						Feed Rate (ipr)			Feed Rate (ipr)		
Carbon Steel	★ 225~550	☆ 230~490	☆ 225~500	☆ 200~425	-	0.0004~0.0012	0.0004~0.0012	0.0004~0.0012	0.0004~0.0012	0.0004~0.0012	Wet
Alloy Steel	★ 225~550	☆ 230~490	☆ 225~500	☆ 200~425	-	0.0004~0.0012	0.0004~0.0012	0.0004~0.0012	0.0004~0.0012	0.0004~0.0012	
Stainless Steel	☆ 200~450	★ 200~400	☆ 200~400	☆ 175~325	-	0.0004~0.0008	0.0004~0.0008	0.0004~0.0012	0.0004~0.0008	0.0004~0.0012	
Cast Iron	-		-	-	★ 175~325	0.0004~0.0012	0.0004~0.0012	0.0004~0.0012	0.0004~0.0012	0.0004~0.0012	
Aluminum	-		-	-	★ 650~1475	0.0004~0.0012	0.0004~0.0012	0.0004~0.0012	0.0004~0.0012	0.0004~0.0012	
Brass	-		-	-	★ 325~650	0.0004~0.0016	0.0004~0.0016	0.0004~0.0016	0.0004~0.0016	0.0004~0.0016	

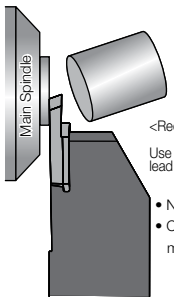
★ : 1st Recommendation ☆ : 2nd Recommendation

KTKF / KTKFS Selection Reference

KTKF

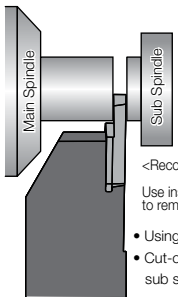
- Both Right-hand and Left-hand types are applicable to gang tool post
- Left-hand type is used during cut-off operations using sub spindle

KTKFR Right-Hand Toolholder



<Recommendation>
Use insert without lead angle.
- Not Using Sub Spindle
- Cut-off operation near main spindle side

KTKFL Left-Hand Toolholder

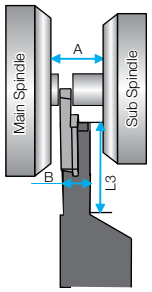


<Recommendation>
Use insert with lead angle to remove boss.
- Using Sub Spindle
- Cut-off operation near sub spindle side

KTKFS

- When machining workpiece with small diameter, use KTKFS to reduce overhang distance from the main spindle

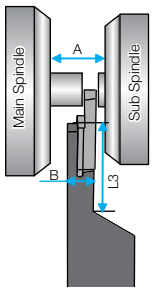
KTKFSR Right-Hand Toolholder



<How to Select> R-Hand
- Long workpiece and more rigidity
- Cut-off operation near main spindle side

<How to Select> L3 Dimension
- Sub Spindle Dia. Ø40mm→22 (A type) Ø50mm→26 (B type)

KTKFSL Left-Hand Toolholder



<How to Select> L-Hand
- Short workpiece and less rigidity
- Cut-off operation near main spindle side

<How to Select> L3 Dimension
- Sub Spindle Dia. Ø40mm→22 (A type) Ø50mm→26 (B type)

Inserts are sold in 10 piece boxes

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

GDM / GDG

Classification of Usage
- ◕ : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

		NEW		NEW		
P	Carbon Steel / Alloy Steel	◔	◕	◔		
M	Stainless Steel	◕	◔	◔		
K	Cast Iron				◕	◔

Insert (Right-handed Insert Shown)	Part Number	Dimensions (in) W inch	W mm	W Tolerance	rε	M	L	H	Angle θ	MEGA COAT NANO PR1535	MEGA COAT PR1225	MEGA COAT PR1215	DLC PDL025	Carbide GW15	Ref. Page for Toolholder
Cut-off for Small Parts Machining Low Feed 2-edge	GDM 1316N-003PF	0.051	1.3	±0.0016	0.0012	0.039	0.630	0.146	-	○	○	○			
	1316N-015PF	0.051	1.3		0.0059	0.039	0.630	0.146	-	○	○	○			H14 H15
	1516N-003PF	0.059	1.5		0.0012	0.047	0.630	0.146	-	●	●	○			
	1516N-015PF	0.059	1.5		0.0059	0.047	0.630	0.146	-	●	●	○			
	2020N-003PF	0.079	2.0		0.0012	0.067	0.787	0.169	-	●	●				
	2020N-015PF	0.079	2.0		0.0059	0.067	0.787	0.169	-	●	●	○			
	2520N-003PF	0.098	2.5		0.0012	0.083	0.787	0.169	-	●	●				H14 ~ H19
	2520N-015PF	0.098	2.5		0.0059	0.083	0.787	0.169	-	●	●	○			
	3020N-003PF	0.118	3.0		0.0012	0.091	0.787	0.169	-	●	●				
	3020N-015PF	0.118	3.0		0.0059	0.091	0.787	0.169	-	●	●	○			
15° Lead Angle Low Feed / 2-edge	GDM 1316R-003PF-15D	0.051	1.3	±0.0016	0.0012	0.039	0.630	0.146	15°	○	○	○			
	1516R-003PF-15D	0.059	1.5		0.0012	0.047	0.630	0.146	15°	●	●	○			H14 H15
	1516R-015PF-15D	0.059	1.5		0.0059	0.047	0.630	0.146	15°	Ⓡ	Ⓡ	Ⓡ			
	2020R-003PF-15D	0.079	2.0		0.0012	0.067	0.787	0.169	15°	●	●				
	2020R-015PF-15D	0.079	2.0		0.0059	0.067	0.787	0.169	15°	Ⓡ	Ⓡ	Ⓡ			
	2520R-003PF-15D	0.098	2.5		0.0012	0.083	0.787	0.169	15°	●	●				
	2520R-015PF-15D	0.098	2.5		0.0059	0.083	0.787	0.169	15°	Ⓡ	Ⓡ	Ⓡ			
	3020R-003PF-15D	0.118	3.0		0.0012	0.091	0.787	0.169	15°	●	●				
	3020R-015PF-15D	0.118	3.0		0.0059	0.091	0.787	0.169	15°	Ⓡ	Ⓡ	Ⓡ			
Medium Feed 2-edge	GDM 2020N-010PQ	0.079	2.0	±0.0012	0.0039	0.067	0.787	0.169	-	●	●				
	2520N-010PQ	0.098	2.5		0.0039	0.083	0.787	0.169	-	●	●				
	3020N-010PQ	0.118	3.0		0.0039	0.091	0.787	0.169	-	●	●				H14 ~ H19
15° Lead Angle Medium Feed / 2-edge	GDM 2020R-010PQ-15D	0.079	2.0	±0.0012	0.0039	0.067	0.787	0.169	15°	Ⓡ	Ⓡ				
	2520R-010PQ-15D	0.098	2.5		0.0039	0.083	0.787	0.169	15°	Ⓡ	Ⓡ				
	3020R-010PQ-15D	0.118	3.0		0.0039	0.091	0.787	0.169	15°	Ⓡ	Ⓡ				
2-edge	GDG 2020N-005PG	0.079	2.0	±0.0008	0.0020	0.067	0.787	0.169	-	○	○		○	○	
	2520N-005PG	0.098	2.5		0.0020	0.083	0.787	0.169	-	○	○		○	○	
	3020N-005PG	0.118	3.0		0.0020	0.091	0.787	0.169	-	○	○		○	○	
15° Lead Angle 2-edge	GDG 2020R-005PG-15D	0.079	2.0	±0.0008	0.0020	0.067	0.787	0.169	15°	Ⓡ	Ⓡ		Ⓡ	Ⓡ	
	2520R-005PG-15D	0.098	2.5		0.0020	0.083	0.787	0.169	15°	Ⓡ	Ⓡ		Ⓡ	Ⓡ	
	3020R-005PG-15D	0.118	3.0		0.0020	0.091	0.787	0.169	15°	Ⓡ	Ⓡ		Ⓡ	Ⓡ	

Using PM/PF Chipbreaker (designed for cut-off) for grooving will not create a flat bottom (See Fig.)

Recommended Cutting Conditions ➔ **H20~H21**

Inserts are sold in 10 piece boxes

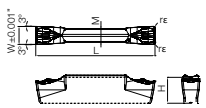
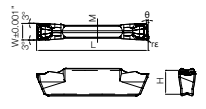
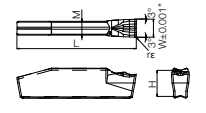
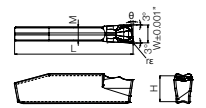
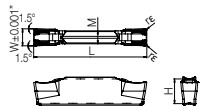
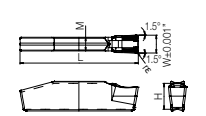
● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

NEW ITEMS!

GDM / GDMS / GDG

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

		NEW		
P	Carbon Steel / Alloy Steel	◔	●	◔
M	Stainless Steel	●	◔	◔
K	Cast Iron			

Insert (Right-handed Insert Shown)			Part Number	Dimensions (in) W inch	W mm	W Tolerance	rε	M	L	H	Angle θ	MEGA COAT NANO PR1535	MEGACOAT PR1225	MEGACOAT PR1215	Ref. Page for Toolholder
Cut-off	2-edge		GDM 2020N-020PM	0.079	2.0	±0.0012	0.008	0.059	0.787	0.169	-	●	●	●	H14 ~ H19
			2520N-020PM	0.098	2.5		0.008	0.077	0.787	0.169	-	●	●	●	
			3020N-025PM	0.118	3.0		0.010	0.091	0.787	0.169	-	●	●	●	
			4020N-030PM	0.158	4.0		0.012	0.130	0.787	0.169	-	●	●	●	H14 H16 ~ H19
	2-edge		GDM 2020ℝ-020PM-6D	0.079	2.0	±0.0012	0.008	0.059	0.787	0.169	6°	Ⓡ	Ⓡ	Ⓡ	H14 ~ H19
			2520ℝ-020PM-6D	0.098	2.5		0.008	0.077	0.787	0.169	6°	Ⓡ	Ⓡ	Ⓡ	
			3020ℝ-025PM-6D	0.118	3.0		0.010	0.091	0.787	0.169	6°	Ⓡ	Ⓡ	Ⓡ	
	1-edge		GDMS 2020N-020PM	0.079	2.0	±0.0012	0.008	0.059	0.787	0.169	-	○	●	●	
			3020N-025PM	0.118	3.0		0.010	0.091	0.787	0.169	-	○	●	●	
			4020N-030PM	0.158	4.0		0.012	0.130	0.787	0.169	-	○	●	●	H14 H16 ~ H19
	1-edge		GDMS 2020ℝ-020PM-6D	0.079	2.0	±0.0012	0.008	0.059	0.787	0.169	6°	Ⓡ	Ⓡ	Ⓡ	H14 ~ H19
			3020ℝ-025PM-6D	0.118	3.0		0.010	0.091	0.787	0.169	6°	Ⓡ	Ⓡ	Ⓡ	
			4020ℝ-030PM-6D	0.158	4.0		0.012	0.130	0.787	0.169	6°	Ⓡ	Ⓡ	Ⓡ	H14 H16 ~ H19
Grooving & Traversing	High feed 2-edge		GDM 2020N-020PH	0.079	2.0	±0.0012	0.008	0.059	0.787	0.169	-	●	●	●	H14 ~ H19
			3020N-030PH	0.118	3.0		0.012	0.091	0.787	0.169	-	●	●	●	
			4020N-030PH	0.157	4.0		0.012	0.130	0.787	0.169	-	●	●	●	H14 H16 ~ H19
	High feed 1-edge		GDMS 2020N-020PH	0.079	2.0	±0.0012	0.008	0.059	0.787	0.169	-	○	●	●	H14 ~ H19
			3020N-030PH	0.118	3.0		0.012	0.091	0.787	0.169	-	○	●	●	
			4020N-030PH	0.157	4.0		0.012	0.130	0.787	0.169	-	○	●	●	H14 H16 ~ H19

Using PM/PF Chipbreaker (designed for cut-off) for grooving will not create a flat bottom (See Fig.) 

Recommended Cutting Conditions ➔ H20~H21

Insert Identification System

① Series	② Tolerance Symbol	③ No. of Edges	④ Width	⑤ Insert Length	⑥ Hand of Tool	⑦ Corner-R (rε)	⑧ Chipbreaker Symbol	⑨ Lead Angle
Grooving / Cut-off GD Series	G: Ground Insert M: M Class	(No Indication) : 2-edge S : 1-edge	13 : 1.3mm 15 : 1.5mm 20 : 2mm 25 : 2.5mm 30 : 3mm 40 : 4mm	16 : 16mm 20 : 20mm	R : Right-hand L : Left-hand N : Neutral	003 : 0.03mm 005 : 0.05mm 010 : 0.1mm 015 : 0.15mm 020 : 0.2mm 025 : 0.25mm 030 : 0.3mm	PF : Cut-Off (Low Feed) PQ : Cut-Off (Medium Feed) PG : Cut-Off (Low Cutting Force) PM : Cut-Off (General Purpose) PH : Grooving and Cut-off (High Feed Rate)	No Indication : 0° 6D : 6° 15D : 15°

G	D	M	S	30	20	R	-	025	PM	-	6D

Inserts are sold in 10 piece boxes

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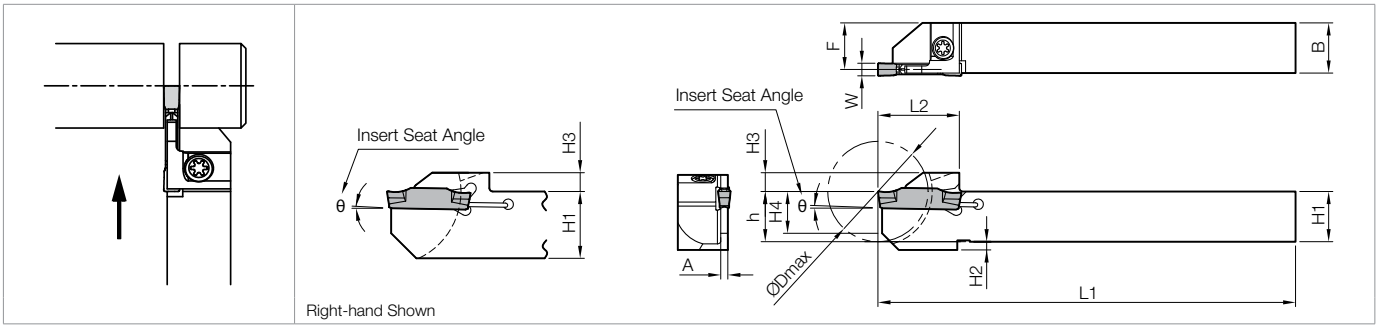
KGD (Small Diameter Cut-Off)

Insert Width : 0.059"~0.157" (1.3mm~4.0mm)



Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Cut-Off Dia. ØDmax	Dimensions H1=h	H2	H3	H4	B	L1	L2	F	A	Angle (°) θ	Insert Width W MIN	Insert Width W MAX	Spare Parts: Clamp Screw	Spare Parts: Wrench
KGD□ 6-1.5JX	●	●		0.787	0.375	0.098	0.177	0.315	0.375	4.75	0.709	0.351	0.047	1°	-	0.059	SB-40120TR	LTW-15S
8-1.5JX	●	●		0.944	0.500	0.051	0.177	0.394	0.500	4.75	0.768	0.476	0.047	1°	-	0.059		
KGD□ 6-2JX	●	●		0.787	0.375	0.098	0.177	0.315	0.375	4.75	0.709	0.342	0.067	1°	0.078	0.118	SB-40120TR	LTW-15S
8-2JX	●	●		0.944	0.500	0.051	0.177	0.394	0.500	4.75	0.768	0.467	0.067	1°	0.078	0.118		
10-2JX	●	●		1.259	0.625	-	0.177	0.394	0.625	4.75	0.965	0.592	0.067	1°	0.078	0.118		
KGD□ 6-2.4JX	●	●		0.787	0.375	0.098	0.177	0.315	0.375	4.75	0.709	0.336	0.079	1°	0.094	0.118	SB-40120TR	LTW-15S
8-2.4JX	●	●	inch	0.944	0.500	0.051	0.177	0.394	0.500	4.75	0.768	0.461	0.079	1°	0.094	0.118		
10-2.4JX	●	●		1.259	0.625	-	0.177	0.394	0.625	4.75	0.965	0.586	0.079	1°	0.094	0.118		
KGD□ 8-3JX	●	●		0.944	0.500	0.051	0.177	0.394	0.500	4.75	0.768	0.453	0.094	1°	0.118	0.118	SB-40120TR	LTW-15S
10-3JX	●	●		1.259	0.625	-	0.177	0.394	0.625	4.75	0.965	0.578	0.094	1°	0.118	0.157		
KGD□ 10-3D38JX	●	●		1.496	0.625	-	0.236	0.394	0.625	4.75	1.142	0.578	0.094	1°	0.118	0.157	SE-50125TR	LTW-20
12-3D42JX	●	●		1.653	0.750	-	0.236	0.551	0.750	4.75	1.220	0.703	0.094	1°	0.118	0.157		
43-3D42JX	●	●		1.653	0.750	-	0.236	0.551	0.500	4.75	1.220	0.453	0.094	1°	0.118	0.157		
KGD□ 1010JX-1.3	○	○		20	10	2	4.5	8	10	120	18	9.5	1.0	5°	1.3	1.3	SB-40120TR	LTW-15S
1212JX-1.3	○	○		24	12	2	4.5	10	12	120	19.5	11.5	1.0	5°	1.3	1.3		
KGD□ 1010JX-1.5	○	○		20	10	2	4.5	8	10	120	18	9.4	1.2	5°	1.5	1.5		
1212JX-1.5	○	○		24	12	2	4.5	10	12	120	19.5	11.4	1.2	5°	1.5	1.5		
KGD□ 1212F-1.3	○	○		24	12	2	4.5	10	12	85	19.5	11.5	1.0	5°	1.3	1.3		
1212F-1.5	○	○		24	12	2	4.5	10	12	85	19.5	11.4	1.2	5°	1.5	1.5		
KGD□ 1010JX-2	○	○		20	10	2	4.5	8	10	120	18	9.15	1.7	1°	2.0	3.0	SB-40120TR	LTW-15S
1212JX-2	○	○		24	12	2	4.5	10	12	120	19.5	11.15	1.7	1°	2.0	3.0		
1616JX-2	○	●		32	16	-	4.5	10	16	120	24.5	15.15	1.7	1°	2.0	3.0		
KGD□ 1010JX-2.4	○	○	mm	20	10	2	4.5	8	10	120	18	9	2.0	1°	2.4	3.0	SB-40120TR	LTW-15S
1212JX-2.4	○	○		24	12	2	4.5	10	12	120	19.5	11	2.0	1°	2.4	3.0		
1616JX-2.4	○	○		32	16	-	4.5	10	16	120	24.5	15	2.0	1°	2.4	3.0		
KGD□ 1212JX-3	○	○		24	12	2	4.5	10	12	120	19.5	10.8	2.4	1°	3.0	3.0	SB-40120TR	LTW-15S
1616JX-3	○	○		32	16	-	4.5	10	16	120	24.5	14.8	2.4	1°	3.0	4.0		
KGD□ 1212F-2	○	○		24	12	2	4.5	10	12	85	19.5	11.15	1.7	1°	2.0	3.0	SB-40120TR	LTW-15S
1212F-2.4	○	○		24	12	2	4.5	10	12	85	19.5	11	2	1°	2.4	3.0		
KGD□ 1616JX-3D38	○	○		38	16	-	6	10	16	120	29	14.8	2.4	1°	3.0	4.0	SE-50125TR	LTW-20
2012JX-3D42	○	○		42	20	-	6	14	12	120	31	10.8	2.4	1°	3.0	4.0		
2020JX-3D42	○	○		42	20	-	6	14	20	120	31	18.8	2.4	1°	3.0	4.0		

- Note) 1.4mm width insert can be installed in KGD□1212JX-3, but is not recommended due to the toolholder's rigidity.
- Recommended tightening torque for clamp screw is 2.0Nm for SB-40120TR and 2.5Nm for SE-50125TR
- When machining material greater than Ø36mm with KGD□...-3D38 or KGD□...-3D42 toolholders, use 1-edge inserts.
- Max. workpiece diameter for 2-edge inserts Ø36mm

Recommended Cutting Conditions ➡ **H20~H21**

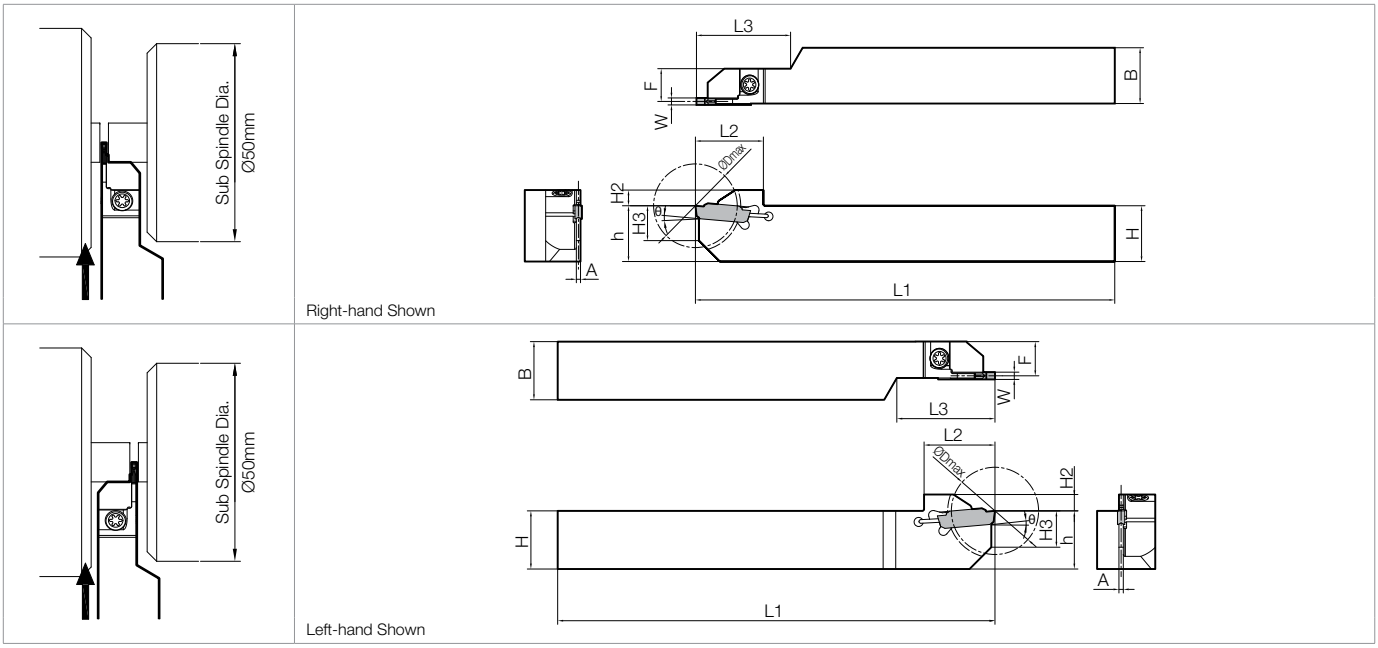
Toolholder Indentification System (Small Diameter)

K G D
KGDS

R	1616	JX	-	3 / 1.3	D38 / B
Toolholder Hand: R: Right-hand L: Left-hand	Shank Size: 16×16mm	Toolholder Length: 120mm		Applicable Inserts: GDM/GDMS Edge Width: 3~4mm / 1.3mm	Others: D38: ØDmax 38mm / B : For sub spindle tooling

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

KGDS (Small Diameter Cut-Off for Sub Spindle)



Toolholder Dimensions

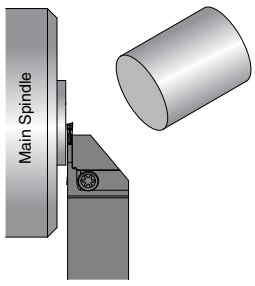
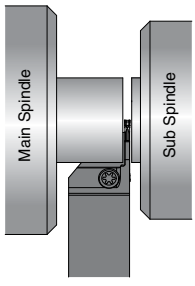
Part Number		Stock R	Stock L	Cut-Off Dia. ØDmax	H1=h	H2	H3	B	L1	L2	L3	F	A	Angle θ	Insert Width W (mm) MIN	Insert Width W (mm) MAX	Spare Parts: Clamp Screw	Spare Parts: Wrench
KGDSR/L	1616JX-1.3B	○	○	24	16	4.5	10	16	120	19.5	27	9.50	1.0	5°	1.3	1.3	SB-40120TR	LTW-15S
	1616JX-1.5B	○	○									9.40	1.2		1.5	1.5		
	1616JX-2B	○	○									9.15	1.7	1°	2.0	3.0		

Recommended Cutting Conditions ➡ H20~H21

KGD / KGDS Selection Reference

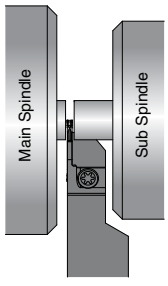
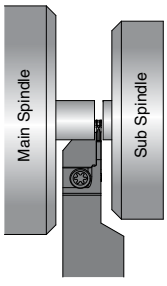
KGD

Standard Type
· Both Right-hand and Left-hand types are applicable to gang tool post. · Left-hand type is used during cut-off operation using sub spindle.

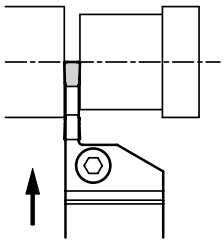
KGDSR (Right-hand Toolholder)	KGDSL (Left-hand Toolholder)
	
<1st. Recommendation> Use insert with lead angle to remove boss. · Not using sub spindle · Cut-off operation near main spindle side	<1st. Recommendation> Use insert without lead angle. · Using sub spindle · Cut-off operation near sub spindle side

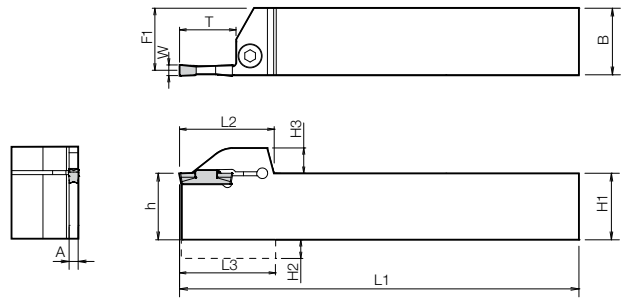
KGDS

Sub Spindle Type
· When machining a workpiece with a small diameter, use KGDS to reduce overhang distance from the main spindle.

KGDSR (Right-hand Toolholder)	KGDSL (Left-hand Toolholder)
	
· Long workpiece and more rigidity · Cut-off operation near main spindle side	· Short workpiece and less rigidity · Cut-off operation near sub spindle side

KGD (Integral-Style)





Right-hand Shown

Toolholder Dimensions (Inch Sizes)

Width (mm)	Max. D.O.C.	Part Number	Stock		Dimensions (in)										Insert Width W		Spare Parts	
																	Clamp Bolt	Wrench
			R	L	H1=h	H2	H3	B	L1	L2	L3	F1	A	T*	MIN	MAX		
2	0.669 (17mm)	KGDR/L 12-2T17	●	●	0.75	-	0.374	0.75	4.92	1.28	-	0.71	0.067	0.669 (17mm)	0.079	0.118	HH5X16	
		16-2T17	●	●	1.00	-	0.374	1.00	5.90	1.28	-	0.96	0.067		0.079	0.118	HH5X25	
3	0.394 (10mm)	KGDR/L 12-3T10	●	●	0.75	-	0.374	0.75	4.92	1.20	-	0.70	0.094	0.393 (10mm)	0.118	0.158	HH5X16	
		16-3T10	●	●	1.00	-	0.374	1.00	5.90	1.20	-	0.95	0.094		0.118	0.158	HH5X25	
	0.787 (20mm)	KGDR/L 12-3T20	●	●	0.75	-	0.374	0.75	4.92	1.35	-	0.70	0.094	0.787 (20mm)	0.118	0.158	HH5X16	
		16-3T20	●	●	1.00	-	0.374	1.00	5.90	1.39	-	0.95	0.094		0.118	0.158	HH5X25	
4	0.394 (10mm)	KGDR/L 12-4T10	●	●	0.75	-	0.374	0.75	4.92	1.20	-	0.68	0.133	0.393 (10mm)	0.158	0.197	HH5X16	
		16-4T10	●	●	1.00	-	0.374	1.00	5.90	1.20	-	0.93	0.133		0.158	0.197	HH5X25	
	0.787 (20mm)	KGDR/L 12-4T20	●	●	0.75	-	0.374	0.75	4.92	1.35	-	0.68	0.133	0.787 (20mm)	0.158	0.197	HH5X16	
		16-4T20	●	●	1.00	-	0.374	1.00	5.90	1.39	-	0.93	0.133		0.158	0.197	HH5X25	
	0.984 (25mm)	KGDR/L 16-4T25	●	●	1.00	-	0.374	1.00	5.90	1.59	-	0.93	0.133	0.990 (25mm)	0.158	0.197	HH5X25	
5	0.394 (10mm)	KGDR/L 12-5T10	●	●	0.75	-	0.374	0.75	4.92	1.20	-	0.66	0.173	0.393 (10mm	0.197	0.236	HH5X16	
		16-5T10	●	●	1.00	-	0.374	1.00	5.90	1.20	-	0.91	0.173		0.197	0.236	HH5X25	
	0.669 (17mm)	KGDR/L 12-5T17	●	●	0.75	-	0.374	0.75	4.92	1.47	-	0.66	0.173	0.669 (17mm)	0.197	0.236	HH5X16	
		16-5T17	●	●	1.00	-	0.374	1.00	5.90	1.47	-	0.91	0.173		0.197	0.236	HH5X25	
	0.984 (25mm)	KGDR/L 16-5T25	●	●	1.00	-	0.374	1.00	5.90	1.59	-	0.91	0.173	0.990 (25mm)	0.197	0.236	HH5X25	
6	0.591 (15mm)	KGDR/L 16-6T15	●	●	1.00	-	0.374	1.00	5.90	1.28	-	0.89	0.208	0.590 (15mm)	0.236	0.236	HH5X25	
	1.181 (30mm)	KGDR/L 16-6T30	●	●	1.00	-	0.374	1.00	5.90	1.79	-	0.89	0.208	1.181 (30mm)	0.236	0.236	HH5X25	
8	0.984 (25mm)	KGDR/L 16-8T25	●	●	1.00	0.26	0.374	1.00	5.90	1.65	1.69	0.89	0.236	0.990 (25mm)	0.315	0.315	HH6X25	LW-5

* T Dimension shows the available grooving depth (If the T Dimension is 0.787" or more, the maximum depth of groove made by the 2-edge insert will be 0.709").
• Recommended tightening torque of screw : 6.5N·m (Groove width 2~6mm)

Recommended Cutting Conditions ➔ **H20~H21**

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
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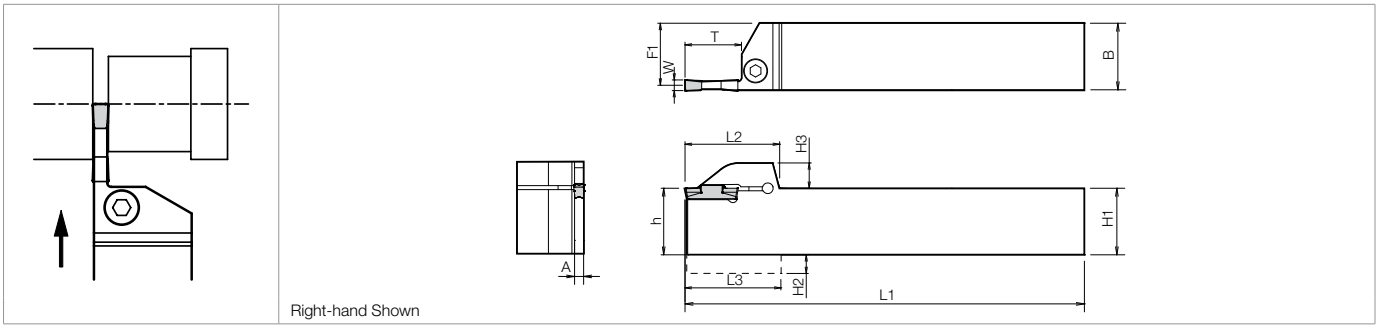
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

KGD (Integral-Style)



Right-hand Shown

Toolholder Dimensions (Metric Sizes)

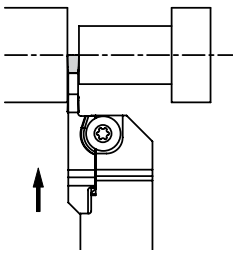
Width (mm)	Max. D.O.C.	Part Number	Stock R	Stock L	H1=h	H2	H3	B	L1	L2	L3	F1	A	T*	Insert Width W MIN	Insert Width W MAX	Spare Parts: Clamp Bolt	Spare Parts: Wrench
2	6	KGDR/L 1616H-2T06	○	○	16	4.0	9.5	16	100	27.7	28.0	15.2	1.7	6	2.0	3.0	HH5X16	LW-4
		2020K-2T06	○	○	20	-	9.5	20	125	28.0	-	19.2	1.7	6			HH5X16	
		2525M-2T06	●	○	25	-	9.5	25	150	28.0		24.2	1.7	6			HH5X25	
	10	KGDR/L 1616H-2T10	○	○	16	4.0	9.5	16	100	30.2	30.5	15.2	1.7	10	2.0	3.0	HH5X16	
		2020K-2T10	○	○	20	-	9.5	20	125	30.5	-	19.2	1.7	10			HH5X16	
		2525M-2T10	○	○	25	-	9.5	25	150	30.5	-	24.2	1.7	10			HH5X25	
	17	KGDR/L 1616H-2T17	○	●	16	4.0	9.5	16	100	31.2	31.5	15.2	1.7	17	2.0	3.0	HH5X16	
		2012K-2T17	○	○	20	-	9.5	12	125	32.5	-	11.2	1.7	17			HH5X16	
		2020K-2T17	○	○	20	-	9.5	20	125	32.5	-	19.2	1.7	17			HH5X16	
		2525M-2T17	○	○	25	-	9.5	25	150	32.5	-	24.2	1.7	17			HH5X25	
2.4	17	KGDR/L 2012K-2.4T17	○	○	20	-	9.5	12	125	32.5	-	11.0	2.0	17	2.4	3.0	HH5X16	
		2020K-2.4T17	○	○	20	-	9.5	20	125	32.5	-	19.0	2.0	17			HH5X16	
3	6	KGDR/L 1616H-3T06	○	○	16	4.0	9.5	16	100	27.7	28.0	14.8	2.4	6	3.0	4.0	HH5X16	
		2020K-3T06	○	○	20	-	9.5	20	125	28.0	-	18.8	2.4	6			HH5X16	
		2525M-3T06	○	○	25	-	9.5	25	150	28.0	-	23.8	2.4	6			HH5X25	
	10	KGDR/L 1616H-3T10	○	○	16	4.0	9.5	16	100	30.2	30.5	14.8	2.4	10	3.0	4.0	HH5X16	
		2020K-3T10	○	○	20	-	9.5	20	125	30.5	-	18.8	2.4	10			HH5X16	
		2525M-3T10	○	○	25	-	9.5	25	150	30.5	-	23.8	2.4	10			HH5X25	
	20	KGDR/L 1616H-3T20	○	○	16	4.0	9.5	16	100	34.2	34.5	14.8	2.4	20	3.0	4.0	HH5X16	
		2012K-3T20	○	○	20	-	9.5	12	125	34.5	-	10.8	2.4	20			HH5X16	
		2020K-3T20	○	○	20	-	9.5	20	125	34.5	-	18.8	2.4	20			HH5X16	
		2525M-3T20	○	○	25	-	9.5	25	150	35.5	-	23.8	2.4	20			HH5X25	
4	10	KGDR/L 2020K-4T10	○	○	20	-	9.5	20	125	30.5	-	18.3	3.4	10	4.0	5.0	HH5X16	
		2525M-4T10	○	○	25	-	9.5	25	150	30.5	-	23.3	3.4	10			HH5X25	
	20	KGDR/L 2020K-4T20	○	○	20	-	9.5	20	125	34.5	-	18.3	3.4	20	4.0	5.0	HH5X16	
		2525M-4T20	○	○	25	-	9.5	25	150	35.5	-	23.3	3.4	20			HH5X25	
	25	KGDR/L 2525M-4T25	○	○	25	-	9.5	25	150	40.5	-	23.3	3.4	25	4.0	5.0	HH5X25	

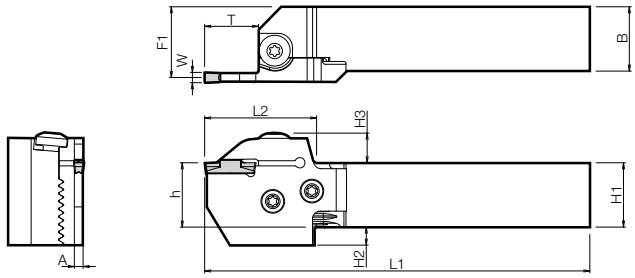
* T Dimension shows the available grooving depth (If the T Dimension is 20mm or more, the maximum depth of groove made by the 2-edge insert will be 18mm).
• Recommended tightening torque of screw : 6.5N·m (Groove width 2~5mm)

Recommended Cutting Conditions ➔ **H20~H21**

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

KGD-S (0° SwitchBlade Style)





Right-hand Shown

Toolholder Dimensions (Inch Sizes)

Width (mm)	Max. D.O.C.	Unit Part Number (Includes Toolholder & Blade)	Stock R	Stock L	Toolholder Part Number ➔ H8	Blade Part Number ➔ G25	Dimensions (in) H1=h	H2	H3	B	L1	L2	F1	A	T*	Insert Width W MIN	Insert Width W MAX
2	0.669 (17mm)	KGD□ 12X-2T17S	●	●	KGD□12-C	KGD□-2T17-C	0.75	0.435	0.456	0.75	4.80	1.57	0.88	0.067	0.669 (17mm)	0.079	0.118
		16X-2T17S	●	●	KGD□16-C		1.00	0.291	0.456	1.00	5.78	1.57	1.13	0.067			
3	0.394 (10mm)	KGD□ 12X-3T10S	●	●	KGD□12-C	KGD□-3T10-C	0.75	0.435	0.456	0.75	4.52	1.29	0.86	0.094	0.394 (10mm)	0.118	0.158
		16X-3T10S	●	●	KGD□16-C		1.00	0.291	0.456	1.00	5.51	1.29	1.11	0.094			
	0.669 (17mm)	KGD□ 12X-3T20S	●	●	KGD□12-C	KGD□-3T20-C	0.75	0.435	0.456	0.75	4.92	1.68	0.86	0.094	0.669 (17mm)		
		16X-3T20S	●	●	KGD□16-C		1.00	0.291	0.456	1.00	5.90	1.68	1.11	0.094			
4	0.394 (10mm)	KGD□ 12X-4T10S	●	●	KGD□12-C	KGD□-4T10-C	0.75	0.435	0.456	0.75	4.52	1.29	0.84	0.133	0.394 (10mm)	0.158	0.197
		16X-4T10S	●	●	KGD□16-C		1.00	0.291	0.456	1.00	5.51	1.29	1.09	0.133			
	0.787 (20mm)	KGD□ 12X-4T20S	●	●	KGD□12-C	KGD□-4T20-C	0.75	0.435	0.456	0.75	4.92	1.68	0.84	0.133	0.787 (20mm)		
		16X-4T20S	●	●	KGD□16-C		1.00	0.291	0.456	1.00	5.90	1.68	1.09	0.133			
	0.984 (25mm)	KGD□ 12X-4T25S	●	●	KGD□12-C	KGD□-4T25-C	0.75	0.435	0.456	0.75	5.11	1.88	0.84	0.133	0.984 (25mm)		
		16X-4T25S	●	●	KGD□16-C		1.00	0.291	0.456	1.00	6.10	1.88	1.09	0.133			
5	0.394 (10mm)	KGD□ 12X-5T10S	●	●	KGD□12-C	KGD□-5T10-C	0.75	0.435	0.456	0.75	4.52	1.29	0.82	0.173	0.394 (10mm)	0.197	0.236
		16X-5T10S	●	●	KGD□16-C		1.00	0.291	0.456	1.00	5.51	1.29	1.07	0.173			
	0.984 (25mm)	KGD□ 16X-5T25S	●	●	KGD□16-C	KGD□-5T25-C	1.00	0.291	0.456	1.00	6.10	1.88	1.07	0.173	0.984 (25mm)		

Note) 1. When using the toolholder in normal mounting position, the lower jaw of toolholder may interfere with the tool presetter.
2. The toolholder and blade descriptions are printed on the toolholder body. (Unit description is not printed.)
KGD-S: Right-hand Blade for Right-hand Toolholder, Left-hand Blade for Left-hand Toolholder.
The toolholder is applicable for all blades with suitable hand.
3. In case the unit number is not available (No unit number), please purchase toolholder and blade separately.
4. Dimension T : Shows max. groove depth. (If the dimension T is 20mm or more, the maximum groove-depth of groove made by the 2-edge insert will be 18 mm.)
5. Recommended tightening torque of clamp bolt for insert: 6.5N·m (Groove width 2~4mm)
6. Above toolholders are available for external grooving as well.

Recommended Cutting Conditions ➔ H20~H21

Spare Parts

Unit Part Number	Spare Parts: Clamp Bolt (for Insert Clamp)	Spare Parts: Clamp Screw (for Blade)	Spare Parts: Wrench
			
KGD□.....S	BH6X10TR	SB-60120TR	LTW-25

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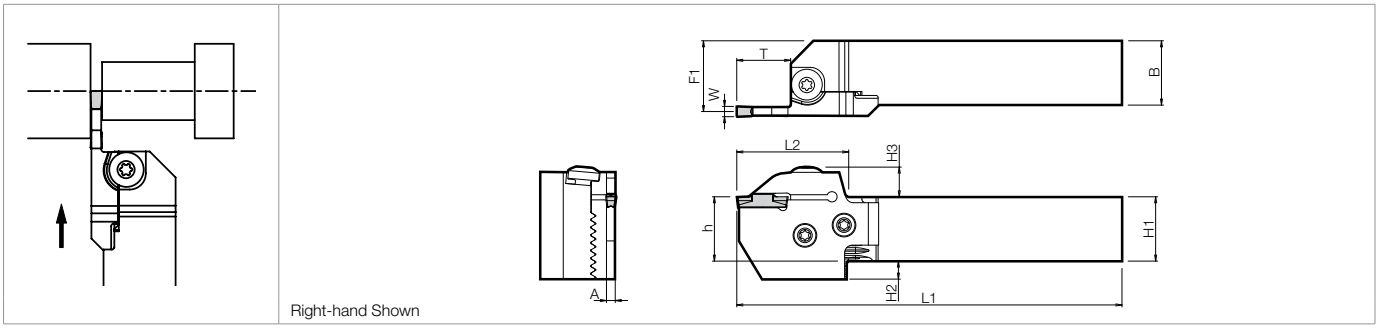
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

KGD-S (0° SwitchBlade Style)



Right-hand Shown

Toolholder Dimensions (Metric Sizes)

Width (mm)	Max. D.O.C.	Unit Part Number (Includes Toolholder & Blade)	Stock R	Stock L	Toolholder Part Number ➡ H8	Blade Part Number ➡ G25	H1=h	H2	H3	B	L1	L2	F1	A	T*	Insert Width W MIN	Insert Width W MAX
2	17	KGD%2020X-2T17S	○	○	KGD%2020-C	KGD%-2T17-C	20	12	11.6	20	122	40	23.4	1.7	17	2.0	3.0
		2525X-2T17S	○	○	KGD%2525-C		25	7	11.6	25	147	40	28.4				
		No Unit Part Number ➡			KGD%3232-C		32	-	11.6	32	167	40	35.4				
3	10	KGD%2020X-3T10S	○	○	KGD%2020-C	KGD%-3T10-C	20	12	11.6	20	115	33	23.0	2.4	10	3.0	4.0
		2525X-3T10S	○	○	KGD%2525-C		25	7	11.6	25	140	33	28.0				
		3232X-3T10S	○	○	KGD%3232-C		32	-	11.6	32	160	33	35.0				
	20	KGD%2020X-3T20S	○	○	KGD%2020-C	KGD%-3T20-C	20	12	11.6	20	125	43	23.0		20		
		2525X-3T20S	○	○	KGD%2525-C		25	7	11.6	25	150	43	28.0				
		3232X-3T20S	○	○	KGD%3232-C		32	-	11.6	32	170	43	35.0				
4	10	KGD%2020X-4T10S	○	○	KGD%2020-C	KGD%-4T10-C	20	12	11.6	20	115	33	22.5	3.4	10	4.0	5.0
		2525X-4T10S	○	○	KGD%2525-C		25	7	11.6	25	140	33	27.5				
		3232X-4T10S		○	KGD%3232-C		32	-	11.6	32	160	33	34.5				
	20	KGD%2020X-4T20S	○	○	KGD%2020-C	KGD%-4T20-C	20	12	11.6	20	125	43	22.5		20		
		2525X-4T20S	○	○	KGD%2525-C		25	7	11.6	25	150	43	27.5				
		3232X-4T20S	○	○	KGD%3232-C		32	-	11.6	32	170	43	34.5				
	25	KGD%2020X-4T25S	○	○	KGD%2020-C	KGD%-4T25-C	20	12	11.6	20	130	48	22.5		25		
		2525X-4T25S	○	○	KGD%2525-C		25	7	11.6	25	155	48	27.5				
		3232X-4T25S	○	○	KGD%3232-C		32	-	11.6	32	175	48	34.5				

Note) 1. When using the toolholder in normal mounting position, the lower jaw of toolholder may interfere with the tool presetter.
2. The toolholder and blade descriptions are printed on the toolholder body. (Unit description is not printed.)
KGD-S: Right-hand Blade for Right-hand Toolholder, Left-hand Blade for Left-hand Toolholder.
The toolholder is applicable for all blades with suitable hand.
3. In case the unit number is not available (No unit number), please purchase toolholder and blade separately.
4. Dimension T : Shows max. groove depth. (If the dimension T is 20mm or more, the maximum groove-depth of groove made by the 2-edge insert will be 18 mm.)
5. Recommended tightening torque of clamp bolt for insert: 6.5N·m (Groove width 2~4mm)
6. Above toolholders are available for external grooving as well.

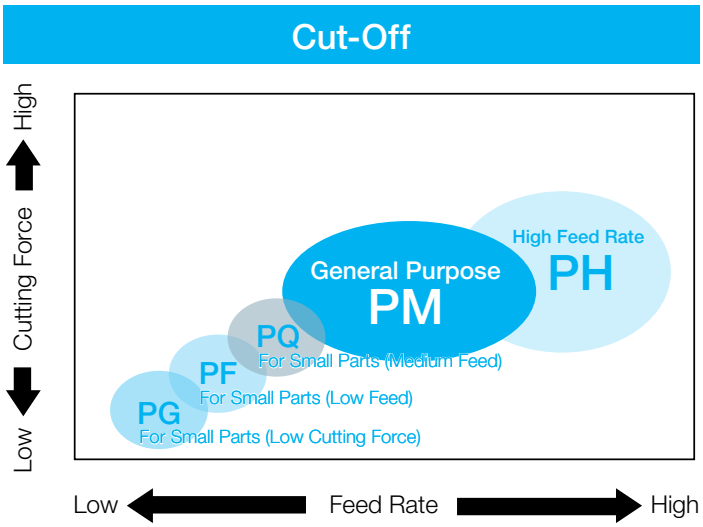
Recommended Cutting Conditions ➡ H20~H21

Spare Parts

Unit Part Number	Spare Parts: Clamp Bolt (for Insert Clamp)	Spare Parts: Clamp Screw (for Blade)	Spare Parts: Wrench
			
KGD%.....S	BH6X10TR	SB-60120TR	LTW-25

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

Application Map



Recommended Cutting Conditions (PF / PQ / PG Chipbreakers)

Workpiece Material	Recommended Insert Grade (Vc sfm)			Feed Rate (ipr)						Notes
				PF(rε=0.0012)			PF (rε=0.0059)			
	MEGACOAT NANO	MEGACOAT		Edge Width			Edge Width			
	PR1535	PR1225	PR1225	0.051"~0.059" (1.3mm~1.5mm)	0.079" (2.0mm)	0.098"~0.118" (2.5mm~3.0mm)	0.059" (1.5mm)	0.079" (2.0mm)	0.098"~0.118" (2.5mm~3.0mm)	
Carbon Steel	☆ 230~490	★ 230~490	☆ 230~590	0.0004~0.0016	0.0008~0.0024	0.0008~0.0031	0.0004~0.0020	0.0012~0.0031	0.0016~0.0039	Wet
Alloy Steel	☆ 230~490	★ 230~490	☆ 230~590							
Stainless Steel	★ 200~390	☆ 200~390	☆ 200~490	0.0004~0.0012	0.0004~0.0016	0.0004~0.0020	0.0004~0.0016	0.0012~0.0028	0.0016~0.0031	
Cast Iron	-	-	★ 260~660	0.0004~0.0020	0.0008~0.0028	0.0012~0.0031	0.0004~0.0024	0.0012~0.0035	0.0016~0.0039	

★ : 1st Recommendation ☆ : 2nd Recommendation

Workpiece Material	Recommended Insert Grade (Vc sfm)					Feed Rate (ipr)				Notes
						PQ		PG		
	MEGACOAT NANO	MEGACOAT		DLC	Carbide	Edge Width		Edge Width		
	PR1535	PR1225	PR1225	PDL025	GW15	0.079" (2.0mm)	0.098"~0.118" (2.5mm~3.0mm)	0.079" (2.0mm)	0.098"~0.118" (2.5mm~3.0mm)	
Carbon Steel	☆ 225~500	★ 225~500	☆ 225~600	-	-	0.0012~0.0039	0.0016~0.0047	0.0004~0.0016	0.0004~0.0020	Wet
Alloy Steel	☆ 225~500	★ 225~500	☆ 225~600	-	-					
Stainless Steel	★ 200~400	☆ 200~400	☆ 200~500	-	-	0.0008~0.0028	0.0008~0.0031	0.0004~0.0012	0.0004~0.0016	
Cast Iron	-	-	★ 250~650	-	☆ 150~325	0.0016~0.0039	0.0016~0.0047	0.0004~0.0016	0.0004~0.0020	
Aluminum		-	-	★ 660~1640	☆ 650~1475	-	-	0.0004~0.0020	0.0004~0.0024	
Brass		-	-	-	★ 325~650	-	-	0.0004~0.0028	0.0004~0.0031	

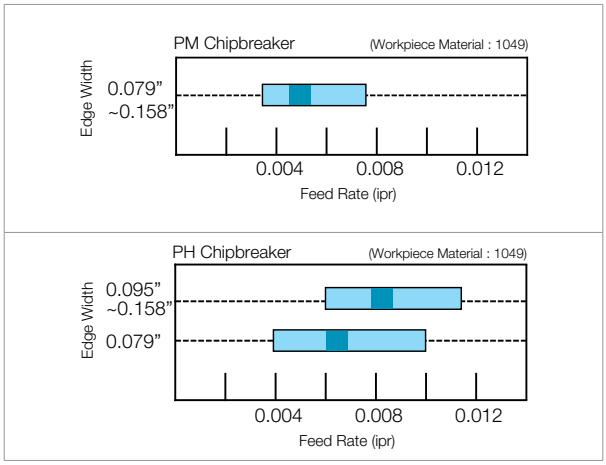
★ : 1st Recommendation ☆ : 2nd Recommendation

Recommended Cutting Conditions (PM / PH Chipbreakers)

Workpiece Material	Recommended Insert Grade (Vc sfm)			Feed Rate (ipr)			Remarks
				PM	PH		
	MEGACOAT NANO	MEGACOAT		Edge Width	Edge Width		
	PR1535	PR1225	PR1215	0.079"~0.158" (2mm~4mm)	0.079" (2mm)	0.095"~0.158" (3mm~4mm)	
Carbon Steel	☆ 260~660	★ 260~660	☆ 330~660	0.0031~0.0071	0.0039~0.0098	0.0059~0.0110	Wet
Alloy Steel	☆ 230~590	★ 230~590	☆ 260~590				
Stainless Steel	★ 200~490	☆ 200~490	☆ 200~490	0.0024~0.0047	0.0020~0.0047	0.0031~0.0059	
Cast Iron	-	-	★ 330~660	0.0031~0.0071	0.0039~0.0098	0.0059~0.0110	

★ : 1st Recommendation ☆ : 2nd Recommendation

Feed Examples



■ : Indicates the center value of feed (f)

CAUTION During Cut-Off

1) Flood coolant is recommended. Apply enough coolant to the cutting edge

2) Keep spindle revolution constant during processing to achieve longer tool life

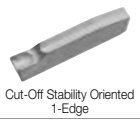
3) Cut off as close to the chuck as possible

4) Reduce feed rate by 30-50% when diameter is same as cut-off insert width to prevent impact

GMM / GMN / GMR/L

Classification of Usage
- ◕ : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

		Cermet	CVD Coated Carbide	PVD Coated Carbide			Carbide
P	Carbon Steel / Alloy Steel	○	◔	◕	◔	◕	
M	Stainless Steel		◔	◕	◔	◕	
K	Cast Iron						◕
N	Non-ferrous Metals						◕

Insert (Right-handed Insert Shown)	Part Number	Dimensions (in) W inch	W mm	rε	M	L	H	Angle (°) θ	Cermet TN90	CVD Coated Carbide CR9025	PVD Coated Carbide PR915	PR930	PR1115	Carbide KW10	Ref. Page for Toolholder
 Deep Grooving / Cut-Off Sharp Cutting Oriented	GMM 1520-MT	0.059	1.5	0 / 0.002	0.047	0.787	0.169	-			◕	●		●	H24
	GMM 2020-MT	0.079	2.0	0 / 0.002	0.059	0.787	0.169	-			◕	●		○	
	GMM 2520-MT	0.098	2.5	0 / 0.002	0.075	0.787	0.169	-		○	○	●		○	H24 H25
	GMM 3020-MT	0.118	3.0	0 / 0.002	0.091	0.787	0.169	-		○	◕	●		○	
 Deep Grooving / Cut-Off Sharp Cutting Oriented Without Chipbreaker	GMM 1520-NB	0.059	1.5	0 / 0.002	0.047	0.787	0.169	-				○		○	H24
	GMM 2020-NB	0.079	2.0	0 / 0.002	0.059	0.787	0.169	-		○		○		○	
	GMM 2520-NB	0.098	2.5	0 / 0.002	0.075	0.787	0.169	-		○		○		○	
	GMM 3020-NB	0.118	3.0	0 / 0.002	0.091	0.787	0.169	-		○		○		○	
 Deep Grooving / Cut-Off Stability Oriented	GMM 2020-TK	0.079	2.0	0.008	0.059	0.787	0.169	-			○	●		○	
	GMM 2520-TK	0.098	2.5	0.008	0.075	0.787	0.169	-		○	○	○		○	
	GMM 3020-TK	0.118	3.0	0.010	0.091	0.787	0.169	-		○	●	●		○	
 Cut-Off / High Feed 2-Edge	GMM 2020-TMR	0.079	2.0	0.008	0.787	0.169	0.059	-					●		
	GMM 2520-TMR	0.098	2.5	0.008	0.787	0.169	0.075	-					●		H24
	GMM 3020-TMR	0.118	3.0	0.010	0.787	0.169	0.091	-					●		H25
 Cut-Off Stability Oriented 1-Edge	GMN 2-TK	0.079	2.0	0.008	0.059	0.787	0.169	-			○	○		○	
	GMN 3-TK	0.118	3.0	0.010	0.091	0.787	0.169	-		○	○	○		○	
	GMN 4-TK	0.158	4.0	0.012	0.130	0.787	0.169	-		○	●	○		○	
 Deep Grooving / Cut-Off 1-Edge	GMN 2.2	0.087	2.2	0.007	0.071	0.787	0.169	-	○	●		○		●	
	GMN 3	0.118	3.0	0.008	0.091	0.787	0.169	-	○	●		●		●	
	GMN 4	0.158	4.0	0.010	0.130	0.787	0.169	-	○			●		●	
	GMN 5	0.197	5.0	0.031	0.165	0.787	0.169	-		○		○		○	
	GMN 6	0.236	6.0	0.031	0.205	0.787	0.169	-		○		○		○	
 Cut-Off Sharp Cutting Oriented with Lead Angle	GMM 1520R/L-MT-15D	0.059	1.5	0 / 0.002	0.047	0.787	0.169	15°			Ⓡ	●		Ⓡ	H24
	GMM 2020R/L-MT-15D	0.079	2.0	0 / 0.002	0.059	0.787	0.169	15°		○	Ⓡ	●		○	
	GMM 2520R/L-MT-15D	0.098	2.5	0 / 0.002	0.075	0.787	0.169	15°		○	Ⓡ	●		○	
	GMM 3020R/L-MT-15D	0.118	3.0	0 / 0.002	0.091	0.787	0.169	15°		●	Ⓡ	●		Ⓛ	
 Cut-Off Stability Oriented With Lead Angle	GMM 2020R/L-TK-8D	0.079	2.0	0.008	0.059	0.787	0.169	8°			Ⓡ	Ⓡ		Ⓡ	
	GMM 2520R/L-TK-8D	0.098	2.5	0.008	0.075	0.787	0.169	8°		Ⓡ	Ⓡ	Ⓡ		Ⓡ	
	GMM 3020R/L-TK-8D	0.118	3.0	0.010	0.091	0.787	0.169	8°			Ⓡ	Ⓡ		Ⓡ	
 Cut-Off / High Feed 2-Edge / Lead Angle	GMM 2020R/L-TMR-6D	0.079	2.0	0.008	0.787	0.169	0.059	6°					Ⓡ		
	GMM 2520R/L-TMR-6D	0.098	2.5	0.008	0.787	0.169	0.075	6°					Ⓡ		H24
	GMM 3020R/L-TMR-6D	0.118	3.0	0.010	0.787	0.169	0.091	6°					Ⓡ		H25
 Cut-Off Stability Oriented 1-Edge with Lead Angle	GMR 2-TK-8D	0.079	2.0	0.008	0.059	0.787	0.169	8°			○	○		○	
	GMR 3-TK-8D	0.118	3.0	0.010	0.091	0.787	0.169	8°		○	○	○		○	
	GMR 4-TK-8D	0.158	4.0	0.012	0.130	0.787	0.169	8°			○	○		○	
 Cut-Off Sharp Cutting Oriented 1-Edge with Lead Angle	GMR/L 2.2-8D	0.087	2.2	0.007	0.071	0.787	0.169	8°	Ⓡ	Ⓡ		Ⓡ		Ⓡ	
	GMR/L 2.2-15D	0.087	2.2	0.000	0.071	0.787	0.169	15°	Ⓡ	Ⓡ		Ⓡ		Ⓡ	
	GMR/L 3-4D	0.118	3.0	0.008	0.091	0.787	0.169	4°	Ⓡ	●		○		Ⓡ	
	GMR/L 4-4D	0.158	4.0	0.010	0.130	0.787	0.169	4°		○		Ⓡ			

Inserts are sold in 10 piece boxes

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) Ⓛ : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

Edge Prep. and Chipbreakers (CERACUT Plunge & Turn)

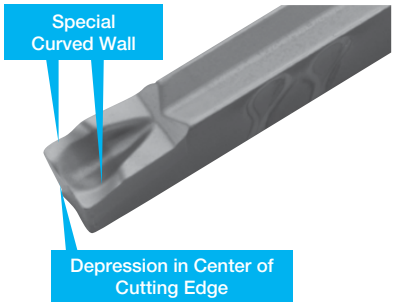
Name	**MT** Chipbreaker		**TK** Chipbreaker		**TMR** Chipbreaker	Without Chipbreaker **(NB)**	
Edge Preparation	Chamfered + Honed	Chamfered + Honed	Chamfered + Honed	Sharp Edge	Chamfered + Honed	Honed Cutting Edge	Sharp Edge
	Corner-R 0.002" 0.05mm	Sharp Edge	Corner-R 0.008"~0.012" 0.20~0.30mm	Corner-R 0.008"~0.012" 0.20~0.30mm	Corner-R 0.008" 0.20mm	Corner-R 0.002" 0.05mm	Sharp Edge
							
	CR9025 / PR915	**PR930 / KW10**	**CR9025 / PR915**	**PR930 / KW10**	**PR1115**	**CR9025**	**PR930 / KW10**

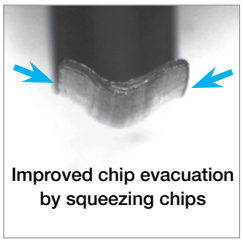
• Sharp Edge can reduce cutting resistance by 40%, compared with chamfered edge

Name	Advantages
GMM-MT	Specific chipbreaker for cut-off operations requiring sharp cutting performance Minimizes the boss
GMM-NB	Cutting edge is flat with no chipbreaker. Good performance for brass, etc.
GMM-TK	Stable design with chipbreaker for cut-off. Large corner-R 2-edge for economical performance
GMN-TK	Same chipbreaker geometry as GMM-TK 1-edge. Wide application range.
GMN (Std.)	Mainly for deep grooving, but available for groove widening and turning due to projection near side cutting edge. 1-edge and wide application range. Available for cut-off applications.

TMR Chipbreaker

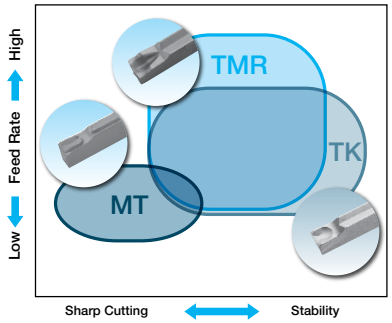
Chipbreaker Advantages





Chip Width < Grooving Width

GMM Chipbreaker Map



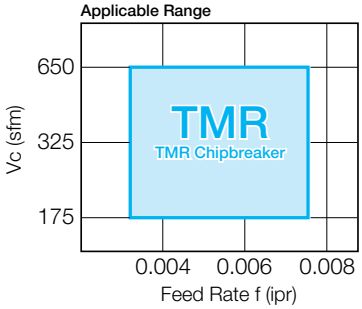
The TMR Chipbreaker Provides Stable Chip Control at High Feed Rates

Good chip control even when cutting speed (spindle revolution) is increased

(Cutting Conditions : 15CrMo4, Ø30, Constant Spindle Revolution)

Part Number	n=1060min^{-1}(Vc=325sfm)		n=2123min^{-1}(Vc=650sfm)	
	f=0.0008ipr	f=0.0047ipr	f=0.0008ipr	f=0.0047ipr
GMM 3020-TMR (Neutral)				
GMM 3020R-TMR-6D (Right-Hand)				

Applicable Range



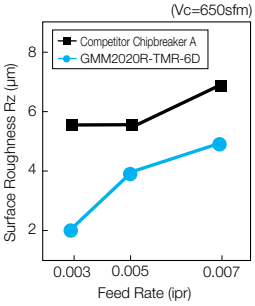
Recommended Cutting Conditions

Workpiece Material	Vc (sfm)	Feed Rate (ipr)
Carbon Steel	200~650	0.003~0.007
Alloy Steel	200~500	
Stainless Steel	175~450	

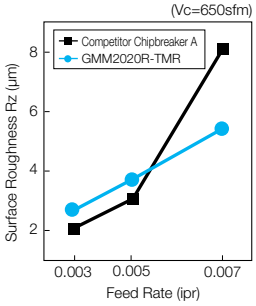
Workpiece Surface Roughness

TMR Chipbreaker provides good surface roughness on the workpiece end face at high feed rate ranges.

• GMM2020R-TMR-6D (Vc=650sfm)

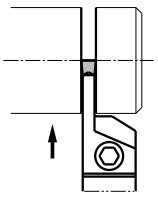


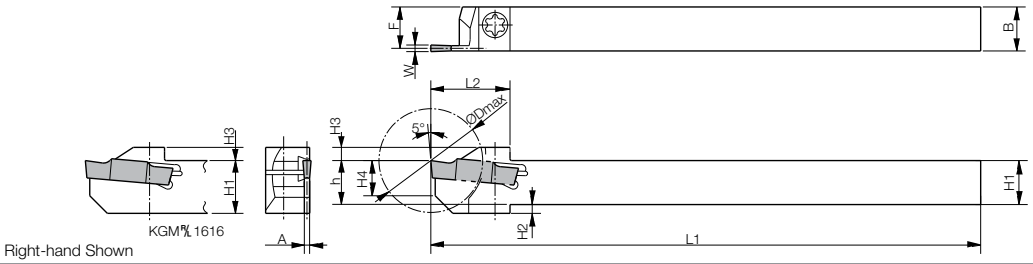
• GMM2020-TMR (Vc=650sfm)



KGM (Small Diameter Cut-Off)

Insert Width : 0.079"~0.118" / 1.5mm~4.0mm





Right-hand Shown

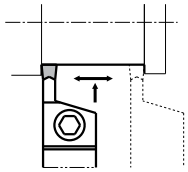
Toolholder Dimensions

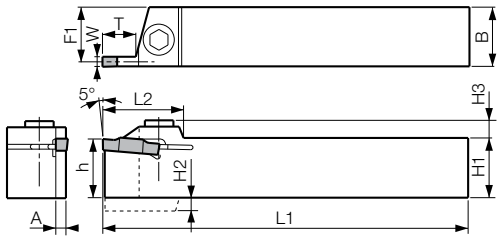
Part Number	Stock R	Stock L	Unit	Cut-Off Dia. ØDmax	H1=h	H2	H3	H4	B	L1	L2	F	A	Insert Width W MIN	Insert Width W MAX	Spare Parts: Clamp Screw	Spare Parts: Wrench
KGM□ 6-2-5	●	●	inch	0.787	0.375	0.079	0.117	0.316	0.375	5.000	0.750	0.342	0.067	0.079	0.118	SE-40120TR	LTW-15S
8-2-6	●	●		0.984	0.500	0.051	0.138	0.394	0.500	6.000	0.830	0.467	0.067	0.079	0.118		
KGM□ 1010JX-1.5	○	○	mm	20	10	2	3	8	10	120	18.0	9.40	1.2	1.5	2.0	SE-40120TR	LTW-15S
1212JX-1.5	○	○		25	12	2	4	10	12	120	20.5	11.40	1.2	1.5	2.0		
KGM□ 1010JX-2	○	○		20	10	2	3	8	10	120	18.0	9.15	1.7	2.0	3.0	SE-40120TR	LTW-15S
1212JX-2	○	○		25	12	2	4	10	12	120	19.0	11.15	1.7	2.0	3.0		
1616JX-2	●	●		32	16	-	4	9	16	120	24.5	15.15	1.7	2.0	3.0	SE-50125TR	LTW-20
KGM□ 1010JX-2.5	○	○		20	10	2	3	8	10	120	18.0	9.00	2.0	2.4	3.0	SE-40120TR	LTW-15S
1212JX-2.5	○	○		25	12	2	4	10	12	120	20.5	11.00	2.0	2.4	3.0		
1616JX-2.5	○	●		32	16	-	4	9	16	120	25.5	15.00	2.0	2.4	3.0	SE-50125TR	LTW-20
KGM□ 1616JX-3	○	○		32	16	-	4	9	16	120	25.5	14.80	2.4	3.0	4.0	SE-50125TR	LTW-20
KGM□ 1212F-1.5-85	○			25	12	2	4	10	12	85	19.0	11.40	1.2	1.5	2.0	SE-40120TR	LTW-15S
1212F-2-85	○			25	12	2	4	10	12	85	19.0	11.15	1.7	2.0	3.0		
1212F-2.5-85	○			25	12	2	4	10	12	85	19.0	11.00	2.0	2.4	3.0		

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above. Insert table ➡ **H22**

KGM

Insert Width : 0.750"~1.000" / 3mm~6mm





Right-hand Shown

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	H1=h	H2	H3	B	L1	L2	F1	A	T	Insert Width W MIN	Insert Width W MAX	Spare Parts: Clamp Screw	Spare Parts: Clamp Screw	Spare Parts: Wrench	Spare Parts: Wrench
KGM□ 12-3	●		inch	0.750	-	0.217	0.750	5.000	1.070	0.702	0.094	0.354	0.118	0.157	-	HH5X16	-	LW-4
16-3	●			1.000	-	0.217	1.000	6.000	1.070	0.953	0.094	0.354	0.118	0.157		HH5X25		
KGM□ 1212H-3	○	○	mm	12	4	6	12	100	27	10.8	2.4	9	3.0	3.0	SB-5TR	-	LTW-20	-
1616H-3	●	○		16	4	7	16	100	27	14.8	2.4	9	3.0	4.0	-	HH5X16	-	LW-4
2020K-3	○	○		20	-	7	20	125	27	18.8	2.4	9	3.0	4.0				
2525M-3	○	○		25	-	7	25	150	27	23.8	2.4	9	3.0	4.0		HH5X25		
KGM□ 2020K-4	○	○		20	-	7	20	125	27	18.3	3.4	10	4.0	5.0	-	HH5X16	-	LW-4
2525M-4	○	○		25	-	7	25	150	27	23.3	3.4	10	4.0	5.0		HH5X25		
KGM□ 2020K-5	○	○		20	-	7	20	125	27	17.8	4.4	10	5.0	6.0	-	HH5X16	-	LW-4
2525M-5	○	○		25	-	7	25	150	27	22.8	4.4	10	5.0	6.0		HH5X25		
3232P-5	○	○		32	-	7	32	170	27	29.8	4.4	10	5.0	6.0				
KGM□ 2525M-8	○	○		25	7.5	10.5	25	150	40	22.0	6.0	25	8.0	8.0	-	HH6X25	-	LW-5
3232P-8	○	○		32	-	10.5	32	170	40	29.0	6.0	25	8.0	8.0				

- Dimension T: Available grooving depth
- 4.0mm width insert can be installed in KGM□1212H-3, but is not recommended due to the toolholder's rigidity

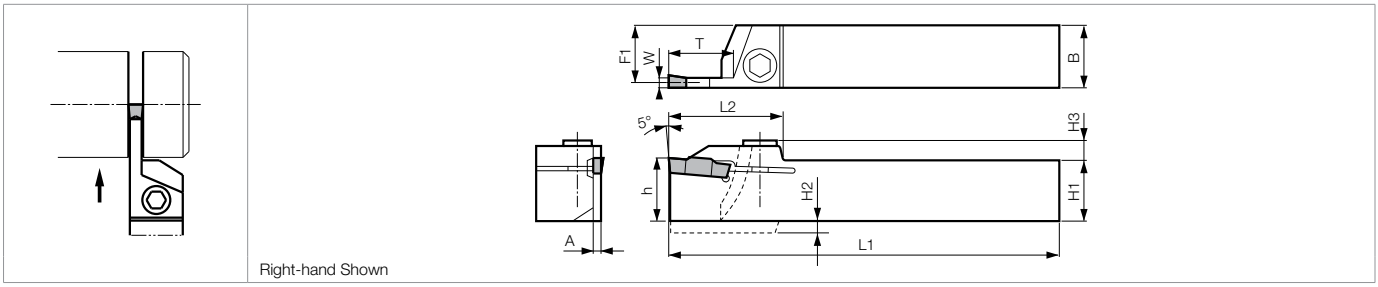
Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above. Insert table ➡ **H22**

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

KGM-T

Insert Width : 0.078"~0.236" / 2.0mm~5.0mm



Right-hand Shown

Toolholder Dimensions

Part Number	Stock		Unit	Dimensions									Insert Width W		Spare Parts			
															Clamp Screw		Wrench	Wrench
	R	L		H1=h	H2	H3	B	L1	L2	F1	A	T	MIN	MAX				
KGM□ 12-2T	●	●	inch	0.75	-	0.24	0.75	5.0	1.30	0.717	0.067	0.669	0.078	0.118	-	HH5X16	-	LW-4
16-2T	●			1.00			1.00	6.0		0.967						HH5X25		
KGM□ 12-3T	●	●		0.75	-	0.24	0.75	5.0	1.42	0.702	0.094	0.787	0.118	0.157	-	HH5X16	-	
16-3T	●	●		1.00			1.00	6.0		0.953						HH5X25		
KGM□ 12-4T	●	●		0.75	-	0.24	0.75	5.0	1.42	0.683	0.133	0.787	0.157	0.197	-	HH5X16	-	
16-4T	●			1.00			1.00	6.0	1.22	0.933		0.984				HH5X25		
KGM□ 16-5T	●	●		1.00	-	0.24	1.00	6.0	1.22	0.913	0.173	0.984	0.197	0.236	-	HH5X25	-	-
KGM□ 2012K-2T17	○	○	mm	20	-	7	12	125	33	11.15	1.7	17	2.0	3.0	SB-5TR	-	LTW-20	-
2020K-2T17	○	○					20	125		19.15					-	HH5X16	-	LW-4
2525M-2T17	○	○		25			25	150		24.15						HH5X25		
KGM□ 1616H-3T20	●	●		16	4	7	16	100	36	14.8	2.4	20	3.0	4.0	-	HH5X16	-	LW-4
2012K-3T20	○	○		20	-	7	12	125		10.8					SB-5TR	-	LTW-20	-
2020K-3T20	○	○					20			18.8					-	HH5X16	-	LW-4
2525M-3T20	○	○		25			25	150		23.8						HH5X25		
KGM□ 2020K-4T20	○	○		20	-	7.5	20	125	36	18.3	3.4	20	4.0	5.0	-	HH5X16	-	LW-4
2525M-4T20	○	○		25			25	150		23.3		25				HH5X25		
2525M-4T25	○	○							41									
KGM□ 2525M-5T25	○	○		25	-	8.5	25	150	42	22.8	4.4	25	5.0	6.0	-	HH5X25	-	LW-4
3232P-5T25	○	○		32			32	170		29.8								
KGM□ 2525M-6T30	○	○		25		9.5	25	150	45	22.4	5.2	30	6.0	6.0	-	HH5X25	-	LW-4

- Dimension T shows the distance from the toolholder to the cutting edge. Refer to the table (**H26**) for the for relationship between available grooving depth and cutting diameter
- When using GMG / GMM type 2-edge insert, set groove depth under 0.591"(15mm)

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above. Insert table ➡ **H22**

Applicable Inserts

Application	Grooving / Traversing	Grooving / Traversing	Grooving	Full-R / Copying	Full-R / Copying	Cut-Off / Deep Grooving	Cut-Off / Deep Grooving	Cut-Off / Deep Grooving	Cut-Off / Deep Grooving	Cut-Off / Deep Grooving
Ref. Page	➡ G32	➡ G32	➡ G32	➡ G32	➡ G33	➡ H18	➡ H18	➡ H18	➡ H18	➡ H18
Shape / Toolholder	MW	MS	MG			MT	NB	TK / TMR	TK	
KGM□...1.5	-	-	-	-	-	GMM1520...MT GMM2020...MT GMM1520□...MT GMM2020□...MT	GMM1520...NB GMM2020...NB	GMM2020...TK GMM2020□...TK	GMN2...TK GM□2...TK	-
KGM□...-2- KGM□...-2(T)	GMM2420...MW GMM3020...MW	GMG3020...MS GMM3020...MS	GMG2520...MG GMG3020...MG	GMG3020...R GMM3020...R	-	GMM2020...MT GMM2520...MT GMM3020...MT GMM2020□...MT GMM2520□...MT GMM3020□...MT	GMM2020...NB GMM2520...NB GMM3020...NB	GMM2020...TK GMM2520...TK GMM3020...TK GMM2020□...TK GMM2520□...TK GMM3020□...TK	GMN2...TK GMN3...TK GM□2...TK GM□3...TK	GMN2.2 GMN3 GM□2.2 GM□3
KGM□...2.5	GMM2420...MW GMM3020...MW	GMG3020...MS GMM3020...MS	GMG2520...MG GMG3020...MG	GMG3020...R GMM3020...R	-	GMM2520...MT GMM3020...MT GMM2520□...MT GMM3020□...MT	GMM2520...NB GMM3020...NB	GMM2520...TK GMM3020...TK GMM2520□...TK GMM3020□...TK	GMN3...TK GM□3...TK	GMN3 GM□3
KGM□...-3(T)	GMM3020...MW GMM4020...MW	GMG3020...MS GMM3020...MS GMG4020...MS GMM4020...MS	GMG3020...MG GMG3520...MG GMG4020...MG	GMG3020...R GMM3020...R GMG4020...R GMM4020...R	-	GMM3020...MT GMM3020□...MT	GMM3020...NB	GMM3020...TK GMM3020□...TK	GMN3...TK GMN4...TK GM□3...TK GM□4...TK	GMN3 GMN4 GM□3 GM□4
KGM□...-4(T)	GMM4020...MW GMM5020...MW	GMG4020...MS GMM4020...MS GMG5020...MS GMM5020...MS	GMG4020...MG GMG5020...MG	GMG4020...R GMM4020...R GMG5020...R GMM5020...R	-	-	-	-	GMN4...TK GM□4...TK	GMN4 GMN5 GM□4
KGM□...-5(T)	GMM5020...MW GMM6020...MW	GMG5020...MS GMM5020...MS GMG6020...MS GMM6020...MS	GMG5020...MG GMG6020...MG	GMG5020...R GMM5020...R GMG6020...R GMM6020...R	GMGA6020...R	-	-	-	-	GMN5 GMN6
KGM□...-6T	GMM6020...MW	GMG6020...MS GMM6020...MW	GMG6020...MG	GMG6020...R GMM6020...R	GMGA6020...R	-	-	-	-	GMN6
KGM□...8	GMM8030...MW	-	GMG8030...MG	-	GMGA8030...R	-	-	-	-	-

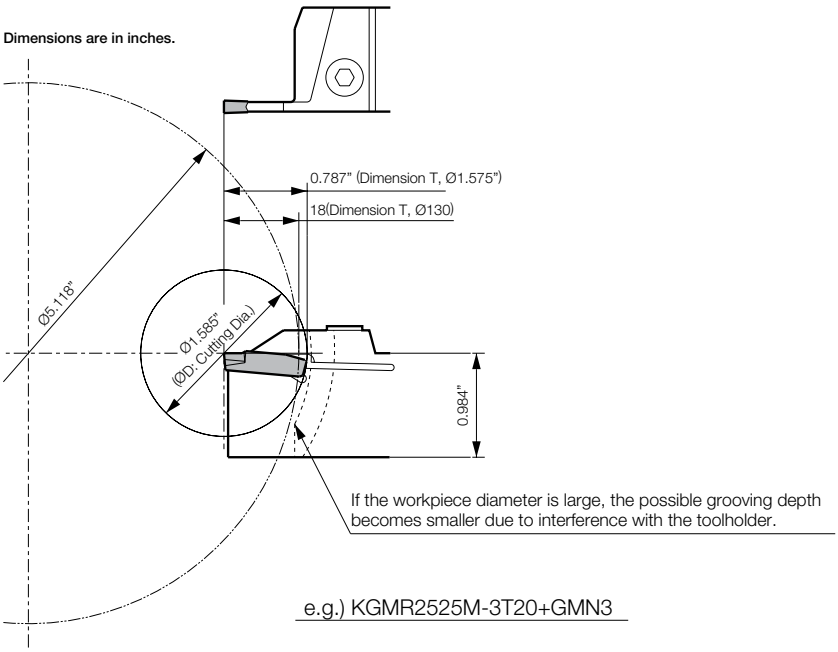
Recommended Cutting Condtions ➡ **H32**

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

KGM • KGM-T Available Cutting Diameter

There is a limit to available grooving depth depending on the workpiece diameter

Dimensions are in inches.



e.g.) KGMR2525M-3T20+GMN3

KGM Available Cutting Diameter Table

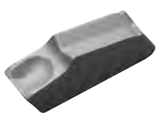
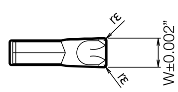
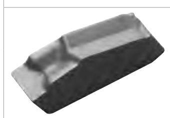
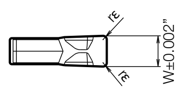
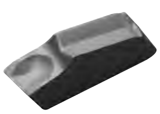
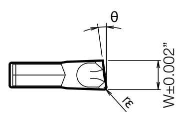
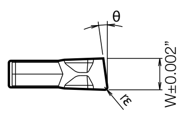
Toolholders		ØD Cutting Diameter																
KGM	0810K-1.5-125	-	-	-	-	-	-	-	-	-	-	-	-	10mm	14mm	16mm	32mm	∞
	1010○-1.5…	-	-	-	-	-	-	-	20mm	25mm	32mm	40mm	60mm	∞	∞	∞	∞	
	1212○-1.5…	-	-	-	-	25mm	26mm	28mm	32mm	36mm	40mm	60mm	100mm					
	0810K-2-125	-	-	-	-	-	-	-	-	-	-	-	-	10mm	14mm	16mm	32mm	
	6-2-5								0.80"	1.00"	1.28"	1.60"	2.40"	∞	∞	∞	∞	
	1010○-2…	-	-	-	-	-	-	-	20mm	25mm	32mm	40mm	60mm					
	8-2-6					1.00"	1.04"	1.12"	2.00"	∞	∞	∞	∞					
	1212○-2…	-	-	-	-	25mm	26mm	28mm	50mm									
	1616○-2…	32mm	40mm	50mm	60mm	80mm	100mm	∞	∞									
	1010○-2.5…	-	-	-	-	-	-	-	20mm	25mm	32mm	40mm	60mm					
	1212○-2.5…	-	-	-	-	25mm	26mm	28mm	32mm	36mm	40mm	60mm	100mm					
	1616○-2.5…	32mm	40mm	50mm	60mm	80mm	100mm	∞	∞	∞	∞	∞	∞					
	1616○-3…	32mm	40mm	50mm	60mm	80mm	100mm											
Available Grooving Depth T (in)		0.64"	0.60"	0.56"	0.52"	0.50"	0.48"	0.44"	0.40"	0.36"	0.32"	0.28"	0.24"	0.20"	0.16"	0.12"	0.08"	0.04"
Available Grooving Depth T (mm)		16mm	15mm	14mm	13mm	12.5mm	12mm	11mm	10mm	9mm	8mm	7mm	6mm	5mm	4mm	3mm	2mm	1mm

KGM-T Available Cutting Diameter Table (GMN, GM When Using 1-edge Insert)

Toolholders		ØD Cutting Diameter												
KGM	2012K-2T17	-	-	-	-	-	-	-	-	66mm	80mm	130mm	260mm	∞
	12-2T	-	-	-	-	-	-	-	-	2.64"	3.20"	5.20"	10.40"	
	2020K-2T17	-	-	-	-	-	-	-	-	66mm	80mm	130mm	260mm	
	16-2T	-	-	-	-	-	-	-	-	2.64"	3.20"	5.20"	10.40"	
	2525M-2T1710	-	-	-	-	-	-	-	-	66mm	80mm	130mm	260mm	
	1616H-3T20	-	-	-	-	-	40mm	54mm	70mm	100mm	180mm	∞	∞	
	2012K-3T20	-	-	-	-	-	40mm	90mm	130mm	240mm	∞			
	12-3T	-	-	-	-	-	1.60"	3.60"	5.20"	9.60"				
	2020K-3T20	-	-	-	-	-	40mm	90mm	130mm	240mm				
	16-3T	-	-	-	-	-	1.60"	3.60"	5.20"	9.60"				
	2525M-3T20	-	-	-	-	-	40mm	90mm	130mm	240mm				
	12-4T	-	-	-	-	-	1.60"	3.60"	5.20"	9.60"				
	2020K-4T20	-	-	-	-	-	40mm	90mm	130mm	240mm				
	2525M-4T20	-	-	-	-	-	40mm	90mm	130mm	240mm				
	16-4T	-	-	2.00"	5.60"	9.60"	∞	∞	∞	∞				
	2525M-4T25	-	-	50mm	140mm	240mm								
	16-5T	-	-	2.00"	5.60"	9.60"								
	2525M-5T25	-	-	50mm	140mm	240mm								
	3232P-5T25	-	-	50mm	280mm	600mm								
	2525M-6T30	100mm	300mm	∞	∞	∞								
Available Grooving Depth T (in)		1.20"	1.08"	1.00"	0.92"	0.88"	0.80"	0.76"	0.72"	0.68"	0.64"	0.60"	0.56"	<0.52"
Available Grooving Depth T (mm)		30mm	27mm	25mm	23mm	22mm	20mm	19mm	18mm	17mm	16mm	15mm	14mm	<13mm

TKN / TK R/L

Classification of Usage			TN620 (NEW)	TN90	CR9025	PR1535 (NEW)	PR660	PR930	KW10
◐ : Light Interruption / 1st Choice	P	Carbon Steel / Alloy Steel	○		◐			○	
◌ : Light Interruption / 2nd Choice	M	Stainless Steel			◌	◐		○	
● : Continuous / 1st Choice	K	Cast Iron							◐
○ : Continuous / 2nd Choice	N	Non-ferrous Metals							◐

Insert (Right-handed Insert Shown)		Part Number		Dimmensions (in) W inch	W mm	rε	Angle (°) θ	Cermet TN620	Cermet TN90	CVD Coated Carbide CR9025	MEGACOAT NANO PR1535	PVD Coated Carbide PR660	PVD Coated Carbide PR930	Carbide KW10	Ref. Page for Toolholder
		TKN	1.6	0.063	1.6	0.006	-		●	●	○	●	○	○	H28, H30
			2	0.087	2.2	0.008		○	○	●	○	●	○	●	
			2.4	0.094	2.4	0.008		○	●	○	○	●	○	●	
			3	0.122	3.1	0.010		○	○	●	●	●	○	●	
			4	0.161	4.1	0.012		○	○	●	●	●	○	●	
			4.8	0.189	4.8	0.012				●	○				
			5	0.201	5.1	0.012				●	●	●	●	●	
			6	0.252	6.4	0.014				●	○	○		○	H28
			8	0.315	8.0	0.016				○	○	○			
			9	0.378	9.6	0.018				○	○	○			
 Low Feed		TKN	1.6-P	0.063	1.6	0.008	-			○	○	○		○	H28, H30
			2-P	0.087	2.2	0.008		○	○	○	○	○	○	○	
			3-P	0.122	3.1	0.010		○	○	●	●	●	○	○	
 With Lead Angle		TK R/L	1.6	0.063	1.6	0.006	8°		🅡	🅡	○	●	Ⓡ	🅛	H28, H30
			2	0.087	2.2	0.008		Ⓡ	🅡	○	○	🅡	Ⓡ	🅡	
			2.4	0.094	2.4	0.008				○	○	●	Ⓡ	🅡	
			3	0.122	3.1	0.010		Ⓡ	🅡	●	●	🅡	○	🅡	
			4	0.161	4.1	0.012		Ⓡ	○	🅡	●	○		○	
			5	0.201	5.1	0.012				●	●	●		Ⓡ	
 Low Feed / Lead Angle		TK R/L	1.6-P	0.063	1.6	0.008	8°				Ⓡ	Ⓡ			
			2-P	0.087	2.2	0.008			Ⓡ	Ⓡ	○	○	Ⓡ	Ⓡ	
			3-P	0.122	3.1	0.010		Ⓡ	Ⓡ	Ⓡ	●	🅡	Ⓡ	Ⓡ	

Recommended Cutting Condtions ➡ H32

Cut-Off Tools

Name	Chipbreaker		Advantages
General Cut-Off	Standard (No Indication)		General cut-off type for feed rates over 0.004ipr Superior chip evacuation
Low Feed Cut-Off	P		Chipbreaker specially designed for low feed machining on automatic lathes, etc. Chips are controlled at feed rates between 0.0012~0.0032ipr

Insert's Edge Shape (CERACUT Cut-Off)

	Chamfered + Honed	Sharp Edge	Honed Cutting Edge
Edge Preparation			
Standard Chipbreaker	TN90 CR9025 / PR660	PR1535 PR930 / KW10	-
P-Chipbreaker	-	-	TN620 / TN90 / CR9025 / PR1535 PR660 / PR930 / KW10

• Sharp edge can reduce cutting resistance by 40%, compared with chamfered edge.

TKN / TK R/L Setup

1. Tap the insert lightly with a plastic hammer to push it tight enough that it cannot be removed by hand. **(Fig.1)**
2. Remove the insert with the supplied wrench. **(Fig.2)**

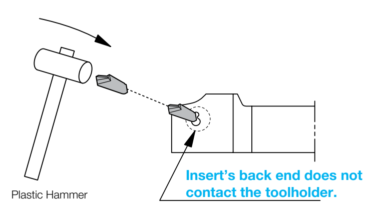


Fig. 1 How to Attach Inserts

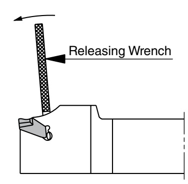
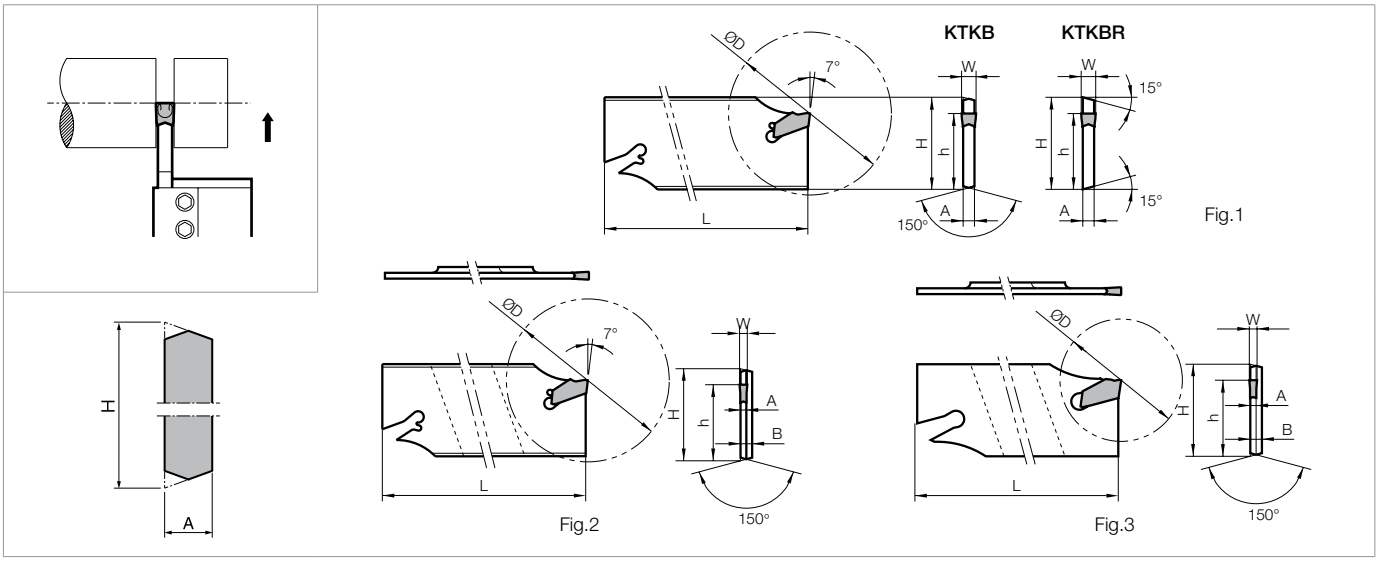


Fig. 2 How to Detach Inserts

Inserts are sold in 10 piece boxes

● : U.S. Stock 🅡 : U.S. Stock (R-hand Only) 🅛 : U.S. Stock (L-hand Only)
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) Ⓛ : World Express (L-hand Only)

KTKB-SS / KTKB-S



Blade Dimensions

Part Number		Stock	Cut-Off Dia.	Dimensions (mm)					Insert Width	Drawing	Applicable Inserts ➡ H27				Applicable Blocks ➡ H29	
			ØDmax	*H	h	B	L	A	W			Low Feed	Lead Angle	Low Feed / Lead Angle		
KTKB	19-1SS	○	32	19	15.7	2.4	86	1.2	1.6	Fig. 3	TKN1.6	TKN1.6-P	TK®L1.6	TK®L1.6-P	KTKTB	16-19 20-19
KTKB	26-1SS	●	35	26	21.4	2.4	110	1.2	1.6	Fig. 3	TKN1.6	TKN1.6-P	TK®L1.6	TK®L1.6-P	KTKTB	16-26 20-26
KTKB	32-1SS	○	35	32	25	2.4	150	1.2	1.6	Fig. 3	TKN1.6	TKN1.6-P	TK®L1.6	TK®L1.6-P	KTKTB KTKTBF	20-32 25-32 32-32 25-32 32-32
KTKB	19-2S	●	40	19	15.7	-	86	1.8	2.2 2.4	Fig. 1	TKN2 TKN2.4	TKN2-P	TK®L2 TK®L2.4	TK®L2-P	KTKTB	16-19 20-19
KTKB	26-2S	●	50	26	21.4	-	110	1.8	2.2 2.4		TKN2 TKN2.4	TKN2-P	TK®L2 TK®L2.4	TK®L2-P	KTKTB	16-26 20-26
	26-3S	●	75					2.6	3.1		TKN3	TKN3-P	TK®L3	TK®L3-P		
	26-4S	●	80					3.4	4.1		TKN4	-	TK®L4	-		
	26-5S	○	80					4.2	4.8 5.1		TKN4.8 TKN5	-	TK®L5	-		
KTKB	32-2S	●	50	32	25	2.6	150	1.8	2.2 2.4	Fig. 2	TKN2 TKN2.4	TKN2-P	TK®L2 TK®L2.4	TK®L2-P	KTKTB	20-32 25-32 32-32 25-32 32-32
	32-3S	●	100			-		2.6	3.1	Fig. 1	TKN3	TKN3-P	TK®L3	TK®L3-P		
	32-4S	●	100					3.4	4.1		TKN4	-	TK®L4	-		
	32-5S	●	120					4.2	4.8 5.1		TKN4.8 TKN5	-	TK®L5	-		
	32-6S	○	120					5.4	6.4		TKN6	-	-	-		
KTKB®L	32-8S	○	120	32	25	-	150	6.8	8.0	Fig. 1	TKN8	-	-	-		
	32-9S	®	120					8.0	9.6		TKN9	-	-	-		

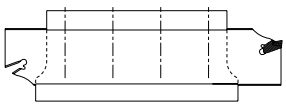
Note) 1. "**-SS**" means hard coated
2. Releasing wrench is "**LTK-5**"

* Dimension H shows virtual apex distance.

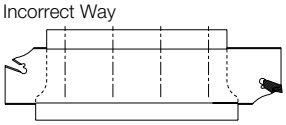
Recommended Cutting Condtions ➡ **H32**

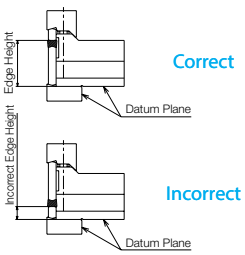
Toolblock and Blade Installation

Correct Way

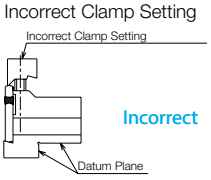


Incorrect Way





Incorrect Clamp Setting



If the clamp element is mounted backward, a large gap will occur between the clamp and the toolblock, and the blade may come off during machining. Be careful when installing the clamp for safety.

(Customer Service) **800.823.7284 - Option 1**
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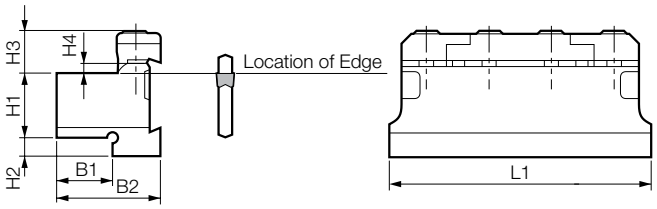
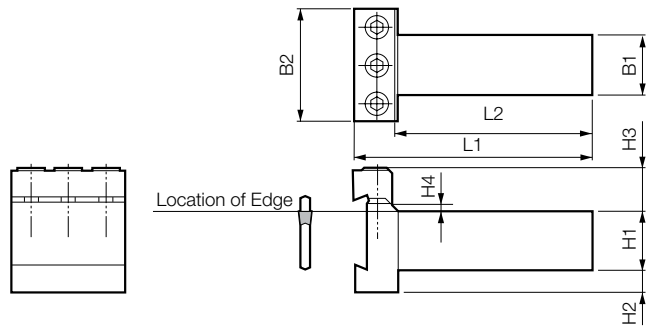
U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

KTKTB (Separate Toolblock Holder)



KTKTBF (Separate Toolblock Holder / Perpendicular Type)

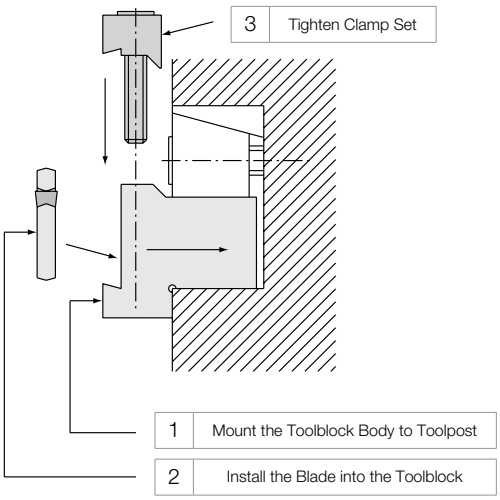


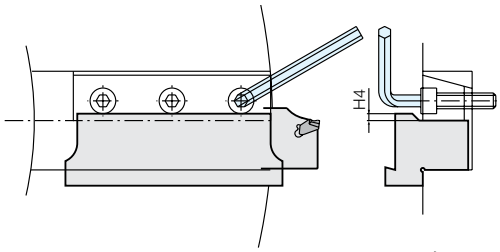
Toolblock Dimensions

Part Number		Stock	Dimensions (mm)								Spare Parts				Applicable Blade	
											Clamp Set		Screw	Wrench	Cut-Off	Face Grooving
			H1	H2	H3	H4	B1	B2	L1	L2	Separate Type	Integral Type			H28	G121
KTKTB	16-19	○	16	4	12	2	15.5	29.5	76	-	-	BCS-1	HH5X25	LW-4	KTKB19-○S KTKB19-1SS	-
	20-19	○	20	4	12	2	19	34	76	-						
	16-26	○	16	13	14	2.5	15.5	31.5	86	-	BCS-2	-	HH6X30	LW-5	KTKB26-○S KTKB26-1SS	-
	20-26	○	20	9	14	2.5	19	36	86	-						
	20-32	○	20	13	17	3.5	19	38	100	-	BCS-3	-	HH6X30	LW-5	KTKB32-○S KTKB32-1SS KTKB□32-○S	KTKB□○○○○-4S KTKB□○○○○-5S
	25-32	○	25	8	17	3.5	23	42	110	-	BCS-4					
	32-32	○	32	5	17	3.5	29	48	110	-						
KTKTBF	25-32	○	25	9.5	17	3.5	25	48	102	84.5	-	BCS-5	HH6X30	LW-5	KTKB32-○S KTKB32-1SS KTKB□32-○S	KTKB□○○○○-4S KTKB□○○○○-5S
	32-32	○	32	2.5	17	3.5	32	48	117	99.5						

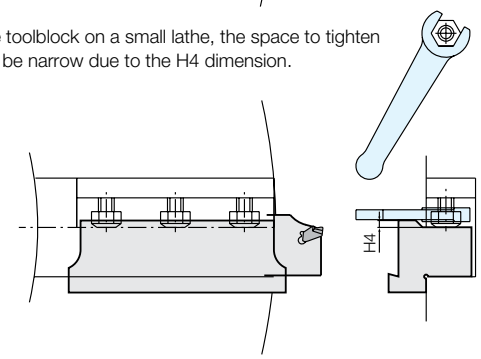
Recommended Cutting Condtions ➔ H32

Mounting the Toolblock





When mounting the toolblock on a small lathe, the space to tighten the clamp bolt may be narrow due to the H4 dimension.



