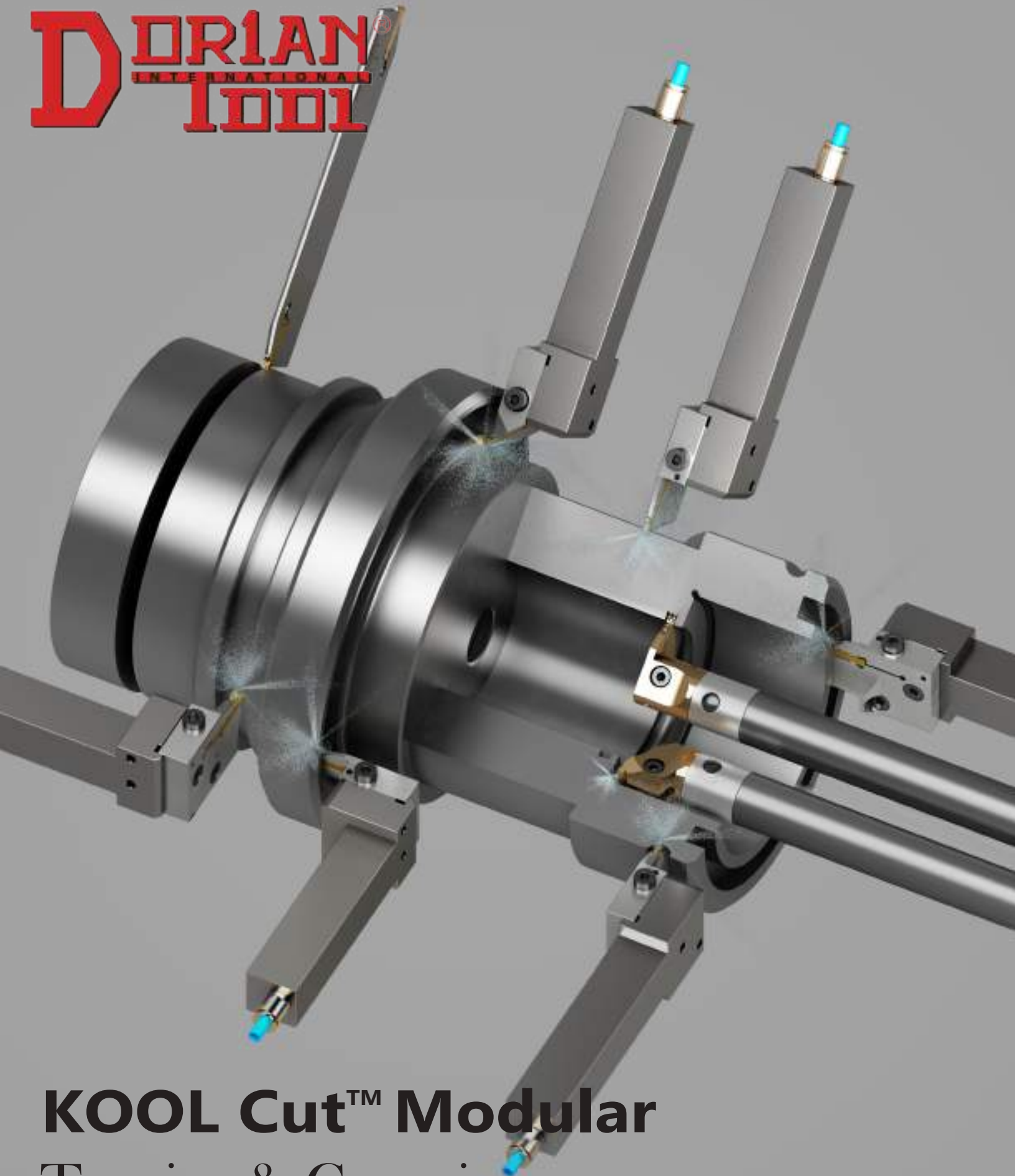




KOOL Cut™ Modular Turning & Grooving

Section F of 2017 Indexable Cutting Tools

Turning, Facing & Grooving System

KOOL Cut™ Modular Turning, Facing & Grooving System-Technology

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KOOL Cut™ Modular Turning and Grooving Cartridge with 90° Gang Toolholder Style Shank -----	Page F-36 - F-39
KOOL Cut™ Modular 45° Grooving Cartridge with Straight Toolholder Style Shank -----	Page F-40 - F-43
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Slot Grip Cut-off Toolholder, Blade and Insert System

Slot Grip Cut-off Insert -----	Page F-55 - F-57
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SGTB R/L Toolholder for Cut-Off SGIH blades (Inch System) -----	Page F-58
SGTBN Neutral Hand Cut-Off Toolholder for Cut-Off SGIH Blades (Inch System) -----	Page F-59
SGTH R/L Cut-Off Toolholder for Cut-Off SGTN inserts (Inch System) -----	Page F-59
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DNTQ-N
 Turning & Grooving



Page F-6

ADDN-MTR **KOOL Cut™** Modular
 Turning and Grooving Shank,
 Right Hand-Straight Toolholder Style



(Inch & Metric) Page F-32

ADKDN-TR **KOOL Cut™** Modular
 Turning and Grooving Cartridge,
 Right Hand



Page F-34

ADKDN-TL **KOOL Cut™** Modular
 Turning and Grooving Cartridge,
 Left Hand



Page F-35

ADDN-MGR **KOOL Cut™** Modular
 Turning and Grooving Cartridge with
 Right Hand-90° Gang Toolholder Style



(Inch & Metric) Page F-38

ADDN-MGUR **KOOL Cut™**
 Modular 45° Grooving
 Cartridge with Right Hand
 90° Gang Toolholder Style Shank



(Inch & Metric) Page F-38

DNTR
 Turning & Profiling



Page F-6

ADDN-MTL **KOOL Cut™** Modular
 Turning and Grooving Shank,
 Left Hand-Straight Toolholder Style



(Inch & Metric) Page F-32

ADKDN-UR **KOOL Cut™** Modular
 45° Grooving Cartridge,
 Right Hand



Page F-34

ADKDN-UL **KOOL Cut™** Modular
 45° Grooving Cartridge,
 Left Hand



Page F-35

ADDN-MGL **KOOL Cut™** Modular
 Turning and Grooving Cartridge with
 Left Hand-90° Gang Toolholder Style



(Inch & Metric) Page F-39

ADDN-MGUL **KOOL Cut™**
 Modular 45° Grooving
 Cartridge with Left Hand
 90° Gang Toolholder Style Shank



(Inch & Metric) Page F-39

DNTF-N
 Turning & Grooving



Page F-6

ADDN-MGR **KOOL Cut™** Modular
 Turning and Grooving Shank,
 Right Hand-90° Gang Toolholder Style



(Inch & Metric) Page F-33

ADCDN-FR **KOOL Cut™** Modular
 Face Grooving Cartridge,
 Left Hand



Page F-40

ADCDN-FL **KOOL Cut™** Modular
 Face Grooving Cartridge,
 Left Hand



Page F-41

ADDN-MTUR **KOOL Cut™**
 Modular 45° Grooving Cartridge with
 Right Hand Toolholder



(Inch & Metric) Page F-38

DETGFR/L Turning & Grooving
 Right Hand & Left Hand
 Toolholder



(Inch & Metric) Page F-44

DNPG-N
 Parting Off



Page F-6

ADDN-MGR **KOOL Cut™** Modular
 Turning and Grooving Shank,
 Left Hand-90° Gang Toolholder Style



(Inch & Metric) Page F-33

ADDN-MTR **KOOL Cut™** Modular
 Turning and Grooving Cartridge with
 Right Hand-Straight Toolholder Style



(Inch & Metric) Page F-36

ADDN-MTL **KOOL Cut™** Modular
 Turning and Grooving Cartridge with
 Left Hand-Straight Toolholder Style



(Inch & Metric) Page F-39

ADDN-MTUL **KOOL Cut™**
 Modular 45° Grooving Cartridge with
 Left Hand Toolholder



(Inch & Metric) Page F-39

TWECOB
 Twin Edge Parting Off
 Insert Blade

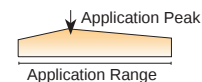


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KOOL Cut™ Quick Change Turning, Facing & Grooving System

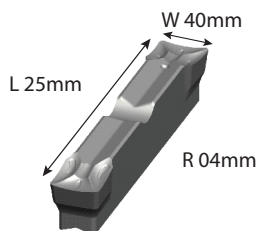
Material	Turning, Grooving & Parting Off Operation's									
	Finishing			Universal				Roughing		
	Hard & Wear Resistant			Hard & Tough Impact & Wear Resistant				Tough Impact Resistant		
	High Cutting Speed			Medium Cutting Speed				Low Cutting Speed		
	05		15		25		35		45	
01		10		20		30		40		50

How to Choose the Best Insert for the Turning, Grooving & Parting Off Operation:



Use **hard & wear resistant coated insert** grade with small nose radius, sharp to light honed cutting edge and small chip breaker. **Cut at a high SFM** with a small Depth of Cut (ap) and Feed Rate per Rev. (fn).
Use **a tough and wear resistant grade** with a medium nose radius, honed cutting edge and medium chip breaker. **Cut at a medium SFM** with a medium Depth of Cut (ap) and Feed Rate per Rev. (fn).
Use **Tough coated insert grade** with large nose radius, heavy honed cutting edge and large chip breaker. **Cut at a low SFM** with a large Depth of Cut (ap) and high Feed Rate per Rev. (fn)

Grade Specifications			Speeds and Feeds					
Coating	ISO Grade	ANSI Grade	Carbon & Alloy Steel	Stainless Steel	Cast Iron	Aluminum & Non Ferrous	High Temp Alloy	Hardened Steel
			P	M	K	N	S	H
PVD TiAlN/WC/C	P25-P35 M25-M35 K15-K30	C5	Inch sfm					
			264- 627	99-644	198-723			
			Metric m/Min					
			80- 190	99-644	60-219			
None	K15 P10 M15 N15 S15	C2-C3	Inch sfm					
				92.4-545	149-627	485-6355	40-290	36-69
			Metric m/Min					
				28-165	45-190	147-1925	12-88	11-21
PVD AlCrN	P15-P30 M10-M25 K10-K25 N10-N25	C3-C8	Inch sfm					
			613.8-1871	178-1023	347-1043		46-462	79-135
			Metric m/Min					
			186-567	54-310	105-316		14-140	24-41

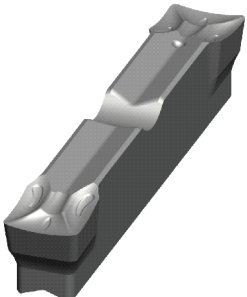
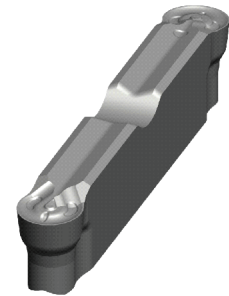


Turning, Grooving & Parting Off Insert Identification System

Insert Description Ex:

DNTQ-223003-3EU-N-DUP25UG

DN		T			Q					223003				3								E			U			N			DUP25UG																																																													
Insert Type	Cutting Applications				Cutting Geometry					Insert Size				Material Application								Cutting Edge Preparation			Application			Cutting Direction			Insert Grade																																																													
1	2				3					4				5								6			7			8			9																																																													
DN	F	T	P	E	F	G	Q	R	S	L	W	R	α	P	M	K	M	N	S	H	U	F	E	S	F	U	R	N	R	L	Grades																																																													
Double Cutting Edge Notched	Facing Turning & Grooving Turning, Facing & Grooving Grooving & Part-Off				Noned Cutting Edge & High Positive Rake Grooving, Cut-Off					Sharp Cutting Edge & High Positive Rake Grooving, Cut-Off				Negative Rake, Grooving, Cut-Off				Universal Turning & Grooving				Radius Turning, Grooving, Profile				Noned Cutting Edge & Positive Rake Grooving, Cut-Off				Carbon & Alloy Steel				Stainless Steel				Cast Iron				Stainless Steel				Aluminum and non Ferrous				High Temp Alloyed				Hardened Material				Multi Material				"F" Sharp			Honed "E+" Medium			Neg. Land & Honed Heavy Duty			Low Material Removal			Universal			High Material Removal			Neutral			Right Hand			Left Hand			DNU10GG DUP25UG DPC35RG DPP40SG			

Insert	Operation	Material Application
		☹ First Choice, ☺ Second Choice
DNTQ-N Turning & Grooving 	For Universal Turning, Face Grooving For High Performance in Turning and Grooving Applications No Pull-Out Safety Notch No pull out from the Toolholder in grooving and Cut-Of operation 3 Cutting Edge Bidirectional, Right and Left Hand Turning, and Face Grooving 3 Side Chip Control The chip will break on turning and roll on grooving Operations Best for Turning, Face Grooving	Carbon Steel, Alloy Steel ☹ Stainless Steel ☹ Cast Iron ☹ Aluminum, Plastic and Non Ferrous Material ☺ High Temp Alloy ☹
DNTR Turning & Profiling 	For Precision Turning, Grooving Parting Off For High Performance in Turning and Grooving Applications No Pull-Out Safety Notch No pull out from the Toolholder in grooving and Parting Off operation Round Cutting Edge Bidirectional, Right and Left Hand Turning, and Face Grooving Circular Chip Control Good Chip Control in turning and grooving Operations Best for Turning, Profiling, Facing, Grooving and Under-Cut	Carbon Steel, Alloy Steel ☹ Stainless Steel ☹ Cast Iron ☹ Aluminum, Plastic and Non Ferrous Material ☺ High Temp Alloy ☹
DNTF-N Turning & Grooving 	For Precision Turning, Grooving Parting Off For High Performance in Turning and Grooving Applications No Pull-Out Safety Notch No pull out from the Toolholder in grooving and Parting Off operation 3 Sides Low Force Cutting Edge Bidirectional, Right and Left Hand Turning, and Face Grooving 3 Side Chip Control High Positive Rake Angle for Free Chip Flow and Low Edge Built-Up Operations Best for Precision Turning, Grooving and Cut-Off, Soft Materials and Thin Wall Tubing	Carbon Steel, Alloy Steel ☺ Stainless Steel ☹ Cast Iron ☹ Aluminum, Plastic and Non Ferrous Material ☹ High Temp Alloy ☹
DNPG-N Parting Off 	For Grooving and Parting Off Applications Strong Cutting Edge, for Grooving and Parting Off Application No Pull-Out Safety Notch No pull out from the Toolholder in grooving and Parting Off operation Negative Rake Angle with Controlled Chipbreaker High Performance and Good Chip Control in High Cutting Speed and Feed Rate Operations Best for Deep Grooving, and Parting Off large Diameter work pieces	Carbon Steel, Alloy Steel ☹ Stainless Steel ☹ Cast Iron ☹ Aluminum, Plastic and Non Ferrous Material ☺ High Temp Alloy ☹

KOOL Cut™ Quick Change Turning, Facing & Grooving System

 "T" Square Nose	UPC	Application	Part Number	Insert Size		K15	Aluminum	Non Ferrous Metals	Hard Steel to 58 HRC	Carbon & Alloy Steel	300 & 400 Series Stainless Steel	Cast Iron, Copper/Brass	Carbon & Alloy Steel	300 & 400 Series Stainless Steel	Cast Iron, Copper/Brass	Non Ferrous Metals & Materials	High Temp Alloys	Carbon & Alloy Steel	300 & 400 Series Stainless Steel	High Temp Alloys	
				Width	Length																Uncoated
		Neutral					DNU10GG	P35 M30 K35	P30 M25 K30	P45 M40 S40											
	73310182440	Turning Grooving Parting-Off	DNTQ-22 2002-3EU-N DUP25UG	2mm - .079"	22mm-.866"																
	73310182442		DNTQ-22 3003-3EU-N DUP25UG	3mm - .118"	22mm -.866"																
	73310182443		DNTQ-25 4004-3EU-N DUP25UG	4mm - .157"	25mm -.984"																
	73310182444		DNTQ-25 5004-3EU-N DUP25UG	5mm - .197"	25mm - .984"																
	73310182445		DNTQ-25 6004-3EU-N DUP25UG	6mm - .236"	25mm - .984"																

"R" Round Nose		Neutral							
	73310182458	Turning Grooving Profiling	DNTR-22 2010-3EU-N DUP25UG	2mm - .079"	22mm-.866"			•	
	73310182459		DNTR-22 3015-3EU-N DUP25UG	3mm - .118"	22mm-.866"			•	
	73310182460		DNTR-25 4020-3EU-N DUP25UG	4mm - .157"	25mm-.984"			•	
	73310182461		DNTR-25 5025-3EU-N DUP25UG	5mm - .197"	25mm-.984"			•	

"E" Square Nose		Neutral							
	73310182463	Grooving Parting-Off	DNPE-22 2002-2EF-N DUP25UG	2mm - .079"	22mm-.866"			•	
	73310182464		DNPE-22 3002-2EF-N DUP25UG	3mm - .118"	22mm-.866"			•	
	73310182465		DNPE-25 4003-2EF-N DUP25UG	4mm - .157"	25mm-.984"			•	
	73310182466		DNPE-25 5004-2EF-N DUP25UG	5mm - .197"	25mm-.984"			•	

"E" Right Hand		Right Hand							
	73310182467	Grooving Parting-Off	DNPE-22 20-6-2EF-R DUP25UG	2mm - .079"	22mm-.866"			•	
	73310182468		DNPE-22 30-6-2EF-R DUP25UG	3mm - .118"	22mm-.866"			•	
	73310182469		DNPE-25 40-4-2EF-R DUP25UG	4mm - .157"	25mm-.984"			•	
	73310182470		DNPE-25 50-4-2EF-R DUP25UG	5mm - .197"	25mm-.984"			•	

"G" Style Square Nose 	UPC	Application	Part Number	Insert Size		Aluminum	Non Ferrous Metals	Hard Steel to 58 HRC	Carbon & Alloy Steel	300 & 400 Series Stainless Steel	Cast Iron, Copper/Brass	Carbon & Alloy Steel	300 & 400 Series Stainless Steel	Cast Iron, Copper/Brass	Non Ferrous Metals & Materials	High Temp Alloys	Carbon & Alloy Steel	300 & 400 Series Stainless Steel	High Temp Alloys
				Width	Length	Uncoated			CVD TiCN+Al2O2			PVD TiN					PVD TiN		
						K15	DNU10GG		P35 M30 K35	DPP25HG		P30 M25 K30	DUP35UG				P45 M40 S40	DPP45SG	
		Neutral																	
	73310182475	Grooving Parting-Off	DNPG-22 2002-1SR-N DPP40SG	2mm - .079"	22mm-.866"								○					●	
	73310182476		DNPG-22 3002-1SR-N DPP40SG	3mm - .118"	22mm -.866"								○					●	
	73310182477		DNPG-25 4003-1SR-N DPP40SG	4mm - .157"	25mm -.984"								○					●	
	73310182478		DNPG-25 5004-1SR-N DPP40SG	5mm - .197"	25mm -.984"								○					●	
	73310182479		DNPG-25 6004-1SR-N DPP40SG	6mm - .236"	25mm -.984"								○					●	

"G" Style Right Nose 		Right Hand											○					●	
	73310182480	Grooving Parting-Off	DNPG-22 206-1SR-R DPP40SG	2mm - .079"	22mm-.866"								○					●	
	73310182481		DNPG-22 306-1SR-R DPP40SG	3mm - .118"	22mm -.866"								○					●	
	73310182482		DNPG-25 404-1SR-R DPP40SG	4mm - .157"	25mm -.984"								○					●	
	73310182483		DNPG-25 404-1SR-R DPP40SG	5mm - .197"	25mm -.984"								○					●	

"G" Style Left Hand 		Left Hand											○					●	
	73310182484	Grooving Parting-Off	DNPG-22 206-1SR-L DPP40SG	2mm - .079"	22mm-.866"								○					●	
	73310182485		DNPG-22 306-1SR-L DPP40SG	3mm - .118"	22mm -.866"								○					●	
	73310182486		DNPG-25 404-1SR-L DPP40SG	4mm - .157"	25mm -.984"								○					●	
	73310182487		DNPG-25 404-1SR-L DPP40SG	5mm - .197"	25mm -.984"								○					●	

"S" Square Nose		Neutral																	
	73310182490	Grooving Parting-Off	DNPS-22 2002-2EU-N DUP25UG	2mm - .079"	22mm-.866"								●					●	
	73310182491		DNPS-22 2002-2EU-N DPP40SG	2mm - .079"	22mm-.866"													●	
	73310182492		DNPS-22 3002-2EU-N DUP25UG	3mm - .118"	22mm -.866"								●					●	
	73310182493		DNPS-22 3002-2EU-N DPP40SG	3mm - .118"	22mm -.866"													●	
	73310182494		DNPS-25 4003-2EU-N DUP25UG	4mm - .157"	25mm -.984"								●					●	
	73310182495		DNPS-25 4003-2EU-N DPP40SG	4mm - .157"	25mm -.984"													●	
	73310182496		DNPS-25 4004-2EU-N DUP25UG	4mm - .157"	25mm -.984"								●					●	
	73310182497		DNPS-25 4004-2EU-N DPP40SG	4mm - .157"	25mm -.984"													●	

Insert Specification

Double-End Cutting Edge Insert

DNTQ-N-_____DUP25UG



Neutral Straight Nose

Multi Cutting Direction
Right Hand and Left Hand

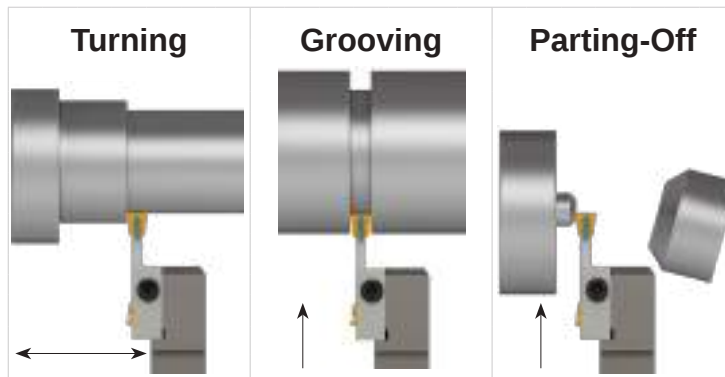
Cutting Data

Insert	Maximum ap Depth of Cut for Turning	Maximum fn Feed Rate for Turning Grooving Parting-Off
Dimension		
Width	Length	Radius
2mm	22mm	0.002
3mm	22mm	0.003
4mm	25mm	0.004
5mm	25mm	0.004
6mm	25mm	0.004
	inch	mm
	0.039	1.00
	0.059	1.50
	0.079	2.00
	0.098	2.50
	0.118	3.00
	i/rev.	mm/rev
	0.006	0.15
	0.008	0.20
	0.009	0.23
	0.010	0.25
	0.012	0.30

Cutting Speeds

Material		Vc (SFM)			
Steel		F/min.		m/min.	
P	Carbon Steel	363	627	110	190
	Low Alloy Steel	363	594	110	180
	H T Alloy Steel	231	528	70	160
Stainless Steel					
M	Ferritic	396	660	120	200
	Austenitic	330	561	100	170
	Duplex	231	363	70	110
	Martensitic	198	297	60	90
Cast Iron					
K	Gray Cast Iron	330	660	100	200
	Modular Cast Iron	330	594	100	180
	Malleable Cast Iron	264	528	80	160
Non Ferrous Metals					
N	Unleaded Copper	373	825	113	250
	Brass	663	1472	201	446
	Unleaded Bronze	287	495	87	150
Super Alloys					
S	Iron Base	86	172	26	52
	Nickel Base	53	116	16	35
	Titanium	198	429	60	130

Insert Application



Multi Cutting Direction

Insert Geometry, Material Application

Steel	Stainless Steel	Cast Iron	Non Ferrous	Super Alloys
•	•	•	○	○

• First Choice Grade

○ Second Best

Inserts Description

Insert Part Number

DNTQ-22 2002-3EU-N DUP25UG
DNTQ-22 3003-3EU-N DUP25UG
DNTQ-25 4004-3EU-N DUP25UG
DNTQ-25 5004-3EU-N DUP25UG
DNTQ-25 6004-3EU-N DUP25UG

DUP25UG Insert Grade

Material Application

P25	M25	K30	N30	S30
•	•	•	○	○
Wear Resistant		Toughness		
01	10	20	30	40
				50

Grade Specification

Grain Size .7-1 µm
Coating, PVD TiAlN 4 µm
High Wear Resistant
Impact Resistant
Universal Application at Medium Vc

Insert Cuttig Geometry Specification

Good Chip Control
Honed Cutting Edge
Universal Application
Turning, Grooving, Parting-Off
For all the Material Application

Insert Specification

Double-End Cutting Edge Insert

DNTR-N-_____DUP25UG



Neutral Round Nose

Multi Cutting Direction
Right Hand and Left Hand

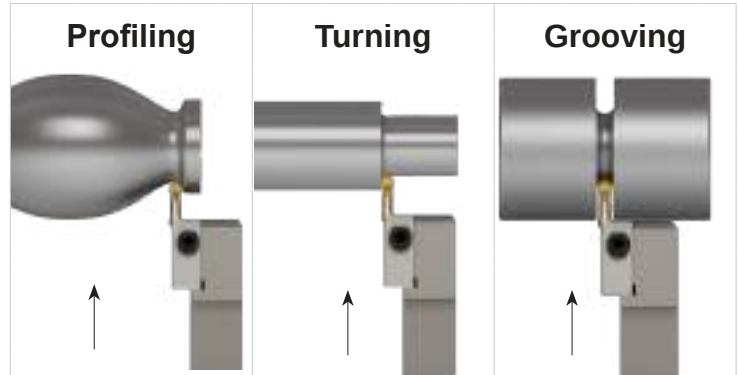
Cutting Data

Insert			Maximum ap Depth of Cut for Turning			Maximum fn Feed Rate for Turning Grooving Parting-Off	
Dimension							
Width	Length	Radius	inch	mm		i/rev.	mm/rev
2mm	22mm	1.0	0.039	1.00		0.010	0.25
3mm	22mm	1.5	0.059	1.50		0.012	0.30
4mm	25mm	2.0	0.079	2.00		0.014	0.35
5mm	25mm	3.0	0.098	2.50		0.016	0.40

Cutting Speeds

Material		Vc (SFM)			
Steel		F/min.		m/min.	
P	Carbon Steel	363	627	110	190
	Low Alloy Steel	363	594	110	180
	H T Alloy Steel	231	528	70	160
Stainless Steel					
M	Ferritic	396	660	120	200
	Austenitic	330	561	100	170
	Duplex	231	363	70	110
	Martensitic	198	297	60	90
Cast Iron					
K	Gray Cast Iron	330	660	100	200
	Modular Cast Iron	330	594	100	180
	Malleable Cast Iron	264	528	80	160
Non Ferrous Metals					
N	Unleaded Copper	373	825	113	250
	Brass	663	1472	201	446
	Unleaded Bronze	287	495	87	150
Super Alloys					
S	Iron Base	86	172	26	52
	Nickel Base	53	116	16	35
	Titanium	198	429	60	130

Insert Application



Multi Cutting Direction

Insert Geometry, Material Application

Steel	Stainless Steel	Cast Iron	Non Ferrous	Super Alloys
•	•	•	○	○

• First Choice Grade

○ Second Best

Inserts Description

Insert Part Number

DNTR-22 2010-3EU-N DUP25UG
DNTR-22 3015-3EU-N DUP25UG
DNTR-25 4020-3EU-N DUP25UG
DNTR-25 5025-3EU-N DUP25UG
DNTR-25 6030-3EU-N DUP25UG

DUP25UG Insert Grade

Material Application

P25	M25	K30	N30	S30
•	•	•	○	○
Wear Resistant			Toughness	
01	10	20	30	40 50

Grade Specification

Grain Size .7-1 µm
Coating, PVD TiAlN 4 µm
High Wear Resistant
Impact Resistant
Universal Application at Medium Vc

Insert Cuttng Geometry Specification

Good Chip Control
Honed Cutting Edge
Universal Application
Profiling, Turning, Grooving
For all the Material Application

Insert Specification

Double-End Cutting Edge Insert

DNPE-N/R/L-_____DUP25UG



Straight, Right, Left Nose

Multi Parting-Off Direction

Straight, Right Hand and Left Hand

Cutting Data

Insert

Maximum
f_n
Feed Rate
for
Turning
Parting-Off

Dimension

Width	Length	Radius			i/rev.	mm/rev
2mm	22mm	0.002			0.004	0.10
3mm	22mm	0.003			0.006	0.15
4mm	25mm	0.004			0.008	0.20
5mm	25mm	0.004			0.010	0.25

Cutting Speeds

Material		Vc (SFM)			
Steel		F/min.		m/min.	
P	Carbon Steel	363	627	110	190
	Low Alloy Steel	363	594	110	180
	H T Alloy Steel	231	528	70	160
Stainless Steel					
M	Ferritic	396	660	120	200
	Austenitic	330	561	100	170
	Duplex	231	363	70	110
	Martensitic	198	297	60	90
Cast Iron					
K	Gray Cast Iron	330	660	100	200
	Modular Cast Iron	330	594	100	180
	Malleable Cast Iron	264	528	80	160
Non Ferrous Metals					
N	Unleaded Copper	373	825	113	250
	Brass	663	1472	201	446
	Unleaded Bronze	287	495	87	150
Super Alloys					
S	Iron Base	86	172	26	52
	Nickel Base	53	116	16	35
	Titanium	198	429	60	130

