GROOVING

G1 - G150

EXTERNAL GROOVING		G2 - G61
SUMMARY OF EXTERNAL GROOVING		G2
KGBA / KGBAS / KGBA-JCT		G12
KGBF-F / S...KGBF / KGBFS / KGBF-JCT / KGBF-JCTM		G14
KTGF-F / KTGF / S...KTGF		G20
KGD / KGD-JCT / KGD-JCTM	Integral Type for Small Parts	G28
KGD / KGD-JCT	Integral Type	G34
KGD-S	0° SwitchBlade Type	G38
KGDS-S	90° SwitchBlade Type	G40
KKC	Cera-Notch Grooving System	G47
KGM	Small Parts	G52
KGM-T		G53
KGMM / KGMS		G54
KGMU		G55
KGH / KGHS		G56
KGA		G57
EGT / KDB		G58
KGMW	For Aluminum Wheel	G60

INTERNAL GROOVING		G61 - G91
SUMMARY OF INTERNAL GROOVING		G61
EZG	EZ Bar	G63
VNG	Swiss IQ Bar	G65
SIGC		G69
SIGE-EH / SIGE-WH / SIGE-WH-90		G73
SI-GIV / GIV / GIV-E / GIV-W		G78
KIGBA		G80
KGDI		G83
KIGH		G86
KIGM-8 / KIGMU-8		G87
KGIA		G88
KIGM-V		G89
A-KKC	Cera-Notch Grooving System	G91

FACE GROOVING		G92 - G144
SUMMARY OF FACE GROOVING		G92
EZFG	EZ Bar	G96
VNFG	Swiss IQ Bar	G98
TWFG / TWFGT	Micro Twin Bars	G100
KGDF	0° SwitchBlade Type	G106
KGDF-Z	Integral Type	G116
KGDF	90° SwitchBlade Type	G117
GFVS-AA / GFVT-AA		G130
GFV		G132
GFVS / GFVT		G134
KKCE	Cera-Notch Grooving System	G139
KFMS / KFMS-8		G140
KFTB-S		G143
GIFV	Round Shank Type	G144

TECHNICAL INFORMATION	G145 - G156
RECOMMENDED CUTTING CONDITIONS	G145
GUIDE FOR GROOVING	G154

KGD Grooving (External Grooving & Traversing) G23~G45

· Integral Type

Type	KGD
Edge Width	0.079" ~ 0.315" (2.00mm ~ 8.00mm)
Grooving Depth	0.236" ~ 1.181" (6.00mm ~ 30.00mm)
Ref. Page	G34

· Integral Type (Jet Coolant-Through)

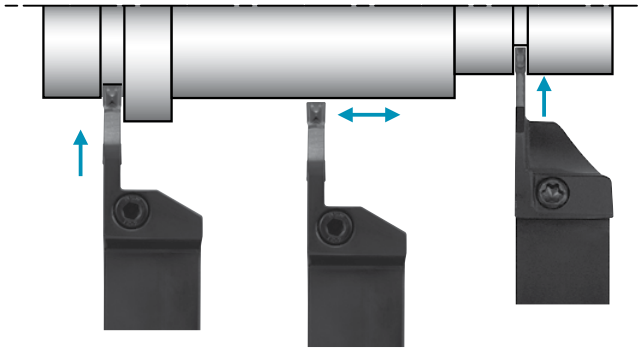
Type	KGD-JCT
Edge Width	0.118" ~ 0.157" (3.00mm ~ 5.00mm)
Grooving Depth	0.787" ~ 1.000" (6.00mm ~ 25.00mm)
Ref. Page	G36

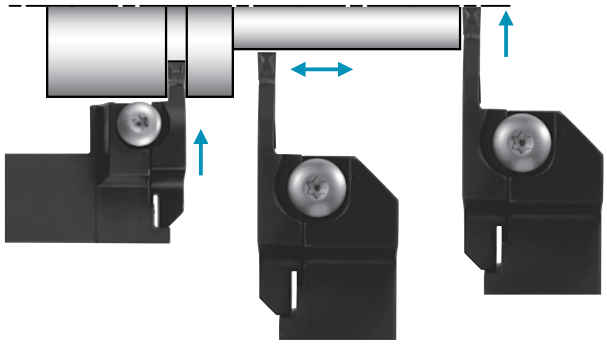
· Integral Type (Small Parts)

Type	KGD
Edge Width	0.079" ~ 0.157" (2.00mm ~ 4.00mm)
Grooving Depth	0.394" ~ 0.827" (10.00mm ~ 21.00mm)
Ref. Page	G28

· Integral Type (Small Parts, Jet Coolant-Through)

Type	KGD-JCTM
Edge Width	0.079" ~ 0.157" (2.00mm ~ 4.00mm)
Grooving Depth	0.472" ~ 0.630" 12.00mm ~ 16.00mm
Ref. Page	G30





· SwitchBlade 90°

Type	*KGDS-S
Edge Width	0.079" ~ 0.197" (2.00mm ~ 5.00mm)
Grooving Depth	0.394" ~ 0.984" (10.00mm ~ 25.00mm)
Ref. Page	G40

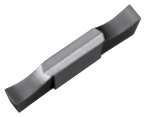
* The SwitchBlade Type toolholders can accept all the blades if their hand is matching.

· SwitchBlade 0°

Type	*KGD-S
Edge Width	0.079" ~ 0.197" (2.00mm ~ 5.00mm)
Grooving Depth	0.394" ~ 0.984" (10.00mm ~ 25.00mm)
Ref. Page	G38

* The SwitchBlade Type toolholders can accept all the blades if their hand is matching.

GS Low Cutting Force



GL Low Feed

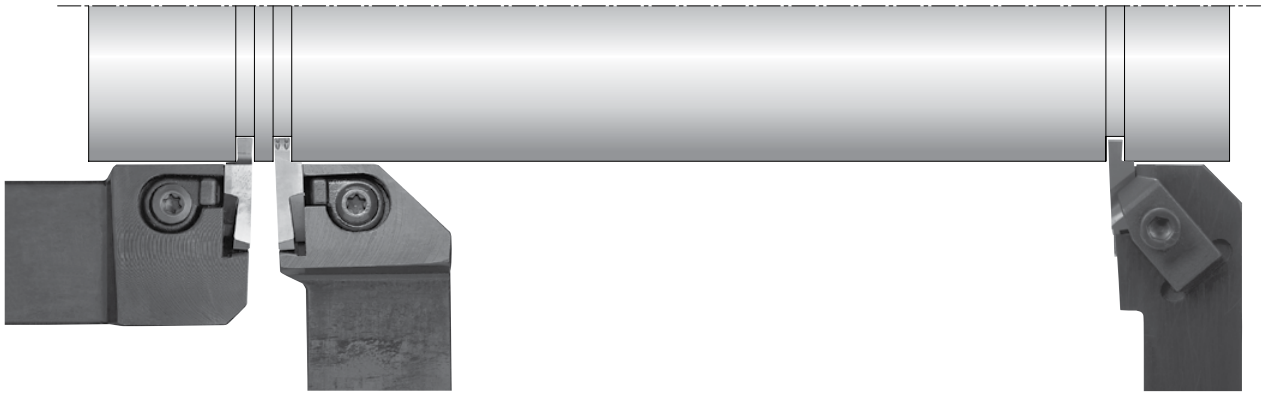
GM General Purpose

PH High Feed Rate

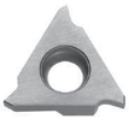
CM Copying

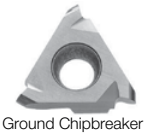
External Grooving (G6~G22, G50, G51)

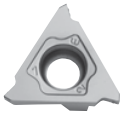
Shallow Grooving [Grooving Depth : ~0.197" (5mm)]

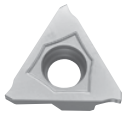


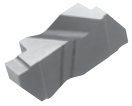
Type	KGBAS	KGBA	KGBA-JCT	KKC
Edge Width	0.031" ~ 0.189" (0.33mm ~ 4.80mm)	0.031" ~ 0.189" (0.33mm ~ 4.80mm)	0.031" ~ 0.189" (0.33mm ~ 4.80mm)	0.031" ~ 0.250"
Grooving Depth	0.032" ~ 0.197" (0.80mm ~ 5.00mm)	0.032" ~ 0.197" (0.80mm ~ 5.00mm)	0.032" ~ 0.197" (0.80mm ~ 5.00mm)	0.050" ~ 0.250"
Ref. Page	G12	G12	G13	G47


Ground Chipbreaker


Ground Chipbreaker Full-R

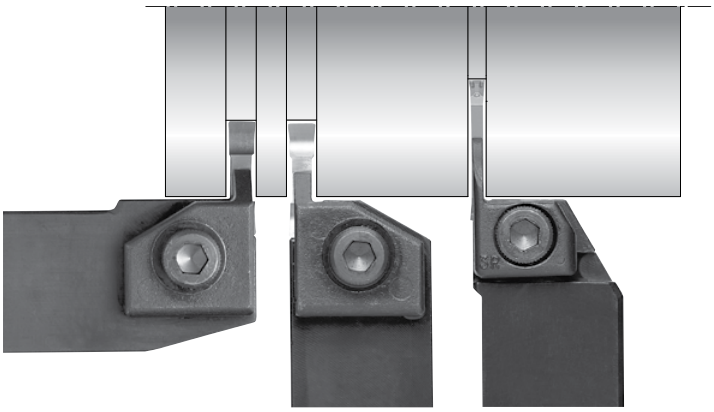

GM Chipbreaker


MY Chipbreaker

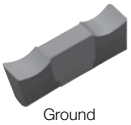

Ground Chipbreaker

Edge Shape	General (Square)	Full-R (Round)	GM Chipbreaker	MY Chipbreaker

Deep Grooving [Grooving Depth : ~0.984" (25mm)]



Type	KGHS	KGH	KGA
Edge Width	0.157" ~ 0.315" (4.00mm ~ 8.00mm)	0.157" ~ 0.472" (4.00mm ~ 12.00mm)	0.118" ~ 0.197" (3.00mm ~ 5.00mm)
Grooving Depth	0.512" (13.00mm)	0.512" ~ 0.669" (13.00mm ~ 17.00mm)	0.787" ~ 0.984" (20.00mm ~ 25.00mm)
Ref. Page	G56	G56	G57


Ground Chipbreaker

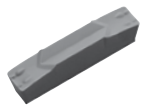
Molded Chipbreaker

Molded Chipbreaker

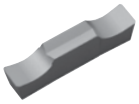
KGM Grooving (External Grooving & Traversing) (G42~G49)

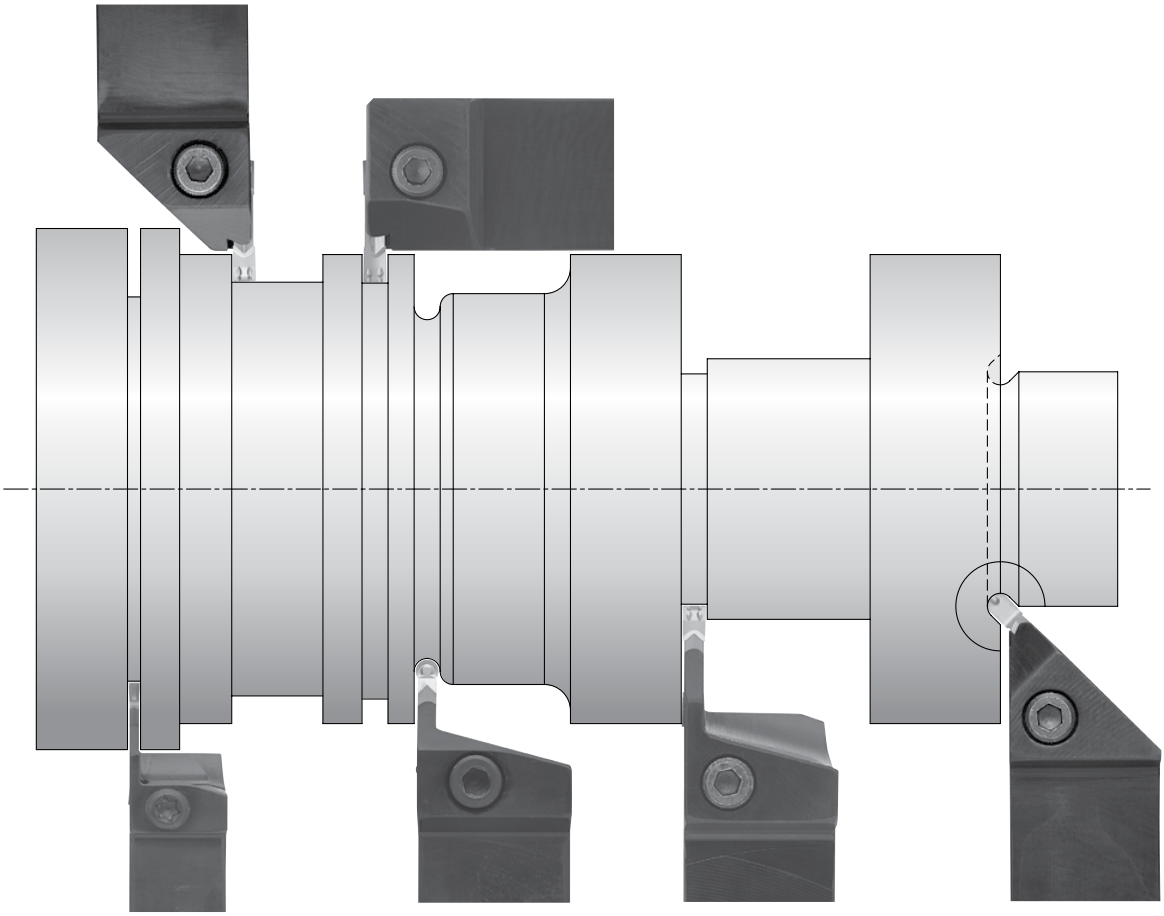
Type	KGMM
Edge Width	0.118" ~ 0.197" (3.00mm ~ 5.00mm)
Grooving Depth	0.189" (4.80mm)
Ref. Page	G54

KGMS
0.118" ~ 0.197" (3.00mm ~ 5.00mm)
0.189" (4.80mm)
G54


Molded Chipbreaker

Molded Chipbreaker Full-R


Ground Chipbreaker

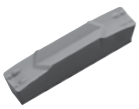


Type	KGM
Edge Width	0.079" ~ 0.118" (1.50mm ~ 4.00mm)
Grooving Depth	0.394" ~ 0.492" (10.00mm ~ 16.00mm)
Ref. Page	G52

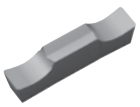
KGM
0.118" ~ 0.157" (3.00mm ~ 8.00mm)
0.354" (9.00mm ~ 25.00mm)
G52

KGM-T
0.079" ~ 0.236" (2.00mm ~ 6.00mm)
0.669" ~ 1.181" (17.00mm ~ 30.00mm)
G53

KGMU
0.118" ~ 0.197" (3.00mm ~ 5.00mm)
0.138" ~ 0.177" (3.50mm ~ 4.50mm)
G55


Molded Chipbreaker

Molded Chipbreaker Full-R


Ground Chipbreaker

Deep Grooving / Cut-off

Molded Chipbreaker Full-R

External Grooving of Precision Parts (G17~G19, G20, G21, G28, G48)

For Small Parts Machining

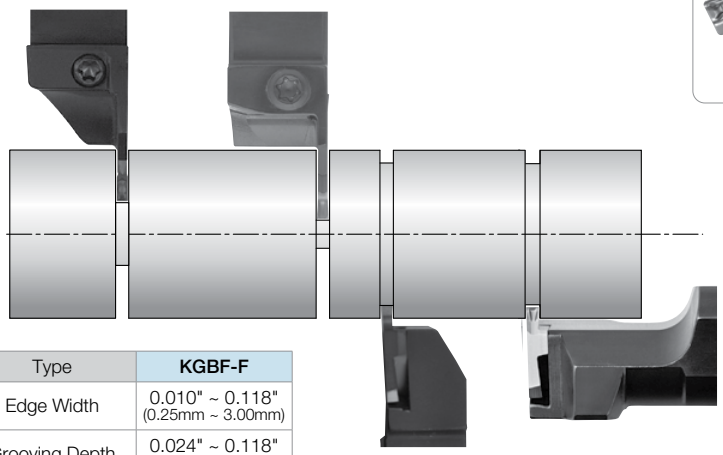
Type	KGD
Edge Width	0.079" ~ 0.157" (2.00mm ~ 4.00mm)
Grooving Depth	0.394" ~ 0.827" (10.00mm ~ 21.00mm)
Ref. Page	G28

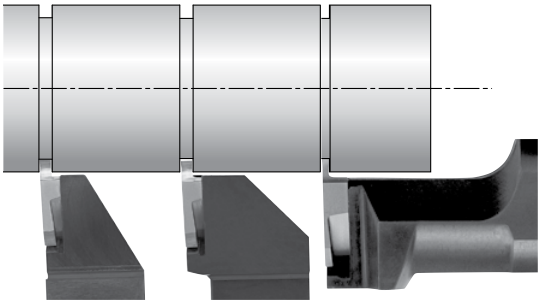
Type	KGD-JCTM
Edge Width	0.079" ~ 0.157" (2.00mm ~ 4.00mm)
Grooving Depth	0.472" ~ 0.630" 12.00mm ~ 16.00mm
Ref. Page	G30

Type	KGM
Edge Width	0.079" ~ 0.118" (1.50mm ~ 4.00mm)
Grooving Depth	0.394" ~ 0.492" (10.00mm ~ 16.00mm)
Ref. Page	G52

Molded Chipbreaker

Ground Chipbreaker





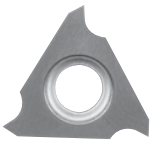
Type	KGBF-F
Edge Width	0.010" ~ 0.118" (0.25mm ~ 3.00mm)
Grooving Depth	0.024" ~ 0.118" (0.60mm ~ 3.00mm)
Ref. Page	G17

Type	KGBFS	KGBF-JCTM
Edge Width	0.010" ~ 0.118" (0.25mm ~ 3.00mm)	0.010" ~ 0.118" (0.25mm ~ 3.00mm)
Grooving Depth	0.024" ~ 0.118" (0.60mm ~ 3.00mm)	0.024" ~ 0.118" (0.60mm ~ 3.00mm)
Ref. Page	G18	G19

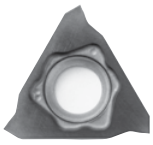
S-KGBF
0.010" ~ 0.118" (0.25mm ~ 3.00mm)
0.024" ~ 0.118" (0.60mm ~ 3.00mm)
G17

Type	KTGF-F	KTGF
Edge Width	0.013" ~ 0.098" (0.33mm ~ 2.50mm)	
Grooving Depth	0.032" ~ 0.098" (0.80mm ~ 2.50mm)	
Ref. Page	G20	

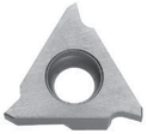
S-KTGF
0.013" ~ 0.098" (0.33mm ~ 2.50mm)
0.032" ~ 0.098" (0.80mm ~ 2.50mm)
G21



Ground Chipbreaker

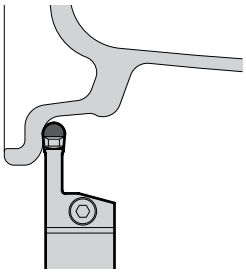


GL Chipbreaker



Ground Chipbreaker

For Aluminum Wheel External Grooving (External / Facing / Copying) (G48)



Type	KGMW
Edge Width	0.236" ~ 0.315" (6.00mm ~ 8.00mm)
Grooving Depth	0.984" (25.00mm)
Ref. Page	G60

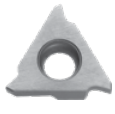
1-edge PCD

GBA Inserts (Inch)

(in)

Part Number	IC	S	D1
GBA32_	0.375	0.125	0.173
GBA43_	0.500	0.187	0.217
GBA43R/L480	0.500	0.197	0.217

P	Carbon Steel / Alloy Steel	●	◐	**Classification of Usage** ◐ : 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)			

Insert Right-handed Insert Shown		Part Number		Previous Part Number	Unit	Dimensions (in) CW	CDX	RE	MEGACOAT Cermet PV7040 R	PV7040 L	MEGA COAT PR1215 R	PR1215 L	Applicable Toolholders	Ref. Page for Toolholder
		GBA32R/L	031N	-	inch	0.031	0.079	0.002	●	●	●	●	KGBAR/L…-3 KGBAR/L…-16 (JCT) KGBASR/L…-3 KGBASR/L…-16 KIGBAR/L…-3 (Internal) KIGBAR/L…-16 (Internal)	G12 G13 G80 (Internal)
			041N	-		0.041	0.079	0.002	●	●		●		
			047N	-		0.047	0.079	0.008	●	●	●			
			058N	-		0.058	0.079	0.008	●	●		●		
			062N	-		0.062	0.079	0.008	●	●	●			
			078N	-		0.078	0.098	0.008	●	●	●	●		
			094N	-		0.094	0.098	0.008	●	●	●	●		
		GBA43R/L	031N ※1	-	inch	0.031	0.079	0.002			●	●	KGBAR/L…-4-15 KGBAR/L…22-15 (JCT) KGBASR/L…-4-15 KGBASR/L…22-15 KIGBAR/L…-4 (Internal) KIGBAR/L…22 (Internal)	
								0.008	●	●				
			047N	-		0.047	0.079	0.008	●	●	●			
			062N	-		0.062	0.138	0.008	●	●	●	●		
			072N	-		0.072	0.138	0.008		●	●	●		
			078N	-		0.078	0.138	0.008	●	●	●	●		
			088N	-		0.088	0.138	0.008	●	●	●	●		
			094N	-		0.094	0.157	0.012	●	●	●	●	KGBAR/L…4-25 KGBAR/L…22-25 (JCT) KGBAR/L…22-25T5 KGBASR/L…4-25 KGBASR/L…22-25 KGBASR/L…22-25T5 KIGBAR/L…-4 (Internal) KIGBAR/L…22 (Internal)	
			097N	-		0.097	0.157	0.012	●	●		●		
			105N	-		0.105	0.157	0.012	●	●	●	●		
			109N	-		0.109	0.157	0.012			●	●		
			110N	-		0.110	0.157	0.012	●	●	●	●		
			125N	-		0.125	0.157	0.012	●	●	●	●		
			141N	-		0.141	0.197	0.012			●	●	KGBAR/L…-4-35 KGBAR/L…22-35 (JCT) KGBASR/L…-4-35 KGBASR/L…22-35 KIGBAR/L…-4 (Internal) KIGBAR/L…22 (Internal)	
			142N	-		0.142	0.197	0.012		●	●	●		
			156N	-		0.156	0.197	0.016	●	●	●	●		
			172N	-		0.172	0.197	0.016			●	●		
			178N	-		0.178	0.197	0.016	●	●	●	●		
			188N	-		0.188	0.197	0.016				●		

- Dimension **CDX** shows available grooving depth

※1 : Corner Radius (RE) for GBA43R/L031N is different based on the grade

Recommended Cutting Conditions ➡ G145

Inserts are sold in 5 piece boxes.

KYOCERA

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

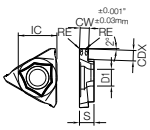
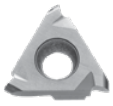
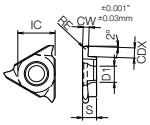
GBA Inserts (Inch)

(in)

Part Number	IC	S	D1
GBA32_	0.375	0.125	0.173
GBA43_	0.500	0.187	0.217
GBA43R/L480	0.500	0.197	0.217

P	Carbon Steel / Alloy Steel	●	◐
M	Stainless Steel		●
K	Cast Iron		
N	Non-ferrous Metals		
S	Titanium Alloy		●
H	Hard materials (≤40HRC)		●
	Hard materials (≥40HRC)		

Classification of Usage
- ◐ : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Unit	Dimensions (in) CW	CDX	RE	MEGACOAT Cermet PV7040 R	L	MEGA COAT PR1215 R	L	Applicable Toolholders	Ref. Page for Toolholder
Molded Chipbreaker; MY Chipbreaker 	GBA43R/L 078MYN	-	inch	0.078	0.138	0.008				●	KGBAR/L…-4-15 KGBAR/L…22-15 (JCT) KGBASR/L…-4-15 KGBASR/L…22-15 KIGBAR/L…-4 (Internal) KIGBAR/L…22 (Internal)	
	094MYN	-		0.094	0.157	0.012			●	●	KGBAR/L…4-25 KGBAR/L…22-25 (JCT) KGBAR/L…22-25T5 KGBASR/L…4-25 KGBASR/L…22-25 KGBASR/L…22-25T5 KIGBAR/L…-4 (Internal) KIGBAR/L…22 (Internal)	
	125MYN	-		0.125	0.157	0.012				●		
	156MYN	-		0.156	0.197	0.016			●	●	KGBAR/L…-4-35 KGBAR/L…22-35 (JCT) KGBASR/L…-4-35 KGBASR/L…22-35 KIGBAR/L…-4 (Internal) KIGBAR/L…22 (Internal)	
 Full-R (Round) 	GBA32R 031R	-	inch	0.062	0.079	0.031			●		KGBAR/L…-3 KGBAR/L…-16 (JCT) KGBASR/L…-3 KGBASR/L…-16 KIGBAR/L…-3 (Internal) KIGBAR/L…-16 (Internal)	G12 G13 G80 (Internal)
	047R	-		0.094	0.098	0.047			●			
	GBA43R/L 031R	-	inch	0.062	0.138	0.031			●	●	KGBAR/L…-4-15 KGBAR/L…22-15 (JCT) KGBASR/L…-4-15 KGBASR/L…22-15 KIGBAR/L…-4 (Internal) KIGBAR/L…22 (Internal)	
	047R	-		0.094	0.157	0.047				●	KGBAR/L…4-25 KGBAR/L…22-25 (JCT) KGBAR/L…22-25T5 KGBASR/L…4-25 KGBASR/L…22-25 KGBASR/L…22-25T5 KIGBAR/L…-4 (Internal) KIGBAR/L…22 (Internal)	
	062R	-		0.125	0.157	0.062			●	●		
	078R	-		0.156	0.197	0.078			●	●	KGBAR/L…-4-35 KGBAR/L…22-35 (JCT) KGBASR/L…-4-35 KGBASR/L…22-35 KIGBAR/L…-4 (Internal) KIGBAR/L…22 (Internal)	
	094R	-		0.188	0.197	0.094			●	●		

- Dimension **CDX** shows available grooving depth

Recommended Cutting Conditions ➔ **G145**

Inserts are sold in 5 piece boxes.

GBA Inserts (Metric)

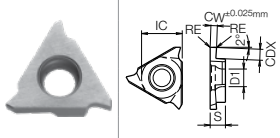
(mm)

Part Number	IC	S	D1
GBA32_	9.525	3.18	4.4
GBA43_	12.700	4.76	5.5
GBA43%480	12.700	5.00	5.5

		MEGACOAT Cermet		Cermet			MEGACOAT NANO	MEGACOAT	PVD Coated Carbide			Carbide
		PV7040	TC40	TN90	PR1625	PR1215	PR1115	PR905	PR930	KW10
P	Carbon Steel / Alloy Steel	●			◕	●	◔		◔	
M	Stainless Steel				◕	●	◔		◔	
K	Cast Iron					◕		◔		◔
N	Non-ferrous Metals									◕
S	Titanium Alloy									◕
H	Hard materials (≤40HRC)					●	○		○	
	Hard materials (≥40HRC)									

Classification of Usage
- ◕ : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)



Part Number	Dimensions (mm) CW	CDX	RE	PV7040 R	PV7040 L	TC40 R	TC40 L	TN90 R	TN90 L	PR1625 R	PR1625 L	PR1215 R	PR1215 L	PR1115 R	PR1115 L	PR905 R	PR905 L	PR930 R	PR930 L	KW10 R	KW10 L	Applicable Toolholders	Ref. Page for Toolholder
GBA32%033-005 ※1	0.33	0.8	0.05							●	●			△	△							KGBA%...-3 KGBA%...-16 (JCT) KGBAS%...-3 KGBAS%...-16 KIGBA%...-3 (Internal) KIGBA%...-16 (Internal)	G12 G13 G80 (Internal)
GBA32%050-005 ※2※3	0.50	1.0	0.05					●												●	●		
	0.50	1.2	0.05							●	●	●	●	△	△			●	●				
GBA32%075-005	0.75	2.0	0.05	●	●			●		●	●	●	●	△	△	●		●	●	●	●		
GBA32%095-005	0.95	2.0	0.05					●		●	●	●	●	△	△	△		●		●	●		
GBA32%100-005	1.00	2.0	0.05	●	●			●	●	●	●	●	●	△	△	△		●	●	●	●		
GBA32%110-005	1.10	2.0	0.05							●	●			△	△	●							
GBA32%120-005	1.20	2.0	0.05							●	●	●	●	△	△								
GBA32%125-020	1.25	2.0	0.20	●	●			●	●	●	●	●	●	△	△			●	●	●	●		
GBA32%130-020	1.30	2.0	0.20							●	●	●	●	△									
GBA32%140-020	1.40	2.5	0.20							●	●	●	●	△	△	●							
GBA32%145-020 ※3	1.45	2.0	0.20					●												●	●		
	1.45	2.5	0.20							●	●	●	●	△	△			●	●				
GBA32%150-020 ※3	1.50	2.0	0.20	●	●			●	●	●	●	●	●	△	△			●	●	●	●		
	1.50	2.5	0.20																				
GBA32%160-020	1.60	2.5	0.20							●	●	●	●	△									
GBA32%170-020	1.70	2.5	0.20							●	●	●	●	△	△								
GBA32%175-020 ※3	1.75	2.0	0.20					●	●											●	●		
	1.75	2.5	0.20							●	●	●	●	△	△	△		●	●				
GBA32%200-020	2.00	2.5	0.20	●	●			●	●	●	●	●	●	△	△		●	●	●	●	●		
GBA32%225-020	2.25	2.5	0.20							●	●	●	●	△									
GBA32%250-020	2.50	2.5	0.20					●	●	●	●	●	●	△	△			●	●	●	●		
GBA32%300-020	3.00	2.5	0.20							●	●	●	●	△	△	●							
GBA43%125-010	1.25	2.0	0.10							●	●	●	●									KGBA%...-4-15 KGBA%...22-15 (JCT) KGBAS%...-4-15 KGBAS%...22-15 KIGBA%...-4 (Internal) KIGBA%...22 (Internal)	
GBA43%125-020	1.25	2.0	0.20	●	●	●	●	●	●	●	●	●	●			●		●		●	●		
GBA43%140-020	1.40	3.5	0.20							●	●	●	●			●							
GBA43%145-020 ※3	1.45	2.0	0.20			●	●	●	●											●	●		
	1.45	3.5	0.20							●	●	●	●					●	●				
GBA43%150-010	1.50	3.5	0.10							●	●	●	●										
GBA43%150-020	1.50	3.5	0.20	●	●	●	●	●	●	●	●	●	●			●		●	●	●	●		
GBA43%170-020	1.70	3.5	0.20							●	●	●	●			●	●						
GBA43%175-020	1.75	3.5	0.20			●			●	●	●	●	●			●	●	●	●	●	●		
GBA43%185-020	1.85	3.5	0.20			●	●	●		●	●	●	●			●		●	●	●	●		
GBA43%195-020	1.95	3.5	0.20							●	●			△									
GBA43%200-010	2.00	3.5	0.10							●	●	●	●										
GBA43%200-020	2.00	3.5	0.20	●	●	●	●	●	●	●	●	●	●			●	●	●	●	●	●		
GBA43%225-020	2.25	3.5	0.20							●	●	●	●			●							
GBA43%230-020	2.30	3.5	0.20			●	●	●	●	●	●	●	●			●	●	●	●	●	●		
GBA43%250-010	2.50	5.0	0.10							●	●	●	●									★1	
GBA43%250-030 ※3	2.50	4.0	0.30	●	●	●	●	●	●											●	●	★2	
	2.50	5.0	0.30							●	●	●	●			●		●	●			★1	
GBA43%265-030 ※3	2.65	4.0	0.30			●		●	●											●	●	★2	
	2.65	5.0	0.30							●	●	●	●					●	●			★1	
GBA43%280-030 ※3	2.80	4.0	0.30			●		●	●	●	●	●	●					●	●	●	●	★2	
	2.80	5.0	0.30																			★1	
GBA43%300-010	3.00	5.0	0.10							●	●	●	●										
GBA43%300-030 ※3	3.00	4.0	0.30	●	●	●	●	●	●											●	●	★2	
	3.00	5.0	0.30							●	●	●	●	△		●		●	●			★1	
GBA43%325-030	3.25	5.0	0.30							●						●						★2	
GBA43%330-030 ※3	3.30	4.0	0.30			●	●	●												●	●		
	3.30	5.0	0.30							●	●	●	●			●		●	●			★1	
GBA43%350-010	3.50	5.0	0.10							●	●	●	●									KGBA%...-4-35 KGBA%...22-35 (JCT) KGBAS%...-4-35 KGBAS%...22-35 KIGBA%...-4 (Internal) KIGBA%...22 (Internal)	
GBA43%350-030	3.50	5.0	0.30			●	●	●	●	●	●	●	●			●	●	●	●	●	●		
GBA43%400-010	4.00	5.0	0.10							●	●	●	●										
GBA43%400-040	4.00	5.0	0.40	●	●	●	●	●	●	●	●	●	●			●	●	●	●	●	●		
GBA43%430-040	4.30	5.0	0.40			●		●		●	●	●	●					●		●	●		
GBA43%450-040	4.50	5.0	0.40			●		●		●	●	●	●					●		●	●		
GBA43%480-040	4.80	5.0	0.40					●		●	●	●	●					●		●	●		

※1 : The edge width tolerance of GBA32%033-005 : $0.33^{+0.02}_{-0.03}$
※2 : The edge width tolerance of GBA32%050-005 : $0.50^{+0.05}_{-0.00}$
※3 : Available grooving depth is different based on grade

- Dimension **CDX** shows available grooving depth

Recommended Cutting Conditions ➔ G145

Inserts are sold in 10 piece boxes.

★1: KGBA%...4-25, KGBA%...22-25 (JCT), KGBA%...22-25T5, KGBAS%...22-25T5, KIGBA%...4, KIGBA%...22
★2: KGBA%...4-25, KGBA%...22-25 (JCT), KGBA%...22-25T5, KGBAS%...4-25, KGBAS%...22-25, KGBAS%...22-25T5, KIGBA%...4, KIGBA%...22

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● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

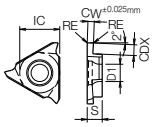
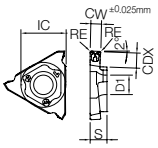
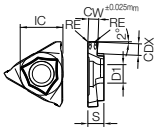
GBA Inserts (Metric)

(mm)

Part Number	IC	S	D1
GBA32_	9.525	3.18	4.4
GBA43_	12.70	4.76	5.5
GBA43R/L480	12.70	5.00	5.5

P	Carbon Steel / Alloy Steel	●	○	◐	●	◔	◔
M	Stainless Steel			◐	●	◔	◔
K	Cast Iron						
N	Non-ferrous Metals						
S	Titanium Alloy						
H	Hard materials (≤40HRC)				●	○	○
	Hard materials (≥40HRC)						

Classification of Usage
◐ : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)		Part Number	Dimensions (mm) CW	CDX	RE	Cermet TN620 R	TN620 L	TN6020 R	TN6020 L	MEGACOAT NANO PR1625 R	PR1625 L	MEGACOAT PR1215 R	PR1215 L	PVD Coated Carbide PR1115 R	PR1115 L	PR930 R	PR930 L	Applicable Toolholders	Ref. Page for Toolholder
Sharp Edge		GBA32R/L050-005F *	0.50	1.0	0.05	●	●											KGBAR/L...-3 KGBAR/L...-16 KGBASR/L...-3 KGBASR/L...-16 KIGBAR/L...-3 (Internal) KIGBAR/L...-16 (Internal)	
		075-005F	0.75	2.0	0.05	●	●												
		095-005F	0.95	2.0	0.05	●	●												
		100-005F	1.00	2.0	0.05	●	●												
		125-020F	1.25	2.0	0.2	●	●												
		145-020F	1.45	2.0	0.2	●	●												
		150-020F	1.50	2.0	0.2	●	●												
		175-020F	1.75	2.0	0.2	●	●												
		200-020F	2.00	2.5	0.2	●	●												
		250-020F	2.50	2.5	0.2	●	●												
		GBA43R/L125-020F	1.25	2.0	0.2	●	●											KGBAR/L...-4-15 KGBAR/L...22-15 (JCT) KGBASR/L...-4-15 KGBASR/L...22-15 KIGBAR/L...-4 (Internal) KIGBAR/L...22 (Internal)	
		145-020F	1.45	2.0	0.2	●	●												
		150-020F	1.50	3.5	0.2	●	●												
		175-020F	1.75	3.5	0.2	●	●												
		185-020F	1.85	3.5	0.2	●	●												
		200-020F	2.00	3.5	0.2	●	●												
		230-020F	2.30	3.5	0.2	●	●												
		250-030F	2.50	4.0	0.3	●	●											★2	
		265-030F	2.65	4.0	0.3	●	●												
		280-030F	2.80	4.0	0.3	●	●												
		300-030F	3.00	4.0	0.3	●	●												
		330-030F	3.30	4.0	0.3	●	●												
		350-030F	3.50	5.0	0.3	●	●											KGBAR/L...-4-35 KGBAR/L...22-35 (JCT) KGBASR/L...-4-35 KGBASR/L...22-35 KIGBAR/L...-4 (Internal) KIGBAR/L...22 (Internal)	
		400-040F	4.00	5.0	0.4	●	●												
		430-040F	4.30	5.0	0.4	●													
		450-040F	4.50	5.0	0.4	●													
		480-040F	4.80	5.0	0.4	●													
Molded Chipbreaker GM Chipbreaker 		GBA43R/L140-010GM	1.40	3.5	0.10	●	●			●	●	●	●					KGBAR/L...-4-15 KGBAR/L...22-15 (JCT) KGBASR/L...-4-15 KGBASR/L...22-15 KIGBAR/L...-4 (Internal) KIGBAR/L...22 (Internal)	➡ G12 ➡ G13 ➡ G80 (Internal)
		150-020GM	1.50	3.5	0.20	●	●			●	●	●	●						
		175-020GM	1.75	3.5	0.20	●	●			●	●	●	●						
		185-020GM	1.85	3.5	0.20	●	●			●	●	●	●						
		200-020GM	2.00	3.5	0.20	●	●			●	●	●	●						
		230-020GM	2.30	3.5	0.20	●	●			●	●	●	●						
		250-030GM	2.50	5.0	0.30	●	●			●	●	●	●					KGBAR/L...22-25 (JCT) KGBAR/L...22-25T5 KGBASR/L...22-25T5 KIGBAR/L...-4 (Internal) KIGBAR/L...22 (Internal)	
		265-030GM	2.65	5.0	0.30	●	●			●	●	●	●						
		300-030GM	3.00	5.0	0.30	●	●			●	●	●	●						
		330-030GM	3.30	5.0	0.30	●	●			●	●	●	●						
		350-030GM	3.50	5.0	0.30	●	●			●	●	●	●					KGBAR/L...-4-35 KGBAR/L...22-35 (JCT) KGBASR/L...-4-35 KGBASR/L...22-35 KIGBAR/L...-4 (Internal) KIGBAR/L...22 (Internal)	
		400-040GM	4.00	5.0	0.40	●	●			●	●	●	●						
Molded Chipbreaker MY Chipbreaker 		GBA43R/L175-020MY	1.75	3.5	0.20			●	●			△	△			△	△	KGBAR/L...-4-15 KGBAR/L...22-15 (JCT) KGBASR/L...-4-15 KGBASR/L...22-15 KIGBAR/L...-4 (Internal) KIGBAR/L...22 (Internal)	
		185-020MY	1.85	3.5	0.20			●	●			△	△			△	△		
		200-020MY	2.00	3.5	0.20			●	●			△	△	△		△	△		
		230-020MY	2.30	3.5	0.20			●	●			△	△			△	△		
		250-030MY ※3	2.50	4.0	0.30			●										★2	
			2.50	5.0	0.30							△	△			△	△	★1	
		265-030MY ※3	2.65	4.0	0.30			●	●									★2	
			2.65	5.0	0.30							△	△			△		★1	
		300-030MY ※3	3.00	4.0	0.30			●	●									★2	
			3.00	5.0	0.30							△	△			△	△	★1	
		330-030MY ※3	3.30	4.0	0.30			●										★2	
			3.30	5.0	0.30							△	△			△		★1	
		350-030MY	3.50	5.0	0.30			●	●			△	△			△	△	KGBAR/L...-4-35 KGBAR/L...22-35 (JCT) KGBASR/L...-4-35 KGBASR/L...22-35 KIGBAR/L...-4 (Internal) KIGBAR/L...22 (Internal)	
		400-040MY	4.00	5.0	0.40			●	●			△	△			△	△		

• Dimension **CDX** shows available grooving depth
* Edge width tolerance of GBA32R/L050-005F is 0.50mm +0.25mm/-0
※3 : Available grooving depth is different based on grade
★1: KGBAR/L...4-25, KGBAR/L...22-25 (JCT), KGBAR/L...22-25T5, KGBASR/L...22-25T5, KIGBAR/L...4, KIGBAR/L...22
★2: KGBAR/L...4-25, KGBAR/L...22-25 (JCT), KGBAR/L...22-25T5, KGBASR/L...4-25, KGBASR/L...22-25, KGBASR/L...22-25T5, KIGBAR/L...4, KIGBAR/L...22

Recommended Cutting Conditions ➡ G145

Rake Angle (α) after Installment of GBA-GM

α (°)	Insert Part Number
10°	GBA43R/L150-020GM
15°	GBA43R/L175-020GM ~ GBA43R/L265-030GM
12°	GBA43R/L300-030GM ~ GBA43R/L400-040GM

Rake Angle (α) after Installment of GBA-MY

α (°)	Insert Part Number
15°	GBA43R/L175-020MY ~ GBA43R/L350-030MY
14°	GBA43R/L400-040MY

Inserts are sold in 10 piece boxes.

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

GBA Inserts (Metric)

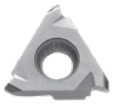
(mm)

Part Number	IC	S	D1
GBA32_	9.525	3.18	4.4
GBA43_	12.700	4.76	5.5
GBA43R/L480	12.700	5.00	5.5

		PV7040	TN620	TN90	PR1625	PR1215	PR1115	PR905	PR930	KW10
P	Carbon Steel / Alloy Steel	●	○		◐	●	◔		◔	
M	Stainless Steel				◐	●	◔		◔	
K	Cast Iron							◔		◔
N	Non-ferrous Metals									◐
S	Titanium Alloy									◐
H	Hard materials (≤40HRC)					●	○		○	
	Hard materials (≥40HRC)									

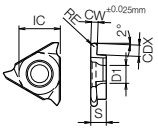
Classification of Usage
- ◐ : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

Insert — Right-handed Insert Shown



RF : Sharp Edge

Full-R (Round)



Part Number		CW	CDX	RE	PV7040 R	PV7040 L	TN620 R	TN620 L	TN90 R	TN90 L	PR1625 R	PR1625 L	PR1215 R	PR1215 L	PR1115 R	PR1115 L	PR905 R	PR905 L	PR930 R	PR930 L	KW10 R	KW10 L	Applicable Toolholders	Ref. Page for Toolholder
GBA32R	200-100R	2.00	2.5	1.00							●		●		△								KGBA R/L...-3 KGBA R/L...-16 (JCT) KGBAS R/L...-3 KGBAS R/L...-16 KIGBA R/L...-3 (Internal) KIGBA R/L...-16 (Internal)	G12 G13 G80 (Internal)
	300-150R	3.00	2.5	1.50							●		●		△									
GBA43R/L	100-050R	1.00	2.0	0.50	●	●					●	●	●	●		△			●				KGBA R/L...-4-15 KGBA R/L...22-15 (JCT) KGBAS R/L...-4-15 KGBAS R/L...22-15 KIGBA R/L...-4 (Internal) KIGBA R/L...22 (Internal)	
	150-075R	1.50	3.5	0.75	●	●			●		●	●	●	●	△	△	△		●		●			
	200-100R	2.00	3.5	1.00	●	●					●	●	●	●	△		●	●	●					
	250-125R	2.50	4.0	1.25							●	●	●	●	△								★1	
	300-150R	3.00	4.0	1.50					●	●	●	●	●	●			●	●	●	●	●	●		
	400-200R	4.00	5.0	2.00							●	●	●	●									KGBA R/L...-4-35 KGBA R/L...22-35 (JCT) KGBAS R/L...-4-35 KGBAS R/L...22-35 KIGBA R/L...-4 (Internal) KIGBA R/L...22 (Internal)	
GBA43R/L	100-050RF	1.00	2.0	0.50			●	●															KGBA R/L...-4-15 KGBA R/L...22-15 (JCT) KGBAS R/L...-4-15 KGBAS R/L...22-15 KIGBA R/L...-4 (Internal) KIGBA R/L...22 (Internal)	
	150-075RF	1.50	3.5	0.75			●	●																
	200-100RF	2.00	3.5	1.00			●	●																
	250-125RF	2.50	4.0	1.25			●	●															★1	
	300-150RF	3.00	4.0	1.50			●	●															KGBA R/L...-4-35 KGBA R/L...22-35 (JCT) KGBAS R/L...-4-35 KGBAS R/L...22-35 KIGBA R/L...-4 (Internal) KIGBA R/L...22 (Internal)	
	400-200RF	4.00	5.0	2.00			●																	

- Dimension **CDX** shows available grooving depth

*MC stands for MEGACOAT Cermet.

Recommended Cutting Conditions ➡ **G145**

★1: KGBA R/L...4-25, KGBA R/L...22-25 (JCT), KGBA R/L...22-25T5, KGBAS R/L...4-25, KGBAS R/L...22-25, KGBAS R/L...22-25T5, KIGBA R/L...4, KIGBA R/L...22

Rake Angle (α) after Installment of GBA

GBA32R/L○○○-○○○		GBA43R/L○○○-○○○		GBA43R/L○○○-○○○R (Full-R)		
α (°)	Insert Grade	α (°)	Insert Grade	α (°)	Insert Grade	Full-R
10°	TN90,PV7040,PR930 PR1115,PR1215,PR1625, PR905 KPD001,KPD010	0°	KBN510, KBN525	10°	TN90,PV7040,PR930 PR1115,PR1215,PR905	050R~150R
		10°	TC40,TN90,PV7040,PR930 PR1115,PR1215,PR1625, PR905 KPD001, KPD010	14°	TN90,PV7040,PR930 PR1115,PR1215,PR905	200R
20°	KW10	20°	KW10	14°	KW10	050R~200R

GBA inserts can be used in KGB / KGBS toolholders as well.

For GM Chipbreaker and MY Chipbreaker, see page ➡ G9

Inserts are sold in 10 piece boxes.

GBA Inserts (Metric)

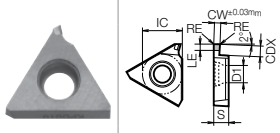
(mm)

Part Number	IC	S	D1
GBA32_	9.525	3.18	4.4
GBA43_	12.700	4.76	5.5
GBA43R/L480	12.700	5.00	5.5

		KBN510	KBN525	KPD001	KPD010
P	Carbon Steel / Alloy Steel				
M	Stainless Steel				
K	Cast Iron				
N	Non-ferrous Metals			●	
S	Titanium Alloy			●	
H	Hard materials (≤40HRC)				
	Hard materials (≥40HRC)	○	●		

Classification of Usage
- ◓ : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)		Part Number		Dimensions (mm) CW	CDX	RE	CBN KBN510 R	KBN510 L	KBN525 R	KBN525 L	PCD KPD001 R	KPD001 L	KPD010 R	KPD010 L	Applicable Toolholders	Ref. Page for Toolholder
1-Edge	GBA32 LE=1.7mm GBA43 LE=1.9mm	GBA32R	125-010	1.25	2.0	0.1							●		KGBAR/L…-3 KGBAR/L…-16 (JCT) KGBASR/L…-3 KGBASR/L…-16 KIGBAR/L…-3 (Internal) KIGBAR/L…-16 (Internal)	G12 G13 G80 (Internal)
			150-010	1.50	2.0	0.1					●		●			
		GBA43R/L	125-010	1.25	2.0	0.1							●	●	KGBAR/L…-4-15 KGBAR/L…22-15 (JCT) KGBASR/L…-4-15 KGBASR/L…22-15 KIGBAR/L…-4 (Internal) KIGBAR/L…22 (Internal)	
			125-020	1.25	2.0	0.2	●			●						
			150-010	1.50	3.5	0.1					●	●	●	●		
			150-020	1.50	3.5	0.2	●	●	●							
			200-010	2.00	3.5	0.1					●	●	●	●		
			200-020	2.00	3.5	0.2	●	●	●	●						
			250-010	2.50	4.0	0.1					●	●	●	●	★1	
			300-010	3.00	4.0	0.1					●	●	●			
			300-020	3.00	4.0	0.2			●							



- Dimension **CDX** shows available grooving depth

Recommended Cutting Conditions G145

★1: KGBAR/L…4-25, KGBAR/L…22-25 (JCT), KGBAR/L…22-25T5, KGBASR/L…4-25, KGBASR/L…22-25, KGBASR/L…22-25T5, KIGBAR/L…4, KIGBAR/L…22

Rake Angle (α) after Installment of GBA

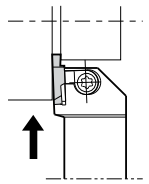
GBA32R/L○○○-○○○		GBA43R/L○○○-○○○		GBA43R/L○○○-○○○R (Full-R)		
α (°)	Insert Grade	α (°)	Insert Grade	α (°)	Insert Grade	Full-R
10°	TN90,PV7040,PR930 PR1115,PR1215,PR1625, PR905 KPD001,KPD010	0°	KBN510, KBN525	10°	TN90,PV7040,PR930 PR1115,PR1215,PR905	050R~150R
		10°	TC40,TN90,PV7040,PR930 PR1115,PR1215,PR1625, PR905 KPD001, KPD010	14°	TN90,PV7040,PR930 PR1115,PR1215,PR905	200R
20°	KW10	20°	KW10	14°	KW10	050R~200R

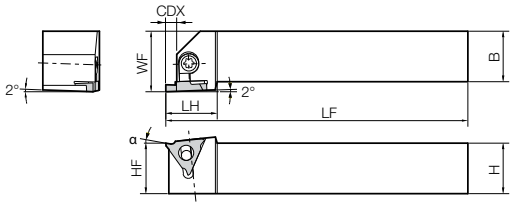
GBA inserts can be used in KGB / KGBS toolholders as well.

For GM Chipbreaker and MY Chipbreaker, see page G9

CBN & PCD Inserts are sold in 1 piece boxes.

KGBA





• Right-hand shown

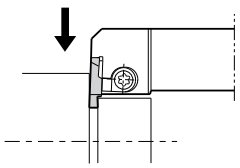
• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

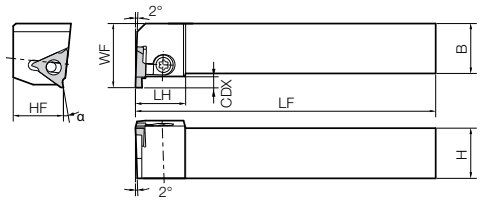
● Alternative Toolholder Reference Table

KGBA ←	(KGB)
KGBA R/L···22-15	KGB R/L···22-15
KGBA R/L···22-25	KGB R/L···22-25
KGBA R/L···22-35	KGB R/L···22-35
KGBA R/L···22-25T5	KGB R/L···22-25 (Available grooving depth has a limit)

· Short shank type is not available for KGB / KGBS.

KGBAS





• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

● Alternative Toolholder Reference Table

KGBAS ←	(KGBS)
KGBAS R/L···22-15	KGBS R/L···22-15
KGBAS R/L···22-25	KGBS R/L···22-25
KGBAS R/L···22-35	KGBS R/L···22-35
KGBAS R/L···22-25T5	KGBS R/L···22-25 (Available grooving depth has a limit)

● Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H	HF	B	LF	LH	WF	CDX	Spare Parts: Clamp Set	Spare Parts: Wrench	Applicable Insert ➡ G6~G11
KGBA R/L	12-3	●	●	inch	0.750	0.750	0.750	5.000	0.945	1.000	0.098	LGBA-16 R/L S	FT-15	GBA32 R/L...
	16-3	●	●		1.000	1.000	1.000	6.000	0.945	1.250	0.098			
	12-4-15	●	●		0.750	0.750	0.750	5.000	1.004	1.000	0.157	LGBA-22 R/L S	FT-15	GBA43 R/L...
	16-4-15	●	●		1.000	1.000	1.000	6.000	1.004	1.250	0.157			
	12-4-25	●	●		0.750	0.750	0.750	5.000	1.004	1.000	0.177			
	16-4-25	●	●		1.000	1.000	1.000	6.000	1.004	1.250	0.177			
	12-4-35	●	●		0.750	0.750	0.750	5.000	1.004	1.000	0.217			
	16-4-35	●	●		1.000	1.000	1.000	6.000	1.004	1.250	0.217			
KGBA R/L	2020K-16	●	●	mm	20	20	20	125	24.0	25	2.5	LGBA-16 R/L S	FT-15	GBA32 R/L...
	2525M-16	●	●		25	25	25	150	24.0	30	2.5			
	2020K22-15	●	●		20	20	20	125	25.5	25	4.0	LGBA-22 R/L S	FT-15	GBA43 R/L...
	2525M22-15	●	●		25	25	25	150	25.5	30	4.0			
	2020K22-25	●	●		20	20	20	125	25.5	25	4.5			
	2525M22-25	●	●		25	25	25	150	25.5	30	4.5			
	2020K22-25T5	●	●		20	20	20	125	25.5	25	5.5			
	2525M22-25T5	●	●		25	25	25	150	25.5	30	5.5			
	2020K22-35	●	●		20	20	20	125	25.5	25	5.5			
	2525M22-35	●	●		25	25	25	150	25.5	30	5.5			
	2020H22-15*	●			20	20	20	100	25.5	25	4.0			
	2020H22-25*	●			20	20	20	100	25.5	25	4.5			
	2020H22-35*	●			20	20	20	100	25.5	25	5.5			
KGBASR	12-3	●		inch	0.750	0.750	0.750	5.000	0.984	0.984	0.098	LGBA-16LS	FT-15	GBA32L...
	16-3	●			1.000	1.000	1.000	6.000	0.984	1.181	0.098			
	12-4-15	●			0.750	0.750	0.750	5.000	0.984	1.062	0.157	LGBA-22LS	FT-15	GBA43L...
	16-4-15	●			1.000	1.000	1.000	6.000	0.984	1.260	0.157			
	12-4-25	●			0.750	0.750	0.750	5.000	0.984	1.062	0.177			
	16-4-25	●			1.000	1.000	1.000	6.000	0.984	1.250	0.177			
	12-4-35	●			0.750	0.750	0.750	5.000	0.984	1.062	0.217			
	16-4-35	●			1.000	1.000	1.000	6.000	0.984	1.260	0.217			
KGBAS R/L	2020K-16	●	●	mm	20	20	20	125	25	25	2.5	LGBA-16 R/L S	FT-15	GBA32 R/L...
	2525M-16	●	●		25	25	25	150	25	30	2.5	LGBA-22 R/L S	FT-15	GBA43 R/L...
	2020K22-15	●	●		20	20	20	125	25	27	4.0			
	2525M22-15	●	●		25	25	25	150	25	32	4.0			
	2020K22-25	●	●		20	20	20	125	25	27	4.5			
	2525M22-25	●	●		25	25	25	150	25	32	4.5			
	2020K22-25T5	●	●		20	20	20	125	25	27	5.5			
	2525M22-25T5	●	●		25	25	25	150	25	32	5.5			
	2020K22-35	●	●		20	20	20	125	25	27	5.5			
	2525M22-35	●	●		25	25	25	150	25	32	5.5			

• Dimension **CDX** shows the distance from the toolholder to the cutting edge. Reference dimension **CDX** in applicable insert table for actual grooving depth. * mark indicates short shank type

• Clamp Set : KGBA R/L…LGBA-○○RS for Right-hand Toolholder, and LGBA-○○LS for Left-hand Toolholder.
KGBAS R/L…LGBA-○○LS for Right-hand Toolholder, and LGBA-○○RS for Left-hand Toolholder.

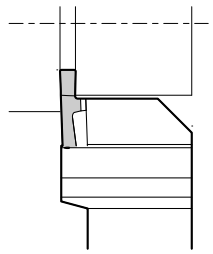
External Grooving Toolholders KGBA Short Shank Types Are Available

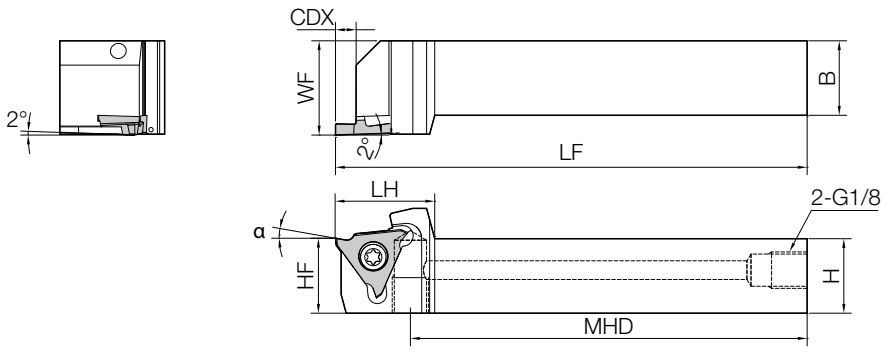
For NC lathe and HSK tooling, KGBAR2020K-○○ (Overall length 125mm) short shank type KGBAR2020H22-○○ (Overall length 100mm) is available., meaning it is no longer necessary for users to cut-down the shank.

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

KGBA-JCT (Jet Coolant-through) NEW





• Right-hand shown

• Right-hand Insert for Right-hand Toolholder

Toolholder Dimensions

Pressure Resistance: up to 4,350 psi

Part Number	Stock R	Stock L	Unit	Dimensions (mm) H	HF	B	LF	LH	WF	CDX*1	MHD	Spare Parts: Clamp Screw	Wrench	Wrench	Plug	Applicable Insert ➡ G6~G11
KGBA R/L 2020K-16JCT	●	●	mm	20	20	20	125	24.0	25	2.5	107.5	SB-4085TR	FT-15	-	HSG1/8x8.0	GBA32 R/L...
2525K-16JCT	●	●		25	25	25			30							
2020K22-15JCT	●	●		20	20	20		26.5	25	4	105	SB-5085TR	-	LTW-20		GBA43 R/L...
2525K22-15JCT	●	●		25	25	25			30							
2020K22-25JCT	●	●		20	20	20			25	5.5						
2525K22-25JCT	●	●		25	25	25			30							
2020K22-35JCT	●	●		20	20	20			25							
2525K22-35JCT	●	●		25	25	25			30							

*1 Dimension **CDX** shows the distance from the toolholder to the cutting edge. Reference dimension **CDX** in applicable insert table for actual grooving depth.

• KGBA-JCT Toolholder is Screw Clamp Type

Coolant Connections and Pipe Parts ➡ **H14-H15**
Recommended Cutting Conditions ➡ **G145**

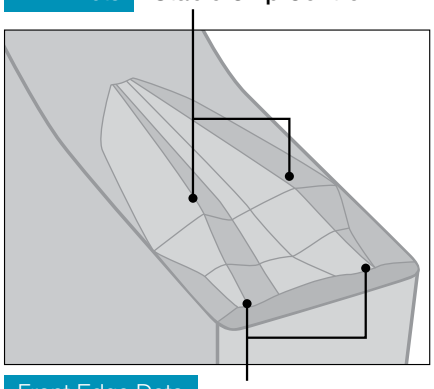
GBF

High Precision Grooving with Insert Width Tolerance of ± 0.02mm
High Efficiency MEGACOAT Coating Technology for Long Tool Life

1 Stable Chip Control with GL Chipbreaker

GL Chipbreaker for stable chip control in both grooving and traversing operations
(Traversing is not recommended for GBF32R075-005GL)

Twin Dots **Stable Chip Control**



Front Edge Dots

Chips are short, curled and break evenly in low feed machining. Prevents chip clogging.

Chip Control Comparison (Internal Evaluation)

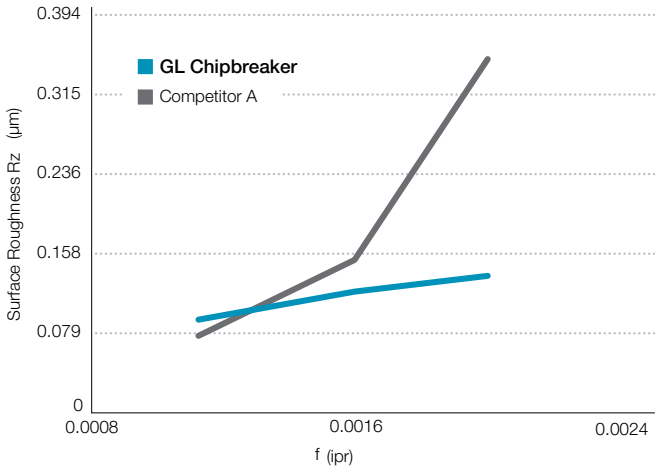
	GL Chipbreaker	Competitor A
Grooving f = 0.0020 ipr d = 0.059"		
Turning f = 0.0016 ipr D.O.C. = 0.008"		

Cutting Conditions : Vc = 260 sfm, Edge Width 0.039"
Workpiece Material : 304

2 Good Surface Finish

GL Chipbreaker stable chip control at high feed rates,
Good surface finish of side wall.