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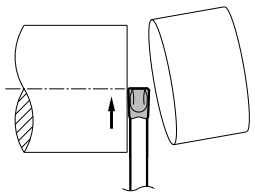
KTKH-S



For Small Parts Machining (Long Shank)

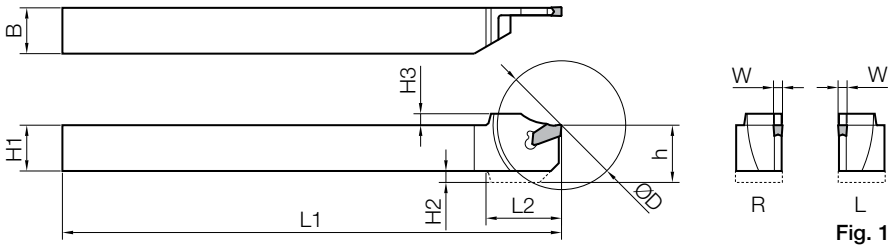


Fig. 1

For General Cut-Off

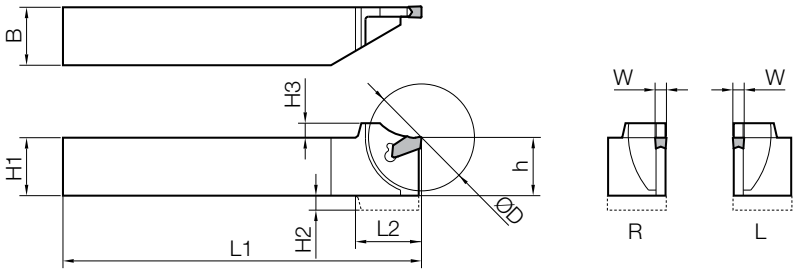


Fig. 2

For General Cut-Off

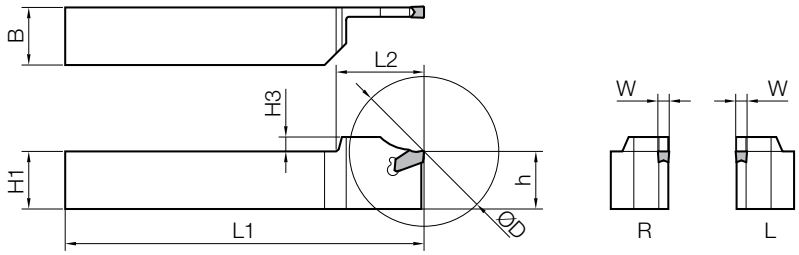


Fig. 3

Right-hand Shown

Toolholder Dimensions for Small Parts Machining (Long Shank Type)

Part Number		Stock R	Stock L	Unit	Cut-Off Dia. ØDmax	Dimensions (in) H1=h	H2	H3	B	L1	L2	Insert Width W	Drawing	Spare Parts Supplied Wrench
KTKHR/L	8-1.6-6S	●	●	inch	1.20	0.500	0.000	0.079	0.500	6.000	0.670	0.063	Fig.1	LTK-5
	6-2-5S	●	●		1.20	0.375	0.200	0.117	0.375	5.000	0.690	0.087 0.094		
	8-2-6S	●	●		1.30	0.500	0.160	0.087	0.500	6.000	0.700			

Recommended Cutting Condtions ➡ H32

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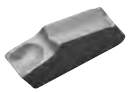
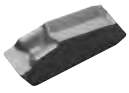
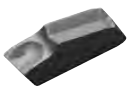
Toolholder Dimensions for General Cut-Off

Part Number		Stock R	Stock L	Unit	Cut-Off Dia. ØDmax	Dimensions H1=h	H2	H3	B	L1	L2	Insert Width W	Drawing	Spare Parts Supplied Wrench
KTKHR/L	12-2S	●		inch	1.500	0.750	0.000	0.150	0.750	5.000	0.870	0.087 0.094	Fig.2	LTK-5
	12-3S	●	●		2.000	0.750	-	0.100	0.750	5.000	1.190	0.122	Fig.3	
	16-3S	●			2.100	1.000		0.200	1.000	6.000	1.210	0.122		
	12-4S	●			2.400	0.750		0.100	0.750	5.000	1.350	0.161		
	16-4S	●			2.600	1.000		0.200	1.000	6.000	1.360	0.161		
	16-5S	●			3.100	1.000		0.200	1.000	6.000	1.560	0.189 0.201		
KTKHR/L	1010F-2S	○	○	mm	30	10	5	4	10	80	18.6	2.2 2.4	Fig.2	LTK-5
	1212H-2S	○	○		33	12	4	5	12	100	19.8			
	1612H-2S	○	○		33	16	-	3	12	100	19.8			
	1616H-2S	○	○		33	16	-	3	16	100	19.8			
	2012K-2S	○	○		38	20	-	4	12	125	22.8			
	2020K-2S	○	○		38	20	-	4	20	125	22.8			
	1612H-3S	○	○		36	16	4	4	12	100	21.7	3.1	Fig.2	
	1616H-3S	○	○		36	16	4	4	16	100	21.7			
	2012K-3S	○	○		41	20	-	5	12	125	25.3			
	2020K-3S	○	○		52	20	-	5	20	125	31.0		Fig.3	
	2525M-3S	○	○		53	25	-	5	25	150	31.5			
	2012K-4S	○	○		44	20	-	5	12	125	26.3	4.1	Fig.2	
	2020K-4S	○	○		62	20	-	5	20	125	35.0		Fig.3	
	2525M-4S	○	○		68	25	-	5	25	150	38.0			
	2525M-5S	○	○		79	25	-	5	25	150	43.5	4.8, 5.1	Fig.3	
KTKHR/L	2020K-3T17S	○	○		35	20	-	5	20	125	21.8	3.1	Fig.2	LTK-5
	2525M-3T22S	○	○		45	25	-	5	25	150	26.8			
	2020K-4T22S	○	○		45	20	-	5	20	125	26.8	4.1		
	2525M-4T22S	○	○		45	25	-	5	25	150	26.8			

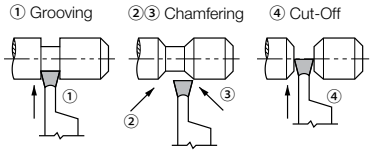
Recommended Cutting Condtions ➡ H32

Applicable Inserts

Ref. Page	➡ H27			
Shape / Toolholder		 Low Feed	 With Lead Angle	 Low Feed / Lead-Angle
KTKHR/L ...-1.6...	TKN1.6	TKN1.6-P	TKR/L1.6	TKR/L1.6-P
KTKHR/L ...-2...	TKN2 TKN2.4	TKN2-P	TKR/L2 TKR/L2.4	TKR/L2-P
KTKHR/L ...-3...	TKN3	TKN3-P	TKR/L3	TKR/L3-P
KTKHR/L ...-4...	TKN4	-	TKR/L4	-
KTKHR/L ...-5...	TKN4.8 TKN5	-	TKR/L5	-

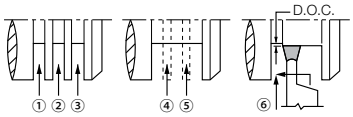
Usage Example of Cut-Off

1. Cut-Off after chamfering



2. Wide Grooving

① ~ ⑤ Groove Widening
⑥ Traverse Finishing
(Value of ap shall be under the value of Corner-R)



In order to maintain equal wear on both corners

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○ : World Express (Shipping: 7-10 Business Days)

Recommended Cutting Conditions (TKF12/16 Inserts)

Workpiece Material	Recommended Grade (Vc sfm)						TKF12						TKF16		Notes
							Width						Width		
	MEGACOAT NANO		MEGA COAT	PVD Coated Carbide	DLC	Carbide	0.020" (0.50mm)	0.028" (0.70mm)	0.039" (1.00mm)	0.049" (1.25mm)	0.059" (1.50mm)	0.079" (2.00mm)	0.059" (1.50mm)	0.079" (2.00mm)	
	PR1425	**PR1535**	**PR1225**	**PR1025**	**PDL025**	**KW10**	Feed Rate (ipr)						Feed Rate (ipr)		
Carbon Steel	★ 225~550 (175~450)	☆ 230~500 (160~400)	☆ 225~500 (175~400)	☆ 200~425	-	-	0.0004~0.0008	0.0004~0.0012	0.0004~0.0016 (0.0004~0.0020)	0.0004~0.0016	0.0004~0.0016 (0.0008~0.0039)	0.0004~0.0016 (0.0008~0.0039)	0.0008~0.0028 (0.0008~0.0039)	0.0008~0.0028 (0.0008~0.0039)	Wet
Alloy Steel	★ 225~550 (175~450)	☆ 230~500 (160~400)	☆ 225~500 (175~400)	☆ 200~425	-	-	0.0004~0.0008	0.0004~0.0012	0.0004~0.0016 (0.0004~0.0020)	0.0004~0.0016	0.0004~0.0016 (0.0008~0.0039)	0.0004~0.0016 (0.0008~0.0039)	0.0008~0.0028 (0.0008~0.0039)	0.0008~0.0028 (0.0008~0.0039)	
Stainless Steel	☆ 200~450 (125~400)	★ 200~400 (130~330)	☆ 200~400 (125~325)	☆ 175~325	-	-	0.0002~0.0006	0.0004~0.0008	0.0004~0.0008 (0.0004~0.0012)	0.0004~0.0008	0.0004~0.0008 (0.0004~0.0020)	0.0004~0.0008 (0.0004~0.0020)	0.0004~0.0016 (0.0004~0.0020)	0.0004~0.0016 (0.0004~0.0020)	
Cast Iron	-	-	-	-	-	★ 175~325	0.0004~0.0012	0.0004~0.0016	0.0004~0.0020	0.0004~0.0020	0.0004~0.0020	0.0004~0.0020	0.0008~0.0032	0.0008~0.0032	
Aluminum	-	-	-	-	★ 660~1640	☆ 650~1475	0.0004~0.0012	0.0004~0.0016	0.0004~0.0020	0.0004~0.0020	0.0004~0.0020	0.0004~0.0020	0.0008~0.0032	0.0008~0.0032	
Brass	-	-	-	-		★ 325~650	0.0004~0.0012	0.0004~0.0016	0.0004~0.0024	0.0004~0.0024	0.0004~0.0024	0.0004~0.0024	0.0008~0.0039	0.0008~0.0039	

Values in parentheses ( ) are cutting conditions for tough edge inserts style TKF..T..

★ : 1st Recommendation ☆ : 2nd Recommendation

Recommended Cutting Conditions (GMM-MT / GMM-TK / GMM-NB Inserts)

Workpiece Material	Recommended Grade (Vc sfm)				Width				Notes
	CVD Coated Carbide	PVD Coated Carbide		Carbide	0.059" (1.5mm)	0.079"~0.098" (2.0mm~2.5mm)	0.118" (3.0mm)	0.158" (4.0mm)	
	CR9025	**PR915**	**PR930**	**KW10**	Feed Rate (ipr)				
Carbon Steel	☆ 250~600	★ 200~500	☆ 200~425	-	0.0004~0.0016	0.0008~0.0059	0.0012~0.0079	0.0032~0.0118	Wet
Alloy Steel	☆ 225~500	★ 200~500	☆ 200~425	-	0.0004~0.0016	0.0008~0.0059	0.0012~0.0079	0.0032~0.0118	
Stainless Steel	☆ 200~450	★ 175~450	☆ 175~400	-	0.0004~0.0012	0.0008~0.0039	0.0012~0.0059	0.0032~0.0098	
Cast Iron	-	-	-	★ 175~325	0.0004~0.0020	0.0020~0.0047	0.0039~0.0098	0.0039~0.0118	
Aluminum	-	-	-	★ 650~1475	0.0004~0.0020	0.0020~0.0039	0.0020~0.0079	0.0020~0.0098	
Brass	-	-	-	★ 325~650	0.0004~0.0020	0.0020~0.0039	0.0020~0.0059	0.0020~0.0079	

• When using PR930, decrease the feed rate by 20%

★ : 1st Recommendation ☆ : 2nd Recommendation

Recommended Cutting Conditions (TKN / TKR/L Inserts)

Workpiece Material	Recommended Grade (Vc sfm)							Width					Notes
	Cermet		CVD Coated Carbide	MEGACOAT NANO	PVD Coated Carbide		Carbide	1.6mm	2.0~2.4mm	3.1mm	4.1mm	4.8~9.6mm	
	TN620	**TN90**	**CR9025**	**PR1535**	**PR660**	**PR930**	**KW10**	Feed Rate (ipr)					
Carbon Steel	☆ 200~660	☆ 400~650	★ 250~600	☆ 200~490	☆ 200~425	☆ 200~425	-	0.0008~0.0032	0.0016~0.0071	0.0020~0.0098	0.0032~0.0118	0.0059~0.0157	Wet
Alloy Steel	☆ 200~530	☆ 325~525	★ 225~500	☆ 200~490	☆ 200~425	☆ 200~425	-	0.0008~0.0032	0.0016~0.0071	0.0020~0.0098	0.0032~0.0118	0.0059~0.0157	
Stainless Steel	☆ 200~490	☆ 250~500	☆ 200~450	★ 160~390	☆ 175~400	☆ 200~450	-	0.0008~0.0012	0.0016~0.0047	0.0020~0.0071	0.0032~0.0098	0.0039~0.0118	
Cast Iron			-		-	-	★ 175~325	0.0008~0.0032	0.0020~0.0047	0.0039~0.0098	0.0039~0.0118	0.0059~0.0138	
Aluminum			-		-	-	★ 325~1475	0.0008~0.0039	0.0020~0.0039	0.0020~0.0079	0.0020~0.0098	0.0039~0.0787	
Brass			-		-	-	★ 325~650	0.0008~0.0039	0.0020~0.0039	0.0020~0.0059	0.0020~0.0079	0.0039~0.0787	

★ : 1st Recommendation ☆ : 2nd Recommendation

Recommended Cutting Conditions (GMM-TMR Inserts)

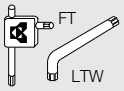
Workpiece Material	Vc (sfm)		Notes
Carbon Steel	200~650	0.003~0.007	Wet
Alloy Steel	225~500		
Stainless Steel	175~450		

Swiss Style Length Toolholder Reference Table (KTKF / KGM)

Conventional Toolholder				Alternative Toolholder			
Part Number	Overall Length (mm)	Spare Parts: Clamp Screw	Spare Parts: Wrench	Part Number	Overall Length (mm)	Notes	Reference Page
							
KTKF□ 1010K-12	125	SB-4590TRWN	LTW-10S	KTKF□ 1010JX-12	120		H8
KTKF□ 1212M-12	150			KTKF□ 1212JX-12	120		
KTKF□ 1616M-12	150			KTKF□ 1616JX-12	120		
KTKF□ 1010K-16	125			KTKF□ 1010JX-16	120		
KTKF□ 1212M-16	150			KTKF□ 1212JX-16	120		
KTKF□ 1616M-16	150			KTKF□ 1616JX-16	120		
KGM□ 0810K-1.5-125	125	SE-40120TR	LTW-15S	-	-	No Replacement	H24
KGM□ 1010K-1.5-125	125			KGM□ 1010JX-1.5	120		
KGM□ 1212M-1.5-150	150			KGM□ 1212JX-1.5	120		
KGM□ 0810K-2-125	125	SE-40120TR	LTW-15S	-	-	No Replacement	
KGM□ 1010K-2-125	125			KGM□ 1010JX-2	120		
KGM□ 1212M-2-150	150			KGM□ 1212JX-2	120		
KGM□ 1616M-2-150	150	SE-50125TR	LTW-20	KGM□ 1616JX-2	120		
KGM□ 1010K-2.5-125	125	SE-40120TR	LTW-15S	KGM□ 1010JX-2.5	120		
KGM□ 1212M-2.5-150	150			KGM□ 1212JX-2.5	120		
KGM□ 1616M-2.5-150	150	SE-50125TR	LTW-20	KGM□ 1616JX-2.5	120		
KGM□ 1616M-3-150	150	SE-50125TR	LTW-20	KGM□ 1616JX-3	120		

Note) The corresponding alternative toolholder may be different from the conventional toolholder in insert clamping system or insert size.
Make sure of their specifications by referring to the catalog or other documents.

Swiss Style Length Toolholder Reference Table (KTKH-B / KTKH-S)

Conventional Toolholder					Alternative Toolholder			
Part Number	Cut-Off Diameter (mm)	Spare Parts: Releasing Wrench	Spare Parts: Clamp Screw	Spare Parts: Wrench	Part Number	Cut-Off Diameter (mm)	Notes	Reference Page
								
KTKH□ 0808K-1.6-125B	Ø10	-	SE-40120TR	FT-15	-	-	No Replacement	H24
KTKH□ 1010K-1.6-125B	Ø20				KGM□ 1010JX-1.5	Ø20		
KTKH□ 1212M-1.6-150B	Ø25				KGM□ 1212JX-1.5	Ø25		
KTKH□ 1414M-1.6-150B	Ø26				-	-	No Replacement	
KTKH□ 1010K-2-125B	Ø20	-	SE-40120TR	FT-15	KGM□ 1010JX-2	Ø20		
KTKH□ 1212M-2-150B	Ø25				KGM□ 1212JX-2	Ø25		
KTKH□ 1616M-2-150B	Ø32	-	SE-50125TR	LTW-20	KGM□ 1616JX-2	Ø32		
KTKH□ 1616M-3-150B	Ø32				KGM□ 1616JX-3	Ø32		
KTKHR 1010K-2-125S	Ø30	LTK-5	-	-	KGMR 1010JX-2	Ø20	Small Machining Dia.	
KTKH□ 1212M-2-150S	Ø30				KGM□ 1212JX-2	Ø25	Small Machining Dia.	
KTKH□ 1616M-2-150S	Ø36				KGM□ 1616JX-2	Ø32	Small Machining Dia.	
KTKH□ 1616M-3-150S	Ø45				KGM□ 1616JX-3	Ø32	Small Machining Dia.	

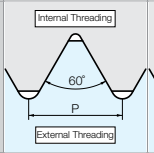
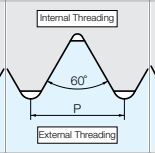
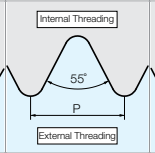
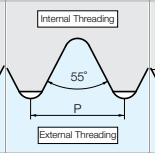
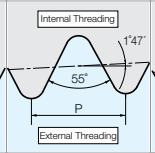
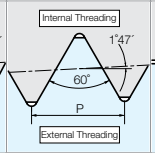
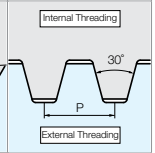
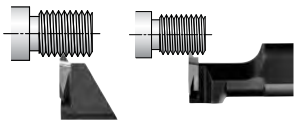
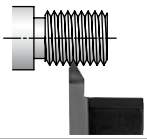
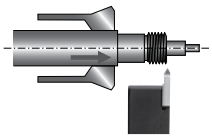
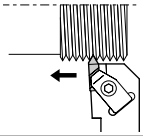
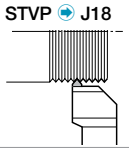
Note) The corresponding alternative toolholder may be different from the conventional toolholder in insert clamping system or insert size.
Make sure of their specifications by referring to the catalog or other documents.

THREADING

J

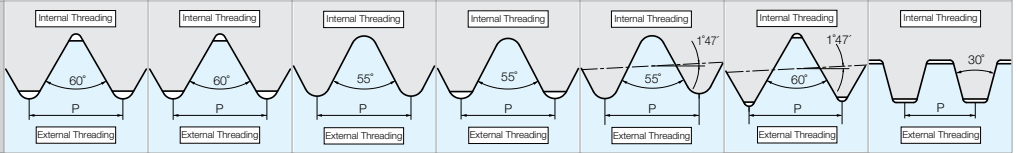
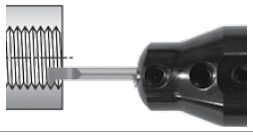
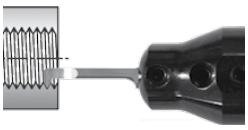
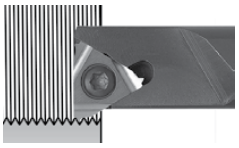
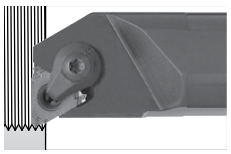
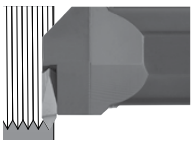
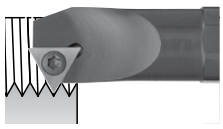
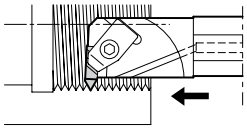
J1 - J52

Tooling Application (External)

Thread Types		Metric	Unified	Parallel Pipe	Whitworth	Tapered Pipe	American National Pipe	30° Trapezoidal
		M	UN, UNC UNF, UNEF	G (PF)	W	R (PT) (BSPT)	NPT	Tr
Thread Shape								
Toolholder Shape \ Pitch		mm	TPI	TPI	TPI	TPI	TPI	mm
KTN ➡ J20 	Full Profile	0.50~5.00 ➡ J6	24~8 ➡ J8	19~11 ➡ J8	16~11 ➡ J8	28~11 ➡ J10	18.0~11.5 ➡ J10	-
	Partial Profile	0.50~5.00 ➡ J12	48~5 ➡ J12	28~11 ➡ J14	40~5 ➡ J14	28~11 ➡ J14	-	2.00~5.00 ➡ J14
KTNS ➡ J20 	Full Profile	0.50~3.00 ➡ J6	24~8 ➡ J8	19~11 ➡ J8	16~11 ➡ J8	28~11 ➡ J10	18.0~11.5 ➡ J10	-
	Partial Profile	0.50~3.00 ➡ J12	48~8 ➡ J12	28~11 ➡ J14	40~8 ➡ J14	28~11 ➡ J14	-	2.00~3.00 ➡ J14
KTT ➡ J26 	Full Profile	1.00~2.00 ➡ J26	-	-	-	-	-	-
	Partial Profile	0.50~3.50 ➡ J26	56~8 ➡ J26	28~11 ➡ J26	24~7 ➡ J26	28~11 ➡ J26	-	-
KTTX ➡ J24 S-KTTX ➡ J24 	Partial Profile	0.50~2.00 ➡ J25	56~14 ➡ J25	28~11 ➡ J25	24~11 ➡ J25	28~11 ➡ J25	-	-
KTKF ➡ J22 	Partial Profile	0.20~1.50 ➡ J22	64~18 ➡ J22	28~19 ➡ J22	40~16 ➡ J22	28~19 ➡ J22	-	-
KTKF ➡ J22 (Goose-neck Holders) 								
KKC ➡ J16 	Partial Profile	0.70~4.00 ➡ J17	44~5 ➡ J17	-	-	-	-	-
STVP ➡ J18 	Partial Profile	0.50~4.00 ➡ J19	72~6 ➡ J19	-	-	-	-	-

- Threading Inserts Identification System
  Full Profile See Page ➡ **J16**
  Partial Profile See Page ➡ **J22**

Tooling Application (Internal)

Thread Types		Metric	Unified	Parallel Pipe	Whitworth	Tapered Pipe	American National Pipe	30° Trapezoidal
		M	UN, UNC UNF, UNEF	G (PF) Rp (PS)	W	Rc (PT) (BSPT)	NPT	Tr
Thread Shape								
Toolholder Shape / Pitch		mm	TPI	TPI	TPI	TPI	TPI	mm
EZT ➡ J28 	Partial Profile	0.50~1.75 ➡ J28	36~16 ➡ J28	28~19 ➡ J28	24~18 ➡ J28	28~19 ➡ J28	18~14 ➡ J28	-
VNT ➡ J34 	Partial Profile	0.75~1.50 ➡ J34	28~18 ➡ J34	-	-	-	-	-
HPT ➡ J32 (PST ➡ J34) 	Partial Profile	0.75~1.50 (0.75~1.50) ➡ J32 (➡ J34)	28~16 (28~18) ➡ J32 (➡ J34)	28~19 ➡ J32	24~18 ➡ J32	28~19 ➡ J32	18~14 ➡ J32	-
SIN ➡ J21 	Full Profile	0.50~5.00 ➡ J7	24~8 ➡ J9	19~11 ➡ J9	16~11 ➡ J9	28~11 ➡ J11	18~11.5 ➡ J11	-
	Partial Profile	0.50~5.00 ➡ J13	48~5 ➡ J13	28~11 ➡ J15	40~5 ➡ J15	28~11 ➡ J15	-	2.00~5.00 ➡ J15
CIN ➡ J21 	Full Profile	1.00~5.00 ➡ J7	24~8 ➡ J9	19~11 ➡ J9	16~11 ➡ J9	28~11 ➡ J11	18~11.5 ➡ J11	-
	Partial Profile	0.50~5.00 ➡ J13	48~5 ➡ J13	28~11 ➡ J15	40~5 ➡ J15	28~11 ➡ J15	-	2.00~5.00 ➡ J15
KITG ➡ J27 	Partial Profile	0.50~3.00 ➡ J27	48~8 ➡ J27	28~11 ➡ J27	24~8 ➡ J27	28~11 ➡ J27	-	-
STWP ➡ J29 	Partial Profile	0.75~3.50 ➡ J23	28~8 ➡ J23	-	-	-	-	-
A-KKC ➡ J17 	Partial Profile	2.50~3.50 ➡ J17	44~5 ➡ J17	-	-	-	-	-

TF Series Threading Inserts

High quality edge and new grade insert PR1115 achieve long tool life

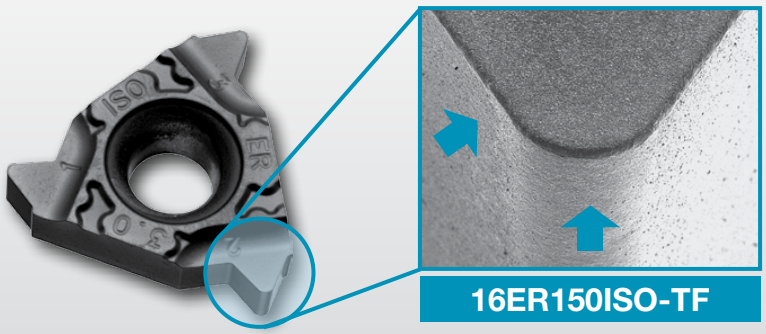
Economical Molding Specification

High Quality Cutting Edge

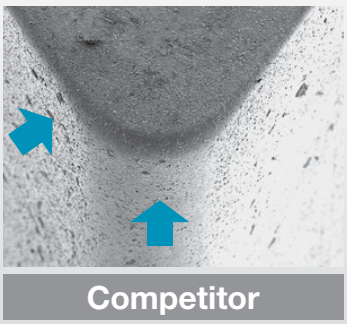
TF Series

- **High precision fine molding technology produces high quality cutting edge**

Consistent micro honing technology produces high quality cutting edge



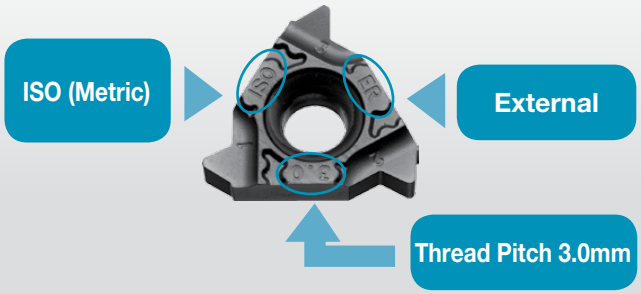
Inconsistent edge honing condition



Available for every standard screw thread

Metric (M)	Tapered Pipe [R, Rc(PT), (BSPT)]
Unified (UN)	60°Angle (Partial Profile)
Parallel Pipe [G(PF)]	55°Angle (Partial Profile)
Whitworth [W]	

Clear markings provide user-friendly insert identification

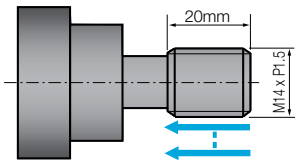


- 16..-TF has the mark on its top face, and 11..-TF has the mark on its seating face side (bottom side)

Case Studies

Chromium Steel

- Machine parts
- Vc = 210sfm
- WET



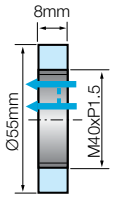
16ER150ISO-TF (PR1115)	1,800 pcs / edge
Competitor A	600 pcs / edge

TF Series extended tool life by 3 times that of Competitor A.

(User Evaluation)

Structural Steel

- Machine parts
- Vc = 860sfm
- WET



16ER150ISO-TF (PR1115)	500 pcs / edge
Competitor B	300 pcs / edge

TF Series extended tool life by 1.7 times that of Competitor B.

(User Evaluation)

KTKF J22

"JX" Toolholders (Overall Length 4.75") Are Available!

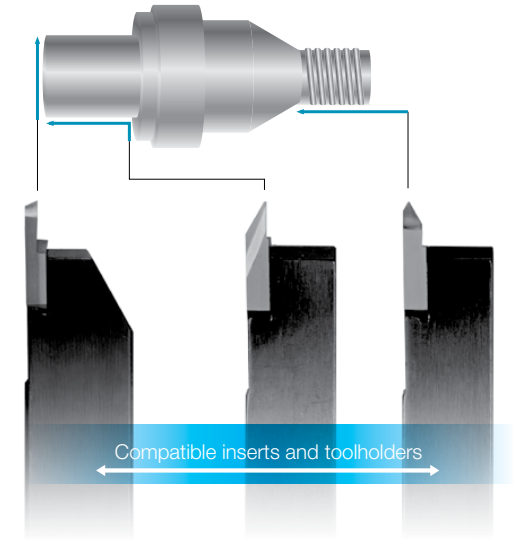
Threading

For Threading

TKFT

- **Applicable for various types of threading**

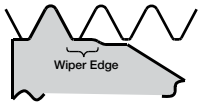
Metric (M)	Parallel Pipe [G(PF)]
Unified (UN)	Tapered Pipe [R(PT), (BSPT)]



Small Parts Cut-Off	Back Turning	Threading
TKF	**TKFB**	**TKFT**

Threading Insert Features

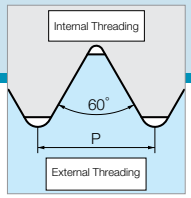
Full Profile and Partial Profile

	Shape	Function	Advantages
Full Profile			① Burr-free thread surface; high quality (smooth feeling) ② Leave the workpiece diameter slightly oversized for full topping ③ Every pitch size requires a specific insert
Partial Profile			① Threads crest tends to be sharp edged ② Thread's O.D. or I.D. needs to be finished to the size before threading ③ One insert can machine to various pitch sizes

Thread Precision

Thread Type		Thread Precision: Strict ← → Loose		
Metric	External Threading	4h (1st Class)	6g (2nd Class)	8g (3rd Class)
	Internal Threading	5h (1st Class)	6h (2nd Class)	7h (3rd Class)
Unified	External Threading	3A	2A	1A
	Internal Threading	3B	2B	1B
Applicable Accuracy with Wiper Edge		※X	✓	✓

※ Not recommended if strict thread precision is required



External Threading Insert

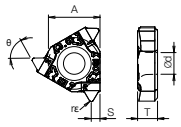
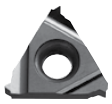
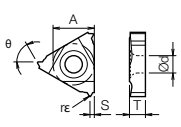
Metric (M)

60° Full Profile (mm)

Part Number	Previous Part Number	A	T	Ød
16ER/L	TNN32ER/L	9.525	3.68	4.00
22ER/L	TNN43ER/L	12.70	4.9	4.85

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

P	Carbon Steel / Alloy Steel		●	
M	Stainless Steel		●	
K	Cast Iron			●
N	Non-ferrous			●

Insert (Right-handed Insert Shown)			Part Number	Previous Part Number	Applicable Thread M Pitch mm	Dimensions (mm) rε	S	Angle θ	Cermet TC60 R	Cermet TC60 L	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15 R	Carbide GW15 L	Ref. Page for D.O.C. & Number of Passes
Full Profile			16ER 100ISO-TF	-	1.00	0.12	0.80	60°			●				
			16ER 125ISO-TF		1.25	0.15	0.90				●				
			16ER 150ISO-TF		1.50	0.19	1.00				●				
			16ER 175ISO-TF		1.75	0.22	1.60				●				
			16ER 200ISO-TF		2.00	0.25	1.50				●				
			16ER 250ISO-TF		2.50	0.33	1.60				●				
			16ER 300ISO-TF		3.00	0.41	1.60				●				
			16ER/L 050ISO	TNN32ER/L 050M	0.50	0.06	0.40	60°	○		○	○	○		➡ J37
			16ER/L 075ISO	075M	0.75	0.09	0.53		○		○	○	○		
			16ER/L 100ISO	100M	1.00	0.12	0.80		●			○	○		
			16ER/L 125ISO	125M	1.25	0.15	0.90		○			○	○		
			16ER/L 150ISO	150M	1.50	0.19	1.00		●			●	○		
			16ER/L 175ISO	175M	1.75	0.22	1.50		○						
			16ER/L 200ISO	200M	2.00	0.25	1.50		○			○	○		
			16ER/L 250ISO	250M	2.50	0.32	1.60		○				○		
			22ER 300ISO	TNN43ER 300M	3.00	0.41	2.10	60°	○						
			22ER 350ISO	350M	3.50	0.48	2.10		○		○				
			22ER 400ISO	400M	4.00	0.55	2.80		○		○				
			22ER 450ISO	450M	4.50	0.62	2.80		○		○				
			22ER 500ISO	500M	5.00	0.70	2.80		○		○				

Recommended Cutting Conditions ➡ J36

Applicable Toolholders

Part Number	Applicable Toolholders	Ref. Page for Toolholder
16ER...	KTNR...-16 KTNSR...-16	➡ J20
16EL...	KTNL...-16	
22ER...	KTNR...-22	

Applicable Thread		
	M: Metric	R, Rc (PT), (BSPT): Tapered Pipe
	UN: Unified	W: Whitworth
	UNF: Unified Fine Thread	NPT: American National Pipe
	G (PF): Parallel Pipe	Tr: 30° Trapezoidal

Threading Insert Identification System (Full Profile) ➡ J6~ J11

16	E	R	100	ISO	-TF
①	②	③	④	⑤	⑥

① Insert Size

11	6.350
16	9.525
22	12.70
Symbol	I.C. Size (mm)

② External / Internal

E	External Threading
I	Internal Threading

③ Insert Hand

R	Right hand
L	Left hand

④ Pitch

Metric (M)	
100	Pitch 1.0mm
150	Pitch 1.5mm
Inch Screw Threading	
24	24 TPI
20	20 TPI
Full Profile	

⑤ Applicable Thread

ISO	Metric (M)
M	Metric (M)
UN	Unified
W	Whitworth
BSPT	Tapered Pipe
NPT	American National Pipe
Full Profile	

⑥ Optional Code

-TF	TF Cutting Edge

PR1115/GW15 Threading Inserts are sold in 5 piece boxes.

TC60 Threading Inserts sold in 10 piece boxes.

KYOCERA

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

Internal Threading Insert

Metric (M)

60° Full Profile (mm)

Part Number	Previous Part Number	A	T	Ød
11IR	TNN22IR	6.350	3.18	3.0
16IR	TNN32IR	9.525	3.68	4.0
22IR	TNN43IR	12.70	4.9	4.85

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

P	Carbon Steel / Alloy Steel		●	
M	Stainless Steel		●	
K	Cast Iron			●
N	Non-ferrous Metals			●

Insert (Right-handed Insert Shown)	Part Number		Previous Part Number		Applicable Thread M Pitch mm	Dimensions (mm) rε	S	Angle θ	Cermet TC60 R	Cermet TC60 L	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15 R	Carbide GW15 L	Ref. Page for D.O.C. & Number of Passes
Full Profile	11IR	100ISO-TF	-		1.00	0.07	0.80	60°			●				
		125ISO-TF			1.25	0.08	1.10				●				
		150ISO-TF			1.50	0.11	1.10				●				
		175ISO-TF			1.75	0.12	1.10				●				
	16IR	100ISO-TF	-		1.00	0.07	0.80	60°			●				
		125ISO-TF			1.25	0.08	1.10				●				
		150ISO-TF			1.50	0.11	1.10				●				
		175ISO-TF			1.75	0.12	1.10				●				
		200ISO-TF			2.00	0.14	1.50				●				
		250ISO-TF			2.50	0.17	1.50				●				
		300ISO-TF			3.00	0.19	1.60				●				
	11IR	050ISO	TNN22IR	050M	0.50	0.03	0.55	60°	○		○		○		J37
		075ISO		075M	0.75	0.05	0.68		○		○		○		
		100ISO		100M	1.00	0.07	0.80		○			○	○		
		125ISO		125M	1.25	0.08	1.10		○				○		
		150ISO		150M	1.50	0.11	1.10		○			○	○		
		175ISO		175M	1.75	0.12	1.10		○						
		200ISO		200M	2.00	0.14	0.90				○				
	16IR	100ISO	TNN32IR	100M	1.00	0.07	0.80	60°	○			○	○		
		125ISO		125M	1.25	0.08	1.10		○						
		150ISO		150M	1.50	0.11	1.10		○			○	○		
		175ISO		175M	1.75	0.12	1.10		○						
		200ISO		200M	2.00	0.14	1.50		○			○	○		
		250ISO		250M	2.50	0.16	1.50		○				○		
		300ISO		300M	3.00	0.19	1.60						○		
	22IR	300ISO	TNN43IR	300M	3.00	0.19	1.80	60°	○						
		350ISO		350M	3.50	0.23	2.10		○		○				
		400ISO		400M	4.00	0.26	2.80		○		○				
		450ISO		450M	4.50	0.30	2.80		○		○				
		500ISO		500M	5.00	0.34	2.80		○		○				

Recommended Cutting Conditions ➡ J36

Applicable Toolholders

Part Number	Applicable Toolholders	Ref. Page for Toolholder
11IR...	SINR...-11E SINR...-11	➡ J21
11IL...	SINL...-11E SINL...-11	

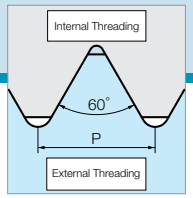
Part Number	Applicable Toolholders	Ref. Page for Toolholder
16IR...	SINR...-16 CINR...-16	➡ J21
16IL...	SINL...-16 CINL...-16	
22IR...	SINR...-22 CINR...-22	

Applicable Thread	M: Metric	R, Rc, (PT), (BSPT): Tapered Pipe
	UN: Unified	W: Whitworth
	UNF: Unified Fine Thread	NPT: American National Pipe
	G (PF): Parallel Pipe	Tr: 30° Trapezoidal

PR1115/GW15 Threading Inserts are sold in 5 piece boxes.

TC60 Threading Inserts sold in 10 piece boxes.

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)



External Threading Insert

Unified (UN)

60° Full Profile (in)

Part Number	Previous Part Number	A	T	Ød
16ER	TNN32ER	0.375	0.145	0.157
22ER	TNN43ER	0.500	0.193	0.191

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

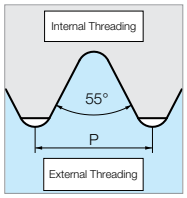
P	Carbon Steel / Alloy Steel		●			
M	Stainless Steel		●			
K	Cast Iron					
N	Non-ferrous Metals					

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Applicable Thread UN, UNF Pitch TPI	Dimensions (in) rε	Dimensions (in) S	Angle θ	Cermet TC60 R	Cermet TC60 L	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15 R	Carbide GW15 L	Ref. Page for D.O.C. & Number of Passes
Full Profile	16ER 24UN-TF	-	24	0.0047	0.0315	60°			●				J37
	16ER 20UN-TF		20	0.0059	0.0394				●				
	16ER 18UN-TF		18	0.0071	0.0394				●				
	16ER 16UN-TF		16	0.0079	0.0433				●				
	16ER 14UN-TF		14	0.0091	0.0591				●				
	16ER 13UN-TF		13	0.0098	0.0591				●				
	16ER 12UN-TF		12	0.0106	0.0591				●				
	16ER 10UN-TF		10	0.0134	0.0591				●				
	16ER 08UN-TF		8	0.0169	0.0689				●				
	16ER 24UN	TNN32ER 24UN	24	0.0051	0.0315	60°	●						
	16ER 20UN	TNN32ER 20UN	20	0.0063	0.0394		●						
	16ER 18UN	TNN32ER 18UN	18	0.0071	0.0394		●						
	16ER 16UN	TNN32ER 16UN	16	0.0079	0.0433		●						
	16ER 14UN	TNN32ER 14UN	14	0.0091	0.0591		●						
	16ER 12UN	TNN32ER 12UN	12	0.0106	0.0591		●						
	22ER 08UN	TNN43ER 08UN	8	0.0169	0.0827	60°	●		○				

Recommended Cutting Conditions ➡ J36

Applicable Toolholders

Part Number	Applicable Toolholders	Ref. Page for Toolholder
16ER...	KTNR...-16 KTNSR...-16	➡ J20
22ER...	KTNR...-22	



External Threading Insert

Parallel Pipe [G (PF)], Whitworth (W)

55° Full Profile (in)

Part Number	Previous Part Number	A	T	Ød
16ER	TNN32ER	0.375	0.145	0.157

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

P	Carbon Steel / Alloy Steel		●			
M	Stainless Steel		●			
K	Cast Iron					
N	Non-ferrous Metals					

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Applicable Thread G (PF)	Applicable Thread W	Pitch TPI	Dimensions (in) rε	Dimensions (in) S	Angle θ	Cermet TC60 R	Cermet TC60 L	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15 R	Carbide GW15 L	Ref. Page for D.O.C. & Number of Passes
Full Profile	16ER 19W-TF	-	19	-		0.0063	0.0394	55°			○				J38
	16ER 16W-TF		-	16		0.0075	0.0433				○				
	16ER 14W-TF		14	14		0.0091	0.0591				○				
	16ER 11W-TF		11	11		0.0118	0.0591				○				
	16ER 19W	TNN32ER 19W	19	-		0.0063	0.0394	55°	○						
	16ER 14W	TNN32ER 14W	14	14		0.0091	0.0591		○						
	16ER 11W	TNN32ER 11W	11	11		0.0118	0.0591		○						

Recommended Cutting Conditions ➡ J36

Applicable Toolholders

Part Number	Applicable Toolholders	Ref. Page for Toolholder
16ER...	KTNR...-16 KTNSR...-16	➡ J20

Applicable Thread		
	M: Metric	R, Rc (PT), (BSPT): Tapered Pipe
	UN: Unified	W: Whitworth
	UNF: Unified Fine Thread	NPT: American National Pipe
	G (PF): Parallel Pipe	Tr: 30° Trapezoidal

PR1115/GW15 Threading Inserts are sold in 5 piece boxes.

TC60 Threading Inserts sold in 10 piece boxes.

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

Internal Threading Insert

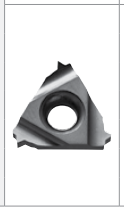
Unified (UN)

60° Full Profile (in)

Part Number	Previous Part Number	A	T	Ød
16IR	**TNN32IR**	0.375	0.145	0.157
22IR	**TNN43IR**	0.500	0.193	0.191

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

P	Carbon Steel / Alloy Steel	●
M	Stainless Steel	●
K	Cast Iron	
N	Non-ferrous Metals	

Insert (Right-handed Insert Shown)		Part Number		Previous Part Number		Applicable Thread UN, UNF Pitch TPI	Dimensions (in) rε	Dimensions (in) S	Angle θ	Cermet TC60 R	Cermet TC60 L	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15 R	Carbide GW15 L	Ref. Page for D.O.C. & Number of Passes
Full Profile		**16IR**	**24UN-TF**	-		24	0.0024	0.0315	60°			●				
			20UN-TF			20	0.0031	0.0394				●				
			18UN-TF			18	0.0035	0.0394				●				
			16UN-TF			16	0.0039	0.0433				●				
			14UN-TF			14	0.0047	0.0591				●				
			13UN-TF			13	0.0051	0.0591				●				
			12UN-TF			12	0.0055	0.0591				●				
			10UN-TF			10	0.0067	0.0591				●				
			08UN-TF			8	0.0083	0.0709				●				**J37**
		**16IR**	**24UN**	**TNN32IR**	**24UN**	24	0.0020	0.0315	60°	○						
			20UN		**20UN**	20	0.0028	0.0394		○						
			18UN		**18UN**	18	0.0035	0.0394		○						
			16UN		**16UN**	16	0.0039	0.0433		●						
			14UN		**14UN**	14	0.0047	0.0591		○						
			12UN		**12UN**	12	0.0055	0.0591		●						
		22IR	**08UN**	**TNN43IR**	**08UN**	12	0.0055	0.0591	60°	●		○				

Recommended Cutting Conditions **J36**

Applicable Toolholders

Part Number	Applicable Toolholders	Ref. Page for Toolholder
16IR...	SINR...-16 CINR...-16	**J21**
22IR...	SINR...-22 CINR...-22	

Internal Threading Insert

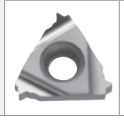
Parallel Pipe [G (PF)], Whitworth (W)

55° Full Profile (in)

Part Number	Previous Part Number	A	T	Ød
16IR	**TNN32IR**	0.375	0.145	0.157

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

P	Carbon Steel / Alloy Steel	●
M	Stainless Steel	●
K	Cast Iron	
N	Non-ferrous Metals	

Insert (Right-handed Insert Shown)		Part Number		Previous Part Number		Applicable Thread G (PF) Pitch TPI	Applicable Thread W Pitch TPI	Dimensions (in) rε	Dimensions (in) S	Angle θ	Cermet TC60 R	Cermet TC60 L	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15 R	Carbide GW15 L	Ref. Page for D.O.C. & Number of Passes
Full Profile		**16IR**	**19W-TF**	-		19	-	0.0063	0.0394	55°			○				
			16W-TF			-	16	0.0075	0.0433				○				
			14W-TF			14	14	0.0091	0.0591				○				
			11W-TF			11	11	0.0118	0.0591				○				**J38**
		**16IR**	**14W**	**TNN32IR**	**14W**	14	14	0.0091	0.0591	55°	○						
			11W		**11W**	11	11	0.0118	0.0591		○						

Recommended Cutting Conditions **J36**

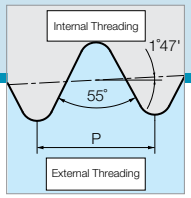
Applicable Toolholders

Part Number	Applicable Toolholders	Ref. Page for Toolholder
16IR...	SINR...-16	**J21**

Applicable Thread		
	M: Metric	R, Rc (PT), (BSPT): Tapered Pipe
	UN: Unified	W: Whitworth
	UNF: Unified Fine Thread	NPT: American National Pipe
	G (PF): Parallel Pipe	Tr: 30° Trapezoidal

PR1115/GW15 Threading Inserts are sold in 5 piece boxes.

TC60 Threading Inserts sold in 10 piece boxes.



External Threading Insert

Tapered Pipe [R, Rc(PT), (BSPT)]

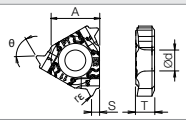
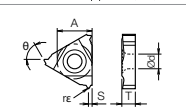
55° Full Profile

(in)

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

P	Carbon Steel / Alloy Steel	●
M	Stainless Steel	●
K	Cast Iron	●
N	Non-ferrous Metals	●

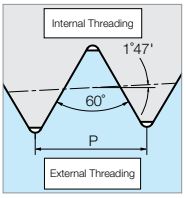
Part Number	Previous Part Number	A	T	Ød
16ER	**TNN32ER**	0.375	0.145	0.157

Insert (Right-handed Insert Shown)			Part Number		Previous Part Number		Applicable Thread R (PT) (BSPT) Pitch TPI	Dimensions (in) rε	Dimensions (in) S	Angle θ	Cermet TC60 R	Cermet TC60 L	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15 R	Carbide GW15 L	Ref. Page for D.O.C. & Number of Passes
Full Profile			**16ER**	**28BSPT-TF**	-		28	0.0039	0.0315	55°			○				**J38**
				19BSPT-TF			19	0.0063	0.0394				○				
				14BSPT-TF			14	0.0087	0.0630				○				
				11BSPT-TF			11	0.0114	0.0630				○				
			**16ER**	**28BSPT**	**TNN32ER**	**28PT**	28	0.0039	0.0315	55°	○				○		
				19BSPT		**19PT**	19	0.0063	0.0394		○				○		
				14BSPT		**14PT**	14	0.0087	0.0630		○				○		
				11BSPT		**11PT**	11	0.0114	0.0630		○				○		

Recommended Cutting Conditions ➡ **J36**

Applicable Toolholders

Part Number	Applicable Toolholders	Ref. Page for Toolholder
16ER...	KTNR...-16 KTNSR...-16	➡ **J20**



External Threading Insert

American National Pipe [NPT]

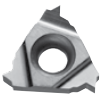
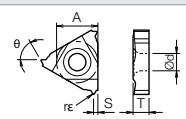
60° Full Profile

(in)

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

P	Carbon Steel / Alloy Steel	●
M	Stainless Steel	●
K	Cast Iron	●
N	Non-ferrous Metals	●

Part Number	Previous Part Number	A	T	Ød
16ER	**TNN32ER**	0.375	0.145	0.157

Insert (Right-handed Insert Shown)			Part Number		Previous Part Number		Applicable Thread NPT Pitch TPI	Dimensions (in) rε	Dimensions (in) S	Angle θ	Cermet TC60 R	Cermet TC60 L	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15 R	Carbide GW15 L	Ref. Page for D.O.C. & Number of Passes
Full Profile			**16E⅝**	**18NPT**	**TNN32E⅝**	**18NPT**	18.0	0.0016	0.0354	60°	●		●		○		**J38**
				14NPT		**14NPT**	14.0	0.0020	0.0591		○		●		○		
				11.5NPT		**11.5NPT**	11.5	0.0024	0.0591		●		●		○		

Applicable Toolholders

Part Number	Applicable Toolholders	Ref. Page for Toolholder
16ER...	KTNR...-16 KTNSR...-16	➡ **J20**

Applicable Thread	M: Metric	R, Rc (PT), (BSPT): Tapered Pipe
	UN: Unified	W: Whitworth
	UNF: Unified Fine Thread	NPT: American National Pipe
	G (PF): Parallel Pipe	Tr: 30° Trapezoidal

Recommended Cutting Conditions ➡ **J36**

PR1115/GW15 Threading Inserts are sold in 5 piece boxes.

TC60 Threading Inserts sold in 10 piece boxes.

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(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

Internal Threading Insert

Tapered Pipe [R, Rc(PT), (BSPT)]

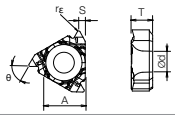
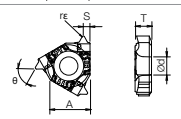
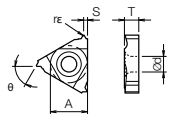
55° Full Profile

(in)

Part Number	Previous Part Number	A	T	Ød
11IR	**TNN22IR**	0.250	0.125	0.118
16IR	**TNN32IR**	0.375	0.145	0.157

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

P	Carbon Steel / Alloy Steel		●	
M	Stainless Steel		●	
K	Cast Iron			●
N	Non-ferrous Metals			●

Insert (Right-handed Insert Shown)			Part Number	Previous Part Number	Applicable Thread RC (PT) (BSPT) Pitch TPI	Dimensions (in) rε	S	Angle θ	Cermet TC60 R	Cermet TC60 L	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15 R	Carbide GW15 L	Ref. Page for D.O.C. & Number of Passes
Full Profile			**11IR**	**28BSPT-TF**	28	0.0039	0.0236	55°			○				
				19BSPT-TF	19	0.0063	0.0307	55°			○				
				14BSPT-TF	14	0.0087	0.0382	55°			○				
			**16IR**	**14BSPT-TF**	14	0.0087	0.0382	55°			○				
				11BSPT-TF	11	0.0114	0.0591	55°			○				**J38**
			**11IR**	**28BSPT**	**TNN22IR** **28PT**	28	0.0039	0.0236	55°	○				○		
				19BSPT		**19PT**	19	0.0063	0.0307	55°	○				○		
				14BSPT		**14PT**	14	0.0087	0.0382	55°	○				○		
			16IR	**14BSPT**	**TNN32IR**	**14PT**	14	0.0087	0.0382	55°	○				○		
				11BSPT		**11PT**	11	0.0114	0.0591	55°	○				○		

Recommended Cutting Conditions **J36**

Applicable Toolholders

Part Number	Applicable Toolholders	Ref. Page for Toolholder
11IR ..	SINR...-11E SINR...-11	**J21**
16IR ..	SINR...-16 CINR...-16	

Internal Threading Insert

American National Pipe [NPT]

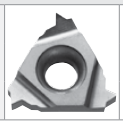
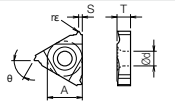
60° Full Profile

(in)

Part Number	Previous Part Number	A	T	Ød
16IR	**TNN32IR**	0.375	0.145	0.157

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

P	Carbon Steel / Alloy Steel		●	
M	Stainless Steel		●	
K	Cast Iron			●
N	Non-ferrous Metals			●

Insert (Right-handed Insert Shown)			Part Number	Previous Part Number	Applicable Thread NPT Pitch TPI	Dimensions (in) rε	S	Angle θ	Cermet TC60 R	Cermet TC60 L	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15 R	Carbide GW15 L	Ref. Page for D.O.C. & Number of Passes
Full Profile			**16IR**	**18NPT**	**TNN32IR** **18NPT**	18.0	0.0016	0.0354	60°	○		●		○		
				14NPT		**14NPT**	14.0	0.0020	0.0591	60°	●		●		○		**J38**
				11.5NPT		**11.5NPT**	11.5	0.0024	0.0591	60°	○		●		○		

Recommended Cutting Conditions **J36**

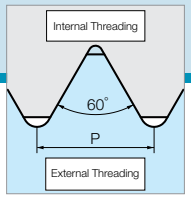
Applicable Toolholders

Part Number	Applicable Toolholders	Ref. Page for Toolholder
16IR...	SINR...-16 CINR...-16	**J21**

Applicable Thread		
	M: Metric	R, Rc (PT), (BSPT): Tapered Pipe
	UN: Unified	W: Whitworth
	UNF: Unified Fine Thread	NPT: American National Pipe
	G (PF): Parallel Pipe	Tr: 30° Trapezoidal

PR1115/GW15 Threading Inserts are sold in 5 piece boxes.

TC60 Threading Inserts sold in 10 piece boxes.



External Threading Insert

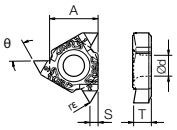
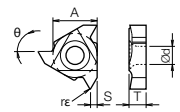
Metric (M), Unified (UN)

60° Partial Profile (in)

Part Number	Previous Part Number	A	T	Ød
16ER	TNN32ER	0.375	0.155	0.157
22ER	TNN43ER	0.500	0.193	0.191

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

P	Carbon Steel / Alloy Steel		●	
M	Stainless Steel		●	
K	Cast Iron			●
N	Non-ferrous Metals			●

Insert (Right-handed Insert Shown)			Part Number		Previous Part Number		Applicable Thread M	Applicable Thread UN UNF Pitch mm	Applicable Thread UN UNF Pitch TPI	Dimensions (in) rε	Dimensions (in) S	Angle θ	Cermet TC60 R	Cermet TC60 L	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15 R	Carbide GW15 L	Ref. Page for D.O.C. & Number of Passes
Partial Profile			16ER	A60-TF	-			0.50~1.50	48~16	0.002	0.039	60°			●				J38 J39
				G60-TF				1.75~3.00	14~8	0.009	0.063				●				
				AG60-TF				0.50~3.00	48~8	0.002	0.063				●				
			16ER	A60	-			0.50~1.50	48~16	0.002	0.039	60°					○		
				G60				1.75~3.00	14~8	0.009	0.063				○		○		
				AG60				0.50~3.00	48~8	0.002	0.063						○		
			22ER	N60				3.50~5.00	7~5	0.019	0.098	60°							
			16ER	6001	TNN32ER	6001		1.00~2.50	24~11	0.004	0.059	60°	●						J42
				6002		6002		1.50~2.50	16~11	0.008	0.059		●						

Recommended Cutting Conditions J36

Applicable Toolholders

Part Number	Applicable Toolholders	Ref. Page for Toolholder
16ER...	KTNR...-16 KTNSR...-16	J20
22ER...	KTNR...-22	

Applicable Thread		
	M: Metric	R, Rc (PT), (BSPT): Tapered Pipe
	UN: Unified	W: Whitworth
	UNF: Unified Fine Thread	NPT: American National Pipe
	G (PF): Parallel Pipe	Tr: 30° Trapezoidal

Threading Insert Identification System (Partial Profile) J12 ~ J15

16	E	R	A60	-TF
①	②	③	④	⑤

① Insert Size	
06	3.970
08	4.760
11	6.350
16	9.525
22	12.70
Symbol	I.C. Size (mm)

② External / Internal	
E	External Threading
I	Internal Threading

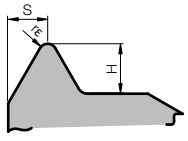
③ Insert Hand	
R	Right hand
L	Left hand

④ Pitch		
60°	A60	60° Angle (Partial Profile)
		0.50mm~1.50mm
	G60	60° Angle (Partial Profile)
		1.75mm~3.00mm
	AG60	60° Angle (Partial Profile)
		0.50mm~3.00mm
55°	A55	55° Angle (Partial Profile)
		40~16 TPI
	G55	55° Angle (Partial Profile)
		14~8 TPI
	AG55	55° Angle (Partial Profile)
		40~8 TPI
Vertex angle		Partial Profile

④ Pitch		
60°	6001	60° Angle (Partial Profile) R Corner-R (rε)=0.10mm
		1.00mm~2.50mm
55°	5501	55° Angle (Partial Profile) R Corner-R (rε)=0.10mm
		28~11 TPI
Vertex angle		Partial Profile

⑤ Optional Code	
-TF	TF Cutting Edge

• Example of shape of A, G and AG



Part Number	Dimensions (mm) rε	S	H
16ER A60-TF	0.002	0.039	0.059
16ER G60-TF	0.009	0.063	0.102
16ER AG60-TF	0.002	0.063	0.106

Note: Pitch and threads per inch of an insert without wiper depend on the size of insert.

Corner-R (rε) Selection for Partial Profiling Inserts

	External Threading	Internal Threading
External Threading	rε ≦0.1443 X P	rε ≦0.0720 X P
Parallel Pipe Whitworth Tapered Pipe	For Both External and Internal Thread rε ≦0.1373 X P	

• Metric, Unified Thread
Corner-R (rε) at Internal Threading is almost half of that of External.

• Parallel Pipe, Tapered Pipe, Whitworth Thread
Same Corner-R (rε) for both External and Internal Threading.

rε : Corner-R P : Pitch (TPI) (= $\frac{1}{n}$) n : TPI

P : Pitch (Metric) (= $\frac{25.4}{n}$)

PR1115/GW15 Threading Inserts are sold in 5 piece boxes. *TC60 Threading Inserts sold in 10 piece boxes.*

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
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U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

Internal Threading Insert

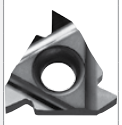
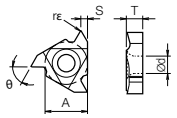
Metric (M), Unified (UN)

60° Partial Profile (in)

Part Number	Previous Part Number	A	T	Ød
06IR	**TNN06IR**	0.156	0.075	0.091
08IR	**TNN08IR**	0.187	0.094	0.091
11IR	**TNN22IR**	0.250	0.125	0.118
16IR	**TNN32IR**	0.375	0.145	0.157
22IR	**TNN43IR**	0.500	0.193	0.191

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

		Cermet	PVD Coated Carbide	Carbide
P	Carbon Steel / Alloy Steel		●	
M	Stainless Steel		●	
K	Cast Iron			●
N	Non-ferrous Metals			●

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Applicable Thread M	Applicable Thread UN UNF	Dimensions (in) rε	Dimensions (in) S	Angle θ	Cermet TC60 R	Cermet TC60 L	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15 R	Carbide GW15 L	Ref. Page for D.O.C. & Number of Passes
			Pitch mm	Pitch TPI										
Partial Profile  	**11IR A60**	-	0.50~1.50	48~16	0.001	0.039	60°			●		○		
	16IR A60		0.50~1.50	48~16	0.001	0.039	60°			●		○		
	G60		1.75~3.00	14~8	0.004	0.067				●		○		
	AG60		0.50~3.00	48~8	0.001	0.067				●		●		
	22IR N60		3.50~5.00	7~5	0.009	0.098	60°			●		○		J39
	06IR 60005	**TNN06IR 60005**	0.75~1.25	28~20	0.002	0.024	60°			○				J40
	08IR 60007	**TNN08IR 60007**	1.00~1.75	20~16	0.003	0.031	60°			●				
	11IR 60005	**TNN22IR 60005**	0.75~1.50	32~16	0.002	0.039	60°	○						
	16IR 6001	**TNN32IR 6001**	1.50~2.50	16~10	0.004	0.059	60°	○						
	60015	**60015**	2.50	11~10	0.006	0.059		○						

Recommended Cutting Conditions J36

Applicable Toolholders

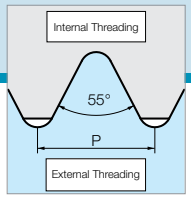
Part Number	Applicable Toolholders	Ref. Page for Toolholder
06IR...	SINR...-06E	J21
08IR...	SINR...-08E	
11IR...	SINR...-11E SINR...-11	
16IR...	SINR...-16 CINR...-16	
22IR...	SINR...-22 CINR...-22	

Applicable Thread	M: Metric	R, Rc, (PT), (BSPT): Tapered Pipe
	UN: Unified	W: Whitworth
	UNF: Unified Fine Thread	NPT: American National Pipe
	G (PF): Parallel Pipe	Tr: 30° Trapezoidal

PR1115/GW15 Threading Inserts are sold in 5 piece boxes.

TC60 Threading Inserts sold in 10 piece boxes.

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)



External Threading Insert

Parallel Pipe [G (PF)], Tapered Pipe [R, (PT), (BSPT)], Whitworth (W)

55° Partial Profile (in)

Part Number	Previous Part Number	A	T	Ød
16ER	TNN32ER	0.375	0.145	0.157
22ER	TNN43ER	0.500	0.193	0.191

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

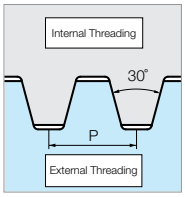
P	Carbon Steel / Alloy Steel		●	
M	Stainless Steel		●	
K	Cast Iron			●
N	Non-ferrous Metals			●

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Applicable Thread G(PF) R(PT)	Applicable Thread W Pitch TPI	rε	S	θ	Cermet TC60 R	Cermet TC60 L	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15 R	Carbide GW15 L	Ref. Page for D.O.C. & Number of Passes
Partial Profile 	16ER A55-TF	-	28, 19	40~16	0.002	0.039	55°			○				
	G55-TF		14, 11	14~8	0.009	0.063				○				
	AG55-TF		28~11	40~8	0.002	0.063				○				
	16ER A55	-	28, 19	40~16	0.002	0.039	55°					○		J40 J41
	G55		14, 11	14~8	0.009	0.063						○		
	AG55		28~11	40~8	0.002	0.063						○		
	22ER N55		-	7~5	0.019	0.098	55°			○		○		
	16ER 5501	TNN32ER 5501	28~11	24~10	0.004	0.059	55°	○						
	5502	5502	14, 11	16~9	0.006	0.059		○						

Recommended Cutting Conditions J36

Applicable Toolholders

Part Number	Applicable Toolholders	Ref. Page for Toolholder
16ER...	KTNR...-16 KTNSR...-16	J20
22ER...	KTNR...-22	



External Threading Insert

Trapezoidal (Tr)

30° Partial Profile (mm)

Part Number	Previous Part Number	A	T	Ød
16ER	TNN32ER	9.525	3.68	4.0
22ER	TNN43ER	12.70	4.9	4.85

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

P	Carbon Steel / Alloy Steel		●	
M	Stainless Steel		●	
K	Cast Iron			
N	Non-ferrous Metals			

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Applicable Thread Tr Pitch mm	rε	S	θ	Cermet TC60 R	Cermet TC60 L	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15 R	Carbide GW15 L	Ref. Page for D.O.C. & Number of Passes
Partial Profile 	16ER 200TR	TNN32ER 200TR	2.00	0.20	1.60	30°	○		○				J41
	300TR	300TR	3.00	0.20	1.60		○		○				
	22ER 400TR	TNN43ER 400TR	4.0	0.20	2.5	30°	○		○				
	500TR	500TR	5.0	0.20	2.5		○		○				

Recommended Cutting Conditions J36

Applicable Toolholders

Part Number	Applicable Toolholders	Ref. Page for Toolholder
16ER...	KTNR...-16 KTNSR...-16	J20
22ER...	KTNR...-22	

Applicable Thread	M: Metric	R, Rc (PT), (BSPT): Tapered Pipe
	UN: Unified	W: Whitworth
	UNF: Unified Fine Thread	NPT: American National Pipe
	G (PF): Parallel Pipe	Tr: 30° Trapezoidal

PR1115/GW15 Threading Inserts are sold in 5 piece boxes.

TC60 Threading Inserts sold in 10 piece boxes.

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U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

Internal Threading Insert

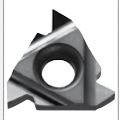
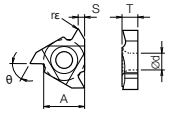
Parallel Pipe [G(PF)], Tapered Pipe [Rc, (PT), (BSPT)], Whitworth (W)

55° Partial Profile (in)

Part Number	Previous Part Number	A	T	Ød
06IR	TNN06IR	0.156	0.075	0.091
08IR	TNN08IR	0.187	0.094	0.091
11IR	TNN22IR	0.250	0.125	0.118
16IR	TNN32IR	0.375	0.145	0.157
22IR	TNN43IR	0.500	0.193	0.191

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

		Cermet	PVD Coated Carbide	Carbide
P	Carbon Steel / Alloy Steel		●	
M	Stainless Steel		●	
K	Cast Iron			●
N	Non-ferrous Metals			●

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Applicable Thread G(PF) Rc(PT)	Applicable Thread W Pitch TPI	Dimensions (in) rε	Dimensions (in) S	Angle θ	Cermet TC60 R	Cermet TC60 L	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Carbide GW15 R	Carbide GW15 L	Ref. Page for D.O.C. & Number of Passes
Partial Profile  	11IR A55	-	28, 19	40~16	0.002	0.039	55°			○		○		
	16IR A55		28, 19	40~16	0.002	0.039	55°			○		○		
	G55		14, 11	14~8	0.009	0.067				○		○		
	AG55		28~11	40~8	0.002	0.067				○		○		
	22IR N55		-	7~5	0.019	0.098	55°			○		○		J40
	06IR 5501	TNN06IR 5501	28	24	0.004	0.024	55°			○				J41
	08IR 5501	TNN08IR 5501	28, 19	24, 20	0.004	0.031	55°			○				
	11IR 55005	TNN22IR 55005	28~14	24~14	0.002	0.043	55°	○						
	16IR 5501	TNN32IR 5501	28~11	24~11	0.004	0.059	55°	○						
	5502	5502	14~11	16~11	0.008	0.059		○						

Recommended Cutting Conditions J36

Applicable Toolholders

Part Number	Applicable Toolholders	Ref. Page for Toolholder
06IR...	SINR...-06E	J21
08IR...	SINR...-08E	
11IR...	SINR...-11E SINR...-11	

Part Number	Applicable Toolholders	Ref. Page for Toolholder
16IR...	SINR...-16 CINR...-16	J21
22IR...	SINR...-22 CINR...-22	

Internal Threading Insert

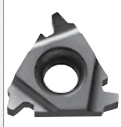
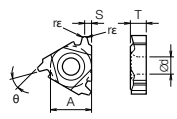
Trapezoidal (Tr)

30° Partial Profile (mm)

Part Number	Previous Part Number	A	T	Ød
16IR	TNN32IR	9.525	3.68	4.0
22IR	TNN43IR	12.70	4.9	4.85

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

		Cermet	PVD Coated Carbide
P	Carbon Steel / Alloy Steel		●
M	Stainless Steel		●
K	Cast Iron		
N	Non-ferrous Metals		

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Applicable Thread Tr Pitch mm	Dimensions (mm) rε	Dimensions (mm) S	Angle θ	Cermet TC60 R	Cermet TC60 L	PVD Coated Carbide PR1115 R	PVD Coated Carbide PR1115 L	Ref. Page for D.O.C. & Number of Passes
Partial Profile  	16IR 200TR	TNN32IR 200TR	2.00	0.20	1.60	30°			○		J41
	300TR	300TR	3.00	0.20	1.60				○		
	22IR 400TR	TNN43IR 400TR	4.0	0.20	2.5	30°			○		
	500TR	500TR	5.0	0.20	2.5				○		

Recommended Cutting Conditions J36

Applicable Toolholders

Part Number	Applicable Toolholders	Ref. Page for Toolholder
16IR...	SINR...-16 CINR...-16	J21
22IR...	SINR...-22 CINR...-22	

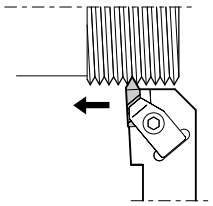
Applicable Thread		
	M: Metric	R, Rc (PT), (BSPT): Tapered Pipe
	UN: Unified	W: Whitworth
	UNF: Unified Fine Thread	NPT: American National Pipe
	G (PF): Parallel Pipe	Tr: 30° Trapezoidal

PR1115/GW15 Threading Inserts are sold in 5 piece boxes.

TC60 Threading Inserts sold in 10 piece boxes.

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

KKC (Cera-Notch Toolholders)



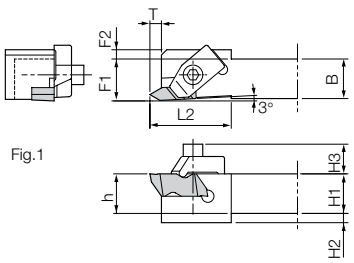


Fig.1

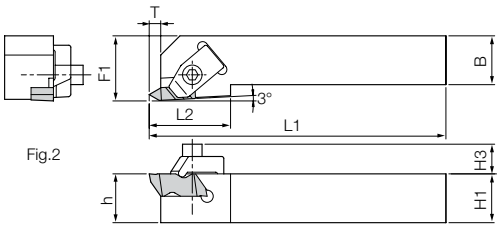


Fig.2

• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Dimensions H1=h	H2	H3	B	L1	L2	F1	F2	T	Drawing	Spare Parts Clamp	Clamp Bolt	Wrench
KKC□ 1212M-2-150F	●		mm (inch)	12 (0.472)	-	9.2 (0.362)	12 (0.472)	150 (5.906)	19.05 (0.750)	12.25 (0.482)	-	3.5 (0.138)	Fig.1	CKC-2□	SKC-2	(7/64 hex)
KKC□ 6-2X	●	●		0.375	-	0.362	0.375	2.50	0.750	0.562	-	0.138	Fig.2			
6-2CF	●	●		0.375	0.125	0.362	0.375	5.00	0.750	0.385	0.125	0.138	Fig.1			
8-2X	●	●		0.500	-	0.362	0.500	3.50	0.750	0.750	-	0.138	Fig.2			
8-2DF	●	●		0.500	-	0.362	0.500	6.00	0.750	0.510	-	0.138	Fig.1			
10-2DF	●	●	inch	0.625	-	0.362	0.625	6.00	0.750	0.635	-	0.138		CKC-2□	SKC-2	(7/64 hex)
12-2B	●	●		0.750	-	0.362	0.750	4.50	0.750	1.000	-	0.138				
12-2C	●			0.750	-	0.362	0.750	5.00	0.750	1.000	-	0.138	Fig.2			
16-2C	●	●		1.000	-	0.362	1.000	5.00	0.750	1.250	-	0.138				
16-2D	●	●		1.000	-	0.362	1.000	6.00	0.750	1.250	-	0.138				
KKC□ 12-3B	●	●		0.750	-	0.465	0.750	4.50	1.250	1.000	-	0.210				
12-3C	●	●		0.750	-	0.465	0.750	5.00	1.250	1.000	-	0.210				
16-3C	●	●	inch	1.000	-	0.465	1.000	5.00	1.250	1.250	-	0.210	Fig.2	CKC-3□	SKC-3	(LW-156)
16-3D	●	●		1.000	-	0.465	1.000	6.00	1.250	1.250	-	0.210				
20-3D	●	●		1.250	-	0.465	1.250	6.00	1.250	1.500	-	0.210				

• Clamp : CKC-○R for right-hand toolholder, CKC-○L for left-hand toolholder
• Spare parts items marked in ( ) are not included with toolholder

Applicable Inserts

Part Number	Applicable Inserts	Ref. Page for Inserts
KKC□ ...2-	KCT-2□, KCTK-2□, KCTP-2□	**J17**
KKC□ ...3-	KCT-3□, KCTK-3□, KCTP-3□	

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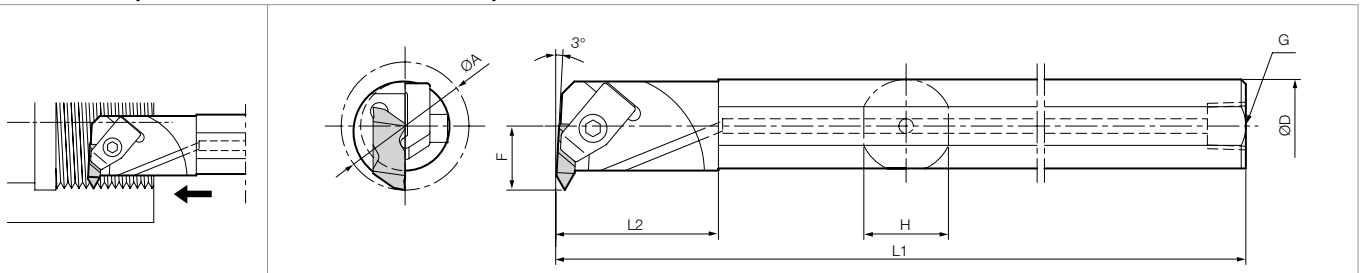
A-KKC (Cera-Notch Toolholders)



• Right-hand shown

• Right-hand Insert for Left-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

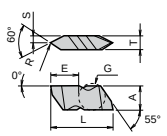
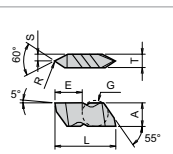
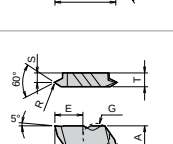
Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	Dimensions L1	Dimensions F	Dimensions G	Spare Parts: Clamp	Spare Parts: Clamp Bolt	Spare Parts: Wrench
A10M- KKC□-2	●		inch	1.000	0.625	6.00	0.500	1/8-27 NPT	CKC-2L	SKC-2	(7/64 Hex)
A10S- KKC□-2	●					10.00					
A12R- KKC□-2	●			1.125	0.750	8.00	0.562				
A12S- KKC□-2	●					10.00					
A16T- KKC□-2	●	●		1.375	1.000	12.00	0.688				
A16X- KKC□-3	●					9.00					
A16T- KKC□-3	●	●				12.00					
A20U- KKC□-3	●	●	inch	1.750	1.250	14.00	0.875	1/4-18 NPT	CKC-3□	SKC-3	(LW-156)
A24U- KKC□-3	●	●		2.000	1.500		1.000				
A28U- KKC□-3	●			2.250	1.750		1.125				
A32V- KKC□-3	●	●		2.500	2.000	16.00	1.250				

Applicable Inserts

Part Number	Applicable Inserts	Ref. Page for Inserts
A...KKC□-2	KCT-2□, KCTK-2□, KCTP-2□	**See Below**
A...KKC□-3	KCT-3□, KCTK-3□, KCTP-3□	

Cera-Notch External Threading Inserts

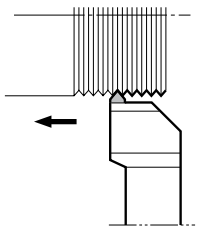
KCT / KCTP / KCTK

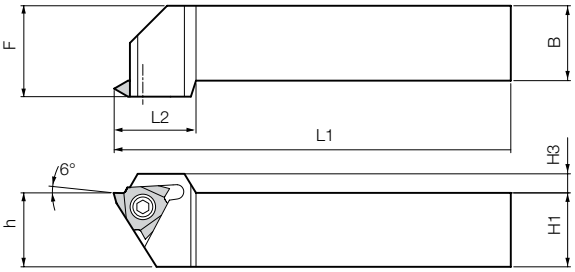
Shape (Right-handed Insert Shown)		Part Number	Applicable Thread	Pitch TPI	Dimensions (in) A	T	R	E	S	L	Angle (°) θ	Insert Grade (NEW) Cermet TC60	MEGA COAT CVD PR1215	Carbide PR660	Ref. Page for Toolholder
Partial Profile		**KCT 2□**	M UN	External 8-36 Internal 7-20	0.219	0.150	0.004	0.266	0.075	0.350	60°	●	●	●	➡ J16 ➡ J17
		**3□**	M UN	External 6-20 Internal 5-12	0.344	0.195	0.007	0.400	0.098	0.634	60°	●	●	●	
		**KCTP 2□**	M UN	External 8-36 Internal 7-20	0.219	0.150	0.004	0.266	0.075	0.350	60°	●	●	●	
		**3□**	M UN	External 6-20 Internal 5-12	0.344	0.195	0.007	0.400	0.098	0.634	60°	●	●	●	
		**KCTK 2□**	M UN	External 14-44 Internal 12-24	0.219	0.150	0.003	0.268	0.110	0.350	60°	●	●	●	
		**3□**	M UN	External 10-44 Internal 9-24	0.344	0.195	0.003	0.402	0.141	0.634	55°	●	●	●	

Cera-Notch Conversion Table ➡ R21

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

STVP





• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

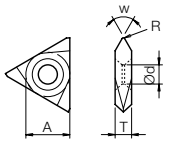
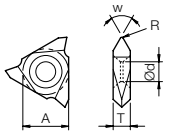
Part Number	Stock		Unit	Dimensions						Spare Parts	
										Insert Screw	Wrench
	R	L		H1=h	H3	B	L1	L2	F		
STVPR/L 12-3	●		inch	0.750	0.100	0.750	4.50	0.750	0.875	SB-4TR	FT-15
16-3	●			1.000		1.000	6.00	0.750	1.125		
16-4	●			1.000	0.150	1.000	6.00	0.950	1.125	GS-50	LW-3

Applicable Inserts

Part Number	Applicable Inserts	Ref. Page for Inserts
STVPR/L..-3	TPMC32NV	**J19**
STVPR/L..-4	TPMC43NV	

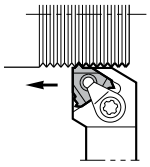
External Threading Inserts

TNMC / TPMC

Shape (Right-handed Insert Shown)			Part Number	Applicable Thread	Pitch	Dimensions (in)				Angle (°)	Insert Grade						Ref. Page for Toolholder
											Cermet			PVD			
					TPI	A	T	Ød	R	θ	TC30	TC40	TC60	PR630	PR660	PR930	
Partial Profile			**TNMC 32NV60004**	M UN	36~6	0.375	0.125	0.150	0.004	60°			●				J18
			TNMC 43NV60004	M UN	36~6	0.500	0.188	0.203					●	●			
			**TPMC 32NV60002**	M UN	72~8	0.375	0.125	0.177	0.002	60°			●				
			32NV60004	M UN	36~8				0.004			●	●				
			32NV60008	M UN	18~8				0.008			●					
			TPMC 43NV60004	M UN	36~6	0.500	0.188	0.217	0.004	60°			●				

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

KTN



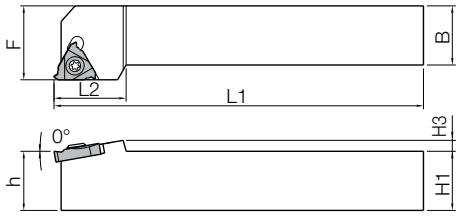


Fig. 1

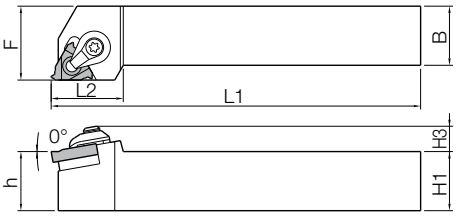
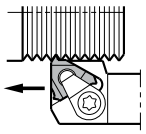


Fig. 2

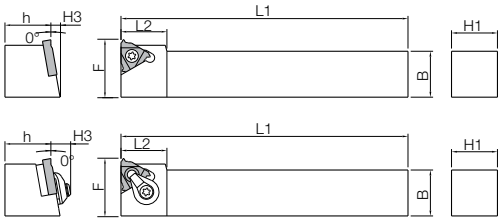
• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

KTNS (For Gang Type NC Lathe)



• Thread to shoulder



KTNSR1010H-16
1212K-16

Fig. 3

KTNSR1616K-16
2020K-16

Fig. 4

• Right-hand shown

• Right-hand Insert for Right-hand Toolholder.

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H1=h	H3	B	L1	L2	F	Drawing	Spare Parts: Clamp Set (5S, 6S)	Clamp Screw	Wrench (FT, LW)	Clamp Screw	Shim Screw	Applicable Inserts
KTN[R/L]	12-3	●		inch	0.750	0.900	0.750	5.00	0.87	0.875	Fig.2	CPS-5S	-	FT-15	TN-32	SP3X8	16E[R/L]…
	16-3	●			1.000	1.150	1.000	6.00		1.250							
KTN[R/L]	1216JX-16F NEW	○	○	mm	12	3	16	120	-	16	Fig.1	-	SB-3.5TR	LTW-15S	-	-	16E[R/L]…
	1616H-16	○	○		16	8.5		100	25	20	Fig.2	CPS-5S	-	FT-15	TN-32	SP3X8	
	1616JX-16F NEW	○	○			3		120	-	16	Fig.1	-	SB-3.5TR	LTW-15S	-	-	
	2020H-16*	○			20	8.5	20	100	25	25	Fig.2	CPS-5S	-	FT-15	TN-32	SP3X8	
	2020JX-16F NEW	○	○			3		120	-	20	Fig.1	-	SB-3.5TR	LTW-15S	-	-	
	2020K-16	○	●			8.5		125	25	25	Fig.2	CPS-5S	-	FT-15	TN-32	SP3X8	
	2525M-16	●	○		25		25	150		30							
	2525M-22	○			25	10	25	150	29	32		CPS-6S	-	LW-3	TN-43	SP3X8	22ER…
	3225P-22	○			32			170	34								
KTNSR	1010H-16	○			10	8.5	10	100	16	16	Fig.3	-	SB-3.5TR	FT-15	-	-	16ER…
	1212K-16	○			12		12	125	18	18							
	1616K-16	○			16		16			22	Fig.4	CPS-5S	-		TN-32	SP3X8	
	2020K-16	○			20		20		20	27.4							

* Mark indicates short shank type.

Reference Page for Applicable Inserts

Applicable Thread	Full Profile	Partial Profile	Applicable Thread	Full Profile	Partial Profile
M: Metric	J6	J12	R (PT), (BSPT): Tapered Pipe	J10	J14
UN: Unified	J8	J12	W: Whitworth	J8	J14
UNF: Unified Fine Thread	J8	J12	NPT: American National Pipe	J10	-
G (PF): Parallel Pipe	J8	J14	Tr: 30° Trapezoidal	-	J14

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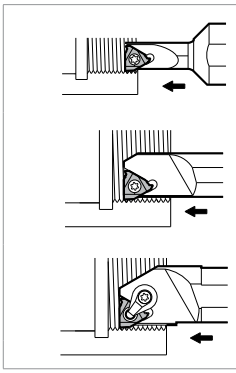


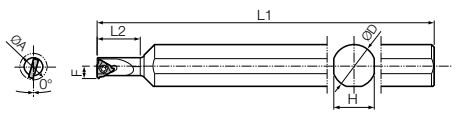


Fig.1

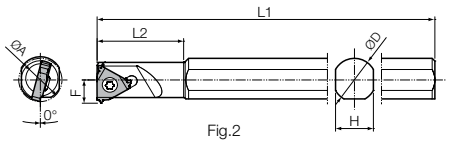


Fig.2

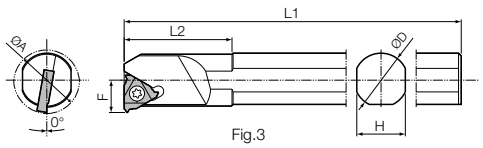


Fig.3

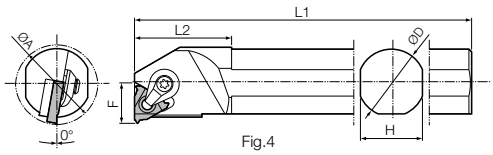


Fig.4

• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Min. Bore Dia. ØA	Dimensions ØD	H	L1	L2	F	Drawing	Spare Parts: Insert Screw	Clamp Set	Wrench	Shim	Shim Screw	Applicable Inserts
S10M- SINR-2	●		inch	0.590	0.625	0.56	5.91	1.18	0.295	Fig.1	SB-2TR	-	FT-8	-	-	11I℀…
S10M- SINR-3	●		inch	0.790		0.584		1.46	0.369	Fig.3	SB-3.5TR	-	FT-15	-	-	16I℀…
S12X- SINR-3	●		inch	0.940	0.750	0.710	7.09	1.57	0.470							
SIN℀ 0612S-06E	○		mm	6.4	12	11	100	10	3.8	Fig.1	SB-2040TR	-	FT-6	-	-	06IR…
0816S-08E	○			7.8	16	15	125	16	4.0		SB-2050TR	-	FT-6	-	-	08IR…
1216S-11E	○	○		12	16	14	150	25	6.3		SB-2TR	-	FT-8	-	-	11I℀…
1516S-11	○	○		15				30	7.5							
1616S-16	○			16	16	14	150	32	8.6	Fig.2	SB-3.5TR	-	FT-15	-	-	16I℀…
2016S-16	○	○		20				37	10.0	Fig.3						
2420S-16	○	○		24	20	18	180	40	12.0							
2420S-22	○			24	20	18	180	40	13.5		SB-4085TR	-	FT-15	-	-	22IR…
CIN℀ 3025S-16	○	○		30	25	23	200	36	15.0	Fig.4	-	CPS-5S	FT-15	TN-32	SP3X8	16I℀…
3732S-16	○			37	32	30	250	45	18.5							
3025S-22	○			30	25	23	200	40	16.5		-	CPS-6S	LW-3	TN-43	SP3X8	22IR…
3732S-22	○			37	32	30	250	45	20							

Reference Page for Applicable Inserts

Applicable Thread	Full Profile	Partial Profile	Applicable Thread	Full Profile	Partial Profile
M: Metric	J7	J13	R (PT), (BSPT): Tapered Pipe	J11	J15
UN: Unified	J9	J13	W: Whitworth	J9	J15
UNF: Unified Fine Thread	J9	J13	NPT: American National Pipe	J11	-
G (PF): Parallel Pipe	J9	J15	Tr: 30° Trapezoidal	-	J15

Guide for Internal Threading

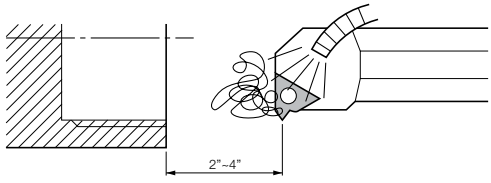
For internal threading, pay extra attention to "Stabilizing diameters of pre-drilled holes"and "chip evacuation".

1. Stabilizing diameters of pre-drilled holes
   Because small pitch internal threads have a small corner radius any variation in the diameter of pre drilled holes will greatly affect the tool life of the insert. Please minimize any variation of pre drilled holes and add an air pass to the first thread pass for safety.

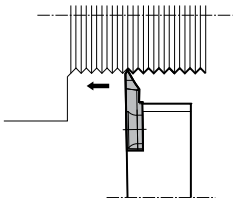
2. Chip evacuation
   If the threading cycle continues with chips tangled on the holder or in the part it may damage the insert. We suggest starting each thread pass at least 2" from the part to allow room for the coolant to remove chips from the tool on each pass.

< 1 When running the first part of a setup>
Run the program in single block to make sure coolant can remove the chips from the tool after each threading pass.

< 2 When running the second part of a setup>
Run through the full threading cycle and again check that chips are removed from the tool before going into production.



KTKF / KTKF Goose-neck Holder



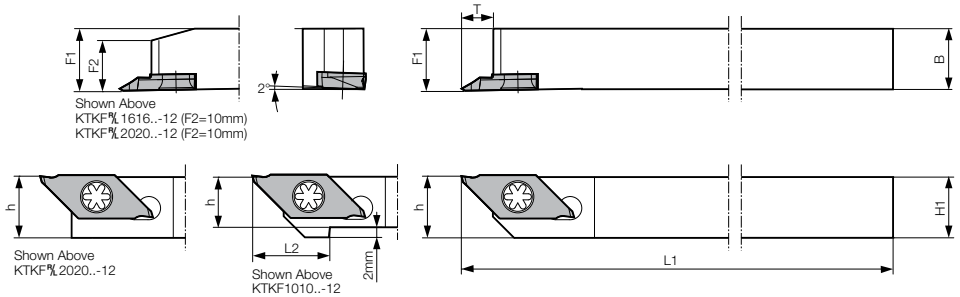
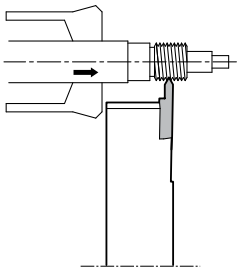


Fig.1

• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder



< Goose-neck Holder >

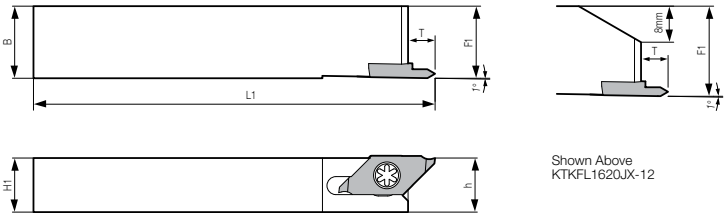


Fig.2

• Left-hand shown

• Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

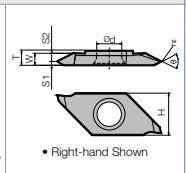
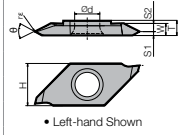
Part Number		Stock R	Stock L	Unit	Dimensions H1=h	B	L1	L2	F1	T	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts
KTKF□	6-12JX	●	●	inch	0.375	0.375	4.750	0.590	0.375	0.236	Fig.1	SB-4590TRWN	LTW-10S	TKFT12□...
	8-12JX	●	●		0.500	0.500	4.750	-	0.500	0.236	Fig.1			
	10-12JX	●	●		0.625	0.625	4.750	-	0.625	0.236	Fig.1			
KTKF□	52-12JX		●		0.500	0.625	4.750	-	0.625	0.236	Fig.2			
	62.5-12JX		●		0.625	0.750	4.750	-	0.750	0.236	Fig.2			
KTKF□	1010JX-12	●	○	mm	10	10	120	15	10	6	Fig.1	SB-4590TRWN	LTW-10S	TKFT12□...
	1212JX-12	●	○		12	12	120	-	12	6	Fig.1			
	1616JX-12	●	○		16	16	120	-	16	6	Fig.1			
NEW	2020JX-12	●			20	20	120	-	20	6	Fig.1			
KTKF□	1212F-12	○			12	12	85	-	12	6	Fig.2	SB-4590TRWN	LTW-10S	TKFT12□...
KTKFL	1216JX-12		○		12	16	120	-	16	6	Fig.2	SB-4590TRWN	LTW-10S	TKFT12L...
	1620JX-12		○		16	20	120	-	20	6	Fig.2			

• Dimension T shows the distance from the toolholder to the cutting edge.

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

		NEW				
P	Carbon Steel / Alloy Steel	●	○	○	○	
M	Stainless Steel	○	●	○	○	
K	Cast Iron					●
N	Non-ferrous Metals					●

Applicable Inserts

Insert (Right-handed Insert Shown)			Part Number	Applicable Thread	Pitch mm	Pitch TPI	Dimensions (in) T	W	H	Ød	rε	S1	S2	Angle (°) θ	MEGACOAT NANO PR1425	PR1535	MEGA COAT PR1225	PVD Coated Carbide PR1025	Carbide KW10	Applicable Toolholders
Partial Profile		 • Right-hand Shown	TKFT 12RA6000	M UN	0.20~0.60	64~48	0.118	0.098	0.343	0.205	Max 0.002 or Flat	0.016	0.083	60°	●	●	●	○	○	KTKFR ...12
			12RB6000				0.118	0.098	0.343	0.205		0.083	0.016		●	●	●	○	○	
			12RA60005		0.50~1.25	48~24	0.118	0.098	0.343	0.205	0.002	0.031	0.067		●	●	●	●	○	
			12RB60005				0.118	0.098	0.343	0.205		0.067	0.031		●	●	●	○	○	
			12RN6001		1.00~1.50	24~18	0.118	0.098	0.343	0.205	0.004	0.049	0.049		●	●	●	○	○	
			12RA55005	G,R W	-	40~16	0.118	0.098	0.343	0.205	0.002	0.031	0.067		●	●	●	○	○	
			12RB55005				0.118	0.098	0.343	0.205		0.067	0.031		●	●	●	○	○	
		 • Left-hand Shown	TKFT 12LA6000	M UN	0.20~0.60	64~48	0.118	0.098	0.343	0.205	Max 0.002 or Flat	0.083	0.016	60°	●	●	●	○	○	KTKFL ...12
			12LB6000				0.118	0.098	0.343	0.205		0.016	0.083		●	●	●	○	○	
			12LA60005		0.50~1.25	48~24	0.118	0.098	0.343	0.205	0.002	0.067	0.031		●	●	●	○	○	
			12LB60005				0.118	0.098	0.343	0.205		0.031	0.067		●	●	●	○	○	
			12LN6001		1.00~1.50	24~18	0.118	0.098	0.343	0.205	0.004	0.049	0.049		●	●	●	○	○	
			12LA55005	G,R W	-	40~16	0.118	0.098	0.343	0.205	0.002	0.067	0.031		●	●	●	○	○	
			12LB55005				0.118	0.098	0.343	0.205		0.031	0.067		●	●	●	○	○	

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Indication of Description (See Table 1)

TKFT 12 R A 60 00

- TKFT: Name of Insert
- 12: Insert Size
- R: Insert Hand (R: Right-hand, L: Left-hand)
- A: Location of Edge
- 60: Angle of Thread Shape
- 00: Corner-R (rε)

Table 1

R-hand Inserts		
Type-A  TKFT12RA..	Type-B  TKFT12RB..	Type-N  TKFT12RN..
L-hand Inserts		
Type-A  TKFT12LA..	Type-B  TKFT12LB..	Type-N  TKFT12LN..

Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grade			
	MEGACOAT NANO	MEGACOAT	PVD Coated Carbide	Carbide
	PR1425/PR1535	PR1225	PR1025	KW10
Carbon Steel	Vc (sfm) = 230-560		Vc (sfm) = 200-490	-
	First D.O.C. (Radial) under 0.0079"		First D.O.C. (Radial) under 0.0079"	
Alloy Steel	Vc (sfm) = 230-560		Vc (sfm) = 200-490	-
	First D.O.C. (Radial) under 0.0079"		First D.O.C. (Radial) under 0.0079"	
Stainless Steel	Vc (sfm) = 200-330		Vc (sfm) = 160-260	-
	First D.O.C. (Radial) under 0.0079"		First D.O.C. (Radial) under 0.0079"	
Cast Iron	-		-	Vc (sfm) = 330
				First D.O.C. (Radial) under 0.0079"
Aluminum	-		-	Vc (sfm) = 490-1310
				First D.O.C. (Radial) under 0.0079"
Brass	-		-	Vc (sfm) = 490-980
				First D.O.C. (Radial) under 0.0079"

- Coolant is recommended.
- In case of threading stainless steel, please set two to three passes more than <D.O.C. - passes> listed above.

D.O.C. & Number of Passes

60° / 55° Partial Profile

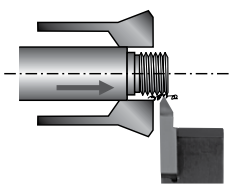
(D.O.C. shows the value of radial ap.)

Thread Type		Pitch mm & TPI	Part Number	rε	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass
Metric	External Threading	0.20mm	TKFT 12R/L A/B6000	Max 0.05 Flat	0.15	4	0.06	0.04	0.03	0.02								
		0.25mm			0.19	4	0.07	0.06	0.04	0.02								
		0.30mm			0.23	4	0.08	0.07	0.06	0.02								
		0.35mm			0.27	5	0.08	0.07	0.06	0.04	0.02							
		0.40mm			0.30	5	0.10	0.08	0.06	0.04	0.02							
		0.45mm			0.34	6	0.10	0.08	0.06	0.04	0.04	0.02						
		0.50mm	TKFT 12R/L A/B6000	Max 0.05 Flat	0.38	6	0.10	0.10	0.07	0.05	0.04	0.02						
			12R/L A/B60005	0.05	0.33	5	0.10	0.10	0.07	0.04	0.02							
		0.60mm	TKFT 12R/L A/B6000	Max 0.05 Flat	0.45	7	0.10	0.10	0.08	0.06	0.05	0.04	0.02					
			12R/L A/B60005	0.05	0.40	6	0.10	0.10	0.08	0.06	0.04	0.02						
		0.70mm	TKFT 12R/L A/B60005	0.05	0.48	6	0.10	0.10	0.10	0.10	0.06	0.02						
		0.75mm		0.05	0.52	7	0.10	0.10	0.10	0.08	0.07	0.05	0.02					
		0.80mm		0.05	0.56	7	0.10	0.10	0.10	0.10	0.08	0.06	0.02					
		1.00mm	TKFT 12R/L A/B60005 12R/L N6001	0.05	0.71	8	0.15	0.15	0.12	0.10	0.08	0.06	0.03	0.02				
				0.10	0.66	7	0.18	0.15	0.12	0.10	0.06	0.03	0.02					
		1.25mm		0.05	0.90	9	0.20	0.18	0.13	0.10	0.10	0.07	0.05	0.05	0.02			
				0.10	0.85	8	0.20	0.18	0.13	0.10	0.10	0.07	0.05	0.02				
		1.50mm	TKFT 12R/L N6001	0.10	1.04	10	0.20	0.18	0.14	0.12	0.10	0.10	0.08	0.05	0.05	0.02		
Parallel Pipe	External Threading	28 TPI	TKFT 12R/L A/B55005	0.0020	0.0264	7	0.007	0.006	0.005	0.004	0.002	0.002	0.001					
		19 TPI		0.0020	0.0398	9	0.008	0.007	0.006	0.005	0.005	0.004	0.003	0.002	0.001			
Whitworth	External Threading	24 TPI	TKFT 12R/L A/B55005	0.0020	0.0311	8	0.007	0.007	0.005	0.004	0.003	0.003	0.002	0.001				
		20 TPI		0.0020	0.0378	9	0.008	0.008	0.006	0.004	0.004	0.003	0.002	0.002	0.001			
		18 TPI		0.0020	0.0421	10	0.008	0.007	0.006	0.005	0.004	0.004	0.003	0.003	0.002	0.001		
		16 TPI		0.0020	0.0476	11	0.008	0.007	0.006	0.006	0.005	0.004	0.004	0.003	0.003	0.002	0.001	

Swiss Tool Automatic Lathe (Guide Bush System)

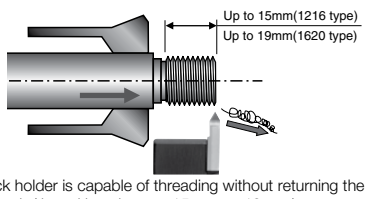
Goose-neck Holder is applicable to automatic lathes whose toolholder does not move in longitudinal direction (Z-axis diretion)

Conventional Threading Tool



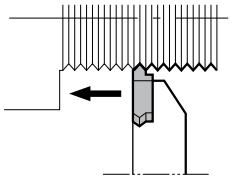
Chips may come into the guide bush and scratch the thread surface.

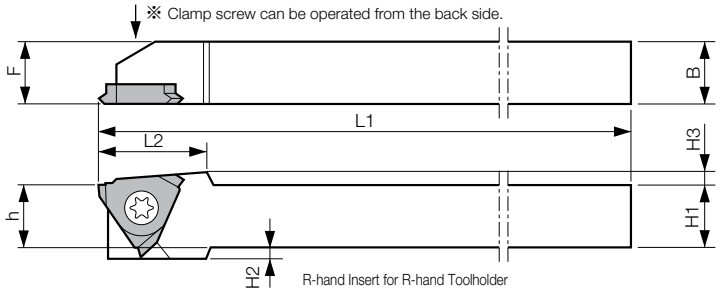
Goose-neck Holder (for Threading)



Goose-neck holder is capable of threading without returning the thread part into the guide bush (thread length up to 15 mm or 19 mm).