Insert Application

Grooving



Parting-Off



Multi Cutting Direction

Insert Geometry, Material Application

Steel	Stainless Steel	Cast Iron	Non Ferrous	Super Alloys
•	•	•	○	○

• First Choice Grade

○ Second Best

Inserts Description

Insert Part Number

Neutral Cutting Direction

DNPE-22 2002-2EF-N DUP25UG
 DNPE-22 2002-2EF-N DUP25UG
 DNPE-25 4003-2EF-N DUP25UG
 DNPE-25 5004-2EF-N DUP25UG

R H Cutting Direction

DNPE-22 20-6-2EF-R DUP25UG
 DNPE-22 30-6-2EF-R DUP25UG
 DNPE-25 40-4-2EF-R DUP25UG
 DNPE-25 50-4-2EF-R DUP25UG

LR H Cutting Direction

DNPE-22 20-6-2EF-L DUP25UG
 DNPE-22 30-6-2EF-L DUP25UG
 DNPE-25 40-4-2EF-L DUP25UG
 DNPE-25 40-4-2EF-L DUP25UG

DUP25UG Insert Grade

Material Application

P25	M25	K30	N30	S30	
●	●	●	○	○	
Wear Resistant		Toughness			
01	10	20	30	40	50

Grade

Specification

Grain Size .7-1 μm
 Coating, PVD TiAlN 4 μm
 High Wear Resistant
 Impact Resistant
 Universal Application at Medium Vc

Insert Cuttng

Geometry

Specification

Cutting geometry with Low Cutting Force
 Best for Parting-Off thin wall tubing
 Small Diameter workpiece
 Low to Medium Material Strength
 Positive Rake, honed Sharp cutting edge
 Good Chip Control and low edge build-up

Insert Specification

Double-End Cutting Edge

DNPG-N/R/L- _____ DPP40SG



Straight, Right, Left Nose

Multi Parting-Off Direction

Straight, Right Hand and Left Hand

Cutting Data

Insert

Maximum
f_n
Feed Rate
for
Turning
Parting-Off

Dimension

Width	Length	Radius			i/rev.	mm/rev
2mm	22mm	0.002			0.006	0.15
3mm	22mm	0.003			0.008	0.20
4mm	25mm	0.004			0.089	2.25
5mm	25mm	0.004			0.108	2.75
6mm	25mm	0.004			0.012	0.30

Cutting Speeds

Material		Vc (SFM)			
Steel		F/min.		m/min.	
P	Carbon Steel	264	495	80	150
	Low Alloy Steel	198	429	60	130
	H.T Alloy Steel	198	330	50	100
Stainless Steel					
M	Ferritic	330	594	100	180
	Austenitic	264	495	80	150
	Duplex	231	363	70	110
	Martensitic	198	297	60	90
Cast Iron					
K	Gray Cast Iron	264	561	80	170
	Modular Cast Iron	297	495	90	150
	Malleable Cast Iron	231	462	70	140

Insert Application

Grooving



Parting-Off



Multi Cutting Direction

Insert Geometry, Material Application

Steel	Stainless Steel	Cast Iron	Non Ferrous Metal	Super Alloys
•	•			

• First Choice Grade

○ Second Best

Inserts Description

Insert Part Number

Neutral Cutting Direction

DNPG-22 2002-1SR-N DPP40SG
DNPG-22 3002-1SR-N DPP40SG
DNPG-25 4003-1SR-N DPP40SG
DNPG-25 5004-1SR-N DPP40SG
DNPG-25 6004-1SR-N DPP40SG

R H Cutting Direction

DNPG-22 206-1SR-R DPP40SG
DNPG-22 306-1SR-R DPP40SG
DNPG-25 404-1SR-R DPP40SG
DNPG-25 404-1SR-R DPP40SG

LR H Cutting Direction

DNPG-22 206-1SR-L DPP40SG
DNPG-22 306-1SR-L DPP40SG
DNPG-25 404-1SR-L DPP40SG
DNPG-25 404-1SR-L DPP40SG

DPP40SG Insert Grade

Material Application

P30	M25	K30		
•	•	•		
Wear Resistant		Toughness		
01	10	20	30	40 50

Grade Specification

Grain Size 1- 1.5 μm, HV 1380
Coating, PVD TiAlN 7 μm
Tough and High Impact Resistant,
For Unstable Cutting Condition
Heavy Material Removal at low Vc

Insert Cutting Geometry Specification

The 'G' Style cutting geometry for machining
High Strength and Difficult Materials
The geometry of the Chip Breaker, allows
High Feed Rate and Heavy Material Removal
Negative Land and Heavy Honing strengthen
the Cutting Edge

Insert Specification

Double-End Cutting Edge Insert

DNPS-N-_____

DUP25UG
DPP40SG

Neutral

Righ Hand

Lef Hand

Straight, Right, Left Nose

Multi Parting-Off Direction

Straight, Right Hand and Left Hand

Cutting Data

Insert

Maximum
f_n
Feed Rate
for
Turning
Parting-Off

Dimension

Width	Length	Radius			i/rev.	mm/rev
2mm	22mm	0.002			0.004	0.10
3mm	22mm	0.003			0.006	0.15
4mm	25mm	0.004			0.008	0.20
5mm	25mm	0.004			0.010	0.25

Cutting Speeds

Material		Vc (SFM)			
Steel		F/min.		m/min.	
P	Carbon Steel	363	627	110	190
	Low Alloy Steel	363	594	110	180
	H T Alloy Steel	231	528	70	160
Stainless Steel					
M	Ferritic	396	660	120	200
	Austenitic	330	561	100	170
	Duplex	231	363	70	110
	Martensitic	198	297	60	90
Cast Iron					
K	Gray Cast Iron	330	660	100	200
	Modular Cast Iron	330	594	100	180
	Malleable Cast Iron	264	528	80	160
Non Ferrous Metals					
N	Unleaded Copper				
	Brass				
	Unleaded Bronze				
Super Alloys					
S	Iron Base				
	Nickel Base				
	Titanium				

Insert Application

Grooving



Parting-Off



Multi Cutting Direction

Insert Geometry, Material Application

Steel	Stainless Steel	Cast Iron	Non Ferrous Metal	Super Alloys
•	•		•	•

• First Choice Grade

○ Second Best

Inserts Description

Insert Part Number

Neutral Cutting Direction

DNPS-22 2002-2EU-N DUP25UG

DNPS-22 3002-2EU-N DUP25UG

DNPS-25 4003-2EU-N DUP25UG

DNPS-25 4004-2EU-N DUP25UG

Neutral Cutting Direction

DNPS-22 2002-2EU-N DPP40SG

DNPS-22 3002-2EU-N DPP40SG

DNPS-25 4003-2EU-N DPP40SG

DNPS-25 4004-2EU-N DPP40SG

Material Application Insert Grade DUP25UG

P30	M25	K30	N30	S30
•	•		•	•

Grade Specification

Grain Size .7-1 μm, HV1590
Coating, PVD TiAlN 4 μm
High Wear Resistant
Impact Resistant
Universal Application at Medium Vc

DPP40SG

P30	M25	K30	N30	S30
•	•		•	•

Grade Specification

Grain Size 1- 1.5 μm, HV 1380
Coating, PVD TiAlN 7 μm
Tough and High Impact Resistant,
For Unstable Cutting Condition
Best for Stainless Steel & Super Alloys

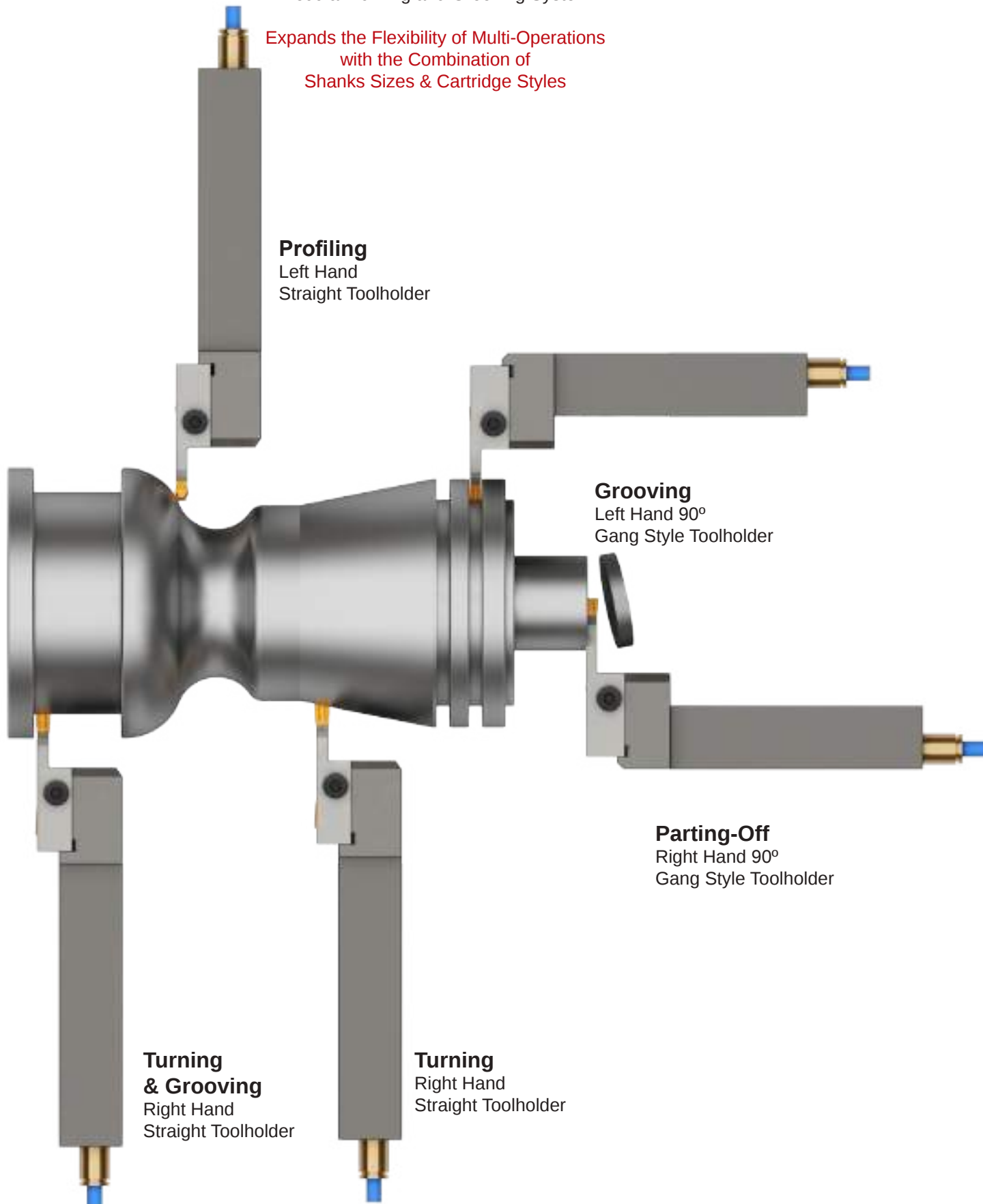
Insert Cutting Geometry Specification

The "S" Style cutting geometry Specific engineered for machining
Stainless Steel and Super Alloys
Positive Rake angle with a chip control geometry and honed cutting edge
for smooth machining surface, high cutting performance and insert life.

The KOOL Cut™

Modular Turning and Grooving System

Expands the Flexibility of Multi-Operations
with the Combination of
Shanks Sizes & Cartridge Styles



Profiling

Left Hand
Straight Toolholder

Grooving

Left Hand 90°
Gang Style Toolholder

Parting-Off

Right Hand 90°
Gang Style Toolholder

Turning & Grooving

Right Hand
Straight Toolholder

Turning

Right Hand
Straight Toolholder

The KOOL Cut™ Modular Turning and Grooving System

Built for Productivity!
Interchangeable Shanks Sizes & Cartridge Styles

- Rigidity
- Flexibility
- Precision
- Interchangeability
- Advanced Technology
- Repeatability
- Multi-Operation
- High Performance

KOOL Cut™ Modular Toolholder Shank

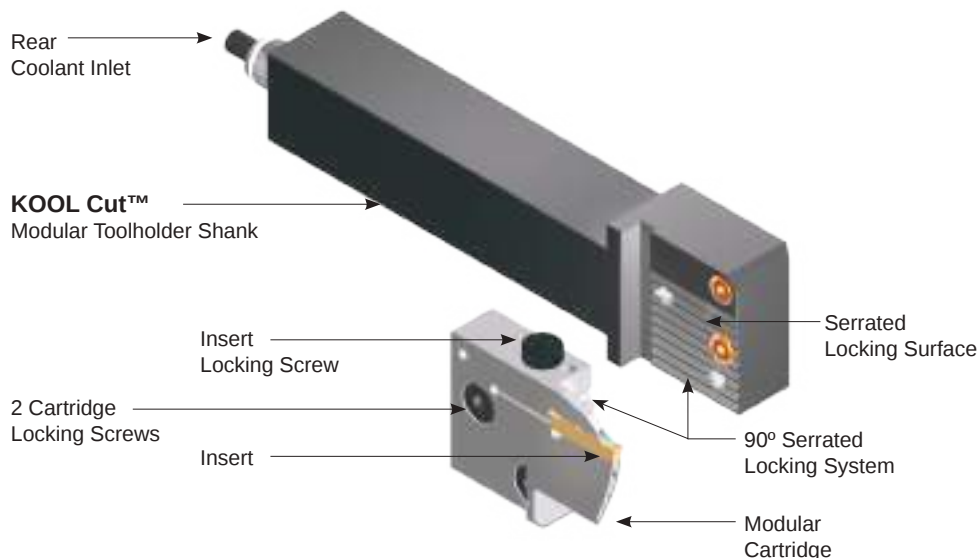
The 90° serrated wall of the Shank allows the cartridge to be locked on, with precise and repetitive accuracy, and rigidity.

Straight Toolholder Style 90° Gang Toolholder Style

3 Inch Sizes; 3/4", 1.0", 1 1/4"
3 Metric Sizes; 20mm, 25mm, 32mm

2 Cutting Direction Style:
Right Hand and Left Hand

Double Jet Coolant Inlet:
Rear Inlet and Bottom Inlet



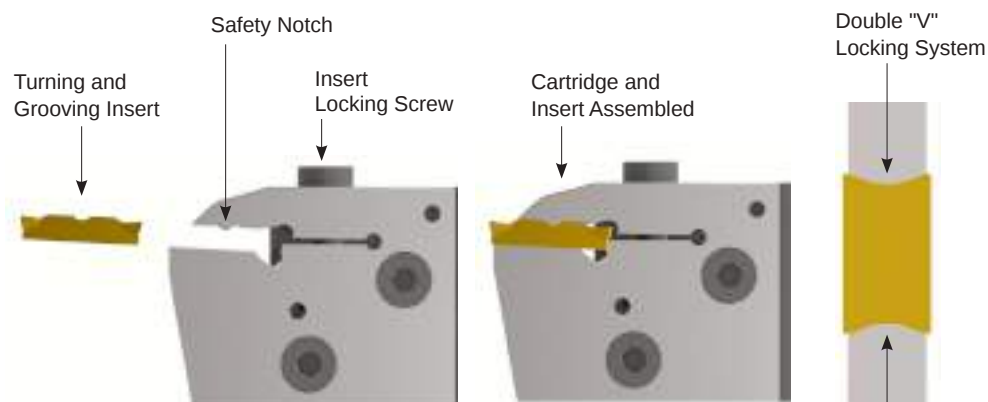
KOOL Cut™ Modular Cartridge

with the Double Jet-Coolant System
Every Cartridge, fits to any Toolholder
size and style

The 90° serrated wall of the Cartridge, will lock onto the toolholder shank with precise and repetitive accuracy, and rigidity

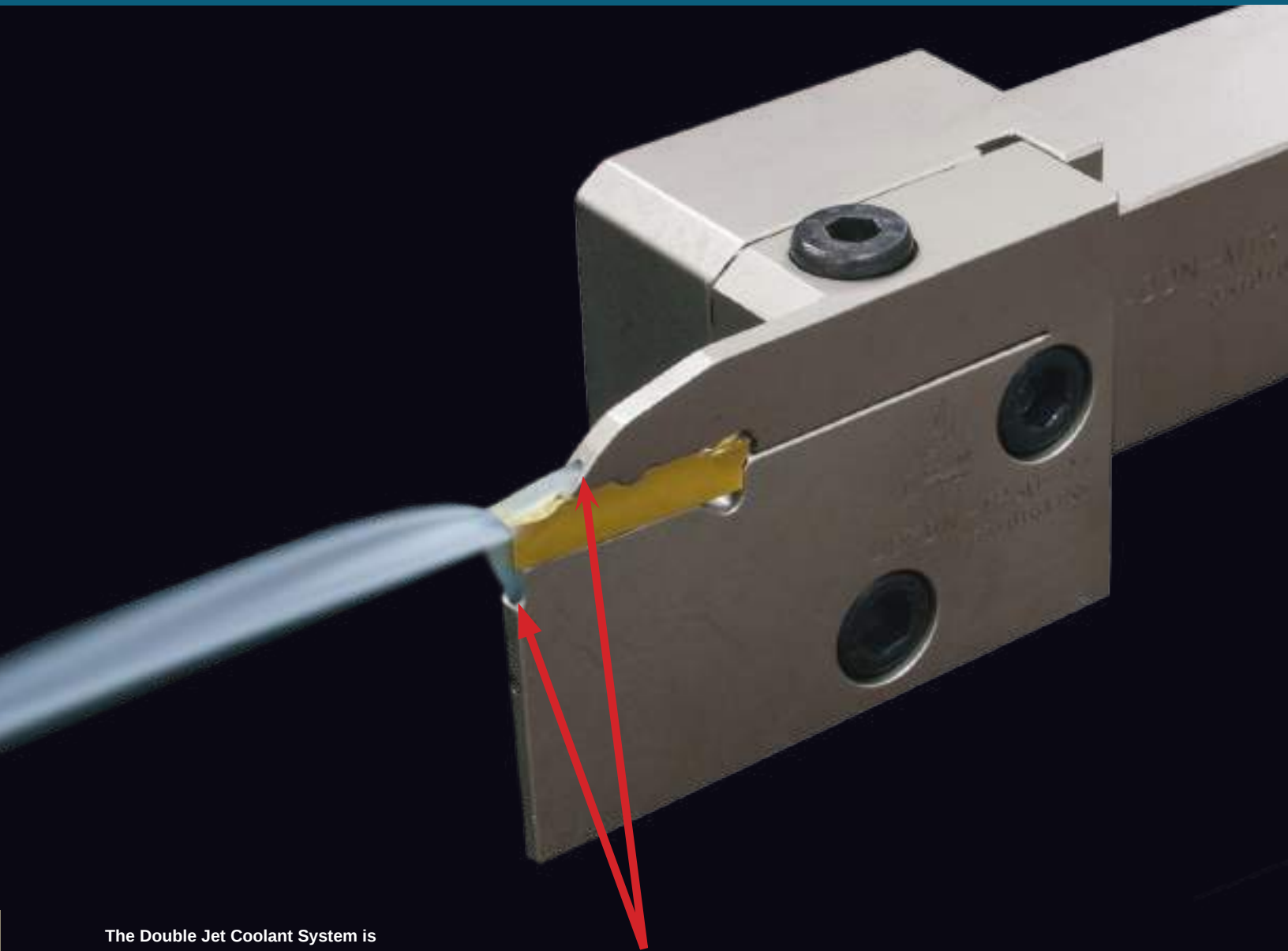
3 Cartridge Styles:
Turning and Grooving
Facing and Grooving
45° Grooving

"Safety Notch" Insert Locking System:
The locking Insert Prong has a built-in Safety Notch that fits to the Notched Insert. The Safety Notch, will assure that the insert is not pulled out from the toolholder during the grooving and cut-off operation.



KOOL Cut™ Modular Shank and Cartridge Assembly:

The 90° serrated walls of the Toolholder Shank and the Cartridge, are locked together with precise and repetitive accuracy, and rigidity as a single unit. Two (2) 6mm cap screws, locks the 2 units together, allowing simple and easy replacement of cartridges.



Double Jet Coolant System

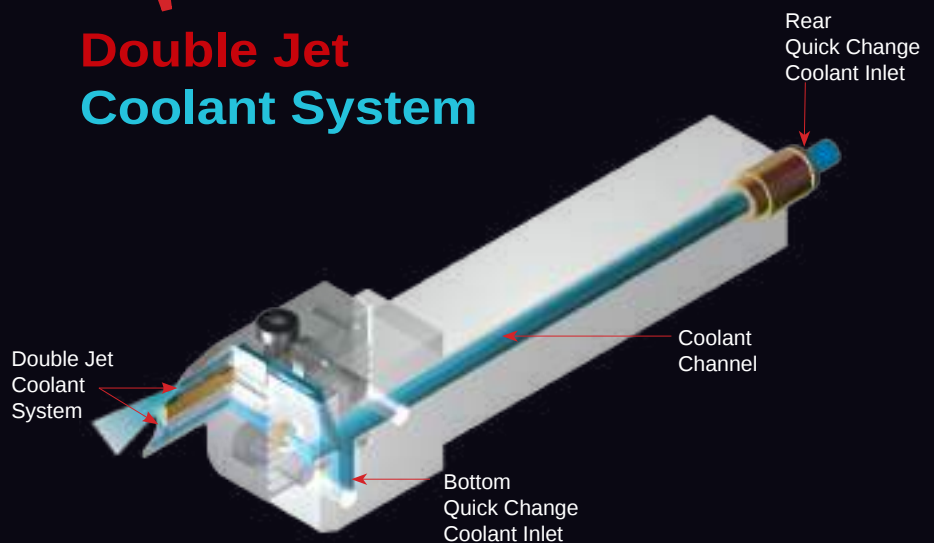
The Double Jet Coolant System is Designed with the coolant exiting from 2 outlets, above and below the insert cutting edge.

Above the insert cutting edge, the coolant is aimed precisely between the cutting edge of the insert and the chip.

Below the insert cutting edge, the coolant is aimed under the insert cutting edge and the workpiece surface.

With the combination of the 2 Coolant Jets, the friction of the cutting edge is reduced, the insert cutting edge is kept clean and at a constant temperature, reducing edge wear and chipping.

Consequently, the surface finish, work quality and tolerances are improved and the life of the insert is extended up to 100% over the conventional coolant system.



Left Hand Straight Toolholder Style KOOL Cut™ Modular

Turning, Facing & Grooving
Shank and Cartridges

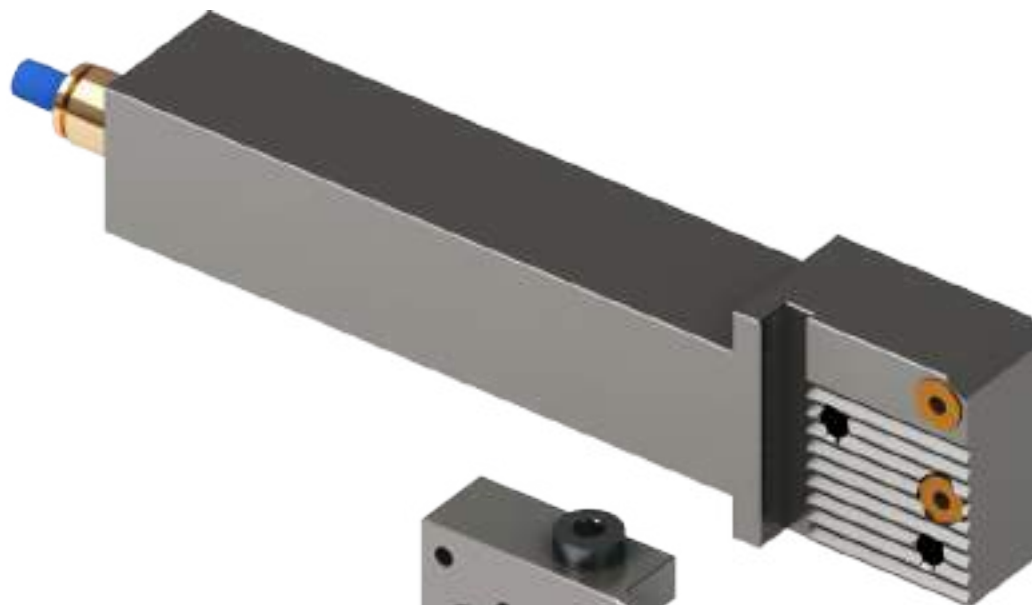
ADDN-MTL_
Left Hand Straight
Toolholder Style
Modular Shank
(Page F-32)

For

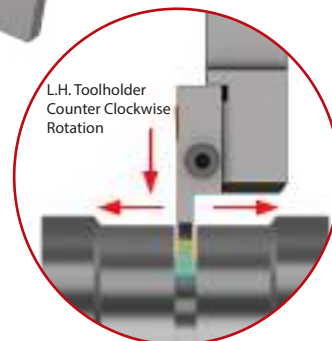
ADKDN-TL_
Left Hand
Turning & Grooving Cartridge
(Page F-35)

ADKDN-UL_
Left Hand
45 ° Grooving Cartridge
(Page F-35)

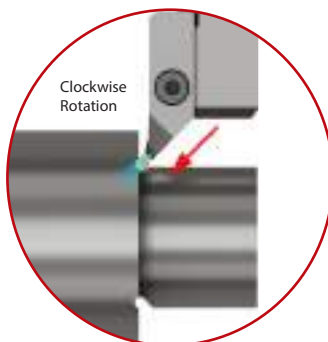
ADCDN-FL_
Left Hand
Facing & Grooving Cartridge
(Page F-40, F-41)



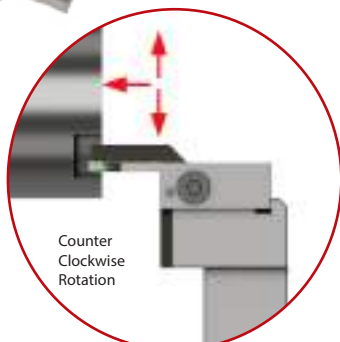
ADDN-MTL_



ADKDN-TL_



ADKDN-UL_

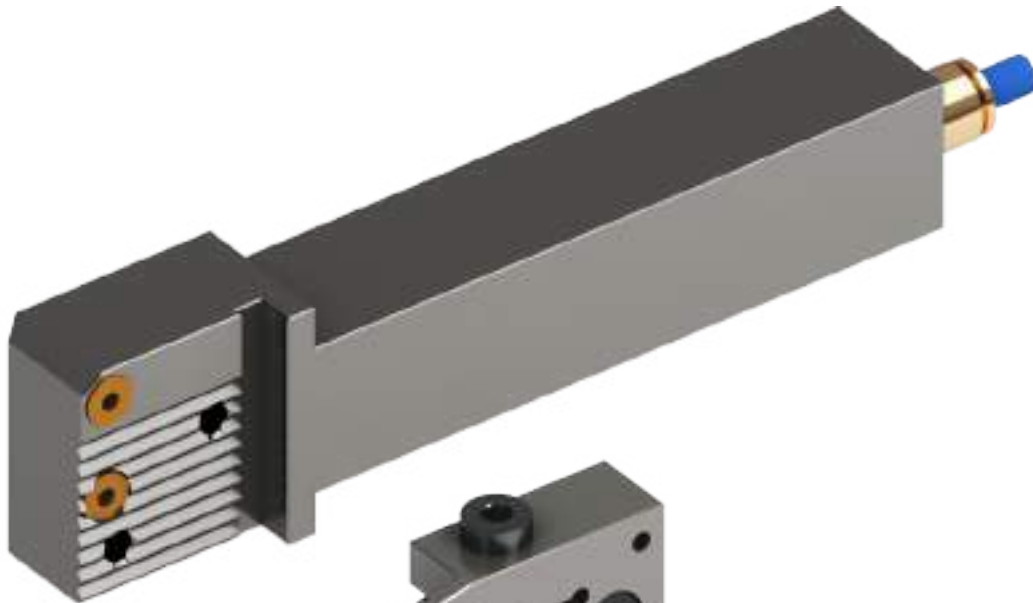


ADCDN-FL_

Note: The cartridges listed above will only work with the ADDN-MTL_ Left Hand Toolholder Style Modular Shank.

Right Hand Straight Toolholder Style KOOL Cut™ Modular

Turning, Facing & Grooving
Shank and Cartridges



ADDN-MTR_

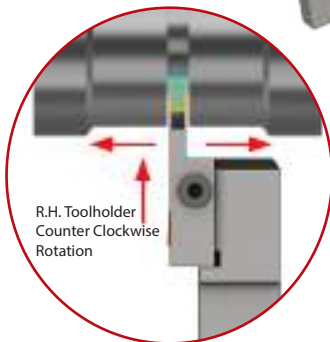
ADDN-MTR_
Right Hand Straight
Toolholder Style
Modular Shank
(Page F-33)

For

ADKDN-TR_
Right Hand
Turning & Grooving Cartridge
(Page F-36)

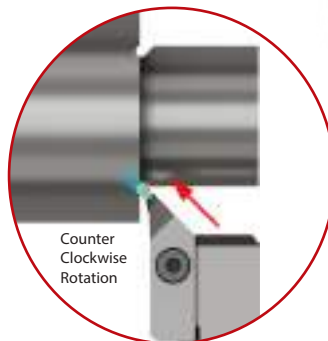
ADKDN-UR_
Right Hand
45 ° Grooving Cartridge
(Page F-21)

ADCDN-FR_
Right Hand
Facing & Grooving Cartridge



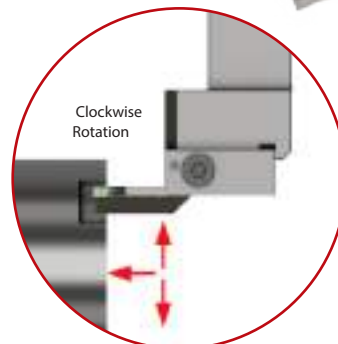
R.H. Toolholder
Counter Clockwise
Rotation

ADKDN-TR_



Counter
Clockwise
Rotation

ADKDN-UR_



Clockwise
Rotation

ADCDN-FR_

Note: The cartridges listed above will only
work with the ADDN-MTR_ Right Hand
Toolholder Style Modular Shank.

