



GBA

Grooving with 3 Cutting Edges



Smooth Chip Evacuation with Molded Chipbreaker

Large Lineup of Chipbreakers and Insert Grades

Smooth Chip Control with GM Chipbreaker

NEW

PR1625 Grade
for Steel and Stainless Steel



GBA Grooving with 3 Cutting Edges

Smooth Chip Control with Molded Chipbreakers Along with Excellent Surface Finish
Stable Machining with PR1625 Insert Grades

1 Multiple Insert Grades Cover a Wide Variety of Applications

Recommended Insert Grades for Steel

General Purpose: PR1215

Surface Finish Oriented: TN620

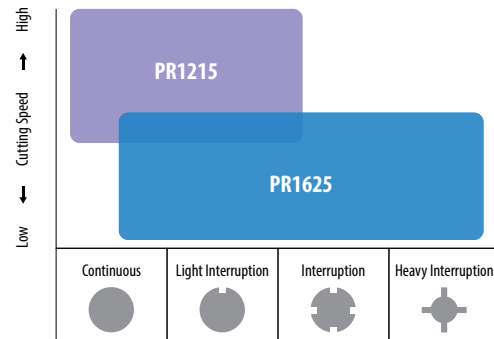
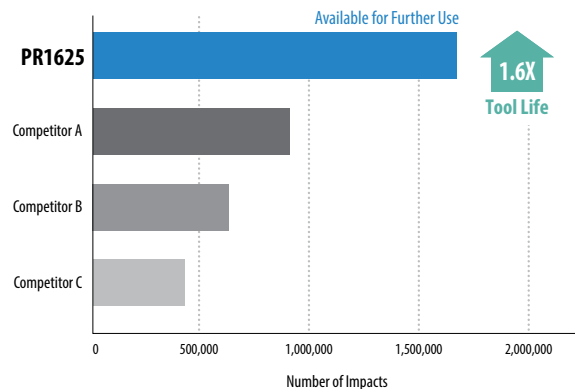
Stable Machining Oriented: PR1625



PR1625

The new PR1625 has high hardness and toughness with a highly stable carbide base material and MEGACOAT NANO coating technology for excellent welding resistance

Fracture Resistance Comparison (Internal Evaluation)



Wear Resistance Comparison (Internal Evaluation)

PR1625



Competitor A



Competitor B



Competitor C

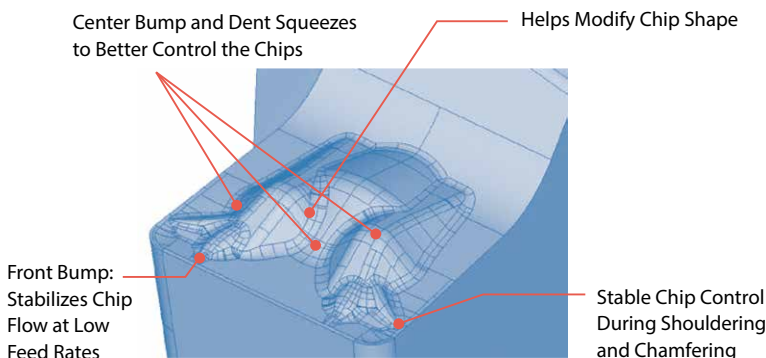


Cutting Conditions : Vc = 460 sfm, f = 0.0047 ipr, Edge Width 3.0 mm
Workpiece : 4140 (16 Grooves) Interrupted

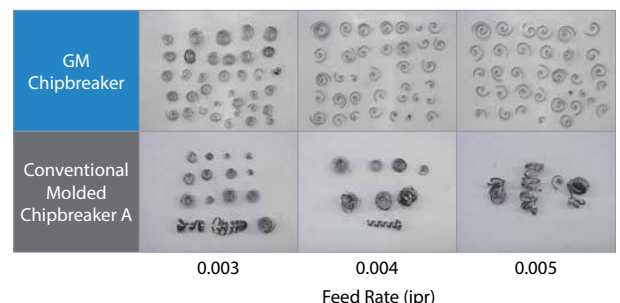
2 Smooth Chip Control with GM Chipbreaker

Smooth Chip Control Due to Bump Placement on the Chipbreaker
Groove Widths from 1.4 mm

Multi-Bump Design

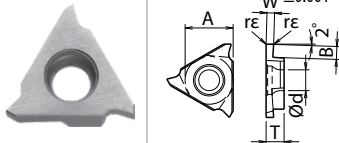


Chip Control Comparison (Internal Evaluation)



Cutting Conditions : Vc = 660 sfm, Edge Width 2.0 mm, Grooving Workpiece : 5120 (Ø1.575")

GBA Inserts (Inch Size)