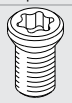
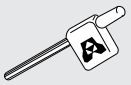
KTTX





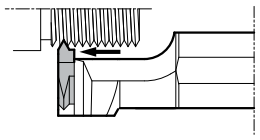
• Thread to shoulder • Right-hand shown • Right-hand Insert for Right-hand Toolholder

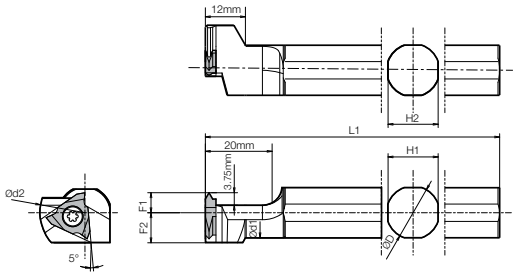
Toolholder Dimensions

Part Number	Stock	Unit	Dimensions							Spare Parts	
										Clamp Screw	Wrench
			H1=h	H2	H3	B	L1	L2	F		
KTTXR 6-3JXF	●	inch	0.375	0.079	0.098	0.375	4.750	0.693	0.383	SB-4070TRW	FT-8
8-3JXF	●		0.500	-	0.098	0.500	4.750	0.693	0.508		
10-3JXF	●		0.625	-	0.98	0.625	4.750	0.693	0.633		
KTTXR 1010JX-16F	○	mm	10	2	2.5	10	120	17.6	10	SB-4070TRW	FT-8
1212JX-16F	○		12	-	2.5	12	120	17.6	12		
1616JX-16F	○		16	-	2.5	16	120	17.6	16		
KTTXR 1212F-16F	○		12	-	2.5	12	85	17.6	12		
2020K-16F	○		20	-	2.5	20	125	17.6	20		

Applicable Inserts ➡ **J25**

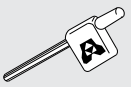
S···KTTX (External Sleeve Holder)





• Thread to shoulder • Left-hand shown • Right-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Part Number	Stock	Dimensions (mm)							Spare Parts	
									Clamp Screw	Wrench
		ØD	L1	F1	F2	Ød1	Ød2	H1=H2		
S12F-KTTXL16	○	12	80	6.0	9.0	11.0	27	11	SB-4070TRW	FT-8
S14H-KTTXL16	○	14	100	6.0	9.0	13.0	27	13		
S15F-KTTXL16	●	5/8"	85	6.0	9.0	14.6	27	15		
S16F-KTTXL16	○	16	85	6.0	9.0	14.6	27	15		
S19G-KTTXL16	○	3/4"	90	6.0	10.5	17.6	27	17		
S19K-KTTXL16	○	3/4"	120	6.0	10.5	17.6	27	17		
S20G-KTTXL16	○	20	90	6.0	11.0	18.6	27	18		
S20K-KTTXL16	○	20	120	6.0	11.0	18.6	27	18		
S25.0H-KTTXL16	○	25	100	10.0	14.0	23.6	32	23		
S25K-KTTXL16	●	1"	120	10.0	14.0	23.6	32	23		

Applicable Inserts ➡ **J25**

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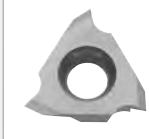
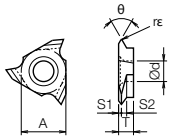
Applicable Inserts

(in)

Part Number	A	T	Ød
TTX32R	0.375	0.125	0.173

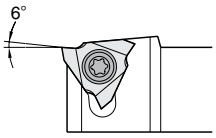
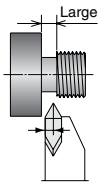
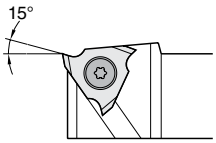
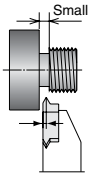
P	Carbon Steel / Alloy Steel	○	○	●		**Classification of Usage**
M	Stainless Steel		○	●		● : Light Interruption / 1st Choice
K	Cast Iron				●	◔ : Light Interruption / 2nd Choice
N	Non-ferrous Metals				●	● : Continuous / 1st Choice
						○ : Continuous / 2nd Choice

Shape (Right-handed Insert Shown)	Part Number	Applicable Thread	Pitch mm	Pitch TPI	Dimensions (in) rε	S1	S2	Angle θ	Cermet TC60	PVD Coated Carbide PR930	PVD Coated Carbide PR1115	Carbide KW10	Applicable Toolholders J8	Ref. Page for D.O.C. & Number of Passes
Partial Profile  	**TTX32R 6000**	M UN	0.5~1.0 -	- 56~32	0.000	0.024	0.044	60°				○	KTTXR...-3 KTTXR...-16 S...KTTXL16	**J44**
	60005	M UN	0.5~1.0 -	- 48~32	0.002	0.024	0.044	60°	○	●	●	●		
	6001	M UN	1.0~2.0 -	- 28~14	0.004	0.043	0.064	60°	○	○	●	○		
	TTX32R 6000S	M UN	0.5 -	- 56~48	0.000	0.012	0.044	60°		○	●	○		
	60005S	M UN	0.5 -	- 48	0.002	0.012	0.044	60°		○	●	○		
	TTX32R 5501	G,R W	-	28~19 24~20	0.004	0.030	0.040	55°	○	○	○	○		
	55015	G,R W	-	19~11 20~11	0.006	0.047	0.057	55°	○	○		○		

Recommended Cutting Conditions **J36**

Applicable Thread		
	M: Metric	R, Rc (PT), (BSPT): Tapered Pipe
	UN: Unified	W: Whitworth
	UNF: Unified Fine Thread	NPT: American National Pipe
	G (PF): Parallel Pipe	Tr: 30° Trapezoidal

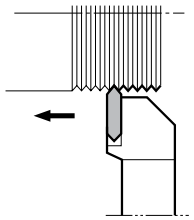
Advantages of TTX

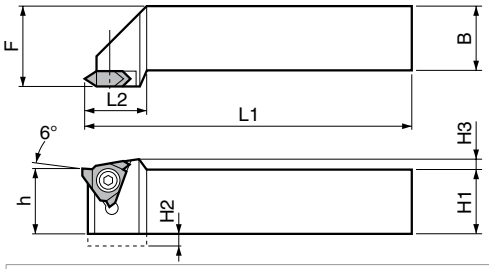
Type	Insert	Advantages: Rake Angle after Installation	Condition	Dead Space
TT			• One insert can machine various pitch sizes	
TTX			• The Least Cutting Resistance • Thread to shoulder (Less dead space) • 3-edge	

PR930/PR1115 Threading Inserts are sold in 5 piece boxes. *All other grade Inserts are sold in 10 piece boxes.*

● : U.S. Stock Standard
○ : World Express (Shipping: 7-10 Business Days)

KTT





• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

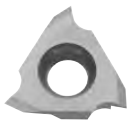
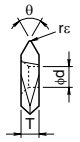
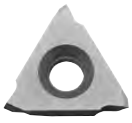
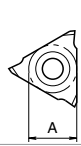
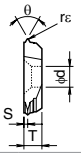
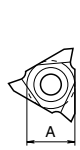
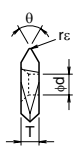
Toolholder Dimensions

Part Number		Stock		Dimensions (mm)							Spare Parts			
											Clamp Screw		Wrench	
		R	L	H1=h	H2	H3	B	L1	L2	F				
KTT®	1010F-16	○	○	10	4	2.5	10	80	18	12	SB-4070TRS	-	FT-10	-
	1212H-16	○	○	12	2		12	100		16				
	1616H-16	○	○	16	-		16	100		20				
	2020K-16	○	○	20			20	125		25	SB-4TR	-	FT-15	-
	2525M-16	○	○	25			25	150		30				
	2020K-22	○	○	20	-	3.0	20	125	25	25	-	GS-50	-	LW-3
	2525M-22	○	○	25			25	150		30				

Applicable Inserts

Part Number	A	T	Ød
	(in)		
TT32®	0.375	0.125	0.173
TT43®	0.500	0.187	0.217

P	Carbon Steel / Alloy Steel	○	○	●		**Classification of Usage**
M	Stainless Steel		○	●		● : Continuous / 1st Choice
K	Cast Iron				●	○ : Continuous / 2nd Choice
N	Non-ferrous Metals				●	

Shape (Right-handed Insert Shown)				Part Number		Applicable Thread	Pitch		Dimensions (in)		Angle	Cermet	PVD Coated Carbide		Carbide	Applicable Toolholders	Ref. Page for D.O.C. & Number of Passes
							mm	TPI	rε	S	θ	TC60	PR930	PR1115	KW10		
Partial Profile				TT32®	6000	M UN	0.5~2.5 -	- 56~10	0.000	-	60°	○	Ⓡ	Ⓛ		KTT®...-16	J43
					6001	M UN	1.0~2.5 -	- 24~10	0.004			○	○	Ⓛ	Ⓡ		
					6002	M UN	1.5~2.5 -	- 16~10	0.008			○	○	○	○		
					6003	M UN	2.5 -	- 11~10	0.012			○	Ⓡ	Ⓡ			
				TT32®	5501	G,PT W	-	28~11 24~10	0.004	-	55°	○	○	Ⓡ	○		
					5502	G,PT W	-	14~11 14~10	0.008			○	○	Ⓡ	○		
Full Profile				TT43ER	100M	M	1.00	-	0.005	0.031	60°	○	○	○			J44
					125M		1.25		0.006	0.035		○	○	○			
					150M		1.50		0.007	0.039		○	○	○			
					200M		2.00		0.010	0.067		○	○	○			
Partial Profile				TT43®	6001	M UN	1.0~3.5 -	- 24~8	0.004	-	60°	○	○	○	○	KTT®...-22	
					6002	M UN	1.5~3.5 -	- 16~8	0.008			○	Ⓛ	○	Ⓡ		
					6003	M UN	2.5~3.5 -	- 11~8	0.012			○	○	Ⓡ			
					6004	M UN	3.0~3.5 -	- 8	0.016			○	○	Ⓡ			J43
				TT43®	5501	G,PT W	-	28~11 24~7	0.004	-	55°	○	Ⓡ	Ⓡ	○		
					5502	G,PT W	-	14~11 16~7	0.008			○	Ⓡ	Ⓡ	○		
					5503	G,PT W	-	11 10~7	0.012			○	Ⓡ	Ⓡ			
					5504	G,PT W	-	- 8~7	0.016			○					

Recommended Cutting Conditions ➡ **J36**

Applicable Thread		
	M: Metric	R, Rc (PT), (BSPT): Tapered Pipe
	UN: Unified	W: Whitworth
	UNF: Unified Fine Thread	NPT: American National Pipe
	G (PF): Parallel Pipe	Tr: 30° Trapezoidal

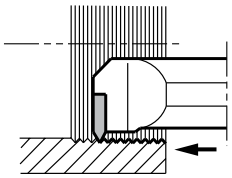
PR930/PR1115 Threading Inserts are sold in 5 piece boxes.

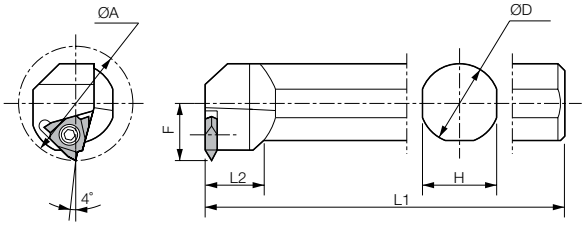
All other grade Inserts are sold in 10 piece boxes.

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

KITG





• Right-hand shown

Toolholder Dimensions

Part Number		Stock R	Stock L	Min. Bore Dia. ØA	Dimensions (mm) ØD	H	L1	L2	F	Spare Parts: Clamp Screw	Clamp Screw	Wrench	Wrench
KITG㎭	3525T-16	○	○	35	25	23	220	18	17.5	SB-4TR	-	FT-15	-
	4532T-22	○	○	45	32	30	250	20	22.5	-	GS-50	-	LW-3

• Max. available Pitch: KITG㎭3525T-16···P2.5 or 10TPI, KITG㎭4532T-22···P3.0 or 8TPI.

Applicable Inserts

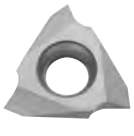
(in)

Part Number	A	T	Ød
TT32㎭	0.375	0.125	0.173
TT43㎭	0.500	0.187	0.217

P	Carbon Steel / Alloy Steel	○	○	●	
M	Stainless Steel		○	●	
K	Cast Iron				●
N	Non-ferrous Metals				●

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

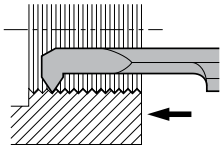
Shape (Right-handed Insert Shown)	Part Number		Applicable Thread	Pitch mm	Pitch TPI	Dimensions (in) rε	Angle θ	Cermet TC60	PVD Coated Carbide PR930	PVD Coated Carbide PR1115	Carbide KW10	Applicable Toolholders	Ref. Page for D.O.C. & Number of Passes
Partial Profile	TT32㎭	6000	M UN	0.5~2.5 -	- 48~10	0.000	60°	○	Ⓡ	Ⓛ		KITG㎭...-16	➡ J43 ➡ J44
		6001	M UN	1.0~2.5 -	- 16~10	0.004		○	○	Ⓛ	Ⓡ		
	TT32㎭	5501	G,PT W	-	28~11 24~10	0.004	55°	○	○	Ⓡ	○		
		5502	G,PT W		- 16~18	0.008		○	○	Ⓡ	○		
	TT43㎭	6001	M UN	1.5~3.0 -	14~11 16~10	0.004	60°	○	○	○	○	KITG㎭...-22	
		6002	M UN	3.0 -	- 8	0.008		○	Ⓛ	○	Ⓡ		
	TT43㎭	5501	G,PT W	-	28~11 24~8	0.004	55°	○	Ⓡ	Ⓡ	○		
		5502	G,PT W		14~11 16~8	0.008		○	Ⓡ	Ⓡ	○		
		5503	G,PT W		11 11~8	0.012		○	Ⓡ	Ⓡ			
		5504	G,PT W		- 8	0.016		○					

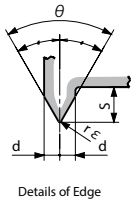


Recommended Cutting Conditions ➡ **J36**

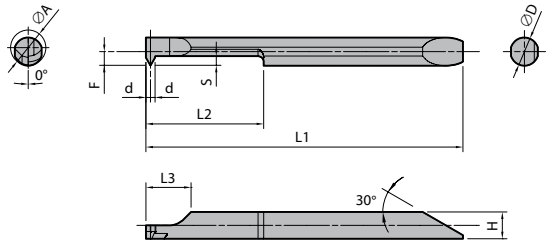
Applicable Thread		
	M: Metric	R, Rc (PT), (BSPT): Tapered Pipe
	UN: Unified	W: Whitworth
	UNF: Unified Fine Thread	NPT: American National Pipe
	G (PF): Parallel Pipe	Tr: 30° Trapezoidal

EZT





Details of Edge



• Right-hand shown

Toolholder Dimensions

Part Number		Min. Bore Dia.	Dimensions (mm)										MEGA COAT	Applicable Screw					
														Metric		Unified		American National Pipe	
		ØA	ØD	H	L1	L2	L3	F	S	d	rε	θ	PR1225	Applicable Thread	Pitch (mm)	Applicable Thread	Pitch (TPI)	Applicable Thread	Pitch (TPI)
EZTR	030025-60-002	3.0	2.5	2.3	35.0	6.5	5.4	1.19	1.0	0.5	$0.02^{\pm0.01}$	60°	●	M4 M3.5 or more	P0.5~P0.8	No.8-32UNC No.8-36UNF or more	36~32	-	-
	035030-60-002	3.5	3.0	2.8	39.0	9.0	5.9	1.44	1.2	0.6			●	M4.5 M4.5 or more	P0.5~P1.0	No.10-24UNC No.8-36UNF or more	36~24	-	-
	040035-60-004	4.0	3.5	3.3	42.0	11.0	5.9	1.69	1.2	0.6	$0.04^{\pm0.01}$		●	M5 M5 or more	P0.75~P1.25	No.12-24UNC No.12-28UNF or more	28~20	-	-
	050040-60-004	5.0	4.0	3.8	45.0	16.0	6.4	1.94	1.3	0.65			●	M7 M6 or more	P0.75~P1.5	1/4-20UNC 1/4-28UNF or more	28~18	-	-
	060050-60-004	6.0	5.0	4.8	53.2	20.0	7.4	2.44	1.6	0.8			●	M8 M7 or more	P0.75~P1.5	5/16-18UNC 5/16-24UNF or more	24~16	1/4NPT 3/8NPT	18
	070060-60-004	7.0	6.0	5.8	61.2	25.0	8.4	2.94	2.0	1.0			●	M9 M8 or more	P0.75~P1.75	3/8-16UNC 3/8-24UNF or more	24~16	1/4NPT	18,14
														Whitworth		Parallel Pipe / Tapered Pipe			
EZTR	060050-55-008	6.0	5.0	4.8	53.2	20.0	7.4	2.44	1.6	0.8	$0.08^{-0.01}$	55°	●	W10 tpi 24 or more	24~20	G1/16 R1/16 or more	28	-	-
	080070-55-008	8.0	7.0	6.8	64.2	20.5	8.9	3.44	2.0	1.0			●	W11 tpi 20 or more	20~18	G1/8 R1/8 or more	28,19	-	-

• For American National Pipe (NPT), use EZTR..-60-004 see **J30**

For applicable sleeve see **J29**

Bars are sold in 1 piece boxes

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

U.S. Stock Standard : ●
World Express (Shipping: 7-10 Business Days) : ○

EZH Sleeves EZ Bar Sleeves (Listed by Sleeve Shank Dia.)

Sleeve Part Number				EZ Bar Part Number			
EZH-CT (With coolant hole and EZ Adjustable)	EZH-HP (Adjustable)	EZH-ST	Sleeve Shank Dia ØD1 (mm)	EZT	HPT	Shank Dia ØD (-	Applicable Machine Manufacturer
-	-	EZH 02512ST-80	12.00	EZTR ...025-...	-	2.5	General Machines
		03012ST-80		EZTR ...030-...	-	3.0	
		03512ST-80		EZTR ...035-...	-	3.5	
		04012ST-80		EZTR ...040-...	HPTR ...040-...	4.0	
		05012ST-80		EZTR ...050-...	HPTR ...050-...	5.0	
		06012ST-80		EZTR ...060-...	-	6.0	
		07012ST-80		EZTR ...070-...	HPTR ...070-...	7.0	
-	EZH 02516HP-100	EZH 02516ST-100	16.00	EZTR ...025-...	-	2.5	General Machines
	03016HP-100	03016ST-100		EZTR ...030-...	-	3.0	
	03516HP-100	03516ST-100		EZTR ...035-...	-	3.5	
	04016HP-100	04016ST-100		EZTR ...040-...	HPTR ...040-...	4.0	
	05016HP-100	05016ST-100		EZTR ...050-...	HPTR ...050-...	5.0	
	06016HP-100	06016ST-100		EZTR ...060-...	-	6.0	
	07016HP-100	07016ST-100		EZTR ...070-...	HPTR ...070-...	7.0	
EZH 02519CT-120	EZH 02519HP-120	EZH 02519ST-120	19.05	EZTR ...025-...	-	2.5	Citizen Machinery
03019CT-120	03019HP-120	03019ST-120		EZTR ...030-...	-	3.0	
03519CT-120	03519HP-120	03519ST-120		EZTR ...035-...	-	3.5	
04019CT-120	04019HP-120	04019ST-120		EZTR ...040-...	HPTR ...040-...	4.0	
05019CT-120	05019HP-120	05019ST-120		EZTR ...050-...	HPTR ...050-...	5.0	
06019CT-120	06019HP-120	06019ST-120		EZTR ...060-...	-	6.0	
07019CT-120	07019HP-120	07019ST-120		EZTR ...070-...	HPTR ...070-...	7.0	
EZH 02520CT-120	EZH 02520HP-120	EZH 02520ST-120	20.00	EZTR ...025-...	-	2.5	Amada Machine Tools Eguro Tsugami Citizen Machinery General Machines
03020CT-120	03020HP-120	03020ST-120		EZTR ...030-...	-	3.0	
03520CT-120	03520HP-120	03520ST-120		EZTR ...035-...	-	3.5	
04020CT-120	04020HP-120	04020ST-120		EZTR ...040-...	HPTR ...040-...	4.0	
05020CT-120	05020HP-120	05020ST-120		EZTR ...050-...	HPTR ...050-...	5.0	
06020CT-120	06020HP-120	06020ST-120		EZTR ...060-...	-	6.0	
07020CT-120	07020HP-120	07020ST-120		EZTR ...070-...	HPTR ...070-...	7.0	
EZH 02522CT-135	EZH 02522HP-135	EZH 02522ST-135	22.00	EZTR ...025-...	-	2.5	Star Micronics Nomura DS Tsugami
03022CT-135	03022HP-135	03022ST-135		EZTR ...030-...	-	3.0	
03522CT-135	03522HP-135	03522ST-135		EZTR ...035-...	-	3.5	
04022CT-135	04022HP-135	04022ST-135		EZTR ...040-...	HPTR ...040-...	4.0	
05022CT-135	05022HP-135	05022ST-135		EZTR ...050-...	HPTR ...050-...	5.0	
06022CT-135	06022HP-135	06022ST-135		EZTR ...060-...	-	6.0	
07022CT-135	07022HP-135	07022ST-135		EZTR ...070-...	HPTR ...070-...	7.0	
EZH 02525.0CT-135	EZH 02525.0HP-135	EZH 02525.0ST-135	25.00	EZTR ...025-...	-	2.5	Amada Machine Tools Eguro Tsugami Citizen Machinery General Machines
03025.0CT-135	03025.0HP-135	03025.0ST-135		EZTR ...030-...	-	3.0	
03525.0CT-135	03525.0HP-135	03525.0ST-135		EZTR ...035-...	-	3.5	
04025.0CT-135	04025.0HP-135	04025.0ST-135		EZTR ...040-...	HPTR ...040-...	4.0	
05025.0CT-135	05025.0HP-135	05025.0ST-135		EZTR ...050-...	HPTR ...050-...	5.0	
06025.0CT-135	06025.0HP-135	06025.0ST-135		EZTR ...060-...	-	6.0	
07025.0CT-135	07025.0HP-135	07025.0ST-135		EZTR ...070-...	HPTR ...070-...	7.0	
EZH 02525.4CT-120	EZH 02525.4HP-120	EZH 02525.4ST-120	25.40	EZTR ...025-...	-	2.5	Citizen Machinery
03025.4CT-120	03025.4HP-120	03025.4ST-120		EZTR ...030-...	-	3.0	
03525.4CT-120	03525.4HP-120	03525.4ST-120		EZTR ...035-...	-	3.5	
04025.4CT-120	04025.4HP-120	04025.4ST-120		EZTR ...040-...	HPTR ...040-...	4.0	
05025.4CT-120	05025.4HP-120	05025.4ST-120		EZTR ...050-...	HPTR ...050-...	5.0	
06025.4CT-120	06025.4HP-120	06025.4ST-120		EZTR ...060-...	-	6.0	
07025.4CT-120	07025.4HP-120	07025.4ST-120		EZTR ...070-...	HPTR ...070-...	7.0	

- Choose sleeves (Ød1) to meet with ØD dimension of EZG bars.
- Adjustment pin cannot be installed in EZH-ST sleeves. To adjust overhang of EZB insert, please use EZH-HP sleeves.
- Machine manufacturers in random order.

Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grade (Vc sfm)
	MEGACOAT
	PR1225
Carbon Steel/Alloy Steel	★ 330-1070
Stainless Steel	★ 330-820
Non-ferrous Metals	-

★ : 1st Recommendation ☆ : 2nd Recommendation

Note:
1) The standard cutting speed is Vc (sfm) = 100-175. The table feed may not follow the expected conditions when machining small diameter workpieces at high speeds.
2) Coolant is recommended.

D.O.C. & Number of Passes (Metric)

Pitch (mm)	Total D.O.C. (mm)	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass	18 Pass	19 Pass	20 Pass
0.50	0.30	9	0.05	0.05	0.04	0.04	0.03	0.03	0.02	0.02	0.02											
0.70	0.42	10	0.06	0.05	0.05	0.05	0.05	0.04	0.04	0.03	0.03	0.02										
0.75	0.45	10	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.03	0.03										
0.80	0.48	11	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.03	0.03	0.03									
1.00	0.61	12	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.03	0.03								
1.25	0.77	14	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03						
1.50	0.93	17	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.03			
1.75	1.10	20	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.03	0.03

D.O.C. & Number of Passes (Whitworth)

TPI	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass
24	0.0256	13	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001				
20	0.0319	15	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001		
18	0.0358	17	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001

D.O.C. & Number of Passes (Unified)

TPI	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass	18 Pass
36	0.0173	8	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001								
32	0.0197	10	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001							
28	0.0217	12	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001						
24	0.0256	12	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001						
20	0.0307	14	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001				
18	0.0346	17	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	
16	0.0390	18	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001

Application of Parallel Pipe and Tapered Pipe Thread

Parallel Pipe: G (PF), Rp (PS)

Applicable Thread		TPI	Internal Threading (G, Rp)		Min. Bore Dia. (mm)	Same Root Radius
Inch	Symbol Previous Symbol		Insert			
-	G 1/16 (-)	28	EZTR	06005-55-008	6.56	0.12
'1/8	G 1/8 (PF 1/8)	28		08007-55-008	8.57	0.12
'2/8	G 1/4 (PF 1/4)	19	EZTR	08007-55-008	11.45	0.18
'3/8	G 3/8 (PF 3/8)	19		08007-55-008	14.95	0.18

Tapered Pipe: R, Rc (PT) (BSPT)

Applicable Thread		TPI	Internal Threading (Rc)		Min. Bore Dia. (mm)	Same Root Radius
Inch	Symbol Previous Symbol		Insert			
-	R 1/16, Rc 1/16 (-)	28	EZTR	06005-55-008	-	0.12
'1/8	R 1/8, Rc 1/8 (PT 1/8)	28		08007-55-008	-	0.12
'2/8	R 1/4, Rc 1/4 (PT 1/4)	19	EZTR	08007-55-008	-	0.18
'3/8	R 3/8, Rc 3/8 (PT 3/8)	19		08007-55-008	-	0.18

• When using "EZT type" for Parallel Pipe / Tapered Pipe threading, the thread's corners become sharp edged due to its partial profile, and the shape will not be the same as the standard shape for Parallel Pipe / Tapered Pipe.

D.O.C. & Number of Passes (Parallel Pipe / G(PF), Tapered Pipe / BSPT (PT) (Rc))

TPI	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass	18 Pass
28	0.0240	12	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001						
19	0.0374	18	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001

Application of American National Tapered Pipe Thread (NPT)

Applicable Thread	TPI	Internal Threading		
		Toolholder	Insert	
			Partial Profile	Full Profile
1/16 NPT	27	No Tools Available		
1/8 NPT		No Tools Available		
1/4 NPT	18	EZH Sleeve	EZTR060050-60-004	-
3/8 NPT			EZTR070060-60-004	-
1/2 NPT	14	EZH Sleeve	EZTR070060-60-004	-
3/4 NPT				-
1/2 NPT	14	SINR1616S-16	-	16IR14NPT
3/4 NPT		SINR2016S-16	-	16IR14NPT

• Application of NPTF Thread

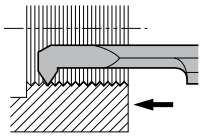
NPTF is the thread for sealing pipes without using any sealing material.

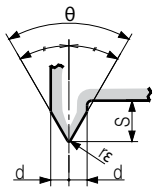
Thread symbol is similar to NPT but the Tolerance is different from that of NPT and the above inserts are not applicable to NPTF.

D.O.C. & Number of Passes (American National Tapered Pipe (NPT))

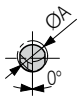
TPI	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass	18 Pass	19 Pass
18	0.0484	16	0.007	0.006	0.005	0.005	0.004	0.004	0.003	0.003	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001			
14	0.0614	19	0.007	0.006	0.006	0.006	0.005	0.004	0.004	0.004	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001

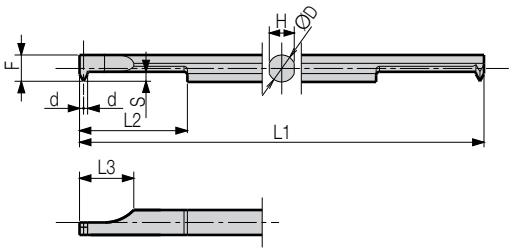
HPT Micro Internal Threading





Details of Edge





• Right-hand shown

Tip-Bars Dimensions

Part Number		Min. Bore Dia.	Dimensions (mm)										Insert Grade		Applicable Thread			
													PVD Coated Carbide	Carbide	Metric		Unified	
		ØA	ØD	H	L1	L2	L3	F	S	d	rε	θ	**PR930**	**KW10**	Applicable Thread	Pitch (mm)	Applicable Thread	Pitch TPI
HPTR	**04504-60-005**	4.5	4	3.7	60	16	8	3.9	1.3	0.6	+0 -0.02 0.05	60°	○	○	M6 or more	P0.75~ P1.25	1/4-20UNC 1/4-28UNF or more	28~20
	06005-60-005	6.0	5	4.6	70	21	8	4.9	1.6	0.8		60°	○	○	M8 or more	P0.75~ P1.50	5/16-18UNC 5/16-24UNF or more	24~18
	07507-60-005	7.5	7	6.4	80	26	10	6.9	2.0	1.0		60°	○	○	M10 or more	P0.75~ P1.50	3/8-16UNC 3/8-24UNF or more	24~16
															Whitworth		Parallel Pipe Tapered Pipe	
HPTR	**06005-55-010**	6.0	5	4.6	70	21	8	4.9	1.6	0.8	+0 -0.02 0.10	55°	○	○	W10 24 W10 TPI 24 or more	24~20	G1/16 R1/16	28
	08007-55-010	8.0	7	6.4	80	26	10	6.9	2.0	1.0		55°	○	○	W11 20 W11 TPI 24 or more	20~18	G1/8 R1/8	28,19

• For American National Pipe (NPT), use HPTR...-60-005. See Page ➡ **J33**

Description Table for Tip-Bars and Applicable Sleeves

Part Number		Applicable Sleeve Part Number ➡ **J29**	
HPTR	**04504-60-005**	EZH	04...-...
	06005-60-005		05...-...
	07507-60-005		07...-...
HPTR	**06005-55-010**	EZH	05...-...
	08007-55-010		07...-...

Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grade (Vc sfm)	
	PVD Coated Carbide	Carbide
	PR930	**KW10**
Carbon Steel/Alloy Steel	★ 100-330	-
Stainless Steel	★ 100-260	-
Non-ferrous Metals	-	★ -980

★ : 1st Recommendation ☆ : 2nd Recommendation

Note:
1) The standard cutting speed is Vc (sfm) = 100-160. The table feed may not follow the expected conditions when machining small diameter workpieces at high speeds.
2) Coolant is recommended.

D.O.C. & Number of Passes (Metric)

Pitch (mm)	Total D.O.C. (mm)	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass
0.75	0.44	10	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.03	0.03	0.03							
1.00	0.60	12	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.03					
1.25	0.76	14	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.03			
1.50	0.92	17	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.03

D.O.C. & Number of Passes (Whitworth)

TPI	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass
24	0.0256	13	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001				
20	0.0319	15	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001		
18	0.0358	17	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001

D.O.C. & Number of Passes (Unified)

TPI	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass	18 Pass
28	0.0213	12	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001						
24	0.0252	12	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001						
20	0.0303	14	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001				
18	0.0343	17	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	
16	0.0386	18	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001

Tip-Bar is sold in 1 piece boxes.

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Application of Parallel Pipe and Tapered Pipe Thread

Parallel Pipe: G (PF), Rp (PS)

Applicable Thread		TPI	Internal Threading (G, Rp)		Min. Bore Dia. (mm)	Same Root Radius
Inch	Symbol Previous Symbol		Insert			
-	G 1/16 (-)	28	**HPTR**	**06005-55-010**	6.56	0.12
'1/8	G 1/8 (PF 1/8)	28		**08007-55-010**	8.57	0.12
'2/8	G 1/4 (PF 1/4)	19	**HPTR**	**08007-55-010**	11.45	0.18
'3/8	G 3/8 (PF 3/8)	19			14.95	0.18

Tapered Pipe: R, Rc (PT) (BSPT)

Applicable Thread		TPI	Internal Threading (Rc)		Min. Bore Dia. (mm)	Same Root Radius
Inch	Symbol Previous Symbol		Insert			
-	R 1/16, Rc 1/16 (-)	28	**HPTR**	**06005-55-010**	-	0.12
'1/8	R 1/8, Rc 1/8 (PT 1/8)	28		**08007-55-010**	-	0.12
'2/8	R 1/4, Rc 1/4 (PT 1/4)	19	**HPTR**	**08007-55-010**	-	0.18
'3/8	R 3/8, Rc 3/8 (PT 3/8)	19			-	0.18

• When using "HPT type" for parallel Pipe / Tapered Pipe threading, thread's corners become sharp edged due to its partial profile, and the sharp will not be the same as the standard shape for Parallel Pipe / Tapered Pipe.

D.O.C. & Number of Passes (Parallel Pipe / G (PF), Tapered Pipe / BSPT (PT) (Rc))

TPI	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass	18 Pass
28	0.0240	12	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001						
19	0.0374	18	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001

Application for NPT

Applicable Thread	TPI	Internal Threading		
		Toolholder	Insert	
			Partial Profile	Full Profile
1/16 NPT	27	**No Tools Available**		
1/8 NPT	27	**No Tools Available**		
1/4 NPT	18	**EZH Sleeve**	**HPTR06005-60-005**	-
3/8 NPT	18	See Page ➔ **J29**	**HPTR07507-60-005**	-
1/2 NPT	14	**EZH Sleeve**	**HPTR07507-60-005**	-
3/4 NPT	14	See Page ➔ **J29**	**HPTR07507-60-005**	-
1/2 NPT	14	**SINR1616S-16**	-	-
3/4 NPT	14	**SINR2016S-16**	-	**16IR14NPT**

• Application of NPTF Thread

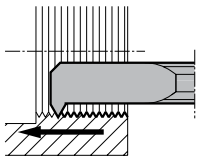
NPTF is the thread for sealing pipes without using any sealing material.

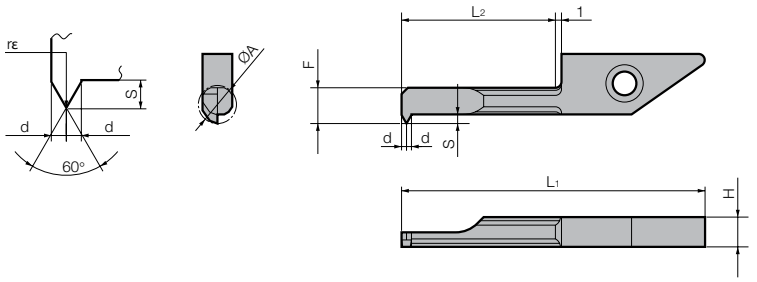
Thread symbol is similar to NPT but the Tolerance is different from that of NPT and the above inserts are not applicable to NPTF.

D.O.C. & Number of Passes (American National Tapered Pipe (NPT))

TPI	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass	18 Pass	19 Pass
18	0.0484	16	0.007	0.006	0.005	0.005	0.004	0.004	0.003	0.003	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001			
14	0.0614	19	0.007	0.006	0.006	0.006	0.005	0.004	0.004	0.004	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001

VNT (System Tip-Bars)





Right-hand Shown

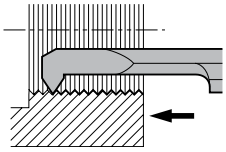
Tip-Bar Dimensions

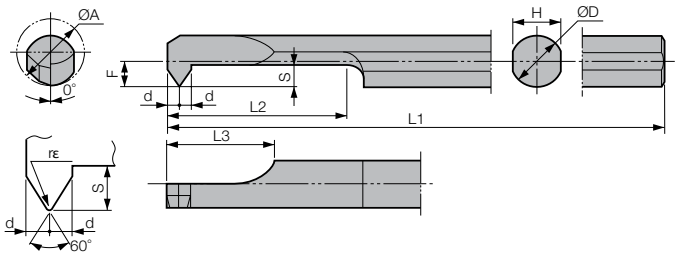
Part Number		Min. Bore Dia.	Dimensions (mm)							Insert Grades			Applicable Thread			
										MEGA COAT	PVD Coated Carbide	Carbide	Metric		Unified	
		ØA	H	L1	L2	F	S	d	rε	PR1225	PR930	KW10	Applicable Thread	Pitch (mm)	Applicable Thread	Pitch TPI
VNTR	045-11	4.5	3.9	30.8	11	3.6	1.3	0.6	+0 -0.02 0.05		●	●	M6 or more	P0.75~P1.25	1/4-20UNC, 1/4-28UNF or more	28~20
	060-11	6.0	3.9	30.8	11	4.6	1.6	0.8			●	●	M8 or more	P0.75~P1.50	5/16-18UNC, 5/16-24UNF or more	24~18

• See Page ➔ **F34~F35** for applicable toolholders.

PST-S (Tip-Bars)

This insert is being phased out and will be switched to **EZT ➔ J28**





Right-hand Shown

Tip-Bar Dimensions

Part Number		Min. Bore Dia.	Dimensions (mm)									Insert Grades			Applicable Thread			
												Cermet	PVD Coated Carbide	Carbide	Metric		Unified	
		ØA	ØD	H	L1	L2	L3	F	S	d	rε	TC60	PR930	KW10	Applicable Thread	Pitch (mm)	Applicable Thread	Pitch TPI
PSTR	0604-60S	4.5	3.8	3.6	60	15	8	1.7	1.6	0.8	+0.01 -0.02 0.05			●	M6 or more	P0.75~P1.25	1/4-20UNC, 1/4-28UNF or more	28~20
	0805-70S	6.0	4.8	4.4	70	20		2.2	2.1	1.0				●	M8 or more	P0.75~P1.50	5/16-18UNC, 5/16-24UNF or more	24~18

D.O.C. & Number of Passes (Metric)

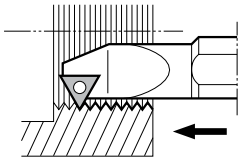
Pitch (mm)	Total D.O.C. (mm)	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass
0.75	0.44	10	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.03	0.03	0.03							
1.00	0.60	12	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.03					
1.25	0.76	14	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.03			
1.50	0.92	17	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.03

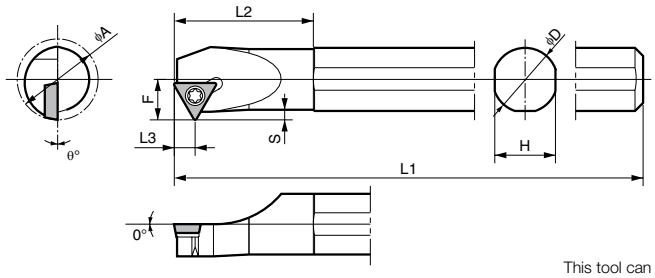
Note 1) The standard cutting speed is Vc=100~160sfm. The table feed may not follow the expected conditions when machining a small diameter workpiece at high speeds.
2) Coolant is recommended.

Tip-Bar is sold in 1 piece boxes.

System Tip-Bar is sold in 5 piece boxes.

S...STWP

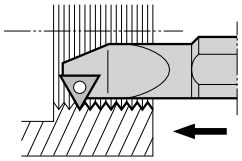


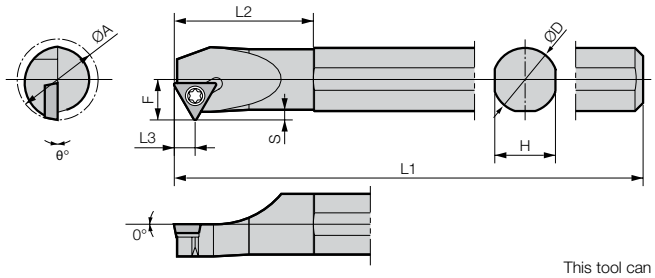


Right-hand Shown

This tool can also be used as a boring bar.

S...STWP-E Excellent Bar





Right-hand Shown

This tool can also be used as a boring bar.

Toolholder Dimensions

Part Number	Previous Part Number	Stock R	Stock L	Min. Bore Dia. ØA	Dimensions (mm) ØD	H	L1	L2	L3	F	S	Available Pitch (mm)	Spare Parts: Clamp Screw	Spare Parts: Wrench
S06M -STWP□-2		●		0.476	0.375	0.340	6.00	0.910	0.217	0.238	0.050	14-32 TPI	SB-3STR	FT-10
S08M -STWP□-2		●		0.630	0.500	0.475	6.00	1.200	0.217	0.315	0.065			
S10X -STWP□-2	-	●		0.786	0.625	0.595	7.00	1.400	0.217	0.393	0.080	8-32 TPI		
S12R -STWP□-2		●		0.970	0.750	0.720	8.00	1.600	0.217	0.485	0.110			
S16R -STWP□-2		●		1.240	1.000	0.970	8.00	2.00	0.217	0.620	0.120			
S10M -STWPR11-12	SITR 1210-11	○		12	10	9.2	150	23	5.5	6	1.0	1.5 and under	SB-3STR	FT-10
S12M -STWPR11-16	1612-11	○		16	12	11	150	30		8	1.5	2.0 and under		
S16Q -STWPR11-20	2016-11	○		20	16	15	180	35		10	2.0	3.0 and under	SB-3TR	
S20R -STWPR11-25	2520-11	○		25	20	19	200	40		12.5	2.5	3.5 and under		
S10M -STWP□11-12E	-	○	○	12	10	9.2	150	23	5.5	6	1.0	1.5 and under	SB-3STR	FT-10
S12M -STWP□11-16E		○	○	16	12	11	150	30		8	1.5	2.0 and under		
S16R -STWP□11-20E		○	○	20	16	15	200	35		10	2.0	3.0 and under	SB-3TR	
S20X -STWP□11-25E		○	○	25	20	19	220	40		12.5	2.5	3.5 and under		

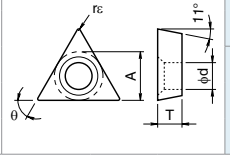
Applicable Inserts

(mm)

Part Number	A	T	Ød
TPGB1102...	6.35	2.38	3.5
TPGB1103...	6.35	3.18	3.3

		Cermet		PVD	Carbide
P	Carbon Steel / Alloy Steel		●		
M	Stainless Steel				
K	Cast Iron				●
N	Non-ferrous Metals				●

Classification of Usage
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Shape (Right-handed Insert Shown)	Part Number	Applicable Thread	Pitch mm	Pitch TPI	Dimensions (mm) rε	Angle (°) θ	Cermet TN6020	Cermet TN60	PVD PV7020	Carbide KW10	Applicable Toolholders	Ref. Page for D.O.C. & Number of Passes
Partial Profile  	TPGB 21501	M UN	0.75~1.5 -	- 28~16	0.05	60°		○		○	...STWP□11-12(E)	J45
	21502	M UN	1.5 -	- 16	0.10			○		○		
	TPGB 2201	M UN	0.75~1.5 -	- 28~11	0.05					○	...STWP□11-16(E)	
	2201	M UN	1.5~3.5 -	- 16~8	0.10			○			...STWP□11-20(E)	
	2205	M UN	3.0~3.5 -	- 8	0.20		●	●	●	○	...STWP□11-25(E)	

Recommended Cutting Conditions J36

Applicable Thread		
	M: Metric	R, Rc (PT), (BSPT): Tapered Pipe
	UN: Unified	W: Whitworth
	UNF: Unified Fine Thread	NPT: American National Pipe
	G (PF): Parallel Pipe	Tr: 30° Trapezoidal

Inserts are sold in 10 piece boxes.

KTN / KTNS

Workpiece Material	Recommended Insert Grade (Vc sfm)		
	Cermet	PVD Coated Carbide	Carbide
	TC60	**PR1115**	**GW15**
Carbon Steel	☆ 330-490	★ 330-490	-
Initial D.O.C. (Radial)	0.0118" or less	0.0118" or less	-
Alloy Steel	☆ 330-490	★ 330-490	-
Initial D.O.C. (Radial)	0.0118" or less	0.0118" or less	-
Stainless Steel	☆ 200-260	★ 200-260	-
Initial D.O.C. (Radial)	0.0098" or less	0.0098" or less	-
Cast Iron	-	-	★ 330
Initial D.O.C. (Radial)	-	-	0.0118" or less
Aluminum	-	-	★ 490~1310
Initial D.O.C. (Radial)	-	-	0.0118" or less
Brass	-	-	★ 490~980
Initial D.O.C. (Radial)	-	-	0.0118" or less

SIN / CIN

Workpiece Material	Recommended Insert Grade (Vc sfm)		
	Cermet	PVD Coated Carbide	Carbide
	TC60	**PR1115**	**GW15**
Carbon Steel	☆ 330-490	★ 330-490	-
Initial D.O.C. (Radial)	0.0118" or less	0.0118" or less	-
Alloy Steel	☆ 330-490	★ 330-490	-
Initial D.O.C. (Radial)	0.0118" or less	0.0118" or less	-
Stainless Steel	☆ 200-260	★ 200-260	-
Initial D.O.C. (Radial)	0.0098" or less	0.0098" or less	-
Cast Iron	-	-	★ 330
Initial D.O.C. (Radial)	-	-	0.0118" or less
Aluminum	-	-	★ 490~1310
Initial D.O.C. (Radial)	-	-	0.0118" or less
Brass	-	-	★ 490~980
Initial D.O.C. (Radial)	-	-	0.0118" or less

- For 06IR/08IR, we recommend 40% lower sfm.

KTT

Workpiece Material	Recommended Insert Grade (Vc sfm)			
	Cermet	PVD Coated Carbide		Carbide
	TC60	**PR930**	**PR1115**	**KW10**
Carbon Steel	☆ 330-490	☆ 330-490	★ 330-490	-
Initial D.O.C. (Radial)	0.0118" or less	0.0118" or less	0.0118" or less	-
Alloy Steel	☆ 330-490	☆ 330-490	★ 330-490	-
Initial D.O.C. (Radial)	0.0118" or less	0.0118" or less	0.0118" or less	-
Stainless Steel	☆ 200-260	☆ 200-260	★ 200-260	-
Initial D.O.C. (Radial)	0.0098" or less	0.0098" or less	0.0098" or less	-
Cast Iron	-	-	-	★ 330
Initial D.O.C. (Radial)	-	-	-	0.0118" or less
Aluminum	-	-	-	★ 150~400
Initial D.O.C. (Radial)	-	-	-	0.0118" or less
Brass	-	-	-	★ 150~300
Initial D.O.C. (Radial)	-	-	-	0.0118" or less

S...STWP (-E)

Workpiece Material	Recommended Insert Grade (Vc sfm)			
	Cermet	PVD Coated Carbide		Carbide
	TN6020	**TN60**	**PV7020**	**KW10**
Carbon Steel	☆ 330-490	☆ 330-490	★ 330-490	-
Initial D.O.C. (Radial)	0.0098" or less	0.0098" or less	0.0098" or less	-
Alloy Steel	☆ 330-490	☆ 330-490	★ 330-490	-
Initial D.O.C. (Radial)	0.0098" or less	0.0098" or less	0.0098" or less	-
Stainless Steel	-	-	-	-
Initial D.O.C. (Radial)	-	-	-	-
Cast Iron	-	-	-	★ 330
Initial D.O.C. (Radial)	-	-	-	0.0098" or less
Aluminum	-	-	-	★ 150~400
Initial D.O.C. (Radial)	-	-	-	0.0098" or less
Brass	-	-	-	★ 150~300
Initial D.O.C. (Radial)	-	-	-	0.0098" or less

KTTX / S-KTTX

Workpiece Material	Recommended Insert Grade (Vc sfm)			
	Cermet	PVD Coated Carbide		Carbide
	TC60	**PR930**	**PR1115**	**GW15**
Carbon Steel	☆ 330-490	☆ 330-490	★ 330-490	-
Initial D.O.C. (Radial)	0.0118" or less	0.0118" or less	0.0118" or less	-
Alloy Steel	☆ 330-490	☆ 330-490	★ 330-490	-
Initial D.O.C. (Radial)	0.0118" or less	0.0118" or less	0.0118" or less	-
Stainless Steel	☆ 200-260	☆ 200-260	★ 200-260	-
Initial D.O.C. (Radial)	0.0098" or less	0.0098" or less	0.0098" or less	-
Cast Iron	-	-	-	★ 330
Initial D.O.C. (Radial)	-	-	-	0.0118" or less
Aluminum	-	-	-	★ 150~400
Initial D.O.C. (Radial)	-	-	-	0.0118" or less
Brass	-	-	-	★ 150~300
Initial D.O.C. (Radial)	-	-	-	0.0118" or less

KITG

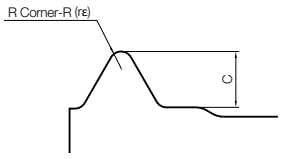
Workpiece Material	Recommended Insert Grade (Vc sfm)			
	Cermet	PVD Coated Carbide		Carbide
	TC60	**PR930**	**PR1115**	**GW15**
Carbon Steel	☆ 330-490	☆ 330-490	★ 330-490	-
Initial D.O.C. (Radial)	0.0118" or less	0.0118" or less	0.0118" or less	-
Alloy Steel	☆ 330-490	☆ 330-490	★ 330-490	-
Initial D.O.C. (Radial)	0.0118" or less	0.0118" or less	0.0118" or less	-
Stainless Steel	☆ 200-260	☆ 200-260	★ 200-260	-
Initial D.O.C. (Radial)	0.0098" or less	0.0098" or less	0.0098" or less	-
Cast Iron	-	-	-	★ 330
Initial D.O.C. (Radial)	-	-	-	0.0118" or less
Aluminum	-	-	-	★ 150~400
Initial D.O.C. (Radial)	-	-	-	0.0118" or less
Brass	-	-	-	★ 150~300
Initial D.O.C. (Radial)	-	-	-	0.0118" or less

★ : 1st Recommendation ☆ : 2nd Recommendation

- Coolant is recommended.
- When using cermet inserts if edge chipping occurs lightly hone cutting edge with diamond file.
- For stainless steel threading, please set smaller intial D.O.C. and two or three more passes than threading for carbon steel.

Usage caution for Full Profile insert.

1) Max.ap is based on the value of C+0.0020"-C+0.0031".
2) Final D.O.C. for Finishing shall be 0.0008"-0.0020".
3) Pre chamfer thread diameter to thread minor diameter to improve insert life.
4) Coolant is recommended.



(D.O.C. shows the value of radial D.O.C.)

11 / 16 / 22 (Full Profile)

Thread Type		Pitch mm & TPI	Part Number		C	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass	18 Pass	19 Pass
Metric (mm)	External Thread	1.00mm	16ER	100ISO-TF	0.64	0.72	5	0.23	0.19	0.15	0.10	0.05														
		1.25mm		125ISO-TF	0.80	0.88	6	0.26	0.21	0.16	0.12	0.08	0.05													
		1.50mm		150ISO-TF	0.95	1.03	6	0.26	0.24	0.21	0.16	0.11	0.05													
		1.75mm		175ISO-TF	1.11	1.19	8	0.26	0.22	0.19	0.16	0.13	0.10	0.08	0.05											
		2.00mm		200ISO-TF	1.27	1.35	10	0.26	0.21	0.18	0.16	0.14	0.12	0.10	0.08	0.05	0.05									
		2.50mm		250ISO-TF	1.57	1.65	12	0.26	0.23	0.21	0.18	0.14	0.12	0.12	0.10	0.10	0.08	0.06	0.05							
		3.00mm		300ISO-TF	1.87	1.95	14	0.26	0.24	0.22	0.20	0.18	0.16	0.14	0.12	0.10	0.10	0.08	0.08	0.05	0.02					
		0.50mm	16E℅	050ISO	0.33	0.38	4	0.14	0.12	0.08	0.04															
		0.75mm		075ISO	0.48	0.53	5	0.17	0.14	0.10	0.08	0.04														
		1.00mm		100ISO	0.64	0.72	5	0.23	0.19	0.15	0.10	0.05														
		1.25mm		125ISO	0.80	0.88	6	0.26	0.21	0.16	0.12	0.08	0.05													
		1.50mm		150ISO	0.95	1.03	6	0.26	0.24	0.21	0.16	0.11	0.05													
		2.00mm		200ISO	1.27	1.35	10	0.26	0.21	0.18	0.16	0.14	0.12	0.10	0.08	0.05	0.05									
		2.50mm		250ISO	1.57	1.65	12	0.26	0.23	0.21	0.18	0.14	0.12	0.12	0.10	0.10	0.08	0.06	0.05							
	Internal Thread	1.00mm	11IR	100ISO-TF	0.60	0.68	5	0.20	0.18	0.15	0.11	0.04														
		1.25mm		125ISO-TF	0.74	0.82	7	0.20	0.18	0.14	0.12	0.08	0.06	0.04												
		1.50mm		150ISO-TF	0.88	0.96	8	0.24	0.18	0.14	0.10	0.10	0.08	0.07	0.05											
		1.75mm		175ISO-TF	1.02	1.10	9	0.24	0.18	0.16	0.14	0.10	0.10	0.08	0.05	0.05										
		0.50mm	11I℅	050ISO	0.31	0.36	4	0.14	0.10	0.08	0.04															
		0.75mm		075ISO	0.45	0.50	5	0.15	0.14	0.10	0.07	0.04														
		1.00mm		100ISO	0.60	0.68	5	0.20	0.18	0.15	0.11	0.04														
		1.25mm		125ISO	0.74	0.82	7	0.20	0.18	0.14	0.12	0.08	0.06	0.04												
		1.50mm		150ISO	0.88	0.96	8	0.24	0.18	0.14	0.10	0.10	0.08	0.07	0.05											
		1.75mm		175ISO	1.02	1.10	9	0.24	0.18	0.16	0.14	0.10	0.10	0.08	0.05	0.05										
		2.00mm		200ISO	1.18	1.26	10	0.24	0.20	0.18	0.14	0.12	0.10	0.10	0.08	0.05	0.05									
		1.00mm	16IR	100ISO-TF	0.60	0.68	5	0.20	0.18	0.15	0.11	0.04														
		1.25mm		125ISO-TF	0.74	0.82	7	0.20	0.18	0.14	0.12	0.08	0.06	0.04												
		1.50mm		150ISO-TF	0.88	0.96	8	0.22	0.18	0.14	0.12	0.10	0.08	0.07	0.05											
		1.75mm		175ISO-TF	1.02	1.10	9	0.22	0.18	0.16	0.14	0.12	0.10	0.08	0.05	0.05										
		2.00mm		200ISO-TF	1.18	1.26	10	0.24	0.20	0.18	0.14	0.12	0.10	0.10	0.08	0.05	0.05									
		2.50mm		250ISO-TF	1.46	1.54	12	0.26	0.22	0.18	0.16	0.14	0.12	0.10	0.10	0.08	0.08	0.05	0.05							
		3.00mm		300ISO-TF	1.76	1.84	14	0.26	0.24	0.21	0.18	0.16	0.15	0.13	0.12	0.10	0.10	0.07	0.05	0.05	0.02					
		1.00mm	16I℅	100ISO	0.60	0.68	5	0.20	0.18	0.15	0.11	0.04														
		1.25mm		125ISO	0.74	0.82	7	0.20	0.18	0.14	0.12	0.08	0.06	0.04												
		1.50mm		150ISO	0.88	0.96	8	0.22	0.18	0.14	0.12	0.10	0.08	0.07	0.05											
		2.00mm		200ISO	1.18	1.26	10	0.24	0.20	0.18	0.14	0.12	0.10	0.10	0.08	0.05	0.05									
		2.50mm		250ISO	1.46	1.54	12	0.26	0.22	0.18	0.16	0.14	0.12	0.10	0.10	0.08	0.08	0.05	0.05							
		3.00mm		300ISO	1.76	1.84	14	0.26	0.24	0.21	0.18	0.16	0.15	0.13	0.12	0.10	0.10	0.07	0.05	0.05	0.02					
		3.00mm	22IR	300ISO	1.76	1.84	14	0.26	0.24	0.21	0.18	0.16	0.15	0.13	0.12	0.10	0.10	0.07	0.05	0.05	0.02					
		3.50mm		350ISO	2.05	2.13	15	0.26	0.24	0.22	0.20	0.17	0.17	0.14	0.14	0.12	0.12	0.10	0.10	0.08	0.05	0.02				
		4.00mm		400ISO	2.34	2.42	17	0.26	0.24	0.22	0.20	0.18	0.18	0.16	0.15	0.14	0.13	0.12	0.12	0.10	0.10	0.05	0.05	0.02		
		4.50mm		450ISO	2.63	2.71	18	0.26	0.25	0.24	0.22	0.22	0.20	0.18	0.17	0.15	0.13	0.13	0.12	0.12	0.10	0.10	0.05	0.05	0.02	
		5.00mm		500ISO	2.92	3.00	19	0.28	0.26	0.24	0.22	0.20	0.20	0.18	0.18	0.16	0.16	0.15	0.14	0.13	0.12	0.11	0.10	0.10	0.05	0.02
Unified (inch)	External Thread	24 TPI	16ER	24UN-TF	0.0264	0.0295	5	0.009	0.008	0.006	0.004	0.002														
		20 TPI		20UN-TF	0.0315	0.0346	6	0.009	0.008	0.006	0.005	0.004	0.002													
		18 TPI		18UN-TF	0.0350	0.0382	6	0.010	0.009	0.007	0.006	0.004	0.002													
		16 TPI		16UN-TF	0.0398	0.0429	7	0.010	0.009	0.007	0.006	0.005	0.004	0.002												
		14 TPI		14UN-TF	0.0453	0.0484	8	0.010	0.009	0.007	0.006	0.006	0.005	0.004	0.002											
		13 TPI		13UN-TF	0.0488	0.0520	9	0.010	0.009	0.007	0.006	0.006	0.005	0.004	0.003	0.002										
		12 TPI		12UN-TF	0.0528	0.0559	11	0.010	0.009	0.007	0.006	0.005	0.005	0.004	0.003	0.003	0.002	0.002								
		10 TPI		10UN-TF	0.0626	0.0657	12	0.010	0.009	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.003	0.002	0.002							
		8 TPI		08UN-TF	0.0780	0.0811	14	0.010	0.009	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.003	0.002	0.002					
		24 TPI	16ER	24UN	0.0264	0.0295	5	0.009	0.008	0.006	0.004	0.002														
		20 TPI		20UN	0.0315	0.0346	6	0.009	0.008	0.006	0.005	0.004	0.002													
		18 TPI		18UN	0.0350	0.0382	6	0.010	0.009	0.007	0.006	0.004	0.002													
		16 TPI		16UN	0.0398	0.0429	7	0.010	0.009	0.007	0.006	0.005	0.004	0.002												
		14 TPI		14UN	0.0453	0.0484	8	0.010	0.009	0.007	0.006	0.006	0.005	0.004	0.002											
		12 TPI		12UN	0.0528	0.0559	11	0.010	0.009	0.007	0.006	0.005	0.005	0.004	0.003	0.003	0.002	0.002								
		8 TPI	22ER	08UN	0.0780	0.0811	15	0.012	0.010	0.009	0.008	0.006	0.006	0.006	0.005	0.004	0.004	0.004	0.003	0.002	0.002	0.001				
	Internal Thread	24 TPI	16IR	24UN-TF	0.0244	0.0276	5	0.009	0.008	0.006	0.004	0.002														
		20 TPI		20UN-TF	0.0295	0.0327	6	0.009	0.008	0.006	0.005	0.003	0.002													
		18 TPI		18UN-TF	0.0327	0.0358	6	0.009	0.008	0.007	0.006	0.004	0.002													
		16 TPI		16UN-TF	0.0370	0.0402	7	0.009	0.008	0.007	0.006	0.004	0.004	0.002												
		14 TPI		14UN-TF	0.0421	0.0453	8	0.009	0.009	0.007	0.006	0.005	0.004	0.004	0.002											
		13 TPI		13UN-TF	0.0453	0.0484	9	0.009	0.009	0.007	0.006	0.005	0.004	0.004	0.003	0.002										
		12 TPI		12UN-TF	0.0488	0.0520	11	0.009	0.009	0.006	0.006	0.005	0.004	0.004	0.003	0.003	0.002	0.002								
		10 TPI		10UN-TF	0.0583	0.0614	12	0.009	0.009	0.008	0.006	0.006	0.005	0.005	0.004	0.004	0.003	0.002	0.002							
		8 TPI		08UN-TF	0.0732	0.0764	14	0.009	0.009	0.008	0.007	0.006	0.006	0.006	0.006	0.005	0.005	0.004	0.003	0.002	0.002					
		24 TPI	16IR	24UN	0.0244	0.0276	5	0.009	0.008	0.006	0.004	0.002														
		20 TPI		20UN	0.0295	0.0327	6	0.009	0.008	0.006	0.005	0.003	0.002													
		18 TPI		18UN	0.0327	0.0358	6	0.009	0.007	0.006	0.006	0.004	0.002													
		16 TPI		16UN	0.0370	0.0402	7	0.009	0.008	0.007	0.006	0.004	0.004	0.002												
		14 TPI		14UN	0.0421	0.0453	8	0.009	0.009	0.007	0.006	0.005	0.004	0.004	0.002											
		12 TPI		12UN	0.0488	0.0520	11	0.009	0.009	0.006	0.006	0.005	0.004	0.004	0.003	0.003	0.002	0.002								
		8 TPI	22IR	08UN	0.0724	0.0756	15	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.005	0.005	0.004	0.004	0.004	0.002	0.002	0.001				

11 / 16 (Full Profile)

(D.O.C. shows the value of radial D.O.C.)

Thread Type		Pitch TPI	Part Number		C	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass
Parallel Pipe	External Thread	19 TPI	16ER	19W-TF	0.0350	0.0382	6	0.011	0.009	0.007	0.006	0.004	0.002										
		14 TPI		14W-TF	0.0469	0.0500	9	0.011	0.009	0.007	0.006	0.004	0.004	0.004	0.003	0.002							
		11 TPI		11W-TF	0.0591	0.0622	12	0.011	0.009	0.007	0.006	0.005	0.005	0.005	0.004	0.004	0.003	0.003	0.002				
	Internal Thread	19 TPI	16IR	19W-TF	0.0346	0.0378	6	0.010	0.008	0.008	0.006	0.004	0.002										
		14 TPI		14W-TF	0.0469	0.0500	9	0.011	0.009	0.007	0.006	0.004	0.004	0.004	0.003	0.002							
		11 TPI		11W-TF	0.0591	0.0622	12	0.011	0.009	0.007	0.006	0.005	0.005	0.005	0.004	0.004	0.003	0.003	0.002				
Whitworth	External Thread	16 TPI	16ER	16W-TF	0.0413	0.0445	8	0.010	0.008	0.007	0.006	0.005	0.003	0.003	0.002								
		14 TPI		14W-TF	0.0469	0.0500	9	0.011	0.009	0.007	0.006	0.004	0.004	0.004	0.003	0.002							
		11 TPI		11W-TF	0.0591	0.0622	12	0.011	0.009	0.007	0.006	0.005	0.005	0.005	0.004	0.004	0.003	0.003	0.002				
	Internal Thread	16 TPI	16IR	16W-TF	0.0413	0.0445	8	0.010	0.008	0.007	0.006	0.005	0.003	0.003	0.002								
		14 TPI		14W-TF	0.0469	0.0500	9	0.011	0.009	0.007	0.006	0.004	0.004	0.004	0.003	0.002							
		11 TPI		11W-TF	0.0591	0.0622	12	0.011	0.009	0.007	0.006	0.005	0.005	0.005	0.004	0.004	0.003	0.003	0.002				
Tapered Pipe	External Thread	28 TPI	16ER	28BSPT-TF	0.0228	0.0248	5	0.008	0.006	0.005	0.004	0.002											
		19 TPI		19BSPT-TF	0.0339	0.0370	6	0.010	0.008	0.007	0.006	0.004	0.002										
		14 TPI		14BSPT-TF	0.0457	0.0488	9	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002							
		11 TPI		11BSPT-TF	0.0583	0.0614	12	0.010	0.009	0.007	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.003	0.002				
		28 TPI	16ER	28BSPT	0.0228	0.0248	5	0.008	0.006	0.005	0.004	0.002											
		19 TPI		19BSPT	0.0339	0.0370	6	0.010	0.008	0.007	0.006	0.004	0.002										
		14 TPI		14BSPT	0.0457	0.0488	9	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002							
		11 TPI		11BSPT	0.0583	0.0614	12	0.010	0.009	0.007	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.003	0.002				
	Internal Thread	28 TPI	11IR	28BSPT-TF	0.0228	0.0248	5	0.008	0.006	0.005	0.004	0.002											
		19 TPI		19BSPT-TF	0.0339	0.0370	7	0.009	0.008	0.007	0.006	0.004	0.002	0.002									
		14 TPI		14BSPT-TF	0.0457	0.0488	9	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002							
		28 TPI	11IR	28BSPT	0.0228	0.0248	5	0.008	0.006	0.005	0.004	0.002											
		19 TPI		19BSPT	0.0339	0.0370	7	0.009	0.008	0.007	0.006	0.004	0.002	0.002									
		14 TPI		14BSPT	0.0457	0.0488	9	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002							
		14 TPI	16IR	14BSPT-TF	0.0457	0.0488	9	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002							
		11 TPI		11BSPT-TF	0.0583	0.0614	12	0.010	0.009	0.007	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.003	0.002				
		14 TPI	16IR	14BSPT	0.0457	0.0488	9	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002							
		11 TPI		11BSPT	0.0583	0.0614	12	0.010	0.009	0.007	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.003	0.002				
American National Tapered Pipe	External Thread	18 TPI	16ER	18NPT	0.0449	0.0480	13	0.008	0.006	0.006	0.005	0.004	0.004	0.003	0.003	0.003	0.002	0.002	0.002	0.001			
		14 TPI		14NPT	0.0575	0.0606	15	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.003	0.002	0.002	0.002	0.001	
		11.5 TPI		11.5NPT	0.0697	0.0728	16	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.003	0.003	0.003	0.002	0.002	0.001
	Internal Thread	18 TPI	16IR	18NPT	0.0449	0.0480	13	0.008	0.006	0.006	0.005	0.004	0.004	0.003	0.003	0.003	0.002	0.002	0.002	0.001			
		14 TPI		14NPT	0.0575	0.0606	15	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.003	0.002	0.002	0.002	0.001	
		11.5 TPI		11.5NPT	0.0697	0.0728	16	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.003	0.003	0.003	0.002	0.002	0.001

60° • 55° (Partial Profile)

(D.O.C. shows the value of radial D.O.C.)

Thread Type		Pitch mm	Part Number		rε	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass
Metric	External Thread	0.50mm	16ER	A60-TF	0.06	0.33	5	0.10	0.08	0.07	0.05	0.03										
				AG60-TF	0.06	0.33	5	0.10	0.08	0.07	0.05	0.03										
		0.75mm	16ER	A60-TF	0.06	0.51	6	0.14	0.11	0.09	0.07	0.06	0.04									
				AG60-TF	0.06	0.51	6	0.14	0.11	0.09	0.07	0.06	0.04									
		1.00mm	16ER	A60-TF	0.06	0.70	7	0.18	0.13	0.12	0.09	0.08	0.06	0.04								
				AG60-TF	0.06	0.70	7	0.18	0.13	0.12	0.09	0.08	0.06	0.04								
		1.25mm	16ER	A60-TF	0.06	0.89	8	0.18	0.15	0.14	0.12	0.10	0.08	0.07	0.05							
				AG60-TF	0.06	0.89	8	0.18	0.15	0.14	0.12	0.10	0.08	0.07	0.05							
		1.50mm	16ER	A60-TF	0.06	1.08	9	0.21	0.17	0.16	0.14	0.11	0.09	0.08	0.07	0.05						
				AG60-TF	0.06	1.08	9	0.21	0.17	0.16	0.14	0.11	0.09	0.08	0.07	0.05						
		1.75mm	16ER	G60-TF	0.22	1.11	8	0.24	0.20	0.18	0.16	0.13	0.10	0.06	0.04							
				AG60-TF	0.06	1.27	11	0.22	0.20	0.18	0.13	0.11	0.09	0.09	0.08	0.07	0.06	0.04				
		2.00mm	16ER	G60-TF	0.22	1.30	10	0.24	0.20	0.18	0.16	0.14	0.12	0.09	0.07	0.06	0.04					
				AG60-TF	0.06	1.46	11	0.25	0.22	0.20	0.16	0.14	0.12	0.10	0.09	0.08	0.06	0.04				
		2.50mm	16ER	G60-TF	0.22	1.67	12	0.25	0.22	0.20	0.18	0.16	0.14	0.12	0.12	0.10	0.08	0.06	0.04			
				AG60-TF	0.06	1.84	13	0.25	0.22	0.20	0.19	0.17	0.16	0.14	0.11	0.10	0.09	0.09	0.07	0.05		
		3.00mm	16ER	G60-TF	0.22	2.05	14	0.25	0.23	0.22	0.20	0.18	0.16	0.14	0.13	0.12	0.11	0.10	0.09	0.07	0.05	
				AG60-TF	0.06	2.22	15	0.27	0.25	0.22	0.20	0.18	0.16	0.14	0.13	0.12	0.12	0.11	0.10	0.09	0.08	0.05
		0.50mm	16ER	A60	0.06	0.33	5	0.10	0.08	0.07	0.05	0.03										
				AG60	0.06	0.33	5	0.10	0.08	0.07	0.05	0.03										
		0.75mm	16ER	A60	0.06	0.51	6	0.14	0.11	0.09	0.07	0.06	0.04									
				AG60	0.06	0.51	6	0.14	0.11	0.09	0.07	0.06	0.04									
		1.00mm	16ER	A60	0.06	0.70	7	0.18	0.13	0.12	0.09	0.08	0.06	0.04								
				AG60	0.06	0.70	7	0.18	0.13	0.12	0.09	0.08	0.06	0.04								
		1.25mm	16ER	A60	0.06	0.89	8	0.18	0.15	0.14	0.12	0.10	0.08	0.07	0.05							
				AG60	0.06	0.89	8	0.18	0.15	0.14	0.12	0.10	0.08	0.07	0.05							
		1.50mm	16ER	A60	0.06	1.08	9	0.21	0.17	0.16	0.14	0.11	0.09	0.08	0.07	0.05						
				AG60	0.06	1.08	9	0.21	0.17	0.16	0.14	0.11	0.09	0.08	0.07	0.05						
		1.75mm	16ER	G60	0.22	1.11	8	0.24	0.20	0.18	0.16	0.13	0.10	0.06	0.04							
				AG60	0.06	1.27	11	0.22	0.20	0.18	0.13	0.11	0.09	0.09	0.08	0.07	0.06	0.04				
		2.00mm	16ER	G60	0.22	1.30	10	0.24	0.20	0.18	0.16	0.14	0.12	0.09	0.07	0.06	0.04					
				AG60	0.06	1.46	11	0.25	0.22	0.20	0.16	0.14	0.12	0.10	0.09	0.08	0.06	0.04				
		2.50mm	16ER	G60	0.22	1.67	12	0.25	0.22	0.20	0.18	0.16	0.14	0.12	0.12	0.10	0.08	0.06	0.04			
				AG60	0.06	1.84	13	0.25	0.22	0.20	0.19	0.17	0.16	0.14	0.11	0.10	0.09	0.09	0.07	0.05		
		3.00mm	16ER	G60	0.22	2.05	14	0.25	0.23	0.22	0.20	0.18	0.16	0.14	0.13	0.12	0.11	0.10	0.09	0.07	0.05	
				AG60	0.06	2.22	15	0.27	0.25	0.22	0.20	0.18	0.16	0.14	0.13	0.12	0.12	0.11	0.10	0.09	0.08	0.05

60° • 55° (Partial Profile)

(D.O.C. shows the value of radial D.O.C.)

Thread Type		Pitch mm & TPI	Part Number	rε	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass	18 Pass	19 Pass
Metric	External Thread	3.50mm	22ER N60	0.48	2.17	15	0.27	0.25	0.22	0.20	0.18	0.16	0.14	0.13	0.12	0.11	0.10	0.09	0.08	0.07	0.05				
		4.00mm			2.55	17	0.28	0.26	0.24	0.22	0.20	0.18	0.17	0.16	0.14	0.13	0.12	0.10	0.09	0.08	0.07	0.06	0.05		
		4.50mm			2.93	18	0.30	0.28	0.26	0.25	0.24	0.22	0.20	0.18	0.16	0.14	0.13	0.12	0.10	0.09	0.08	0.07	0.06	0.05	
		5.00mm			3.31	19	0.30	0.28	0.27	0.26	0.25	0.24	0.23	0.22	0.20	0.18	0.16	0.14	0.13	0.10	0.09	0.08	0.07	0.06	0.05
	Internal Thread	0.75mm	06IR 60005	0.05	0.44	10	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.03	0.03	0.03									
		1.00mm	06IR 60005	0.05	0.60	12	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.04	0.03							
			08IR 60007	0.07	0.58	12	0.07	0.06	0.06	0.06	0.06	0.05	0.04	0.04	0.04	0.04	0.03	0.03							
		1.25mm	06IR 60005	0.05	0.76	14	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.04	0.04	0.03					
			08IR 60007	0.07	0.74	14	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.03	0.03					
		1.50mm	08IR 60007	0.07	0.90	17	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.03	0.03		
		1.75mm	60007	0.07	1.07	19	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.03
		0.50mm	11IR A60	0.02	0.30	5	0.08	0.07	0.06	0.05	0.04														
		1.00mm			0.63	6	0.16	0.14	0.12	0.10	0.07	0.04													
		1.50mm			0.95	9	0.18	0.16	0.13	0.12	0.10	0.08	0.08	0.06	0.04										
		0.50mm	16IR A60	0.02	0.30	5	0.08	0.07	0.06	0.05	0.04														
			AG60	0.02	0.30	5	0.08	0.07	0.06	0.05	0.04														
		0.75mm	16IR A60	0.02	0.47	6	0.12	0.10	0.08	0.07	0.06	0.04													
			AG60	0.02	0.47	6	0.12	0.10	0.08	0.07	0.06	0.04													
		1.00mm	16IR A60	0.02	0.63	6	0.16	0.14	0.12	0.10	0.07	0.04													
			AG60	0.02	0.63	6	0.16	0.14	0.12	0.10	0.07	0.04													
		1.25mm	16IR A60	0.02	0.79	7	0.16	0.15	0.14	0.13	0.10	0.07	0.04												
			AG60	0.02	0.79	7	0.16	0.15	0.14	0.13	0.10	0.07	0.04												
		1.50mm	16IR A60	0.02	0.95	9	0.18	0.16	0.13	0.12	0.10	0.08	0.08	0.06	0.04										
			AG60	0.02	0.95	9	0.18	0.16	0.13	0.12	0.10	0.08	0.08	0.06	0.04										
		1.75mm	16IR G60	0.11	1.03	9	0.20	0.17	0.15	0.13	0.11	0.10	0.08	0.05	0.04										
			AG60	0.02	1.12	10	0.20	0.18	0.16	0.13	0.12	0.10	0.08	0.06	0.05	0.04									
		2.00mm	16IR G60	0.11	1.19	10	0.20	0.18	0.17	0.15	0.13	0.11	0.08	0.07	0.06	0.04									
			AG60	0.02	1.28	12	0.20	0.17	0.15	0.13	0.12	0.11	0.10	0.09	0.07	0.06	0.04	0.04							
		2.50mm	16IR G60	0.11	1.51	14	0.20	0.18	0.16	0.14	0.14	0.12	0.12	0.10	0.10	0.08	0.06	0.05	0.04	0.02					
			AG60	0.02	1.6	16	0.20	0.18	0.16	0.14	0.14	0.12	0.12	0.10	0.10	0.08	0.06	0.05	0.05	0.04	0.04	0.02			
		3.00mm	16IR G60	0.11	1.84	16	0.20	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.12	0.10	0.10	0.08	0.07	0.06	0.04	0.02			
			AG60	0.02	1.93	18	0.20	0.18	0.17	0.16	0.15	0.14	0.13	0.13	0.12	0.10	0.10	0.08	0.07	0.06	0.05	0.04	0.03	0.02	
		3.50mm	22IR N60	0.22	2.05	14	0.26	0.25	0.22	0.20	0.18	0.16	0.14	0.12	0.12	0.11	0.10	0.08	0.06	0.05					
		4.00mm			2.38	16	0.26	0.24	0.23	0.22	0.20	0.18	0.16	0.14	0.13	0.12	0.11	0.10	0.10	0.08	0.06	0.05			
		4.50mm			2.70	18	0.26	0.24	0.23	0.22	0.20	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.11	0.10	0.10	0.08	0.06	0.05	
		5.00mm			3.03	19	0.30	0.27	0.25	0.24	0.22	0.20	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.11	0.10	0.10	0.08	0.06	0.05
Unified (inch)	External Thread	48 TPI	16ER A60-TF	0.0024	0.0138	5	0.004	0.003	0.003	0.002	0.002														
			AG60-TF	0.0024	0.0138	5	0.004	0.003	0.003	0.002	0.002														
		24 TPI	16ER A60-TF	0.0024	0.0295	7	0.007	0.006	0.005	0.004	0.003	0.003	0.002												
			AG60-TF	0.0024	0.0295	7	0.007	0.006	0.005	0.004	0.003	0.003	0.002												
		20 TPI	16ER A60-TF	0.0024	0.0358	8	0.007	0.006	0.006	0.005	0.004	0.004	0.003	0.002											
			AG60-TF	0.0024	0.0358	8	0.007	0.006	0.006	0.005	0.004	0.004	0.003	0.002											
		18 TPI	16ER A60-TF	0.0024	0.0398	8	0.008	0.007	0.006	0.006	0.005	0.003	0.003	0.002											
			AG60-TF	0.0024	0.0398	8	0.008	0.007	0.006	0.006	0.005	0.003	0.003	0.002											
		16 TPI	16ER A60-TF	0.0024	0.0453	10	0.009	0.007	0.006	0.005	0.004	0.004	0.003	0.003	0.002	0.002									
			AG60-TF	0.0024	0.0453	10	0.009	0.007	0.006	0.005	0.004	0.004	0.003	0.003	0.002	0.002									
		14 TPI	16ER G60-TF	0.0087	0.0453	9	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.003	0.002										
			AG60-TF	0.0024	0.0520	11	0.009	0.008	0.007	0.006	0.005	0.004	0.004	0.003	0.003	0.002	0.002								
		13 TPI	16ER G60-TF	0.0087	0.0496	9	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002										
			AG60-TF	0.0024	0.0563	11	0.010	0.009	0.008	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.002								
		12 TPI	16ER G60-TF	0.0087	0.0543	10	0.010	0.009	0.008	0.007	0.006	0.005	0.004	0.003	0.002	0.002									
			AG60-TF	0.0024	0.0610	12	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.004	0.004	0.003	0.002	0.002							
		10 TPI	16ER G60-TF	0.0087	0.0673	12	0.010	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.004	0.003	0.002	0.002							
			AG60-TF	0.0024	0.0736	13	0.010	0.009	0.008	0.008	0.007	0.006	0.006	0.005	0.004	0.004	0.003	0.002	0.002						
		9 TPI	16ER G60-TF	0.0087	0.0756	13	0.011	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.004	0.003	0.002	0.002						
			AG60-TF	0.0024	0.0819	14	0.011	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.002					
		8 TPI	16ER G60-TF	0.0087	0.0862	15	0.011	0.010	0.009	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.002				
			AG60-TF	0.0024	0.0925	16	0.012	0.010	0.009	0.008	0.007	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.002	0.002			
		48 TPI	16ER A60	0.0024	0.0138	5	0.004	0.003	0.003	0.002	0.002														
			AG60	0.0024	0.0138	5	0.004	0.003	0.003	0.002	0.002														
		24 TPI	16ER A60	0.0024	0.0295	7	0.007	0.006	0.005	0.004	0.003	0.003	0.002												
			AG60	0.0024	0.0295	7	0.007	0.006	0.005	0.004	0.003	0.003	0.002												
		20 TPI	16ER A60	0.0024	0.0358	8	0.007	0.006	0.006	0.005	0.004	0.004	0.003	0.002											
			AG60	0.0024	0.0358	8	0.007	0.006	0.006	0.005	0.004	0.004	0.003	0.002											
		18 TPI	16ER A60	0.0024	0.0398	8	0.008	0.007	0.006	0.006	0.005	0.003	0.003	0.002											
			AG60	0.0024	0.0398	8	0.008	0.007	0.006	0.006	0.005	0.003	0.003	0.002											
		16 TPI	16ER A60	0.0024	0.0453	10	0.009	0.007	0.006	0.005	0.004	0.004	0.003	0.003	0.002	0.002									
			AG60	0.0024	0.0453	10	0.009	0.007	0.006	0.005	0.004	0.004	0.003	0.003	0.002	0.002									
		14 TPI	16ER G60	0.0087	0.0453	9	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.003	0.002										
			AG60	0.0024	0.0520	11	0.009	0.008	0.007	0.006	0.005	0.004	0.004	0.003	0.003	0.002	0.002								
		13 TPI	16ER G60	0.0087	0.0496	9	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002										
			AG60	0.0024	0.0563	11	0.010	0.009	0.008	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.002								
		12 TPI	16ER G60	0.0087	0.0543	10	0.010	0.009	0.008	0.007	0.006	0.005	0.004	0.003	0.002	0.002									
			AG60	0.0024	0.0610	12	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.004	0.004	0.003	0.002	0.002							
		10 TPI	16ER G60	0.0087	0.0673	12	0.010	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.004	0.003	0.002	0.002							
			AG60	0.0024	0.0736	13	0.010	0.009	0.008	0.008	0.007	0.006	0.006	0.005	0.004	0.004	0.003	0.002	0.002						
		9 TPI	16ER G60	0.0087	0.0756	13	0.011	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.004	0.003	0.002	0.002						
			AG60	0.0024	0.0819	14	0.011	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.002					
		8 TPI	16ER G60	0.0087	0.0862	15	0.011	0.010	0.009	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.002				
			AG60	0.0024	0.0925	16	0.012	0.010	0.009	0.008	0.007	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.002	0.002			
		7 TPI	22ER N60	0.0189	0.0894	15	0.011	0.010	0.009	0.009	0.008	0.007	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.002	0.002				
		6 TPI			0.1075	18	0.011	0.010	0.009	0.009	0.008	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.005	0.004	0.004	0.003	0.002	0.002	
		5 TPI			0.1327	19	0.012	0.011	0.011	0.011	0.010	0.010	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.004	0.003	0.003	0.002	0.002
	Internal Thread	28 TPI	06IR 60005	0.0020	0.0213	12	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001							
		24 TPI		0.0020	0.0252	12	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001							
		20 TPI	06IR 60005	0.0020	0.0303	14	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001						
			08IR 60007	0.0028	0.0295	14	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001					

60° • 55° (Partial Profile)

(D.O.C. shows the value of radial D.O.C.)

Thread Type		Pitch TPI	Part Number	rε	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass	18 Pass	19 Pass
Unified (inch)	Internal Thread	18 TPI	08IR 60007	0.0028	0.0335	17	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001		
		16 TPI	08IR 60007	0.0028	0.0378	18	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	
		48 TPI			0.0126	5	0.003	0.003	0.003	0.002	0.002														
		24 TPI			0.0264	7	0.006	0.005	0.005	0.004	0.003	0.002	0.002												
		20 TPI	11IR A60	0.0008	0.0315	8	0.006	0.005	0.005	0.005	0.004	0.003	0.002	0.002											
		18 TPI			0.0354	9	0.006	0.006	0.005	0.005	0.004	0.003	0.003	0.002	0.002										
		16 TPI			0.0398	10	0.006	0.006	0.005	0.005	0.005	0.004	0.003	0.003	0.002	0.002									
		48 TPI	16IR A60	0.0008	0.0126	5	0.003	0.003	0.003	0.002	0.002														
			AG60	0.0008	0.0126	5	0.003	0.003	0.003	0.002	0.002														
		24 TPI	16IR A60	0.0008	0.0264	7	0.006	0.005	0.005	0.004	0.003	0.002	0.002												
			AG60	0.0008	0.0264	7	0.006	0.005	0.005	0.004	0.003	0.002	0.002												
		20 TPI	16IR A60	0.0008	0.0315	8	0.006	0.005	0.005	0.005	0.004	0.003	0.002	0.002											
			AG60	0.0008	0.0315	8	0.006	0.005	0.005	0.005	0.004	0.003	0.002	0.002											
		18 TPI	16IR A60	0.0008	0.0354	9	0.006	0.006	0.005	0.005	0.004	0.003	0.003	0.002	0.002										
			AG60	0.0008	0.0354	9	0.006	0.006	0.005	0.005	0.004	0.003	0.003	0.002	0.002										
		16 TPI	16IR A60	0.0008	0.0398	10	0.006	0.006	0.005	0.005	0.005	0.004	0.003	0.003	0.002	0.002									
			AG60	0.0008	0.0398	10	0.006	0.006	0.005	0.005	0.005	0.004	0.003	0.003	0.002	0.002									
		14 TPI	16IR G60	0.0043	0.0421	9	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.002										
			AG60	0.0008	0.0457	11	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.002	0.002								
		13 TPI	16IR G60	0.0043	0.0457	10	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.003	0.002	0.002									
			AG60	0.0008	0.0492	12	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.002	0.002	0.002						
		12 TPI	16IR G60	0.0043	0.0496	11	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.003	0.002	0.002	0.002								
			AG60	0.0008	0.0531	13	0.008	0.007	0.006	0.006	0.005	0.004	0.004	0.003	0.003	0.002	0.002	0.002	0.002					
		10 TPI	16IR G60	0.0043	0.0606	14	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.003	0.002	0.002	0.002	0.001					
			AG60	0.0008	0.0642	16	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.003	0.002	0.002	0.002	0.002	0.002	0.001		
		9 TPI	16IR G60	0.0043	0.0677	16	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.003	0.003	0.002	0.002	0.001			
			AG60	0.0008	0.0713	17	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.003	0.002	0.002	0.001	0.001		
		8 TPI	16IR G60	0.0043	0.0768	17	0.009	0.008	0.007	0.007	0.006	0.006	0.006	0.005	0.004	0.004	0.004	0.003	0.003	0.002	0.002	0.001	0.001		
			AG60	0.0008	0.0803	19	0.008	0.008	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.002	0.002	0.002	0.002	0.001	0.001
		7 TPI			0.0843	14	0.010	0.009	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.004	0.003	0.002	0.002					
		6 TPI	22IR N60	0.0087	0.0996	17	0.011	0.010	0.009	0.009	0.008	0.007	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.003	0.003	0.002	0.002		
		5 TPI			0.1213	18	0.012	0.011	0.010	0.010	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.005	0.005	0.004	0.004	0.004	0.003	0.002	0.002
Parallel Pipe / Tapered Pipe	External Thread	28 TPI	16ER A55-TF	0.0024	0.0264	7	0.006	0.006	0.004	0.004	0.003	0.002	0.002												
			AG55-TF	0.0024	0.0264	7	0.006	0.006	0.004	0.004	0.003	0.002	0.002												
		19 TPI	16ER A55-TF	0.0024	0.0402	8	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002											
			AG55-TF	0.0024	0.0402	8	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002											
		14 TPI	16ER G55-TF	0.0087	0.0472	9	0.009	0.008	0.007	0.006	0.005	0.005	0.004	0.003	0.002										
			AG55-TF	0.0024	0.0551	11	0.009	0.009	0.008	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.002								
		11 TPI	16ER G55-TF	0.0087	0.0630	12	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.002							
			AG55-TF	0.0024	0.0705	13	0.010	0.009	0.008	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.001						
		28 TPI	16ER A55	0.0024	0.0264	7	0.006	0.006	0.004	0.004	0.003	0.002	0.002												
			AG55	0.0024	0.0264	7	0.006	0.006	0.004	0.004	0.003	0.002	0.002												
		19 TPI	16ER A55	0.0024	0.0402	8	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002											
			AG55	0.0024	0.0402	8	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002											
		14 TPI	16ER G55	0.0087	0.0472	9	0.009	0.008	0.007	0.006	0.005	0.005	0.004	0.003	0.002										
			AG55	0.0024	0.0551	11	0.009	0.009	0.008	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.002								
		11 TPI	16ER G55	0.0087	0.0630	12	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.002							
			AG55	0.0024	0.0705	13	0.010	0.009	0.008	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.001						
	Internal Thread	28 TPI	06IR 5501	0.0039	0.0240	12	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001							
			08IR 5501	0.0039	0.0240	12	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001							
		19 TPI	08IR 5501	0.0039	0.0374	18	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	
		28 TPI	11IR A55	0.0024	0.0264	7	0.006	0.006	0.004	0.004	0.003	0.002	0.002												
		19 TPI	11IR A55	0.0024	0.0402	8	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002											
		28 TPI	16IR A55	0.0024	0.0264	7	0.006	0.006	0.004	0.004	0.003	0.002	0.002												
			AG55	0.0024	0.0264	7	0.006	0.006	0.004	0.004	0.003	0.002	0.002												
		19 TPI	16IR A55	0.0024	0.0402	8	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002											
			AG55	0.0024	0.0402	8	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002											
		14 TPI	16IR G55	0.0087	0.0472	9	0.009	0.008	0.007	0.006	0.005	0.005	0.004	0.003	0.002										
			AG55	0.0024	0.0551	11	0.009	0.009	0.008	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.002								
		11 TPI	16IR G55	0.0087	0.0630	12	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.002							
			AG55	0.0024	0.0705	13	0.010	0.009	0.008	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.001						
Whitworth	External Thread	48 TPI	16ER A55-TF	0.0024	0.0146	5	0.005	0.004	0.003	0.002	0.002														
			AG55-TF	0.0024	0.0146	5	0.005	0.004	0.003	0.002	0.002														
		24 TPI	16ER A55-TF	0.0024	0.0311	7	0.007	0.006	0.006	0.004	0.003	0.003	0.002												
			AG55-TF	0.0024	0.0311	7	0.007	0.006	0.006	0.004	0.003	0.003	0.002												
		20 TPI	16ER A55-TF	0.0024	0.0378	8	0.008	0.007	0.006	0.005	0.004	0.003	0.003	0.002											
			AG55-TF	0.0024	0.0378	8	0.008	0.007	0.006	0.005	0.004	0.003	0.003	0.002											
		18 TPI	16ER A55-TF	0.0024	0.0421	9	0.008	0.007	0.006	0.006	0.004	0.004	0.003	0.003	0.002										
			AG55-TF	0.0024	0.0421	9	0.008	0.007	0.006	0.006	0.004	0.004	0.003	0.003	0.002										
		16 TPI	16ER A55-TF	0.0024	0.0480	11	0.008	0.007	0.006	0.005	0.004	0.004	0.004	0.003	0.003	0.002	0.002								
			AG55-TF	0.0024	0.0480	11	0.008	0.007	0.006	0.005	0.004	0.004	0.004	0.003	0.003	0.002	0.002								
		14 TPI	16ER G55-TF	0.0087	0.0472	9	0.009	0.008	0.007	0.006	0.005	0.005	0.004	0.003	0.002										
			AG55-TF	0.0024	0.0551	11	0.009	0.009	0.008	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.002								
		12 TPI	16ER G55-TF	0.0087	0.0567	10	0.009	0.009	0.008	0.007	0.006	0.005	0.005	0.004	0.003	0.002									
			AG55-TF	0.0024	0.0646	12	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.004	0.003	0.002	0.002							
		11 TPI	16ER G55-TF	0.0087	0.0630	12	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.002							
			AG55-TF	0.0024	0.0705	13	0.010	0.009	0.008	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.001						
		10 TPI	16ER G55-TF	0.0087	0.0701	12	0.009	0.009	0.008	0.007	0.007	0.006	0.006	0.005	0.005	0.004	0.003	0.002							
			AG55-TF	0.0024	0.0780	14	0.010	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.002					
		9 TPI	16ER G55-TF	0.0087	0.0791	14	0.009	0.009	0.008	0.008	0.007	0.006	0.006	0.006	0.005	0.004	0.004	0.003	0.003	0.002					
			AG55-TF	0.0024	0.0866	15	0.011	0.010	0.009	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.002				
		8 TPI	16ER G55-TF	0.0087	0.0902	15	0.011	0.010	0.009	0.009	0.008	0.006	0.006	0.005	0.005	0.005	0.004	0.004	0.004	0.003	0.002				
			AG55-TF	0.0024	0.0980	16	0.012	0.011	0.010	0.009	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.002	0.002			
		48 TPI	16ER A55	0.0024	0.0146	5	0.005	0.004	0.003	0.002	0.002														
			AG55	0.0024	0.0146	5	0.005	0.004	0.003	0.002	0.002														

60° • 55° (Partial Profile)

(D.O.C. shows the value of radial D.O.C.)

Thread Type		Pitch mm & TPI	Part Number	rε	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass	18 Pass	19 Pass
Whitworth	External Thread	24 TPI	16ER A55	0.0024	0.0311	7	0.007	0.006	0.006	0.004	0.003	0.003	0.002												
			AG55	0.0024	0.0311	7	0.007	0.006	0.006	0.004	0.003	0.003	0.002												
		20 TPI	16ER A55	0.0024	0.0378	8	0.008	0.007	0.006	0.005	0.004	0.003	0.003	0.002											
			AG55	0.0024	0.0378	8	0.008	0.007	0.006	0.005	0.004	0.003	0.003	0.002											
		18 TPI	16ER A55	0.0024	0.0421	9	0.008	0.007	0.006	0.006	0.004	0.004	0.003	0.003	0.002										
			AG55	0.0024	0.0421	9	0.008	0.007	0.006	0.006	0.004	0.004	0.003	0.003	0.002										
		16 TPI	16ER A55	0.0024	0.0480	11	0.008	0.007	0.006	0.005	0.004	0.004	0.004	0.003	0.003	0.002	0.002								
			AG55	0.0024	0.0480	11	0.008	0.007	0.006	0.005	0.004	0.004	0.004	0.003	0.003	0.002	0.002								
		14 TPI	16ER G55	0.0087	0.0472	9	0.009	0.008	0.007	0.006	0.005	0.005	0.004	0.003	0.002										
			AG55	0.0024	0.0551	11	0.009	0.009	0.008	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.002								
		12 TPI	16ER G55	0.0087	0.0567	10	0.009	0.009	0.008	0.007	0.006	0.005	0.005	0.004	0.003	0.002									
			AG55	0.0024	0.0646	12	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.004	0.003	0.002	0.002							
		11 TPI	16ER G55	0.0087	0.0630	12	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.002							
			AG55	0.0024	0.0705	13	0.010	0.009	0.008	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.001						
		10 TPI	16ER G55	0.0087	0.0701	12	0.009	0.009	0.008	0.007	0.007	0.006	0.006	0.005	0.005	0.004	0.003	0.002							
			AG55	0.0024	0.0780	14	0.010	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.002					
		9 TPI	16ER G55	0.0087	0.0791	14	0.009	0.009	0.008	0.008	0.007	0.006	0.006	0.006	0.005	0.004	0.004	0.003	0.003	0.002					
			AG55	0.0024	0.0866	15	0.011	0.010	0.009	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.002				
		8 TPI	16ER G55	0.0087	0.0902	15	0.011	0.010	0.009	0.009	0.008	0.006	0.006	0.005	0.005	0.005	0.004	0.004	0.004	0.003	0.002				
			AG55	0.0024	0.0980	16	0.012	0.011	0.010	0.009	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.002	0.002			
		7 TPI	22ER N55	0.0185	0.0957	16	0.012	0.011	0.010	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.004	0.004	0.004	0.003					
		6 TPI			0.1150	18	0.012	0.011	0.010	0.009	0.009	0.008	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.003	0.002		
		5 TPI			0.1417	21	0.012	0.011	0.011	0.010	0.010	0.009	0.009	0.008	0.007	0.007	0.007	0.006	0.006	0.006	0.005	0.004	0.004	0.004	0.003
							0.002	0.002																	
	Internal Thread	28 TPI	06IR 5501 08IR 5501	0.0039	0.0256	13	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001						
		19 TPI	08IR 5501	0.0039	0.0319	15	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001				
		24 TPI	11IR A55	0.0024	0.0283	7	0.006	0.006	0.005	0.004	0.003	0.003	0.002												
		20 TPI			0.0343	8	0.006	0.006	0.006	0.005	0.004	0.003	0.002	0.002											
		18 TPI			0.0382	8	0.008	0.007	0.006	0.006	0.004	0.003	0.002	0.002											
		16 TPI			0.0433	9	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.003	0.002										
		24 TPI	16IR A55	0.0024	0.0283	7	0.006	0.006	0.005	0.004	0.003	0.003	0.002												
			AG55	0.0024	0.0283	7	0.006	0.006	0.005	0.004	0.003	0.003	0.002												
		20 TPI	16IR A55	0.0024	0.0343	8	0.006	0.006	0.006	0.005	0.004	0.003	0.002	0.002											
			AG55	0.0024	0.0343	8	0.006	0.006	0.006	0.005	0.004	0.003	0.002	0.002											
		18 TPI	16IR A55	0.0024	0.0382	8	0.008	0.007	0.006	0.006	0.004	0.003	0.002	0.002											
			AG55	0.0024	0.0382	8	0.008	0.007	0.006	0.006	0.004	0.003	0.002	0.002											
		16 TPI	16IR A55	0.0024	0.0433	9	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.003	0.002										
			AG55	0.0024	0.0433	9	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.003	0.002										
		14 TPI	16IR G55	0.0087	0.0417	8	0.008	0.008	0.007	0.006	0.005	0.004	0.003	0.002											
			AG55	0.0024	0.0500	11	0.008	0.007	0.007	0.006	0.005	0.004	0.004	0.003	0.003	0.002	0.002								
		12 TPI	16IR G55	0.0087	0.0504	9	0.009	0.008	0.008	0.007	0.006	0.005	0.004	0.003	0.002										
			AG55	0.0024	0.0583	11	0.009	0.009	0.008	0.007	0.006	0.005	0.004	0.004	0.002	0.002	0.002								
		11 TPI	16IR G55	0.0087	0.0559	10	0.009	0.009	0.008	0.007	0.006	0.005	0.004	0.004	0.003	0.002									
			AG55	0.0024	0.0638	12	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.003	0.002	0.002							
		10 TPI	16IR G55	0.0087	0.0626	12	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.002							
			AG55	0.0024	0.0705	13	0.010	0.009	0.008	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.001						
		9 TPI	16IR G55	0.0087	0.0705	12	0.009	0.009	0.008	0.007	0.007	0.006	0.006	0.005	0.005	0.004	0.003	0.002							
			AG55	0.0024	0.0783	14	0.010	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.002					
		8 TPI	16IR G55	0.0087	0.0807	14	0.009	0.009	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.004	0.004	0.003	0.003	0.002					
			AG55	0.0024	0.0886	15	0.011	0.01	0.009	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.002				
		7 TPI	22IR N55	0.0185	0.0823	14	0.009	0.009	0.009	0.008	0.007	0.007	0.006	0.006	0.005	0.005	0.004	0.003	0.003	0.002					
		6 TPI			0.0996	16	0.012	0.011	0.010	0.009	0.008	0.008	0.007	0.006	0.005	0.004	0.004	0.004	0.004	0.003	0.002	0.002			
		5 TPI			0.1236	19	0.012	0.011	0.011	0.010	0.009	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.004	0.003	0.002	0.002
30° Trapezoidal	External Thread	2.00mm	16ER 200TR	-	1.25	10	0.22	0.20	0.17	0.16	0.13	0.12	0.10	0.07	0.05	0.03									
		3.00mm	16ER 300TR	-	1.75	14	0.24	0.20	0.18	0.16	0.15	0.14	0.12	0.11	0.10	0.10	0.10	0.07	0.05	0.03					
		4.00mm	22ER 400TR	-	2.24	15	0.26	0.23	0.22	0.20	0.20	0.18	0.16	0.15	0.14	0.13	0.12	0.10	0.07	0.05	0.03				
		5.00mm	22ER 500TR	-	2.73	17	0.28	0.26	0.24	0.22	0.21	0.20	0.19	0.18	0.16	0.15	0.14	0.13	0.12	0.10	0.07	0.05	0.03		
	Internal Thread	2.00mm	16IR 200TR	-	1.25	10	0.22	0.20	0.17	0.16	0.13	0.12	0.10	0.07	0.05	0.03									
		3.00mm	16IR 300TR	-	1.75	14	0.24	0.20	0.18	0.16	0.15	0.14	0.12	0.11	0.10	0.10	0.10	0.07	0.05	0.03					
		4.00mm	22IR 400TR	-	2.24	15	0.26	0.23	0.22	0.20	0.20	0.18	0.16	0.15	0.14	0.13	0.12	0.10	0.07	0.05	0.03				
		5.00mm	22IR 500TR	-	2.73	17	0.28	0.26	0.24	0.22	0.21	0.20	0.19	0.18	0.16	0.15	0.14	0.13	0.12	0.10	0.07	0.05	0.03		

Corner-R (rε) Selection for Partial Profiling Inserts

	External Thread	Internal Thread
Metric Unified	rε ≦0.1443 X P	rε ≦0.0720 X P
Parallel Pipe Whitworth Tapered Pipe	For Both External and Internal Thread rε ≦0.1373 X P	

• Metric, Unified Thread

Corner-R (rε) at Internal Threading is almost half of that of External.