Left Hand 90° Gang Toolholder Style KOOL Cut™ Modular

Turning, Facing & Grooving
Shank and Cartridges

ADDN-MGL_

Left Hand
90° Gang Toolholder Style

Modular Shank
(Page F-15)

For

ADKDN-TL_

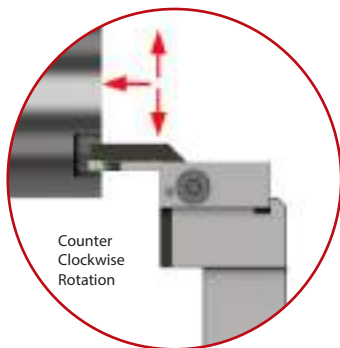
Left Hand
45° Grooving Cartridge
(Page F-16 - F-20)

ADKDN-UL_

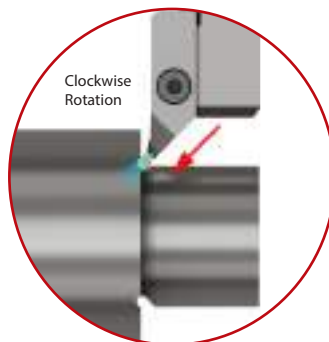
Left Hand
Turning & Grooving Cartridge
(Page F-21)

ADCDN-FL_

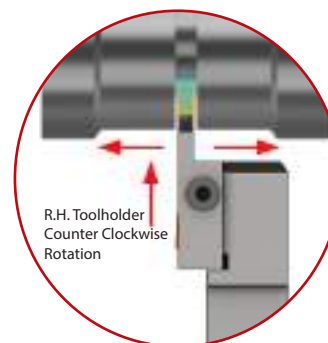
Left Hand
Facing & Grooving Cartridge
(Page F-22, F-24, F-26, F-28)



ADCDN-FL_



ADKDN-UL_



ADKDN-TL_

Note: The cartridges listed above will only work with the ADDN-MGL_ Left Hand 90° Gang Toolholder Style Modular Shank.

Right Hand 90° Gang Toolholder Style KOOL Cut™ Modular

Turning, Facing & Grooving
Shank and Cartridges

ADDN-MGR_

Right Hand
90° Gang Toolholder Style
Modular Shank
(Page F-15)

For

ADKDN-TR_

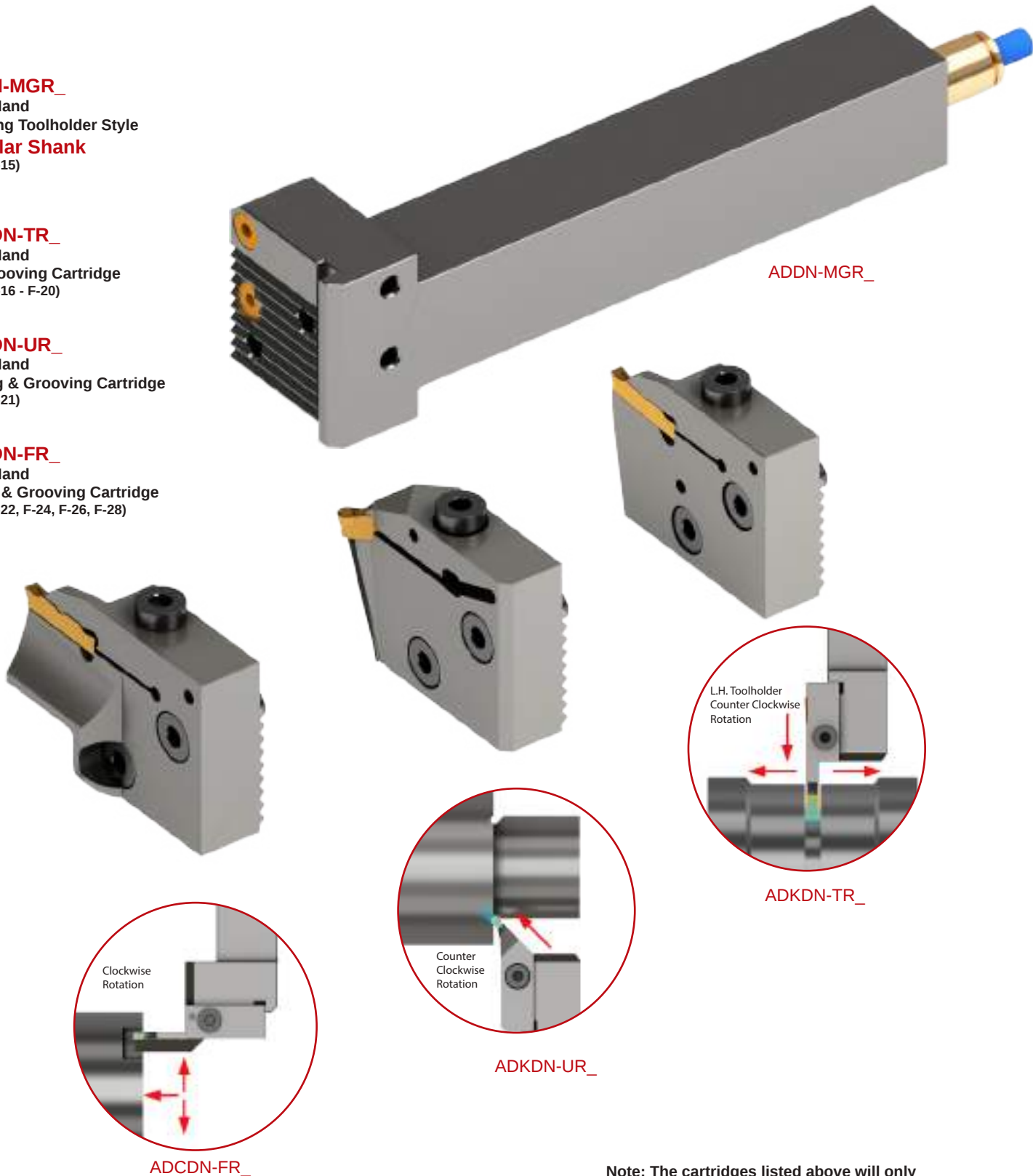
Right Hand
45° Grooving Cartridge
(Page F-16 - F-20)

ADKDN-UR_

Right Hand
Turning & Grooving Cartridge
(Page F-21)

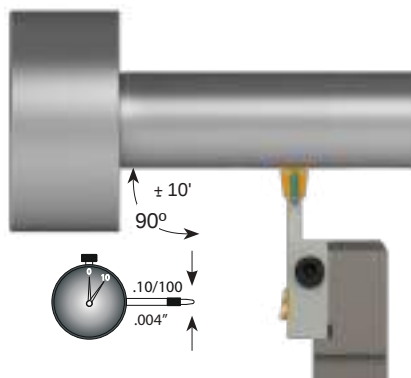
ADCDN-FR_

Right Hand
Facing & Grooving Cartridge
(Page F-22, F-24, F-26, F-28)



Note: The cartridges listed above will only work with the ADDN-MGR_ Right Hand 90° Gang Toolholder Style Modular Shank.

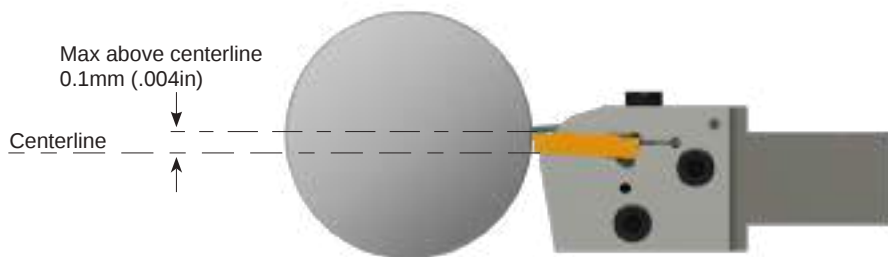
Tool Set-Up



Set the toolholder to be set-up square and perpendicular to the workpiece.

For best turning and grooving performance, surface finish and a straight and square face, the toolholder must be positioned at 90° within ± 10°

Tool Center Height

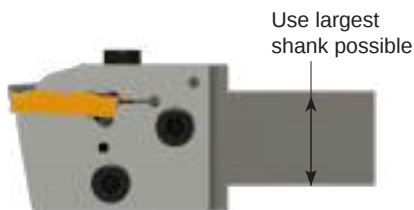


The cutting edge of the insert, should never be under the center line.

The if the insert is under the center line, it will cause vibration and cutting edge chipping.

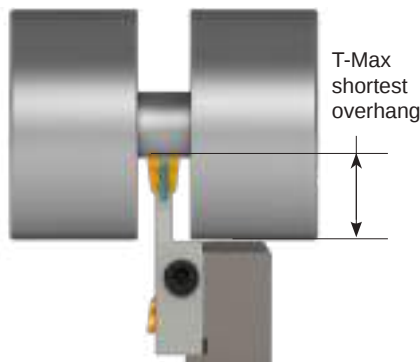
For best results set the insert .004" (0.1mm) above the center line.

Shank Size



For best turning and grooving performance, select a toolholder with the largest shank permissible, to eliminate chatter and provide rigidity.

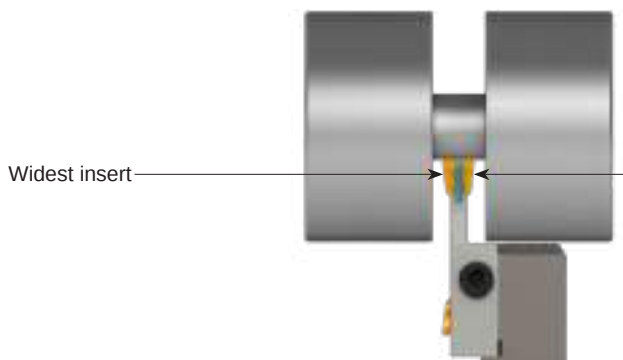
Extended "T" Depth of Cut



In Turning and grooving, rigidity is critical to achieve best cutting performance, surface finish, close tolerance and insert life.

When choosing the toolholder, always use the shortest "T" overhang possible, to avoid deflection under the cutting pressure.

Insert Width

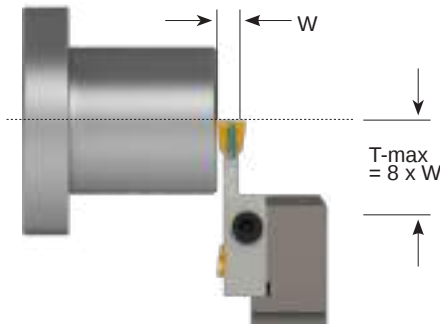


To maximize performance in turning and grooving operations choose the widest insert permissible.

A wide insert will not deflect under cutting pressure, allowing larger depth of cut, better surface finish and close tolerances.

Max.Grooving Depth

T-max



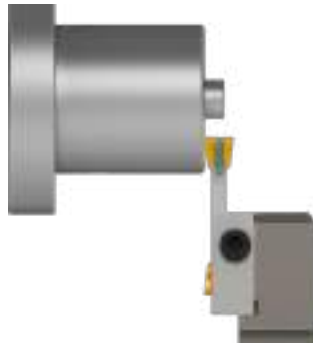
In Grooving and Parting-Off operation, for optimum results, the maximum grooving depth is directly related to the width and the geometry of the insert cutting edge.

T= For Straight Insert Cutting Edge,
8 x W (insert width)

T= For Angled Insert Cutting Edge,
6 x W (insert width)

Cutting Speed

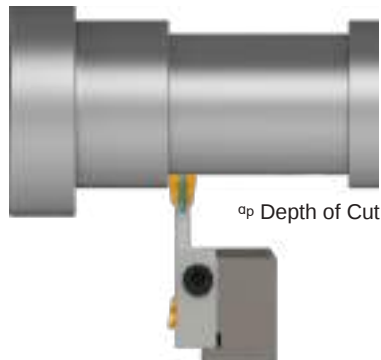
Vc



For a good surface finish, straight face and long insert life, a constant Vc must be applied, meaning as the insert approaches the center of the work piece, RPM must increase.

Depth of Cut

a_p



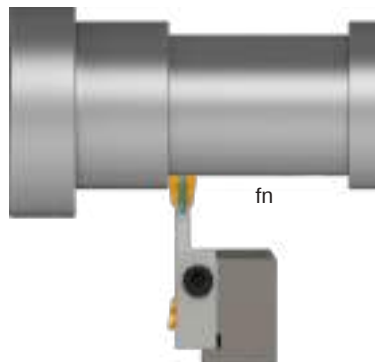
For best turning performance, chip control, and insert life under the best cutting condition with the shortest overhang, the depth of cut is not to exceed 50% of the width of the insert.

For Example:
5mm Insert Max Depth of Cut 2.5mm
.200" Insert Max Depth of .100"

Reduce the depth of cut with extended overhang. Vibration, insert chipping and toolholder breakage may result from an over extended tool.

Feed Rate

f_n

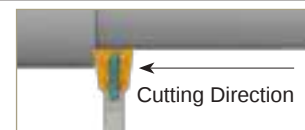
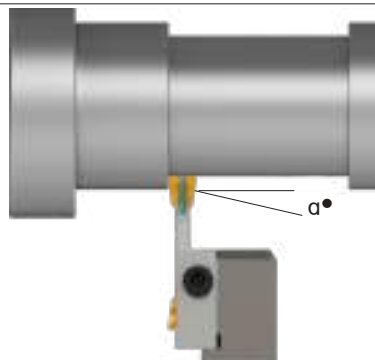


For best turning performance, chip control, and insert life under the best cutting condition with the shortest overhang, the feed rate is not to exceed 1/2 of the insert radius.

For Example:
.5mm Insert Radius Max. Feed Rate of .25mm/rev
.020" Insert Radius Max. Feed Rate of .010"/rev

Reduce the feed rate, with extended overhang. Vibration, insert chipping and toolholder breakage may result from an over extended tool.

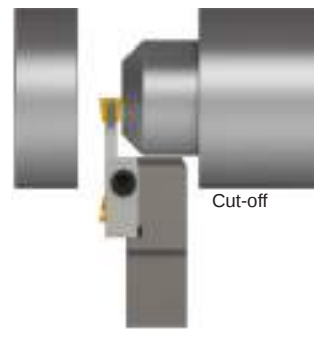
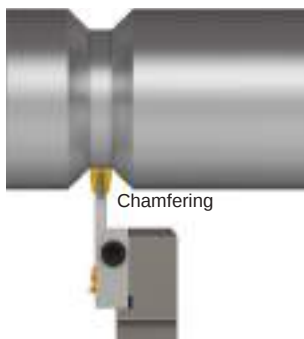
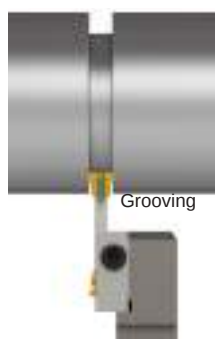
Wiper



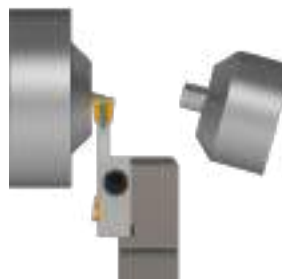
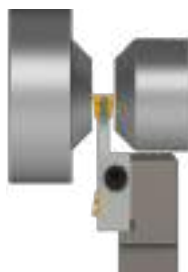
Under cutting pressure, the insert is pushed away from the cutting direction creating a relief angle on trailing side of the insert. This angle creates a Wiper action, resulting in a good surface finish.

The Wiper angle can be controlled with feed rate and depth of cut.

Multiple Operation



Straight Cutting Edge Insert



Use Turning and Grooving insert, with Straight Cutting Edge for fast material removal, good surface finish, deep grooving, parting-off and facing.

However, a second operation is required to remove the center tip of the workpiece when cut-off.

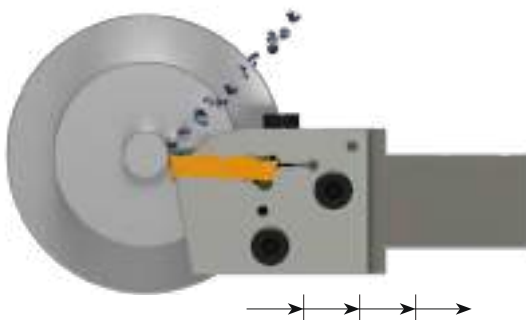
Angled Cutting Edge Face



Use Turning and Grooving insert, with Angled Cutting Edge to reduce the formation of center tip of workpiece when part-off eliminating the a secondary operations to remove the center tip.

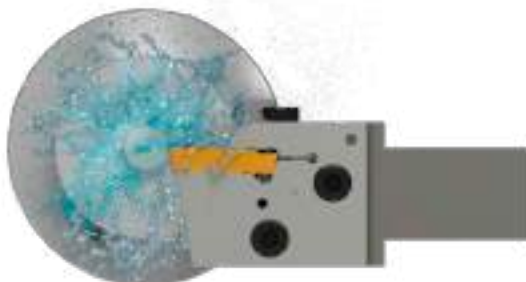
However to avoid tapered face and rough surface finish V_c and f_n , has to be reduced 20% to 30% compared to full face insert.

Pecking



When machining deep groove or parting large diameter above 8 times the width of the insert, it is a good practice to use pecking method to achieve a better swarf control and avoid clogging of the groove (major cause of premature insert failure.)

Coolant



The use of coolant in turning and grooving operations is critical to achieve best performance in quality, surface finish, and insert life. High pressure coolant is recommended to cool the insert cutting edge and force the chips to evacuate away from insert to avoid any built-up edge (the major cause of premature insert failure and rough surface finish.)

Grooving and Turning Method

Step 1. First Groove

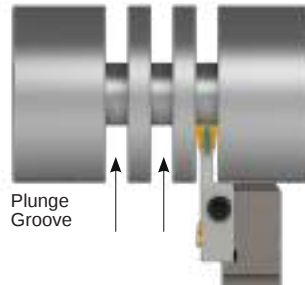


Set the toolholder close to starting point of the groove.

Cut the first groove above the diameter finish dimension.

Grooving and Turning Method

Step 2. Groove Roughing

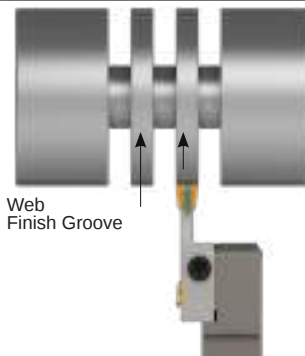


Repeat the operation in equal segments for the total length to be turned. The wall of the segment should be the width of the insert less 20%.

For Example:
5mm Insert Wall 4.5mm width
.200" Insert Wall .180" width

Grooving and Turning Method

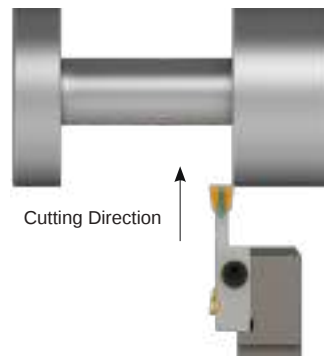
Step 3. Web Roughing



Cut the webs with the same diameter of the grooves

Grooving and Turning Method

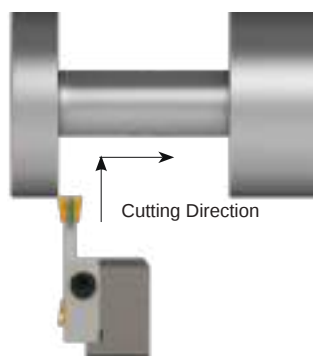
Step 4. First Finishing Cut



Face-off at finish dimension one side of the groove to the finished diameter, then retract the toolholder at 45° away from the wall.

Grooving and Turning Method

Step 5. Final Finishing Cut

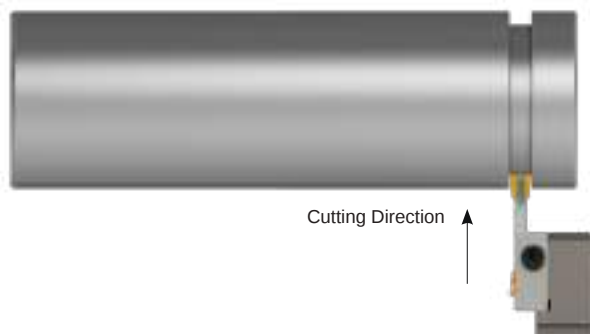


Move the toolholder on the other side of the wall of the groove, face-off to the finished diameter and continue to cut the entire surface till the other wall is reached, then retract the toolholder at 45° away from the wall.

Note: The Grooving & Turning Method is faster than Turning and Grooving Method, however only 2 sides of the insert are used.

Turning and Grooving Method

Step 1. Starting Groove



Set the toolholder close to the starting point of the groove

Cut the first groove to depth of the first roughing cutting diameter.

Turning and Grooving Method

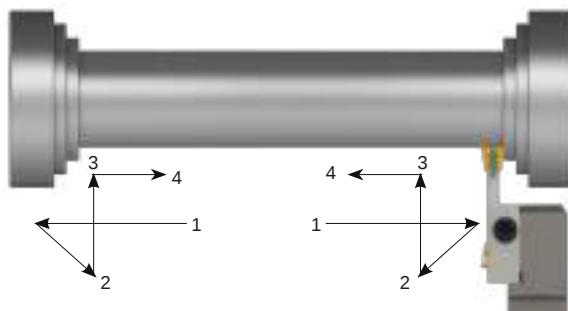
Step 2. First Turning Roughing Cut



Once the first groove is cut, feed the insert toward the other side of the workpiece. Cut till the end is reached then retract the toolholder at 45° away from the wall.

Turning and Grooving Method

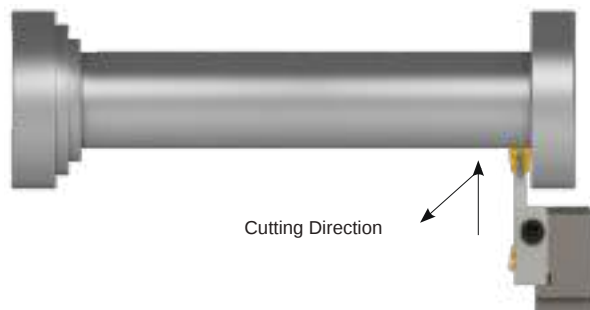
Step 3. Multi Turning Roughing Cut



After the first roughing cut, repeat the operation from side to side until the roughing operation is complete.

Turning and Grooving Method

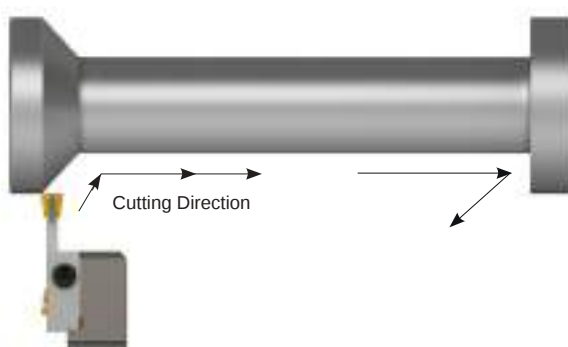
Step 4. First Finishing Cut



Face-off at finish dimension one side of the groove to the finished diameter, then retract the toolholder at 45° away from the wall.

Turning and Grooving Method

Step 5. Final Finishing Cut

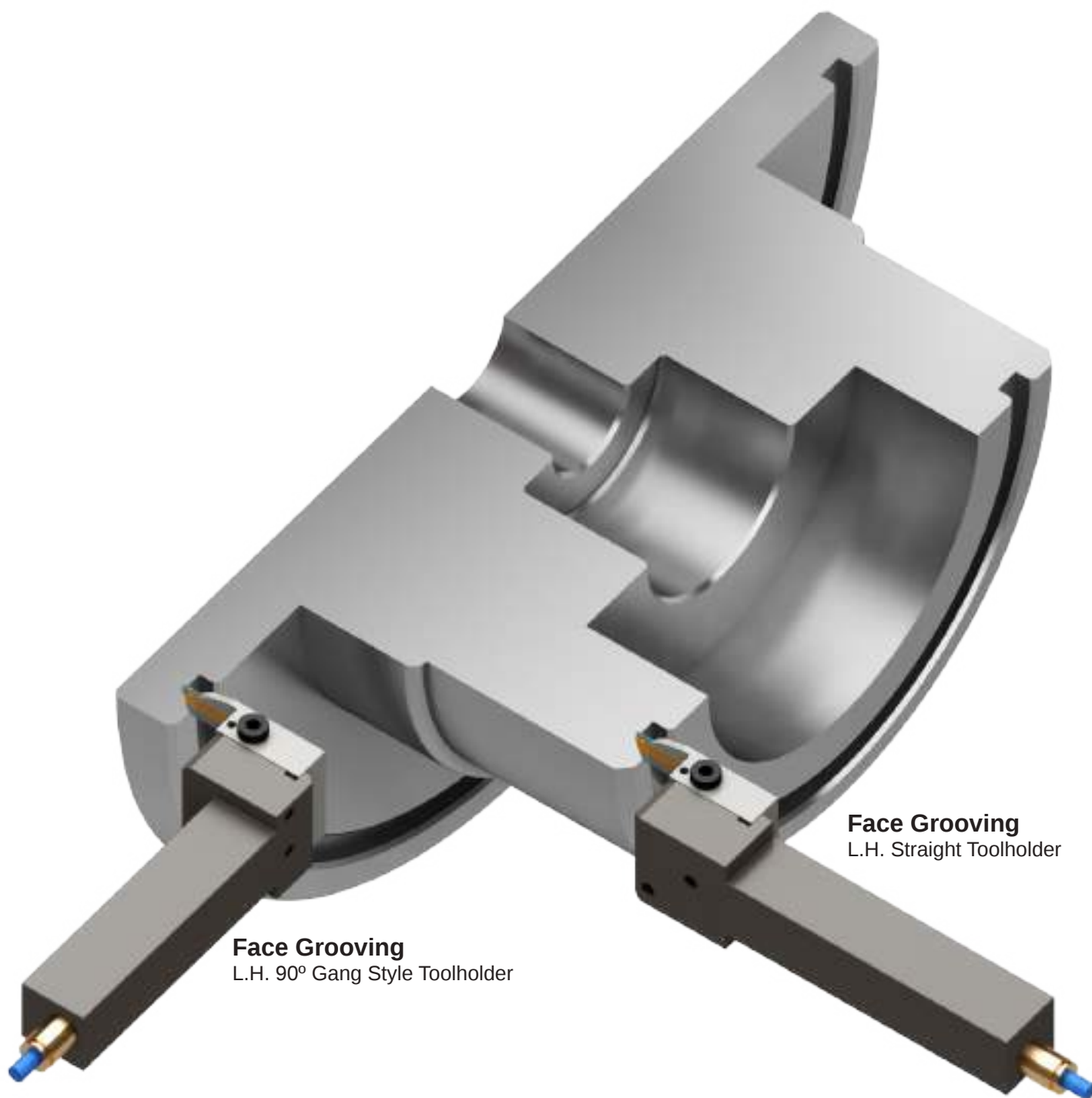


Move the toolholder on the other side of the wall of the groove, face-off to the finished diameter and continue to cut the entire surface till the other wall is reached, then retract the toolholder at 45° away from the wall.

Note: The Turning and Grooving Method, is slower than the Grooving and Turning Method, however the insert is fully utilized on all the 3 sides.

The KOOL Cut™
Modular Face Grooving System

Expands the Flexibility of Multi-Operations
with the Combination of
Shanks Sizes & Cartridge Styles



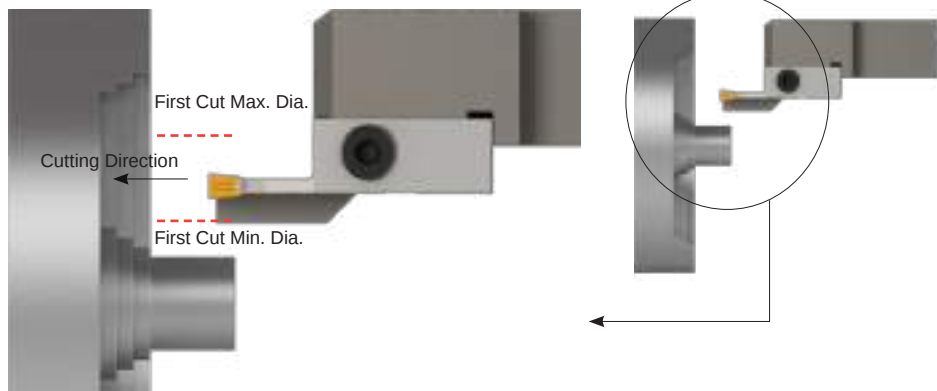
Face Grooving
L.H. 90° Gang Style Toolholder

Face Grooving
L.H. Straight Toolholder

Face Grooving

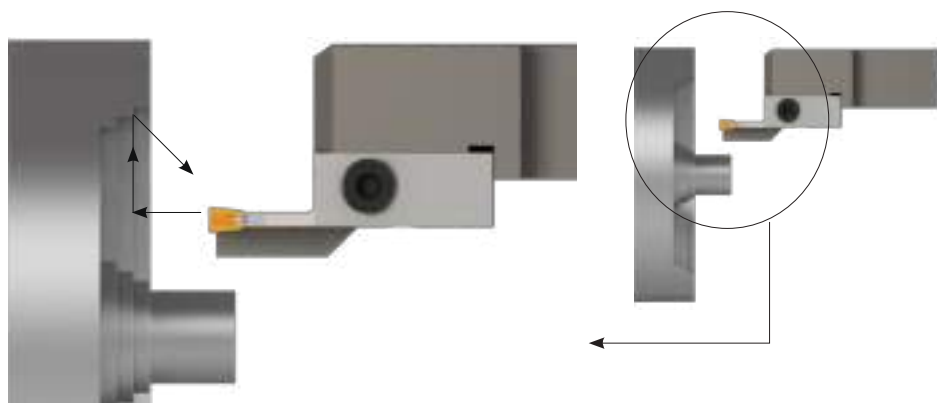
Step 1. First Grooving Cut

Plunge to first depth of cut inside the **safe first cut zone** specified in the catalog for each modular toolholder.