				P	Carbon Steel / Alloy Steel	●	●	Usage Classification ● : Light Interruption / 1st Choice ○ : Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice
				M	Stainless Steel		●	
				K	Cast Iron			
Part Number	A	T	Ød	N	Non-ferrous Metals			
GBA32_	0.375	0.125	0.173	S	Titanium Alloy		●	
GBA43_	0.500	0.187	0.217	H	Hard Materials (≤40HRC)		●	
GBA43% 480	0.500	0.197	0.217		Hard Materials (≥40HRC)			
Insert Right-handed Insert Shown		Part Number	Dimensions (in)			MEGACOAT Cermet	MEGACOAT	Applicable Toolholders
			W	B	re	PV7040	PR1215	
	GBA32%	031N	0.031	0.079	0.002	○	●	KGBA%...-3 KGBA%...-16 KGBAS%...-3 KGBAS%...-16
		041N	0.041	0.079	0.002	●	●	
		047N	0.047	0.079	0.008	○	●	
		058N	0.058	0.079	0.008	●	●	
		062N	0.062	0.079	0.008	●	R	
		078N	0.078	0.098	0.008	●	R	
		094N	0.094	0.098	0.008	○	●	
	GBA43%	031N	0.031	0.079	0.008	R	●	KGBA%...-4-15 KGBA%...-22-15 KGBAS%...-4-15 KGBAS%...-22-15
		047N	0.047	0.079	0.008	○	●	
		062N	0.062	0.138	0.008	●	●	
		072N	0.072	0.138	0.008	○	R	
		078N	0.078	0.138	0.008	○	●	
		088N	0.088	0.138	0.008	●	●	KGBA%...-4-25 KGBA%...-22-25 KGBA%...-4-25T KGBAS%...-4-25 KGBAS%...-22-25 KGBAS%...-22-25T5
		094N	0.094	0.157	0.012	●	●	
		097N	0.097	0.157	0.012	●	●	
		105N	0.105	0.157	0.012	○	R	
		109N	0.109	0.157	0.012		○	
		110N	0.110	0.157	0.012	R	○	
		125N	0.125	0.157	0.012	○	●	KGBA%...-4-35 KGBA%...-22-35 KGBAS%...-4-35 KGBAS%...-22-35
		141N	0.141	0.197	0.012		●	
		142N	0.142	0.197	0.012	○	●	
		156N	0.156	0.197	0.016	○	●	
		172N	0.172	0.197	0.016		●	
		178N	0.178	0.197	0.016	○	●	
		188N	0.188	0.197	0.016		R	

Dimension B shows available grooving depth

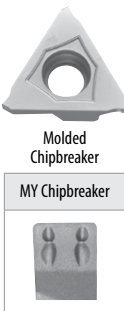
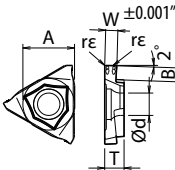
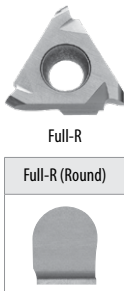
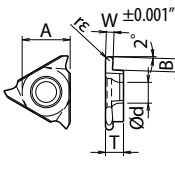
● : U.S. Stock ● : U.S. Stock (R-hand Only) ● : U.S. Stock (L-hand Only) ○ : World Express (Shipping: 7-10 Business Days)

Inserts sold in 5 piece boxes

Rake Angle (α) After Installment of GBA (External Grooving Toolholders)

GBA32 ¾ ○ ○ ○ N		GBA43 ¾ ○ ○ ○ N	
α	Insert Grade	α	Insert Grade
10°	PV7040, PR1215	10°	PV7040, PR1215

GBA Inserts (Inch Size)

				P	Carbon Steel / Alloy Steel	●	Usage Classification ● : Light Interruption / 1st Choice ○ : Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice
				M	Stainless Steel	●	
				K	Cast Iron		
				N	Non-ferrous Metals		
				S	Titanium Alloy	●	
Part Number	A	T	Ød	H	Hard Materials (≤40HRC)	●	
GBA32_	0.375	0.125	0.173		Hard Materials (≥40HRC)		
GBA43_	0.500	0.187	0.217				
GBA43% 480	0.500	0.197	0.217				
Insert Right-handed Insert Shown		Part Number	Dimensions (in)			MEGACOAT	Applicable Toolholders
			W	B	re	PR1215	
		GBA43% 078MYN	0.078	0.138	0.008	Ⓡ	KGBA% ... 4-15 KGBA% ... 22-15 KGBAS% ... 4-15 KGBAS% ... 22-15
		094MYN	0.094	0.157	0.012	●	KGBA% ... 4-25 KGBA% ... 22-25 KGBA% ... 4-25T KGBA% ... 22-25T5 KGBAS% ... 4-25 KGBAS% ... 22-25 KGBAS% ... 22-25T5
		125MYN	0.125	0.157	0.012	Ⓡ	KGBA% ... 4-25 KGBAS% ... 22-25 KGBAS% ... 22-25T5
		156MYN	0.156	0.197	0.016	Ⓡ	KGBA% ... 4-35 KGBA% ... 22-35 KGBAS% ... 4-35 KGBAS% ... 22-35
		GBA32R 031R	0.062	0.079	0.031	●	KGBA% ... -3 KGBA% ... -16 KGBAS% ... -3 KGBAS% ... -16
		047R	0.094	0.098	0.047	●	
		GBA43% 031R	0.062	0.138	0.031	Ⓡ	KGBA% ... 4-15 KGBA% ... 22-15 KGBAS% ... 4-15 KGBAS% ... 22-15
		047R	0.094	0.157	0.047	●	KGBA% ... 4-25 KGBA% ... 22-25 KGBA% ... 4-25T KGBA% ... 22-25T5 KGBAS% ... 4-25 KGBAS% ... 22-25 KGBAS% ... 22-25T5
		062R	0.125	0.157	0.062	Ⓡ	
		078R	0.156	0.197	0.078	○	KGBA% ... 4-35 KGBA% ... 22-35 KGBAS% ... 4-35 KGBAS% ... 22-35
		094R	0.188	0.197	0.094	○	

Dimension B shows available grooving depth

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

Inserts sold in 5 piece boxes

Rake Angle (α) After Installment of GBA-MY (External Grooving Toolholders)

α	Insert Part Number
15°	GBA43% 078MYN
	GBA43% 125MYN
14°	GBA43% 156MYN

α shows the rake angle at the center of the edge width after installing insert

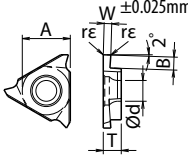
Rake Angle (α) After Installment of GBA-R (External Grooving Toolholders)

GBA43% ○ ○ ○ R (Full-R)		
	Insert Grade	Full-R Part Number
10°	PV7040, PR1215	031R ~ 062R
14°	PV7040, PR1215	078R ~ 094R

NEW

Inserts sold in 10 piece boxes

GBA Inserts (Metric Size)