• Parallel Pipe, Tapered Pipe, Whitworth Thread

Same Corner-R (rε) for both External and Internal Threading.

rε : Corner-R P : Pitch (TPI) (= $\frac{1}{n}$) n : TPI

P : Pitch (Metric) (= $\frac{25.4}{n}$)

11 / 16 (60° • 55° Partial Profile)

(D.O.C. shows the value of radial D.O.C.)

Thread Type		Pitch mm & TPI	Part Number	Previous Part Number	rε	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass
Metric (60°)	External Thread	1.00mm	16ER 6001	TNN32ER 6001	0.10	0.66	5	0.20	0.18	0.12	0.09	0.05									
		1.25mm	16ER 6001	TNN32ER 6001	0.10	0.85	6	0.23	0.20	0.14	0.12	0.07	0.05								
		1.50mm	16ER 6001	TNN32ER 6001	0.10	1.04	8	0.23	0.21	0.19	0.15	0.11	0.06	0.05	0.04						
			6002	6002	0.20	0.94	7	0.23	0.20	0.18	0.14	0.10	0.05	0.04							
		1.75mm	16ER 6001	TNN32ER 6001	0.10	1.23	9	0.25	0.22	0.20	0.17	0.14	0.09	0.07	0.05	0.04					
			6002	6002	0.20	1.13	8	0.25	0.22	0.20	0.16	0.14	0.07	0.05	0.04						
		2.00mm	16ER 6001	TNN32ER 6001	0.10	1.42	11	0.25	0.22	0.20	0.16	0.14	0.12	0.10	0.08	0.06	0.05	0.04			
			6002	6002	0.20	1.32	10	0.25	0.22	0.20	0.16	0.14	0.12	0.08	0.07	0.04	0.04				
		2.50mm	16ER 6001	TNN32ER 6001	0.10	1.79	13	0.25	0.22	0.20	0.18	0.16	0.16	0.14	0.12	0.10	0.09	0.08	0.05	0.04	
			6002	6002	0.20	1.69	12	0.25	0.22	0.20	0.18	0.16	0.16	0.12	0.12	0.10	0.08	0.06	0.04		
	Internal Thread	0.75mm	11IR 60005	TNN22IR 60005	0.05	0.44	5	0.14	0.12	0.10	0.06	0.02									
		1.00mm	11IR 60005	TNN22IR 60005	0.05	0.60	6	0.18	0.15	0.10	0.08	0.05	0.04								
		1.25mm	11IR 60005	TNN22IR 60005	0.05	0.76	7	0.18	0.15	0.12	0.10	0.10	0.07	0.04							
		1.50mm	11IR 60005	TNN22IR 60005	0.05	0.92	9	0.18	0.16	0.12	0.10	0.10	0.08	0.08	0.06	0.04					
			16IR 6001	TNN32IR 6001	0.10	0.87	8	0.18	0.16	0.12	0.10	0.10	0.08	0.08	0.05						
		1.75mm	16IR 6001	TNN32IR 6001	0.10	1.04	9	0.20	0.18	0.15	0.12	0.12	0.10	0.08	0.05	0.04					
		2.00mm	16IR 6001	TNN32IR 6001	0.10	1.20	11	0.20	0.18	0.15	0.12	0.12	0.10	0.10	0.08	0.06	0.05	0.04			
		2.50mm	16IR 6001	TNN32IR 6001	0.10	1.52	14	0.20	0.18	0.16	0.14	0.14	0.12	0.12	0.10	0.10	0.08	0.06	0.06	0.04	0.02
			60015	60015	0.15	1.47	13	0.20	0.18	0.16	0.15	0.14	0.12	0.12	0.10	0.10	0.08	0.06	0.04	0.02	
Parallel Pipe / Tapered Pipe (55°)	External Thread	28 TPI	16ER 5501	TNN32ER 5501	0.0039	0.0240	5	0.008	0.006	0.005	0.003	0.002									
		19 TPI	16ER 5501	TNN32ER 5501	0.0039	0.0374	7	0.009	0.008	0.006	0.006	0.004	0.003	0.002							
		14 TPI	16ER 5501	TNN32ER 5501	0.0039	0.0528	10	0.009	0.008	0.007	0.006	0.005	0.004	0.004	0.004	0.003	0.002				
			5502	5502	0.0079	0.0480	9	0.009	0.008	0.007	0.006	0.004	0.004	0.004	0.003	0.002					
		11 TPI	16ER 5501	TNN32ER 5501	0.0039	0.0681	13	0.010	0.009	0.009	0.008	0.007	0.006	0.005	0.004	0.004	0.003	0.002	0.002	0.001	
			5502	5502	0.0079	0.0638	12	0.010	0.009	0.009	0.008	0.007	0.006	0.005	0.004	0.003	0.002	0.002	0.001		
	Internal Thread	28 TPI	11IR 55005	TNN22IR 55005	0.0020	0.0264	7	0.007	0.006	0.005	0.003	0.002	0.002	0.001							
			16IR 5501	TNN32IR 5501	0.0039	0.0240	6	0.007	0.006	0.005	0.003	0.002	0.001								
		19 TPI	11IR 55005	TNN22IR 55005	0.0020	0.0398	8	0.008	0.007	0.006	0.006	0.005	0.003	0.003	0.002						
			16IR 5501	TNN32IR 5501	0.0039	0.0374	7	0.008	0.007	0.006	0.006	0.005	0.004	0.002							
		14 TPI	11IR 55005	TNN22IR 55005	0.0020	0.0547	11	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.003	0.002			
			16IR 5501	TNN32IR 5501	0.0039	0.0528	10	0.008	0.007	0.007	0.006	0.006	0.006	0.004	0.004	0.003	0.002				
			5502	5502	0.0079	0.0480	9	0.008	0.007	0.007	0.006	0.006	0.005	0.004	0.003	0.002					
		11 TPI	16IR 5501	TNN32IR 5501	0.0039	0.0681	12	0.010	0.008	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.003	0.002		
			5502	5502	0.0079	0.0638	11	0.010	0.008	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.003	0.002			
Whitworth (55°)	External Thread	24 TPI	16ER 5501	TNN32ER 5501	0.0039	0.0287	6	0.009	0.007	0.005	0.004	0.003	0.002									
		20 TPI	16ER 5501	TNN32ER 5501	0.0039	0.0354	6	0.009	0.007	0.007	0.006	0.005	0.002									
		18 TPI	16ER 5501	TNN32ER 5501	0.0039	0.0398	7	0.009	0.008	0.007	0.006	0.004	0.003	0.002								
		16 TPI	16ER 5501	TNN32ER 5501	0.0039	0.0453	9	0.009	0.008	0.006	0.006	0.005	0.004	0.003	0.002	0.002						
			5502	5502	0.0079	0.0409	8	0.009	0.008	0.006	0.006	0.004	0.003	0.003	0.002							
		14 TPI	16ER 5501	TNN32ER 5501	0.0039	0.0528	10	0.009	0.008	0.007	0.006	0.005	0.004	0.004	0.004	0.003	0.002					
			5502	5502	0.0079	0.0480	9	0.009	0.008	0.007	0.006	0.004	0.004	0.004	0.003	0.002						
		12 TPI	16ER 5501	TNN32ER 5501	0.0039	0.0622	12	0.010	0.008	0.007	0.006	0.006	0.006	0.005	0.004	0.003	0.003	0.003	0.002		
			5502	5502	0.0079	0.0575	11	0.010	0.008	0.007	0.006	0.006	0.006	0.004	0.003	0.003	0.003	0.002			
		11 TPI	16ER 5501	TNN32ER 5501	0.0039	0.0681	12	0.010	0.008	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.003	0.002		
			5502	5502	0.0079	0.0638	11	0.010	0.008	0.007	0.007	0.006	0.006	0.006	0.005	0.004	0.003	0.002			
		10 TPI	16ER 5501	TNN32ER 5501	0.0039	0.0756	14	0.010	0.009	0.009	0.008	0.007	0.006	0.005	0.005	0.004	0.004	0.003	0.003	0.002	0.001
			5502	5502	0.0079	0.0709	13	0.010	0.009	0.009	0.008	0.007	0.006	0.005	0.004	0.004	0.003	0.003	0.002	0.001	
		9 TPI	16ER 5502	TNN32ER 5502	0.0079	0.0799	14	0.010	0.009	0.009	0.008	0.008	0.007	0.006	0.005	0.005	0.004	0.003	0.003	0.002	0.001
	Internal Thread	24 TPI	11IR 55005	TNN22IR 55005	0.0020	0.0280	7	0.007	0.006	0.005	0.004	0.003	0.002	0.001							
			16IR 5501	TNN32IR 5501	0.0039	0.0256	6	0.007	0.006	0.005	0.004	0.003	0.001								
		20 TPI	11IR 55005	TNN22IR 55005	0.0020	0.0343	8	0.007	0.006	0.006	0.005	0.004	0.002	0.002	0.002						
			16IR 5501	TNN32IR 5501	0.0039	0.0319	7	0.007	0.006	0.006	0.005	0.004	0.002	0.002							
		18 TPI	11IR 55005	TNN22IR 55005	0.0020	0.0382	8	0.008	0.007	0.006	0.006	0.004	0.003	0.002	0.002						
			16IR 5501	TNN32IR 5501	0.0039	0.0358	7	0.008	0.007	0.006	0.006	0.004	0.003	0.002							
		16 TPI	11IR 55005	TNN22IR 55005	0.0020	0.0429	9	0.008	0.007	0.006	0.006	0.004	0.004	0.003	0.003	0.002					
			16IR 5501	TNN32IR 5501	0.0039	0.0409	8	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002						
			5502	5502	0.0079	0.0362	7	0.008	0.007	0.006	0.006	0.004	0.003	0.002							
		14 TPI	11IR 55005	TNN22IR 55005	0.0020	0.0496	10	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.004	0.003	0.002				
			16IR 5501	TNN32IR 5501	0.0039	0.0472	9	0.008	0.007	0.007	0.006	0.006	0.005	0.004	0.003	0.002					
			5502	5502	0.0079	0.0425	8	0.008	0.007	0.007	0.006	0.005	0.004	0.003	0.002						
		12 TPI	16IR 5501	TNN32IR 5501	0.0039	0.0559	10	0.010	0.008	0.007	0.006	0.006	0.006	0.005	0.004	0.003	0.002				
			5502	5502	0.0079	0.0512	9	0.010	0.009	0.007	0.006	0.006	0.005	0.004	0.003	0.002					
		11 TPI	16IR 5501	TNN32IR 5501	0.0039	0.0614	11	0.010	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.003	0.002			
			5502	5502	0.0079	0.0567	10	0.010	0.008	0.007	0.006	0.006	0.006	0.005	0.004	0.003	0.002				

<How to use>

1) Select the insert with suitable corner-R(rε) determined by the pitch.
2) Do not exceed 0.0118" for the 1st D.O.C.
3) Final D.O.C. for Finishing shall be 0.0008" - 0.0020".
4) Pre chamfer thread diameter to thread minor diameter to improve insert life.
5) Coolant is recommended.

TT Type (60° • 55° Partial Profile)

(D.O.C. shows the value of radial D.O.C.)

Thread Type		Pitch mm & TPI	Part Number	rε	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass
Metric (60°)	External Thread	0.50mm	TT32℄ 6000	0.00	0.38	6	0.10	0.10	0.07	0.05	0.04	0.02										
		0.70mm	TT32℄ 6000	0.00	0.53	7	0.10	0.10	0.10	0.08	0.07	0.06	0.02									
		0.75mm	TT32℄ 6000	0.00	0.57	8	0.10	0.10	0.10	0.08	0.08	0.05	0.04	0.02								
		0.80mm	TT32℄ 6000	0.00	0.61	8	0.10	0.10	0.10	0.10	0.08	0.06	0.05	0.02								
		1.00mm	TT32℄ 6000	0.00	0.76	8	0.15	0.12	0.12	0.11	0.10	0.08	0.06	0.02								
			TT32/43℄ 6001	0.10	0.66	6	0.20	0.15	0.12	0.10	0.07	0.02										
		1.25mm	TT32℄ 6000	0.00	0.95	9	0.18	0.16	0.14	0.12	0.10	0.10	0.08	0.05	0.02							
			TT32/43℄ 6001	0.10	0.85	7	0.25	0.20	0.13	0.10	0.10	0.05	0.02									
		1.50mm	TT32℄ 6000	0.00	1.14	10	0.20	0.18	0.16	0.14	0.12	0.10	0.10	0.07	0.05	0.02						
			TT32/43℄ 6001	0.10	1.04	9	0.25	0.18	0.14	0.12	0.10	0.10	0.08	0.05	0.02							
			6002	0.20	0.94	8	0.25	0.18	0.14	0.12	0.10	0.08	0.05	0.02								
		1.75mm	TT32℄ 6000	0.00	1.33	11	0.25	0.23	0.20	0.13	0.10	0.10	0.10	0.08	0.07	0.05	0.02					
			TT32/43℄ 6001	0.10	1.23	10	0.25	0.23	0.20	0.13	0.10	0.10	0.08	0.07	0.05	0.02						
			6002	0.20	1.13	9	0.25	0.23	0.20	0.13	0.10	0.08	0.07	0.05	0.02							
		2.00mm	TT32℄ 6000	0.00	1.52	12	0.25	0.23	0.20	0.16	0.13	0.10	0.10	0.10	0.10	0.08	0.05	0.02				
			TT32/43℄ 6001	0.10	1.42	11	0.25	0.23	0.20	0.16	0.13	0.10	0.10	0.10	0.08	0.05	0.02					
			6002	0.20	1.32	10	0.25	0.23	0.20	0.16	0.13	0.10	0.10	0.08	0.05	0.02						
		2.50mm	TT32℄ 6000	0.00	1.89	13	0.27	0.25	0.20	0.18	0.17	0.15	0.14	0.14	0.13	0.10	0.08	0.06	0.02			
			TT32/43℄ 6001	0.10	1.79	12	0.27	0.25	0.20	0.18	0.17	0.15	0.14	0.13	0.12	0.10	0.06	0.02				
			6002	0.20	1.69	11	0.27	0.25	0.20	0.18	0.17	0.15	0.14	0.13	0.10	0.08	0.02					
			6003	0.30	1.59	11	0.27	0.25	0.20	0.18	0.17	0.15	0.12	0.10	0.08	0.05	0.02					
		3.00mm	TT43℄ 6001	0.10	2.17	14	0.30	0.25	0.23	0.20	0.20	0.18	0.16	0.14	0.14	0.12	0.10	0.08	0.05	0.02		
			6002	0.20	2.07	13	0.30	0.25	0.23	0.20	0.20	0.18	0.15	0.14	0.13	0.12	0.10	0.05	0.02			
			6003	0.30	1.97	12	0.30	0.25	0.23	0.20	0.20	0.18	0.15	0.14	0.12	0.10	0.08	0.02				
			6004	0.40	1.87	12	0.30	0.25	0.23	0.20	0.20	0.18	0.14	0.12	0.10	0.08	0.05	0.02				
		3.50mm	TT43℄ 6001	0.10	2.55	16	0.30	0.27	0.23	0.22	0.20	0.18	0.18	0.16	0.16	0.14	0.14	0.12	0.10	0.08	0.05	0.02
			6002	0.20	2.45	15	0.30	0.27	0.23	0.22	0.20	0.18	0.18	0.16	0.16	0.14	0.14	0.10	0.10	0.05	0.02	
			6003	0.30	2.35	14	0.30	0.27	0.23	0.22	0.20	0.18	0.18	0.16	0.15	0.14	0.12	0.10	0.08	0.02		
			6004	0.40	2.25	14	0.30	0.27	0.23	0.22	0.20	0.18	0.18	0.16	0.14	0.12	0.10	0.08	0.05	0.02		
	Internal Thread	0.50mm	TT32℄ 6000	0.00	0.32	5	0.12	0.08	0.06	0.04	0.02											
		0.70mm	TT32℄ 6000	0.00	0.45	6	0.15	0.10	0.08	0.06	0.04	0.02										
		0.75mm	TT32℄ 6000	0.00	0.49	6	0.15	0.12	0.08	0.07	0.05	0.02										
		0.80mm	TT32℄ 6000	0.00	0.52	6	0.15	0.12	0.10	0.08	0.05	0.02										
		1.00mm	TT32℄ 6000	0.00	0.65	7	0.15	0.14	0.12	0.10	0.08	0.04	0.02									
		1.25mm	TT32℄ 6000	0.00	0.81	8	0.18	0.16	0.14	0.12	0.10	0.05	0.04	0.02								
		1.50mm	TT32℄ 6000	0.00	0.97	9	0.20	0.18	0.16	0.14	0.10	0.08	0.05	0.04	0.02							
			TT32/43℄ 6001	0.10	0.87	8	0.20	0.18	0.16	0.14	0.08	0.05	0.04	0.02								
		1.75mm	TT32℄ 6000	0.00	1.14	10	0.20	0.18	0.16	0.13	0.12	0.10	0.10	0.08	0.05	0.02						
			TT32/43℄ 6001	0.10	1.04	9	0.20	0.18	0.16	0.13	0.12	0.10	0.08	0.05	0.02							
		2.00mm	TT32℄ 6000	0.00	1.30	12	0.20	0.18	0.16	0.13	0.13	0.12	0.10	0.10	0.08	0.05	0.03	0.02				
			TT32/43℄ 6001	0.10	1.20	11	0.20	0.18	0.16	0.13	0.13	0.12	0.10	0.08	0.05	0.03	0.02					
		2.50mm	TT32℄ 6000	0.00	1.62	14	0.23	0.20	0.18	0.18	0.13	0.13	0.12	0.10	0.10	0.08	0.07	0.05	0.03	0.02		
			TT32/43℄ 6001	0.10	1.52	13	0.23	0.20	0.18	0.18	0.13	0.13	0.12	0.10	0.08	0.07	0.05	0.03	0.02			
		3.00mm	TT43℄ 6001	0.10	1.85	15	0.25	0.22	0.20	0.18	0.14	0.14	0.13	0.12	0.10	0.10	0.08	0.07	0.05	0.05	0.02	
			6002	0.20	1.75	14	0.25	0.22	0.20	0.18	0.14	0.14	0.13	0.12	0.10	0.08	0.07	0.05	0.05	0.02		
Parallel Pipe / Tapered Pipe (55°)	External Thread	28 TPI	TT32℄ 5501	0.0039	0.0240	5	0.008	0.007	0.006	0.002	0.001											
		19 TPI	TT32/43℄ 5501	0.0039	0.0374	8	0.008	0.007	0.006	0.005	0.005	0.004	0.002	0.001								
		14 TPI	TT32/43℄ 5501	0.0039	0.0528	10	0.010	0.009	0.008	0.006	0.006	0.005	0.004	0.003	0.002	0.001						
			5502	0.0079	0.0480	9	0.010	0.009	0.008	0.007	0.005	0.004	0.003	0.002	0.001							
		11 TPI	TT32/43℄ 5501	0.0039	0.0681	13	0.010	0.009	0.009	0.008	0.007	0.006	0.005	0.004	0.004	0.003	0.002	0.002	0.001			
			5502	0.0079	0.0638	12	0.010	0.009	0.009	0.008	0.007	0.006	0.005	0.004	0.003	0.002	0.002	0.001				
			5503	0.0118	0.0591	11	0.010	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.001					
	Internal Thread	28 TPI	TT32/43℄ 5501	0.0039	0.0240	6	0.007	0.006	0.005	0.003	0.002	0.001										
		19 TPI	TT32/43℄ 5501	0.0039	0.0374	7	0.008	0.007	0.006	0.006	0.005	0.004	0.002									
		14 TPI	TT32/43℄ 5501	0.0039	0.0528	10	0.008	0.007	0.007	0.006	0.006	0.006	0.004	0.004	0.003	0.002						
			5502	0.0079	0.0480	9	0.008	0.007	0.007	0.006	0.006	0.005	0.004	0.003	0.002							
		11 TPI	TT32/43℄ 5501	0.0039	0.0681	13	0.010	0.009	0.009	0.008	0.007	0.006	0.005	0.004	0.004	0.003	0.002	0.002	0.001			
			5502	0.0079	0.0638	12	0.010	0.009	0.009	0.008	0.007	0.006	0.005	0.004	0.003	0.002	0.002	0.001				
			5503	0.0118	0.0591	11	0.010	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.001					
Whitworth (55°)	External Thread	24 TPI	TT32/43℄ 5501	0.0039	0.0287	6	0.008	0.007	0.006	0.005	0.002	0.001										
		20 TPI	TT32/43℄ 5501	0.0039	0.0354	7	0.008	0.007	0.006	0.006	0.005	0.003	0.001									
		18 TPI	TT32/43℄ 5501	0.0039	0.0398	8	0.008	0.007	0.007	0.006	0.005	0.004	0.002	0.001								
		16 TPI	TT32/43℄ 5501	0.0039	0.0453	9	0.010	0.008	0.007	0.006	0.005	0.004	0.003	0.002	0.001							
			5502	0.0079	0.0409	8	0.010	0.008	0.007	0.006	0.004	0.003	0.003	0.001								
		14 TPI	TT32/43℄ 5501	0.0039	0.0528	10	0.010	0.009	0.008	0.006	0.006	0.005	0.004	0.003	0.002	0.001						
			5502	0.0079	0.0480	9	0.010	0.009	0.008	0.007	0.005	0.004	0.003	0.002	0.001							
		12 TPI	TT32/43℄ 5501	0.0039	0.0622	12	0.010	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.003	0.002	0.001				
			5502	0.0079	0.0575	11	0.010	0.008	0.007	0.006	0.006	0.006	0.005	0.004	0.003	0.002	0.001					
		11 TPI	TT32/43℄ 5501	0.0039	0.0681	13	0.010	0.009	0.009	0.008	0.007	0.006	0.005	0.004	0.004	0.003	0.002	0.002	0.001			
			5502	0.0079	0.0638	12	0.010	0.009	0.009	0.008	0.007	0.006	0.005	0.004	0.003	0.002	0.002	0.001				
			TT43℄ 5503	0.0118	0.0591	11	0.010	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.001					
		10 TPI	TT32/43℄ 5501	0.0039	0.0756	14	0.010	0.009	0.009	0.008	0.007	0.006	0.005	0.005	0.004	0.004	0.003	0.003	0.002	0.001		
			5502	0.0079	0.0709	13	0.010	0.009	0.009	0.008	0.007	0.006	0.005	0.004	0.004	0.003	0.003	0.002	0.001			
			TT43℄ 5503	0.0118	0.0661	12	0.010	0.009	0.008	0.007	0.007	0.006	0.005	0.005	0.004	0.003	0.002	0.001				
		9 TPI	TT43℄ 5501	0.0039	0.0843	14	0.010	0.009	0.009	0.008	0.008	0.007	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.001		
			5502	0.0079	0.0799	13	0.010	0.009	0.009	0.008	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.003	0.001			
			5503	0.0118	0.0752	12	0.012	0.010	0.009	0.009	0.008	0.007	0.006	0.005	0.004	0.003	0.002	0.001				
		8 TPI	TT43℄ 5501	0.0039	0.0957	15	0.011	0.010	0.009	0.009	0.008	0.008	0.007	0.006	0.006	0.006	0.005	0.005	0.004	0.002	0.001	
			5502	0.0079	0.0909	14	0.011	0.010	0.009	0.009	0.008	0.008	0.007	0.006	0.006	0.006	0.005	0.004	0.002	0.001		
			5503	0.0118	0.0862	13	0.012	0.011	0.010	0.009	0.008	0.007	0.007	0.006	0.006	0.005	0.004	0.002	0.001			
			5504	0.0157	0.0819	12	0.012	0.011	0.010	0.009	0.009	0.008	0.007	0.006	0.005	0.003	0.002	0.001				

TT Type (60° • 55° Partial Profile) Continued...

(D.O.C. shows the value of radial ap.)

Thread Type		Pitch mm & TPI	Part Number	rε	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass
Whitworth (55°)	Internal Thread	24 TPI	TT32/43°/ 5501	0.0039	0.026	0.236	0.008	0.006	0.005	0.004	0.002	0.001									
		20 TPI	TT32/43°/ 5501	0.0039	0.032	0.276	0.008	0.007	0.006	0.005	0.003	0.002	0.001								
		18 TPI	TT32/43°/ 5501	0.0039	0.036	0.315	0.008	0.007	0.006	0.006	0.004	0.002	0.002	0.001							
		16 TPI	TT32/43°/ 5501	0.0039	0.041	0.354	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.001						
			5502	0.0079	0.036	0.315	0.008	0.007	0.006	0.005	0.004	0.003	0.002	0.001							
		14 TPI	TT32/43°/ 5501	0.0039	0.047	0.394	0.008	0.007	0.006	0.006	0.006	0.005	0.004	0.003	0.002	0.001					
			5502	0.0079	0.043	0.354	0.008	0.007	0.006	0.006	0.006	0.004	0.003	0.002	0.001						
		12 TPI	TT32/43°/ 5501	0.0039	0.056	0.394	0.009	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.002	0.001					
			5502	0.0079	0.051	0.354	0.010	0.009	0.008	0.007	0.006	0.005	0.004	0.002	0.001						
		11 TPI	TT32/43°/ 5501	0.0039	0.061	0.433	0.010	0.009	0.009	0.007	0.006	0.006	0.005	0.004	0.004	0.002	0.001				
			5502	0.0079	0.057	0.394	0.010	0.009	0.008	0.007	0.006	0.006	0.005	0.004	0.002	0.001					
			TT43°/ 5503	0.0118	0.052	0.354	0.010	0.009	0.008	0.007	0.006	0.006	0.004	0.002	0.001						
		10 TPI	TT32/43°/ 5501	0.0039	0.068	0.472	0.010	0.009	0.008	0.007	0.006	0.006	0.006	0.006	0.005	0.004	0.002	0.001			
			5502	0.0079	0.063	0.433	0.010	0.009	0.008	0.007	0.007	0.006	0.006	0.005	0.004	0.002	0.001				
			TT43°/ 5503	0.0118	0.059	0.394	0.010	0.009	0.009	0.008	0.007	0.006	0.005	0.004	0.002	0.001					
		9 TPI	TT43°/ 5501	0.0039	0.076	0.512	0.010	0.009	0.009	0.008	0.007	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.001		
			5502	0.0079	0.072	0.472	0.010	0.009	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.004	0.002	0.001			
			5503	0.0118	0.067	0.433	0.010	0.009	0.009	0.008	0.008	0.007	0.006	0.005	0.004	0.002	0.001				
		8 TPI	TT43°/ 5501	0.0039	0.086	0.591	0.011	0.010	0.009	0.008	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.003	0.002	0.002	0.001
			5502	0.0079	0.081	0.551	0.011	0.010	0.009	0.008	0.008	0.007	0.006	0.006	0.005	0.004	0.003	0.002	0.002	0.001	
			5503	0.0118	0.077	0.512	0.012	0.010	0.009	0.009	0.008	0.007	0.006	0.005	0.004	0.003	0.002	0.002	0.001		
			5504	0.0157	0.072	0.472	0.012	0.010	0.009	0.008	0.008	0.007	0.006	0.005	0.003	0.002	0.002	0.001			

TT Type (60° • 55° Full Profile)

(D.O.C. shows the value of radial ap.)

Thread Type		Pitch mm & TPI	Part Number	rε	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass
Metric	External Thread	1.00mm	TT43E°/ 100M	0.64	0.72	5	0.23	0.19	0.15	0.10	0.05							
		1.25mm	125M	0.80	0.88	6	0.26	0.21	0.16	0.12	0.08	0.05						
		1.50mm	150M	0.95	1.03	6	0.26	0.24	0.21	0.16	0.11	0.05						
		2.00mm	200M	1.27	1.35	10	0.26	0.21	0.18	0.16	0.14	0.12	0.10	0.08	0.05	0.05		

TTX Type (60° • 55° Partial Profile)

(D.O.C. shows the value of radial ap.)

Thread Type		Pitch mm & TPI	Part Number	rε	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass
Metric (60°)	External Thread	0.50mm	TTX32R 6000 6000S	0.00	0.38	6	0.10	0.10	0.07	0.05	0.04	0.02						
			60005 60005S	0.05	0.33	5	0.10	0.10	0.07	0.04	0.02							
		0.70mm	TTX32R 6000	0.00	0.53	7	0.10	0.10	0.10	0.08	0.07	0.06	0.02					
			60005	0.05	0.48	6	0.10	0.10	0.10	0.10	0.06	0.02						
		0.75mm	TTX32R 6000	0.00	0.57	8	0.10	0.10	0.10	0.08	0.08	0.05	0.04	0.02				
			60005	0.05	0.52	7	0.10	0.10	0.10	0.08	0.07	0.05	0.02					
		0.80mm	TTX32R 6000	0.00	0.61	8	0.10	0.10	0.10	0.10	0.08	0.06	0.05	0.02				
			60005	0.05	0.56	7	0.10	0.10	0.10	0.10	0.08	0.06	0.02					
		1.00mm	TTX32R 6000	0.00	0.76	8	0.15	0.13	0.12	0.12	0.10	0.08	0.04	0.02				
			60005	0.05	0.71	7	0.18	0.15	0.12	0.10	0.08	0.06	0.02					
			6001	0.10	0.66	6	0.20	0.15	0.12	0.10	0.07	0.02						
		1.25mm	TTX32R 6001	0.10	0.85	7	0.25	0.20	0.13	0.10	0.10	0.05	0.02					
		1.50mm	6001	0.10	1.04	9	0.25	0.18	0.14	0.12	0.10	0.10	0.08	0.05	0.02			
		1.75mm	6001	0.10	1.23	10	0.25	0.23	0.20	0.13	0.10	0.10	0.08	0.07	0.05	0.02		
		2.00mm	6001	0.10	1.42	11	0.25	0.23	0.20	0.16	0.13	0.10	0.10	0.10	0.08	0.05	0.02	0.02
Parallel Pipe (55°)	External Thread	28 TPI	TTX32R 5501	0.0039	0.0240	5	0.008	0.007	0.006	0.002	0.001							
		19 TPI	TTX32R 5501	0.0039	0.0374	8	0.008	0.007	0.006	0.005	0.005	0.004	0.002	0.001				
			55015	0.0059	0.0354	7	0.008	0.007	0.006	0.006	0.005	0.003	0.001					
		14 TPI	TTX32R 55015	0.0059	0.0504	10	0.010	0.008	0.007	0.006	0.005	0.005	0.004	0.003	0.002	0.001		
		11 TPI	55015	0.0059	0.0657	12	0.010	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.004	0.003	0.002	0.001
Whitworth (55°)	External Thread	24 TPI	TTX32R 5501	0.0039	0.0287	6	0.008	0.007	0.006	0.005	0.002	0.001						
		20 TPI	TTX32R 5501	0.0039	0.0354	7	0.008	0.007	0.006	0.006	0.005	0.003	0.001					
			TTX32R 55015	0.0059	0.0331	7	0.008	0.007	0.006	0.005	0.004	0.002	0.001					
		18 TPI		0.0059	0.0374	8	0.008	0.007	0.006	0.006	0.005	0.004	0.002	0.001				
		16 TPI		0.0059	0.0433	9	0.008	0.007	0.006	0.006	0.005	0.005	0.004	0.002	0.001			
		14 TPI	TTX32R 55015	0.0059	0.0504	10	0.010	0.008	0.007	0.006	0.005	0.005	0.004	0.003	0.002	0.001		
		12 TPI		0.0059	0.0598	11	0.010	0.008	0.007	0.006	0.006	0.006	0.006	0.006	0.005	0.004	0.002	0.001
		11 TPI		0.0059	0.0657	12	0.010	0.009	0.008	0.007	0.006	0.006	0.006	0.006	0.005	0.004	0.003	0.002	0.001

<How to use> 1) Select the insert with suitable corner-R (rε) determined by the pitch.
2) Do not exceed 0.0118" for the 1st D.O.C.
3) Final D.O.C. for Finishing shall be 0.0008" - 0.0020".
4) Pre chamfer thread diameter to thread minor diameter to improve insert life.
5) Coolant is recommended.

TTX Type

Suitable for threading to the shoulder.

Insert Part Number \ Thread Type		Metric (mm)	Unified TPI	Parallel Pipe TPI	Whitworth TPI
TTX32R	6000	0.5~1.0	56~32	-	-
	60005	0.5~1.0	48~32	-	-
	6001	1.0~2.0	28~14	-	-
TTX32R	6000S	0.5	56~48	-	-
	60005S	0.5	48	-	-
TTX32R	5501	-	-	28~19	24~20
	55015	-	-	19~11	20~14

TPGB Type (60° Partial Profile)

(D.O.C. shows the value of radial ap.)

Thread Type		Pitch mm & TPI	Part Number	rε	Total D.O.C.	No. of Passes	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass
Metric (60°)	Internal Thread	0.75mm	TPGB 1102005	0.05	0.44	5	0.15	0.12	0.10	0.05	0.02												
			TPGB 1103005																				
		0.80mm	TPGB 1102005	0.05	0.47	5	0.15	0.14	0.10	0.06	0.02												
			TPGB 1103005																				
		1.00mm	TPGB 1102005	0.05	0.60	6	0.18	0.14	0.12	0.10	0.04	0.02											
			TPGB 1103005																				
		1.25mm	TPGB 1102005	0.05	0.76	7	0.18	0.16	0.14	0.12	0.10	0.04	0.02										
			TPGB 1103005																				
		1.50mm	TPGB 1102005	0.05	0.92	8	0.20	0.18	0.16	0.14	0.10	0.08	0.04	0.02									
			TPGB 1103005																				
			110201	0.10	0.87	8	0.20	0.18	0.16	0.14	0.08	0.05	0.04	0.02									
			110301																				
		1.75mm	TPGB 1102005	0.05	1.09	9	0.20	0.18	0.16	0.14	0.13	0.12	0.10	0.04	0.02								
			TPGB 1103005																				
			110301	0.10	1.04	9	0.20	0.18	0.16	0.13	0.12	0.10	0.08	0.05	0.02								
		2.00mm	TPGB 1102005	0.05	1.25	11	0.20	0.18	0.16	0.14	0.13	0.12	0.10	0.10	0.06	0.04	0.02						
			TPGB 1103005																				
			110301	0.10	1.20	11	0.20	0.18	0.16	0.13	0.13	0.12	0.10	0.08	0.05	0.03	0.02						
		2.50mm	TPGB 1102005	0.05	1.57	13	0.23	0.20	0.18	0.18	0.14	0.13	0.12	0.10	0.08	0.07	0.07	0.05	0.02				
			TPGB 1103005																				
			110301	0.10	1.52	13	0.23	0.20	0.18	0.18	0.13	0.13	0.12	0.10	0.08	0.07	0.05	0.03	0.02				
		3.00mm	TPGB 1102005	0.05	1.90	15	0.25	0.22	0.20	0.18	0.14	0.14	0.13	0.12	0.12	0.10	0.08	0.08	0.07	0.05	0.02		
			TPGB 1103005																				
			110301	0.10	1.85	15	0.25	0.22	0.20	0.18	0.14	0.14	0.13	0.12	0.10	0.10	0.08	0.07	0.05	0.05	0.02		
			110302	0.20	1.75	14	0.25	0.22	0.20	0.18	0.14	0.14	0.13	0.12	0.10	0.08	0.07	0.05	0.05	0.02			
		3.50mm	TPGB 1102005	0.05	2.22	16	0.25	0.22	0.20	0.18	0.18	0.16	0.16	0.14	0.14	0.12	0.12	0.10	0.10	0.08	0.05	0.02	
			TPGB 1103005																				
			110301	0.10	2.17	16	0.25	0.22	0.20	0.18	0.18	0.16	0.16	0.14	0.14	0.12	0.10	0.10	0.08	0.07	0.05	0.02	
			110302	0.20	2.07	15	0.25	0.22	0.20	0.18	0.18	0.16	0.16	0.14	0.14	0.12	0.10	0.08	0.07	0.05	0.02		

Guide for Internal Threading

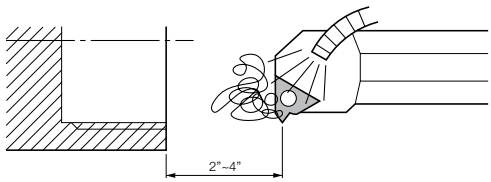
For internal threading, pay extra attention to "Stabilizing diameters of pre-drilled holes"and "chip evacuation".

1. Stabilizing diameters of pre-drilled holes
   Because small pitch internal threads have a small corner radius any variation in the diameter of pre drilled holes will greatly affect the tool life of the insert. Please minimize any variation of pre drilled holes and add an air pass to the first thread pass for safety.

2. Chip evacuation
   If the threading cycle continues with chips tangled on the holder or in the part it may damage the insert. We suggest starting each thread pass at least 2" from the part to allow room for the coolant to remove chips from the tool on each pass.

< 1 When running the first part of a setup>
Run the program in single block to make sure coolant can remove the chips from the tool after each threading pass.

< 2 When running the second part of a setup>
Run through the full threading cycle and again check that chips are removed from the tool before going into production.



The standard specification of the inch size thread is based on the dimension of 1/8".

In Applicable Toolholders and Inserts Lists on J34~J37, Right-hand Insert / Right-hand Toolholder descriptions are listed based on the previous TNN type inserts.
For other applicable inserts / toolholders or stock availability of Left-hand, see each relevant page and J40.

Parallel Pipe : G (PF), Rp (PS)

Nominal Thread		TPI	External Thread (G)			Internal Thread (G,Rp)				Root Radius Ext./Int. (mm)
Inch	Symbol (Previous Symbol)		Toolholder	Insert		Toolholder	Insert		Min. Bore Dia.(mm)	
				Partial Profile	Full Profile		Partial Profile	Full Profile		
-	G 1/16 (-)	28	**KTNR○○○○□-16** **KTNSR○○○○□-16**	16ERA55-TF 16ERAG55-TF 16ERA55 16ERAG55	-	**SINR0612S-06E** (EZT ➡ **J28**) (HPT ➡ **J32**)	06IR5501	-	6.56	0.12
'1/8	G 1/8 (PF 1/8)							-	8.57	
'2/8	G 1/4 (PF 1/4)	19		16ERA55-TF 16ERAG55-TF 16ERA55 16ERAG55	16ER19W-TF 16ER19W	**SINR0816S-08E** (EZT ➡ **J28**) (HPT ➡ **J32**)	08IR5501	-	11.45	0.18
'3/8	G 3/8 (PF 3/8)					**SINR1216S-11E** (EZT ➡ **J28**) (HPT ➡ **J32**)	11IRA55 11IR55005	-	14.95	
'4/8	G 1/2 (PF 1/2)	14	**KTNR○○○○□-16** **KTNSR○○○○□-16**	16ERAG55-TF 16ERG55-TF 16ERAG55 16ERG55	16ER14W-TF 16ER14W	**SINR1516S-11**	11IR55005	-	18.63	0.25
						SINR1616S-16	16IRAG55 16IRG55 16IR5501 16IR5502	16IR14W-TF 16IR14W		
'5/8	G 5/8 (PF 5/8)					**SINR2016S-16**			20.59	
'6/8	G 3/4 (PF 3/4)								24.12	
'7/8	G 7/8 (PF 7/8)					**SINR2420S-16**			27.88	
'8/8	G 1 (PF 1)	11	**KTNR○○○○□-16** **KTNSR○○○○□-16**	16ERAG55-TF 16ERG55-TF 16ERAG55 16ERG55	16ER11W-TF 16ER11W	**SINR2420S-16**	16IRAG55 16IRG55 16IR5501 16IR5502	16IR11W-TF 16IR11W	30.29	0.32
'9/8	G 1 1/8 (PF 1 1/8)					**CINR3025S-16**			34.95	
'10/8	G 1 1/4 (PF 1 1/4)					**CINR3732S-16**			38.95	
			Hereafter, all the threads are 11 TPI and the root radius 0.32. The same tool for G 1 1/4 is recommended.							

Tapered Pipe : R, Rc(PT), (BSPT)

Nominal Thread		TPI	External Thread (G)			Internal Thread (Rc)			Root Radius Ext./Int. (mm)
Inch	Symbol (Previous Symbol)		Toolholder	Insert		Toolholder	Insert		
				Partial Profile	Full Profile		Partial Profile	Full Profile	
-	R 1/16, Rc 1/16 (-)	28	**KTNR○○○○□-16** **KTNSR○○○○□-16**	(16ERA55-TF) (16ERAG55-TF) (16ERA55) (16ERAG55)	16ER28BSPT-TF 16ER28BSPT	**SINR0612S-06E** (EZT ➡ **J28**) (HPT ➡ **J32**)	06IR5501	-	0.12
'1/8	R 1/8, Rc 1/8 (PT 1/8)	28							
'2/8	R 1/4, Rc 1/4 (PT 1/4)	19		(16ERA55-TF) (16ERAG55-TF) (16ERA55) (16ERAG55)	16ER19BSPT-TF 16ER19BSPT	**SINR0816S-08E** (EZT ➡ **J28**) (HPT ➡ **J32**)	08IR5501	-	0.18
'3/8	R 3/8, Rc 3/8 (PT 3/8)	19				**SINR1216S-11E** (EZT ➡ **J28**) (HPT ➡ **J32**)	(11IRA55) (11IR55005)	11IR19BSPT-TF 11IR19BSPT	
'4/8	R 1/2, Rc 1/2 (PT 1/2)	14	**KTNR○○○○□-16** **KTNSR○○○○□-16**	(16ERAG55-TF) (16ERG55-TF) (16ERAG55) (16ERG55)	16ER14BSPT-TF 16ER14BSPT	**SINR1516S-11**	(11IR55005)	11IR14BSPT-TF 11IR14BSPT	0.25
						SINR1616S-16	(16IRAG55) (16IRG55) (16IR5501) (16IR5502)	16IR14BSPT-TF 16IR14BSPT	
'6/8	R 3/4, Rc 3/4 (PT 3/4)	14				**SINR2016S-16**			
'8/8	R 1, Rc 1 (PT 1)	11	**KTNR○○○○□-16** **KTNSR○○○○□-16**	(16ERAG55-TF) (16ERG55-TF) (16ERAG55) (16ERG55)	16ER11BSPT-TF 16ER11BSPT	**SINR2420S-16**	(16IRAG55) (16IRG55) (16IR5501) (16IR5502)	16IR11BSPT-TF 16IR11BSPT	0.32
'10/8	R 1 1/4, Rc 1 1/4 (PT 1 1/4)					**CINR3025S-16**			
'12/8	R 1 1/2, Rc 1/2 (PT 1/2)					**CINR3732S-16**			
			Hereafter, all the threads are 11 TPI and the root's radius 0.32. The same tool for G 1 1/2 is recommended.			Hereafter, all the threads are 11 TPI and the root radius 0.32. The same tool for G 1 1/4 is recommended.			

1) The largest toolholder available for the minimum bore dia. is recommended for the female threading in these tables.
Then, the toolholder whose min. bore dia. is smaller than the recommended toolholder can be used for threading
2) When using "Partial Profile" for Tapered Pipe threading, thread's corners become sharp edged, and the shape will not be the same as the standard shape for Tapered Pipe.

American National Pipe : NPT

Nominal Thread	TPI	External Thread			Internal Thread		
		Toolholder	Insert		Toolholder	Insert	
			Partial Profile	Full Profile		Partial Profile	Full Profile
1/16 NPT 1/8 NPT	27	**KTTR○○○○□-16** **KTTXR○○○○□-16F**	TT32R6000 TTX32R6000	-	No Tools Available		
1/4 NPT 3/8 NPT	18	**KTNR○○○○□-16** **KTNSR○○○○□-16**	-	16ER18NPT	**EZH Sleeve** (See J29)	**EZTR060050-60-004** **EZTR070060-60-004** **HPTR06005-60-005** **HPTR07507-60-005**	-
1/2 NPT 3/4 NPT	14	**KTNR○○○○□-16** **KTNSR○○○○□-16**	-	16ER14NPT	**EZH Sleeve** (See J29)	**EZTR070060-60-004** **HPTR07507-60-005**	-
1/2 NPT	14	**KTNR○○○○□-16** **KTNSR○○○○□-16**	-	16ER14NPT	**SINR1616S-16**	-	16IR14NPT
3/4 NPT					**SINR2016S-16**		
1 NPT	11.5	**KTNR○○○○□-16** **KTNSR○○○○□-16**	-	16ER11.5NPT	**SINR2420S-16**	-	16IR11.5NPT
1 1/4 NPT					**CINR3025S-16**		
1 1/2 NPT 2 NPT					**CINR3732S-16**		

• Application of NPTF Thread
NPTF is the thread for sealing pipes without using any sealing material.
Thread symbol is similar to NPT but the Tolerance is different from that of NPT and the above Inserts are not available to NPTF.

30° Trapezoidal : Tr

The JIS Standard Trapezoidal Size to be machined by TNN Insert are shown.

Nominal Thread	Pitch (mm)	External Thread			Internal Thread			Min. Bore Dia.(mm)
		Toolholder	Insert		Toolholder	Insert		
			Partial Profile	Full Profile		Partial Profile	Full Profile	
Tr 16X2 Tr 18X2 Tr 20X2	2	No Tools Available			No Tools Available	-	-	14.00
		KTNR○○○○□-16 **KTNSR○○○○□-16**	16ER200TR	-	**SINR1616S-16**	16IR200TR	-	16.00 18.00
Tr 22X3	3	**KTNR○○○○□-16** **KTNSR○○○○□-16**	16ER300TR	-	**SINR1616S-16**	16IR300TR	-	19.00
Tr 24X3 Tr 26X3	3				**SINR2016S-16**		-	21.00 23.00
Tr 28X3 Tr 30X3 Tr 32X3 Tr 34X3 Tr 36X3 Tr 38X3 Tr 40X3	3				**SINR2420S-16**	16IR300TR	-	25.00 27.00 29.00
					SINR3025S-16	16IR300TR	-	31.00 33.00 35.00 37.00
Tr 42X3 Tr 44X3 Tr 46X3 Tr 48X3 Tr 50X3 Tr 52X3 Tr 55X3 Tr 60X3 Tr 65X3	3				**CINR3732S-16**	16IR300TR	-	39.00 41.00 43.00 45.00 47.00 49.00 52.00 57.00 62.00
Tr 70X3 Tr 75X3 Tr 80X3 Tr 90X3 Tr 95X3 Tr 100X3 Tr 105X3 Tr 110X3	4	**KTNR○○○○□-22** **KTNSR○○○○□-22**	22ER400TR	-	**CINR3732S-22**	22IR400TR	-	66.00 71.00 76.00 86.00 91.00 96.00 101.00 106.00

TM Thread: TM Thread of old JIS 30°Trapezoidal Thread has been discontinued. But if the Nominal Dia. X Pitch is the same, the above Tr Thread can be used.
TW Thread: TW Thread is 29° Trapezoidal Thread and the above Inserts are not available.

Metric Coarse Thread : M

Nominal Thread	Pitch (mm)	Internal Threading			Min. Bore Dia.(mm)
		Toolholder	Insert		
			Partial Profile	Full Profile	
M1 • • • M3	0.25 0.50	No Tools Available	-	-	0.73 • • • 2.46
M4	0.70		EZTR030025-60-002		3.24
M5	0.80		EZTR040035-60-004		4.13
M6	1.00	-	HPTR04504-60 / VNTR045-11		4.92
M7	1.00		EZTR050040-60-004	-	5.92
			HPTR04504-60 / VNTR045-11		
M8	1.25	-	EZTR060050-60-004	-	6.65
		-	HPTR06005-60 / VNTR060-11		
		SINR0612S-06E	06IR60005	-	
M9	1.25	-	EZTR070060-60-004	-	7.65
		SINR0612S-06E	06IR60005	-	
M10 M11	1.50 1.50	SINR0816S-08E	08IR60007	-	8.38 9.38
M12	1.75	SINR0816S-08E	08IR60007	-	10.11
M16	2.00	SINR1216S-11E	-	11IR200ISO	13.84
M18	2.50	No Tools Available			15.29
M20 M22	2.50 2.50	SINR1616S-16	Table 5	16IR250ISO-□□	17.29 19.29
M24 M27	3.00 3.00	SINR2016S-16	Table 4	16IR300ISO-□□	20.75 23.75
M30 M33	3.5 3.5	SINR2420S-22	22IRN60	22IR350ISO	26.21 29.21
M36 M39	4.0 4.0	CINR3025S-22		22IR400ISO	31.67 34.67
M42 M45	4.5 4.5	CINR3732S-22		22IR450ISO	37.13 40.13
M48 M52	5.0 5.0	CINR3732S-22		22IR500ISO	42.59 46.59
M56 • • •	5.5	* Threading of M56 and over is not available due to too large pitch size.			50.05 • • •

Metric Fine Thread : M

Part 1

Nominal Thread	Pitch (mm)	Internal Threading			Min. Bore Dia.(mm)
		Toolholder	Insert		
			Partial Profile	Full Profile	
M1.0×0.20 • • • M3.0×0.35	0.20 0.35	No Tools Available	-	-	0.78 • • • 4.96
M3.5×0.35	0.35	-	EZTR030025-60-002	-	5.19
M4.5×0.50	0.50	-	EZTR035030-60-002	-	5.19
M5.0×0.50	0.50	-	EZTR040035-60-004	-	
M6.0×0.75	0.75	-	HPTR04504-60 / VNTR045-11		5.19
M7.0×0.75	0.75	-	EZTR050040-60-004	-	6.20
		-	HPTR06005-60 / VNTR045-11		
M8.0×1.00	1.00	-	EZTR060050-60-004	-	6.92
		-	HPTR06005-60 / VNTR060-11		
		SINR0612S-06E	06IR60005	-	
M8.0×0.75	0.75	-	EZTR060050-60-004	-	7.19
		-	HPTR06005-60 / VNTR060-11		
		SINR0612S-06E	06IR60005	-	
M9.0×1.00	1.00	-	EZTR070060-60-004	-	7.92
		-	HPTR07507-60 / VNTR060-11		
		SINR0612S-06E	06IR60005	-	
		SINR0816S-08E	08IR60007	-	
M9.0×0.75	0.75	-	EZTR070060-60-004	-	8.19
		-	HPTR07507-60 / VNTR060-11		
		SINR0612S-06E	06IR60005	-	
M10.0×1.25	1.25	-	HPTR07507-60 / VNTR060-11		8.65
		SINR0816S-08E	08IR60007	-	
M10.0×1.00	1.00	-	HPTR07507-60 / VNTR060-11		8.92
		SINR0816S-08E	08IR60007	-	
M10.0×0.75	0.75	-	HPTR07507-60 / VNTR060-11		9.19
		SINR0612S-06E	06IR600005	-	
M11.0×1.00	1.00	-	HPTR07507-60 / VNTR060-11		9.92
		SINR0816S-08E	08IR60007	-	
M11.0×0.75	0.75	-	HPTR07507-60 / VNTR060-11		10.19
		SINR0612S-06E	06IR60005	-	

• Above shows the usage example of applicable Toolholders / Inserts.

Metric Fine Thread : M

Part 2

Nominal Thread	Pitch (mm)	Internal Threading			Min. Bore Dia.(mm)
		Toolholder	Insert		
			Partial Profile	Full Profile	
M12.0×1.50	1.50	SINR0816S-08E	08IR60007	-	10.38
M12.0×1.25	1.25	SINR0816S-08E	08IR60007	-	10.65
M12.0×1.00	1.00	SINR0816S-08E	08IR60007	-	10.92
M14.0×1.50	1.50	SINR1216S-11E	11IRA60 11IR60005	11IR150ISO-□□	12.38
M14.0×1.25	1.25	SINR1216S-11E		11IR125ISO-□□	12.65
M14.0×1.00	1.00	SINR1216S-11E		11IR100ISO-□□	12.92
M15.0×1.50	1.50	SINR1216S-11E	11IRA60 11IR60005	11IR150ISO-□□	13.38
M15.0×1.00	1.00	SINR1216S-11E		11IR100ISO-□□	13.92
M16.0×1.50	1.50	SINR1216S-11E	11IRA60 11IR60005	11IR150ISO-□□	14.38
M16.0×1.00	1.00	SINR1216S-11E		11IR100ISO-□□	14.92
M17.0×1.50	1.50	SINR1516S-11E	11IRA60 11IR60005	11IR150ISO-□□	15.38
M17.0×1.00	1.00	SINR1516S-11E		11IR100ISO-□□	15.92
M18.0×2.00	2.00	SINR1516S-11E	-	11IR200ISO	15.84
M18.0×1.50	1.50	SINR1616S-16	Table 2	16IR150ISO-□□	16.38
M18.0×1.00	1.00	SINR1616S-16	Table 3	16IR100ISO-□□	16.92
M20.0×2.00	2.00	SINR1616S-16	Table 1	16IR200ISO-□□	17.84
M20.0×1.50	1.50	SINR1616S-16	Table 2	16IR150ISO-□□	18.38
M20.0×1.00	1.00	SINR1616S-16	Table 3	16IR100ISO-□□	18.92
M22.0×2.00	2.00	SINR1616S-16	Table 1	16IR200ISO-□□	19.84
M22.0×1.50	1.50	SINR2016S-16	Table 2	16IR150ISO-□□	20.38
M22.0×1.00	1.00	SINR2016S-16	Table 3	16IR100ISO-□□	20.92
M24.0×2.00	2.00	SINR2016S-16	Table 1	16IR200ISO-□□	21.84
M24.0×1.50	1.50	SINR2016S-16	Table 2	16IR150ISO-□□	22.38
M24.0×1.00	1.00	SINR2016S-16	Table 3	16IR100ISO-□□	22.92
M25.0×2.00	2.00	SINR2016S-16	Table 1	16IR200ISO-□□	22.84
M25.0×1.50	1.50	SINR2016S-16	Table 2	16IR150ISO-□□	23.38
M25.0×1.00	1.00	SINR2016S-16	Table 3	16IR100ISO-□□	23.92
M26.0×1.50	1.50	SINR2420S-16	Table 2	16IR150ISO-□□	24.38
M27.0×2.00	2.00	SINR2420S-16	Table 1	16IR200ISO-□□	24.84
M27.0×1.50	1.50	SINR2420S-16	Table 2	16IR150ISO-□□	25.38
M27.0×1.00	1.00	SINR2420S-16	Table 3	16IR100ISO-□□	25.92
M28.0×2.00	2.00	SINR2420S-16	Table 1	16IR200ISO-□□	25.84
M28.0×1.50	1.50	SINR2420S-16	Table 2	16IR150ISO-□□	26.38
M28.0×1.00	1.00	SINR2420S-16	Table 3	16IR100ISO-□□	26.92
M30.0×3.00	3.00	SINR2420S-22	-	22IR300ISO	26.75
		SINR2420S-16	Table 4	16IR300ISO-□□	
M30.0×2.00	2.00	SINR2420S-16	Table 1	16IR200ISO-□□	27.84
M30.0×1.50	1.50	SINR2420S-16	Table 2	16IR150ISO-□□	28.38
M30.0×1.00	1.00	SINR2420S-16	Table 3	16IR100ISO-□□	28.92
M32.0×2.00	2.00	SINR2420S-16	Table 1	16IR200ISO-□□	29.84
M32.0×1.50	1.50	CINR3025S-16	Table 2	16IR150ISO-□□	30.38
M33×3.0	3.0	SINR2420S-22	-	22IR300ISO	29.75
		SINR2420S-16	Table 4	16IR300ISO-□□	
M33×2.0	2.0	CINR3025S-16	Table 1	16IR200ISO-□□	30.84
M33×1.5	1.5		Table 2	16IR150ISO-□□	31.38
M35×1.5	1.5	CINR3025S-16	Table 2	16IR150ISO-□□	33.38
M36×3.0	3.0	CINR3025S-22	-	22IR300ISO	32.75
		CINR3025S-16	Table 4	16IR300ISO-□□	
M36×2.0	2.0	CINR3025S-16	Table 1	16IR200ISO-□□	33.84
M36×1.5	1.5		Table 2	16IR150ISO-□□	34.38
M38×1.5	1.5	CINR3025S-16	Table 2	16IR150ISO-□□	36.38
M39×3.0	3.0	CINR3025S-22	-	22IR300ISO	35.75
		CINR3025S-16	Table 4	16IR300ISO-□□	
M39×2.0	2.0	CINR3025S-16	Table 1	16IR200ISO-□□	36.84
M39×1.5	1.5	CINR3732S-16	Table 2	16IR150ISO-□□	37.38
M40×3.0	3.0	CINR3025S-22	-	22IR300ISO	36.75
		CINR3025S-16	Table 4	16IR300ISO-□□	
M40×2.0	2.0	CINR3732S-16	Table 1	16IR200ISO-□□	37.84
M40×1.5	1.5		Table 2	16IR150ISO-□□	38.38
M42×4.0	4.0	CINR3732S-22	22IRN60	22IR400ISO	37.67
M42×3.0	3.0		-	22IR300ISO	38.75
		CINR3732S-16	Table 4	16IR300ISO-□□	
M42×2.0	2.0	CINR3732S-16	Table 1	16IR200ISO-□□	39.84
M42×1.5	1.5		Table 2	16IR150ISO-□□	40.38
M45×4.0 • • •	5.5	* Threading of M45 and over can be machined by the same tool for M42. (P=4.0, 3.0, 2.0, 1.5)			40.67 • • •

Table 1 (P=2.0mm)

16IRG60
16IRAG60
16IR6001

Table 2 (P=1.5mm)

16IRA60
16IRAG60
16IR6001

Table 3 (P=1.0mm)

16IRA60
16IRAG60

Table 4 (P=3.0mm)

16IRG60
16IRAG60

Table 5 (P=2.5mm)

16IRG60
16IRAG60
16IR6001
16IR60015

Unified Coarse Thread : UNC

Nominal Thread	TPI	Internal Threading			Min. Bore Dia.(mm)
		Toolholder	Insert		
			Partial Profile	Full Profile	
2-56 UNC • • • 6-32 UNC	56 32	No Tools Available	-	-	1.69 • • • 2.65
8-32 UNC	32	-	EZTR030025-60-002	-	3.31
10-24 UNC	24	-	EZTR035030-60-002	-	3.68
1/4-20 UNC	20	-	EZTR050040-60-004	-	4.98
		-	HPTR04504-60 / VNTR045-11		
5/16-18 UNC	18	-	EZTR060050-60-004	-	6.41
		-	HPTR06005-60 / VNTR060-11		
3/8-16 UNC	16	-	EZTR070060-60-004	-	7.81
		-	HPTR07507-60-005	-	
7/16-14 UNC	14	No Tools Available			9.15
1/2-13 UNC	13				10.58
9/16-12 UNC	12				12.00
5/8-11 UNC	11				13.38
3/4-10 UNC	10	SINR1616S-16	16IRG60 16IRAG60	16IR10UN-TF	16.30
7/8- 9 UNC	9			-	19.17
1-8 UNC	8	SINR2016S-16		16IR08UN-TF	21.96
1 1/8- 7 UNC 1 1/4- 7 UNC	7	SINR2420S-22	22IRN60	-	24.65 27.82
1 3/8- 6 UNC 1 1/2- 6 UNC	6	CINR3025S-22			30.34 33.52
1 3/4- 5 UNC	5	CINR3732S-22			38.95
1 3/4- 5 UNC	5	CINR3732S-22			38.95
2-4 1/2 UNC • • •	4 1/2	* 2-4 1/2 UNC and over cannot be machined, because no inserts are available for the TPI.			44.69 • • •

Unified Fine Thread : UNF

Nominal Thread	TPI	Internal Threading			Min. Bore Dia.(mm)
		Toolholder	Insert		
			Partial Profile	Full Profile	
0-80 UNF • • • 6-40 UNF	80 40	No Tools Available	-	-	1.18 • • • 2.82
8-36 UNF	36	-	EZTR030025-60-002	-	3.4
10-32 UNF	32	-	EZTR030025-60-002	-	3.97
1/4-28 UNF	28	-	EZTR050040-60-004	-	5.37
		-	HPTR04504-60 / VNTR045-11		
5/16-24 UNF	24	-	HPTR06005-60 / VNTR060-11		6.79
		SINR0612S-06E	06IR60005	-	
3/8-24 UNF	24	-	EZTR070060-60-004	-	8.38
		-	HPTR07507-60-005	-	
		SINR0612S-06E	06IR60005	-	
7/16-20 UNF 1/2-20 UNF	20 20	SINR0816S-08E	08IR60007	-	9.74 11.33
9/16-18 UNF 5/8-18 UNF	18 18	SINR1216S-11E	11IRA60 11IR60005	-	12.76 14.35
3/4-16 UNF	16	SINR1516S-11	11IRA60 11IR60005	-	17.33
		SINR1616S-16	16IRAG60 16IRG60 16IR6001	16IR16UN(-TF)	
7/8-14 UNF	14	SINR2016S-16		16IR14UN(-TF)	20.26
1-12 UNF	12	SINR2016S-16		16IR12UN(-TF)	23.10
1 1/8-12 UNF 1 1/4-12 UNF	12	SINR2420S-16			26.28 29.46
1 3/8-12 UNF 1 1/2-12 UNF	12	CINR3025S-16			32.63 36.81

Whitworth Coarse Thread : W

Nominal Thread	TPI	Internal Threading			Min. Bore Dia.(mm)
		Toolholder	Insert		
			Partial Profile	Full Profile	
W 1/4 W 5/16	20 18	No Tools Available	-	-	4.91 6.34
W 3/8	16	No Tools Available			7.73
W 7/16	14				9.06
W 1/2 W 9/16	12 12				10.30 11.89
W 5/8	11				13.26
W 3/4	10	SINR1616S-16	16IRAG55 16IRG55	-	16.17
W 7/8	9				19.03
W 1	8	SINR2016S-16		-	21.08
W 1 1/8 W 1 1/4	7	SINR2420S-22	22IRN55	-	24.47 27.64
W 1 3/8 W 1 1/2	6	CINR3025S-22	22IRN55	-	30.13 33.30
W 1 5/8	5				35.52
W 1 3/4	5	CINR3732S-22	22IRN55	-	38.69
W 1 7/8 W 2	4 1/2	No Tools Available			41.23 44.41
W 2 1/4	4				49.96

• Above shows the usage example of applicable Toolholders / Inserts.

Whitworth Fine Thread : W

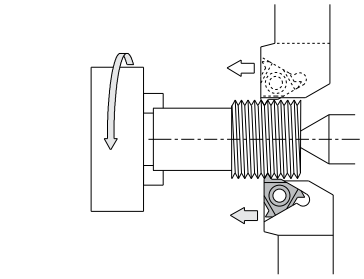
Nominal Thread	TPI	Internal Threading			Min. Bore Dia.(mm)
		Toolholder	Insert		
			Partial Profile	Full Profile	
W9.5 TPI 24 W10 TPI 24 W10.5 TPI 24	24	SINR0816S-08E -	08IR5501 EZTR060050-55-008 HPTR06005-55	-	8.30 8.80 9.30
W9.5 TPI 20 W10 TPI 20 W10.5 TPI 20 W11 TPI 20 W11.5 TPI 20 W12 TPI 20 W12.5 TPI 20 W13 TPI 20	20	SINR0816S-08E -	08IR5501 EZTR060050-55-008 EZTR080070-55-008 HPTR06005-55 HPTR08007-55	-	8.06 8.56 9.06 9.56 10.06 10.56 11.06 11.56
W13.5 TPI 20	20	SINR1216S-11E	11IRA55 11IR55005	-	12.06
W11 TPI 18 W11.5 TPI 18 W12 TPI 18 W12.5 TPI 18	18	No Tools Available			9.40 9.90 10.40 10.90
W14 TPI 18 W14.5 TPI 18 W15 TPI 18 W16 TPI 18	18	SINR1216S-11E	11IRA55 11IR55005	-	12.40 12.90 13.40 14.40
W13 TPI 16 W13.5 TPI 16	16	No Tools Available			11.20 11.70
W14 TPI 16 W14.5 TPI 16 W15 TPI 16	16	SINR1216S-11E	11IRA55 11IR55005	-	12.20 12.70 13.20
W17 TPI 16		SINR1516S-11E			15.20
W18 TPI 16 W19 TPI 16 W20 TPI 16	16	SINR1616S-16	16IRAG55 16IRG55 16IR5501 16IR5502	(16IR16W-TF)	16.20 17.20 18.20
W16 TPI 14 W17 TPI 14	14	SINR1216S-11E	11IRA55 11IR55005	-	13.94 14.94
W18 TPI 14	14	SINR1516S-11			15.94
W21 TPI 14 W22 TPI 14	14	SINR1616S-16	16IRAG55 16IRG55 16IR5501 16IR5502	(16IR14W-TF) (16IR14W)	18.94 19.94
W23 TPI 14 W24 TPI 14 W25 TPI 14 W26 TPI 14	14	SINR2016S-16			20.94 21.94 22.94 23.94
W19 TPI 12 W20 TPI 12 W21 TPI 12 W22 TPI 12	12	SINR1616S-16	16IRAG55 16IRG55 16IR5501 16IR5502	-	16.60 17.60 18.60 19.60
W28 TPI 12 W30 TPI 12 W32 TPI 12	12	SINR2420S-16		-	25.60 27.60 29.60
W34 TPI 12 W35 TPI 12 W36 TPI 12 W38 TPI 12	12	CINR3025S-16		-	31.60 32.60 33.60 35.60
W40 TPI 12 W42 TPI 12 W44 TPI 12 W45 TPI 12 W46 TPI 12	12	CINR3732S-16		-	37.60 39.60 41.60 42.60 43.60
W48 TPI 12 W50 TPI 12 • • •	12	Hereafter, 12 TPI Whitworth Fine Thread can be machined by the same tool as above.			45.60 47.60 • • •
W23 TPI 10 W24 TPI 10 W25 TPI 10 W26 TPI 10	10	SINR2016S-16	16IRAG55 16IRG55	-	20.12 21.12 22.12 23.12
W28 TPI 9 W30 TPI 9 W32 TPI 9	9	SINR2420S-16		-	24.80 26.80 28.80
W34 TPI 8 W35 TPI 8 W36 TPI 8 W38 TPI 8 W40 TPI 8 W42 TPI 8	8	CINR3025S-16	16IRAG55 16IRG55	-	30.40 31.40 32.40 34.40 36.40 38.40
W44 TPI 7 W45 TPI 7 W46 TPI 7 W48 TPI 7 W50 TPI 7 W52 TPI 7	7	CINR3732S-22	22IRN55	-	39.89 40.89 41.89 43.89 45.89 47.89
W55 TPI 6 W58 TPI 6 W60 TPI 6 W62 TPI 6 • W72 TPI 6	6	CINR3732S-22	22IRN55	-	50.20 53.20 55.20 57.20 • 67.20
W75 TPI 5 • • W105 TPI 5	5	CINR3732S-22	22IRN55	-	69.24 • • 99.24
W110 TPI 4 • •	4	No Tools Available			102.8 • •

External Threading (R-hand Thread / L-hand Thread)

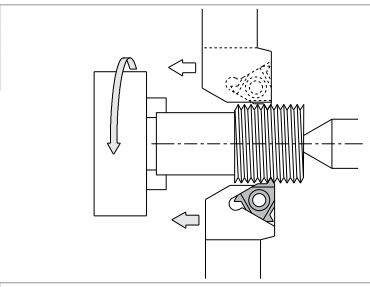
External Threading

Right-Hand Thread

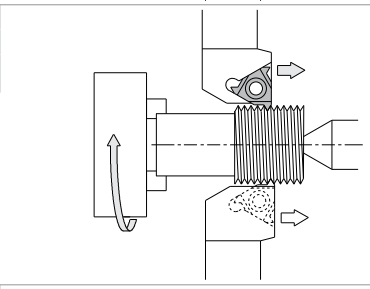
Toolholder	(R) R-hand
Insert	(R) R-hand
The direction of spindle revolution	M03



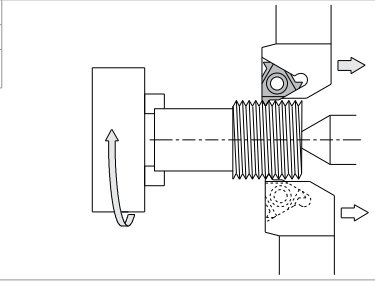
Toolholder	(L) L-hand
Insert	(L) L-hand
The direction of spindle revolution	M03



Toolholder	(R) R-hand
Insert	(R) R-hand
The direction of spindle revolution	M04

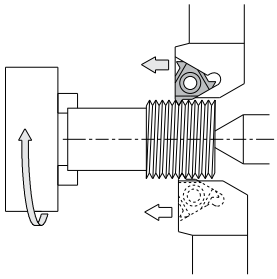


Toolholder	(L) L-hand
Insert	(L) L-hand
The direction of spindle revolution	M04

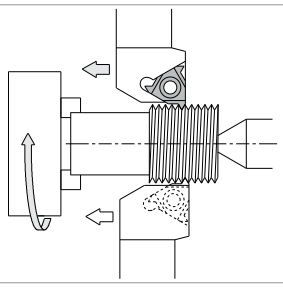


Left-Hand Thread

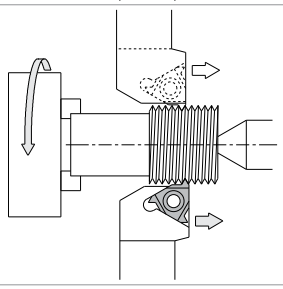
Toolholder	(L) L-hand
Insert	(L) L-hand
The direction of spindle revolution	M04



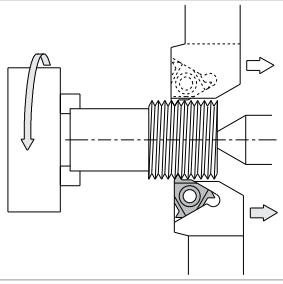
Toolholder	(R) R-hand
Insert	(R) R-hand
The direction of spindle revolution	M04



Toolholder	(L) L-hand
Insert	(L) L-hand
The direction of spindle revolution	M03



Toolholder	(R) R-hand
Insert	(R) R-hand
The direction of spindle revolution	M03

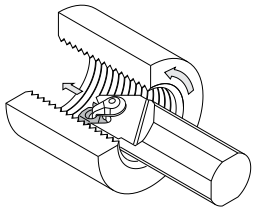


※ These tables are based on KTN / KTNS / KTT / KTTX Toolholder.

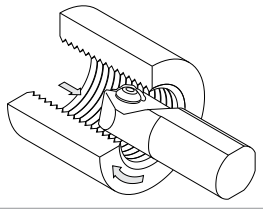
Internal Threading (R-hand Thread / L-hand Thread)

Internal Threading

Right-Hand Thread

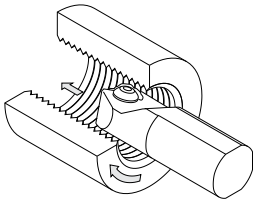


Toolholder	(R) R-hand
Insert	(R) R-hand
The direction of spindle revolution	M03

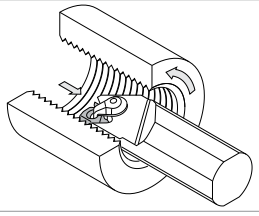


Toolholder	(L) L-hand
Insert	(L) L-hand
The direction of spindle revolution	M04

Left-Hand Thread



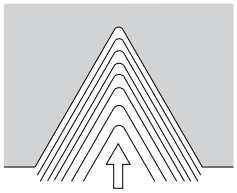
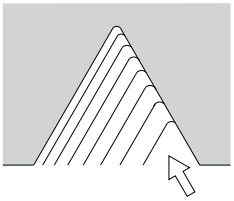
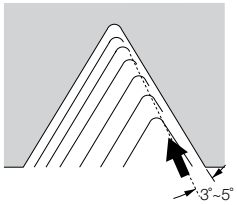
Toolholder	(L) L-hand
Insert	(L) L-hand
The direction of spindle revolution	M04



Toolholder	(R) R-hand
Insert	(R) R-hand
The direction of spindle revolution	M03

※ These tables are based on SIN / CIN type Toolholder.
For KITG type (for large internal threading), Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Infeed Methods

Infeed Methods	Features
 Radial Infeed	• The cutting edge moves toward the center of the workpiece every pass. • Suitable for relatively small pitch size threading. • V-shape chips are generated and chip control may be difficult depending on workpiece material. • Chips prevent coolant from reaching tool tip causing poor tool life.
 Flank Infeed	• Used for large pitch size threading. • No DOC on right side of the figure causes insert wear and on materials that work harden will cause hardening of this surface. • Chips flow to one side.
 Flank Compound Infeed	• Recommended method to reduce work hardening and improve insert life. • 3-5 degrees for steel and up to 12 degrees for stainless materials. • Chips flow to one side allowing coolant to reach insert tip. • This method is recommended to threading by 2-thread insert.

Lead Angle of Thread

Thread's Lead Angle β as shown in Fig. 1 decides from the Work Diameter (Pitch Dia.) "D" and Lead "L"(in case of Single-start Thread, it is the same as Pitch "P"). Rolling a right-angled Triangle around a Cylinder and the Angle ACB in Fig. 2 becomes the Lead Angle β. The Calculation Formula is shown as follows.

$$\tan\beta = \frac{L}{DD} = \frac{nP}{\pi D}$$

[β: Lead Angle D: Pitch Dia. n: Number of Thread (such as double-start thread) P: Pitch
L: Lead (In case of single-start thread, it is equal to P. In case of n-start thread, it is equal to nxP)]

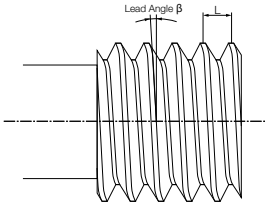


Fig. 1

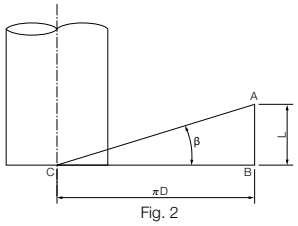


Fig. 2

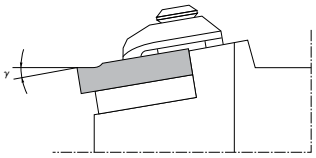


Fig. 3

Relief Angle of Thread

Against this Lead Angle, the Threading Insert needs Side Relief Angle α. TNN type Threading Insert is a negative Insert and it does not prepare the Relief Angle originally. But when installing the Insert on the Toolholder, the Edge Inclination Angle 3 is prepared as shown in Fig. 3, and it generates both the front Relief Angle and the Side Relief Angle α. This Side Relief Angle is obtained by the Formula as follows. (See Fig. 4)

$$\tan\alpha = \tan\gamma \times \tan\left(\frac{\theta}{2}\right)$$

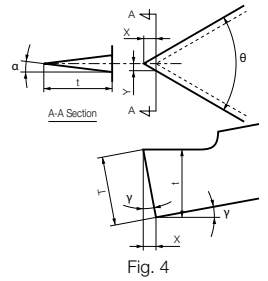


Fig. 4

Symbol	e.g.)
α: Side Relief Angle	
γ: Inclination Angle after Installing Insert	External Insert : 10° Internal Insert : 15°
θ: Insert's Thread Angle	Metric : 60° Tapered Pipe : 55° 30° Trapezoidal : 30°
T: Insert Thickness	

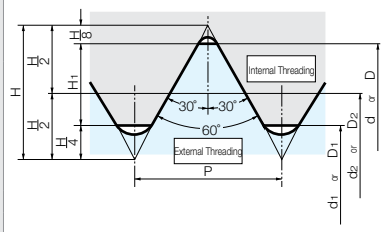
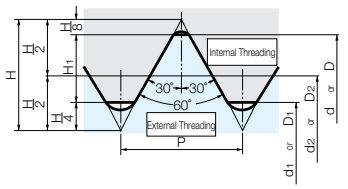
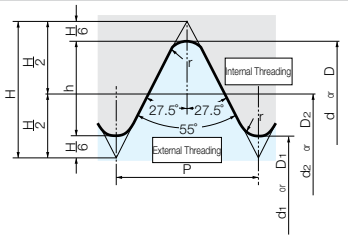
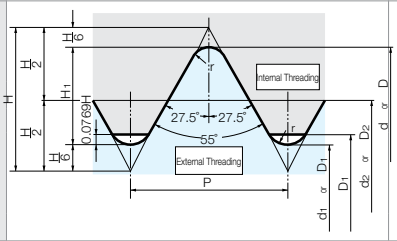
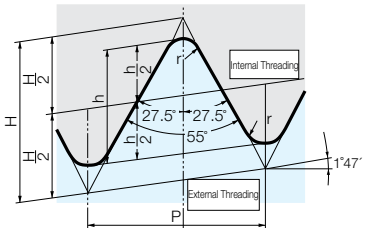
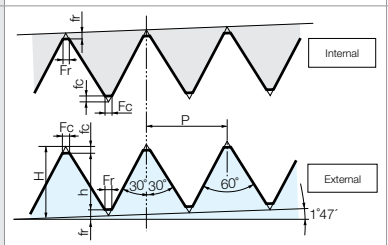
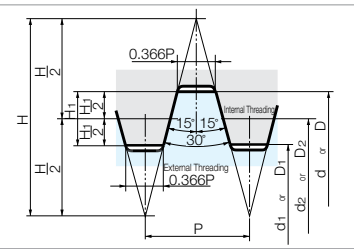
{ X=Tsin γ
Y=Xtan (θ/2)=t tan α
t =Tcos γ

Table 1

Inserts	Side Relief Angle α	
	External	Internal
60° Thread (M, UN, NPT)	5° 49′	8° 47′
55° Thread (W, G, PT)	5° 14′	7° 56′
30°Trapezoidal (Tr)	2° 43′	5° 7′

See table 1 for the Side Relief Angle depending on the insert.
However, the Side Relief Angle for 1°is set by the toolholder itself, and the actual Side Relief Angle becomes α + 1°.

Thread Types & Basic Profile / Applicable Toolholders & Inserts

Thread Type	Basic Profile	Symbol (Previous Symbol)	Thread Type	Applicable Insert	Applicable Toolholder
Metric		**M** e.g.) **M30**	External Thread	○○E型○○○ISO(-TF) ○○ER60(-TF) 16ER60○○	KTN型○○○○□-○○ KTNSR○○○○□-16
				TT43E型○○○M TT○○型60○○	KTT型○○○○□-○○
				TTX32R60○○	KTTXR○○○○□-16F, S○○□-KTTXL16
			Internal Thread	○○I型○○○ISO(-TF) ○○IR□□60 ○○IR60○○(○)	SIN型○○○○S-○○(E) CIN型○○○○S-○○
				TT○○型60○○	KITG型○○○○T-○○
				TPGB2○○○	S○○□-STWP型○-○○(E)
Unified		**UN** **UNC** **UNF** **UNEF** e.g.) **3/4 -16 UNF**	External Thread	TPMC○○NV	STVP型○○-○
				KCT(K/P)○型	KKC型○○-○
				○○ER○○UN(-TF) ○○ER□□60(-TF) 16ER60○○	KTNR○○○○□-○○ KTNSR○○○○□-16
				TT○○型60○○	KTT型○○○○□-○○
				TTX32R60○○	KTTXR○○○○□-16F, S○○-KTTXL16
			Internal Thread	○○IR○○UN-(TF) ○○IR□□60 ○○IR60○○(○)	SINR○○○○S-○○(E) CINR○○○○S-○○
				TT○○型60○○	KITG型○○○○T-○○
				TPGB2○○○	S○○□-STWP型○-○○(E)
				KCT(K/P)○型	S○○□-KKC型
Parallel Pipe		External Threading: **G(PF)** Internal Threading: **G(PF)** **Rp(PS)** e.g.) **G3/4 (PF3/4)**	External Thread	○○ER○○W(-TF) ○○ER□□55 16ER55○○	KTNR○○○○□-○○ KTNSR○○○○□-16
				TT○○型55○○	KTT型○○○○□-○○
				TTX32R55○○	KTTXR○○○○□-16F, S○○□-KTTXL16
			Internal Thread	○○IR○○W(-TF) ○○IR□□55 ○○IR55○○(○)	SINR○○○○S-○○(E) CINR○○○○S-○○
				TT○○型55○○	KITG型○○○○T-○○
Whitworth		**W** e.g.) **W3/8**	External Thread	○○ER○○W(-TF) ○○ER□□55 16ER55○○	KTNR○○○○□-○○ KTNSR○○○○□-16
				TT○○型55○○	KTT型○○○○□-○○
				TTX32R55○○	KTTXR○○○○□-16F, S○○□-KTTXL16
			Internal Thread	○○IR○○W(-TF) ○○IR□□55 ○○IR55○○(○)	SINR○○○○S-○○(E) CINR○○○○S-○○
				TT○○型55○○	KITG型○○○○T-○○
Tapered Pipe		External Threading: **R(PT)** **(BSPT)** Internal Threading: **Rc(PT)** **(BSPT)** e.g.) **R1/2 (PT1/2)**	External Thread	16ER○○BSPT(-TF)	KTNR○○○○□-○○ KTNSR○○○○□-16
				TT○○型55○○*	KTT型○○○○□-○○
				TTX32R55○○*	KTTXR○○○○□-16F, S○○□-KTTXL16
			Internal Thread	○○IR○○BSPT(-TF)	SINR○○○○S-○○(E) CINR○○○○S-○○
				TT○○型55○○*	KITG型○○○○T-○○
American National Pipe		**NPT** e.g.) **3/8 -18 NPT**	External Thread	16ER○○(.○)NPT	KTNR○○○○□-○○ KTNSR○○○○□-16
			Internal Thread	16IR○○(.○)NPT	SINR○○○○S-○○ CINR○○○○S-○○
30° Trapezoidal		**Tr** e.g.) **Tr 26×3**	External Thread	○○ER○○○TR	KTNR○○○○□-○○ KTNSR○○○○□-16
			Internal Thread	○○IR○○○TR	SINR○○○○S-○○ CINR○○○○S-○○

• Above shows the usage example of applicable Toolholders / Inserts.

*…For the case when the thread root's corner-R can be smaller than the standard.

HSK TOOLING

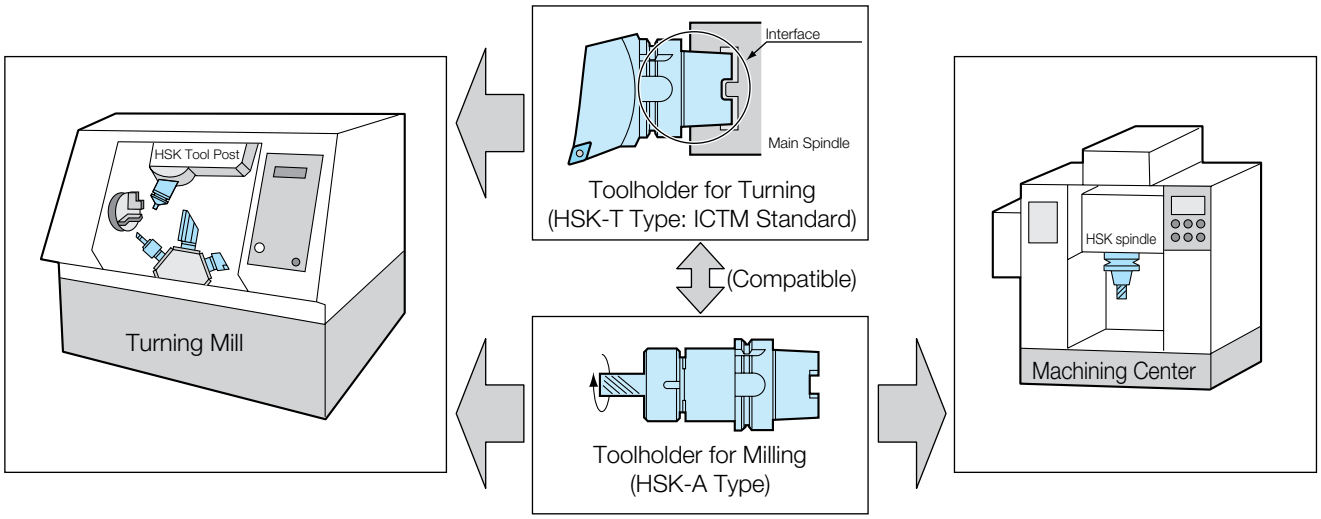
N1 - N16

HSK Tooling

- The turning mill is a machine that combines turning and milling functions. Now an interface (between workpiece and toolholder - similar to a milling arbor) is available for the turning mill that fulfils the ICTM standard.
- ICTM standard was developed by 16 companies in Japan, as the interface between turning mill machines. It is based on the two-face restraint type standard “ISO 12164-1:2001 HSK Standard Shank”
- This standard became an International Standard as ISO Standard “ISO12164-3:2008” in 2008.
  Description is indicated as HSK-T○○.

Features

① Compatible with HSK-A type for Machining Centers



② Machining precision for turning is improved by minimizing the gap between the drive key slot on the toolholder side and the drive key on the toolpost side.

Table 1: Gap Comparison of a Key and Key Slot

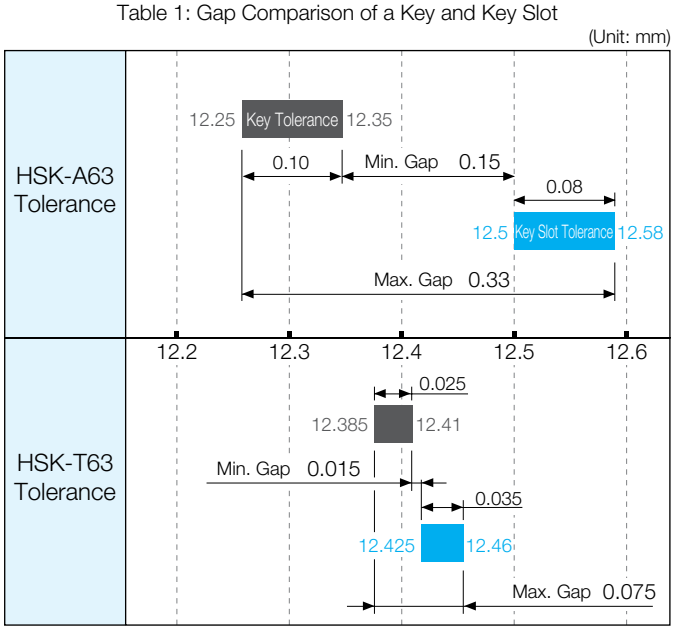
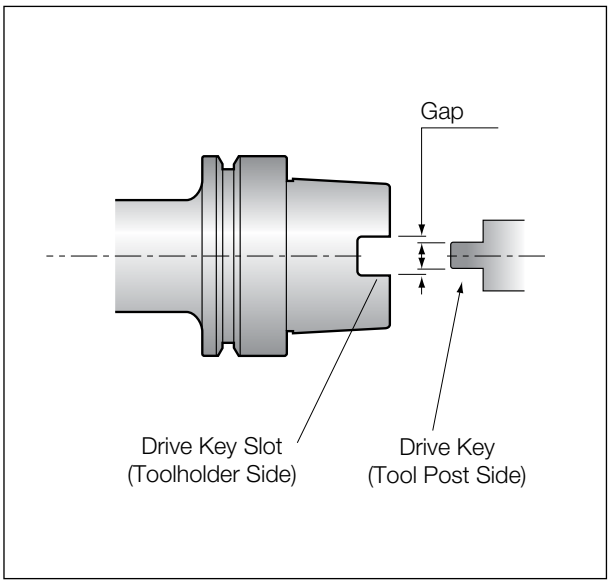


Table 2: Gap Effect



Identification System (for External)

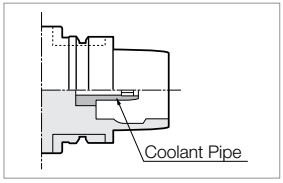
Interface Size	Manual Clamping Hole		Shank Size	Hand of Tool		Toolholder Length
T63 : HSK-T63 T100 : HSK-T100	H	Yes	25mm Square (Height / Width)	R	Right-hand	Length from Gauge Line (mm)
	No Code	No		L	Left-hand	

T63 **H** – **S2525** **R** – **105** ... (Toolholder for Square Shank)

A63 (Previous Description) **P** **C** **L** **N** **R** – **DX** **12** ... (Solid Type)

Clamping System	Insert Shape	Cutting Edge Angle	Insert Relief Angle	Hand of Tool	Toolholder Length	Insert Size
P : Lever Lock M : Multi-Lock W : Wedge Lock S : Screw Clamp	C : 80° Diamond D : 55° Diamond T : 60° Triangle V : 35° Diamond W : 80° Trigon	E 60°, G 90°, J 93° L 95°, M 50°, N 63° V 72.5°	N : 0° B : 5°	R Right-hand L Left-hand N Neutral	Length from Gauge Line (mm) DX : 65 H : 100 L : 140	T, C, D, V

Coolant Pipe is Built into Toolholder



Toolholder for Square Shank (for External / Facing)

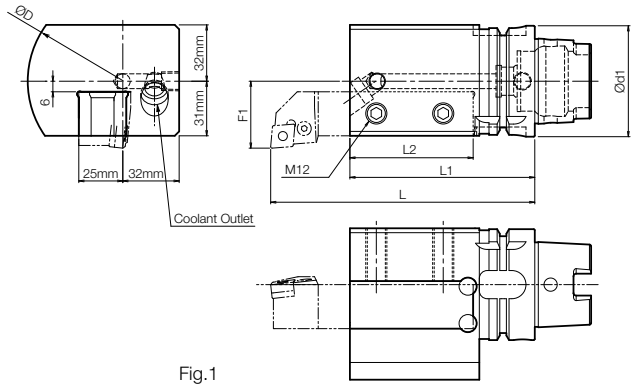


Fig.1

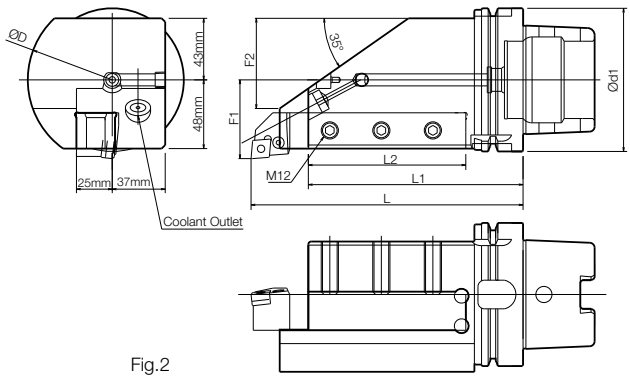


Fig.2

Right-hand Shown

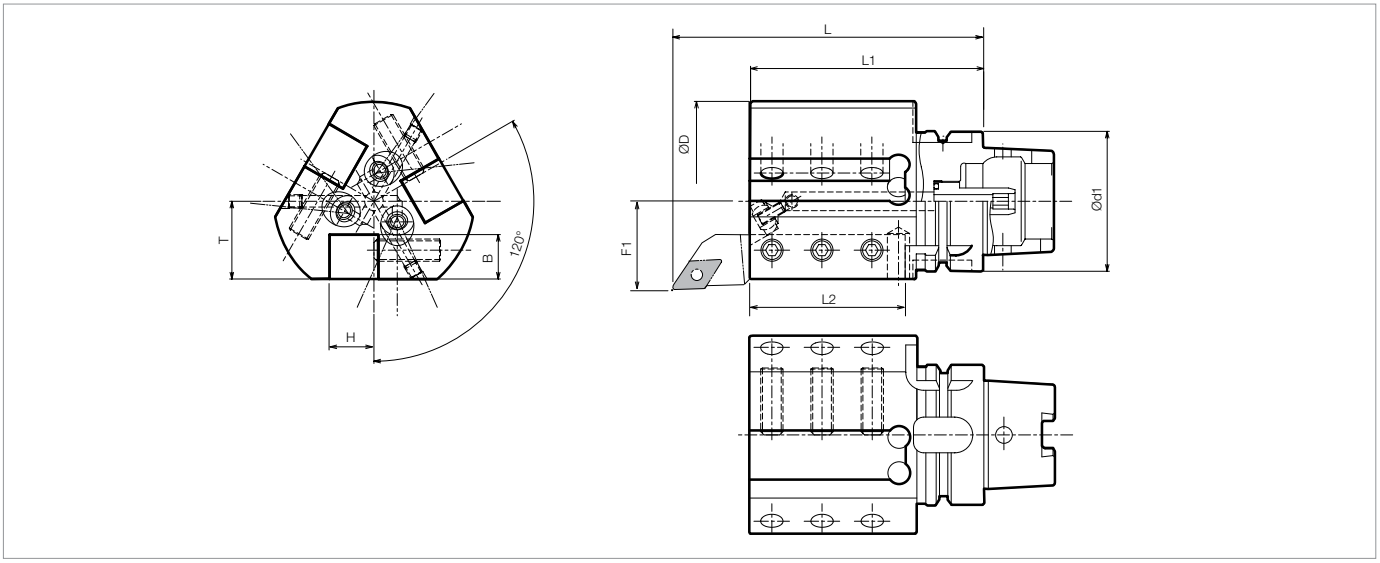
Toolholder Dimensions

Part Number	Previous Part Number	Stock	Dimensions (mm)							Drawing	Spare Parts		
			Ød1	ØD	L	L1	L2	F1	F2		Clamp Screw	Wrench	Coolant Pipe
T63H- S2525R-105	A63-WH- S2525R-105	○	63	108	150	105	70	38	-	Fig.1	HS12X25	LW-6	CL63-1
S2525L-105	S2525L-105	○											
T100H- S2525R-150	-	□	100	118	190	150	110	55	63	Fig.2	HS12X30		CL100-1
S2525L-150		□											

- Coolant Outlet Direction is Adjustable
- For 25mm Square Shank

□ : Made to Order
○ : World Express (Shipping: 7-10 Business Days)

Toolholder for Square Shank (for External / Facing)

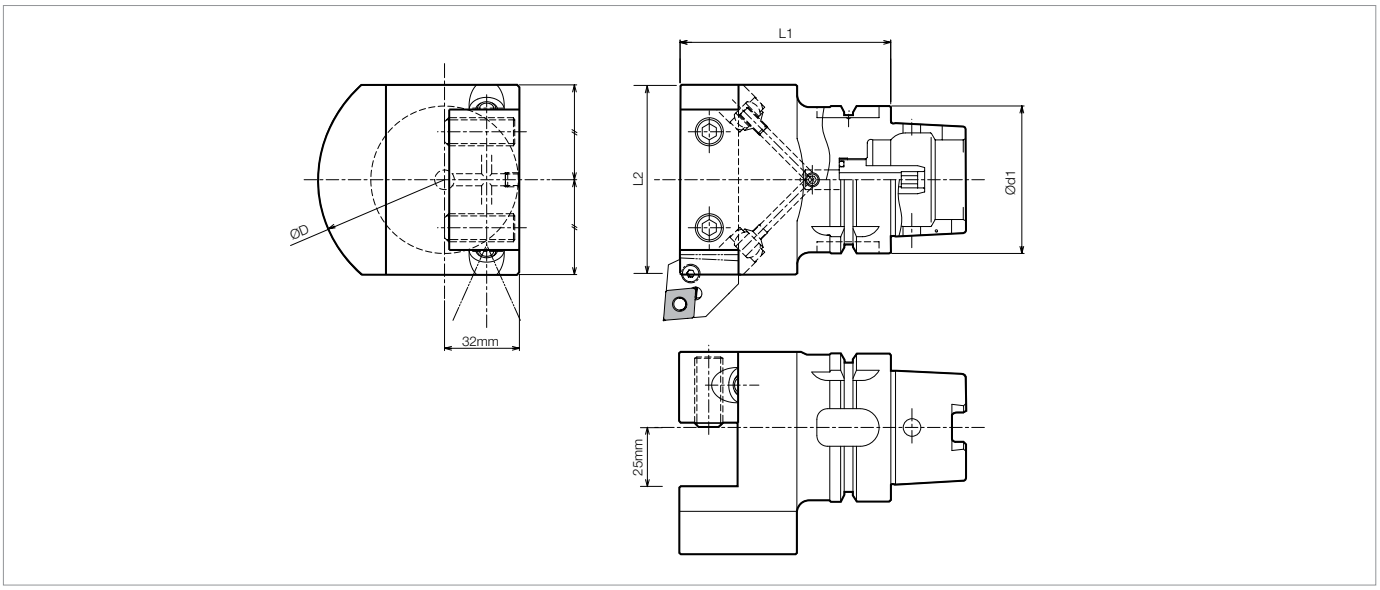


Toolholder Dimensions

Part Number		Attachment Toolholder Shank Dimension	Stock	Dimensions (mm)									Spare Parts		
				Ød1	ØD	H	B	T	L	L1	L2	F1	Clamp Screw	Wrench	Coolant Pipe
T63H-	**S2020R-105T**	(20mm Square)	□	63	90	20	20	35	150	105	70	40	HS12X30	LW-6	CL63-1
T100H-	**S2525R-150T**	(25mm Square)	□	100	118	25	25	48	190	150	110	55	HS12X35		CL100-1

• Coolant Outlet Direction is Adjustable

Toolholder for Square Shank (for Facing / External)



Toolholder Dimensions

Part Number		Attachment Toolholder Shank Dimension	Stock	Dimensions (mm)				Spare Parts		
				Ød1	ØD	L1	L2	Clamp Screw	Wrench	Coolant Pipe
T63H-	**S2525-90F**	(25mm Square)	□	63	108	90	81	HS12X30	LW-6	CL63-1
	S2525-120F		□			120				
T100H-	**S2525-105F**	(25mm Square)	□	100	118	105	96			CL100-1
	S2525-150F		□			150				

• Coolant Outlet Direction is Adjustable

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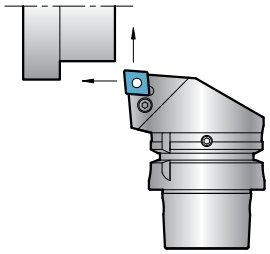
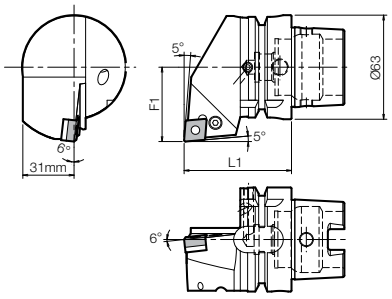
PCLN (External / Facing)

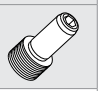




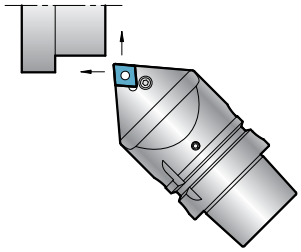
Right-hand Shown

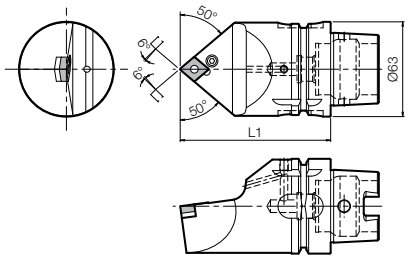
Applicable Inserts	
CN□A CN□G CN□M	43..

Toolholder Dimensions

Part Number	Previous Part Number	Stock	Dimensions (mm)		Spare Parts						
					Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench	Coolant Pipe
			L1	F2							
T63H- PCLNR-DX12	A63-WH- PCLNR-DX12	□	65	45	LL-2N	LS-2N	LC-42N	LSP-2	PC-2	LW-3	CL63-1
PCLNL-DX12	PCLNL-DX12	□									

PCMN (External / Facing)

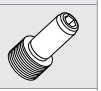




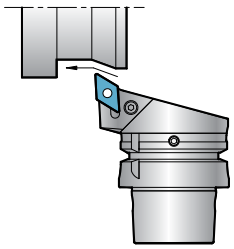
Right-hand Shown

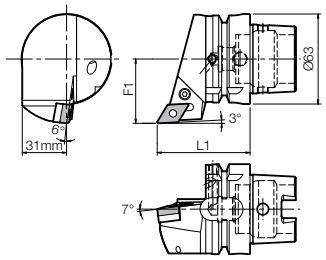
Applicable Inserts	
CN□A CN□G CN□M	43..