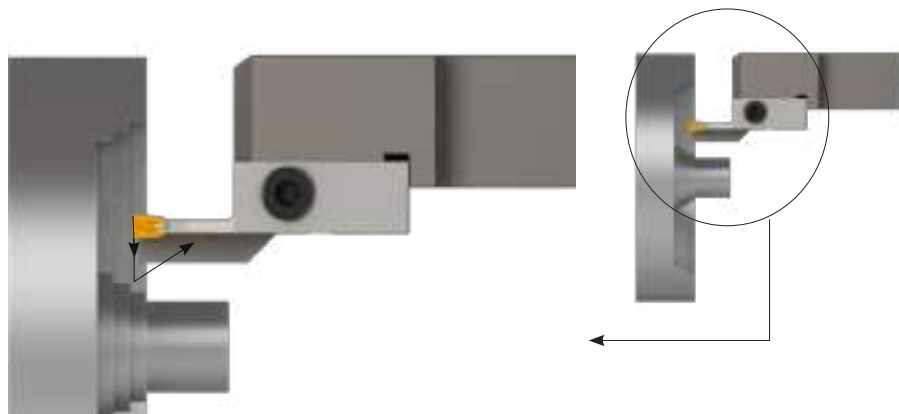
Step 2. First Roughing Cut

Enter the **safe zone** and continue to cut in the opposite direction as step no 2 to cut to desired dimension. Then pull away .010" (.25mm) at a 45° angle and retract tool.



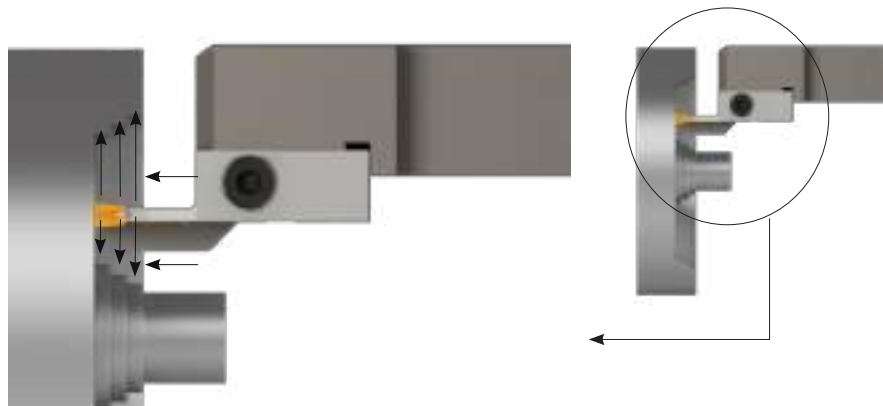
Step 3. Second Roughing Cut

Feed across the desired dimension. Then pull away .010" (.25mm) at a 45° angle and retract tool.



Step 4. Multi Turning Roughing Cut

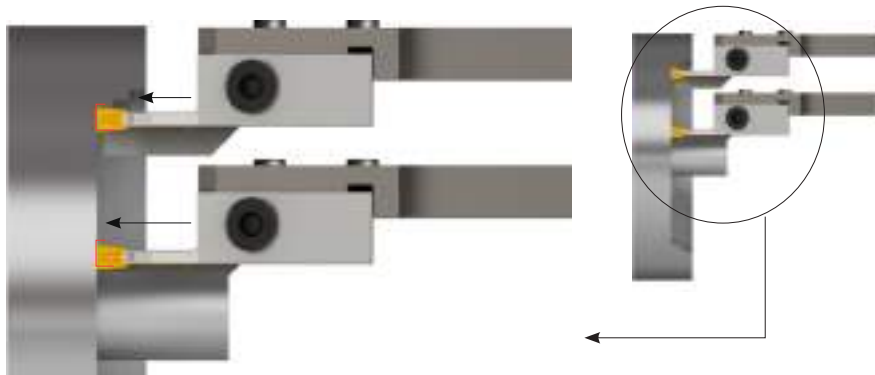
Repeat steps 1-3 until roughing is complete.



Face Grooving

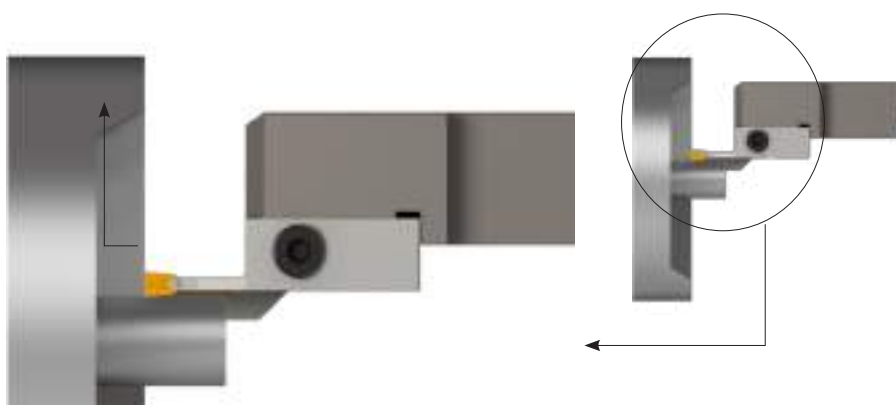
Step 5. Finish Depth of Cut

Plunge to the finished dimension at each corner to provide a relief allowing the tool to flex into position.



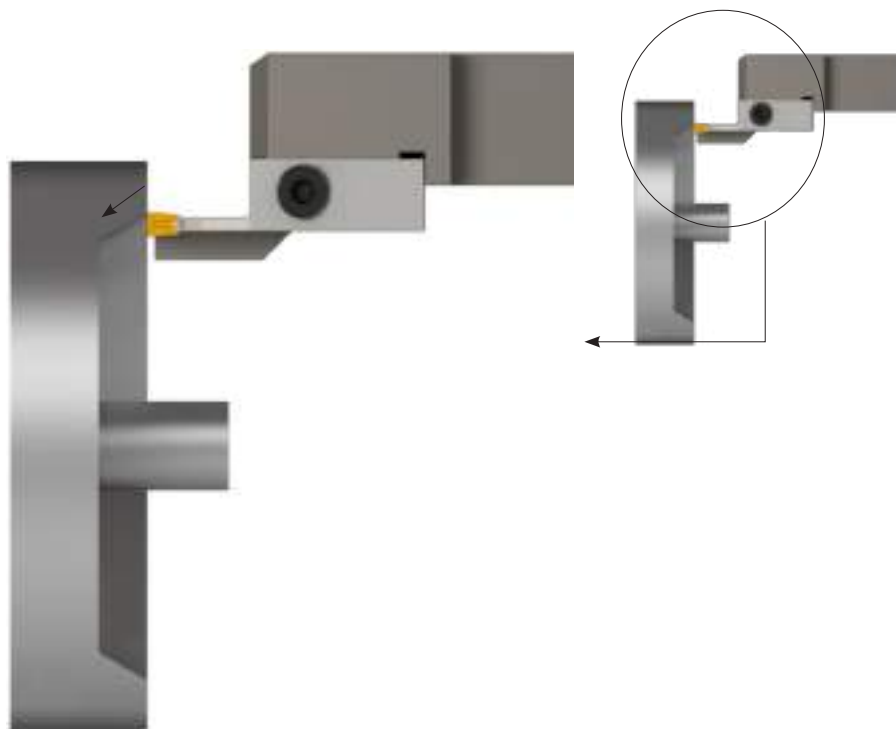
Step 6. First Finishing Cut

Cut inner side and the bottom of the face groove.



Step 7. Final Finishing Cut

Finish outer side.



Face Turning and Grooving Cutting Direction

Left Hand Modular
90° Gang Toolholder Style
Counter clock wise rotation



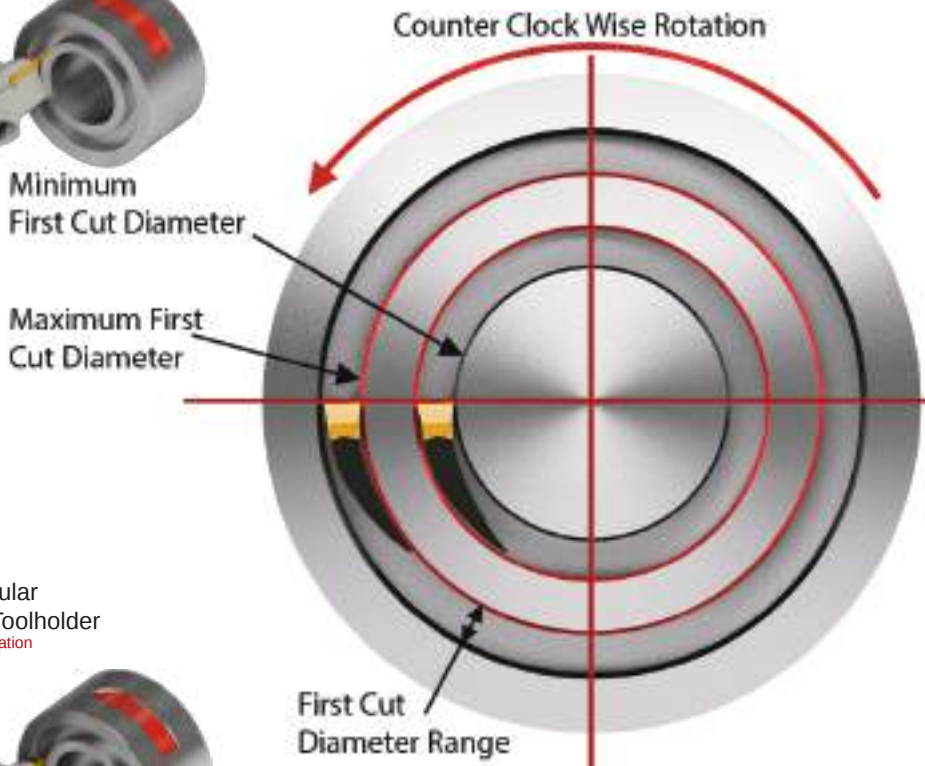
Right Hand Modular
90° Gang Toolholder Style
Clock wise rotation



Left Hand Modular
Straight Style Toolholder
Counter clock wise rotation



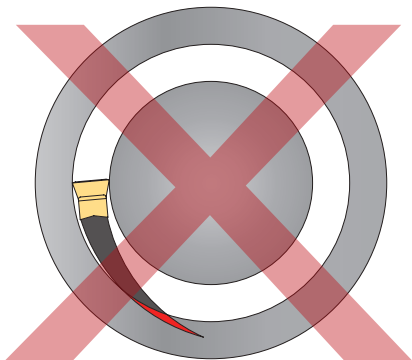
Right Hand Modular
Straight Style Toolholder
Clock wise rotation



Damage caused at the **First Cut** when tools are chosen incorrectly according to **min. and max. Dia.**

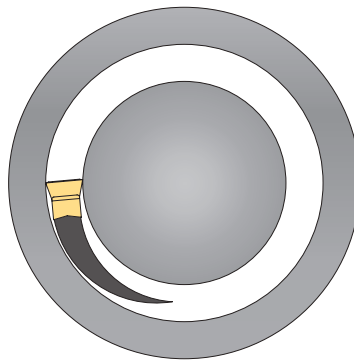
X Max. Dia. Too Small

If the Grooving Toolholder outside Anvil diameter is larger than the outer diameter, this will not execute the **First Cut** because the Anvil will interfere with the outer Diameter, damaging the part and the tool.



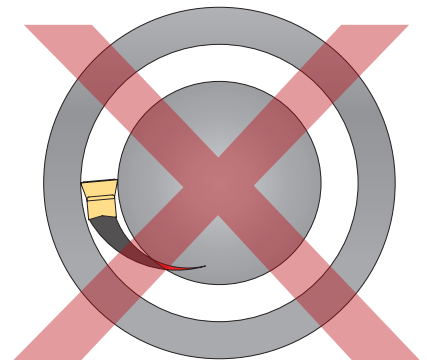
Correct First Cut Dia.

If the Grooving Toolholder outside Anvil diameter is small than the outer diameter, and Anvil inside diameter is larger than the inner diameter, the **First Cut** can be executed without interference with the matching part.

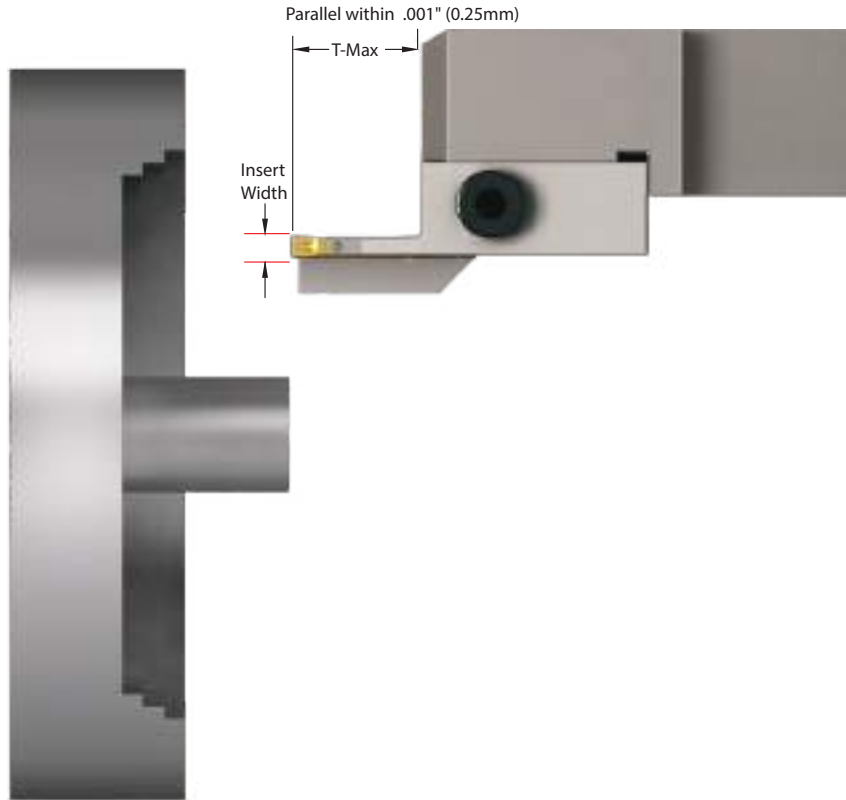


X Max. Dia. Too Large

If the Grooving Toolholder Anvil diameter is smaller than the inner diameter, this will not permit to execute the **First Cut** because the Anvil will interfere with the inner Diameter, damaging the part and the tool.



Modular Face Turning and Grooving Tool Selection



For best results choose the right tool accordingly based on the size of the face grooving to perform.

Step 1.

Use the widest insert and the largest toolholder permissible, (for a better rate of material removal, better rigidity and surface finish.)

Step 2.

Use the shortest grooving tool overhang (T-Max), (for a better rate of material removal, better rigidity and surface finish.)

Step 3.

Use the largest grooving tool with the maximum diameter in relation to the first grooving cut.

Step 4.

Ensure that the tool is exactly 90° to the work piece. The difference should be no greater than 10° to achieve straightness and reduce the tendency to cause vibration.

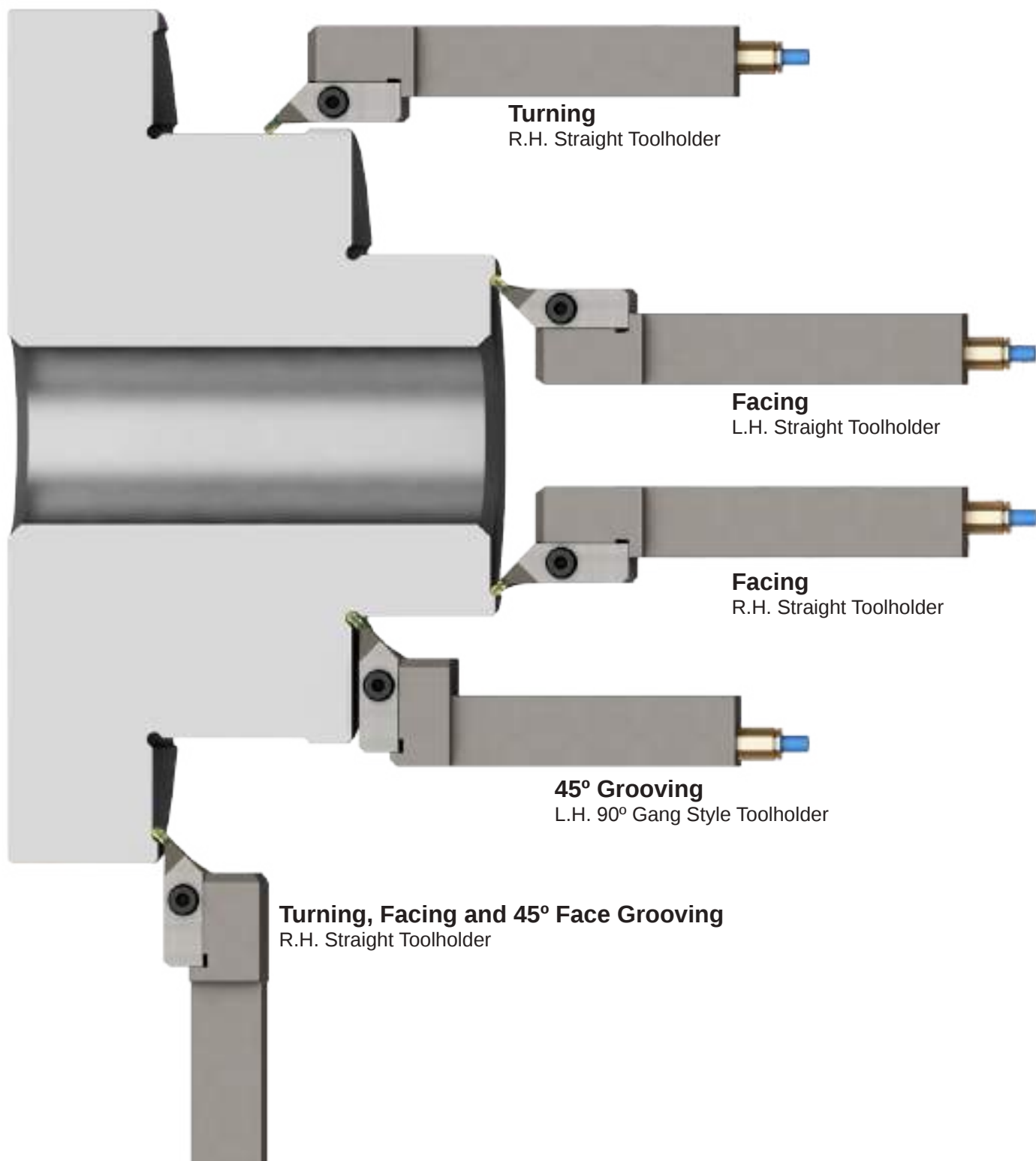
Step 5.

The cutting edge should be about 0,1mm over the middle, maximum $0,08\text{mm} + 2,5\%$ grooving width W. advantageous in parting of small material.

The KOOL Cut™

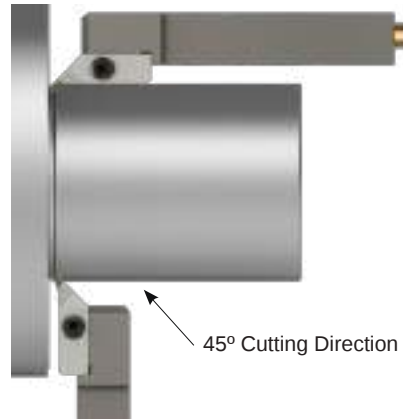
Modular 45° Turning and Grooving System

**Expands the Flexibility of Multi-Operations
with the Combination of
Shanks Sizes & Cartridge Styles**



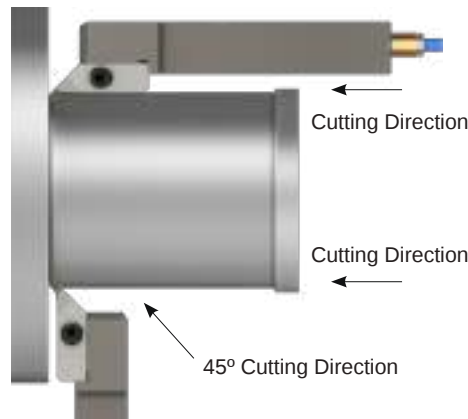
45° Grooving System-Multi Operation

45 ° Grooving



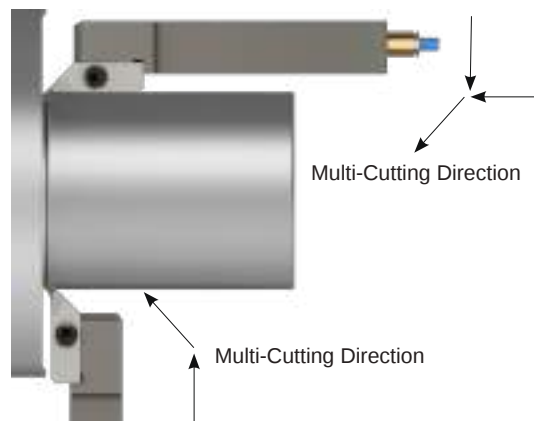
Grooving Maximum depth of Cut,
1 x Insert Diameter

Turning & 45 ° Grooving



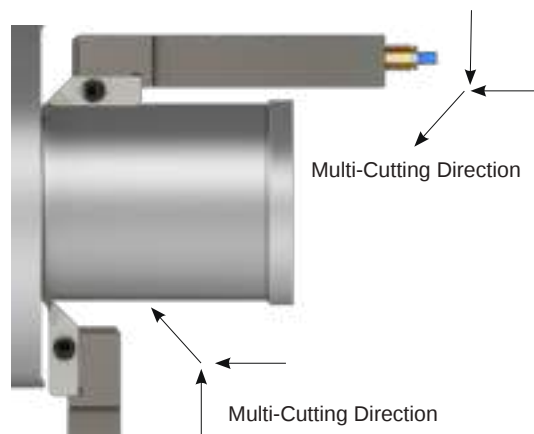
Turning Maximum depth of Cut,
2 x Insert Diameter

Facing & 45 ° Grooving



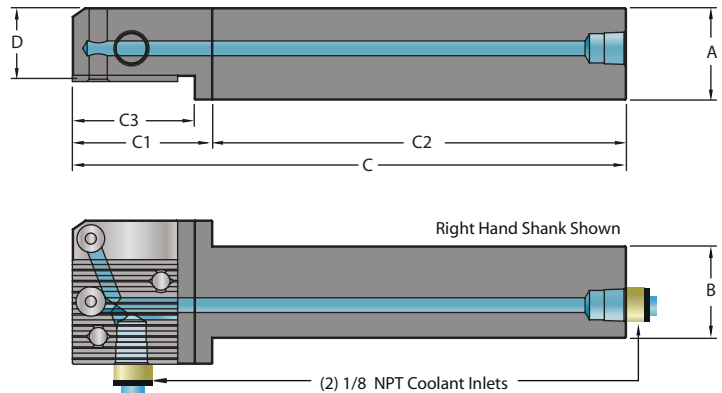
Facing Maximum depth of Cut,
2 x Insert Diameter

Turning, Facing & 45 ° Grooving



Turning and Facing Maximum depth of Cut,
2 x Insert Diameter

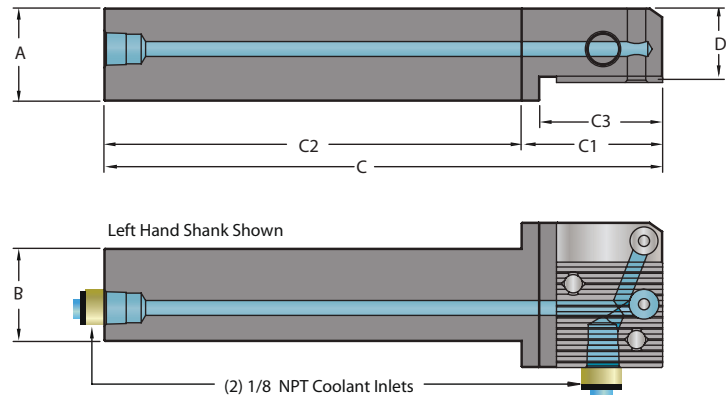
Right Hand KOOL Cut™ Modular Turning and Grooving Straight Toolholder Style Shank



Metric R.H. Shank Description	UPC No. 733101-	Shank Size	A	B	D	C	C1	C2	C3
ADDN-MTR-2020-C	61975	20mm	20	20	15	127	38	89	33
ADDN-MTR-2525-D	61976	25mm	25	25	20	140	38	102	33
ADDN-MTR-3232-E	61977	32mm	32	32	27	152	38	114	33

Inch R.H. Shank Description	UPC No. 733101-	Shank Size	A	B	D	C	C1	C2	C3
ADDN-MTR-12-C	61987	3/4"	0.750	0.750	0.59	5.00	1.50	3.50	1.30
ADDN-MTR-16-D	61988	1"	1.000	1.000	0.79	5.50	1.50	4.00	1.30
ADDN-MTR-20-E	61989	1 1/4"	1.250	1.250	1.06	6.00	1.50	4.50	1.30

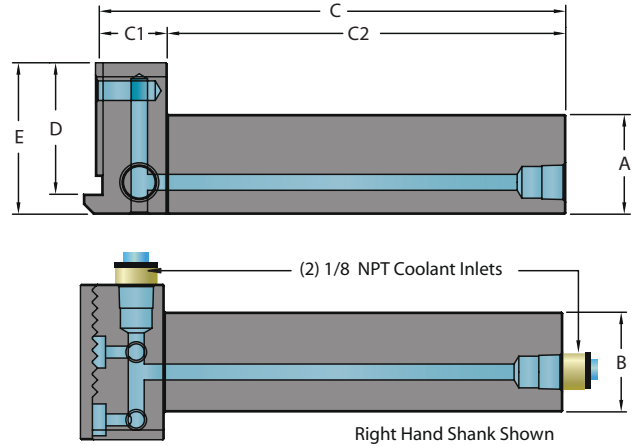
Left Hand KOOL Cut™ Modular Turning and Grooving Straight Toolholder Style Shank



Metric L.H. Shank Description	UPC No. 733101-	Shank Size	A	B	D	C	C1	C2	C3
ADDN-MTL-2020-C	61978	20mm	20	20	15	127	38	89	33
ADDN-MTL-2525-D	61979	25mm	25	25	20	140	38	102	33
ADDN-MTL-3232-E	61980	32mm	32	32	27	152	38	114	33

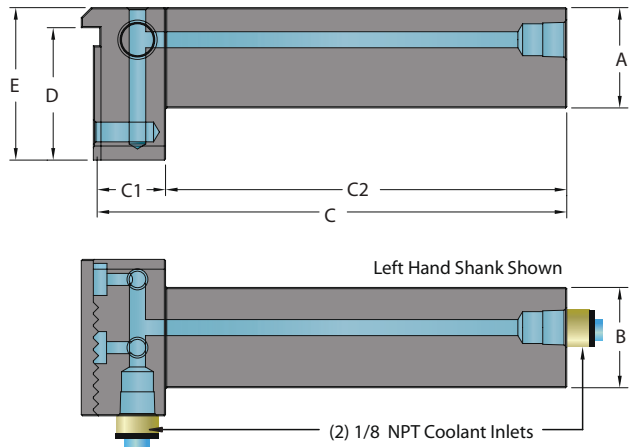
Inch L.H. Shank Description	UPC No. 733101-	Shank Size	A	B	D	C	C1	C2	C3
ADDN-MTL-12-C	61990	3/4"	0.750	0.750	0.59	5.00	1.50	3.50	1.30
ADDN-MTL-16-D	61991	1"	1.000	1.000	0.79	5.50	1.50	4.00	1.30
ADDN-MTL-20-E	61992	1 1/4"	1.250	1.250	1.06	6.00	1.50	4.50	1.30

Right Hand KOOL Cut™ Modular Turning and Grooving 90° Gang Toolholder Style Shank



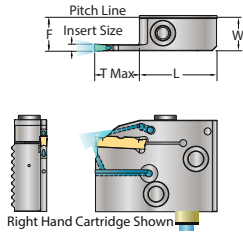
Metric R.H. Shank Description	UPC No. 733101-	Shank Size	A	B	D	E	C	C1	C2	C3
ADDN-MGR-2020-C	61984	20mm	20	20	33	38	107	18	89	33
ADDN-MGR-2525-D	61985	25mm	25	25	33	38	120	18	102	33
ADDN-MGR-3232-E	61986	32mm	32	32	33	38	132	18	114	33
Inch R.H. Shank Description	UPC No. 733101-	Shank Size	A	B	D	E	C	C1	C2	C3
ADDN-MGR-12-C	61996	3/4"	0.750	0.750	1.30	1.50	4.21	0.71	3.50	1.30
ADDN-MGR-16-D	61997	1"	1.000	1.000	1.30	1.50	4.71	0.71	4.00	1.30
ADDN-MGR-20-E	61998	1 1/4"	1.250	1.250	1.30	1.50	5.21	0.71	4.50	1.30

Left Hand KOOL Cut™ Modular Turning and Grooving 90° Gang Toolholder Style Shank



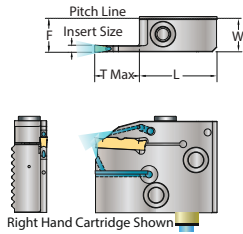
Metric L.H. Shank Description	UPC No. 733101-	Shank Size	A	B	D	E	C	C1	C2	C3
ADDN-MGL-2020-C	61981	20mm	20	20	33	38	107	18	89	33
ADDN-MGL-2525-D	61982	25mm	25	25	33	38	120	18	102	33
ADDN-MGL-3232-E	61983	32mm	32	32	33	38	132	18	114	33
Inch L.H. Shank Description	UPC No. 733101-	Shank Size	A	B	D	E	C	C1	C2	C3
ADDN-MGL-12-C	61993	3/4"	0.750	0.750	1.30	1.50	4.21	0.71	3.50	1.30
ADDN-MGL-16-D	61994	1"	1.000	1.000	1.30	1.50	4.71	0.71	4.00	1.30
ADDN-MGL-20-E	61995	1 1/4"	1.250	1.250	1.30	1.50	5.21	0.71	4.50	1.30