Surface Roughness Comparison (Internal Evaluation)



Cutting Conditions : Vc = 260 sfm, d = 0.059", f = 0.001~0.002 ipr, Edge Width 0.039"
Workpiece Material : Chromium Steel

Chip Control Comparison (Internal Evaluation)

GL Chipbreaker			
Competitor A (Molded Chipbreaker)			
	f = 0.0012	f = 0.0016	f = 0.0020

KGBF-JCTM NEW

Direct from Turret High-Pressure Coolant-Through Cut-Off Holders

Supports Internal Coolant with or without Piping Systems

Internal Coolant without Piping

*When the tool turret supports direct coolant

Coolant is supplied directly from the tool turret into the holder without the need to install piping

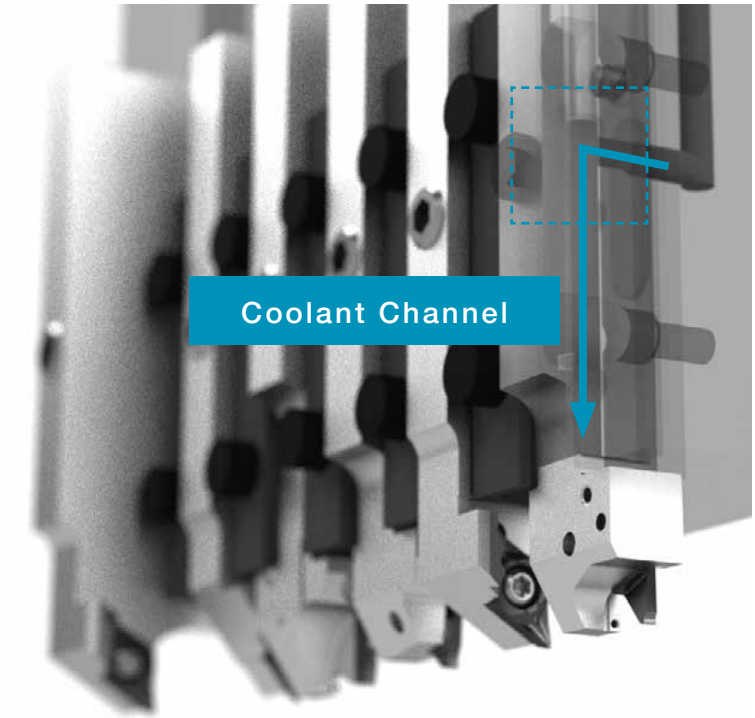
Applicable to Wide Range of Machines

The tool turret is optional. Please contact our company sales representative for details.

CITIZEN MACHINERY CO., LTD. (L20, D25, M32)
STAR MICRONICS CO., LTD. (SB-R series, SR series, SV series)
TSUGAMI CORPORATION (S205/206-Ⅱ □16 type, S205A/206A-Ⅱ □16 type)

(Random order)
Based on Kyocera Survey in January 2021

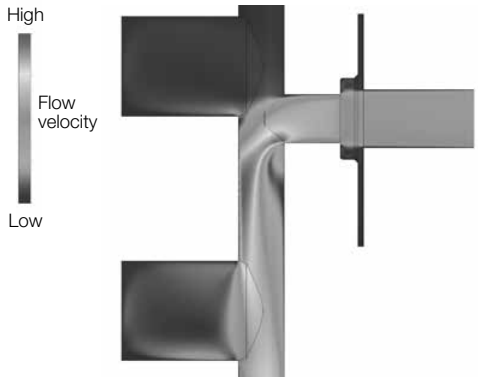
Compatible with various machine including the above.Toolholders can be customized as well.



Optimized Coolant Supply

Supply hole designed to reduce energy loss based on extensive flow analysis

Analysis Image (Internal Evaluation)

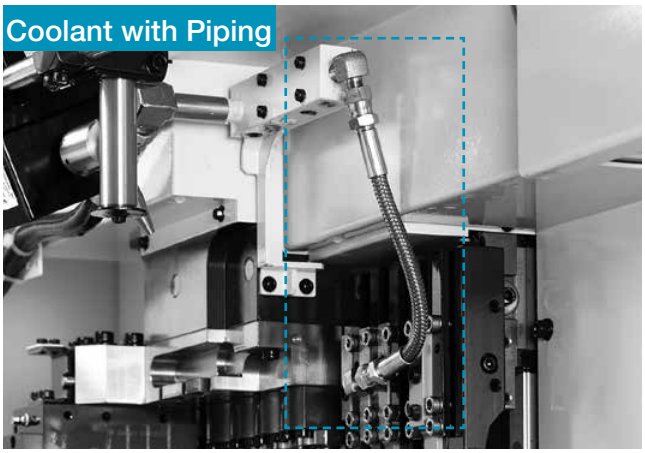


Internal Coolant with Piping

*Piping parts: See pages **H18** and **H19**

Compatible with internal coolant on any machine with standard piping parts

Commercial piping parts are available when using at normal pressure



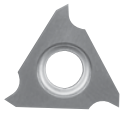
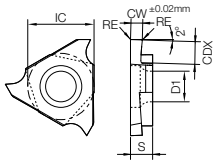
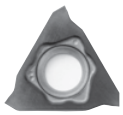
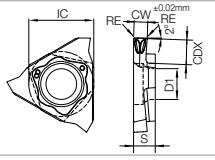
GBF / GBF-GL

(mm)

Part Number	IC	S	D1
GBF32_	9.525	3.18	4.4

		PR1215	PR1535	GW15
P	Carbon Steel / Alloy Steel	◉	◔	
M	Stainless Steel	◔	◉	
K	Cast Iron			◉
N	Non-ferrous Metals			◉
S	Titanium Alloy			◉
H	Hard materials (≤40HRC)			
	Hard materials (≥40HRC)			

Classification of Usage
- ◉ : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)		Part Number	Dimensions (mm) CW	CDX	RE	MEGA COAT PR1215 R	L	MEGACOAT NANO PR1535 R	L	Carbide GW15 R	L	Applicable Toolholders	Ref. Page for Toolholder
		GBF32R/L 025-000F	0.25	0.6	0.00	●	●	●	●	●	●	KGBFR/L...16F S...KGBFR/L16 KGBFSR/L...16 KGBFR/L...-16FJCT(M)	G17 G18 G19
		025-005			0.05	●	●	●	●	●	●		
		030-000F	0.30	0.8	0.00	●	●	●	●	●	●		
		030-005			0.05	●	●	●	●	●	●		
		033-000F *1	0.33		0.00	●	●	●	●	●	●		
		033-005 *1			0.05	●	●	●	●	●	●		
		043-000F *2	0.43	1.0	0.00	●	●	●	●	●	●		
		043-005 *2			0.05	●	●	●	●	●	●		
		050-000F	0.50	1.2	0.00	●	●	●	●	●	●		
		050-005			0.05	●	●	●	●	●	●		
		053-000F *3	0.53		0.00	●	●	●	●	●	●		
		053-005 *3			0.05	●	●	●	●	●	●		
		065-000F	0.65		0.00	●	●	●	●	●	●		
		065-005			0.05	●	●	●	●	●	●		
		075-000F	0.75	2.0	0.00	●	●	●	●	●	●		
		075-005			0.05	●	●	●	●	●	●		
		080-000F	0.80		0.00	●	●	●	●	●	●		
		080-005			0.05	●	●	●	●	●	●		
		095-000F	0.95		0.00	●	●	●	●	●	●		
		095-005			0.05	●	●	●	●	●	●		
		100-000F	1.00		0.00	●	●	●	●	●	●		
		100-005			0.05	●	●	●	●	●	●		
		110-000F	1.10		0.00	●	●	●	●	●	●		
		110-005			0.05	●	●	●	●	●	●		
		120-000F	1.20		0.00	●	●	●	●	●	●		
		120-005			0.05	●	●	●	●	●	●		
		125-000F	1.25		0.00	●	●	●	●	●	●		
		125-005			0.05	●	●	●	●	●	●		
		125-010			0.1	●	●	●	●	●	●		
		130-000F	1.30		0.00	●	●	●	●	●	●		
		130-005			0.05	●	●	●	●	●	●		
		130-010			0.1	●	●	●	●	●	●		
		140-000F	1.40	2.7	0.00	●	●	●	●	●	●		
		140-005			0.05	●	●	●	●	●	●		
		140-010			0.1	●	●	●	●	●	●		
		145-000F	1.45		0.00	●	●	●	●	●	●		
		145-005			0.05	●	●	●	●	●	●		
		145-010			0.1	●	●	●	●	●	●		
		150-000F	1.50		0.00	●	●	●	●	●	●		
		150-005			0.05	●	●	●	●	●	●		
		150-010			0.1	●	●	●	●	●	●		
		165-000F	1.65		0.00	●	●	●	●	●	●		
		165-005			0.05	●	●	●	●	●	●		
		165-010			0.1	●	●	●	●	●	●		
		170-000F	1.70	3.0	0.00	●	●	●	●	●	●		
		170-005			0.05	●	●	●	●	●	●		
		170-010			0.1	●	●	●	●	●	●		
		175-000F	1.75		0.00	●	●	●	●	●	●		
		175-005			0.05	●	●	●	●	●	●		
		175-010			0.1	●	●	●	●	●	●		
		200-000F	2.00		0.00	●	●	●	●	●	●		
		200-005			0.05	●	●	●	●	●	●		
		200-010			0.1	●	●	●	●	●	●		
		225-005	2.25		0.05	●	●	●	●	●	●		
		225-010			0.1	●	●	●	●	●	●		
		250-005	2.50		0.05	●	●	●	●	●	●		
		250-010			0.1	●	●	●	●	●	●		
		300-005	3.00		0.05	●	●	●	●	●	●		
		300-010			0.1	●	●	●	●	●	●		
		GBF32R 075-005GL	0.75	2.0	0.05	●		●					
		095-005GL	0.95	2.0	0.05	●		●					
		100-005GL	1.00	2.0	0.05	●		●					
		150-010GL	1.50	2.7	0.10	●		●					
		200-010GL	2.00	3.0	0.10	●		●					
		300-010GL	3.00	3.0	0.10	●		●					

Maximum Cutting Diameter See Page G18

Recommended Cutting Conditions G146

Inserts are sold in 10 piece boxes.

※1 : The edge width (**CW**) tolerance of GBF32R/L 033-005 : $0.33^{+0.015mm}_{-0.025mm}$
※2 : The edge width (**CW**) tolerance of GBF32R/L 043-005 : $0.43^{+0.015mm}_{-0.025mm}$
※2 : The edge width (**CW**) tolerance of GBF32R/L 053-005 : $0.53^{+0.015mm}_{-0.025mm}$

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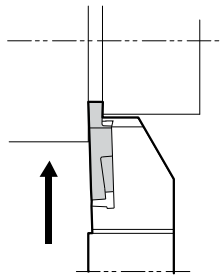
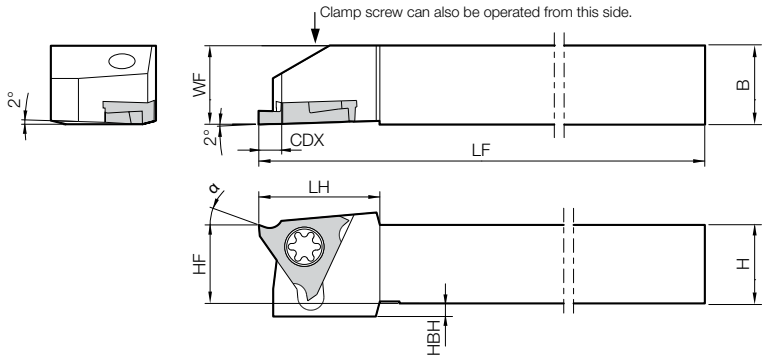
● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

KGBF-F (Without Offset)





• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

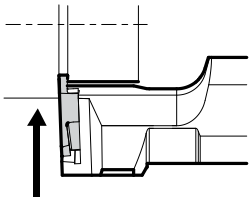
Part Number		Stock R	Stock L	Unit	Dimensions (mm) H=HF	HBH	B=WF	LF	LH	CDX*1	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts ➡ G16
KGBF右	1010JX-16F	●	●	mm	10	4	10	120	18.5	3	SB-4070TRW	FT-8	GBF32右...
	1212JX-16F	●	●		12	2	12						
	1616JX-16F	●	●		16	-	16						
	2020JX-16F	●	●		20	-	20						

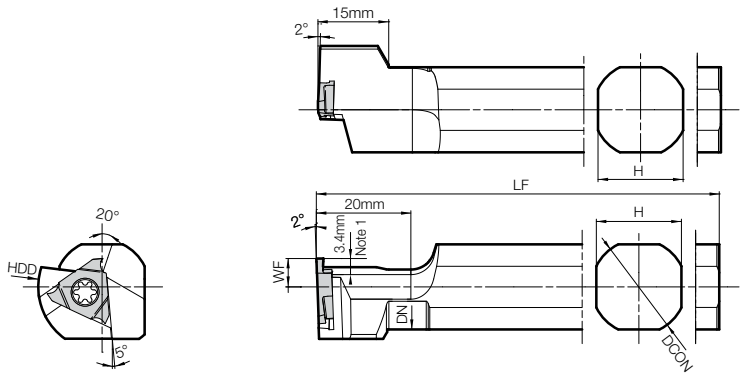
*1 Dimension **CDX** shows the distance from the toolholder to the cutting edge. Reference dimension **CDX** in applicable insert table for actual grooving depth.

Maximum Cutting Diameter See Page ➡ **G18**

Recommended Cutting Conditions ➡ **G146**

S...KGBF (Sleeve Holder)





• Left-hand shown

• Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

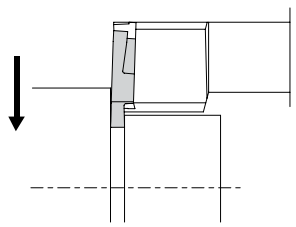
Part Number	Stock R	Stock L	Unit	Dimensions (mm) DCON	LF	WF	DN	HDD	H	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts ➡ G16
S16F-KGBFL16		●	mm	16	85	6	15	27	15	SB-4070TRW	FT-8	GBF32右...
S19G-KGBFL16		●		19.05	90		18		17			
S19K-KGBFL16		●			120							
S20G-KGBFL16		●		20	90		19		18			
S20K-KGBFL16		●			120							
S22K-KGBFL16		●		22			21		20			
S25.0H-KGBFL16		●		25	100	10	24	32	23			
S25K-KGBFL16		●		25.4	120							

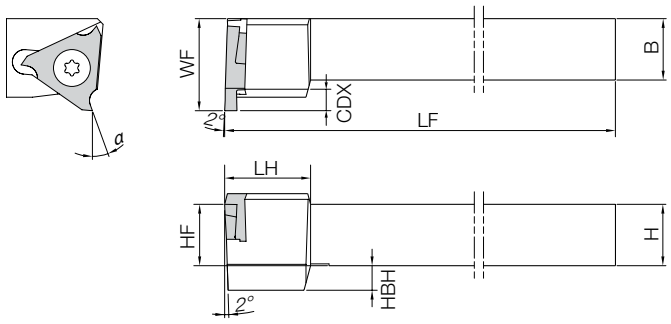
Note 1) Dimension shown is the available grooving depth of the insert (**CDX**)

Maximum Cutting Diameter See Page ➡ **G18**

Recommended Cutting Conditions ➡ **G146**

KGBFS (90° Type)





• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions (mm) H=HF	HBH	B	LF	LH	WF	CDX*1	Rake Angle α	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts ➡ G16
KGBFS R/L	1010JX-16	●	●	mm	10	4	10	120	14	15	3	20°	SB-4070TRW	FT-8	GBF32 R/L...
	1212JX-16	●	●		12	2	12			16					
	1616JX-16	●	●		16	-	16			20					

*1 Dimension **CDX** shows the distance from the toolholder to the cutting edge. Reference dimension **CDX** in applicable insert table for actual grooving depth.

Recommended Cutting Conditions ➡ **G146**

Compatibility & Precautions

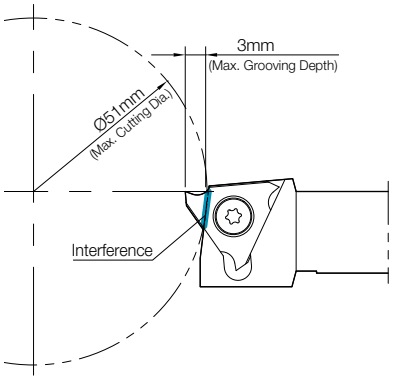
GBF and GBA Compatibility

1 GBF will fit KGBA / KGBAS toolholders
Caution: The maximum groove depth for KGBA / KGBAS toolholders is 2.5 mm

2 GBA inserts will also fit KGBF-F toolholders
Caution: The rake angle after installation in the toolholder is 11°

Maximum Machining Diameter for KGBF-F toolholder with GBF Insert

3 mm groove depth is available on workpiece diameters up to Ø51mm
2.7 mm groove depth is available on workpiece diameters up to Ø100mm,
2.5 mm groove depth is available on workpiece diameters up to Ø200mm
The workpiece will interfere with the holder at maximum cutting diameters or larger.



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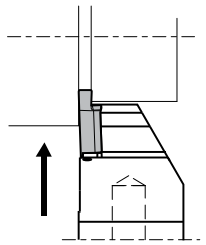
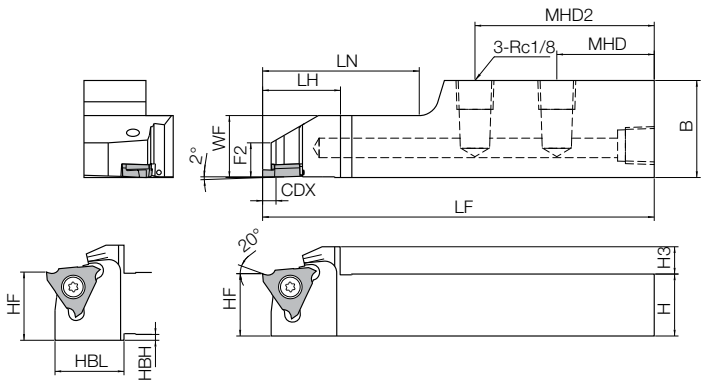
● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

KGBF-JCT (Jet Coolant-through)

KGBF-JCT holders are being phased out. Switch to new KGBF-JCTM style below.





• Right-hand shown

• Right-hand Insert for Right-hand Toolholder

Toolholder Dimensions

Pressure Resistance: up to 2,175 psi

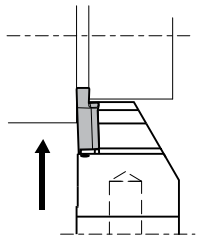
Part Number	Stock R	Stock L	Unit	H=HF	HBH	B	LF	HBL	LH	LN	WF	CDX*1	MHD	MHD2	Spare Parts: Clamp Screw	Spare Parts: Wrench	Spare Parts: Plug	Applicable Inserts ➡ G16
KGBFR 1220H-16FJCT	△		mm	12	1.5	20	100	20	20	28	12	3	35	-	SB-4070TRW	FT-8	GP-1	GBF32R/L...
1625H-16FJCT	△			16	-	25	100	-	20	40	16	3	25	46				
2025H-16FJCT	△			20	-	25	100	-	20	40	20	3	25	46				

*1 Dimension **CDX** shows the distance from the toolholder to the cutting edge. Reference dimension **CDX** in applicable insert table for actual grooving depth.

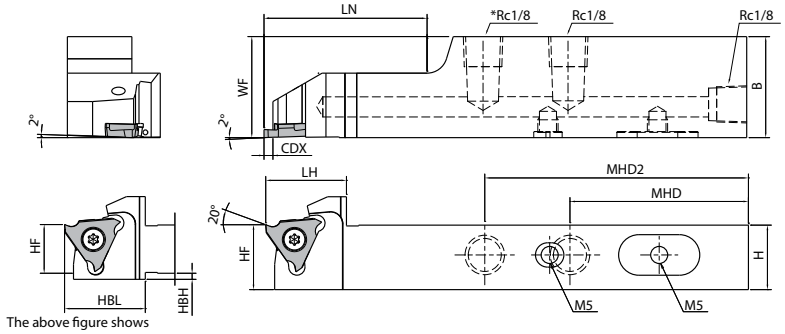
Coolant Connections and Pipe Parts ➡ **H14-H15**

Recommended Cutting Conditions ➡ **G146**

KGBF-JCTM (Direct from Turret Jet Coolant-Through) NEW



*KGBFR5.72··· : 2-Rc1/8
*KGBFR12··· : 2-Rc1/8



The above figure shows KGBFR 5.72... and KGBFR 1218JX...

• Right-hand shown

• Right-hand Insert for Right-hand Toolholder

Toolholder Dimensions

Pressure Resistance: up to 2,175 psi

Part Number	Stock R	Stock L	Unit	H=HF	HBH	B	LF	HBL	LH	LN	WF	CDX*1	MHD	MHD2	Spare Parts: Clamp Screw	Spare Parts: Wrench	Spare Parts: Plug 1	Spare Parts: Plug 2	Applicable Inserts ➡ G16
KGBFR 5.72-16FJCTM	●		inch	0.500	0.059	0.709	4.750	0.785	0.785	1.110	0.500	0.118	2.125	-	SB-4070TRW	FT-8	GP-1	HS5X4LP	GBF32R/L...
82.5-16FJCTM	●			0.625	-	1.000	4.750	-	0.785		0.625	0.118	1.730	2.560	SB-4070TRW	FT-8	GP-1	-	
KGBFR 1218JX-16FJCTM	●		mm	12	1.5	18	120	20	20	28	12	3	54	-	SB-4070TRW	FT-8	GP-1	HS5X4LP	
1625JX-16FJCTM	●			16	-	25		-		40	16		44	65					
2025JX-16FJCTM	●			20							20							-	

*1 Dimension **CDX** shows the distance from the toolholder to the cutting edge. Reference dimension **CDX** in applicable insert table for actual grooving depth.

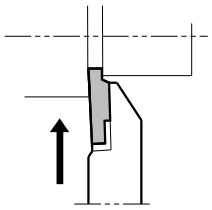
Coolant Connections and Pipe Parts ➡ **H18-H19**

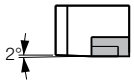
Recommended Cutting Conditions ➡ **G146**

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

KTGF-F (Without Offset)

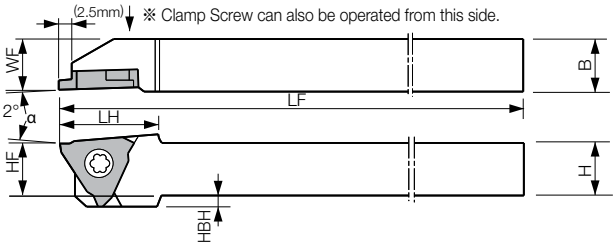
KTGF holders are being phased out.
Switch to KGBF style ➡ G17~G19





α (°)	Insert Grade
20°	PR1115, PR1215 PR930, KW10
11°	KPD001
6°	TC40

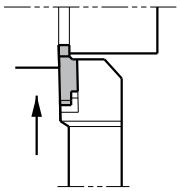
• Right-hand shown

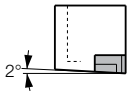


• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

KTGF (With Offset)

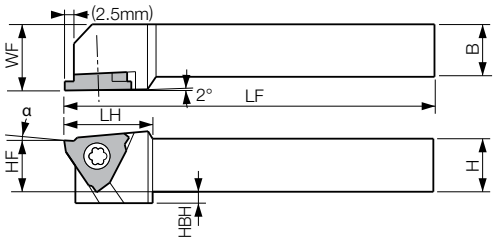
KTGF holders are being phased out.
Switch to KGBF style ➡ G17~G19





α (°)	Insert Grade
20°	PR1115, PR1215 PR930, KW10
11°	KPD001
6°	TC40

• Right-hand shown



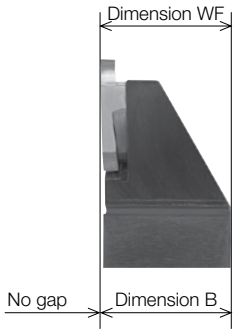
• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

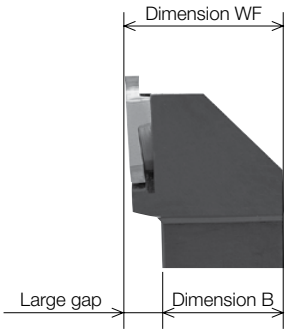
Part Number		Stock R	Stock L	Unit	Dimensions H	HBH	HF	B	LF	LH	WF	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts ➡ G21
KTGF右	6-3JXF	△	△	inch	0.375	0.079	0.375	0.375	4.750	0.728	0.383	SB-4070TRW	FT-8	TGF32右
	8-3JXF	△	△		0.500	-	0.500	0.500	4.750	0.728	0.500			
	10-3JXF	△	△		0.625	-	0.625	0.625	4.750	0.728	0.098			
KTGF右	1010JX-16F	△	△	mm	10	2	10	10	120	18.5	10	SB-4070TRW	FT-8	
	1212JX-16F	△	△		12	-	12	12	120	18.5	12			
	1616JX-16F	△	△		16	-	16	16	120	18.5	16			
KTGF右	1212F-16F	△	△		12	-	12	12	85	18.5	12	SB-4070TRW	FT-8	
KTGF右	1010F-16	△	△		10	4	10	10	80	18.5	12	SB-4070TRS	FT-10	
	1212H-16	△	△		12	2	12	12	100	18.5	16			
	1616H-16	△	△		16	-	16	16	100	18.5	20			
	2020K-16	△	△		20	-	20	20	125	20.0	25			
	2525M-16	△	△		25	-	25	25	150	20.0	32			

Usage Difference Between KTGF-F and KTGF Toolholders

It is necessary to use "Without Offset" in operating the swiss machine.



KTGF-F (without offset type)



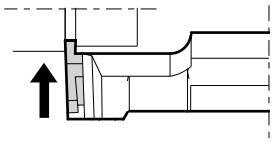
KTGF (with offset type)

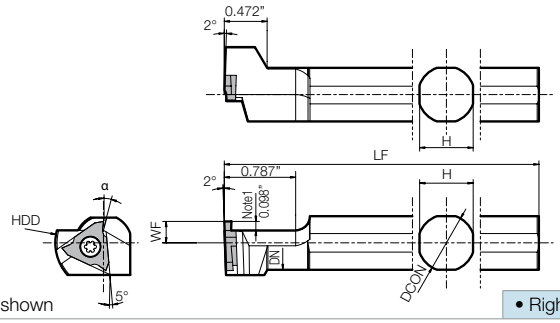
(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

S...KTGF (Sleeve Holder)

S...KTGF holders are being phased out.
Switch to S...KGBF style G17





α (°)	Insert Grade
20°	PR1115, PR1215, PR930, KW10
11°	KPD001
6°	TC40

• Left-hand shown

• Right-hand Insert for Left-hand Toolholder

Note 1) Dimension shown is the distance from the toolholder to the cutting edge. Reference dimension **CDX** in applicable insert table for actual grooving depth.

Toolholder Dimensions

Part Number	Stock	Unit	Dimensions						Spare Parts		Applicable Inserts Below
			DCON	LF	WF	DN	HDD	H	Clamp Screw	Wrench	
S15F-KTGFL16	△	inch	0.625	3.35	0.236	0.575	1.063	0.591	SB-4070TRS	FT-10	TGF32R
S19G-KTGFL16	△		0.750	3.54	0.236	0.693	1.063	0.669			
S19K-KTGFL16	△		0.750	4.73	0.236	0.693	1.063	0.669			
S25K-KTGFL16	△		1.000	4.73	3.940	0.929	1.260	0.906			
S12F-KTGFL16	△	mm	12.0	80	6	11.0	27	11			
S14H-KTGFL16	△		14.0	100	6	13.0	27	13			
S16F-KTGFL16	△		16.0	85	6	14.6	27	15			
S20G-KTGFL16	△		20.0	90	6	18.6	27	18			
S20K-KTGFL16	△		20.0	120	6	18.6	27	18			
S25.0H-KTGFL16	△		25.0	100	10	23.6	32	23			

Applicable Inserts

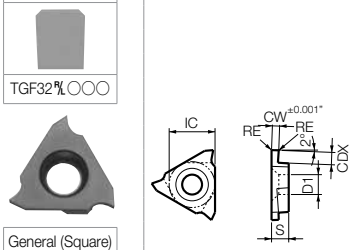
		Cermet		MEGA COAT	PVD Coated Carbide				Carbide		PCD
		TC40		PR1215	PR930		PR1115		KW10		KPD001
		R	L	R	R	L	R	L	R	L	R	L
P	Carbon Steel / Alloy Steel			●	◷		◷				
M	Stainless Steel			●	◷		●				
K	Cast Iron								●		
N	Non-ferrous Metals								●		●
S	Titanium Alloy								●		●
H	Hard materials (≤40HRC)			●	○		○				
	Hard materials (≥40HRC)										

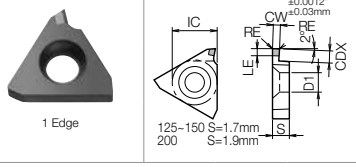
Classification of Usage
● : Light Interruption / 1st Choice
◷ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

(in)

Part Number	IC	S	D1
TGF32_	0.375	0.125	0.177

Insert
Right-handed Insert Shown





Part Number		Unit	Dimensions CW	CDX	RE	TC40 R	TC40 L	PR1215 R	PR1215 L	PR930 R	PR930 L	PR1115 R	PR1115 L	KW10 R	KW10 L	KPD001 R	KPD001 L	Applicable Toolholders	Ref. Page for Toolholder
TGF32R/L	031N	inch	0.031	0.078	0.004			●	●									KTGFR/L...3F KTGFR/L...16F KTGFR/L...16 S...KTGFR/L16	G20 G21
	041N		0.041	0.078	0.004			●	●										
	047N		0.047	0.078	0.004			●											
	058N		0.058	0.078	0.004			△	△										
	062N		0.062	0.078	0.004			●	●										
	078N		0.078	0.098	0.004			●	●										
	094N		0.094	0.098	0.004			△	△										
TGF32R/L	033-005	mm	0.33	0.8	0.05			●		●									
	050-005		0.50	1.2	0.05	●		●	●	●	●			●					
	075-010		0.75	2.0	0.10	●		●	●	●	●			●					
	095-010		0.95	2.0	0.10	●		●	●	●	●			●					
	100-010		1.00	2.0	0.10	●		●	●	●	●			●					
	120-010		1.20	2.0	0.10			●	●										
	125-010		1.25	2.0	0.10	●		●	●	●	●			●					
	140-010		1.40	2.0	0.10			●	●										
	145-010		1.45	2.0	0.10	●		●	●	●	●			●					
	150-010		1.50	2.0	0.10	●		●	●	●	●			●					
	175-010		1.75	2.0	0.10	●		●	●	●	●			●					
	200-010		2.00	2.5	0.10	●		●	●	●	●			●					
	250-010		2.50	2.5	0.10	●		●	●	●	●			●					
TGF32R	125-010	mm	1.25	2.0	0.10											●			
	150-010		1.50	2.0	0.10											●			
	200-010		2.00	2.5	0.10											●			

• Dimension **CDX** shows available grooving depth

Recommended Cutting Conditions G146

Inserts are sold in 10 piece boxes. *CBN & PCD Tools are sold in 1 piece boxes.*

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

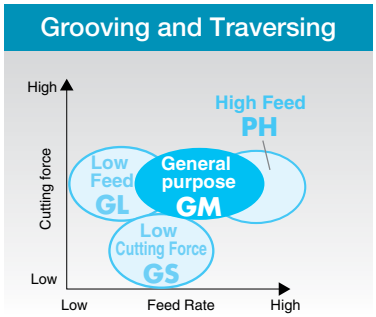
KGD Insert Lineup

Smooth Chip Control
Introducing new chipbreakers designed for a variety of workpiece materials.

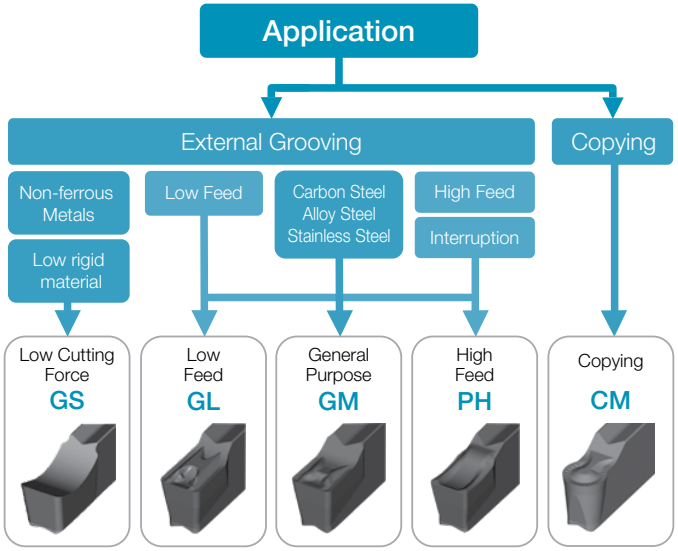
High Precision Edge Preparation
High precision molding technology with tolerance ±0.03mm (2, 3, 4mm types).

MEGACOAT Techology
Long tool life and high efficiency machining achieved by superior oxidation and wear resistance.

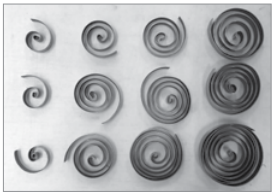
● Application Map



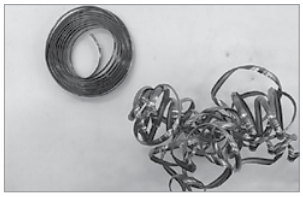
● Chipbreaker Selection



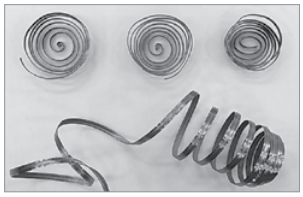
● Comparison of Chip Control - Structural Steel Vc = 490 sfm, f = 0.006 ipr



GM Chipbreaker



Competitor A

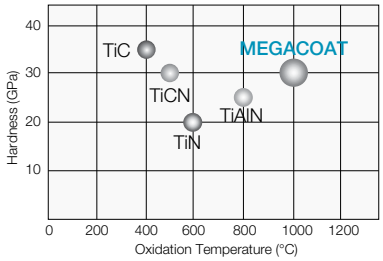


Competitor B

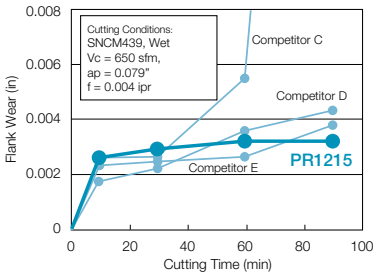
Better chip control than competitors

Reduces damage of cutting edge caused by crushing chips

● MEGACOAT Features



● Wear Resistance Comparison



PR1225
1st recommendation for cut-off, grooving, and traversing of steel

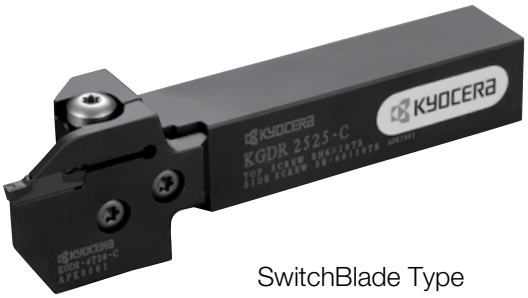
PR1215
Superior wear resistance, recommended for grooving and cut-off under stable conditions.

1st recommendation for machining of cast iron

KGD Toolholder

Integral Type and SwitchBlade Type (Toolholder + Blade) are available

Integral Type

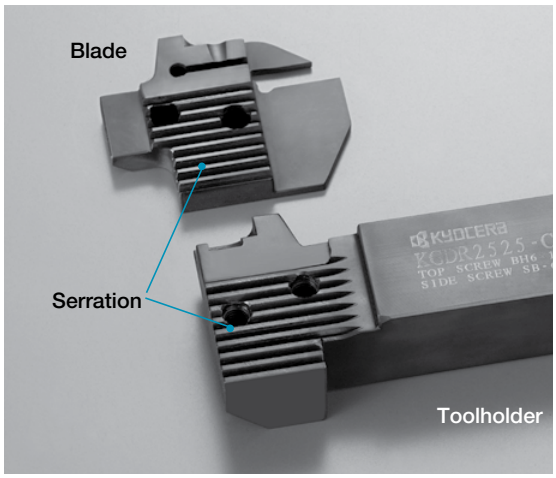


SwitchBlade Type

High Rigidity SwitchBlade Type Toolholder

➡ **Adaptable to a wide range of applications by swapping blades**

Various edge widths and cutting depths can be achieved by changing the blade and toolholder combination.
Swap blades out easily to change groove width and depth.

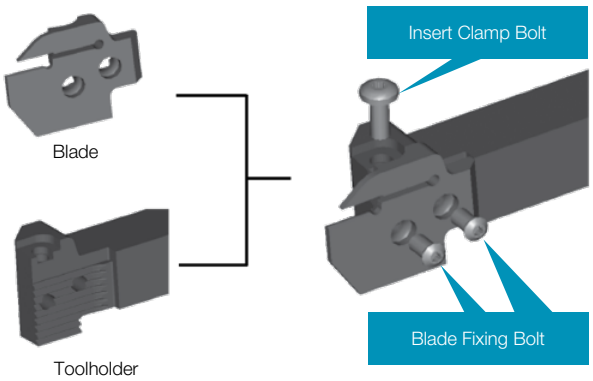


Jet Coolant-Through KGD-JCT Holders

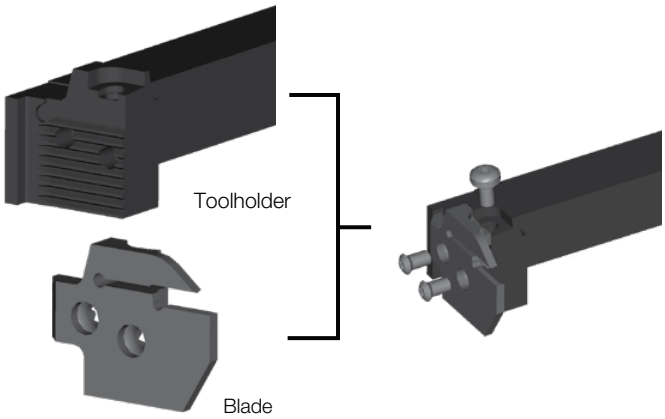
Various edge widths and cutting depths can be achieved by changing the blade and toolholder combination.
Swap blades out easily to change groove width and depth.

Structure of Toolholder Unit (Toolholder + Blade)

● KGD-S (0˚SwitchBlade Type)



● KGDS-S (90˚SwitchBlade Type)



Blade Combination of 0˚ SwitchBlade Type

Toolholder (KGD**R** ○○○○-C)
+
Blade (KGD**R**-○T○○-C)

➡Right-hand **(R)** Blade for Right-hand **(R)** Toolholder,
Left-hand **(L)** Blade for Left-hand **(L)** Toolholder.

Blade Combination of 90° SwitchBlade Type

Toolholder (KGDSR ○○○○-C)
+
Blade (KGDL-○T○○-C)

➡Left-hand (L) Blade for Right-hand (R) Toolholder,
Right-hand (R) Blade for Left-hand (L) Toolholder.

Small Parts Grooving & Cut-Off

KGD-JCT

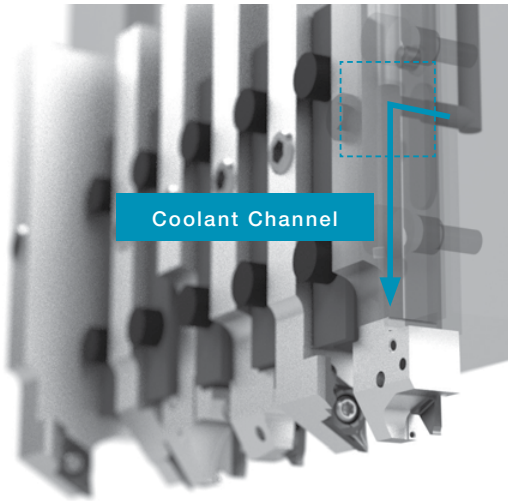
Jet Coolant-Through Cut-Off Holders for Small Parts Machining

KGD-JCTM NEW

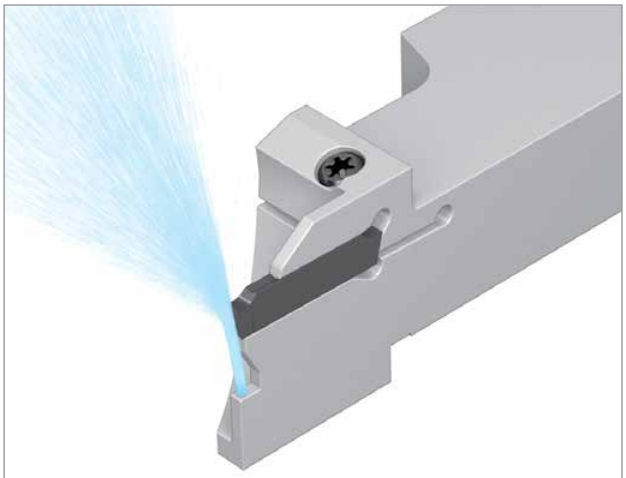
Direct from Turret Jet Coolant-Through Cut-Off Holders for Small Parts Machining

Small Diameter Grooving / Cut-Off

New JCTM-Series Direct Coolant System



Improved Tool Life Lowers Machining Costs



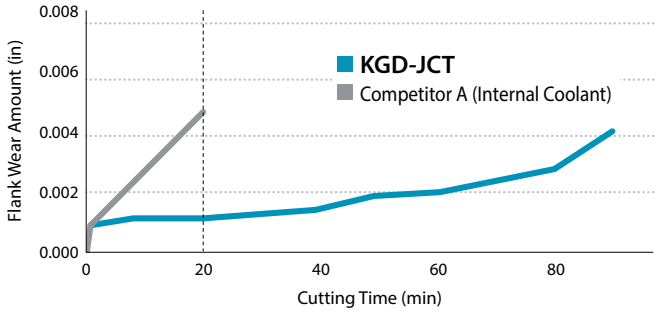
Effective Cooling of the Cutting Edge

Optimized Coolant Hole Position

Discharges Coolant towards the Flank Face of the Insert

Wear Resistance Comparison

(Internal Evaluation)

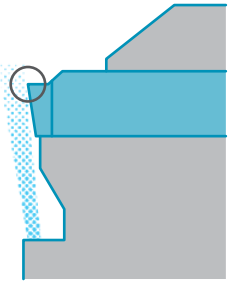


Cutting Conditions : Vc = 260 sfm, f=0.0024 ipr (at~Ø 0.079" : f = 0.0007 (ipr)
KGDR1625H-2JCT, GDM2020N-015PF PR1535 (Insert Width : 0.079")
Workpiece : 304 (Ø0.984")
Internal Coolant(218 psi) Cut-off

Coolant Discharge

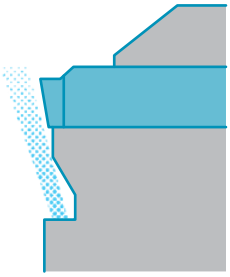
KGD-JCT / KGD-JCTM

Sufficient cooling towards the cutting edge

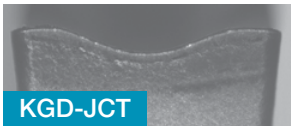


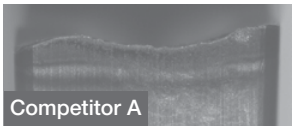
Competitor A

Coolant does not flow directly towards the cutting edge



Cutting Edge (After Machining 20 min)





High density and high speeds coolant provides effective cooling of the cutting edge

Superior cooling action improves tool life

External Grooving & Cut-Off

KGD-JCT

Jet Coolant-Through Holders for External Grooving and Cut-Off

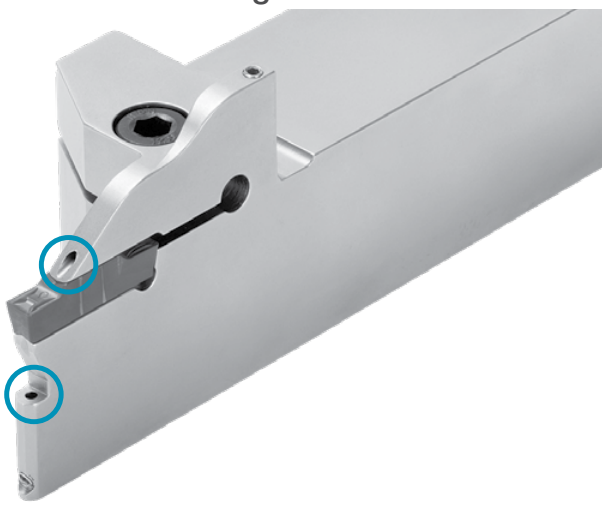
Grooving / Cut-Off

Improved Chip Control and Longer Tool Life for External Grooving and Cut-off

Discharges Coolant in Two Directions

Discharges coolant in two directions toward both the rake surface and the flank face of the insert

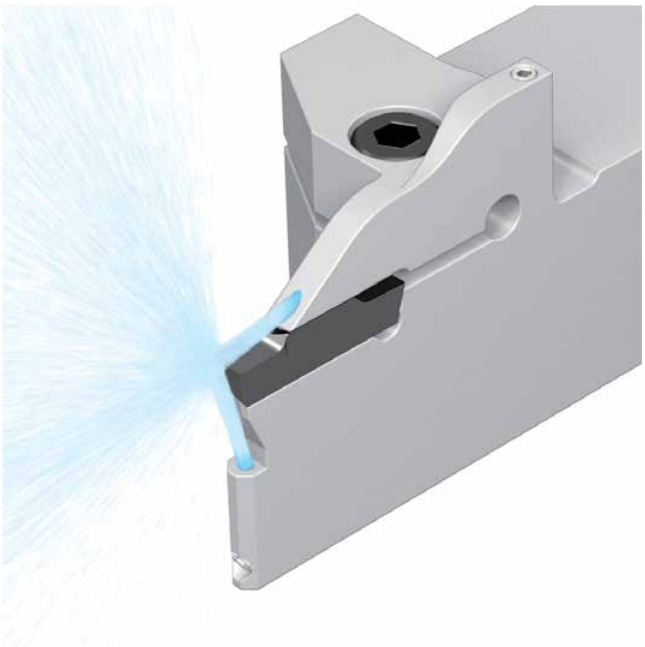
Excellent Chip Control and Long Tool Life



Superior Chip Control Performance

Coolant directed towards the rake face

Coolant hole position and angle improve chip control



Chip Control Comparison (Internal Evaluation)

KGD-JCT showed better chip control performance even at lower feed rates

f = 0.002 ipr (218 psi)

KGD-JCT

Competitor E

Competitor F

Competitor G

Cutting Conditions: Vc = 490 sfm, f = 0.002 ipr, d = 0.315", Wet
Edge Width 4 mm (0.157") Workpiece: 4131 Grooving

GDM / GDMS / GDG

Usage Classification
- ◉ : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

		TN620	TN90	PR1535	PR1225	PR1215	GW15
P	Carbon Steel / Alloy Steel	●	○		◉	◔	
M	Stainless Steel			◉	◔	◔	
K	Cast Iron					◉	
N	Non-ferrous Metals						◉
S	Titanium Alloy			◉			◔
H	Hard materials (≤40HRC)				○		
	Hard materials (≥40HRC)						

Insert (Right-handed Insert Shown)		Part Number	CW inch	CW mm	CW Tolerance	RE	INSL	S	Cermet TN620	Cermet TN90	MEGACOAT NANO PR1535	MEGACOAT PR1225	MEGACOAT PR1215	Carbide GW15	Ref. Page for Toolholder
Grooving & Traversing	General Purpose 2-edge	GDM 2420N-020GM	0.094	2.4	±0.0012	0.008	0.787	0.169	●	●	●	●	●		G28 ~ G40
		3020N-020GM	0.118	3.0		0.008			●	●	●	●	●		
		3020N-040GM	0.118	3.0		0.016			●	●	●	●	●		
		4020N-020GM	0.157	4.0		0.008			●	●	●	●	●		
		4020N-040GM	0.157	4.0		0.016			●	●	●	●	●		
		4020N-080GM	0.157	4.0		0.032			●	●	●	●	●		
		5020N-040GM	0.197	5.0	±0.0016	0.016			●	●	●	●	●		
		5020N-080GM	0.197	5.0		0.032			●		●	●	●		
		6020N-040GM	0.236	6.0		0.016			●	●	●	●	●		
		6020N-080GM	0.236	6.0		0.032			●	●	●	●	●		
		8030N-080GM	0.315	8.0	±0.0020	0.032	1.181	0.217			●	●	●		
		GDG 3120N-020GM	0.125	3.18	±0.0008	0.008	0.787	0.169			●				
	General Purpose 1-edge	GDMS 2220N-020GM	0.087	2.2	±0.0012	0.008	0.787	0.169	●	●	●	●	●		
		3020N-040GM	0.118	3.0		0.016			●		●	●	●		
		4020N-040GM	0.157	4.0		0.016			●	●	●	●	●		
		5020N-080GM	0.197	5.0	±0.0016	0.032			●		●	●	●		
		6020N-080GM	0.236	6.0		0.032			●		●	●	●		
	Low Feed 2-edge	GDM 2420N-020GL	0.094	2.4	±0.0012	0.008	0.787	0.169	●	●	●	●	●		
		3020N-020GL	0.118	3.0		0.008			●	●	●	●	●		
		3020N-040GL	0.118	3.0		0.016			●	●	●	●	●		
		4020N-020GL	0.157	4.0		0.008			●	●	●	●	●		
		4020N-040GL	0.157	4.0		0.016			●		●	●	●		
		5020N-040GL	0.197	5.0	±0.0016	0.016			●	●	●	●	●		
		6020N-040GL	0.236	6.0		0.016			●		●	●	●		
Grooving	Low Cutting Force 2-edge	GDG 2520N-020GS	0.098	2.5	±0.0008	0.008	0.787	0.169	●	●	●	●	●	●	
		3020N-020GS	0.118	3.0		0.008			●	●	●	●	●	●	
		3520N-020GS	0.138	3.5		0.008			●		●	●	●	●	
		4020N-040GS	0.157	4.0		0.016			●	●	●	●	●	●	
		5020N-040GS	0.197	5.0		0.016			●	●	●	●	●	●	
		6020N-040GS	0.236	6.0		0.016			●		●	●	●	●	
		8030N-040GS	0.315	8.0	±0.0008	0.016	1.181	0.217	●		●	●	●	●	
Full-R / Copying	2-edge	GDM 3020N-150R-CM	0.118	3.0	±0.0012	0.059	0.787	0.169	●	●	●	●	●		
		4020N-200R-CM	0.157	4.0		0.079			●	●	●	●	●		
		5020N-250R-CM	0.197	5.0	±0.0016	0.098	*0.827		●	●	●	●	●		
		6020N-300R-CM	0.236	6.0		0.118			●		●	●	●		
Grooving & Cut-off	High Feed 2-edge	GDM 2020N-020PH	0.079	2.0	±0.0012	0.008	0.787	0.169			●	●	●		
		3020N-030PH	0.118	3.0		0.012					●	●	●		
		4020N-030PH	0.157	4.0		0.012					●	●	●		
	High Feed 1-edge	GDMS 2020N-020PH	0.079	2.0	±0.0012	0.008	0.787				●	●	●		
		3020N-030PH	0.118	3.0		0.012					●	●	●		
		4020N-030PH	0.157	4.0		0.012					●	●	●		

*GDM50/60-CM differs from other part numbers in length (INSL) to avoid interference of a toolholder with workpiece.

Recommended Cutting Conditions ➔ G43~G44

Insert Identification System

Inserts are sold in 10 piece boxes.

Tolerance
M : M-Class
G : G-Class

Width
20 : 2mm
30 : 3mm
40 : 4mm

Hand of Tool
N : Neutral

Chipbreaker	
GM: Grooving & Traversing	**CM**: Copying
GL: Low Feed	**PH** : High Feed
GS: Low Cutting Force	**NB** : Without Chipbreaker

G D	M	S	30	20	N	-	040	GM
Series	No. of Edges			Insert Length			Corner-R (RE)	

No. of Edges
No Indication : 2-edge
S : 1-edge

Insert Length
20 : 20mm
30 : 30mm

Corner-R (RE)
020 : 0.2mm
040 : 0.4mm
150R : 1.5mm (Full-R)

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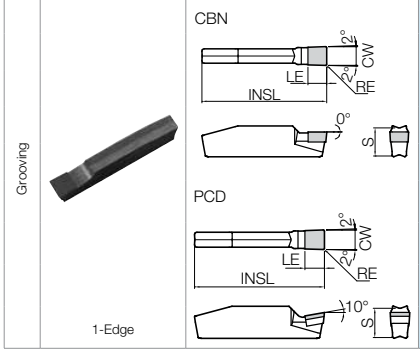
GDGS (CBN / PCD)

Classification of Usage
- ❶ : Light Interruption / 1st Choice
- ⏲ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

		MEGA CBN	CBN	PCD
K	Cast Iron			
N	Non-ferrous Metals			●
S	Titanium Alloy			●
H	Hard materials (≤40HRC)			
	Hard materials (≥40HRC)	●		
	Powdered Steel		●	

Insert — Right-handed Insert Shown



Part Number	Dimensions (in) CW inch	CW mm	CW Tolerance	RE	INSL	S	LE	MEGA CBN KBN05M	CBN KBN570	PCD KPD001	Ref. Page for Toolholder
GDGS 2020N-020NB	0.079	2.0	±0.0012	0.008	0.787	0.169	0.114	●	●	●	G28 ~ G40
3020N-020NB	0.118	3.0		0.008						●	
3020N-040NB	0.118	3.0		0.016				●	●		
4020N-020NB	0.157	4.0		0.008						●	
4020N-040NB	0.157	4.0		0.016				●	●		
5020N-020NB	0.197	5.0		0.008						●	
5020N-040NB	0.197	5.0		0.016				●	●		
6020N-020NB	0.236	6.0		0.008						●	
6020N-040NB	0.236	6.0		0.016				●			

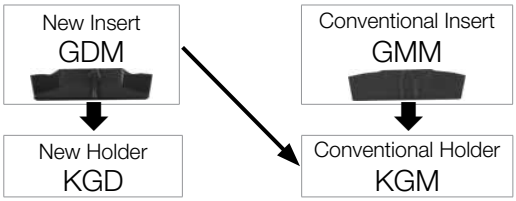
Recommended Cutting Conditions ➔ G43~G44

CBN & PCD Inserts are sold in 1 piece boxes.

KGD / KGM Combinations

● **Insert Pocket Angle of KGD / KGM Toolholders**

KGD...0°	Conventional KGM...5°



Installing conventional inserts into the new toolholder is not recommended.