Toolholder Dimensions

Part Number	Previous Part Number	Stock	Dimensions (mm)	Spare Parts						
				Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench	Coolant Pipe
			L1							
T63H- PCMNN-H12	A63-WH- PCMNN-H12	○	100	LL-2N	LS-2N	LC-42N	LSP-2	PC-2	LW-3	CL63-1
PCMNN-L12	PCMNN-L12	□	140							

PDJN (External / Copying)

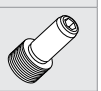




Right-hand Shown

Applicable Inserts	
DN□A DN□G DN□M	43..

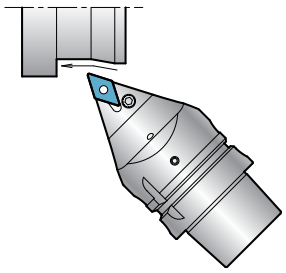
Toolholder Dimensions

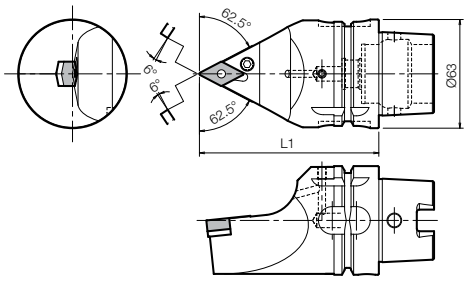
Part Number	Previous Part Number	Stock	Dimensions (mm)		Spare Parts						
					Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench	Coolant Pipe
			L1	F1							
T63H- PDJNR-DX15	A63-WH- PDJNR-DX15	○	65	45	LL-3N	LS-2N	LD-42 *LD-42-20	LSP-2	PC-2	LW-3	CL63-1
PDJNL-DX15	PDJNL-DX15	□									

• When using inserts whose corner-R(rε) is greater than 1.6mm, please purchase shim with * mark and use it in order to prevent workpiece and shim from interfering with each other.

□ : Made to Order
○ : World Express (Shipping: 7-10 Business Days)

PDNN (External / Copying)





Right-hand Shown

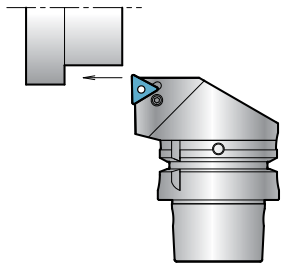
Applicable Inserts	
DN□A DN□G DN□M	43..

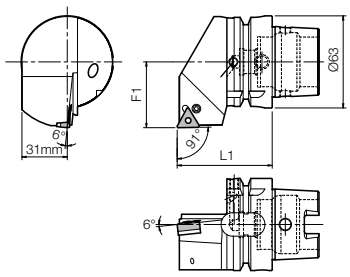
Toolholder Dimensions

Part Number	Previous Part Number	Stock	Dimensions (mm)	Spare Parts						
				Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench	Coolant Pipe
			L1							
T63H- PDNNN-H15	**A63-WH- PDNNN-H15**	□	100	LL-3N	LS-2N	LD-42 *LD-42-20	LSP-2	PC-2	LW-3	CL63-1
PDNNN-L15	**PDNNN-L15**	□	140							

• When using inserts whose corner-R(rε) is greater than 1.6mm, please purchase shim with * mark and use it in order to prevent workpiece and shim from interfering with each other.

PTGN (External)





Right-hand Shown

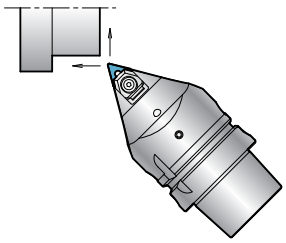
Applicable Inserts	
TN□A TN□G TN□M	33..

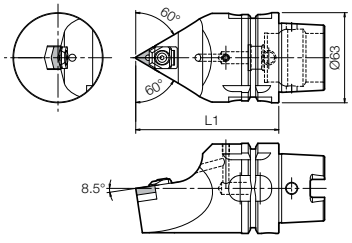
Toolholder Dimensions

Part Number	Previous Part Number	Stock	Dimensions (mm)		Spare Parts						
					Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench	Coolant Pipe
			L1	F1							
T63H- PTGNR-DX16	**A63-WH- PTGNR-DX16**	□	65		LL-1N	LS-1N	LT-32N *LT-32N-20	LSP-1	PC-1	FH-2.5	CL63-1
PTGNL-DX16	**PTGNL-DX16**	□	45								

• When using inserts whose corner-R(rε) is greater than 1.6mm, please purchase shim with * mark and use it in order to prevent workpiece and shim from interfering each other.

WTEN (External)

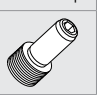




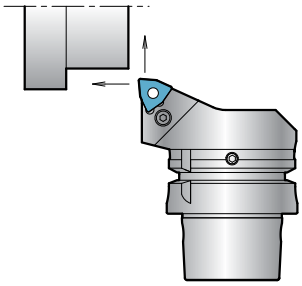
Right-hand Shown

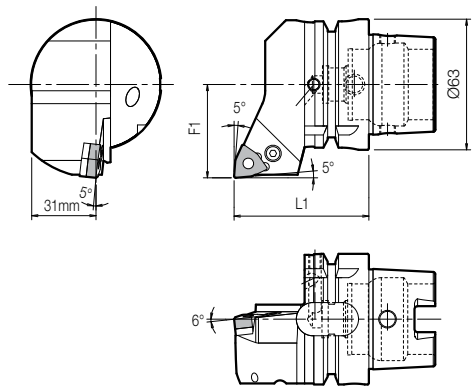
Applicable Inserts	
TN□A TN□G TN□M	33..

Toolholder Dimensions

Part Number	Previous Part Number	Stock	Dimensions (mm)	Spare Parts						
				Clamp Set	Shim	Shim Pin	Shim Nut	Wrench	Spear	Coolant Pipe
			L1							
T63H- WTENN-H16	**A63-WH- WTENN-H16**	□	100	WCS-1N	WTN-33	WP-1S	WN-1	LW-3	WSP-1	CL63-1
WTENN-L16	**WTENN-L16**	□	140							

PWLN (External / Facing)





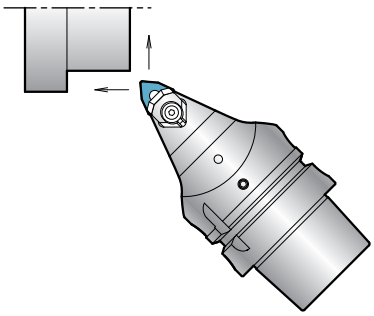
Right-hand Shown

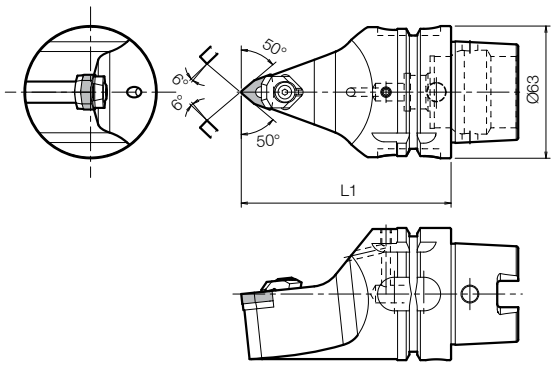
Applicable Inserts	
WN□A WN□G WN□M	43..

Toolholder Dimensions

Part Number	Previous Part Number	Stock	Dimensions (mm)		Spare Parts						
					Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench	Coolant Pipe
			L1	F1							
T63H- PWLNR-DX08	A63-WH- PWLNR-DX08	□	65	45	LL-2N	LS-2N	LW-42N	LSP-2	PC-2	LW-3	CL63-1
PWLNL-DX08	PWLNL-DX08	□									

WWMN (External / Facing)





Right-hand Shown

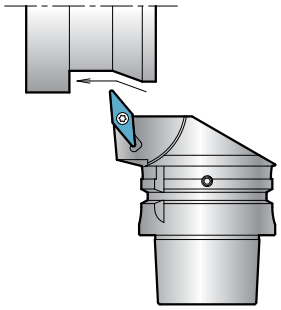
Applicable Inserts	
WN□A WN□G WN□M	43..

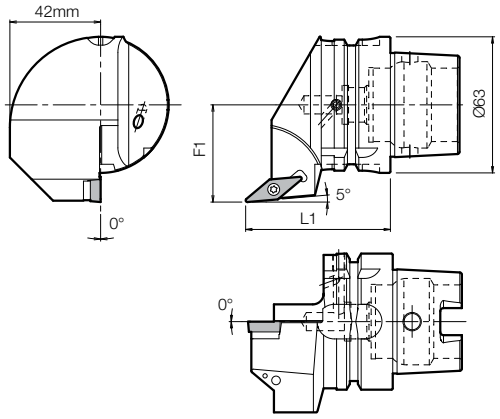
Toolholder Dimensions

Part Number	Previous Part Number	Stock	Dimensions (mm)	Spare Parts					
				Clamp Set	Shim	Shim Pin	Shim Nut	Wrench	Coolant Pipe
			L1						
T63H- WWMNN-H08	A63-WH- WWMNN-H08	□	100	WCS-8	WWN-42	WP5X15	WN-1	LW-3	CL63-1
WWMNN-L08	WWMNN-L08	□	140						

□ : Made to Order
○ : World Express (Shipping: 7-10 Business Days)

SVLB (External / Copying)





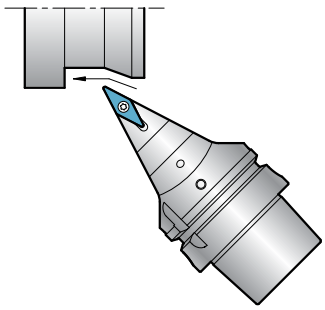
Right-hand Shown

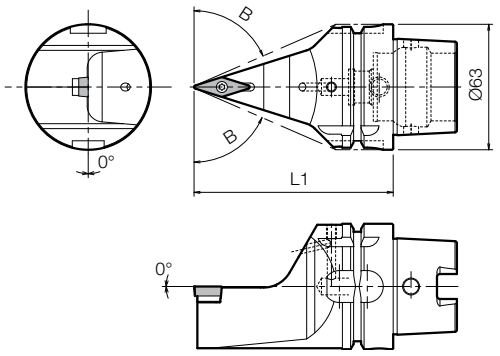
Applicable Inserts	
VB□T VBGW VCGT	33..

Toolholder Dimensions

Part Number		Stock	Dimensions (mm)		Spare Parts					
					Clamp Screw	Wrench	Shim	Shim Screw	Wrench	Coolant Pipe
			L1	F1						
T63H-	SVLBR-DX16N	□	65	45	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4	CL63-1
	SVLBL-DX16N	□								

SVVB (External / Copying)





Applicable Inserts	
VB□T VBGW VCGT	33..

Toolholder Dimensions

Part Number		Stock	Dimensions (mm)		Spare Parts					
					Clamp Screw	Wrench	Shim	Shim Screw	Wrench	Coolant Pipe
			L1	F1						
T63H-	SVVBN-H16N	□	100	66.5	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4	CL63-1
	SVVBN-L16N	○	140	72.5						

• Angle B shows the interference angle from the line of cutting edge point and toolholder.

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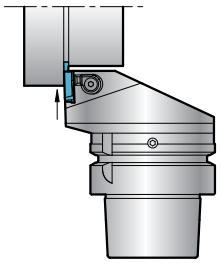
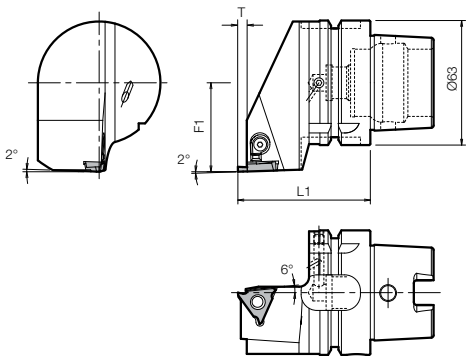
KGBA (External Grooving)





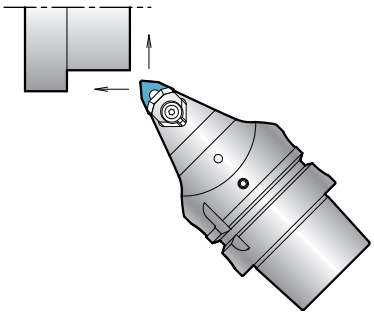
Right-hand Shown

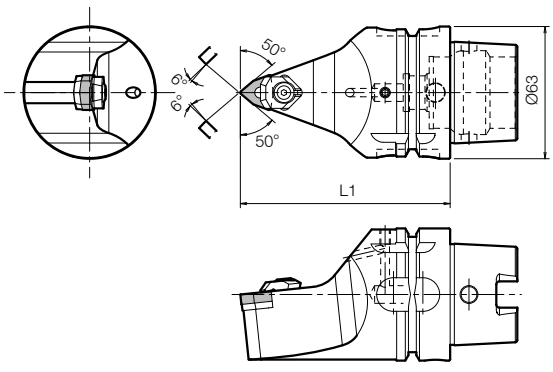
Toolholder Dimensions

Part Number	Previous Part Number	Stock	Dimensions (mm)			Spare Parts			Applicable Inserts ➡ G11
						Clamp Set	Wrench	Coolant Pipe	
			L1	F1	T				
T63H- KGBAR-16	A63-WH- KGBAR-16	□	67	45	2.5	LGBA-16RS	FT-15	CL63-1	GBA32R Type
KGBAR-22-15	KGBAR-22-15	□	67	45	4	LGBA-22RS			GBA43R Type
KGBAR-22-25	KGBAR-22-25	□			4.5				
KGBAR-22-35	KGBAR-22-35	□			5.5				
T63H- KGBAL-16	A63-WH- KGBAL-16	□	67	45	2.5	LGBA-16LS	FT-15	CL63-1	GBA32L Type
KGBAL-22-15	KGBAL-22-15	□	67	45	4	LGBA-22LS			GBA43L Type
KGBAL-22-25	KGBAL-22-25	□			4.5				
KGBAL-22-35	KGBAL-22-35	□			5.5				

• Dimension T shows the distance from the toolholder to the cuttting edge.

KTN (Threading)





Right-hand Shown

Toolholder Dimensions

Part Number	Previous Part Number	Stock	Dimensions (mm)		Spare Parts					Applicable Inserts ➡ J11
					Clamp Set	Wrench	Shim	Shim Screw	Coolant Pipe	
			L1	F1						
T63H- KTNR-16	A63-WH- KTNR-16	□	67	45	CPS-5S	FT-15	TN-32	SP3X8	CL63-1	16ER Type
KTNR-22	KTNR-22	□			CPS-6S	LW-3	TN-43			22ER Type

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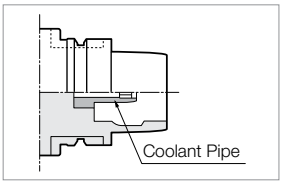
Identification System (Boring Bar / Drill)

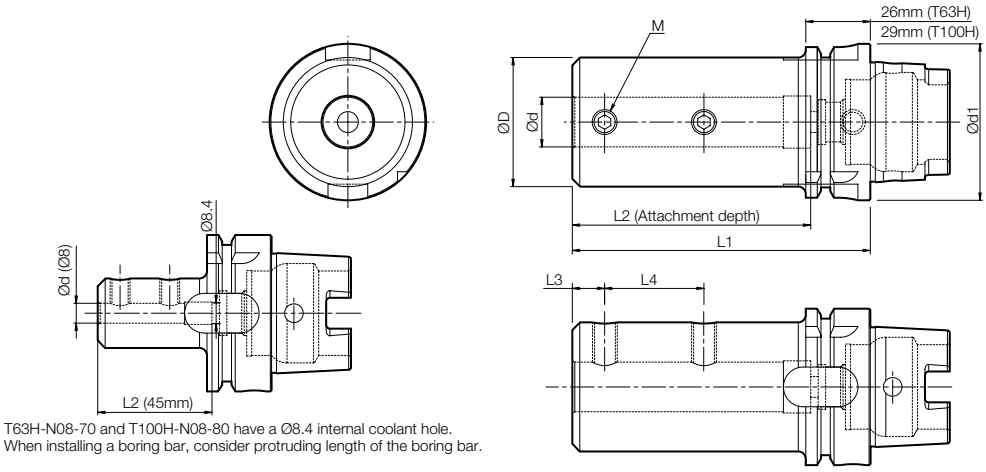
T63 H – N 08 – 70

Tolerance Symbol	Manual Clamping Hole		Toolholder		Internal Dia.		Toolholder Length (mm)
T63 : HSK-T63 T100 : HSK-T100	H	Yes	N	For Boring Bar	08	Ø8	Length from Gauge Line
	No Code	No	C	For Drill	10	Ø10	
						⋮	

Coolant Pipe is Built into Toolholder



Toolholder for Boring Bars and Drills



T63H-N08-70 and T100H-N08-80 have a Ø8.4 internal coolant hole.
When installing a boring bar, consider protruding length of the boring bar.

Toolholder Dimensions

Part Number	Previous Part Number	Stock	Dimensions (mm)								Spare Parts			Notes
											Clamp Screw	Wrench	Coolant Pipe	
			Ød	Ød1	ØD	L1	L2	L3	L4	M				
T63H- N08-70	A63-WH- N08-70	□	8	63	28	70	45	9	20	M8	HS8X10	LW-4	CL63-1	For Boring Bar
T63H- N10-80	A63-WH- N10-80	□	10		35	80	55	9	22		HS8X12			
T63H- N12-90	A63-WH- N12-90	□	12		42	90	65	9	22					
T63H- N16-100	A63-WH- N16-100	□	16		48	100	75	11	30	M10	HS10X16	LW-5		
T63H- N20-120	A63-WH- N20-120	□	20		52	120	95	13	40					
T63H- N25-140	A63-WH- N25-140	□	25		56	140	115	13	50	M12	HS12X16	LW-6		
T63H- N32-160	A63-WH- N32-160	□	32		56	160	135	13	60		HS12X12			
T63H- C20-75	A63-WH- C20-75	□	20	63	52	75	50	13	22	M10	HS10X16	LW-5	CL63-1	*For Drill
T63H- C25-85	A63-WH- C25-85	□	25		56	85	58	15	28	M12	HS12X16	LW-6		
T63H- C32-90	A63-WH- C32-90	□	32		56	90	62	15	30		HS12X12			
T63H- C40-100	A63-WH- C40-100	□	40		68	100	72	18	35	M16	HS16X12	LW-8		
T100H- N08-80	-	□	8	100	28	80	45	9	20	M8	HS8X10	LW-4	CL100-1	For Boring Bar
T100H- N10-90	-	□	10		35	90	55	9	22		HS8X12			
T100H- N12-100	-	□	12		42	100	65	9	22					
T100H- N16-110	-	□	16		48	110	75	11	30	M10	HS10X16	LW-5		
T100H- N20-130	-	□	20		52	130	95	13	40					
T100H- N25-150	-	□	25		62	150	115	13	50	M12	HS12X18	LW-6		
T100H- N32-170	-	□	32		72	170	135	13	60		HS12X20			
T100H- C20-85	-	□	20	100	52	85	50	13	22	M10	HS10X16	LW-5	CL100-1	*For Drill
T100H- C25-90	-	□	25		62	90	58	15	20	M16	HS16X18	LW-8		
T100H- C32-95	-	□	32		72	95	62	15	20					
T100H- C40-105	-	□	40		82	105	72	15	25	M16	HS16X20	LW-8		

* Shorter than boring bar toolholder.

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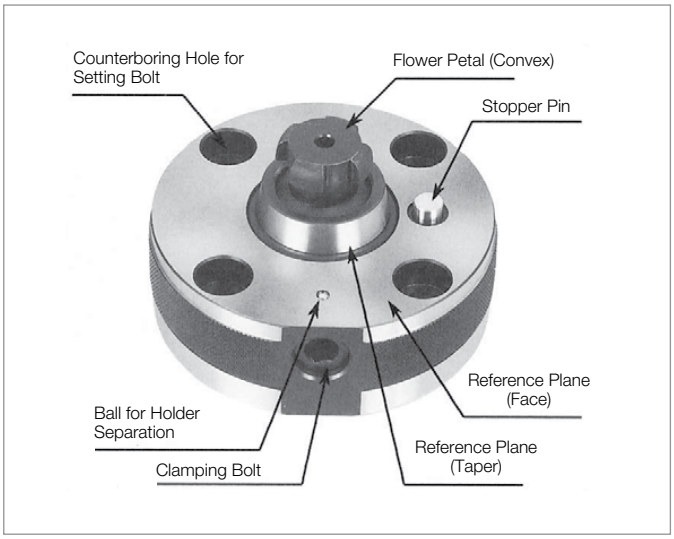
KQC Series

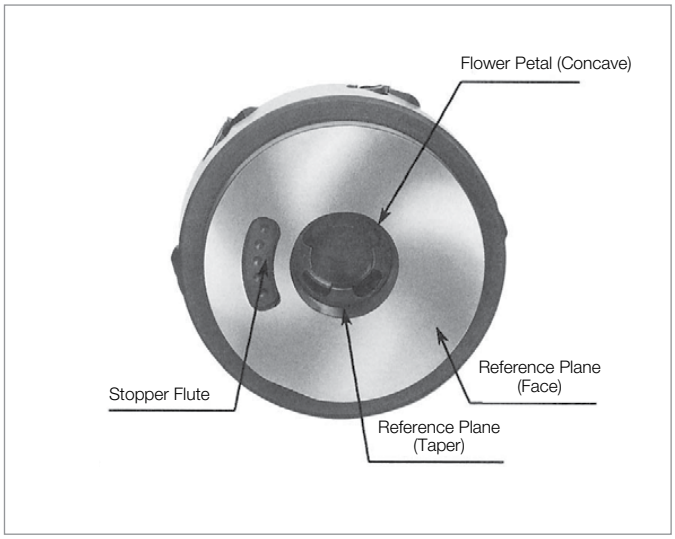
Features

1. The way to assemble holder is turn the clamping bolt 1 revolution. Tool exchange time is less than 1 minute.
2. Junction of adapter and attachment touch both taper part and face part. And repeatability is less than 2μm.
3. Applicable to Various Tools.
   - Boring Tool (Rough & Fine)
   - Face Milling (Min. Ø63, Max. Ø160 is possible)
   - Centering Tool
   - External Turning
   - Applicable to Tools with Coolant Hole

Clamping System



Adapter Side

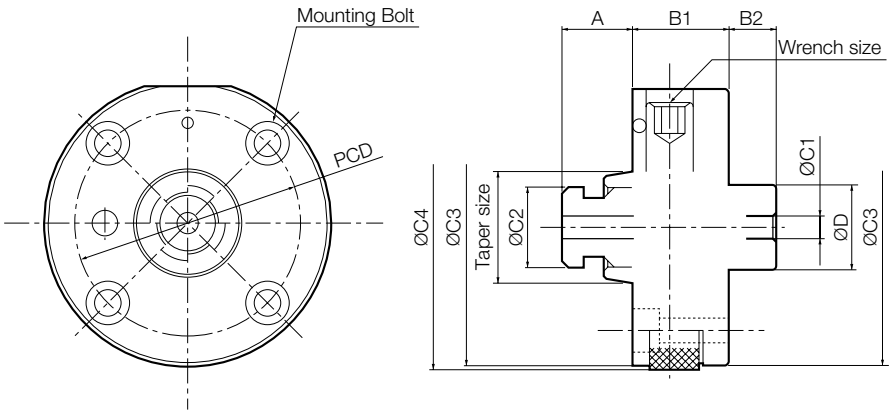


Attachment Side

How to Use Clamping System

1. Combine flower petal of adapter side with that of attachment side and insert the attachment.
2. Turn the attachment 45 degrees until stop (clockwise direction).
3. Turn the clamping bolt attached to adapter side 1 revolution and tighten by hexagon wrench.

Adapter

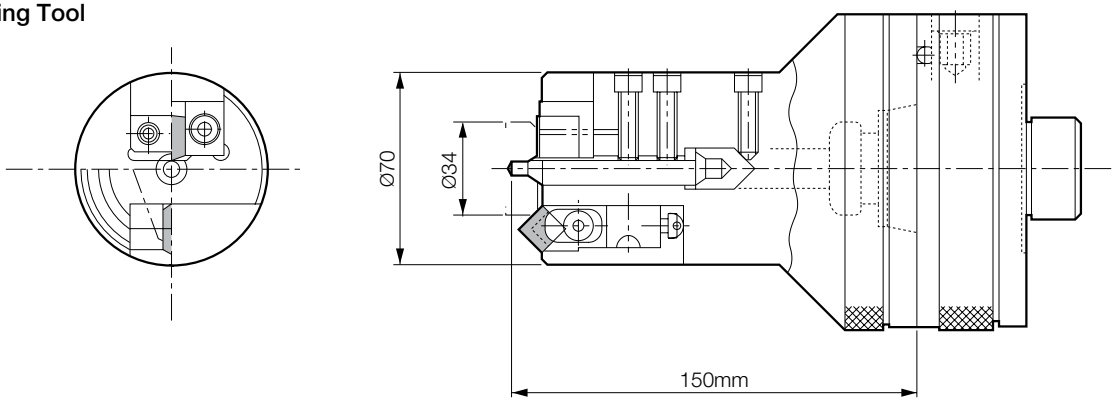


Toolholder Dimensions (mm)

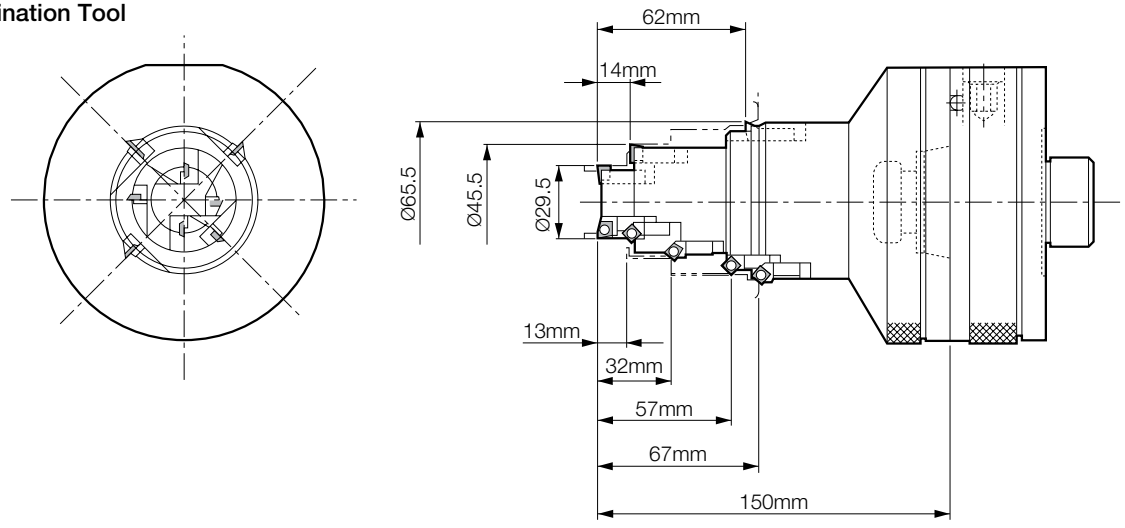
Part Number	Taper Size	A	B1	B2	ØC1	ØC2	ØC3	ØC4	ØD	PCD	Wrench Size	Mounting Bolt
KQC28	Ø28	23	25 Over	15 Over	4	24	60 Over	62 Over	20	43 Over	6	6~8
KQC35	Ø35	27	30 Over	15 Over	6	28	75 Over	77 Over	25	54 Over	8	8~10
KQC45	Ø45	30	40 Over	15 Over	8	32	90 Over	92 Over	25	66 Over	10	8~12
KQC70	Ø70	33	50 Over	15 Over	10	40	130 Over	132 Over	25	100 Over	12	10~16

Toolholder (Attachment) Reference Example

Centering Tool



Combination Tool



• Applicable to various tooling (also with coolant hole)

Identification System for Cartridge (Square Shank)

① Clamping System	② Insert Shape	⑤ Insert Shape	⑥ Edge Height	⑦ Cartridge Type
C : Top Clamp	S : 90° Square	R : Right-hand	Edge Height (mm)	CA : ISO A Type
P : Lever Lock	T : 60° Triangle			
S : Screw Clamp				

①	②	③	④	⑤	⑥	⑦	⑧
P	S	K	N	R	16	CA	12

③ Cutting Edge Angle

D	E	F	G
45°	60°	90°	90°

K	S	T	Y
75°	45°	60°	85°

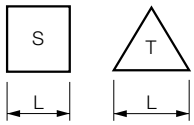
④ Insert Relief Angle

E : 20° Positive

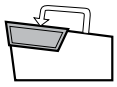
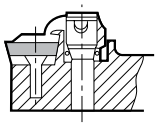
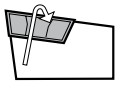
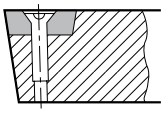
N : 0° Negative

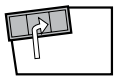
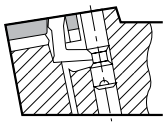
P : 11° Positive

⑧ Insert Size



Clamping System

Series	Design		Features
Top Clamp (C)			• Rigid Clamping • Negative Insert : Medium to Heavy Machining (Mainly for Ceramic Insert) • Positive Insert : Low Cutting Force
Screw Clamp (S)			• Simple Mechanism • Fewer Parts • Finishing to Medium Machining

Series	Design		Features
Lever Lock (P)			• Easy Insert Replacement • General Use

Lever Lock (Right-hand Shown)

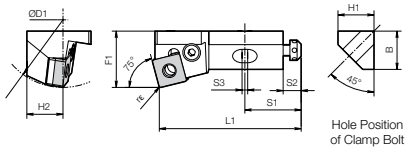


Fig.1

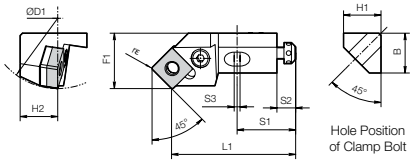


Fig.2

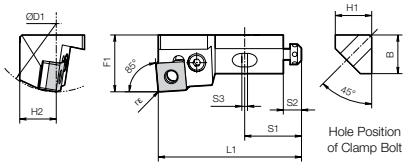


Fig.3

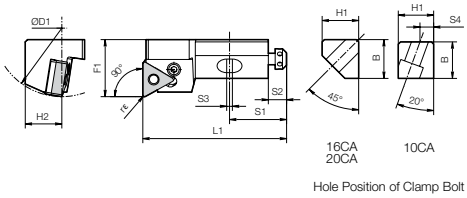


Fig.4

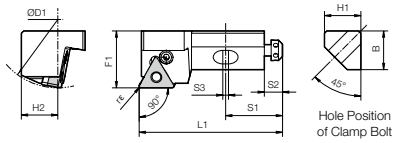


Fig.5

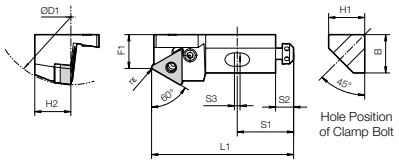


Fig.6

Toolholder Dimensions

Part Number	Stock	Dimensions (mm) H1	B	L1	S1	S2	S3	S4	H2	F1	Standard Corner-R(re)	Min. Bore Dia. ØD1 (mm)	Drawing	Applicable Inserts		Applicable Inserts Ref. Page
PSKNR 16CA12	□	16	17	63	25	8	2.5	-	16	25	0.8	60	Fig.1	SN□A SN□G SN□M	43..	B29-B32 B93 C10
PSSNR 16CA12	□			53						15			Fig.2			
PSYNR 16CA12	□			63						25			Fig.3			
PTFNR 10CA11	□	12.5	11	50	20	8	2	5	10	14	0.4	40	Fig.4	TN□A TN□G	22..	B39-B40
16CA16	□	15.5	16	63	25	8	2.5	-	16	25	0.8	60	Fig.4	TN□A TN□G TN□M	33..	B33-B40 B95 C11 C23
20CA22	□	20	19	70	30	10			20			70			43..	
PTGNR 16CA16	□	16	17	63	25	8			16	25		60	Fig.5			
PTTNR 16CA16	□									15		70	Fig.6		33..	

Spare Parts

Part Number	Lever	Lock	Shim	Shim Pin	Punch	Wrench	Radial Adjustment Screw	Axial Adjustment Screw	Wrench	Axial Screwdriver	Plate	Clamp Bolt	Wrench
PSKNR 16CA12	LL-2N	LS-2N	LS-42	LSP-2	PC-2	LW-3	HS4X4	AJM5F	LW-2	SW-1.8	SM0816B SM1016B	HH8X25	LW-6
PSSNR 16CA12													
PSYNR 16CA12													
PTFNR 10CA11	LL-03N	LS-03N	-	P-03	-	FH-2	HS4X4	AJM5F	LW-2	SW-1.8	SM0810A SM1010A	HH6X16	LW-5
16CA16	LL-1N	LS-1N	LT-32N	LSP-1	PC-1	FH-2.5	HS5X5		LW-2.5		SM0816B SM1016B	HH8X25	LW-6
20CA22	LL-2N	LS-2N	LT-42N	LSP-2	PC-2	LW-3		AJM6			SM0820B SM1020B	HH8X30	
PTGNR 16CA16	LL-1N	LS-1N	LT-32N	LSP-1	PC-1	FH-2.5		AJM5F			SM0816B SM1016B	HH8X25	
PTTNR 16CA16													

Note) Plate includes a set of two pieces for each toolholder.

Top Clamp (Right-hand Shown)

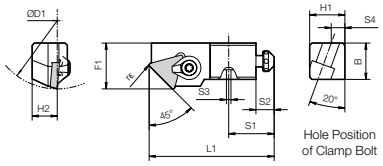


Fig.1

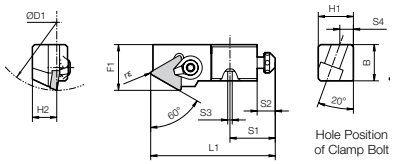


Fig.2

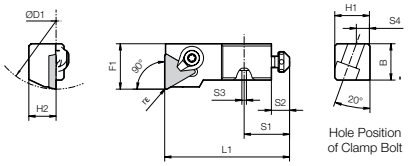


Fig.3

Toolholder Dimensions

Part Number	Stock	Dimensions (mm)									Standard Corner-R(re)	Min. Bore Dia. ØD1 (mm)	Drawing	Applicable Inserts		Applicable Inserts Ref. Page
		H1	B	L1	S1	S2	S3	S4	H2	F1						
CTDPR 10CA11	□	12.5	11	50	20	8	2	5	10	7	0.4	38	Fig.1	TP□N TP□R	22..	**B75-B76 B97 C18 C29**
12CA16	□	15.5	16	55				6	12	10	0.8	50			32..	
CTEPR 10CA11	□	12.5	11	50				5	10	9	0.4	38	Fig.2		22..	
12CA16	□	15.5	16	55				6	12	13	0.8	50			32..	
CTFPR 10CA11	□	12.5	11	50				5	10	14	0.4	38	Fig.3		22..	
12CA16	□	15.5	16	55				6	12	20	0.8	50			32..	

Spare Parts

Part Number	Clamp Set	Wrench	Radial Adjustment Screw	Axial Adjustment Screw	Wrench	Axial Screwdriver	Plate	Clamp Bolt	Wrench
									
CTDPR 10CA11	CPS-4V	FT-10	HS4X4	AJM5F	LW-2	SW-1.8	SM0810A SM1010A	HH6X16	LW-5
12CA16	CPS-5V	FT-15	HS5X5		LW-2.5		SM0812A SM1012A	HH6X20	
CTEPR 10CA11	CPS-4V	FT-10	HS4X4		LW-2		SM0810A SM1010A	HH6X16	
12CA16	CPS-5V	FT-15	HS5X5		LW-2.5		SM0810A SM1010A	HH6X20	
CTFPR 10CA11	CPS-4V	FT-10	HS4X4		LW-2		SM0810A SM1010A	HH6X16	
12CA16	CPS-5V	FT-15	HS5X5		LW-2.5		SM0812A SM1012A	HH6X20	

Note) Plate includes a set of two pieces for each toolholder.

Screw Clamp (Right-hand Shown)

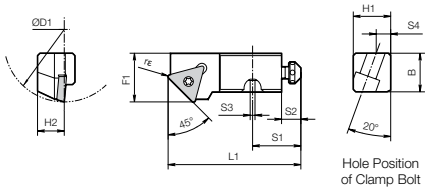


Fig.1

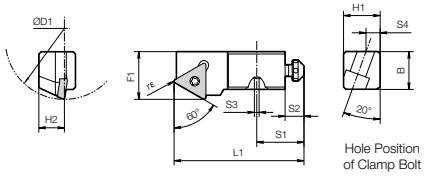


Fig.2

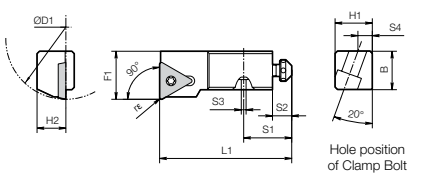


Fig.3

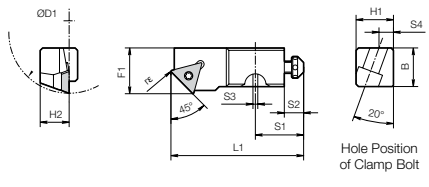


Fig.4

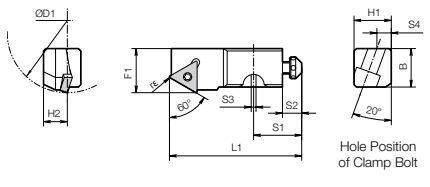


Fig.5

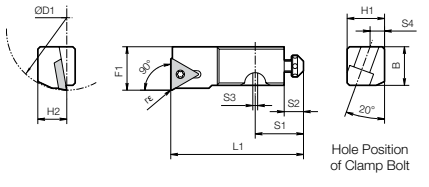


Fig.6

Toolholder Dimensions

Part Number		Stock	Dimensions (mm)										Standard Corner-R(re)	Min. Bore Dia. ØD1 (mm)	Drawing	Applicable Inserts		Applicable Inserts Ref. Page
			H1	B	L1	S1	S2	S3	S4	H2	F1							
STDPR	**10CA11**	□	12.5	11	50	20	8	2	5	10	7	0.4	38	Fig.1	TP□H TP□T TPGB	22..	**B71-B74** **B97** **C16** **C26-C28**
	12CA16	□	15.5	16	55				6	12	10	0.8	50			32..	
STEPR	**10CA11**	□	12.5	11	50				5	10	9	0.4	38	Fig.2		22..	
	12CA16	□	15.5	16	55				6	12	13	0.8	50			32..	
STFPR	**10CA11**	□	12.5	11	50				5	10	14	0.4	38	Fig.3		22..	
	12CA16	□	15.5	16	55				6	12	20	0.8	50			32..	
STDER	**12CA13**	□	15.5	16	55	20	8	2	6	12	10	0.4	50	Fig.4	TEGW	252..	-
STEER	**12CA13**	□									12			Fig.5			
STFER	**12CA13**	□									18			Fig.6			

Spare Parts

Part Number		Clamp Set	Wrench	Radial Adjustment Screw	Axial Adjustment Screw	Wrench	Axial Screwdriver	Plate	Clamp Bolt	Wrench
										
STDPR	**10CA11**	SB-3TR	FT-10	HS4X4	AJM5F	LW-2	SW-1.8	SM0810A SM1010A	HH6X16	LW-5
	12CA16	SB-4TR	FT-15	HS5X5		LW-2.5		SM0812A SM1012A	HH6X20	
STEPR	**10CA11**	SB-3TR	FT-10	HS4X4		LW-2		SM0810A SM1010A	HH6X16	
	12CA16	SB-4TR	FT-15	HS5X5		LW-2.5		SM0812A SM1012A	HH6X20	
STFPR	**10CA11**	SB-3TR	FT-10	HS4X4		LW-2		SM0810A SM1010A	HH6X16	
	12CA16	SB-4TR	FT-15	HS5X5		LW-2.5		SM0812A SM1012A	HH6X20	
STDER	**12CA13**	SB-3080TR	FT-10	HS4X4	AJM5F	LW-2	SW-1.8	SM0812A SM1012A	HH6X20	LW-5
STEER	**12CA13**									
STFER	**12CA13**									

Note) Plate includes a set of two pieces for each toolholder.

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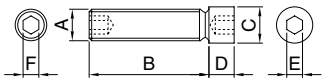
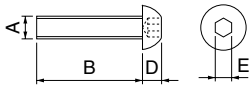
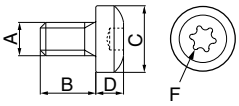
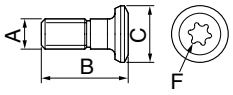
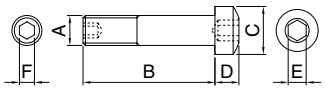
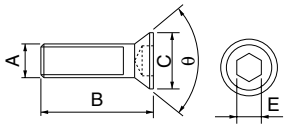
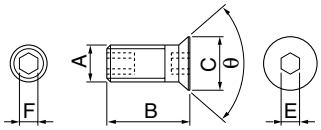
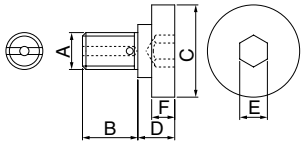
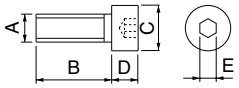
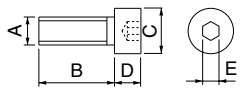
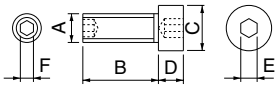
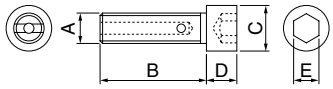
SPARE PARTS

P1 - P25

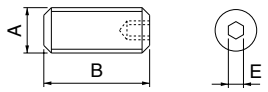
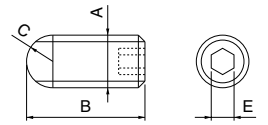
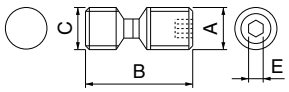
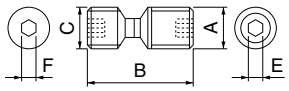
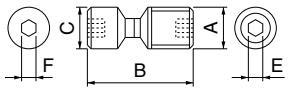
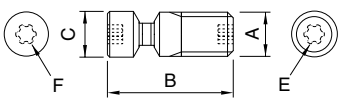
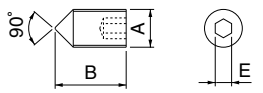
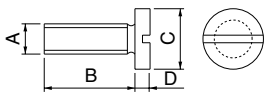
Screws

Drawing	Part Number		Dimension (mm)						Angle (°)		Torque (N • m)	Notes
			A	B	C	D	E	F	α	θ		
	AJ	-6X38	M6X1.0	38.0	6.0	10.0	3.0	3.0	-	-	-	
		-8X44-9.5	M8X1.25	44.0	9.5	6.0	4.0	4.0	-	-		
		-10X46	M10X1.5	46.0	11.5	8.0	5.0	5.0	-	-		
	BH	3X6	M3X0.5	6.0	-	1.7	2.0	-	-	-	-	
		3X12	M3X0.5	12.0	-	1.7	2.0	-	-	-		
		6X25	M6X1.0	25.0	-	3.3	4.0	-	-	-		
		8X30	M8X1.25	30.0	-	4.4	5.0	-	-	-		
	BH	6X10TR	M6X1.0	10.0	12.0	5.0	-	T25	-	-	6.5	
	CP	8X15TL	M8X1.25	15.0	15.0	-	-	T25	-	-	6.0	L Shows Left-hand Thread
		8X23TL		23.0								
	CS	-2D	M4X0.7	21.5	6.4	3.5	2.5	2.0	-	-	1.7	
		-3D	M5X0.8	22.0	8.0	4.0	3.0	2.5	-	-	3.9	
		-5D	M5X0.8	28.0	8.0	4.0	3.0	2.5	-	-	3.0	
	GS	-50	M5X0.8	13.0	7.5	-	3.0	-	-	82°	-	
		-50S	M5X0.8	9.0	7.5	-	3.0	-	-	82°		
	GS	-4090TR/LW	M4X0.7	9.0	5.8	-	2.0	2.0	-	82°	-	R Shows Right-hand Thread L Shows Left-hand Thread
	HF	20X53H	M20X2.5	35.0	43.0	18.0	14.0	14.0	-	-	-	With Coolant Hole
		24X60H	M24X3.0	40.5	65.0	19.5	17.0					
	HH	3X6	M3X0.5	6.0	5.5	3.0	2.5	-	-	-	-	
		3X12		12.0								
	HH	4X16	M4X0.7	16.0	7.0	4.0	3.0	-	-	-		
	HH	5X15	M5X0.8	15.0	8.5	5.0	4.0	-	-	-		
		5X16		16.0								
		5X20		20.0								
		5X25		25.0								
		5X30		30.0								
	HH	6X12	M6X1.0	12.0	10.0	6.0	5.0	-	-	-		
		6X16		16.0								
		6X16AA		16.0								
		6X18AA		18.0								
		6X20		20.0								
		6X25		25.0								
		6X30		30.0								

Screws

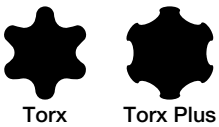
Drawing	Part Number		Dimension (mm)						Angle (°)		Torque (N • m)	Notes
			A	B	C	D	E	F	α	θ		
	HH	8X25	M8X1.25	25.0	13.0	8.0	6.0	-	-	-	-	
		8X35		35.0								
		8X40		40.0								
		8X50		50.0								
		8X55		55.0								
		8X65		65.0								
		8X70		70.0								
		8X80		80.0								
		8X85		85.0								
		8X100		100.0								
		8X110		110.0								
	HH	10X25	M10X1.5	25.0	16.0	10.0	8.0	-	-	-	-	
		10X30		30.0								
		10X30M		30.0								
		10X30S		30.0		6.0	7.0					
		10X35		35.0		10.0	8.0					
		10X40		40.0								
	HH	12X25	M12X1.75	25.0	18.0	12.0	10.0	-	-	-	-	
		12X35		35.0								
		12X35M		35.0								
		12X40		40.0								
		12X55		55.0								
		12X65		65.0								
		12X80		80.0								
		12X85		85.0								
		12X100		100.0								
		12X110		110.0								
		12X120		120.0								
		12X130		130.0								
		12X140		140.0								
		12X150		150.0								
	HH	16X35	M16X2.0	35.0	24.0	16.0	14.0	-	-	-	-	
		16X40		40.0								
		16X45		45.0								
		16X65		65.0								
		16X90		90.0								
		16X110		110.0								
		16X130		130.0								
	HH	20X40	M20X2.5	40.0	30.0	20.0	17.0	-	-	-	-	
		20X55		55.0								
		20X75		75.0								
		20X90		90.0								
		20X110		110.0								
		20X120		120.0								
		20X140		140.0								
		20X150		150.0								
		20X170		170.0								
	HH	24X40	M24X3.0	40.0	36.0	24.0	19.0	-	-	-	-	
		24X60		60.0								
		24X75		75.0								
		24X90		90.0								
		24X110		110.0								
		24X120		120.0								
		24X140		140.0								
		24X150		150.0								
		24X170		170.0								
	HH	4X12	M4X0.7	10.0	7.0	4.0	3.0	2.0	-	-	-	
	HH	8X25H	M8X1.25	25.0	13.0	8.0	5.0	-	-	-	-	With Coolant Hole
		10X30H	M10X1.5	30.0	16.0	10.0	6.0					
		10X35HK		35.0								
		12X35H	M12X1.75	35.0	18.0	12.0	8.0					
		12X35HK										
		16X52H	M16X2.0	36.0	24.0	16.0	12.0					

Screws

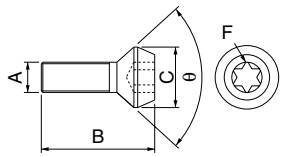
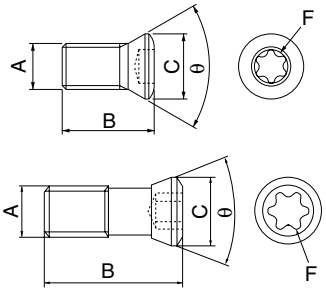
Drawing	Part Number	Dimension (mm)						Angle (°)		Torque (N • m)	Notes
		A	B	C	D	E	F	α	θ		
	HS 3X4P	M3X0.5	3.9	-	-	1.5	-	-	-	1.0	HS4X4P and HS6X4P Have a Flat Edge Clamp Screw Equivalent to JIS B-1177
	HS 3X4		4.0								
	HS 3X8		8.0								
	HS 3X12		12.0								
	HS 3X16		16.0								
	HS 4X4P	M4X0.7	3.9	-	-	2.0	-	-	-	2.0	
	HS 4X4		4.0								
	HS 5X5	M5X0.8	5.0			2.5				3.0	
	HS 6X4P	M6X0.75	3.9	-	-	3.0	-	-	-	4.0	
	HS 6X6	M6X1.0	6.0								
	HS 6X14		14.0								
	HS 6X22		22.0								
	HS 8X10	M8X1.25	10.0	-	-	4.0	-	-	-	-	
	HS 8X12		12.0								
	HS 10X10	M10X1.5	10.0	-	-	5.0	-	-	-		
	HS 10X16		16.0								
	HS 12X12	M12X1.75	12.0	-	-	6.0	-	-	-	-	
	HS 12X16		16.0								
	HS 12X18		18.0								
	HS 12X20		20.0								
	HS 12X25		25.0								
	HS 12X30		30.0								
	HS 12X35		35.0								
	HS 16X12	M16X2.0	12.0	-	-	8.0	-	-	-		
	HS 16X18		18.0								
	HS 16X20		20.0								
	HSB 4X8R/L	M4X0.7	8.0	R2.0	-	2.0	-	-	-	2.0	R Shows Right-hand Thread L Shows Left-hand Thread
	LS -03	M5X0.8	10.0	M5X0.8	-	2.0	-	-	-	2.0	
	LS -03S		12.2			2.5				3.0	
	LS -03N	M5X0.8	9.7	M5X0.8	-	2.0	-	-	-	2.0	N : Silver Coated
	LS -03SN		12.0			2.5				3.0	
	LS -05	M5X0.8	15.5	M5X0.8	-	2.0	2.0	-	-	2.0	
	LS -1	M6X1.0	17.0	6.0	-	2.5	2.5	-	-	3.0	N : Silver Coated
	LS -1N										
	LS -1S		14.2								
	LS -1SN										
	LS -1T		21.0								
	LS -2	M8X1.0	20.0	8.0	-	3.0	3.0	-	-	4.0	
	LS -2N										
	LS -3		22.0								
	LS -4		24.0								
	LS -4N										
	LS -1P	M6X1.0	16.5	6.0	-	10IP	10IP	-	-	2.0	○○IP Shows Torx Plus
	LS -2P	M8X1.0	18.2	8.0		15IP	15IP			3.5	
	LS -3P		21.8								
	LS -11	M6X1.0	9.5	-	-	3.0	-	-	-	-	
	LS -15		12.5								
	M 3X8	M3X0.5	8.0	5.5	2.0	-	-	-	-	-	Flat Fillister Head Screw Equivalent to JIS B-1101
	M 3X12		12.0								
	M 4X10	M4X0.7	10.0	7.0	2.6						

Reference

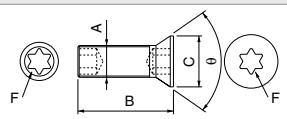
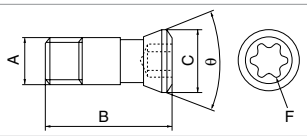
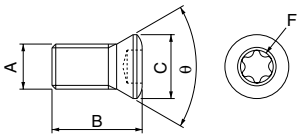
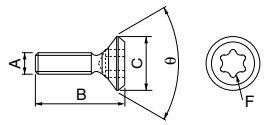
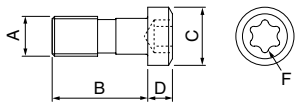
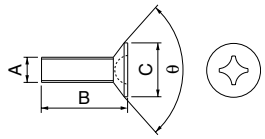
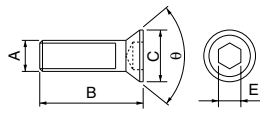
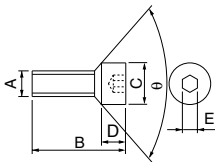
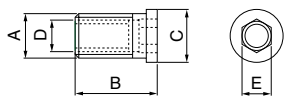
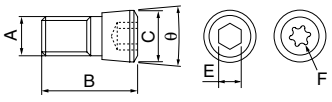
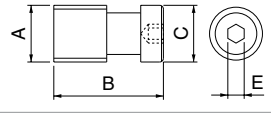
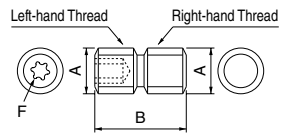
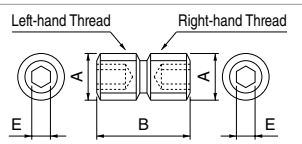
Torx and Torx Plus have different cross-sections.



Screws

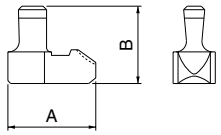
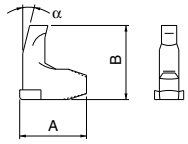
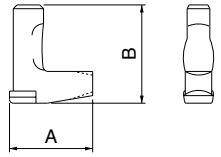
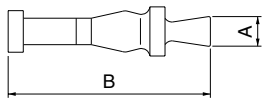
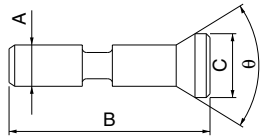
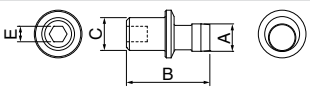
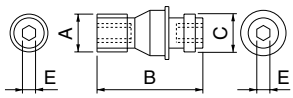
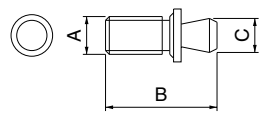
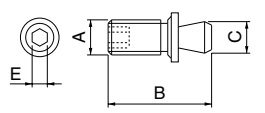
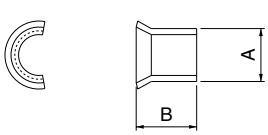
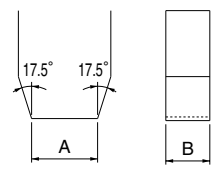
Drawing	Part Number	Dimension (mm)						Angle (°)		Torque (N • m)	Notes
		A	B	C	D	E	F	α	θ		
	SB -1TR	M2X0.4	5.3	3.8	-	-	T6	-	82°	0.5	R Shows Right-hand Thread
	-2TR	M2.5X0.45	6.2	4.5			T8			1.2	
	-3TR	M3X0.5	7.2	4.8			T10			2.0	
	-3STR		6.4	5.2							
	-3.5TR	M3.5X0.6	9.3	5.6			T15			3.5	
	-4TR	M4X0.7	7.7	5.8							
	-5TR	M5X0.8	20.0	8.7			T20		90°	4.5	
	-2290TR	M2.2X0.45	9.2	2.8			T6		60°	0.5	
	-25100TR	M2.5X0.45	10.0	3.5			T7			0.8	
	-40115TR	M4X0.7	11.5	5.5			T15			3.5	
	-5070TR	M5X0.8	7.0	6.8			T20			4.5	
	-5090TR		9.0								
	-50120TR		12.0								
 SB-40125TRN	SB -1635TR	M1.6X0.35	3.3	2.6	-	-	T6	-	60°	0.5	R Shows Right-hand Thread ○○IP Shows Torx Plus
	SB -1STR	M2X0.4	5.0	3.1							
	-2035TR		3.7	3.0							
	-2035TRG		3.5	2.7							
	-2040TR		3.8	3.0							
	-2040TRG		4.0								
	-2042TRG		4.1	2.7							
	-2045TR		4.3								
	-2045TRN			2.8					37°		
	-2050TR		4.8	3.0					60°		
	-2060TR		5.8	3.5			T8			1.2	
	-2080TR		8.3	2.8			T6			0.5	
	SB -2250TR	M2.2X0.45	5.1	3.1	-	-	T7	-	60°	0.8	
	-2255TR		5.5	3.5							
	-2260TR		5.8	3.1							
	SB -2545TR	M2.5X0.45	4.6	3.5	-	-	T8	-	60°	1.2	
	-2555TRG		5.4								
	-2555TRP		5.5				8IP				
	-2560TR		5.7				T8				
	-2570TR		6.8								
	SB -3060TR	M3X0.5	5.3	4.2	-	-	T10	-	60°	2.0	
	-3060TRG		5.9								
	-3065TRP		6.5	4.0			8IP			1.2	
	-3070TRG		7.0	4.2			T10			2.0	
	-3070TRP						10IP				
	-3080TR		8.0				T10				
	SB -3580TR	M3.5X0.6	8.0	5.3	-	-	T15	-	60°	3.5	
	-3590TRP		9.0				15IP			4.0	
	-3592TR		9.2	5.1			T10			2.0	
	SB -4050TRN	M4X0.5	4.6	5.1	-	-	T10	-	57°	2.0	
	-4060TR	M4X0.7	5.9	5.5			T15		60°	3.5	
	-4065TR		6.7								
	-4070TRG		7.0								
	-4070TRN		7.7	5.4							
	-4070TRS		6.7	5.5			T10			2.0	
	-4075TRP		7.5				15IP			3.5	
	-4082TPR		8.2								
	-4085TR		8.5				T15				
	-4085TRP						15IP				
	-4090TRP		9.0	5.7							
	-4090TRPN			5.5							
	-40120TR		12.0	5.1			T15				
	-40125TRN		12.5	5.2					50°		
	-40140TR		14.0	5.5					60°		
	-40140TRN			6.7					75°		
	SB -45130TR	M4.5X0.75	13.0	6.6	-	-	20IP	-	55°	4.5	
	SB -5085TR	M5X0.8	8.5	6.8	-	-	T20	-	50°	4.5	
	-50120TRP		12.0	6.8			20IP		60°	4.5	
	-50120TRS			7.2			15IP			3.5	
	-50140TR		14.0	7.3			T15		50°	3.5	
	-50140TRP						20IP		60°	4.5	
	SB -60120TR	M6X1.0	12.0	8.5			T25			6.0	

Screws

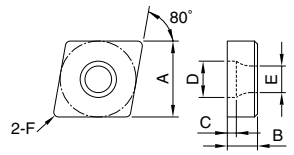
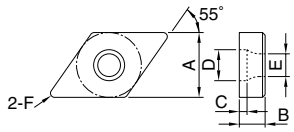
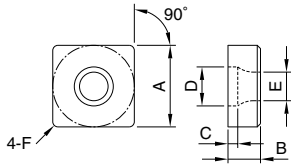
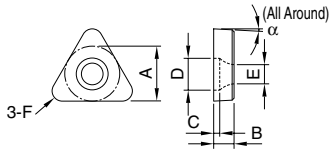
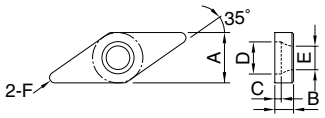
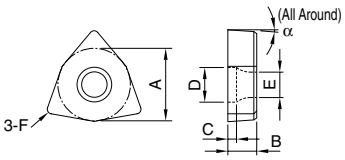
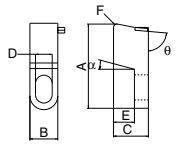
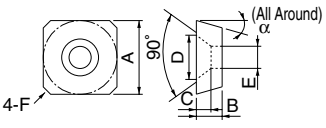
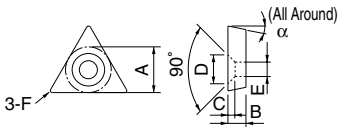
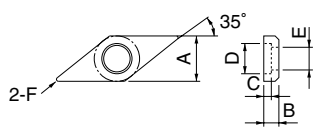
Drawing	Part Number		Dimension (mm) A	B	C	D	E	F	Angle (°) α	θ	Torque (N • m)	Notes
	SB	-4070TRW	M4X0.7	6.7	5.5	-	-	T8	-	60°	1.2	R Shows Right-hand Thread
		-4590TRWN	M4.5X0.75	9.3	5.6			T10		57°	2.0	
	SC	-30067	M3X0.35	6.7	4.4	-	-	T8	-	60°	1.2	
		-35085	M3.5X0.35	8.5	5.7			T10			2.0	
		-40100	M4X0.5	10.0	6.0			T15			3.5	
		-50130	M5X0.5	13.0	6.6			T20		40°	4.5	
		-60160	M6X0.75	16.0	8.0			T25			6.0	
		-60210		21.0	9.6			T30			8.0	
	SE	-3070TRP	M3X0.5	7.0	4.3	-	-	9IP	-	43°	1.7	○○IP Shows Torx Plus
		-40050TRN	M4X0.7	5.0	5.0			T15		44°	3.5	
		-40055TR		5.5								
		-40068TR		6.8								
		-40080TR		8.0								
		-40090TR		9.0								
		-40100TR		10.0								
	SE	-40120TR	M4X0.7	12.0	5.6	-	-	T15	-	60°	3.5	
		-50125TR	M5X0.8	12.5	6.8			T20			4.5	
	SH	-50150TR	M5X0.8	15.1	7.3	3.1	-	T20	-	-	4.5	
	SP	3X4	M3X0.5	4.0	4.0	-	-	-	-	90°	-	With Additional Machining Below the Fillister Head
		3X6		6.0	6.0							Cross Recessed Flat Head Screw equivalent to JIS...B-1111
		3X8		8.0								
		3X10		10.0								
	SP	4X9	M4X0.7	9.0	5.6	-	2.0	-	-	90°	-	
	SP	8X35	M8X1.25	35.0	11.0	4.4	5.0	-	-	90°	-	
	SPW	-6045	M6X0.75	9.0	7.5	M4.5X0.75	4.5	-	-	-	-	A Shows External D Shows Internal External and Internal Threads are Both Right-hand Threads
		-7050	M7X0.75	9.0	8.8	M5X0.8	5.0	-	-	-		
	SS	-4N	M5.5X0.5	8.5	6.6	M4X0.7	4.0	-	-	-		
	SV	-60136R	M6X1.0	13.6	6.3	-	4.0	-	-	6°	-	Hexagon Socket
		-60136TR					-	T20	-		4.5	Torx
	TH	8X15	M8X1.25	20.0	8.5	-	4.0	-	-	-	-	
	W	6X17	M6X1.0	17.0	-	-	-	T20	-	-	4.5	
		6X18N		18.0				T15			3.5	
		8X16	M8X1.0	16.0				T25			6.0	
	W	6X18	M6X1.0	17.5	-	-	3.0	-	-	-	-	
		6X20	M6X1.0	20.5								
		8X18	M8X1.25	18.0			4.0					
		*8X21	M8X1.0	21.0								

* No Socket on Right-hand Thread Side

Pins

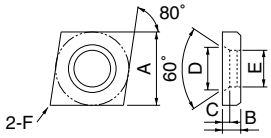
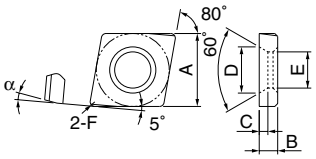
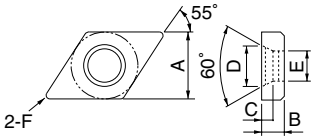
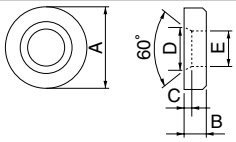
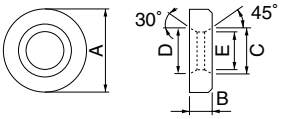
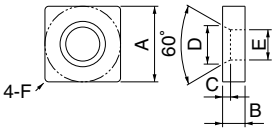
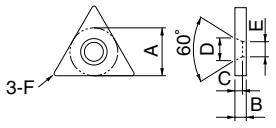
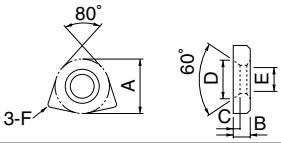
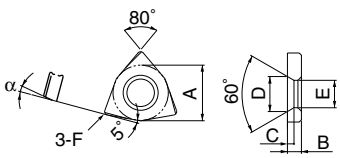
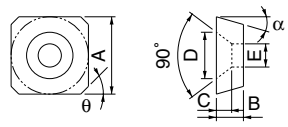
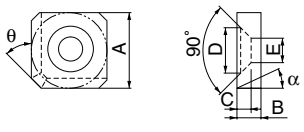
Drawing	Part Number		Dimension (mm) A	B	C	D	E	F	Angle (°) α	θ	Notes
	LL	-03	7.8	6.3	-	-	-	-	-	-	
		-03N									
		-03S	11.1	8.9							
		-03SN									
		-03T	8.3	8.9							
		-03TN									
	LL	-05C	10.7	11.7	-	-	-	-	12°	-	
		-1C	13.0	13.3					14°		
		-1CN									
		-2C	18.8	17.6					14°		
	LL	-1	10.3	12.0	-	-	-	-	-	-	
		-1K	10.0	12.0							
		-1N	10.3	12.0							
		-1D	12.3	12.0							
		-1DN									
		-2	13.5	13.0							
		-2K	13.3	13.2							
		-2N	13.5	13.0							
		-3	16.4	13.0							
		-3K	16.0	14.8							
		-3N	16.4	13.0							
		-4	16.4	14.7							
		-5	17.1	16.7							
		-5N	17.1	16.7							
	LP	-2S	3.65	20.0	-	-	-	-	-	-	
		-6S	3.65	25.0							
	LPA	-11	2.8	11.0	4.2	-	-	-	-	60°	
		-13		13.0							
		-17		17.0							
	LPF	-11	2.5	11.0	3.5	-	-	-	-	60°	
		-1113		13.0							
		-1117		17.0							
		-13	3.8	13.0	5.5						
		-17		17.0							
	PP	-4	4.6	14.0	5.5	-	3.0	-	-	-	
	TS	-3S	M5X0.8	15.0	3.60	-	2.0	-	-	-	
	WP	-1S	M5X0.8	18.0	3.65	-	-	-	-	-	
		5X15		15.0	5.0						
	WP	5X11	M5X0.8	10.5	5.0	-	2.0	-	-	-	
	LSP	-1	5.0	5.3	-	-	-	-	-	-	
		-2	6.5	5.6							
		-3	8.25	7.9							
	LSP	-2K	5.1	5.2							
		-3K	6.7	5.7							
	P	-03	2.8	1.95	-	-	-	-	-	-	
		-03S	3.5	1.95							

Shims

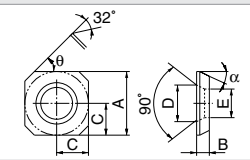
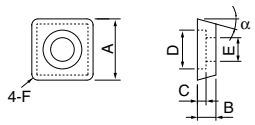
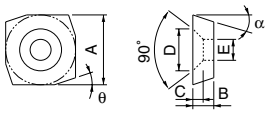
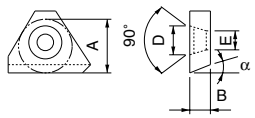
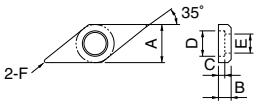
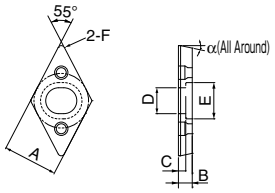
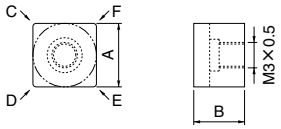
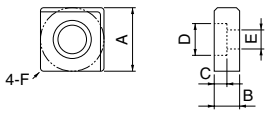
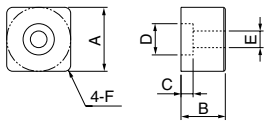
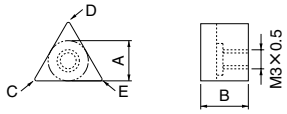
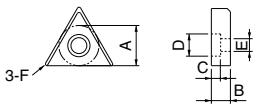
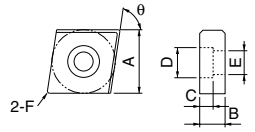
Drawing	Part Number	Dimension (mm)						Angle (°)		Notes
		A	B	C	D	E	F	α	θ	
	DC -42	12.0	3.2	1.2	6.0	4.4	R1.2	-	-	Shim Screw: SB-4085TR
	-44	12.55	5.0	1.5			R0.8			
	DD -42	12.55	3.2	1.2	6.0	4.4	R1.2	-	-	Shim Screw: SB-4085TR
	-42-16						R1.6			
	-43		3.4	1.3			R0.8			
	-44		5.0	1.5						
	DS -42	12.0	3.2	1.2	6.0	4.4	R1.2	-	-	Shim Screw: SB-4085TR
	-44	12.55	5.0	1.5			R0.8			
	DT -32	8.63	3.2	0.95	5.0	3.4	R1.6	3°	-	Shim Screw: SB-3080TR
	-42	12.46		1.2	6.0	4.4	R1.2	-		Shim Screw: SB-4085TR
	DV -33	9.40	3.5	1.2	6.0	4.4	R1.0	-	-	Shim Screw: SB-4085TR
	DW -42	11.5	3.2	1.2	6.0	4.4	R1.2	4°	-	Shim Screw: SB-4085TR
	-44	12.65	5.0	1.5			R0.8	-		
	556 C℀	34.0	10.0	12.7	5.6	5.0	R1.6	0°	55°	R Shows Right-hand Thread L Shows Left-hand Thread Shim Screw: HH5X16
	KPS -42	11.5	3.2	2.0	7.2	3.2	C1.0	7°	-	Shim Screw: SP3X8
	KPT -32	8.0	3.2	1.9	7.0	3.2	R0.4	11°	-	Shim Screw: SP3X8 SP3X10
	-42	10.5	3.2	1.9	7.0	3.2	R0.8	11°	-	
	KVN -32	9.52	3.2	2.1	7.6	5.5	R0.8	-	-	Lock Pin: LP-6S LP-2S

P SPARE PARTS

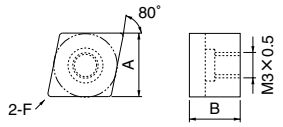
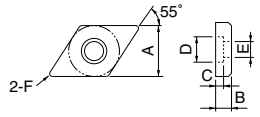
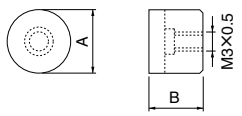
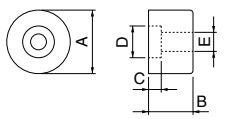
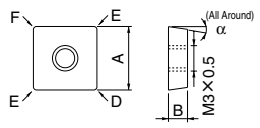
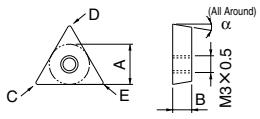
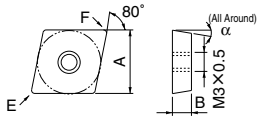
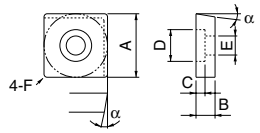
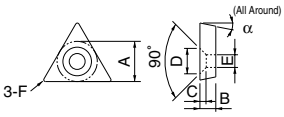
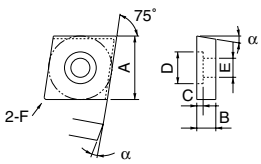
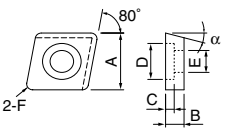
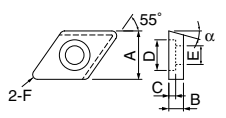
Shims

Drawing	Part Number	Dimension (mm)						Angle (°)		Notes
		A	B	C	D	E	F	α	θ	
	LC -32	9.47	2.4	1.3	6.18	4.68	R0.8	-	-	Shim Pin : LSP-1
	LC -32N									
	LC -4K	11.7	3.2	1.4	8.1	6.73	R0.8	-	-	Shim Pin : LSP-3K
	LC -42	12.65	3.2	1.5	8.01	6.28	R0.8	-	-	Shim Pin : LSP-2
	LC -42N									
	LC -42N-20						R2.0			
	LC -53	15.9	4.8	1.7	10.0	8.0	R1.2	-	-	Shim Pin : LSP-3
	LC -53N									
	LC -42R/L	12.65	3.2	1.5	8.01	6.28	R0.8	10°	-	R Shows Right-hand Thread L Shows Left-hand Thread Shim Pin : LSP-2
	LC -42NR/L									
	LC -42NR/L-20						R2.0			
	LD -32	9.47	2.4	1.3	6.18	4.68	R0.8	-	-	Shim Pin : LSP-1
	LD -32N									
	LD -4K	11.7	3.2	1.4	8.1	6.73	R0.8	-	-	Shim Pin : LSP-3K
	LD -4K43		4.8	3.0	8.3	6.60	R1.2			
	LD -42	12.65	3.2	1.5	8.01	6.28	R0.8	-	-	Shim Pin : LSP-2
	LD -42-20						R2.0			
	LD -43	12.65	4.8	3.1	8.5	6.28	R0.8	-	-	
	LD -43-20						R2.0			
	LR -80	9.47	3.2	1.3	6.25	4.75	-	-	-	Shim Pin : LSP-1
	LR -81	12.65	3.2	1.5	8.01	6.28	-	-	-	Shim Pin : LSP-2
	LR -10C	8.5	3.2	6.3	6.3	4.7	-	-	-	Shim Pin : LSP-1
	LR -12C	10.0	3.2	6.3	6.3	4.7	-	-	-	
	LR -16C	13.6	3.2	7.9	8.01	6.28	-	-	-	Shim Pin : LSP-2
	LS -32	9.47	3.2	1.3	6.18	4.68	R0.8	-	-	Shim Pin : LSP-1
	LS -42	12.65	3.2	1.5	8.01	6.28	R0.8	-	-	Shim Pin : LSP-2
	LT -3K	8.53	2.7	1.0	6.1	5.13	R0.8	-	-	Shim Pin : LSP-2K
	LT -32	9.47	2.7	1.3	6.18	4.68	R0.8	-	-	Shim Pin : LSP-1
	LT -32N									
	LT -32N-20						R2.0			
	LT -42	12.65	3.2	1.5	8.01	6.28	R0.8	-	-	Shim Pin : LSP-2
	LT -42N									
	LT -42N-20						R2.0			
	LW -32	9.47	2.4	1.3	6.18	4.68	R0.8	-	-	Shim Pin : LSP-1
	LW -32N									
	LW -42	12.65	3.2	1.5	8.01	6.28	R0.8	-	-	Shim Pin : LSP-2
	LW -42N									
	LW -42R/L	12.65	3.2	1.5	8.01	6.28	R0.8	10°	-	R Shows Right-hand Thread L Shows Left-hand Thread Shim Pin : LSP-2
	LW -42NR/L									
	MSD -42	10.7	3.2	1.85	7.0	3.3	-	20°	45°	Shim Screw : SP3X8
	MSE -4245S	10.3	3.2	2.0	6.0	5.0	-	20°	45°	Shim Screw : SP4X9
	MSE -4215	10.53	3.2	1.5	6.4	3.4	-	25°	15°	Shim Screw : SP3X8
	-4245	10.53	3.2	1.5	6.4	3.4	-	25°	45°	Shim Screw : SP3X8

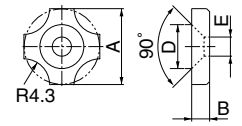
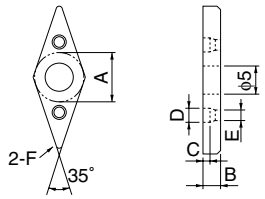
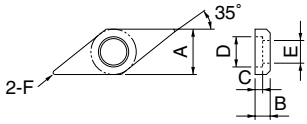
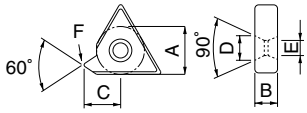
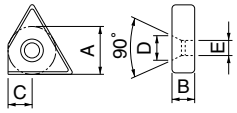
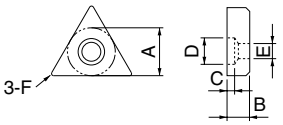
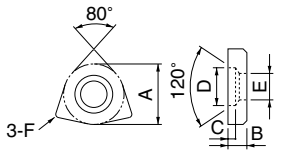
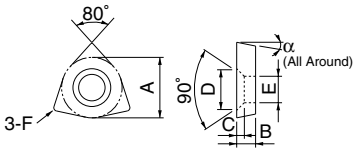
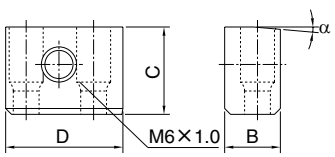
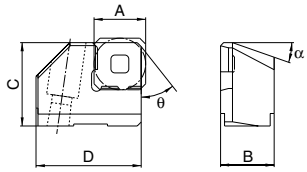
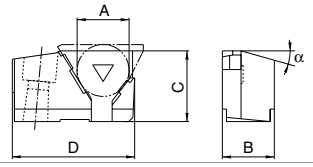
Shims

Drawing	Part Number	Dimension (mm)						Angle (°)		Notes
		A	B	C	D	E	F	α	θ	
	**MSO -4T245**	10.0	2.0	4.7	6.4	4.8	-	27°	45°	Shim Screw : SP3X6
	**MSO -5200**	12.6	3.18	1.8	8.27	6.66	R0.8	15°	-	Shim Screw : SPW-6045
	**MSP -42**	11.3	3.2	1.85	7.0	3.3	-	15°	15°	Shim Screw : SP3X8
	**MTE -42**	9.8	3.2	-	6.4	3.4	-	25°	-	Shim Screw : SP3X8
	**MVN -32**	9.52	3.2	2.1	7.4	6.5	R0.8	-	-	Lock Pin : TS-3S
	**PD -42**	12.7	3.2	1.7	6.0	8.4	0.8	12°	-	Shim Screw : SB-2050TR
	**SP -129**	9.52	9.52	R0.8	R1.6	R1.2	R1.6	-	-	Shim Screw : HH3X12
	**SP -141**	12.7	4.0	2.4	6.2	3.3	R1.2	-	-	Shim Screw : M3X8
	-143	12.7	7.2	2.4	6.2	3.3	R1.2	-	-	Shim Screw : M3X12
	-162	15.8	6.0	3.4	8.0	4.4	R1.5	-	-	Shim Screw : M4X10
	**SP -148**	12.7	8.8	2.4	6.2	3.3	R1.2	-	-	Shim Screw : BH3X12
	**SP -219**	6.35	9.52	R0.8	R1.2	R1.6	-	-	-	Shim Screw : HH3X12
	**SP -221**	9.52	4.0	2.5	6.5	3.5	R1.2	-	-	Shim Screw : M3X8
	-223	9.52	7.2	2.5	6.5	3.5	R1.2	-	-	Shim Screw : M3X12
	**SP -342**	12.7	6.0	2.5	6.5	3.5	R1.2	-	75°	Shim Screw : M3X8
	-441	12.7	4.0	2.5	6.2	3.3	R0.8	-	80°	Shim Screw : M3X8
	-443	12.7	7.2	2.5	6.2	3.3	R0.8	-	80°	Shim Screw : M3X12
	-454	15.7	8.0	3.4	8.0	4.5	R1.6	-	80°	Shim Screw : M4X10

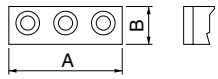
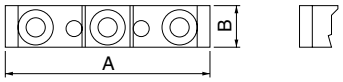
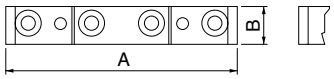
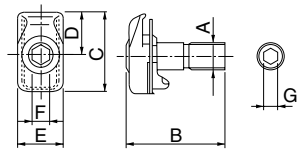
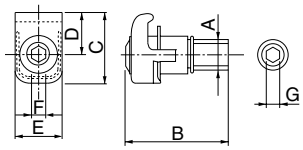
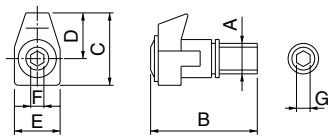
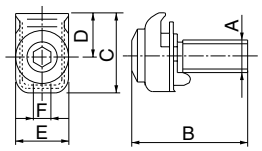
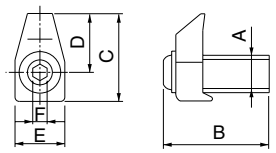
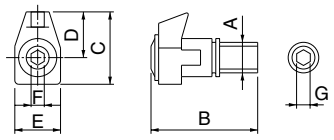
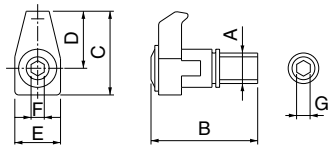
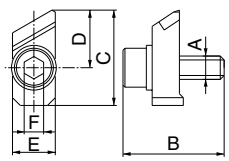
Shims

Drawing	Part Number	Dimension (mm)						Angle (°)		Notes
		A	B	C	D	E	F	α	θ	
	SP -429	9.52	9.52	-	-	-	R1.2	-	-	Shim Screw : HH3X12
	SP -521	10.0	4.0	2.5	6.2	3.3	R1.0	-	-	Shim Screw : M3X8
	-523		7.2							Shim Screw : M3X12
	-541	12.7	4.0	2.5	6.2	3.3	R1.2	-	-	Shim Screw : M3X8
	-543		7.2							Shim Screw : M3X12
	SP -826	9.52	7.9	-	-	-	-	-	-	Shim Screw : HH3X12
	-829	9.52	9.52	-	-	-	-	-	-	
	SP -841	12.7	4.0	2.4	6.2	3.3	-	-	-	Shim Screw : M3X8
	-843	12.7	7.2	2.4	6.2	3.3	-	-	-	Shim Screw : M3X12
	-849	12.7	8.8	2.4	6.2	3.3	-	-	-	Shim Screw : BH3X12
	-861	15.8	6.0	3.4	8.0	4.4	-	-	-	Shim Screw : M4X10
	SP -130A	9.52	3.2	-	R0.4	R0.8	R1.2	8°	-	Shim Screw : BH3X12
	SP -210A	6.35	3.2	R0.4	R0.8	R1.2	-	8°	-	Shim Screw : BH3X6
	SP -420A	9.52	3.2	-	-	R0.8	R1.2	8°	-	Shim Screw : BH3X6
	SP -141P	12.7	4.0	2.4	6.2	3.3	R1.2	7°	-	Shim Screw : M3X8
	-143P	12.7	7.2	2.4	6.2	3.3	R1.2	7°	-	Shim Screw : M3X12
	SP -230P	8.3	3.2	2.0	7.2	3.2	R0.5	7°	-	Shim Screw : SP3X10
	SP -341P	12.6	4.0	2.5	6.5	3.5	R1.2	7°	-	Shim Screw : M3X8
	SP -441P	12.7	4.0	2.5	6.2	3.3	R1.2	11°	-	Shim Screw : M3X8
	-443P		7.2							Shim Screw : M3X12
	SP -521P	10.0	4.0	2.5	6.2	3.3	R1.2	11°	-	Shim Screw : M3X8
	-523P		7.2							Shim Screw : M3X12

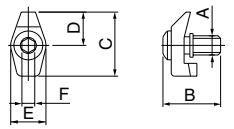
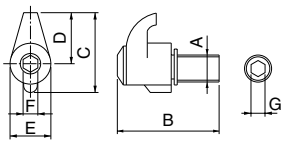
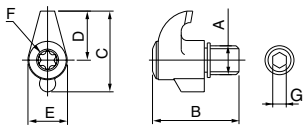
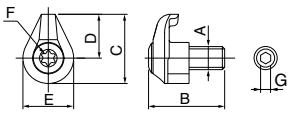
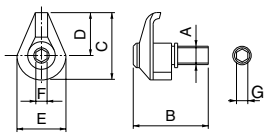
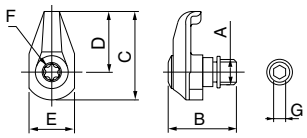
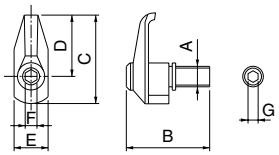
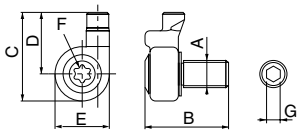
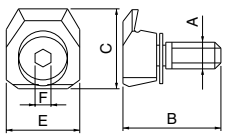
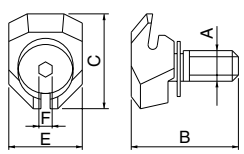
Shims / Cartridges

Drawing	Part Number	Dimension (mm)						Angle (°)		Notes
		A	B	C	D	E	F	α	θ	
	SP -RC	12.6	3.0	-	7.35	3.35	-	-	-	Shim Screw : SP3X8
	SVN -32	8.0	3.2	1.5	3.1	2.3	R0.4	-	-	Shim Screw : SB-2050TR
	SVN -32N	8.2	3.2	1.5	7.0	5.9	R0.6	-	-	Shim Screw : SS-4N
	TN -32	9.52	3.2	6.5	7.0	4.2	R0.4	-	-	Shim Screw : SP3X8
	-43	12.70	3.2	8.1	7.0	4.2	R0.5	-	-	
	TNW -32	9.52	3.2	4.8	7.0	4.2	-	-	-	Shim Screw : SP3X8
	WTN -33	9.52	4.76	2.5	7.0	5.3	R0.8	-	-	Shim Pin : WP-1S
	-33-20						R2.0			
	WWN -42	12.7	3.0	1.4	7.0	5.3	R1.2	-	-	Shim Pin : WP5X15
	WWP -42	12.7	3.0	1.5	8.3	5.3	R1.2	11°	-	Shim Pin : WP5X11
	-42-16						R1.6			
	MAP -2506	-	9.5	14.9	20	-	-	5°	-	Clamp Screw : SB-40140TR
	LSD -445R	12.7	13.0	20.0	26.5	-	-	20°	45°	Dimension A shows Insert I.D.
	LSE -445R	12.7	13.0	19.5	26.0	-	-	20°	45°	
	LSO -445R	13.494	12.0	21.3	23.5	-	-	27°	45°	
	LSP -415R	12.7	13.0	18.0	26.0	-	-	15°	15°	
	LTE -490R	12.7	12.0	17.0	30.0	-	-	15°	-	Dimension A shows Insert I.D.

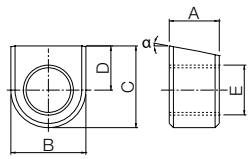
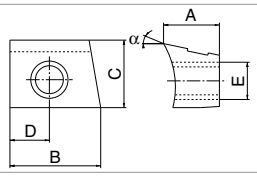
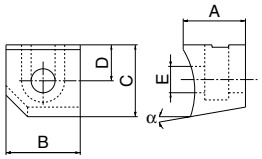
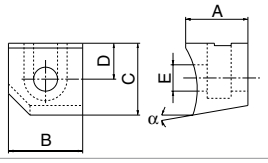
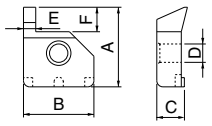
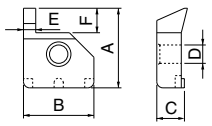
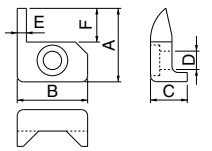
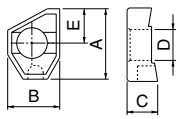
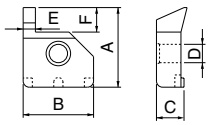
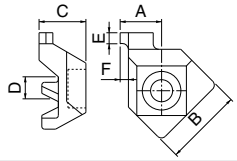
Clamp Sets

Drawing	Part Number	Dimension (mm)							Notes
		A	B	C	D	E	F	G	
	BCS -1	64.0	13.0	-	-	-	-	-	
	-5	48.0	16.5	-	-	-	-	-	
	BCS -2	74.0	15.0	-	-	-	-	-	
	-3	88.0	16.0	-	-	-	-	-	
	BCS -4	98.0	16.0	-	-	-	-	-	
	CE -010	M8X1.25	28.0	24.0	12.8	13.0	4.0	4.0	G : Indicates hexagon hole two side widths of back side of bolts
	-220			27.0	15.8	15.0			
	CE -020	M8X1.25	30.0	17.0	10.5	12.7	4.0	4.0	G : Indicates hexagon hole two side widths of back side of bolts
	CE -030	M8X1.25	30.0	19.0	12.5	12.7	4.0	4.0	G : Indicates hexagon hole two side widths of back side of bolts
	-040			22.5	16.0				
	CE -320	M6X1.0	24.5	18.2	9.7	12.7	4.0	-	
	CE -360S	M6X1.0	16.0	18.0	10.55	12.4	4.0	-	
	CE -030A	M8X1.25	30.0	20.0	13.7	12.7	4.0	-	G : Indicates hexagon hole two side widths of back side of bolts
	CE -410	M8X1.25	30.0	26.0	19.5	12.7	4.0	4.0	G : Indicates hexagon hole two side widths of back side of bolts
	-430			29.0	22.5				
	CP -RC[R/L]	M6X1.0	20.0	24.5	14.8	11.0	5.0	-	R Shows Right-hand Thread L Shows Left-hand Thread

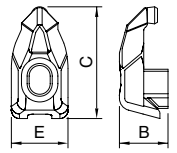
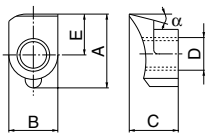
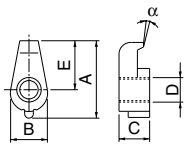
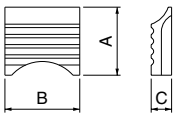
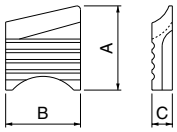
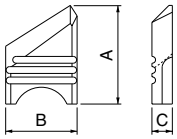
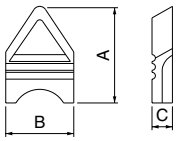
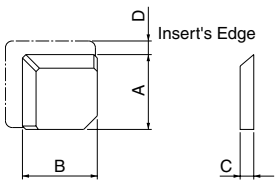
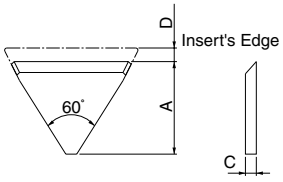
Clamp Sets

Drawing	Part Number	Dimension (mm)							Notes
		A	B	C	D	E	F	G	
	CPS -1	M3X0.5	9.0	10.0	5.2	5.5	2.0	-	
	CPS -2	M5X0.8	14.5	14.0	8.5	6.8	2.5	2.5	G : Indicates hexagon hole two side widths of back side of bolts
	-2P		18.0						
	-3	M6X1.0	19.0	16.5	10.0	8.8	3.0	3.0	
	CPS -2S	M5X0.8	13.5	14.0	8.5	6.8	T15	2.0	G : Indicates hexagon hole two side widths of back side of bolts
	-2TR		15.0						
	CPS -4V	M4X0.7	8.9	11.3	7.3	8.0	T10	-	G : Indicates hexagon hole two side widths of back side of bolts
	-5F	M5X0.8	11.3	12.7	7.5	10.3	T15	2.5	
	-5S		18.0	15.0	9.5	11.0		2.0	
	-5V		13.5	12.7	7.5	10.3		2.5	
	CPS -6F	M6X1.0	16.5	15.6	9.5	12.2	3.0	-	G : Indicates hexagon hole two side widths of back side of bolts
	-6M		18.5	17.5	11.0	13.0		3.0	
	-6S			18.0	12.0	12.0			
	-6V			15.6	9.5	12.2			
	-8V	M8X1.25	24.0	20.8	13.0	15.5	4.0	4.0	
	CPS -5E	M5X0.8	13.5	17.5	12.0	9.0	T15	2.5	G : Indicates hexagon hole two side widths of back side of bolts
	CPS -5R	M5X0.8	18.0	17.5	12.0	9.0	2.5	2.5	G : Indicates hexagon hole two side widths of back side of bolts R Shows Right-hand Thread L Shows Left-hand Thread
	LGBA -16RS	M5X0.8	15.0	16.1	11.2	9.85	T15	2.0	G : Indicates hexagon hole two side widths of back side of bolts R Shows Right-hand Thread L Shows Left-hand Thread
	-22RS			17.6	12.7				
	WCS -1N	M6X1.0	21.0	15.7	-	15.0	3.0	-	
	WCS -8	M6X1.0	21.0	19.4	-	15.0	3.0	-	

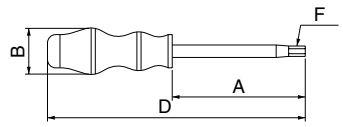
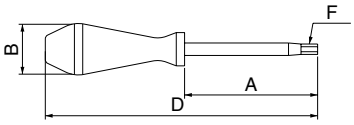
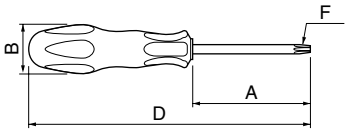
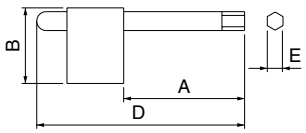
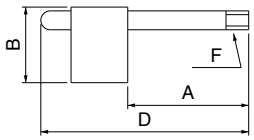
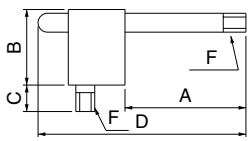
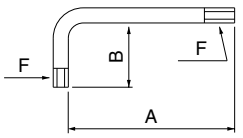
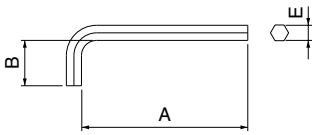
Clamps

Drawing	Part Number	Dimension (mm)						Angle (°)		Notes
		A	B	C	D	E	F	α	θ	
	C 09N	6.0	9.0	9.8	5.3	M6X1.0 (L-hand Thread)	-	10°	-	Clamp Screw : W6X18N
	C 17R	12.2	20.0	14.3	8.5	M8X1.25 (L-hand Thread)	-	12°	-	Clamp Screw : W6X18N
	C 20R	15.1	15.5	15.0	7.5	5.3	-	10°	-	Clamp Screw : TX8X15
	CH -20R	13.1	15.5	14.8	7.5	5.3	-	10°	-	Clamp Screw : TX8X15
	C 25R	13.2	15.5	15.0	7.5	5.3	-	10°	-	Clamp Screw : TX8X15
	CE -111	35.0	25.0	10.0	8.0	3.0	10.0	-	-	Right-hand
	-121									Left-hand
	-131					4.5		-	-	Right-hand
	-141									Left-hand
	CGA -3R/L	24.0	17.66	12.0	6.2	1.9	11.0	-	-	R Shows Right-hand L Shows Left-hand
	-4R/L	24.0	17.66	12.0	6.2	2.9	11.0	-	-	
	-5R/L	27.5	18.66	12.0	6.2	3.9	14.5	-	-	
	CGB R/L	19.0	14.0	8.2	6.35	9.5	-	-	-	R Shows Right-hand L Shows Left-hand
	CGH -1R/L	25.0	22.0	8.0	6.05	3.0	5.5	-	-	R Shows Right-hand L Shows Left-hand
	-2R/L					5.0				
	-3R/L	30.0	23.0	8.5		6.0	7.0			
	CGIA -3R	10.7	17.0	10.5	5.2	1.8	2.0	-	-	
	-4R			11.5		2.5				
	-5R	15.7		10.5		3.5	7.0			

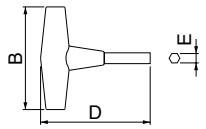
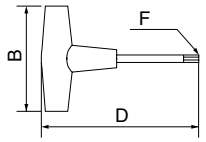
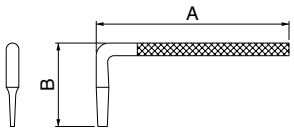
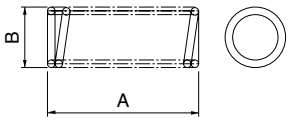
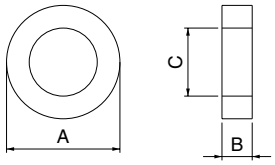
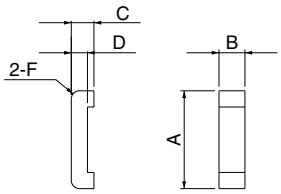
Clamps / Chipbreakers

Drawing	Part Number	Dimension (mm)						Angle (°)		Notes
		A	B	C	D	E	F	α	θ	
	CP -2D	-	10.0	21.6	-	10.4	-	-	-	
	-3D		12.0	27.6		14.0				
	-5D		13.0	32.0						
	CP -8TE	17.9	12.0	12.0	M8X1.25 (L-hand Thread)	10.0	-	15°	-	
	CP -8W	20.9	12.0	8.0	M8X1.25 (L-hand Thread)	13.0	-	3°	-	
	CB -11	11.5	12.7	3.5	-	-	-	-	-	
	-51	16.0	15.6	3.5	-	-	-	-	-	
	CB -12	14.0	12.7	3.5	-	-	-	-	-	Right-hand
	-13	14.0	12.7	3.5	-	-	-	-	-	Left-hand
	CB -14	18.51	12.7	3.5	-	-	-	-	-	Right-hand
	-15	18.51	12.7	3.5	-	-	-	-	-	Left-hand
	CB -16	18.0	12.7	3.5	-	-	-	-	-	
	-17	21.0	15.6	3.5	-	-	-	-	-	
	CB -S3220	7.94	7.94	1.0	2.0	-	-	-	-	
	-S4220	11.12	11.12	2.0	2.0	-	-	-	-	
	CB -T2212	7.48	-	1.5	1.2	-	-	-	-	
	-T3220	10.87	-	2.0	2.0	-	-	-	-	

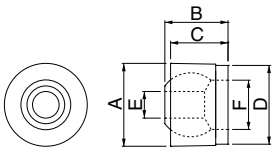
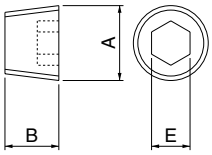
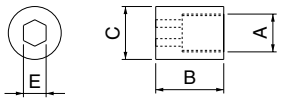
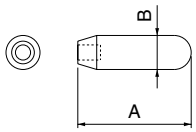
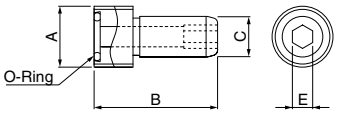
Wrenches

Drawing	Part Number		Dimension (mm)						Angle (°)		Notes
			A	B	C	D	E	F	α	θ	
	DT	-7	44	16	-	114	-	T7	-	-	Torx
		-8	70	26		150		T8			
	DT	-10	70	29	-	160	-	T10	-	-	Torx
		-15	70	32		170		T15			
		-20	90	32		190		T20			
		-25	82	36		190		T25			
	DTM	-6	40	17	-	115	-	T6	-	-	Torx Top of Wrench is Magnetized
		-7	44	17		119		T7			
		-8	70	24		150		T8			
		-10	70	28		167		T10			
		-15	70	31		174		T15			
	DTP	-9	61	30	-	174	-	9IP	-	-	○○IP Shows Torx Plus
		-15	81	33		186		15IP			
		-20	100			206		20IP			
	DTPM	-8	70	24	-	150	-	8IP	-	-	○○IP Shows Torx Plus Top of Wrench is Magnetized
		-10	70	28		165		10IP			
		-15	70	31		174		15IP			
	FH	-2	40	20	-	71	2.0	-	-	-	Hexagon
		-2.5	45	20		76	2.5				
	FT	-6	35	15	-	65	-	T6	-	-	Torx
		-7	34	15		62		T7			
		-8	40	20		74		T8			
		-10	40	20		74		T10			
	FT	-15	45	25	10	80	-	T15	-	-	Torx
	LTP	-10	51	17	-	-	-	10IP	-	-	○○IP Shows Torx Plus
		-15	54	18				15IP			
	LTW	-8SS	43	6	-	-	-	T8	-	-	Torx
		-10S	62	10				T10			
		-10SS	47	7				T10			
		-15S	62	10				T15			
		-20	58	19				T20			
		-25	65	20				T25			
	LW	-1.5	45	14	-	-	1.5	-	-	-	Hexagon
		-2	50	16			2.0				
		-2.5	56	18			2.5				
		-3	63	20			3.0				
		-4	70	25			4.0				
		-4.5	78	26			4.5				
		-5	80	28			5.0				
		-6	90	32			6.0				
		-8	109	36			8.0				
		-10	112	40			10.0				
		-14	140	56			14.0				
		-17	160	63			17.0				
		-19	180	70			19.0				

Wrenches / Springs / Nuts / Punches / Other

Drawing	Part Number	Dimension (mm)						Angle (°)		Notes
		A	B	C	D	E	F	α	θ	
	**TH -4**	-	80	-	83	4.0	-	-	-	Hexagon
	**TT -15**	-	70	-	118	-	T15	-	-	Torx
	-25		70		69		T25			
	-25L		80		145		T25			
	-30		80		110		T30			
	TTC -20	-	98	-	130	-	T20	-	-	
	-25						T25			
	TTP -20	-	70	-	138	-	20IP	-	-	○○IP Shows Torx Plus
	**LTK -5**	70	30	-	-	-	-	-	-	
	**SP -2D**	8.5	5.6	-	-	-	-	-	-	Spring
	-3D	12.0	7.0							
	-5	12.0	6.7							
	-5D	12.0	7.2							
	-6	12.0	7.7							
	-8	11.0	9.7							
	**W -6**	11.5	1.6	6.4	-	-	-	-	-	Washer
	6-14	11.5	1.4	6.4						
	-8	15.5	1.6	8.4						
	WB -5	10.0	1.0	5.3	-	-	-	-	-	Washer (Brass)
	-6	11.5	1.6	6.4						
	-8	15.5	1.6	8.4						
	**WSP -1**	15.1	4.0	3.5	2.5	-	R1.25	-	-	Spacer

Wrenches / Springs / Nuts / Punches / Other

Drawing	Part Number		Dimension (mm)						Angle (°)		Notes
			A	B	C	D	E	F	α	θ	
	**DN**	**10**	6.2	5.1	4.5	5.7	2.6	4.0	-	-	Nozzle
		20	10.1	7.7	7.0	9.6	M4X0.7	6.0			
	**GP**	**-1**	PT1/8	7.0	-	-	5.0	-	-	-	Plug
		-2	PT1/4	9.0	-	-	6.0	-	-	-	
	**WN**	**-1**	M5X8	10.0	7.0	-	3.0	-	-	-	Nut
	**PC**	**-1**	60.0	8.5	-	-	-	-	-	-	Punch
		-2	62.2	10.0	-	-	-	-	-	-	
	**CL**	**63-1**	M18X1.0	36.5	12	-	6.0	-	-	-	Coolant Pipe
		100-1	M24X1.5	44.0	16.0		8.0				

Toolholders for Ceramic Tools

Part Number			Spare Parts				
			Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw
CCLNR	2525M	-16	CB-17	CE-220	LW-4	SP-454	M4X10
CS-N□□	·····	-12	CB-11	CE-020	LW-4	SP-141 *(SP143)	M3X8 *(M3X12)

* Shim & Shim Screw : When using SN□□415 insert, purchase spare parts in ( ) separately.