Right Hand Cartridge KOOL Cut™ Modular Turning Grooving for Right Hand Tool holder



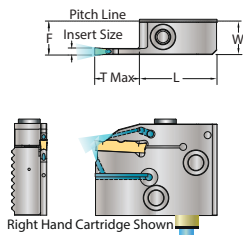
2mm (.079") Insert Size Right Hand Cartridge KOOL Cut™ Modular Turning and Grooving

R.H. Cartridge Description	UPC No. 733101-	System	T.Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TR20-06	61750	mm	6	33	15.2	15	2	DNTQ-222002-3EU-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
		inch	0.236	1.299	0.598	0.591	0.079	DNTQ-222502-3EU-N				
ADKDN-TR20-12	61751	mm	12	33	15.2	15	2	DNTR-220210-3EU-N				
		inch	0.472	1.299	0.598	0.591	0.079	DNTF-222002-2EF-N				
ADKDN-TR20-18	61752	mm	18	33	15.2	15	2	DNPG-222002-1SR-N				
		inch	0.709	1.299	0.598	0.591	0.079					



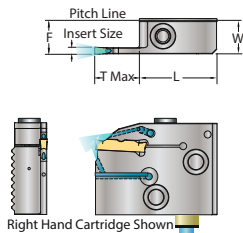
3mm (.118") Insert Size Right Hand Cartridge KOOL Cut™ Modular Turning & Grooving

R.H. Cartridge Description	UPC No. 733101-	System	T.Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TR30-09	61753	mm	9	33	15.4	15	3	DNTQ-223003-3EU-N DNTR-223015-3EU-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
		inch	0.354	1.299	0.606	0.591	0.118					
ADKDN-TR30-18	61754	mm	18	33	15.4	15	3					
		inch	0.709	1.299	0.606	0.591	0.118					
ADKDN-TR30-27	61755	mm	27	33	15.4	15	3					
		inch	1.063	1.299	0.606	0.591	0.118					



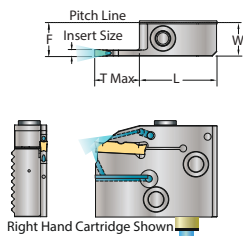
4mm (.157") Insert Size Right Hand Cartridge KOOL Cut™ Modular Turning and Grooving

R.H. Cartridge Description	UPC No. 733101-	System	T.Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TR40-12	61756	mm	12	33	15.4	15	4	DNTQ-254004-3EU-N DNTR-254020-3EU-N DNTR-254003-2EF-N DNPG-254003-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
		inch	0.472	1.299	0.606	0.591	0.157					
ADKDN-TR40-18	61757	mm	18	33	15.4	15	4					
		inch	0.709	1.299	0.606	0.591	0.157					
ADKDN-TR40-24	61758	mm	24	33	15.4	15	4					
		inch	0.945	1.299	0.606	0.591	0.157					
ADKDN-TR40-30	61759	mm	30	33	15.4	15	4					
		inch	1.181	1.299	0.606	0.591	0.157					



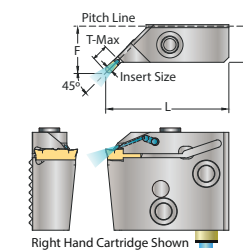
5mm (.197") Insert Size Right Hand Cartridge KOOL Cut™ Modular Turning and Grooving

R.H. Cartridge Description	UPC No. 733101-	System	T.Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TR50-10	61760	mm	10	33	15.5	15	5	DNTQ-255004-3EU-N DNTR-255025-3EU-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
		inch	0.394	1.299	0.610	0.591	0.197					
ADKDN-TR50-15	61761	mm	15	33	15.5	15	5					
		inch	0.591	1.299	0.610	0.591	0.197					
ADKDN-TR50-25	61762	mm	25	33	15.5	15	5					
		inch	0.984	1.299	0.610	0.591	0.197					
ADKDN-TR50-40	61763	mm	40	33	15.5	15	5					
		inch	1.575	1.299	0.610	0.591	0.197					



6mm (.236") Insert Size Right Hand Cartridge KOOL Cut™ Modular Turning and Grooving

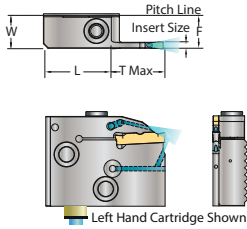
R.H. Cartridge Description	UPC No. 733101-	System	T.Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TR60-12	61764	mm	12	33	15.5	15	6	DNTQ-256004-3EU-N DNTR-256030-3EU-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
		inch	0.472	1.299	0.610	0.591	0.236					
ADKDN-TR60-18	61765	mm	18	33	15.5	15	6					
		inch	0.709	1.299	0.610	0.591	0.236					
ADKDN-TR60-30	61766	mm	30	33	15.5	15	6					
		inch	1.181	1.299	0.610	0.591	0.236					
ADKDN-TR60-48	61767	mm	48	33	15.5	15	6					
		inch	1.890	1.299	0.610	0.591	0.236					



2mm (.079") Insert Size Right Hand Cartridge KOOL Cut™ Modular 45° Grooving

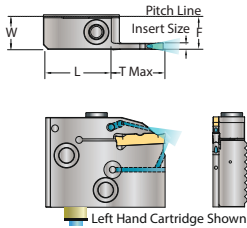
R.H. Cartridge Description	UPC No. 733101-	System	T.Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-UR20-05	61910	mm	5	33	23	15	2	DNTR-222010	CS-M0616	CS-M0620	HAHK-50	CS08-04
		inch	0.157	1.299	0.906	0.591	0.079					
ADKDN-UR30-06	61911	mm	6	33	24	15	3	DNTR-223015				
		inch	0.236	1.299	0.945	0.591	0.118					
ADKDN-UR40-08	61912	mm	8	33	26	15	4	DNTR-254020				
		inch	0.315	1.299	1.024	0.591	0.157					
ADKDN-UR50-10	61913	mm	10	33	27	15	5	DNTR-255025				
		inch	0.394	1.299	1.063	0.591	0.197					
ADKDN-UR60-12	61914	mm	12	33	28	15	6	DNTR-256030				
		inch	0.472	1.299	1.102	0.591	0.236					

Left Hand Cartridge KOOL Cut™ Modular Turning Grooving for Left Hand Tool holder



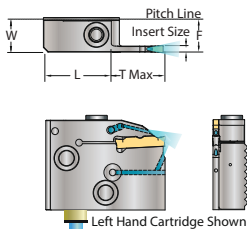
2mm (.079") Insert Size Left Hand Cartridge KOOL Cut™ Modular Turning and Grooving

L.H. Cartridge Description	UPC No. 733101-	System	T.Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TL20-06	61768	mm inch	6 0.236	33 1.299	15.2 0.598	15 0.591	2 0.079	DNTQ-222002-3EU-N DNTQ-222502-3EU-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADKDN-TL20-12	61769	mm inch	12 0.472	33 1.299	15.2 0.598	15 0.591	2 0.079	DNTR-220210-3EU-N				
ADKDN-TL20-18	61770	mm inch	18 0.709	33 1.299	15.2 0.598	15 0.591	2 0.079	DNTF-222002-2EF-N				
		mm inch	18 0.709	33 1.299	15.2 0.598	15 0.591	2 0.079	DNPG-222002-1SR-N				



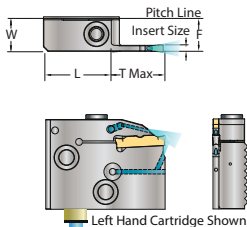
3mm (.118") Insert Size Left Hand Cartridge KOOL Cut™ Modular Turning and Grooving

L.H. Cartridge Description	UPC No. 733101-	System	T.Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TL30-09	61771	mm inch	9 0.354	33 1.299	15.3 0.602	15 0.591	3 0.118	DNTQ-223003-3EU-N DNTR-223015-3EU-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADKDN-TL30-18	61772	mm inch	18 0.709	33 1.299	15.3 0.602	15 0.591	3 0.118					
ADKDN-TL30-27	61773	mm inch	27 1.063	33 1.299	15.3 0.602	15 0.591	3 0.118					
		mm inch	27 1.063	33 1.299	15.3 0.602	15 0.591	3 0.118					



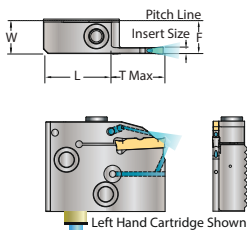
4mm (.157") Insert Size Left Hand Cartridge KOOL Cut™ Modular Turning and Grooving

L.H. Cartridge Description	UPC No. 733101-	System	T.Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TL40-12	61774	mm inch	12 0.472	33 1.299	15.4 0.606	15 0.591	4 0.157	DNTQ-254004-3EU-N DNTR-254020-3EU-N DNTF-254003-2EF-N DNPG-254003-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADKDN-TL40-18	61775	mm inch	18 0.709	33 1.299	15.4 0.606	15 0.591	4 0.157					
ADKDN-TL40-24	61776	mm inch	24 0.945	33 1.299	15.4 0.606	15 0.591	4 0.157					
ADKDN-TL40-30	61777	mm inch	30 1.181	33 1.299	15.4 0.606	15 0.591	4 0.157					
		mm inch	30 1.181	33 1.299	15.4 0.606	15 0.591	4 0.157					



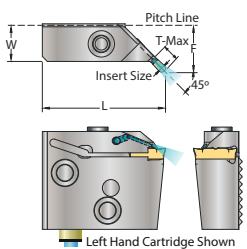
5mm (.197") Insert Size Left Hand Cartridge KOOL Cut™ Modular Turning and Grooving

L.H. Cartridge Description	UPC No. 733101-	System	T.Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TL50-10	61778	mm inch	10 0.394	33 1.299	15.5 0.610	15 0.591	5 0.197	DNTQ-255004-3EU-N DNTR-255025-3EU-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADKDN-TL50-15	61779	mm inch	15 0.591	33 1.299	15.5 0.610	15 0.591	5 0.197					
ADKDN-TL50-25	61780	mm inch	25 0.984	33 1.299	15.5 0.610	15 0.591	5 0.197					
ADKDN-TL50-40	61781	mm inch	40 1.575	33 1.299	15.5 0.610	15 0.591	5 0.197					
		mm inch	40 1.575	33 1.299	15.5 0.610	15 0.591	5 0.197					



6mm (.236") Insert Size Left Hand Cartridge KOOL Cut™ Modular Turning and Grooving

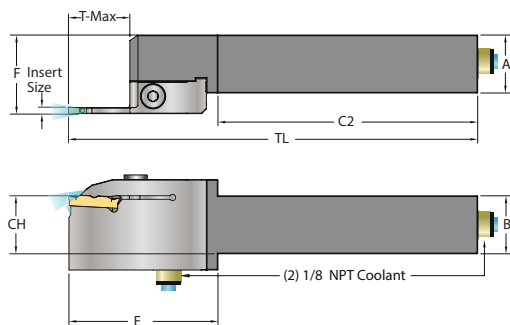
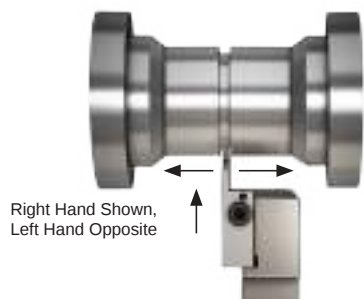
L.H. Cartridge Description	UPC No. 733101-	System	T.Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal
ADKDN-TL60-12	61782	mm inch	12 0.472	33 1.299	15.5 0.610	15 0.591	6 0.236	DNTQ-256004-3EU-N DNTR-256030-3EU-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
ADKDN-TL60-18	61783	mm inch	18 0.709	33 1.299	15.5 0.610	15 0.591	6 0.236					
ADKDN-TL60-30	61784	mm inch	30 1.181	33 1.299	15.5 0.610	15 0.591	6 0.236					
ADKDN-TL60-48	61785	mm inch	48 1.890	33 1.299	15.5 0.610	15 0.591	6 0.236					
		mm inch	48 1.890	33 1.299	15.5 0.610	15 0.591	6 0.236					



2mm (.079") Insert Size Left Hand Cartridge KOOL Cut™ Modular 45° Grooving

Mini (1/8") Insert Size Left Hand Cartridge ROSE Cut Modular 45 Grooving																
L.H. Cartridge Description	UPC No. 733101-	System	T.Max	L	F	W	Size	Insert Style	Lock Screw	Cartridge Lock Screw	Hex Key	Coolant Seal				
ADKDN-UL20-05	61915	mm inch	5 0.157	33 1.299	23 0.906	15 0.591	2 0.079	DNTR-222010	CS-M0616	CS-M0620	HAHK-50	CS08-04				
ADKDN-UL30-06	61916	mm inch	6 0.236	33 1.299	24 0.945	15 0.591	3 0.118	DNTR-223015								
ADKDN-UL40-08	61917	mm inch	8 0.315	33 1.299	26 1.024	15 0.591	4 0.157	DNTR-254020								
ADKDN-UL50-10	61918	mm inch	10 0.394	33 1.299	27 1.063	15 0.591	5 0.197	DNTR-255025								
ADKDN-UL60-12	61919	mm inch	12 0.472	33 1.299	28 1.102	15 0.591	6 0.236	DNTR-256030								
		mm inch	12 0.472	33 1.299	28 1.102	15 0.591	6 0.236									

Righ Hand Shank and Cartridge - Inch For Right Hand Tool holder



TL= C2+E - Total Length

Shank Specification

A See page F-32, 33
B See page F-32, 33
C2 See page F-32, 33

Cartridge Specification

E See page F-34, 35
F See page F-34, 35
T See page F-34, 35

Shank

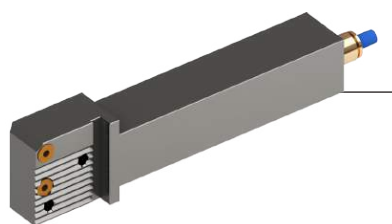
Inch R.H.	UPC No. 733101-	B Shank Size	CH Center Height
ADDN-MTR-12-C	61987	3/4"	.750"
ADDN-MTR-16-D	61988	1"	1.000"
ADDN-MTR-20-E	61989	1 1/4"	1.250"

Cartridge

Description	UPC No. 733101-	T.Max inch
ADKDN-TR20-06	61750	0.236
ADKDN-TR20-12	61751	0.472
ADKDN-TR20-18	61752	0.709

Inserts

Description	UPC No. 733101-	Size inch
DNTQ-222002	82440	
DNTR-220210		.079 x .866
DNTR-222002	82365	
DNPG-222002	82496	



Every tool holder will hold any cartridge on this page

ADKDN-TR30-09	61753	0.354
ADKDN-TR30-18	61754	0.709
ADKDN-TR30-27	61755	1.063

DNTQ-22 3003	82442	
DNTR-22 3015	82459	.118 X .984
DNPE-22 3002	82464	
DNPG-22 3002	82476	

ADKDN-TR40-12	61756	0.472
ADKDN-TR40-18	61757	0.709
ADKDN-TR40-24	61758	0.945
ADKDN-TR40-30	61759	1.181

DNTQ-254004	82443	
DNTR-254020	82460	.157 X .984
DNPE-25 4003	82465	
DNPG-254003	82477	

ADKDN-TR50-10	61760	0.394
ADKDN-TR50-15	61761	0.591
ADKDN-TR50-25	61762	0.984
ADKDN-TR50-40	61763	1.575

DNTQ-255004	82444	
DNTR-255025	82461	.197 X .984
DNPE-255004	82466	
DNPG-255004	82478	

ADKDN-TR60-12	61764	0.472
ADKDN-TR60-18	61765	0.709
ADKDN-TR60-30	61766	1.181
ADKDN-TR60-48	61767	1.890

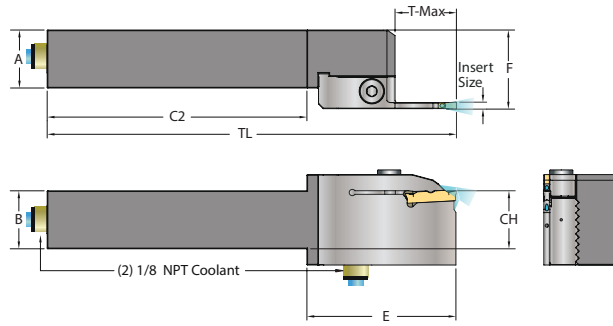
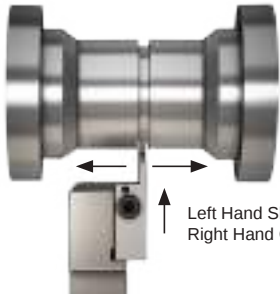
DNTQ-256004	82445	
DNPG-256004	82479	.236 X .984

ADKDN-UR20-05	61910	0.157
ADKDN-UR30-06	61911	0.236
ADKDN-UR40-08	61912	0.315
ADKDN-UR50-10	61913	0.394
ADKDN-UR60-12	61914	0.472

DNTR-222010	82458	
DNTR-223015	82459	
DNTR-254020	82460	.079 x .866
DNTR-255025	82461	
DNTR-256030	82462	

Inch R.H.	UPC No. 733101-	B Shank Size	CH Center Height
ADDN-MGR-12-C	61996	3/4"	.750"
ADDN-MGR-16-D	61997	1"	1.000"
ADDN-MGR-20-E	61998	1 1/4"	1.250"

Left Hand Shank and Cartridge - Inch For Left Hand Tool holder



TL= C2+E - Total Length

Shank Specification

A See page F-32, 33
B See page F-32, 33
C2 See page F-32, 33

Cartridge Specification

E See page F-34, 35
F See page F-34, 35
T See page F-34, 35

Shank

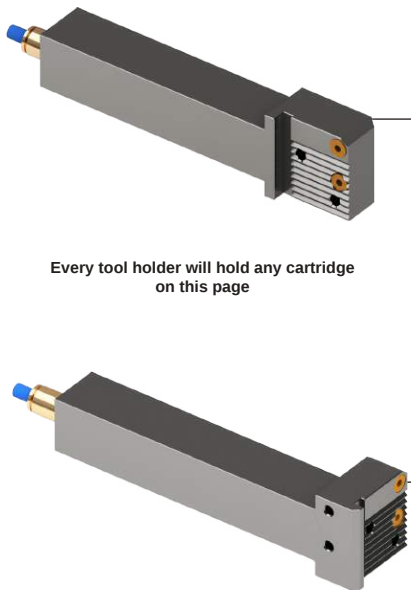
Inch L.H.	UPC No. 733101-	B Shank Size	CH Center Height
ADDN-MTL-12-C	61990	3/4"	.750"
ADDN-MTL-16-D	61991	1"	1.000"
ADDN-MTL-20-E	61992	1 1/4"	1.250"

Cartridge

Description	UPC No. 733101-	T.Max inch
ADKDN-TL20-06	61768	0.236
ADKDN-TL20-12	61769	0.472
ADKDN-TL20-18	61770	0.709

Inserts

Description	UPC No. 733101-	Size inch
DNTQ-222002	82440	
DNTR-220210		.079 x .866
DNTF-222002	82365	
DNPG-222002	82496	



ADKDN-TL30-09	61771	0.354
ADKDN-TL30-18	61772	0.709
ADKDN-TL30-27	61773	1.063

DNTQ-22 3003	82442	
DNTR-22 3015	82459	.118 X .984
DNPE-22 3002	82464	
DNPG-22 3002	82476	

ADKDN-TL40-12	61774	0.472
ADKDN-TL40-18	61775	0.709
ADKDN-TL40-24	61776	0.945
ADKDN-TL40-30	61777	1.181

DNTQ-254004	82443	
DNTR-254020	82460	.157 X .984
DNPE-25 4003	82465	
DNPG-254003	82477	

ADKDN-TL50-10	61778	0.394
ADKDN-TL50-15	61779	0.591
ADKDN-TL50-25	61780	0.984
ADKDN-TL50-40	61781	1.575

DNTQ-255004	82444	
DNTR-255025	82461	.197 X .984
DNPE-255004	82466	
DNPG-255004	82478	

ADKDN-TL60-12	61782	0.472
ADKDN-TL60-18	61783	0.709
ADKDN-TL60-30	61784	1.181
ADKDN-TL60-48	61785	1.890

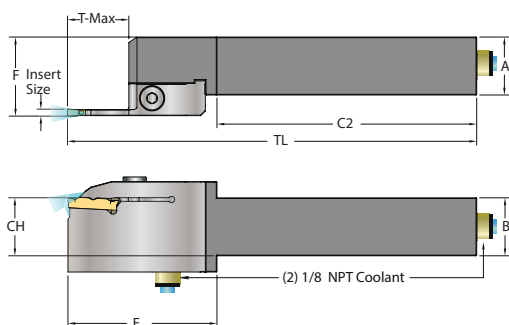
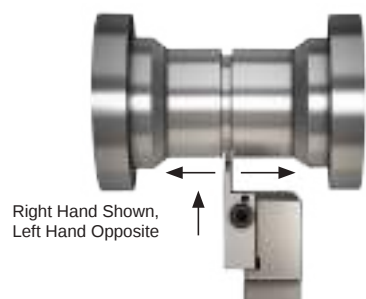
DNTQ-256004	82445	
DNPG-256004	82479	.236 X .984

ADKDN-UL20-05	61915	0.157
ADKDN-UL30-06	61916	0.236
ADKDN-UL40-08	61917	0.315
ADKDN-UL50-10	61918	0.394
ADKDN-UL60-12	61919	0.472

DNTR-222010	82458	
DNTR-223015	82459	
DNTR-254020	82460	.079 x .866
DNTR-255025	82461	
DNTR-256030	82462	

Inch L.H.	UPC No. 733101-	B Shank Size	CH Center Height
ADDN-MGL-12-C	61993	3/4"	.750"
ADDN-MGL-16-D	61994	1"	1.000"
ADDN-MGL-20-E	61995	1 1/4"	1.250"

Righ Hand Shank and Cartridge - Metric



TL= C2+E - Total Length

Shank Specification

A See page F-32, 33
B See page F-32, 33
C2 See page F-32, 33

Cartridge Specification

E See page F-34, 35
F See page F-34, 35
T See page F-34, 35

Shank

Metric R.H.	UPC No. 733101-	B Shank Size	CH Center Height
ADDN-MTR-2020-C	61975	20mm	20mm
ADDN-MTR-2525-D	61976	25mm	25mm
ADDN-MTR-3232-E	61977	32mm	32mm

Cartridge

Description	UPC No. 733101-	T.Max metric
ADKDN-TR20-06	61750	6
ADKDN-TR20-12	61751	12
ADKDN-TR20-18	61752	18

Inserts

Description	UPC No. 733101-	Size metric
DNTQ-222002	82440	
DNTR-220210		2 x 22
DNTF-222002	82365	
DNPG-222002	82496	

ADKDN-TR30-09	61753	9
ADKDN-TR30-18	61754	18
ADKDN-TR30-27	61755	27

DNTQ-22 3003	82442	
DNTR-22 3015	82459	3 X 22
DNPE-22 3002	82464	
DNPG-22 3002	82476	

ADKDN-TR40-12	61756	12
ADKDN-TR40-18	61757	18
ADKDN-TR40-24	61758	24
ADKDN-TR40-30	61759	30

DNTQ-254004	82443	
DNTR-254020	82460	4 X 25
DNPE-25 4003	82465	
DNPG-254003	82477	

ADKDN-TR50-10	61760	10
ADKDN-TR50-15	61761	15
ADKDN-TR50-25	61762	25
ADKDN-TR50-40	61763	40

DNTQ-255004	82444	
DNTR-255025	82461	5 X 25
DNPE-255004	82466	
DNPG-255004	82478	

ADKDN-TR60-12	61764	12
ADKDN-TR60-18	61765	18
ADKDN-TR60-30	61766	30
ADKDN-TR60-48	61767	48

DNTQ-256004	82445	
DNPG-256004	82479	6 X 25

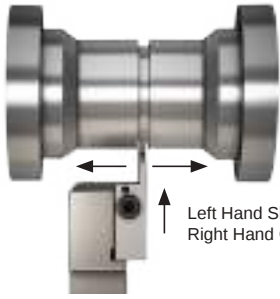
ADKDN-UR20-05	61910	5
ADKDN-UR30-06	61911	6
ADKDN-UR40-08	61912	8
ADKDN-UR50-10	61913	10
ADKDN-UR60-12	61914	12

DNTR-222010	82458	
DNTR-223015	82459	
DNTR-254020	82460	2 x 22
DNTR-255025	82461	
DNTR-256030	82462	

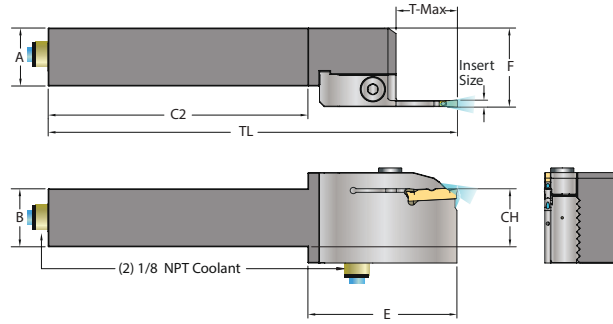
Every tool holder will hold any cartridge
on this page

Metric R.H.	UPC No. 733101-	Shank Size	CH Center Height
ADDN-MGR-2020-C	61984	20mm	20mm
ADDN-MGR-2525-D	61985	25mm	25mm
ADDN-MGR-3232-E	61986	32mm	32mm

Left Hand Shank and Cartridge - Metric



Left Hand Shown,
Right Hand Opposite



TL= C2+E - Total Length

Shank Specification

A See page F-32, 33
B See page F-32, 33
C2 See page F-32, 33

Cartridge Specification

E See page F-34, 35
F See page F-34, 35
T See page F-34, 35

Shank

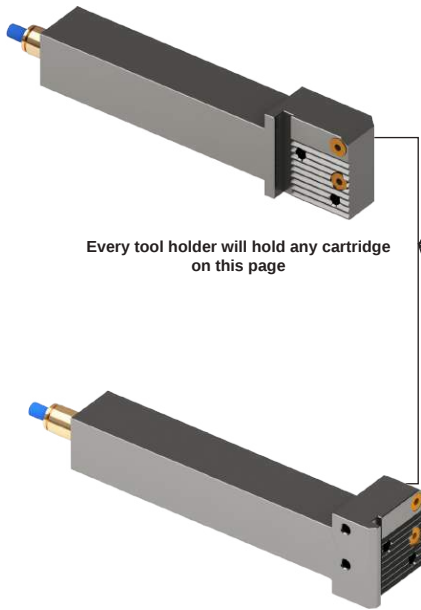
Metric L.H.	UPC No. 733101-	Shank Size	CH Center Height
ADDN-MTL-2020-C	61978	20mm	20mm
ADDN-MTL-2525-D	61979	25mm	25mm
ADDN-MTL-3232-E	61980	32mm	32mm

Cartridge

Description	UPC No. 733101-	T.Max metric
ADKDN-TL20-06	61768	6
ADKDN-TL20-12	61769	12
ADKDN-TL20-18	61770	18

Inserts

Description	UPC No. 733101-	Size metric
DNTQ-222002	82440	
DNTR-220210		
DNTF-222002	82365	.2 x 22
DNPG-222002	82496	



Every tool holder will hold any cartridge on this page

ADKDN-TL30-09	61771	9
ADKDN-TL30-18	61772	18
ADKDN-TL30-27	61773	27

DNTQ-22 3003	82442	
DNTR-22 3015	82459	
DNPE-22 3002	82464	3 X 22
DNPG-22 3002	82476	

ADKDN-TL40-12	61774	12
ADKDN-TL40-18	61775	18
ADKDN-TL40-24	61776	24
ADKDN-TL40-30	61777	30

DNTQ-254004	82443	
DNTR-254020	82460	
DNPE-25 4003	82465	4 X 25
DNPG-254003	82477	

ADKDN-TL50-10	61778	10
ADKDN-TL50-15	61779	15
ADKDN-TL50-25	61780	25
ADKDN-TL50-40	61781	40

DNTQ-255004	82444	
DNTR-255025	82461	
DNPE-255004	82466	5 X 25
DNPG-255004	82478	

ADKDN-TL60-12	61782	12
ADKDN-TL60-18	61783	18
ADKDN-TL60-30	61784	30
ADKDN-TL60-48	61785	48

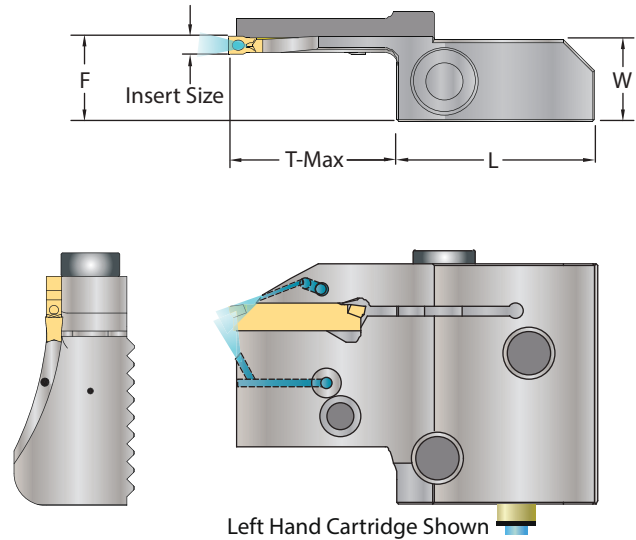
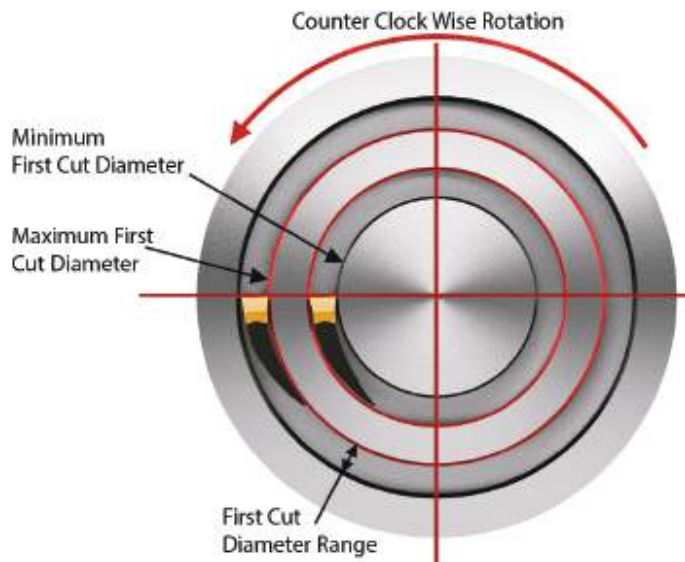
DNTQ-256004	82445	
DNPG-256004	82479	6 X 25