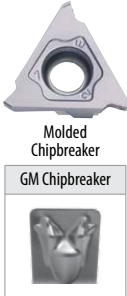
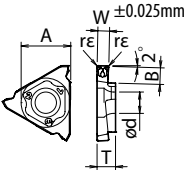
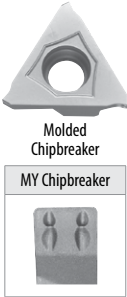
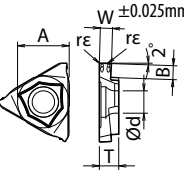
				NEW							
				P	Carbon Steel / Alloy Steel	●	Usage Classification ● : Light Interruption / 1st Choice ⦿ : Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice				
				M	Stainless Steel						
				K	Cast Iron						
				N	Non-ferrous Metals						
				S	Titanium Alloy						
				H	Hard Materials (≤40HRC)						
					Hard Materials (≥40HRC)						
Part Number	A	T	Ød	Dimensions (mm)			Cermet	Applicable Toolholders			
Insert Right-handed Insert Shown				W	B	re	TN620				
NEW  Sharp Edge 				GBA32% 050-005F *1	0.50	1.0	0.05	○	KGBA% ...-3 KGBA% ...-16 KGBAS% ...-3 KGBAS% ...-16 KIGBA% ...-3 (Internal) KIGBA% ...-16 (Internal)		
				075-005F	0.75	2.0	0.2	○			
				095-005F	0.95			○			
				100-005F	1.00			○			
				125-020F	1.25			○			
				145-020F	1.45			○			
				150-020F	1.50			○			
				175-020F	1.75			○			
				200-020F	2.00	2.5		○			
				250-020F	2.50			○			
				GBA43% 125-020F	1.25	2.0	0.2	○	KGBA% ...-4-15 KGBA% ...-22-15 KGBAS% ...-4-15 KGBAS% ...-22-15 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)		
				145-020F	1.45	3.5		○			
				150-020F	1.50			○			
				175-020F	1.75			○			
				185-020F	1.85			○			
				200-020F	2.00			○			
				230-020F	2.30			○			
				250-030F	2.50	4.0		0.3		○	KGBA% ...-4-25T KGBA% ...-22-25T5 KGBAS% ...-22-25T5 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)
				265-030F	2.65					○	
				280-030F	2.80					○	
				300-030F	3.00					○	
				330-030F	3.30					○	
				350-030F	3.50	5.0	0.4	○	KGBA% ...-4-35 KGBA% ...-22-35 KGBAS% ...-4-35 KGBAS% ...-22-35 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)		
				400-040F	4.00			○			
				430-040F	4.30			Ⓡ			
				450-040F	4.50			Ⓡ			
				480-040F	4.80			Ⓡ			

Dimension B shows available grooving depth

○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only)

*1 : The edge width tolerance of GBA32% 050-005F : 0.50 ^{+0.05mm}/_{-0.05mm}

Inserts sold in 10 piece boxes

				NEW		NEW								Usage Classification ● : Light Interruption / 1st Choice ○ : Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice
				P	Carbon Steel / Alloy Steel	●	○	●	●	○	○			
				M	Stainless Steel			●	●	○	○			
				K	Cast Iron				●					
				N	Non-ferrous Metals									
				S	Titanium Alloy									
				H	Hard Materials (≤40HRC)				●	○	○			
					Hard Materials (≥40HRC)									
				(mm)										
Part Number		A	T	Ød	Dimensions (mm)			Cermet		MEGA COAT NANO	MEGA COAT	PVD Coated Carbide	Applicable Toolholders	
Insert Right-handed Insert Shown		Part Number			W	B	re	TN620	TN6020	PR1625	PR1215	PR1115		PR930
		GBA43 % 140-010GM	1.40	3.5	0.1	○				○				KGBA % ...-4-15 KGBA % ...-22-15 KGBAS % ...-4-15 KGBAS % ...-22-15 KIGBA % ...-4 (Internal) KIGBA % ...-22 (Internal)
		150-020GM	1.50			○			●	●				
		175-020GM	1.75			○				○				
		185-020GM	1.85			○				○				
		200-020GM	2.00			○			●	●				
		230-020GM	2.30			○				●				
		250-030GM	2.50	5.0	0.2	○			●	●				KGBA % ...-4-25T KGBA % ...-22-25T5 KGBAS % ...-22-25T5 KIGBA % ...-4 (Internal) KIGBA % ...-22 (Internal)
		265-030GM	2.65			○				○				
		300-030GM	3.00			○			●	○				
		330-030GM	3.30			○				○				
		350-030GM	3.50			○				○				
		400-040GM	4.00			○			●	●				
		GBA43 % 175-020MY	1.75	3.5	0.2		○			●	○	○		KGBA % ...-4-15 KGBA % ...-22-15 KGBAS % ...-4-15 KGBAS % ...-22-15 KIGBA % ...-4 (Internal) KIGBA % ...-22 (Internal)
		185-020MY	1.85				○			●	○	○		
		200-020MY	2.00				●			●	●	●		
		230-020MY	2.30				○			○	○	○		
		250-030MY *1	2.50				○							
		265-030MY *1	2.65	5.0	0.3					●	○	○		★1
		300-030MY *1	3.00								○			★2
		330-030MY *1	3.30								○	○	○	★1
		350-030MY	3.50								○	○	○	★2
		400-040MY	4.00								○	○	○	★1

Dimension B shows available grooving depth

● : U.S. Stock ○ : U.S. Stock (R-hand Only) ● : U.S. Stock (L-hand Only)