Toolholder Identification System

K G D | **R** | **1616** | **JX** - **3** | **D38** **(Integral Type for Small Parts Machining)**

Toolholder Hand	Shank Size	Toolholder Length	Applicable Inserts	Cutting Dia.
R : Right-hand **L** : Left-hand	**16**×**16**mm	**120mm**	GDM/GDMS **3**~**4**mm	CUTDIA **38**mm

K G D | **R** | **1616** | **H** - **2** **T** **06** **(Integral Type)**

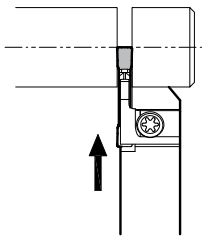
Toolholder Hand	Shank Size	Toolholder Length	Applicable Inserts	Max. Depth of Cut
R : Right-hand **L** : Left-hand	**16**×**16**mm	**100mm**	GDM/GDMS **2**~**3mm**	**06** : 06mm

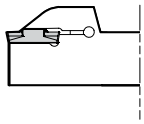
K G D / **K G D S** | **R** | **2020** | **X** - **3** **T** **10** **S** **(Separate Type / Unit Description)**

Toolholder Hand	Shank Size	Toolholder Type	Applicable Inserts	Max. Depth of Cut
R : Right-hand **L** : Left-hand	**20**×**20**mm	Unit Description	GDM/GDMS **3**~**4**mm	**10** : 10mm

KGD (for Small Parts Machining)

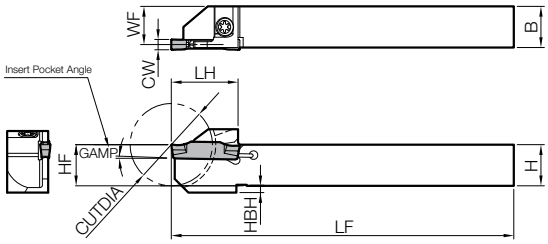
Insert Width: 0.051"~0.157" / 1.3mm~4.0mm





KGD 2012K-○D34
KGD 2020K-○D34
Shown in figure above

• Right-hand shown



Toolholder Dimensions (Inch Size)

Part Number	Stock R	Stock L	Cut-Off Dia. CUTDIA	Dimensions (in) H	HF	HBH	B	LF	LH	WF	GAMP	Insert Width CW (in) MIN	MAX	Spare Parts: Clamp Bolt	Wrench
NEW KGD 6-1.3JX	●	●	0.787	0.375	0.375	0.098	0.375	4.75	0.709	0.356	1°	-	0.051	SB-40120TR	LTW-15S
8-1.3JX	●	●	0.944	0.500	0.500	0.051	0.500	4.75	0.768	0.481					
KGD 6-1.5JX	●	●	0.787	0.375	0.375	0.098	0.375	4.75	0.709	0.351	1°	-	0.059		
8-1.5JX	●	●	0.944	0.500	0.500	0.051	0.500	4.75	0.768	0.476					
KGD 6-2JX	●	●	0.787	0.375	0.375	0.098	0.375	4.75	0.709	0.342	1°	0.079	0.118		
8-2JX	●	●	0.944	0.500	0.500	0.051	0.500	4.75	0.768	0.467					
10-2JX	●	●	1.259	0.625	0.625	-	0.625	4.75	0.965	0.592					
KGD 6-2.4JX	●	●	0.787	0.375	0.375	0.098	0.375	4.75	0.709	0.336	1°	0.094	0.118		
8-2.4JX	●	●	0.944	0.500	0.500	0.051	0.500	4.75	0.768	0.461					
10-2.4JX	●	●	1.259	0.625	0.625	-	0.625	4.75	0.965	0.586					
KGD 8-3JX	●	●	0.944	0.500	0.500	0.051	0.500	4.75	0.768	0.453	1°	0.118	0.118		
10-3JX	●	●	1.259	0.625	0.625	-	0.625	4.75	0.965	0.578			0.157		
KGD 10-3D38JX	●	●	1.496	0.625	0.625	-	0.625	4.75	1.142	0.578	1°	0.118	0.157	SE-50125TR	LTW-20
12-3D42JX	●	●	1.653	0.750	0.750	-	0.750	4.75	1.220	0.703					
43-3D42JX	●	●	1.653	0.750	0.750	-	0.500	4.75	1.220	0.453					

Toolholder Dimensions (Metric Size)

Part Number	Stock R	Stock L	Cut-Off Dia. CUTDIA	Dimensions (mm) H	HF	HBH	B	LF	LH	WF	GAMP	Insert Width CW (mm) MIN	MAX	Spare Parts: Clamp Bolt/Screw	Wrench
KGD 1010JX-1.3D16	●	●	16	10	10	2	10	120	18.0	9.9	5°	1.3	1.3	SB-40120TR	LTW-15S
1010JX-1.3	●	●	20	10	10	2	10	120	18.0	9.5					
1212F-1.3D16	●	●	16	12	12	2	12	85	19.5	11.9					
1212JX-1.3D16	●	●	16	12	12	2	12	120	19.5	11.9					
1212F-1.3	●	●	24	12	12	2	12	85	19.5	11.5					
1212JX-1.3	●	●	24	12	12	2	12	120	19.5	11.5					
KGD 1010JX-1.5D16	●	●	16	10	10	2	10	120	18.0	9.7	5°	1.5	1.5	SB-40120TR	LTW-15S
1010JX-1.5	●	●	20	10	10	2	10	120	18.0	9.4					
1212F-1.5D16	●	●	16	12	12	2	12	85	19.5	11.7					
1212JX-1.5D16	●	●	16	12	12	2	12	120	19.5	11.7					
1212F-1.5	●	●	24	12	12	2	12	85	19.5	11.4					
1212JX-1.5	●	●	24	12	12	2	12	120	19.5	11.4					
KGD 1010JX-2	●	●	20	10	10	2	10	120	18.0	9.2	1°	2.0	3.0	SB-40120TR	LTW-15S
1212F-2	●	●	24	12	12	2	12	85	19.5	11.2					
1212JX-2	●	●	24	12	12	2	12	120	19.5	11.2					
1616JX-2	●	●	32	16	16	-	16	120	24.5	15.2					
2012K-2D34	●	●	34	20	20	-	12	125	32.5	11.2	0°			HH5X16	LW-4
2020K-2D34	●	●	34	20	20	-	20	125	32.5	19.2					
KGD 1010JX-2.4	●	●	20	10	10	2	10	120	18.0	9.0	1°	2.4	3.0	SB-40120TR	LTW-15S
1212F-2.4	●	●	24	12	12	2	12	85	19.5	11.0					
1212JX-2.4	●	●	24	12	12	2	12	120	19.5	11.0					
1616JX-2.4	●	●	32	16	16	-	16	120	24.5	15.0					
2012K-2.4D34	●	●	34	20	20	-	12	125	32.5	11	0°			HH5X16	LW-4
2020K-2.4D34	●	●	34	20	20	-	20	125	32.5	19					
KGD 1212JX-3	●	●	24	12	12	2	12	120	19.5	10.8	1°	3.0	3.0	SB-40120TR	LTW-15S
1212JX-3W	●	●	24	12	12	2	12	120	19.5	10.8			4.0		
1616JX-3	●	●	32	16	16	-	16	120	24.5	14.8					
1616JX-3D38	●	●	38	16	16	-	16	120	29.0	14.8	1°	3.0	4.0	SE-50125TR	LTW- 20
1913K-3D38	●	●	38	19	19	-	13	125	29.0	11.8					
2012JX-3D42	●	●	42	20	20	-	12	120	31.0	10.8					
2012JX-3D51	●	●	51	20	20	-	12	120	36.0	10.8					
2020JX-3D42	●	●	42	20	20	-	20	120	31.0	18.8					
2020JX-3D51	●	●	51	20	20	-	20	120	36.0	18.8					

Note 1) 0.157" (4mm) width insert can be installed in KGD 8-3JX and KGD 1212JX-3, but is not recommended due to the toolholder's rigidity.
2) Recommended tightening torque for clamp screw is 2.0Nm for SB-40120TR and 2.5Nm for SE-50125TR.
3) When machining material greater than Ø1.417" (36mm) with KGD ...-3D38(JX), KGD ...-3D42(JX), or KGD ...-3D51 toolholders, use 1-edge inserts. Max. workpiece diameter for 2-edge inserts is Ø1.417" (36mm)

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above. Insert table ➔ **G26~G27, H24~H25**

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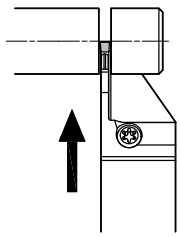
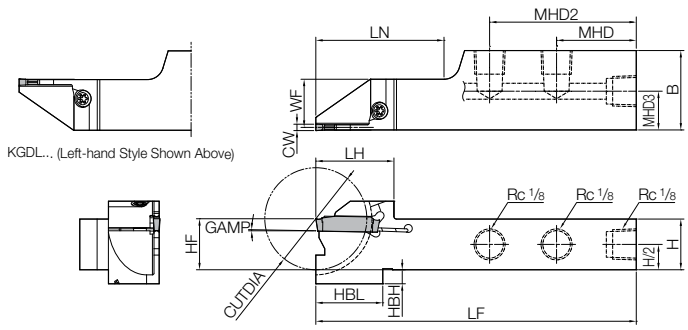
KGD-JCT (for Small Parts Machining / Jet Coolant-Through)

Small Diameter KGD-JCT holders are being phased out.
Switch to new KGD-JCTM style G30





• Right-hand shown

Toolholder Dimensions (Metric Size)

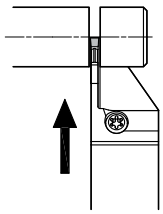
Insert Width: 0.079"~0.157" / 2.0mm~4.0mm

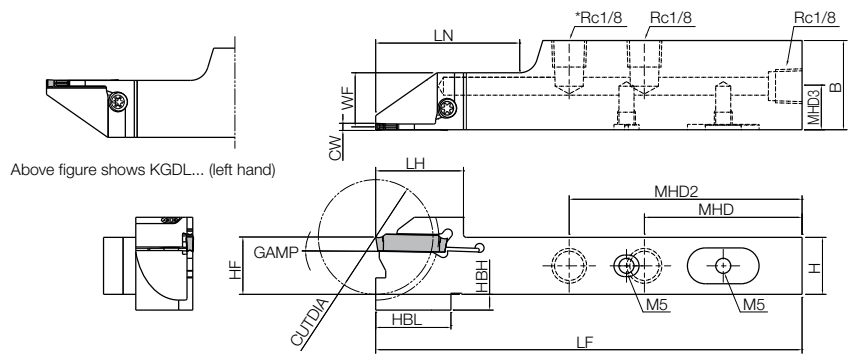
Part Number	Stock R	Stock L	Cut-Off Dia. CUTDIA	Dimensions (mm) H=HF	HBH	B	LF	LH	HBL	LN	WF	MHD	MHD2	MHD3	GAMP	Insert Width CW (mm) MIN	MAX	Spare Parts: Clamp Bolt	Wrench	Plug
KGDR 1220H-2JCT	△	△	24	12	8.5	20	100	19.5	21	44	11.2	35	-	8.4	1°	2.0	3.0	SB-40120TR	LTW-15S	GP-1
KGDL 1220H-2JCT	△	△							21.5					7.7						
KGDR 1625H-2JCT	△	△	32	16	4.5	25		24.5	21	40	15.2	25	46	12.2						
KGDL 1625H-2JCT	△	△												7.7						
KGDR 1220H-2.4JCT	△	△	24	12	8.5	20	100	19.5	21	44	11	35	-	8.4	1°	2.4	3.0			
KGDL 1220H-2.4JCT	△	△							21.5					7.7						
KGDR 1625H-2.4JCT	△	△	32	16	4.5	25		24.5	21	40	15	25	46	12.2						
KGDL 1625H-2.4JCT	△	△												7.7						
KGDR 1220H-3JCT	△	△	24	12	8.5	20	100	19.5	21	44	10.8	35	-	8.6	1°	3.0	3.0			
KGDL 1220H-3JCT	△	△							21.5					7.7						
KGDR 1625H-3JCT	△	△	32	16	4.5	25		24.5	21	40	14.8	25	46	12.2			4.0			
KGDL 1625H-3JCT	△	△												7.7						

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above. Insert table **G26~G27, H24~H25**
Coolant Connections and Pipe Parts **H14-H15**

KGD-JCTM (for Small Parts Machining / Direct from Turret Jet Coolant-Through) NEW

Insert Width: 0.079"~0.157" / 2.0mm~4.0mm





• Right-hand shown

Toolholder Dimensions (Inch Size)

Part Number	Stock R	Stock L	Unit	Cut-Off Dia. CUTDIA	H=HF	HBH	B	LF	LH	HBL	LN	WF	MHD	MHD2	MHD3	Angle GAMP	Edge Width CW MIN	Edge Width CW MAX	Spare Parts: Clamp Screw	Wrench	Plug 1	Plug 2
KGDR 5.72-2JCTM	●		in	0.945	0.500	0.330	0.709	4.750	0.770	0.825	1.725	0.500	2.125	-	0.331	1°	0.079	0.118	SB-40120TR	LTW-15S	GP-1	HS5X4LP
KGDL 5.72-2JCTM		●								0.843					0.303							
KGDR 82.5-2JCTM	●			1.260	0.625	0.175	1.000		0.965	0.825	1.585	0.625	1.730	2.560	0.480							
KGDL 82.5-2JCTM		●													0.303							
KGDR 5.72-2.4JCTM	●			0.945	0.500	0.330	0.709	4.750	0.770	0.825	1.725	0.500	2.125	-	0.331	1°	0.094	0.118				
KGDL 5.72-2.4JCTM		●								0.843					0.303							
KGDR 82.5-2.4JCTM	●			1.260	0.625	0.175	1.000		0.965	0.825	1.585	0.625	1.730	2.560	0.480							
KGDL 82.5-2.4JCTM		●													0.303							
KGDR 5.72-3JCTM	●			0.945	0.500	0.330	0.709	4.750	0.770	0.825	1.725	0.500	2.125	-	0.331	1°	0.118	0.118				
KGDL 5.72-3JCTM		●								0.843					0.303							
KGDR 82.5-3JCTM	●			1.260	0.625	0.175	1.000		0.965	0.825	1.585	0.625	1.730	2.560	0.480			0.157				
KGDL 82.5-3JCTM		●													0.303							

Toolholder Dimensions (Metric Size)

Part Number	Stock R	Stock L	Unit	Cut-Off Dia. CUTDIA	H=HF	HBH	B	LF	LH	HBL	LN	WF	MHD	MHD2	MHD3	Angle GAMP	Edge Width CW MIN	Edge Width CW MAX	Spare Parts: Clamp Screw	Wrench	Plug 1	Plug 2
KGDR 1218JX-2JCTM	●		mm	24	12	8.5	18	120	19.5	21	44	11.2	54	-	8.4	1°	2.0	3.0	SB-40120TR	LTW-15S	GP-1	HS5X4LP
KGDL 1218JX-2JCTM		●								21.5					7.7							
KGDR 1625JX-2JCTM	●			32	16	4.5	25		24.5	21	40	15.2	44	65	12.2							
KGDL 1625JX-2JCTM		●													7.7							
KGDR 1218JX-2.4JCTM	●			24	12	8.5	18	120	19.5	21	44	11	54	-	8.4	1°	2.4	3.0				
KGDL 1218JX-2.4JCTM		●								21.5					7.7							
KGDR 1625JX-2.4JCTM	●			32	16	4.5	25		24.5	21	40	15	44	65	12.2							
KGDL 1625JX-2.4JCTM		●													7.7							
KGDR 1218JX-3JCTM	●			24	12	8.5	18	120	19.5	21	44	10.8	54	-	8.6	1°	3.0	3.0				
KGDL 1218JX-3JCTM		●								21.5					7.7							
KGDR 1625JX-3JCTM	●			32	16	4.5	25		24.5	21	40	14.8	44	65	12.2			4.0				
KGDL 1625JX-3JCTM		●													7.7							

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above. Insert table ➔ G26~G27, H24~H25

Coolant Connections and Pipe Parts ➔ G32~G33
Recommended Cutting Conditions ➔ G31

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Recommended Cutting Conditions

Workpiece	Chipbreaker	Recommended Insert Grade (Cutting Speed Vc: sfm)					f (ipr)				Notes
		MEGACOAT NANO	MEGACOAT		DLC Coating	Carbide	Edge Width CW (in)				
		PR1535	**PR1225**	**PR1215**	**PDL025**	**GW15**	0.079 (2.0mm)	0.079 - 0.157 (2.0 - 4.0mm)	0.098 / 0.118 (2.5mm / 3.0mm)	0.118 - 0.157 (3.0mm - 4.0mm)	
Carbon Steel	PF (RE = 0.0012)	☆ 230 – 490	★ 230 – 490	☆ 230 – 590	–	–	0.0008 – 0.0024	–	0.0008 – 0.0031	–	Wet
	PF (RE = 0.0059)						0.0012 – 0.0031		0.0016 – 0.0039		
	PQ						0.0012 – 0.0039		0.0016 – 0.0047		
	PG						0.0004 – 0.0016		0.0004 – 0.0020		
	PM	☆ 260 – 660	★ 260 – 660	☆ 330 – 660			–	0.0031 – 0.0071	–	–	
	PH						0.0039 – 0.0098	–		0.0059 – 0.0110	
Alloy Steel	PF (RE = 0.0012)	☆ 230 – 490	★ 230 – 490	☆ 230 – 590	–	–	0.0008 – 0.0024	–	0.0008 – 0.0031	–	
	PF (RE = 0.0059)						0.0012 – 0.0031		0.0016 – 0.0039		
	PQ						0.0012 – 0.0039		0.0016 – 0.0047		
	PG						0.0004 – 0.0016		0.0004 – 0.0020		
	PM	☆ 230 – 590	★ 230 – 590	☆ 260 – 590			–	0.0031 – 0.0071	–	–	
	PH						0.0039 – 0.0098	–		0.0059 – 0.0110	
Stainless Steel	PF (RE = 0.0012)	★ 200 – 390	☆ 200 – 390	☆ 200 – 490	–	–	0.0004 – 0.0016	–	0.0004 – 0.0020	–	
	PF (RE = 0.0059)						0.0012 – 0.0028		0.0016 – 0.0031		
	PQ						0.0008 – 0.0028		0.0008 – 0.0031		
	PG						0.0004 – 0.0012		0.0004 – 0.0016		
	PM	★ 200 – 490	☆ 200 – 490	☆ 200 – 490			–	0.0024 – 0.0047	–	–	
	PH						0.0020 – 0.0047	–		0.0031 – 0.0059	
Cast Iron	PF (RE = 0.0012)	–	–	★ 260 – 660	–	–	0.0008 – 0.0028	–	0.0012 – 0.0031	–	
	PF (RE = 0.0059)						0.0012 – 0.0035		0.0016 – 0.0039		
	PQ					☆ 160 – 330	0.0016 – 0.0039		0.0016 – 0.0047		
	PG						0.0004 – 0.0016		0.0004 – 0.0020		
	PM			★ 330 – 660		–	–	0.0031 – 0.0071	–	–	
	PH						0.0039 – 0.0098	–		0.0059 – 0.0110	
Aluminum Alloy	PQ	–	–	–	★ 660 – 1,640	☆ 660 – 1,480	–	–	–	–	
	PG						0.0004 – 0.0020		0.0004 – 0.0024		
Brass	PQ	–	–	–	–	★ 330 – 660	–	–	–	–	
	PG						0.0004 – 0.0028		0.0004 – 0.0031		

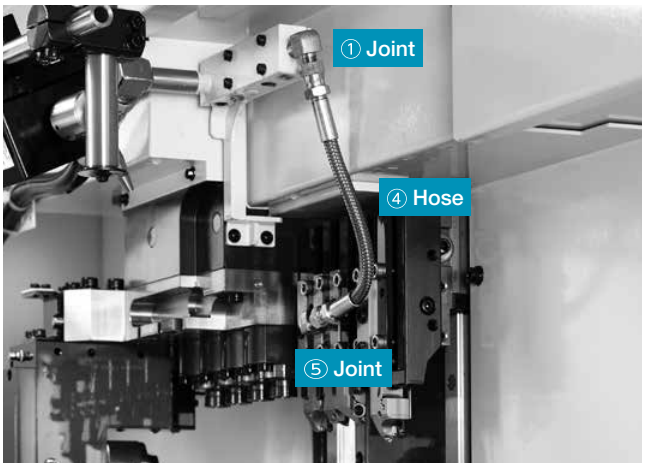
★ : 1st Recommendation ☆ : 2nd Recommendation

Coolant Pipe Parts

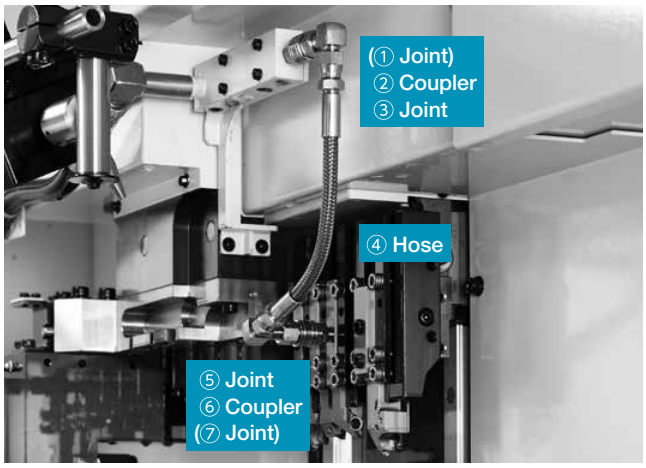
Pipe parts will be required separately if internal coolant is used.

Pump Pressure: up to 2,900 psi
Pump Pressure: up to 1,088 psi if couplers are used

Without Coupler (Pump Pressure: up to 2,900 psi)



With Coupler (Pump Pressure: up to 1,088 psi)



Combination Part Description Example

Part	Part Number
① Joint	J-ST-R1/8-G1/8
④ Hose	HS-G1/8-G1/8-500
⑤ Joint	J-ST-R1/8-G1/8

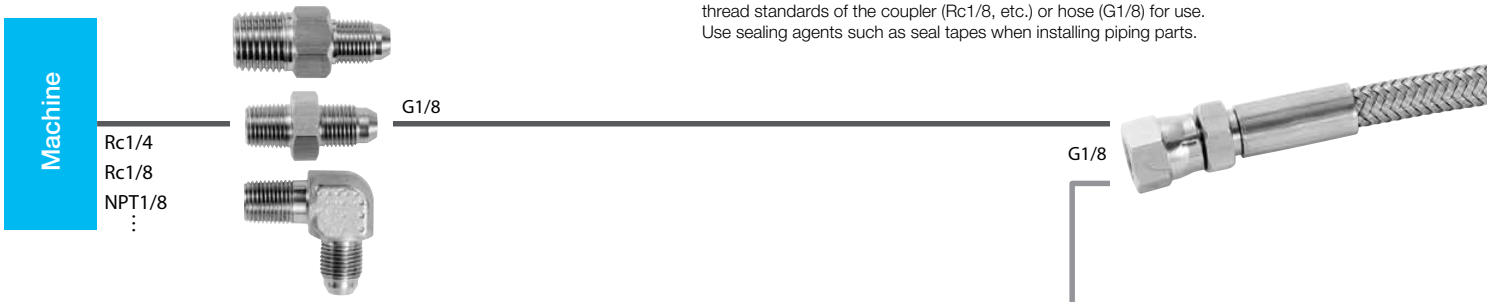
Convert the thread standards on the machine's side (Rc1/4, Rc1/8, NPT1/8, etc.) to the thread standard on the hose side (G1/8) for use.
Use sealing agents such as seal tapes when installing piping parts.

Combination Part Description Example

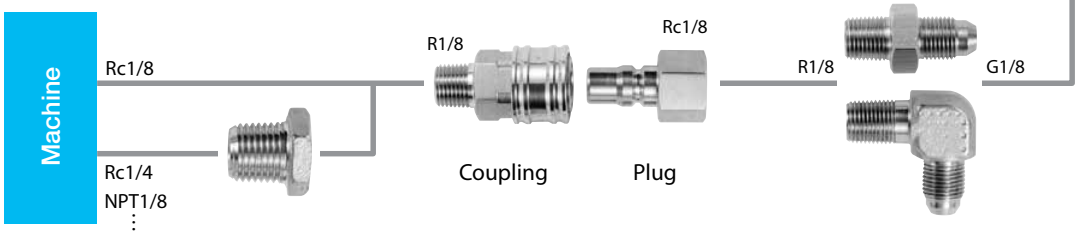
Part	Part Number
(① Joint)	-
② Coupler	CP-ST-R1/8, P-ST-RC1/8
③ Joint	J-AN-R1/8-G1/8
④ Hose	HS-G1/8-G1/8-200
⑤ Joint	J-AN-R1/8-G1/8
⑥ Coupler	P-ST-RC1/8, CP-ST-R1/8
(⑦ Joint)	-

Convert the thread standards on the machine's side (Rc1/4, Rc1/8, NPT1/8, etc.) to thread standards of the coupler (Rc1/8, etc.) or hose (G1/8) for use.
Use sealing agents such as seal tapes when installing piping parts.

Without Coupler (Pump Pressure: up to 2,900 psi)



With Coupler (Pump Pressure: up to 1,088 psi)



① Joint ② Coupler ③ Joint ④ Hose

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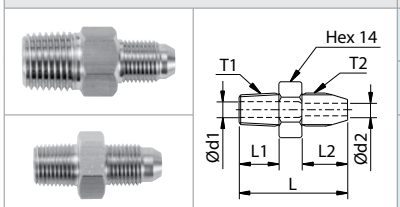
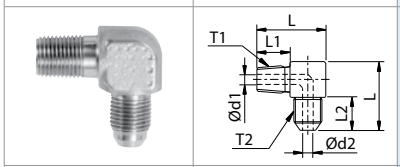
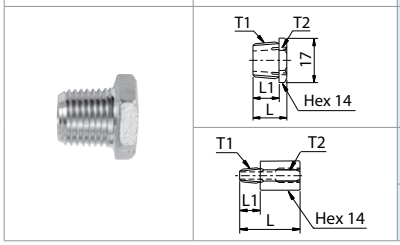
Piping Installation Parts Description

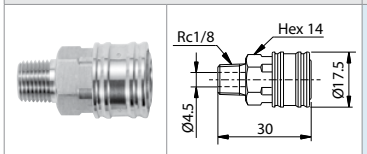
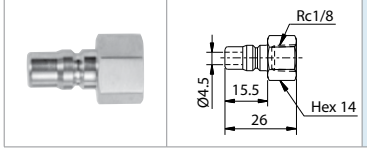
Joint (① ③ ⑤ ⑦)

Pressure Resistance: up to 2,900 psi
(Unit: mm)

Shape	Part Number	Stock	Ød1	Ød2	L	L1	L2	T1	T2
	J-ST-R1/4-G1/8	●	5.5	4.0	34	13	13	R1/4	G1/8
	J-ST-NPT1/8-G1/8	●	3.5	3.5	29	10	13	NPT1/8	G1/8
	J-ST-R1/8-G1/8	●	4.0	4.0	29	10	13	R1/8	G1/8
	J-AN-R1/8-G1/8	●	4.0	4.0	27	14	13	R1/8	G1/8
	J-ST-R1/4-RC1/8	●	–	–	17	12	–	R1/4	Rc1/8
	J-ST-NPT1/8-RC1/8	●	3.5	–	30	10	–	NPT1/8	Rc1/8
	J-ST-R1/8-RC1/8	●	3.5	–	33	13	–	R1/8	Rc1/8

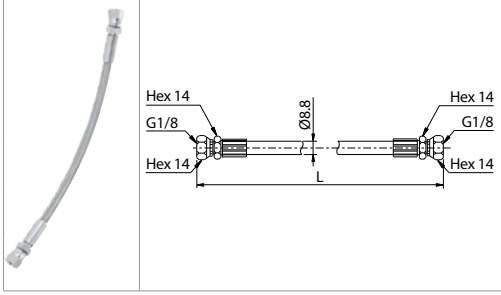
Coupler (② ⑥)

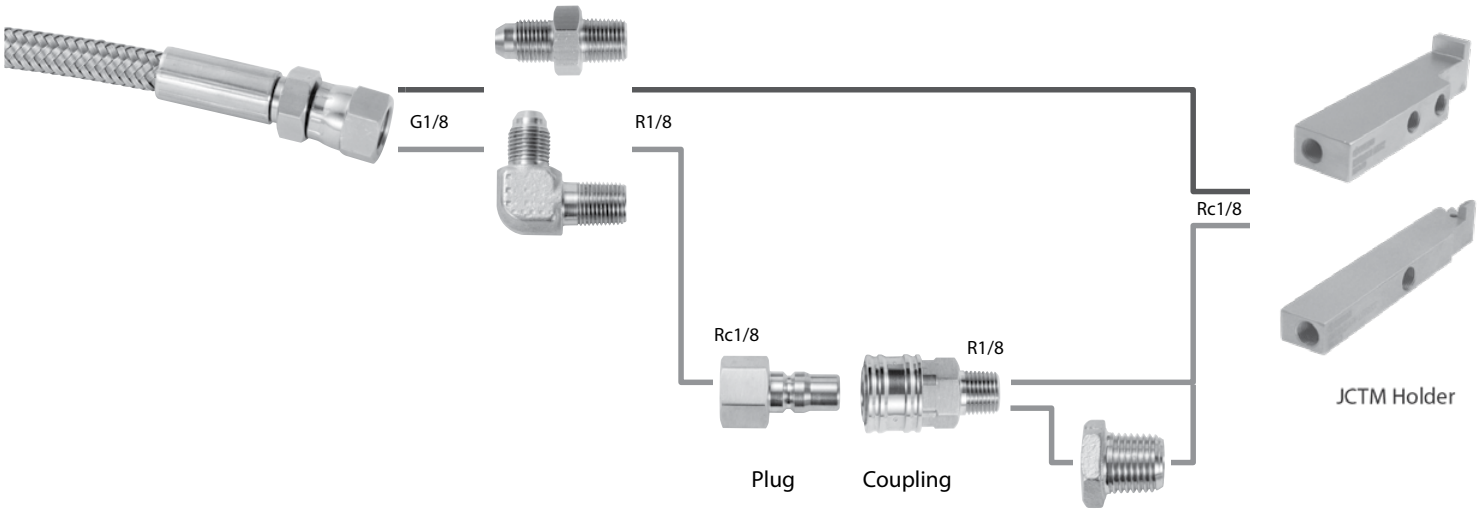
Pressure Resistance: up to 1,088 psi
(Unit: mm)

Shape	Part Number	Stock
	CP-ST-R1/8	●
	P-ST-RC1/8	●

Hose (④)

Pressure Resistance: up to 2,900 psi
(Unit: mm)

Shape	Part Number	Stock	L
	HS-G1/8-G1/8-200	●	200
	HS-G1/8-G1/8-300	●	300
	HS-G1/8-G1/8-400	●	400
	HS-G1/8-G1/8-500	●	500
	HS-G1/8-G1/8-600	●	600
	HS-G1/8-G1/8-800	●	800



④ Hose ⑤ Joint ⑥ Coupler ⑦ Joint (Extension Joint)

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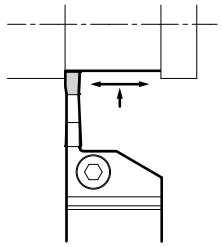
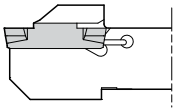
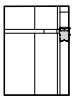
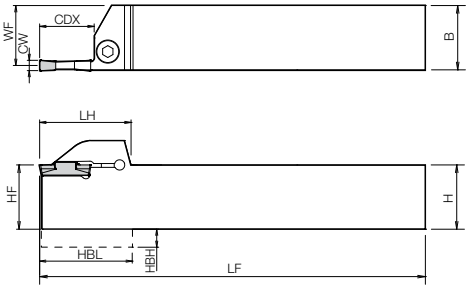
KGD (Integral-Style)





KGD®1216JX-3T06
KGD®1216JX-4T06
Shown in figure above





• Right-hand shown

Toolholder Dimensions (Inch Size)

Width (in)	Max. D.O.C. (in)	Part Number	Stock R	Stock L	H	HF	HBH	B	LF	LH	HBL	WF	CDX*	Insert Width CW (in) MIN	Insert Width CW (in) MAX	Spare Parts: Clamp Bolt	Spare Parts: Wrench
0.079" (2mm)	0.669" (17mm)	KGD® 12-2T17	●	●	0.75	0.75	-	0.75	4.92	1.28	-	0.71	0.669" (17mm)	0.079" (2mm)	0.118" (3mm)	HH5X16	LW-4
		16-2T17	●	●	1.00	1.00	-	1.00	5.90	1.28	-	0.96				HH5X25	
0.118" (3mm)	0.393" (10mm)	KGD® 12-3T10	●	●	0.75	0.75	-	0.75	4.92	1.20	-	0.70	0.393" (10mm)	0.118" (3mm)	0.157" (4mm)	HH5X16	LW-4
		16-3T10	●	●	1.00	1.00	-	1.00	5.90	1.20	-	0.95				HH5X25	
	0.787" (20mm)	KGD® 12-3T20	●	●	0.75	0.75	-	0.75	4.92	1.35	-	0.70	0.787" (20mm)			HH5X16	LW-4
		16-3T20	●	●	1.00	1.00	-	1.00	5.90	1.39	-	0.95				HH5X25	
	1.000" (25.4mm)	KGD® 12-3T254	●	●	0.75	0.75	-	0.75	4.92	1.52	-	0.70	1.000" (25.4mm)			HH5X16	LW-4
		16-3T254	●	●	1.00	1.00	-	1.00	5.90	1.52	-	0.95				HH5X25	
0.157" (4mm)	0.393" (10mm)	KGD® 12-4T10	●	●	0.75	0.75	-	0.75	4.92	1.20	-	0.68	0.393" (10mm)	0.157" (4mm)	0.197" (5mm)	HH5X16	LW-4
		16-4T10	●	●	1.00	1.00	-	1.00	5.90	1.20	-	0.93				HH5X25	
	0.787 (20mm)	KGD® 12-4T20	●	●	0.75	0.75	-	0.75	4.92	1.35	-	0.68	0.787 (20mm)			HH5X16	LW-4
		16-4T20	●	●	1.00	1.00	-	1.00	5.90	1.39	-	0.93				HH5X25	
	0.984 (25mm)	KGD® 16-4T25	●	●	1.00	1.00	-	1.00	5.90	1.59	-	0.93	0.984 (25mm)			HH5X25	LW-4
0.197" (5mm)	0.393 (10mm)	KGD® 12-5T10	●	●	0.75	0.75	-	0.75	4.92	1.20	-	0.66	0.393 (10mm)	0.197" (5mm)	0.236" (6mm)	HH5X16	LW-4
		16-5T10	●	●	1.00	1.00	-	1.00	5.90	1.20	-	0.91				HH5X25	
	0.669 (17mm)	KGD® 12-5T17	●	●	0.75	0.75	-	0.75	4.92	1.47	-	0.66	0.669 (17mm)			HH5X16	LW-4
		16-5T17	●	●	1.00	1.00	-	1.00	5.90	1.47	-	0.91				HH5X25	
	0.984 (25mm)	KGD® 16-5T25	●	●	1.00	1.00	-	1.00	5.90	1.59	-	0.91	0.984 (25mm)			HH5X25	LW-4
0.236" (6mm)	0.591 (15mm)	KGD® 16-6T15	●	●	1.00	1.00	-	1.00	5.90	1.28	-	0.89	0.591 (15mm)	0.236" (6mm)	0.236" (6mm)	HH5X25	LW-4
	1.181 (30mm)	KGD® 16-6T30	●	●	1.00	1.00	-	1.00	5.90	1.79	-	0.89	1.181 (30mm)				

Note 1) Dimension **CDX*** : Shows the maximum grooving depth. If the dimension **CDX** is 0.787" (20mm) or more, using a 2-edge insert, the maximum grooving depth is 0.709" (18mm).
2) Recommended tightening torque for clamp bolt is 6.5Nm for HH5X○○ and 8.0Nm for HH6X25.
3) Above toolholders can also be used for cut-off applications.

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above. Insert table ➡ **G26~G27**

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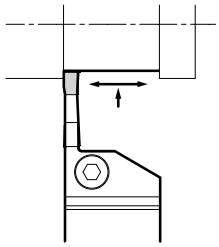
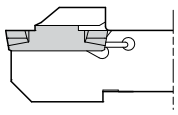
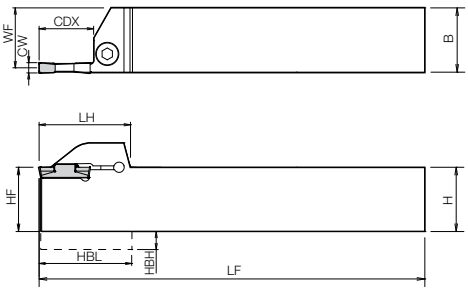
KGD (Integral-Style)





KGDR/L 1216JX-3T06
KGDR/L 1216JX-4T06
Shown in figure above



• Right-hand shown

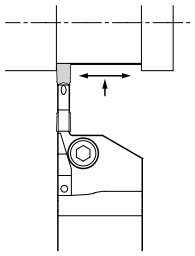
Toolholder Dimensions (Metric Size)

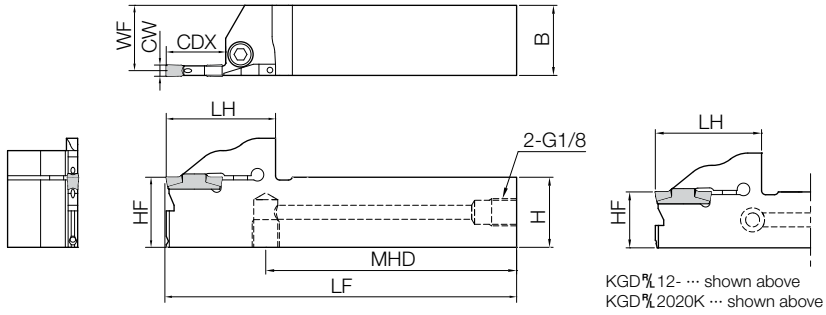
Width (mm)	Max. Grooving Depth (mm)	Part Number	Stock R	Stock L	H	HF	HBH	B	LF	LH	HBL	WF	CDX*	Insert Width CW (mm) MIN	Insert Width CW (mm) MAX	Spare Parts: Clamp Bolt/Screw	Spare Parts: Wrench
2.0	6	KGDR/L 1616H-2T06	●	●	16	16	4.0	16	100	27.7	28.0	15.2	6	2.0	3.0	HH5X16	LW-4
		2020K-2T06	●	●	20	20	-	20	125	28.0	-	19.2				HH5X16	
		2525M-2T06	●	●	25	25	-	25	150	28.0	-	24.2				HH5X25	
	10	KGDR/L 1616H-2T10	●	●	16	16	4.0	16	100	30.2	30.5	15.2	10			HH5X16	LW-4
		2020K-2T10	●	●	20	20	-	20	125	30.5	-	19.2				HH5X16	
		2525M-2T10	●	●	25	25	-	25	150	30.5	-	24.2				HH5X25	
	17	KGDR/L 1616H-2T17	●	●	16	16	4.0	16	100	31.2	31.5	15.2	17			HH5X16	LW-4
		2012K-2T17	●	●	20	20	-	12	125	32.5	-	11.2				HH5X16	
		2020K-2T17	●	●	20	20	-	20	125	32.5	-	19.2				HH5X16	
		2525M-2T17	●	●	25	25	-	25	150	32.5	-	24.2				HH5X25	
2.4	17	KGDR/L 2012K-2.4T17	●	●	20	20	-	12	125	32.5	-	11.0	17	2.4	3.0	HH5X16	LW-4
		2020K-2.4T17	●	●	20	20	-	20	125	32.5	-	19.0				HH5X16	
3.0	6	KGDR/L 1216JX-3T06	●	●	12	12	2.0	16	120	19.5	19.0	14.8	6	3.0	4.0	SE-50125TR	LTW-20
		1616H-3T06	●	●	16	16	4.0	16	100	27.7	28.0	14.8				HH5X16	LW-4
		2020K-3T06	●	●	20	20	-	20	125	28.0	-	18.8				HH5X16	
		2525M-3T06	●	●	25	25	-	25	150	28.0	-	23.8				HH5X25	
	10	KGDR/L 1616H-3T10	●	●	16	16	4.0	16	100	30.2	30.5	14.8	10			HH5X16	LW-4
		2020K-3T10	●	●	20	20	-	20	125	30.5	-	18.8				HH5X16	
		2525M-3T10	●	●	25	25	-	25	150	30.5	-	23.8				HH5X25	
	20	KGDR/L 1616H-3T20	●	●	16	16	4.0	16	100	34.2	34.5	14.8	20			HH5X16	LW-4
		2012K-3T20	●	●	20	20	-	12	125	34.5	-	10.8				HH5X16	
		2020K-3T20	●	●	20	20	-	20	125	34.5	-	18.8				HH5X16	
		2525M-3T20	●	●	25	25	-	25	150	35.5		23.8				HH5X25	
4.0	6	KGDR/L 1216JX-4T06	●	●	12	12	2.0	16	120	19.5	19.0	14.3	6	4.0	5.0	SE-50125TR	LTW-20
	10	KGDR/L 2020K-4T10	●	●	20	20	-	20	125	30.5	-	18.3	10			HH5X16	LW-4
		2525M-4T10	●	●	25	25	-	25	150	30.5	-	23.3				HH5X25	
	20	KGDR/L 2020K-4T20	●	●	20	20	-	20	125	34.5	-	18.3	20			HH5X16	
		2525M-4T20	●	●	25	25	-	25	150	35.5	-	23.3				HH5X25	
	25	KGDR/L 2525M-4T25	●	●	25	25	-	25	150	40.5	-	23.3	25			HH5X25	
5.0	10	KGDR/L 2020K-5T10	●	●	20	20	-	20	125	30.5	-	17.8	10	5.0	6.0	HH5X16	LW-4
		2525M-5T10	●	●	25	25	-	25	150	30.5	-	22.8				HH5X25	
	17	KGDR/L 2020K-5T17	●	●	20	20	-	20	125	37.5	-	17.8	17			HH5X25	
		2525M-5T17	●	●	25	25	-	25	150	37.5	-	22.8				HH5X25	
	25	KGDR/L 2525M-5T25	●	●	25	25	-	25	150	40.5	-	22.8	25			HH5X25	
6.0	15	KGDR/L 2525M-6T15	●	●	25	25	-	25	150	32.5	-	22.4	15	6.0	6.0	HH5X25	LW-4
	30	KGDR/L 2525M-6T30	●	●	25	25	-	25	150	45.5	-	22.4	30			HH5X25	
8.0	25	KGDR/L 2525M-8T25	●	●	25	25	7.0	25	150	43.3	44.2	22.0	25	8.0	8.0	HH6X25	LW-5
		3232P-8T25	●	●	32	32	-	32	170	43.3	-	29.0				HH6X25	

Note 1) Dimension **CDX*** : Shows the maximum grooving depth. If the dimension **CDX** is 0.787" (20mm) or more, using a 2-edge insert, the maximum grooving depth is 0.709" (18mm).
2) Recommended tightening torque for clamp bolt/screw is 6.5Nm for HH5X○○, 8.0Nm for HH6X25 and 2.5Nm for SE-50125TR.
3) Above toolholders can also be used for cut-off applications.

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above. Insert table ➡ G26~G27

KGD-JCT (Integral Style / Jet Coolant-Through)





• Right-hand shown

Toolholder Dimensions (Inch Size)

Pressure Resistance: up to 2,175 psi

Width (mm)	Max. Grooving Depth (mm)	Part Number	Stock R	Stock L	H	HF	B	LF	LH	WF	CDX	MHD	Insert Width CW (in) MIN	Insert Width CW (in) MAX	Spare Parts: Clamp Bolt	Spare Parts: Wrench	Spare Parts: Plug
0.118 (3mm)	0.787 (20mm)	KGD® 12-3T20JCT	●	●	0.750	0.750	0.750	5.000	1.496	0.702	0.787 (20mm)	3.590	0.118 (3mm)	0.157 (4mm)	HH5X16	LW-4	HSG1/8X8.0
		16-3T20JCT	●	●	1.000	1.000	1.000	5.000	1.535	0.952		3.551			HH5X25		
0.157 (4mm)	0.787 (20mm)	KGD® 12-4T20JCT	●		0.750	0.750	0.750	5.000	1.496	0.683	0.787 (20mm)	3.590	0.157 (4mm)	0.197 (5mm)	HH5X16		
		16-4T20JCT	●	●	1.000	1.000	1.000	5.000	1.535	0.933		3.551			HH5X25		
	1.000 (25.4mm)	KGD® 16-4T25.4JCT	●	●	1.000	1.000	1.000	5.000	1.732	0.933	1.000 (25.4mm)	3.354			HH5X25		

Toolholder Dimensions (Metric Size)

Pressure Resistance: up to 2,175 psi

Width (mm)	Max. Grooving Depth (mm)	Part Number	Stock R	Stock L	H	HF	B	LF	LH	WF	CDX	MHD	Insert Width CW (mm) MIN	Insert Width CW (mm) MAX	Spare Parts: Clamp Bolt	Spare Parts: Wrench	Spare Parts: Plug
3	6	KGD® 2020K-3T06JCT	●	●	20	20	20	125	31.5	18.8	6	96.2	3.0	4.0	HH5X16	LW-4	HSG1/8X8.0
		2525K-3T06JCT	●	●	25	25	25		31.5	23.8		96.5			HH5X25		
	10	2020K-3T10JCT	●	●	20	20	20		34.0	18.8	10	94.2			HH5X16		
		2525K-3T10JCT	●	●	25	25	25		34.0	23.8		94.5			HH5X25		
	20	2020K-3T20JCT	●	●	20	20	20		38.0	18.8	20	90.2			HH5X16		
		2525K-3T20JCT	●	●	25	25	25		39.0	23.8		89.5			HH5X25		
4	10	KGD® 2020K-4T10JCT	●	●	20	20	20	125	34.0	18.8	10	94.2	4.0	5.0	HH5X16	LW-4	HSG1/8X8.0
		2525K-4T10JCT	●	●	25	25	25		34.0	23.8		94.5			HH5X25		
	20	KGD® 2020K-4T20JCT	●	●	20	20	20		38.0	18.8	20	90.2			HH5X16		
		2525K-4T20JCT	●	●	25	25	25		39.0	23.8		89.5			HH5X25		
	25	KGD® 2525K-4T25JCT	●	●	25	25	25		44.0	23.8	25	84.5					

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above. Insert table ➡ G26~G27

Coolant Connections and Pipe Parts ➡ G37

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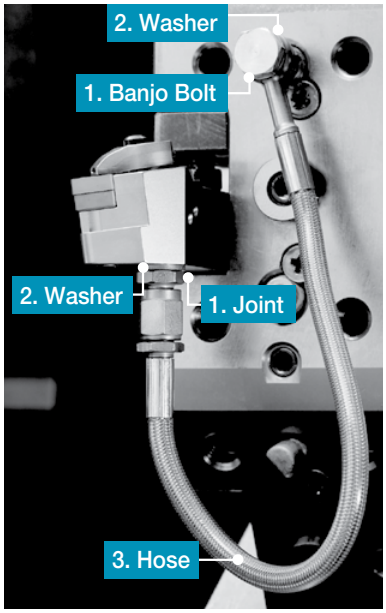
Contact your local Kyocera sales engineer to upgrade old products to new technology

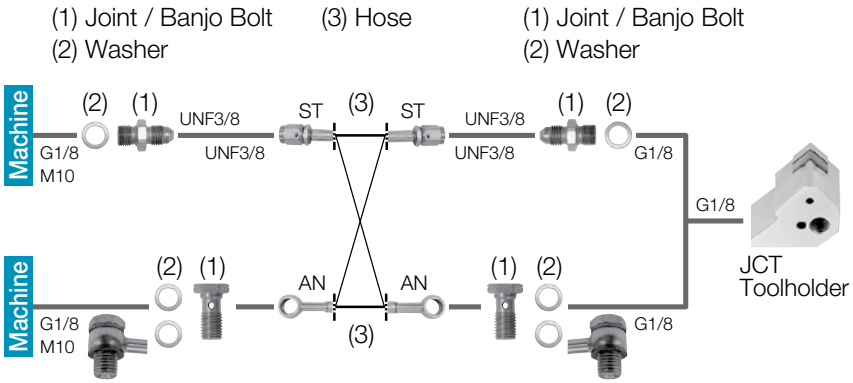
Easy Coolant Connections

Easy Connection with High Pressure Hose and Joint



- Even without a high pressure pump, internal coolant can be used at a normal pressure
- Banjo bolt available for angled hose connection and can be used in a variety of machines

Piping Installation Guide



Piping Parts

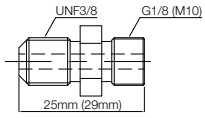
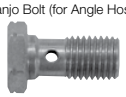
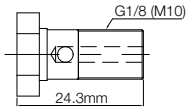
Optional Piping Parts Available

Choose from parts below to match your machine specifications

1. Joint / Banjo bolt × 2
2. Washer × 2-4
3. Hose × 1

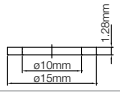
1. Joint / Banjo Bolt

Pressure Resistance: up to 4,350 psi

Shape		Part Number	Stock	Thread Standard
		**J-G1/8-UNF3/8**	●	G1/8
		J-M10X1.5-UNF3/8	●	M10X1.5
Banjo Bolt (for Angle Hose) 		**BB-G1/8**	●	G1/8
		BB-M10X1.5	●	M10X1.5

2. Washer

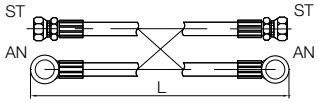
Pressure Resistance: up to 4,350 psi

Shape		Part Number	Stock
		**WS-10**	●

* Use 2 washers for a banjo bolt

3. Hose

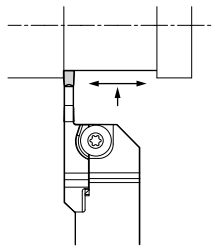
Pressure Resistance: up to 4,350 psi

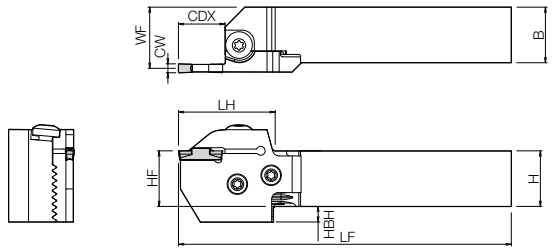
Shape		Part Number	Stock	Thread Standard		Dimensions (mm) L
		**HS-ST-ST-200**	●	UNF3/8	UNF3/8	200
		HS-ST-ST-250	●			250
		HS-ST-AN-200	●	UNF3/8	- (Banjo Bolt)	200
		HS-ST-AN-250	●			250
		HS-AN-AN-200	●	- (Banjo Bolt)	- (Banjo Bolt)	200
		HS-AN-AN-250	●			250

Precautions

1. Make sure machine door is completely closed before use of these parts.
2. Use appropriate seal for the male thread of the piping parts and make sure the connection is secure. Use plugs to seal off unused coolant holes.
3. Connect and fasten the coolant hose firmly.
4. The use of copper washers may cause leakage but will have no effect on the performance.
5. Commercial piping parts can be used if the thread standards are the same. Check the pressure resistance before use.
6. Regularly changing the coolant filter is recommended.

KGD-S (0° SwitchBlade Type)





• Right-hand shown (Right-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions (Inch Size)

(Choose **Right-hand** Blade for **Right-hand** Toolholder and **Left-hand** Blade for **Left-hand** Toolholder)

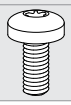
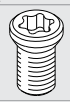
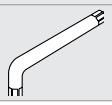
Shank Angle	Width (in)	Max. Grooving Depth (in)	Shank Size (in)	Unit Part Number (Toolholder + Blade)	Stock R	Stock L	Toolholder Part Number G41	Blade Part Number G41	H	HF	HBH	B	LF	LH	WF	CDX*	Insert Width CW (in) MIN.	Insert Width CW (in) MAX.
0°	0.079 (2mm)	0.669 (17mm)	□0.75	KGD®℄ 12X-2T17S	●	●	KGD®℄12-C	KGD®℄-2T17-C	0.75	0.75	0.472	0.75	4.80	1.57	0.88	0.669 (17mm)	0.079 (2mm)	0.118 (3mm)
			□1.00	16X-2T17S	●	●	KGD®℄16-C		1.00	1.00	0.276	1.00	5.79	1.57	1.13			
	0.118 (3mm)	0.394 (10mm)	□0.75	KGD®℄ 12X-3T10S	●	●	KGD®℄12-C	KGD®℄-3T10-C	0.75	0.75	0.472	0.75	4.53	1.30	0.87	0.394 (10mm)	0.118 (3mm)	0.157 (4mm)
			□1.00	16X-3T10S	●	●	KGD®℄16-C		1.00	1.00	0.276	1.00	5.51	1.30	1.12			
		0.787 (20mm)	□0.75	KGD®℄ 12X-3T20S	●	●	KGD®℄12-C	KGD®℄-3T20-C	0.75	0.75	0.472	0.75	4.92	1.69	0.87	0.787 (20mm)		
			□1.00	16X-3T20S	●	●	KGD®℄16-C		1.00	1.00	0.276	1.00	5.91	1.69	1.12			
	0.157 (4mm)	0.394 (10mm)	□0.75	KGD®℄ 12X-4T10S	●	●	KGD®℄12-C	KGD®℄-4T10-C	0.75	0.75	0.472	0.75	4.53	1.30	0.85	0.394 (10mm)	0.157 (4mm)	0.197 (5mm)
			□1.00	16X-4T10S	●	●	KGD®℄16-C		1.00	1.00	0.276	1.00	5.51	1.30	1.10			
		0.787 (20mm)	□0.75	KGD®℄ 12X-4T20S	●	●	KGD®℄12-C	KGD®℄-4T20-C	0.75	0.75	0.472	0.75	4.92	1.69	0.85	0.787 (20mm)		
			□1.00	16X-4T20S	●	●	KGD®℄16-C		1.00	1.00	0.276	1.00	5.91	1.69	1.10			
		0.984 (25mm)	□0.75	KGD®℄ 12X-4T25S	●	●	KGD®℄12-C	KGD®℄-4T25-C	0.75	0.75	0.472	0.75	5.12	1.89	0.85	0.984 (25mm)		
			□1.00	16X-4T25S	●	●	KGD®℄16-C		1.00	1.00	0.276	1.00	6.10	1.89	1.10			
	0.197 (5mm)	0.394 (10mm)	□0.75	KGD®℄ 12X-5T10S	●	●	KGD®℄12-C	KGD®℄-5T10-C	0.75	0.75	0.472	0.75	4.53	1.30	0.83	0.394 (10mm)	0.197 (5mm)	0.236 (6mm)
			□1.00	16X-5T10S	●	●	KGD®℄16-C		1.00	1.00	0.276	1.00	5.51	1.30	1.08			
		0.984 (25mm)	□0.75	KGD®℄ 12X-5T25S	●	●	KGD®℄12-C	KGD®℄-5T25-C	0.75	0.75	0.472	0.75	5.12	1.89	0.83	0.984 (25mm)		
			□1.00	16X-5T25S	●	●	KGD®℄16-C		1.00	1.00	0.276	1.00	6.10	1.89	1.08			

Note 1) When using the toolholder in normal mounting position, the lower jaw of the toolholder may interfere with the tool presetter.
2) The toolholder and blade part numbers are printed on the toolholder body. (Unit part numbers are not printed)
KGD-S: Right-hand blades for right-hand toolholders, and left-hand blades for left-hand toolholders.
3) If the unit part number is not listed (No Unit Part Number), please purchase toolholder and blade separately.
4) Dimension **CDX*** : Shows the maximum grooving depth. If the dimension **CDX** is 0.787" (20mm) or more, using a 2-edge insert, the maximum grooving depth is 0.709" (18mm).

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above. Insert table G26~G27

Spare Parts (Common with SwitchBlade Types)

* The parts are included in the toolholder and unit.

Unit Part Number	Spare Parts: Clamp Bolt (for Insert Clamp)	Spare Parts: Clamp Screw (for Blade)	Spare Parts: Wrench
			
KGD®℄·····S	BH6X10TR	SB-60120TR	LTW-25

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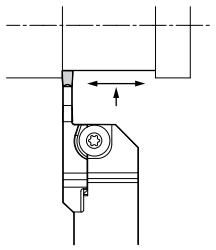
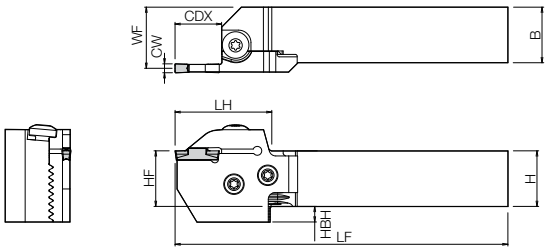
KGD-S (0° SwitchBlade Type)





• Right-hand shown (Right-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions (Metric Size)

(Choose **Right-hand** Blade for **Right-hand** Toolholder and **Left-hand** Blade for **Left-hand** Toolholder)

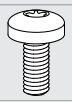
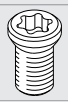
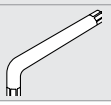
Shank Angle	Width (mm)	Max. Grooving Depth (mm)	Shank Size (mm)	Unit Part Number (Toolholder + Blade)	Stock R	Stock L	Toolholder Part Number G41	Blade Part Number G41	H	HF	HBH	B	LF	LH	WF	CDX*	Insert Width CW (mm) MIN.	Insert Width CW (mm) MAX.
0°	2	17	□20	KGD℞ 2020X-2T17S	●		KGD℞ 2020-C	KGD℞-2T17-C	20	20	12	20	122	40	23.4	17	2.0	3.0
			□25	2525X-2T17S	●	●	KGD℞ 2525-C		25	25	7	25	147	40	28.4			
			□32	No Unit Part Number ➡			KGD℞ 3232-C		32	32	-	32	167	40	35.4			
	3	10	□20	KGD℞ 2020X-3T10S	●		KGD℞ 2020-C	KGD℞-3T10-C	20	20	12	20	115	33	23.0	10	3.0	4.0
			□25	2525X-3T10S	●		KGD℞ 2525-C		25	25	7	25	140	33	28.0			
			□32	No Unit Part Number ➡			KGD℞ 3232-C		32	32	-	32	160	33	35.0			
		20	□20	KGD℞ 2020X-3T20S	●	●	KGD℞ 2020-C	KGD℞-3T20-C	20	20	12	20	125	43	23.0	20		
			□25	2525X-3T20S	●	●	KGD℞ 2525-C		25	25	7	25	150	43	28.0			
			□32	3232X-3T20S	●		KGD℞ 3232-C		32	32	-	32	170	43	35.0			
	4	10	□20	KGD℞ 2020X-4T10S	●		KGD℞ 2020-C	KGD℞-4T10-C	20	20	12	20	115	33	22.5	10	4.0	5.0
			□25	2525X-4T10S	●		KGD℞ 2525-C		25	25	7	25	140	33	27.5			
		20	□20	KGD℞ 2020X-4T20S	●		KGD℞ 2020-C	KGD℞-4T20-C	20	20	12	20	125	43	22.5	20		
			□25	2525X-4T20S	●	●	KGD℞ 2525-C		25	25	7	25	150	43	27.5			
			□32	3232X-4T20S	●		KGD℞ 3232-C		32	32	-	32	170	43	34.5			
		25	□20	KGD℞ 2020X-4T25S	●	●	KGD℞ 2020-C	KGD℞-4T25-C	20	20	12	20	130	48	22.5	25		
			□25	2525X-4T25S	●	●	KGD℞ 2525-C		25	25	7	25	155	48	27.5			
			□32	3232X-4T25S	●		KGD℞ 3232-C		32	32	-	32	175	48	34.5			
	5	10	□20	KGD℞ 2020X-5T10S	●	●	KGD℞ 2020-C	KGD℞-5T10-C	20	20	12	20	115	33	22.0	10	5.0	6.0
			□25	2525X-5T10S	●		KGD℞ 2525-C		25	25	7	25	140	33	27.0			
		25	□20	No Unit Part Number ➡			KGD℞ 2020-C	KGD℞-5T25-C	20	20	12	20	130	48	22.0	25		
			□25	KGD℞ 2525X-5T25S	●	●	KGD℞ 2525-C		25	25	7	25	155	48	27.0			
			□32	3232X-5T25S	●		KGD℞ 3232-C		32	32	-	32	175	48	34.0			

Note 1) When using the toolholder in normal mounting position, the lower jaw of the toolholder may interfere with the tool presetter.
2) The toolholder and blade part numbers are printed on the toolholder body. (Unit part numbers are not printed)
KGD-S: Right-hand blades for right-hand toolholders, and left-hand blades for left-hand toolholders.
3) If the unit part number is not listed (No Unit Part Number), please purchase toolholder and blade separately.
4) Dimension **CDX*** : Shows the maximum grooving depth. If the dimension **CDX** is 0.787" (20mm) or more, using a 2-edge insert, the maximum grooving depth is 0.709" (18mm).

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above. Insert table ➡ G26~G27

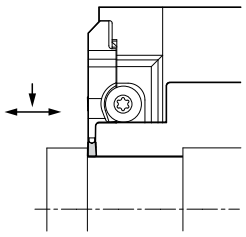
Spare Parts (Common with SwitchBlade Types)

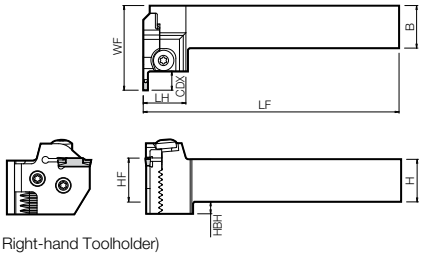
* The parts are included in the toolholder and unit.

Unit Part Number	Spare Parts: Clamp Bolt (for Insert Clamp)	Spare Parts: Clamp Screw (for Blade)	Spare Parts: Wrench
			
KGD℞·····S	BH6X10TR	SB-60120TR	LTW-25

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

KGDS-S (90° SwitchBlade Type)





• Right-hand shown (Left-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions (Inch Size)

(Choose **Left-hand** Blade for **Right-hand** Toolholder and **Right-hand** Blade for **Left-hand** Toolholder)

Shank Angle	Width (mm)	Max. Grooving Depth (mm)	Shank Size (mm)	Unit Part Number (Toolholder + Blade)	Toolholder Part Number ➡ G41	Blade Part Number ➡ G41	Dimensions (in) H	HF	HBH	B	LF	LH	WF	CDX*	Insert Width CW (in) MIN.	MAX.
90°	0.079 (2mm)	0.669 (17mm)	□0.75	No Unit Part Number ➡	KGDS R/L 12-C	KGD R/L -2T17-C	0.75	0.75	0.472	0.75	4.92	1.09	2.19	0.669 (17mm)	0.079 (2mm)	0.118 (3mm)
			□1.00		KGDS R/L 16-C		1.00	1.00	0.276	1.00	5.91	1.09	2.25			
	0.118 (3mm)	0.394 (10mm)	□0.75		KGDS R/L 12-C	KGD R/L -3T10-C	0.75	0.75	0.472	0.75	4.92	1.09	1.92	0.394 (10mm)	0.118 (3mm)	0.157 (4mm)
			□1.00		KGDS R/L 16-C		1.00	1.00	0.276	1.00	5.91	1.09	1.97			
		0.787 (20mm)	□0.75		KGDS R/L 12-C	KGD R/L -3T20-C	0.75	0.75	0.472	0.75	4.92	1.09	2.31	0.787 (20mm)		
			□1.00		KGDS R/L 16-C		1.00	1.00	0.276	1.00	5.91	1.09	2.37			
	0.157 (4mm)	0.394 (10mm)	□0.75		KGDS R/L 12-C	KGD R/L -4T10-C	0.75	0.75	0.472	0.75	4.92	1.09	1.92	0.394 (10mm)	0.157 (4mm)	0.197 (5mm)
			□1.00		KGDS R/L 16-C		1.00	1.00	0.276	1.00	5.91	1.09	1.97			
		0.787 (20mm)	□0.75		KGDS R/L 12-C	KGD R/L -4T20-C	0.75	0.75	0.472	0.75	4.92	1.09	2.31	0.787 (20mm)		
			□1.00		KGDS R/L 16-C		1.00	1.00	0.276	1.00	5.91	1.09	2.37			
		0.984 (25mm)	□0.75		KGDS R/L 12-C	KGD R/L -4T25-C	0.75	0.75	0.472	0.75	4.92	1.09	2.51	0.984 (25mm)		
			□1.00		KGDS R/L 16-C		1.00	1.00	0.276	1.00	5.91	1.09	2.56			
	0.197 (5mm)	0.394 (10mm)	□0.75		KGDS R/L 12-C	KGD R/L -5T10-C	0.75	0.75	0.472	0.75	4.92	1.09	1.92	0.394 (10mm)	0.197 (5mm)	0.236 (6mm)
			□1.00		KGDS R/L 16-C		1.00	1.00	0.276	1.00	5.91	1.09	1.97			
		0.984 (25mm)	□0.75		KGDS R/L 12-C	KGD R/L -5T25-C	0.75	0.75	0.472	0.75	4.92	1.09	2.51	0.984 (25mm)		
			□1.00		KGDS R/L 16-C		1.00	1.00	0.276	1.00	5.91	1.09	2.56			

Toolholder + Blade Dimensions (Metric Size)

(Choose **Left-hand** Blade for **Right-hand** Toolholder and **Right-hand** Blade for **Left-hand** Toolholder)

Shank Angle	Width (mm)	Max. Grooving Depth (mm)	Shank Size (mm)	Unit Part Number (Toolholder + Blade)	Stock R	Stock L	Toolholder Part Number ➡ G41	Blade Part Number ➡ G41	Dimensions (mm) H	HF	HBH	B	LF	LH	WF	CDX*	Insert Width CW (mm) MIN.	MAX.
90°	2	17	□20	No Unit Part Number ➡			KGDS R/L 2020-C	KGD R/L -2T17-C	20	20	12	20	125	27.7	56.7	17	2.0	3.0
			□25				KGDS R/L 2525-C		25	25	7	25	150	27.7	56.7			
	3	10	□20	KGDS R/L 2020X-3T10S	●	●	KGDS R/L 2020-C	KGD R/L -3T10-C	20	20	12	20	125	27.7	49.7	10	3.0	4.0
			□25	2525X-3T10S	●	●	KGDS R/L 2525-C		25	25	7	25	150	27.7	49.7			
		20	□20	No Unit Part Number ➡			KGDS R/L 2020-C	KGD R/L -3T20-C	20	20	12	20	125	27.7	59.7	20		
			□25				KGDS R/L 2525-C		25	25	7	25	150	27.7	59.7			
	4	10	□20				KGDS R/L 2020-C	KGD R/L -4T10-C	20	20	12	20	125	27.7	49.7	10	4.0	5.0
			□25				KGDS R/L 2525-C		25	25	7	25	150	27.7	49.7			
		20	□20				KGDS R/L 2020-C	KGD R/L -4T20-C	20	20	12	20	125	27.7	59.7	20		
			□25				KGDS R/L 2525-C		25	25	7	25	150	27.7	59.7			
		25	□20				KGDS R/L 2020-C	KGD R/L -4T25-C	20	20	12	20	125	27.7	64.7	25		
			□25				KGDS R/L 2525-C		25	25	7	25	150	27.7	64.7			
	5	10	□20				KGDS R/L 2020-C	KGD R/L -5T10-C	20	20	12	20	125	27.7	49.7	10	5.0	6.0
			□25				KGDS R/L 2525-C		25	25	7	25	150	27.7	49.7			
		25	□20				KGDS R/L 2020-C	KGD R/L -5T25-C	20	20	12	20	125	27.7	64.7	25		
			□25				KGDS R/L 2525-C		25	25	7	25	150	27.7	64.7			

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above. Insert table ➡ G26~G27

Note

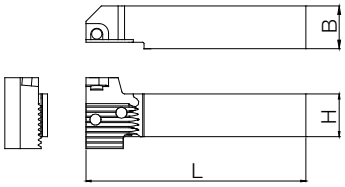
1) When using the toolholder in normal mounting position, the lower jaw of the toolholder may interfere with the tool presetter.
2) The toolholder and blade part numbers are printed on the toolholder body. (Unit part numbers are not printed)
KGDS-S: Left-hand blades for right-hand toolholders, and right-hand blades for left-hand toolholders.
3) If the unit part number is not listed (No Unit Part Number), please purchase toolholder and blade separately.
4) Dimension **CDX*** : Shows the maximum grooving depth. If the dimension **CDX** is 0.787" (20mm) or more, using a 2-edge insert, the maximum grooving depth is 0.709" (18mm).

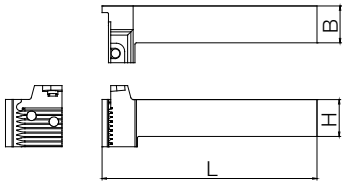
Spare Parts (Common with SwitchBlade Types)

* The parts are included in the toolholder and unit.

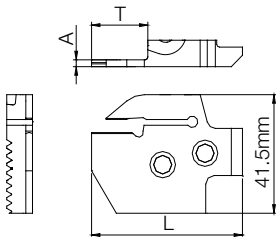
Unit Part Number	Spare Parts: Clamp Bolt (for Insert Clamp)	Clamp Bolt (for Blade)	Wrench
KGDS R/L ·····S	BH6X10TR	SB-60120TR	LTW-25

Toolholder Dimensions

KGD-S (0° SwitchBlade Type) Right-hand shown	Toolholder Part Number	Stock R	Stock L	Unit	Dimensions L	Dimensions B	Dimensions H
	KGD R/L 12-C	●	●	inch	4.09	0.75	0.75
	16-C	●	●		5.08	1.00	1.00
	KGD R/L 2020-C	●	●	mm	104	20	20
	2525-C	●	●		129	25	25
	3232-C	●	●		149	32	32

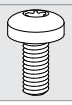
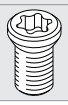
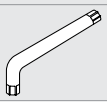
KGDS-S (90° SwitchBlade Type) Right-hand shown	Toolholder Part Number	Stock R	Stock L	Unit	Dimensions L	Dimensions B	Dimensions H
	KGDS R/L 12-C	●	●	inch	4.80	0.75	0.75
	16-C	●	●		5.79	1.00	1.00
	KGDS R/L 2020-C	●	●	mm	122	20	20
	2525-C	●	●		147	25	25

Blade Dimensions

Blade Right-hand shown	Blade Part Number	Stock R	Stock L	Unit	Dimensions L	Dimensions T	Dimensions A
	KGD R/L -2T17-C	●	●	mm	51.2	17.2	1.7
	-3T10-C	●	●		44.2	10.2	2.4
	-3T20-C	●	●		53.2	20.2	2.4
	-4T10-C	●	●		44.2	10.2	3.4
	-4T20-C	●	●		54.2	20.2	3.4
	-4T25-C	●	●		59.2	25.2	3.4
	-5T10-C	●	●		44.2	10.2	4.4
	-5T25-C	●	●		59.2	25.2	4.4

Spare Parts (Common with SwitchBlade Types)

* The parts are included in the toolholder and unit.