Toolholders for Solid CBN Tools

Part Number			Spare Parts			
			Clamp Set	Wrench	Shim	Shim Screw
CCLN□□	·····	-09A	CE-030A	LW-4	SP-429	HH3X12
CTUN□□	·····	-11A	CE-030A	LW-4	SP-219	HH3X12

Toolholders for Bearing Machining

Part Number			Spare Parts					
			Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PRGC□□	·····	-12BE	LL-1CN	LS-1N	LR-12C	LSP-1	PC-1	FH-2.5
	·····	-16BE	LL-2C	LS-1T	LR-16C	LSP-2	PC-2	FH-2.5
PRGC□□	·····	-12BF	LL-1CN	LS-1N	LR-12C	LSP-1	PC-1	FH-2.5
	·····	-16BF	LL-2C	LS-1T	LR-16C	LSP-2	PC-2	FH-2.5

Toolholders for Back Turning

Part Number			Spare Parts			
			Anchor Pin	Lock Screw	Clamp Screw	Wrench
AABSR	0810K	-40F	LPA-11	HSB4X8R	-	FH-2
	1010··	-40F				
	1212··	-40F	LPA-13			
	1616··	-40F	LPA-17			
SABSR	·····	-40F	-	-	SB-3080TR	FT-10
AABWR	0810K	-40F	LPA-11	HSB4X8R	-	FH-2
	1010··	-40F				
	1212··	-40F	LPA-13			
	1616··	-40F	LPA-17			
SABWR	·····	-40F	-	-	SB-3080TR	FT-10
AABWR	0810K	-50F	LPA-11	HSB4X8R	-	FH-2
	1010··	-50F				
	1212··	-50F	LPA-13			
	1616··	-50F	LPA-17			
SABWR	·····	-50F	-	-	SB-3080TR	FT-10

KTKF

Part Number			Spare Parts	
			Clamp Screw	Wrench
KTKF□□	·····	-12	SB-4590TRWN	LTW-10S
	·····	-16		

External Toolholders (Back Clamp)

Part Number			Spare Parts		
			Anchor Pin	Lock Screw	Wrench
ACLCR/L	0810K	-06F	LPF-11	HSB4X8R/L	FH-2
	1010K	-06F			
	1010K	-09F	LPF-13		
	1212M	-09F			
	1616M	-09F	LPF-17		
ADJCR/L	0810K	-07F	LPF-11	HSB4X8R/L	FH-2
	1010K	-07F			
	1010K	-11F	LPF-13		
	1212M	-11F			
	1616M	-11F	LPF-17		
ADNCR	0810K	-07F	LPF-11	HSB4X8R	FH-2
	1010K	-07F			
	1010K	-11F	LPF-13		
	1212M	-11F			
	1616M	-11F	LPF-17		
AVJBR/L	1010K	-11F	LPF-11	HSB4X8R/L	FH-2
	1212M	-11F	LPF-1113		
	1616M	-11F	LPF-1117		
AVVBR	1010K	-11F	LPF-11	HSB4X8R	FH-2
	1212M	-11F	LPF-1113		
	1616M	-11F	LPF-1117		

* Lock Screw: HSB4X8R for R-hand Toolholder, HSB4X8L for L-hand Toolholder.

External Toolholders (Screw Clamp)

Part Number			Spare Parts	
			Clamp Screw	Wrench
SCLCR/L	·····	-06	SB-2570TR	FT-8
	·····	-09	SB-4085TR	FT-15
	·····	-12	SB-5090TR	LTW-20
SCACR/L	·····	-06	SB-2570TR	FT-8
	·····	-09	SB-4085TR	FT-15
	1212F	-09FF		
SDJCR/L	·····	-07F	SB-2570TR	FT-8
	·····	-11F	SB-4085TR	FT-15
SDLCR/L	·····	-07FF	SB-2570TR	FT-8
	·····	-11FF	SB-4085TR	FT-15
SDXCR/L	·····	-07	SB-2570TR	FT-8
	·····	-11	SB-4085TR	FT-15
SDNCR/L	·····	-07F	SB-2570TR	FT-8
	·····	-11F	SB-4085TR	FT-15
SDNCN	·····	-07	SB-2570TR	FT-8
	·····	-11	SB-4085TR	FT-15
SDLPR/L	·····	-07F	SB-2570TR	FT-8
	·····	-11F	SB-4085TR	FT-15
STGPR/L	·····	-08	SB-2050TR	FT-6
	·····	-11	SB-3080TR	FT-10
SVJBR/L	·····	-11F	SB-2570TR	FT-8
SVLPR/L	·····	-08FF	SB-2050TR	FT-6
	·····	-11FF	SB-2570TR	FT-8
	·····	-11F		
SVPPR/L	·····	-08FF	SB-2050TR	FT-6
	·····	-11FF	SB-2570TR	FT-8
	·····	-11		
SYXPR/L	·····	-06F	SB-2050TR	FT-6

External Toolholders (Screw Clamp)

Part Number			Spare Parts				
			Clamp Screw	Wrench	Shim	Shim Screw	Wrench
SVPB R/L	·····	-11	SB-2570TR	FT-8	-	-	-
	·····	-16N	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4
SVVBN	·····	-11	SB-2570TR	FT-8	-	-	-
	·····	-16N	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4

External Toolholders (Top Clamp)

Part Number			Spare Parts				
			Clamp Set	Wrench	Shim	Shim Screw	Chipbreaker
CSBP R/L	1212F	-09N	CPS-2P	LW-2.5	-	-	CB-S3220
CTTP R/L	·····	-11N	CPS-2P	LW-2.5	-	-	CB-T2212
	·····	-16N	CPS-3	LW-3	KPT-32	SP3X8	CB-T3220

Twin Bars

Part Number			Spare Parts	
			Clamp Screw	Wrench
STW R/L	·····	-15	SB-3080TR	LTW-10S
STWSR	·····	-15T	SB-3080TR	LTW-10S

Swiss IQ Bars

Part Number			Spare Parts			
			Clamp Screw	Wrench	Screw (Side Stopper)	Wrench
SVNR	1010H	-12	SB-3080TR	FT-10	HS3X4	LW-1.5
	1212K	-12				
	1616K	-12			HS3X8	
	2020K	-12			HS3X12	
	2525M	-12			HS3X16	
SVNSR	·····	-12···	SB-3080TR	LTW-10S	HS3X4	LW-1.5
S12F-	SVNR	12	SB-3080TR	FT-10	HS3X4	LW-1.5
S14G-	SVNR	12				
S16H-	SVNR	12			HS3X8	
S19H-	SVNR	12				
S19N-	SVNR	12				
S20H-	SVNR	12				
S25H-	SVNR	12			HS3X12	
S25Q-	SVNR	12				
S····	SVNR	12S	SB-3080TR	FT-10	HS3X4	LW-1.5

Swiss IQ Bars (S...SVN-XN)

Part Number			Spare Parts		
			Clamp Screw	Wrench	Screw (Side Stopper)
S···-	SVNR	12XN	SB-3080TR	FT-10	SP3X4

PSH Sleeve

Part Number			Spare Parts	
			Clamp Screw	Wrench
PSH	02··	···	HS3×4P	LW-1.5
	03··	···		
PSH	04··	···	HS4×4P	LW-2
	05··	···		
	06··	···		
	07··	···		

Boring Bars (Screw Clamp)

Part Number		Spare Parts	
		Clamp Screw	Wrench
S10H-	SCLC□03···E	SB-1635TR	FT-6
S10J-	SCLC□04···E	SB-2040TR	
S08X-	SCLC□06-10E	SB-2545TR	FT-8
S08X-	SCLC□06-10	SB-2545TR	FT-8
C···-	SCLC□03···	SB-1635TR	FT-6
C···-	SCLC□04···	SB-2040TR	
C08L-	SCLC□06-10	SB-2545TR	FT-8
A08H-	SCLC□06-10E	SB-2545TR	FT-8
E08L-	SCLC□06-10	SB-2545TR	FT-8
S··M-	SCLP□08···E	SB-3STR	FT-10
S···-	SCLP□09···E	SB-4TR	FT-15
S··M-	SCLP□08···	SB-3STR	FT-10
S···-	SCLP□09···	SB-4TR	FT-15
C10N-	SCLP□08···	SB-3STR	FT-10
C···-	SCLP□09···	SB-4TR	FT-15
A··X-	SCLP□08···E	SB-3STR	FT-10
A···-	SCLP□09···E	SB-4TR	FT-15
E10N-	SCLP□08-12	SB-3STR	FT-10
E···-	SCLP□09···	SB-4TR	FT-15
S···-	SDUC□07···E	SB-2560TR	FT-8
S···-	SDUC□11···E	SB-4085TR	FT-15
S···-	SDUC□07···	SB-2560TR	FT-8
S···-	SDUC□11···	SB-4085TR	FT-15
C···-	SDUC□07···	SB-2560TR	FT-8
C···-	SDUC□11···	SB-4085TR	FT-15
S···-	SDZC□07···E	SB-2560TR	FT-8
S···-	SDZC□11···E	SB-4085TR	FT-15
S···-	SDZC□07···	SB-2560TR	FT-8
S···-	SDZC□11···	SB-4085TR	FT-15
S06H-	STUB□06-08E	SB-1STR	FT-6
S08K-	STUP□08-10E	SB-1TR	
S··M-	STUP□09···E	SB-2TR	FT-8
S···-	STUP□11···E	SB-3TR	FT-10
S··X-	STUP□16···E	SB-4TR	FT-15
S06H-	STUB□06-08	SB-1STR	FT-6
S08K-	STUP□08-10	SB-1TR	
S··M-	STUP□09···	SB-2TR	FT-8
S···-	STUP□11···	SB-3TR	FT-10
S25X-	STUP□16-32	SB-4TR	FT-15
C10L-	STUB□06-08	SB-1STR	FT-6
C08L-	STUP□08-10	SB-1TR	
C···-	STUP□09···	SB-2TR	FT-8
C···-	STUP□11···	SB-3TR	FT-10
C20S-	STUP□16···	SB-4TR	FT-15
A08H-	STUP□08-10E	SB-1TR	FT-6
A··X-	STUP□09···E	SB-2TR	FT-8
A···-	STUP□11···E	SB-3TR	FT-10
A···-	STUP□16···E	SB-4TR	FT-15
E08L-	STUP□08-10	SB-1TR	FT-6
E···-	STUP□09···	SB-2TR	FT-8
E···-	STUP□11···	SB-3TR	FT-10
E20S-	STUP□16-25	SB-4TR	FT-15

Boring Bars (Screw Clamp)

Part Number		Spare Parts	
		Clamp Screw	Wrench
S···-	SWUB□08-··E	SB-2050TR	FT-6
S12M-	SWUP□11-14E	SB-2545TR	FT-8
S···-	SWUP□11-··E	SB-2560TR	
S···-	SWUP□16-··E	SB-4065TR	FT-15
S···-	SWUB□06-··	SB-2040TR	FT-6
S10J-	SWUB□08-··	SB-2035TR	
C···-	SWUB□06-··	SB-2040TR	FT-6
C07K-	SWUB□08-08	SB-2035TR	
C08L-	SWUB□08-10	SB-2050TR	
C10N-	SWUB□08-··		
C12Q-	SWUP□11-14(-·/·)	SB-2545TR	FT-8
C12Q-	SWUP□11-16(-·/·)	SB-2560TR	
C16X-	SWUP□11-18(-·/·)		
C···-	SWUP□16-··	SB-4065TR	FT-15
S16Q-	SSKPR09-20	SB-4TR	FT-15
S20R-	SSKPR09-25		
S25X-	SSKPR12-32	GS-50S	LW-3
S32S-	SSKPR12-40	GS-50	
S12M-	SYXP□06-12E	SB-2040TR	FT-6
S16Q-	SYXP□06-16E	SB-2045TR	

Boring Bars (Screw Clamp)

Part Number		Spare Parts				
		Clamp Screw	Wrench	Shim	Shim Screw	Wrench (for Shim Screw)
S12M-	SVJP□08-16E	SB-2050TR	FT-6	-	-	-
S···-	SVJC□08-··E					
S···-	SVJB□11-··E	SB-2570TR	FT-8			
S···-	SVJB□16-··EN	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4
S32S-	SVJB□16-40E	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
S40T-	SVJB□16-50E					
S10M-	SVPC□08-16E	SB-2050TR	FT-6	-	-	-
S···-	SVPB□11-··E	SB-2570TR	FT-8			
S···-	SVPB□16-··EN	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4
S25X-	SVPB□16-34E	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
S32S-	SVPB□16-40E					
S12M-	SVUC□08-16E	SB-2050TR	FT-6	-	-	-
S···-	SVUB□11-··E	SB-2570TR	FT-8			
S···-	SVUB□16-··EN	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4
S25X-	SVUB□16-34E	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
S32S-	SVUB□16-40E					
S12M-	SVZC□08-16E	SB-2050TR	FT-6	-	-	-
S···-	SVZB□11-··E	SB-2570TR	FT-8			
S···-	SVZB□16-··EN	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4
S25X-	SVZB□16-34E	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
S32S-	SVZB□16-40E					

Boring Bars (Top Clamp)

Part Number		Spare Parts				
		Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw
S12L-	CTUP□09-16	-	CPS-1	FH-2	-	-
S···-	CTUP□11-··	-	CPS-2	FH-2.5	-	-
S25X-	CTUP□16-34	-	CPS-3	LW-3	-	-
S32S-	CTUP□16-43				KPT-32	SP3X10
S40X-	CTUP□16-50					
S32S-	CTUC□16-40	*CB-13/12	CE-320	LW-4	SP-230P	SP3X10
S···-	CCLN□09-··A	-	CE-360S	LW-4	SP-420A	BH3X6
S···-	CSKN□09-··A	-	CE-360S	LW-4	SP-130A	BH3X12

* CB-13 for Right-hand Toolholder, CB-12 for Left-hand Toolholder.

KTGF-F

Part Number			Spare Parts	
			Clamp Screw	Wrench
KTGF R/L	·····	-16F	SB-4070TRW	FT-8

KN91

Part Number			Spare Parts				
			Clamp	Clamp Bolt	Washer	Spring	Wrench
KN91 R/L	44	-4	*CE-111/121	BH8X30	W-8	SP-8	LW-5
	44	-5					
	44	-7	*CE-131/141				

* KN91R/L44-4 / 5 ... CE-111 for Right-hand Toolholder, and CE-121 for Left-hand Toolholder.
KN91R/L44-7 ... CE-131 for Right-hand Toolholder, and CE-141 for Left-hand Toolholder.

KGHS

Part Number			Spare Parts				
			Clamp	Clamp Bolt	Washer	Spring	Wrench
KGHS R/L	·····	-4	CGH-1	HH6X25	W-6	SP-6	LW-5
	·····	-5					
	·····	-7	CGH-2				

• Clamp: KGHS R/L ... CGH- O L for Right-hand Toolholder, and CGH- O R for Left-hand Toolholder.

KGM (Small Parts Machining)

Part Number			Spare Parts	
			Clamp Screw	Wrench
KGM R/L	0810K	- ···	SE-40120TR	LTW-15S
	1010··	- ···		
	1212··	- 1.5-····		
	1212··	- 2-····		
	1212··	- 2.5-····		
	1616··	- 2-····	SE-50125TR	LTW-20
	1616··	- 2.5-····		
	1616··	- 3-····		

GFVS-AA / GFVT-AA

Part Number			Spare Parts	
			Clamp Set	Wrench
GFVS R/L	·····	-08AA	CPS-5V	FT-15
GFVT R/L	·····	-08AA	CPS-5V	FT-15

KTKH-S

Part Number			Spare Parts
			Releasing Wrench
KTKH R/L	·····	- ···S	LTK-5

KTKH-B

Part Number			Spare Parts	
			Clamp Screw	Wrench
KTKH R/L	0808K	- ···B	SE-40120TR	FT-15
	1010K	- ···B		
	1212M	- ···B		
	1414M	- ···B		
	1616M	- ···B	SE-50125TR	LTW-20

KTTX

Part Number			Spare Parts	
			Clamp Screw	Wrench
KTTXR	·····	-16F	SB-4070TRW	FT-8

TECHNICAL

R

R1 - R38

Inch / Metric Conversion Chart

• Cutting Speed (Vc)

Cutting Speed (Vc)	
SFM	m/min
300	91
600	183
900	274

SFM = (0.262 x rpm) x dia.(inch)
3.28feet/min (SFM) = 1m/min

SFM (Surface Feet per Minute)

• D.O.C. (ap)

D.O.C. (ap)	
inch	mm
0.02	0.5
0.04	1.0
0.08	2.0

1inch = 25.4mm
0.04inch = 1mm

• IPR Feed Rate (f)

Feed Rate (f)	
ipr	m/min
0.002	0.05
0.004	0.1
0.008	0.2

1ipr = 25.4mm/rev
0.004ipr = 0.1mm/rev

ipr (Inch per Revolution)
mm/rev (mm per Revolution)

• IPT Feed Rate (fz)

Feed Rate (fz)	
ipt	mm/t
0.002	0.05
0.004	0.1
0.008	0.2

1ipt = 25.4mm/t
0.004ipt = 0.1mm/t

ipt (Inch per Tooth)
mm/t (mm per Tooth)

• Torque

lbft	Nm
0.738	1

lbft (Pound x Feet)
Nm (Newton x Meter)

SI Derived Units Conversion Chart

(Extracted from JIS Handbook "Iron & Steel")

• Force

N	kgf	dyn
1	$1.019\ 72X10^{-1}$	$1X10^{5}$
9.806 65	1	$9.806\ 65X10^{5}$
$1X10^{-5}$	$1.019\ 72X10^{-6}$	1

• Stress

Pa or N/m^2	MPa or N/mm^2	kgf/mm^2	kgf/cm^2	kgf/m^2
1	$1X10^{-6}$	$1.019\ 72X10^{-7}$	$1.019\ 72X10^{-5}$	$1.019\ 72X10^{-1}$
$1X10^{6}$	1	$1.019\ 72X10^{-1}$	$1.019\ 72X10$	$1.019\ 72X10^{5}$
$9.806\ 65X10^{6}$	9.806 65	1	$1X10^{-2}$	$1X10^{-6}$
$9.806\ 65X10^{4}$	$9.806\ 65X10^{-2}$	$1X10^{-2}$	1	$1X10^{-4}$
9.806 65	$9.806\ 65X10^{-6}$	$1X10^{-6}$	$1X10^{-4}$	1

• Pressure

Pa	kPa	MPa	bar	kgf/cm2
1	$1X10^{-3}$	$1X10^{-6}$	$1X10^{-5}$	$1.019\ 72X10^{-5}$
$1X10^{3}$	1	$1X10^{-3}$	$1X10^{-2}$	$1.019\ 72X10^{-2}$
$1X10^{6}$	$1X10^{3}$	1	1X10	1.019 72X10
$1X10^{5}$	$1X10^{2}$	$1X10^{-1}$	1	1.019 72
$9.806\ 65X10^{4}$	9.806 65X10	$9.806\ 65X10^{-2}$	$9.806\ 65X10^{-1}$	1

• Power

W	kW	kgf · m/s	PS	kcal/h
1	$1X10^{-3}$	$1.019\ 72X10^{-1}$	$1.359\ 62X10^{-3}$	$8.600\ 00X10^{-1}$
$1X10^{3}$	1	$1.019\ 72X10^{-2}$	1.359 62	$8.600\ 00X10^{2}$
9.806 65	$9.806\ 65X10^{-3}$	1	$1.333\ 33X10^{-2}$	8.433 71
$7.355X10^{2}$	$7.355X10^{-1}$	7.5X10	1	$6.325\ 29X10^{2}$
1.162 79	$1.162\ 79X10^{-3}$	$1.185\ 72X10^{-1}$	$1.580\ 95X10^{-3}$	1

• Revolution

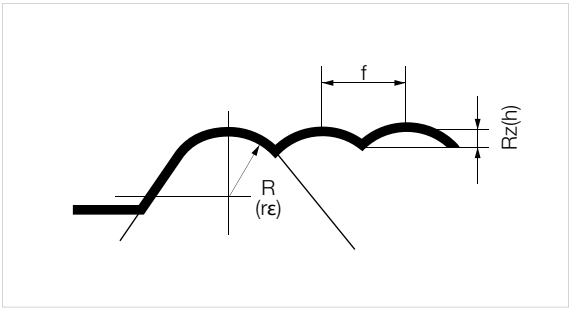
min^{-1}	s^{-1}	r.p.m.
1	0.0167	1
60	1	60

Theoretical (Geometrical) Surface Roughness

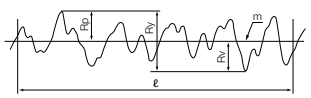
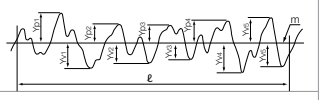
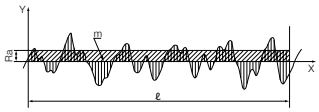
Theoretical Surface Roughness for Turning indicates the minimum roughness value from the cutting conditions and it is shown by the formula as follows:

$$Rz(h)= \frac{f^2}{8R(r\varepsilon)} x10^3$$

Rz(h) : Theoretical Surface Roughness [μm]
f : Feed Rate [mm/rev]
R (rε) : Corner Radius of Insert [mm]



How to Obtain Surface Roughness Values

Type	Symbol	How to Obtain	Explanation
Max. Height Roughness	Rz	Ry is a mean value in micron meter obtained from the distance of the highest peaks and the lowest valleys within the range of sampled reference length (l) in the direction of the center line of the roughness curve. Note) When calculating Rz, extraordinarily high or low threads are considered as damages and excluded from the calculation, and only standard lengths are used. Rz=Rp+Rv	
Ten Points Mean Roughness	RzJIS	Rz is a mean value in micron meter obtained from the distance of 5 highest peaks (Yp) and the 5 lowest valleys (Yv) measured from the center line of the roughness curve within the range of sampled reference length "l ". $RzJIS = \frac{(Yp1+Yp2+Yp3+Yp4+Yp5) + (Yv1+Yv2+Yv3+Yv4+Yv5)}{5}$	Yp1,Yp2,Yp3,Yp4,Yp5 : Distance from the mean line to highest 5 peaks in the range of sampled reference length "l " Yv1,Yv2,Yv3,Yv4,Yv5 : Distance from the mean line to the lowest 5 valleys in the range of sampled reference length "l " 
Arithmetical Mean Roughness	Ra	Ra is obtained from the following formula in micron meter, the roughness curve is expressed by y=f(x), the X-axis is in the direction of the center line and the Y-axis is the vertical magnification of the roughness curve in the range of sampled reference length "l ". $Ra= \frac{1}{\ell} \int_0^{\ell} \{f(x)\} dx$	

Relationship with Triangle Symbol

Arithmetical Mean Roughness Ra(μm)	Max. Height Roughness Rz(μm)	Ten Points Mean Roughness RzJIS(μm)	※(Relationship with Triangle)
0.025	0.1	0.1	▽▽▽▽
0.050	0.2	0.2	
0.100	0.4	0.4	
0.200	0.8	0.8	
0.400	1.6	1.6	▽▽▽
0.800	3.2	3.2	
1.600	6.3	6.3	
3.200	12.5	12.5	▽▽
6.300	25.0	25.0	
12.500	50.0	50.0	▽
25.000	100.0	100.0	

※ Finishing symbol (Triangle ▽ and wave ~) was removed from JIS standard in the 1994 Revision.

- How to Indicate
  ① When Ra is 1.6μm→1.6μmRa
  ② When Rz is 6.3μm→6.3μmRz
  ③ When RzJIS is 6.3μm→6.3μmRzJIS

Indication in JIS Standard

Example of Ra Indication		Example of Ry, (Rz) Indication	
① When indicating the upper limit only (when upper limit is 6.3 mRa)	6.3	① When indicating upper limit only Indicate surface roughness following the parameter symbol.	Rz6.3
② When indicating both lower and upper limit (when upper limit is 6.3 mRa, lower limit is 1.6 mRa)	6.3 1.6	② When indicating both lower and upper limit Indicate surface roughness as (upper limit ~ lower limit) following the parameter symbol.	Rz6.3~1.6

Note: The indications of Ra and Rz are different.

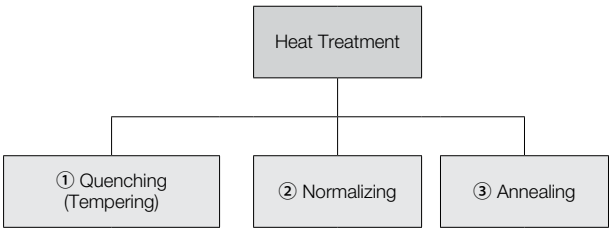
Caution-Symbols for Surface Roughness

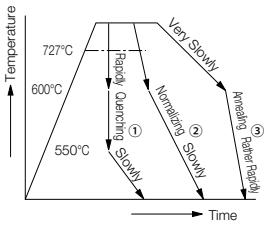
The above information is based on JIS B 0601-2001. However, some symbols were revised as shown in the right table in accordance with ISO Standard from JIS B 0601-2001 version. Ten Points Mean Roughness (Rz) was eliminated from 2001 version but it still remains as RzJIS reference, since it was popular in Japan.

Type	Symbol of JIS B 0601-1994		Symbol of JIS B 0601-2001
Max. Height Roughness	Ry	→	Rz
Ten Points Mean Roughness	Rz	→	(RzJIS)
Arithmetical Mean Roughness	Ra	→	Ra

Heat Treatment

One of the ways to determine the hardness of steel is the heat treatment and it is classified to 3 types.



 Heat Treatment Method	① Quenching (Tempering)	After heating to over 727°C, cool rapidly down to 550°C in water or oil.	Quenching makes steel hard because it cools down red-hot steel very rapidly in water or oil, but it may promote internal stress. In order to remove such internal stress, tempering is used. (After cooled down once, reheat it to 200°C~600°C)
	② Normalizing	After heating to over 727°C, cool down rapidly to 600°C and then to normal temperature.	It miniaturizes the crystals. (Steel is also composed of small cells.) It is used to improve the mechanical character or machinability.
	③ Annealing	After heating to over 727°C, cool down very slowly to 600°C, then to normal temperature.	It miniaturizes the crystals like the process of normalizing, but the crystal size is bigger than that of normalizing. It targets machinability improvement and distortion correction.

Hardness Value

Hardness	Reference Standard	Example	Explanation of Example
Brinell Hardness	JIS Z 2243:1992	250HB	Hardness Value : 250, Hardness Symbol : HB
		200~250HB	When the hardness has the range
Vickers Hardness	JIS Z 2244:1998	640HV	Hardness Value : 640, Hardness Symbol : HV
Rockwell Hardness	JIS Z 2245:1992	60HRC	Hardness Value : 60, Hardness Symbol : HRC
Shore Hardness	JIS Z 2246:1992	50HS	Hardness Value : 50, Hardness Symbol : HS

Vickers Hardness Conversion Chart

Vickers Hardness (HV)	Brinell Hardness 10mm Dia. Ball Load: 3000kgf (HB)		Rockwell Hardness[2]			Shore Hardness (HS)	Tensile Strength MPa[1]
	Standard Ball	Tungsten Carbide Ball	A Scale Load: 60kgf Diamond Point (HRA)	B Scale Load: 100kgf 1.60mm (1/16in) Ball (HRB)	C Scale Load: 150kgf Diamond Point (HRC)		
940	-	-	85.6	-	68.0	97	
920	-	-	85.3	-	67.5	96	
900	-	-	85.0	-	67.0	95	
880	-	(767)	84.7	-	66.4	93	
860	-	(757)	84.4	-	65.9	92	
840	-	(745)	84.1	-	65.3	91	
820	-	(733)	83.8	-	64.7	90	
800	-	(722)	83.4	-	64.0	88	
780	-	(710)	83.0	-	63.3	87	
760	-	(698)	82.6	-	62.5	86	
740	-	(684)	82.2	-	61.8	84	
720	-	(670)	81.8	-	61.0	83	
700	-	(656)	81.3	-	60.1	81	
690	-	(647)	81.1	-	59.7	-	
680	-	(638)	80.8	-	59.2	80	
670	-	630	80.6	-	58.8	-	
660	-	620	80.3	-	58.3	79	
650	-	611	80.0	-	57.8	-	
640	-	601	79.8	-	57.3	77	
630	-	591	79.5	-	56.8	-	
620	-	582	79.2	-	56.3	75	
610	-	573	78.9	-	55.7	-	
600	-	564	78.6	-	55.2	74	
590	-	554	78.4	-	54.7	-	2055
580	-	545	78.0	-	54.1	72	2020
570	-	535	77.8	-	53.6	-	1985
560	-	525	77.4	-	53.0	71	1950
550	505	517	77.0	-	52.3	-	1905
540	496	507	76.7	-	51.7	69	1860
530	488	497	76.4	-	51.1	-	1825
520	480	488	76.1	-	50.5	67	1795
510	473	479	75.7	-	49.8	-	1750
500	465	471	75.3	-	49.1	66	1705
490	456	460	74.9	-	48.4	-	1660
480	448	452	74.5	-	47.7	64	1620
470	441	442	74.1	-	46.9	-	1570
460	433	433	73.6	-	46.1	62	1530
450	425	425	73.3	-	45.3	-	1495
440	415	415	72.8	-	44.5	59	1460
430	405	405	72.3	-	43.6	-	1410
420	397	397	71.8	-	42.7	57	1370
410	388	388	71.4	-	41.8	-	1330
400	379	379	70.8	-	40.8	55	1290
390	369	369	70.3	-	39.8	-	1240
380	360	360	69.8	(110.0)	38.8	52	1205
370	350	350	69.2	-	37.7	-	1170
360	341	341	68.7	(109.0)	36.6	50	1130
350	331	331	68.1	-	35.5	-	1095
340	322	322	67.6	(108.0)	34.4	47	1070
330	313	313	67.0	-	33.3	-	1035

Vickers Hardness (HV)	Brinell Hardness 10mm Dia. Ball Load: 3000kgf (HB)		Rockwell Hardness[2]			Shore Hardness (HS)	Tensile Strength MPa[1]
	Standard Ball	Tungsten Carbide Ball	A Scale Load: 60kgf Diamond Point (HRA)	B Scale Load: 100kgf 1.60mm (1/16in) Ball (HRB)	C Scale Load: 150kgf Diamond Point (HRC)		
320	303	66.4	(107.0)	32.2	45	1005	
310	294	65.8	-	31.0	-	980	
300	284	65.2	(105.5)	29.8	42	950	
295	280	64.8	-	29.2	-	935	
290	275	64.5	(104.5)	28.5	41	915	
285	270	64.2	-	27.8	-	905	
280	265	63.8	(103.5)	27.1	40	890	
275	261	63.5	-	26.4	-	875	
270	256	63.1	(102.0)	25.6	38	855	
265	252	62.7	-	24.8	-	840	
260	247	62.4	(101.0)	24.0	37	825	
255	243	62.0	-	23.1	-	805	
250	238	61.6	99.5	22.2	36	795	
245	233	61.2	-	21.3	-	780	
240	228	60.7	98.1	20.3	34	765	
230	219	-	96.7	(18.0)	33	730	
220	209	-	95.0	(15.7)	32	695	
210	200	-	93.4	(13.4)	30	670	
200	190	-	91.5	(11.0)	29	635	
190	181	-	89.5	(8.5)	28	605	
180	171	-	87.1	(6.0)	26	580	
170	162	-	85.0	(3.0)	25	545	
160	152	-	81.7	(0.0)	24	515	
150	143	-	78.7	-	22	490	
140	133	-	75.0	-	21	455	
130	124	-	71.2	-	20	425	
120	114	-	66.7	-	-	390	
110	105	-	62.3	-	-	-	
100	95	-	56.2	-	-	-	
95	90	-	52.0	-	-	-	
90	86	-	48.0	-	-	-	
85	81	-	41.0	-	-	-	

- Extracted from JIS Handbook "Iron & Steel" (SAE J 417)

Note 1) 1MPa = 1N/mm²

2) Value in ( ) is not in practical use, but reference only

Metal

Class		Name of JIS Standard	Symbol
Structural Steel		Rolled Steel for Welded Structure	SM
		Re-Rolled Steel	SRB
		Rolled Steel for General Structure	SS
		Light Gauge Steel for General Structure	SSC
		Hot-Rolled Steel Plate, Sheet and Strip for Automobile Structural Use	SAPH
Steel Sheet		Cold-Rolled Steel Plate, Sheet and Strip	SPC
		Hot-Rolled Soft Steel Plate, Sheet and Strip	SPH
Steel Pipe		Carbon Steel Pipe for Ordinary Piping	SGP
		Carbon Steel Pipe for Boiler / Heat Exchanger	STB
		Seamless Steel Pipe for High Pressure Gas Cylinder	STH
		Carbon Steel Pipe for General Structural Use	STK
		Carbon Steel Pipe for Machine Structural Use	STKM
		Alloy Steel Pipe for Structural Use	STKS
		Stainless Steel Pipe for Machine Structural Use	SUS-TK
		Steel Square Pipe for General Structural Use	STKR
		Alloy Steel Pipe for Ordinary Piping	STPA
		Carbon Steel Pipe for Pressure Service	STPG
		Carbon Steel Pipe for High-Temperature Service	STPT
		Carbon Steel Pipe for High-Pressure Service	STS
		Stainless Steel Pipe for Ordinary Piping	SUS-TP
Steel for Machine Structural Use		Carbon Steel for Machine Structural Use	SxxC, SxxCK
		Aluminium Chromium Molybdenum Steel	SACM
		Chromium Molybdenum Steel	SCM
		Chromium Steel	SCr
		Nickel Chromium Steel	SNC
		Nickel Chromium Molybdenum Steel	SNCM
		Manganese Steel and Manganese Chromium Steel for Machine Structural Use	SMn, SMnC
Special Steel	Tool Steel	Carbon Tool Steel	SK
		Hollow Drill Steel	SKC
		Alloy Tool Steel	SKS, SKD, SKT
		High Speed Tool Steel	SKH
	Special Steel	Free Cutting Carbon Steel	SUM
		High Carbon Chromium Bearing Steel	SUJ
		Spring Steel	SUP
	Stainless Steel	Stainless Steel Bar	SUS-B
		Hot-Rolled Stainless Steel Plate, Sheet and Strip	SUS-HP, SUS-HS
		Cold-Rolled Stainless Steel Plate, Sheet and Strip	SUS-CP, SUS-CS
	Heat Resistant Steel	Heat-Resisting Steel Bar	SUH-B, SUH-CB
		Heat-Resisting Steel Plate and Sheet	SUH-HP, SUH-CP
	Super Alloy	Corrosion-Resisting and Heat-Resisting Superalloy Bar	NCF-B
		Corrosion-Resisting and Heat-Resisting Superalloy Plate and Sheet	NCF-P
Forged Steel		Carbon Steel Forging	SF
		Chromium Molybdenum Steel Forging	SFCM
		Nickel Chromium Molybdenum Steel Forging	SFNCM
Cast Iron		Gray Cast Iron	FC
		Spheroidal Graphite Cast Iron	FCD
		Blackheart Malleable Cast Iron	FCMB
		Whiteheart Malleable Cast Iron	FCMW
		Pearlitic Malleable Cast Iron	FCMP
Cast Steel		Carbon Cast Steel	SC
		High Tensile Strength Carbon Cast Steel & Low Alloy Cast Steel	SCC
		Stainless Cast Steel	SCS
		Heat-Resisting Cast Steel	SCH
		High Manganese Cast Steel	SCMnH
		Cast Steel for High Temperature and High Pressure Service	SCPH

Non-Ferrous Metal

Class	Name of JIS Standard	Symbol
Copper	Copper and Copper Alloy Sheet / Strip	CxxxxP CxxxxPP CxxxxR
	Copper and Copper Alloy Rod and Bar	CxxxxBD CxxxxBDS CxxxxBE
Aluminum Alloy and Aluminum Alloy Expanded Material	Aluminum and Al. Alloy Sheet / Strip	AxxxxP AxxxxPC
	Aluminum and Al. Alloy Rod, Bar, and Wire	AxxxxBE AxxxxBES AxxxxBD AxxxxBDS AxxxxW AxxxxWS
	Aluminum and Al. Alloy Extruded Shape	AxxxxS
	Aluminum and Al. Alloy Forging	AxxxxFD AxxxxFH
Magnesium Alloy Expanded Material	Magnesium Alloy Sheet and Plate	MP
	Magnesium Alloy Rod and Bar	MB
Nickel Alloy	Nickel Copper Alloy Sheet and Plate	NCuP
	Nickel Copper Alloy Rod and Bar	NCuB
Titanium Expanded Material	Titanium Rod and Bar	TB
Casting	Brass Casting	CAC20x
	High Strength Brass Casting	CAC30x
	Bronze Casting	CAC40x
	Phosphoric Bronze Casting	CAC50x
	Aluminum Bronze Casting	CAC70x
	Aluminum Alloy Casting	AC
	Magnesium Alloy Casting	MC
	Zinc Alloy Die Casting	ZDCx
	Aluminum Alloy Die Casting	ADC
	Magnesium Alloy Die Casting	MD
	White Metal	WJ

Steel

CLASS	USA AISI / SAE	JAPAN JIS	CHINA GB	UK BS	GERMANY DIN	FRANCE NF	RUSSIA ГОСТ
CARBON STEEL FOR MACHINE STRUCTURAL USE	1010	S10C	08 10	040A10 045A10 045M10	C10E C10R	XC10	
	1012	S12C		040A12		XC12	
	1015	S15C	15	055M15	C15E C15R		
	1017	S17C				XC18	
	1020	S20C	20	070M20 C22 C22E C22R	C22 C22E C22R	C22 C22E C22R	
	1023	S22C					
	1025	S25C	25	C25 C25E C22R	C25 C25E C25R	C25 C25E C25R	
	1029	S28C					25Г
	1030	S30C	30	080A30 080M30 C30 C30E C30R	C30 C30E C30R	C30 C30E C30R	30Г
		S33C					30Г
	1035	S35C	35	C35 C35E C35R	C35 C35E C35R	C35 C35E C35R	35Г
	1038	S38C					35Г
	1039 1040	S40C	40	080M40 C40 C40E C40R	C40 C40E C40R	C40 C40E C40R	40Г
	1042 1043	S43C		080A42			40Г
	1045 1046	S45C	45	C45 C45E C45R	C45 C45E C45R	C45 C45E C45R	45Г
		S48C		080A47			45Г
	1049	S50C	50	080M50 C50 C50E C50R	C50 C50E C50R	C50 C50E C50R	50Г
	1050 1053	S53C					50Г
	1055	S55C	55	070M55 C55 C55E C55R	C55 C55E C55R	C55 C55E C55R	
	1059 1060	S58C	60	C60 C60E C60R	C60 C60E C60R	C60 C60E C60R	60Г
		S09CK		045A10 045M10	C10E	XC10	
		S15CK	15F		C15E	XC12	
		S20CK				XC18	

Steel

CLASS	USA AISI / SAE	JAPAN JIS	CHINA GB	UK BS	GERMANY DIN	FRANCE NF	RUSSIA ГОСТ
NICKEL CHROMIUM STEEL		SNC236			36NiCr6		40XH
		SNC415	12CrNi2		14NiCr10		
		SNC631	30CrNi3		36NiCr10		30XH3A
		SNC815	12Cr2Ni4	655M13	15NiCr13		
		SNC836	37CrNi3		31NiCr14		
NICKEL CHROMIUM MOLYBDENUM STEEL	8615 8617 8620 8622	SNCM220	20CrNiMo	805A20 805M20 805A22 805M22	20NiCrMo2 20NiCrMoS2	20NCD 2	
	8637 8640	SNCM240			40NiCrMo2-2		
		SNCM415					
	4320	SNCM420	18CrNiMnMoA		17NiCrMo6-4		20XH2M (20XHM)
		SNCM431			30CrNiMo8		
	4340	SNCM439	40CrNiMoA		40NiCrMo6		
		SNCM447			34CrNiMo6		
		SNCM616					
		SNCM625					
		SNCM630					
		SNCM815					
CHROMIUM STEEL		SCr415	15Cr 15CrA		17Cr3 17CrS3		15X 15XA
	5120	SCr420	20Cr				20X
	5130 5132	SCr430	30Cr	34Cr4 34CrS4	34Cr4 34CrS4	34Cr4 34CrS4	30X
	5132	SCr435	35Cr	37Cr4 37CrS4	37Cr4 37CrS4	37Cr4 37CrS4	35X
	5140	SCr440	40Cr	530M40 41Cr4 41CrS4	41Cr4 41CrS4	41Cr4 41CrS4	40X
		SCr445	45Cr 50Cr				45X
CHROMIUM MOLYBDENUM STEEL		SCM415	15CrMo		15CrMo4		
		SCM418	20CrMo		18CrMo4 18CrMoS4		20XM
		SCM420		708M20	20CrMo5		20XM
		SCM421					
	4131	SCM430	30CrMo 30CrMoA				30XM 30XMA
		SCM432					
	4137	SCM435	35CrMo	34CrMo4 34CrMoS4	34CrMo4 34CrMoS4	34CrMo4 34CrMoS4	35XM
	4140 4142	SCM440	42CrMo	708M40 709M40 42CrMo4 42CrMoS4	42CrMo4 42CrMoS4	42CrMo4 42CrMoS4	
	4145 4147	SCM445					
		SCM822					

Steel

CLASS	USA **AISI / SAE**	JAPAN **JIS**	CHINA **GB**	UK **BS**	GERMANY **DIN**	FRANCE **NF**	RUSSIA **ГОСТ**
MANGANESE CHROMIUM STEEL MANGANESE STEEL	1522	SMn420	20Mn2	150M19	20Mn5		
	1534	SMn433	30Mn2 35Mn2	150M36	34Mn5		30Г2 35Г2
	1541	SMn438	40Mn2	150M36	36Mn5		35Г2 40Г2
	1541	SMn443	45Mn2				40Г2 45Г2
	5115	SMnC420	15CrMn		16MnCr5		
	5140	SMnC443	40CrMn				
STRUCTURAL STEEL WITH SPECIFIED HARDENABILITY BAND (H-SHAPE STEEL)	1522H	SMn420H					
		SMn433H					
	1541H	SMn438H					
	1541H	SMn443H					
		SMnC420H					
		SMnC443H					
		SCr415H	15CrH		17Cr3 17CrS3		15Х
	5120H	SCr420H	20Cr1H		17Cr3		20Х
	5130H 5132H	SCr430H		34Cr4 34CrS4	34Cr4 34CrS3	34Cr4 34CrS4	30Х
	5135H	SCr435H		37Cr4 37CrS4	37Cr4 34CrS4	37Cr4 37CrS4	35Х
	5140H	SCr440H	40CrH	41Cr4 41CrS4	41Cr4 41CrS4	41Cr4 41CrS4	40Х
	4118H	SCN415H	15CrMoH		15CrMo5		
		SCM418H			18CrMo4 18CrMoS4		
	4118H	SCM420H	20CrMoH	708H20	18CrMo4		
	4135H 4137H	SCM435H		34CrMo4 34CrMoS4	34CrMo4 34CrMoS4	34CrMo4 34CrMoS4	
	4140H 4142H	SCM440H		42CrMo4 42CrMoS4	42CrMo4 42CrMoS4	42CrMo4 42CrMoS4	
	4145H 4147H	SCM445H					
		SCM822H					
		SNC415H					
		SNC631H					
		SNC815H	12Cr2Ni4H	655H13	15NiCr13		
	8617H 8620H 8622H	SNCM220H	20CrNiMoH	805H17 805H20 805H22	21NiCrMo2	20N CD 2	
	4320H	SNCM420H	20CrNi2MoH		20NiCrMoS6-4		

Steel

CLASS	USA		JAPAN	CHINA	UK	GERMANY	FRANCE	RUSSIA
	UNS	AISI	JIS	GB	BS	DIN	NF	ГОСТ
STAINLESS STEEL	S20100	201	SUS 201	1Cr17Mn6Ni5N			Z12CMN17-07Az	
	S20200	202	SUS 202	1Cr18Mn8Ni5N	284S16			12Х17Г9АН4
	S30100	301	SUS 301	1Cr18Mn10Ni5Mo3N 1Cr17Ni7	301S21	X12CrNi17 7	Z11CN17-08	07Х16Н6
			SUS 301L			X2CrNiN18-7		
			SUS 301J1			X12CrNi17 7		
	S30200	302	SUS 302	1Cr18Ni9	302S25		Z12CN18-09	12Х18Н9
	S30215	302B	SUS 302B					
	S30300	303	SUS 303	Y1Cr18Ni9	303S21	X10CrNiS18 9	Z8CNF18-09	
	S30323	303Se	SUS 303Se	Y1Cr18Ni9Se	303S41			12Х18Н10Е
	S30400	304	SUS 304	0Cr18Ni9	304S31	X5CrNi18 10	Z7CN18-09	08Х18Н10
	S30403	304L	SUS 304L	00Cr18Ni10	304S11	X2CrNi19 11	Z3CN19-11	03Х18Н11
	S30451	304N	SUS 304N1	0Cr18Ni9N			Z6CN19-09Az	
	S30452		SUS 304N2	0Cr19Ni10NbN				
	S30453	304LN	SUS 304LN	00Cr18Ni10N		X2CrNiN18 10	Z3CN18-10Az	
			SUS 304J1					
			SUS 304J2					
	S30431	S30431	SUS 304J3					
	S30500	305	SUS 305	1Cr18Ni12	305S19	X5CrNi18 12	Z8CN18-12	06Х18Н11
			SUS 305J1					
	S30908	309S	SUS 309S	0Cr23Ni13			Z10CN24-13	
	S31008	310S	SUS 310S	0Cr25Ni20	310S31		Z8CN25-20	10Х23Н18
	S31600	316	SUS 316	0Cr17Ni12Mo2	316S31	X5CrNiMo17 12 2	Z7CND17-12-02	
						X5CrNiMo17 13 3	Z6CND18-12-03	
	S31603	316L	SUS 316L	00Cr17Ni14Mo2	316S11	X2CrNiMo17 13 2	Z3CND17-12-02	
						X2CrNiMo17 14 3	Z3CND17-13-03	03Х17Н14М3
	S31651	316N	SUS 316N	0Cr17Ni12Mo2N				
	S31653	316LN	SUS 316LN	00Cr17Ni13Mo2N		X2CrNiMoN17 12 2	Z3CND17-11Az	
						X2CrNiMoN17 13 3	Z3CND17-12Az	
	S31635		SUS 316Ti			X6CrNiMoTi17 12 2	Z6CNDT17-12	08Х17Н13М2Т
			SUS 316J1	0Cr18Ni12Mo2Cu2				
			SUS 316J1L	00Cr18Ni14Mo2Cu2				
	S31700	317	SUS 317	0Cr19Ni13Mo3	317S16			
	S31703	317L	SUS 317L	00Cr19Ni13Mo3	317S12	X2CrNiMo18 16 4	Z3CND19-15-04	
	S31753		SUS 317LN				Z3CND19-14Az	
			SUS 317J1	0Cr18Ni16Mo5				
			SUS 317J2					
			SUS 317J3L					
	N08367		SUS 836L					
	N08904	N08904	SUS 890L		904S14		Z2NCDU25-20	
	S32100	321	SUS 321	1Cr18Ni9Ti 0Cr18Ni10Ti	321S31	X6CrNiTi18 10	Z6CNT18-10	08Х18Н10Т
	S34700	347	SUS 347	0Cr18Ni11Nb	347S31	X6CrNiNb18 10	Z6CNNb18-10	08Х18Н12Б
	S38400	384	SUS 384				Z6CN18-16	
	S30430	304Cu	SUS XM7	0Cr18Ni9Cu3	394S17		Z2CNU18-10	
	S38100		SUS XM15J1	0Cr18Ni13Si4			Z15CNS20-12	
	S32900	329	SUS 329J1	0Cr26Ni5Mo2				
	S39240	S31803	SUS 329J3L				Z3CNDU22-05Az	08Х21Н6М2Т
	S39275	S31260	SUS 329J4L				Z3CNDU25-07Az	

Steel

CLASS	USA		JAPAN	CHINA	UK	GERMANY	FRANCE	RUSSIA
	UNS	AISI	JIS	GB	BS	DIN	NF	ГОСТ
STAINLESS STEEL	S40500	405	SUS 405	0Cr13Al 0Cr13	405S17	X6CrAl13	Z8CA12	
			SUS 410L	00Cr12			Z3C14	
	S42900	429	SUS 429					
	S43000	430	SUS 430	1Cr17	430S17	X6Cr17	Z8C17	12X17
	S43020	430F	SUS 430F	Y1Cr17		X7CrMoS18	Z8CF17	
	S43035		SUS 430LX			X6CrTi17	Z4CT17	
			SUS 430J1L			X6CrNb17	Z4CNb17	
	S43400	434	SUS 434	1Cr17Mo	434S17	X6CrMo17 1	Z8CD17-01	
	S43600	436	SUS 436L					
			SUS 436J1L					
	S44400	444	SUS 444				Z3CDT18-02	
	S44700		SUS 447J1	00Cr30Mo2				
	S44627		SUS XM27	00Cr27Mo			Z1CD26-01	
	S40300	403	SUS 403	1Cr12				
	S41000	410	SUS 410	1Cr13	410S21	X10Cr13	Z13C13	
	S41008	410S	SUS 410S		403S17	X6Cr13	Z8C12	08X13
			SUS 410F2					
	S41025		SUS 410J1	1Cr13Mo 1Cr12Mo		X12CrS13		
	S41600	416	SUS 416	Y1Cr13	416S21		Z11CF13	
	S42000	420	SUS 420J1	2Cr13	420S29	X20Cr13	Z20C13	20X13
	S42000	420	SUS 420J2	3Cr13	420S37	X30Cr13	Z33C13	30X13
	S42020	420F	SUS 420F	Y3Cr13			Z30CF13	
			SUS 420F2					
			SUS 429J1					
	S43100	431	SUS 431	1Cr17Ni2	431S29	X20CrNi17 2	Z15CN16-02	20X17H2
	S44002	440A	SUS 440A	7Cr17			Z70C15	
	S44003	440B	SUS 440B	8Cr17				
	S44004	440C	SUS 440C	9Cr18 11Cr17 9Cr18Mo			Z100CD17	95X18
	S44020	S44020	SUS 440F	Y11Cr17				
	S17400	S17400	SUS 630	0Cr17Ni4CuNb		X5CrNiCuNb16-4	Z6CNU17-04	
	S17700	S17700	SUS 631	0Cr17Ni7Al		X7CrNiAl17 7	Z9CNA17-07	09X17H7 Ю
			SUS 632J1					

Representative Classification of Stainless Steel

Stainless Steel (Austenitic Related)

JIS	
SUS201	SUS309S
SUS202	SUS310S
SUS301	SUS316
SUS302	SUS316L
SUS302B	SUS316N
SUS303	SUS317
SUS303Se	SUS317L
SUS304	SUS321
SUS304L	SUS347
SUS304N1	SUS384
SUS304N2	SUSXM7
SUS305	SUSXM15J1
SUS308	

Stainless Steel (Ferritic Related)

JIS
SUS405
SUS429
SUS430
SUS430F
SUS434
SUSXM27

Stainless Steel (Martensitic Related)

JIS
SUS403
SUS410
SUS410S
SUS416
SUS420J1
SUS420F
SUS431
SUS440A
SUS440B
SUS440C
SUS440F

Stainless Steel (Precipitation Hardened Related)

JIS
SUS630
SUS631

Steel

CLASS	USA		JAPAN	CHINA	UK	GERMANY	FRANCE	RUSSIA
	UNS	AISI	JIS	GB	BS	DIN	NF	ГОСТ
HEAT RESISTING STEEL			SUH 31		331S42		Z35CNWS14-14	45Х14Н14В2М
			SUH 35		349S52		Z52CMN21-09Az	
	S63008		SUH 36	5Cr21Mn9Ni4N	349S54	X53CrMnNi21-9	Z55CMN21-09Az	55Х20 Г 9АН4
	S63017		SUH 37	2Cr21Ni12N	381S34			
			SUH 38					
	S30900	309	SUH 309	2Cr23Ni13	309S24		Z15CN24-13	
	S31000	310	SUH 310	2Cr25Ni20	310S24	CrNi2520	Z15CN25-20	20Х25Н20С2
	N08330	N08330	SUH 330	1Cr16Ni35			Z12NCS35-16	
	S66286		SUH 660	0Cr15Ni25Ti2MoAlVB			Z6NCTV25-20	
	R30155		SUH 661					
			SUH 21			CrAl1205		
	S40900	409	SUH 409		409S19	X6CrTi12	Z6CT12	
			SUH 409L				Z3CT12	
	S44600	446	SUH 446	2Cr25N			Z12C25	15Х28
	S65007		SUH 1	4Cr9Si2	401S45	X45CrSi9-3	Z45CS9	
			SUH 3	4Cr10Si2Mo			Z40CSD10	40Х10С2М
			SUH 4	8Cr20Si2Ni	443S65		Z80CSN20-02	
			SUH 11					40Х 9С2
			SUH 600	2Cr12MoVNbN				20Х12ВНМБФР
	S42200		SUH 616	2Cr12NiMoWV				

Representative Classification of Heat Resisting Steel

Heat Resisting Steel (Austenitic Related)

JIS
SUH31
SUH35
SUH36
SUH37
SUH38
SUH309
SUH310
SUH330
SUH660
SUH661

Heat Resisting Steel (Ferritic Related)

JIS
SUH21
SUH409
SUH446

Heat Resisting Steel (Martensitic Related)

JIS
SUH1
SUH3
SUH4
SUH11
SUH600
SUH616

Steel

CLASS	USA AISI / SAE	JAPAN JIS	CHINA GB	UK BS	GERMANY DIN	FRANCE NF	RUSSIA ГОСТ
CARBON TOOL STEEL		SK140 (SK1)	T13			C140E3U	Y13
	W1-11½	SK120 (SK2)	T12			C120E3U	Y12
	W1-10	SK105 (SK3)	T11		C105W1	C105E2U	Y11
	W1-9	SK95 (SK4)	T10			C90E2U	Y10
	W1-8	SK85 (SK5)	T8Mn T9		C80W1	C90E2U C80E2U	Y8Г Y9
		SK75 (SK6)	T8		C80W1	C80E2U C70E2U	Y8
		SK65 (SK7)	T7		C70W2	C70E2U	Y7
HIGH SPEED TOOL STEEL	T1	SKH2	W18Cr4V	BT1		HS18-0-1	P18
	T4	SKH3	W18Cr4VCo5	BT4	S18-1-2-5	HS18-1-1-5	P18K5Ф2
	T5	SKH4	W18Cr4V2Co8	BT5		HS18-0-2-9	P18K5Ф
	T15	SKH10	W12Cr4V5Co5	BT15	S12-1-4-5	HS12-1-5-5	
	M2	SKH51	W6Mo5Cr4V2	BM2	S6-5-2	HS6-5-2	P6M5
	M3-1	SKH52	CW6Mo5Cr4V2 W6Mo5Cr4V3				P6M5Ф3
	M3-2	SKH53	CW6Mo5Cr4V3		S6-5-3	HS6-5-3	P6M5Ф3
	M4	SKH54		BM4		HS6-5-4	
	M35 M41	SKH55	W6Mo5Cr4V2Co5 W7Mo5Cr4V2Co5	BM35	S6-5-2-5	HS6-5-2-5HC	P6M5K5
	M36	SKH56					
		SKH57		BT42	S10-4-3-10	HS10-4-3-10	
	M7	SKH58	W2Mo9Cr4V2			HS2-9-2	
	M42	SKH59	W2Mo9Cr4VCo8	BM42	S2-10-1-8	HS2-9-1-8	
ALLOY TOOL STEEL	F2	SKS11					XB4
		SKS2			105WCr6	105WCr5	XBГ
		SKS21	W				
		SKS5					
	L6	SKS51					
		SKS7					
		SKS8	Cr06			C140E3UCr4	13X
	S1	SKS4	5CrW2Si 6CrW2Si				6XB2C 5XB2CФ
	S1	SKS41	4CrW2Si				4XB2C
	W2-9½	SKS43		BW2		100V2	
	W2-8	SKS44					
		SKS3	9CrWMn				9XBГ
		SKS31	CrWMn		105WCr6	105WCr5	XBГ
		SKS93					
		SKS94					
		SKS95	8MnSi				
	D3	SKD1	Cr12	BD3	X210Cr12	X200Cr12	X12
	D2	SKD10	Cr12Mo1V1		X153CrMoV12		X12MФ
	D2	SKD11	Cr12MoV	BD2	X153CrMoV12	X160CrMoV12	
	A2	SKD12	Cr5Mo1V	BA2		X100CrMoV5	
		SKD4				X32WCrV3	
	H21	SKD5	3Cr2W8V	BH21	X30WCrV9-3	X30WCrV9	
	H11	SKD6	4Cr5MoSiV	BH11	X38CrMoV51	X38CrMoV5	4X5MФC
	H13	SKD61	4Cr5MoSiV1	BH13	X40CrMoV51	X40CrMoV5	4X5MФ1C
	H12	SKD62		BH12		X35CrWMoV5	3X3M3Ф
	H10	SKD7	4Cr3Mo3SiV	BH10	X32CrMoV33	32CrMoV12-18	
	H19	SKD8		BH19			
		SKT3				55CrNiMoV4	
		SKT4	5CrNiMo	BH224 / 5	55NiCrMoV6	55NiCrMoV7	5XHM

Steel

CLASS	USA **AISI / SAE**	JAPAN **JIS**	CHINA **GB**	UK **BS**	GERMANY **DIN**	FRANCE **NF**	RUSSIA **ГОСТ**
SPRING STEEL	1075 1078	SUP3					75 80 85
		SUP6	55Si2Mn		56SiCr7	60Si7	60С2
	9260	SUP7	60Si2Mn 60Si2MnA		61SiCr7	60Si7	60С2Г
	5155	SUP9	55CrMnA		55Cr3	55Cr3	
	5160	SUP9A	60CrMnA		55Cr3	60Cr3	
	6150	SUP10	50CrVA	735A51, 735H51	50CrV4	51CrV4	ХФА50ХГФА
	51B60	SUP11A	60CrMnBA		51CrV4		50ХГР
	9254	SUP12		685A57, 685H57	54SiCr6	54SiCr6	
	4161	SUP13	60CrMnMoA	705A60, 705H60	60CrMn3-2	60CrMo4	
FREE CUTTING CARBON STEEL	1110	SUM11					
	1108	SUM12	Y12				
	1212	SUM21					
	1213	SUM22	Y15	(230M07)	9SMn28	S250	
	12L13	SUM22L	Y12Pb		9SMnPb28	S250Pb	
	1215	SUM23					
		SUM23L					
	12L14	SUM24L	Y15Pb		9SMnPb28	S250Pb	
		SUM25			9SMn36	S300	
	1117	SUM31			15S10		
		SUM31L					
		SUM32	Y20	210M15, 210A15		(13MF4)	
	1137	SUM41	Y30 Y35			(35MF6)	
	1141	SUM42	Y40Mn			(45MF6.1)	
	1144	SUM43		(226M44)		(45MF6.3)	
CARBON CHROMIUM BEARING STEEL	51100	SUJ1	GCr4				
	52100	SUJ2	GCr5		100Cr6	100Cr6	ШХ15
	ASTM A 485 Grade 1	SUJ3	GCr15SiMn				
		SUJ4	GCr15SiMo				
		SUJ5	GCr18Mo				

Cast Iron

CLASS	USA AISI / SAE	JAPAN JIS	CHINA GB	UK BS	GERMANY DIN	FRANCE NF	RUSSIA ГОСТ
GRAY CAST IRON	NO.20	FC100	HT100	100			СУ10
	NO.30	FC150	HT150	150	GG15	FGL150	СУ15
	NO.35	FC200	HT200	200	GG20	FGL200	СУ20
	NO.45	FC250	HT250	250	GG25	FGL250	СУ25
	NO.50	FC300	HT300	300	GG30	FGL300	СУ30
	NO.60	FC350	HT350	350	GG35	FGL350	СУ35
					GG40	FGL400	СУ40
NODULAR CAST IRON	60-40-18	FCD400	QT400-18	400/17	GGG40	FGS370-17	ВУ40
	65-45-12	FCD450	QT450-10	420/12		FGS400-12	ВУ45
	70-50-05	FCD500	QT500-7	500/7	GGG50	FGS500-7	ВУ50
	80-60-03	FCD600	QT600-3	600/7	GGG60	FGS600-2	ВУ60
	100-70-03	FCD700	QT700-2	700/2	GGG70	FGS700-2	ВУ70
	120-90-02	FCD800	QT800-2	800/2	GGG80	FGS800-2	ВУ80
			QT900-2	900/2			ВУ100

Non-Ferrous Metal

CLASS	USA AISI / SAE	JAPAN JIS	CHINA GB	UK BS	GERMANY DIN	FRANCE NF	RUSSIA ГОСТ
ALUMINUM ALLOY	1199		1A99		A199.99R		А99
			1A97		A199.98R		А97
			1A95				А95
		A1080	1A80	1080(1A)	A199.90	1080A	А8
	1050	A1050	1A50	1050(1B)	A199.50	1050A	А5
	5052	A5052	5A02	NS4	AlMg2.5	5052	Амг
			5A03	NS5			АМг3
	5056	A5056	5A05	NB6	AlMg5		АМг5В
	5456	A5556	5A30	NG61		5957	
	2036	A2117	2A01		AlCu2.5Mg0.5	2117	Д18
		A2017	2A11	HF15	AlCuMg1	2017S	Д1
	2124	A2024	2A12		AlCuMg2	2024	Д16АВТВ
	2319		2B16				
		A2N01	2A80				АК4
	2218	A2018	2A90				АК2
	2014	A2014	2A14		AlCuSiMn	2014	АК8
	6061	A6061		6061		6061	
	7175	A7075	7A09		AlZnMgCu1.5	7075	В95Р
ALUMINUM ALLOY CASTING	356.2	AC4C	ZAlSi7Mn	LM25	G-AlSi7Mg		
	413.2	AC3A	ZAlSi12	LM6	G-Al12	A-S12-Y4	АЛ2
	355.2		ZAlSi5Cu1Mg				АЛ5
	413.0	AC8A	ZAlSi2Cu2Mg1		G-Al12(Cu)		
			ZAlCu5Mn				АЛ19
	201.0		ZAlCu5MnCdVA				
	520.2		ZAlMg10	LM10	G-AlMg10	AG11	АЛ8
			ZAlMg5Si		G-AlMg5Si		АЛ13

CVD Coated Carbide (Turning)

• This table is Kyocera´s own estimation based on publications and is not authorized by companies mentioned in it.

Classification		Kyocera	Dijet	Hitachi	Mitsubishi	NTK	Sandvik	Seco	Sumitomo	Tungaloy	Kennametal	Iscar
Class	Symbol											
P (Steel)	P01	CA510 CA5505	JC110V	HG8010 HC5000 HG3305	UE6105 UE6005 UE6015	-	GC4005 GC4205	TP0500 TP1000	AC700G AC810P	T9005 T9105	KCP05 KCK05 KC9105	IC8150 IC9150
	P10	CA510 CA515 CA5505 CA5515	JC110V JC215V	GM10 GM20 GM8015 HG8010	UE6105 UE6110 UE6005 UE6010 UE6020	CP2 CP5 CP7	GC4205 GC4015 GC3115 GC4215 GC4315	TP1000 TP1500 TP100	AC700G AC2000 AC810P AC820P	T9005 T9105 T9015 T9115	KCP10 KCM15 KC9010 KC9110	IC8150 IC9150 IC9250
	P20	CA525 CA5515 CA5525 CR9025	JC110V JC215V	GM20 GM8020 HG8025	MC6025 UC6010 UE6110 UE6020	CP2 CP5 CP7	GC4025 GC4215 GC4220 GC4225 GC4325	TP2000 TP2500 TP200	AC2000 AC3000 AC820P AC830P	T9015 T9115 T9025 T9125	KCP25 KC9125 KC9225 KC9325	IC8250 IC9125 IC9250 IC9350
	P30	CA525 CA5525 CA530 CA5535 CR9025	JC215V JC325V	GM25 GM8035 HG8025	MC6025 UE6020 UE6035 UH6400	-	GC4225 GC4230 GC4235 GC2135	TP2500 TP2000 TP3500 TP200	AC3000 AC630M AC830P ACP100	T9125 T9035 T9135 T3130	KCP30 KCM25 KC9040 KC9140	IC635 IC8350 IC9350
	P40	CA530 CA5535	JC325V JC450V JC540V	GX30	UE6035 UH6400	-	GC4235 GC4240	TP40	AC630M AC830P ACP100	T9035 T3130	KCP40 KC9140 KC9240	IC635
M (Stainless Steel)	M10	CA6515	JC110V	GM10	US7020 MC7015	CP2 CP5	GC2015	TP1500 TP100	AC610M	T9015 T9115	KCM15 KC9010 KC9110 KC9210	IC8250 IC9250 IC9350
	M20	CA6525	JC110V JC215V	GM8020 HG8025	US7020 MC7025	CP2 CP5	GC1515 GC2015 GC2025	TM2000 TP200	AC6030M AC610M AC630M AC830P	T6020 T6120 T9115 T9125	KCM25 KC9025 KC9125 KC9225	IC6015 IC8350 IC9250 IC9350
	M30	-	JC215V JC325V JC525X	GM25 GM8035	MC7025 US735	-	GC2040 GC235	TM4000 TP300	AC6030M AC630M AC830P	T6030 T6130 T9125	KCP40 KCM35 KC9240	IC6025 IC8350 IC9350 IC4050
	M40	-	JC525X	GX30	US735	-	-	TP40	-	-	KC9045 KC9245	IC635
K (Cast Iron)	K01	CA4010 CA4505 CA5505	JC105V JC605X JC605W JC050W	HG3305 HG3315 HX3505 HX3515	MC5005 UC5105 UC5015	CP1	GC3205 GC3210	TK1000 TH1000 TK1001	AC300G AC405K AC410K	T5105 T5010	KC9105 KC9315 KCK05	IC428 IC5010 IC9007 IC9150
	K10	CA4010 CA4015 CA4505 CA4515 CA5505	JC050W JC110V JC605X JC605W JC610	GM8015 HX3515 HG8010 HG3315	UC5015 UC5105 UC5115 UE6010 MC5015	CP1 CP2 CP5	GC3205 GC3210 GC3215 GC3115	TK1000 TK2000 TK2001 MK1500	AC700G AC410K AC415K	T5105 T5115 T5010	KCP10 KC9110 KC9120 KC9315 KCK15	IC418 IC428 IC9015 IC9007
	K20	CA4115 CA4120 CA4515	JC110V JC215V JC605X JC605W JC610	GM8020 HG8025	MC5015 UE6010 UC5115	CP2 CP5	GC4225 GC3215 GC3220	TK2000 TX150 TP200	AC700G AC820P AC420K	T5115 T5125 T5020	KCP25 KC9125 KC9320 KC9325 KCK20	IC418 IC9015
	K30	-	JC215V JC610	GM25	-	-	GC3040	TP2500 TP200	-	T5125 T9125	KC9320	-

PVD Coated Carbide (for Turning)

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Classification		Kyocera	Dijet	Hitachi	Mitsubishi	NTK	Sandvik	Seco	Sumitomo	Tungaloy	Kennametal	Iscar
Class	Symbol											
P (Steel)	P01	PR1005	JC5003	-	-	-	-	-	ACZ150	-	KC5510	-
	P10	PR930 PR1005 PR1025 PR1115 PR1215 PR1425 PR1225	JC5003 JC5030	CY15 CY150 IP2000	VP10MF	VM1 TM1 TA1 TAS DT4 DM4	GC1025	CP200	ACZ150 ACZ310 AC520U	AH710	KC5010 KC5510 KU10T	IC507 IC807 IC907
	P20	PR930 PR1025 PR1115 PR1215 PR1425 PR1225	JC5015 JC5030 JC5040	CY150 IP2000	VP10RT VP15TF VP20MF UP20M VP20RT	QM1 VM1 TA1 TAS	GC1020 GC1025 GC4125 GC1125	CP250	ACZ310 ACZ330 AC520U	AH710 AH725 AH730 SH730	KC5025 KC5525 KC7215 KC7315 KU25T	IC507 IC907 IC908
	P30	PR1025 PR1225	JC5015 JC5040	CY250 CY9020 HC844 IP3000	VP10RT VP15TF VP20MF UP20M	ZM3 QM3 TAS	GC1125 GC1145 GC1115 GC1105	CP500	ACZ330 ACZ350 AC530U	GH330 AH120 AH740	KC7015 KC7020 KC7235 KU25T	IC328 IC928 IC3028
	P40	–	JC5040	CY250 HC844		ZM3 QM3 TAS	GC1145 GC2145	CP500	ACZ350	AH140 AH740 J740	KC7030 KC7040 KC7140	IC328 IC3028
M (Stainless Steel)	M10	PR1025 PR1215 PR1225	JC5003	IP050S	VP10MF VP10RT	VM1 TM1 TA1	GC1005 GC1025 GC1105 GC15	TS2000 CP200 CP250	EH510Z ACZ150 AC510U	AH710	KC5010 KC5510 KC6005 KCU10	IC507 IC520 IC807 IC907
	M20	PR930 PR1025 PR1125 PR1215 PR1425 PR1225	JC5015 JC5030 JC5040 JC8015	IP100S	VP10RT VP15TF VP20MF UP20M VP20RT	QM1 VM1 TA1 TAS DT4 DM4	GC1025 GC1115 GC4125 GC1125 GC30	TS2500 CP200 CP250 CP500	EH520Z ACZ150 ACZ310 AC520U	AH630 AH725 AH730 GH330 GH730 SH730	KC5025 KC5525 KC7020 KC7025 KCU25	IC308 IC507 IC907 IC908 IC3028
	M30	PR1125 PR1225	JC5015 JC5030 JC5040	CY250 CY9020	VP15TF VP20MF UP20M MP7035	ZM3 QM3 TAS	GC1020 GC2035 GC2030	CP500	ACZ330 ACZ350 AC530U AC6040M	AH120 AH725	KC7030 KC7225	IC908 IC1008 IC1028 IC3028
	M40	-	-	-	MP7035	ZM3 QM3 TAS	GC2145 GC1145	-	AC6040M ACZ350	J740 AH140 AH645	-	IC228 IC928 IC328
K (Cast Iron)	K01	-	JC5003	-	-	-	-	-	EH10Z	AH110	KC5515	IC910
	K10	PR905 PR1215	JC5003 JC5015	CY100H CY10H	VP05RT	TA1 TM1	GC1010	TS2000 CP200	EH10Z EH510Z AC510U	GH110 AH110	KC5010 KC7210	IC807 IC910 IC507 IC908
	K20	PR905 PR1215	JC5015	IP2000 CY9020	VP10RT VP15TF VP20RT	QM1 TA1	GC1020 GC1120	TS2500 CP200 CP250	EH20Z ACZ310 AC520U AC530U	AH120 AH725	KC5025 KC5525 KC7015 KC7215 KC7315	IC508 IC908
	K30	-	-	-	VP15TF VP20RT	QM3 TA3	GC1030	CP500	ACZ310	-	KC7225	IC508 IC908
S (Difficult-to-cut Materials)	S01	PR1305	JC5003	-	MP9005 V05RT	-	-	-	-	AH8005 AH905	-	-
	S10	PR1305 PR1310	JC5015 JC8015	JP9105	MP9005 MP9015 VP10RT	-	GC1105 GC1005 GC1025	CP200 TS2000	AC510U	AH8015 AH905 SH730 AH110	KC5010 KC5510	IC807 IC808 IC907 IC908
	S20	PR1310 PR1325 PR1535	JC5015 JC8015	JP9115	MP9015 MT9015 VP20RT	-	GC1025 GC1125	CP250 TS2500	AC510U AC520U	AH8015 AH120 AH725	KC5025 KC5525	IC806 IC808 IC908
	S30	PR1535	-	-	VP15TF	-	GC1125	-	AC520U	AH725	-	IC328

Cermet (Turning)

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Classification		Kyocera	Dijet	Hitachi	Mitsubishi	NTK	Sandvik	Seco	Sumitomo	Tungaloy	Kennametal	Iscar
Class	Symbol											
P (Steel)	P01	TN610 TN6010 **PV710** **PV7010**	LN10 CX50	CH350	**AP25N** **VP25N** NX1010	T3N T15 **Q15**	-	-	T110A T1000A	NS520 **GT530** **GT720** **J530**	KT1120 KT125 HTX	IC20N **IC520N**
	P10	TN610 TN6010 TN620 TN6020 **PV710** **PV7010** **PV720** **PV7025**	LN10 CX50 CX75 NIT **PX75**	CH350 **CZ25**	NX2525 **AP25N** **VP25N**	T15 **C7Z** **Z15**	CT5015 CT525	TP1020 CM CMP	**T1500Z** **T2000Z** T1200A T1500A	NS9530 NS520 **GT9530** **GT530** **GT730**	**KT315** KT175 HT2	IC20N **IC520N** **IC530N** IC75T
	P20	TN620 TN90 TN6020 **PV720** **PV7025**	CX50 CX75 CX90 NAT **PX90**	CH550 CH7030 **CZ1025** **CZ25**	**MP3025** NX2525 NX3035 **AP25N** **VP45N**	T15 C7X **C7Z**	CT525 CT530 **GC1525**	TP1020 C15M TP1030	T1200A T1500A **T1500Z** **T2000Z** **T3000Z**	NS9530 NS530/730 **GT9530** **GT530/730**	PS5 **KT5020**	IC20N **IC520N** **IC530N** IC75T IC30N
	P30	-	CX90 CX99 SUZ	-	NX4545 **VP45N**	N40 C7X	CT530 **GC1525**	TP1030	**T3000Z** T250A	NS740	-	IC75T IC30N
M (Stainless Steel)	M10	TN620 TN60 TN6020 **PV720** **PV7020** **PV7025**	LN10	CH350	NX2525 **AP25N** **VP25N**	T15 C7X **C7Z** **Z15**	CT5015 CT525	CM CMP	T110A T1000A **T2000Z**	NS520 **J530**	KT1120 **KT315** KT125	IC20N **IC520N**
	M20	TN620 TN90 TN6020 **PV720** **PV7020** **PV7025**	CX50 CX75 **PX75** NIT NAT	CH550 CH7030 **CZ1025**	NX2525 NX3025 **AP25N** **VP25N**	C7X **C7Z** **Q15**	CT530 **GC1525**	TP1020 C15M	T1500A **T2000Z**	NS530 NS730 **GT530** **GT730**	KT175 HT2 PS5 **KT5020**	IC30N **IC530N**
	M30	-	CX75 CX90 **PX90** CX99 SUZ	**CZ25**	NX4545	C7X	-	TP1030	**T3000Z** T250A	NS740	-	-
K (Cast Iron)	K01	**PV7005**	LN10	-	**AP25N** **VP25N**	T3N T15 **Q15**	-	-	T110A T1000A	NS520	KT1120	-
	K10	TN610 TN6010 **PV710** **PV7010** **PV7005**	LN10	CH350	NX2525 **AP25N** **VP25N**	T15 C7X **C7Z** **Z15**	CT5015	-	T1200A T1500A **T2000Z**	NS530 NS730 **GT530** **GT730**	**KT315** HTX	-
	K20	-	NIT	**CZ25**	NX2525 **AP25N** **VP25N**	-	-	-	**T3000Z**	-	**KT5020**	-

• Boldface grade shows PVD Coated Cermet.

Carbide

Classification		Kyocera	Dijet	Hitachi	Mitsubishi	NTK	Sandvik	Seco	Sumitomo	Tungaloy	Kennametal	Iscar
Class	Symbol											
P (Steel)	P10	-	SRT	WS10	STi10T	-	S1P	-	ST10P	TX10S	K2885	IC70
	P20	-	SRT DX30	EX35	STi20 UTi20T	-	SMA	S10M	ST20E	TX20 TX25	K125M	IC70 IC50M
	P30	-	SR30 DX30 DX35	EX35 EX40	UTi20T	-	SM30	S25M	A30N A30 ST30E	TX30 UX30	KMF	IC50M IC54
	P40	-	SR30 DX35	EX45	-	-	S6	S60M	ST40E	TX40	PVA	IC54
K (Cast Iron)	K01	-	KG03	WH02 WH05	HTi05T	-	H1P	-	H1 H2	TH03 KS05F	K68 K10	IC04
	K10	KW10 GW15	KG10 KT9	WH10	HTi10	KM1	H1P H10 HM	890	EH10 EH510	G1F TH10 H10T	KMI K8735 K313	IC20
	K20	GW25	CR1 KG20	WH20	HTi20T UTi20T	KM3	H13A	883 890 HX	G10E EH20 EH520	G2F KS15F KS20	KMF	IC20 IC10
	K30	-	KG30	-	-	-	-	883	G3 G10E	G3 UX30	THR	IC10 IC28
V (Wear and Shock Resistant Tool)	V40	-	G5 GD195	WH50	GTi30	-	-	-	G5	D40	-	-
	V50	VW50	MH3 MH4 GD174 GD201	WH60	GTi35 GTi40 GTi30S	-	-	-	G6	D50	-	-
	V60	-	MH5 MH7 MH8 GD206	WB60	GTi40S GTi50S	-	-	-	G7 G8	D60	-	-

Ceramic

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Classification		Kyocera	Dijet	Hitachi	Mitsubishi	NTK	Sandvik	Seco	Sumitomo	Tungaloy	Kennametal	Iscar
Class	Symbol											
K (Cast Iron)	K01	KA30 A65 KT66 **PT600M** **CS7050**	-	NPC-H2 NPC-A2	-	SE1 HC1 HC2 HC5 HC6 HW2	CC620 CC650	-	NB90S NB90M WX120	-	KW80 KY1615 AC5	-
	K10	A65 KT66 **A66N** **PT600M** **CS7050** KS6050	-	NX **NXA** Whiskal WIN	-	WA1 HC2 HC6 HC7	CC6090 CC6190 **GC1690**	-	WX120 **NS260C**	LX11 LX21	KYK10 **KYK25** KB90 KY1320 KY3000 KY3400	-
	K20	KS6050	-	-	-	SX6 SX9 **SP9**	CC6090 CC6190 **GC1690**	-	WX120	WG300 FX105 CX710	KYK35 **KY3400** KY3500	-
S (Difficult-to-cut Material)	S01	-	-	-	-	-	CC650	-	-	-	KY2100	-
	S10	CF1 KS6030 KS6040	CA200	Whiskal WIN	-	WA1 WA5 SX9	CC670 CC6060 CC6065	-	WX120	WG300	**KYS25** KY4300 KY1525 KY1540	-
	S20	-	-	-	-	-	-	-	WX120	-	KYS30	-
H (Hardened Material)	H01	A65 KT66 **A66N** **PT600M**	-	NPC-A2	-	HC4 HC7 **ZC7**	CC650 CC670 CC6050	-	**NB100C**	LX11 LX21	**KY4400**	-
	H10	A65 KT66 **A66N** **PT600M**	-	NPC-A2 Whiskal WIN	-	**ZC7** WA1 WA5	CC670	-	-	WG300	KY4300	-

• Boldface grade shows PVD Coated Cermet.

CBN

Classification		Kyocera	Dijet	Hitachi	Mitsubishi	NTK	Sandvik	Seco	Sumitomo	Tungaloy	Kennametal	Iscar
Class	Symbol											
K (Cast Iron)	K01	KBN475	JBN795	-	MB710	B20 B22 B30	CB7525 CB50 CB7050	**CBN050C** **CBN300P**	BN500 **BNC500**	BX910 BX930 BX950	-	IB50 IB85
	K10	**KBN60M** **KBN900**	JBN330	BH200	MB710 MB5015 MB4020	B22 B23	CB50 CB7050	CBN20 CBN200 CBN300	BN600 BN700 BN7000	BX950 **BXC90** BX470	KB1630 **KB9610**	IB55 IB90
	K20	**KBN900**	-	BH250	MB730 MBS140 **BC5030**	B16 B40	-	CBN350 CBN500 CBN600	BN7000 BNS800	BX950 **BXC90** BX90S	**KB9640**	-
H (Hardened Material)	H01	KBN510 **KBN05M** **KBN10M**	-	-	**BC8110** **MBC010** MB810	B24 B52	CB20	**CBN050C** CBN010 CBN10 CBN100	BN1000 BNX10 **BNC100** **BNC160** **BNC2010**	BXA30 BX310 **BXC30** **BXM10**	KB1610	IB20H **IB25HC** IB50
	H10	KBN525 **KBN05M** **KBN25M**	JBN300 JBN500	BH200	**MBC020** **BC8020** MB8025 MB825	B24 B36 B54 B52	CB7015 CB7050 CB50	CBN150 CBN060K CBN200 **CBN160C**	**BNC160** BNX20 BN2000 **BNC200** **BNC2020**	**BXM10** BXA40 BX330 BX360 **BXC50**	KB1615 KB1625 KB5610 **KB9610**	IB50
	H20	**KBN30M** **KBN35M** **KBN900**	JBN245	BH250	**MBC020** **BC8020** MB8025	B22 B36	CB7025 CB7525	CBN350 **CBN300P** **CNB400C** CBN500	BNX25 BN350 **BNC300**	BX380 **BXC50** **BXM20**	KB1340 **KB5625** **KB9640**	IB55 **IB25HA**
Stainless Steel	-	KBN65B KBN570 **KBN65M** **KBN70M**	JBN795 JBN500	-	MB4020	-	-	-	BN350 BN7000 BN7500	BX450 BX470 BX480	-	-

• Boldface grade shows PVD Coated Cermet.

PCD (Diamond)

Classification		Kyocera	Dijet	Hitachi	Mitsubishi	NTK	Sandvik	Seco	Sumitomo	Tungaloy	Kennametal	Iscar
Class	Symbol											
N (Non-ferrous Metals)	N01	KPD001	JDA30 JDA735	-	MD205	PD01	CD05 CD10	PCD05 PCD10	DA90 DA1000 DA2200	DX180 DX160	PD100 KD1400 KD1405	-
	N10	KPD001 KPD010 KPD230 KPD250	JDA40 JDA745	-	MD220	-	CD10	PCD10 PCD20	DA150 DA1000 DA2200	DX140	KD100 KD1400 KD1415	ID5
	N20	KPD001 KPD010 KPD230 KPD250	JDA10 JDA715	-	MD230	-	-	PCD30 PCD30M	DA1000 DA2200	DX110 DX120	KD1425	-

Molded Chipbreaker Cross Reference Table

Negative Inserts

- This table is Kyocera´s own estimation based on publications and is not authorized by companies mentioned in it.

Cutting Range		Kyocera		Dijet	Hitachi	Mitsubishi	NTK	Sandvik	Seco	Sumitomo	Tungaloy	Kennametal	Iscar
		General Chipbreaker	Chipbreaker for Sticky Material / Soft Steel										
Carbon Steel / Alloy Steel	Finishing (with Wiper Edge)	WP	-	-	-	SW	-	WL WF	W-MF2	SEW LUW	AFW FW	FW	-
	Finishing - Medium (with Wiper Edge)	WQ	-	-	-	MW	-	WM WMX	W-M3 W-M5	GUW	ASW SW	MW	WG
	Finishing	DP GP PP	XF XP	F1 FA FT PF	BE BH FE	F FH FS FY PK	UL WM ZF1	XF QF	FF1	FP SP FA FL LU	TF 01 AS TSF	FF UF FS	F3P SF
	Finishing - Medium	HQ PQ CQ CJ VC VF	XQ	UA UT	AB B CE CT	SH C SA LP SY	WV WR	LC PF	FF2 MF2	SU EX SJ SX UJ SE	TS NS CB 11 17 27 ZF	RP FN	NF
	Medium - Roughing	PG GS PS	XS	UR UB	AE DE AH	MV MP MA MH	Z5 ZW1	XM QM SM SMC PM	M3 MF3	UA UG GE GU	AM DM NM TM ZM	MN	M3P TF
	Medium - Roughing High Feed Rate	PT GT	-	GC PQ	AR AY	GH RP	GS	MR XMR	M5 MR5 MR6	MU UX ME	TH 32Y 32 37	RP RN	R3P NR
	Roughing	Standard PH	-	GG LG GQ	RE	MT Standard	G	Standard 23	MR7	MC MU MX UZ	31 33 F-K THS	PR MG	GN
	Roughing One Side High Feed Rate	PX	-	GS RM UC UP	H HX HE TE UE	HV HR HX HZ HL HM	-	QR PR HR	R4 R5 R6 R7 RR6 RP	HG HP MP	TU 57 65 TUS	RH RM	TNM
Stainless Steel	Finishing	GU MQ	-	SF	BH MP	FS SH FJ LM	ZF1	MF	-	SU EF	SF SS	FP	F3M
	Medium - Roughing	MS MU TK	-	GP SZ	DE SE PV	MS MA GM MJ MM ES MH GH GJ RM	ZP WS	MM MMC MR XMR SMR	MF1 MF3 A3 A5 M5 56 R8 RR9	EG EX MU UP EM	HMM SM SA S SH	P MP MS	TF PP M3M R3M
Cast Iron	Medium	C Standard	-	-	AH VA VY	LK MF Standard	-	KF KM	-	UZ UX UJ	Standard 33 CF	FN	-
	Roughing	GC ZS	-	-	-	GH RK	-	KR KRR	-	GZ	CM CH	RP UN	-
Non-ferrous Metals	Medium - Roughing	AH	-	-	-	-	-	AL	95	AG	P	GP MS	PP

Positive Inserts

Cutting Range		Kyocera		Dijet	Hitachi	Mitsubishi	NTK	Sandvik	Seco	Sumitomo	Tungaloy	Kennametal	Iscar
		General Chipbreaker	Chipbreaker for Sticky Material / Soft Steel										
Carbon Steel / Alloy Steel	Minute D.O.C.	CF	-	-	-	-	-	-	-	-	01	-	-
	Finishing (with Wiper Edge)	WP	-	-	-	SW	-	WF WK	W-F1	LUW SDW	-	FW	WF
	Finishing	DP GP PP VF	XP	ASF	-	FV SQ FP SMG	AZ3 AMX AZ7	PF UF XF	FF1	FB FC FK FP LU	PF PSF 23	11 GF UF FP	PF SM
	Finishing - Medium ①	HQ	XQ	ACB FT	JE	MQ MV LP	AF1	PM UM SMC	F1	LB SF SU	PS PSS 24	LF	14
	Finishing - Medium ②	GK	-	BM	JQ	No Indication	QD CL	PF PM XM	MF2	-	-	-	-
	Medium	Standard	-	-	J	MP Standard	AM3	PR UR KM XR	F2	MU SC	PM	GM MP MR	Standard
Stainless Steel	Finishing	MQ	-	-	MP	FM FV SV LM	-	MF MMC	-	LU	JS PF PSF	FW FP MW	WF
Non-ferrous Metals	Finishing - Medium	AH	-	ALU	-	AZ	-	AL	AL	AG AW	AL	HP	AF AS

Positive Inserts (For Small Parts Machining)

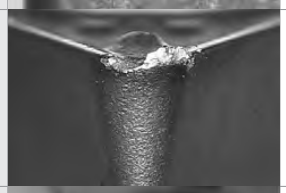
Cutting Range		Kyocera	Dijet	Hitachi	Mitsubishi	NTK	Sandvik	Seco	Sumitomo	Tungaloy	Kennametal	Iscar
Carbon Steel / Alloy Steel	Minute D.O.C.	CF	-	-	-	-	-	-	-	01	-	-
	Finishing	CK GF	ASF	JQ	FP FV SMG	AZ7 AMX ZR	PF XF	FF1	SI FC	PF	11 UF FP	PF SM
	Finishing - Medium	GQ SK	ACB FT	JE	LP AM MV	AM3 YL	PM XM	F1 MF2	SU	PS	LF	14
	Medium	GK	-	J	MP Standard	QD CL	PR	F2	SC	PM	MF MP	Standard
Stainless Steel	Finishing	MQ	-	MP	FM FV SV	-	MF	-	LU	PF PSF	FW FP MW	WF
Non-ferrous Metals	Finishing - Medium	AH	ALU	-	AZ	-	AL	AL	AG AW	AL	HP	AF AS

Cera-Notch Conversion Chart

Insert Style	Kyocera	Horizon	Tool-Flo	Kennametal	RTW	Valenite	Sandvik	Mitsubishi
Notch Style Grooving Insert								
Face Grooving	KCFP	HF	FLF	NF	-	-	TLF*	EF
ID/OD Grooving	KCG/KCGP	HG	FLG	NG	PG	VLG	TLG*	EG
ID/OD with Chipbreaker	KCGP MY	HG RK-LK	FLG CB	NG RK-LK	PG RK-LK	-	-	EG RK-LK
ID/OD with Positive Rake	KCGP	HGP	FLGP	NGP	-	VLGP	TLGP*	EGP
ID/OD Deep Grooving	KCGDP	HGD	FLGD	NGD	PGD	-	-	EGD
Full Nose Radius	KCRP	HR	FLR	NR	PR	VLR	TLR*	EGR
Full Nose Radius with Postive Rake	KCRP	HRP	FLRP	NRP	PRP	VLRP	TLRP*	-
Notch Style Threading Insert								
60° V Partial Profile	KCT	HT	FLT	NT	PT	VLT	TLT*	ET
60° V Fine Pitch Positive	KCTK	HTK	FLTK	NTK	PTK	VLTK	TLTK*	-
60° V Postive	KCTP	HTP	FLTP	NTP	PTP	VLTP	TLTP*	-

* Sandvik inserts require a Kyocera or industrial standard clamp due to different clamping system.

Cutting Edges Figuration and Countermeasures

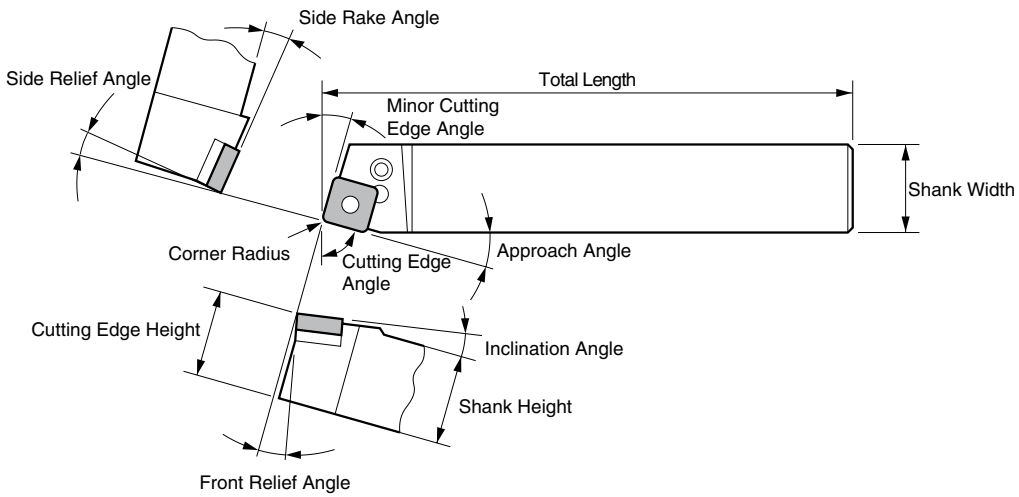
Typical Cutting Edge Figuration		Observation	Causes	Countermeasures
Nose Wear		• Deterioration of surface roughness and dimensional accuracy	• Too high Vc • End of tool life	• Reduce Vc • Change to higher wear resistant grade
Notching		• Burr formation • Cutting force increase	• Too high f and Vc	• Sharper cutting performance • Reduce Vc • Change to higher heat resistant grade
Crater Wear		• Chip control deterioration • Surface finish deterioration (peeled surface)	• Too high Vc	• Reduce Vc • Change to high speed type like Cermet or Al2O3 coated insert
Plastic Deformation		• Workpiece dimension's change • Crack at nose	• Too high cutting load • Inappropriate tool grade	• Change to harder grade • Reduce f and ap
Crack from Wear		• Surface finish's sudden deterioration • Workpiece dimension changes	• Too high Vc	• Reduce the pre-set tool life • Change to higher wear resistant grade
Chipping		• Cutting force increase • Surface roughness deterioration	• Too high f • Chattering • Lack of insert toughness	• Reduce f and ap • Change to more rigid toolholder • Change to tougher grade
Crack from Welding or Built-up Edge		• Surface finish deterioration • Cutting force increase	• Too low Vc	• Increase Vc • Improve sharp cutting performance (rake angle, chamfer)
Mechanical Fracture		• Sudden cracking • Unstable tool life	• Too high f and ap • Chattering	• Change to tougher grade • Enlarge chamfer • Enlarge Corner-R(r) • Change to more rigid toolholder
Fracture from Thermal Crack		• Cracking by heat cycle • Possible in interrupted cutting and milling	• Too high Vc and f	• Reduce f • Reduce Vc • Change to dry cutting
Flaking		• Possible in high-hardness material cutting • Possible in machining with chattering	• Lack of insert toughness • Lack of toolholder's rigidity	• Change to harder grade (TiC-base ceramic to CBN.) • Change to more rigid toolholder • Change edge preparation

Turning

Trouble	Trouble Item	Countermeasures: Change to Harder Grade	Change to Tougher Grade	Change to More Thermal Shock Resistant Grade	Change to More Welding Resistant Grade	Vc (Higher (Larger) ↑ Lower (Smaller) ↓)	f (Higher (Larger) ↑ Lower (Smaller) ↓)	D.O.C. (Higher (Larger) ↑ Lower (Smaller) ↓)	Tool Path Review	Coolant: Wet	Coolant: Dry	Chipbreaker Review	Rake Angle (Larger ↑ Smaller ↓)	Corner-R (rε) (Larger ↑ Smaller ↓)	Approach Angle (Larger ↑ Smaller ↓)	Edge Strength / Honing (Larger ↑ Smaller ↓)	Change to Higher Tolerance (M→G)	Toolholder Rigidity	Workpiece / Tool Installation	Overhang Length	Machine: Power, Rigidity
Unstable Dimension	Unstable Workpiece Dimension	Unsuitable Insert Tolerance															●				
		Tool and Workpiece Evacuation										●	●↑	●↓	●↓			●	●	●	●
	Frequent Offset During Cutting	Flank Wear Increase	●											●↑							
		Unsuitable Cutting Conditions					●↓	●↑													
		Built-up Edge				●	●↑														
Surface Roughness	Poor Surface Roughness	Poor Cutting by Tool Wear	●			●	●↓				●		●	●↑	●↑		●↓	●				
		Chipping		●				●↓	●↓				●		●↑		●↑			●	●	●
		Welding, Built-up Edge				●	●↑				●		●	●↑			●↓	●				
		Unsuitable Cutting Conditions					●↑	●↓	●↓		●											
		Unsuitable Tool Geometry											●		●↑		●↓	●				
		Vibration, Chattering		●			●↓	●*1↓	●↓				●	●↑	●↓	●↓	●↓		●	●	●	●
Heat	Deterioration of Accuracy or Tool Life by Cutting Heat	Unsuitable Cutting Conditions					●↓	●↓	●↓		●											
		Unsuitable Tool Geometry	●										●	●↑			●↓					
Bur, Chipping	Burr	Unsuitable Cutting Conditions					●↓	●↑		●	●											
		Unsuitable Tool Geometry	●										●	●↑	●↓	●↓	●↓					
	Workpiece Chip Off	Unsuitable Cutting Conditions						●↓	●↓	●												
		Unsuitable Tool Geometry	●										●	●↑	●↑	●↑	●↓		●	●	●	●
	Scuffing	Unsuitable Cutting Conditions					●↑	●*2↓			●											
		Unsuitable Tool Geometry	●			●							●	●↑			●↓					
Edge Damage	Wear Increase at Relief Face, Rake Face	Flank Wear	●				●↓				●		●	●↑	●↑		●↓					
		Rake Face Wear	●				●↓	●↓	●↓		●		●	●↑		●↑						
	Notching	Notching				●	●↓				●											
	Chipping	Vibration, Chattering		●				●↓	●↓				●			●↑	●↑		●	●	●	●
	Crack	Unsuitable Tool Geometry		●	●			●↓	●↓				●		●↑	●↑	●↑		●	●	●	●
	Thermal Crack	Work Hardness, Unsuitable Cutting Conditions			●		●↓	●↓	●↓			●	●	●↑			●↓					
	Edge Nose Deformation	Edge Nose Deformation at Interrupted Cutting	●				●↓	●↓	●↓				●	●↓	●↑	●↑	●↑					
	Built-up Edge	Work Hardness, Unsuitable Cutting Conditions				●	●↑	●↑			●		●	●↑			●↓	●				
Chip Control	Long, Tangling Chips	Unsuitable Cutting Conditions					●*3↓	●↑	●↑	●		●										
		Unsuitable Tool Geometry											●		●↓	●↓						
	Chips scattering	Unsuitable Cutting Conditions						●↓	●↓			●										
		Unsuitable Tool Geometry											●		●↑	●↑						

*1) To prevent chattering, the higher f may be suitable.
*2) To prevent scuffing, the higher f may be suitable.
*3) When using X-chipbreaker insert for soft steel and low carbon steel, the higher Vc cuts chips short.

Terms and Angles of Turning Toolholder



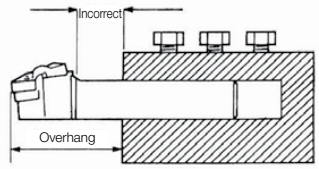
Function of Tool Angles

Tool Angle	Name	Function	Effect
Rake Angle	Side Rake Angle	• Affects cutting force, cutting heat, chip evacuation and tool life.	• If it is positive (+) angle, sharper cutting performance is obtained. (less cutting resistance, less edge strength) • Positive (+) angle is recommended for easy to machine workpieces or thin workpieces. • Smaller rake angle or negative (-) angle is recommended when a stronger edge is required like scale cutting or interrupted cutting.
	Inclination Angle		
Relief Angle	Front Relief Angle Side Relief Angle	• Prevents the tool's contact to the workpiece surface, except the cutting edge.	• When it is small, the cutting edge becomes strong, but the wear at relief faces may shorten the tool life.
Cutting Edge Angle	Cutting Edge Angle	• Affects chip control and the direction of cutting force.	• When it is large, chip thickness becomes thick and chip control improves.
	Approach Angle	• Affects chip control and the direction of cutting force.	• When it is large, chip thickness becomes thin and chip control worsens, but cutting force is dispersed and edge strength improves. • When it is small, chip control ability improves.
	Minor Cutting Edge Angle	• Prevents friction between cutting edge and work surface.	• When it is large, edge strength deteriorates.