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

*1 : Available grooving depth is different based on grade

★1: KGBA % ...-4-25T, KGBA % ...-22-25T5, KGBAS % ...-22-25T5, KIGBA % ...-4, KIGBA % ...-22

★2: KGBA % ...-4-25T, KGBA % ...-22-25T5, KGBAS % ...-22-25T5, KGBA % ...-4-25, KGBA % ...-22-25, KGBAS % ...-4-25, KGBAS % ...-22-25, KIGBA % ...-4, KIGBA % ...-22

Inserts sold in 10 piece boxes

Rake Angle (α) After Installment of GBA-GM

(External Grooving Toolholders)

α	Insert Part Number	α	Insert Part Number
10°	GBA43 % 150-020GM	12°	GBA43 % 300-030GM
15°	GBA43 % 175-020GM		GBA43 % 400-040GM
	GBA43 % 265-030GM		

α shows the rake angle at the center of the edge width after installing insert

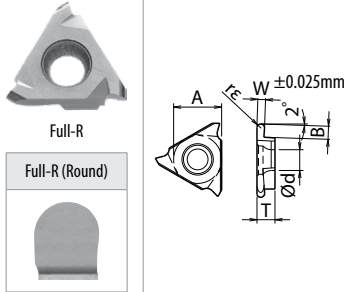
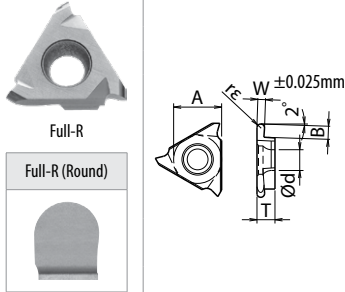
Rake Angle (α) After Installment of GBA-MY

(External Grooving Toolholders)

α	Insert Part Number
15°	GBA43 % 175-020MY GBA43 % 350-030MY
14°	GBA43 % 400-040MY

α shows the rake angle at the center of the edge width after installing insert

GBA Inserts (Metric Size)

				NEW												Usage Classification ● : Light Interruption / 1st Choice ○ : Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice
				P	Carbon Steel / Alloy Steel	●	○			●	●	○		○		
				M	Stainless Steel					●	●	○		○		
				K	Cast Iron					●		○			○	
				N	Non-ferrous Metals										●	
				S	Titanium Alloy										●	
				H	Hard Materials (≤40HRC)						●	○		○		
					Hard Materials (≥40HRC)											
Part Number		A	T	Ød	Dimensions (mm)			MEGACOAT Cermet	Cermet		MEGA COAT NANO	MEGA COAT	PVD Coated Carbide		Carbide	Applicable Toolholders
					W	B	re	PV7040	TN620	TN90	PR1625	PR1215	PR1115	PR905	PR930	
Insert Right-handed Insert Shown																
 Full-R Full-R (Round) 	GBA32R 200-100R		2.00	2.5	1.00					○	○				KGBA% ...-3 KGBA% ...-16 KGBAS% ...-3 KGBAS% ...-16 KIGBA% ...-3 (Internal) KIGBA% ...-16 (Internal)	
	300-150R		3.00		1.50						○	○				
	GBA43% 100-050R		1.00	2.0	0.50	○			●	●	●	○			KGBA% ...-4-15 KGBA% ...-22-15 KGBAS% ...-4-15 KGBAS% ...-22-15 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)	
	150-075R		1.50	3.5	0.75	○			●	○	○	○		Ⓡ		
	200-100R		2.00		1.00	○			●	●	●	○				
	250-125R		2.50	4.0	1.25				●	○	○	○				
	300-150R		3.00		1.50		○	●	●	●	○	○	○	○	★1	
	400-200R		4.00	5.0	2.00						○	○	○		KGBA% ...-4-35 KGBA% ...-22-35 KGBAS% ...-4-35 KGBAS% ...-22-35 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)	
	GBA43% 100-050RF		1.00	2.0	0.50		○								KGBA% ...-4-15 KGBA% ...-22-15 KGBAS% ...-4-15 KGBAS% ...-22-15 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)	
	150-075RF		1.50	3.5	0.75		○									
	200-100RF		2.00		1.00		○									
	250-125RF		2.50	4.0	1.25		○								★1	
	300-150RF		3.00		1.50		○									
	400-200RF		4.00	5.0	2.00		Ⓡ								KGBA% ...-4-35 KGBA% ...-22-35 KGBAS% ...-4-35 KGBAS% ...-22-35 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)	

Dimension B shows available grooving depth

● : U.S. Stock Ⓡ : U.S. Stock (R-hand Only) ● : U.S. Stock (L-hand Only)

GBA43% ...RF : Sharp Edge Type

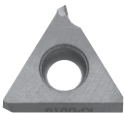
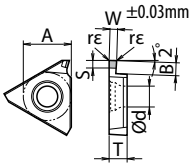
○ : World Express (Shipping: 7-10 Business Days) Ⓡ : World Express (R-hand Only) ● : World Express (L-hand Only)

★1: KGBA% ...-4-25T, KGBA% ...-22-25T5, KGBAS% ...-22-25T5, KGBA% ...-4-25, KGBA% ...-22-25, KGBAS% ...-4-25, KGBAS% ...-22-25, KIGBA% ...-4, KIGBA% ...-22

Inserts sold in 10 piece boxes

Rake Angle (α) After Installment of GBA (External Grooving Toolholders)

GBA32% ○○○-○○○		GBA43% ○○○-○○○		GBA43% ○○○-○○○R (Full-R)		
α	Insert Grade	α	Insert Grade		Insert Grade	Full-R Part Number
10°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR905 KPD001, KPD010	0°	KBN510, KBN525	10°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR905	050R ~ 150R
		10°	TN620, TC40N, TN90, PV7040 PR930, PR1115, PR1215, PR905 KPD001, KPD010	14°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR905	200R
20°	KW10	20°	KW10		KW10	050R ~ 200R