Unit Part Number	Spare Parts: Clamp Bolt (for Insert Clamp)	Spare Parts: Clamp Screw (for Blade)	Spare Parts: Wrench
			
KGD R/L·····S KGDS R/L·····S	BH6X10TR	SB-60120TR	LTW-25

Setting the Insert

1. Completely eliminate chips from the insert mounting part. (see **Fig.1**)
2. Put the insert into the toolholder and push until it contacts the holder's surface for fixing the insert's back end. (see **Fig.1**, **Fig.2**)
3. Keeping the insert pushed against the toolholder's locating surface, tighten the insert clamp bolt at an appropriate torque.
4. Make sure there is no gap between the insert and the toolholder's locating surface and that the insert is set straight. (see **Fig.2**, **Fig.3**)

Clamp Screw (For Small Parts)	Recommended Tightening Torque : 2.0N·m (SB-40120TR) 2.5N·m (SE-50125TR)
Insert Clamp Bolt	Recommended Tightening Torque : 6.5N·m (Width 0.079"~0.236" / 2~6mm) 8.0N·m (Width 0.315" / 8mm)

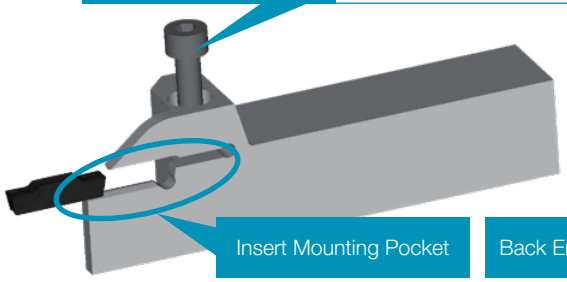


Fig.1

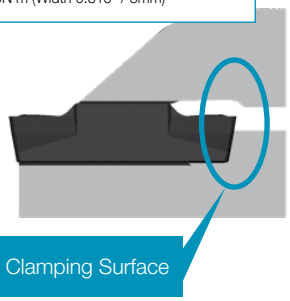


Fig.2

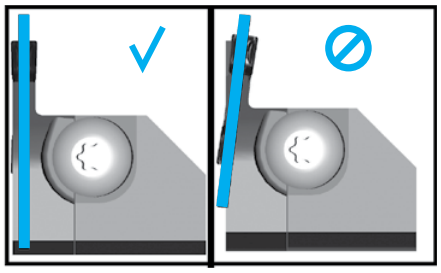


Fig.3

Setting the Blade (SwitchBlade Type toolholder)

1. Use compressed air or other measures to remove chips and dust from the serrated surface. (See **Fig.1**)
2. Mate and fit the serrations of the blade and toolholder. (See **Fig.2**)
3. Tighten the blade fixing screws at an appropriate torque. You can tighten them in any order. (See **Fig.2**) (Recommended tightening torque : 8Nm)
4. Mount the insert after setting the blade.

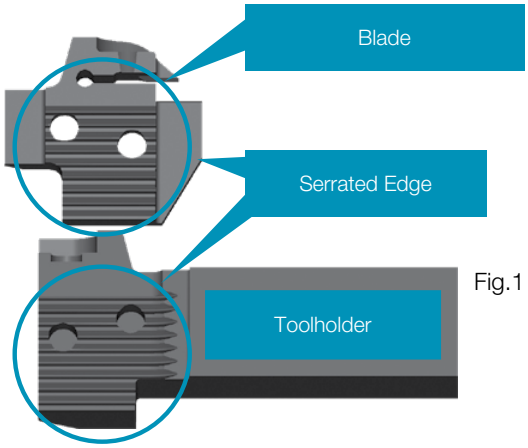


Fig.1

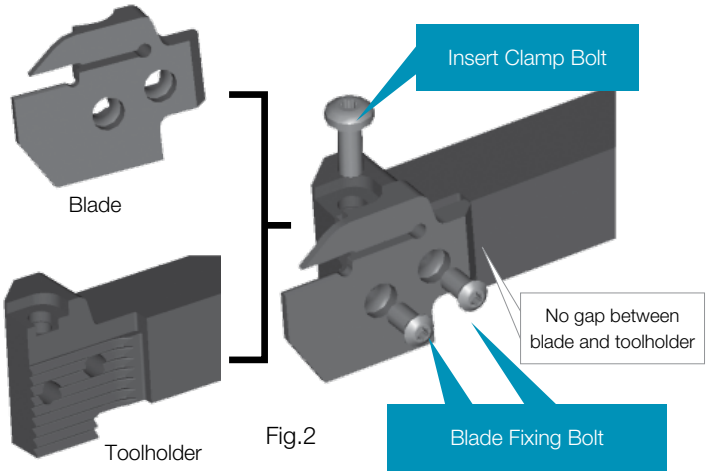
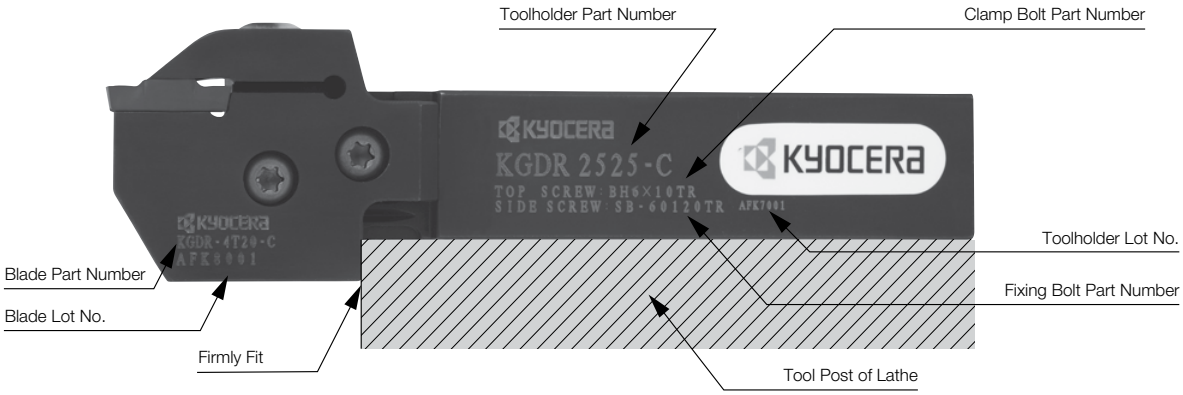


Fig.2

SwitchBlade Type Toolholder Identification System and Their Setting to Lathe

● Firmly fit the lower jaw to the tool post of the lathe.



Recommended Cutting Conditions (Vc)

Workpiece	Chipbreaker	Recommended Insert Grade (Vc : sfm)									Notes
		Cermet		MEGACOAT NANO	MEGACOAT		Carbide	MEGACOAT CBN	CBN	PCD	
		TN620	TN90	PR1535	PR1225	PR1215	GW15	KBN05M	KBN570	KPD001	
Carbon Steel	GM	☆ 260 - 720	☆ 330 - 720	☆ 260 - 660	★ 260 - 660	☆ 330 - 660	-	-	-	-	Coolant
Alloy Steel	GL	☆ 230 - 660	☆ 260 - 660	☆ 230 - 590	★ 230 - 590	☆ 260 - 590	-	-	-	-	
Stainless Steel	CM	-	-	★ 200 - 490	☆ 200 - 490	☆ 200 - 490	-	-	-	-	
Cast Iron	PH	-	-	-	-	★ 330 - 660	-	-	-	-	
Aluminum Alloy	GS	-	-	-	-	-	☆ 660 - 1,640	-	-	★ 490 - 6,560	
Brass	NB	-	-	-	-	-	☆ 330 - 660	-	-	★ 660 - 2,620	
Hard Materials	NB	-	-	-	-	-	-	★ 260 - 490	-	-	
Powdered Steel		-	-	-	-	-	-	-	★ 330 - 820	-	

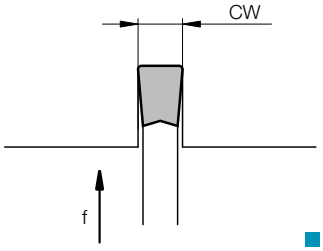
★ : 1st Recommendation ☆ : 2nd Recommendation

Recommended Cutting Conditions (Feed Rate / D.O.C.)

(Workpiece Material : 1049)

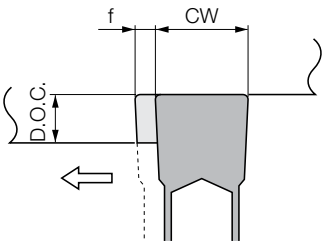
Chipbreaker

Grooving

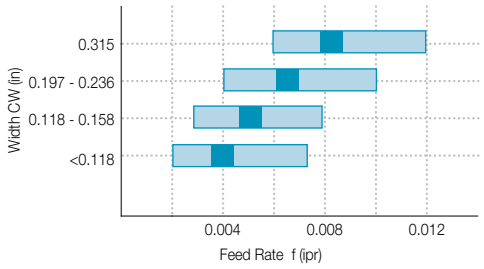


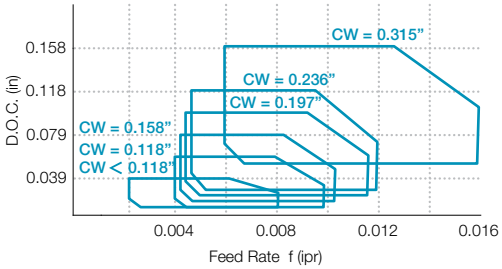
■ : Recommended Feed

Traversing

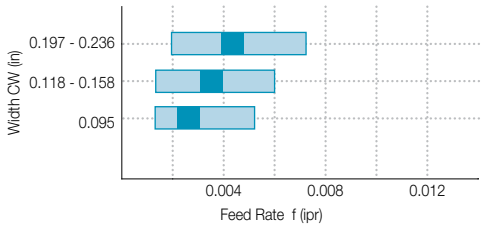


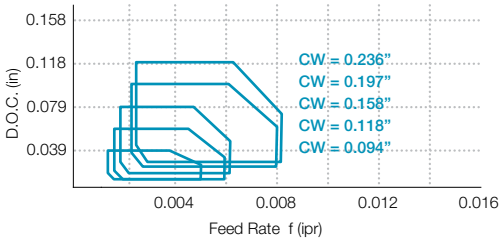
GM (General Purpose)



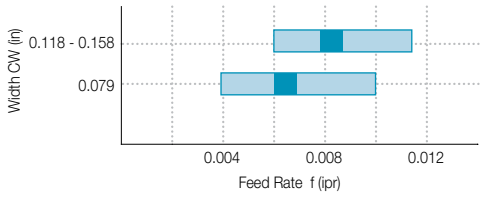


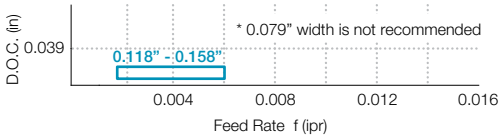
GL (Low Feed)



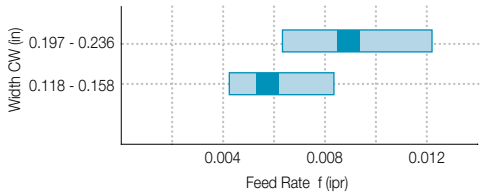


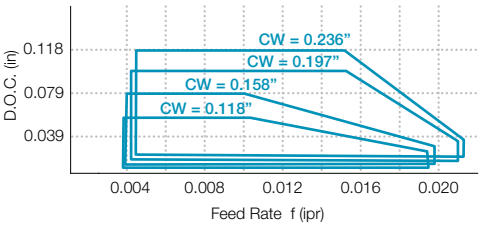
PH (High Feed)





CM (Copying)



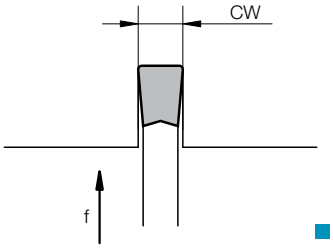


1) The above values reflect a CDX dimension that is 0.669" (17mm) or less.
2) If the toolholder is not for the 0.315" (8mm) width insert and its CDX dimension is over 0.669" (17mm), set the values for traversing to less than 90% of recommended cutting conditions above.

Recommended Cutting Conditions (Feed Rate / D.O.C.)

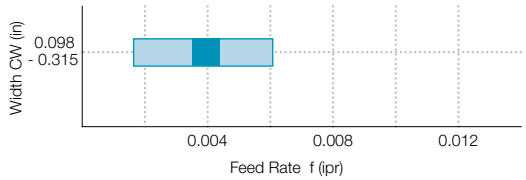
(Workpiece Material : 1049)

Chipbreaker: Grooving



■ : Recommended Feed

GS (Low Cutting Force)

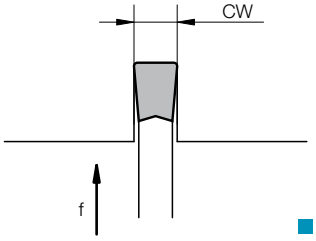


* When traversing, keep D.O.C. less than the Corner-R (RE)

1) The above values reflect a CDX dimension that is 0.669" (17mm) or less.

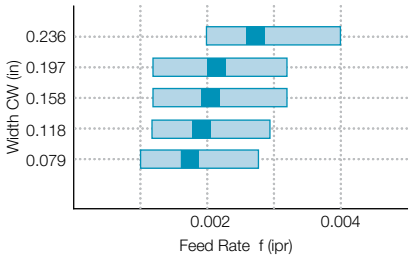
Recommended Cutting Conditions (Feed Rate)

Workpiece / Insert Grade: Grooving

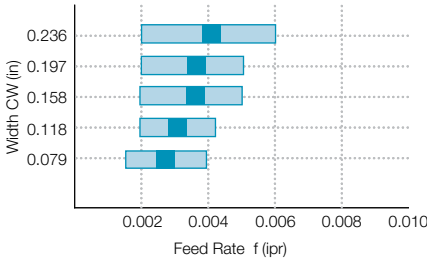


■ : Recommended Feed

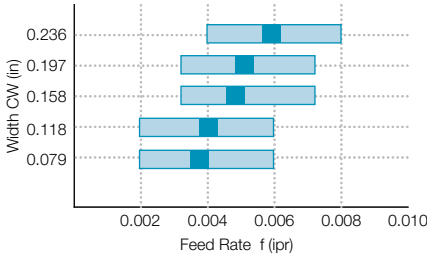
Hard Materials — KBN05M



Powdered Steel — KBN570



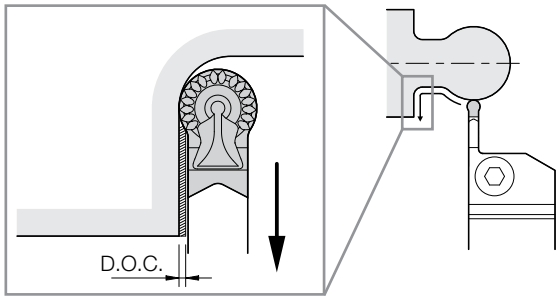
Aluminum Alloy / Brass — KPD001



CM Chipbreaker (Back Turning)

● Estimated maximum cutting amount (D.O.C.) for back turning

Part Number		Max. D.O.C. (in)				
		Toolholder Part Number				
		KGD...-2T...	KGD...-3T...	KGD...-4T...	KGD...-5T...	KGD...-6T...
GDM	3020N-150R-CM	0.009	0.008	-	-	-
	4020N-200R-CM	-	0.009	0.008	-	-
	5020N-250R-CM	-	-	0.012	0.008	-
	6020N-300R-CM	-	-	-	0.012	0.010

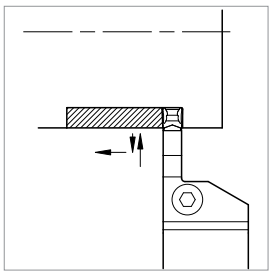


Guide for External Grooving

① Traversing After Grooving

1. Grooving Depths Over 0.020" (0.5mm) : When Roughing (see **Fig.1**)
   Before traversing, pull the tool back about 0.004" (0.1mm) after grooving, instead of traversing subsequent to grooving.
   (Failure to pull the tool back before traversing will result in an unbalanced load applied on only one side of the cutting edge.)

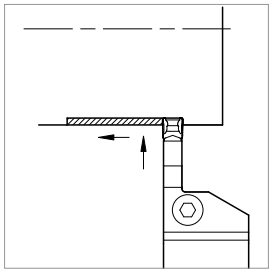
Fig.1



Before traversing, pull the tool back about 0.004" (0.1mm) after grooving.
(Grooving Depth Over 0.020" (0.5mm) : When Roughing)

2. Grooving Depths Under 0.020" (0.5mm) : When Finishing (see **Fig.2**)
   Traversing subsequent to grooving is possible because shallow groove depths apply a small load on the cutting edge.
   (Dwell-motion is not necessary)

Fig.2



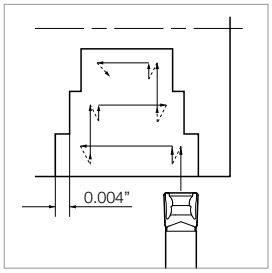
Traversing Subsequent to Grooving.
(Grooving Depth Under 0.020" (0.5mm) : When Finishing)

②

1. When widening the groove width, use "Step Traversing" as shown in **Fig.3**

2. The widened groove and side walls should be finished last.
   (For better chip control, D.O.C. over 0.020" (0.5mm) is recommended.)
   Note: If the workpiece is not supported at the center, reduce the feed rate when grooving towards center

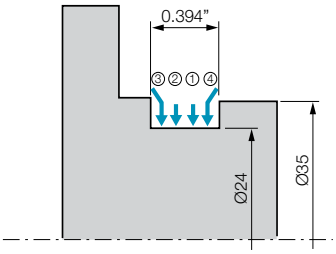
Fig.3



Case Studies

5120H (Grooving)

- Gear
- Vc = 370~540 sfm
- f = 0.002 ipr
- Wet
- GDM4020N-040GM (PR1225)
- KGDL2525X-3T10S



GM Chipbreaker (PR1225)	1,500 pcs/C
Competitor K (PVD Coated Carbide)	250 pcs/C

6X Longer Life

- KGD type grooving toolholder + GM chipbreaker (PR1225) showed 6 times longer tool life than that of Competitor K.
- Good chip control without burned chips.

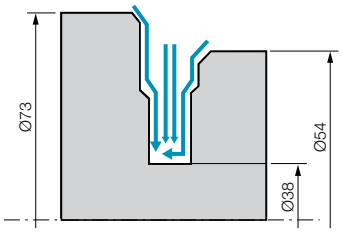
Competitor K

GM Chipbreaker

(User Evaluation)

Structural Steel (Grooving, Traversing)

- Gear
- Vc = 560 sfm
- f = 0.006 ipr (Roughing)
  0.004 ipr (Finishing)
- D.O.C = 0.008" (Finishing)
- Wet
- GDM4020N-040GM (PR1215)
- KGDR2525X-4T20S



GM Chipbreaker (PR1215)	250 pcs/C
Competitor L (Roughing: PVD Coated Carbide) (Finishing: Cermet)	200 pcs/C

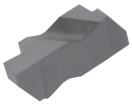
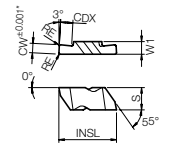
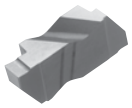
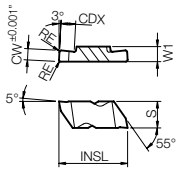
- GM chipbreaker reduced chip entanglement (occurrence rate 80% ➡ 10%). The problem was persistent with Competitor L. Machining productivity is improved.

Chips easily tangled Competitor L (Finishing)

Smooth chip control GM Chipbreaker (Finishing)

(User Evaluation)

KCG / KCGP / KCGDP / KCRP

Insert (Right-handed Insert Shown)	Part Number	CW (inch)	CW (mm)	CDX	RE	W1	INSL	S	Insert Grade: Cermet TC40 R	TC40 L	Cermet TC60 R	TC60 L	MEGA COAT CVD PR1215 R	PR1215 L	PVD PR660 R	PR660 L	PVD PR930 R	PR930 L	Carbide KW10 R	KW10 L	Ceramic A65 R	A65 L
 2-Edge 	KCG 2062ℝ	0.062	1.57	0.110	0.008	0.150	0.540	0.219													●	●
	2125ℝ	0.125	3.18																			●
	3062ℝ	0.062	1.57	0.094	0.008	0.195	0.810	0.344													●	
	3094ℝ	0.094	2.39	0.150																	●	●
	3125ℝ	0.125	3.18																		●	
	3156ℝ	0.156	3.96																		●	●
 2-Edge 	KCGP 2031ℝ	0.031	0.79	0.050	0.003	0.150	0.540	0.219		●		●	●	●			●	●	●	●		
	2041ℝ	0.041	1.04							●	●		●	●			●					
	2047ℝ	0.047	1.19							●	●		●	●	●	●	●	●	●	●		
	KCGP 2058ℝ	0.058	1.47	0.110	0.008	0.150	0.540	0.219		●			●									
	2062ℝ	0.062	1.57							●		●	●	●		●	●	●	●	●		
	KCGP 2094ℝ	0.094	2.39	0.110	0.008	0.150	0.540	0.219		●			●	●			●	●	●	●		
	2125ℝ	0.125	3.18						●	●			●	●	●		●	●	●			
	KCGP 3031ℝ	0.031	0.79	0.050	0.008	0.195	0.810	0.344		●			●	●			●	●				
	3047ℝ	0.047	1.19	0.075								●	●	●	●		●	●	●			
	3062ℝ	0.062	1.57	0.094									●	●			●	●	●	●		
	3072ℝ	0.072	1.83						●	●	●	●	●	●				●				
	KCGP 3078ℝ	0.078	1.98	0.094	0.008	0.195	0.810	0.344		●	●		●	●		●	●	●				
	3088ℝ	0.088	2.24							●		●	●				●	●				
	KCGP 3094ℝ	0.094	2.39	0.150	0.008	0.195	0.810	0.344	●	●		●	●	●			●	●	●	●		
	3097ℝ	0.097	2.46							●							●					
	3105ℝ	0.105	2.67							●							●	●				
	KCGP 3110ℝ	0.110	2.79	0.150	0.008	0.195	0.810	0.344	●	●			●	●			●					
	3122ℝ	0.122	3.10						●									●				
	3125ℝ	0.125	3.18								●		●	●			●	●	●	●		
	KCGP 3142ℝ	0.142	3.61	0.150	0.008	0.195	0.810	0.344	●	●							●	●				
	3156ℝ	0.156	3.96							●	●			●		●	●	●				
	3178ℝ	0.178	4.52							●							●	●				
	KCGP 3185ℝ	0.185	4.70	0.150	0.008	0.195	0.810	0.344	●	●							●	●				
	3189ℝ	0.189	4.80						●	●	●	●	●	●		●	●	●	●	●		
	KCGP 4125ℝ	0.125	3.18	0.150	0.008	0.255	1.272	0.453	●	●			●	●			●	●				
	4189ℝ	0.189	4.80	0.250	0.018					●			●	●			●	●				
	4213ℝ	0.213	5.41						●	●							●	●				
	KCGP 4219ℝ	0.219	5.56	0.250	0.018	0.255	1.272	0.453	●	●							●	●				
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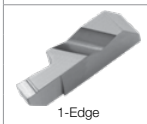
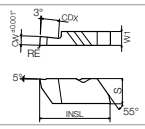
 1-Edge 	KCGDP 3062ℝ	0.062	1.57	0.125	0.008	0.195	0.886	0.344	●	●			●	●			●					
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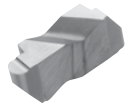
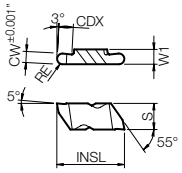
 2-Edge 	KCRP 2031ℝ	0.062	1.57	0.094	0.031	0.150	0.540	0.219					●	●			●					
	2039ℝ	0.078	1.98	0.110	0.039												●	●				
	2047ℝ	0.094	2.39	0.150	0.047								●	●								
	2062ℝ	0.125	3.18	0.150	0.062						●		●	●								
	KCRP 3031ℝ	0.062	1.57	0.094	0.031	0.195	0.810	0.344		●	●		●	●			●	●		●		
	3047ℝ	0.094	2.39	0.150	0.047				●				●	●			●	●				
	3062ℝ	0.125	3.18	0.150	0.062								●	●		●	●	●				
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	3094ℝ	0.188	4.78	0.150	0.094					●			●	●			●	●				
	KCRP 4125ℝ	0.250	6.35	0.250	0.125	0.255	1.272	0.453	●	●					●		●	●				

- Dimension **CDX** shows available Grooving Depth.

Applicable Toolholders ➡ **G47, G139**

Recommended Cutting Conditions (Cera-Notch)

Workpiece Material	Cermet Feeds (ipr)	Carbide Feeds (ipr)	Recommended Insert Grade (Vc : sfm): Cermet TC40	Cermet TC60	MEGACOAT PR1215	Carbide PR660	Carbide PR930	Carbide KW10	Ceramic A65
Carbon Steel	0.002~0.005	0.002~0.010	300~900	250~900	300~800	200~550	250~650	-	-
Alloy Steel	0.002~0.005	0.002~0.010	250~800	250~800	300~750	100~500	150~550	-	-
Stainless Steel	0.002~0.005	0.002~0.010	-	200~600	300~600	100~550	100~550	-	-
Tool Steel	0.002~0.005	0.002~0.010	200~650	200~650	300~600	-	100~550	-	-
Hardened Steel (>45Rc)	-	-	-	-	-	-	-	-	250~500*
Gray Cast Iron	0.003~0.006	0.002~0.012	200~700	-	300~700	-	-	-	500~1000
Ductile Iron	0.003~0.006	0.002~0.012	-	150~600	300~600	-	-	-	500~1000
Aluminum	0.002~0.008	0.002~0.012	150~1600	-	-	-	-	500~1600	-

Speeds & Feeds listed are for external grooving. Reduce parameters by 10% for internal grooving.
*Feeds = 0.003~0.008 ipr

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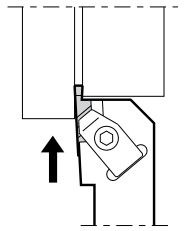
● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

KKC



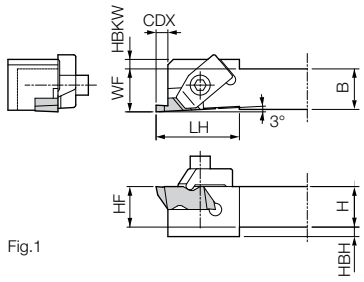


Fig.1

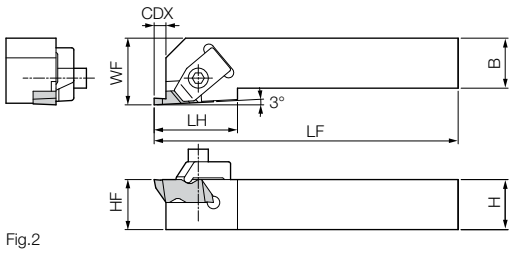


Fig.2

• Right-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	H	HF	HBH	B	LF	LH	WF	HBKW	CDX*	Drawing	Spare Parts: Clamp	Spare Parts: Clamp Screw	Spare Parts: Wrench
KKC⅝ 1212M-2-150F	●		mm	12	12	-	12	150	19.05	12.25	-	3.5	Fig.1	CKC-2⅝	SKC-2	(7/64 hex)
KKC⅝ 6-2CF	●	●	inch	0.375	0.375	0.125	0.375	5.000	0.750	0.385	0.125	0.138	Fig.1	CKC-2⅝	SKC-2	(7/64 hex)
8-2X	●	●		0.500	0.500	-	0.500	3.500	0.750	0.750	-	0.138	Fig.2			
8-2DF	●	●		0.500	0.500	-	0.500	6.000	0.750	0.510	-	0.138	Fig.1			
10-2DF	●	●		0.625	0.625	-	0.625	6.00	0.750	0.635	-	0.138	Fig.1			
12-2B	●	●		0.750	0.750	-	0.750	4.50	0.750	1.000	-	0.138	Fig.2	CKC-2⅝	SKC-2	(7/64 hex)
12-2C	●			0.750	0.750	-	0.750	5.00	0.750	1.000	-	0.138	Fig.2			
16-2C	●	●		1.000	1.000	-	1.000	5.00	0.750	1.250	-	0.138	Fig.2			
16-2D	●	●		1.000	1.000	-	1.000	6.00	0.750	1.250	-	0.138	Fig.2			
12-3B	●	●		0.750	0.750	-	0.750	4.50	1.250	1.000	-	0.210	Fig.2	CKC-3⅝	SKC-3	LW-156
12-3C	●	●		0.750	0.750	-	0.750	5.00	1.250	1.000	-	0.210	Fig.2			
16-3C	●	●		1.000	1.000	-	1.000	5.00	1.250	1.250	-	0.210	Fig.2			
16-3D	●	●		1.000	1.000	-	1.000	6.00	1.250	1.250	-	0.210	Fig.2			
20-3D	●	●		1.250	1.250	-	1.250	6.00	1.250	1.500	-	0.210	Fig.2			
16-4D	●	●		1.000	1.000	-	1.000	6.00	1.380	1.250	-	0.294	Fig.2			
20-4D	●			1.250	1.250	-	1.250	6.00	1.380	1.500	-	0.294	Fig.2			

* **CDX** dimension shows the distance from the toolholder to the cutting edge. For actual maximum grooving depth, see **CDX** dimension in insert table.

Applicable Inserts ➔ **G46**

• Note: **Right-hand** bars require **right-hand** inserts and clamps
Left-hand bars require **left-hand** inserts and clamps

Also Available for Threading. See Page ➔ **J24**

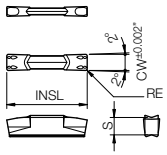
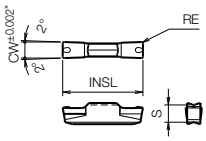
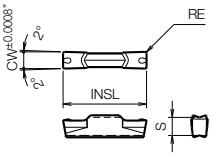
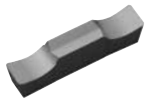
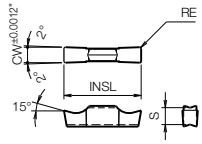
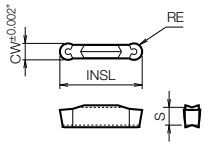
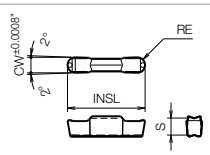
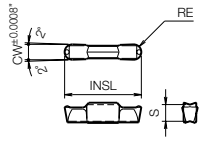
Applicable Inserts

Toolholder	Inserts ➔ G46: 2-Edge Use	Inserts ➔ G46: 1-Edge Use
KKC⅝ …-2	KCGP-2, KCG-2, KCRP-2	
KKC⅝ …-3	KCGP-3, KCG-3, KCRP-3	KCGDP-3
KKC⅝ …-4	KCGP-4, KCRP-4	

GMM / GMG

Classification of Usage
- ◉ : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

		Cermet	CVD Coated Carbide	PVD Coated Carbide			Carbide
P	Carbon Steel / Alloy Steel			◔	◉		
M	Stainless Steel			◉	◔		
K	Cast Iron					◉	◔
N	Non-ferrous Metals						◉
S	Titanium Alloy						◉
H	Hard materials (≤40HRC)			○	●		
	Hard materials (≥40HRC)						

Insert (Right-handed Insert Shown)	Part Number	Dimensions (in) CW inch	CW mm	RE	INSL	S	TN90	CR9025	PR915	PR930	PR905	KW10	Ref. Page for Toolholder
Chip Control Oriented M-Class 	GMM 2420-020MW	0.095	2.4	0.008	0.787	0.169	●	●		●	●	●	G52,G53
	3020-020MW	0.118	3.0	0.008			●	●	●	●	●	●	G52 G53 G54
	3020-040MW			0.016			●	●	●	●	●	●	
	4020-020MW	0.158	4.0	0.008			●	●		●	●		
	4020-040MW			0.016			●	●	●	●	●	●	
	4020-080MW			0.031			●	●	●	●	●		
	5020-040MW	0.197	5.0	0.016			●	●	△	●	●	●	
	5020-080MW			0.031			●	●	●	●	●	●	
	6020-040MW	0.236	6.0	0.016				●	●	●	●		G52,G53
	6020-080MW			0.031				●		●	●	●	
	8030-080MW	0.315	8.0	0.031	1.181	0.217		●		●	●	●	G52,G53
Sharp Cutting Oriented M-Class 	GMM 3020-020MS	0.118	3.0	0.008	0.787	0.169	●	●	●	●		●	G52 G53 G54
	3020-040MS			0.016			●	●	●	●		●	
	4020-040MS	0.158	4.0	0.016			●	●	●	●		●	
	5020-040MS	0.197	5.0						●	●		●	
	6020-040MS	0.236	6.0									●	G52,G53
Sharp Cutting Oriented Precision Class 	GMG 3020-000MS	0.118	3.0	0.000	0.787	0.169			●	●		△	G52 G53 G54
	3020-020MS			0.008			●	●	●	●		●	
	3020-040MS			0.016			●	●	●	●		●	
	4020-020MS	0.158	4.0	0.008	0.787	0.169	●	△		●		●	
	4020-040MS			0.016				●		●		●	
	4020-080MS			0.031				●	●	●			
	5020-040MS	0.197	5.0	0.016	0.787	0.169				●			
	5020-080MS			0.031						●			
	6020-080MS	0.236	6.0	0.031	0.787	0.169						●	G52,G53
 Sharp-Cutting Oriented / Precision Class Ground Chipbreaker 	GMG 2520-030MG	0.098	2.5	0.012	0.787	0.169	●			●		●	G52,G53
	3020-030MG	0.118	3.0				●		●	●	●	●	G52 G53 G54
	3520-030MG	0.138	3.5							●	●		
	4020-040MG	0.158	4.0	0.016			●	●		●	●	●	
	5020-040MG	0.197	5.0				●			●	●	●	
	6020-040MG	0.236	6.0							●	●		
	8030-050MG	0.315	8.0	0.020	1.181	0.217	●	●		●	●	●	G52,G87
Chip Control Oriented / M Class / Full-R / Copying 	GMM 3020-150R	0.118	3.0	0.059	0.787	0.169	●	●	●	●	●	●	G52 G53 G54
	4020-200R	0.158	4.0	0.079			●	●	●	●	●	●	
	5020-250R	0.197	5.0	0.098				●		●	●	●	
	6020-300R	0.236	6.0	0.118			●	●		●	●	●	G52,G53
Sharp-Cutting Oriented / Precision Class Full-R / Copying 	GMG 3020-150R	0.118	3.0	0.059	0.787	0.169	●	●		●		●	G52 G53 G54
	4020-200R	0.158	4.0	0.079				●		●			
	5020-250R	0.197	5.0	0.098						●			
Undercutting Chip Control Oriented 	GMG 3020-150RU	0.118	3.0	0.059	0.787	0.169		●		●			G52 G53 G55
	4020-200RU	0.158	4.0	0.079						●			

Recommended Cutting Conditions ➔ G153

Inserts are sold in 10 piece boxes.

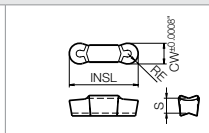
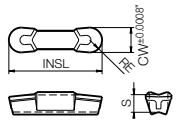
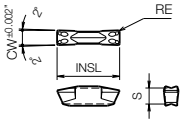
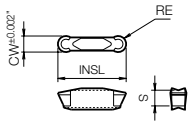
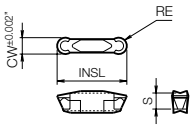
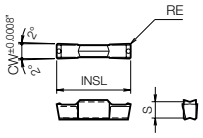
(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

GMM / GMGA / FGG

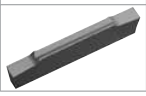
Classification of Usage
- ◉ : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

		Cermet	CVD Coated Carbide	PVD Coated Carbide		Carbide	Ref. Page for Toolholder
		TN90	CR9025	PR915	PR930	KW10	
P	Carbon Steel / Alloy Steel			◔	◉		
M	Stainless Steel			◉	◔		
K	Cast Iron					◉	
N	Non-ferrous Metals					◉	
S	Titanium Alloy					◉	
H	Hard materials (≤40HRC)			○	●		
	Hard materials (≥40HRC)						

Insert (Right-handed Insert Shown)	Part Number	CW inch	CW mm	RE	INSL	S	TN90	CR9025	PR915	PR930	KW10	Ref. Page for Toolholder
Sharp-Cutting Oriented / Precision Class / Full-R / Copying 	GMGA 6020-300R	0.236	6.0	0.118	0.787	0.169					●	G52 G53
Sharp Cutting Oriented / Precision Class / Full-R / Copying 	GMGA 8030-400R	0.315	8.0	0.157	1.181	0.217					●	G52 G87
Chip Control Oriented / M Class 	GMM 3014-04	0.118	3.0	0.016	0.551	0.169	●			●		-
Chip Control Oriented / M Class Full-R / Copying 	GMM 3014-15R	0.118	3.0	0.059	0.551	0.169	●					
Undercutting Chip Control Oriented 	GMM 3014-15RU	0.118	3.0	0.059	0.551	0.169				△		
Face Grooving Chip Control Oriented Precision Class 	FGG R/L 3020-02	0.118	3.0	0.008	0.787	0.169	R L: ● ●	R L: ● ●	R L: ● ●	R L: ● ●	R L: ● ●	G55
	4020-04	0.158	4.0	0.016			● ●	● ●	● ●	● ●	● ●	
	5020-04	0.197	5.0	0.016			● ●				● ●	

Recommended Cutting Conditions G153

Chipbreakers

Series	Insert	Features
GMM...MW		Excellent chip evacuation during grooving, traversing, and cut-off.
GMG...MG		Low cutting forces with ground chipbreaker.
GMG...MS GMM...MS		Grooving, traversing and cut-off operations have minimum cutting forces with positive edge
GMM...MT		Small corner-R (RE) minimizes the core which remains in the center of the face.
GMM...TK		Large corner-R (RE) with stable performance during cut-off.
GMM...NB		Flat rake face without chipbreaker. Good performance for brass.

Edge Preparation

Edge Preparation	Chamfered + Honed Cutting Edge Corner-R(RE) = 0.05	Chamfered + Honed Cutting Edge Sharp Corner
MT-Chipbreaker	CR9025 / PR915	PR930 / KW10
Edge Preparation	Chamfered + Honed Cutting Edge Corner-R(RE) = 0.20~0.30	Sharp Edge Corner-R(RE) = 0.20~0.30
TK-Chipbreaker	CR9025 / PR915	PR930 / KW10
Edge Preparation	Honed Cutting Edge Corner-R(RE) = 0.05	Sharp Edge Sharp Corner
Without Chipbreaker (-NB)	CR9025	PR930 / KW10

• Sharp Edge Spec. can reduce cutting resistance to 40% less than that of chamfer edge

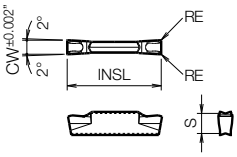
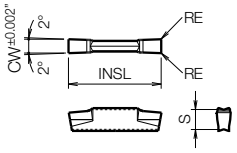
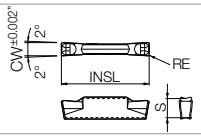
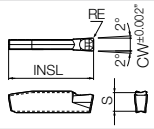
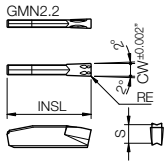
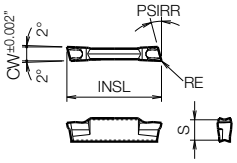
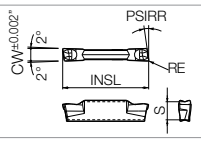
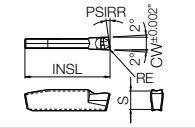
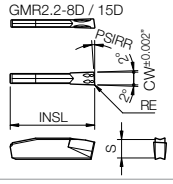
Inserts are sold in 10 piece boxes.

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

GMM / GMN / GMR/L

Classification of Usage
- ● : Light Interruption / 1st Choice
- ◷ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

		Cermet	CVD Coated Carbide	PVD Coated Carbide		Carbide
P	Carbon Steel / Alloy Steel			◷	●	
M	Stainless Steel			●	◷	
K	Cast Iron					●
N	Non-ferrous Metals					●
S	Titanium Alloy					●
H	Hard materials (≤40HRC)			○	●	
	Hard materials (≥40HRC)					

Insert (Right-handed Insert Shown)	Part Number	Dimensions (in) CW inch	CW mm	RE	INSL	S	Angle (°) PSIRR/L	Cermet TN90	CVD Coated Carbide CR9025	PVD Coated Carbide PR915	PVD Coated Carbide PR930	Carbide KW10	Ref. Page for Toolholder
 Deep Grooving / Cut-Off Sharp Cutting Oriented	GMM 1520-MT	0.059	1.5	0.000	0.787	0.169	-				●	●	G52
				0.002						●			
	2020-MT	0.079	2.0	0.000							●	●	
				0.002					●	●			G52
	2520-MT	0.098	2.5	0.000							●	●	G53
				0.002						●			
	3020-MT	0.118	3.0	0.000							●	●	
				0.002					●	●			G52-G54
 Deep Grooving / Cut-Off Sharp Cutting Oriented Without Chipbreaker	GMM 1520-NB	0.059	1.5	0.000	0.787	0.169	-				●	●	G52
				0.002									
	2020-NB	0.079	2.0	0.000							●	●	
				0.002									G52
	2520-NB	0.098	2.5	0.000							●	△	G53
				0.002									
	3020-NB	0.118	3.0	0.000								●	
				0.002									G52-G54
 Deep Grooving / Cut-Off Stability Oriented	GMM 2020-TK	0.079	2.0	0.008	0.787	0.169	-			●	●	●	G52
	2520-TK	0.098	2.5	0.008						●	●	●	G53
	3020-TK	0.118	3.0	0.010					●	●	●	●	G52-G54
 Cut-Off / Stability Oriented 1-Edge	GMN 2-TK	0.079	2.0	0.008	0.787	0.169	-			●	●	●	G52-G53
	3-TK	0.118	3.0	0.010					●	●	●	●	G52
	4-TK	0.158	4.0	0.012					●	●	●	●	G53 G54
 Deep Grooving / Cut-Off 1-Edge	GMN 2.2	0.087	2.2	0.007	0.787	0.169	-	●	●		●	●	G52-G53
	3	0.118	3.0	0.008				●	●		●	●	
	4	0.158	4.0	0.010				●			●	●	G52 G53
	5	0.197	5.0	0.031					●		●	●	G54
	6	0.236	6.0	0.031					●		●	●	G52-G53
								R L	R L	R L	R L	R L	
 Cut-Off / Sharp Cutting Oriented with Lead Angle	GMM 1520R/L-MT-15D	0.059	1.5	0.000	0.787	0.169	15°				●	●	G52
				0.002						●			
	2020R/L-MT-15D		2.0	0.000							● ●	●	
				0.002					●	●			G52
	2520R/L-MT-15D	0.098	2.5	0.000							●		G53
				0.002						●			
	3020R/L-MT-15D		3.0	0.000							● ●	●	
				0.002					●	●			G52-G54
 Cut-Off / Stability Oriented With Lead Angle	GMM 2020R/L-TK-8D	0.079	2.0	0.008	0.787	0.169	8°			●	●	●	G52
	2520R/L-TK-8D	0.098	2.5	0.008							●		G53
	3020R/L-TK-8D	0.118	3.0	0.010						●	●		G52-G54
 Cut-Off / Stability Oriented 1-Edge with Lead Angle	GMR/L 2-TK-8D	0.079	2.0	0.008	0.787	0.169	8°				●	●	G52-G53
	3-TK-8D	0.118	3.0	0.010						●	●	●	G52
	4-TK-8D	0.158	4.0	0.012						●	●	●	G53 G54
 Cut-Off Sharp Cutting Oriented 1-Edge with Lead Angle	GMR/L 2.2-8D	0.087	2.2	0.007	0.787	0.169	8°	●	●		●	● ●	G52
	2.2-15D			0.000			15°	●	●		●	●	G53
	3-4D	0.118	3.0	0.008			4°	●	● ●		●	● ●	G52
	3-15D	0.118	3.0	0.008			15°		●				G53
	4-4D	0.158	4.0	0.010			4°		● ●		●		G54

Recommended Cutting Conditions ➡ G153

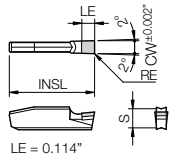
Inserts are sold in 10 piece boxes.

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

GMN

Classification of Usage
- ◉ : Light Interruption / 1st Choice
- ◷ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

P	Carbon Steel / Alloy Steel					Ref. Page for Toolholder
M	Stainless Steel					
K	Cast Iron					
N	Non-ferrous Metals			●		
S	Titanium Alloy			●		
H	Hard materials (≤40HRC)					
	Hard materials (≥40HRC)	○	●			

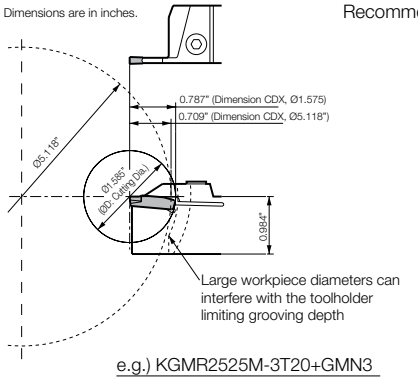
Insert	Part Number	Dimensions (in) CW inch	CW mm	RE	INSL	S	CBN KBN510	CBN KBN525	PCD KPD001	PCD KPD010	Ref. Page for Toolholder
Deep Grooving 1-Edge	GMN 2	0.079	2.0	0.008	0.787	0.169			●	●	G52-G53
 LE = 0.114"				0.016			●	●			
	3	0.118	3.0	0.008					●	●	G52
				0.016			●	●			
	4	0.158	4.0	0.008					●	●	G53
				0.016			●	●			
	5	0.197	5.0	0.008					●	●	G54
				0.016			△	△			
	6	0.236	6.0	0.008						●	G52-G53
				0.016			△	△			

Recommended Cutting Conditions ➔ G153

KGM / KGM-T Available Cutting Diameter

There is a limit to available grooving depth depending on the workpiece diameter

Dimensions are in inches.



e.g.) KGMR2525M-3T20+GMN3

KGM Available Cutting Diameter Table

Toolholders	ØD Cutting Diameter																
KGM®℠ 0810K-1.5-125	-	-	-	-	-	-	-	-	-	-	-	-	10mm	14mm	16mm	32mm	∞
1010○-1.5…	-	-	-	-	-	-	-	20mm	25mm	32mm	40mm	60mm	∞	∞	∞	∞	
1212○-1.5…	-	-	-	-	25mm	26mm	28mm	32mm	36mm	40mm	60mm	100mm					
0810K-2-125	-	-	-	-	-	-	-	-	-	-	-	-	10mm	14mm	16mm	32mm	
6-2-5								0.80"	1.00"	1.28"	1.60"	2.40"	∞	∞	∞	∞	
1010○-2…	-	-	-	-	-	-	-	20mm	25mm	32mm	40mm	60mm					
8-2-6					1.00"	1.04"	1.12"	2.00"	∞	∞	∞	∞					
1212○-2…	-	-	-	-	25mm	26mm	28mm	50mm									
1616○-2…	32mm	40mm	50mm	60mm	80mm	100mm	∞	∞									
1010○-2.5…	-	-	-	-	-	-	-	20mm	25mm	32mm	40mm	60mm					
1212○-2.5…	-	-	-	-	25mm	26mm	28mm	32mm	36mm	40mm	60mm	100mm					
1616○-2.5…	32mm	40mm	50mm	60mm	80mm	100mm	∞	∞	∞	∞	∞	∞					
1616○-3…	32mm	40mm	50mm	60mm	80mm	100mm											
Available Grooving Depth CDX (in)	0.64"	0.60"	0.56"	0.52"	0.50"	0.48"	0.44"	0.40"	0.36"	0.32"	0.28"	0.24"	0.20"	0.16"	0.12"	0.08"	0.04"
Available Grooving Depth CDX (mm)	16mm	15mm	14mm	13mm	12.5mm	12mm	11mm	10mm	9mm	8mm	7mm	6mm	5mm	4mm	3mm	2mm	1mm

KGM-T Available Cutting Diameter Table (GMN, GM®℠ When Using 1-edge Insert)

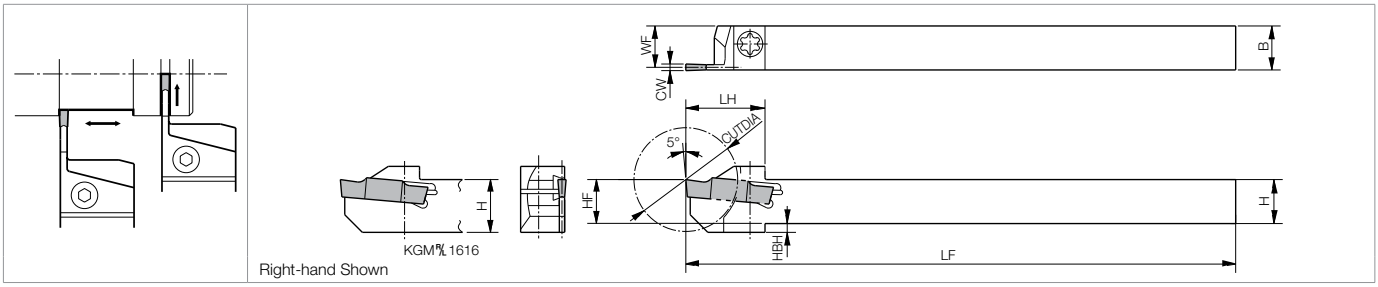
Toolholders	ØD Cutting Diameter												
KGM®℠ 2012K-2T17	-	-	-	-	-	-	-	-	66mm	80mm	130mm	260mm	∞
12-2T	-	-	-	-	-	-	-	-	2.64"	3.20"	5.20"	10.40"	
2020K-2T17	-	-	-	-	-	-	-	-	66mm	80mm	130mm	260mm	
16-2T	-	-	-	-	-	-	-	-	2.64"	3.20"	5.20"	10.40"	
2525M-2T1710	-	-	-	-	-	-	-	-	66mm	80mm	130mm	260mm	
1616H-3T20	-	-	-	-	-	40mm	54mm	70mm	100mm	180mm	∞	∞	
2012K-3T20	-	-	-	-	-	40mm	90mm	130mm	240mm	∞			
12-3T	-	-	-	-	-	1.60"	3.60"	5.20"	9.60"				
2020K-3T20	-	-	-	-	-	40mm	90mm	130mm	240mm				
16-3T	-	-	-	-	-	1.60"	3.60"	5.20"	9.60"				
2525M-3T20	-	-	-	-	-	40mm	90mm	130mm	240mm				
12-4T	-	-	-	-	-	1.60"	3.60"	5.20"	9.60"				
2020K-4T20	-	-	-	-	-	40mm	90mm	130mm	240mm				
2525M-4T20	-	-	-	-	-	40mm	90mm	130mm	240mm				
16-4T	-	-	2.00"	5.60"	9.60"	∞	∞	∞	∞				
2525M-4T25	-	-	50mm	140mm	240mm								
16-5T	-	-	2.00"	5.60"	9.60"								
2525M-5T25	-	-	50mm	140mm	240mm								
3232P-5T25	-	-	50mm	280mm	600mm								
2525M-6T30	100mm	300mm	∞	∞	∞								
Available Grooving Depth CDX (in)	1.20"	1.08"	1.00"	0.92"	0.88"	0.80"	0.76"	0.72"	0.68"	0.64"	0.60"	0.56"	<0.52"
Available Grooving Depth CDX (mm)	30mm	27mm	25mm	23mm	22mm	20mm	19mm	18mm	17mm	16mm	15mm	14mm	<13mm

CBN & PCD Inserts are sold in 1 piece boxes.

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

KGM (Small Parts) - Will be phased out and removed from catalog. Switch to KGD G28

Insert Width : 0.079"~0.118" / 1.5mm~4.0mm



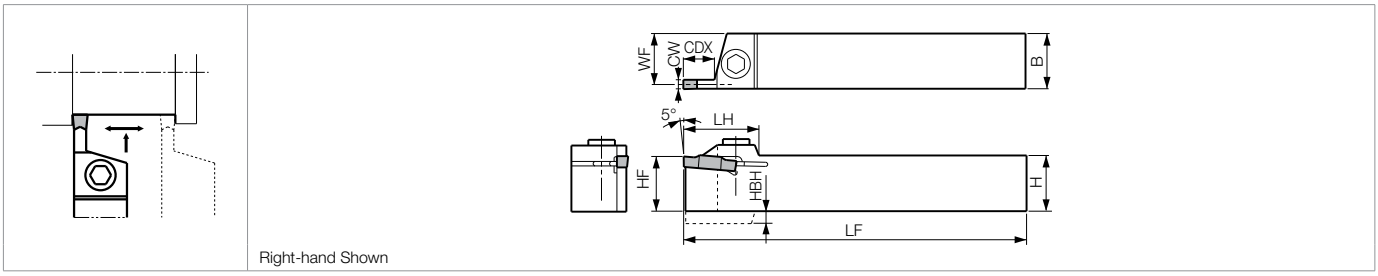
Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Cut-Off Dia. CUTDIA	Dimensions H	HF	HBH	B	LF	LH	WF	Insert Width CW MIN	MAX	Spare Parts Clamp Screw	Wrench
KGM® 6-2-5	●	●	inch	0.787	0.375	0.375	0.079	0.375	5.000	0.750	0.342	0.079	0.118	SE-40120TR	LTW-15S
8-2-6	●	●		0.984	0.500	0.500	0.051	0.500	6.000	0.830	0.467	0.079	0.118		
KGM® 1010JX-1.5	●	●	mm	18	10	10	2	10	120	18.0	9.40	1.5	2.0	SE-40120TR	LTW-15S
1212JX-1.5	●	●		23	12	12	2	12	120	20.5	11.40	1.5	2.0		
KGM® 1010JX-2	●	●		18	10	10	2	10	120	18.0	9.15	2.0	3.0	SE-40120TR	LTW-15S
1212JX-2	●	●		23	12	12	2	12	120	19.0	11.15	2.0	3.0		
1616JX-2	●	●		30	16	16	-	16	120	24.5	15.15	2.0	3.0	SE-50125TR	LTW-20
KGM® 1212JX-2.5	●	●		23	12	12	2	12	120	20.5	11.00	2.4	3.0	SE-40120TR	LTW-15S
1616JX-2.5	●	●		30	16	16	-	16	120	25.5	15.00	2.4	3.0	SE-50125TR	LTW-20
KGM® 1616JX-3	●	●		30	16	16	-	16	120	25.5	14.80	3.0	4.0	SE-50125TR	LTW-20
KGM® 1212F-1.5-85	●			23	12	12	2	12	85	19.0	11.40	1.5	2.0	SE-40120TR	LTW-15S
1212F-2-85	●	●		23	12	12	2	12	85	19.0	11.15	2.0	3.0		
1212F-2.5-85	●			23	12	12	2	12	85	19.0	11.00	2.4	3.0		

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above. Insert table **G48~G51**

KGM - Will be phased out and removed from catalog. Switch to KGD G34~G39

Insert Width : 0.118"~0.315" / 3mm~8mm



Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Dimensions H	HF	HBH	B	LF	LH	WF	CDX	Insert Width CW MIN	MAX	Spare Parts Clamp Screw	Clamp Screw	Wrench	Wrench
KGM® 12-3	●		inch	0.750	0.750	-	0.750	5.000	1.070	0.702	0.354	0.118	0.157	-	HH5X16	-	LW-4
16-3	●			1.000	1.000	-	1.000	6.000	1.070	0.953	0.354	0.118	0.157		HH5X25		
KGM® 1212H-3	●		mm	12	12	4	12	100	27	10.8	9	3.0	3.0	SB-5TR	-	LTW-20	-
1616H-3	●			16	16	4	16	100	27	14.8	9	3.0	4.0	-	HH5X16	-	LW-4
2020K-3	●	●		20	20	-	20	125	27	18.8	9	3.0	4.0				
2525M-3	●	●		25	25	-	25	150	27	23.8	9	3.0	4.0		HH5X25		
KGM® 2020K-4	●			20	20	-	20	125	27	18.3	10	4.0	5.0	-	HH5X16	-	LW-4
2525M-4	●	●		25	25	-	25	150	27	23.3	10	4.0	5.0		HH5X25		
KGM® 2020K-5	●	△		20	20	-	20	125	27	17.8	10	5.0	6.0	-	HH5X16	-	LW-4
2525M-5	●			25	25	-	25	150	27	22.8	10	5.0	6.0		HH5X25		
KGM® 2525M-8	●	●		25	25	7.5	25	150	40	22.0	25	8.0	8.0	-	HH6X25	-	LW-5

- Dimension **CDX** shows available grooving depth
- 4.0mm width insert can be installed in KGM® 1212H-3, but is not recommended due to the toolholder's rigidity

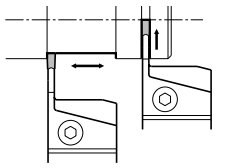
Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above.
Insert table **G48~G51**

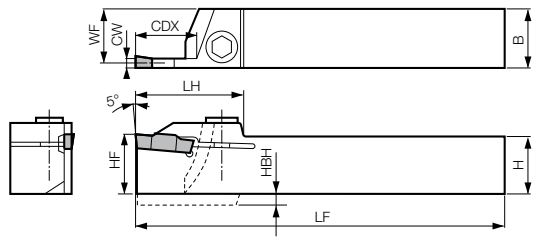
(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

KGM-T - Will be phased out and removed from catalog. Switch to KGD G34~G39

Insert Width : 0.078"~0.236" / 2.0mm~5.0mm





Right-hand Shown

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	H	HF	HBH	B	LF	LH	WF	CDX	Insert Width CW MIN	Insert Width CW MAX	Spare Parts: Clamp Screw	Spare Parts: Clamp Screw	Spare Parts: Wrench	Spare Parts: Wrench
KGM®/L 12-2T	●	●	inch	0.75	0.75	-	0.75	5.0	1.30	0.717	0.669	0.078	0.118	-	HH5X16	-	LW-4
16-2T	●			1.00	1.00	-	1.00	6.0	1.30	0.967	0.669				HH5X25		
KGM®/L 12-3T	●	●		0.75	0.75	-	0.75	5.0	1.42	0.702	0.787	0.118	0.157	-	HH5X16	-	
16-3T	●	●		1.00	1.00	-	1.00	6.0	1.42	0.953	0.787				HH5X25		
KGM®/L 12-4T	●	●		0.75	0.75	-	0.75	5.0	1.42	0.683	0.787	0.157	0.197	-	HH5X16	-	
16-4T	●	●		1.00	1.00	-	1.00	6.0	1.22	0.933	0.984				HH5X25		
KGM®/L 16-5T	●	●		1.00	1.00	-	1.00	6.0	1.22	0.913	0.984	0.197	0.236	-	HH5X25	-	-
KGM®/L 2012K-2T17		●	mm	20	20	-	12	125	33	11.15	17	2.0	3.0	SB-5TR	-	LTW-20	-
2020K-2T17	●	●		20	20	-	20	125	33	19.15	17	2.0	3.0	-	HH5X16	-	LW-4
2525M-2T17	●	●		25	25	-	25	150	33	24.15	17	2.0	3.0		HH5X25		
KGM®/L 1616H-3T20	●			16	16	4	16	100	36	14.8	20	3.0	4.0	-	HH5X16	-	LW-4
2012K-3T20		●		20	20	-	12	125	36	10.8	20	3.0	4.0	SB-5TR	-	LTW-20	-
2020K-3T20	●	●		20	20	-	20	125	36	18.8	20	3.0	4.0	-	HH5X16	-	LW-4
2525M-3T20	●	●		25	25	-	25	150	36	23.8	20	3.0	4.0		HH5X25		
KGM®/L 2020K-4T20	●			20	20	-	20	125	36	18.3	20	4.0	5.0	-	HH5X16	-	LW-4
2525M-4T20	●			25	25	-	25	150	36	23.3	20	4.0	5.0		HH5X25		
2525M-4T25	●	●		25	25	-	25	150	41	23.3	25	4.0	5.0				
KGM®/L 2525M-5T25	●	●		25	25	-	25	150	42	22.8	25	5.0	6.0	-	HH5X25	-	LW-4
3232P-5T25	●			32	32	-	32	170	42	29.8	25	5.0	6.0				
KGM®/L 2525M-6T30	●			25	25	-	25	150	45	22.4	30	6.0	6.0	-	HH5X25	-	LW-4

- Dimension **CDX** shows the distance from the toolholder to the cutting edge. Refer to table on **G51** for relationship between available grooving depth and cutting diameter
- When using GMG / GMM type 2-edge insert, set groove depth under 0.591"(15mm)

Choose insert with width that falls within **MIN** and **MAX** parameters shown in table above. Insert table **G48~G51**

Applicable Inserts

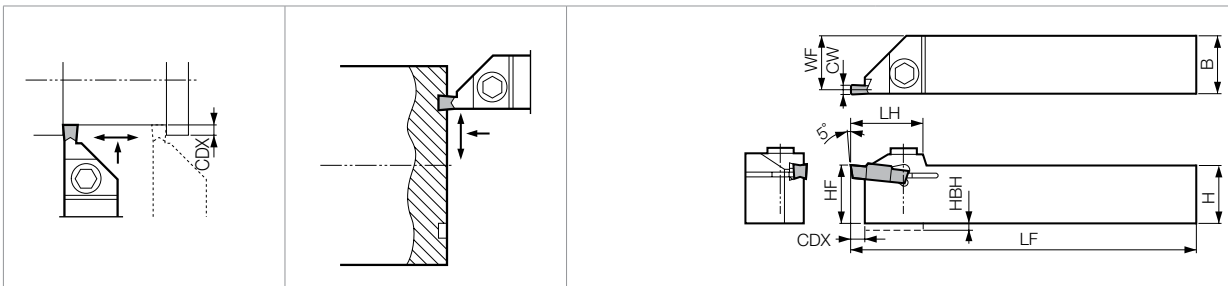
Application	Grooving / Traversing	Grooving / Traversing	Grooving	Full-R / Copying	Full-R / Copying	Deep Grooving / Cut-Off	Deep Grooving / Cut-Off	Deep Grooving / Cut-Off	Deep Grooving / Cut-Off	Deep Grooving / Cut-Off	Deep Grooving
Ref. Page	G48	G48	G48	G48	G49	G50	G50	G50	G50	G50	G51
Insert / Toolholder	MW	MS	MG			MT	NB	TK	TK		CBN • PCD
KGM®/L...1.5	-	-	-	-	-	GMM1520...MT GMM2020...MT GMM1520®/L...MT GMM2020®/L...MT	GMM1520...NB GMM2020...NB	GMM2020...TK GMM2020®/L...TK	GMN2...TK GM®/L2...TK	-	-
KGM®/L...-2- KGM®/L...-2(T)	GMM2420...MW GMM3020...MW	GMG3020...MS GMM3020...MS	GMG2520...MG GMG3020...MG	GMG3020...R GMM3020...R	-	GMM2020...MT GMM2520...MT GMM3020...MT GMM2020®/L...MT GMM2520®/L...MT GMM3020®/L...MT	GMM2020...NB GMM2520...NB GMM3020...NB	GMM2020...TK GMM2520...TK GMM3020...TK GMM2020®/L...TK GMM2520®/L...TK GMM3020®/L...TK	GMN2...TK GMN3...TK GM®/L2...TK GM®/L3...TK	GMN2.2 GMN3 GM®/L2.2 GM®/L3	GMN2 GMN3
KGM®/L...2.5	GMM2420...MW GMM3020...MW	GMG3020...MS GMM3020...MS	GMG2520...MG GMG3020...MG	GMG3020...R GMM3020...R	-	GMM2520...MT GMM3020...MT GMM2520®/L...MT GMM3020®/L...MT	GMM2520...NB GMM3020...NB	GMM2520...TK GMM3020...TK GMM2520®/L...TK GMM3020®/L...TK	GMN3...TK GM®/L3...TK	GMN3 GM®/L3	GMN3
KGM®/L...-3(T)	GMM3020...MW GMM4020...MW	GMG3020...MS GMM3020...MS GMG4020...MS GMM4020...MS	GMG3020...MG GMG3520...MG GMG4020...MG	GMG3020...R GMM3020...R GMG4020...R GMM4020...R	-	GMM3020...MT GMM3020®/L...MT	GMM3020...NB	GMM3020...TK GMM3020®/L...TK	GMN3...TK GMN4...TK GM®/L3...TK GM®/L4...TK	GMN3 GMN4 GM®/L3 GM®/L4	GMN3 GMN4
KGM®/L...-4(T)	GMM4020...MW GMM5020...MW	GMG4020...MS GMM4020...MS GMG5020...MS GMM5020...MS	GMG4020...MG GMG5020...MG	GMG4020...R GMM4020...R GMG5020...R GMM5020...R	-	-	-	-	GMN4...TK GM®/L4...TK	GMN4 GMN5 GM®/L4	GMN4 GMN5
KGM®/L...-5(T)	GMM5020...MW GMM6020...MW	GMG5020...MS GMM5020...MS GMG6020...MS GMM6020...MS	GMG5020...MG GMG6020...MG	GMG5020...R GMM5020...R GMG6020...R GMM6020...R	GMGA6020..R	-	-	-	-	GMN5 GMN6	GMN5 GMN6
KGM®/L...-6T	GMM6020..MW	GMG6020..MS GMM6020..MS	GMG6020..MG	GMG6020..R GMM6020..R	GMGA6020..R	-	-	-	-	GMN6	GMN6
KGM®/L...8	GMM8030..MW	-	GMG8030..MG	-	GMGA8030..R	-	-	-	-	-	-

- If using a full-R insert, you need to modify the insert seat tip of the toolholder.