Toolholder Rigidity

1. Flexure of Toolholder

$$\delta = \frac{4 \times F \times L^3}{E \times b \times h^3} = \frac{4 \times k \times ap \times f \times L^3}{E \times b \times h^3}$$



Symbol	Name	Unit
δ (Delta)	Deflection	mm
b	Shank Width	mm
h	Shank Height	mm
E	Young ratio	N/mm²
ap	Depth of Cut	mm
f	Feed Rate	mm/rev
k	Specific Cutting Force	N/mm²
L	Over hang	mm
F	Cutting force	N

(F = k × ap × f)

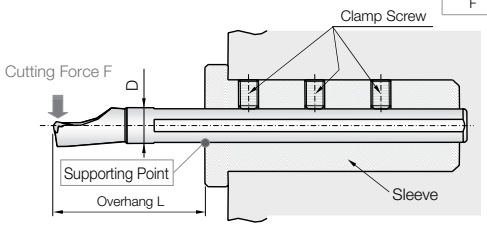
The flexural strength of toolholder will decrease by increasing of shank height by third root and will decrease of reducing over hang by third root.
Minimizing toolholder shank over hang as much as possible is important as well as shank's sectional square measure.

2. Flexure of Boring Bar

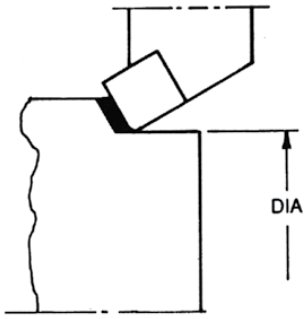
$$\delta = \frac{64 \times F \times L^3}{3 \times E \times \pi \times D^4} = \frac{64 \times k \times ap \times f \times L^3}{3 \times E \times \pi \times D^4}$$

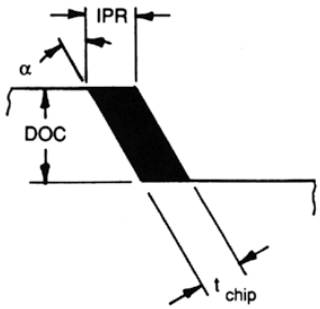
Symbol	Name	Unit
δ (Delta)	Deflection	mm
D	Shank Dia.	mm
E	Young ratio	N/mm²
ap	Depth of Cut	mm
f	Feed Rate	mm/rev
k	Specific Cutting Force	N/mm²
L	Over hang	mm
F	Cutting force	N

(F = k × ap × f)



Turning





Surface Speed per Minute

$SFM = 0.262 \times DIA \times RPM$

Revolutions per Minute

$$RPM = \frac{3.820 \times SFM}{DIA}$$

Feedrate (inches/minute)

$IPM = IPR \times RPM$

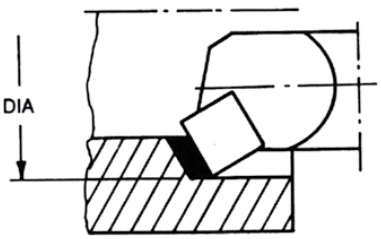
Chip Thinning for Non-Round Inserts (inches/revolution)

$$\text{Programmed IPR} = \frac{t_{chip\ Max}}{\cos 1}$$

Chip Thinning for Round Inserts (inches/revolution)

$$\text{Programmed IPR} = \frac{t_{chip\ Max}}{\sqrt{\frac{4ap}{ic} \cdot \left(\frac{2ap}{ic}\right)^2}}$$

Boring



Metal Removal Rate

$Q = 12 \times DOC \times IPR \times SFM$ (in^3/minute)

Horsepower Required at the Spindle

$HPS = Q \times UHP$

Horsepower Required at the Motor

$$HPM = \frac{HPS}{EFF}$$

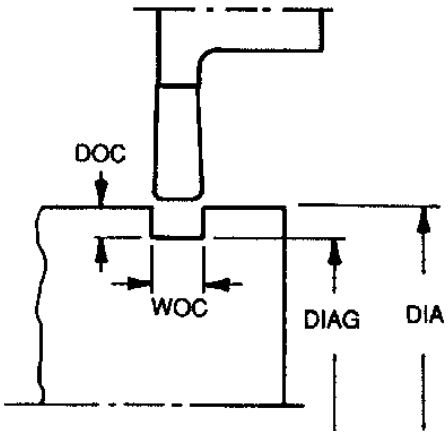
Time in Cut (seconds)

$$T = \frac{15.7 \times DIA \times LOC}{SFM \times IPR}$$

or

$$T = \frac{60 \times LOC}{IPM}$$

External Grooving



Surface Speed per Minute

$SFM = 0.262 \times DIA \times RPM$

Revolutions per Minute

$$RPM = \frac{3.820 \times SFM}{DIA}$$

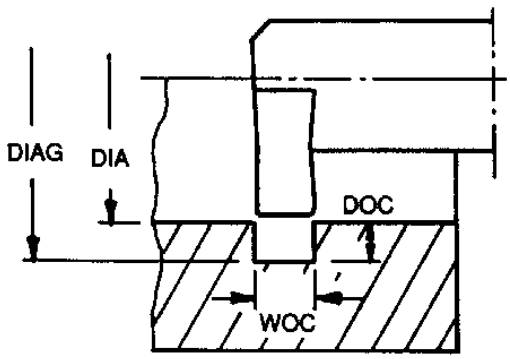
Feedrate (inches/minute)

$IPM = IPR \times RPM$

Feedrate (inches/revolution)

$IPR = t_{chip}$

Internal Grooving



Metal Removal Rate

$Q = 12 \times WOC \times IPR \times SFM$ (cu.in/minute)

Horsepower Required at the Spindle

$HPS = Q \times UHP$

Horsepower Required at the Motor

$$HPM = \frac{HPS}{EFF}$$

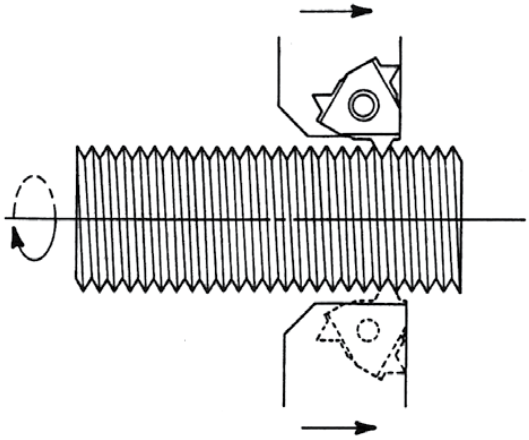
Time in Cut (seconds)

$$T = \frac{7.85 \times DOC \times (DIA + DIAG)}{SFM \times IPR}$$

or

$$T = \frac{60 \times LOC}{IPM}$$

External Threading



Surface Speed per Minute

$$SFM = 0.262 \times DIA \times RPM$$

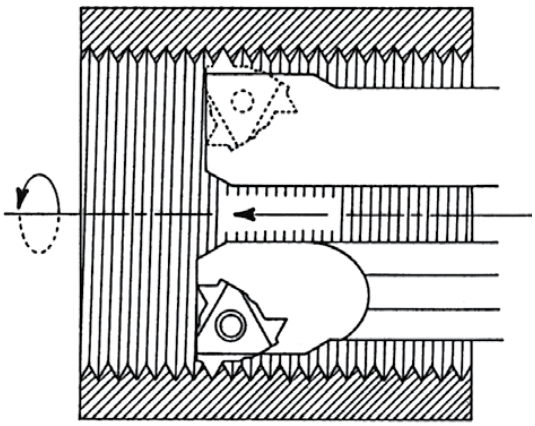
Revolutions per Minute

$$RPM = \frac{3.820 \times SFM}{DIA}$$

Feedrate (inches/minute)

$$IPM = IPR \times RPM$$

Internal Threading



Time in Cut (seconds)

$$T = \frac{60 \times LOC \times NO.\ OF\ PASSES}{IPR \times RPM}$$

Feedrate

Standard Threads

$$IPR = \frac{1}{TPI}$$

Metric Threads

$$IPR = \frac{P_{mm}}{25.4}$$

Definition of Terms

DIA = Diameter of the Workpiece (Inches)

DOC = Depth of Cut (Inches)

EFF = Machine Efficiency

f = Feedrate (See IPM and IPR)

HPM = Horsepower Required at the Motor

HPS = Horsepower Required at the Spindle

IPM = Feedrate (Inches per Minute)

IPR = Feedrate (Inches per Revolution)

IC = Insert inscribed circle (inches)

LOC = Length of Cut (Inches)

Q = Metal Removal Rate (Cubic Inches per Minute)

RPM = Revolutions per Minute

SFM = Surface Speed (Feet per Minute)

T = Time (in Seconds)

$t_{chip\ Max}$ = Maximum Recommended Chip Thickness (Inches)

UHP = Unit Horsepower Factor

1 = Lead Angle

Turning

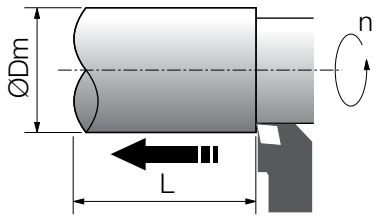
Cutting Speed

$$Vc = \frac{\pi \times Dm \times n}{1000}$$

Vc : Cutting Speed [m/min]

Dm : Workpiece Diameter [mm]

n : Spindle Revolution [min^{-1}]



Power Requirement

$$Pc = \frac{Ks \times Vc \times ap \times f}{6120 \times \eta}$$

$$P_{HP} = \frac{Ks \times Vc \times ap \times f}{4500 \times \eta}$$

Pc : Power Requirement [kW]

P_{HP} : Power Requirement (Horse Power) [HP]

Vc : Cutting Speed [m/min]

ap : Depth Of Cut [mm]

f : Feed Rate [mm/rev]

Ks : Specific Cutting Resistance [kgf/mm^{-2}]

η : Mechanical Efficiency (0.7 ~ 0.8)

Ks Figure	
Low Carbon Steel	190
Medium Carbon Steel	210
High Carbon Steel	240
Low Alloy Steel	190
High Alloy Steel	245
Cast Iron	93
Malleable Cast Iron	120
Bronze, Brass	70

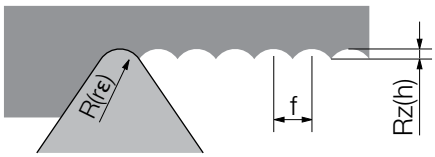
Surface Roughness

$$Rz=h = \frac{f2}{8 \times R(r\varepsilon)} \times 1000$$

Rz=h : Theoretical Surface Roughness [µm]

f : Feed Rate [mm/rev]

R(rε) : Corner Radius of Insert [mm]



Chip Removal Volume

$$Q = Vc \times ap \times f$$

Q : Chip Removal Volume [cm^3/min]

Vc : Cutting Speed [m/min]

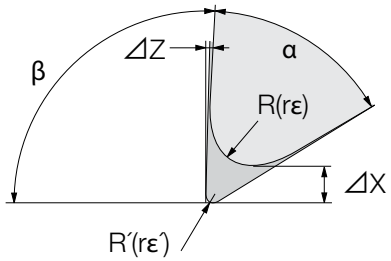
ap : Depth Of Cut [mm]

f : Feed Rate [mm/rev]

Edge Position Compensation

$$\Delta X = (R\text{-}R') \times \left\{ \frac{\cos(\frac{\alpha}{2} + (\beta - 90°))}{\sin\frac{\alpha}{2}} - 1 \right\}$$

$$\Delta Z = (R\text{-}R') \times \left\{ \frac{\sin(\frac{\alpha}{2} + (\beta - 90°))}{\sin\frac{\alpha}{2}} - 1 \right\}$$



ΔX : X-axis Direction Edge Position Compensation [mm]

ΔZ : Z-axis Direction Edge Position Compensation [mm]

R : Corner-R before Change [mm]

R´ : Corner-R before Change [mm]

α : Insert Corner Angle [°]

β : Toolholder's Cutting Edge Angle [°]

Toolholder Type	Insert Corner Angle α	Cutting Edge Angle β	ΔX	ΔZ
PCLN	80°	95°	0.100 x (R-R')	0.100 x (R-R')
PTGN	60°	91°	0.714 x (R-R')	0.030 x (R-R')
PDJN	55°	93°	0.866 x (R-R')	0.099 x (R-R')
PDHN	55°	107.5°	0.531 x (R-R')	0.531 x (R-R')
PVLN	35°	95°	2.072 x (R-R')	0.273 x (R-R')
PVPN	35°	117.5°	1.351 x (R-R')	1.351 x (R-R')
PSBN	90°	75°	0.225 x (R-R')	-0.293 x (R-R')

Example: Compensation when changing corner-R from 0.80 to 0.40, using PCLN type holder,

ΔX= 0.100 x (0.80 - 0.40) = 0.04 (mm)

ΔZ= 0.100 x (0.80 - 0.40) = 0.04 (mm)

Turning (Cutting Time)

Cutting Time (External Turning Case 1: 1 Pass machining)

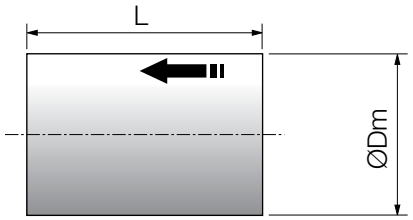
- At Constant Revoluation

$$T = \frac{60 \times L}{f \times n}$$

- At Constant Cutting Speed

$$T = \frac{60 \times \pi \times L \times Dm}{1000 \times f \times Vc}$$

T : Cutting Time [second]
L : Cutting Length [mm]
f : Feed Rate [mm/rev]
n : Spindle Revolution [min^{-1}]
Dm : Workpiece Diameter [mm]
Vc : Cutting Speed [m/min]



Cutting Time (External Turning Case 2: Multi-Pass machining)

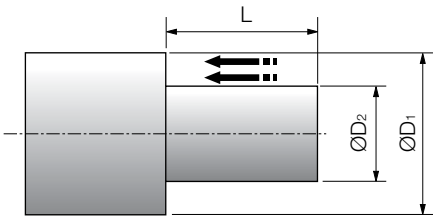
- At Constant Revoluation

$$T = \frac{60 \times L}{f \times n} \times N$$

- At Constant Cutting Speed

$$T = \frac{60 \times \pi \times L \times (D_1 + D_2)}{2 \times 1000 \times f \times Vc} \times N$$

T : Cutting Time [second]
L : Cutting Length [mm]
ap : Depth Of Cut per Pass [mm]
f : Feed Rate [mm/rev]
n : Spindle Revolution [min^{-1}]
D_1 : Max. Diameter of Workpiece [mm]
D_2 : Min. Diameter of Workpiece [mm]
Vc : Cutting Speed [m/min]
N : Number of Passes = $(D_1 - D_2)/ap/2$ (if it is indivisible, obtain integer by rounding up one place of decimals.)



Cutting Time (Facing)

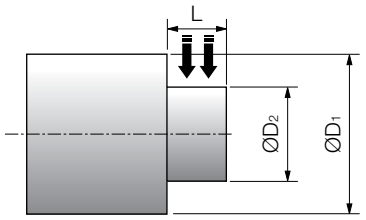
- At Constant Revoluation

$$T = \frac{60 \times (D_1 - D_2)}{2 \times f \times n} \times N$$

- At Constant Cutting Speed

$$T_1 = \frac{60 \times \pi \times (D_1 + D_2 \times D_1 - D_2)}{4000 \times f \times Vc} \times N$$

T : Cutting Time [second]
T_1 : Machining Time before reaching Max. Spindle Revolution [second]
L : Cutting Length [mm]
ap : Depth Of Cut per Pass [mm]
f : Feed Rate [mm/rev]
n : Spindle Revolution [min^{-1}]
D_1 : Max. Diameter of Workpiece [mm]
D_2 : Min. Diameter of Workpiece [mm]
Vc : Cutting Speed [m/min]
N : Number of Passes = $(D_1 - D_2)/ap/2$ (if it is indivisible, obtain integer by rounding up one place of decimals.)



Cutting Time (Grooving)

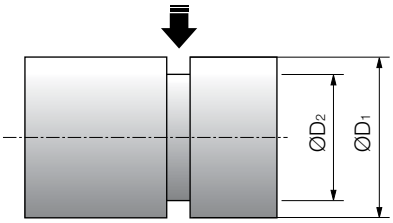
- At Constant Revoluation

$$T = \frac{60 \times (D_1 - D_2)}{2 \times f \times n} \times N$$

- At Constant Cutting Speed

$$T_1 = \frac{60 \times \pi \times (D_1 + D_2) \times (D_1 - D_2)}{4000 \times f \times Vc} \times N$$

T : Cutting Time [second]
T_1 : Machining Time before reaching Max. Spindle Revolution [second]
L : Cutting Length [mm]
f : Feed Rate [mm/rev]
n : Spindle Revolution [min^{-1}]
D_1 : Max. Diameter of Workpiece [mm]
D_2 : Min. Diameter of Workpiece [mm]
Vc : Cutting Speed [m/min]



Cutting Time (Cut-Off)

- At Constant Revoluation

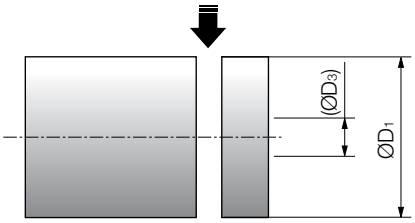
$$T = \frac{60 \times D_1}{2 \times f \times n}$$

- At Constant Cutting Speed

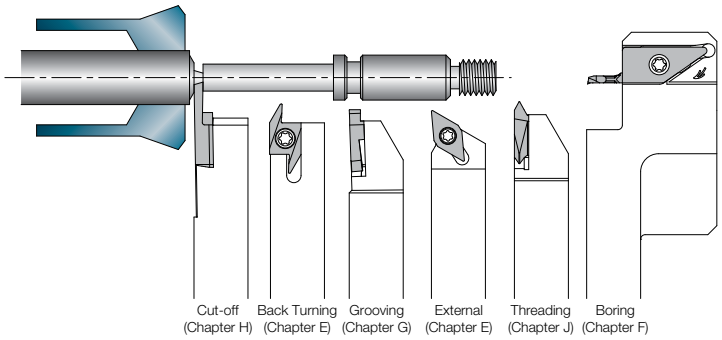
$$T_1 = \frac{60 \times \pi \times (D_1 + D_3) \times (D_1 - D_3)}{4000 \times f \times Vc}$$

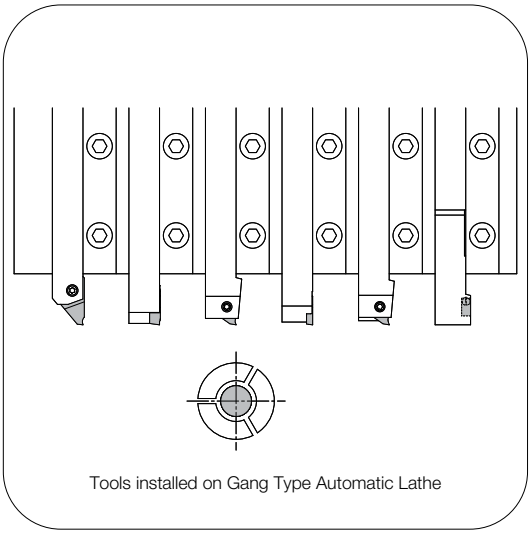
$$T_3 = T_{1+} \frac{60 \times D_3}{2 \times f \times N_{max}}$$

T : Cutting Time [second]
T_1 : Machining Time before reaching Max. Spindle Revolution [second]
T_3 : Machining Time when reaching Max. Spindle Revolution [second]
f : Feed Rate [mm/rev]
n : Spindle Revolution [min^{-1}]
n_{max} : Max. Spindle Revolution [min^{-1}]
D_1 : Max. Diameter of Workpiece [mm]
D_3 : Diameter when reaching Max. Spindle Revolution [mm]
Vc : Cutting Speed [m/min]



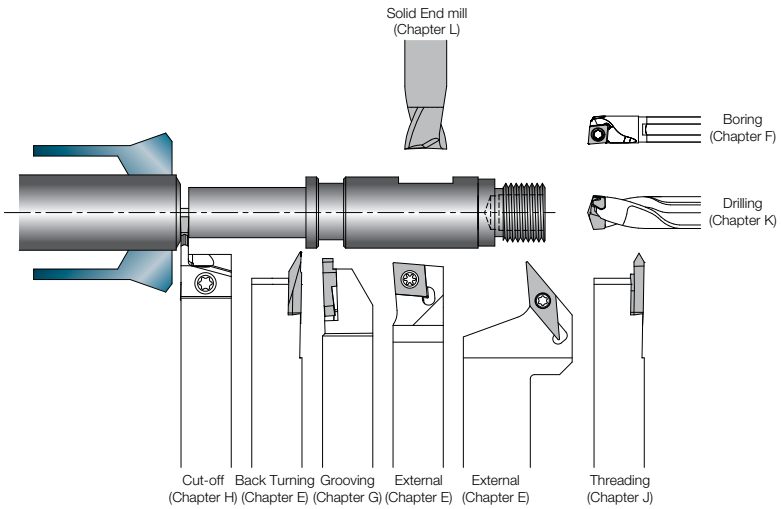
Tooling Example ① CNC Automatic Lathe (Gang Type)

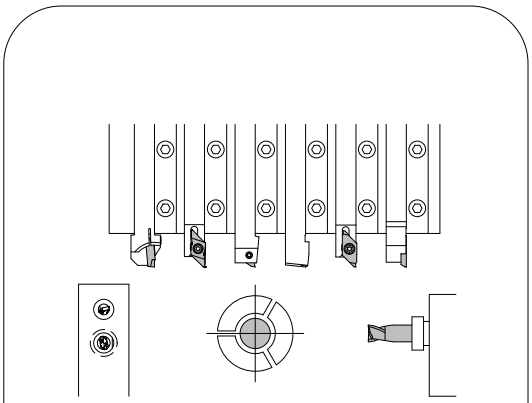




Tools installed on Gang Type Automatic Lathe

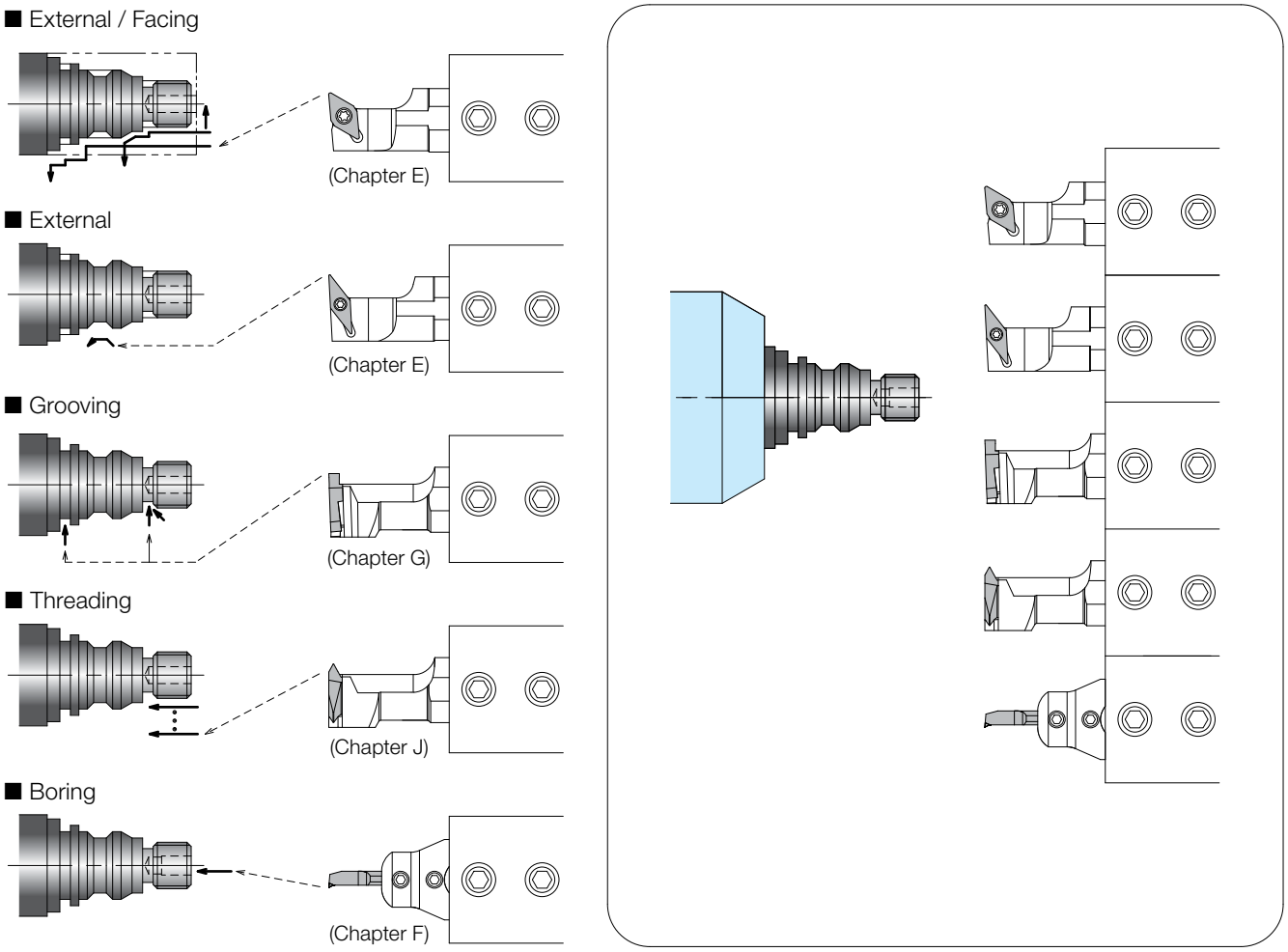
Tooling Example ② CNC Automatic Lathe (Gang Type)



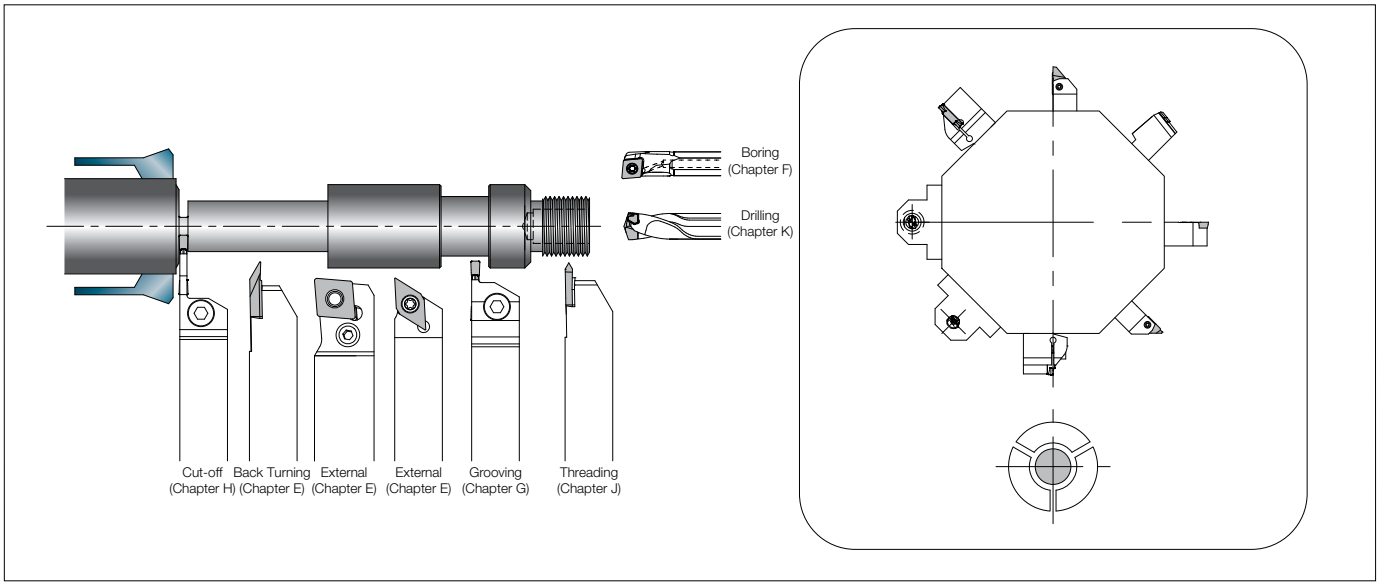


Tools installed on Gang Tool Post + Milling Toolholders

Tooling Example ③ CNC Automatic Lathe (Opposed Gang Type)



Tooling Example ④ CNC Automatic Lathe (Turret Type)



Automatic Lathe List by Manufacturer and Tooling Examples see page ➡ **R19~** ➡ **R24**

CITIZEN MACHINERY (Cincom Products)

Model	Toolholder Dimensions (Gang-Type)	Number of tools	Toolholder Dimensions (Turret-Type)	Number of tools	Sleeve Diameter (Horizontal / Opposed)	Number of tools	Max. Cutting Dia.	Notes
A12 / A16	10×10×100	5	-	-	Ø19.05 / Ø20	-	Ø12 / Ø16	-
A20	12(13)×12(13)×120 Cut-Off Toolholder : □16mm	6	-	-	Ø25.4	-	Ø20	-
A20 VII	12(13)×12(13)×120 Cut-Off Toolholder : □16mm	6	-	-	Ø25.4	-	Ø20	-
A32	16×16×150	6	-	-	Ø25.4	-	Ø32	-
B12	10×10×100	5	-	-	Ø19.05 / Ø20	-	Ø12	-
B12E / B16E	10×10×120(60)	5	-	-	Ø19.05(Ø20^{OP})	-	Ø12 / Ø16	-
B20	12(13)×12(13)×120	6	-	-	Ø19.05 / Ø20	-	Ø20	-
BL12	10×10×60~120	5	-	-	Ø20(Ø19.05)	-	Ø12	-
BL20 / 25	12(13)×12(13)×120	4~7	-	-	Ø20(Ø19.05)	-	Ø20 / Ø25	-
C12 / 16	10×10×120	6	-	-	Ø19.05	-	Ø12 / Ø16	-
C32	16×16×130	5	-	-	Ø25.4	-	Ø32	-
E16	-	-	10×10×60	20	Ø19.05	-	Ø16	-
E20	-	-	16×16×90	20	Ø25.4	-	Ø20	-
E25	-	-	16×16×90	20	Ø25.4	-	Ø25	-
E32	-	-	16(19)×16(13)×90	20	Ø25.4	-	Ø32	-
F10	-	-	10×10×60	10	Ø19.05	-	Ø10	-
F12	-	-	10×10×60	10	Ø19.05	-	Ø12	-
F16	-	-	10×10×60	10	Ø19.05	-	Ø16	-
F20	-	-	16(19)×16(13)×90	10	Ø25.4	-	Ø20	-
F25	-	-	16(19)×16(13)×90	10	Ø25.4	-	Ø25	-
FL25	-	-	16×16×90	12	Ø16	-	Ø25	-
FL42	-	-	16×16×90	12	Ø16	-	Ø42	-
G32	-	-	16(19)×16(19)×90	10	-	-	Ø32	-
K12/16	12(10)×12(10)×100	6 (7)	-	-	Ø19.05 / Ø20	-	Ø12 / Ø16	-
K12E/K16E	12×12×120	6	-	-	Ø19.05 / Ø20	-	Ø12 / Ø16	-
L10	8×8×100~130	5	-	-	Ø15.875	-	Ø10	-
L12	10×10×100	6	-	-	Ø19.05	-	Ø12	-
L16	12(10)×12(10)×130	5	-	-	Ø19.05	-	Ø16	-
L20, L20E	12×12×130 Cut-Off Toolholder : □16mm	5	-	-	Ø19.05	-		-
L20X, L220	12(13,16)×12(13, 16)×120 Cut-Off Toolholder : □16mm	5~7	-	-	Ø19.05 / Ø25	-		-
L25	16×16×130	5	-	-	Ø25.4	-	Ø25	-
L32	16×16×130	5	-	-	Ø25.4	-	Ø32	-
$M_2$12, $M_3$12	10×10×120	5	10×10×60	10+α	Ø19.05	-	Ø12	-
$M_2$16, $M_3$16	10×10×120	5	10×10×60	10+α	Ø19.05	-	Ø16	-
$M_2$20, $M_3$20	16×16×130	5	16×16×90	10+α	Ø25.4	-	Ø20	-
$M_2$32, $M_3$32, $M_4$32	16×16×130	5	16×16×90	10+α	Ø25.4	-	Ø32	-
$M_4$16	10×10×100	5	10×10×60	10+α	Ø19.05	-	Ø16	-
M20	13(12)×13(12)×130	5	10×10×60	10+α	Ø19.05	-	Ø20	-
MC20	12×12×120, 13×13×120	2+2+2	-	-	Ø19.05 / Ø31.0	-	Ø20.0	-
MSL12	10×10×120	-	-	-	-	-	Ø12	-
R04	8×8×120	5	-	-	Ø15.875	-	Ø4	-
R07	8×8×120	5	-	-	Ø15.875	-	Ø7	-
RL01	10(8)×10(8)×90	-	-	-	Ø16(Ø20)	-	Ø10	-
RL02	16×16×90	-	-	-	Ø20	-	Ø20	-
RL21	10(12)×10(12)×90	-	-	-	Ø19.05	-	Ø35	-

- This table is approved by machine manufacturers.
- Manufacturers are in no particular order.

CITIZEN MACHINERY (Miyano Products)

Model	Toolholder Dimensions (Gang-Type)	Number of tools	Toolholder Dimensions (Turret-Type)	Number of tools	Sleeve Diameter (Horizontal / Opposed)	Number of tools	Max. Cutting Dia.	Notes
ABX-51SY2	-	-	20×20×125(100)	24	Ø25	48	Ø51	-
ABX-51SYY2	-	-	20×20×125(100)	24	Ø25	48	Ø51	-
ABX-51TH5	-	-	20×20×125(100)	36	Ø25	72	Ø51	-
ABX-51THY2	-	-	20×20×125(100)	36	Ø25	72	Ø51	-
ABX-64SY2	-	-	20×20×125(100)	24	Ø25	48	Ø64	-
ABX-64SYY2	-	-	20×20×125(100)	24	Ø25	48	Ø64	-
ABX-64TH5	-	-	20×20×125(100)	36	Ø25	72	Ø64	-
ABX-64THY2	-	-	20×20×125(100)	36	Ø25	72	Ø64	-
BNA-34C	-	-	20×20×125(100)	8(16)	Ø25	24	Ø34	-
BNA-34C2	-	-	20×20×125(100)	8(16)	Ø25	24	Ø34	-
BNA-34DHY	-	-	20×20×125(100)	14(22)	Ø25	27	Ø34	-
BNA-34DHY2	-	-	20×20×125(100)	14(22)	Ø25	27	Ø34	-
BNA-34S	-	-	20×20×125(100)	8(16)	Ø25	24	Ø34	-
BNA-34S2	-	-	20×20×125(100)	8(16)	Ø25	24	Ø34	-
BNA-42C	-	-	20×20×125(100)	8(16)	Ø25	24	Ø42	-
BNA-42C2	-	-	20×20×125(100)	8(16)	Ø25	24	Ø42	-
BNA-42DHY	-	-	20×20×125(100)	14(22)	Ø25	27	Ø42	-
BNA-42DHY2	-	-	20×20×125(100)	14(22)	Ø25	27	Ø42	-
BNA-42GTY	20×20×125(100)	3	20×20×125(100)	8(16)	Ø25	24(7)	Ø42	-
BNA-42MSY2	-	-	20×20×125(100)	8(16)	Ø25	24	Ø42	-
BNA-42S	-	-	20×20×125(100)	8(16)	Ø25	24	Ø42	-
BNA-42S2	-	-	20×20×125(100)	8(16)	Ø25	24	Ø42	-
BNC-42C7	-	-	20×20×125(100)	8(16)	Ø25	24	Ø42	-
BND-51C2	-	-	20×20×125(100)	12	Ø25	24	Ø51	-
BND-51S2	-	-	20×20×125(100)	12	Ø25	24	Ø51	-
BND-51SY2	-	-	20×20×125(100)	12	Ø25	24	Ø51	-
BNE-34S6	-	-	20×20×125(100)	24	Ø25	48	Ø34	-
BNE-34SY6	-	-	20×20×125(100)	24	Ø25	48	Ø34	-
BNE-42S6	-	-	20×20×125(100)	24	Ø25	48	Ø42	-
BNE-42SY6	-	-	20×20×125(100)	24	Ø25	48	Ø42	-
BNE-51S6	-	-	20×20×125(100)	24	Ø25	48	Ø51	-
BNE-51SY6	-	-	20×20×125(100)	24	Ø25	48	Ø51	-
BNJ-34S3	-	-	20×20×125(100)	18	Ø25	30	Ø34	-
BNJ-34S5	-	-	20×20×125(100)	18	Ø25	30	Ø34	-
BNJ-34SY3	-	-	20×20×125(100)	18	Ø25	30	Ø34	-
BNJ-34SY5	-	-	20×20×125(100)	18	Ø25	30	Ø34	-
BNJ-42S3	-	-	20×20×125(100)	18	Ø25	30	Ø42	-
BNJ-42S5	-	-	20×20×125(100)	18	Ø25	30	Ø34	-
BNJ-42SY3	-	-	20×20×125(100)	18	Ø25	30	Ø42	-
BNJ-42SY5	-	-	20×20×125(100)	18	Ø25	30	Ø42	-
BNJ-51S3	-	-	20×20×125(100)	18	Ø25	30	Ø51	-
BNJ-51S5	-	-	20×20×125(100)	18	Ø25	30	Ø51	-
BNJ-51SY3	-	-	20×20×125(100)	18	Ø25	30	Ø51	-
BNJ-51SY5	-	-	20×20×125(100)	18	Ø25	30	Ø51	-
GN-3200	12(16)×12(16)×70~120	4~5	-	-	Ø20	4~5	Ø40	-
GN-3200W	12(16)×12(16)×70~120	4~5	-	-	Ø20	4~5	Ø40	-
GN-4200	12(16)×12(16)×70~120	7~8	-	-	Ø20	7~8	Ø40	-
LX-06E2	-	-	20×20×125(100)	8	Ø32	8	Ø31	-
LX-08C	-	-	25×25×150	10	Ø40	10	Ø51	-
LX-08E2	-	-	25×25×150	8	Ø40	8	Ø51	-
LX-08R	-	-	20×20×125(100)	10	Ø25	20	Ø51	-
LZ-01R2	-	-	20×20×125(100)	12	Ø25	24	Ø31	-
LZ-01RY2	-	-	20×20×125(100)	12	Ø25	24	Ø31	-
LZ-02R2	-	-	20×20×125(100)	10	Ø25	20	Ø51	-
LZ-02RY2	-	-	20×20×125(100)	10	Ø25	20	Ø51	-
RL01III	10×10×70~120	2~3	-	-	Ø16	2~3	Ø10	-
RL01V	10×10×70~120	2~3	-	-	Ø16	2~3	Ø10	-
RL03	12(16)×12(16)×70~120	4~5	-	-	Ø20	4~5	Ø40	-

* Number of tools shown in parentheses ( ) is the maximum number of toolholders mountable including Ø25 sleeves.

- This table is approved by machine manufacturers.
- Manufacturers are in no particular order.

STAR MICRONICS

Model	Toolholder Dimensions (Gang-Type)	Number of tools	Toolholder Dimensions (Turret-Type)	Number of tools	Sleeve Diameter (Horizontal / Opposed)	Number of tools	Max. Cutting Dia.	Notes
ECAS-12	10×10×95~150	6			Ø22		Ø13	
ECAS-20	12×12×80~150	6			Ø22		Ø20	
	16×16×80~144							
ECAS-20T			16×16×60~78		Ø22 / Ø32		Ø20	
			16×16×80~88					
ECAS-32T			16×16×60~78	10	Ø22 / Ø32		Ø32	
			16×16×80~88	10				
JNC-10			8×8×65	6			Ø10	
JNC-16			10×10×80	6			Ø16	
JNC-25/32			10×10×78~120	10	Ø22		Ø25 / 32	
KJR-16B/25B			16×16×78	12/16	Ø22 / Ø32			
KNC-16/20			16×16×68	16	Ø22			
KNC-25II/32II			16×16×78	20	Ø22 / Ø32			
RNC-10	10×10×80~120	5			Ø22			
RNC-16	10×10×80~120	5			Ø22			
SA-16R	10×10×95~120	6			Ø22			
SB-16 (A/C/D/E)	12×12×95~130	5			Ø22 (Front & Rear) / (Ø22)	4/4		Only D/E for Back Clamp Sleeves
	12×12×95~130	6				4/4		
	10×10×95~130	6				4/4		
SB-12II (C/E)	12×12×95~130	6				4/4		Only E for Back Clamp Sleeves
SB-16II (C/E)	12×12×95~130	6				4/4		
	10×10×95~130	6				4/4		
SB-20 A/C/E	12×12×95~130	6				4/4		
SB-12R typeG	12×12×95~130	6				4/4	Ø13	
	10×10×95~130	7				4/4		
SB-16R/20R typeN	12×12×95~130	6				4/4	Ø16 / Ø23	
	10×10×95~130	7				4/4		
SB-16R/20R typeG	12×12×95~130	6				4/4	Ø16 / Ø23	
	10×10×95~130	7				4/4		
SC20	12×12×95~130	5			Ø22 / -	4		
	10×10×95~130	6				4/4		
SE-12B/16B	10×10×95~120	5			Ø22		Ø13 / 16	
SG-42			16×16×84~88		Ø22 / Ø32		Ø42	
			16×16×71~82					
			20×20×84~88					
SH-7	8×8×95~120	5			Ø22		Ø7	
SH-12/16	10×10×95~120	5			Ø22		Ø13 / 16	
SI-12/12C	10×10×80~130	6			Ø22		Ø13	
SR-10J	8×8×67~110 (Spacer is needed)	6			Ø16	4		
SR-20RII	12×12×100~135	6		4	Ø22	6/8	Ø23	Toolpost for 2 Toolholders (Deep Boring) on the Front Side
SR-20III	12×12×95~135	6			Ø22	6/8	Ø23	
SR-20IVtypeA	12×12×100~130	7			Ø22 (Front & Rear) / Ø22	6/8	Ø23	
SR-20IVtypeB	12×12×100~130	7			Ø22 (Front & Rear) / Ø22	6/8	Ø23	
SR-25J/32J	16×16×95~155	6		4	Ø22+Ø32 (Front & Rear) / Ø22		Ø32	
SW-12RII	10×10×95~115	7			Ø16(Front & Rear) / Ø22	4/8	Ø13	
ST-20			12×12×73~79		Ø22 / Ø32		Ø20	
			12×12×65~73(Cut-Off)					
			16×16×64~73					
			16×16×65~73(Cut-Off)					
ST-38			16×16×83~88		Ø22 / Ø32		Ø32 / Ø38	
			16×16×71~82					
			16×16×84~88(Cut-Off)					
			20×20×84~88					
			20×20×84~88(Cut-Off)					
SV-38R	16×16×105~135	4	16×16×84~88		Ø22 / Ø32	- / 8	Ø32 / Ø38	
	20×20×115~135(Cut-Off)	1	16×16×71~82					
			20×20×84~88					
SV-12/20	12×12×95~135	5	12×12×70~78		Ø22 / Ø32			
	16×16×95~135	4	16×16×65~70					
SV-32	16×16×95~135	4	16×16×60~78		Ø22 / Ø32			
			16×16×80~88					
SW-7	8×8×80~120	6					Ø7	

- This table is approved by machine manufacturers.
- Manufacturers are in no particular order.

TSUGAMI

Model	Toolholder Dimensions (Gang-Type)	Number of tools	Toolholder Dimensions (Turret-Type)	Number of tools	Sleeve Diameter (Horizontal / Opposed)	Number of tools	Max. Cutting Dia.	Notes
B0123-III	12×12×85	9	-	-	Ø20 / -	4 / -	Ø12	
B0124/125/126-III	12×12×85	9	-	-	Ø20 / Ø20	4 / 4	Ø12	
B0203-III	12×12×85	9	-	-	Ø20 / Ø20	4 / 4	Ø20	
B0204/205/206-III	12×12×85	9	-	-	Ø20 / Ø20	4 / 4	Ø20	
B020M-II	-	-	-	-	- / Ø20	- / 1	Ø20	
B0265/265B/266-II	16×16×100	12	-	-	Ø25 / Ø25	5 / 4	Ø26	
B0325/325B/326-II	16×16×100	12	-	-	Ø25 / Ø25	5 / 4	Ø32	
B0385/385L	20×20×125	8	-	-	Ø32 / Ø32	3 / 5	Ø38	
B038T	-	-	20×20×125	St.8	Ø32 / Ø25		Ø38	
B073/074-II	8×8×85	9			Ø20	4	Ø7	
BH20/BH20Z	12×12×85	4	12×12×85	St.12	Ø25 / Ø32		Ø20	
BH38	16×16×125	5	20×20×125	St.12	Ø25 / Ø32		Ø38.1	
BM163-III	12×12×85	9	-	-	Ø20 / -	4 / -	Ø16	
BM164/165-III	12×12×85	9	-	-	Ø20 / Ø20	4 / 4	Ø16	
C150/CH154	12×12×60~100	4~6	-	-	-		Ø80	
C180	12×12×60~100	4~6	-	-	-		Ø120	
C220/220T	12×12×60~100	6~8	-	-	-		Ø120	
C300-IV	16×16×100~130	6~10	-	-	-		Ø165	
C300H	16×16×100~130	6~10	-	-	-		Ø165	
P013	8×8×100~120	6	-	-	Ø16 / -	3 / -	Ø1	
P013-II	8×8×100~120	6	-	-	Ø16 / -	3 / -	Ø1	
P014	8×8×100~120	6	-	-	Ø16 / Ø16	3 / 3	Ø1	
P014-II	8×8×100~120	6	-	-	Ø16 / Ø16	3 / 3	Ø1	
P033	8×8×100~120	6	-	-	Ø16 / -	3 / -	Ø3	
P033-II	8×8×100~120	6	-	-	Ø16 / -	3 / -	Ø3	
P034	8×8×100~120	6	-	-	Ø16 / Ø16	3 / 3	Ø3	
P034-II	8×8×100~120	6	-	-	Ø16 / Ø16	3 / 3	Ø3	
S205/206/SS207	12×12×100	8	-	-	Ø22 / Ø20	5 / 4	Ø20	
SS26	16×16×100	7	-	-	Ø22 / Ø20	5 / 4	Ø26	
SS32/32L	16×16×100	7	-	-	Ø22 / Ø20	5 / 4	Ø32	
SS20M	-	-	-	-	- / Ø20	- / 1	Ø20	
SS267	16×16×100	7	-	-	Ø22 / Ø20	5 / 4	Ø26	
SS327	16×16×100	7	-	-	Ø22 / Ø20	5 / 4	Ø32	
MB25	-	-	20×20×90	2×St.8	Ø20 / Ø32	5 / 4	Ø25	
M42J/M42SD	-	-	20×20×125	St.12	Ø25 / Ø32		Ø42	
M50J/M50SY-III	-	-	20×20×100	St.12	Ø20 / Ø32		Ø51	
M06JC		-	20×20×125	St.8	Ø25		Ø220 / Ø42	
M06J		-	25×25×150	St.8	Ø32 / Ø40		Ø260 / Ø51	
M08J		-	25×25×150	St.8	Ø32 / Ø40		Ø280 / Ø65	
M06D		-	25×25×150	St.12	Ø40		Ø260 / Ø51	
M08D		-	25×25×150	St.12	Ø40		Ø280 / Ø65	
M06SD		-	25×25×150	St.12	Ø40		Ø260 / Ø51	
M08SD		-	25×25×150	St.12	Ø40		Ø280 / Ø65	
M06SY		-	25×25×150	St.12	Ø40		Ø260 / Ø51	
M08SY		-	25×25×150	St.12	Ø40		Ø280 / Ø65	
TMU1	20×20×100~125	1	20×20×125	St.16	Ø32 / Ø32		Ø38	
TMB2	20×20×100~125	1	20×20×125	St.16	Ø32 / Ø32		Ø51	
TMA8-IV	20×20×100~125	1			Ø32 / Ø32		Ø65	
TMA8J	20×20×100~125	1			Ø32 / Ø32		Ø65	
TMA8H	20×20×100~125	1			Ø32 / Ø32		Ø65	

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AMADA

Model	Toolholder Dimensions (Gang-Type)	Number of tools	Toolholder Dimensions (Turret-Type)	Number of tools	Sleeve Diameter (Horizontal / Opposed)	Number of tools	Max. Cutting Dia.	Notes
G05	16×16				Ø20		Ø50×40	
G06	16×16				Ø20		Ø60×60	
G07	16×16				Ø20		Ø100×100	
G07M	20×20				Ø20		Ø100×100	
G07F	16×16				Ø20		Ø120×120	
GG5	16×16				Ø20		Ø50×40	
GS04	16×16				Ø20		Ø30×20	
J1			20×20	8	Ø25		Ø120×120	
J3			25×25	8	Ø32		Ø170	
J5			25×25	8	Ø32		Ø240	
JJ1			20×20	8	Ø32		Ø50×50	
JJ3			25×25	8	Ø32		Ø100×100	
JJ3M			25×25	12	Ø32		Ø100×100	
Ai8			20×20	8	Ø25		Ø50×50	
A12			16×16	12	Ø25		Ø80×50	
A18S			20×20	18	Ø25		Ø80×50	
AD12			16×16	9	Ø25		Ø80×50	
AD18S			20×20	15	Ø25		Ø80×50	
AA1			20×20	8	Ø25		Ø50×50	
Mi8			16×16	5	Ø20		Ø70×70	
S10			20×20	12	Ø25		Ø250×150	
V8G			20×20	15	Ø32		Ø220×450	
V10T			20×20	30(15×2)	Ø32		Ø250×450	

Nomura DS

Model	Toolholder Dimensions (Gang-Type)	Number of tools	Toolholder Dimensions (Turret-Type)	Number of tools	Sleeve Diameter (Horizontal / Opposed)	Number of tools	Max. Cutting Dia.	Notes
NN-10C	10×10×130	6			Ø17		Ø10	
NN-10CS	10×10×130	5			Ø17	4	Ø10	
NN-10SII	10×10×130	5			Ø23		Ø10	
NN-10SB5	10×10×130	5			Ø23		Ø13	
NN-10T	10×10×130	7			Ø23		Ø10	
NN-16HIII	12×12×130	6			Ø23		Ø16	
NN-16J	12.7×12.7×130	6			Ø23		Ø16	
NN-16SB5	10×10×130	5			Ø23		Ø16	
NN-16SB6 Type1	12.7×12.7×130	7			Ø17(Ø22)	4	Ø16	
NN-16SB6 Type2	12.7×12.7×130	5			Ø17(Ø22)	4	Ø16	
NN-16SB6 Type2.5	12.7×12.7×130	6			Ø17(Ø22)	5	Ø16	
NN-16SB6 Type3	12.7×12.7×130	5			Ø17(Ø22)	4	Ø16	
NN-16SB7	12.7×12.7×130	5			Ø16	4	Ø16	
NN-16UIII	12×12×130	5			Ø23		Ø16	
NN-16UB5	12×12×130	5			Ø23		Ø16	
NN-20CS	12.7×12.7×130	5(6)			Ø22	4	Ø20(Ø25)	
NN-20HIII	12×12×130	6			Ø23		Ø20	
NN-20J	12.7×12.7×130	6			Ø23		Ø20	
NN-20J2	12.7×12.7×130	6			Ø22	4	Ø20	
NN-20UIII	12×12×130	5			Ø23		Ø20	
NN-20U5	12.7×12.7×150	5(6)			Ø22	4	Ø20(Ø25)	
NN-20UB5	12×12×130	5			Ø23		Ø20	
NN-20UB7	12×12×130	6			Ø23		Ø20	
NN-20UB8	12.7×12.7×150	5(6)			Ø22	4	Ø20(Ø25)	
NN-20YB	12×12×130	8			Ø23		Ø20	
NN-25YB/32YB	16×16×130	8			Ø23 / Ø32		Ø25 / Ø32	
NN-32YB2	16×16×130	5			Ø22 / Ø32	4	Ø32	

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EGURO

Model	Toolholder Dimensions (Gang-Type)	Number of tools	Toolholder Dimensions (Turret-Type)	Number of tools	Sleeve Diameter (Horizontal / Opposed)	Number of tools	Max. Cutting Dia.	Notes
SANAX-6	12×12	5 (Max.)	-	5	Ø16	-	Ø15.0	-
SANAX-8	16×16	5 (Max.)	-	5	Ø25 / Ø30	-	Ø20.0	-
	12×12	7 (Max.)	-	5	Ø25 / Ø30	-	Ø20.0	-
SANAX-10	16×16	5 (Max.)	-	5	Ø25 / Ø30	-	Ø25.5	-
EBN-10EX	12×12	6 (Max.)	-	-	Ø20	-	Ø25.5	-
NUCBOY-8EX	12×12	6 (Max.)	-	-	Ø20	-	Ø20.0	-
NUCLET-10EX	16×16	10 (Max.)	-	-	Ø20	-	Ø25.5	-
NUCPAL-10EX	16×16	10 (Max.)	-	-	Ø20	-	Ø25.5	-

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List of Instruments and Applicable Small Tools and Toolholders

Models of Major Machine Tool Manufacturers				Applicable Toolholders
Manufacturer	Model (Automatic Lathe)	Toolholder Size	Total Length of Attached Toolholder (MAX)	
Citizen Machinery	A12,A16,B12,L12,M416,RL01,RL21	10×10	100	...1010F···
	K12,K16	12×12		...1212F···
	RL02	16×16		...1616H···
	B12E,B16E,BL12,C12,C16,$M_2$12,$M_2$16 $M_3$12,$M_3$16,MSL12	10×10	120	...1010JX···
	A20,A20VII,B20,BL20,BL25,K12E,K16E L20X,L220	12×12		...1212JX···
	L16,L20,L20E	12×12	130	...1212JX···
	C32,L25,L32,M20,$M_2$20,$M_2$32 $M_2$0,$M_3$32,$M_4$32	16×16		...1616JX···
Star Micronics	RNC-10,RNC-16,SA-16R,SE-12B/16B SH-12/16	10×10	120	...1010JX···
	SI-12,SI-12C	10×10	130	...1010JX···
	SB-16A,SB-16C,SB-16D,SC20	12×12	130	...1212JX···
	SR20RII,SR20III,SV12,SV20	12×12	135	...1212JX···
	SV32,SV32J,SV32JII	16×16		...1616JX···
	ECAS-12	10×10	150	...1010JX···
	ECAS-20	12×12		...1212JX···
	SR25J,SR32J	16×16		...1616JX···
Tsugami	B007	10×10	85	...1010F···
	B0,BA,BC,BH20,BM,BU12,BU20 BS12,BS18,BS20	12×12		...1212F···
	C004,C150,C180,C220	12×12	100	...1212F···
	BH38,BS26,BS32,BU26,BU38	16×16		...1616H···
Nomura DS	NN-10C,NN-10CS,NN-10SII NN-10SB5,NN-10SII,NN-10T,NN-16SB5	10×10	130	...1010JX···
	NN-16HIII,NN-16UB5,NN-16UIII,NN-16J NN-20HIII,NN-20UIII,NN-20UB5,NN-20YB	12×12		...1212JX···
	NN-25YB	16×16		...1616JX···

• Manufacturers are in no particular order.

Parts Compatibility of Lever Lock Toolholders

1) For better usability of lever lock toolholders, some levers, lock screws and shims are modified.

2) It is highly recommended to use only new parts. However, they are compatible with conventional parts and can be used together with them.

3) It is possible to use new parts only with a toolholder which has been in use.

4) When purchasing replacements, order them stating the new numbers.

5) Some of the shims remain unmodified.

Category	Ref. Page	Toolholder Description			Spare Parts					
					Lever		Lock Screw		Shim	
					New No.	Conventional	New No.	Conventional	New No.	Conventional
External Toolholders		PCLNR/L		·····09	LL-1N	LL-1	LS-1N	LS-1	LC-32N	LC-32
				·····12	LL-2N	LL-2	LS-2N	LS-2	LC-42N	LC-42
				·····16	LL-5N	LL-5	LS-4N	LS-4	LC-53N	LC-53
		PDJNR/L		·····11	LL-1DN	LL-1D	LS-1N	LS-1	LD-32N	LD-32
				·····15	LL-3N	LL-3	LS-2N	LS-2	LD-42	
		PSBNR/L		·····09	LL-1N	LL-1	LS-1N	LS-1	LS-32	
				·····12	LL-2N	LL-2	LS-2N	LS-2	LS-42	
		PSKNR/L		·····09	LL-1N	LL-1	LS-1N	LS-1	LS-32	
				·····12	LL-2N	LL-2	LS-2N	LS-2	LS-42	
		PSSNR/L		·····09	LL-1N	LL-1	LS-1N	LS-1	LS-32	
				·····12	LL-2N	LL-2	LS-2N	LS-2	LS-42	
		PSDNN		·····09	LL-1N	LL-1	LS-1N	LS-1	LS-32	
				·····12	LL-2N	LL-2	LS-2N	LS-2	LS-42	
		PTGNR/L		1212F-11	LL-03N	LL-03	LS-03N	LS-03	-	
				·····11	LL-03TN	LL-03T	LS-03SN	LS-03S	-	
				·····16	LL-1N	LL-1	LS-1N	LS-1	LT-32N	LT-32
				·····22	LL-2N	LL-2	LS-2N	LS-2	LT-42N	LT-42
		PTFNR/L		1212F-11	LL-03N	LL-03	LS-03N	LS-03	-	
				·····11	LL-03TN	LL-03T	LS-03SN	LS-03S	-	
				·····16	LL-1N	LL-1	LS-1N	LS-1	LT-32N	LT-32
				·····22	LL-2N	LL-2	LS-2N	LS-2	LT-42N	LT-42
		PRGCR/L		·····12	LL-1CN	LL-1C	LS-1N	LS-1	LR-12C	
		PRXCR/L		·····12						
		PRGNR/L		·····09	LL-1N	LL-1	LS-1N	LS-1	LR-80	
				·····12	LL-2N	LL-2	LS-2N	LS-2	LR-81	
		PWLNR/L		·····06	LL-1N	LL-1	LS-1N	LS-1	LW-32N	LW-32
				·····08	LL-2N	LL-2	LS-2N	LS-2	LW-42N	LW-42
Boring Bars		□16M-	PCLNR/L	09-20	LL-03SN	LL-03S	LS-03SN	LS-03S	-	
		□20Q-		09-27	LL-1N	LL-1	LS-1SN	LS-1S	LC-32N	LC-32
		□25R-		09-32						
		·····	PCLNR/L	12···	LL-2N	LL-2	LS-2N	LS-2	LC-42NR/L	LC-42R/L
		·····	PDUNR/L	11···	LL-1DN	LL-1D	LS-1SN	LS-1S	LD-32N	LD-32
		·····	PTUNR/L	11···	LL-03TN	LL-03T	LS-03SN	LS-03S	-	
		S25R-	PTUNR/L	16-30	LL-03SN	LL-03S	LS-03SN	LS-03S	-	
		S32S-		16-40	LL-1N	LL-1	LS-1N	LS-1	LT-32N	LT-32
		S40T-		16-50						
		□16M-	PWLNR/L	06-20	LL-03SN	LL-03S	LS-03SN	LS-03S	-	
		□20Q-		06-27	LL-1N	LL-1	LS-1SN	LS-1S	LW-32N	LW-32
		□25R-		06-32						
		·····	PWLNR/L	08···	LL-2N	LL-2	LS-2N	LS-2	LW-42NR/L	LW-42R/L
Turning Mill		T63H-	PCLNR/L	-DX12	LL-2N	LL-2	LS-2N	LS-2	LC-42N	LC-42
		T63H-	PCMNN	-□12						
		T63H-	PDJNR/L	-DX15	LL-3N	LL-3	LS-2N	LS-2	LD-42	
		T63H-	PDNNN	-□15						
		T63H-	PTGNR/L	-DX16	LL-1N	LL-1	LS-1N	LS-1	LT-32N	LT-32
		T63H-	PWLNR/L	-DX08	LL-2N	LL-2	LS-2N	LS-2	LW-42N	LW-42

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Listed in Alphanumeric Order

Part Numbers in Alphanumeric Order

○ : NUMBER □ : LETTER

Part Numbers in Alphanumeric Order

○ : NUMBER □ : LETTER

Part Number		Page	Description
AABSR	○(○)-○○□□F	**E17, E48**	Toolholder (Back Turning)
AABSR	○○○○□□-○○F	**E17, E48**	Toolholder (Back Turning)
AABWR	○(○)-○○□□F	**E18, E19, E48**	Toolholder (Back Turning)
AABWR	○○○○□□-○○F	**E18, E19, E48**	Toolholder (Back Turning)
ABS	○○R○○○○	**B86**	Insert (Back Turning)
ABS	○○R○○○○M	**B86**	Insert (Back Turning)
ABW	○○R○○○○	**B86**	Insert (Back Turning)
ABW	○○R○○○○M	**B86**	Insert (Back Turning)
ACLC℀	○○○○-○○F	**E48, P21**	Toolholder (Turning / Discontinued Description)
ACLC℀	○(○)-○□□FF	**E22, E48**	Toolholder (Turning)
ACLC℀	○○○○□□-○○FF	**E22, E48**	Toolholder (Turning)
AD○○□		**F76**	Boring Bars (AD Bar Adaptor)
ADJC℀	○(○)-○□□FF	**E24, E48**	Toolholder (Turning)
ADJC℀	○○○○-○○F	**E48, P21**	Toolholder (Turning / Discontinued Description)
ADJC℀	○○○○□□-○○FF	**E24, E48**	Toolholder (Turning)
ADNCR	○○○○-○○F	**E48, P21**	Toolholder (Turning / Discontinued Description)
AJ-6X38		**P2**	Spare Parts (Screw)
AJ-8X44-9.5		**P2**	Spare Parts (Screw)
AJ-10X46		**P2**	Spare Parts (Screw)
AJM5F		**N14-N16**	Spare Parts (Axial Adjustment Screw)
AJM6		**N14**	Spare Parts (Axial Adjustment Screw)
AVJB℀	○○○○□-○○F	**E48, P21**	Toolholder (Turning / Discontinued Description)
AVJB℀	○-○□□FF	**E30, E48**	Toolholder (Turning)
AVJB℀	○○○○□□-○○FF	**E30, E48**	Toolholder (Turning)
AVVB℀	○○○○□-○○F	**E48, P21**	Toolholder (Turning / Discontinued Description)
B			
BCS	-○	**H29, P13**	Spare Parts (Clamp Set)
BGIAR	○○-○		Blade (Grooving)
BH3X6		**F91, P2**	Spare Parts (Screw)
BH3X12		**D35-37, F89, P2**	Spare Parts (Screw)
BH6X10TR		**G23-G25, G84, G92-G93, H8, H19, P12**	Spare Parts (Screw)
BH6X25		**P12**	Spare Parts (Screw)
BH8X30		**P12**	Spare Parts (Screw)
C			
C○○□-	SCLC℀○○-○○	**F100**	Boring Bars (Discontinued Description)
C○○□-	SCLC℀○(.○)	**F43**	Boring Bars (General Purpose)
C○○□-	SCLC℀○○-○○A	**F39**	Boring Bars (Dynamic Bar)
C○○□-	SCLC℀○○-○○-AS	**F97**	Boring Bars (Assembly(AS) / Discontinued Description)
C○○□-	SCLCR○○-○○○EZ	**F20**	Boring Bars (EZ Bar PLUS)
C○○□-	SCLP℀○(.○)	**F43**	Boring Bars (General Purpose)
C○○□-	SCLP℀○○-○○	**F100**	Boring Bars (Discontinued Description)
C○○□-	SCLP℀○○-○○-○/○	**F100**	Boring Bars (Discontinued Description)
C○○□-	SDUC℀○○-○○	**F100**	Boring Bars (Discontinued Description)
C○○□-	SJLC℀○○-○○○	**F50**	Boring Bars
C○○□-	SJZC℀○○-○○○	**F50**	Boring Bars
C○○□-	STLB℀○○-○○A	**F53**	Boring Bars (Dynamic Bar)
C○○□-	STUB℀○○-○○	**F100**	Boring Bars (Discontinued Description)
C○○□-	STUP℀○○-○○	**F100, F101**	Boring Bars (Discontinued Description)
C○○□-	STUP℀○○-○○-○/○	**F100, F101**	Boring Bars (Discontinued Description)
C○○□-	STUPR○○-○○-AS	**F97**	Boring Bars (Assembly(AS) / Discontinued Description)
C○○□-	STXB℀○○-○○○	**F57**	Boring Bars
C○○□-	STXP℀○○-○○	**F57**	Boring Bars
C○○□-	STZB℀○○-○○○	**F57**	Boring Bars
C○○□-	SWUB℀○.○	**F69**	Boring Bars (General Purpose)
C○○□-	SWUB℀○○-○○	**F101**	Boring Bars (Discontinued Description)
C○○□-	SWUB℀○○-○○A	**F67**	Boring Bars (Dynamic Bar)
C○○□-	SWUB℀○○-○○-AS	**F97**	Boring Bars (Assembly(AS) / Discontinued Description)
C○○□-	SWUB℀○○-○○-○/○	**F101**	Boring Bars (Discontinued Description)
C○○□-	SWUP℀○○-○○	**F101**	Boring Bars (Discontinued Description)
C○○□-	SWUP℀○○-○○-○/○	**F101**	Boring Bars (Discontinued Description)
C09N		**P15**	Spare Parts (Clamp)
C17R		**P15**	Spare Parts (Clamp)
C20R		**P15**	Spare Parts (Clamp)
C25R		**P15**	Spare Parts (Clamp)
CB-11		**D27, D36, D37, P16**	Spare Parts (Chipbreaker)
CB-12		**D28, F89, P16**	Spare Parts (Chipbreaker)
CB-13		**D28, F89, P16**	Spare Parts (Chipbreaker)
CB-14		**D25, P16**	Spare Parts (Chipbreaker)
CB-15		**D25, P16**	Spare Parts (Chipbreaker)
CB-16		**D24, D25, F89, P16**	Spare Parts (Chipbreaker)
CB-17		**D24, P16**	Spare Parts (Chipbreaker)
CB-51		**D27, P16**	Spare Parts (Chipbreaker)
CB-S3220		**E42, P16**	Spare Parts (Chipbreaker)
CB-S4220		**E42, P16**	Spare Parts (Chipbreaker)
CBSN℀	○○○○□-○○	**D40**	Toolholder (Turning)
CBSN℀	○○○○B-12-A20	**F72**	Boring Bar (for Bearing Machining)
CB-T2212		**E43, P16**	Spare Parts (Chipbreaker)
CB-T3220		**E43, P16**	Spare Parts (Chipbreaker)
CCET	○○○○○(○)F℀-USF	**B55**	Insert (Turning)
CCET	○○○○(○)(○)MF℀-J	**B56**	Insert (Turning)
CCET	○○○○(○)(○)MF℀-U	**B55**	Insert (Turning)
CCET	○○○○(○)(○)MF℀-USF	**B55**	Insert (Turning)
CCET	○○○○(○)(○)M℀-F	**B54**	Insert (Turning)
CCET	○○○○(○)(○)M℀-FSF	**B54**	Insert (Turning)
CCET	○○○○(○)(○)℀-FSF	**B54**	Insert (Turning)
CCGT	○○○○(○)(○)	**B53**	Insert (Turning)
CCGT	○○○○AH	**B56**	Insert (Turning)
CCGT	○○○○(○)E℀-U	**B56**	Insert (Turning)
CCGT	○○○○○F℀-U	**B56**	Insert (Turning)
CCGT	○○○○(○)(○)M	**B53**	Insert (Turning)
CCGT	○○○○○○M-CF	**B52**	Insert (Turning)
CCGT	○○○○(○)ME℀-U	**B56**	Insert (Turning)
CCGT	○○○○(○)(○)MF	**B54**	Insert (Turning)
CCGT	○○○○(○)MF-GF	**B52**	Insert (Turning)
CCGT	○○○○(○)MF-GQ	**B52**	Insert (Turning)
CCGT	○○○○(○)MFP-GF	**B52**	Insert (Turning)
CCGT	○○○○(○)MFP-GQ	**B53**	Insert (Turning)
CCGT	○○○○(○)MFP-SK	**B52**	Insert (Turning)
CCGT	○○○○(○)(○)MF℀-U	**B56**	Insert (Turning)
CCGT	○○○○○○MP-CF	**B52**	Insert (Turning)
CCGT	○○○○(○)MP-CK	**B52**	Insert (Turning)
CCGT	○○○○○(○)(○)M℀-F	**B55**	Insert (Turning)
CCGT	○○○(○)(○)(○)℀-A3	**B57**	Insert (Turning)
CCGT	○○○○○(○)(○)℀-F	**B55**	Insert (Turning)
CCGW	○○○○(○)(○)	**B57, C24**	Insert (Turning)
CCGW	○○○○(○)(○)NE	**C24**	Insert (Turning)
CCGW	○○○○(○)(○)SE	**C24**	Insert (Turning)
CCLN℀	○○○○□-○○	**D24**	Toolholder (Turning)
CCLN℀	○○○○□-○○A	**D34, F91**	Toolholder (Turning)
CCLN℀	○○○○B-○○A	**F91**	Boring Bar (Previous Description)
CCLN℀	○○○○□-○○GX	**D30**	Toolholder (Turning)
CCMT	○○○○(○)	**B53, C24**	Insert (Turning)
CCMT	○○○(○)(○)GK	**B53**	Insert (Turning)
CCMT	○○○○(○)HQ	**B53**	Insert (Turning)
CCMT	○○○○MQ	**B54**	Insert (Turning)
CCMT	○○○○(○)NE	**C24**	Insert (Turning)
CCMT	○○○○(○)PP	**B53**	Insert (Turning)
CCMT	○○○○(○)SE	**C24**	Insert (Turning)

Part Numbers in Alphanumeric Order

○ : NUMBER □ : LETTER

Part Number		Page	Description
CCMT	○○○○(○)WP	**B53**	Insert (Turning)
CCMW	○○○○MEF	**C14**	Insert (Turning)
CCMW	○○○○S○○○○○MES	**C14**	Insert (Turning)
CCMW	○○○○(○)(○) S○○○○○SET	**C14**	Insert (Turning)
CCMW	○○○○(○)T○○○○○ME	**C14**	Insert (Turning)
CCMW	○○○○(○)(○) T○○○○○SE	**C14**	Insert (Turning)
CCMW	○○○○S○○○○○MET	**C14**	Insert (Turning)
CCRN□	○○○○□-○○A	**D34**	Toolholder (Turning)
CDHN□	○○○○□-○○GX	**D31**	Toolholder (Turning)
CDJN□	○○○○□-○○	**D25**	Toolholder (Turning)
CDJN□	○○○○□-○○GX	**D31**	Toolholder (Turning)
CE-010		**D24, D25, F89, P13**	Spare Parts (Clamp Set)
CE-020		**D27, D28, D36, D37, P13**	Spare Parts (Clamp Set)
CE-030		**D29, P13**	Spare Parts (Clamp Set)
CE-030A		**D27, D29, D34-D38, P13**	Spare Parts (Clamp Set)
CE-040		**D27, D29, D37, P13**	Spare Parts (Clamp Set)
CE-111		**P15**	Spare Parts (Clamp)
CE-121		**P15**	Spare Parts (Clamp)
CE-131		**P15**	Spare Parts (Clamp)
CE-141		**P15**	Spare Parts (Clamp)
CE-220		**D24, D27, P13**	Spare Parts (Clamp Set)
CE-320		**F89, P13**	Spare Parts (Clamp Set)
CE-360S		**F89, F91, P13**	Spare Parts (Clamp Set)
CE-410		**D30-D33, F90, P13**	Spare Parts (Clamp Set)
CE-430		**D31, P13**	Spare Parts (Clamp Set)
CELNR	○○○○B-○○	**F89**	Boring Bar (Previous Description)
CELN□	○○○○□-○○	**D25**	Toolholder (Turning)
CGA-3□		**G41, P15**	Spare Parts (Clamp)
CGA-4□		**G41, P15**	Spare Parts (Clamp)
CGA-5□		**G41, P15**	Spare Parts (Clamp)
CGB□		**P15**	Spare Parts (Clamp)
CGH-1□		**G40, G67, P15**	Spare Parts (Clamp)
CGH-2□		**G40, G67, P15**	Spare Parts (Clamp)
CGH-3□		**G40, P15**	Spare Parts (Clamp)
CGIA-3R		**G69, P15**	Spare Parts (Clamp)
CGIA-4R		**G69, P15**	Spare Parts (Clamp)
CGIA-5R		**G69, P15**	Spare Parts (Clamp)
CH-20R		**P15**	Spare Parts (Clamp)
CIN□	○○○○S-○○	**J21**	Toolholder (Threading)
CKC-2□		**G31, G71, J16, J17**	Spare Parts (Clamp)
CKC-3□		**G31, G71, G117, J17**	Spare Parts (Clamp)
CL-6		**D14**	Spare Parts (Clamp)
CL-9		**D12, D14**	Spare Parts (Clamp)
CL-12		**D8, D19**	Spare Parts (Clamp)
CL-20		**D8, D10, D22**	Spare Parts (Clamp)
CL-30		**D19**	Spare Parts (Clamp)
CL63-1		**N3-N10, P19**	Spare Parts (Coolant Pipe)
CL100-1		**N3-N4, N10, P19**	Spare Parts (Coolant Pipe)
CNGA	○○○	**B20**	Insert (Turning)
CNGA	○○○MEF	**C6**	Insert (Turning)
CNGA	○○○S○○○○○	**B90**	Insert (Turning)
CNGA	○○○(○)S○○○○○ME	**C6**	Insert (Turning)
CNGA	○○○S○○○○○MEH	**C6**	Insert (Turning)
CNGA	○○○S○○○○○MEP	**C6**	Insert (Turning)
CNGA	○○○S○○○○○MET	**C6**	Insert (Turning)
CNGA	○○○S○○○○○MEW	**C6**	Insert (Turning)
CNGA	○○○S○○○○○SE	**C6**	Insert (Turning)
CNGA	○○○S○○○○○SET	**C6**	Insert (Turning)
CNGA	○○○T○○○○○	**B90**	Insert (Turning)
CNGA	○○○T○○○○○AA	**B90**	Insert (Turning)
CNGA	○○○T○○○○○ME	**C6**	Insert (Turning)
CNGA	○○○T○○○○○SE	**C6**	Insert (Turning)
CNGG	○○○AH	**B20**	Insert (Turning)
CNGG	○○○FP-TK	**B18**	Insert (Turning)

Part Number		Page	Description
CNGG	○○○HQ	**B14**	Insert (Turning)
CNGG	○○○(○)MFP-SK	**B18**	Insert (Turning)
CNGG	○○○□	**B21**	Insert (Turning)
CNGG	○○○□-25R	**B21**	Insert (Turning)
CNGG	○○○□-A3	**B20**	Insert (Turning)
CNGG	○○○(○)□-S	**B21**	Insert (Turning)
CNGG	○○○TK	**B18**	Insert (Turning)
CNGG	○○○Z	**B21**	Insert (Turning)
CNGM	○○○S○○○○○BB○	**C7**	Insert (Turning)
CNG	○○○T○○○○○AA	**B90**	Insert (Turning)
CNG	○○○T○○○○○	**B90**	Insert (Turning)
CNGU	○○○○(○)ME□-U	**B49**	Insert (Turning)
CNGU	○○○○(○)(○)MF□-F	**B49**	Insert (Turning)
CNGU	○○○○(○)(○)MF□-U	**B49**	Insert (Turning)
CNGU	○○○○○MF-SK	**B49**	Insert (Turning)
CNGU	○○○○○MFP-SK	**B49**	Insert (Turning)
CNGX	○○○T○○○○○	**B90**	Insert (Turning)
CNMA	○○○	**B20**	Insert (Turning)
CNMA	○○○T○○○○○AA	**B90**	Insert (Turning)
CNMG	○○○	**B16**	Insert (Turning)
CNMG	○○○AH	**B20**	Insert (Turning)
CNMG	○○○C	**B19**	Insert (Turning)
CNMG	○○○CJ	**B15**	Insert (Turning)
CNMG	○○○CQ	**B14**	Insert (Turning)
CNMG	○○○GC	**B20**	Insert (Turning)
CNMG	○○○(○)GP	**B14**	Insert (Turning)
CNMG	○○○GS	**B15**	Insert (Turning)
CNMG	○○○GT	**B16**	Insert (Turning)
CNMG	○○○GU	**B18**	Insert (Turning)
CNMG	○○○HK	**B15**	Insert (Turning)
CNMG	○○○HQ	**B14**	Insert (Turning)
CNMG	○○○HS	**B15**	Insert (Turning)
CNMG	○○○HT	**B16**	Insert (Turning)
CNMG	○○○HU	**B18**	Insert (Turning)
CNMG	○○○MQ	**B19**	Insert (Turning)
CNMG	○○○MS	**B19**	Insert (Turning)
CNMG	○○○MU	**B19**	Insert (Turning)
CNMG	○○○PG	**B15**	Insert (Turning)
CNMG	○○○PH	**B16**	Insert (Turning)
CNMG	○○○(○)PP	**B14**	Insert (Turning)
CNMG	○○○PQ	**B14**	Insert (Turning)
CNMG	○○○PS	**B15**	Insert (Turning)
CNMG	○○○PT	**B16**	Insert (Turning)
CNMG	○○○TK	**B18**	Insert (Turning)
CNMG	○○○TN-V	**B15**	Insert (Turning)
CNMG	○○○WP	**B14**	Insert (Turning)
CNMG	○○○WQ	**B14**	Insert (Turning)
CNMG	○○○XF	**B17**	Insert (Turning)
CNMG	○○○XP	**B17**	Insert (Turning)
CNMG	○○○XQ	**B17**	Insert (Turning)
CNMG	○○○XS	**B17**	Insert (Turning)
CNMG	○○○ZS	**B19**	Insert (Turning)
CNMM	○○○(○)M	**C23**	Insert (Turning)
CNMM	○○○(○)MNE	**C23**	Insert (Turning)
CNMM	○○○(○)MSE	**C23**	Insert (Turning)
CNMM	○○○PX	**B17**	Insert (Turning)
CNM	○○○S○○○○○	**C19**	Insert (Turning)
CNM	○○○T○○○○○	**B90**	Insert (Turning)
CNMU	○○○○(○)E-GK	**B49**	Insert (Turning)
CP-2D		**D14, D22, F84, P16**	Spare Parts (Clamp)
CP-3D		**D8, D10, D12, D22, F77, F80, F83, F84, F87, P16**	Spare Parts (Clamp)
CP-5D		**D18, P16**	Spare Parts (Clamp)
CP-8TE		**P16**	Spare Parts (Clamp)
CP-8W		**P16**	Spare Parts (Clamp)
CPGB	○○○S○○○○○MES	**C14**	Insert (Turning)

Part Numbers in Alphanumeric Order

○ : NUMBER □ : LETTER

Part Number		Page	Description
CPGB	○○○(○)(○) S○○○○○MET	C14	Insert (Turning)
CPGB	○○○(○)(○) S○○○○○SET	C14	Insert (Turning)
CPGB	○○○(○)(○)T○○○○○ME	C14	Insert (Turning)
CPGB	○○○(○)(○)(○) T○○○○○SE	C14	Insert (Turning)
CPGT	○○○○(○)	B57	Insert (Turning)
CPMB	○○○(○)(○)	B58	Insert (Turning)
CPMH	○○○(○)(○)(○)	B58, C25	Insert (Turning)
CPMH	○○○(○)(○)HQ	B58	Insert (Turning)
CPMH	○○○(○)(○)(○)NE	C25	Insert (Turning)
CPMH	○○○(○)(○)%-Y	B58	Insert (Turning)
CPMH	○○○(○)SE	C25	Insert (Turning)
CPMT	○○○(○)(○)GP	B58	Insert (Turning)
CPMT	○○○(○)(○)PP	B58	Insert (Turning)
CPMT	○○○(○)(○)XP	B58	Insert (Turning)
CPMT	○○○XQ	B58	Insert (Turning)
CP-RC%		D40, F72, P13	Spare Parts (Clamp Set)
CP8X15TL		P2	Spare Parts (Screw)
CP8X23TL		P2	Spare Parts (Screw)
CPS-1		F71, P14	Spare Parts (Clamp Set)
CPS-2		F70, F71, P14	Spare Parts (Clamp Set)
CPS-2P		E42, E43, P14	Spare Parts (Clamp Set)
CPS-2S		F71, P14	Spare Parts (Clamp Set)
CPS-2TR		P14	Spare Parts (Clamp Set)
CPS-3		E42, E43, F70, F71, P14	Spare Parts (Clamp Set)
CPS-4V		G61, N15, P14	Spare Parts (Clamp Set)
CPS-5E		P14	Spare Parts (Clamp Set)
CPS-5F		G61, P14	Spare Parts (Clamp Set)
CPS-5%		D19, P14	Spare Parts (Clamp Set)
CPS-5S		J20, J21, N9, P14	Spare Parts (Clamp Set)
CPS-5V		G61, G108, G109, G122, N15, P14	Spare Parts (Clamp Set)
CPS-6F		P14	Spare Parts (Clamp Set)
CPS-6M		P14	Spare Parts (Clamp Set)
CPS-6S		J20, J21, N9, P14	Spare Parts (Clamp Set)
CPS-6V		G61, G109, G113-G114, G122, P14	Spare Parts (Clamp Set)
CPS-8V		G109, G113-G114, G122, P14	Spare Parts (Clamp Set)
CRDCN	○○-○□	D29	Toolholder (Turning)
CRDNN	○○-○□	D29	Toolholder (Turning)
CRDNN	○○○○□-○○	D29	Toolholder (Turning)
CRDNN	○○○○□-○○A	D35	Toolholder (Turning)
CRSN%	○○○○□-○○	D29	Toolholder (Turning)
CRSN%	○○○○□-○○A	D35	Toolholder (Turning)
CS-2D		D14, D22, F84, P2	Spare Parts (Screw)
CS-3D		D8, D10, D12, D22, F77, F80, F83, F84, F87, P2	Spare Parts (Screw)
CS-5D		D18, P2	Spare Parts (Screw)
CSBPR	○○○○□-○○N	E42	Toolholder (Turning)
CSDNN	○○○○□-○○	D27	Toolholder (Turning)
CSDNN	○○○○□-○○A	D37	Toolholder (Turning)
CSDNN	○○○○□-○○GX	D32	Toolholder (Turning)
CSDPN	○○○○□-○○N	E42	Toolholder (Turning)
CSKN%	○○○○□-○○	D27, F89	Toolholder (Turning)
CSKNR	○○○○□-○○A	D36	Toolholder (Turning)
CSKN%	○○○○B-○○	F89	Boring Bar (Previous Description)
CSKN%	○○○○□-○○GX	D33	Toolholder (Turning)
CSKPR	○○○○B-○○	F70	Boring Bar (Previous Description)
CSKPR	○○○○□-○○N	E42	Toolholder (Turning)
CS-N%	○○○○□-○○	D27	Toolholder (Turning)
CS-N%	○○○○□-○○GX	D33	Toolholder (Turning)
CSRN%	○○-□	D27	Toolholder (Turning)
CSRN%	○○○○□-○○	D27	Toolholder (Turning)
CSRN%	○○○○□-○○A	D36	Toolholder (Turning)
CSRN%	○○○○□-○○GX	D32	Toolholder (Turning)
CSSN%	○○-○□	D27	Toolholder (Turning)
CSSN%	○○○○□-○○	D27	Toolholder (Turning)
CSSN%	○○○○□-○○A	D37	Toolholder (Turning)
CSSN%	○○○○□-○○GX	D32	Toolholder (Turning)
CSSP%	○○○○□-○○N	E42	Toolholder (Turning)
CSYN%	○○○○□-○○	D27	Toolholder (Turning)
CSYN%	○○○○□-○○A	D36	Toolholder (Turning)
CSYN%	○○○○□-○○GX	D33	Toolholder (Turning)
CTDPR	○○CA○○	N15	Toolholder (Cartridge)
CTEPR	○○CA○○	N15	Toolholder (Cartridge)
CTFP%	○○○○□-○○N	E43	Toolholder (Turning)
CTFPR	○○CA○○	N15	Toolholder (Cartridge)
CTGP%	○○○○□-○○N	E43	Toolholder (Turning)
CTJN%	○○-○□	D28	Toolholder (Turning)
CTJN%	○○○○□-○○	D28	Toolholder (Turning)
CTJN%	○○○○□-○○A	D38	Toolholder (Turning)
CTTP%	○○○○□-○○N	E43	Toolholder (Turning)
CTUN%	○○○○B-○○A	F91	Boring Bar (Previous Description)
CTUN%	○○○○□-○○	D28	Toolholder (Turning)
CTUN%	○○○○□-○○A	D38	Toolholder (Turning)
CTUP%	○○○○B-○○	F71	Boring Bar (Previous Description)
D			
DB	○○○R○○	G43	Insert (Grooving)
DB	○○○□(□□)T00420	G43	Insert (Grooving)
DC-42		F77, F80, F87, P8	Spare Parts (Shim)
DC-44		D8, P8	Spare Parts (Shim)
DCET	○○○○○F%-JSF	B64	Insert (Turning)
DCET	○○○○○(○)F%-USF	B63	Insert (Turning)
DCET	○○○○(○)(○)MF%-J	B64	Insert (Turning)
DCET	○○○○○MF%-JSF	B64	Insert (Turning)
DCET	○○○○(○)(○)MF%-U	B63	Insert (Turning)
DCET	○○○○○(○)MF%-USF	B63	Insert (Turning)
DCET	○○○○(○)(○)M%-F	B62	Insert (Turning)
DCET	○○○○(○)(○)M%-FSF	B62	Insert (Turning)
DCET	○○○○(○)%-FSF	B62	Insert (Turning)
DCGT	○○○○(○)	B61	Insert (Turning)
DCGT	○○○○AH	B65	Insert (Turning)
DCGT	○○○○○CF	B59	Insert (Turning)
DCGT	○○○○○CK	B59	Insert (Turning)
DCGT	○○○○(○)E%-J	B64	Insert (Turning)
DCGT	○○○○(○)E%-U	B64	Insert (Turning)
DCGT	○○○○(○)F%-J	B64	Insert (Turning)
DCGT	○○○○○F%-U	B63	Insert (Turning)
DCGT	○○○○(○)FN-Z	B61	Insert (Turning)
DCGT	○○○○(○)(○)M	B61	Insert (Turning)
DCGT	○○○○○M-CF	B59	Insert (Turning)
DCGT	○○○○○M-CK	B59	Insert (Turning)
DCGT	○○○○(○)(○)ME%-J	B64	Insert (Turning)
DCGT	○○○○(○)ME%-U	B64	Insert (Turning)
DCGT	○○○○(○)(○)MF	B61	Insert (Turning)
DCGT	○○○○(○)MF-GF	B59	Insert (Turning)
DCGT	○○○○(○)MF-GQ	B60	Insert (Turning)
DCGT	○○○○(○)MFP-GF	B59	Insert (Turning)
DCGT	○○○○(○)MFP-GQ	B60	Insert (Turning)
DCGT	○○○○(○)MFP-SK	B59	Insert (Turning)
DCGT	○○○○(○)(○)MF%-J	B64	Insert (Turning)
DCGT	○○○○(○)(○)MF%-U	B63	Insert (Turning)
DCGT	○○○○○MP-CF	B59	Insert (Turning)
DCGT	○○○○○MP-CK	B60	Insert (Turning)
DCGT	○○○○(○)(○)M%-F	B62	Insert (Turning)
DCGT	○○○○(○)%-A3	B65	Insert (Turning)
DCGT	○○○○(○)%-F	B62	Insert (Turning)
DCGT	○○○○(○)%-FS	B62	Insert (Turning)
DCGW	○○○○(○)	B65	Insert (Turning)
DCLN%	○○-○□	D8	Toolholder (Turning)

Part Numbers in Alphanumeric Order

○ : NUMBER □ : LETTER

Part Number	Page	Description
DCLN®® ○○○○□-○○	**D8**	Toolholder (Turning)
DCMT ○○○○(○)	**B61, C25**	Insert (Turning)
DCMT ○○○○(○)GK	**B60**	Insert (Turning)
DCMT ○○○○(○)GP	**B60**	Insert (Turning)
DCMT ○○○○(○)HQ	**B60**	Insert (Turning)
DCMT ○○○○(○)MQ	**B61**	Insert (Turning)
DCMT ○○○○(○)NE	**C25**	Insert (Turning)
DCMT ○○○○(○)PP	**B60**	Insert (Turning)
DCMT ○○○○(○)®®-NE	**C25**	Insert (Turning)
DCMT ○○○○(○)SE	**C25**	Insert (Turning)
DCMT ○○○○(○)XP	**B61**	Insert (Turning)
DCMT ○○○○XQ	**B61**	Insert (Turning)
DCMW ○○○○MEF	**C15**	Insert (Turning)
DCMW ○○○○(○) S○○○○○MES	**C15**	Insert (Turning)
DCMW ○○○○(○) S○○○○○MET	**C15**	Insert (Turning)
DCMW ○○○○S○○○○○SET	**C15**	Insert (Turning)
DCMW ○○○○(○)T○○○○○ME	**C15**	Insert (Turning)
DCMW ○○○○(○)T○○○○○SE	**C15**	Insert (Turning)
DCMX ○○○○WP	**B60**	Insert (Turning)
DD-42	**P8**	Spare Parts (Shim)
DD-42-16	**F80, P8**	Spare Parts (Shim)
DD-43	**D10, P8**	Spare Parts (Shim)
DD-44	**D10, P8**	Spare Parts (Shim)
DDJN®® ○○-○□	**D10**	Toolholder (Turning)
DDJN®® ○○○○□-○○○○	**D10**	Toolholder (Turning)
DDHN®® ○○○○□-○○○○	**D10**	Toolholder (Turning)
DN10	**F77, F80, F83, F84, F87, P19**	Spare Parts (Nozzle)
DN20	**F77, F80, F83, F84, F87, P19**	Spare Parts (Nozzle)
DNGA ○○○MEF	**C8**	Insert (Turning)
DNGA ○○○S○○○○○	**B91**	Insert (Turning)
DNGA ○○○(○)S○○○○○ME	**C8**	Insert (Turning)
DNGA ○○○S○○○○○MEH	**C8**	Insert (Turning)
DNGA ○○○S○○○○○MEP	**C8**	Insert (Turning)
DNGA ○○○S○○○○○MET	**C8**	Insert (Turning)
DNGA ○○○(○)S○○○○○SE	**C8**	Insert (Turning)
DNGA ○○○S○○○○○SET	**C9**	Insert (Turning)
DNGA ○○○T○○○○○	**B91**	Insert (Turning)
DNGA ○○○T○○○○○AA	**B91**	Insert (Turning)
DNGA ○○○T○○○○○ME	**C8**	Insert (Turning)
DNGA ○○○T○○○○○SE	**C8**	Insert (Turning)
DNGG ○○○AH	**B27**	Insert (Turning)
DNGG ○○○FP-TK	**B26**	Insert (Turning)
DNGG ○○○(○)MFP-SK	**B25**	Insert (Turning)
DNGG ○○○®®	**B27**	Insert (Turning)
DNGG ○○○®®-A3	**B27**	Insert (Turning)
DNGG ○○○(○)®®-S	**B27**	Insert (Turning)
DNGG ○○○TK	**B26**	Insert (Turning)
DNGM ○○○S○○○○○BB○	**C9**	Insert (Turning)
DNG ○○○S○○○○○	**B91**	Insert (Turning)
DNG ○○○T○○○○○	**B91**	Insert (Turning)
DNG ○○○T○○○○○AA	**B91**	Insert (Turning)
DNGU ○○○○(○)ME®®-U	**B50**	Insert (Turning)
DNGU ○○○○(○)(○)MF®®-F	**B50**	Insert (Turning)
DNGU ○○○○(○)(○)MF®®-U	**B50**	Insert (Turning)
DNGU ○○○○(○)MF-SK	**B50**	Insert (Turning)
DNGU ○○○○(○)MFP-SK	**B50**	Insert (Turning)
DNGX ○○○T○○○○○	**B91**	Insert (Turning)
DNMA ○○○	**B27**	Insert (Turning)
DNMG ○○○	**B24**	Insert (Turning)
DNMG ○○○AH	**B27**	Insert (Turning)
DNMG ○○○C	**B26**	Insert (Turning)
DNMG ○○○CJ	**B23**	Insert (Turning)
DNMG ○○○CQ	**B22**	Insert (Turning)
DNMG ○○○GC	**B27**	Insert (Turning)

Part Number	Page	Description
DNMG ○○○(○)GP	**B22**	Insert (Turning)
DNMG ○○○GS	**B23**	Insert (Turning)
DNMG ○○○GT	**B24**	Insert (Turning)
DNMG ○○○GU	**B25**	Insert (Turning)
DNMG ○○○HK	**B23**	Insert (Turning)
DNMG ○○○(○)HQ	**B22**	Insert (Turning)
DNMG ○○○HS	**B24**	Insert (Turning)
DNMG ○○○MQ	**B26**	Insert (Turning)
DNMG ○○○MS	**B26**	Insert (Turning)
DNMG ○○○MU	**B26**	Insert (Turning)
DNMG ○○○PG	**B23**	Insert (Turning)
DNMG ○○○PH	**B24**	Insert (Turning)
DNMG ○○○(○)PP	**B22**	Insert (Turning)
DNMG ○○○PQ	**B22**	Insert (Turning)
DNMG ○○○PS	**B24**	Insert (Turning)
DNMG ○○○PT	**B24**	Insert (Turning)
DNMG ○○○TK	**B26**	Insert (Turning)
DNMG ○○○TN-V	**B23**	Insert (Turning)
DNMG ○○○XF	**B25**	Insert (Turning)
DNMG ○○○XP	**B25**	Insert (Turning)
DNMG ○○○XQ	**B25**	Insert (Turning)
DNMG ○○○XS	**B25**	Insert (Turning)
DNMG ○○○ZS	**B27**	Insert (Turning)
DNMM ○○○(○)M	**C23**	Insert (Turning)
DNMM ○○○(○)MNE	**C23**	Insert (Turning)
DNMM ○○○(○)MSE	**C23**	Insert (Turning)
DNMM ○○○PX	**B25**	Insert (Turning)
DNMP ○○○TK	**B23**	Insert (Turning)
DNMU ○○○○(○)E-GK	**B50**	Insert (Turning)
DPET ○○○○○(○)F®®-USF	**B65**	Insert (Turning)
DPET ○○○○○(○)MF®®-USF	**B65**	Insert (Turning)
DPET ○○○○(○)(○)M®®-FSF	**B65**	Insert (Turning)
DPET ○○○○®®-FSF	**B65**	Insert (Turning)
DS-42	**P8**	Spare Parts (Shim)
DS-44	**D12, P8**	Spare Parts (Shim)
DSBN®® ○○○○□-○○	**D12**	Toolholder (Turning)
DT-7	**G55-G56, P17**	Spare Parts (Torx Wrench / Screwdriver Type)
DT-8	**P17**	Spare Parts (Torx Wrench / Screwdriver Type)
DT-10	**P17**	Spare Parts (Torx Wrench / Screwdriver Type)
DT-15	**P17**	Spare Parts (Torx Wrench / Screwdriver Type)
DT-20	**P17**	Spare Parts (Torx Wrench / Screwdriver Type)
DT-25	**P17**	Spare Parts (Torx Wrench / Screwdriver Type)
DT-32	**D14, F84, P8**	Spare Parts (Shim)
DT-42	**F84, P8**	Spare Parts (Shim)
DTGN®® ○○○○□-○○	**D14**	Toolholder (Turning)
DTM-6	**P17**	Spare Parts (Torx Wrench / Screwdriver Type)
DTM-7	**P17**	Spare Parts (Torx Wrench / Screwdriver Type)
DTM-8	**P17**	Spare Parts (Torx Wrench / Screwdriver Type)
DTM-10	**P17**	Spare Parts (Torx Wrench / Screwdriver Type)
DTM-15	**P17**	Spare Parts (Torx Wrench / Screwdriver Type)
DTP-9	**P17**	Spare Parts (Torx Plus Wrench / Screwdriver Type)
DTP-15	**P17**	Spare Parts (Torx Plus Wrench / Screwdriver Type)
DTP-20	**P17**	Spare Parts (Torx Plus Wrench / Screwdriver Type)
DTPM-8	**P17**	Spare Parts (Torx Plus Wrench / Screwdriver Type)
DTPM-10	**P17**	Spare Parts (Torx Plus Wrench / Screwdriver Type)
DTPM-15	**P17**	Spare Parts (Torx Plus Wrench / Screwdriver Type)
DV-33	**D18, P8**	Spare Parts (Shim)

Part Numbers in Alphanumeric Order

○ : NUMBER □ : LETTER

Part Number		Page	Description
DVJN℅	○○-○□	D18	Toolholder (Turning)
DVLN℅	○○○○□-○○	D18	Toolholder (Turning)
DVPN℅	○○-○□	D18	Toolholder (Turning)
DVPN℅	○○○○□-○○	D18	Toolholder (Turning)
DW-32		D22	Spare Parts (Shim)
DW-42		F87, P8	Spare Parts (Shim)
DW-44		D22, P8	Spare Parts (Shim)
DWLN℅	○○-○□	D22	Toolholder (Turning)
DWLN℅	○○○○□-○○	D22	Toolholder (Turning)
DVVNN	○○-○□	D18	Toolholder (Turning)
DVVNN	○○○○□-○○	D18	Toolholder (Turning)
E			
E○○□-	SCLC℅○○-○○	F100	Boring Bars (Discontinued Description)
E○○□-	SCLC℅○A	F39	Boring Bars (Dynamic Bar)
E○○□-	SCLC℅○A-○/○	F39	Boring Bars (Dynamic Bar)
E○○□-	SCLC℅○○-○○A	F39	Boring Bars (Dynamic Bar)
E○○□-	SCLC℅○○-○○A-○/○	F39	Boring Bars (Dynamic Bar)
E○○□-	SCLP℅○○-○○	F100	Boring Bars (Discontinued Description)
E○○□-	SCLP℅○○-○○A	F41	Boring Bars (Dynamic Bar)
E○○□-	SCLP℅○○-○○A-○/○	F41	Boring Bars (Dynamic Bar)
E○○□-	SDQC℅○A	F46	Boring Bars (Dynamic Bar)
E○○□-	SDQC℅○A-○/○	F46	Boring Bars (Dynamic Bar)
E○○□-	SDQC℅○○-○○A	F46	Boring Bars (Dynamic Bar)
E○○□-	SDQC℅○○-○○A-○/○	F46	Boring Bars (Dynamic Bar)
E○○□-	SDUC℅○A	F45	Boring Bars (Dynamic Bar)
E○○□-	SDUC℅○A-○/○	F45	Boring Bars (Dynamic Bar)
E○○□-	SDUC℅○○-○○A	F45	Boring Bars (Dynamic Bar)
E○○□-	SDUC℅○○-○○A-○/○	F45	Boring Bars (Dynamic Bar)
E○○□-	SDZC℅○○-○○A	F47	Boring Bars (Dynamic Bar)
E○○□-	STLP℅○○-○○A	F53	Boring Bars (Dynamic Bar)
E○○□-	STLP℅○○-○○A-○/○	F53	Boring Bars (Dynamic Bar)
E○○□-	STUP℅○○-○○	F101	Boring Bars (Discontinued Description)
E○○□-	SVPB℅○○-○○A	F60	Boring Bars (Dynamic Bar)
E○○□-	SVPC℅○○-○○A	F60	Boring Bars (Dynamic Bar)
E○○□-	SVUB℅○○-○○A	F63	Boring Bars (Dynamic Bar)
E○○□-	SVUC℅○○-○○A	F63	Boring Bars (Dynamic Bar)
E○○□-	SWUB℅○○-○○A	F67	Boring Bars (Dynamic Bar)
E○○□-	SWUB℅○○-○○A-○/○	F67	Boring Bars (Dynamic Bar)
E○○□-	SWUP℅○○-○○A	F67	Boring Bars (Dynamic Bar)
E○○□-	SWUP℅○○-○○A-○/○	F67	Boring Bars (Dynamic Bar)
EGT	16-1	G42	Toolholder (External Grooving)
ENG	○○○S○○○○○	B91	Insert (Turning)
ENG	○○○(○)T○○○○○	B91	Insert (Turning)
ENG	○○○T○○○○○AA	B91	Insert (Turning)
EZBR	○○○○○○-○○○NB	C21, C33, F18	EZ Bars (Boring)
EZBR	○○○○○○HP-○○○F	F16	EZ Bars (Boring)
EZBR	○○○○○○HP-○○○H	F16	EZ Bars (Boring)
EZBR	○○○○○○ST-○○○F	F17	EZ Bars (Boring)
EZBR	○○○○○○ST-○○○H	F17	EZ Bars (Boring)
EZFGR	○○○○○○-○○○	G76	EZ Bars (Internal Face Grooving)
EZGR	○○○○○○-○○○	G48	EZ Bars (Internal Grooving)
EZGR	○○○○○○-○○○S	G48	EZ Bars (Internal Grooving)
EZTR	○○○○○○-○○-○○○	J28	EZ Bars (Internal Threading)
EZH	○○○○○(.○)CT-○○○	F22, F23, F92, J29	Sleeve
EZH	○○○○○(.○)HP-○○○	F24, F25, F92, J29	Sleeve
EZH	○○○○○(.○)ST-○○○	F26, F27, F92, J29	Sleeve
EZVBR	○○○○○○-○○○	F21	EZ Bars (Boring / Internal Facing / Copying)
F			
FGG℅	○○○○-○○	G33	Insert (Grooving)
FH-2		P17	Spare Parts (Hexagon Wrench / Flag Type)
FH-2.5		P17	Spare Parts (Hexagon Wrench / Flag Type)
FMM	○○-○○	G119	Insert (Grooving)