				P	Carbon Steel / Alloy Steel					Usage Classification ● : Light Interruption / 1st Choice ○ : Light Interruption / 2nd Choice ● : Continuous / 1st Choice ○ : Continuous / 2nd Choice	
				M	Stainless Steel						
				K	Cast Iron						
				N	Non-ferrous Metals			●			
				S	Titanium Alloy			●			
Part Number	A	T	Ød	H	Hard Materials (≤40HRC)						
GBA32_	9.525	3.18	4.4		Hard Materials (≥40HRC)		○	●			
GBA43_	12.70	4.76	5.5								
GBA43 ^{RF} 480	12.70	5.00	5.5								
Insert Right-handed Insert Shown		Part Number		Dimensions (mm)			CBN		PCD		Applicable Toolholders
				W	B	rE	KBN510	KBN525	KPD001	KPD010	
 1-Edge	 GBA32 S = 1.7mm GBA43 S = 1.9mm	GBA32R	125-010	1.25	2.0	0.1				○	KGBA% ...-3 KGBA% ...-16 KGBAS% ...-3 KGBAS% ...-16 KIGBA% ...-3 (Internal) KIGBA% ...-16 (Internal)
			150-010	1.50					○	○	
		GBA43 ^{RF}	125-010	1.25	2.0	0.1				○	KGBA% ...-4-15 KGBA% ...-22-15 KGBAS% ...-4-15 KGBAS% ...-22-15 KIGBA% ...-4 (Internal) KIGBA% ...-22 (Internal)
			125-020			0.2	○	Ⓛ			
			150-010	1.50	3.5	0.1			○	○	
			150-020			0.2	●	Ⓢ			
			200-010	2.00	4.0	0.1			●	○	
			200-020			0.2	●	○			
			250-010	2.50	4.0	0.1			○	○	
			250-020			0.2	○	○			
			300-010	3.00	4.0	0.1			○	Ⓢ	
			300-020			0.2		Ⓢ			

Dimension B shows available grooving depth

GBA43^{RF} ...RF : Sharp Edge Type

● : U.S. Stock Ⓢ : U.S. Stock (R-hand Only) ● : U.S. Stock (L-hand Only)

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

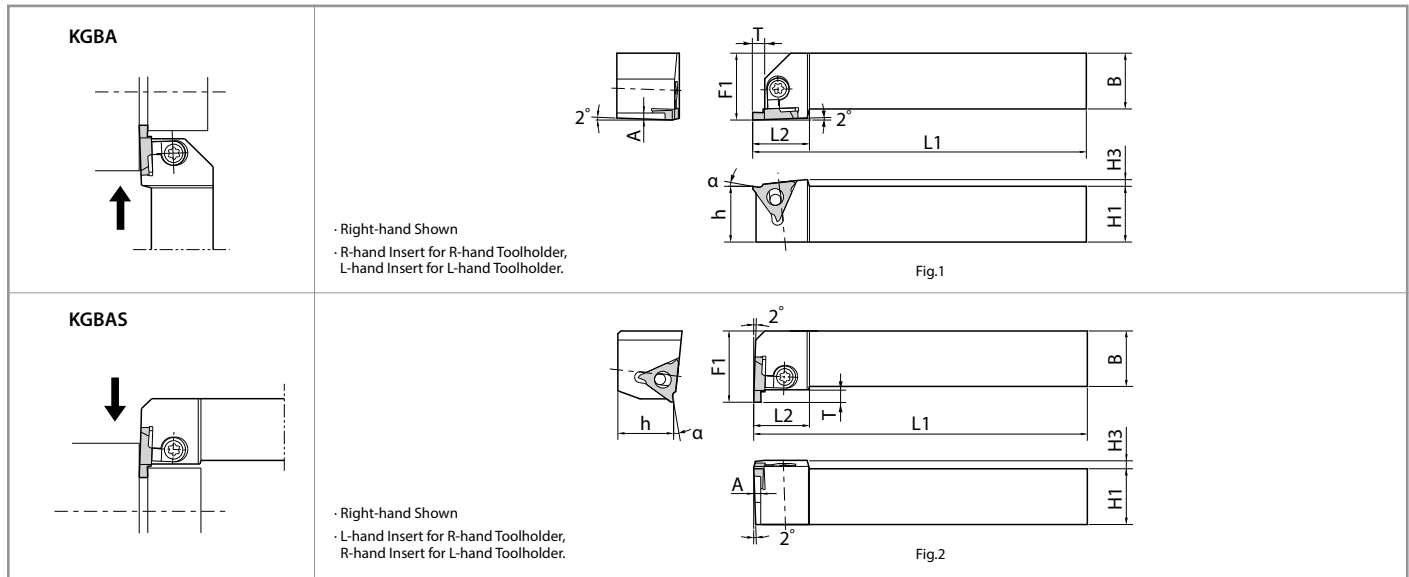
Inserts sold in 10 piece boxes

Rake Angle (α) After Installment of GBA

(External Grooving Toolholders)

GBA32 ^{RF} ○○○-○○○		GBA43 ^{RF} ○○○-○○○		GBA43 ^{RF} ○○○-○○○R (Full-R)		
α	Insert Grade	α	Insert Grade		Full-R Part Number	
10°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR1625, PR905 KPD001, KPD010	0°	KBN510, KBN525	10°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR1625, PR905	050R ~ 150R
		10°	TN620, TC40N, TN90, PV7040 PR930, PR1115, PR1215, PR1625, PR905 KPD001, KPD010	14°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR1625, PR905	200R
20°	KW10	20°	KW10		KW10	050R ~ 200R

KGBA / KGBAS Toolholders



Toolholder Dimensions

Part Number		Stock		Unit	Dimensions								Drawing	Spare Parts		Applicable Inserts
		R	L		H1=h	H3	B	L1	L2	F1	A	T		Clamp Set	Wrench	
																