Recommended Cutting Condtions **G153**
Recommended Cutting Condtions (CBN / PCD) **G152**

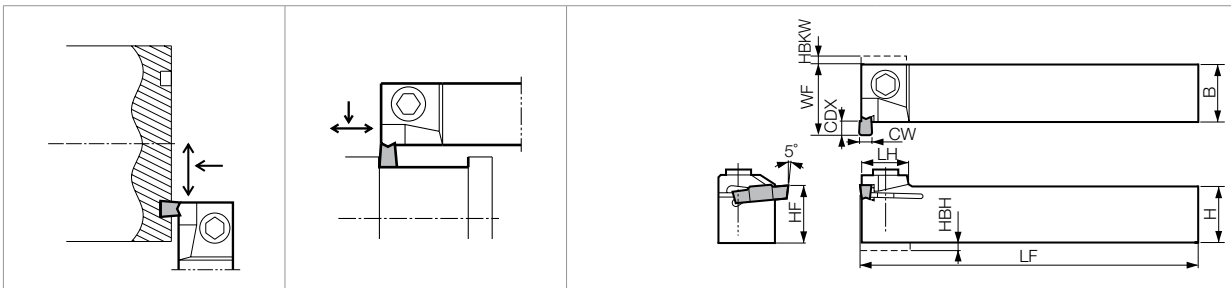
● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

KGMM



• Right-hand shown

KGMS



• Right-hand shown

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	H	HF	HBH	B	LF	LH	WF	HBKW	CDX	Insert Width CW (mm) MIN	Insert Width CW (mm) MAX	Spare Parts Screw	Spare Parts Screw	Spare Parts Wrench	Spare Parts Wrench
KGMMR 2525M-3	●		mm	25	25	-	25	150	25	23.8	-	4.8	3.0	5.0	-	HH5X25	-	LW-4
KGMSR 2525M-3	●			25	25	-	25	150	17	30	-	4.8	3.0	5.0	-	HH5X25	-	LW-4

• Dimension **CDX** shows available grooving depth. (Ref. to the table ➔ **G49** for Face Grooving and minimum cutting diameter)

Applicable Inserts [External Grooving]

Application	Grooving / Traversing	Grooving / Traversing	Grooving	Full-R / Copying	Grooving	Grooving	Grooving	Grooving	Grooving	Grooving
Ref. Page	➔ G48	➔ G48	➔ G48	➔ G48	➔ G50	➔ G50	➔ G50	➔ G50	➔ G50	➔ G51
Insert / Toolholder	MW	MS	MG		MT	NB	TK	TK		CBN • PCD
KGMMR···3 KGMSR···3	GMM3020..MW GMM4020..MW GMM5020..MW	GMG3020..MS GMM3020..MS GMG4020..MS GMM4020..MS GMG5020..MS GMM5020..MS	GMG3020..MG GMG3520..MG GMG4020..MG GMG5020..MG	GMG3020..R GMM3020..R GMG4020..R GMM4020..R GMG5020..R GMM5020..R	GMM3020..MT	GMM3020..NB	GMM3020..TK	GMN3..TK GMN4..TK	GMN3 GMN4 GMN5	GMN3 GMN4 GMN5

Applicable Inserts [Face Grooving]

Application	Grooving / Traversing	Undercutting	Grooving / Traversing	Grooving / Traversing	Grooving	Full-R / Copying	Grooving	Grooving	Grooving	Grooving
Ref. Page	➔ G49	➔ G48	➔ G48	➔ G48	➔ G48	➔ G48	➔ G50	➔ G50	➔ G50	➔ G50
Insert / Toolholder			MW	MS	MG		MT	NB	TK	
KGMMR···3 KGMSR···3	FGG%L3020.. FGG%L4020.. FGG%L5020..	GMG3020..RU GMG4020..RU GMG5020..RU	GMM3020..MW GMM4020..MW GMM5020..MW	GMG3020..MS GMM3020..MS GMG4020..MS GMM4020..MS GMG5020..MS GMM5020..MS	GMG3020..MG GMG3520..MG GMG4020..MG GMG5020..MG	GMG3020..R GMM3020..R GMG4020..R GMM4020..R GMG5020..R GMM5020..R	GMM3020..MT	GMM3020..NB	GMM3020..TK	GMN3 GMN4 GMN5 GMN3..TK GMN4..TK

Recommended Cutting Condtions ➔ **G153**
Recommended Cutting Condtions (CBN / PCD) ➔ **G152**

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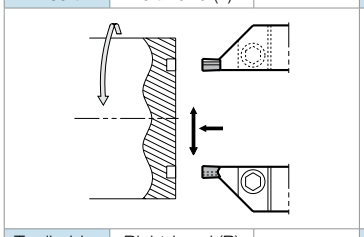
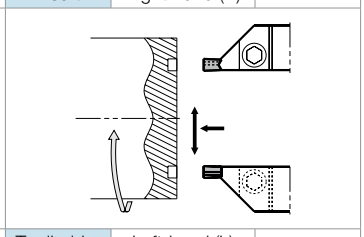
Selection of Insert & Toolholder (Face Grooving)

KGMM

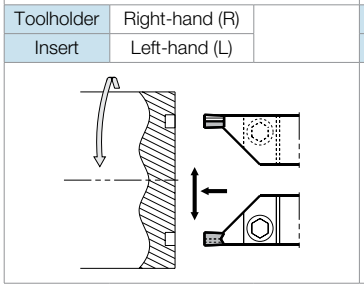
Toolholder	Left-hand (L)
Insert	Left-hand (L)



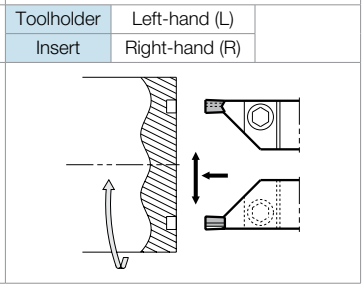
Toolholder	Right-hand (R)
Insert	Right-hand (R)



Toolholder	Right-hand (R)
Insert	Left-hand (L)

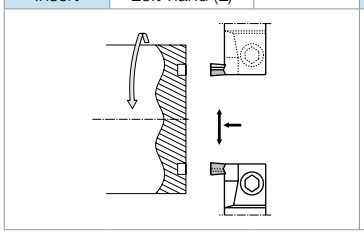


Toolholder	Left-hand (L)
Insert	Right-hand (R)

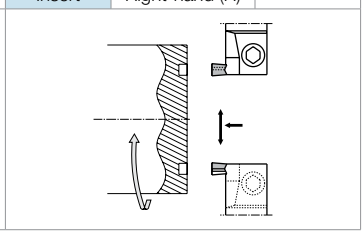


KGMS

Toolholder	Right-hand (R)
Insert	Left-hand (L)

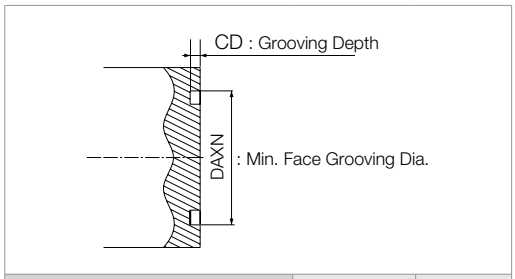


Toolholder	Left-hand (L)
Insert	Right-hand (R)



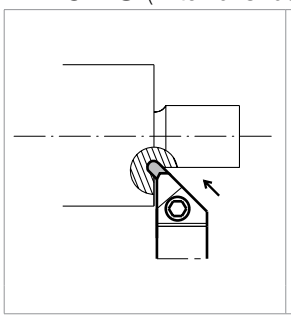
Min. Cutting Dia. & Grooving Depth (Face Grooving)

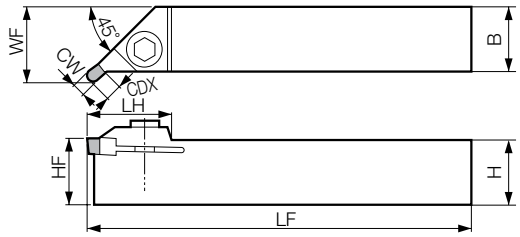
KGMM / KGMS



Part Number	DAXN	CD
GMG/GMM3020-○○□□	Ø100mm	4.8mm
GMG/GMM4020-○○□□		
GMG/GMM5020-○○□□		
FGG®3020-02	Ø22mm	4.3mm
FGG®4020-04	Ø28mm	4.8mm
FGG®5020-04	Ø30mm	
GMG3020-150RU	Ø22mm	4.3mm
GMG4020-200RU	Ø28mm	4.8mm

KGMU (External Undercutting Toolholder)





• Right-hand shown

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Dimensions H	HF	B	LF	LH	WF	CDX	Insert Width CW (mm) MIN	MAX	Spare Parts: Clamp Bolt	Spare Parts: Wrench
KGMUR 2525M	●		mm	25	25	25	150	28.5	28.6	4.8	3.0	5.0 (6.0)	HH5X25	LW-4

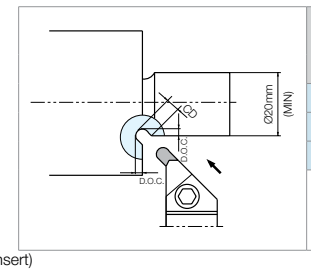
• Dimension **CDX** shows the distance from the Toolholder to the cutting edge. Ref. to the table below for the available Grooving Depth.
Dimension **WF** shows for GMM5020-RU. MAX CW in ( ) indicates external grooving inserts when installed.

Applicable Inserts

Application	Undercutting
Ref. Page	G48
Insert / Toolholder	
KGMU®2525M	GMG3020..RU GMG4020..RU

• External grooving inserts (grooving width 3mm~6mm) will be attached.
(In case of using GMG○○20-○○○□□, GMM○○20-○○○□□, GMN○ insert)

Undercut Depth t



Part Number	Undercut Depth CD (mm)	Distance from the face of the workpiece. D.O.C. (mm)
GMG3020-150RU	3.5	1.8
GMG4020-200RU	4.0	1.9
GMG5020-250RU	4.5	2.1

*In case of undercutting for the diameter over 100mm, external grooving inserts GMG○○20-○○○□□, GMM○○20-○○○□□,GMN○ are also available.

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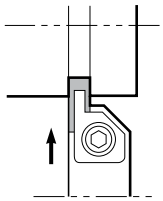
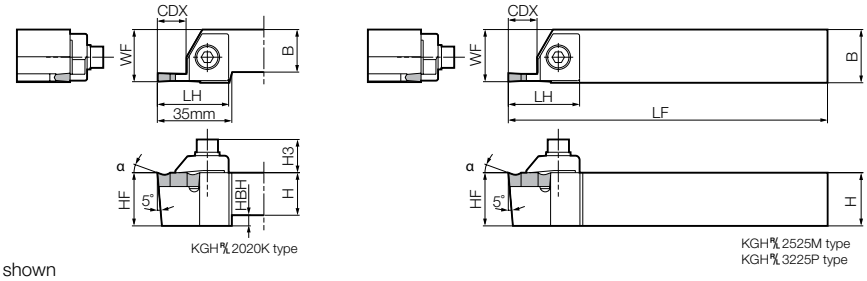
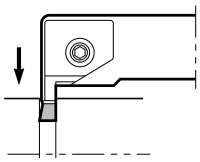
KGH

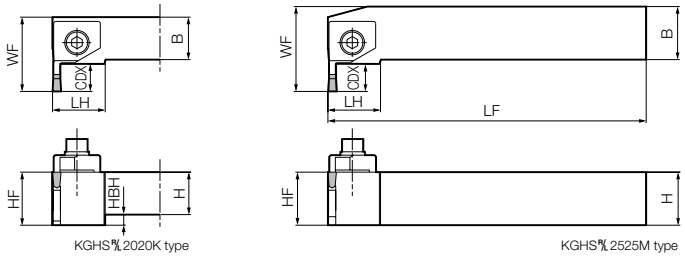




• Right-hand shown

KGHS





• Right-hand shown

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Dimensions H	HF	HBH	B	LF	LH	WF	CDX	Spare Parts Clamp	Clamp Bolt	Washer	Spring	Wrench
KGH R/L	2020K-4	●	●	mm	20	20	5	20	125	33.5	24.5-24.8	13	CGH-1 R/L	HH6X25	W-6	SP-6	LW-5
	2525M-4	●	●		25	25	-	25	150	33.5	24.5-24.8	13					
	2020K-5	●	●		20	20	5	20	125	33.5	25.0-25.8	13					
	2525M-5	●	●		25	25	-	25	150	33.5	25.0-25.8	13					
	3225P-5	●	●		32	32	-	25	170	33.5	25.0-25.8	13					
	2020K-7	●	●		20	20	5	20	125	33.5	24.5-25.0	13	CGH-2 R/L	HH6X25	W-6	SP-6	LW-5
	2525M-7	●	●		25	25	-	25	150	33.5	24.5-25.0	13					
	2525M-10	●	●		25	25	-	25	150	41.0	25.5-26.5	17	CGH-3 R/L	HH6X25	W-6	SP-6	LW-5
	3225P-10	●			32	32	-	25	170	41.0	25.5-26.5	17					
KGHS R/L	2020K-4	●	●		20	20	5	20	125	25.0	35.0	13	CGH-1 R/L	HH6X25	W-6	SP-6	LW-5
	2525M-4	●	●		25	25	-	25	150	25.0	40.0	13					
	2020K-5	●	●		20	20	5	20	125	25.0	35.0	13					
	2525M-5	●	●		25	25	-	25	150	25.0	40.0	13					

- Dimension **CDX** shows available grooving depth.
- Dimension F1 of KGH R/L Toolholder depends on the insert's edge width.
- Clamp KGH R/L ... CGH-○R for Right-hand Toolholder, and CGH-○L for Left-hand Toolholder.
  KGHS R/L ... CGH-○L for Right-hand Toolholder, and CGH-○R for Left-hand Toolholder.

Applicable Inserts ➡ **G57**

Rake Angle (α) after Installment of GH / GHU

GH-○○○○-○○		GHU○○-○○	
α (°)	Insert Grade	α (°)	Insert Grade
0°	A65, A66N, PT600M	10°	TN60 CR9025
10°	TC40		
20°	TN90, TC60 PR930 KW10		

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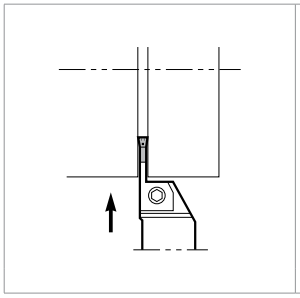
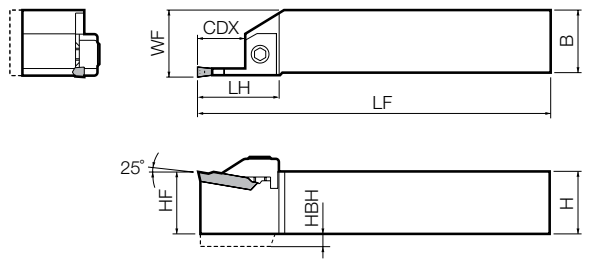
KGA





• Right-hand shown

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	H	HF	HBH	B	LF	LH	WF	CDX	Clamp	Clamp Bolt	Spring	Wrench
KGA R/L	2020K-3	●	●	mm	20	20	5	20	125	37	21.5	20	CGA-3R/L	HH6X20	SP-6	LW-5
	2525M-3	●	●		25	25	-	25	150	37	26.5	20				
	2020K-4	●			20	20	5	20	125	37	21.5	20	CGA-4R/L	HH6X20	SP-6	LW-5
	2525M-4	●			25	25	-	25	150	37	26.5	20				
	2020K-5	●			20	20	5	20	125	42	21.5	25	CGA-5R/L	HH6X20	SP-6	LW-5
	2525M-5	●			25	25	-	25	150	42	26.5	25				

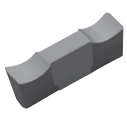
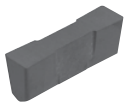
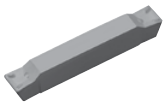
- Dimension **CDX** shows available grooving depth.
- Clamp: CGA-○R for Right-hand Toolholder, and CGA-○L for Left-hand Toolholder.

Applicable Inserts (in)

Part Number	INSL	S
GH4020-○○~GH8020-○○	0.787	0.295
GH10025-05~GH12025-05	0.984	0.295
GHU○○-○○	0.787	0.295
GA30 , GA40	0.984	0.197
GA50	1.181	0.197

P	Carbon Steel / Alloy Steel						◐				
M	Stainless Steel						◐				
K	Cast Iron							◐	○		●
N	Non-ferrous Metals							◐			
S	Titanium Alloy							◐			
H	Hard materials (≤40HRC)						●				
	Hard materials (≥40HRC)									○	●

Classification of Usage
◐ : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)	Part Number	Dimensions (in) CW	RE	Cermet TN60	TN90	TC40	TC60	CVD Coated Carbide CR9025	PVD Coated Carbide PR930	Carbide KW10	Ceramic A65	A66N	PT600M	Applicable Toolholders	Ref. Page for Toolholder
 Ground Chipbreaker	GH 4020-02	0.157	0.008			●	●		●	●				KGHR/L…4 KGHSR/L…4	G56
	4020-05		0.020			●	●		●	●	●	●	●		
	4520-02	0.177	0.008			●									
	4520-05		0.020			●									
	5020-02	0.197	0.008			●	●		●	●				KGHR/L…5 KGHSR/L…5	
	5020-05		0.020			●	●		●	●	●	●	●		
	5520-02	0.217	0.008			●									
	5520-05		0.020			●									
	6020-02	0.236	0.008			●	●		●	●					
	6020-05		0.020			●	●		●	●	●		△		
	6520-02	0.256	0.008			●									
	6520-05		0.020			●									
 Ceramic	7020-02	0.276	0.008			●	●		●	●				KGHR/L…7 KGHSR/L…7	
	7020-05		0.020			●	●		●	●	●				
	7520-02	0.295	0.008			●									
	7520-05		0.020			●									
	8020-02	0.315	0.008			●	●		●	●					
	8020-05		0.020			●	●		●	●					
	10025-05	0.394	0.020						●	●				KGHR/L…10	
	12025-05	0.472	0.020				●		●	●					
Molded Chipbreaker	GHU 40-20	0.157	0.010	●				●						KGHR/L…4 KGHSR/L…4	G56
	50-20	0.197	0.012	●				●						KGHR/L…5 KGHSR/L…5	
	60-20	0.236	0.012	●				●							
	GA 30	0.118	0.008	●				●						KGAR/L…3	G57
	40	0.157	0.010	●				●						KGAR/L…4	
	50	0.197	0.012	●				●						KGAR/L…5	

Ceramic insert is above shape.

Recommended Cutting Conditions G150

Inserts are sold in 10 piece boxes.

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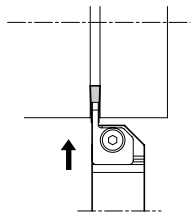
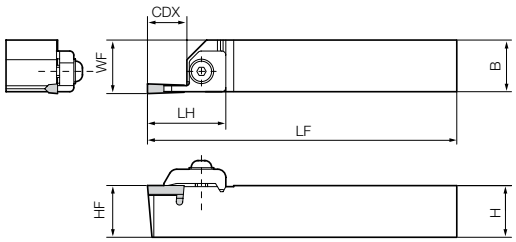
EGT





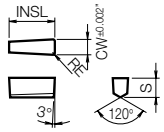
• Right-hand shown

Toolholder Dimensions

Part Number	Stock		Unit	Dimensions							Spare Parts	
											Clamp Set	Wrench
	R	L		H	HF	B	LF	LH	WF	CDX		
EGT R/L 16-1	●	□	inch	1.00	1.00	1.00	6.00	1.34	1.0085~1.0285	0.63	R: HCL-009 L: HCL-011	LW-156

• Clamp Set: ETG R/L… HCL-009 for Right-hand Toolholder, HCL-011 for Left-hand Toolholder

Applicable Inserts

Insert Right-handed Insert Shown		Part Number	Previous Part Number	Unit	Dimensions					Insert Grade	
					CW		RE	INSL	S	Ceramic	
					inch	mm				**A65**	
		**GG 157-20 T00320**	-	inch	0.157	4.0	0.020	0.591	0.197	●	
		197-32 T00320	-		0.197	5.0	0.032	0.591	0.197	●	

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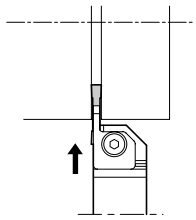
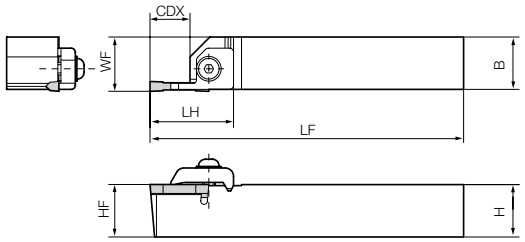
KDB





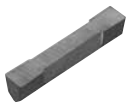
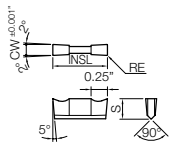
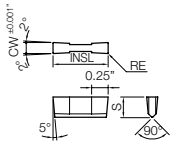
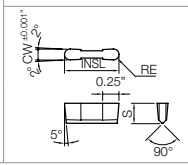
• Right-hand shown

Toolholder Dimensions

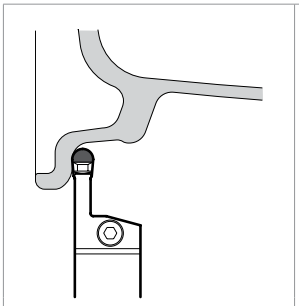
Part Number	Stock		Unit	Dimensions							Spare Parts	
											Clamp Set	Wrench
	R	L		H	HF	B	LF	LH	WF	CDX		
KDB R/L 16-1	●	□	inch	1.00	1.00	1.00	6.00	-	1.0050~1.0360	0.75	R: HCL-009 L: HCL-011	LW-156

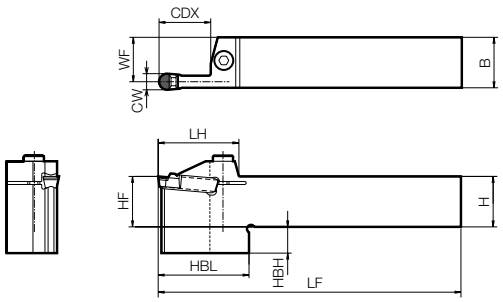
• Clamp Set: KDB R/L… HCL-009 for Right-hand Toolholder, HCL-011 for Left-hand Toolholder

Applicable Inserts

Insert		Part Number	Unit	Dimensions					Insert Grade		
				CW		RE	INSL	S	Cermet		Ceramic
				inch	mm				TN60	TC30	A65
		**DB 125R15**	inch	0.125	3.18	0.015	1.125	0.250	●		
		187R15		0.187	4.75	0.015	1.125	0.250		●	
		187R30		0.187	4.75	0.030	1.125	0.250	●	●	
		250R15		0.250	6.35	0.015	1.125	0.250	●		
		375R30		0.375	9.525	0.030	1.125	0.250	●	●	
		**DB 125R15 T00420**		0.125	3.18	0.015	1.125	0.250			●
		187R30 T00420		0.187	4.75	0.030	1.125	0.250			●
		**DB 125FNR T00420**		0.125	3.18	0.063	1.125	0.250			●
		187FNR T00420		0.187	4.75	0.094	1.125	0.250			●

KGMW (External / Facing / Copying)



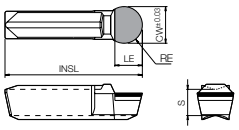
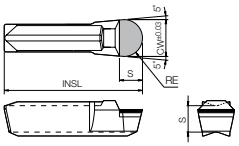


• Right-hand shown

Toolholder Dimensions

Part Number	Stock		Dimensions (mm)									Spare Parts		Applicable Inserts
												Clamp Bolt	Wrench	
	R	L	H	HF	HBH	B	LF	LH	HBL	WF	CDX			
KGMWR 2525M-6	●		25	25	13	25	150	40	55	22.8	25	HH6X25	LW-5	GMGW6030-30R

Applicable Inserts

Insert		Part Number		Dimensions (mm)						No. of Edges	PCD
				W	rε	L	H	M	S		KPD001
		**GMGW**	**6030-30R**	6	3	30	5.5	5	4.5	1	●
			8030-40R	8	4	30	5.5	6	6.0	1	●
		**GMGW**	**8030-40R-HR**	8	4	30	5.5	6	5.0	1	●

- GMGW inserts are exclusively used for KGMW type toolholder. It cannot be used for other toolholder because of its different installation angle.
- GMGW inserts Edge Preparation: R-honed Cutting Edge.

PCD Inserts are sold in 1 piece boxes.

Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grade (Vc sfm)	① f (feed) during Grooving (ipr)
	PCD	② f (feed) during Traversing (ipr)
	KPD001	③ D.O.C. during Traversing (in)
Aluminum	★ 490~8,860	① 0.0020~0.0120
		② 0.0080~0.0310
		③ MAX 0.118

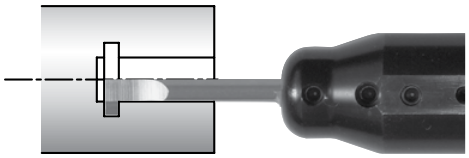
★ : 1st Recommendation

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

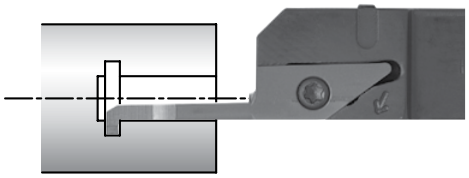
Small Diameter Internal Grooving Ø0.118"~ / (Ø3mm)~ (➡ G59~G61)

EZ Bar / Double-Sided Micro Bar / Swiss IQ Bar



Type	EZG
Min. Bore Dia.	0.118"~0.315" (3.00mm~8.00mm)
Edge Width	0.020"~0.079" (0.50mm ~ 2.00mm)
Grooving Depth	0.039"~0.079" (1.00mm ~ 2.00mm)
Ref. Page	➡ G63

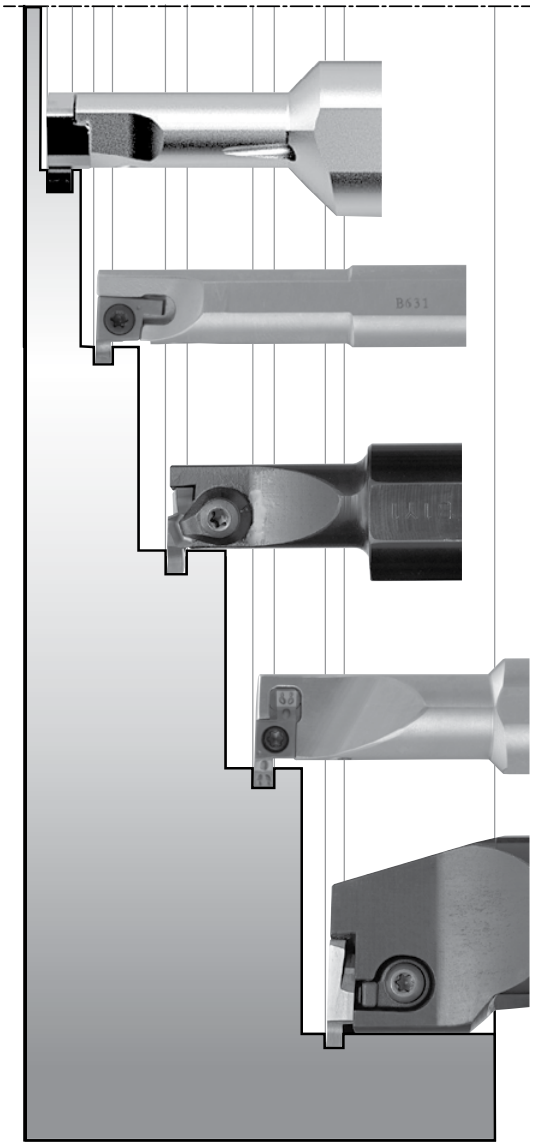
EZ Bars



Type	VNG
Min. Bore Dia.	0.158"~0.276" (4.0mm~7.0mm)
Edge Width	0.039"~0.079" (1.0mm ~ 2.0mm)
Grooving Depth	0.032"~0.079" (0.8mm ~ 2.0mm)
Ref. Page	➡ G65

Swiss IQ Bars

Internal Shallow Grooving Ø0.315"~ / (Ø8mm)~ (➡ G65~G77)



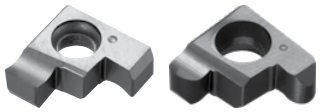
Type	SIGC
Min. Bore Dia.	8.0mm~12.00mm
Edge Width	1.0mm ~ 3.0mm
Grooving Depth	1.0mm ~ 3.0mm
Ref. Page	➡ G69

1-Edge

Ground Chipbreaker

Type	SIGE
Min. Bore Dia.	0.315"~0.375" (8.0mm~12.00mm)
Edge Width	0.039"~0.118" (1.0mm ~ 3.0mm)
Grooving Depth	0.059"~0.087" (1.5mm ~ 2.2mm)
Ref. Page	➡ G73

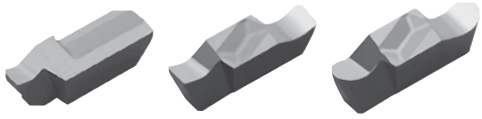
2-Edge 2-Edge



Ground Chipbreaker Ground Chipbreaker Full-R

Type	SI-GIV / GIV
Min. Bore Dia.	0.472"~0.984" (12.0mm~40.0mm)
Edge Width	0.031"~0.197" (1.0mm~5.0mm)
Grooving Depth	0.067"~0.248" (1.7mm~6.5mm)
Ref. Page	➡ G78

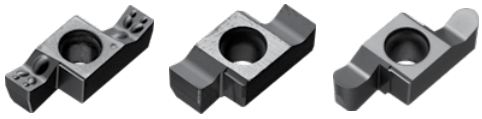
1-Edge 2-Edge 2-Edge



Ground Chipbreaker Ground Chipbreaker Ground Chipbreaker Full-R

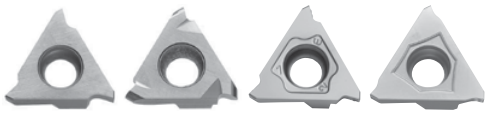
Type	SIGE
Min. Bore Dia.	0.551"~1.575" (14.0mm~40.0mm)
Edge Width	0.039"~0.197" (1.0mm~5.0mm)
Grooving Depth	0.098"~0.256" (2.5mm~6.5mm)
Ref. Page	➡ G73

2-Edge 2-Edge 2-Edge

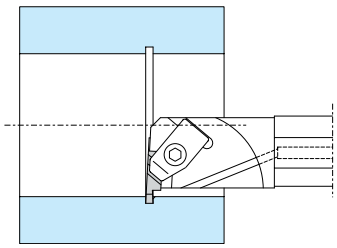


Molded Chipbreaker Ground Chipbreaker Ground Chipbreaker Full-R

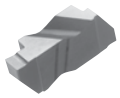
Type	KIGBA
Min. Bore Dia.	1.378"~1.575" (35.0mm~40.0mm)
Edge Width	0.013"~0.189" (0.33mm~4.8mm)
Grooving Depth	0.032"~0.110" (0.8mm~2.8mm)
Ref. Page	➡ G80



Ground Chipbreaker | Ground Chipbreaker Full-R | GM Chipbreaker | MY Chipbreaker

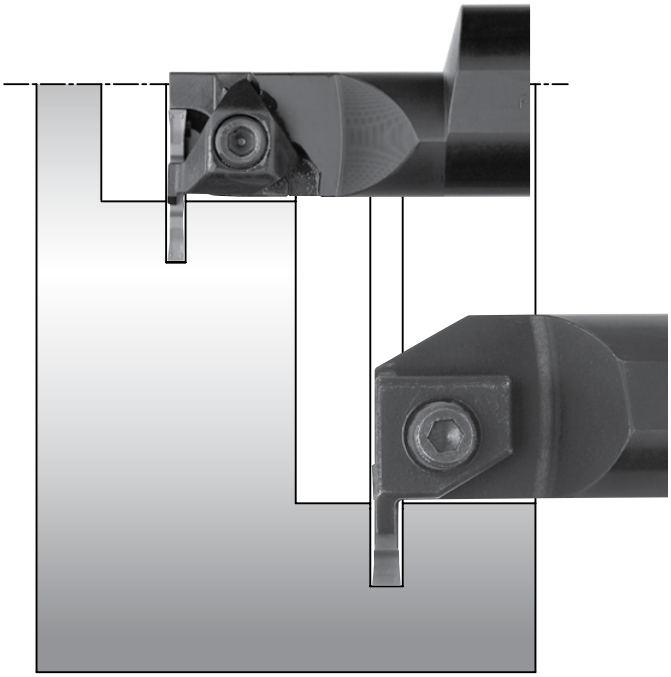


Type	A-KKC
Min. Bore Dia.	1.000"~2.750"
Edge Width	0.031"~0.189"
Grooving Depth	0.040"~0.240"
Ref. Page	➡ G91

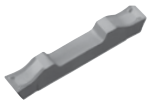


Ground Chipbreaker

Internal Deep Grooving (➔ G86, G88)

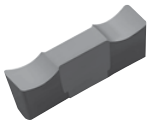


Type	KGIA
Min. Bore Dia.	1.260"~2.598" (32.0mm~66.0mm)
Edge Width	0.118"~0.197" (3.0mm ~ 5.0mm)
Grooving Depth	0.394"~0.591" (10.0mm ~ 15.0mm)
Ref. Page	➔ G88



Molded Chipbreaker

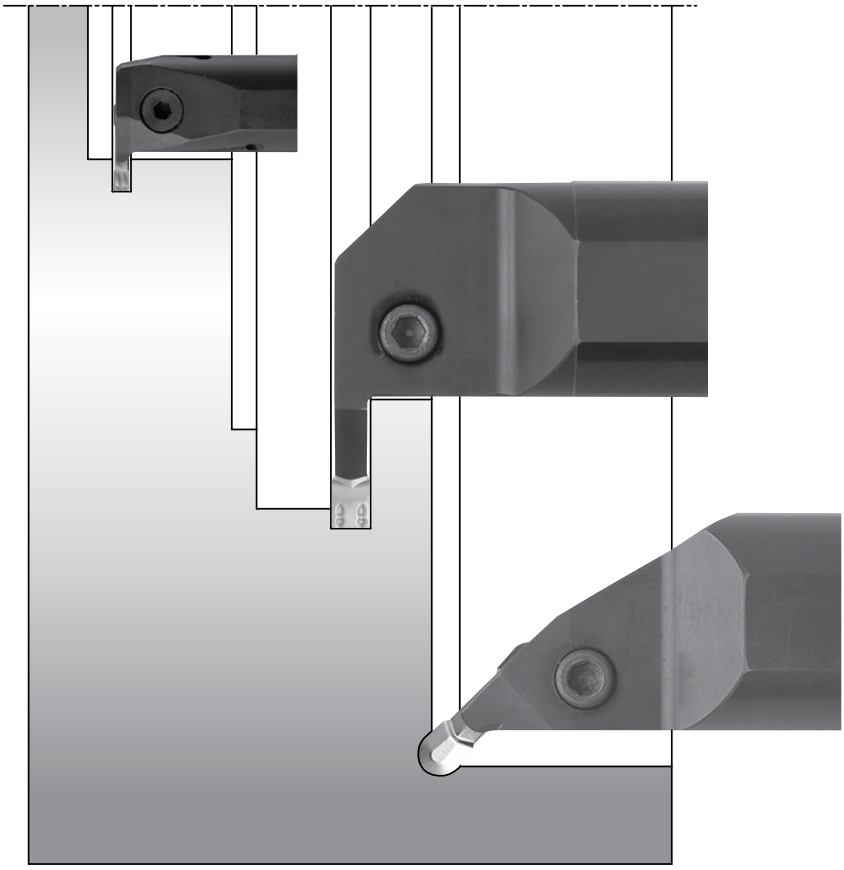
Type	KIGH
Min. Bore Dia.	1.772"~2.559" (45.0mm~65.0mm)
Edge Width	1.575"~0.315" (4.0mm~8.0mm)
Grooving Depth	0.472" (12.0mm)
Ref. Page	➔ G86



Ground Chipbreaker

Molded Chipbreaker

Internal Grooving & Traversing Ø0.787"~ (Ø20mm~) (➔ G84, G87, G89)



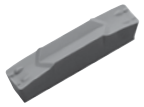
Type	KGDI
Min. Bore Dia.	0.709"~1.575" (18.0mm~40.0mm)
Edge Width	0.079"~0.197" (2.0mm~5.0mm)
Grooving Depth	0.177"~0.433" (4.5mm~11.0mm)
Ref. Page	➔ G84

Molded Chipbreaker

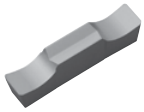
Type	KIGM-V
Min. Bore Dia.	0.787"~1.575" (20.0mm~40.0mm)
Edge Width	0.118"~0.197" (3.0mm~5.0mm)
Grooving Depth	0.217"~0.433" (5.5mm~11.0mm)
Ref. Page	➔ G89

Molded Chipbreaker Full-R

Type	KIGM-8
Min. Bore Dia.	2.559" (65.0mm)
Edge Width	0.315" (8.0mm)
Grooving Depth	0.787" (20mm)
Ref. Page	➔ G87

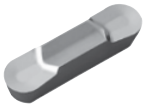


Molded Chipbreaker



Ground Chipbreaker

Type	KIGMU-8
Min. Bore Dia.	2.559" (65.0mm)
Edge Width	0.315" (8.0mm)
Grooving Depth	0.087" (2.2mm)
Ref. Page	➔ G87



Molded Chipbreaker Full-R

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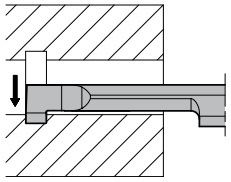
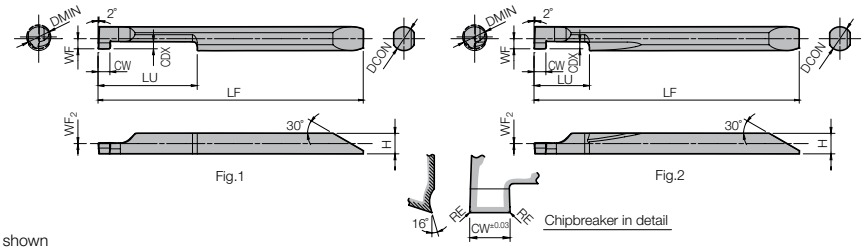
EZG (Small Diameter Internal Grooving)





• Right-hand shown

Micro Bar Dimensions

Part Number		Min. Bore Dia. DMIN	Dimensions (mm) CW±0.03*	RE	DCON	H	LF	LU	WF	WF2	CDX	Drawing	MEGACOAT PR1225 R	MEGACOAT PR1225 L	Carbide GW05 R	Applicable Sleeves F33~F37
EZG右	040040-050	4	0.5	±0.013 0.05	4	3.45	44.7	12	1.70	0	1.0	Fig.2	●	●	●	EZH040..
	040040-100	4	1.0		4	3.45	44.7	12	1.70	0	1.0		●	●	●	
	040040-150	4	1.5		4	3.45	44.7	12	1.70	0	1.0		●	●	●	
	040040-200	4	2.0		4	3.45	44.7	12	1.70	0	1.0		●	●	●	
	050050-100	5	1.0		5	4.30	52.8	20	2.15	0	1.5	Fig.1	●	●	●	EZH050..
	050050-150	5	1.5		5	4.30	52.8	20	2.15	0	1.5		●	●	●	
	050050-200	5	2.0		5	4.30	52.8	20	2.15	0	1.5		●	●	●	
	060060-100	6	1.0		6	5.15	60.7	20	2.65	0	2.0	Fig.1	●	●	●	EZH060..
	060060-150	6	1.5		6	5.15	60.7	20	2.65	0	2.0		●	●	●	
	060060-200	6	2.0		6	5.15	60.7	20	2.65	0	2.0		●	●	●	
	070070-100	7	1.0		7	6.20	63.7	25	3.05	0	2.0	Fig.1	●	●	●	EZH070..
	070070-150	7	1.5		7	6.20	63.7	25	3.05	0	2.0		●	●	●	
	070070-200	7	2.0		7	6.20	63.7	25	3.05	0	2.0		●	●	●	
	080070-100	8	1.0		7	6.20	63.7	25	3.45	0	2.0		●	●	●	
	080070-150	8	1.5		7	6.20	63.7	25	3.45	0	2.0		●	●	●	
	080070-200	8	2.0		7	6.20	63.7	25	3.45	0	2.0		●	●	●	
EZGR	030030-050S	3	0.5	±0.013 0.05	3	2.50	38.7	5	1.25	0	0.8	Fig.2	●			EZH030..
	030030-100S	3	1.0		3	2.50	38.7	5	1.25	0	0.8		●			
	040040-050S	4	0.5		4	3.45	44.7	8	1.70	0	1.0	Fig.2	●			EZH040..
	040040-100S	4	1.0		4	3.45	44.7	8	1.70	0	1.0		●			
	040040-150S	4	1.5		4	3.45	44.7	8	1.70	0	1.0		●			
	040040-200S	4	2.0		4	3.45	44.7	8	1.70	0	1.0		●			
	050050-100S	5	1.0		5	4.30	52.8	10	2.15	0	1.5	Fig.2	●			EZH050..
	050050-150S	5	1.5		5	4.30	52.8	10	2.15	0	1.5		●			
	050050-200S	5	2.0		5	4.30	52.8	10	2.15	0	1.5		●			
	060060-100S	6	1.0		6	5.15	60.7	10	2.65	0	2.0	Fig.2	●			EZH060..
	060060-150S	6	1.5		6	5.15	60.7	10	2.65	0	2.0		●			
	060060-200S	6	2.0		6	5.15	60.7	10	2.65	0	2.0		●			
	070070-100S	7	1.0		7	6.20	63.7	10	3.05	0	2.0	Fig.2	●			EZH070..
	070070-150S	7	1.5		7	6.20	63.7	10	3.05	0	2.0		●			
	070070-200S	7	2.0		7	6.20	63.7	10	3.05	0	2.0		●			
	080070-100S	8	1.0		7	6.20	63.7	10	3.45	0	2.0		●			
	080070-150S	8	1.5		7	6.20	63.7	10	3.45	0	2.0		●			
	080070-200S	8	2.0		7	6.20	63.7	10	3.45	0	2.0		●			

- Dimension **CDX** shows available grooving depth
- "S" in part number represents short length

EZ Bar Identification System

EZ G R 030 030 – 050 S

EZ Symbol of Bar	Application	Hand of Tool	Min. Bore Dia.	Shank Dia.	Groove Width	Type
	G: Internal Grooving	R: Right-hand L: Left-hand	030 : 3mm 040 : 4mm ⋮	030 : 3mm 040 : 4mm ⋮	050 : 0.5mm 100 : 1.0mm ⋮	S: Short Length (LU dimension)

Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grade (Vc sfm) MEGACOAT PR1225	Carbide GW05	EZGR030030-...S	EZGR040040-...(S) EZGR050050-...(S)	EZGR060060-...(S) EZGR070070-...(S) EZGR080070-...(S)	Notes
			Feed Rate (ipr)			
Carbon Steel / Alloy Steel	★ 100~330	-	~0.0008	~0.0012	~0.0020	Wet
Stainless Steel	★ 100~260	-	~0.0004	~0.0008	~0.0012	
Non-Ferrous	-	★ ~980	-	~0.0020	~0.0031	

EZ Bars are sold in 1 piece boxes.

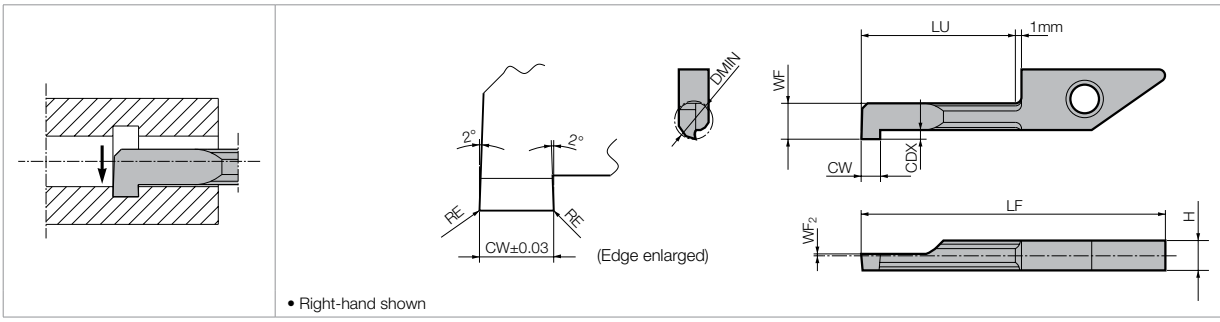
★ : 1st Recommendation

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Sleeve Part Number				Applicable Intenal Grooving Bar		Applicable Machine Manufacturer
EZH-CT (Adjustable Overhang Length / with Coolant Hole) F32-F33	EZH-HP (Adjustable Overhang Length) F34-F35	EZH-ST F36-F37	Sleeve Shank Dia. DCON (mm)	EZG	EZ Bar Shank Dia. DCON (mm)	
-	-	EZH 03012ST-80	12.00	EZG_ 030030-...	3	(General purpose)
		04012ST-80		EZG_ 040040-...	4	
		05012ST-80		EZG_ 050050-...	5	
		06012ST-80		EZG_ 060060-...	6	
		07012ST-80		EZG_ 070070-...	7	
				EZG_ 080070-...	8	
-	EZH 03016HP-100	EZH 03016ST-100	16.00	EZG_ 030030-...	3	(General purpose)
	04016HP-100	04016ST-100		EZG_ 040040-...	4	
	05016HP-100	05016ST-100		EZG_ 050050-...	5	
	06016HP-100	06016ST-100		EZG_ 060060-...	6	
	07016HP-100	07016ST-100		EZG_ 070070-...	7	
				EZG_ 080070-...	8	
EZH 03019CT-120	EZH 03019HP-120	EZH 03019ST-120	0.750"	EZG_ 030030-...	3	Citizen Machinery
04019CT-120	04019HP-120	04019ST-120		EZG_ 040040-...	4	
05019CT-120	05019HP-120	05019ST-120		EZG_ 050050-...	5	
06019CT-120	06019HP-120	06019ST-120		EZG_ 060060-...	6	
07019CT-120	07019HP-120	07019ST-120		EZG_ 070070-...	7	
				EZG_ 080070-...	8	
EZH 03020CT-120	EZH 03020HP-120	EZH 03020ST-120	20.00	EZG_ 030030-...	3	Amada Machine Tools Eguro Tsugami Citizen Machinery (General purpose)
04020CT-120	04020HP-120	04020ST-120		EZG_ 040040-...	4	
05020CT-120	05020HP-120	05020ST-120		EZG_ 050050-...	5	
06020CT-120	06020HP-120	06020ST-120		EZG_ 060060-...	6	
07020CT-120	07020HP-120	07020ST-120		EZG_ 070070-...	7	
				EZG_ 080070-...	8	
EZH 03022CT-135	EZH 03022HP-135	EZH 03022ST-135	22.00	EZG_ 030030-...	3	Star Micronics Nomura DS Tsugami
04022CT-135	04022HP-135	04022ST-135		EZG_ 040040-...	4	
05022CT-135	05022HP-135	05022ST-135		EZG_ 050050-...	5	
06022CT-135	06022HP-135	06022ST-135		EZG_ 060060-...	6	
07022CT-135	07022HP-135	07022ST-135		EZG_ 070070-...	7	
				EZG_ 080070-...	8	
EZH 03025.0CT-135	EZH 03025.0HP-135	EZH 03025.0ST-135	25.00	EZG_ 030030-...	3	Amada Machine Tools Eguro Tsugami Citizen Machinery (General purpose)
04025.0CT-135	04025.0HP-135	04025.0ST-135		EZG_ 040040-...	4	
05025.0CT-135	05025.0HP-135	05025.0ST-135		EZG_ 050050-...	5	
06025.0CT-135	06025.0HP-135	06025.0ST-135		EZG_ 060060-...	6	
07025.0CT-135	07025.0HP-135	07025.0ST-135		EZG_ 070070-...	7	
				EZG_ 080070-...	8	
EZH 03025.4CT-120	EZH 03025.4HP-120	EZH 03025.4ST-120	1.000"	EZG_ 030030-...	3	Citizen Machinery
04025.4CT-120	04025.4HP-120	04025.4ST-120		EZG_ 040040-...	4	
05025.4CT-120	05025.4HP-120	05025.4ST-120		EZG_ 050050-...	5	
06025.4CT-120	06025.4HP-120	06025.4ST-120		EZG_ 060060-...	6	
07025.4CT-120	07025.4HP-120	07025.4ST-120		EZG_ 070070-...	7	
				EZG_ 080070-...	8	

- Choose sleeves' (DCON) that match with DCON dimension of Internal Grooving Bars.
- Adjustment Pin cannot be installed to EZH-ST Sleeves. To adjust overhang of the bar, please use EZH-CT/HP Sleeves.
- Machine manufacturers in random order.

VNG



• Right-hand shown

Dimensions

Classification of Usage
● : Light Interruption / 1st Choice
◐ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

		MEGA COAT PR1225	PVD PR930	Carbide KW10	PCD KPD001	PCD KPD010
P	Carbon Steel / Alloy Steel	●	○			
M	Stainless Steel	●	○			
K	Cast Iron			●		
N	Non-ferrous Metals				●	
S	Titanium Alloy				●	
H	Hard materials (≤40HRC)	○	○			
	Hard materials (≥40HRC)					

Part Number		Min. Bore Dia. DMIN	CW inch	CW mm	RE	H	LF	LU	WF	WF_2	CDX	MEGA COAT PR1225	PVD PR930	Carbide KW10	PCD KPD001	PCD KPD010	Ref. Page for Toolholder
VNGR	0410-11	4	0.039	1.0	0.05	3.9	30.8	11	0.1	3.5	0.8	●	●	●			
	0420-11	4	0.079	2.0	0.05	3.9	30.8	11	0.1	3.5	0.8	●	●	●			
	0510-11	5	0.039	1.0	0.05	3.9	30.8	11	0.1	4.4	1.0	●	●	●			
	0520-11	5	0.079	2.0	0.05	3.9	30.8	11	0.1	4.4	1.0	●	●	●			
	0610-20	6	0.039	1.0	0.05	3.9	39.8	20	0.3	5.2	1.8	●	●	●			
	0620-20	6	0.079	2.0	0.05	3.9	39.8	20	0.3	5.2	1.8	●	●	●			
	0710-20	7	0.039	1.0	0.05	3.9	39.8	20	0.3	6.2	2.0	●	●	●			
	0720-20	7	0.079	2.0	0.05	3.9	39.8	20	0.3	6.2	2.0	●	●	●			F40 F41
VNGR	0410-11NB	4	0.039	1.0	0.05	3.9	30.8	11	0.1	3.5	0.8				□		
	0420-11NB	4	0.079	2.0	0.05	3.9	30.8	11	0.1	3.5	0.8				□		
	0510-11NB	5	0.039	1.0	0.05	3.9	30.8	11	0.1	4.4	1.0				□		
	0520-11NB	5	0.079	2.0	0.05	3.9	30.8	11	0.1	4.4	1.0				□		
	0610-20NB	6	0.039	1.0	0.05	3.9	39.8	20	0.3	5.2	1.8				□	□	
	0620-20NB	6	0.079	2.0	0.05	3.9	39.8	20	0.3	5.2	1.8				□	□	
	0710-20NB	7	0.039	1.0	0.05	3.9	39.8	20	0.3	6.2	2.0				□	□	
	0720-20NB	7	0.079	2.0	0.05	3.9	39.8	20	0.3	6.2	2.0				□		

- Dimension **CDX** shows available grooving depth
- Dimension **WF_2** indicates the cutting edge is above the tool's center position

Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grade (Vc sfm) MEGACOAT PR1225	PVD PR930	Carbide KW10	VNG04 VNG05 Feed Rate (ipr)	VNG06 VNG07 Feed Rate (ipr)	Notes
Carbon Steel / Alloy Steel	★ 100~325	☆ 100~325	-	~0.0012	~0.0020	Wet
Stainless Steel	★ 100~250	☆ 100~250	-	~0.0008	~0.0012	Wet
Non-ferrous Metals	-	-	★ ~975	~0.0020	~0.0031	Wet

★ : 1st Recommendation ☆ : 2nd Recommendation

Swiss IQ Bars are sold in 5 piece boxes. *CBN & PCD Inserts are sold in 1 piece boxes.*

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

SIGC

Small Internal Grooving Series

New Clamping System Ensures a Firm Insert Hold for High-Precision Machining

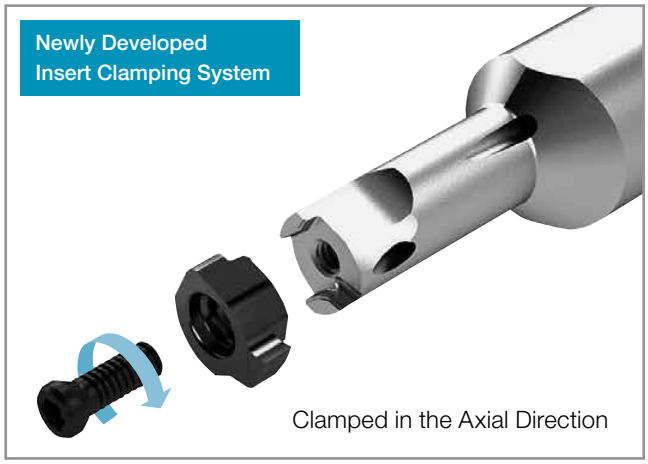
Excellent Chip Evacuation with Double Coolant Holes

Optimized Flute Shape with a ø8mm Minimum Bore Diameter

1 Firm Insert Clamping System for High-Precision Machining

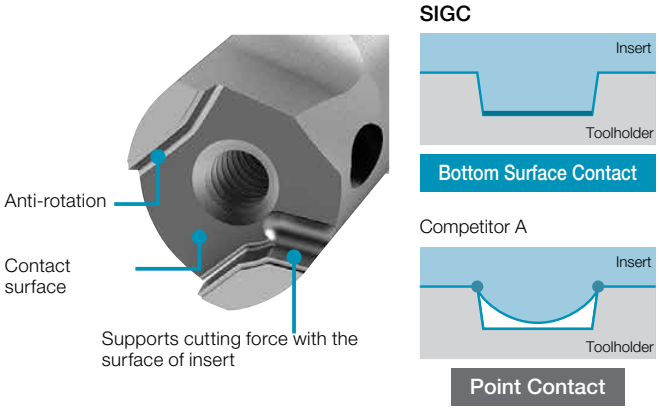
High strength clamping action by pulling the bottom surface of the insert in axial direction

Stable machining is achieved by ensuring a firm clamp on the insert



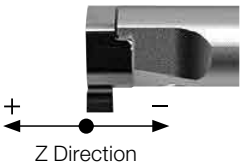
Clamping Part

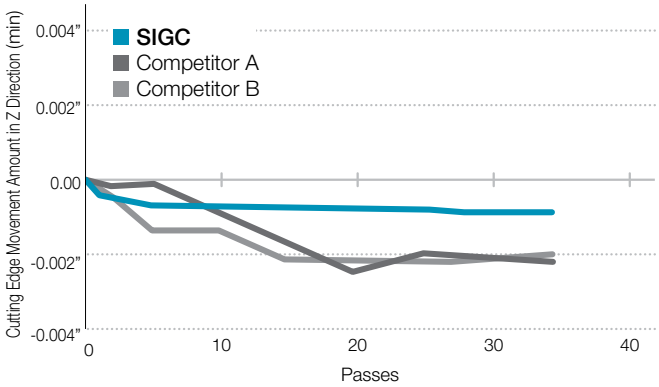
Large contact surface improves chip stability



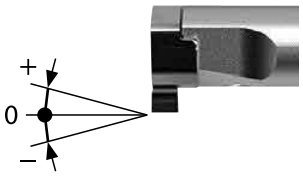
Cutting Edge Stability Position Comparison (Internal evaluation)

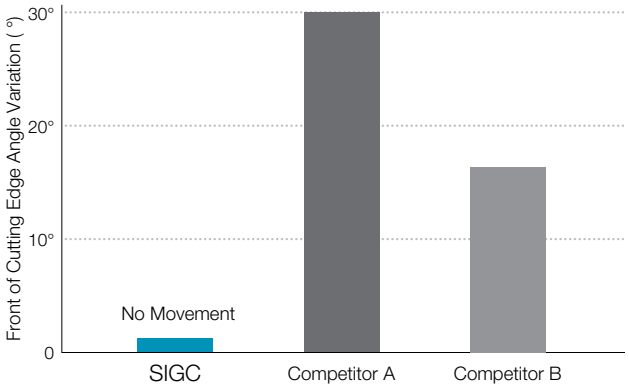
Cutting Edge Movement Amount in Z Direction (in.)