Metric L.H.	UPC No. 733101-	Shank Size	CH Center Height
ADDN-MGL-2020-C	61981	20mm	20mm
ADDN-MGL-2525-D	61982	25mm	25mm
ADDN-MGL-3232-E	61983	32mm	32mm

ADKDN-UL20-05	61915	5
ADKDN-UL30-06	61916	6
ADKDN-UL40-08	61917	8
ADKDN-UL50-10	61918	10
ADKDN-UL60-12	61919	12

DNTR-222010	82458	
DNTR-223015	82459	
DNTR-254020	82460	2 x 22
DNTR-255025	82461	
DNTR-256030	82462	

Left Hand Cartridge 3mm (.118") Insert Size. Modular Face Grooving for Left Hand Tool holder



T-Max 12mm (0.472")

L.H. Cartridge Description	UPC#	System	First Cut Diameter		T-Max	L	F	W	Size	Insert		Cartridge Lock Screw	Hex Key	Coolant Seal
			Min.	Max.						Style	Lock Screw			
ADCDN-FL30-022030-12	62208	mm	22	30	12	33	16	15	3	DNTQ-223003-3EU-N DNTR-223015-3EU-N DNTF-223002-2EF-N DNPG-223002-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
		inch	0.866	1.181	0.472	1.299	0.630	0.591	0.118					
ADCDN-FL30-030038-12	62209	mm	30	38	12	33	16	15	3					
		inch	1.181	1.496	0.472	1.299	0.630	0.591	0.118					
ADCDN-FL30-038048-12	62210	mm	38	48	12	33	16	15	3					
		inch	1.496	1.890	0.472	1.299	0.630	0.591	0.118					
ADCDN-FL30-048060-12	62211	mm	48	60	12	33	16	15	3					
		inch	1.890	2.362	0.472	1.299	0.630	0.591	0.118					
ADCDN-FL30-060075-12	62212	mm	60	75	12	33	16	15	3					
		inch	2.362	2.953	0.472	1.299	0.630	0.591	0.118					
ADCDN-FL30-075100-12	62213	mm	75	100	12	33	16	15	3					
		inch	2.953	3.937	0.472	1.299	0.630	0.591	0.118					
ADCDN-FL30-100200-12	62214	mm	100	200	12	33	16	15	3					
		inch	3.937	7.874	0.472	1.299	0.630	0.591	0.118					
ADCDN-FL30-200300-12	62215	mm	200	300	12	33	16	15	3					
		inch	7.874	11.811	0.472	1.299	0.630	0.591	0.118					
ADCDN-FL30-300->-12	62216	mm	300	>	12	33	16	15	3					
		inch	11.811	>	0.472	1.299	0.630	0.591	0.118					

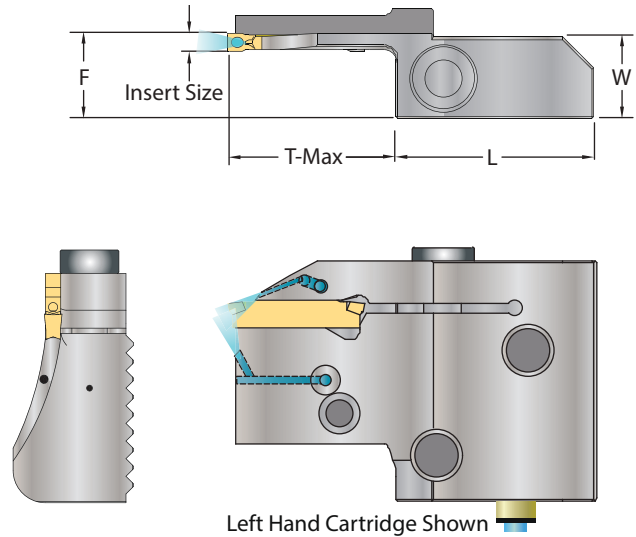
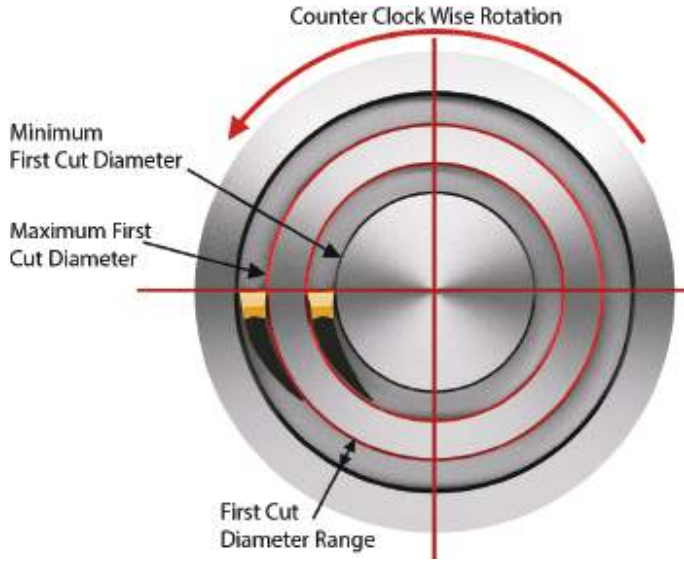
T-Max 18mm (0.709")

ADCDN-FL30-060075-18	62217	mm	60	75	18	33	16	15	3	DNTQ-223003-3EU-N DNTR-223015-3EU-N DNTF-223002-2EF-N DNPG-223002-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
		inch	2.362	2.953	0.709	1.299	0.630	0.591	0.118					
ADCDN-FL30-075100-18	62218	mm	75	100	18	33	16	15	3					
		inch	2.953	3.937	0.709	1.299	0.630	0.591	0.118					
ADCDN-FL30-100200-18	62219	mm	100	200	18	33	16	15	3					
		inch	3.937	7.874	0.709	1.299	0.630	0.591	0.118					
ADCDN-FL30-200300-18	62220	mm	200	300	18	33	16	15	3					
		inch	7.874	11.811	0.709	1.299	0.630	0.591	0.118					
ADCDN-FL30-300->-18	62221	mm	300	>	18	33	16	15	3					
		inch	11.811	>	0.709	1.299	0.630	0.591	0.118					

T-Max 24mm (0.945")

ADCDN-FL30-100200-24	62222	mm	100	200	24	33	16	15	3	DNTQ-223003-3EU-N DNTR-223015-3EU-N DNTF-223002-2EF-N DNPG-223002-1SR-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
		inch	3.937	7.874	0.945	1.299	0.630	0.591	0.118					
ADCDN-FL30-200300-24	62223	mm	200	300	24	33	16	15	3					
		inch	7.874	11.811	0.945	1.299	0.630	0.591	0.118					
ADCDN-FL30-300->-24	62224	mm	300	>	24	33	16	15	3					
		inch	11.811	>	0.945	1.299	0.630	0.591	0.118					

Left Hand Cartridge 6mm (.236") Insert Size. Modular Face Grooving for Right Hand Tool holder



T-Max 13mm (0.512")

L.H. Cartridge Description	UPC#	System	First Cut Diameter		T-Max	L	F	W	Size	Insert		Cartridge Lock Screw	Hex Key	Coolant Seal
			Min.	Max.						Style	Lock Screw			
ADCDN-FL60-050075-13	62253	mm	50	75	13	33	16	15	6	DNTQ-256004-3EU-N DNTR-256030-3EU-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
		inch	1.969	2.953	0.512	1.299	0.630	0.591	0.236					
ADCDN-FL60-075130-13	62254	mm	75	130	13	33	16	15	6					
		inch	2.953	5.118	0.512	1.299	0.630	0.591	0.236					
ADCDN-FL60-130300-13	62255	mm	130	300	13	33	16	15	6					
		inch	5.118	11.811	0.512	1.299	0.630	0.591	0.236					
ADCDN-FL60-300500-13	62256	mm	300	500	13	33	16	15	6	DNTQ-256004-3EU-N DNTR-256030-3EU-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
		inch	11.811	19.685	0.512	1.299	0.630	0.591	0.236					
ADCDN-FL60-500>-13	62257	mm	500	>	13	33	16	15	6					
		inch	19.685	>	0.512	1.299	0.630	0.591	0.236					

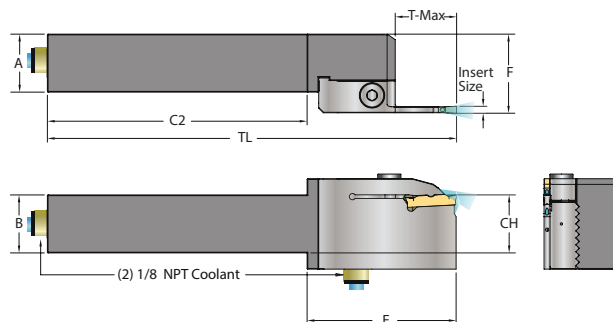
T-Max 26mm (1.024")

ADCDN-FL60-075130-26	62258	mm	75	130	26	33	16	15	6	DNTQ-256004-3EU-N DNTR-256030-3EU-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
		inch	2.953	5.118	1.024	1.299	0.630	0.591	0.236					
ADCDN-FL60-130300-26	62259	mm	130	300	26	33	16	15	6					
		inch	5.118	11.811	1.024	1.299	0.630	0.591	0.236					
ADCDN-FL60-300500-26	62260	mm	300	500	26	33	16	15	6					
		inch	11.811	19.685	1.024	1.299	0.630	0.591	0.236					
ADCDN-FL60-500>-26	62261	mm	500	>	26	33	16	15	6	DNTQ-256004-3EU-N DNTR-256030-3EU-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
		inch	19.685	>	1.024	1.299	0.630	0.591	0.236					

T-Max 39mm (1.535")

ADCDN-FL60-075130-39	62262	mm	75	130	39	33	16	15	6	DNTQ-256004-3EU-N DNTR-256030-3EU-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
		inch	2.953	5.118	1.535	1.299	0.630	0.591	0.236					
ADCDN-FL60-130300-39	62263	mm	130	300	39	33	16	15	6					
		inch	5.118	11.811	1.535	0.000	0.000	0.591	0.236					
ADCDN-FL60-300500-39	62264	mm	300	500	39	33	16	15	6					
		inch	11.811	19.685	1.535	1.299	0.630	0.591	0.236					
ADCDN-FL60-500>-39	62265	mm	500	>	39	33	16	15	6	DNTQ-256004-3EU-N DNTR-256030-3EU-N	CS-M0616	CS-M0620	HAHK-50	CS08-04
		inch	19.685	>	1.535	1.299	0.630	0.591	0.236					

Left Hand Kool Cut™ Modular Facing & Grooving System



TL= C2+E - Total Length

Shank Specification

A See page F-32, 33
B See page F-32, 33
C2 See page F-32, 33

Cartridge Specification

E See page F-34, 35
F See page F-34, 35
T See page F-34, 35

Shank

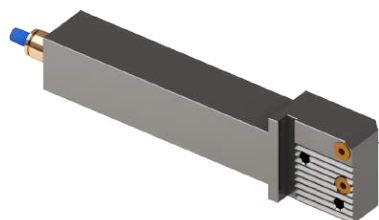
Inch L.H.	UPC No. 733101-	Shank Size	CH Center Height
ADDN-MTL-12-C	61990	3/4"	.750"
ADDN-MTL-16-D	61991	1"	1.000"
ADDN-MTL-20-E	61992	1 1/4"	1.250"

Cartridge

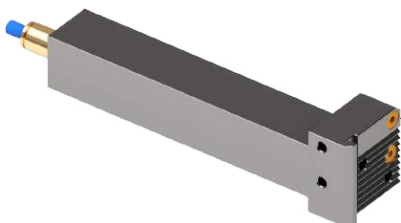
Description	UPC No. 733101-	T.Max inch
ADCDN-FL30-022030-12	62208	0.472
ADCDN-FL30-030038-12	62209	0.472
ADCDN-FL30-038048-12	62210	0.472
ADCDN-FL30-048060-12	62211	0.472
ADCDN-FL30-060075-12	62212	0.472
ADCDN-FL30-075100-12	62213	0.472
ADCDN-FL30-100200-12	62214	0.472
ADCDN-FL30-200300-12	62215	0.472
ADCDN-FL30-300->12	62216	0.472

Inserts

Description	Size inch	UPC No. 733101-
DNTQ-22-3003-3EU-N	.118"	82442
DNTR-22-3015-3EU-N	.118"	82459



Every tool holder will hold any cartridge on this page



ADCDN-FL30-060075-18	62217	0.709
ADCDN-FL30-075100-18	62218	0.709
ADCDN-FL30-100200-18	62219	0.709
ADCDN-FL30-200300-18	62220	0.709
ADCDN-FL30-300->18	62221	0.709

DNTQ-22-3003-3EU-N	.118"	82442
DNTR-22-3015-3EU-N	.118"	82459

ADCDN-FL30-100200-24	62222	0.945
ADCDN-FL30-200300-24	62223	0.945
ADCDN-FL30-300->24	62224	0.945

DNTQ-22-3003-3EU-N	.118"	82442
DNTR-22-3015-3EU-N	.118"	82459

ADCDN-FL60-050075-13	62253	0.512
ADCDN-FL60-075130-13	62254	0.512
ADCDN-FL60-130300-13	62255	0.512
ADCDN-FL60-300500-13	62256	0.512
ADCDN-FL60-500->13	62257	0.512

DNTQ-25-6004-3EU-N	.236"	82445
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ADCDN-FL60-075130-26	62258	1.024
ADCDN-FL60-130300-26	62259	1.024
ADCDN-FL60-300500-26	62260	1.024
ADCDN-FL60-500->26	62261	1.024

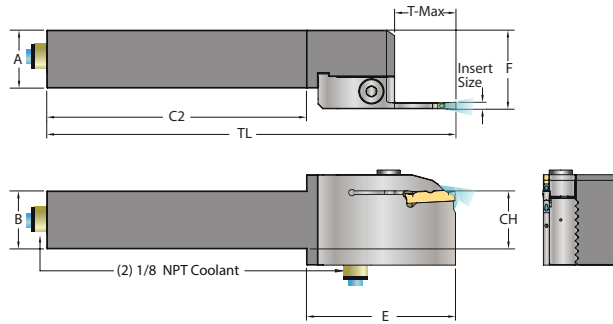
DNTQ-25-6004-3EU-N	.236"	82445
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Inch L.H.	UPC No. 733101-	Shank Size	CH Center Height
ADDN-MGL-12-C	61993	3/4"	.750"
ADDN-MGL-16-D	61994	1"	1.000"
ADDN-MGL-20-E	61995	1 1/4"	1.250"

ADCDN-FL60-075130-39	62262	1.535
ADCDN-FL60-130300-39	62263	1.535
ADCDN-FL60-300500-39	62264	1.535
ADCDN-FL60-500->39	62265	1.535

DNTQ-25-6004-3EU-N	.236"	82445
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Left Hand Kool Cut™ Modular Facing & Grooving System



TL= C2+E - Total Length

Shank Specification

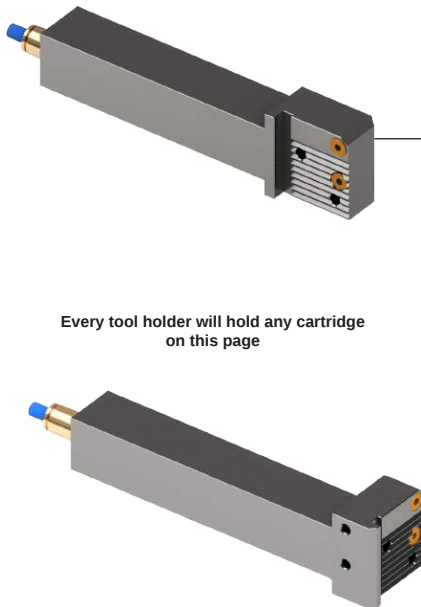
A See page F-32, 33
B See page F-32, 33
C2 See page F-32, 33

Cartridge Specification

E See page F-34, 35
F See page F-34, 35
T See page F-34, 35

Shank

Metric L.H.	UPC No. 733101-	Shank Size	CH Center Height
ADDN-MTL-2020-C	61978	20mm	20mm
ADDN-MTL-2525-D	61979	25mm	25mm
ADDN-MTL-3232-E	61980	32mm	32mm



Every tool holder will hold any cartridge on this page

Metric L.H.	UPC No. 733101-	Shank Size	CH Center Height
ADDN-MGL-2020-C	61981	20mm	20mm
ADDN-MGL-2525-D	61982	25mm	25mm
ADDN-MGL-3232-E	61983	32mm	32mm

Cartridge

Description	UPC No. 733101-	T.Max metric
ADCDN-FL30-022030-12	62208	12
ADCDN-FL30-030038-12	62209	12
ADCDN-FL30-038048-12	62210	12
ADCDN-FL30-048060-12	62211	12
ADCDN-FL30-060075-12	62212	12
ADCDN-FL30-075100-12	62213	12
ADCDN-FL30-100200-12	62214	12
ADCDN-FL30-200300-12	62215	12
ADCDN-FL30-300->12	62216	12

ADCDN-FL30-060075-18	62217	18
ADCDN-FL30-075100-18	62218	18
ADCDN-FL30-100200-18	62219	18
ADCDN-FL30-200300-18	62220	18
ADCDN-FL30-300->18	62221	18

ADCDN-FL30-100200-24	62222	24
ADCDN-FL30-200300-24	62223	24
ADCDN-FL30-300->24	62224	24

ADCDN-FL60-050075-13	62253	13
ADCDN-FL60-075130-13	62254	13
ADCDN-FL60-130300-13	62255	13
ADCDN-FL60-300500-13	62256	13
ADCDN-FL60-500->13	62257	13

ADCDN-FL60-075130-26	62258	26
ADCDN-FL60-130300-26	62259	26
ADCDN-FL60-300500-26	62260	26
ADCDN-FL60-500->26	62261	26

ADCDN-FL60-075130-39	62262	39
ADCDN-FL60-130300-39	62263	39
ADCDN-FL60-300500-39	62264	39
ADCDN-FL60-500->39	62265	39

Inserts

Description	Size metric	UPC No. 733101-
DNTQ-22-3003-3EU-N	3mm	82442
DNTR-22-3015-3EU-N	3mm	82459

DNTQ-22-3003-3EU-N	3mm	82442
DNTR-22-3015-3EU-N	3mm	82459

DNTQ-22-3003-3EU-N	3mm	82442
DNTR-22-3015-3EU-N	3mm	82459

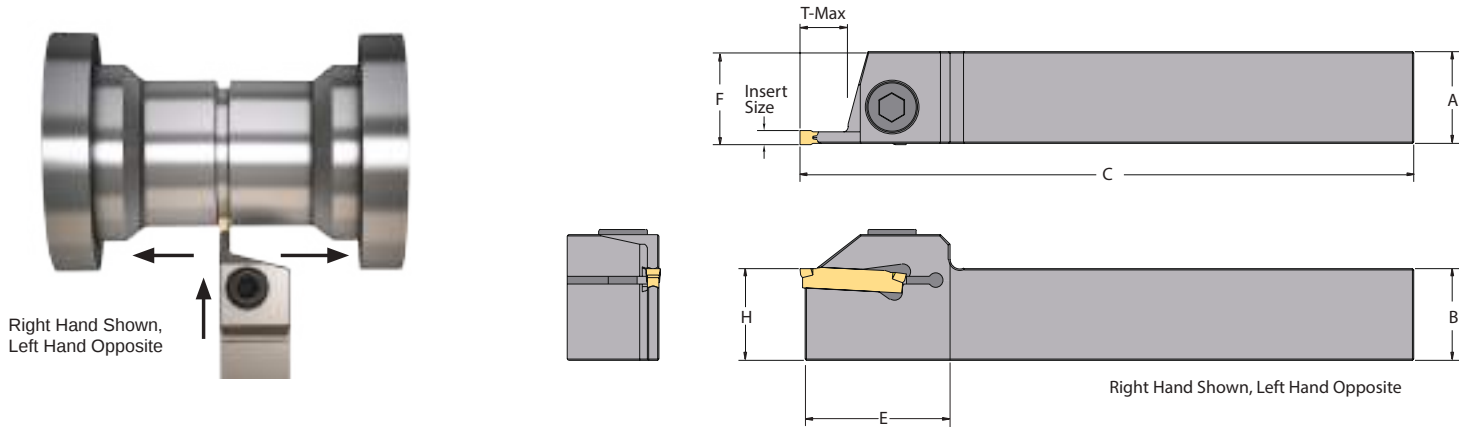
DNTQ-25-6004-3EU-N	6mm	82445
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DNTQ-25-6004-3EU-N	6mm	82445
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DNTQ-25-6004-3EU-N	6mm	82445
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Turning & Grooving System

Turning & Grooving Right Hand & Left Hand Toolholder



.079"/.098" Insert-Inch Turning and Grooving

Specification

Spare Parts

R.H.	UPC No. 733101-	L.H.	UPC No. 733101-	A B C H F T-Max						Insert Size		Insert Style	Insert Lock Screw	Hex Key	
										Metric	Inch				
DETGFR 10-20B-06	63600	DETF 10-20B-06	63601	0.625	0.625	4.50	0.625	0.633	0.236	2mm	.079"	DNTQ-222002-3EU-N	CS-M0616	HAHK-50	
DETGFR 10-20B-12	63630	DETF 10-20B-12	63631						0.472						
DETGFR 10-20B-18	63660	DETF 10-20B-18	63661						0.709						
DETGFR 12-20C-06	63604	DETF 12-20C-06	63605	0.750	0.750	5.00	0.750	0.762	0.236		2.5mm	.098"			DNTR-220210-3EU-N
DETGFR 12-20C-12	63634	DETF 12-20C-12	63635						0.472						
DETGFR 12-20C-18	63664	DETF 12-20C-18	63665						0.709						
DETGFR 16-20D-06	63612	DETF 16-20D-06	63613	1.000	1.000	6.00	1.000	1.012	0.236			DNPG-222002-1SR-N			
DETGFR 16-20D-12	63642	DETF 16-20D-12	63643						0.472						
DETGFR 16-20D-18	63672	DETF 16-20D-18	63673						0.709						

.118" Insert-Inch Turning and Grooving

Specification

Spare Parts

R.H.	UPC No. 733101-	L.H.	UPC No. 733101-	A	B	C	H	F	T-Max	Insert Size		Insert Style	Insert Lock Screw	Hex Key
										Metric	Inch			
DETGFR 10-30B-09	63602	DETF 10-30B-09	63603	0.625	0.625	4.50	0.625	0.633	0.354	3mm	.118"	DNTQ-223003-3EU-N DNTR-223015-3EU-N DNTR-223002-2EF-N DNPG-223002-1SR-N	CS-M0616	HAHK-50
DETGFR 10-30B-15	63632	DETF 10-30B-15	63633						0.551					
DETGFR 10-30B-21	63662	DETF 10-30B-21	63663						0.787					
DETGFR 12-30C-09	63606	DETF 12-30C-09	63607	0.750	0.750	5.00	0.750	0.762	0.354					
DETGFR 12-30C-15	63636	DETF 12-30C-15	63637						0.551					
DETGFR 12-30C-21	63666	DETF 12-30C-21	63667						0.787					
DETGFR 16-30D-09	63614	DETF 16-30D-09	63615	1.000	1.000	6.00	1.000	1.012	0.354					
DETGFR 16-30D-15	63644	DETF 16-30D-15	63645						0.551					
DETGFR 16-30D-21	63674	DETF 16-30D-21	63675						0.787					
DETGFR 85-30D-09	63622	DETF 85-30D-09	63623	1.000	1.250	7.00	1.250	1.012	0.354					
DETGFR 85-30D-15	63652	DETF 85-30D-15	63653						0.551					
DETGFR 85-30D-21	63682	DETF 85-30D-20	63683						0.787					

.156" Insert-Inch Turning and Grooving Tool Holder

Specification

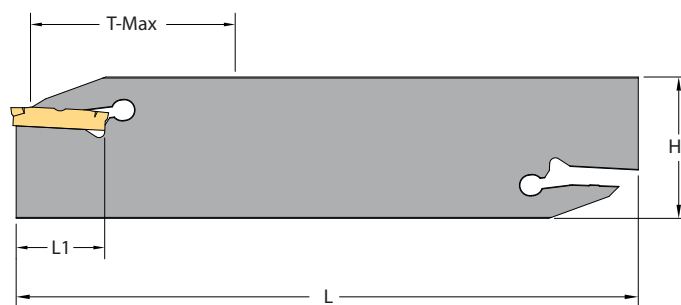
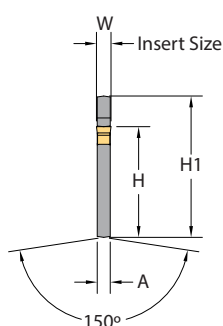
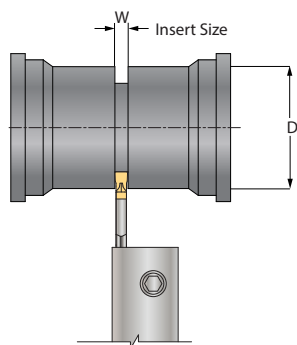
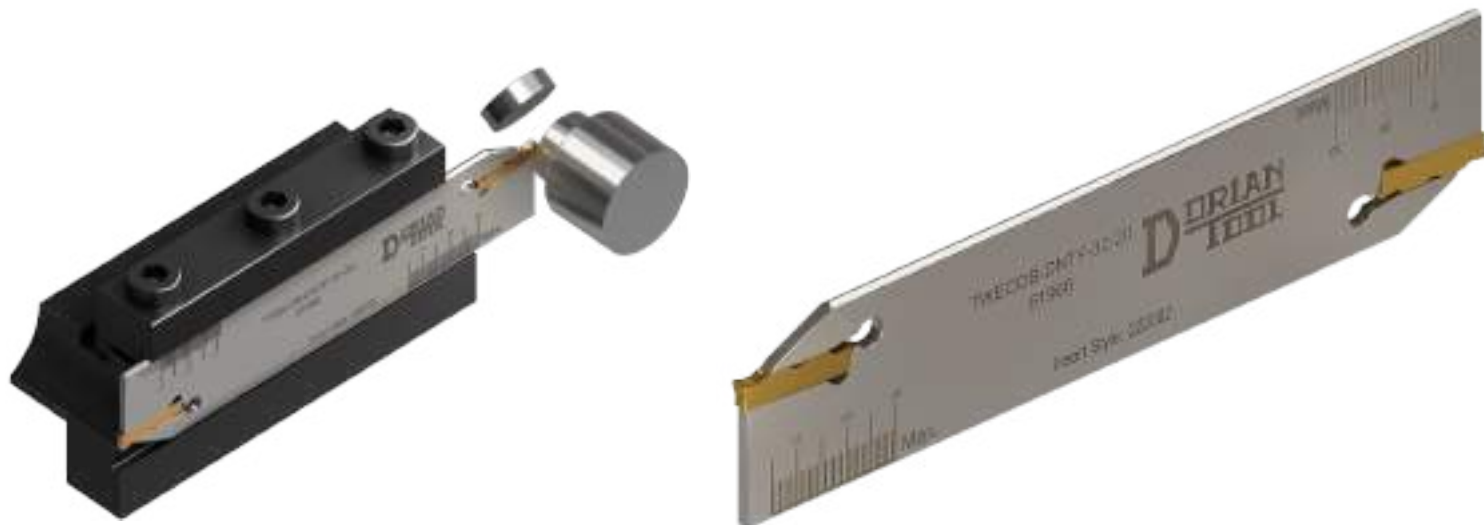
Spare Parts

R.H.	UPC No. 733101-	L.H.	UPC No. 733101-	A	B	C	H	F	T-Max	Insert Size		Insert Style	Insert Lock Screw	Hex Key
										Metric	Inch			
DETGFR 12-040C-12	63608	DETGFL 12-040C-S12	63609	0.750	0.750	5.00	0.750	0.762	0.472	4mm	.156"	DNTQ-254004-3EU-N DNTR-254020-3EU-N DNTR-254003-2EF-N DNPG-254003-1SR-N	CS-M0616	HAHK-50
DETGFR 12-040C-18	63638	DETGFL 12-040C-M18	63639						0.709					
DETGFR 12-040C-24	63668	DETGFL 12-040C-L24	63669						0.945					
DETGFR 16-040D-12	63616	DETGFL 16-040D-S12	63617	1.000	1.000	6.00	1.000	1.012	0.472					
DETGFR 16-040D-M18	63646	DETGFL 16-040D-M18	63647						0.709					
DETGFR 16-040D-L24	63676	DETGFL 16-040D-L24	63677						0.945					
DETGFR 85-040D-S12	63624	DETGFL 85-040D-S12	63625	1.000	1.250	7.00	1.250	1.012	0.472					
DETGFR 85-040D-M18	63654	DETGFL 85-040D-M18	63655						0.709					
DETGFR 85-040D-L24	63684	DETGFL 85-040D-L24	63685						0.945					

Twin Edge Parting Off Insert Blade

Twin Edge Parting Off Insert Blade

- Multi Advanced Cutting Features
- Twin Insert Cutting Edge
- Twin Insert Blade Seat
- Precise and Rigid Insert Locking System
- Easy Insert mounting and removal
- Industry Standard Blade size
- Fits to Standard Parting Off Blade Toolholder Blocks
- Adjustable Extended T-Max



Blades Description	UPC No. 733101-	System	A	D	H	L	H1	L1	T.Max	Insert	
										Size	Style
TWECOB-DNTF-26-20	61965	mm	1.57	52	21.40	110.00	26.00	22.00	27.5	2	DNTF 222002
		inch	.063	2.0	0.843	4.331	1.024	0.866	1.082	0.079	
TWECOB-DNTF-26-30	61966	mm	2.39	78	21.40	110.00	26.00	22.00	38.5	3	DNTF 223003
		inch	.094	3.1	0.843	4.331	1.024	0.866	1.515	0.118	
TWECOB-DNTF-26-40	61967	mm	3.18	84	21.40	110.00	26.00	25.00	38.5	4	DNTF 254004
		inch	.125	2.5	0.843	4.331	1.024	0.984	1.515	0.157	
TWECOB-DNTF-32-20	61968	mm	1.57	58	25.00	150.00	32.00	22.00	37.5	2	DNTF 222002
		inch	.063	2.7	0.984	5.906	1.260	0.866	1.476	0.079	
TWECOB-DNTF-32-30	61969	mm	2.39	90	25.00	150.00	32.00	22.00	52.5	3	DNTF 223003
		inch	.094	3.5	0.984	5.906	1.260	0.866	2.066	0.118	
TWECOB-DNTF-32-40	61970	mm	3.18	100	25.00	150.00	32.00	25.00	25.0	4	DNTF 254004
		inch	.125	3.9	0.984	5.906	1.260	0.984	0.984	0.157	
TWECOB-DNTF-32-50	61971	mm	3.96	120	25.00	150.00	32.00	25.00	25.0	5	DNTF 255004
		inch	.156	4.7	0.984	5.906	1.260	0.984	0.984	0.197	
TWECOB-DNTF-32-60	61972	mm	5.16	140	25.00	150.00	32.00	25.00	25.0	6	DNTF 256004
		inch	.203	5.5	0.984	5.906	1.260	0.984	0.984	0.236	

For Turning, Grooving & Parting Off inserts see Pages F-4-F-12.