Part Number		Page	Description
FMN	○	G119	Insert (Grooving)
FT-5		E34	Spare Parts (Torx Wrench / Flag Type)
FT-6		P17	Spare Parts (Torx Wrench / Flag Type)
FT-7		P17	Spare Parts (Torx Wrench / Flag Type)
FT-8		P17	Spare Parts (Torx Wrench / Flag Type)
FT-10		P17	Spare Parts (Torx Wrench / Flag Type)
FT-15		P17	Spare Parts (Torx Wrench / Flag Type)
FTK	○	G121	Insert (Face Grooving)
FTS-15		F75	Spare Parts (Torx Wrench / Flag Type)
G			
GA	○○	G41	Insert (Grooving)
GB	○○℅○○○	C30	Insert (Grooving)
GB	○○℅○○○R	G7	Insert (Grooving)
GBA	○○℅○○○	C20, C30, G8	Insert (Grooving / Previous Description)
GBA	○○℅○○○MY(N)	G7, G9	Insert (Grooving / Previous Description)
GBA	○○℅○○○N	G6	Insert (Grooving / Previous Description)
GBA	○○℅○○○R	G7, G10	Insert (Grooving / Previous Description)
GBA	○○℅○○○-(○○○)	C20, C30, G8, G10	Insert (Grooving)
GBA	○○℅○○○-○○○GM	G9	Insert (Grooving)
GBA	○○℅○○○-○○○MY	G9	Insert (Grooving)
GBA	○○℅○○○-○○○R	G10	Insert (Grooving)
GDFM	○○○○N-○○○DM	G83	Insert (Face)
GDFM	○○○○N-○○○GH	G83	Insert (Face Grooving)
GDFM	○○○○N-○○○GM	G83	Insert (Face Grooving)
GDFM	○○○○N-○○○R-CM	G83	Insert (Face Grooving)
GDFMS	○○○○N-○○○DM	G83	Insert (Face Grooving)
GDG	○○○○N-○○○GS	G17	Insert (Grooving)
GDG	○○○○N-○○○PG	H12	Insert (Cut-Off)
GDG	○○○○℅-○○○PG-○○D	H12	Insert (Cut-Off)
GDGS	○○○○N-○○○NB	C20, C31, G17	Insert (Grooving)
GDM	○○○○N-○○○GM	G17	Insert (Grooving)
GDM	○○○○N-○○○GMI	G65	Insert (Grooving)
GDM	○○○○N-○○○GL	G17	Insert (Grooving)
GDM	○○○○N-○○○PF	H12	Insert (Cut-Off)
GDM	○○○○N-○○○PH	G17, H13	Insert (Grooving / Cut-Off)
GDM	○○○○N-○○○PM	H13	Insert (Cut-Off)
GDM	○○○○N-○○○PQ	H12	Insert (Cut-Off)
GDM	○○○○N-○○○R-CM	G17, G65	Insert (Grooving)
GDM	○○○○℅-○○○PF-○○D	H13	Insert (Cut-Off)
GDM	○○○○℅-○○○PM-○D	H13	Insert (Cut-Off)
GDM	○○○○℅-○○○PQ-○○D	H13	Insert (Cut-Off)
GDMS	○○○○N-○○○GM	G17	Insert (Grooving)
GDMS	○○○○N-○○○PH	G17, H13	Insert (Grooving / Cut-Off)
GDMS	○○○○N-○○○PM	H13	Insert (Cut-Off)
GDMS	○○○○℅-○○○PM-○D	H13	Insert (Cut-Off)
GE℅	○○○-○○○□	G52, G54	Insert (Grooving)
GER	○○○-○○○□□	G52-G53, G54	Insert (Grooving)
GFV℅	○○○○□-○○○(○)□	G110	Toolholder (Face Grooving)
GFVS℅	○○-H□	G112	Toolholder (Face Grooving)
GFVS℅	○○○○□-H□	G114	Toolholder (Face Grooving)
GFVS℅	○○○○□-○○AA	G108	Toolholder (Face Grooving)
GFVS℅	○○-○○○(○)□	G112-G113	Toolholder (Face Grooving)
GFVS℅	○○○○□-○○○(○)□	G114	Toolholder (Face Grooving)
GFVT℅	○○-H□	G112	Toolholder (Face Grooving)
GFVT℅	○○○○□-H□	G114	Toolholder (Face Grooving)
GFVT℅	○○○○□-○○AA	G108	Toolholder (Face Grooving)
GFVT℅	○○-○○○(○)□	G112-G113	Toolholder (Face Grooving)
GFVT℅	○○○○□-○○○(○)□	G114	Toolholder (Face Grooving)
GG	○○○-○○T00320	G42	Insert (Grooving)
GH	○○○○(○)-○○	B99, G41, G67	Insert (Grooving)

Part Numbers in Alphanumeric Order

○ : NUMBER □ : LETTER

Part Number		Page	Description
GHU	○○-○○	**G41, G67**	Insert (Grooving)
GIA	○○	**G69**	Insert (Grooving)
GIFV®R	○○○○B-○○○□	**G122**	Toolholder (Face Grooving)
GIV®R	○○○○-○□	**G61**	Toolholder (Grooving)
GIV®R	○○○○-○□(□)	**G61**	Toolholder (Grooving)
GIV®R	○○○○-○E	**G61**	Toolholder (Grooving)
GIV®R	○○○○-○W	**G61**	Toolholder (Grooving)
GMG	○○○○-○○	**G32**	Insert (Grooving / Previous Description)
GMG	○○○○-○○MG	**G32, G68, G120**	Insert (Grooving / Previous Description)
GMG	○○○○-○○R	**G32**	Insert (Grooving / Previous Description)
GMG	○○○○-○○RU	**G32**	Insert (Grooving / Previous Description)
GMG	○○○○-○○○MG	**G32, G68, G120**	Insert (Grooving)
GMG	○○○○-○○○MS	**G32**	Insert (Grooving)
GMG	○○○○-○○○R	**G32**	Insert (Grooving)
GMG	○○○○-○○○RU	**G32**	Insert (Grooving)
GMGA	○○○○-○○R	**G33, G68, G120**	Insert (Grooving / Previous Description)
GMGA	○○○○-○○○R	**G33, G68, G120**	Insert (Grooving)
GMM	3014-04	**G33**	Insert (Grooving)
GMM	3014-15R	**G33**	Insert (Grooving)
GMM	3014-15RU	**G33**	Insert (Grooving)
GMM	○○○○-MT	**G34, H22**	Insert (Grooving)
GMM	○○○○-NB	**G34, H22**	Insert (Grooving)
GMM	○○○○®R-MT-15D	**G34, H22**	Insert (Grooving)
GMM	○○○○®R-TK-8D	**G34, H22**	Insert (Grooving)
GMM	○○○○®R-TMR-6D	**H22**	Insert (Grooving)
GMM	○○○○-TK	**G34, H22**	Insert (Grooving)
GMM	○○○○-TMR	**H22**	Insert (Grooving)
GMM	○○○○-○○	**G32, G68, G120**	Insert (Grooving / Previous Description)
GMM	○○○○-○○MS	**G32**	Insert (Grooving / Previous Description)
GMM	○○○○-○○R	**G32**	Insert (Grooving / Previous Description)
GMM	○○○○-○○(○)V	**G66**	Insert (Grooving / Previous Description)
GMM	○○○○-○○(○)VR	**G66**	Insert (Grooving / Previous Description)
GMM	○○○○-○○○MS	**G32**	Insert (Grooving)
GMM	○○○○-○○○MW	**G32, G68, G120**	Insert (Grooving)
GMM	○○○○-○○○R	**G32**	Insert (Grooving)
GMM	○○○○-○○○V	**G66**	Insert (Grooving)
GMM	○○○○-○○○VR	**G66**	Insert (Grooving)
GMN	○(.○)	**C20, C30, G34, G35, H22**	Insert (Grooving)
GMN	○-TK	**G34, H22**	Insert (Grooving)
GM®R	○-TK-8D	**G34, H22**	Insert (Grooving)
GM®R	○(.○)-○(○)D	**G34, H22**	Insert (Grooving)
GMGW	○○○○-○○R	**C31, G44**	Insert (Grooving)
GMGW	○○○○-○○R-HR	**C31, G44**	Insert (Grooving)
GP-1		**P19**	Spare Parts (Plug)
GP-2		**P19**	Spare Parts (Plug)
GS-50		**G14, G38, G63, G65-G66, P2**	Spare Parts (Screw)
GS-50S		**J18, J26, J27.P2**	Spare Parts (Screw)
GS-4090T®RW		**P2**	Spare Parts (Screw)
GV®R	○○○□R	**G59**	Insert (Grooving / Previous Description)
GV®R	○○○□(□)	**C30, G59**	Insert (Grooving / Previous Description)
GV®R	○○○-○○○□(□)	**G59**	Insert (Grooving)
GV®R	○○○-○○○A/B/C	**C30**	Insert (Grooving)
GVF®R	○○○□	**C30, G116**	Insert (Grooving / Previous Description)
GVF®R	○○○AA	**G109**	Insert (Grooving / Previous Description)
GVF®R	○○○□R	**G116**	Insert (Grooving / Previous Description)
GVF®R	○○○-○○○AA	**G109, G116**	Insert (Grooving)
GVF®R	○○○-○○○□	**C30, G116**	Insert (Grooving)
GVF®R	○○○-○○○□R	**G116**	Insert (Grooving)

H

Part Number		Page	Description
HA○○	PCLN®R12-○○	**F73**	Boring Bar (AD Bar Interchangeable Head)
HA○○	PDUN®R15-○○	**F74**	Boring Bar (AD Bar Interchangeable Head)
HA○○	PTFN®R16-○○	**F74**	Boring Bar (AD Bar Interchangeable Head)
HA○○	SCLC®R09-○○	**F75**	Boring Bar (AD Bar Interchangeable Head)
HA○○	SDUC®R11-○○	**F75**	Boring Bar (AD Bar Interchangeable Head)
HCB300		**D27**	Spare Parts (Chipbreaker)
HCB314		**D25**	Spare Parts (Chipbreaker)
HCB315		**D25**	Spare Parts (Chipbreaker)
HCB318		**D24**	Spare Parts (Chipbreaker)
HCL-000		**D27**	Spare Parts (Clamp Set)
HCL-001		**D27, D29**	Spare Parts (Clamp Set)
HCL-002		**D27**	Spare Parts (Clamp Set)
HCL-007		**D29**	Spare Parts (Clamp Set)
HCL-008		**D24, D25**	Spare Parts (Clamp Set)
HCL-009		**G42-G43**	Spare Parts (Clamp Set)
HCL-011		**G42-G43**	Spare Parts (Clamp Set)
HCL-013		**D29**	Spare Parts (Clamp Set)
HCL-016		**D29**	Spare Parts (Clamp Set)
HCL-017C		**D29**	Spare Parts (Clamp Set)
HCLN®R	○○-○□	**D24**	Toolholder (Turning)
HF20X53H		**P2**	Spare Parts (Screw)
HF24X60H		**P2**	Spare Parts (Screw)
HH3X6		**F95, P2**	Spare Parts (Screw)
HH3X12		**D34-D38, F95, P2**	Spare Parts (Screw)
HH4X12		**G113-G114, P3**	Spare Parts (Screw)
HH4X16		**P2**	Spare Parts (Screw)
HH5X15		**D25, G69, P2**	Spare Parts (Screw)
HH5X16		**G20-G21, G36-G39, G94, H16, H17, H24, H25, P2**	Spare Parts (Screw)
HH5X20		**F76, G118-G119, P2**	Spare Parts (Screw)
HH5X25		**G20-G21, G36-G39, G118-G119, H16, H17, H24, H25, H27, H29, P2**	Spare Parts (Screw)
HH5X30		**F76.P2**	Spare Parts (Screw)
HH6X12		**P2**	Spare Parts (Screw)
HH6X16		**N14-N16, P2**	Spare Parts (Screw)
HH6X16AA		**P2**	Spare Parts (Screw)
HH6X18XX		**P2**	Spare Parts (Screw)
HH6X20		**F76, G41, G68, N15-N16, P2**	Spare Parts (Screw)
HH6X25		**G20-G21, G36, G40, G44, G67, G120, H16, H24, P2**	Spare Parts (Screw)
HH6X30		**F76, H29, P2**	Spare Parts (Screw)
HH8X25		**N14, P3**	Spare Parts (Screw)
HH8X25H		**P3**	Spare Parts (Screw)
HH8X30		**N14**	Spare Parts (Screw)
HH8X35		**P3**	Spare Parts (Screw)
HH8X40		**P3**	Spare Parts (Screw)
HH8X50		**P3**	Spare Parts (Screw)
HH8X55		**P3**	Spare Parts (Screw)
HH8X65		**P3**	Spare Parts (Screw)
HH8X70		**P3**	Spare Parts (Screw)
HH8X80		**P3**	Spare Parts (Screw)
HH8X85		**P3**	Spare Parts (Screw)
HH8X100		**P3**	Spare Parts (Screw)
HH8X110		**P3**	Spare Parts (Screw)
HH10X25		**P3**	Spare Parts (Screw)
HH10X30		**P3**	Spare Parts (Screw)
HH10X30H		**P3**	Spare Parts (Screw)
HH10X30M		**P3**	Spare Parts (Screw)
HH10X30S		**P3**	Spare Parts (Screw)
HH10X35		**P3**	Spare Parts (Screw)

Part Numbers in Alphanumeric Order

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Part Number	Page	Description
HH10X35HK	P3	Spare Parts (Screw)
HH10X40	P3	Spare Parts (Screw)
HH12X25	P3	Spare Parts (Screw)
HH12X35	P3	Spare Parts (Screw)
HH12X35H	P3	Spare Parts (Screw)
HH12X35HK	P3	Spare Parts (Screw)
HH12X35M	P3	Spare Parts (Screw)
HH12X40	P3	Spare Parts (Screw)
HH12X55	P3	Spare Parts (Screw)
HH12X65	P3	Spare Parts (Screw)
HH12X80	P3	Spare Parts (Screw)
HH12X85	P3	Spare Parts (Screw)
HH12X100	P3	Spare Parts (Screw)
HH12X110	P3	Spare Parts (Screw)
HH12X120	P3	Spare Parts (Screw)
HH12X130	P3	Spare Parts (Screw)
HH12X140	P3	Spare Parts (Screw)
HH12X150	P3	Spare Parts (Screw)
HH16X35	P3	Spare Parts (Screw)
HH16X40	P3	Spare Parts (Screw)
HH16X45	P3	Spare Parts (Screw)
HH16X52H	P3	Spare Parts (Screw)
HH16X65	P3	Spare Parts (Screw)
HH16X90	P3	Spare Parts (Screw)
HH16X110	P3	Spare Parts (Screw)
HH16X130	P3	Spare Parts (Screw)
HH20X40	P3	Spare Parts (Screw)
HH20X55	P3	Spare Parts (Screw)
HH20X75	P3	Spare Parts (Screw)
HH20X90	P3	Spare Parts (Screw)
HH20X110	P3	Spare Parts (Screw)
HH20X120	P3	Spare Parts (Screw)
HH20X140	P3	Spare Parts (Screw)
HH20X150	P3	Spare Parts (Screw)
HH20X170	P3	Spare Parts (Screw)
HH24X40	P3	Spare Parts (Screw)
HH24X60	P3	Spare Parts (Screw)
HH24X75	P3	Spare Parts (Screw)
HH24X90	P3	Spare Parts (Screw)
HH24X110	P3	Spare Parts (Screw)
HH24X120	P3	Spare Parts (Screw)
HH24X140	P3	Spare Parts (Screw)
HH24X150	P3	Spare Parts (Screw)
HH24X170	P3	Spare Parts (Screw)
HPB℀ ○○○○-○○○	F36	2-Edge Tip-Bars (Boring)
HPB℀ ○○○○-○○○NB	F36	2-Edge Tip-Bars (Boring)
HPBT℀ ○○○○-○○○	F36	2-Edge Tip-Bars (Back Boring)
HPFG℀ ○○○○-○○	G79	2-Edge Tip-Bars (Internal Face Grooving)
HPG℀ ○○○○-○○	G51	2-Edge Tip-Bars (Internal Grooving)
HPTR ○○○○○-○○-○○○	J32	2-Edge Tip-Bars (Internal Threading)
HRSN℀ ○○-○□	D29	Toolholder (Turning)
HS3X4	F30, F31, F32, F94, P4	Spare Parts (Screw)
HS3X4P	F22, F24, F27, P4	Spare Parts (Screw)
HS3X8	F31, P4	Spare Parts (Screw)
HS3X12	P4	Spare Parts (Screw)
HS3X16	P4	Spare Parts (Screw)
HS4X4	F94, F95, N14-N16, P4	Spare Parts (Screw)
HS4X4P	F22, F24, F27, P4	Spare Parts (Screw)
HS5X5	F95, N14-N16, P4	Spare Parts (Screw)
HS6X4P	F94, G57, P4	Spare Parts (Screw)
HS6X6	F95, P4	Spare Parts (Screw)
HS6X14	F95, P4	Spare Parts (Screw)
HS6X22	F95, P4	Spare Parts (Screw)
HS8X10	N10, P4	Spare Parts (Screw)
HS8X12	N10, P4	Spare Parts (Screw)
HS10X10	F95, P4	Spare Parts (Screw)
HS10X16	N10, P4	Spare Parts (Screw)
HS12X12	N10, P4	Spare Parts (Screw)
HS12X16	N10, P4	Spare Parts (Screw)
HS12X18	N10, P4	Spare Parts (Screw)
HS12X20	N10, P4	Spare Parts (Screw)
HS12X25	N3, P4	Spare Parts (Screw)
HS12X30	N3-N4, P4	Spare Parts (Screw)
HS12X35	N4, P4	Spare Parts (Screw)
HS16X12	N10, P4	Spare Parts (Screw)
HS16X18	N10, P4	Spare Parts (Screw)
HS16X20	N10, P4	Spare Parts (Screw)
HSB4X8℀	E17-E19, E22, E24, E30, P4	Spare Parts (Screw)
HSDNN ○○-○□	D27	Toolholder (Turning)
HSH655	D29	Spare Parts (Shim)
HSH657	D29	Spare Parts (Shim)
HSH661	D29	Spare Parts (Shim)
HSH665A	D29	Spare Parts (Shim)
HSRN℀ ○○-○□	D27	Toolholder (Turning)
I		
ICSN433	D8, D24	Spare Parts (Shim)
ICSN453	D24	Spare Parts (Shim)
ICSN533	D8	Spare Parts (Shim)
ICSN633	D8	Spare Parts (Shim)
IDSN433	D25	Spare Parts (Shim)
IDSN443	D10	Spare Parts (Shim)
IDSN453	D25	Spare Parts (Shim)
IRSN43	D29	Spare Parts (Shim)
IRSN45	D29	Spare Parts (Shim)
ISSN433	D12, D27	Spare Parts (Shim)
ISSN453	D27	Spare Parts (Shim)
ITSN323	D14	Spare Parts (Shim)
ITSN333	D14	Spare Parts (Shim)
ITSN432	D14	Spare Parts (Shim)
IVSN322	D19	Spare Parts (Shim)
IWSN432	D22	Spare Parts (Shim)
J		
JCET ○○○○○(○)M℀-F	B66	Insert (Turning)
JCET ○○○○○(○)M℀-FSF	B66	Insert (Turning)
JCET ○○○○○(○)℀-FSF	B66	Insert (Turning)
JCGT ○○○○○(○)M℀-F	B66	Insert (Turning)
JCGT ○○○○○(○)℀-F	B66	Insert (Turning)
K		
KDB℀ 16-1	G43	Toolholder (External Grooving)
KCFP ○○○○℀	G117	Insert (Cera-Notch Grooving / Threading)
KCG ○○○○℀	G30, G70	Insert (Cera-Notch Grooving / Threading)
KCGP ○○○○℀	G30, G70	Insert (Cera-Notch Grooving / Threading)
KCGDP ○○○○℀	G30, G70	Insert (Cera-Notch Grooving / Threading)
KCRP	G30, G70	Insert (Cera-Notch Grooving / Threading)
KCT ○℀	J17	Insert (Cera-Notch Grooving / Threading)
KCTP ○℀	J17	Insert (Cera-Notch Grooving / Threading)
KCTK ○℀	J17	Insert (Cera-Notch Grooving / Threading)
KFMS℀ ○○-○-○○○○(○)(○)	G118-G119	Toolholder (Face Grooving)
KFMS℀ ○○○○□○○(○)○○(○)-8	G120	Toolholder (Face Grooving)
KFMS℀ ○○○○□○○(○)○○(○)-○	G118-G119	Toolholder (Face Grooving)
KFTB℀ ○○○○○(○)-○S	G121	Blade (Face Grooving)
KGA℀ ○○○○□-○	G41	Toolholder (Grooving)
KGBA℀ ○○-○	G11	Toolholder (Grooving)

Part Numbers in Alphanumeric Order

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Part Number		Page	Description
KGBA®/L	○○-○-○○(□)	**G11**	Toolholder (Grooving)
KGBA®/L	○○○○□-○○	**G11**	Toolholder (Grooving)
KGBA®/L	○○○○22-○○	**G11**	Toolholder (Grooving)
KGBA®/L	○○○○22-○○T5	**G11**	Toolholder (Grooving)
KGBAS®/L	○○-○	**G11**	Toolholder (Grooving)
KGBAS®/L	○○-○-○○	**G11**	Toolholder (Grooving)
KGBAS®/L	○○○○□-○○	**G11**	Toolholder (Grooving)
KGBAS®/L	○○○○□22-○○	**G11**	Toolholder (Grooving)
KGBAS®/L	○○○○□22-○○T5	**G11**	Toolholder (Grooving)
KGDF®/L	-○○(○)-○□-C	**G86-G93, G95-G105**	Blade (Face Grooving)
KGDF®/L	○○○○X○○(○)-○S	**G90-G93**	Toolholder (Face Grooving)
KGDF®/L	○○○○○○(○)-○B-Z	**G94**	Toolholder (Face Grooving)
KGD®/L	○○-C	**G86-G89**	Toolholder Body (Grooving / Cut-Off)
KGD®/L	○T○○-C	**G22-G23, G25**	Blade (Grooving / Cut-Off)
KGD®/L	○○○○-C	**G22-G25, G90-G93**	Toolholder Body (Grooving / Cut-Off)
KGD®/L	○○-○T○○	**G20, H16**	Toolholder (Grooving / Cut-Off)
KGD®/L	○○○○-○(.○)T○○	**G21, H17**	Toolholder (Grooving / Cut-Off)
KGD®/L	○(○)-○(.○)□□	**G19, H14**	Toolholder (Grooving / Cut-Off)
KGD®/L	○○-○D○○□□	**G19, H14**	Toolholder (Grooving / Cut-Off)
KGD®/L	○○○○□(□)-○(.○)	**G19, H14**	Toolholder (Grooving / Cut-Off)
KGD®/L	○○○○-○D○○	**G19, H14**	Toolholder (Grooving / Cut-Off)
KGD®/L	○○X-○T○○S	**G22, H18**	Toolholder (Grooving / Cut-Off)
KGD®/L	○○○○X-○T○○S	**G23, H19**	Toolholder (Grooving / Cut-Off)
KGDIR	○○B-○	**G65**	Toolholder (Internal Grooving)
KGDI®/L	○○○○B-○	**G65**	Toolholder (Internal Grooving)
KGDS®/L	○○-C	**G95-G99**	Toolholder (Grooving)
KGDS®/L	○○○○-C	**G24-G25, G100-G104**	Toolholder (Grooving)
KGDS®/L	○○○○JX-○(.○)B	**H15**	Toolholder (Cut-Off)
KGDS®/L	○○○○X-○T○○S	**G24**	Toolholder (Grooving)
KGH®/L	○○○○□-○(○)	**G40**	Toolholder (Grooving)
KGHS®/L	○○○○□-○	**G40**	Toolholder (Grooving)
KGIAR	○○H	**G69**	Toolholder (Grooving / Toolholder Body)
KGIAR	○○○○B-○	**G69**	Toolholder (Grooving)
KGM®/L	○-○-○	**G36, H24**	Toolholder (Grooving / Cut-Off)
KGM®/L	○○-○	**G36, H24**	Toolholder (Grooving / Cut-Off)
KGM®/L	○○○○□(□)-○(.○)	**G36, H24, H33**	Toolholder (Grooving / Cut-Off)
KGM®/L	○○-○T	**G37, H24**	Toolholder (Grooving / Cut-Off)
KGM®/L	○○○○-○T○○	**G37, H25**	Toolholder (Grooving / Cut-Off)
KGMM®/L	○○○○□-○	**G38, H25**	Toolholder (Grooving)
KGMS®/L	○○○○□-○	**G38**	Toolholder (Grooving)
KGMU®/L	○○○○□	**G39**	Toolholder (Grooving)
KGMW®/L	○○○○□-○	**G44**	Toolholder (Grooving)
KIGBA®/L	○○-○	**G62**	Toolholder (Grooving)
KIGBA®/L	○○○○-○○	**G62**	Toolholder (Grooving)
KIGHR	○○○○B-○	**G67**	Toolholder (Grooving)
KIGM®/L	○○○○B-○	**G68**	Toolholder (Grooving)
KIGM®/L	○○B-○V	**G66**	Toolholder (Grooving)
KIGM®/L	○○○○B-○V	**G66**	Toolholder (Grooving)
KIGMU®/L	○○○○B-○	**G68**	Toolholder (Grooving)
KITG®/L	○○○○T-○○	**G63, J26**	Toolholder (Grooving / Threading)
KKC®/L	○-○□(□)	**G31, J16**	Toolholder (Cera-Notch Grooving / Threading)
KKC®/L	○○○○□-○-○○○F	**G31, J16**	Toolholder (Cera-Notch Grooving / Threading)
KKCE®/L	○○-○□	**G117**	Toolholder (Cera-Notch Face Grooving)
KN91®/L	44-○	**P25**	Toolholder (Grooving / Discontinued Description)
KNMX	○○○○○○®/L	**B28**	Insert (Turning)
KPS-42		**E42, F70, P8**	Spare Parts (Shim)
KPT-32		**E43, F71, P8**	Spare Parts (Shim)
KPT-42		**P8**	Spare Parts (Shim)
KSTB	SR○○/○○ CCET○○○	**E44**	Sub Spindle Tools
KSTB	SR○○□ CCET○○○	**E44**	Sub Spindle Tools
KSTB	SR○○/○○ DCET○○○	**E44**	Sub Spindle Tools
KSTB	SR○○□ DCET○○○	**E44**	Sub Spindle Tools
KSTB	SR○○/○○ VBET○○○	**E44**	Sub Spindle Tools
KSTB	SR○○□ VBET○○○	**E44**	Sub Spindle Tools
KSTB	SR○○/○○ TGF○○	**E45**	Sub Spindle Tools
KSTB	SR○○□ TGF○○	**E45**	Sub Spindle Tools
KSTB	SR○○/○○ TT○○	**E45**	Sub Spindle Tools
KSTB	SR○○□ TT○○	**E45**	Sub Spindle Tools
KTG®/L	○○○○□-○○	**G14**	Toolholder (Grooving)
KTG®/L	○○○○□22-○○	**G14**	Toolholder (Grooving)
KTGF®/L	○○○○□-○○	**G12**	Toolholder (Grooving)
KTGF®/L	○○○○□(□)-○○F	**G12**	Toolholder (Grooving)
KTGF®/L	○(○)-○JXF	**G12**	Toolholder (Grooving)
KTKB	○○-○S	**H28**	Blade (Cut-Off)
KTKB	○○-○SS	**H28**	Blade (Cut-Off)
KTKB®/L	○○-○S	**H28**	Blade (Cut-Off)
KTKFL	○○(.○)-○○□□	**E12**	Toolholder (Back Turning / Cut-Off / Threading)
KTKFL	○○○○□□-○○	**E12, E51, J22**	Toolholder (Back Turning / Cut-Off / Threading)
KTKF®/L	○(○)(.○)-○○□□	**E12, J22, H8**	Toolholder (Back Turning / Cut-Off / Threading)
KTKF®/L	○○○○□(□)-○○	**E12, E51, J22, H8, H33**	Toolholder (Back Turning / Cut-Off / Threading)
KTKFS®/L	○-○○□□	**H10**	Toolholder (Cut-Off)
KTKFS®/L	○○○○□-○○A/B	**H10**	Toolholder (Cut-Off)
KTKH®/L	○○-○S	**H31**	Toolholder (Cut-Off)
KTKH®/L	○-○(.○)-○S	**H30**	Toolholder (Cut-Off)
KTKH®/L	○○○○□-○S	**H31**	Toolholder (Cut-Off)
KTKH®/L	○○○○□-○T○○S	**H31**	Toolholder (Cut-Off)
KTKH®/L	○○○○-○(.○)-○○○B	**H33**	Toolholder (Cut-Off)
KTKH®/L	○○○○-○-○○○S	**H33**	Toolholder (Cut-Off)
KTKTB	○○-○○	**H29**	Block (Cut-Off)
KTKTBF	○○-○○	**H29**	Block (Cut-Off)
KTN®/L	○○-○	**J20**	Toolholder (Threading)
KTN®/L	○○○○□-○○	**J20**	Toolholder (Threading)
KTN®/L	○○○○□□-○○F	**J20**	Toolholder (Threading)
KTNSR	○○○○□-○○	**J20**	Toolholder (Threading)
KTT®/L	○○○○□-○○	**J26**	Toolholder (Threading)
KTTXR	○(○)-○□□F	**J24**	Toolholder (Threading)
KTTXR	○○○○□(□)-○○F	**J24**	Toolholder (Threading)
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LC-32		**P9**	Spare Parts (Shim)
LC-32N		**D9, F78, P9**	Spare Parts (Shim)
LC-42		**P9**	Spare Parts (Shim)
LC-42N		**D9, E40, P9**	Spare Parts (Shim)
LC-42N-20		**D9, P9**	Spare Parts (Shim)
LC-42®/L		**P9**	Spare Parts (Shim)
LC-42N®/L		**F78, P9**	Spare Parts (Shim)
LC-42N®/L-20		**P9**	Spare Parts (Shim)
LC-4K		**F73, P9**	Spare Parts (Shim)
LC-53		**P9**	Spare Parts (Shim)
LC-53N		**D9, P9**	Spare Parts (Shim)
LCP025097		**F22**	Spare Parts (Adjustment Pin)
LCP025140		**F24**	Spare Parts (Adjustment Pin)
LD-4K		**P9**	Spare Parts (Shim)
LD-4K43		**P9**	Spare Parts (Shim)
LD-32		**F79, P9**	Spare Parts (Shim)
LD-32N		**D11, F79, P9**	Spare Parts (Shim)
LD-42		**D11, F82, N5-N6, P9**	Spare Parts (Shim)
LD-42-20		**D11, F82, N5-N6, P9**	Spare Parts (Shim)
LD-4K		**F74, P9**	Spare Parts (Shim)
LD-4K43		**F74, P9**	Spare Parts (Shim)
LD-43		**D11, P9**	Spare Parts (Shim)
LD-43-20		**D11, P9**	Spare Parts (Shim)
LGBA-16®/LS		**G11, G62, N9, P14**	Spare Parts (Clamp Set)
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Part Number	Page	Description
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LL-03SN	F78, F85, F86, P7	Spare Parts (Lock Pin)
LL-03T	P7	Spare Parts (Lock Pin)
LL-03TN	D15, F85, P7	Spare Parts (Lock Pin)
LL-05C	D21, P7	Spare Parts (Lock Pin)
LL-1	P7	Spare Parts (Lock Pin)
LL-1C	P7	Spare Parts (Lock Pin)
LL-1CN	D21, D39, P7	Spare Parts (Lock Pin)
LL-1D	F79.P7	Spare Parts (Lock Pin)
LL-1DN	D11, F79, P7	Spare Parts (Lock Pin)
LL-1K	F74, P7	Spare Parts (Lock Pin)
LL-1N	D9, D11, D13, D15, D21, D23, E41, F78, F85, F86, N6, N14, P7	Spare Parts (Lock Pin)
LL-2	P7	Spare Parts (Lock Pin)
LL-2C	D39, P7	Spare Parts (Lock Pin)
LL-2K	F73, P7	Spare Parts (Lock Pin)
LL-2N	D9, D13, D15, D21, D23, E40, F78, F88, N5, N7, N14, P7	Spare Parts (Lock Pin)
LL-3	P7	Spare Parts (Lock Pin)
LL-3K	F74, P7	Spare Parts (Lock Pin)
LL-3N	D11, F82, N5-N6, P7	Spare Parts (Lock Pin)
LL-4	D11, P7	Spare Parts (Lock Pin)
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LNU ○○○○T○○○○○/○○○A(A)	B98	Insert (Turning)
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LPF-13	E22, E24, P7	Spare Parts (Anchor Pin)
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LPF-1113	E30, P7	Spare Parts (Anchor Pin)
LPF-1117	E30, P7	Spare Parts (Anchor Pin)
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LR-16C	D39, P9	Spare Parts (Shim)
LR-80	D21, P9	Spare Parts (Shim)
LR-81	D21, P9	Spare Parts (Shim)
LS-03	P4	Spare Parts (Lock Screw)
LS-03S	P4	Spare Parts (Lock Screw)
LS-03N	D15, N14, P4	Spare Parts (Lock Screw)
LS-03SN	D15, F78, F85, F86, P4	Spare Parts (Lock Screw)
LS-05	D21, P4	Spare Parts (Lock Screw)
LS-1	P4	Spare Parts (Lock Screw)
LS-1N	D9, D11, D13, D15, D21, D23, D39, E41, F85, N6, N14, P4	Spare Parts (Lock Screw)
LS-1P	F74, P4	Spare Parts (Lock Screw)
LS-1S	F79, P4	Spare Parts (Lock Screw)
LS-1SN	F78, F79, F86, P4	Spare Parts (Lock Screw)
LS-1T	D39, P4	Spare Parts (Lock Screw)
LS-2	P4	Spare Parts (Lock Screw)
LS-2N	D9, D11, D13, D15, D21, D23, E40, F78, F82, F88, N5-N7, N14, P4	Spare Parts (Lock Screw)
LS-2P	F73, P4	Spare Parts (Lock Screw)
LS-3	D11, P4	Spare Parts (Lock Screw)
LS-3P	F74, P4	Spare Parts (Lock Screw)
LS-4	P4	Spare Parts (Lock Screw)
LS-4N	D9, P4	Spare Parts (Lock Screw)
LS-11	D20, P4	Spare Parts (Lock Screw)
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LS-32	D13, P9	Spare Parts (Shim)
LS-42	D13, N14, P9	Spare Parts (Shim)
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LSE-445R	P12	Spare Parts (Cartridge)
LSO-445R	P12	Spare Parts (Cartridge)
LSP-1	D9, D11, D13, D15, D21, D23, D39, E41, F78, F79, F85, F86, P7	Spare Parts (Shim Pin)
LSP-2	D9, D11, D13, D15, D21, D23, D39, E40, F78, F82, F88, N5-N7, N14, P7	Spare Parts (Shim Pin)
LSP-2K	F74, P7	Spare Parts (Shim Pin)
LSP-3	D9, P7	Spare Parts (Shim Pin)
LSP-3K	F73, F74, P7	Spare Parts (Shim Pin)
LSP-415R	P12	Spare Parts (Cartridge)
LT-3K	F74, P9	Spare Parts (Shim)
LT-32	P9	Spare Parts (Shim)
LT-32N	D15, E41, F85, N14, P9	Spare Parts (Shim)
LT-32N-20	D15, E41, F85, P9	Spare Parts (Shim)
LT-42	P9	Spare Parts (Shim)
LT-42N	D15, N14, P9	Spare Parts (Shim)
LT-42N-20	D15, P9	Spare Parts (Shim)
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LTP-15	F73, F74, P17	Spare Parts (Torx Plus Wrench / L-shaped Type)
LTW-8SS	E39, P17	Spare Parts (Torx Wrench / L-shaped Type)
LTW-10S	E12, E51, F30, F33-F35, G80-G81, H8, H10, H33, J22, P17	Spare Parts (Torx Wrench / L-shaped Type)
LTW-10SS	E38, P17	Spare Parts (Torx Wrench / L-shaped Type)
LTW-15S	G19, G36, G132, H14, H15, H24, H33, J20, P17	Spare Parts (Torx Wrench / L-shaped Type)
LTW-20	E23, F72, G19, G36-G38, G63, G66, G132, H14, H24, H25, H33, P17	Spare Parts (Torx Wrench / L-shaped Type)
LTW-25	G23-G25, G84, G92-G93, H18, H19, P17	Spare Parts (Torx Wrench / L-shaped Type)
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LW-1.5	F22, F24, F27, F30-F32, F94, P17	Spare Parts (Hexagon Wrench / L-shaped Type)
LW-2	D29, F22, F24, F27, F88, F94, F95, N14-N16, P17	Spare Parts (Hexagon Wrench / L-shaped Type)
LW-2.5	D14, D15, D22, E42, E43, F71, F84, F95, N14-N16, P17	Spare Parts (Hexagon Wrench / L-shaped Type)
LW-3	P17	Spare Parts (Hexagon Wrench / L-shaped Type)
LW-4	P17	Spare Parts (Hexagon Wrench / L-shaped Type)
LW-4.5	P17	Spare Parts (Hexagon Wrench / L-shaped Type)
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LW-6	N3-N4, N10, N14, P17	Spare Parts (Hexagon Wrench / L-shaped Type)
LW-8	N10, P17	Spare Parts (Hexagon Wrench / L-shaped Type)
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LW-17	P17	Spare Parts (Hexagon Wrench / L-shaped Type)
LW-19	P17	Spare Parts (Hexagon Wrench / L-shaped Type)
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Part Number		Page	Description
S			
S○○□-	CCLN%○	F91	Boring Bars
S○○□-	CCLN%○○-○○A	F91	Boring Bars
S○○□-	CCLN%○○-○○GX	F90	Boring Bars
S○○□-	CDUN%○○-○○GX	F90	Boring Bars
S○○□-	CELNR○○-○○	F89	Boring Bars
S○○□-	CSKN%○	F89	Boring Bars
S○○□-	CSKN%○○-○○	F89	Boring Bars
S○○□-	CSKN%○○-○○A	P24	Boring Bars (Discontinued Description)
S○○□-	CSKN%○○-○○GX	F90	Boring Bars
S○○□-	CSKPR○○-○○	F70	Boring Bars
S○○□-	CTUC%○○-○○	P24	Boring Bars (Discontinued Description)
S○○□-	CTUN%○	F91	Boring Bars
S○○□-	CTUN%○○-○○A	F91	Boring Bars
S○○□-	CTUP%○	F71	Boring Bars
S○○□-	CTUP%○○-○○	F71	Boring Bars
S○○(.○)□-	KTGFL16	G13	Sleeve Holder (Grooving)
S○○(.○)□-	KTTXL16	J24	Sleeve Holder (Threading)
S○○□-	PCLN%○	F78	Boring Bars
S○○□-	PCLN%○○-○○	F78	Boring Bars
S○○□-	PDQN%○○-○○	F81	Boring Bars
S○○□-	PDUN%○○-○○	F79, F81	Boring Bars
S○○□-	PDZN%○○-○○	F81	Boring Bars
S○○□-	PTUN%○○-○○	F85	Boring Bars
S○○□-	PWLN%○○-○○	F86, F88	Boring Bars
S○○(.○)□-	SCLCL○○	E34	Sleeve Holder (Turning)
S○○□-	SCLC%○○-○○	F99	Boring Bars (Discontinued Description)
S○○□-	SCLC%○○-○○A	F39	Boring Bars (Dynamic Bar)
S○○□-	SCLC%○	F43	Boring Bars (General Purpose)
S○○□-	SCLC%○(.○)E	F43	Boring Bars (General Purpose)
S○○□-	SCLC%○○-○○E	F98	Boring Bars (Discontinued Description)
S○○□-	SCLC%○○-○○AE	F39	Boring Bars (Dynamic Bar)
S○○○□-	SCLCR○○-○○○EZ	F20	Boring Bars (EZ Bar PLUS)
S○○□-	SCLP%○○-○○	F99	Boring Bars (Discontinued Description)
S○○□-	SCLP%○(.○)	F39	Boring Bars (General Purpose)
S○○□-	SCLP%○○-○○A	F41	Boring Bars (Dynamic Bar)
S○○□-	SCLP%○○-○○E	F98	Boring Bars (Discontinued Description)
S○○(.○)□-	SDLCL○○	E35	Sleeve Holder (Turning)
S○○□-	SDQC%○○-○○A	F46	Boring Bars (Dynamic Bar)
S○○(.○)□-	SDUCL○○	E35	Sleeve Holder (Turning)
S○○□-	SDUC%○	F48	Boring Bars (General Purpose)
S○○□-	SDUC%○○-○○	F99	Boring Bars (Discontinued Description)
S○○□-	SDUC%○○-○○A	F45	Boring Bars (Dynamic Bar)
S○○□-	SDUC%○○-○○E	F98	Boring Bars (Discontinued Description)
S○○□-	SDZC%○	F49	Boring Bars (General Purpose)
S○○□-	SDZC%○○-○○	F99	Boring Bars (Discontinued Description)
S○○□-	SDZC%○○-○○A	F47	Boring Bars (Dynamic Bar)
S○○□-	SDZC%○○-○○E	F98	Boring Bars (Discontinued Description)
S○○□-	SINR-○	J21	Toolholder (Threading)
S○○□-	SSKPR○○-○○	F70	Boring Bars
S○○□-	STLB%○.○AE	F53	Boring Bars (Dynamic Bar)
S○○□-	STLB%○○-○○A	F53	Boring Bars (Dynamic Bar)
S○○□-	STLB%○○-○○AE	F53	Boring Bars (Dynamic Bar)
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S○○□-	STLP%○○-○○A	F53	Boring Bars (Dynamic Bar)
S○○□-	STUB%○.○	F55	Boring Bars (General Purpose)
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S○○□-	STUB%○○-○○E	F98	Boring Bars (Discontinued Description)
S○○□-	STUP%○.(○)	F55	Boring Bars (General Purpose)
S○○□-	STUP%○○-○○	F99	Boring Bars (Discontinued Description)
S○○□-	STUP%○○-○○E	F98	Boring Bars (Discontinued Description)
S○○(.○)□-	STWL15	G80	Toolholder (for Twin Bars)
S○○□-	STWP%○	F56, J35	Toolholder (Boring / Threading)
S○○□-	STWP%○○-○○	F56, J35	Toolholder (Boring / Threading)
S○○□-	STWP%○○-○○E	F56, J35	Toolholder (Boring / Threading)
S○○(.○)□-	STWR15	F34	Toolholder (for Twin Bars)
S○○□-	SVJB%○	F64	Boring Bars (General Purpose)
S○○□-	SVJB%○E	F64	Boring Bars (General Purpose)
S○○□-	SVJB%○○-○○A	F58	Boring Bars (Dynamic Bar)
S○○□-	SVJB%○○-○○E	F97, F98	Boring Bars (Discontinued Description)
S○○□-	SVJB%○○-○○EN	F98	Boring Bars (Discontinued Description)
S○○□-	SVJC%○○-○○A	F58	Boring Bars (Dynamic Bar)
S○○□-	SVJC%○○-○○E	F99	Boring Bars (Discontinued Description)
S○○□-	SVJP%○○-○○A	F58	Boring Bars (Dynamic Bar)
S○○□-	SVJP%○○-○○E	F99	Boring Bars (Discontinued Description)
S○○□-	SVNR12	F31	Toolholder (for System Tip-Bars / Discontinued Description)
S○○□-	SVNR12N	F31	Toolholder (for System Tip-Bars)
S○○(.○)□-	SVNR12S	P22	Toolholder (for System Tip-Bars / Discontinued Description)
S○○(.○)□-	SVNR12SN	F31	Toolholder (for System Tip-Bars)
S○○(.○)□-	SVNR12SXN	F33	Toolholder (for System Tip-Bars)
S○○□-	SVNR12XN	F33	Toolholder (for System Tip-Bars)
S○○□-	SVPB%○○-○○A	F60	Boring Bars (Dynamic Bar)
S○○□-	SVPB%○E	F64	Boring Bars (General Purpose)
S○○□-	SVPB%○○-○○E	F97, F99	Boring Bars (Discontinued Description)
S○○□-	SVPB%○○-○○EN	F99	Boring Bars (Discontinued Description)
S○○□-	SVPC%○.○E	F64	Boring Bars (General Purpose)
S○○□-	SVPC%○○-○○A	F60	Boring Bars (Dynamic Bar)
S○○□-	SVPC%○○-○○E	F99	Boring Bars (Discontinued Description)
S○○(.○)□-	SVUBL○○	E36	Sleeve Holder (Turning)
S○○□-	SVUCL○○	E36	Sleeve Holder (Turning)
S○○□-	SVUB%○○-○○A	F63	Boring Bars (Dynamic Bar)
S○○□-	SVUB%○E	F65	Boring Bars (General Purpose)
S○○□-	SVUB%○○-○○E	F97, F99	Boring Bars (Discontinued Description)
S○○□-	SVUB%○○-○○EN	F99	Boring Bars (Discontinued Description)
S○○□-	SVUC%○.○E	F65	Boring Bars (General Purpose)
S○○□-	SVUC%○○-○○A	F63	Boring Bars (Dynamic Bar)
S○○□-	SVUC%○○-○○E	F99	Boring Bars (Discontinued Description)
S○○□-	SVZB%○E	F65	Boring Bars (General Purpose)
S○○□-	SVZB%○○-○○A	F63	Boring Bars (Dynamic Bar)
S○○□-	SVZB%○○-○○E	F97, F99	Boring Bars (Discontinued Description)
S○○□-	SVZB%○○-○○EN	F99	Boring Bars (Discontinued Description)
S○○□-	SVZC%○.○E	F65	Boring Bars (General Purpose)
S○○□-	SVZC%○○-○○A	F63	Boring Bars (Dynamic Bar)
S○○□-	SVZC%○○-○○E	F99	Boring Bars (Discontinued Description)
S○○□-	SWUB%○.○	F68	Boring Bars (General Purpose)
S○○□-	SWUB%○○-○○	F99	Boring Bars (Discontinued Description)
S○○□-	SWUB%○.○AE	F67	Boring Bars (Dynamic Bar)
S○○□-	SWUB%○○-○○A	F67	Boring Bars (Dynamic Bar)
S○○□-	SWUB%○○-○○AE	F67	Boring Bars (Dynamic Bar)
S○○□-	SWUB%○○-○○E	F99	Boring Bars (Discontinued Description)
S○○□-	SWUB%○○-○○-○○	F99	Boring Bars (Discontinued Description)
S○○□-	SWUP%○○-○○A	F67	Boring Bars (Dynamic Bar)
S○○□-	SWUP%○○-○○E	F99	Boring Bars (Discontinued Description)
S○○□-	SYXP%○○-○○E	P24	Boring Bars (Discontinued Description)

Part Numbers in Alphanumeric Order

○ : NUMBER □ : LETTER

Part Number	Page	Description
S○○□- WWLN※○○-○○	F88	Boring Bars
S○○□- WWLN※○○-○○E	F88	Boring Bars
S-34	D14, D19	Spare Parts (Shim Screw)
S-46	D8, D10, D12, D14, D22, D24, D25, D27, D29	Spare Parts (Shim Screw)
S-58	D8	Spare Parts (Shim Screw)
S-68	D8	Spare Parts (Shim Screw)
SABSR ○(○)-○○□□F	E17, E49	Toolholder (Turning)
SABSR ○○○○□(□)-○○F	E17, E49	Toolholder (Turning)
SABWR ○○○○□(□)-○○F	E18, E19, E49	Toolholder (Turning)
SB-1STR	F55, F57, P5	Spare Parts (Screw)
SB-1TR	F53, F55, F57, P5	Spare Parts (Screw)
SB-2TR	F55, F57, J21, P5	Spare Parts (Screw)
SB-3STR	F43, F56, P5	Spare Parts (Screw)
SB-3TR	F46, F55, F56, N16, P5	Spare Parts (Screw)
SB-3.5TR	J20, J21, P5	Spare Parts (Screw)
SB-4TR	F43, F56, F70, F72, G14, G63, J18, J26, J27, N16, P5	Spare Parts (Screw)
SB-5TR	G36-G38, G65-G66, H24, H25, P5	Spare Parts (Screw)
SB-1635TR	F20, F39, F43, F50, P5	Spare Parts (Screw)
SB-2035TR	F20, F39, F53, F67, P5	Spare Parts (Screw)
SB-2035TRG	P5	Spare Parts (Screw)
SB-2040TR	F68, F69, J21, P5	Spare Parts (Screw)
SB-2040TRG	P5	Spare Parts (Screw)
SB-2042TRG	P5	Spare Parts (Screw)
SB-2045TR	P5	Spare Parts (Screw)
SB-2045TRN	G55-G56, P5	Spare Parts (Screw)
SB-2050TR	E29, E32, E33, E36, E51, F58, F60, F63-F65, F67-F69, F82, F97, J21, P5	Spare Parts (Screw)
SB-2060TR	P5	Spare Parts (Screw)
SB-2080TR	P5	Spare Parts (Screw)
SB-2250TR	F51, P5	Spare Parts (Screw)
SB-2255TR	G55-G57, P5	Spare Parts (Screw)
SB-2260TR	P5	Spare Parts (Screw)
SB-2290TR	P5	Spare Parts (Screw)
SB-2545TR	F39, F41, F43, F47, F53, F67, P5	Spare Parts (Screw)
SB-2550TR	E32, E51	Spare Parts (Screw)
SB-2555TRG	P5	Spare Parts (Screw)
SB-2555TRP	P5	Spare Parts (Screw)
SB-2560TR	E34, E35, E44, F45-F49, F51, P5	Spare Parts (Screw)
SB-2570TR	E21, E23, E25-E34, E36, E39, E44, E51, F58, F60, F63-F65, G55-G57, P5	Spare Parts (Screw)
SB-25100TR	P5	Spare Parts (Screw)
SB-3060TR	F41, F53, P5	Spare Parts (Screw)
SB-3060TRG	P5	Spare Parts (Screw)
SB-3065TRP	P5	Spare Parts (Screw)
SB-3070TRG	P5	Spare Parts (Screw)
SB-3070TRP	P5	Spare Parts (Screw)
SB-3080TR	D14, D22, E17-E19, E29, E38, F30, F31, F33-F35, F84, G55, G80-G81, N16, P5	Spare Parts (Screw)
SB-3580TR	F75, P5	Spare Parts (Screw)
SB-3590TRP	P5	Spare Parts (Screw)
SB-3592TR	P5	Spare Parts (Screw)
SB-4050TRN	H10, P5	Spare Parts (Screw)
SB-4060TR	P5	Spare Parts (Screw)
SB-4065TR	E34, E35, E44, F39, F41, F45-F47, F53, F67, P5	Spare Parts (Screw)
SB-4070TRG	P5	Spare Parts (Screw)
SB-4070TRN	P5	Spare Parts (Screw)
SB-4070TRS	E45, G12, G13, J26, P5	Spare Parts (Screw)
SB-4070TRW	G12, G132, J24, P6	Spare Parts (Screw)
SB-4075TRP	P5	Spare Parts (Screw)
SB-4082TPR	P5	Spare Parts (Screw)
SB-4085TR	D8, D10, D12, D18, D22, E20, E23, E25-E28, E35, E44, F48, F49, F64, F77, F80, F83, F84, F87, G55, J21, P5	Spare Parts (Screw)
SB-4085TRP	P5	Spare Parts (Screw)
SB-4090TRP	P5	Spare Parts (Screw)
SB-4090TRPN	P5	Spare Parts (Screw)
SB-40115TR	F64, F65, F97, P5	Spare Parts (Screw)
SB-40120TR	G19, H14, H15, P5	Spare Parts (Screw)
SB-40125TRN	E30, E31, F58, F60, F63, N8, P5	Spare Parts (Screw)
SB-40140TR	P5	Spare Parts (Screw)
SB-40140TRN	P5	Spare Parts (Screw)
SB-45130TR	P5	Spare Parts (Screw)
SB-4590TRWN	E12, E51, H8, H33, J22, P5	Spare Parts (Screw)
SB-5070TR	P5	Spare Parts (Screw)
SB-5085TR	P5	Spare Parts (Screw)
SB-5090TR	E23, F72, P5	Spare Parts (Screw)
SB-50120TR	P5	Spare Parts (Screw)
SB-50120TRP	P5	Spare Parts (Screw)
SB-50120TRS	P5	Spare Parts (Screw)
SB-50140TR	P5	Spare Parts (Screw)
SB-50140TRP	P5	Spare Parts (Screw)
SB-60120TR	G23-G25, G84, G92-G93, H18, H19, P5	Spare Parts (Screw)
SC-30067	P6	Spare Parts (Screw)
SC-35085	P6	Spare Parts (Screw)
SC-40100	P6	Spare Parts (Screw)
SC-50130	P6	Spare Parts (Screw)
SC-60160	P6	Spare Parts (Screw)
SC-60210	P6	Spare Parts (Screw)
SCAC※ ○○○○-○○	E49, P21	Toolholder (Turning / Discontinued Description)
SCACR ○○○○-○○FF	E49, P21	Toolholder (Turning / Discontinued Description)
SCLC※ ○○○○□-○○	E23, E49	Toolholder (Turning)
SCLC※ ○○-○□□FF	E23, E49	Toolholder (Turning)
SCLC※ ○○○○□(□)-○○FF	E23, E49	Toolholder (Turning)
SCLNR ○(○)-○.○□F	E38	Toolholder (for Small Double-Sided Tools)
SCLNR ○○○○□-○○FF	E38	Toolholder (for Small Double-Sided Tools)
SCMT ○○○○HQ	B67	Insert (Turning)
SDJC※ ○○○○□-○○	E25, E48	Toolholder (Turning)
SDJC※ ○○○○□-○○F	E48, P21	Toolholder (Turning / Discontinued Description)
SDJCR ○○(.○)-○□□-FO	E20, E49	Toolholder (Goose-neck Holder)
SDJCR ○○○○□□-○○-F○○	E20, E49	Toolholder (Goose-neck Holder)
SDJC※ ○(○)-○□□FF	E25, E49	Toolholder (Turning)
SDJC※ ○○○○□(□)-○○FF	E25, E49	Toolholder (Turning)
SDLC※ ○(○)-○□□FF	E26, E49	Toolholder (Turning / Discontinued Description)
SDLC※ ○○○○□(□)-○○FF	E26, E50	Toolholder (Turning / Discontinued Description)
SDLNR ○(○)-○.○□F	E38	Toolholder (for Small Double-Sided Tools)
SDLNR ○○○○□-○○FF	E38	Toolholder (for Small Double-Sided Tools)
SDLP※ ○(○)-○□□FF	E28, E50	Toolholder (Turning)
SDLP※ ○○○○-○○F	E50, P21	Toolholder (Turning / Discontinued Description)
SDLP※ ○○○○□(□)-○○FF	E28, E50	Toolholder (Turning)
SDNCN ○(○)-○□□	E27, E50	Toolholder (Turning)
SDNCN ○○○○□(□)-○○	E27, E48	Toolholder (Turning)
SDNC※ ○-○□□F	E27, E50	Toolholder (Turning)
SDNC※ ○○○○□□-○○F	E27, E50	Toolholder (Turning)
SDXC※ ○○○○□□-○○	E26, E50	Toolholder (Turning)
SE-3070TRP	P6	Spare Parts (Screw)
SE-40050TRN	P6	Spare Parts (Screw)

Part Numbers in Alphanumeric Order

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Part Number	Page	Description
SE-40055TR	**P6**	Spare Parts (Screw)
SE-40068TR	**P6**	Spare Parts (Screw)
SE-40080TR	**P6**	Spare Parts (Screw)
SE-40090TR	**P6**	Spare Parts (Screw)
SE-40100TR	**P6**	Spare Parts (Screw)
SE-40120TR	**G36, G132, H24, H33, P6**	Spare Parts (Screw)
SE-50125TR	**G19, G36, G132, H14, H24, H33, P6**	Spare Parts (Screw)
SEG ○○NE	**C29**	Insert (Turning)
SF%-○○○(○)□	**G112, G114, G115**	Blade (Face Grooving)
SH-50150TR	**P6**	Spare Parts (Screw)
SH-○○○○	**F95**	Sleeve (for Boring Bar / Previous Description)
SH○○○○-○○○	**F95**	Sleeve (for Boring Bar)
SHA○○○○(.○)-○○○	**F94, G57**	Sleeve (for Small Tools SIGE)
SHC○○○○-○○	**F95**	Coolant Sleeve (for Boring Bar)
SHC-○○○○○○	**F95**	Coolant Sleeve (for Boring Bar / Previous Description)
SHL-○	**F95**	Spare Parts (Back Cover)
SI-GIV%○○-○○	**G61**	Insert (Grooving)
SIGE%○○EH	**G55**	Toolholder (Grooving)
SIGE%○○○○□-EH	**G55**	Toolholder (Grooving)
SIGE%○○○○-WH	**G56**	Toolholder (Grooving)
SIGER○○○○-WH-90	**G57**	Toolholder (Grooving / for Small Tools)
SIN%○○○○S-○○	**J21**	Toolholder (Threading)
SIN%○○○○S-○○E	**J21**	Toolholder (Threading)
SIT%○○○○-○○	**F56, J35**	Toolholder (Boring / Threading)
SJLC%○○○○○B-○○W	**F50**	Boring Bar (Previous Description)
SJS-○	**F96**	Coolant Joint
SJZC%○○○○○B-○○W	**F50**	Boring Bar (Previous Description)
SKC-2	**G31, G71, J16, J17**	Spare Part (Clamp Screw)
SKC-3	**G31, G71, G117, J16, J17**	Spare Part (Clamp Screw)
SL-○(.○-○○)	**F95**	Sleeve (for Boring Bar)
SLS-1	**F94, F95**	Sleeve (for Boring Bar)
SLS-2	**F95**	Sleeve (for Boring Bar)
SMOOOOA	**N14-N16**	Spare Parts (Plate)
SMOOOOB	**N14-N16**	Spare Parts (Plate)
SNGA○○○	**B32**	Insert (Turning)
SNGA○○○MEF	**C10**	Insert (Turning)
SNGA○○○S○○○○○	**B93**	Insert (Turning)
SNGA○○○S○○○○○ME	**C10**	Insert (Turning)
SNGA○○○S○○○○○MEH	**C10**	Insert (Turning)
SNGA○○○S○○○○○MEP	**C10**	Insert (Turning)
SNGA○○○S○○○○○MET	**C10**	Insert (Turning)
SNGA○○○T○○○○○	**B93**	Insert (Turning)
SNGA○○○T○○○○○AA	**B93**	Insert (Turning)
SNGA○○○T○○○○○ME	**C10**	Insert (Turning)
SNGG○○○%-25R	**B32**	Insert (Turning)
SNGG○○○%-B/C	**B32**	Insert (Turning)
SNG○○○S○○○○○	**B93**	Insert (Turning)
SNG○○○T○○○○○	**B93, B94**	Insert (Turning / Milling)
SNG○○○T○○○○○AA	**B93**	Insert (Turning)
SNGX○○○T○○○○○	**B94**	Insert (Turning)
SNM○○○	**B32**	Insert (Turning / Milling)
SNMA○○○	**B32**	Insert (Turning)
SNMA○○○T○○○○○AA	**B93**	Insert (Turning)
SNMF○○○○○○-21	**B87**	Insert (Turning)
SNMG○○○	**B29**	Insert (Turning)
SNMG○○○C	**B31**	Insert (Turning)
SNMG○○○(○)GC	**B31**	Insert (Turning)
SNMG○○○HQ	**B29**	Insert (Turning)
SNMG○○○HS	**B29**	Insert (Turning)
SNMG○○○MQ	**B31**	Insert (Turning)
SNMG○○○MS	**B31**	Insert (Turning)
SNMG○○○MU	**B31**	Insert (Turning)
SNMG○○○PG	**B29**	Insert (Turning)

Part Number	Page	Description
SNMG○○○PH	**B30**	Insert (Turning)
SNMG○○○PQ	**B29**	Insert (Turning)
SNMG○○○PS	**B29**	Insert (Turning)
SNMG○○○PT	**B29**	Insert (Turning)
SNMG○○○%-C	**B32**	Insert (Turning)
SNMG○○○XP	**B30**	Insert (Turning)
SNMG○○○XQ	**B30**	Insert (Turning)
SNMG○○○XS	**B30**	Insert (Turning)
SNMG○○○ZS	**B31**	Insert (Turning)
SNMM○○○PX	**B30**	Insert (Turning)
SNM○○○S○○○○○	**C19**	Insert (Turning)
SNM○○○T○○○○○	**B94**	Insert (Turning)
SP-2D	**D14, D22, P18**	Spare Parts (Spring)
SP-3D	**D8, D10, D12, D22, F77, F80, F83, F84, F87, P18**	Spare Parts (Spring)
SP-5	**G69, P18**	Spare Parts (Spring)
SP-5D	**D18, P18**	Spare Parts (Spring)
SP-6	**G40-G41, G67, P18**	Spare Parts (Spring)
SP-8	**P18**	Spare Parts (Spring)
SP3X4	**F30, F31, F33.P6**	Spare Parts (Screw)
SP3X6	**P6**	Spare Parts (Screw)
SP3X8	**D40, E42, E43, J20, J21, N9, P6**	Spare Parts (Screw)
SP3X10	**F70, F71, P6**	Spare Parts (Screw)
SP4X9	**P6**	Spare Parts (Screw)
SP8X35	**P6**	Spare Parts (Screw)
SP-129	**D36, D37, P10**	Spare Parts (Shim)
SP-130A	**F89, P11**	Spare Parts (Shim)
SP-141	**D27, D32, D33, D36, D37, P10**	Spare Parts (Shim)
SP-141P	**F89, F90, P11**	Spare Parts (Shim)
SP-143	**D27, D36, D37, P10**	Spare Parts (Shim)
SP-143P	**F89, P11**	Spare Parts (Shim)
SP-148	**D36, D37, P10**	Spare Parts (Shim)
SP-162	**D27, D32, D33, P10**	Spare Parts (Shim)
SP-210A	**F91, P11**	Spare Parts (Shim)
SP-219	**D38, P10**	Spare Parts (Shim)
SP-221	**D28, P10**	Spare Parts (Shim)
SP-223	**D28, P10**	Spare Parts (Shim)
SP-230P	**P11**	Spare Parts (Shim)
SP-341P	**F89, P11**	Spare Parts (Shim)
SP-342	**D25, P10**	Spare Parts (Shim)
SP-420A	**F91, P11**	Spare Parts (Shim)
SP-429	**D34, P11**	Spare Parts (Shim)
SP-441	**D24, D30, P10**	Spare Parts (Shim)
SP-441P	**F90, P11**	Spare Parts (Shim)
SP-443	**D24, P10**	Spare Parts (Shim)
SP-443P	**P11**	Spare Parts (Shim)
SP-454	**D24, P10**	Spare Parts (Shim)
SP-521	**D31, P11**	Spare Parts (Shim)
SP-521P	**F90, P11**	Spare Parts (Shim)
SP-523	**P11**	Spare Parts (Shim)
SP-523P	**P11**	Spare Parts (Shim)
SP-541	**D31, P11**	Spare Parts (Shim)
SP-543	**P11**	Spare Parts (Shim)
SP-826	**D35, P11**	Spare Parts (Shim)
SP-829	**D35, P11**	Spare Parts (Shim)
SP-841	**D29, D35, P11**	Spare Parts (Shim)
SP-843	**D29, D35, P11**	Spare Parts (Shim)
SP-849	**D35, P11**	Spare Parts (Shim)
SP-861	**D29, P11**	Spare Parts (Shim)
SPGH○○○%	**B67**	Insert (Turning)
SPG○○○	**B67, C29**	Insert (Turning / Milling)
SPG○○○NE	**C29**	Insert (Turning / Milling)
SPG○○○T○○○○○AA	**B97**	Insert (Turning)
SPG○○○T○○○○○	**B97**	Insert (Turning)
SPGR○○○%	**B67**	Insert (Turning)

Part Numbers in Alphanumeric Order

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Part Number		Page	Description
SPM	○○○	**B67**	Insert (Turning / Milling)
SPMR	○○○	**B67**	Insert (Turning / Milling)
SPMR	○○○G	**B67**	Insert (Turning / Milling)
SP-RC		**D40, P12**	Spare Parts (Shim)
SPW-6045		**P6**	Spare Parts (Screw)
SPW-7050		**P6**	Spare Parts (Screw)
SRCP℔	○○○○B-○○-A○○	**F72**	Boring Bar (for Bearing Machining)
SS-4N		**E30, E31, F58, F61, F63, N8, P6**	Spare Parts (Shim Screw)
SSKPR	○○○○B-○○	**F70**	Boring Bar (Previous Description)
STDER	○○CA○○	**N16**	Toolholder (Cartridge)
STDPR	○○CA○○	**N16**	Toolholder (Cartridge)
STEER	○○CA○○	**N16**	Toolholder (Cartridge)
STEPR	○○CA○○	**N16**	Toolholder (Cartridge)
STFER	○○CA○○	**N16**	Toolholder (Cartridge)
STFPR	○○CA○○	**N16**	Toolholder (Cartridge)
STGC℔	○○○○□-○○	**E29**	Toolholder (Turning)
STGP℔	○○○○□-○○	**E29**	Toolholder (Turning)
STLNR	○(○)-○.○□F	**E39**	Toolholder (for Small Double-Sided Tools)
STLNR	○○○○□-○○FF	**E39**	Toolholder (for Small Double-Sided Tools)
STVP℔	○○-○	**J18**	Toolholder (Threading)
STWL	○○○○□-15	**G80**	Toolholder (for Twin Bars)
STWR	○○○○□-15	**F34**	Toolholder (for Twin Bars)
STWSR	○○○○□(□)-15T	**F35, G80**	Toolholder (for Twin Bars)
STXB℔	○○○○○B-○○W	**F57**	Boring Bar (Previous Description)
STXP℔	○○○○○B-○○W	**F57**	Boring Bar (Previous Description)
STZB℔	○○○○○B-○○W	**F57**	Boring Bar (Previous Description)
SV-60136R		**P6**	Spare Parts (Screw)
SV-60136TR		**P6**	Spare Parts (Screw)
SVJB℔	○○○○□-○○	**E30**	Toolholder (Turning)
SVJB℔	○○○○-○○F	**E50, P21**	Toolholder (Turning / Discontinued Description)
SVJB℔	○○○○□-○○(N)	**E30**	Toolholder (Turning)
SVJB℔	○-○□□FF	**E30, E50**	Toolholder (Turning)
SVJB℔	○○○○□□-○○FF	**E30, E50**	Toolholder (Turning)
SVJP℔	○(○)-○□□FF	**E32, E51**	Toolholder (Turning)
SVJP℔	○○○○□(□)-○○FF	**E32, E51**	Toolholder (Turning)
SVLP℔	○○○○-○○F	**E50, P21**	Toolholder (Turning / Discontinued Description)
SVLP℔	○(○)-○(○)□□FF	**E32, E51**	Toolholder (Turning)
SVLP℔	○○○○□(□)-○○FF	**E32, E51**	Toolholder (Turning)
SVLPR	○○(.○)-○□□-F○	**E21**	Toolholder (Goose-neck Holder)
SVLPR	○○○○□□-○○-F○○	**E21**	Toolholder (Goose-neck Holder)
SVNR	○○○○□-12	**P22**	Toolholder (for System Tip-Bars / Discontinued Description)
SVNR	○○○○□-12N	**F30**	Toolholder (for System Tip-Bars)
SVN-32		**F58, F61, F63-F65, F97, P12**	Spare Parts (Shim)
SVN-32N		**E30, E31, N8, P12**	Spare Parts (Shim)
SVNSR	○(○)-12-○○	**F30**	Toolholder (for System Tip-Bars)
SVNSR	○○○○□-12-○○	**P22**	Toolholder (for System Tip-Bars / Discontinued Description)
SVNSR	○○○○□-12-○○N	**F30**	Toolholder (for System Tip-Bars)
SVNSR	○○○○□-12-○○XN	**F33**	Toolholder (for System Tip-Bars)
SVPB℔	○○○○□(□)-○○	**E31, E50**	Toolholder (Turning)
SVPB℔	○○○○□-○○N	**E31**	Toolholder (Turning)
SVPP℔	○○○○□-○○	**E50, P21**	Toolholder (Turning / Discontinued Description)
SVPPR	○(○)-○(○)□□FF	**E33, E51**	Toolholder (Turning)
SVPPR	○○○○□(□)-○○FF	**E33, E51**	Toolholder (Turning)
SVVBN	○(○)-○□□	**E31, E51**	Toolholder (Turning)
SVVBN	○○○○□(□)-○○	**E31, E48**	Toolholder (Turning)
SVVBN	○○○○□-○○N	**E31**	Toolholder (Turning)
SW-1.8		**N14-N16**	Spare Parts (Axial Screw driver)
SYXP℔	○○○○□-○○F	**P21**	Toolholder (Turning / Discontinued Description)

Part Number		Page	Description
T			
T63H-	BL○○○-○○○	**P28**	Toolholder (HSK Tooling / Discontinued Description)
T63H-	C○○-○○(○)	**N10**	Toolholder (HSK Tooling)
T63H-	KGBA℔-16	**N9**	Grooving (HSK Tooling)
T63H-	KGBA℔-22-○○	**N9**	Grooving (HSK Tooling)
T63H-	KTNR-○○	**N9**	Threading (HSK Tooling)
T63H-	N○○-○○(○)	**N10**	Toolholder (HSK Tooling)
T63H-	PCLN℔-DX12	**N5**	Toolholder (HSK Tooling)
T63H-	PCMNN-□12	**N5**	Toolholder (HSK Tooling)
T63H-	PDJN℔-DX15	**N5**	Toolholder (HSK Tooling)
T63H-	PDNNN-□15	**N6**	Toolholder (HSK Tooling)
T63H-	PTGN℔-DX16	**N6**	Toolholder (HSK Tooling)
T63H-	PWLN℔-DX08	**N7**	Toolholder (HSK Tooling)
T63H-	S2020R-105T	**N4**	Toolholder (HSK Tooling)
T63H-	S2525-○○(○)F	**N4**	Toolholder (HSK Tooling)
T63H-	S2525℔-○○○	**N3**	Toolholder (HSK Tooling)
T63H-	SVLB℔-DX16N	**N8**	Toolholder (HSK Tooling)
T63H-	SVVBN-□16N	**N8**	Toolholder (HSK Tooling)
T63H-	WTENN-□16	**N6**	Toolholder (HSK Tooling)
T63H-	WWMNN-□08	**N7**	Toolholder (HSK Tooling)
T100H-	C○○-○○(○)	**N10**	Toolholder (HSK Tooling)
T100H-	N○○-○○(○)	**N10**	Toolholder (HSK Tooling)
T100H-	S2525-○○○F	**N4**	Toolholder (HSK Tooling)
T100H-	S2525R-○○○T	**N4**	Toolholder (HSK Tooling)
T100H-	S2525℔-○○○	**N3**	Toolholder (HSK Tooling)
TBET	○○○○(○)(○)M℔	**B68**	Insert (Turning)
TBG	○○○○F	**C18**	Insert (Turning)
TBG	○○○○(○)T○○○○○AA	**B97**	Insert (Turning)
TBG	○○○○(○)T○○○○○	**C18**	Insert (Turning)
TBGT	○○○○○CF	**B68**	Insert (Turning)
TBGT	○○○○(○)(○)M℔	**B68**	Insert (Turning)
TBGT	○○○○○M-CF	**B68**	Insert (Turning)
TBGT	○○○○○MP-CF	**B68**	Insert (Turning)
TBGT	○○○○(○)℔	**B68**	Insert (Turning)
TBGW	○○○○(○)	**B68, C26**	Insert (Turning)
TBGW	○○○○(○)NE	**C26**	Insert (Turning)
TBMT	○○○○(○)	**C26**	Insert (Turning)
TBMT	○○○○(○)DP	**B68**	Insert (Turning)
TBMT	○○○○(○)NE	**C26**	Insert (Turning)
TCET	○○○○(○)(○)F℔-USF	**B69**	Insert (Turning)
TCET	○○○○(○)MF℔-USF	**B69**	Insert (Turning)
TCG	○○○○(○)	**B70**	Insert (Turning)
TCG	○○○(○)(○)T○○○○○	**B97**	Insert (Turning)
TCGR	○○○○(○)℔-F	**B70**	Insert (Turning)
TCGT	○○○○(○)	**B68**	Insert (Turning)
TCGT	○○○(○)(○)(○)E℔-U	**B69**	Insert (Turning)
TCGT	○○○○(○)(○)F℔-U	**B69**	Insert (Turning)
TCGT	○○○(○)(○)(○)ME℔-U	**B69**	Insert (Turning)
TCGT	○○○(○)(○)(○)(○)MF℔-U	**B69**	Insert (Turning)
TCGT	○○○○(○)℔	**B69**	Insert (Turning)
TCGT	○○○(○)℔-A3	**B69**	Insert (Turning)
TCGW	○○○(○)(○)(○)	**B70, C26**	Insert (Turning)
TCGW	○○○(○)NE	**C26**	Insert (Turning)
TCGW	○○○(○)SE	**C26**	Insert (Turning)
TCMT	○○○(○)(○)(○)	**C26**	Insert (Turning)
TCMT	○○○○(○)(○)HQ	**B68**	Insert (Turning)
TCMT	○○○(○)(○)(○)NE	**C26**	Insert (Turning)
TCMT	○○○(○)SE	**C26**	Insert (Turning)
TCMX	○○○○(○)WP	**B68**	Insert (Turning)
TG	○○℔○○○	**G14, G63**	Insert (Grooving)
TGF	○○℔○○○-○○○	**C30, G13**	Insert (Grooving)
TGF	○○℔○○○N	**G13**	Insert (Grooving)
TH-4		**P18**	Spare Parts (Hexagon Wrench / T-shaped Type)
TH8X15		**P6**	Spare Parts (Screw)

Part Numbers in Alphanumeric Order

○ : NUMBER □ : LETTER

Part Number		Page	Description
TKN	○(.○)	**H27**	Insert (Cut-Off)
TKN	○(.○)-P	**H27**	Insert (Cut-Off)
TK□□	○(.○)	**H7**	Insert (Cut-Off)
TK□□	○(.○)-P	**H7**	Insert (Cut-Off)
TKF	○○□□○○○-AS	**C32**	Insert (Grooving / Turning)
TKF	○○□□○○○-ASR	**C32**	Insert (Grooving / Turning)
TKF	○○□□○○○-NB(○.○)	**C32, H6, H7**	Insert (Grooving / Turning)
TKF	○○□□○○○-NB-○○DR	**H6, H7**	Insert (Cut-Off)
TKF	○○□□○○○-S	**H6, H7**	Insert (Cut-Off)
TKF	○○□□○○○-S-○○DR	**H6, H7**	Insert (Cut-Off)
TKF	○○□□○○○-T	**H6, H7**	Insert (Cut-Off)
TKF	○○□□○○○-T-○○DR	**H6, H7**	Insert (Cut-Off)
TKFB	○○L○○○○○MR	**B84**	Insert (Back Turning)
TKFB	○○R○○○○○-GQ	**B85**	Insert (Back Turning)
TKFB	○○R○○○○○M	**B84**	Insert (Back Turning)
TKFS	○○□□○○○-S	**H11**	Insert (Cut-Off)
TKFT	12□□○○○○(○)	**J22**	Insert (Threading)
TN-32		**J20, J21, N9, P12**	Spare Parts (Shim)
TN-43		**J20, J21, N9, P12**	Spare Parts (Shim)
TNEG	○○○(○)□□-SSF	**B40**	Insert (Turning)
TNGA	○○○	**B38**	Insert (Turning)
TNGA	○○○MEF	**C11**	Insert (Turning)
TNGA	○○○S○○○○○	**B95**	Insert (Turning)
TNGA	○○○(○)S○○○○○ME	**C11**	Insert (Turning)
TNGA	○○○S○○○○○MEH	**C11**	Insert (Turning)
TNGA	○○○S○○○○○MEP	**C11**	Insert (Turning)
TNGA	○○○S○○○○○MET	**C11**	Insert (Turning)
TNGA	○○○(○)S○○○○○SE	**C11**	Insert (Turning)
TNGA	○○○S○○○○○SET	**C11**	Insert (Turning)
TNGA	○○○T○○○○○	**B95**	Insert (Turning)
TNGA	○○○T○○○○○AA	**B95**	Insert (Turning)
TNGA	○○○T○○○○○ME	**C11**	Insert (Turning)
TNGA	○○○T○○○○○SE	**C11**	Insert (Turning)
TNGG	○○○AH	**B39**	Insert (Turning)
TNGG	○○○FP-TK	**B36**	Insert (Turning)
TNGG	○○○(○)MFP-SK	**B36**	Insert (Turning)
TNGG	○○○TK	**B37**	Insert (Turning)
TNGG	○○○(○)□□	**B40**	Insert (Turning)
TNGG	○○○□□-25R	**B40**	Insert (Turning)
TNGG	○○○□□-A3	**B39**	Insert (Turning)
TNGG	○○○(○)□□-B/C	**B40**	Insert (Turning)
TNGG	○○○(○)□□-S	**B40**	Insert (Turning)
TNGM	○○○S○○○○○BB○	**C11**	Insert (Turning)
TNG	○○○S○○○○○	**B95**	Insert (Turning)
TNG	○○○T○○○○○	**B95**	Insert (Turning)
TNG	○○○T○○○○○AA	**B95**	Insert (Turning)
TNGU	○○○○(○)ME□□-U	**B51**	Insert (Turning)
TNGU	○○○○(○)(○)MF□□-F	**B51**	Insert (Turning)
TNGU	○○○○(○)(○)MF□□-U	**B51**	Insert (Turning)
TNMA	○○○	**B38**	Insert (Turning)
TNMC	○○NV○○○○○	**J19**	Insert (Threading)
TNMG	○○○	**B35**	Insert (Turning)
TNMG	○○○AH	**B39**	Insert (Turning)
TNMG	○○○C	**B38**	Insert (Turning)
TNMG	○○○CQ	**B33**	Insert (Turning)
TNMG	○○○GC	**B38**	Insert (Turning)
TNMG	○○○(○)GP	**B33**	Insert (Turning)
TNMG	○○○GS	**B34**	Insert (Turning)
TNMG	○○○GT	**B35**	Insert (Turning)
TNMG	○○○GU	**B37**	Insert (Turning)
TNMG	○○○HK	**B34**	Insert (Turning)
TNMG	○○○HQ	**B33**	Insert (Turning)
TNMG	○○○HS	**B34**	Insert (Turning)
TNMG	○○○MQ	**B37**	Insert (Turning)
TNMG	○○○MS	**B37**	Insert (Turning)
TNMG	○○○MU	**B37**	Insert (Turning)

Part Number		Page	Description
TNMG	○○○PG	**B34**	Insert (Turning)
TNMG	○○○PH	**B35**	Insert (Turning)
TNMG	○○(○)(○)PP	**B33**	Insert (Turning)
TNMG	○○○PQ	**B33**	Insert (Turning)
TNMG	○○○PS	**B34**	Insert (Turning)
TNMG	○○○PT	**B35**	Insert (Turning)
TNMG	○○○□□-C	**B40**	Insert (Turning)
TNMG	○○○□□-ST	**B37**	Insert (Turning)
TNMG	○○○TK	**B37**	Insert (Turning)
TNMG	○○○XF	**B36**	Insert (Turning)
TNMG	○○○XP	**B36**	Insert (Turning)
TNMG	○○○XQ	**B36**	Insert (Turning)
TNMG	○○○XS	**B36**	Insert (Turning)
TNMG	○○○ZS	**B38**	Insert (Turning)
TNMM	○○○(○)M	**C23**	Insert (Turning)
TNMM	○○○(○)MNE	**C23**	Insert (Turning)
TNMM	○○○(○)MSE	**C23**	Insert (Turning)
TNMM	○○○PX	**B35**	Insert (Turning)
TNM	○○○S○○○○○	**C19**	Insert (Turning)
TNN	○○E□□○○(.○)NPT	**J10**	Insert (Threading / Previous description)
TNN	○○ER○○PT	**J10**	Insert (Threading / Previous description)
TNN	○○ER○○UN	**J8**	Insert (Threading / Previous description)
TNN	○○ER○○W	**J8**	Insert (Threading / Previous description)
TNN	○○E□□○○○M	**J6**	Insert (Threading / Previous description)
TNN	○○ER○○○TR	**J14**	Insert (Threading / Previous description)
TNN	○○ER○○○○	**J12**	Insert (Threading / Previous description)
TNN	○○I□□○○(.○)NPT	**J11**	Insert (Threading / Previous description)
TNN	○○I□□○○PT	**J11**	Insert (Threading / Previous description)
TNN	○○IR○○UN	**J9**	Insert (Threading / Previous description)
TNN	○○IR○○W	**J9**	Insert (Threading / Previous description)
TNN	○○I□□○○○M	**J7**	Insert (Threading / Previous description)
TNN	○○IR○○○TR	**J15**	Insert (Threading / Previous description)
TNN	○○IR○○○○(○)	**J15**	Insert (Threading / Previous description)
TNW-32		**P12**	Spare Parts (Shim)
TPET	○○○○(○)(○)F□□-USF	**B73**	Insert (Turning)
TPET	○○○○(○)(○)(○)MF□□-USF	**B73**	Insert (Turning)
TPET	○○○○(○)(○)(○)M□□-FSF	**B73**	Insert (Turning)
TPET	○○○○(○)(○)□□-FSF	**B73**	Insert (Turning)
TPGB	○○○(○)(○)(○)	**B74, C27, J35**	Insert (Turning / Threading)
TPGB	○○○MEF	**B16**	Insert (Turning)
TPGB	○○○(○)(○)(○)NE	**C27**	Insert (Turning)
TPGB	○○○(○)(○)(○)SE	**C26**	Insert (Turning)
TPGB	○○○S○○○○○MES	**B16**	Insert (Turning)
TPGB	○○○(○)S○○○○○MET	**B16**	Insert (Turning)
TPGB	○○○(○)(○)(○) S○○○○○SET	**B16**	Insert (Turning)
TPGB	○○○(○)T○○○○○ME	**B16**	Insert (Turning)
TPGB	○○○(○)(○)(○) T○○○○○SE	**B16**	Insert (Turning)
TPGH	○○○(○)(○)(○)M□□	**B72**	Insert (Turning)
TPGH	○○○(○)M□□-H	**B73**	Insert (Turning)
TPGH	○○○(○)(○)(○)□□	**B72**	Insert (Turning)
TPGH	○○○(○)(○)(○)□□-H	**B73**	Insert (Turning)
TPG	○○○(○)(○)(○)	**B76, C29**	Insert (Turning / Milling)
TPG	○○○NE	**C29**	Insert (Turning / Milling)
TPG	○○○(○)SE	**C29**	Insert (Turning / Milling)
TPG	○○○(○)(○)T○○○○○AA	**B97**	Insert (Turning)
TPG	○○○S○○○○○SET	**C18**	Insert (Turning)
TPG	○○○(○)(○)T○○○○○	**B97**	Insert (Turning / Milling)
TPG	○○○(○)T○○○○○ME	**C18**	Insert (Turning)

Part Numbers in Alphanumeric Order

○ : NUMBER □ : LETTER

Part Number		Page	Description
TPG	○○○(○)T○○○○○SE	C18	Insert (Turning)
TPGR	○○○(○)□-A/B/C	B76	Insert (Turning)
TPGR	○○○○(○)(○)□-F	B75	Insert (Turning)
TPGT	○○○(○)	B73	Insert (Turning)
TPGT	○○○○○○CF	B71	Insert (Turning)
TPGT	○○○○○○M-CF	B71	Insert (Turning)
TPGT	○○○○○○MP-CF	B71	Insert (Turning)
TPGW	○○○S○○○○○MET	C16	Insert (Turning)
TPGW	○○○S○○○○○SET	C16	Insert (Turning)
TPGW	○○○T○○○○○ME	C16	Insert (Turning)
TPGW	○○○T○○○○○SE	C16	Insert (Turning)
TPMC	○○NV○○○○○	J19	Insert (Threading)
TPMH	○○○(○)(○)(○)	C27	Insert (Turning)
TPMH	○○○(○)(○)(○)NE	C27	Insert (Turning)
TPMH	○○○(○)□-NE	C28	Insert (Turning)
TPMH	○○○(○)(○)(○)SE	C27	Insert (Turning)
TPM	○○○	B76	Insert (Turning / Milling)
TPMR	○○○	B75	Insert (Turning)
TPMR	○○○DP	B75	Insert (Turning)
TPMR	○○○(○)(○)(○)G	B75	Insert (Turning)
TPMR	○○○GP	B75	Insert (Turning)
TPMR	○○○HQ	B75	Insert (Turning)
TPMT	○○○(○)(○)(○)GP	B71	Insert (Turning)
TPMT	○○○(○)(○)(○)HQ	B71	Insert (Turning)
TPMT	○○○(○)(○)(○)PP	B71	Insert (Turning)
TPMT	○○○(○)(○)XP	B71	Insert (Turning)
TPMT	○○○XQ	B72	Insert (Turning)
TPMX	○○○(○)(○)WP	B71	Insert (Turning)
TS-3S		D19, P7	Spare Parts (Lock Pin)
TT-15		P18	Spare Parts (Torx Wrench / T-shaped Type)
TT-25		P18	Spare Parts (Torx Wrench / T-shaped Type)
TT-25L		P18	Spare Parts (Torx Wrench / T-shaped Type)
TT-30		P18	Spare Parts (Torx Wrench / T-shaped Type)
TT	43E□○○○M	J26	Insert (Threading)
TT	○○□○○○○	J26, J27	Insert (Threading)
TTC-20		P18	Spare Parts (Torx Wrench / T-shaped Type)
TTC-25		P18	Spare Parts (Torx Wrench / T-shaped Type)
TTP-20		P18	Spare Parts (Torx Plus Wrench / T-shaped Type)
TTX	32R○○○○(○)	J25	Insert (Threading)
TTX	32R○○○○(○)S	J25	Insert (Threading)
TWBR	○○○○○-○○○	F34	Twin Bars (Turning)
TWBTR	○○○○○-○○○	F35	Twin Bars (Turning)
TWFGL	○○○	G80	Twin Bars (Face Grooving)
TWFGTR	○○○	G80	Twin Bars (Face Grooving)
V			
VBET	○○○○(○)M□-F	B78	Insert (Turning)
VBET	○○○○(○)M□-FSF	B77	Insert (Turning)
VBET	○○○(○)□-FSF	B77	Insert (Turning)
VBET	○○○(○)-FN-Z	B78	Insert (Turning)
VBET	○○○(○)(○)M□-Y	B78	Insert (Turning)
VBGT	○○○(○)(○)M□-F	B78	Insert (Turning)
VBGT	○○○○M□-Y	B78	Insert (Turning)
VBGT	○○○○□-F	B78	Insert (Turning)
VBGT	○○○(○)□-Y	B78	Insert (Turning)
VBGW	○○○MEF	C17	Insert (Turning)
VBGW	○○○S○○○○○MES	C17	Insert (Turning)
VBGW	○○○(○)S○○○○○MET	C17	Insert (Turning)
VBGW	○○○S○○○○○SET	C17	Insert (Turning)
VBGW	○○○(○)T○○○○○ME	C17	Insert (Turning)
VBGW	○○○(○)T○○○○○SE	C17	Insert (Turning)
VBMT	○○○(○)(○)	C28	Insert (Turning)
VBMT	○○○GP	B77	Insert (Turning)

Part Number		Page	Description
VBMT	○○○HQ	B77	Insert (Turning)
VBMT	○○○(○)NE	C28	Insert (Turning)
VBMT	○○○(○)PP	B77	Insert (Turning)
VBMT	○○○(○)SE	C28	Insert (Turning)
VBMT	○○○(○)VF	B77	Insert (Turning)
VCGT	○○○	B79	Insert (Turning)
VCGT	○○○AH	B79	Insert (Turning)
VCGT	○○○□-A3	B79	Insert (Turning)
VCGT	○○○(○)-FN-Z	B79	Insert (Turning)
VCGW	○○○○○(○) S○○○○○MET	C17	Insert (Turning)
VCGW	○○○○○S○○○○○SET	C17	Insert (Turning)
VCGW	○○○○○(○) T○○○○○ME	C17	Insert (Turning)
VCGW	○○○○○(○) T○○○○○SE	C17	Insert (Turning)
VCMT	○○○○○(○)	C28	Insert (Turning)
VCMT	○○○(○)(○)(○)HQ	B79	Insert (Turning)
VCMT	○○○○○(○)NE	C28	Insert (Turning)
VCMT	○○○(○)(○)(○)PP	B79	Insert (Turning)
VCMT	○○○○○(○)SE	C28	Insert (Turning)
VCMT	○○○○(○)(○)VF	B79	Insert (Turning)
VNBR	○○○○-○○(○)	F29	System Tip-bars (Boring)
VNBR	○○○○-○○(○)NB	C34, F29	System Tip-bars (Boring)
VNBR	○○○○(○○)-○○(○)S	F28	System Tip-bars (Boring)
VNBTR	○○○○-○○(○)	F29	System Tip-bars (Boring)
VNBXR	○○○○(○)-○○(○)S	F32	System Tip-bars (Boring)
VNFGR	○○○○-○○	G78	System Tip-bars (Face Grooving)
VNFGR	○○○○-○○NB	C34, G78	System Tip-bars (Face Grooving)
VNGR	○○○○-○○	G50	System Tip-bars (Grooving)
VNGR	○○○○-○○NB	C34, G50	System Tip-bars (Grooving)
VNGA	○○○	B42	Insert (Turning)
VNGA	○○○MEF	C12	Insert (Turning)
VNGA	○○○S○○○○○	B96, C12	Insert (Turning)
VNGA	○○○(○)S○○○○○ME	C12	Insert (Turning)
VNGA	○○○S○○○○○MEH	C12	Insert (Turning)
VNGA	○○○S○○○○○MEP	C12	Insert (Turning)
VNGA	○○○S○○○○○MET	C12	Insert (Turning)
VNGA	○○○(○)S○○○○○SE	C12	Insert (Turning)
VNGA	○○○S○○○○○SET	C12	Insert (Turning)
VNGA	○○○T○○○○○	B96	Insert (Turning)
VNGA	○○○T○○○○○AA	B96	Insert (Turning)
VNGA	○○○T○○○○○ME	C12	Insert (Turning)
VNGA	○○○T○○○○○SE	C12	Insert (Turning)
VNGG	○○○MFP-SK	B42	Insert (Turning)
VNGG	○○○(○)M-SK	B42	Insert (Turning)
VNGG	○○○(○)□	B42	Insert (Turning)
VNMA	○○○T○○○○○AA	B96	Insert (Turning)
VNMG	○○○	B41	Insert (Turning)
VNMG	○○○GP	B41	Insert (Turning)
VNMG	○○○GU	B42	Insert (Turning)
VNMG	○○○HQ	B41	Insert (Turning)
VNMG	○○○MQ	B42	Insert (Turning)
VNMG	○○○MS	B42	Insert (Turning)
VNMG	○○○MU	B42	Insert (Turning)
VNMG	○○○(○)PP	B41	Insert (Turning)
VNMG	○○○PQ	B41	Insert (Turning)
VNMG	○○○TN-V	B41	Insert (Turning)
VNMG	○○○VF	B41	Insert (Turning)
VNMG	○○○XP	B42	Insert (Turning)
VNMM	○○○(○)M	C23	Insert (Turning)
VNMM	○○○(○)MNE	C23	Insert (Turning)
VNMM	○○○(○)MSE	C23	Insert (Turning)
VNTR	○○○-○○	J34	System Tip-bars (Threading)
VPET	○○○○(○)(○)F□-USF	B81	Insert (Turning)
VPET	○○○○(○)(○)M□-F	B81	Insert (Turning)
VPET	○○○○(○)(○)M□-FSF	B81	Insert (Turning)
VPET	○○○○(○)MF□-J	B81	Insert (Turning)

Part Numbers in Alphanumeric Order

○ : NUMBER □ : LETTER

Part Number		Page	Description
VPET	○○○○(○)(○)MF□-U	B81	Insert (Turning)
VPET	○○○○(○)(○)MF□-USF	B81	Insert (Turning)
VPET	○○○○(○)(○)□-FSF	B81	Insert (Turning)
VPGT	○○○○CF	B80	Insert (Turning)
VPGT	○○○○(○)(○)CK	B80	Insert (Turning)
VPGT	○○○○M-CF	B80	Insert (Turning)
VPGT	○○○○(○)(○)M-CK	B80	Insert (Turning)
VPGT	○○○○MF-GF	B80	Insert (Turning)
VPGT	○○○○MFP-GF	B80	Insert (Turning)
VPGT	○○○○MP-CF	B80	Insert (Turning)
VPGT	○○○○(○)(○)MP-CK	B80	Insert (Turning)
W			
W-6		G40, G67, P18	Spare Parts (Washer)
W6-14		P18	Spare Parts (Washer)
W-8		P18	Spare Parts (Washer)
W6X17		P6	Spare Parts (Screw)
W6X18		P6	Spare Parts (Screw)
W6X18N		P6	Spare Parts (Screw)
W6X20		P6	Spare Parts (Screw)
W8X16		P6	Spare Parts (Screw)
W8X18		P6	Spare Parts (Screw)
W8X21		P6	Spare Parts (Screw)
WB-5		F96, P18	Spare Parts (Washer)
WB-6		F96, P18	Spare Parts (Washer)
WB-8		F96, P18	Spare Parts (Washer)
WBET	○○○○(○)(○)M□-F	B82	Insert (Turning)
WBGT	○○○○○M□-CF	B82	Insert (Turning)
WBGT	○○○○○MP□-CF	B82	Insert (Turning)
WBGT	○○○○(○)(○)(○)M□-F	B82	Insert (Turning)
WBGT	○○○○(○)(○)□-F	B82	Insert (Turning)
WBGW	○○○○(○)(○)□	B83	Insert (Turning)
WBGW	○○○○(○)(○) S○○○○○□-SET	C18	Insert (Turning)
WBGW	○○○○(○)T○○○○○□-SE	C18	Insert (Turning)
WBMT	○○○○(○)(○)L	C28, C29	Insert (Turning)
WBMT	○○○○(○)(○)L-NE	C28, C29	Insert (Turning)
WBMT	○○○○○(○)L-SE	C28, C29	Insert (Turning)
WBMT	○○○○(○)(○)□-DP	B82	Insert (Turning)
WCGT	○○○○○□-F	B82	Insert (Turning)
WCS-1N		D16, N6, P14	Spare Parts (Clamp Set)
WCS-8		D23, F88, N7.P14	Spare Parts (Clamp Set)
WN-1		D16, D23, N6-N7, P19	Spare Parts (Shim Nut)
WNGA	○○○MEF	C13	Insert (Turning)
WNGA	○○○S○○○○○ME	C13	Insert (Turning)
WNGA	○○○S○○○○○MET	C13	Insert (Turning)
WNGA	○○○S○○○○○SE	C13	Insert (Turning)
WNGA	○○○S○○○○○SET	C13	Insert (Turning)
WNGA	○○○T○○○○○ME	C13	Insert (Turning)
WNGA	○○○T○○○○○AA	B96	Insert (Turning)
WNGA	○○○T○○○○○	B96	Insert (Turning)
WNGG	○○○AH	B48	Insert (Turning)
WNGG	○○○TK	B47	Insert (Turning)
WNGG	○○○□	B48	Insert (Turning)
WNGG	○○○(○)□-S	B48	Insert (Turning)
WNMA	○○○	B48	Insert (Turning)
WNMG	○○○	B45	Insert (Turning)
WNMG	○○○C	B48	Insert (Turning)
WNMG	○○○CJ	B44	Insert (Turning)
WNMG	○○○CQ	B44	Insert (Turning)
WNMG	○○○GC	B48	Insert (Turning)
WNMG	○○○GP	B43	Insert (Turning)
WNMG	○○○GS	B44	Insert (Turning)
WNMG	○○○GT	B45	Insert (Turning)
WNMG	○○○GU	B46	Insert (Turning)
WNMG	○○○(○)HQ	B44	Insert (Turning)
WNMG	○○○HS	B45	Insert (Turning)
WNMG	○○○HT	B45	Insert (Turning)
WNMG	○○○MQ	B47	Insert (Turning)
WNMG	○○○MS	B47	Insert (Turning)
WNMG	○○○MU	B47	Insert (Turning)
WNMG	○○○PG	B44	Insert (Turning)
WNMG	○○○PH	B45	Insert (Turning)
WNMG	○○○(○)PP	B43	Insert (Turning)
WNMG	○○○PQ	B43	Insert (Turning)
WNMG	○○○PS	B45	Insert (Turning)
WNMG	○○○PT	B45	Insert (Turning)
WNMG	○○○TK	B47	Insert (Turning)
WNMG	○○○WP	B43	Insert (Turning)
WNMG	○○○WQ	B43	Insert (Turning)
WNMG	○○○XP	B46	Insert (Turning)
WNMG	○○○XQ	B46	Insert (Turning)
WNMG	○○○XS	B46	Insert (Turning)
WNMG	○○○ZS	B48	Insert (Turning)
WNMM	○○○(○)M	C23	Insert (Turning)
WNMM	○○○(○)MNE	C23	Insert (Turning)
WNMM	○○○(○)MSE	C23	Insert (Turning)
WP-1S		P7	Spare Parts (Shim Pin)
WP5X11		F88, P7	Spare Parts (Shim Pin)
WP5X15		D23, N7, P7	Spare Parts (Shim Pin)
WPGT	○○○(○)(○)M□-Y	B83	Insert (Turning)
WPGT	○○○(○)(○)□-Y	B83	Insert (Turning)
WPGW	○○○(○)(○)	B83	Insert (Turning)
WPMT	○○○○(○)	C29	Insert (Turning)
WPMT	○○○(○)GP	B83	Insert (Turning)
WPMT	○○○(○)(○)HQ	B83	Insert (Turning)
WPMT	○○○○(○)NE	C29	Insert (Turning)
WPMT	○○○○○SE	C29	Insert (Turning)
WSP-1		D16, N6, P18	Spare Parts (Spacer)
WTENN	○○-○□	D16	Toolholder (Turning)
WTENN	○○○○□-○○N	D16	Toolholder (Turning)
WTJN□	○○-○□	D16	Toolholder (Turning)
WTJN□	○○○○□-○○N	D16	Toolholder (Turning)
WTKN□	○○-○□	D16	Toolholder (Turning)
WTKN□	○○○○□-○○N	D16	Toolholder (Turning)
WTN-33		D16, N6, P12	Spare Parts (Shim)
WTN-33-20		D16, P12	Spare Parts (Shim)
WWLN□	○○○○□-○○	D23	Toolholder (Turning)
WWLN□	○○○○B-○○E	F88	Boring Bar (Previous Description)
WWN-42		D23, N7, P12	Spare Parts (Shim)
WWP-42		F88, P12	Spare Parts (Shim)
WWP-42-16		F88, P12	Spare Parts (Shim)
X			
XNS-48		D8, D10, D22	Spare Parts (Clamp Screw)
XNS-510		D8	Spare Parts (Clamp Screw)
XNS36		D14	Spare Parts (Clamp Screw)
XNS59		D12	Spare Parts (Clamp Screw)
XNS510		D14, D19	Spare Parts (Clamp Screw)

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