Front of Cutting Edge Angle Variation (°)





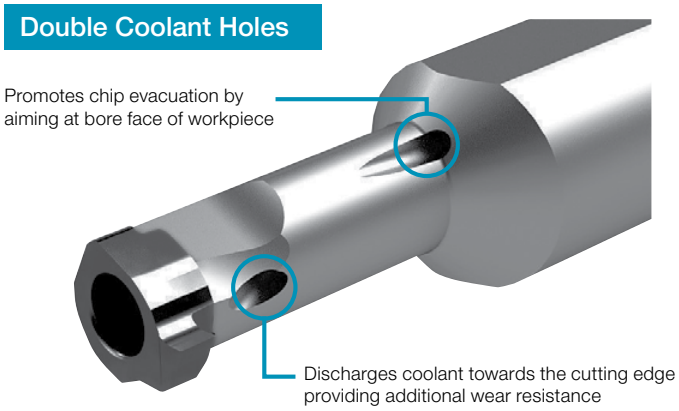
Cutting Conditions : Vc = 160 sfm, D.O.C. = 0.008", f = 0.002 ipr, Wet Workpiece: 4137 External Turning

SIGC ensures high precision machining by preventing cutting edge position movement

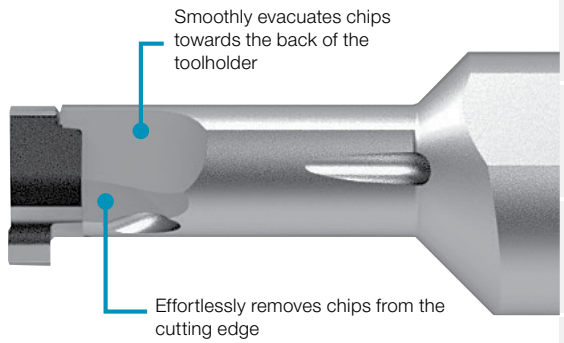
2 Firm Insert Clamping System for High-Precision Machining

Excellent chip evacuation with double coolant holes and optimized flute shape

Double Coolant Holes



Flute Shape

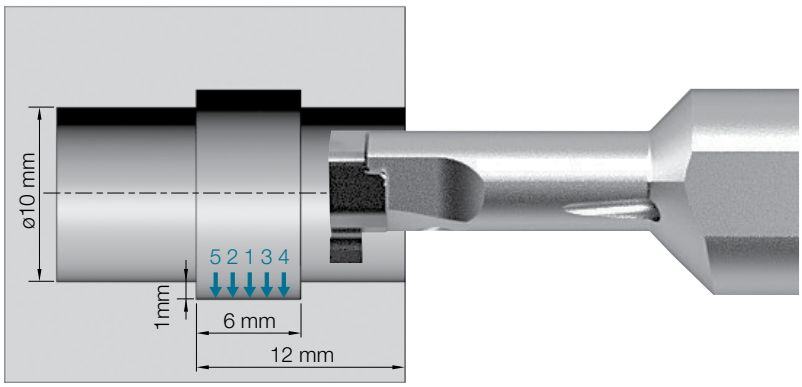


Provides better solutions for chip evacuation in small internal grooving applications

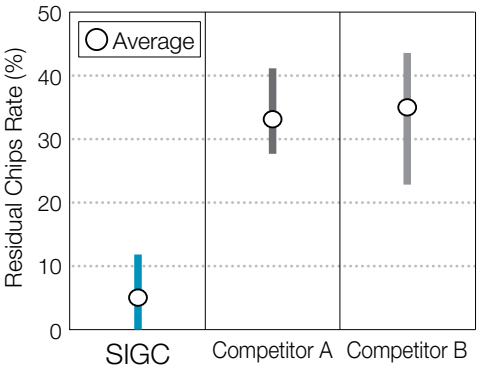
Prevents chip crunching

Chip Evacuation Comparison (Internal evaluation)

Cutting Conditions : Vc = 164 sfm, D.O.C. = 0.039" (Shouldering), f = 0.001 ipr, Wet (Internal Coolant), Workpiece : SCM415 (JIS), With Edge Width 0.079"

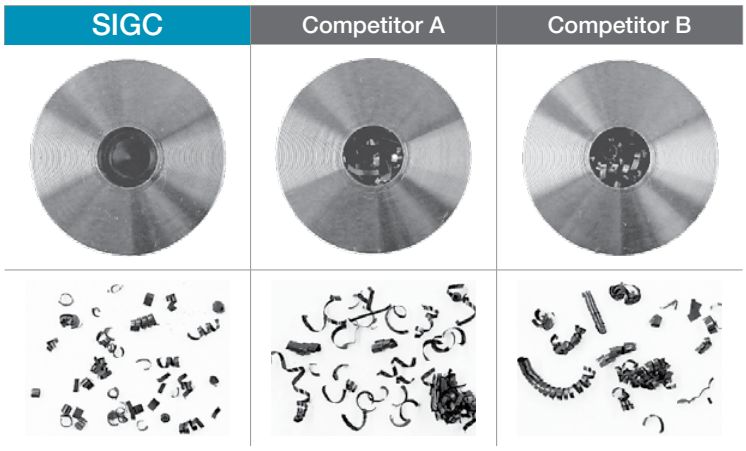


Residual Chips Rate (%)



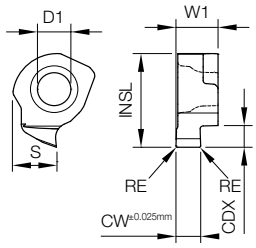
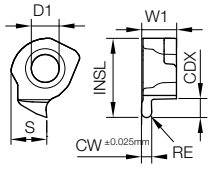
$$\text{Residual Chips Rate (\%)} = \frac{\text{Weight of remaining chip in the hole (g)}}{\text{Weight of chips removed (g)}} \times 100$$

Chip Evacuation Comparison



No Remaining Chips
Good Chip Evacuation

Applicable Inserts

Insert (Right-handed Insert Shown)	Part Number	CW	CDX	RE	W1	INSL	S	D1	MEGACOAT NANO PLUS PR1725 R	MEGACOAT NANO PLUS PR1725 L	MEGACOAT NANO PR1535 R	MEGACOAT NANO PR1535 L	Applicable Toolholders
	GC08R/L 100-005	1.00	1.5	0.05	3.4	7.7	3.5	2.7	●	●	●	●	SIGCR/L0812-EH SIGCR/L0806-WH
	120-005	1.20							●	●	●	●	
	125-005	1.25							●	●	●	●	
	150-010	1.50		0.1					●	●	●	●	
	200-010	2.00							●	●	●	●	
	GC10R/L 100-005	1.00	2.2	0.05	4.7	9.6	4.4	3.5	●	●	●	●	SIGCR/L1016-EH SIGCR/L1008-WH-L85 SIGCR1008-WH-L100
	120-005	1.20							●	●	●	●	
	125-005	1.25							●	●	●	●	
	145-010	1.45		0.1					●	●	●	●	
	150-010	1.50							●	●	●	●	
	200-010	2.00							●	●	●	●	
	250-020	2.50		0.2					●	●	●	●	
	300-020	3.00							●	●	●	●	
	GC12R/L 100-005	1.00	2.2	0.05	4.7	11.6	5.4	3.5	●	●	●	●	SIGCR/L1216-EH SIGCR1210-WH-L95 SIGCR/L1210-WH-L110
	120-005	1.20							●	●	●	●	
	125-005	1.25							●	●	●	●	
	145-010	1.45		0.1					●	●	●	●	
	150-010	1.50							●	●	●	●	
	200-010	2.00							●	●	●	●	
	250-020	2.50		0.2					●	●	●	●	
	300-020	3.00							●	●	●	●	
NEW  Full Radius	GC08R 100-050R	1.00	1.5	0.5	3.4	7.7	3.5	2.7	●		●		SIGCR0812-EH SIGCR0806-WH
	200-100R	2.00		1.0					●		●		
	GC10R 100-050R	1.00	2.2	0.5	4.7	9.6	4.4	3.5	●		●		SIGCR1016-EH SIGCR1008-WH-L85 SIGCR1008-WH-L100
	200-100R	2.00		1.0					●		●		
	GC12R 100-050R	1.00	2.2	0.5	4.7	11.6	5.4	3.5	●		●		SIGCR1216-EH SIGCR1210-WH-L95 SIGCR1210-WH-L110
	200-100R	2.00		1.0					●		●		

- Dimension **CDX** shows available grooving depth.

Inserts are sold in 5 piece boxes.

Recommended Cutting Conditions

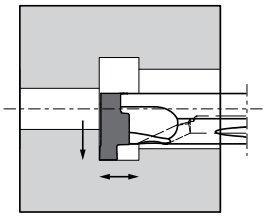
Workpiece	Recommended Insert Grade (Vc : sfm) MEGACOAT NANO PLUS PR1725	MEGACOAT NANO PR1535	(1) Feed Rate for Grooving (ipr) / (2) Feed Rate for Traversing (ipr) / (3) D.O.C. for Traversing (in) GC08R/L...	GC10R/L, GC12R/L 100 ~ 200...	GC10R/L, GC12R/L 250 ~ 300...	Notes
Carbon Steel	★ 160 - 260	☆ 160 - 260	(1) 0.0004 ~ 0.0012	(1) 0.0008 ~ 0.0016	(1) 0.0008 ~ 0.0016	Coolant
			(2) 0.0004 ~ 0.0012	(2) 0.0008 ~ 0.0016	(2) 0.0008 ~ 0.0016	
			(3) Max. 0.0020	(3) Max. 0.0020	(3) Max. 0.0039	
Alloy Steel	★ 160 - 260	☆ 160 - 260	(1) 0.0004 ~ 0.0012	(1) 0.0008 ~ 0.0016	(1) 0.0008 ~ 0.0016	
			(2) 0.0004 ~ 0.0012	(2) 0.0008 ~ 0.0016	(2) 0.0008 ~ 0.0016	
			(3) Max. 0.0020	(3) Max. 0.0020	(3) Max. 0.0039	
Stainless Steel	☆ 160 - 260	★ 160 - 260	(1) 0.0004 ~ 0.0012	(1) 0.0004 ~ 0.0012	(1) 0.0004 ~ 0.0012	
			(2) 0.0004 ~ 0.0012	(2) 0.0004 ~ 0.0012	(2) 0.0004 ~ 0.0012	
			(3) Max. 0.0020	(3) Max. 0.0020	(3) Max. 0.0039	

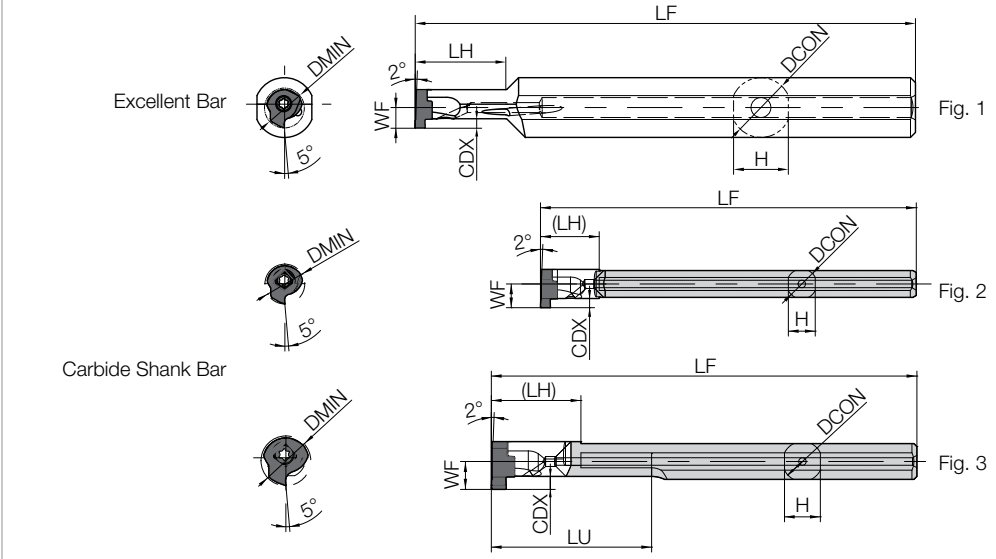
★ : 1st Recommendation ☆ : 2nd Recommendation

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

SIGC Bar (With Coolant Hole)





• Right-hand shown

Right-Hand Insert for Right-Hand Toolholder, Left-Hand Insert for Left-Hand Toolholder

Toolholder Dimensions

Part Number	Stock R	Stock L	Min. Bore Dia. DMIN	DCON	H	LF	LU	LH	WF	CDX	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts (G68)
SIGC R/L 0812-EH	●	●	8	12	11	100	-	18	4.1	1.5	Fig.1	SB-2270T R/L	FT-7	GC08 R/L 100-005 ~ GC08 R/L 200-010
SIGC R/L 1016-EH	●	●	10	16	15	100	-	21	5.0	2.2	Fig.1	SB-3070T R/L	FT-8	GC10 R/L 100-005 ~ GC10 R/L 300-020
SIGC R/L 1216-EH	●	●	12	16	15	110	-	25	6.0	2.2	Fig.1	SB-3070T R/L	FT-8	GC12 R/L 100-005 ~ GC12 R/L 300-020
SIGC R/L 0806-WH	●	●	8	6	5.4	75	-	12	4.8	1.5	Fig.2	SB-2270T R/L	FT-7	GC08 R/L 100-005 ~ GC08 R/L 200-010
SIGC R/L 1008-WH-L85	●	●	10	8	7.2	85	32	18	5.6	2.2	Fig.3	SB-3070T R/L	FT-8	GC10 R/L 100-005 ~ GC10 R/L 300-020
SIGCR 1008-WH-L100	●		10	8	7.2	100	45	18	5.6	2.2	Fig.3	SB-3070T R/L	FT-8	GC10R100-005 ~ GC10R300-020
SIGCR 1210-WH-L95	●		12	10	9.2	95	32	18	6.6	2.2	Fig.3	SB-3070T R/L	FT-8	GC12R100-005 ~ GC12R300-020
SIGC R/L 1210-WH-L110	●	●	12	10	9.2	110	45	18	6.6	2.2	Fig.3	SB-3070T R/L	FT-8	GC12 R/L 100-005 ~ GC12 R/L 300-020

Mounting Inserts

Use compressed air or other measures to remove chips or debris from the insert pocket

Mount the insert into the toolholder and ensure the bottom makes contact with the end of the toolholder's surface

Keeping the insert seated, tighten the insert clamp screw at an appropriate torque

Recommended tightening torque for clamp screw: 0.8 Nm (SB-2270TR) 1.2 Nm (SB-3070TR)

L-hand clamp screw for L-hand Toolholders (See table to the right)

GC**R-***	GC**L-***
Right-hand screw	**Left-hand** screw
Toolholder : SIGCR****-**	Toolholder : SIGCL****-**
Insert : GC**R-***	Insert : GC**L-***
Clamp Screw : SB-****TR	Clamp Screw : SB-****TL

Applicable Sleeve

Shank Size (Diameter : mm)	06 (6 mm)	08 (8 mm)	10 (10 mm)	12 (12 mm)	16 (16 mm)
Toolholders	SIGC R/L 0806-WH	SIGC R/L 1008-WH-L85 SIGC R/L 1008-WH-L100	SIGC R/L 1210-WH-L95 SIGC R/L 1210-WH-L110	SIGC R/L 0812-EH	SIGC R/L 1016-EH SIGC R/L 1216-EH
SH Sleeve (for Boring Bars)	SH 06…	SH 08…	SH 10…	SH 12…	SH 16…
SHC Sleeve (for Coolant-Through)	-	SHC 08…	SHC 10…	SHC 12…	SHC 16…
SHA Sleeve	-	SHA 08…	SHA 10…	SHA 12…	-
EZH Sleeve (for EZ Bars)	EZH 06…ST/CT/HP…	EZH 08…ST/CT/HP…	-	-	-

Remove the positioning pin when mounting SIGC to the EZH-CT/HP Sleeve.
(Positioning function is not available.)

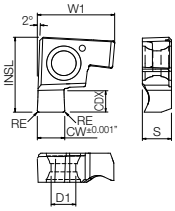
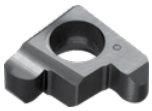
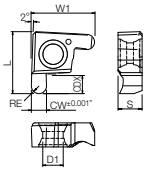
Applicable Inserts

(in)

Part Number	W1	INSL	S	D1
GE®L...-A	0.263	0.256	0.102	0.098
GER...-AR				
GE®L...-B	0.333	0.323	0.125	0.106
GER...-BR				

		Cermet	MEGACOAT	PVD Coated Carbide	Carbide		
P	Carbon Steel / Alloy Steel		◐	⦶			
M	Stainless Steel		◐	⦶			
K	Cast Iron						⦶
N	Non-ferrous Metals						◐
S	Titanium Alloy						◐
H	Hard materials (≤40HRC)		●	○			

Classification of Usage
- ◐ : Light Interruption / 1st Choice
- ⦶ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)	Part Number	Dimensions (in) CW inch	CW mm	CDX	RE	TN6020 R	TN6020 L	PR1225 R	PR1225 L	PR1025 R	PR1025 L	GW15 R	GW15 L	KW10 R	KW10 L	Applicable Toolholders	Ref. Page for Toolholder
2-Edge 	GE®L 031-002A	0.031	-	0.037	0.002					●	●					SIGE®L05EH SIGE®L...A-EH SIGE®L...A-WH	G73 G74
	041-002A	0.041		0.059						●	●						
	047-002A	0.047								●	●						
	058-002A	0.058								●	●						
	062-004A	0.062			0.004					●	●						
	072-004A	0.072								●	●						
	078-004A	0.078								●	●						
	GE®L 100-005A	-	1.00	0.059	0.002	●		●	●	●				●			
	120-005A		1.20			●		●	●	●							
	125-005A		1.25					●	●	●				●			
	150-010A		1.50		0.004	●		●	●	●				●	●		
	200-010A		2.00			●		●	●	●				●			
	GE®L 031-002B	0.031	-	0.044	0.002					●	●					SIGE®L06EH SIGE®L...B-EH SIGE®L...B-WH SIGER...B-WH-90	G73 G74 G75
	041-002B	0.041		0.087						●	●						
	047-002B	0.047								●	●						
	058-002B	0.058								●	●						
	062-004B	0.062			0.004					●	●						
	072-004B	0.072								●	●						
	078-004B	0.078								●	●						
	088-004B	0.088								●	●						
	094-004B	0.094								●	●						
	097-004B	0.097								●	●						
	105-008B	0.105			0.008					●	●						
	110-008B	0.110								●	●						
	122-008B	0.122								●	●						
	GE®L 100-005B	-	1.00	0.087	0.002	●		●	●	●	●			●	●		
	120-005B		1.20			●		●	●	●				●			
	125-005B		1.25					●	●	●				●			
	145-010B		1.45		0.004	●		●	●	●				●			
	150-010B		1.50			●	●	●	●	●				●			
	200-010B		2.00			●	●	●	●	●	●			●	●		
	250-020B		2.50		0.008	●	●	●	●	●	●			●			
	300-020B		3.00			●	●	●	●	●	●			●	●		
 2-Edge Full-R 	GER 100-050AR	-	1.00	0.059	0.020			●		●				●		SIGER05EH SIGER...A-EH SIGER...A-WH	G73 G74
	200-100AR		2.00		0.039			●		●							
	GER 100-050BR		1.00	0.087	0.020			●		●				●		SIGER...B-EH SIGER...B-WH SIGER...B-WH-90	G73 G74 G75
	200-100BR		2.00		0.039			●		●				●			

- Dimension **CDX** shows available grooving depth.

Recommended Cutting Conditions G76

Inserts are sold in 10 piece boxes.

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

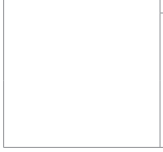
Applicable Inserts

(in)

Part Number	W1	INSL	S	D1
GER...-CM	0.228	0.452	0.159	0.110
GER...-DM	0.268	0.647	0.199	0.134
GER...-EM	0.376	0.853	0.219	0.173

		Cermet		MEGA COAT		PVD Coated Carbide		Carbide			
		TN6020		PR1225		PR1025		GW15		KW10	
		R	L	R	L	R	L	R	L	R	L
P	Carbon Steel / Alloy Steel			◐		◔					
M	Stainless Steel			◐		◔					
K	Cast Iron									◔	
N	Non-ferrous Metals									◐	
S	Titanium Alloy									◐	
H	Hard materials (≤40HRC)			●		○					
	Hard materials (≥40HRC)										

Classification of Usage
- ◐ : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

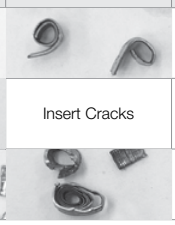
Insert (Right-handed Insert Shown)	Part Number	Dimensions (in) CW inch	CW mm	CDX	RE	TN6020 R	TN6020 L	PR1225 R	PR1225 L	PR1025 R	PR1025 L	GW15 R	GW15 L	KW10 R	KW10 L	Applicable Toolholders	Ref. Page for Toolholder
	GER 150-010CM	-	1.50	0.098	0.004			●		●						SIGE R/L...C-EH SIGE R/L...C-WH SIGER...C-WH-90	G73 G74 G75
	GER 200-010CM		2.00	0.098				●		●							
	GER 250-020CM		2.50		0.008			●		●							
	GER 300-020CM		3.00					●		●							
	GER 350-020CM		3.50					●		●							
	GER 150-010DM	-	1.50	0.118	0.004			●		●						SIGER...D-EH	G73
	GER 200-010DM		2.00	0.118				●		●							
	230-020DM		2.30	0.126	0.008			●		●							
	250-020DM		2.50					●		●							
	300-020DM		3.00	0.177				●		●							
	350-020DM		3.50					●		●							
	400-020DM		4.00					●		●							
	GER 150-010EM	-	1.50	0.118	0.004			●		●						SIGER...E-EH	
	GER 200-010EM		2.00	0.126				●		●							
	250-020EM		2.50	0.177	0.008			●		●							
	300-020EM		3.00					●		●							
	350-020EM		3.50	0.217				●		●							
	400-020EM		4.00					●		●							
	450-020EM		4.50	0.256				●		△							
	500-020EM		5.00					●		●							

2-Edge Molded Chipbreaker

- Dimension **CDX** shows available grooving depth.

Recommended Cutting Conditions ➔ G76

Chip Evacuation Comparison (Molded Chipbreaker)

Toolholder \ f (ipr)	SCM415 (Min. Bore Dia.) 0.0020"	0.0028"	0.0039"	Evaluation
SIGER1612C-EH GER300-020CM (PR1025)				Good Chip Control
Competitor A (Width 0.1181")			Insert Cracks	Unstable Chip Control and Biting
Competitor B (Width 0.1181")				Unstable Chip Control and Biting

(Vc = 330 sfm, D.O.C. = 0.079", Wet) (Internal Evaluation)

Chip Evacuation Comparison
(Min. Cutting Dia. Ø0.3150")

Toolholder \ f (ipr)	SCM415 0.0008"	Evaluation
SIGER0808A-EH GER200-010A (PR1025)		Good Chip Control
Competitor C (Width 0.079")		Unstable Chip Control and Biting

(Vc = 175 sfm, D.O.C. = 0.049", Wet) (Internal Evaluation)

Inserts are sold in 10 piece boxes.

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

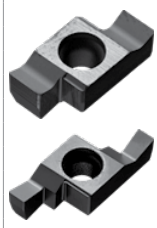
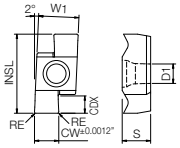
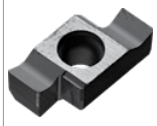
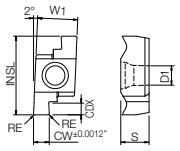
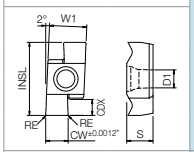
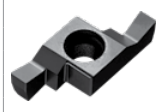
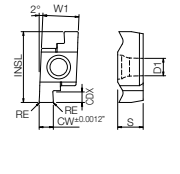
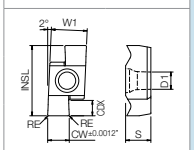
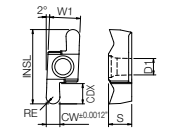
Applicable Inserts

(in)

Part Number	W1	INSL	S	D1
GE R/L...-C	0.228	0.452	0.159	0.110
GER...-CR				
GE R/L...-D	0.268	0.647	0.199	0.134
GER...-DR				
GE R/L...-E	0.376	0.853	0.219	0.173

		Cermet	MEGACOAT	PVD Coated Carbide	Carbide		
P	Carbon Steel / Alloy Steel		◉	⊙			
M	Stainless Steel		◉	⊙			
K	Cast Iron					⊙	
N	Non-ferrous Metals					◉	
S	Titanium Alloy					◉	
H	Hard materials (≤40HRC)		●	○			
	Hard materials (≥40HRC)						

Classification of Usage
- ◉ : Light Interruption / 1st Choice
- ⊙ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)	Part Number	Dimensions (in) CW inch	CW mm	CDX	RE	TN6020 R	TN6020 L	PR1225 R	PR1225 L	PR1025 R	PR1025 L	GW15 R	GW15 L	KW10 R	KW10 L	Applicable Toolholders	Ref. Page for Toolholder
  2-Edge	GE R/L 100-005C	-	1.00	0.098	0.002	●	●	●	●	●	●	●	●			SIGE R/L...C-EH SIGE R/L...C-WH SIGER...C-WH-90	G73 G74 G75
	120-005C		1.20			●		●	●	●	●	●					
	125-005C		1.25			●		●		●	●	●	●				
	140-005C		1.40			●		●		●		●					
	145-010C		1.45		0.004			●		●	●						
	150-010C		1.50			●		●	●	●	●	●	●				
	170-010C		1.70					●		●		●					
	185-010C		1.85					●		△							
	195-010C		1.95					●									
	200-010C		2.00			●		●	●	●	●	●	●				
	250-020C		2.50		0.008	●	●	●	●	●		●	●				
	300-020C		3.00			●	●	●	●	●		●					
	350-020C		3.50					●		●	●	●					
 	GE R/L 100-005D	-	1.00	0.098	0.002	●		●	●	●		●	●			SIGE R/L...D-EH	
	140-005D		1.40			●		●	●	●		●					
	145-010D		1.45		0.004	●		●		●	●						
	150-010D		1.50	0.118		●	●	●	●	●	●	●	●				
	170-010D		1.70			●		●	●	△							
	185-010D		1.85							●							
	195-010D		1.95							●							
	200-010D		2.00	0.126		●	●	●	●	●		●					
	225-010D		2.25					●	●	●							
	230-020D		2.30		0.008	●		●	●			●					
	250-020D		2.50			●	●	●	●	●	●	●					
	275-020D		2.75														
	280-020D		2.80							●		●					
	300-020D		3.00	0.177		●	●	●	●	●		●	●				
	330-020D		3.30							●							
	350-020D		3.50					●									
	400-020D		4.00			●		●	●	△		●					
  2-Edge	GE R/L 100-005E	-	1.00	0.098	0.002	●		●	●	●		●				SIGE R/L...E-EH	G73
	150-010E		1.50	0.118	0.004	●		●	●	●	●	●	●				
	170-010E		1.70			●		●	●	●		●					
	185-010E		1.85			●				●	●						
	195-010E		1.95							●	●						
	200-010E		2.00	0.126		●		●		●	●	●	●				
	225-010E		2.25			●		●		△		●					
	230-020E		2.30		0.008	●	●	●		△		●					
	250-020E		2.50	0.177		●	●	●	●	●		●	●				
	275-020E		2.75						●			●					
	280-020E		2.80			●		●	●	●	●						
	300-020E		3.00			●	●	●	●	●	●	●	●				
	330-020E		3.30			●		●		●	●						
	350-020E		3.50	0.217		●	●	●		●	●	●					
	400-020E		4.00			●		●		●	●	●	●				
	430-020E		4.30			●		●									
	450-020E		4.50	0.256		●		●				●					
	460-020E		4.60					●		●							
	500-020E		5.00			●		●		●	●	●					
 2-edge Full-R	GER 200-100CR	-	2.00	0.098	0.039			●		●		●				SIGER...C-EH SIGER...C-WH SIGER...C-WH-90	G73 G74 G75
	250-125CR		2.50		0.049			●		●		●					
	300-150CR		3.00		0.059			●		●		●					
	GER 200-100DR		2.00	0.126	0.039			●		●		●				SIGER...D-EH	G73
	300-150DR		3.00	0.177	0.059			●		●		●					

- Dimension **CDX** shows available grooving depth.

Recommended Cutting Conditions G76

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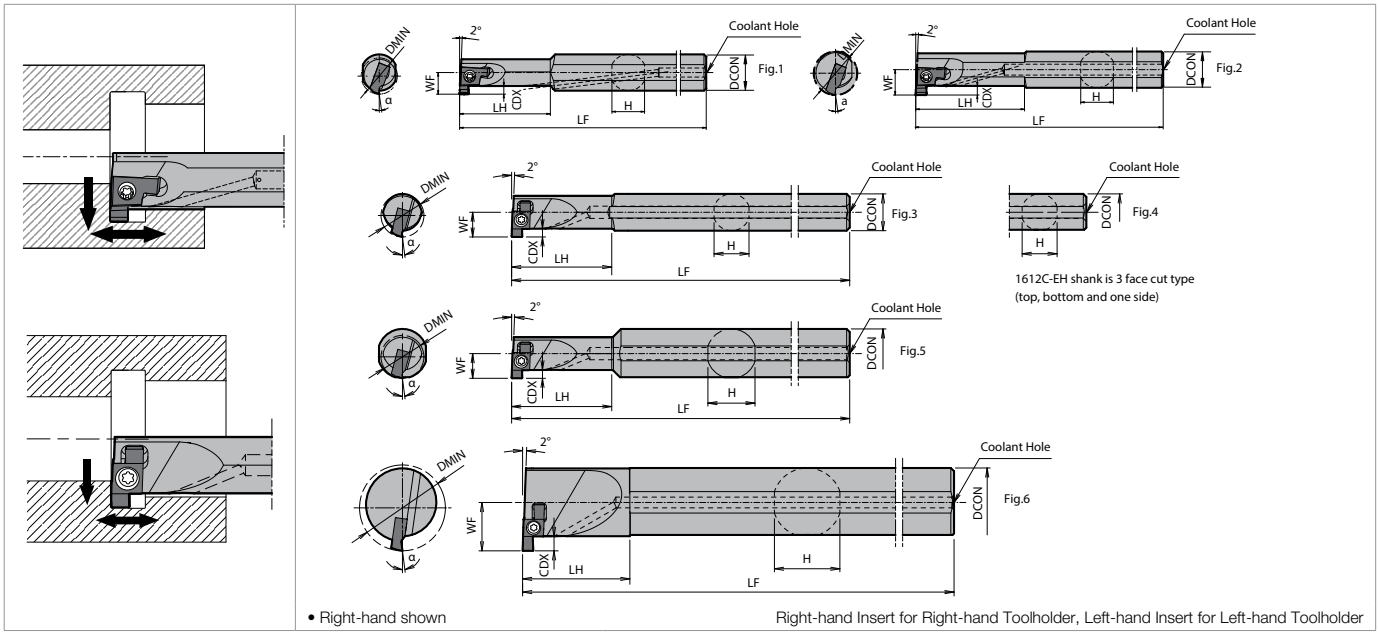
SIGE-EH Excellent Bar (With Coolant Hole)



• Right-hand shown

Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Min. Bore Dia. DMIN	Dimensions DCON	H	LF	LH	WF	CDX	Drawing	Spare Parts: Clamp Screw	Wrench FT	Wrench DT	Applicable Inserts (G70~G72)
SIGE®	05EH	●	●	inch	0.313	0.313	0.283	3.940	0.787	0.177	0.059	Fig.1	SB-2045TRN	FT-6	-	GE®031-002A~GE®200-010A GER100-050AR~GER200-100AR
	06EH	●	●		0.394	0.375	0.354	4.920	0.984	0.232	0.087	Fig.1	SB-2255TR	-	DT-7	GE®031-002B~GE®300-020B GER100-050BR~GER200-100BR
	0809C-EH	●	●		0.551	0.500	0.460	5.900	1.300	0.315	0.098	Fig.3	SB-2570TR	FT-8	-	GE®100-005C~GE®350-020C GER150-010CM~GER350-020CM GER200-100CR~GER300-150CR
	0810C-EH	●	●		0.630	0.500	0.460	5.900	0.788	0.335	0.098					
	1213D-EH	●	●		0.790	0.750	0.710	7.09	1.575	0.477	0.177	Fig.5	SB-3080TR	FT-10	-	GE®100-005D~GE®400-020D GER150-010DM~GER400-020DM GER200-100DR~GER300-150DR
	1616E-EH	●	●		1.000	1.000	0.960	7.88	1.772	0.614	0.255	Fig.5	SB-4085TR	FT-15	-	GE®100-005E~GE®500-020E GER150-010EM~GER500-020EM
	2020E-EH	●	●		1.250	1.250	1.170	8.66	2.166	0.748	0.255					
	2025E-EH	●	●		1.575	1.250	1.170	9.84	1.772	0.906	0.255	Fig.6				
SIGE®	0808A-EH	●	●	mm	8	8	7.2	100	20	4.8	1.5	Fig.1	SB-2045TRN	FT-6	-	GE®031-002A~GE®200-010A GER100-050AR~GER200-100AR
	1010B-EH	●	●		10	10	9.0	125	25	6.2	2.2	Fig.1	SB-2255TR	-	DT-7	GE®031-002B~GE®300-020B GER100-050BR~GER200-100BR
	1210B-EH	●	●		12	10	9.0	125	30	7.0	2.2	Fig.2				
	1412C-EH	●	●		14	12	11.4	150	33	8.0	2.5	Fig.3	SB-2570TR	FT-8	-	GE®100-005C~GE®350-020C GER150-010CM~GER350-020CM GER200-100CR~GER300-150CR
	1612C-EH	●	●		16	12	11.4	150	20	8.5	2.5	Fig.4				
	1616C-EH	●	●		16	16	15.0	160	36	9.0	2.5	Fig.5				
	2020D-EH	●	●		20	20	19.0	180	40	12.1	4.5	Fig.5	SB-3080TR	FT-10	-	GE®100-005D~GE®400-020D GER150-010DM~GER400-020DM GER200-100DR~GER300-150DR
	2525E-EH	●	●		25	25	24.0	200	45	15.6	6.5	Fig.5	SB-4085TR	FT-15	-	GE®100-005E~GE®500-020E GER150-010EM~GER500-020EM
	3232E-EH	●	●		32	32	30.4	220	55	19.0	6.5					
	4032E-EH	●	●		40	32	30.4	250	45	23.0	6.5	Fig.6				

• Dimension **CDX** shows available grooving depth. See **CDX** dimension of insert table for actual grooving depth.

Features

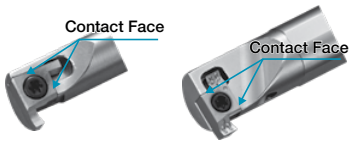
- **Traditional top clamp has been replaced with a screw clamp only. This design creates a large chip pocket that provides excellent chip evacuation**

Screw Clamp

Conventional Clamp

- **Cost effective chip control from a molded chipbreaker**

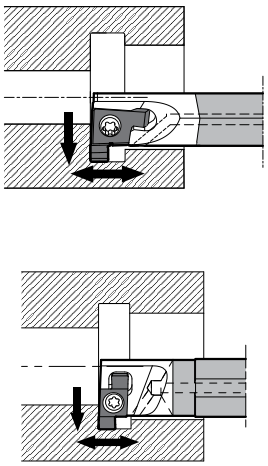
- **Cutting Edge is Protected in the Pocket**

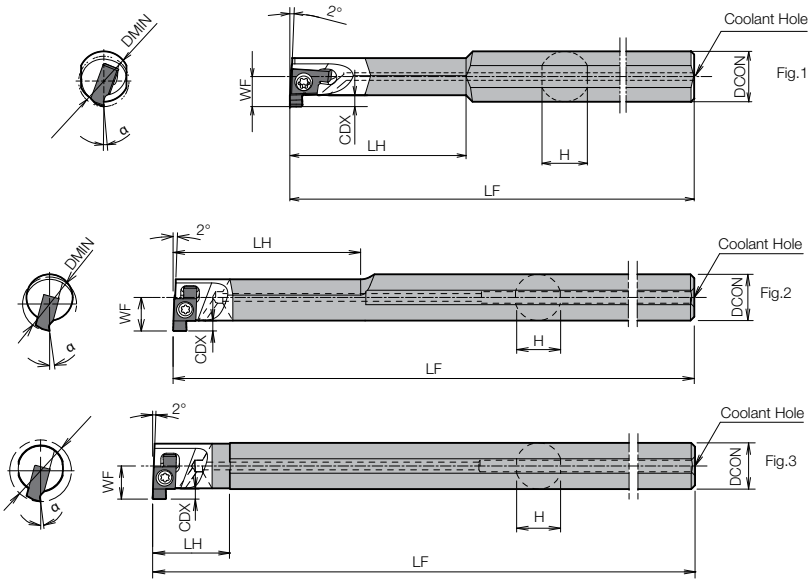


- **8mm Minimum Cutting Diameter with 2-Edge Design**

GER···M type

SIGE-WH Carbide Shank Bar (With Coolant Hole)





• Right-hand shown

Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number		Stock R	Stock L	Min. Bore Dia. DMIN	Dimensions (mm) DCON	H	LF	LH	WF	CDX	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench FT	Spare Parts: Wrench DT	Applicable Inserts (G70~G72)
SIGE®	0808A-WH	●	●	8	8	7.2	125	28	4.8	1.5	Fig.1	SB-2045TRN	FT-6	-	GE®031-002A~GE®200-010A GER100-050AR~GER200-100AR
	1010B-WH	●	●	10	10	9.0	125	35	6.2	2.2	Fig.1	SB-2255TR	-	DT-7	GE®031-002B~GE®300-020B GER100-050BR~GER200-100BR
	1210B-WH	●	●	12	10	9.0	140	45	7.0	2.2					
	1412C-WH	●	●	14	12	11.4	150	50	8.7	2.5	Fig.2	SB-2570TR	FT-8	-	GE®100-005C~GE®350-020C GER150-010CM~GER350-020CM GER200-100CR~GER300-150CR
	1612C-WH	●	●	16	12	11.4	180	20	8.5	2.5	Fig.3				

• Dimension **CDX** shows available grooving depth. See **CDX** dimension of insert table for actual grooving depth.

Applicable Inserts and Rake Angle (α) After Installment of Insert

Toolholder		Ground Chipbreaker	α (°)	Molded Chipbreaker	α (°)
SIGE®	05EH	GE®031-002A~GE®200-010A GER100-050AR~GER200-100AR	5°	-	-
	06EH	GE®031-002B~GE®300-020B GER100-050BR~GER200-100BR	5°	-	-
SIGE®	0808A-EH	GE®100-005A~GE®200-010A GER100-050AR~GER200-100AR	5°	-	-
	0809C-EH 0810C-EH	GE®100-005C~GE®350-020C GER200-100CR~GER300-150CR	8	GER150-010CM~GER350-020CM	10°
	1010B-EH 1210B-EH	GE®100-005B~GE®300-020B GER100-050BR~GER200-100BR	5°	-	-
	1213D-EH	GE®100-005D~GE®400-020D GER200-100DR~GER300-150DR	9°	GER150-010DM~GER400-020DM	10°
	1412C-EH 1612C-EH 1616C-EH	GE®100-005C~GE®350-020C GER200-100CR~GER300-150CR	8°	GER150-010CM~GER350-020CM	10°
	1616E-EH	GE®100-005E~GE®500-020E	10°	GER150-010EM~GER500-020EM	10°
	2020D-EH	GE®100-005D~GE®400-020D GER200-100DR~GER300-150DR	9°	GER150-010DM~GER400-020DM	10°
	2020E-EH 2025E-EH 2525E-EH 3232E-EH 4032E-EH	GE®100-005E~GE®500-020E	10°	GER150-010EM~GER500-020EM	10°
SIGE®	0808A-WH	GE®031-002A~GE®200-010A GER100-050AR~GER200-100AR	5°	-	-
	1010B-WH 1210B-WH 1008B-WH-90 1210B-WH-90	GE®031-002B~GE®300-020B GER100-050BR~GER200-100BR	5°	-	-
	1412C-WH 1612C-WH 1412C-WH-90	GE®100-005C~GE®350-020C GER200-100CR~GER300-150CR	8°	GER150-010CM~GER350-020CM	10°

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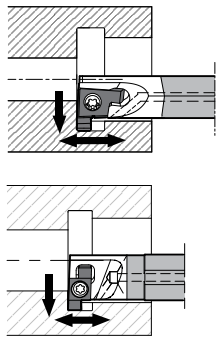
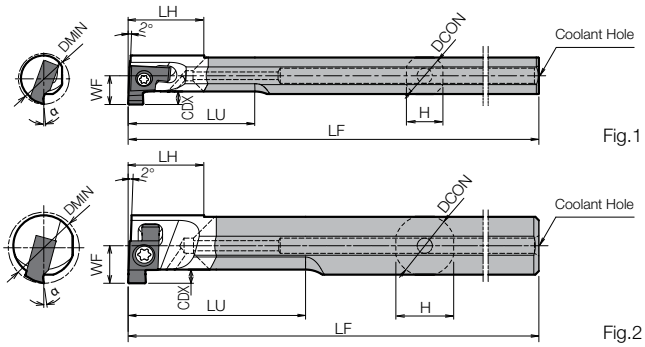
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

SIGE-WH-90 Carbide Shank Bar (With Coolant Hole)





• Right-hand shown

Right-hand Insert for Right-hand Toolholder

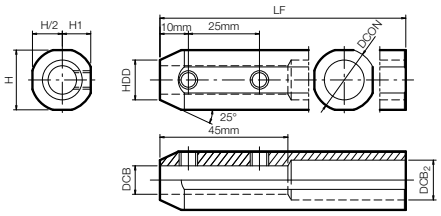
Toolholder Dimensions

Part Number		Stock	Min. Bore Dia. DMIN	Dimensions (mm) DCON	H	LF	LU	*LH	WF	CDX	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts
SIGER	1008B-WH-90	●	10	8	7.2	90	25	15	5.6	2.2	Fig.1	SB-2255TR	FT-7	GER031-002B~GER300-020B GER100-050BR~GER200-100BR
	1210B-WH-90	●	12	10	9.4	90	30	15	6.6	2.2				
	1412C-WH-90	●	14	12	11.4	90	35	15	7.4	2.5	Fig.2	SB-2570TR	FT-8	GER100-005C~GER350-020C GER150-010CM~GER350-020CM GER200-100CR~GER300-150CR

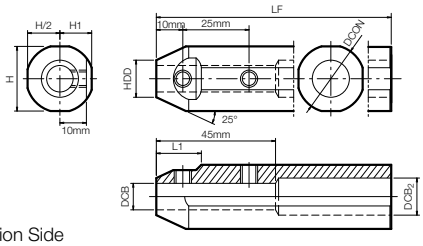
*Dimension **LH** shows minimum overhang length.

- Ref. to Page G74 for applicable Insert & Rake Angle (α) after Installment of Insert.

Applicable Sleeves



Holder Installation Side Fig.1



Holder Installation Side Fig.2

Part Number		Stock	Dimensions (mm) DCB	DCON	HDD	DCB_2	H	H1	LF	L1	Drawing	Spare Parts: Screw	Spare Parts: Wrench	Applicable Machine Manufacturer
SHA	0820-120	□	8	20.00	14	12	19.0	9.25	120	-	Fig.1	HS6x4P	LW-3	Amada Machine Tools Eguro Tsugami Citizen Machinery
	1020-120	●	10	20.00	14	12	19.0	9.25	120	-				
SHA	0825.0-135	●	8	25.00	14	14	24.0	11.50	135	17	Fig.2	HS6x4P	LW-3	
	1025.0-135	●	10	25.00	14	14	24.0	11.50	135	17				
	1225.0-135	●	12	25.00	16	14	24.0	11.50	135	17				
SHA	0819-120	□	8	19.05	14	12	18.0	8.75	120	-	Fig.1	HS6x4P	LW-3	Citizen Machinery
	1019-120	□	10	19.05	14	12	18.0	8.75	120	-				
SHA	0820-120	□	8	20.00	14	12	19.0	9.25	120	-				
	1020-120	●	10	20.00	14	12	19.0	9.25	120	-				
SHA	0825.4-120	●	8	25.40	14	14	24.4	12.00	120	17	Fig.2	HS6x4P	LW-3	
	1025.4-120	●	10	25.40	14	14	24.4	12.00	120	17				
	1225.4-120	●	12	25.40	16	14	24.4	12.00	120	17				
SHA	0822-125	●	8	22.00	14	14	21.0	10.00	125	-	Fig.1	HS6x4P	LW-3	Star Micronics Nomura DS
	1022-125	●	10	22.00	14	14	21.0	10.00	125	-				
	1222-125	□	12	22.00	16	14	21.0	10.00	125	-				
SHA	0823-120	□	8	23.00	14	14	22.0	10.50	120	16	Fig.2	HS6x4P	LW-3	Nomura DS
	1023-120	□	10	23.00	14	14	22.0	10.50	120	16				
	1223-120	□	12	23.00	16	14	22.0	10.50	120	16				

※ : Depth of DCB…45mm (All types of SHA sleeves)

- Choose sleeves with **DCB** dimension that matches the **DCON** dimension of the toolholder.
- Machine manufacturers are in random order.

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Recommended Cutting Conditions (Ground Chipbreaker : GE□...A(R), GE□...B(R))

Workpiece Material	Recommended Insert Grade (Vc sfm)				① f (feed) during Grooving (ipr) ② f (feed) during Traversing (ipr) ③ D.O.C. during Traversing (in)			Notes
	Cermet	MEGACOAT	PVD	Carbide	GE□031-002A ~ GE□078-004A GE□100-005A ~ GE□200-010A GER100-050AR ~ GER200-100AR	GE□031-002B ~ GE□088-004B GE□100-005B ~ GE□200-010B GER100-050BR ~ GER200-100BR	GE□094-004B ~ GE□122-008B GE□250-020B ~ GE□300-020B	
	TN6020	**PR1225**	**PR1025**	**KW10**				
Carbon Steel	☆ 160~260	★ 160~260	☆ 160~260	-	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0020	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0020	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0039	Wet
Alloy Steel	☆ 160~260	★ 160~260	☆ 160~260	-	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0020	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0020	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0039	
Stainless Steel	-	★ 160~260	☆ 160~260	-	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0020	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0020	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0039	
Cast Iron	-	-	-	★ 160~260	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0020	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0020	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0039	
Aluminum	-	-	-	★ 160~330	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0039	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0039	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0079	
Brass	-	-	-	★ 160~330	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0039	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0039	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0079	

- Use PVD coated grade or uncoated carbide for traversing with edge width 0.0394"(1mm). (GE□100-005A/100-005B)

★ : 1st Recommendation ☆ : 2nd Recommendation

Recommended Cutting Conditions (Ground Chipbreaker : GE□...C(R),GE□...D(R),GE□...E)

Workpiece Material	Recommended Insert Grade (Vc sfm)				① f (feed) during Grooving (ipr) ② f (feed) during Traversing (ipr) ③ D.O.C. during Traversing (in)							Notes
	Cermet	MEGA-COAT	PVD	Carbide								
	TN6020	**PR1225**	**PR1025**	**GW15**	GE□ 100~200-010C 200-100CR GE□ 100~145-010D GE□ 100-010E	GE□ 250~350-020C 250~300-150CR GE□ 150~195-010D GE□ 150~195-010E	GE□ 200~280-020D 200-100DR GE□ 200~225-010E 230-020E	GE□ 250~330-020E	GE□ 300~400-020D 300-150DR	GE□ 350~430-020E	GE□ 450~500-020E	
Carbon Steel	☆ 390~590	★ 200~460	☆ 200~460	-	① 0.0012~0.0031 ② 0.0012~0.0031 ③ Max. 0.0118	① 0.0012~0.0031 ② 0.0012~0.0031 ③ Max. 0.0118	① 0.0016~0.0035 ② 0.0016~0.0035 ③ Max. 0.0118	① 0.0016~0.0035 ② 0.0016~0.0035 ③ Max. 0.0118	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0197	Wet
Alloy Steel	☆ 330~520	★ 200~390	☆ 200~390	-	① 0.0012~0.0028 ② 0.0012~0.0039 ③ Max. 0.0118	① 0.0012~0.0028 ② 0.0012~0.0039 ③ Max. 0.0118	① 0.0016~0.0031 ② 0.0016~0.0031 ③ Max. 0.0118	① 0.0016~0.0031 ② 0.0016~0.0031 ③ Max. 0.0118	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0197	
Stainless Steel	☆ 230~430	★ 200~360	☆ 200~360	-	① 0.0012~0.0028 ② 0.0012~0.0039 ③ Max. 0.0118	① 0.0012~0.0028 ② 0.0012~0.0039 ③ Max. 0.0118	① 0.0016~0.0031 ② 0.0016~0.0031 ③ Max. 0.0118	① 0.0016~0.0031 ② 0.0016~0.0031 ③ Max. 0.0118	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0197	
Cast Iron	-	-	-	★ 200~330	① 0.0012~0.0031 ② 0.0012~0.0031 ③ Max. 0.0118	① 0.0012~0.0031 ② 0.0012~0.0031 ③ Max. 0.0118	① 0.0016~0.0035 ② 0.0016~0.0035 ③ Max. 0.0118	① 0.0016~0.0035 ② 0.0016~0.0035 ③ Max. 0.0118	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0197	
Aluminum	-	-	-	★ 490~980	① 0.0020~0.0047 ② 0.0020~0.0047 ③ Max. 0.0197	① 0.0020~0.0047 ② 0.0020~0.0047 ③ Max. 0.0197	① 0.0020~0.0059 ② 0.0020~0.0059 ③ Max. 0.0197	① 0.0020~0.0059 ② 0.0020~0.0059 ③ Max. 0.0197	① 0.0031~0.0059 ② 0.0031~0.0059 ③ Max. 0.0315	① 0.0031~0.0059 ② 0.0031~0.0059 ③ Max. 0.0315	① 0.0031~0.0059 ② 0.0031~0.0059 ③ Max. 0.0315	
Brass	-	-	-	★ 330~820	① 0.0020~0.0047 ② 0.0020~0.0047 ③ Max. 0.0197	① 0.0020~0.0047 ② 0.0020~0.0047 ③ Max. 0.0197	① 0.0020~0.0059 ② 0.0020~0.0059 ③ Max. 0.0197	① 0.0020~0.0059 ② 0.0020~0.0059 ③ Max. 0.0197	① 0.0031~0.0059 ② 0.0031~0.0059 ③ Max. 0.0315	① 0.0031~0.0059 ② 0.0031~0.0059 ③ Max. 0.0315	① 0.0031~0.0059 ② 0.0031~0.0059 ③ Max. 0.0315	

- Use PVD coated grade or uncoated carbide for traversing with edge width 0.0394" (1mm). (GE□100-010C / 100-010D / 100-010E)

★ : 1st Recommendation ☆ : 2nd Recommendation

Recommended Cutting Conditions (Molded Chipbreaker : GER...CM, GER...DM, GER...EM)

Workpiece Material	Recommended Insert Grade (Vc sfm)				① f (feed) during Grooving (ipr) ② f (feed) during Traversing (ipr) ③ D.O.C. during Traversing (in)						Notes
	Cermet	MEGA COAT	PVD	Carbide							
	TN6020	**PR1225**	**PR1025**	**GW15**	GER 150~200-010CM GER 150~200-010DM GER 150~200-010EM	GER 250~350-020CM	GER 230~250-020DM	GER 300~400-020DM GER 250~350-020EM	GER 350~400-020EM	GER 450~500-020CM	
Carbon Steel	-	★ 200~520	☆ 200~520	-	① 0.0012~0.0039 ② 0.0012~0.0039 ③ Max. 0.0394	① 0.0012~0.0047 ② 0.0012~0.0039 ③ Max. 0.0591	① 0.0016~0.0047 ② 0.0016~0.0039 ③ Max. 0.0591	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0591	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0591	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0591	Wet
Alloy Steel	-	★ 200~460	☆ 200~460	-	① 0.0012~0.0039 ② 0.0012~0.0039 ③ Max. 0.0394	① 0.0012~0.0039 ② 0.0012~0.0039 ③ Max. 0.0591	① 0.0016~0.0047 ② 0.0016~0.0039 ③ Max. 0.0591	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0591	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0591	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0591	
Stainless Steel	-	★ 200~360	☆ 200~360	-	① 0.0012~0.0031 ② 0.0012~0.0039 ③ Max. 0.0394	① 0.0012~0.0031 ② 0.0012~0.0039 ③ Max. 0.0591	① 0.0016~0.0031 ② 0.0016~0.0039 ③ Max. 0.0591	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0591	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0591	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0591	

★ : 1st Recommendation ☆ : 2nd Recommendation

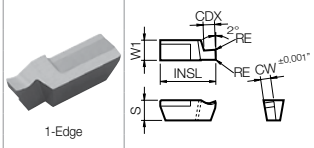
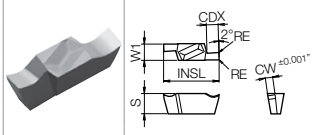
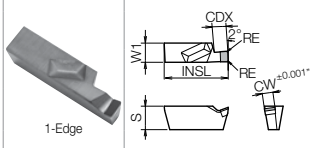
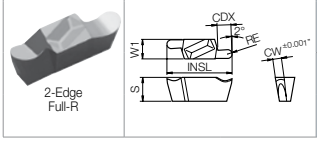
Applicable Inserts (GIV / GIV-E / GIV-W)

Part Number	W1	INSL	S
GV%L…SS GVR09-…	0.142 0.130	0.354	0.118
GV%L…S	0.157	0.433	0.157
GV%L…A GVR12-…	0.157	0.472	0.197
GV%L…B GVR15-…	0.177	0.591	0.217
GV%L…C GVR21-…	0.228	0.827	0.256

Classification of Usage
- ◉ : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

		TN90	TC40	TC60	PR1225	PR930	KW10	KPD010
P	Carbon Steel / Alloy Steel				◉	◔		
M	Stainless Steel				◉	◔		
K	Cast Iron						◉	
N	Non-ferrous Metals						◉	●
S	Heat-resistant Alloy						◉	●
H	Hard materials (≤40HRC)				○	○		
	Hard materials (≥40HRC)							

Applicable Toolholders G79

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Dimensions (in) CW inch	CW mm	CDX	RE	Cermet TN90 R	TN90 L	TC40 R	TC40 L	TC60 R	TC60 L	MEGA COAT PR1225 R	PR1225 L	PVD Carbide PR930 R	PR930 L	Carbide KW10 R	KW10 L	PCD KPD010 R	KPD010 L	Applicable Toolholders
 1-Edge	GV%L 100-020SS	GV%L 100SS	0.039	1.00	0.091	0.008	○				●		●	●	●		●	●			GIV%L…1SS SI-GIVR10-09
	125-020SS	125SS	0.049	1.25							●		●	●	●		●	●			
	145-020SS	145SS	0.057	1.45			○				●		●	●	●		●	●			
	200-020SS	200SS	0.079	2.00			○				●		●	●	●		●	●			
	250-020SS	250SS	0.098	2.50							●		●	●	●		●	●			
	300-020SS	300SS	0.118	3.00							●		●	●	●		●	●			
	GVR 09-031	GV%L 09-031	0.031	0.79	0.091	0.008					●										
	09-062	09-062	0.062	1.57							●										
	09-125	09-125	0.125	3.18							●										
	GV%L 100-020S	GV%L 100S	0.039	1.00	0.091	0.008	○		●	●	●		●	●	●	●	●	●			GIV%L…1S GIV%L…1SE
	125-020S	125S	0.049	1.25			○		●	●	●		●		●		●	●			
	145-020S	145S	0.057	1.45					●		●		●		●		●	●			
	185-020S	185S	0.073	1.85					●		●		●		●		●	●			
	200-020S	200S	0.079	2.00			○		●	●	●		●	●	●	●	●	●			
	250-020S	250S	0.098	2.50					●		●		●	●	●		●	●			
	340-020S	340S	0.134	3.40					●		●		●		●		●	●			
 2-Edge	GVR 12-032	GV%L 12-032	0.032	0.81	0.091	0.008			●												SI-GIVR12-12 GIV%L…1A GIV%L…1AE GIV%L…1AW
	12-062	12-062	0.062	1.57					●												
	12-094	12-094	0.094	2.39					●												
	12-125	12-125	0.125	3.18					●												
	GV%L 100-020A	GV%L 100A	0.039	1.00	0.091	0.008	○		●	●	●	●	●	●	●	●	●	●			
	125-020A	125A	0.049	1.25			○		●	●	●		●	●	●		●	●			
	145-020A	145A	0.057	1.45			○		●	●	●	●	●	●	●		●	●			
	185-020A	185A	0.073	1.85					●		●		●	●	●		●	●			
	200-020A	200A	0.079	2.00			○		●	●	●	●	●	●	●	●	●	●			
	250-020A	250A	0.098	2.50			○		●		●		●	●	●		●	●			
	300-020A	300A	0.118	3.00			○		●		●		●		●		●	●			
	340-020A	340A	0.134	3.40					●		●		●		●		●	●			
	GVR 15-062	GVR 15-062	0.062	1.57	0.091	0.008			●												SI-GIVR16-15 GIV%L…1B GIV%L…1BE GIV%L…1BW
	15-094	15-094	0.094	2.39					●												
	GV%L 145-020B	GV%L 145B	0.057	1.45	0.110	0.008	○		●	●	●	●	●	●	●	●	●	●			
	185-020B	185B	0.073	1.85			○		●	●	●	●	●		●		●				
	200-020B	200B	0.079	2.00	0.126	0.008	○	○	●	●	●	●	●	●	●	●	●	●			
	230-020B	230B	0.091	2.30			○		●		●	●	●	●	●	●	●				
	250-020B	250B	0.098	2.50			○		●	●	●	●	●	●	●	●	●	●			
	280-020B	280B	0.110	2.80					●	●	●		●		●		●				SI-GIVR16-15 GIV%L…2B GIV%L…2BE GIV%L…2BW
	300-020B	300B	0.118	3.00	0.165	0.008	○		●	●	●	●	●	●	●	●	●	●			
	340-020B	340B	0.134	3.40					●		●		●		●		●				
	400-020B	400B	0.157	4.00			○		●		●		●		●		●	●			
	GVR 21-125	GVR 21-125	0.125	3.18	0.165	0.008			●												SI-GIVR20-21 GIV%L…1C GIV%L…1CE GIV%L…1CW
	GV%L 280-020C	GV%L 280C	0.110	2.80	0.177	0.008	○		●	●	●	●	●	●	●		●	●			
	300-020C	300C	0.118	3.00			○	○	●	●	●	●	●	●	●	●	●	●			
	340-020C	340C	0.134	3.40	0.217	0.008	○		●	●	●	●	●	●	●	●	●	●			
	400-020C	400C	0.157	4.00			○		●	●	●	●	●	●	●	●	●	●			SI-GIVR20-21 GIV%L…2C GIV%L…2CE GIV%L…2CW
	430-020C	430C	0.169	4.30	0.248	0.008			●	●	●	●	●		●		●	●			
	460-020C	460C	0.181	4.60					●				●		●		●	●			
	500-020C	500C	0.197	5.00					●		●	●	●	●	●	●	●	●			
 1-Edge	GV%L 145-020A	GV%L 145A	0.057	1.45	0.091	0.008													●		SI-GIVR12-12 GIV%L…1A GIV%L…1AE GIV%L…1AW
	200-020A	200A	0.079	2.00															●		
	300-020A	300A	0.118	3.00															□		
	GV%L 200-020B	GV%L 200B	0.079	2.00	0.126	0.008													●		SI-GIVR16-15 GIV%L…1B GIV%L…1BE GIV%L…1BW
	250-020B	250B	0.098	2.50	0.126														●		
	300-020B	300B	0.118	3.00	0.165														□		SI-GIVR16-15 GIV%L…2B□
	GV%L 300-020C	GV%L 300C	0.118	3.00	0.177	0.008													□		SI-GIVR20-21 GIV%L…1C□
	400-020C	400C	0.157	4.00	0.217														□		SI-GIVR20-21 GIV%L…2C□
 2-Edge Full-R	GV%L 200-100AR	GV%L 100AR	0.079	2.00	0.091	0.039					●		●	●	●	●	●				SI-GIVR12-12 GIV%L…1A GIV%L…1AE GIV%L…1AW
	250-125AR	125AR	0.098	2.50		0.049					●		●		●		●				
	300-150AR	150AR	0.118	3.00		0.059					●		●		●		●				
	GV%L 200-100BR	GV%L 100BR	0.079	2.00	0.126	0.039	△				●		●		●		●	●			SI-GIVR16-15 GIV%L…1B□
	300-150BR	150BR	0.118	3.00	0.165	0.059	△				●		●		●		●	●			SI-GIVR16-15 GIV%L…2B□

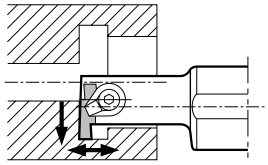
- Dimension **CDX** shows available grooving depth.

Inserts are sold in 10 piece boxes. *CBN & PCD Inserts are sold in 1 piece boxes.*

Recommended Cutting Condtions G151
Applicable Toolholders G79

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

GIV (SI-GIV)



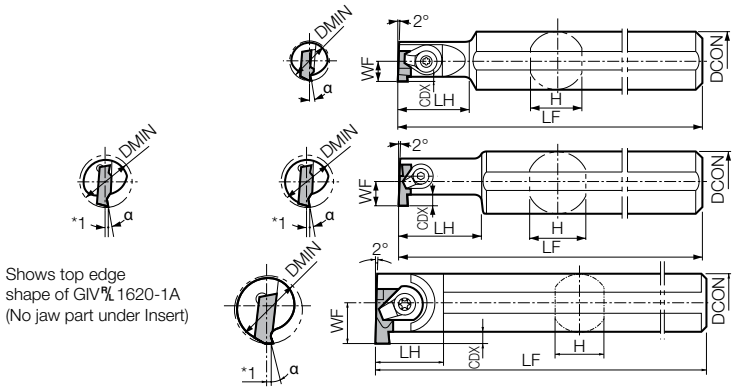


Fig.1

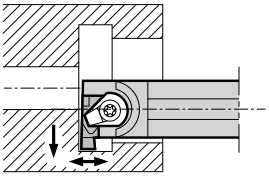
Fig.2

Fig.3

• Right-hand shown

Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

GIV-E Excellent Bar



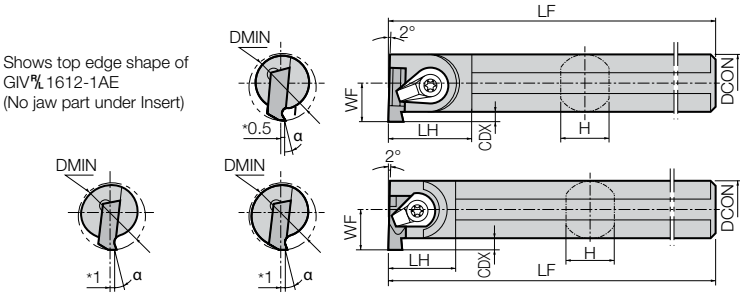


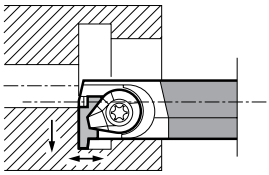
Fig.4

Fig.5

• Right-hand shown

Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

GIV-W Carbide Shank Bar



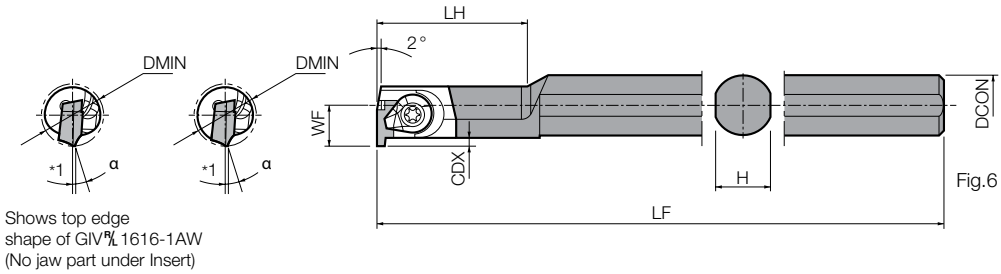


Fig.6

• Right-hand shown

Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

Applicable Inserts and Rake Angle (α) After Installment of Insert

Toolholder	Insert Part Number ➡ G77			Rake Angle (α)	
	General Grooving (Square)		Full-R Grooving (Round)	TC40	TN90,TC60 PR930,PR1225 KW10
SI-GIVR10-09	GVR09-...	GV®100~300-020SS	-	10°	10°
SI-GIVR12-12	GVR12-...	GV®100~340-020A	GVR12-R		
SI-GIVR16-15	GVR15-...	GV®145~400-020B	-		
SI-GIVR20-21	GVR21-...	GV®280~500-020C	-		
GIV®…1SS	GV®100~300-020SS	GVR09-...	-	10°	15°
GIV®…1S	GV®100~340-020S	-	-	10°	15°
GIV®…1SE	GV®100~340-020S	-	-	3°	8°
GIV®…1A(□)	GV®100~340-020A	GVR12-...	GV®200-100AR~300-150AR	3°	8°
GIV®…1B(□)	GV®145~250-020B	GVR15-...	GV®200-100BR	4°	9°
GIV®…2B(□)	GV®280~400-020B		GV®300-150BR		
GIV®…1C(□)	GV®280~340-020C	GVR21-...	-	5°	10°
GIV®…2C(□)	GV®400~500-020C		-		

*** GIV, GIV-E and GIV-W are designed to set the cutting edge height 1mm above the center height. (0.5mm for GIV®1612-1AE)**

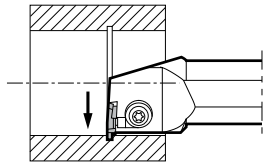
Toolholder Dimensions

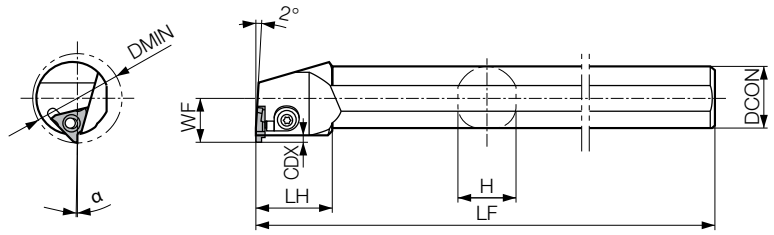
Part Number		Stock R	Stock L	Unit	Min. Bore Dia. DMIN	Dimensions DCON	H	LF	LH	WF	CDX	Drawing	Spare Parts: Clamp Set	Clamp Set	Wrench	Wrench	Ref. Page for Applicable Inserts
SI-GIVR	**10-09**	●		inch	0.472	0.625	0.590	5.910	0.787	0.236	0.087	Fig.1	CPS-4V	-	FT-10	-	
	12-12	●			0.630	0.750	0.710	6.300	1.100	0.314	0.090	Fig.2	CPS-5V	-	FT-15	-	
	16-15	●			0.790	1.000	0.960	7.100	1.380	0.394	0.125						
	20-21	●			0.984	1.250	1.170	7.875	1.700	0.492	0.177	Fig.2	-	CPS-6V	-	LW-3	
GIV®	**1216-1SS**	●	●	mm	12	16	15.0	150	20	6.0	2.2	Fig.1	CPS-4V	-	FT-10	-	
	1420-1S	●	●		14	20	19.0	150	24	7.0	2.2	Fig.1	CPS-5F	-	FT-15	-	
	1620-1A	●	●		16	20	19.0	160	28	8.0	2.2	Fig.2	CPS-5V	-	FT-15	-	
	2025-1B	●	●		20	25	23.0	180	35	10.0	Note 1) 2.8	Fig.2	CPS-5V	-	FT-15	-	
	2025-2B	●	●		20	25	23.0	180	35	10.0	Note 2) 3.2						
	2532-1C	●	●		25	32	30.0	200	43	12.5	Note 3) 4.5	Fig.2	-	CPS-6V	-	LW-3	
	3232-1C	●	●		32	32	30.0	220	52	16.0	Note 3) 4.5						
	4032-1C	●	●		40	32	30.0	250	43	21.0	Note 3) 4.5	Fig.3	-	CPS-6V	-	LW-3	
	2532-2C	●	●		25	32	30.0	200	43	12.5	Note 4) 5.5	Fig.2	-	CPS-6V	-	LW-3	
	3232-2C	●	●		32	32	30.0	220	52	16.0	Note 4) 5.5						
	4032-2C	●	●		40	32	30.0	250	43	22.2	Note 4) 5.5	Fig.3	-	CPS-6V	-	LW-3	G77
GIV®	**1412-1SE**	●	●		14	12	11.4	150	18	7.7	1.7	Fig.4	CPS-5F	-	FT-15	-	
	1612-1AE	●	●		16	12	11.4	150	19	8.2	2.2	Fig.5	CPS-5V	-	FT-15	-	
	2016-1BE	●	●		20	16	15.2	180	20	11.2	Note 1) 2.8	Fig.5	CPS-5V	-	FT-15	-	
	2016-2BE	●	●		20	16	15.2	180	19	11.7	Note 5) 3.2						
	2520-1CE	●	●		25	20	19.0	200	25	14.5	Note 6) 4.5	Fig.5	-	CPS-6V	-	LW-3	
	3225-1CE	●	●		32	25	24.0	220	24	17.5	Note 7) 4.5						
	4032-1CE	●	●		40	32	31.0	240	29	21.0	Note 7) 4.5						
	2720-2CE	●	●		27	20	19.0	200	25	16.2	Note 4) 5.5						
	3225-2CE	●	●		32	25	24.0	220	24	18.7	Note 4) 5.5						
	4032-2CE	●	●		40	32	31.0	240	29	22.2	Note 4) 5.5						
GIV®	**1616-1AW**	●	●		16	16	15.0	175	48	10.6	2.2	Fig.6	CPS-5V	-	FT-15	-	
	2020-1BW	●	●		20	20	19.0	220	60	14.6	Note 1) 2.8	Fig.6	CPS-5V	-	FT-15	-	
	2020-2BW	●	●		20	20	19.0	220	60	14.6	Note 2) 3.2						
	2525-1CW	●	●		25	25	24.0	260	70	19.1	Note 3) 4.5	Fig.6	-	CPS-6V	-	LW-3	
	2525-2CW	●	●		25	25	24.0	260	70	19.1	Note 4) 5.5						

- Dimension **CDX** shows available grooving depth.