Note: When the cutting depth exceeds the length of the cutting insert, the rear cutting edge of the insert penetrates in to the cutting slot. The contact of the rear cutting edge with the faces of the piecework may create tool marks. To minimize the toll marks, the blade must be placed exactly at 90° of the piecework.

NOTES:



The KOOL Cut™

Quick Change Boring & Grooving System

**Expands the Flexibility of Multi-Operations
with the Combination of
Steel and Carbide Boring Bar Sizes
And Interchangeable Head Styles**

***Makes Boring and Grooving
Simple - Efficient - Economic***

Boring and Grooving

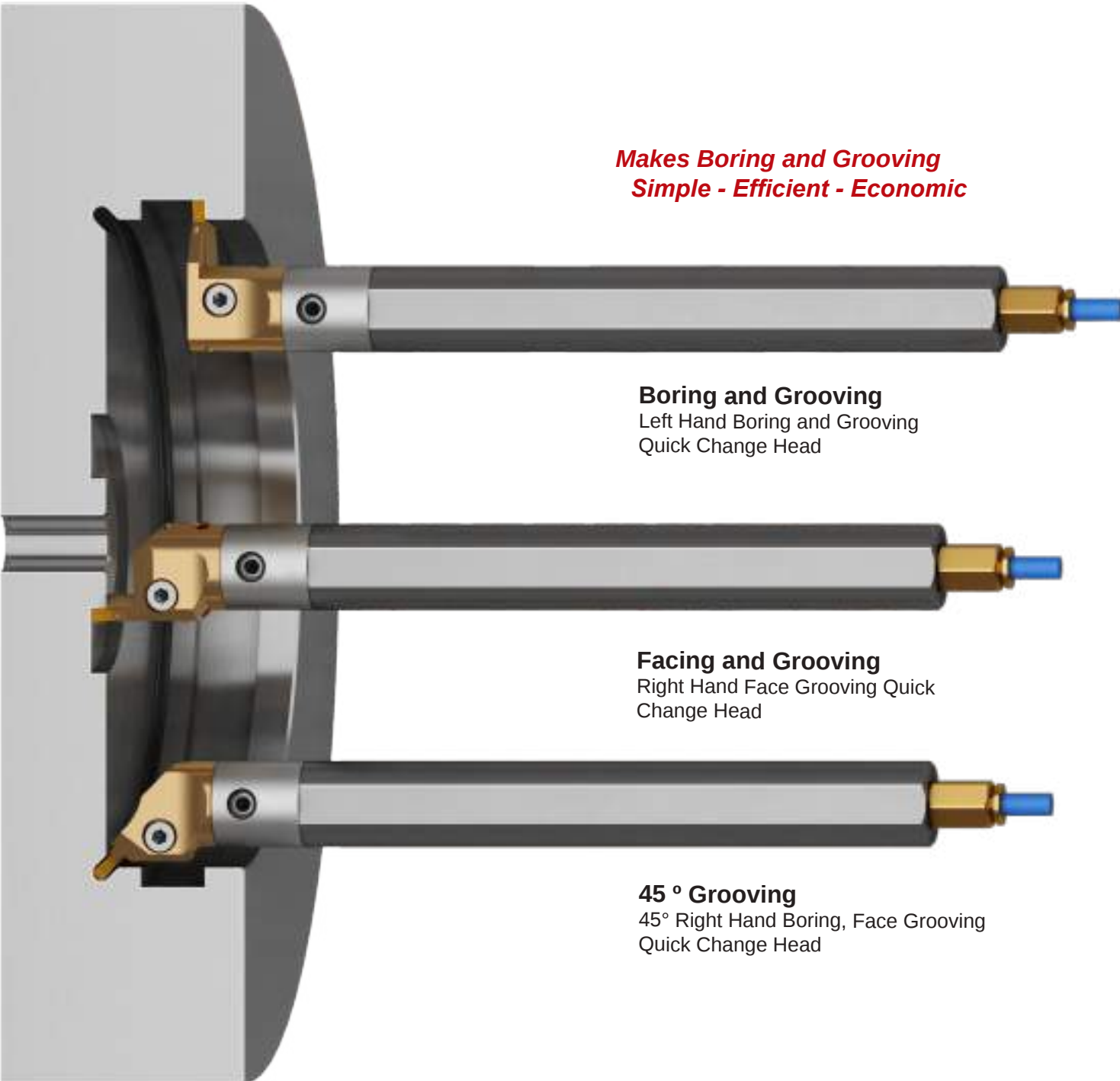
Left Hand Boring and Grooving
Quick Change Head

Facing and Grooving

Right Hand Face Grooving Quick
Change Head

45 ° Grooving

45° Right Hand Boring, Face Grooving
Quick Change Head



The KOOL Cut™ Quick Change Boring & Grooving System

Built for Productivity!
Interchangeable Steel and Carbide Boring Bar Sizes & Quick Change Head Styles

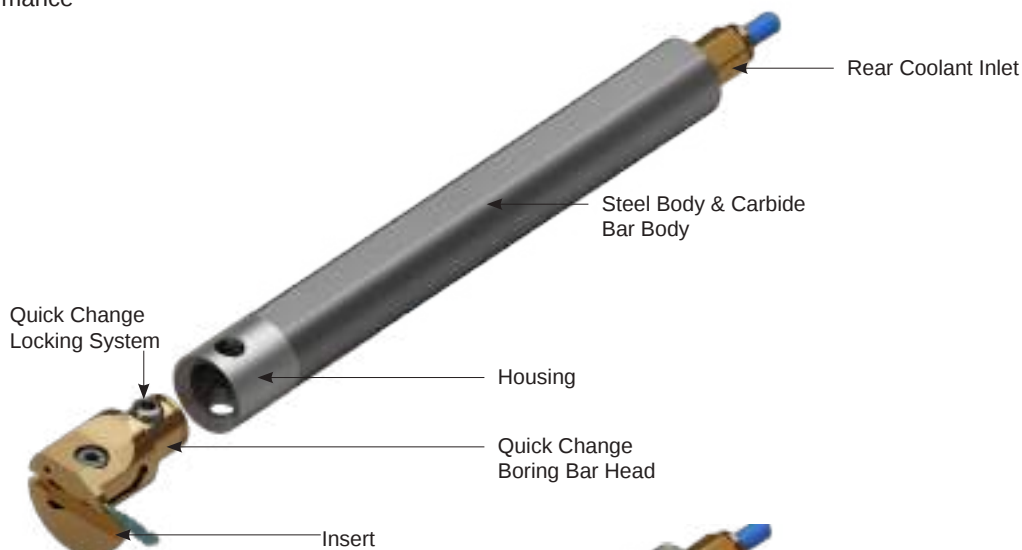
- Rigidity
- Flexibility
- Precision
- Interchangeability
- Advanced Technology
- Repeatability
- Multi-Operation
- High Performance

The KOOL Cut™ Quick Change Boring Bar Body;

Expands the flexibility for multi boring operation with precise and repetitive accuracy, and rigidity.

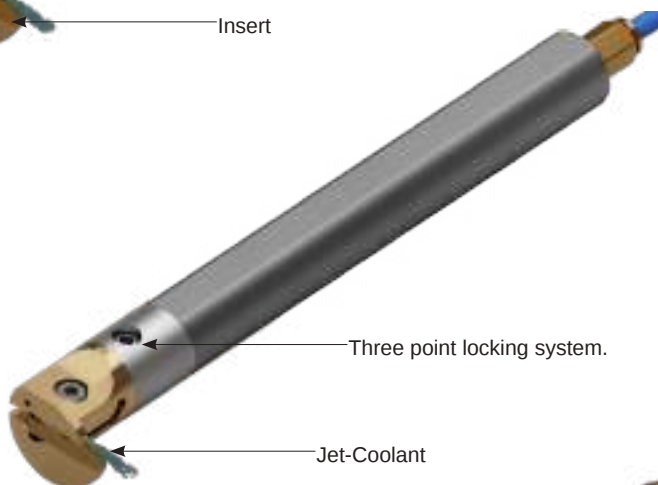
Bidirectional

Right Hand and Left Hand



The KOOL Cut™ Quick Change Boring Bar Head with Jet-Coolant;

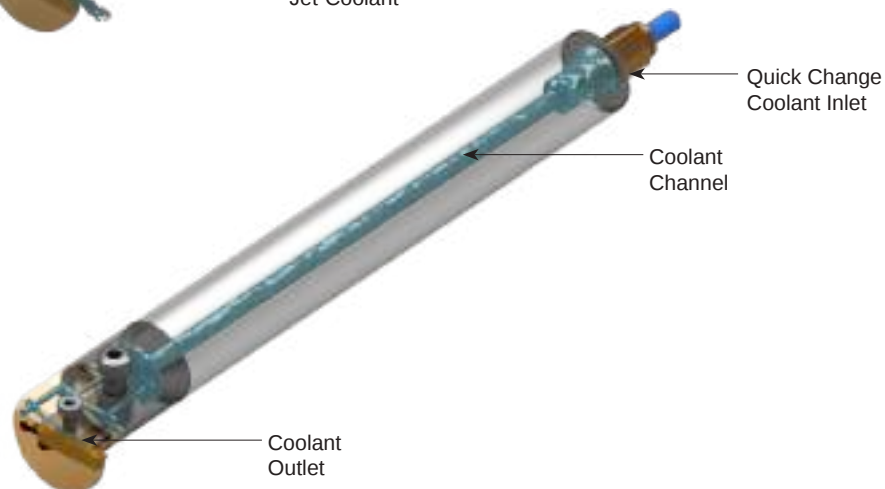
Made of heat treated alloy steel, TiN coated. Locks into the body of the Quick Change boring bar with a Three Point Locking System. The locking system will expand surface contact for maximum locking rigidity and precise interchangeability.



The KOOL Cut™ Quick Change Thru Coolant System;

Coolant is connected on the Coolant Inlet located on the rear end of the Boring Bar Body, The Coolant will travel thru the Boring Bar Body, and exit above the cutting edge of the insert.

The coolant is precisely aimed onto the cutting edge of the insert. The Insert is kept at constant Temperature, and chips are removed from the cutting edge and flushed out from the bore. With the constant insert Temperature, clean cutting edge, and chip free bore, the work quality is increased, and the insert life is increased up to 200%



The KOOL Cut™

Quick Change Boring & Grooving System

SIMPLE - PRECISE - RIGID

To simplify deep hole boring with expandable capabilities of multi boring applications.

Three Point Locking System

Locks the Quick Change Head to the Boring Bar **Housing** by turning the two piece double head tapered locking screw. The screw will expand, forcing the head against the tapered holes. This tension pushes the body of the Quick Change Head into the Boring Bar **Housing**, causing the tapered shoulder of the Quick Change Head to pull against the inner taper of the Boring Bar **Housing**. Powering the locking screw will cause both heads of the screw to lock 180° simultaneously. This locking angle forces the Quick Change Head to align symmetrically at 90° with the Boring Bar **Housing**. The **expanding, pushing and pulling** mechanical forces result in **Three Point Locking System**.

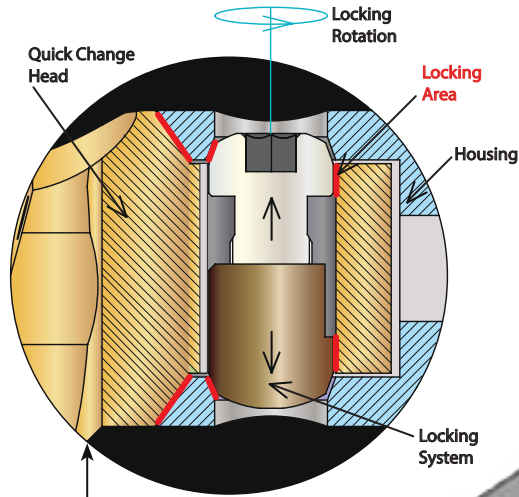
Boring Bar Sizes

Inch Sizes; 3/4", 1.0", 1 1/4"

Metric Sizes; 20mm, 25mm, 32mm

Boring Heads

Positive and Threading
DNTQ Inserts



Coolant Inlet

Carbide & Steel Body

Offered in two versions: Heat Treated Alloy Steel (for the standard version). Precision and ground solid Alloyed Carbide (for high performance version). The rigidity and stability of the carbide body will minimize the boring vibration and improve performance over the steel body.

Brazed Connection

The Quick Change Housing and the Carbide Boring Bar Body are silver brazed. The combination of right alloy and thickness of the silver braze makes the brazing strong and unbreakable, but flexible under interrupt cuts.

Center Line

For center gage reference.

Housing

Made of heat treated alloy steel and is precisely machined and brazed on to the Carbide Boring Bar Body.

Jet-Stream™ Thru Coolant Quick Change Heads

Made of heat treated alloy steel, TiN coated. The cylindrical body and the tapered shoulder of the Quick Change Head locks precisely into the boring bar body housing. The Three Point Locking System will expand surface contact for maximum locking rigidity and precise interchangeability. The Jet Stream thru coolant system will enhance performance, keeping the insert at constant temperature clean and undamaged cutting edge, and will remove chips from the bore while machining.

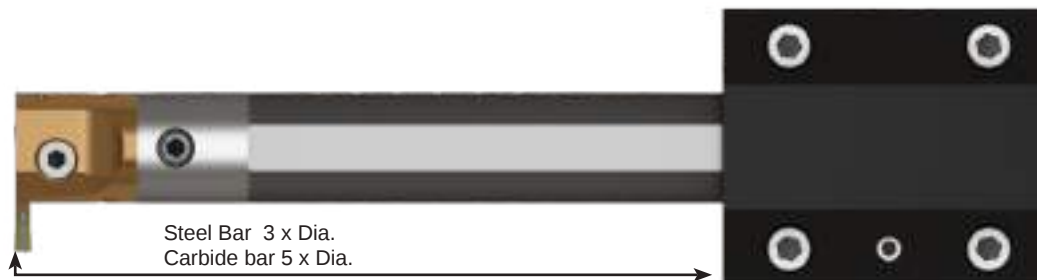
Boring and Grooving Operation Set-Up

Step 1. Bar Set up

For best performance and to eliminate chatter in boring and grooving operation; Select a boring bar with the largest diameter permissible.

Extend the boring bar the shortest diameter possible

Use the narrowest insert possible

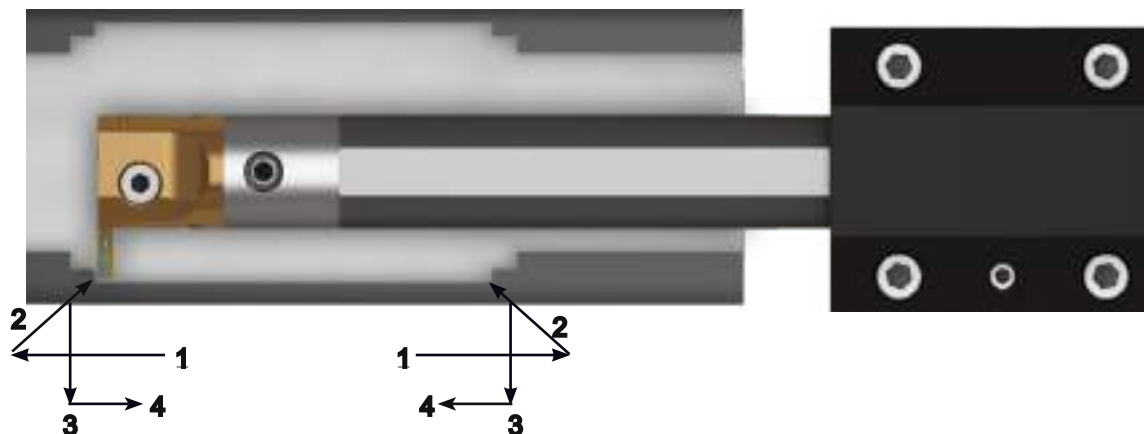


Step 2. Roughing

Cut the first groove to the depth of the first roughing cutting diameter.

The feed the insert toward the other side of the workpiece. Cut till the end, then retract the insert at the 45° away from the wall.

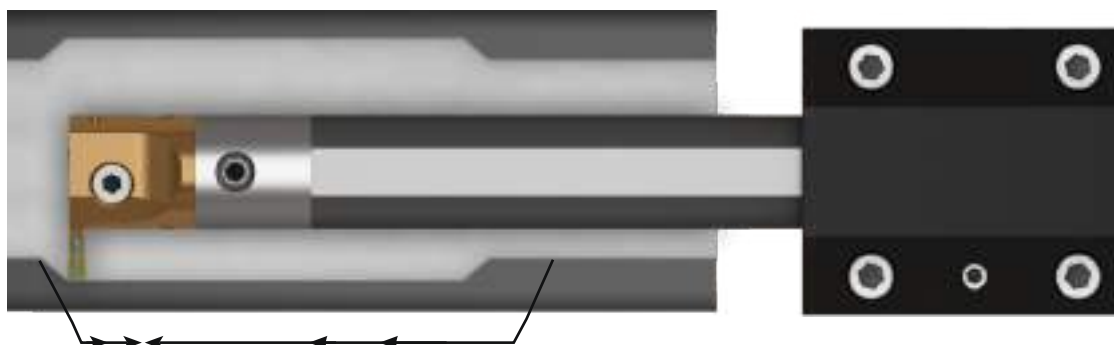
Repeat the operation, till the roughing operation is complete.



Step 3. Finishing

Face-Off at finish dimension, one side of the groove to the finished diameter.

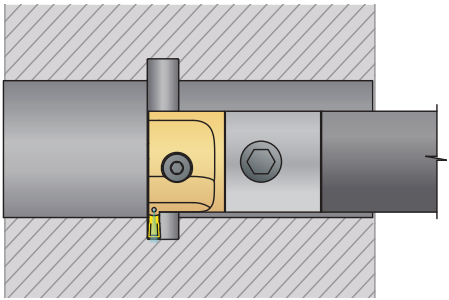
Retract the insert at 45° away from the wall and move to the other side of the groove. Face-Off to the finish diameter and continue to cut till the other wall is reached, than retract the insert at 45°.



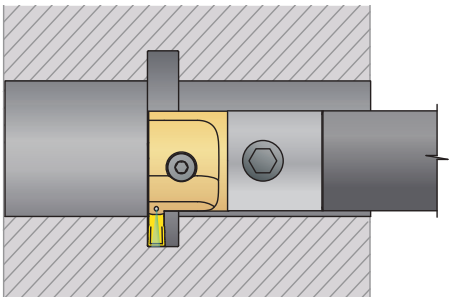
The KOOL Cut™

Quick Change Boring & Grooving System

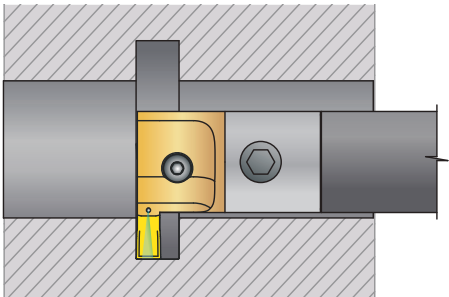
Expands the Flexibility of Multi-Operations



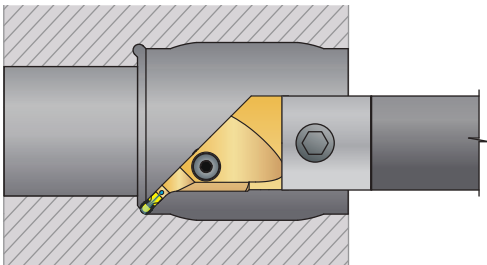
Boring and Grooving 2mm (.079") Insert Size



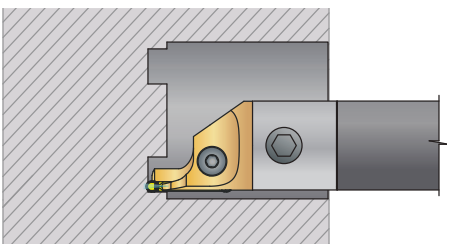
Boring and Grooving 3mm (.118") Insert Size



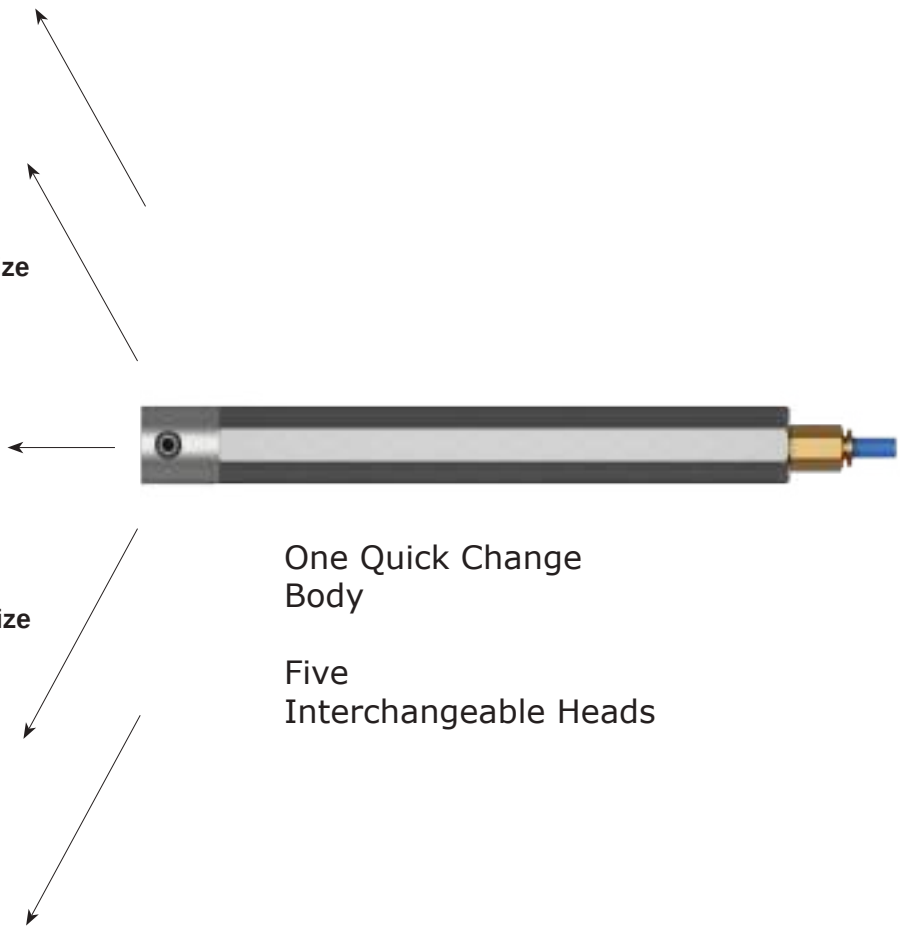
Boring and Grooving 4mm (.157") Insert Size



Boring, Profiling and Grooving 45°



Facing and Face Grooving

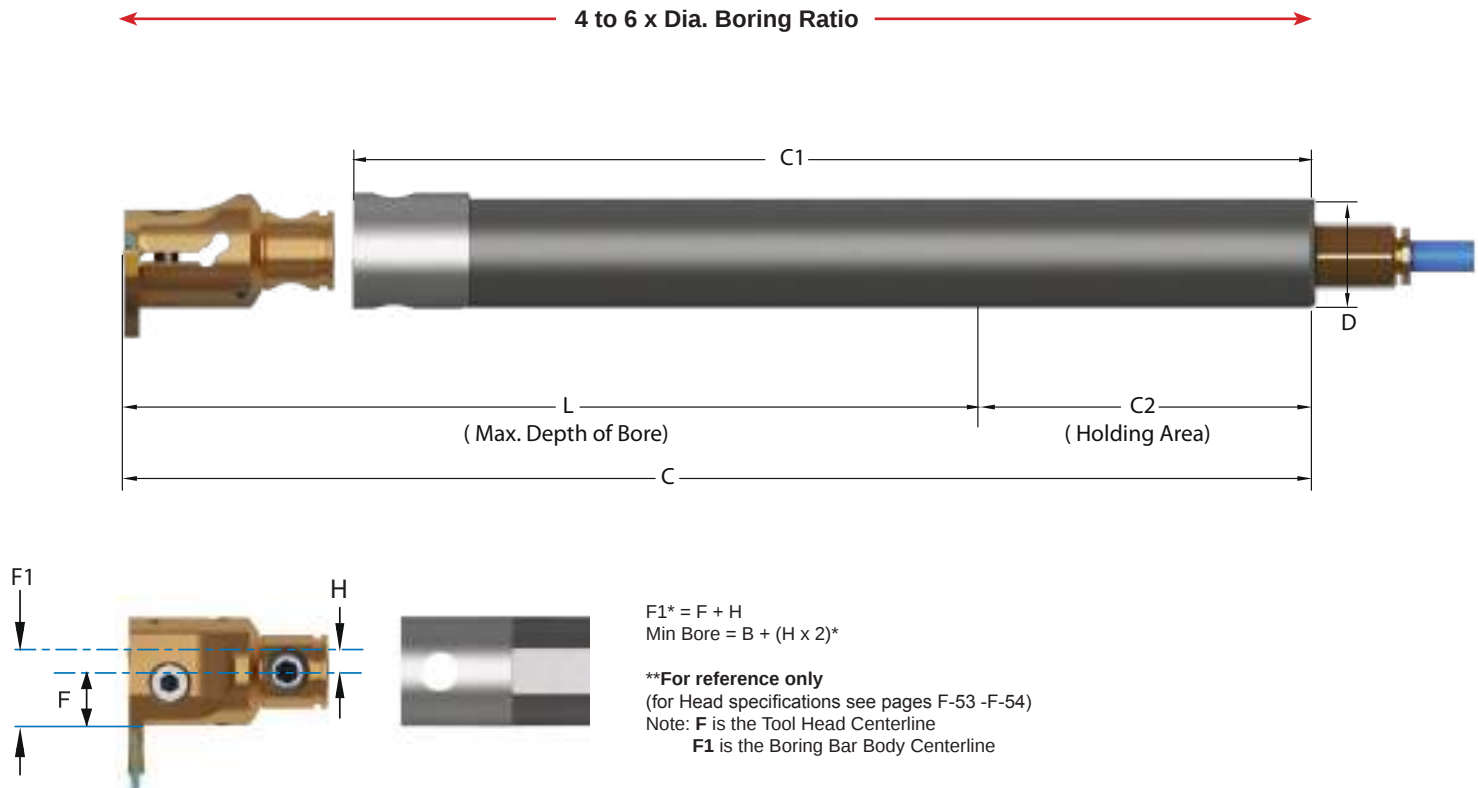


One Quick Change
Body

Five
Interchangeable Heads

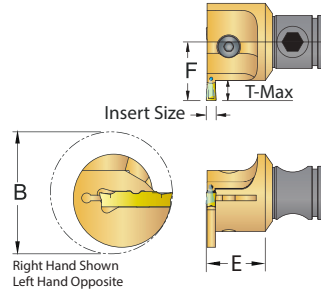
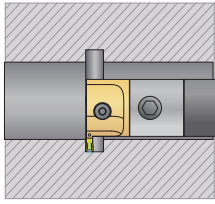
KOOL Cut™ Quick Change Turning, Facing & Grooving System

KOOL Cut™ Quick Change Turning, Threading, Grooving & Facing Steel & Carbide Shank