KGBA%	12-3	●	●	inch	0.750	0.160	0.750	5.000	0.945	1.000	-	0.098	Fig.1	LGBA-16% S	FT-15	GBA32%
	16-3	●	●		1.000	0.160	1.000	6.000	0.945	1.250	-	0.098				
	12-4-15	●	●		0.750	0.160	0.750	5.000	1.004	1.000	0.039	0.157				
	16-4-15	●	●		1.000	0.160	1.000	6.000	1.004	1.250	0.039	0.157				
	12-4-25	●	●		0.750	0.160	0.750	5.000	1.004	1.000	0.079	0.177				
	12-4-35	●	●		0.750	0.160	0.750	5.000	1.004	1.000	0.118	0.217				
	16-4-35	●	●		1.000	0.160	1.000	6.000	1.004	1.250	0.079	0.217				
KGBA%	2020K-16	●	●	mm	20	4.0	20	125	24	25	-	2.5	Fig.1	LGBA-16% S	FT-15	GBA32%
	2525M-16	○	○		25		25	150		30						
	2020K22-15	●	○		20	4.0	20	125	25.5	25	1.0	4.0				
	2525M22-15	●	●		25		25	150		30						
	2020K22-25	●	○		20	4.0	20	125	25.5	25	2.0	4.5				
	2525M22-25	●	○		25		25	150		30						
	2020K22-25T5	●	○		20	4.0	20	125	25.5	25	2.0	5.5				
	2525M22-25T5	○	○		25		25	150		30						
	2020K22-35	○	○		20	4.0	20	125	25.5	25	3.0					
	2525M22-35	○	○		25		25	150		30						
	2020H22-15*	○			20	4.0	20	100	25.5	25	1.0	4.0				
	2020H22-25*	○									2.0	4.5				
	2020H22-35*	○									3.0	5.5				
KGBASR	12-3	●		inch	0.750	0.152	0.750	5.000	0.984	0.984	-	0.098	Fig.2	LGBA-16LS	FT-15	GBA32L
	16-3	●			1.000	0.172	1.000	6.000	0.984	1.181	-	0.098				
	12-4-15	●			0.750	0.160	0.750	5.000	0.984	1.062	0.039	0.157				
	16-4-15	●			1.000	0.180	1.000	6.000	0.984	1.260	0.039	0.157				
	12-4-25	●			0.750	0.160	0.750	5.000	0.984	1.062	0.079	0.177				
	16-4-25	●			1.000	0.197	1.000	6.000	0.984	1.250	0.079	0.177				
	12-4-35	●			0.750	0.160	0.750	5.000	0.984	1.062	0.118	0.217				
	16-4-35	●			1.000	0.180	1.000	6.000	0.984	1.260	0.118	0.217				
KGBAS%	2020K-16	○	○	mm	20	4.0	20	125	25	25	-	2.5	Fig.2	LGBA-16% S	FT-15	GBA32%
	2525M-16	○	○		25	4.5	25	150		30						
	2020K22-15	○	●		20	4.5	20	125	25	27	1.0	4.0				
	2525M22-15	●	○		25	5.0	25	150		32						
	2020K22-25	○	○		20	4.5	20	125	25	27	2.0	4.5				
	2525M22-25	○	○		25	5.0	25	150		32						
	2020K22-25T5	○	○		20	4.5	20	125	25	27	2.0	5.5				
	2525M22-25T5	○	○		25	5.0	25	150		32						
	2020K22-35	○	○		20	4.5	20	125	25	27	3.0					
	2525M22-35	○	○		25	5.0	25	150		32						

Dimension T shows the distance from the toolholder to the cutting edge. Reference dimension B in applicable insert table for available grooving depth.

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

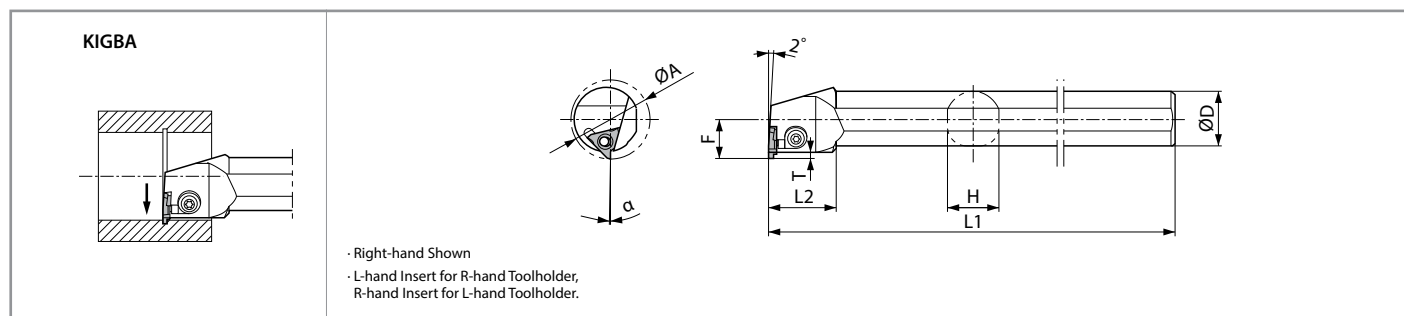
* Short Shank Type

Clamp Set : KGBA% ... LGBA-○○RS for Right-hand Toolholder, and LGBA-○○LS for Left-hand Toolholder.

KGBAS% ... LGBA-○○LS for Right-hand Toolholder, and LGBA-○○RS for Left-hand Toolholder.

External Grooving Toolholders KGBA Short Shank Types are Available

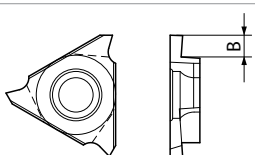
For NC lathe, KGBAR2020K-○○ (Overall length 125mm) short shank type KGBAR2020H22-○○ (Overall length 100mm) is available. No longer requires the user to cut the shank portion.