Note 1: GV®200~250-020B Insert can be used up to a Groove Depth 3.2mm.
Note 2: GV®300~400-020B Insert can be used up to a Groove Depth 4.2mm.
Note 3: GV®340-020C Insert can be used up to a Groove Depth 5.5mm.
Note 4: GV®430~500-020C Insert can be used up to a Groove Depth 6.3mm.
Note 5: GV®300~400-020B Insert can be used up to a Groove Depth 3.8mm. (When using GIV®2016-2BE)
Note 6: GV®340-020C Insert can be used up to a Groove Depth 4.7mm. (When using GIV®2520-1CE)
Note 7: GV®340-020C Insert can be used up to a Groove Depth 5.3mm. (When using GIV®3225-1CE, GIV®4032-1CE)
If you need any of insert groove depth specified in notes 1 to 7, modify the dimension **CDX** of toolholder.

KIGBA





• Right-hand shown

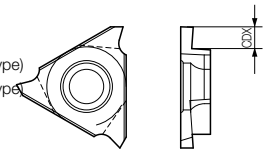
• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Min. Bore Dia. DMIN	Dimensions DCON	H	LF	LH	WF	*CDX	Spare Parts: Clamp Set	Spare Parts: Wrench	Applicable Inserts
KIGBA R/L 16-3	●	●	inch	1.38	1.00	0.92	9.0	1.18	0.69	0.12	LGBA-16R/LS	FT-15	GBA32R/L Type
20-4	●	●	inch	1.57	1.25	1.18	10.0	1.18	0.90	0.12	LGBA-22R/LS	FT-15	GBA43R/L Type
KIGBA R/L 3525-16	●	●	mm	35	25	23	220	30	17.5	2.8	LGBA-16R/LS	FT-15	GBA32R/L type
4032-22	●	●	mm	40	32	30	250	30	23.0	3.0	LGBA-22R/LS	FT-15	GBA43R/L type

G6~G11

*Dimension **CDX** shows the distance from the Toolholder to the cutting edge.
Available Grooving Depth depends on the insert.
KIGBA R/L 3525-16: Dimension **CDX** of the applicable insert (GBA32 type)
4032-22: Dimension **CDX** of the applicable insert (GBA43 type)
1. 2.0mm (Dimension **CDX** < 2.8mm)
2. 2.8mm (Dimension **CDX**≧2.8mm)



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

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Rake Angle (α) after Installment of GBA

GBA32ℝ𝕃○○○-○○○		GBA43ℝ𝕃○○○-○○○		GBA43ℝ𝕃○○○-○○○R (Full-R)		
α (°)	Insert Grade	α (°)	Insert Grade	α (°)	Insert Grade	Full-R
+1°	TN620, TN90, PV7040, PR930, PR1115, PR1215, PR1625, PR905 KPD001, KPD010	-9°	KBN510, KBN525	+1°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR1625, PR905	050R~150R
		+1°	TN620, TC40, TN90, PV7040 PR930, PR1115, PR1215 PR1625, PR905 KPD001, KPD010	+5°	TN620, TN90, PV7040, PR930 PR1115, PR1215, PR1625, PR905	200R
+11°	KW10	+11°	KW10	+5°	KW10	050R~200R

Rake Angle (α) after Installment of GBA-GM

α (°)	Insert Part Number
+1°	GBA43ℝ𝕃150-020GM
+6°	GBA43ℝ𝕃175-020GM ~ GBA43ℝ𝕃265-030GM
+3°	GBA43ℝ𝕃300-030GM ~ GBA43ℝ𝕃400-040GM

Rake Angle (α) after Installment of GBA-MY

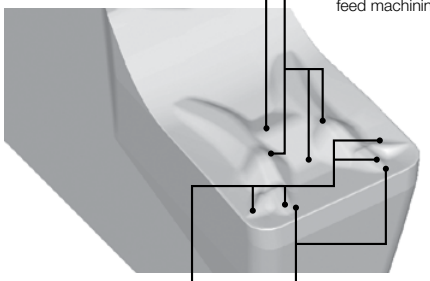
α (°)	Insert Part Number
+6°	GBA43ℝ𝕃175-020MY ~ GBA43ℝ𝕃350-030MY
+5°	GBA43ℝ𝕃400-040MY

KGDI Internal Grooving

Stable Machining with Excellent Chip Control and Smooth Chip Evacuation

1 Excellent Chip Control with GMI Chipbreaker for Internal Grooving

Evenly breaks chips in various cutting conditions with newly designed chipbreaker geometry.
Good chip control even in finishing applications with small depths of cut.



Chip Control Comparison (Internal Evaluation)

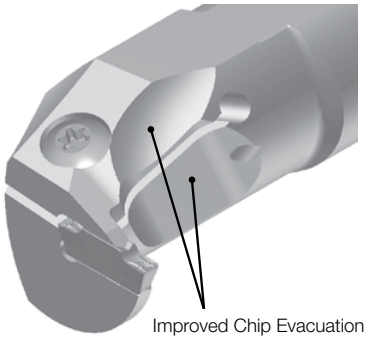
GMI Chipbreaker | Competitor A | Conventional F

Smooth chip control with stable chip shape compared with Competitor A and Conventional F.
Prevents frequent machine stops caused by tangled chips.

Cutting Conditions: Vc = 330 sfm, f = 0.003 ipr Toolholder: KGDIR3225B-3
Insert: GDM3015N-040GMI Workpiece: 5120 Steel

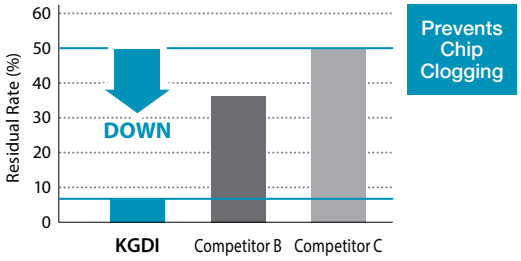
2 Smooth Chip Evacuation by Creating Chip Pocket

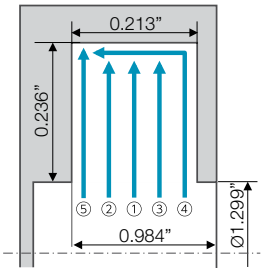
Smooth chip evacuation when grooving and finishing.



Cutting Conditions:
Vc = 330 sfm
①: D.O.C. = 0.118", ②③: D.O.C. = 0.039", ④⑤: D.O.C. = 0.008"
f = 0.003 ipr
Toolholder: KGDIR3225B-3
Insert: GDM3015N-040GMI
Workpiece: 4131 Steel

Residual Chips (Internal Evaluation)



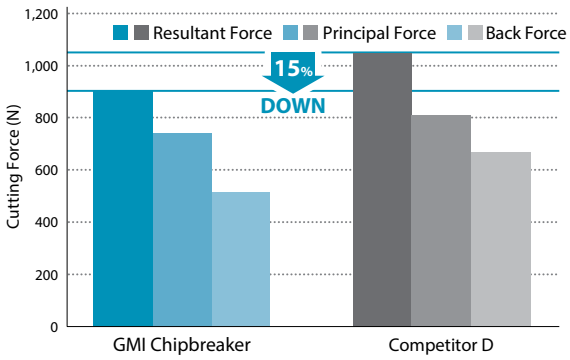


Chips remaining in machined bore were greatly reduced compared with Competitor B and C.

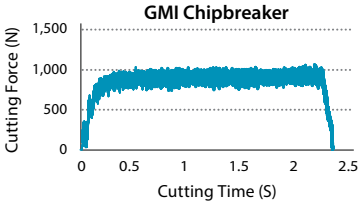
3 Low Cutting Forces and Stable Machining

GMI chipbreaker prevents chip clogging and reduces cutting forces.

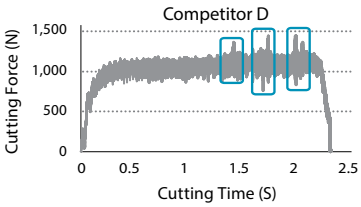
Cutting Force Comparison (Internal Evaluation)



Cutting Conditions: Vc = 490 sfm, f = 0.004 ipr Toolholder: KGDIR3225B-3
Insert: GDM3015N-040GMI Workpiece: 4131 Steel

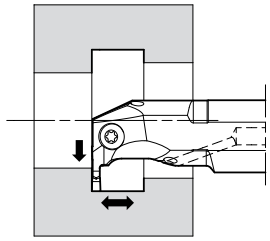


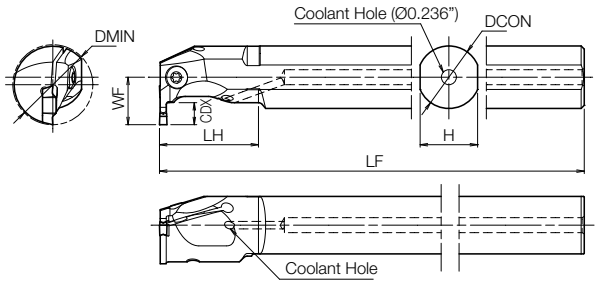
Stable machining with consistent in cutting force.



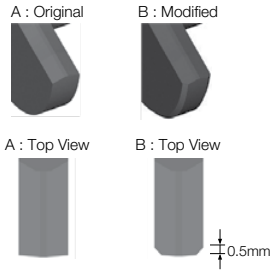
Cutting force spike due to clogged chips.

KGDI





A : Available with Original Holder Shape
B : Available with Modified Holder Shape (Below)



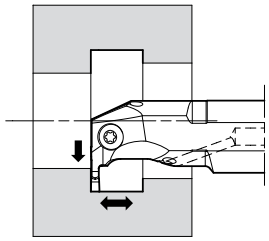
• Right-hand shown

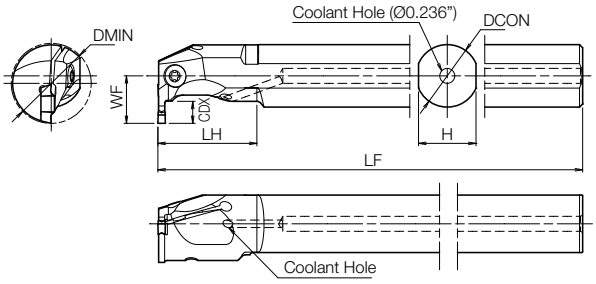
Toolholder Dimensions (Inch Sizes)

Part Number		Stock R	Stock L	Min. Bore Dia. DMIN GMI	Min. Bore Dia. DMIN CM	DCON	H	LF	LH	WF	CDX	Edge Width CW MIN	Edge Width CW MAX	Spare Parts: Clamp Screw	Spare Parts: Clamp Screw	Spare Parts: Wrench	Spare Parts: Wrench
KGDIR	10B-2	●		0.709	-	0.625	0.591	6	0.984	0.374	0.177	0.079	0.079	GS-50	-	LW-3	-
	12B-2	●		0.984		0.75	0.709	7	1.181	0.571	0.236	0.079	0.079				
	16B-2	●		1.260		1	0.906	8	1.575	0.748	0.276	0.079	0.079	-	SB-5TR	-	LTW-20
KGDIR	10B-3	●		0.787	0.827	0.625	0.591	6	0.984	0.453	0.217	0.118	0.118	GS-50	-	LW-3	-
	12B-3	●		0.984	1.024	0.75	0.709	7	1.181	0.571	0.236	0.118	0.118				
	16B-3	●		1.260	1.299	1	0.906	8	1.575	0.748	0.315	0.118	0.118	-	SB-5TR	-	LTW-20
KGDIR	16B-4	●		1.260	A: 1.575 B: 1.299	1	0.906	8	1.575	0.748	0.335	0.157	0.197	-	SB-5TR	-	LTW-20
	20B-4	●		1.575	A: 1.890 B: 1.614	1.25	1.142	8.5	1.969	0.925	0.433	0.157	0.197				
KGDIR	16B-5	●		1.260	A: 1.457 B: 1.338	1	0.906	8	1.575	0.748	0.335	0.197	0.197	-	SB-5TR	-	LTW-20
	20B-5	●		1.575	A: 1.772 B: 1.653	1.25	1.142	8.5	1.969	0.925	0.433	0.197	0.197				

* Possible by slightly chamfering toolholder's tip about 0.5 mm

KGDI





• Right-hand shown

Toolholder Dimensions (Metric Sizes)

Part Number		Stock R	Stock L	Min. Bore Dia. DMIN GMI	Min. Bore Dia. DMIN CM	Dimensions (mm) DCON	H	LF	LH	WF	CDX	Edge Width CW MIN	MAX	Spare Parts: Clamp Screw		Wrench	
KGDI®℄	1816B-2	●	●	18	-	16	15	150	25	9.5	4.5	2	2	GS-50	-	LW-3	-
	2520B-2	●	●	25		20	18	180	30	14.5	6	2	2				
	3225B-2	●	●	32		25	23	200	40	19	7	2	2	-	SB-5TR	-	LTW-20
KGDI®℄	2016B-3	●	●	20	21	16	15	150	25	11.5	5.5	3	3	GS-50	-	LW-3	-
	2520B-3	●	●	25	26	20	18	180	30	14.5	6	3	3				
	3225B-3	●	●	32	33	25	23	200	40	19	8	3	3	-	SB-5TR	-	LTW-20
KGDI®℄	3225B-4	●	●	32	40 (34*)	25	23	200	40	19	8.5	4	5	-	SB-5TR	-	LTW-20
	4032B-4	●	●	40	48 (42*)	32	29	220	50	23.5	11	4	5				
KGDI®℄	3225B-5	●	●	32	37 (34*)	25	23	200	40	19	8.5	5	5	-	SB-5TR	-	LTW-20
	4032B-5	●	●	40	45 (42*)	32	29	220	50	23.5	11	5	5				

* Possible by slightly chamfering toolholder's tip about 0.5 mm

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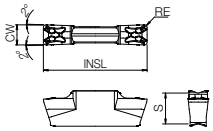
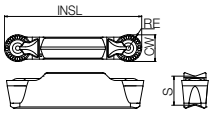
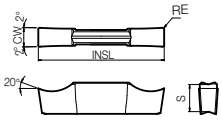
Applicable Inserts

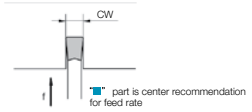
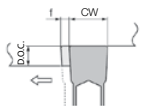
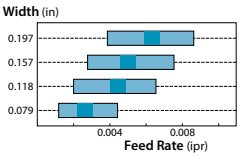
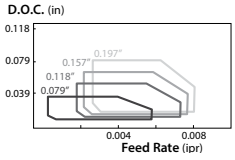
Usage Classification
- ◉ : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

		TN620	PR1535	PR1225	PR1215	GW15
P	Carbon Steel / Alloy Steel	●	◔	◉	◔	
M	Stainless Steel		◉	◔	◔	
K	Cast Iron				◉	
N	Non-Ferrous Metals					◉

Insert	Part Number	Dimensions (in) CW in	CW mm	CW Tolerance	RE	INSL	S	TN620 (Cermet)	PR1535 (MEGACOAT NANO)	PR1225 (MEGACOAT)	PR1215 (MEGACOAT)	GW15 (Uncoated Carbide)	Applicable Toolholders (G83~G84)
General Purpose 	GDM 2013N-020GMI	0.079	2.0	±0.0012	0.008	0.531	0.169	●	●	●	●		KGDI□L...-2
	3015N-040GMI	0.118	3.0		0.016	0.610	0.181	●	●	●	●		KGDI□L...-3
	4020N-040GMI	0.157	4.0		0.016	0.787	0.169	●	●	●	●		KGDI□L...-4
	5020N-040GMI	0.197	5.0	±0.0016	0.016	0.787	0.169	●	●	●	●		KGDI□L...-4 KGDI□L...-5
	5020N-080GMI	0.197	5.0		0.031	0.787	0.169	●	●	●	●		KGDI□L...-4 KGDI□L...-5
Full Radius 	GDM 3015N-150R-CM	0.118	3.0	±0.0012	0.059	0.642	0.181	●	●	●	●		KGDI□L...-3
	4020N-200R-CM	0.157	4.0		0.079	0.787	0.169	●	●	●	●		KGDI□L...-4
	5020N-250R-CM	0.197	5.0	±0.0016	0.098	0.827	0.169	●	●	●	●		KGDI□L...-4 KGDI□L...-5
NEW Low Cutting Force 	GDG 3015N-020GS	0.118	3.0	±0.0008	0.008	0.787	0.169					●	KGDI□L...-3

Recommended Cutting Conditions

Workpiece Material	Chipbreaker	Cermet TN620	MEGACOAT NANO PR1535	MEGACOAT PR1225	MEGACOAT PR1215	Uncoated Carbide GW15	Notes
Carbon Steel	GMI CM	☆ 330~720	☆ 260~490	★ 260~660	☆ 330~660	-	Wet
Alloy Steel	GMI CM	☆ 260~660	☆ 230~490	★ 230~590	☆ 260~590	-	Wet
Stainless Steel	GMI CM	☆ 230~590	★ 200~490	☆ 200~490	☆ 200~490	-	Wet
Cast Iron	GMI CM	-	-	-	★ 330~660	-	Wet
Non-Ferrous Metals	GS	-	-	-	-	★ 660~1,640	Wet

	Grooving	Traversing
Chipbreaker		
GMI (General Purpose)		

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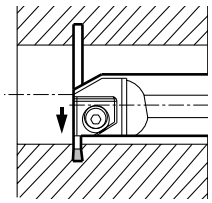
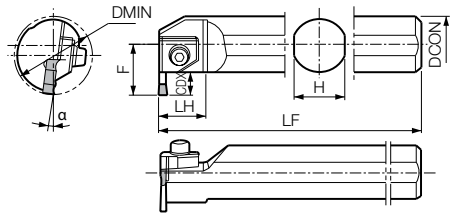
KIGH





• Right-hand shown

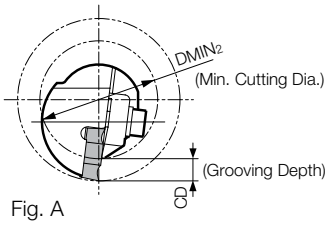


Fig. A

Toolholder Dimensions

Part Number		Stock	Min. Bore Dia. DMIN	Dimensions (mm) DCON	H	LF	LH	WF	CDX	Spare Parts: Clamp	Clamp Bolt	Washer	Spring	Wrench
KIGHR	4532B-4	●	45	32	30	200	27	28.2	12	CGH-1L	HH6X25	W-6	SP-6	LW-5
	5540B-4	●	55	40	38	250	27	32.3	12					
	6550B-4	●	65	50	48	300	27	37.3	12					
	4532B-5	●	45	32	30	200	27	28.2	12	CGH-1L	HH6X25	W-6	SP-6	LW-5
	5540B-5	●	55	40	38	250	27	32.3	12					
	6550B-5	●	65	50	48	300	27	37.3	12					
	5540B-7	●	55	40	38	250	27	32.3	12	CGH-2L	HH6X25	W-6	SP-6	LW-5

- Dimension **CDX** shows the distance from the Toolholder to the cutting edge. For the actual Grooving Depth (**CD**), ref. to "List of Min. Available Cutting Diameter and Groove Depth".
- Dimension **LH** depends on the width of the installed Insert.

Rake Angle (α) after Installment of GH / GHU

GH○○○○-○○ α (°)	Insert Grade	GHU○○-○○ α (°)	Insert Grade
-5°	A65, A66N, PT600M	+5°	TN60 CR9025
+5°	TC40		
+15°	TN90, TC60 PR930 KW10		

List of the Min. Cutting Diameter and Grooving Depth (Refer to Fig.A)

Part Number		DMIN2 Min. Cutting Dia. (mm)					
KIGHR	4532B-○	Ø110	Ø70	Ø65	Ø60	Ø55	Ø45
	5540B-○	Ø70	Ø60	Ø55			
	6550B-○	Ø65					
Available Grooving Depth CD (mm)		12.0	11.5	11.0	10.0	9.0	under 8.0

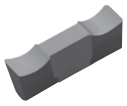
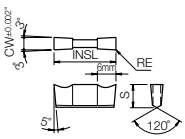
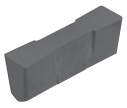
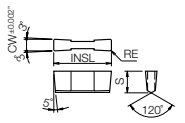
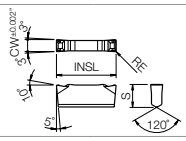
Applicable Inserts

(mm)

Part Number	INSL	S
GH4020-○○~GH8020-○○	20	7.5
GHU○○-○○	20	

P	Carbon Steel / Alloy Steel						◕				
M	Stainless Steel						◕				
K	Cast Iron							◕	○		●
N	Non-ferrous Metals							◕			
S	Titanium Alloy							◕			
H	Hard materials (≤40HRC)						●				
	Hard materials (≥40HRC)									○	●

Classification of Usage
◕ : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

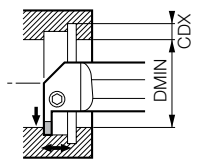
Insert		Part Number		Dimensions (mm) CW	RE	Cermet TN60	TN90	TC40	TC60	CVD Coated Carbide CR9025	PVD Coated Carbide PR930	Carbide KW10	Ceramic A65	A66N	PT600M	Applicable Toolholders
 Ground Chipbreaker		GH	4020-02	4.0	0.20			●	●		●	●				KIGHR4532B-4 KIGHR5540B-4 KIGHR6550B-4
			4020-05		0.50			●	●		●	●	●	●	●	
			4520-02	4.5	0.20			●								
			4520-05		0.50			●								
			5020-02	5.0	0.20			●	●		●	●				KIGHR4532B-5 KIGHR5540B-5 KIGHR6550B-5
			5020-05		0.50			●	●		●	●	●	●	●	
			5520-02	5.5	0.20			●								
			5520-05		0.50			●								
			6020-02	6.0	0.20			●	●		●	●				
			6020-05		0.50			●	●		●	●	●		△	
 Ceramic	 Ceramic Insert		6520-02	6.5	0.20			●								
			6520-05		0.50			●								
			7020-02	7.0	0.20			●	●		●	●				KIGHR5540B-7 KIGHR6550B-7
			7020-05		0.50			●	●		●	●	●			
			7520-02	7.5	0.20			●								
			7520-05		0.50			●								
			8020-02	8.0	0.20			●	●		●	●				
			8020-05		0.50			●	●		●	●				
Molded Chipbreaker		GHU	40-20	4.0	0.25	●				●						KIGHR…○○○○B-4
			50-20	5.0	0.30	●				●						KIGHR…○○○○B-5
			60-20	6.0	0.30	●				●						

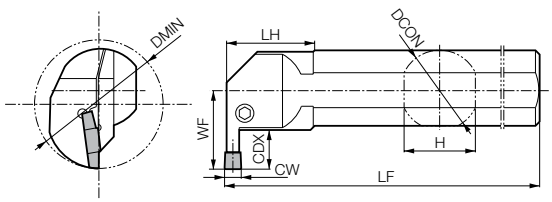
Recommended Cutting Conditions ➡ G147

Inserts are sold in 10 piece boxes.

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

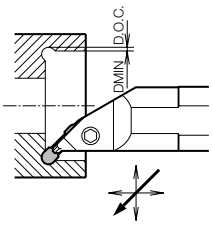
KIGM-8 (8mm-Width Insert / Large Internal Diameter Deep Grooving)

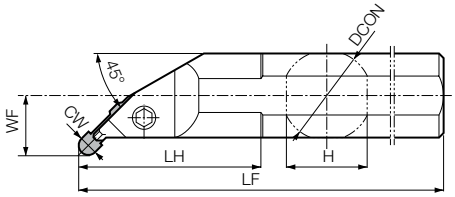




• Right-hand shown

KIGMU-8 (8mm-Width Insert / Large Internal Diameter Undercut Grooving)





• Right-hand shown

Toolholder Dimensions

Part Number	Stock R	Stock L	Min. Bore Dia. DMIN	Dimensions (mm) DCON	H	LF	LH	WF	CDX	D.O.C.	Insert Width CW (mm) MIN	MAX	Spare Parts: Clamp Bolt	Spare Parts: Wrench
KIGM®% 6540B-8	●	●	65	40	36	300	41	41	20	-	8	8	HH6X20	LW-5
KIGMUR 6540B-8	●		65	40	36	300	83	26	-	2.2	8	8	HH6X20	LW-5

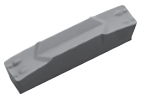
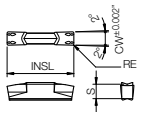
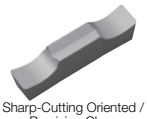
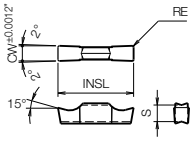
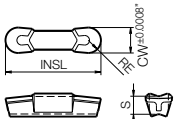
- Dimension CDX shows available grooving depth.
- Dimension D.O.C. shows the distance from the Internal face of the workpiece.

Applicable Inserts

Part Number	INSL	S
GMM8030-080MW	30.0	5.5
GMG8030-050MG	30.0	5.5
GMGA8030-400R	30.0	5.5

P	Carbon Steel / Alloy Steel			◷	●		
M	Stainless Steel			●	◷		
K	Cast Iron					●	◷
N	Non-ferrous Metals						●
S	Titanium Alloy						●
H	Hard materials (≤40HRC)			○	●		
	Hard materials (≥40HRC)						

Classification of Usage
● : Light Interruption / 1st Choice
◷ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

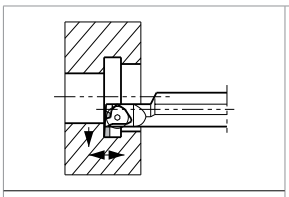
Insert (Right-handed Insert Shown)		Part Number	Previous Part Number	Dimensions (mm) CW	RE	Cermet TN90	CVD Coated Carbide CR9025	PVD Coated Carbide PR915	PR930	PR905	Carbide KW10	Applicable Toolholders
 Chip Control Oriented M Class		GMM 8030-080MW	GMM 8030-08	8.0	0.8		●		●	●	●	KIGM®%...-8 KIGMUR...-8
 Sharp-Cutting Oriented / Precision Class Ground Chipbreaker		GMG 8030-050MG	GMG 8030-05MG	8.0	0.5	●	●		●	●	●	
Sharp-Cutting Oriented / Precision Class Full-R / Copying		GMGA 8030-400R	GMGA 8030-40R	8.0	4.0						●	

- If using a full-R insert with KIGM-8 type toolholder, you need to modify the corner of insert adapter of toolholder.

Recommended Cutting Conditions G153

Inserts are sold in 10 piece boxes.

KGIA



Integral Type

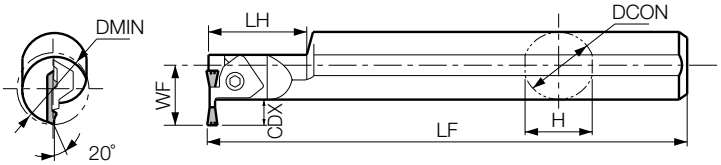
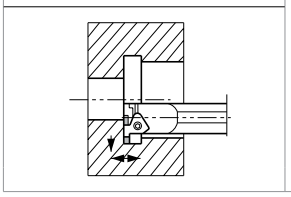


Fig. 1



SwitchBlade Type

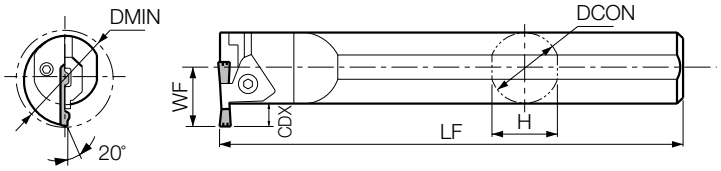


Fig. 2

• Right-hand shown

Toolholder Dimensions

Part Number		Stock	Min. Bore Dia. DMIN	Dimensions (mm) DCON	H	LF	LH	WF	CDX	Drawing	Spare Parts: Clamp	Clamp Bolt	Spring	Wrench
KGIAR	**3232B-3**	●	32	32	30.4	200	45	26.5	10	Fig.1	CGIA-3R	HH5X15	SP-5	LW-4
	4332B-3	●	43	32	30.0	200	-	26.3	10	Fig.2	CGIA-3R	HH5X15	SP-5	LW-4
	5140B-3	●	51	40	38.0	250	-	30.3	10					
	3232B-4	●	32	32	30.4	200	45	26.5	10	Fig.1	CGIA-4R	HH5X15	SP-5	LW-4
	4332B-4	●	43	32	30.0	200	-	26.3	10	Fig.2	CGIA-4R	HH5X15	SP-5	LW-4
	5140B-4	●	51	40	38.0	250	-	30.3	10					
	5640B-5	●	56	40	38.0	250	-	35.3	15	Fig.2	CGIA-5R	HH5X15	SP-5	LW-4
	6650B-5	●	66	50	48.0	250	-	40.3	15					

• Dimension **CDX** shows available grooving depth.

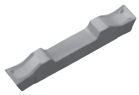
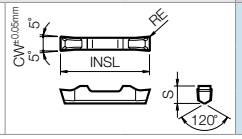
Composition

Type	Toolholder Part Number		Spare Parts: Toolholder	Blade	Clamp Screw	Wrench
Integral Type	**KGIAR**	**3232B-3**	-	-	-	-
Separate Type		**4332B-3**	KGIAR32H	BGIAR43-3	SB-40140TR	FT-15
		5140B-3	KGIAR40H	BGIAR51-3	SB-40140TR	FT-15
Integral Type		**3232B-4**	-	-	-	-
SwitchBlade Type		**4332B-4**	KGIAR32H	BGIAR43-4	SB-40140TR	FT-15
		5140B-4	KGIAR40H	BGIAR51-4	SB-40140TR	FT-15
SwitchBlade Type		**5640B-5**	KGIAR40H	BGIAR56-5	SB-40140TR	FT-15
		6650B-5	KGIAR50H	BGIAR66-5	SB-40140TR	FT-15

Applicable Inserts

P	Carbon Steel / Alloy Steel	○	◐
M	Stainless Steel	○	◐
K	Cast Iron		
N	Non-ferrous Metals		
S	Titanium Alloy		
H	Hard materials (≤40HRC)	○	●
	Hard materials (≥40HRC)		

Classification of Usage
◐ : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)		Part Number	Dimensions (mm) CW	RE	INSL	S	Cermet TN60	CVD Coated Carbide CR9025	Applicable Toolholders
 Molded Chipbreaker		**GIA 30**	3.0	0.20	25	5.0	●	●	KGIAR…3
		40	4.0	0.25	25	5.0	●	●	KGIAR…4
		50	5.0	0.30	30	5.0	●	●	KGIAR…5

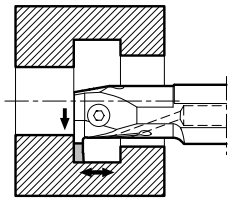
Recommended Cutting Conditions ➔ **G150**

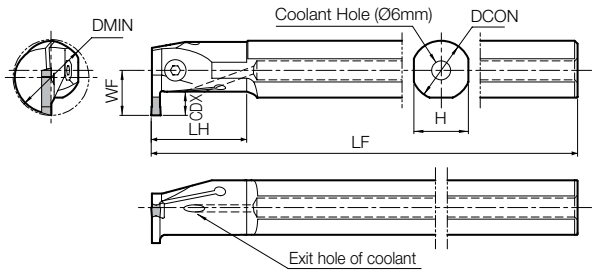
Inserts are sold in 10 piece boxes.

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

KIGM-V (KIGM-V is phasing out and will be removed from next catalog. Switch to **KGDI** G78~G79)





• Right-hand shown

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	Min. Bore Dia. DMIN	Dimensions DCON	H	LF	LH	WF	CDX	Edge Width CW MIN	MAX	Spare Parts: Clamp Screw		Wrench	
KIGM®℄	10B-3V	●	●	inch	0.787	0.625	0.591	6.000	0.984	0.453	0.217	0.118	0.118	GS-50	-	LW-3	-
	12B-3V	●	●		0.966	0.750	0.709	7.000	1.260	0.571	0.217	0.118	0.118				
	16B-3V	●	●		1.260	1.000	0.906	8.000	1.575	0.748	0.315	0.118	0.118	-	SB-5TR	-	LTW-20
	16B-4V	●	●		1.260	1.000	0.906	8.000	1.575	0.748	0.335	0.157	0.197				
	20B-4V	●	●		1.550	1.250	1.140	8.500	1.969	0.925	0.433	0.157	0.197				

• Dimension **CDX** shows available grooving depth.

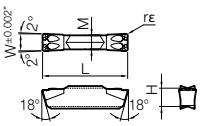
Applicable Inserts

(in)

Part Number	INSL	S
GMM3015…V(□)	0.610	0.169
GMM4020…V(□)	0.787	0.169
GMM5020…V(□)	0.787	0.169

P	Carbon Steel / Alloy Steel			◷	●		
M	Stainless Steel			●	◷		
K	Cast Iron					●	◷
N	Non-ferrous Metals						●
S	Titanium Alloy						●
H	Hard materials (≤40HRC)			○	●		
	Hard materials (≥40HRC)						

Classification of Usage
● : Light Interruption / 1st Choice
◷ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

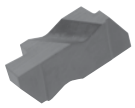
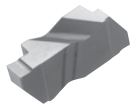
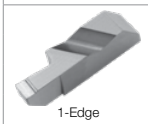
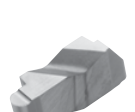
Insert		Part Number	Previous Part Number	Dimensions (in) CW	RE	Cermet TN90	CVD Coated Carbide CR9025	PVD Coated Carbide PR915	PR930	PR905	Carbide KW10	Applicable Toolholders
Chip Control Oriented M Class		GMM 3015-040V	GMM 3015-04V	0.118	0.016	●	●	●	●	●	●	KIGM®℄ 2016B-3V KIGM®℄ 2520B-3V KIGM®℄ 3225B-3V
		4020-040V	4020-04V	0.157	0.016	●	●	●	●	●	●	KIGM®℄ 3225B-4V KIGM®℄ 4032B-4V
		5020-080V	5020-08V	0.197	0.031		●	●	●	●	●	

• It is not recommended to use this for KIGM-V Internal Grooving Toolholders against GMM...V / GMM...VR which the front relief angle is 18°, because the relief angle of the insert used for GMM4020-04 toolholder is 10°.

Recommended Cutting Conditions G153

Inserts are sold in 10 piece boxes.

KCG / KCGP / KCGDP / KCRP

Insert (Right-handed Insert Shown)	Part Number	CW (inch)	CW (mm)	CDX	RE	W1	INSL	S	TC40 R	TC40 L	TC60 R	TC60 L	PR1215 R	PR1215 L	PR660 R	PR660 L	PR930 R	PR930 L	KW10 R	KW10 L	A65 R	A65 L
		Dimensions (in)							Insert Grade: Cermet				MEGA COAT CVD		PVD				Carbide		Ceramic	
 2-Edge	KCG 2062 R/L	0.062	1.57	0.110	0.008	0.150	0.540	0.219													●	●
	2125 R/L	0.125	3.18																			●
	3062 R/L	0.062	1.57	0.094	0.008	0.195	0.810	0.344													●	
	3094 R/L	0.094	2.39	0.150																	●	●
	3125 R/L	0.125	3.18																		●	
	3156 R/L	0.156	3.96																		●	●
 2-Edge	KCGP 2031 R/L	0.031	0.79	0.050	0.003	0.150	0.540	0.219		●		●	●	●			●	●	●	●		
	2041 R/L	0.041	1.04							●	●		●	●			●					
	2047 R/L	0.047	1.19							●	●		●	●	●	●	●	●	●	●		
	KCGP 2058 R/L	0.058	1.47	0.110	0.008	0.150	0.540	0.219		●			●									
	2062 R/L	0.062	1.57							●		●	●	●		●	●	●	●	●		
	KCGP 2094 R/L	0.094	2.39	0.110	0.008	0.150	0.540	0.219		●			●	●			●	●	●	●		
	2125 R/L	0.125	3.18						●	●			●	●	●		●	●	●			
	KCGP 3031 R/L	0.031	0.79	0.050	0.008	0.195	0.810	0.344		●			●	●			●	●				
	3047 R/L	0.047	1.19	0.075								●	●	●	●		●	●	●			
	3062 R/L	0.062	1.57	0.094									●	●			●	●	●	●		
	3072 R/L	0.072	1.83						●	●	●	●	●	●				●				
	KCGP 3078 R/L	0.078	1.98	0.094	0.008	0.195	0.810	0.344		●	●		●	●		●	●	●				
	3088 R/L	0.088	2.24							●		●	●				●	●				
	KCGP 3094 R/L	0.094	2.39	0.150	0.008	0.195	0.810	0.344	●	●		●	●	●			●	●	●	●		
	3097 R/L	0.097	2.46							●							●					
	3105 R/L	0.105	2.67							●							●	●				
	KCGP 3110 R/L	0.110	2.79	0.150	0.008	0.195	0.810	0.344	●	●			●	●			●					
	3122 R/L	0.122	3.10						●									●				
	3125 R/L	0.125	3.18								●		●	●			●	●	●	●		
	KCGP 3142 R/L	0.142	3.61	0.150	0.008	0.195	0.810	0.344	●	●							●	●				
	3156 R/L	0.156	3.96							●	●			●		●	●	●				
	3178 R/L	0.178	4.52							●							●	●				
	KCGP 3185 R/L	0.185	4.70	0.150	0.008	0.195	0.810	0.344	●	●							●	●				
	3189 R/L	0.189	4.80						●	●	●	●	●	●		●	●	●	●	●		
	KCGP 4125 R/L	0.125	3.18	0.150	0.008	0.255	1.272	0.453	●	●			●	●			●	●				
	4189 R/L	0.189	4.80	0.250	0.018					●			●	●			●	●				
	4213 R/L	0.213	5.41						●	●							●	●				
	KCGP 4219 R/L	0.219	5.56	0.250	0.018	0.255	1.272	0.453	●	●							●	●				
	4250 R/L	0.250	6.35							●			●	●			●	●				
 1-Edge	KCGDP 3062 R/L	0.062	1.57	0.125	0.008	0.195	0.886	0.344	●	●			●	●			●					
	3094 R/L	0.094	2.39	0.250	0.008	0.195	0.990	0.344	●	●			●	●			●	●				
	3125 R/L	0.125	3.18						●				●	●			●	●				
	3189 R/L	0.189	4.80	0.250	0.023				●	●								●				
 2-Edge	KCRP 2031 R/L	0.062	1.57	0.094	0.031	0.150	0.540	0.219					●	●			●					
	2039 R/L	0.078	1.98	0.110	0.039												●	●				
	2047 R/L	0.094	2.39	0.150	0.047								●	●								
	2062 R/L	0.125	3.18	0.150	0.062						●		●	●								
	KCRP 3031 R/L	0.062	1.57	0.094	0.031	0.195	0.810	0.344		●	●		●	●			●	●		●		
	3047 R/L	0.094	2.39	0.150	0.047				●				●	●			●	●				
	3062 R/L	0.125	3.18	0.150	0.062								●	●		●	●	●				
	KCRP 3078 R/L	0.156	3.96	0.150	0.078	0.195	0.810	0.344									●	●				
	3094 R/L	0.188	4.78	0.150	0.094					●			●	●			●	●				
	KCRP 4125 R/L	0.250	6.35	0.250	0.125	0.255	1.272	0.453	●	●					●		●	●				

- Dimension **CDX** shows available Grooving Depth.

Recommended Cutting Conditions (Cera-Notch)

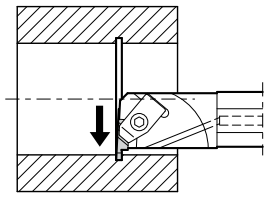
Workpiece Material	Cermet Feeds (ipr)	Carbide Feeds (ipr)	Recommended Insert Grade (Vc : sfm)						
			Cermet		MEGACOAT	Carbide			Ceramic
			TC40	TC60	PR1215	PR660	PR930	KW10	A65
Carbon Steel	0.002~0.005	0.002~0.010	300~900	250~900	300~800	200~550	250~650	-	-
Alloy Steel	0.002~0.005	0.002~0.010	250~800	250~800	300~750	100~500	150~550	-	-
Stainless Steel	0.002~0.005	0.002~0.010	-	200~600	300~600	100~550	100~550	-	-
Tool Steel	0.002~0.005	0.002~0.010	200~650	200~650	300~600	-	100~550	-	-
Hardened Steel (>45Rc)	-	-	-	-	-	-	-	-	250~500*
Gray Cast Iron	0.003~0.006	0.002~0.012	200~700	-	300~700	-	-	-	500~1000
Ductile Iron	0.003~0.006	0.002~0.012	-	150~600	300~600	-	-	-	500~1000
Aluminum	0.002~0.008	0.002~0.012	150~1600	-	-	-	-	500~1600	-

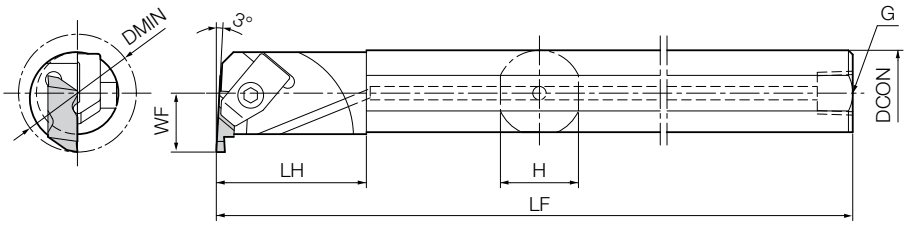
Speeds & Feeds listed are for external grooving. Reduce parameters by 10% for internal grooving.
*Feeds = 0.003~0.008 ipr

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

A-KKC





• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	Min. Bore Dia. DMIN	Dimensions (in) DCON	H	LF	LH	WF	G	Spare Parts: Clamp	Clamp Screw	Wrench
A10M-KKCR-2	●		inch	1.000	0.625	0.596	6.00	1.153	0.500	1/8-27 NPT	CKC-2L	SKC-2	(7/64 Hex)
A10S-KKCR-2	●			1.000	0.625	0.596	10.00	1.153	0.500	1/8-27 NPT			
A12R-KKCR-2	●			1.125	0.750	0.728	8.00	1.171	0.562	1/8-27 NPT			
A12S-KKCR-2	●			1.125	0.750	0.728	10.00	1.171	0.562	1/8-27 NPT			
A16T-KKC R/L-2	●	●		1.375	1.000	0.910	12.00	1.100	0.688	1/8-27 NPT	CKC-3 R/L	SKC-3	(LW-156)
A16X-KKC R/L-3	●			1.375	1.000	0.910	9.00	1.750	0.688	1/8-27 NPT			
A16T-KKC R/L-3	●	●		1.375	1.000	0.910	12.00	1.750	0.688	1/4-18 NPT			
A20U-KKC R/L-3	●			1.750	1.250	1.138	14.00	1.750	0.875	1/4-18 NPT			
A24U-KKC R/L-3	●	●		2.000	1.500	1.366	14.00	1.750	1.000	1/4-18 NPT			
A28U-KKC R/L-4	●			2.500	1.750	1.593	14.00	1.750	1.250	1/4-18 NPT			
A32V-KKC R/L-4	●	●		2.750	2.000	1.820	16.00	1.750	1.375	1/4-18 NPT			

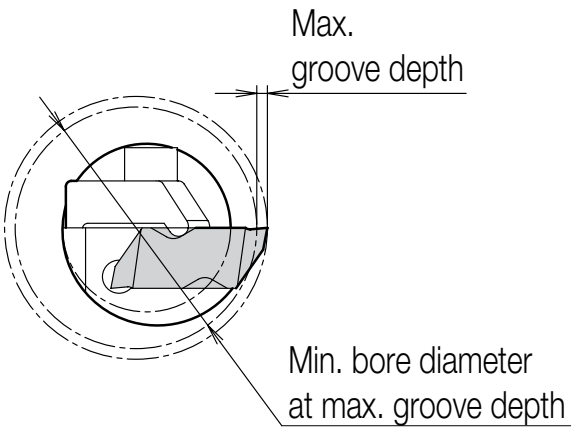
• Note: Right hand bars require left hand inserts and clamps. Left hand bars require right hand inserts and clamps

Also Available for Internal Threading. See Page J25

Applicable Insert

Toolholder	Insert G90
A-KKC R/L ...-2	KCGP-2, KCG-2, KCRP-2
A-KKC R/L ...-3	KCGP-3, KCG-3, KCRP-3
A-KKC R/L ...-4	KCGP-4, KCRP-4

Cutting Diameter Table



• "**CDX**" dimension is same as the "**CDX** dimension" of the available insert.

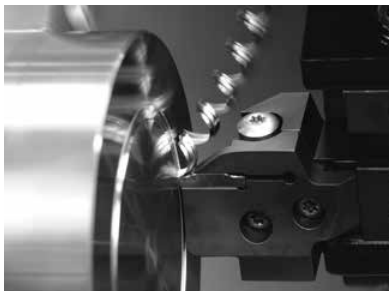
(inch)

Insert Size	CDX Dimension	Max Groove Depth	Min Bore Dia.
KCG-2 KCGP-2 KCRP-2	0.050	0.040	1.000
	0.110	0.110	2.500
		0.102	1.750
		0.098	1.500
		0.080	1.000
KCG-3 KCGP-3 KCRP-3	0.075	0.050	1.325
	0.094	0.080	1.250
		0.070	1.625
		0.065	1.325
	0.150	0.140	2.375
		0.135	2.125
		0.128	1.875
		0.115	1.625
		0.100	1.375
KCGP-4 KCRP-4	0.150	0.140	2.750
	0.250	0.240	5.750
		0.235	5.000
		0.230	4.500
		0.208	3.250
		0.190	2.500

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Face Grooving Dia. (DAXN / DAXX)

Face grooving diameter DAXN (min) ~ DAXX (max) is the suitable range for the initial grooving plunge on the unprocessed workpiece
(See Fig.1).
Then, you can widen it towards the inside or the outside within the tool's diameter range.



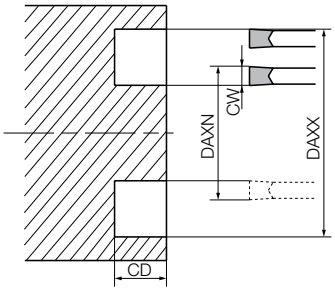
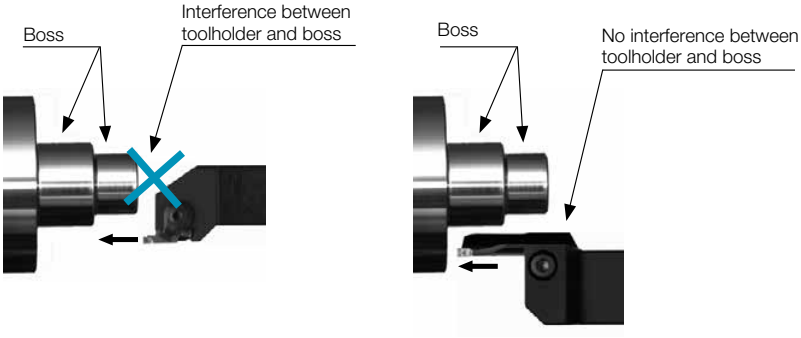


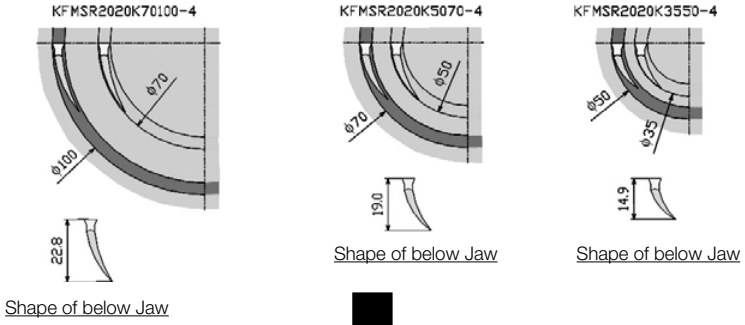
Fig.1

Caution for Face Grooving

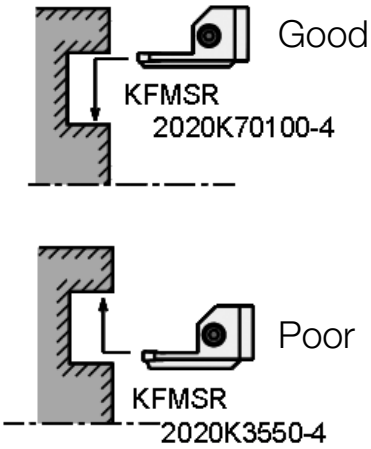
1) When face grooving, the suitable toolholder depends on the length of the boss



2) Selection of Face Grooving Toolholder



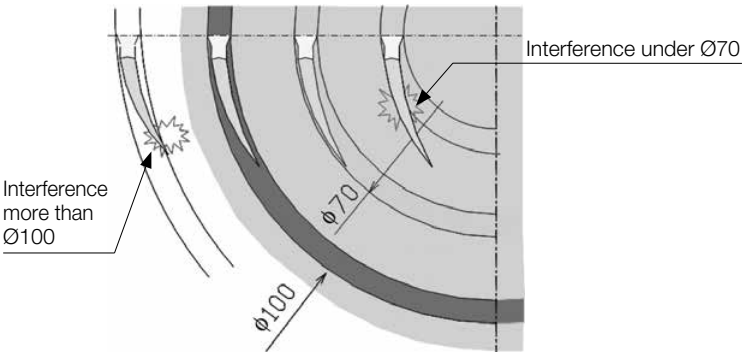
Wider grooving (turning) should be performed from the outside inwards.



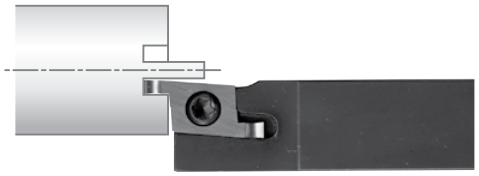
- Example of usage for the face grooving toolholder. When face grooving, KFMSR2525M70100-4 should be plunged between Ø70mm~Ø100mm starting at the outer diameter and moving torwards center. The jaw of toolholder interferes with the workpiece at diameters above Ø100mm or below Ø70mm.

3) Interference of Face Grooving Toolholder

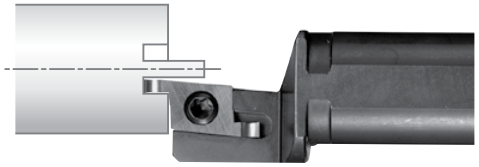
e.g.) KFMSR2525M70100-4



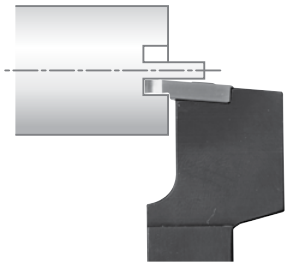
Small Diameter Face Grooving Ø0.236" (Ø6mm)~



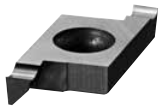
Type	STW
Min. Face Groove Dia.	0.236" (6.0mm)
Edge Width	0.020"~0.079" (0.5mm ~ 2.0mm)
Grooving Depth	0.039"~0.118" (1.0mm ~ 3.0mm)
Ref. Page	G100



Type	S...-STW
Min. Face Groove Dia.	0.236" (6.0mm)
Edge Width	0.020"~0.079" (0.5mm ~ 2.0mm)
Grooving Depth	0.039"~0.118" (1.0mm ~ 3.0mm)
Ref. Page	G100



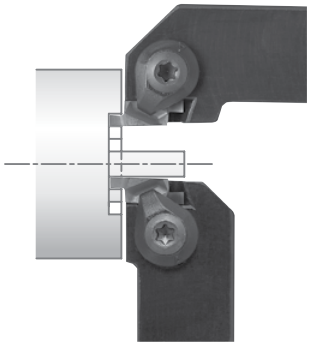
Type	STWS
Min. Face Groove Dia.	0.236" (6.0mm)
Edge Width	0.020"~0.079" (0.5mm ~ 2.0mm)
Grooving Depth	0.039"~0.118" (1.0mm ~ 3.0mm)
Ref. Page	G101



Twin Bar Horizontal Type

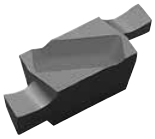
Twin Bar Vertical Type

Small Diameter Face Grooving Ø0.315" (Ø8mm)~



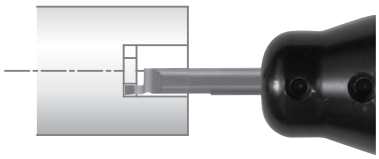
Type	GFVS-AA
Min. Face Groove Dia.	0.315" (8.0mm)
Edge Width	0.039"~0.118" (1.0mm ~ 3.0mm)
Grooving Depth	0.0866" (2.2mm)
Ref. Page	G130

Type	GFVT-AA
Min. Face Groove Dia.	0.315" (8.0mm)
Edge Width	0.039"~0.118" (1.0mm ~ 3.0mm)
Grooving Depth	0.0866" (2.2mm)
Ref. Page	G130



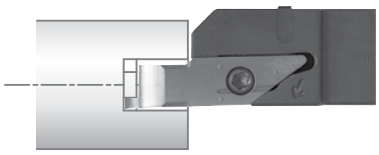
Ground Chipbreaker

Small Diameter Face Grooving Ø0.197"~, Ø0.315"~ (Ø5mm~, Ø8mm~)



Type	EZFG
Min. Face Groove Dia.	0.197", 0.236", 0.315" (5.0mm, 6.0mm, 8.0mm)
Edge Width	0.039"~0.118" (1.0mm ~ 3.0mm)
Grooving Depth	0.079"~0.118" (1.5mm ~ 3.0mm)
Ref. Page	G96

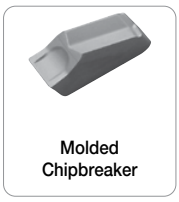
EZ-Bar



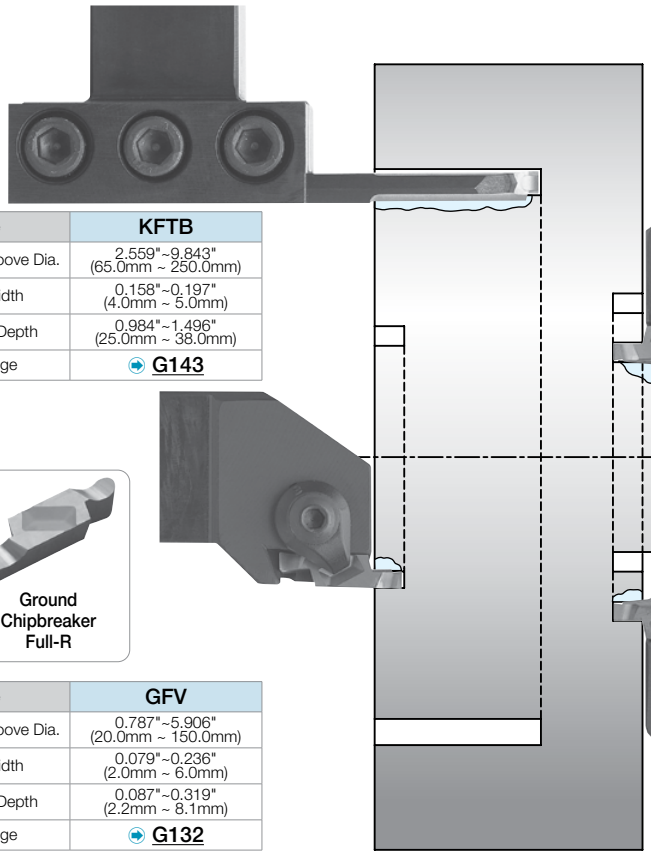
Type	VNFG
Min. Face Groove Dia.	0.315" (8.0mm)
Edge Width	0.039"~0.118" (1.0mm ~ 3.0mm)
Grooving Depth	0.079"~0.118" (2.0mm ~ 3.0mm)
Ref. Page	G98

Swiss IQ Bar

Face Grooving Ø0.787" (Ø20mm)~



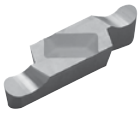
Molded Chipbreaker



Type	GFVS
Min. Face Groove Dia.	1.378"~5.906" (35.0mm ~ 150.0mm)
Edge Width	0.098"~0.236" (2.5mm ~ 6.0mm)
Grooving Depth	0.181"~0.319" (4.6mm ~ 8.1mm)
Ref. Page	G134

Type	KFTB
Min. Face Groove Dia.	2.559"~9.843" (65.0mm ~ 250.0mm)
Edge Width	0.158"~0.197" (4.0mm ~ 5.0mm)
Grooving Depth	0.984"~1.496" (25.0mm ~ 38.0mm)
Ref. Page	G143

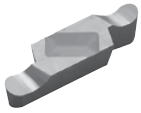
Ground Chipbreaker



Ground Chipbreaker Full-R

Type	GFV
Min. Face Groove Dia.	0.787"~5.906" (20.0mm ~ 150.0mm)
Edge Width	0.079"~0.236" (2.0mm ~ 6.0mm)
Grooving Depth	0.087"~0.319" (2.2mm ~ 8.1mm)
Ref. Page	G132

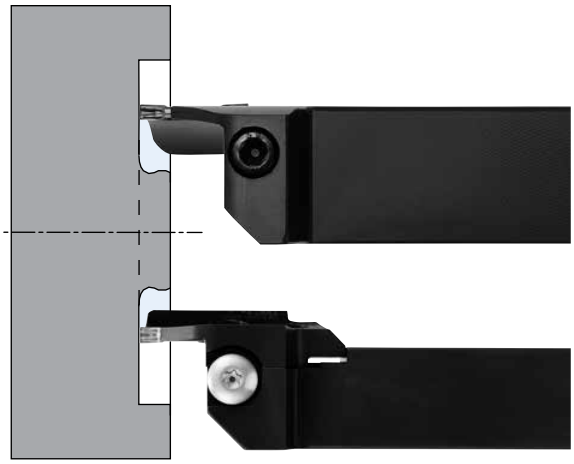
Ground Chipbreaker



Ground Chipbreaker Full-R

Type	GFVT
Min. Face Groove Dia.	1.378"~5.906" (35.0mm ~ 150.0mm)
Edge Width	0.098"~0.236" (2.5mm ~ 6.0mm)
Grooving Depth	0.181"~0.319" (4.6mm ~ 8.1mm)
Ref. Page	G134

KGDF Face Grooving Ø0.984" (Ø25mm)~ (G86~G113)



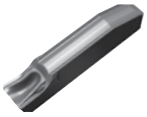
Type	KGDF-Z
Min. Face Groove Dia.	1.969" (50.0mm)
Edge Width	0.118"~0.197" (3.0mm ~ 5.0mm)
Grooving Depth	0.591" (15.0mm)
Ref. Page	G116

Type	*KGDF
Min. Face Groove Dia.	0.984" (25.0mm)
Edge Width	0.079"~0.236" (2.0mm ~ 6.0mm)
Grooving Depth	0.236"~1.260" (6.0mm ~ 32.0mm)
Ref. Page	G106

*The SwitchBlade type toolholders can accept all blades if their hand is matching.