Inch			UPC No. 733101-	Boring Ratio	Steel Body							Min. Bore B**	Modular Head* CBBB	Coolant Bore Dia.	Coolant Attachment Thread
Steel	Bar Description	Neutral	D		C	C1	L	C2	H	F1*					
	A12I-R-4-MBQC	60215	4 x Dia.	0.750	8.00	7.160	3.00	3.00	0	F1=F+H	MB+B+(HxH2)	DQMH-12-_	0.157	1/8"-27NTP	
	A16I-R-4-MBQC	60216		1.000	8.00	7.160	4.00	4.00	0.125				0.157		
	A20I-S-4-MBQC	60217		1.250	10.00	9.160	5.00	5.00	0.250				0.197		
Metric			UPC No. 733101-	Boring Ratio	Steel Body							Min. Bore B**	Modular Head* CBBB	Coolant Bore Dia.	Coolant Attachment Thread
Steel	Bar Description	Neutral	D		C	C1	L	C2	H	F1*					
	A20M-R-4-MBQC	60218	4 x Dia.	20	203	182	80	80	0	F1=F+H	MB+B+(HxH2)	DQMH-12-_	4	1/8"-27NTP	
	A25M-R-4-MBQC	60219		25	203	182	100	100	5				4		
	A32M-S-4-MBQC	60220		32	254	233	128	128	10				5		
Inch			UPC No. 733101-	Boring Ratio	Carbide Body							Min. Bore B**	Modular Head* CBBB	Coolant Bore Dia.	Coolant Attachment Thread
Carbide	Bar Description	Neutral	D		C	C1	L	C2	H	F1*					
	AE12I-Q-6-MBQC	60200	6 x Dia.	0.750	7.146	6.306	4.50	3.00	0	F1=F+H	MB+B+(HxH2)	DQMH-12-_	0.157	1/8"-27NTP	
	AE12I-S-6-MBQC	60201		0.750	10.146	9.306	4.50	3.00	0				0.157		
	AE16I-R-6-MBQC	60202		1.000	8.101	7.261	6.00	4.00	0.125				0.197		
	AE16I-T-6-MBQC	60203		1.000	12.10	11.261	6.00	4.00	0.125				0.197		
	AE20I-U-6-MBQC	60204		1.250	14.00	13.160	7.50	5.00	0.250				0.197		
Metric			UPC No. 733101-	Boring Ratio	Carbide Body							Min. Bore B**	Modular Head* CBBB	Coolant Bore Dia.	Coolant Attachment Thread
Carbide	Bar Description	Neutral	D		C	C1	L	C2	H	F1*					
	AE20M-Q-6-MBQC	60205	6 x Dia.	20	180	158.70	120	80	0	F1=F+H	MB+B+(HxH2)	DQMH-12-_	4	1/8"-27NTP	
	AE20M-S-6-MBQC	60206		20	250	228.65	120	80	0				4		
	AE25M-R-6-MBQC	60207		25	200	178.70	150	100	5				5		
	AE25M-T-6-MBQC	60208		25	300	278.70	150	100	5				5		
	AE32M-U-6-MBQC	60209		32	350	328.66	192	128	10				5		

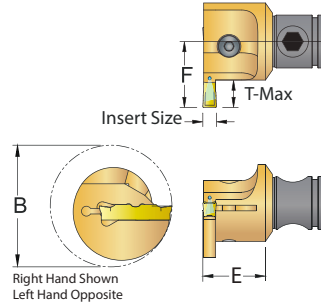
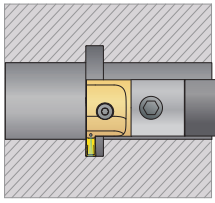
KOOL Cut™ Quick Change Boring and Grooving Head - 2mm (.079") Insert Size



For Turning, Grooving & Parting Off inserts see Pages F-4-F12

Head Description	UPC No. 733101-		System	B	Min.		F	T-Max	Modular Head	Bar Diameter	Insert				Coolant Seal
	R.H.	L.H.			Dia.	W					Size	Style	Lock Screw	Key	
DQCMH-ITR/L20-04	61925	61938	mm	31	21.34	16	4	20	20	20	2	DNTF 222010	CS-M0516	HAHK-50	CS08-04
			inch	1.183	0.840	0.611	0.157	0.750	0.750	0.750	.079				
DQCMH-ITR/L20-08	61926	61939	mm	35	21.34	20	8	20	25	25	2				
			inch	1.341	0.840	0.769	0.315	0.750	1.00	1.00	.079				
DQCMH-ITR/L20-12	61927	61940	mm	39	21.34	24	12	20	32	32	2				
			inch	1.498	0.840	0.926	0.472	0.750	1.25	1.25	.079				

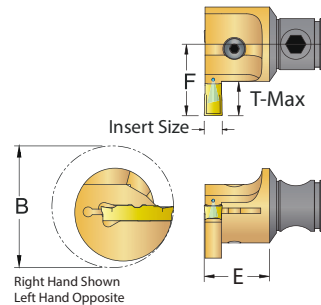
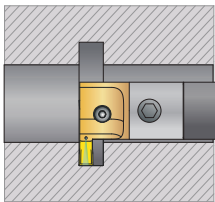
KOOL Cut™ Quick Change Boring and Grooving Head - 3mm (.118") Insert Size



For Turning, Grooving & Parting Off inserts see Pages F-4-F12

Head Description	UPC No. 733101-		System	B	Min.		F	T-Max	Modular Head	Bar Diameter	Insert				Coolant Seal
	R.H.	L.H.			Dia.	W					Size	Style	Lock Screw	Key	
DQCMH-ITR/L30-06	61928	61941	mm	33	21.34	18	6	20	20	20	3	DNTF 223015	CS-M0516	HAHK-50	CS08-04
			inch	1.262	0.840	0.690	0.236	0.750	0.750	0.750	.118				
DQCMH-ITR/L30-12	61929	61942	mm	39	21.34	24	12	20	25	25	3				
			inch	1.498	0.840	0.926	0.472	0.750	1.00	1.00	.118				
DQCMH-ITR/L30-15	61930	61943	mm	42	21.34	27	15	20	32	32	3				
			inch	1.616	0.840	1.044	0.590	0.750	1.25	1.25	.118				

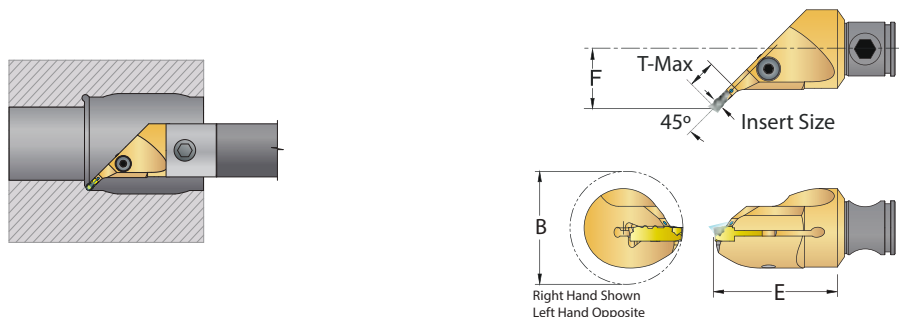
KOOL Cut™ Quick Change Boring and Grooving Head - 4mm (.157") Insert Size



For Turning, Grooving & Parting Off inserts see Pages F-4-F12

Head Description	UPC No. 733101-		System	B	Min.		F	T-Max	Modular Head	Bar Diameter	Insert				Coolant Seal
	R.H.	L.H.			Dia.	W					Size	Style	Lock Screw	Key	
DQCMH-ITR/L40-08	61931	61944	mm	35	21.34	20	8	20	20	20	4	DNTF 245020	CS-M0516	HAHK-50	CS08-04
			inch	1.341	0.840	0.769	0.315	0.750	0.750	0.750	.157				
DQCMH-ITR/L40-12	61932	61945	mm	39	21.34	24	12	20	25	25	4				
			inch	1.498	0.840	0.926	0.472	0.750	1.00	1.00	.157				
DQCMH-ITR/L40-16	61933	61946	mm	43	21.34	28	16	20	32	32	4				
			inch	1.656	0.840	1.084	0.630	0.750	1.25	1.25	.157				

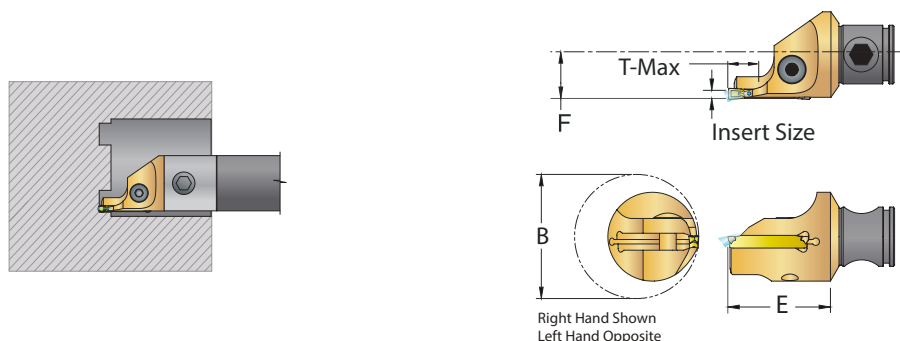
KOOL Cut™ Quick Change Boring and Grooving 45° Head - 2mm (.079"), 3mm (.118"), 4mm (.157") Insert Size



For Turning, Grooving & Parting Off inserts see Pages F-4-F-12.

Head Description	UPC No. 733101-		System	B				Modular Head	Bar Diameter	Insert				Coolant Seal
	R.H.	L.H.		Min. Dia.	W	F	T-Max			Size	Style	Lock Screw	Key	
DQCMH-IUR/L20-04	61951	61954	mm	31	21.34	16	4	20	20	2	DNTF 222010	CS-M0516	HAHK-50	CS08-04
DQCMH-IUR/L30-06	61952	61955	mm	33	21.34	18	6	20	20	3	DNTF 223015			
DQCMH-IUR/L40-08	61953	61956	mm	35	21.34	20	8	20	20	4	DNTF 245020			

KOOL Cut™ Quick Change Internal Face Grooving Head - 3mm (.118") Insert Size

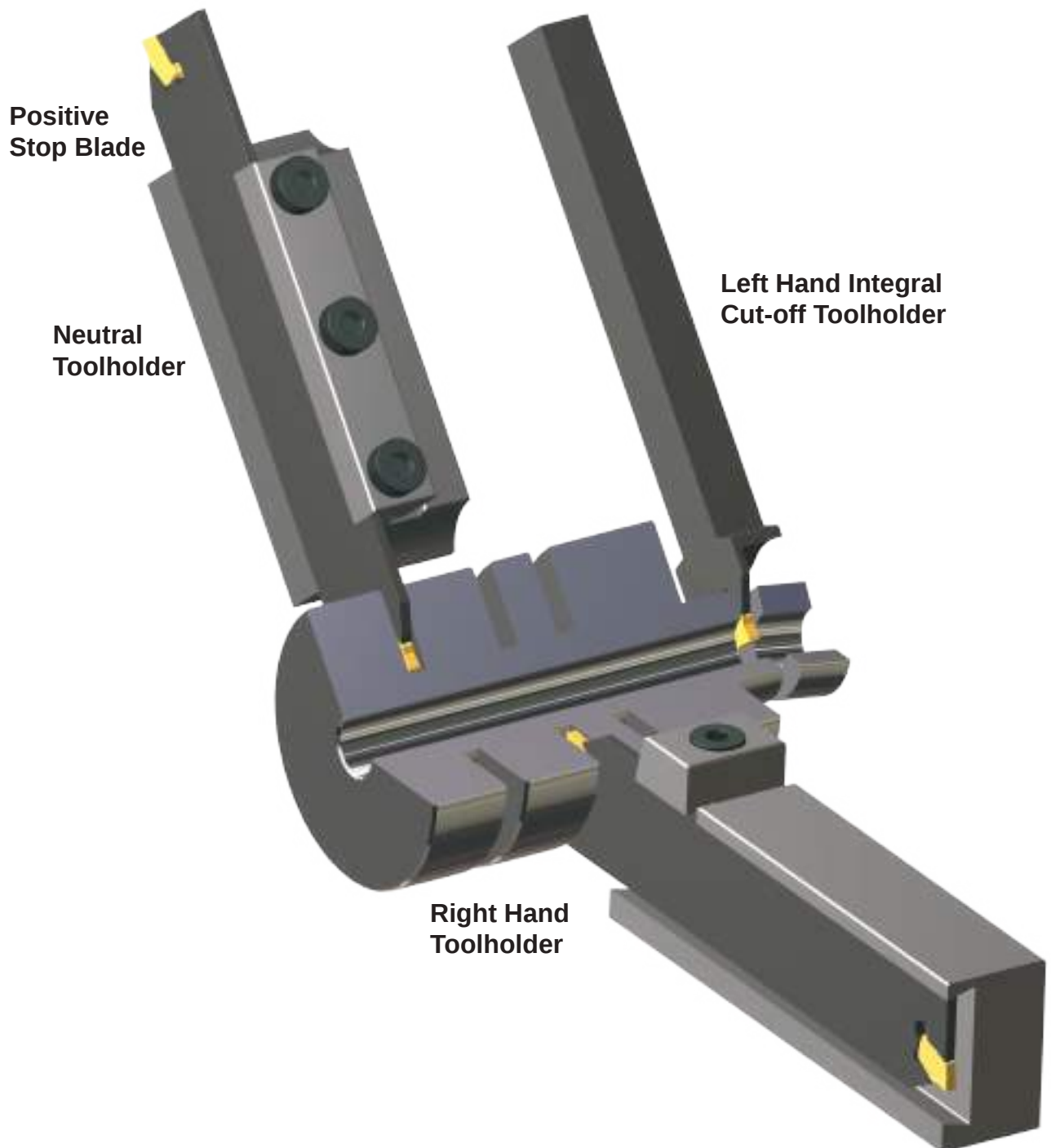


For Turning, Grooving & Parting Off inserts see Pages F-4-F-12

Head Description	UPC No. 733101-		System	B Dia.		W	F	T-Max	Modular Head	Bar Diameter	Insert				Coolant Seal
	R.H.	L.H.		Min.	Max.						Size	Style	Lock Screw	Key	
DQCNH-IFR/L30-025038-10	61957	61961	mm	25	39	21.34	12	10	20	20	3	DNTF 223015	CS-M0516	HAHK-50	CS08-04
DQCNH-IFR/L30-038060-10	61958	61962	mm	37	60	21.34	12	10	20	20	3				
DQCNH-IFR/L30-060100-10	61959	61963	mm	59	101	21.34	12	10	20	20	3				
DQCNH-IFR/L30-100200-10	61960	61964	mm	99	200	21.34	12	10	20	25	3				

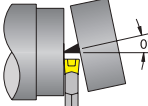
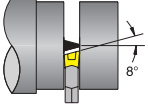
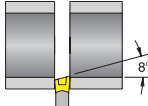
Slot Grip Cut-Off Toolholder & Insert

Cut-Off & Grooving System

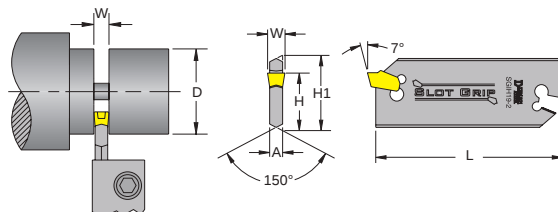
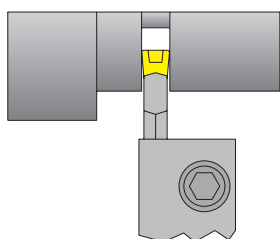


KOOL Cut™ Quick Change Turning, Facing & Grooving System

Material		Recommended Surface Speed per Minute - Feet (m)/min - sfm (Vc)							
Dorian Insert Grade	Insert Coating	DK25		DP25		DASK25		DC656	
		Uncoated		Uncoated		PVD Coated		CVD Coated	
		High (Vc)		Medium (Vc)		High (Vc)		High (Vc)	
		SFM Inch	m/Min Metric	SFM Inch	m/Min Metric	SFM Inch	m/Min Metric	SFM Inch	m/Min Metric
Free Machining Low Carbon Steel									
Low Carbon and Free Machining Steel		-	-	430-690	131-210	-	-	540-870	165-265
Carbon Steel, Alloy Steel and Tool Steel <35 HRC		-	-	360-490	110-149	-	-	450-630	137-192
Carbon Steel, Alloy Steel and Tool Steel >35 HRC		-	-	195-390	59-119	-	-	285-505	87-154
Martensitic - Ferritic, 400 Series and PH Stainless Steel		-	-	440-740	134-226	-	-	560-935	171-285
Stainless Steel									
Stainless Steel Austenitic 200 and 300 Series		380-425	116-130	-	-	640-740	195-225	-	-
Cast Iron									
Gray Cast Iron 135-270 BHN		360-425	110-130	-	-	620-740	189-225	-	-
Gray Cast Iron 275-450 BHN		330-380	101-116	-	-	575-655	175-200	-	-
Ductile Cast Iron		295-245	90-75	-	-	510-590	155-180	-	-
Aluminum Alloys									
Free Machining Aluminum, Low Silicon Aluminum <12.2%, Magnesium 50-90 BHN		500-2000	152-610	-	-	600-2500	183-762	-	-
High Silicon Aluminum Alloy >12..2%		-	-	-	-	-	-	-	-
Copper Brass, Bronze, Zinc, Lead Alloys, Magnesium 90-150 BHN		250-700	76-214	-	-	400-1000	122-305	-	-
Carbon and Graphite 270-400 BHN Nylon, Plastics, Rubbers, Phenolics and Resins		400-1500	122-458	-	-	400-1500	122-458	-	-
High Temp Alloy									
Cobalt Base High Temp Alloys 150-425 BHN		80-150	24-46	-	-	100-300	31-91	-	-
Iron Base High Temp Alloys 135-320 BHN		80-150	24-26	-	-	100-300	31-91	-	-
Nickel Base High Temp Alloys 140-300 BHN		30-100	9-31	-	-	50-225	15-69	-	-
Nickel Base High Temp Alloys 300-475 BHN		30-100	9-31	-	-	50-225	15-69	-	-
Titanium and Titanium Alloys 100-475 BHN		90-200	27-61	-	-	125-300	38-91	-	-

Applications	Cut-off & Grooving Solid Bars & Tubing	Cut-off Solid Bars and Tubing	
Insert	SGTN	SGTL..8 / SGTL..8	 Solid bar cut-off with SGTN insert
Lead Angle	0°	8°	
Optimum Feed Rate	Maximum Usage	Average Usage	
Maximum Flatness of the Cut Surface	Maximum Usage	Average Usage	 Solid bar cut-off (soft materials) with SGTR insert
Maximum Chip Control	Maximum Usage	Average Usage	
Ultimate Cutting Edge Strength	least Usage	Above Average Usage	
Minimum Burr	Least Usage	Above Average Usage	 Tubing cut-off with SGTR insert
Ratio of: Depth of Cut / Width of Cut	Maximum Usage	Average Usage	

Slot Grip Positive Stop Blades for Cut-Off & Grooving SGTN Inserts



SLOT GRIP

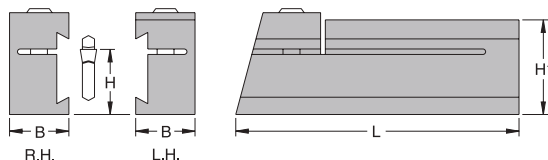
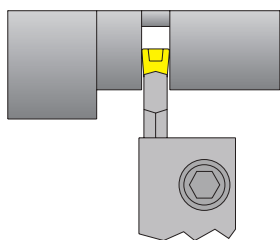
Designed for use with standard cut-off inserts and standard cut-off blade holders. The insert's cutting edge location repeats accurately and as a result prevents insert splitting under heavy feed and shock loads. The blade and insert geometry allows free chip flow, minimizing insert breakage due to chip build-up.

Improved design featuring a "Positive Stop". Inserts are securely held in Slot Grip Positive Stop Blades by a tapered locking system featuring a "Positive Stop" that prevents insert drift and the blade pocket from spreading once the insert is firmly in place.

Inch Description	UPC No. 733101-	Insert Used	W		D Max		A		L		H		H1	
			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
SGIH19-2	62950	SGT(N/R/L)-2	.087	2	1.57	39,9	.063	1,57	3.38	85,9	.618	15,7	0.75	19,1
SGIH26-2	62951	SGT(N/R/L)-2	.087	2	2.00	50,8	.063	1,57	4.33	110,0	.842	21,4	1.02	25,9
SGIH26-3	62952	SGT(N/R/L)-3	.122	3	3.00	76,2	.094	2,39						
SGIH26-4	62953	SGT(N/R/L)-4	.161	4	3.15	80,0	.125	3,18						
SGIH32-3	62956	SGT(N/R/L)-3	.122	3	3.94	100,0	.094	2,39	5.90	149,9	.984	25,0	1.25	31,8
SGIH32-4	62957	SGT(N/R/L)-4	.161	4	3.94	100,0	.125	3,18						
SGIH32-5	62958	SGT(N/R/L)-5	.201	5	4.71	119,6	.156	3,96						
SGIH32-6	62959	SGT(N/R/L)-6	.252	6	4.72	119,9	.203	5,16						
SGIH32-8	62960	SGT(N/R/L)-8	.315	8	5.51	140,0	.268	6,81						
SGIH32-9	62961	SGT(N/R/L)-9	.378	9	5.51	140,0	.312	7,92						

For Slot Grip Cut Off inserts see Pages F-56-F-57.

SGTB R/L Toolholder for Cut-Off SGIH blades

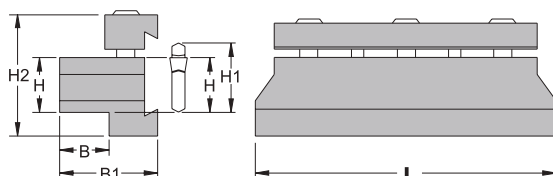
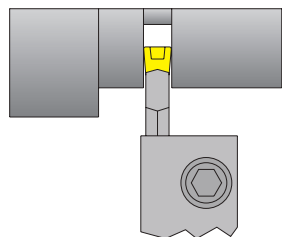


Simple block design accommodates Slot Grip and competitive blade systems. Unique wedge clamp provides firm seating for light and heavy duty cut-off and grooving operations. One piece design for additional cost savings. Also, facilitates installation to many CNC machining centers. Slot Grip Cut-Off toolholders come in a broad selection of sizes.

Inch Description	UPC No. 733101-		H	H1	B	L	Blade Used	Screw used
	R.H.	L.H.						
SGTBR/L19-2	62990	62991	0.750	1.00	.750	4.00	SGIH19-2	ASHCSFP-060-100-025-MA
SGTBR/L25,4-6	62992	62993	1.00	1.25	.781	4.75	SGIH26-2 Thru SGIH26-6	ASHCSFP-060-100-030-MA

For Slot Grip Cut Off inserts see Pages F-56-F-57.

SGTBN Neutral Hand Cut-Off Toolholder for Cut-Off SGIH blades

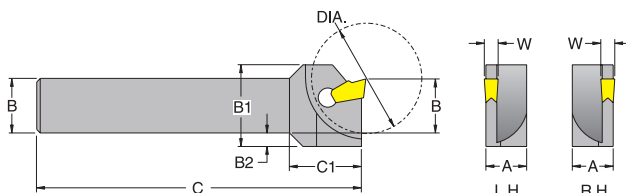
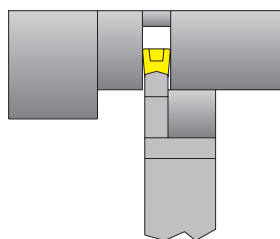


The two piece clamp style of this tool provides a precise and rigid blade locking and easy mounting of the tool into CNC turrets. Simple block design accommodates Slot Grip, Kool-Cut, and competitive blade systems. SGTBN toolholders come in a broad selection of shank sizes.

Inch Description	UPC No. 733101-Neutral	H	H1	H2	B	B1	L	Blade Used	Screw used
SGTBN12,7-2	62970	0.500	0.750	1.375	0.500	1.000	3.00	SGIH19-2	ASHCSFP-050-080-025-MA
SGTBN16-2	62971	0.625	0.750	1.375	0.625	1.000	3.00		
SGTBN16-5	62972	0.625	1.020	1.750	0.625	1.250	3.50	SGIH26-2 Thru SGIH26-6	ASHCSFP-060-100-030-MA
SGTBN19-5	62973	0.750	1.020	2.000	0.750	1.375	3.50		
SGTBN19-6	62974	0.750	1.250	2.000	0.750	1.375	4.50	SGIH32-3 Thru SGIH32-9	ASHCSFP-060-100-030-MA
SGTBN25,4-6	62975	1.000	1.250	2.125	0.875	1.500	4.50		
SGTBN31,8-6	62976	1.250	1.250	2.375	1.125	1.750	4.50		
SGTBN38,1-6	62977	1.500	1.250	2.875	1.625	2.250	4.50		

For Slot Grip Cut Off inserts see Pages F-56-F-57.

SGTH R/L Cut-Off Toolholder for Cut-Off SGTN inserts



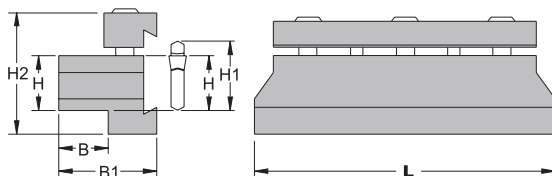
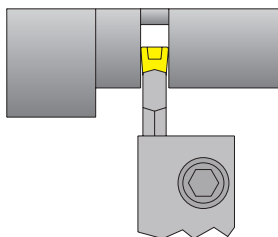
The square shank design of the Cut-Off toolholder ensures a precise center line of the insert with respect to the center of the work-piece, when the toolholder is mounted directly on the CNC turret. Inserts are securely held in Slot Grip blades by a tapered locking system. No additional clamping devices are required. Slot Grip Cut-Off toolholders come in a broad selection of shank sizes.

Inch Description	UPC No. 733101-R.H.	L.H.	A	B	B1	B2	C	C1	Max. Dia	W	Insert used
SGTHR/L-9,5-2	63000	63001	.375	0.375	0.750	.187	3.375	0.703	1.109	.087 & .093	SGTN/R/L-2,2,4
SGTHR/L-12,7-2	63002	63003	.391	0.500	0.828	.156	4.328	0.703	1.172	.087 & .093	
SGTHR/L-16-2	-	63005	.391	0.625	0.750	-	4.328	0.703	1.172	.087 & .093	
SGTHR/L-19-2	63006	63007	.469	0.750	0.937	-	4.328	0.781	1.266	.087 & .093	
SGTHR/L-19,5-3	63008	63009	.375	0.375	0.750	.187	3.375	0.703	1.109	.120	SGTN/R/L-3
SGTHR/L-12,7-3	63010	63011	.391	0.500	0.828	.237	4.328	0.828	1.266	.120	
SGTHR/L-16-3	63012	63013	.469	0.625	0.937	.156	4.328	0.828	1.266	.120	
SGTHR/L-19-3	63014	63015	.469	0.750	0.937	-	4.328	0.828	1.406	.120	
SGTHR/L-25,4-3	63016	63017	.984	1.000	1.187	-	5.875	0.984	2.062	.120	SGTN/R/L-4
SGTHR/L-16-4	63018	63019	.469	0.625	0.937	.156	4.328	0.828	1.328	.160	
SGTHR/L-19-4	63020	63021	.469	0.750	0.937	-	4.328	0.906	1.531	.160	
SGTHR/L-25,4-4	63022	63023	.984	1.000	1.187	-	5.875	1.187	2.500	.160	
SGTHR/L-19-5	63024	63025	.469	0.750	0.937	-	4.328	0.906	1.531	.187 & .200	SGTN/R/L-4,8-5
SGTHR/L-25,4-5	63026	-	.984	1.000	1.187	-	5.875	1.600	3.000	.187 & .200	

For Slot Grip Cut Off inserts see Pages F-56-F-57.

Slot Grip Cut-off Toolholder, Blade and Insert System

SGTBN Neutral Hand Cut-Off Toolholder for Cut-Off SGIH blades

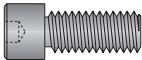


The two piece clamp style of this tool provides a precise and rigid blade locking and easy mounting of the tool into CNC turrets. Simple block design accommodates Slot Grip and competitive blade systems. Slot Grip Cut-Off toolholders come in a broad selection of shank sizes.

Metric Description	UPC No. 733101-Neutral	H	H1	H2	B	B1	L	Blade Used	Screw used
SGTBN12-2	62978	12,0	19,1	34,9	12,7	25,4	76,20	SGIH19-2	ASHCSFP-050-080-025-MA
SGTBN16-2	62971	16,0	19,1	34,9	15,9	25,4	76,20		
SGTBN16-5	62972	16,0	25,9	44,5	15,9	31,8	88,90	SGIH26-2 Thru SGIH26-6	ASHCSFP-060-100-030-MA
SGTBN20-5	-	20,0	25,9	50,8	19,1	34,9	88,90		
SGTBN20-6	62980	20,0	31,8	50,8	19,1	34,9	114,3	SGIH32-3 Thru SGIH32-9	ASHCSFP-060-100-030-MA
SGTBN25-6	62981	25,0	31,8	54,0	22,2	38,1	114,3		
SGTBN32-6	62982	32,0	31,8	60,3	28,6	44,5	114,3		
SGTBN40-6	62983	40,0	31,8	73,0	41,3	57,2	114,3		

For Slot Grip Cut Off inserts see Pages F-56-F-57.

Cut-Off & Grooving Spare Parts

	Description	Part No. 733101-	Length	Thread	Hex Wrench Size	PKG.
	ASHCSFP-050-080-025-MA	90913	25	M5X0.8	4mm	10
	ASHCSFP-060-100-025-MA	90914	25	M6X1.0	5mm	10
	ASHCSFP-060-080-030-MA	90916	32	M6X1.0	5mm	10
	ASHCSFP-060-100-040-MA	90918	40	M6X1.0	5mm	10