Toolholder Dimensions

Part Number		Stock		Unit	Min. Bore Dia.	Dimensions					Spare Parts		Applicable Inserts
											Clamp Set	Wrench	
						R	L						
KIGBA 16-3	●	●	inch	1.38	1.00	0.92	9.0	1.18	0.69	0.12	LGBA-16% S	FT-15	GBA32%
20-4	●	●		1.57	1.25	1.18	10.0	1.18	0.90	0.12	LGBA-22% S		GBA43%
KIGBA 3525-16	○	●	mm	35	25	23	220	30	17.5	2.8	LGBA-16% S		GBA32%
4032-22	●	●		40	32	30	250	30	23.0	3.0	LGBA-22% S		GBA43%

* Dimension T shows the distance from the toolholder to the cutting edge.
 Available grooving depth depends on the insert.
 KIGBA% 3525-16 : Dimension B of the applicable insert (GBA32 Type)
 4032-22 : Dimension B of the applicable insert (GBA43 Type)
 ① 2.0 mm (Dimension B > 2.8mm)
 ② 2.8 mm (Dimension B ≥ 2.8mm)



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

Clamp Set : LGBA-○○○LS for Right-hand Toolholder, and LGBA-○○○RS for Left-hand Toolholder.

Rake Angle (α) After Installment of GBA (External Grooving Toolholders)

GBA32% ○○○-○○○			GBA43% ○○○-○○○			GBA43% ○○○-○○○R (Full-R)		
α	Insert Grade		α	Insert Grade			Insert Grade	Full-R Part Number
+1°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR1625, PR905 KPD001, KPD010		-9°	KBN510, KBN525		+1°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR905	050R ~ 150R
			+1°	TN620, TC40N, TN90, PV7040 PR930, PR1115, PR1215, PR1625, PR905 KPD001, KPD010		+5°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR1625, PR905	200R
+11°	KW10		+11°	KW10			KW10	050R ~ 200R

Rake Angle (α) After Installment of GBA-GM (External Grooving Toolholders)

α	Insert Part Number	α	Insert Part Number
+1°	GBA43% 150-020GM	+3°	GBA43% 300-030GM
+6°	GBA43% 175-020GM		}
	GBA43% 265-030GM		GBA43% 400-040GM

α shows the rake angle at the center of the edge width after installing insert

Rake Angle (α) After Installment of GBA-MY (External Grooving Toolholders)

α	Insert Part Number	
+6°	GBA43% 175-020MY GBA43% 350-030MY	
+5°	GBA43% 400-040MY	

α shows the rake angle at the center of the edge width after installing insert

Recommended Cutting Conditions ★ 1st Recommendation ☆ 2nd Recommendation

GBA Inserts (Ground Chipbreaker)

Workpiece	Recommended Insert Grades (Cutting Speed Vc : sfm)												(1) f (feed) for Grooving (ipr) (2) f (feed) for Turning (ipr) (3) D.O.C. for Turning (in)					Notes
	MEGA COAT Cermet	Cermet			MEGA COAT	MEGA COAT NANO	PVD Coated Carbide		Carbide	CBN	PCD							
	PV7040	TN620	TC40	TN90	PR1215	PR1625	PR930	PR1115	PR905	KW10	KBN510 KBN525	KPD001 (KPD010)	GBA○○○% 031N ~ 041N 033... ~ 100...	GBA○○○% 047N ~ 078N 125... ~ 200...	GBA○○○% 094N ~ 109N 230... ~ 300...	GBA○○○% 125N ~ 156N 330... ~ 400...	GBA○○○% 172N ~ 188N 400... ~ 480...	
Carbon Steel	☆ 490 - 790	★ 260 - 720	☆ 490 - 720	☆ 490 - 720	★ 260 - 660	★ 260 - 590	☆ 260 - 590	☆ 260 - 590	-	-	-	-	(1) 0.0012 - 0.0031 (2) Not Recommended (3) Not Recommended	(1) 0.0016 - 0.0035 (2) 0.0016 - 0.0035 (3) Max. 0.0118	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0315	Wet
Alloy Steel	☆ 430 - 720	★ 260 - 660	☆ 430 - 660	☆ 430 - 660	★ 260 - 520	★ 260 - 520	☆ 260 - 520	☆ 260 - 520	-	-	-	-	(1) 0.0012 - 0.0028 (2) Not Recommended (3) Not Recommended	(1) 0.0016 - 0.0031 (2) 0.0016 - 0.0031 (3) Max. 0.0118	(1) 0.0020 - 0.0035 (2) 0.0020 - 0.0035 (3) Max. 0.0197	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0315	
Stainless Steel	-	-	-	☆ 230 - 490	☆ 200 - 490	★ 200 - 430	☆ 200 - 430	☆ 200 - 430	-	-	-	-	(1) 0.0012 - 0.0028 (2) Not Recommended (3) Not Recommended	(1) 0.0016 - 0.0031 (2) 0.0016 - 0.0031 (3) Max. 0.0118	(1) 0.0020 - 0.0035 (2) 0.0020 - 0.0035 (3) Max. 0.0197	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0315	
Cast Iron	-	-	-	-	-	-	-	-	★ 260 - 590	☆ 200 - 390	★ 490 - 1,310	-	(1) 0.0012 - 0.0031 (2) Not Recommended (3) Not Recommended	(1) 0.0016 - 0.0035 (2) 0.0016 - 0.0035 (3) Max. 0.0118	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0315	
Aluminum	-	-	-	-	-	-	-	-	-	★ 490 - 1,310	-	★ 490 - 6,560	(1) 0.0020 - 0.0047 (2) Not Recommended (3) Not Recommended	(1) 0.0020 - 0.0059 (2) 0.0020 - 0.0059 (3) Max. 0.0197	(1) 0.0020 - 0.0059 (2) 0.0020 - 0.0059 (3) Max. 0.0315	(1) 0.0031 - 0.0059 (2) 0.0031 - 0.0059 (3) Max. 0.0315	(1) 0.0031 - 0.0059 (2) 0.0031 - 0.0059 (3) Max. 0.0315	
Brass	-	-	-	-	-	-	-	-	-	★ 490 - 980	-	★ 660 - 2,620	(1) 0.0020 - 0.0047 (2) Not Recommended (3) Not Recommended	(1) 0.0020 - 0.0059 (2) 0.0020 - 0.0059 (3) Max. 0.0315	(1) 0.0020 - 0.0059 (2) 0.0020 - 0.0059 (3) Max. 0.0315	(1) 0.0031 - 0.15 (2) 0.0031 - 0.15 (3) Max. 0.0315	(1) 0.0031 - 0.0059 (2) 0.0031 - 0.0059 (3) Max. 0.0315	
Hard materials	-	-	-	-	-	-	-	-	-	-	★ 260 - 390	-	- (2) Not Recommended (3) Max. 0.0039	(1) 0.0008 - 0.0020 (2) Not Recommended (3) Not Recommended	(1) 0.0012 - 0.0028 (2) 0.0004 - 0.0016 (3) Max. 0.0039	-	-	

Above cutting conditions are for external grooving. Set both cutting speed and feed rate 10% lower for internal grooving.

GBA Inserts (GM Chipbreaker)

Workpiece	Recommended Insert Grades (Cutting Speed Vc : sfm)			(1) f (feed) for Grooving (ipr) (2) f (feed) for Turning (ipr) (3) D.O.C. for Turning (in)					Notes
	Cermet	MEGACOAT	MEGACOAT NANO	GBA43 % 140-010GM	GBA43 % 150-020GM	GBA43 % 175-020GM ~ 230-020GM	GBA43 % 250-030GM ~ 350-030GM	GBA43 % 400-040GM	
	TN620	PR1215	PR1625						
Carbon Steel	★ 260 - 720	☆ 260 - 720	☆☆ 260 - 660	(1) 0.0012 - 0.0039 (2) 0.0012 - 0.0031 (3) Max. 0.0079	(1) 0.0012 - 0.0047 (2) 0.0012 - 0.0031 (3) Max. 0.0118	(1) 0.0012 - 0.0047 (2) 0.0012 - 0.0035 (3) Max. 0.0118	(1) 0.0016 - 0.0059 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0059 (2) 0.0020 - 0.0039 (3) Max. 0.0315	Wet
Alloy Steel	★ 260 - 660	☆☆ 260 - 660	☆☆ 260 - 590	(1) 0.0012 - 0.0039 (2) 0.0012 - 0.0031 (3) Max. 0.0079	(1) 0.0012 - 0.0047 (2) 0.0012 - 0.0031 (3) Max. 0.0118	(1) 0.0012 - 0.0047 (2) 0.0012 - 0.0035 (3) Max. 0.0118	(1) 0.0016 - 0.0059 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0059 (2) 0.0020 - 0.0039 (3) Max. 0.0315	
Stainless Steel	-	★ 200 - 490	★ 200 - 430	(1) 0.0012 - 0.0039 (2) 0.0012 - 0.0031 (3) Max. 0.0079	(1) 0.0012 - 0.0039 (2) 0.0012 - 0.0031 (3) Max. 0.0118	(1) 0.0012 - 0.0039 (2) 0.0012 - 0.0035 (3) Max. 0.0118	(1) 0.0016 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0016 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0315	

Above cutting conditions are for external grooving. Set both cutting speed and feed rate 20% lower for internal grooving.

GBA Inserts (MY Chipbreaker)

Workpiece	Recommended Insert Grades (Cutting Speed Vc : sfm)							(1) f (feed) for Grooving (ipr) (2) f (feed) for Turning (ipr) (3) D.O.C. for Turning (in)					Notes	
	Cermet		MEGA COAT	PVD Coated Carbide		Carbide	CBN	PCD						
	TiN6020	TC40	PR1215	PR930	PR1115	KW10	KBN510	KPD001 (KPD010)	GBA43% 175-020MY ~ 200-020MY	GBA43% 230-020MY ~ 265-030MY	GBA43% 300-030MY	GBA43% 330-030MY ~ 350-030MY		GBA43% 400-040MY
Carbon Steel	☆ 490 - 720	-	★ 260 - 660	☆ 260 - 660	☆ 260 - 660	-	-	-	(1) 0.0012 - 0.0031 (2) 0.0012 - 0.0031 (3) Max. 0.0118	(1) 0.04 - 0.0035 (2) 0.04 - 0.0035 (3) Max. 0.0118	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0315	Wet
Alloy Steel	☆ 430 - 660	-	★ 260 - 590	☆ 260 - 590	☆ 260 - 590	-	-	-	(1) 0.0012 - 0.0028 (2) 0.0012 - 0.0039 (3) Max. 0.0118	(1) 0.04 - 0.0031 (2) 0.04 - 0.0031 (3) Max. 0.0118	(1) 0.0020 - 0.0035 (2) 0.0020 - 0.0035 (3) Max. 0.0197	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0315	
Stainless Steel	☆ 230 - 490	-	☆ 200 - 490	☆ 200 - 490	★ 200 - 490	-	-	-	(1) 0.0012 - 0.0028 (2) 0.0012 - 0.0039 (3) Max. 0.0118	(1) 0.04 - 0.0031 (2) 0.04 - 0.0031 (3) Max. 0.0118	(1) 0.0020 - 0.0035 (2) 0.0020 - 0.0035 (3) Max. 0.0197	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0039 (2) 0.0020 - 0.0039 (3) Max. 0.0315	

Above cutting conditions are for external grooving. Set both cutting speed and feed rate 20% lower for internal grooving.



KYOCERA Precision Tools

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