Grooving and Turning
GM

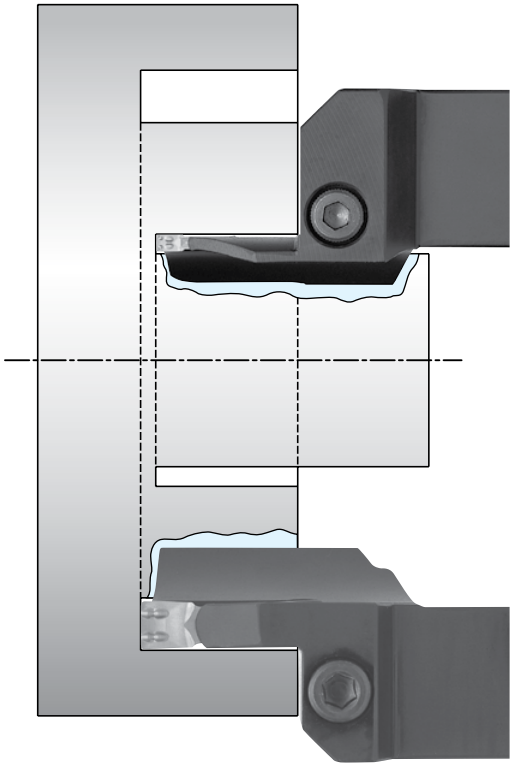
Deep Grooving and Turning
DM



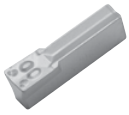
High Feed Rate
GH

Full Radius (R)
CM

Face Grooving & Turning Ø0.984" (Ø25mm)~



Type	KFMS
Min. Face Groove Dia.	0.984"~9.252" (25.0mm~235.0mm)
Edge Width	0.118"~0.236" (3.0mm ~ 6.0mm)
Grooving Depth	0.512"~1.260" (13.0mm ~ 32.0mm)
Ref. Page	G140

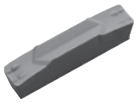


Molded Chipbreaker

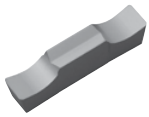
Type	KKCE
Min. Face Groove Dia.	0.940"~1.630"
Edge Width	0.125"~0.189" (3.15mm~4.80mm)
Grooving Depth	0.060"~0.150" (1.52mm~3.81mm)
Ref. Page	G139

Ground Chipbreaker

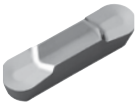
Type	KFMS-8
Min. Face Groove Dia.	2.126"~6.102" (54.0mm~155.0mm)
Edge Width	0.315" (8.0mm)
Grooving Depth	0.984" (25.0mm)
Ref. Page	G142



Molded Chipbreaker

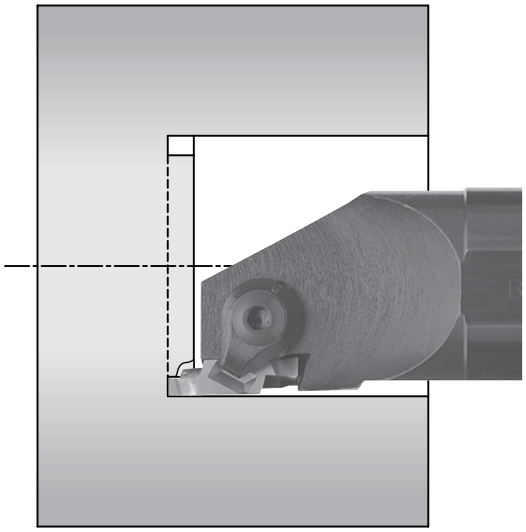


Ground Chipbreaker



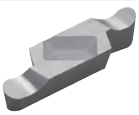
Molded Chipbreaker Full-R

Face Grooving Ø1.378" (Ø35mm)~



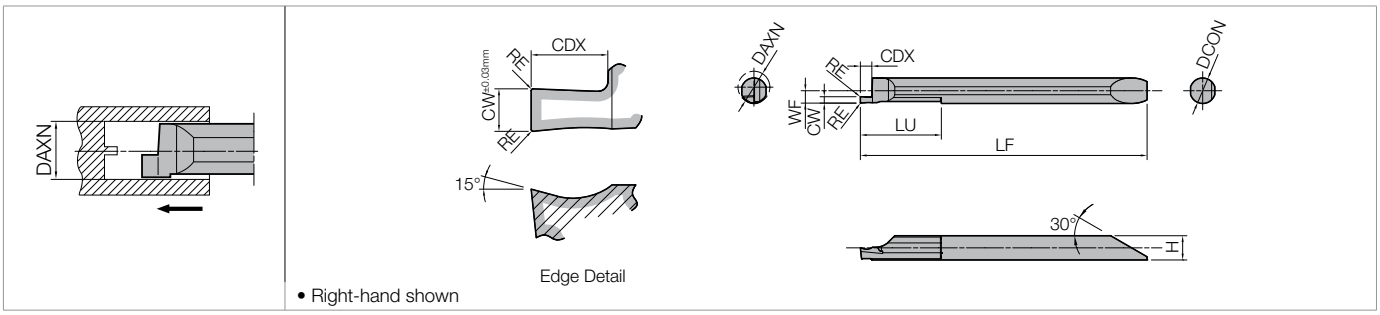
Type	GIFV
Min. Face Groove Dia.	1.378"~1.969" (35.0mm~50.0mm)
Edge Width	0.079"~0.236" (2.0mm~6.0mm)
Grooving Depth	0.087"~0.319" (2.2mm~8.1mm)
Ref. Page	G144

Ground Chipbreaker



Ground Chipbreaker Full-R

EZFG



• Right-hand shown

Dimensions

Part Number		Min. Face Groove Dia. DAXN	CW±0.03	RE	DCON	H	LF	LU	WF	CDX	MEGACOAT PR1225 R	MEGACOAT PR1225 L	Carbide GW05 R	Applicable Sleeve G97
EZFG R/L	050040-100	5	1.0	±0.013 0.05	4	3.8	45.0	12	1.9	1.5	●	●	●	EZH040..
	050040-150		1.5							2.0	●	●	●	
EZFG R/L	060050-100	6	1.0	±0.013 0.05	5	4.8	53.2	15	2.4	1.5	●	●	●	EZH050..
	060050-150		1.5							2.5	●	●	●	
	060050-200		2.0							3.0	●	●	●	
EZFG R/L	080070-100	8	1.0	±0.013 0.05	7	6.8	64.2	25	3.4	2.0	●	●	●	EZH070..
	080070-150		1.5							2.5	●	●	●	
	080070-200		2.0							3.0	●	●	●	
	080070-300		3.0								●	●	●	

• Dimension **CDX** shows the available grooving depth.

Recommended Cutting Conditions

Workpiece Material	Insert Grade (Vc:sfm) MEGACOAT PR1225	Insert Grade (Vc:sfm) Carbide GW05	EZFG R/L 050040-100 EZFG R/L 060050-100 EZFG R/L 080070-100	EZFG R/L 050040-150 EZFG R/L 060050-150 EZFG R/L 080070-150	EZFG R/L 060050-200 EZFG R/L 080070-200	EZFG R/L 080070-300	Notes
			Feed Rate (ipr)				
Carbon Steel / Alloy Steel	★ 100~330	-	~0.0008	~0.0012	~0.0016	~0.0020	Wet
Stainless Steel	★ 100~260	-	~0.0004	~0.0008	~0.0008	~0.0012	
Non-Ferrous	-	★ ~980	~0.0012	~0.0020	~0.0024	~0.0031	

★ : 1st Recommendation

EZ-Bar Sleeve Identification System (Face Grooving)

EZ FG R 050 040 – 100

EZ Symbol of Bar	Application	Hand of Tool	Min. Bore Dia.	Shank Dia.	Groove Width
	FG : Face Grooving	**R** : Right-hand **L** : Left-hand	**050** : 5mm	**040** : 4mm	**100** : 1.0mm
			060 : 6mm	**050** : 5mm	**150** : 1.5mm
			080 : 8mm	**070** : 7mm	**200** : 2.0mm
					300 : 3.0mm

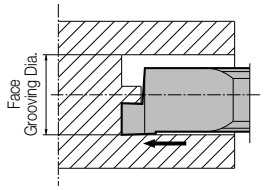
EZ Bars are sold in 1 piece boxes.

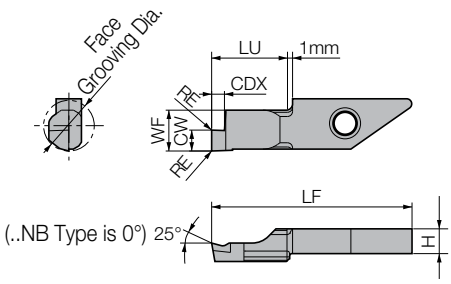
Applicable Sleeves

Sleeve Part Number				Applicable Bar for Internal Face Grooving		
EZH-CT (Adjustable Overhang Length / with Coolant Hole) F32~F33	EZH-HP (Adjustable Overhang Length) F34~F35	EZH-ST F36~F37	Sleeve Shank Dia. DCON (mm)	EZFG	EZ Bar Shank Dia. DCON (mm)	Applicable Machine Manufacturer
-	-	EZH 04012ST-80	12.00	EZFG R/L 050040-...	4	(General Purpose)
		05012ST-80		EZFG R/L 060050-...	5	
		07012ST-80		EZFG R/L 080070-...	7	
-	EZH 04016HP-100	EZH 04016ST-100	16.00	EZFG R/L 050040-...	4	(General Purpose)
	05016HP-100	05016ST-100		EZFG R/L 060050-...	5	
	07016HP-100	07016ST-100		EZFG R/L 080070-...	7	
EZH 04019CT-120	EZH 04019HP-120	EZH 04019ST-120	0.750"	EZFG R/L 050040-...	4	Citizen Machinery
05019CT-120	05019HP-120	05019ST-120		EZFG R/L 060050-...	5	
07019CT-120	07019HP-120	07019ST-120		EZFG R/L 080070-...	7	
EZH 04020CT-120	EZH 04020HP-120	EZH 04020ST-120	20.00	EZFG R/L 050040-...	4	Amada Machine Tools / Eguro / Tsugami / Citizen Machinery / (General purpose)
05020CT-120	05020HP-120	05020ST-120		EZFG R/L 060050-...	5	
07020CT-120	07020HP-120	07020ST-120		EZFG R/L 080070-...	7	
EZH 04022CT-135	EZH 04022HP-135	EZH 04022ST-135	22.00	EZFG R/L 050040-...	4	Star Micronics / Nomura DS / Tsugami
05022CT-135	05022HP-135	05022ST-135		EZFG R/L 060050-...	5	
07022CT-135	07022HP-135	07022ST-135		EZFG R/L 080070-...	7	
EZH 04025.0CT-135	EZH 04025.0HP-135	EZH 04025.0ST-135	25.00	EZFG R/L 050040-...	4	Amada Machine Tools / Eguro / Tsugami / Citizen Machinery / (General purpose)
05025.0CT-135	05025.0HP-135	05025.0ST-135		EZFG R/L 060050-...	5	
07025.0CT-135	07025.0HP-135	07025.0ST-135		EZFG R/L 080070-...	7	
EZH 04025.4CT-120	EZH 04025.4HP-120	EZH 04025.4ST-120	1.000"	EZFG R/L 050040-...	4	Citizen Machinery
05025.4CT-120	05025.4HP-120	05025.4ST-120		EZFG R/L 060050-...	5	
07025.4CT-120	07025.4HP-120	07025.4ST-120		EZFG R/L 080070-...	7	

- Choose sleeves with a **DCON** dimension that matches the **DCB** dimension of the EZ Bar.
- **EZH-ST** sleeves are not adjustable. To adjust overhang of the **EZFG** bars, please use **EZH-CT/HP** sleeves.
- Machine manufacturers in random order.

VNFG (Swiss IQ Bar)





• Right-hand shown

Dimensions

Classification of Usage
- ◉ : Light Interruption / 1st Choice
- ◔ : Light Interruption / 2nd Choice
- ● : Continuous / 1st Choice
- ○ : Continuous / 2nd Choice

		MEGA COAT	PVD Coated Carbide	Carbide	PCD	
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		Face Grooving Dia.		Dimensions (mm)								MEGA COAT	PVD Coated Carbide	Carbide	PCD		Ref. Page for Toolholder
		DAXN (MIN)	DAXX (MAX)	$CW^{\pm0.001}$ inch	$CW^{\pm0.03}$ mm	RE	H	LF	LU	WF	CDX	PR1225	PR930	KW10	KPD001	KPD010	
VNFGR	0810-10	8 (0)	∞ (∞)	0.039	1.0	0.05	3.9	29.6	10	7.3	2.0	●	●	●			F40 F41
	0820-10			0.079	2.0	0.05	3.9	29.6	10	7.3	2.0	●	●	●			
	0830-10			0.118	3.0	0.05	3.9	29.6	10	7.3	3.0	●	●	●			
VNFGR	0820-10NB			0.079	2.0	0.05	3.9	29.6	10	7.3	2.0				□	□	
	0830-10NB			0.118	3.0	0.05	3.9	29.6	10	7.3	3.0				□	□	

- Dimension **CDX** shows the available grooving depth
- Face grooving diameter **DAXN (0)** means that you can make the initial groove within **DAXN** (min) - **DAXX** (max) and then widen it to the center.

Swiss IQ Bars are sold in 5 piece boxes. *CBN & PCD Inserts are sold in 1 piece boxes.*

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
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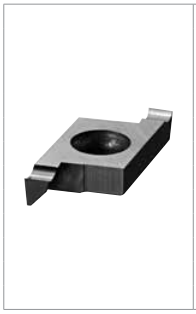
● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

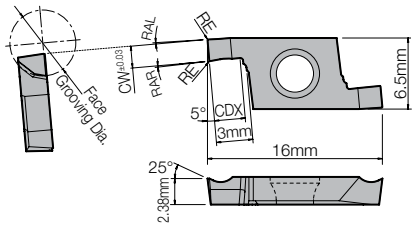
Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grade (Vc sfm)			VNFG0810	VNFG0820	VNFG0830	Notes
	MEGACOAT	PVD Coated Carbide	Carbide				
	PR1225	**PR930**	**KW10**	**Feed Rate (ipr)**			
Carbon Steel / Alloy Steel	★ 100~330	☆ 100~330	-	~0.0008	~0.0016	~0.0020	Wet
Stainless Steel	★ 100~260	☆ 100~260	-	~0.0004	~0.0008	~0.0012	
Non-ferrous Metals	-	-	★ ~980	~0.0016	~0.0024	~0.0031	

★ : 1st Recommendation ☆ : 2nd Recommendation

TWFG (Horizontal Type)





• Left-hand Shown

Part Number	Face Grooving Dia. DAXN (MIN)	Face Grooving Dia. DAXX (MAX)	Dimensions (mm) CW inch	CW mm	RE	CDX	Angle (°) RA	Insert Grade MEGA COAT NANO PR1535	PVD Coated Carbide PR1025	Carbide KW10
TWFGL 050	6 (0)	∞ (∞)	0.020	0.50	0.05	1.0	1.5°	●	△	●
080			0.031	0.80	0.05	1.5	1.5°	●	△	●
100			0.039	1.00	0.05	2.2	2.0°	●	△	●
125			0.049	1.25	0.05	2.2	2.0°	●	△	●
150			0.059	1.50	0.05	2.2	2.0°	●	△	●
180			0.071	1.80	0.05	3.0	2.0°	●	△	●
200			0.079	2.00	0.05	3.0	2.0°	●	△	●

- Dimension **CDX** shows the available grooving depth
- Face grooving diameter **DAXN (0)** means that you can make the initial groove within **DAXN** (min) - **DAXX** (max) and then widen it to the center.

STW (Square Shank for Horizontal Type)

Right-hand toolholder for boring, see Page F44

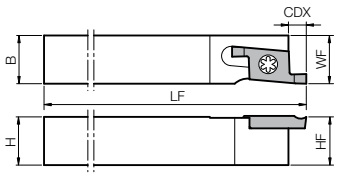


Fig.1

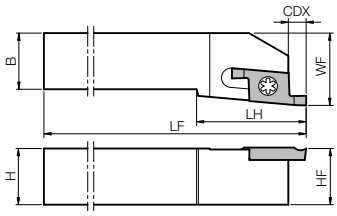


Fig.2

• Left-hand Shown

Toolholder Dimensions

Part Number		Stock	Dimensions (mm) H	HF	B	LF	LH	WF	CDX	Drawing	Spare Parts Clamp Screw	Wrench	Applicable Inserts Above
STWL	1616K-15	●	16	16	16	125	-	16	3	Fig.1	SB-3080TR	LTW-10S	TWFGL ○○○
	2020K-15	●	20	20	20	125	25	25	3	Fig.2	SB-3080TR	LTW-10S	TWFGL ○○○
	2525M-15	●	25	25	25	150	25	32	3				

- Dimension **CDX** shows the distance from the Toolholder to the cutting edge. See dimension **CDX** of insert table for available Groove Depth.

S...-STW (Round Shank for Horizontal Type)

Right-hand toolholder for boring, see Page F44

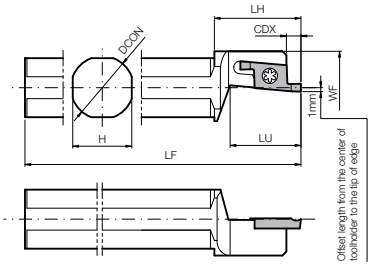


Fig.1

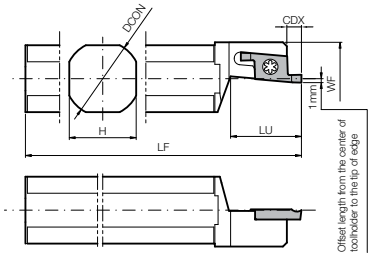


Fig.2

• Left-hand Shown

Toolholder Dimensions

Part Number		Stock	Dimensions (mm) DCON	WF	H	LF	LU	LH	CDX	Drawing	Spare Parts Clamp Screw	Wrench	Applicable Inserts Above
S12F-	STWL15	●	12.000	20.0	11	80	18	22	3	Fig.1	SB-3080TR	LTW-10S	TWFGL ○○○
S16F-	STWL15	●	16.000	20.0	15	85	18	22	3				
S19G-	STWL15	●	0.750"	18.5	17	90	18	-	3	Fig.2	SB-3080TR	LTW-10S	TWFGL ○○○
S19K-	STWL15	●	0.750"	18.5	17	120	18	-	3				
S20K-	STWL15	●	20.000	19.5	18	120	18	-	3				
S22K-	STWL15	●	22.000	21.5	20	125	22	-	3				
S25.0J-	STWL15	●	25.000	24.5	23	110	22	-	3				
S25K-	STWL15	●	1.000"	25.0	23	120	22	-	3				

- Dimension **CDX** shows the distance from the Toolholder to the cutting edge. See dimension **CDX** of insert table for available Groove Depth.

Twin Bars are sold in 5 piece boxes

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
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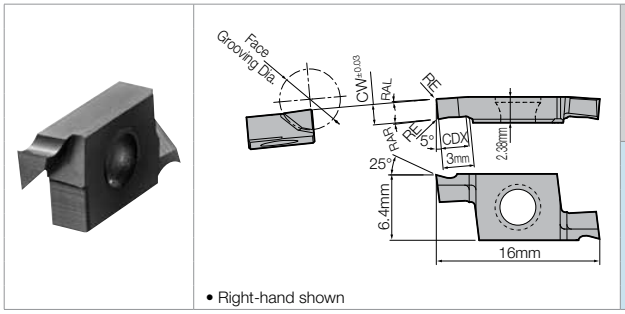
● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

TWFGT (Vertical Type)

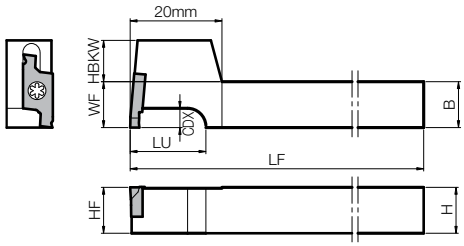


• Right-hand shown

Part Number	Face Grooving Dia. DAXN (MIN)	Face Grooving Dia. DAXX (MAX)	Dimensions (mm) CW inch	CW mm	RE	CDX	Angle (°) RA	Insert Grade MEGA COAT NANO PR1535	PVD Coated Carbide PR1025	Carbide KW10
TWFGTR 050	6 (0)	∞ (∞)	0.020	0.50	0.05	1.0	1.5°	●	△	●
080			0.031	0.80	0.05	1.5	1.5°	●	△	●
100			0.039	1.00	0.05	2.2	2.0°	●	△	●
125			0.049	1.25	0.05	2.2	2.0°	●	△	●
150			0.059	1.50	0.05	2.2	2.0°	●	△	●
180			0.071	1.80	0.05	3.0	2.0°	●	△	●
200			0.079	2.00	0.05	3.0	2.0°	●	△	●

- Dimension **CDX** shows the available grooving depth
- Face grooving diameter **DAXN (0)** means that you can make the initial groove within **DAXN** (min) - **DAXX** (max) and then widen it to the center.

STWS (Square Shank for Vertical Type : L-Shape)



• Right-hand shown

Toolholder Dimensions

Part Number	Stock	Dimensions (mm) H	HF	B	LF	LU	WF	HBKW	CDX	Spare Parts Clamp Screw	Wrench	Applicable Inserts
STWSR 1010JX-15T	●	10	10	10	120	16	10	9	3	SB-3080TR	LTW-10S	TWFGTR ○○○
1212JX-15T	●	12	12	12	120	16	12	7				
1616JX-15T	●	16	16	16	120	20	16	3				
STWSR 1010F-15T	●	10	10	10	85	16	10	9				
1212F-15T	●	12	12	12	85	16	12	7				

- Dimension **CDX** shows the distance from the Toolholder to the cutting edge. See dimension **CDX** of insert table for available Groove Depth.

Recommended Cutting Conditions (TWFG / TWFGT)

Workpiece Material	Recommended Insert Grade (Vc sfm) MEGACOAT NANO PR1535	PVD Coated Carbide PR1025	Carbide KW10	TWFGL050 TWFGL080 TWFGL100 TWFGTR050 TWFGTR080 TWFGTR100	TWFGL125 TWFGL150 TWFGTR125 TWFGTR150	TWFGL180 TWFGL200 TWFGTR180 TWFGTR200	Notes
				Feed Rate (ipr)			
Carbon Steel / Alloy Steel	★ 100~330	☆ 100~330	-	~0.0008	~0.0012	~0.0016	Wet
Stainless Steel	★ 100~260	☆ 100~260	-	~0.0004	~0.0008	~0.0008	
Non-ferrous Metals	-	-	★ ~980	~0.0012	~0.0016	~0.0024	

★ : 1st Recommendation

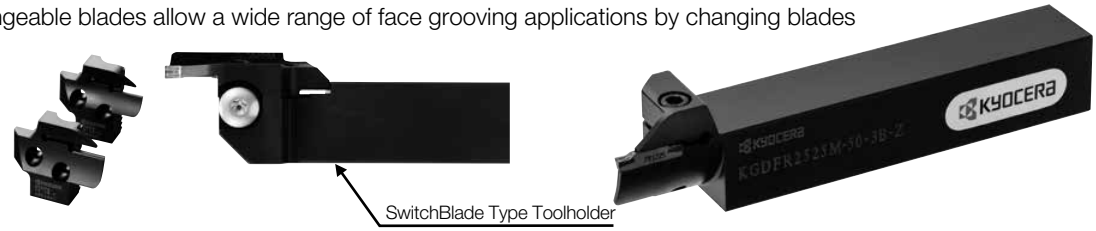
Twin Bars are sold in 5 piece boxes

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Features

SwitchBlade type toolholder (toolholder + blade) and Integral type toolholder are available.

Interchangeable blades allow a wide range of face grooving applications by changing blades



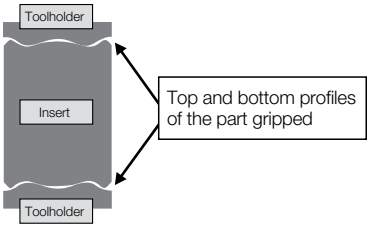
SwitchBlade Type Toolholder

New insert clamping system "W Grip"

Unique "W Grip" (insert anti-slip structure) provides rigid clamping for stable machining quality

1) Prevents abnormal machining surface and / or insert breakage resulting from insert slippage.
2) Improves repeat accuracy of insert installation

GDFM and GDFMS inserts are not applicable to KGD external grooving and cut-off toolholders.

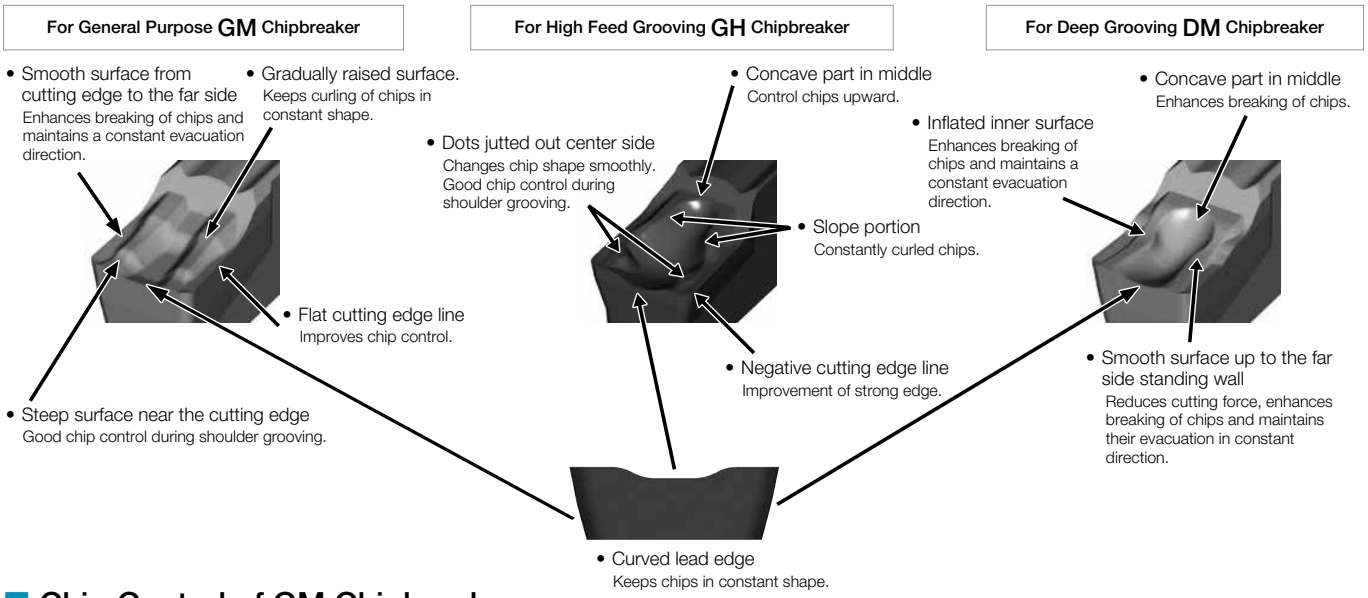


W Grip technology

Smooth chip control

GM chipbreaker for general purpose, GH chipbreaker for high speed grooving, and DM chipbreaker for deep grooving

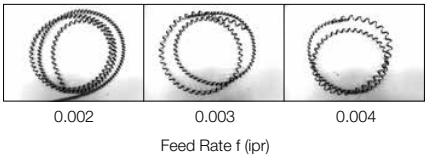
Advantages of Chipbreaker



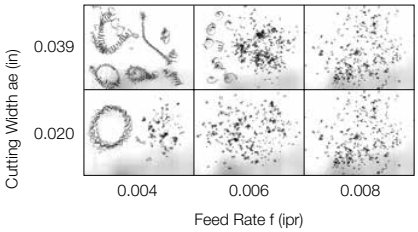
Chip Control of GM Chipbreaker

<Cutting Conditions>
Vc=490sfm f=0.002~0.008ipr GDFM5020N-040GM 4118 Wet

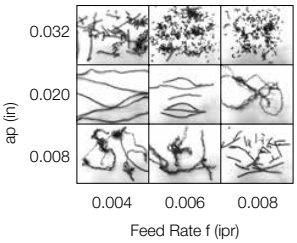
Face Grooving(Ø2.440" / Ø62)



Side Grooving



Turning



High precision edge preparation

➡ High precision molding technology with tolerance ±0.03mm (Edge width 2, 3, 4mm types)

Highly-reputed MEGACOAT technology

➡ Long tool life and high efficiency machining achieved by superior oxidation resistance and wear resistance.

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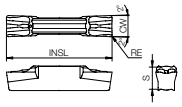
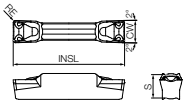
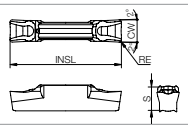
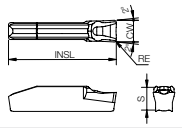
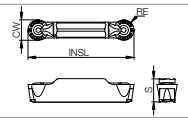
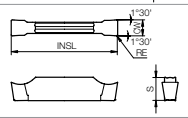
NEW ITEMS!

GDFM / GDFMS

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)					

Insert			Part Number	Dimensions (in) CW in	CW mm	CW Tolerance	RE	INSL	S	Cermet TN620	Cermet TN90	MEGA COAT PR1225	MEGA COAT PR1215	Carbide GW15	Ref. Page for Toolholder
Grooving and Turning			GDFM 2020N-020GM	0.079	2.0	±0.0012	0.008	0.827	0.154		●	●	●		G106 ~ G126
			3020N-030GM	0.118	3.0		0.012	0.787	0.169		●	●	●		
			4020N-040GM	0.157	4.0	±0.0016	0.016		0.177		●	●	●		
			5020N-040GM	0.197	5.0		0.016				●	●	●		
			5020N-080GM	0.197	5.0		0.031				●	●	●		
			6020N-040GM	0.236	6.0		0.016				●	●	●		
			6020N-080GM	0.236	6.0		0.031				●	●	●		
Grooving / Turning (High Feed)			GDFM 4020N-040GH	0.157	4.0	±0.0012	0.016	0.787	0.177			●	●		
			5020N-040GH	0.197	5.0	±0.0016	0.016					●	●		
			5020N-080GH	0.197	5.0		0.031					●	●		
			6020N-040GH	0.236	6.0		0.016					●	●		
			6020N-080GH	0.236	6.0		0.031					●	●		
Deep Grooving / Turning			GDFM 3020N-030DM	0.118	3.0	±0.0012	0.012	0.787	0.169		●	●	●		
			4020N-040DM	0.157	4.0		0.016		0.177		●	●	●		
			5020N-040DM	0.197	5.0	±0.0016	0.016				●	●	●		
			6020N-040DM	0.236	6.0		0.016				●	●	●		
	1-Edge		GDFMS 3020N-030DM	0.118	3.0	±0.0012	0.012	0.787	0.169		●	●	●		
			4020N-040DM	0.157	4.0		0.016		0.177		●	●	●		
			5020N-040DM	0.197	5.0	±0.0016	0.016				●	●	●		
			6020N-040DM	0.236	6.0		0.016				●	●	●		
Full Radius (R) Grooving	Full (R)		GDFM 3020N-150R-CM	0.118	3.0	±0.0012	0.059	0.787	0.169	●		●	●		
			4020N-200R-CM	0.157	4.0		0.079	*0.827	0.177	●		●	●		
			5020N-250R-CM	0.197	5.0	±0.0016	0.098	*0.827		●		●	●		
			6020N-300R-CM	0.236	6.0		0.118	*0.866		●		●	●		
Aluminum / Non-Ferrous	NEW		GDFM 3020N-020GS	0.118	3.0	±0.0008	0.079	0.787	0.169					●	
			4020N-040GS	0.157	4.0		0.016		0.177					●	
			5020N-040GS	0.197	5.0									●	
			6020N-040GS	0.236	6.0									●	

*GDFM 40/50/60-CM (Full R) have different **INSL** dimensions than other models to prevent interference between the holder and the workpiece.

Recommended Cutting Conditions ➔ G128

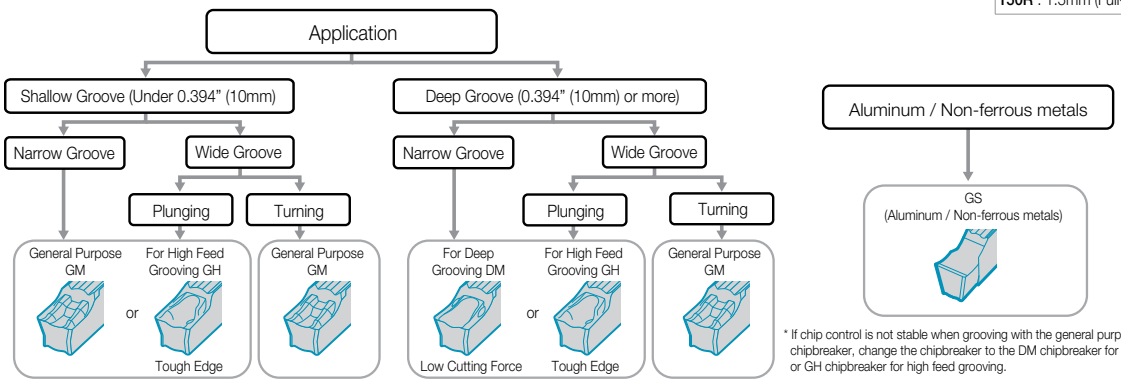
Inserts are sold in 10 piece boxes.

Inserts Identification System

GDF M S 30 20 N – 030 DM

Series	Tolerance Symbol	No. of edge	Width	Insert Length	Hand of Tool	Corner-R (rε)	Chipbreaker Symbol
	M : Class M	**No Indication** : 2-Edge	**20** : 2mm	**20** : 20mm	**N** : Neutral	**020** : 0.2mm	**GM** : Grooving and Turning
		S: 1-Edge	**30** : 3mm			**030** : 0.3mm	**DM** : Grooving
			:			**040** : 0.4mm	**GH** : High feed grooving
						150R : 1.5mm (Full-R)	**CM** : Full Radius
							GS : Aluminum / Non-ferrous

Chipbreaker Selection

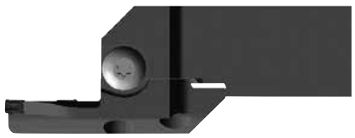
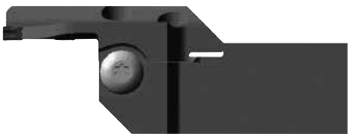
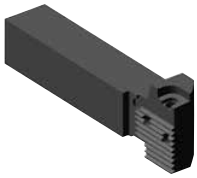


* If chip control is not stable when grooving with the general purpose GM chipbreaker, change the chipbreaker to the DM chipbreaker for deep grooving or GH chipbreaker for high feed grooving.

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

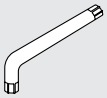
KGDF

Toolholder Assembly Identification

Unit Part Number (Unit Part Number is Not Printed)	Blade (Blade Part Number is Printed)	Toolholder (Toolholder Part Number is Printed)
Left-hand : KGDFL...S	Left-hand : KGDFL...-C	Right-hand : KGDR...-C
 • Left-hand shown	• Left-hand shown	• Right-hand shown
Right-hand : KGDFR...S	Right-hand : KGDFR...-C	Left-hand : KGDL...-C
 • Right-hand shown	• Right-hand shown	 • Left-hand shown

- **Right-hand** Blade for **Left-hand** Toolholder, **Left-hand** Blade for **Right-hand** Toolholder.
- The Unit Part Number is not printed on the product. It is printed on the box label.
- Combination of the toolholder and blade (both sold separately) can make up the corresponding assembly.
- The insert clamping screw (BH6X10TR), blade fixing screw (SB-60120TR) and wrench (LTW-25) are included with the toolholder.

Spare Parts (Common with SwitchBlade Holders)

Unit Part Number	Clamp Bolt (for Insert Clamp)	Clamp Screw (for Blade)	Wrench
			
KGDF R/L...S	BH6X10TR	SB-60120TR	LTW-25

* The spare parts above are included with the toolholder and unit.

Face Grooving Toolholder Assembly Identification System (Face Grooving - SwitchBlade)

Hand of Tool
R:Right-hand
L:Left-hand

Toolholder Shank Size
2020 : □20
2525 : □25

Toolholder Length
X : Special

Width
2 : 2mm
3 : 3mm
:

Symbol of Assembly Toolholder
S : indicates the unit description

KGDF R 2020 X 25 – 3 A S

Series
KGDF Face Grooving

Min. Diameter in Face Grooving	
Indicates the minimum external diameter suitable for the initial face grooving plunge.	* For the maximum external diameter which can be applied to the initial face grooving, see the MAX. value of "Face Grooving Dia. DAXX" in the dimension tables of toolholders and blades.
25 : 25mm	
:	
235 : 235mm	

Grooving Depth	
A : 6~13mm **B** : 13~15mm	2-Edge Insert (1-Edge Insert can also be used.)
C : 20~25mm **D** : 32mm	1-Edge Insert

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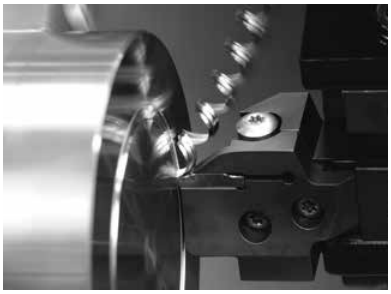
◆ Face Grooving Dia. (DAXN / DAXX)

Face grooving diameter DAXN (min) ~ DAXX (max) is the suitable range for the initial grooving plunge on the unprocessed workpiece
(See Fig.1).
Then, you can widen it towards the inside or the outside within the tool's diameter range.



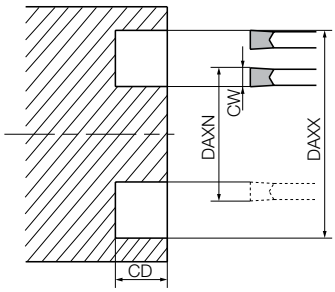
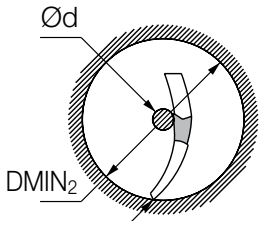


Fig.1

◆ Limit of Turning toward Center

Turning towards the Center causes the toolholder to interfere with the groove wall depending on the initial cut's diameter.



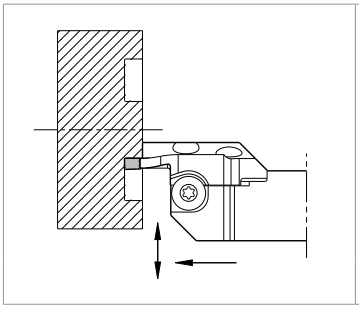
Remaining Boss Dia. Ød

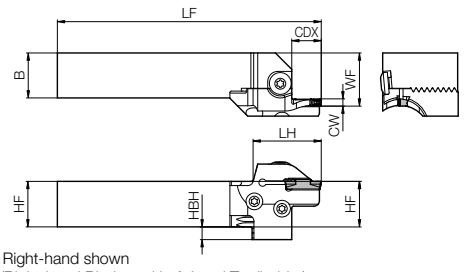
Part Number	DMIN2 (mm)			
	25	26	27	28 and over
	Ød (mm)			
KGDFR/L 2020X25-3AS	4	2	0	(No Remaining Boss)
2525X25-3AS				
KGDFR/L 2020X25-4AS	6	3	0	
2525X25-4AS				
KGDFR/L 2020X25-5AS	7	4	1	
2525X25-5AS				
KGDFR/L 2020X25-6AS	9	4	1	
2525X25-6AS				

e.g.)
If a groove of external diameter Ø25mm is created using KGDFR2020X25-3AS and turning is made toward the inside, a Ø4mm portion will be left in the middle due to interference from toolholder.

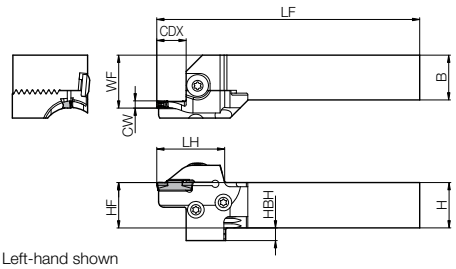
KGDF Face Grooving 0° SwitchBlade Toolholders (Inch-Size)

0.079" Insert Width





• Right-hand shown
(Right-hand Blade and Left-hand Toolholder)



• Left-hand shown
(Left-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions

(Choose **Right-hand** Blade for **Left-hand** Toolholder and **Left-hand** Blade for **Right-hand** Toolholder)

Shank Angle	Insert Width CW (in)	Shank Size (in)	Max. Grooving Depth (in)	Face Grooving Dia. (in) DAXN (min)	Face Grooving Dia. (in) DAXX (max)	Unit Part Number (Toolholder + Blade)	Toolholder Part Number ➡ G41	Stock R	Stock L	Blade Part Number ➡ G127	Stock R	Stock L	Dimensions (in) H	HF	HBH	B	LF	LH	WF	CDX*
0°	0.079 (2mm)	□0.75	0.236 (6mm)	0.984	1.181	No Unit Part Number ➡	KGDL12-C		●	KGDFR -25-2A-C	●		0.750	0.750	0.510	0.750	4.528	1.299	0.927	0.236 (6mm)
				1.181	1.378					-30-2A-C	●									
				1.378	1.772					-35-2A-C	●									
				1.772	2.362					-45-2A-C	●									
				2.362	3.150					-60-2A-C	●									
				3.150	3.937					-80-2A-C	●									
				3.937	5.118					-100-2A-C	●									
			0.512 (13mm)	0.984	1.181					KGDFR -25-2B-C	●		0.750	0.750	0.510	0.750	4.646	1.417	0.927	0.512 (13mm)
			0.591 (15mm)	1.181	1.378					KGDFR -30-2B-C	●		0.750	0.750	0.510	0.750	4.724	1.496	0.927	0.591 (15mm)
				1.378	1.772					-35-2B-C	●									
				1.772	2.362					-45-2B-C	●									
				2.362	3.150					-60-2B-C	●									
				3.150	3.937					-80-2B-C	●									
				3.937	5.118					-100-2B-C	●									
		□1.00	0.236 (6mm)	0.984	1.181	No Unit Part Number ➡	KGDL16-C		●	KGDFR -25-2A-C	●		1.000	1.000	0.260	1.000	5.512	1.299	1.177	0.236 (6mm)
				1.181	1.378					-30-2A-C	●									
				1.378	1.772					-35-2A-C	●									
				1.772	2.362					-45-2A-C	●									
				2.362	3.150					-60-2A-C	●									
				3.150	3.937					-80-2A-C	●									
				3.937	5.118					-100-2A-C	●									
			0.512 (13mm)	0.984	1.181					KGDFR -25-2B-C	●		1.000	1.000	0.260	1.000	5.630	1.417	1.177	0.512 (13mm)
			0.591 (15mm)	1.181	1.378					KGDFR -30-2B-C	●		1.000	1.000	0.260	1.000	5.709	1.496	1.177	0.591 (15mm)
				1.378	1.772					-35-2B-C	●									
				1.772	2.362					-45-2B-C	●									
				2.362	3.150					-60-2B-C	●									
				3.150	3.937					-80-2B-C	●									
				3.937	5.118					-100-2B-C	●									

Note 1) If the unit part number is not listed (No Unit Part Number), please purchase toolholder and blade separately.
2) Dimension **CDX*** : Shows the maximum grooving depth. If the dimension **CDX** is 0.787" (20mm) or more, using a 2-edge insert, the maximum grooving depth is 0.709" (18mm).
3) Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder. For Spare Parts, see ➡ G104

Applicable Inserts ➡ G103

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(Technical Support) 800.823.7284 - Option 2
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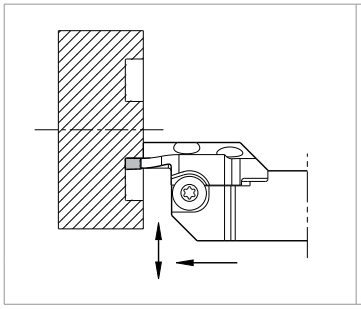
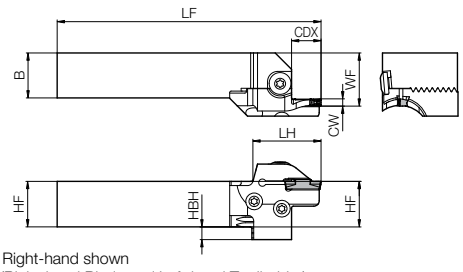
Contact your local Kyocera sales engineer to upgrade old products to new technology

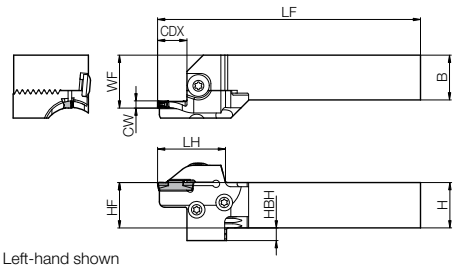
KGDF Face Grooving 0° SwitchBlade Toolholders (Inch-Size)

0.118" Insert Width





• Right-hand shown
(Right-hand Blade and Left-hand Toolholder)



• Left-hand shown
(Left-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions

(Choose **Right-hand** Blade for **Left-hand** Toolholder and **Left-hand** Blade for **Right-hand** Toolholder)

Shank Angle	Insert Width CW (in)	Shank Size (in)	Max. Grooving Depth (in)	Face Grooving Dia. (in) DAXN (min)	Face Grooving Dia. (in) DAXX (max)	Unit Part Number (Toolholder + Blade)	Toolholder Part Number G41	Stock R	Stock L	Blade Part Number G127	Stock R	Stock L	Dimensions (in) H	HF	HBH	B	LF	LH	WF	CDX*
0°	0.118 (3mm)	□0.75	0.512 (13mm)	0.984	1.181	No Unit Part Number ➡	KGDL12-C		●	KGDFR -25-3A-C	●		0.750	0.750	0.510	0.750	4.650	1.420	0.927	0.512 (13mm)
				1.181	1.575					-30-3A-C	●									
				1.575	1.969					-40-3A-C	●									
			0.591 (15mm)	1.969	2.559					-50-3B-C	●		0.750	0.750	0.510	0.750	4.720	1.500	0.927	0.591 (15mm)
				2.559	3.346					-65-3B-C	●									
				3.346	4.331					-85-3B-C	●									
				4.331	5.709					-110-3B-C	●									
			0.866 (22mm)	1.969	2.559					KGDFR -50-3C-C	●		0.750	0.750	0.510	0.750	5.000	1.770	0.927	0.866 (22mm)
				2.559	3.346					-65-3C-C	●									
			0.984 (25mm)	3.346	4.331					-85-3C-C	●		0.750	0.750	0.510	0.750	5.120	1.890	0.927	0.984 (25mm)
				4.331	5.709					-110-3C-C	●									
		□1.00	0.512 (13mm)	0.984	1.181	No Unit Part Number ➡	KGDL16-C		●	KGDFR -25-3A-C	●		1.000	1.000	0.260	1.000	5.630	1.420	1.177	0.512 (13mm)
				1.181	1.575					-30-3A-C	●									
				1.575	1.969					-40-3A-C	●									
			0.591 (15mm)	1.969	2.559					-50-3B-C	●		1.000	1.000	0.260	1.000	5.710	1.500	1.177	0.591 (15mm)
				2.559	3.346					-65-3B-C	●									
				3.346	4.331					-85-3B-C	●									
				4.331	5.709					-110-3B-C	●									
			0.866 (22mm)	1.969	2.559					KGDFR -50-3C-C	●		1.000	1.000	0.260	1.000	5.980	1.770	1.177	0.866 (22mm)
				2.559	3.346					-65-3C-C	●									
			0.984 (25mm)	3.346	4.331					-85-3C-C	●		1.000	1.000	0.260	1.000	6.100	1.890	1.177	0.984 (25mm)
				4.331	5.709					-110-3C-C	●									
0°	0.118 (3mm)	□0.75	0.512 (13mm)	0.984	1.181	No Unit Part Number ➡	KGDR12-C	●		KGDFL -25-3A-C		●	0.750	0.750	0.510	0.750	4.650	1.420	0.927	0.512 (13mm)
				1.181	1.575					-30-3A-C		●								
				1.575	1.969					-40-3A-C		●								
			0.591 (15mm)	1.969	2.559					-50-3B-C		●	0.750	0.750	0.510	0.750	4.720	1.500	0.927	0.591 (15mm)
				2.559	3.346					-65-3B-C		●								
				3.346	4.331					-85-3B-C		●								
				4.331	5.709					-110-3B-C		●								
			0.866 (22mm)	1.969	2.559					KGDFL -50-3C-C		●	0.750	0.750	0.510	0.750	5.000	1.770	0.927	0.866 (22mm)
				2.559	3.346					-65-3C-C		●								
			0.984 (25mm)	3.346	4.331					-85-3C-C		●	0.750	0.750	0.510	0.750	5.120	1.890	0.927	0.984 (25mm)
				4.331	5.709					-110-3C-C		●								
		□1.00	0.512 (13mm)	0.984	1.181	No Unit Part Number ➡	KGDR16-C	●		KGDFL -25-3A-C		●	1.000	1.000	0.260	1.000	5.630	1.420	1.177	0.512 (13mm)
				1.181	1.575					-30-3A-C		●								
				1.575	1.969					-40-3A-C		●								
			0.591 (15mm)	1.969	2.559					-50-3B-C		●	1.000	1.000	0.260	1.000	5.710	1.500	1.177	0.591 (15mm)
				2.559	3.346					-65-3B-C		●								
				3.346	4.331					-85-3B-C		●								
				4.331	5.709					-110-3B-C		●								
			0.866 (22mm)	1.969	2.559					KGDFL -50-3C-C		●	1.000	1.000	0.260	1.000	5.980	1.770	1.177	0.866 (22mm)
				2.559	3.346					-65-3C-C		●								
			0.984 (25mm)	3.346	4.331					-85-3C-C		●	1.000	1.000	0.260	1.000	6.100	1.890	1.177	0.984 (25mm)
				4.331	5.709					-110-3C-C		●								

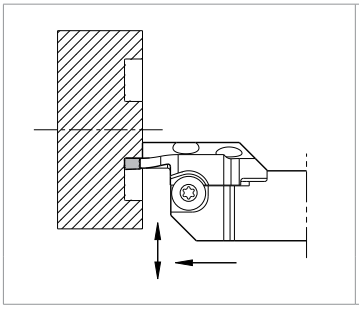
Note 1) If the unit part number is not listed (No Unit Part Number), please purchase toolholder and blade separately.
2) Dimension **CDX*** : Shows the maximum grooving depth. If the dimension **CDX** is 0.787" (20mm) or more, using a 2-edge insert, the maximum grooving depth is 0.709" (18mm).
3) Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder. For Spare Parts, see G104

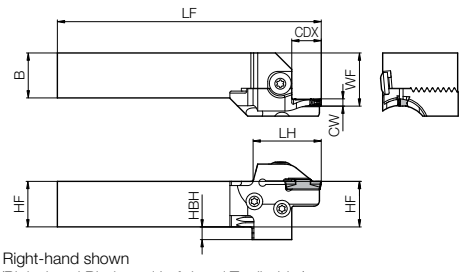
Applicable Inserts G103

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

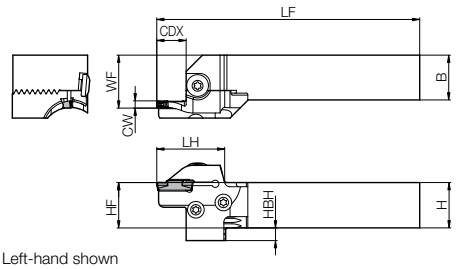
KGDF Face Grooving 0° SwitchBlade Toolholders (Inch-Size)

0.157" Insert Width





• Right-hand shown
(Right-hand Blade and Left-hand Toolholder)



• Left-hand shown
(Left-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions

(Choose **Right-hand** Blade for **Left-hand** Toolholder and **Left-hand** Blade for **Right-hand** Toolholder)

Shank Angle	Insert Width CW (in)	Shank Size (in)	Max. Grooving Depth (in)	Face Grooving Dia. (in) DAXN (min)	Face Grooving Dia. (in) DAXX (max)	Unit Part Number (Toolholder + Blade)	Toolholder Part Number ➡ G41	Stock R	Stock L	Blade Part Number ➡ G127	Stock R	Stock L	Dimensions (in) H	HF	HBH	B	LF	LH	WF	CDX*
0°	0.157 (4mm)	□0.75	0.512 (13mm)	0.984	1.378	No Unit Part Number ➡	KGDL12-C		●	KGDFR -25-4A-C	●		0.750	0.750	0.510	0.750	4.650	1.420	0.927	0.512 (13mm)
			0.591 (15mm)	1.378	1.969					-35-4B-C	●		0.750	0.750	0.510	0.750	4.720	1.500	0.927	0.591 (15mm)
				1.969	2.756					-50-4B-C	●									
				2.756	3.937					-70-4B-C	●									
				3.937	5.906					-100-4B-C	●									
				5.906	8.661					-150-4B-C	●									
				8.661	∞					-220-4B-C	●									
			0.984 (25mm)	1.378	1.969					KGDFR -35-4C-C	●		0.750	0.750	0.510	0.750	5.120	1.890	0.927	0.984 (25mm)
				1.969	2.756					-50-4C-C	●									
				2.756	3.937					-70-4C-C	●									
				3.937	5.906					-100-4C-C	●									
				5.906	8.661					-150-4C-C	●									
				8.661	∞					-220-4C-C	●									
		□1.00	0.512 (13mm)	0.984	1.378	No Unit Part Number ➡	KGDL16-C		●	KGDFR -25-4A-C	●		1.000	1.000	0.260	1.000	5.630	1.420	1.177	0.512 (13mm)
			0.591 (15mm)	1.378	1.969					-35-4B-C	●		1.000	1.000	0.260	1.000	5.710	1.500	1.177	0.591 (15mm)
				1.969	2.756					-50-4B-C	●									
				2.756	3.937					-70-4B-C	●									
				3.937	5.906					-100-4B-C	●									
				5.906	8.661					-150-4B-C	●									
				8.661	∞					-220-4B-C	●									
			0.984 (25mm)	1.378	1.969					KGDFR -35-4C-C	●		1.000	1.000	0.260	1.000	6.100	1.890	1.177	0.984 (25mm)
				1.969	2.756					-50-4C-C	●									
				2.756	3.937					-70-4C-C	●									
				3.937	5.906					-100-4C-C	●									
				5.906	8.661					-150-4C-C	●									
				8.661	∞					-220-4C-C	●									
0°	0.157 (4mm)	□0.75	0.512 (13mm)	0.984	1.378	No Unit Part Number ➡	KGDR12-C	●		KGDFL -25-4A-C		●	0.750	0.750	0.510	0.750	4.650	1.420	0.927	0.512 (13mm)
			0.591 (15mm)	1.378	1.969					-35-4B-C		●	0.750	0.750	0.510	0.750	4.720	1.500	0.927	0.591 (15mm)
				1.969	2.756					-50-4B-C		●								
				2.756	3.937					-70-4B-C		●								
				3.937	5.906					-100-4B-C		●								
				5.906	8.661					-150-4B-C		●								
				8.661	∞					-220-4B-C		●								
			0.984 (25mm)	1.378	1.969					KGDFL -35-4C-C		●	0.750	0.750	0.510	0.750	5.120	1.890	0.927	0.984 (25mm)
				1.969	2.756					-50-4C-C		●								
				2.756	3.937					-70-4C-C		●								
				3.937	5.906					-100-4C-C		●								
				5.906	8.661					-150-4C-C		●								
				8.661	∞					-220-4C-C		●								
0°	0.157 (4mm)	□1.00	0.512 (13mm)	0.984	1.378	No Unit Part Number ➡	KGDR16-C	●		KGDFL -25-4A-C		●	1.000	1.000	0.260	1.000	5.630	1.420	1.177	0.512 (13mm)
			0.591 (15mm)	1.378	1.969					-35-4B-C		●	1.000	1.000	0.260	1.000	5.710	1.500	1.177	0.591 (15mm)
				1.969	2.756					-50-4B-C		●								
				2.756	3.937					-70-4B-C		●								
				3.937	5.906					-100-4B-C		●								
				5.906	8.661					-150-4B-C		●								
				8.661	∞					-220-4B-C		●								
			0.984 (25mm)	1.378	1.969					KGDFL -35-4C-C		●	1.000	1.000	0.260	1.000	6.100	1.890	1.177	0.984 (25mm)
				1.969	2.756					-50-4C-C		●								
				2.756	3.937					-70-4C-C		●								
				3.937	5.906					-100-4C-C		●								
				5.906	8.661					-150-4C-C		●								
				8.661	∞					-220-4C-C		●								

Note 1) If the unit part number is not listed (No Unit Part Number), please purchase toolholder and blade separately.
2) Dimension **CDX*** : Shows the maximum grooving depth. If the dimension **CDX** is 0.787" (20mm) or more, using a 2-edge insert, the maximum grooving depth is 0.709" (18mm).
3) Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder. For Spare Parts, see ➡ G104

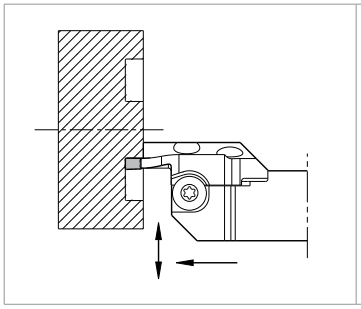
Applicable Inserts ➡ G103

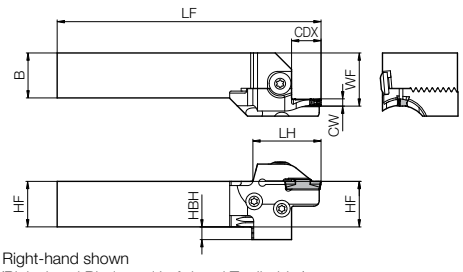
(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

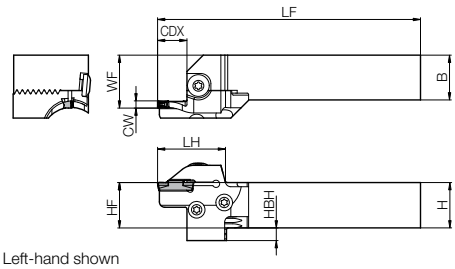
KGDF Face Grooving 0° SwitchBlade Toolholders (Inch-Size)

0.197" Insert Width





• Right-hand shown
(Right-hand Blade and Left-hand Toolholder)



• Left-hand shown
(Left-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions

(Choose **Right-hand** Blade for **Left-hand** Toolholder and **Left-hand** Blade for **Right-hand** Toolholder)

Shank Angle	Insert Width CW (in)	Shank Size (in)	Max. Grooving Depth (in)	Face Grooving Dia. (in) DAXN (min)	Face Grooving Dia. (in) DAXX (max)	Unit Part Number (Toolholder + Blade)	Toolholder Part Number ➡ G41	Stock R	Stock L	Blade Part Number ➡ G127	Stock R	Stock L	Dimensions (in) H	HF	HBH	B	LF	LH	WF	CDX*
0°	0.197 (5mm)	□0.75	0.591 (15mm)	0.984	1.378	No Unit Part Number ➡	KGDL12-C		●	KGDFR -25-5B-C	●		0.750	0.750	0.510	0.750	4.720	1.500	0.927	0.591 (15mm)
				1.378	1.969					-35-5B-C	●									
				1.969	2.953					-50-5B-C	●									
				2.953	4.528					-75-5B-C	●									
				4.528	7.087					-115-5B-C	●									
				7.087	9.252					-180-5B-C	●									
				9.252	∞					-235-5B-C	●									
			0.787 (20mm)	0.984	1.378					KGDFR -25-5C-C	●		0.750	0.750	0.510	0.750	4.920	1.690	0.927	0.787 (20mm)
			0.984 (25mm)	1.378	1.969					-35-5C-C	●		0.750	0.750	0.510	0.750	5.120	1.890	0.927	0.984 (25mm)
				1.969	2.953					-50-5C-C	●									
				2.953	4.528					-75-5C-C	●									
				4.528	7.087					-115-5C-C	●									
				7.087	9.252					-180-5C-C	●									
				9.252	∞					-235-5C-C	●									
		□1.00	0.591 (15mm)	0.984	1.378	No Unit Part Number ➡	KGDL16-C		●	KGDFR -25-5B-C	●		1.000	1.000	0.260	1.000	5.700	1.500	1.177	0.591 (15mm)
				1.378	1.969					-35-5B-C	●									
				1.969	2.953					-50-5B-C	●									
				2.953	4.528					-75-5B-C	●									
				4.528	7.087					-115-5B-C	●									
				7.087	9.252					-180-5B-C	●									
				9.252	∞					-235-5B-C	●									
			0.787 (20mm)	0.984	1.378					KGDFR -25-5C-C	●		1.000	1.000	0.260	1.000	5.900	1.690	1.177	0.787 (20mm)
			0.984 (25mm)	1.378	1.969					-35-5C-C	●		1.000	1.000	0.260	1.000	6.100	1.890	1.177	0.984 (25mm)
				1.969	2.953					-50-5C-C	●									
				2.953	4.528					-75-5C-C	●									
				4.528	7.087					-115-5C-C	●									
				7.087	9.252					-180-5C-C	●									
				9.252	∞					-235-5C-C	●									
0°	0.197 (5mm)	□0.75	0.591 (15mm)	0.984	1.378	No Unit Part Number ➡	KGDR12-C	●		KGDFL -25-5B-C		●	0.750	0.750	0.510	0.750	4.720	1.500	0.927	0.591 (15mm)
				1.378	1.969					-35-5B-C		●								
				1.969	2.953					-50-5B-C		●								
				2.953	4.528					-75-5B-C		●								
				4.528	7.087					-115-5B-C		●								
				7.087	9.252					-180-5B-C		●								
				9.252	∞					-235-5B-C		●								
			0.787 (20mm)	0.984	1.378					KGDFL -25-5C-C		●	0.750	0.750	0.510	0.750	4.920	1.690	0.927	0.787 (20mm)
			0.984 (25mm)	1.378	1.969					-35-5C-C		●	0.750	0.750	0.510	0.750	5.120	1.890	0.927	0.984 (25mm)
				1.969	2.953					-50-5C-C		●								
				2.953	4.528					-75-5C-C		●								
				4.528	7.087					-115-5C-C		●								
				7.087	9.252					-180-5C-C		●								
				9.252	∞					-235-5C-C		●								
		□1.00	0.591 (15mm)	0.984	1.378	No Unit Part Number ➡	KGDR16-C	●		KGDFL -25-5B-C		●	1.000	1.000	0.260	1.000	5.700	1.500	1.177	0.591 (15mm)
				1.378	1.969					-35-5B-C		●								
				1.969	2.953					-50-5B-C		●								
				2.953	4.528					-75-5B-C		●								
				4.528	7.087					-115-5B-C		●								
				7.087	9.252					-180-5B-C		●								
				9.252	∞					-235-5B-C		●								
			0.787 (20mm)	0.984	1.378					KGDFL -25-5C-C		●	1.000	1.000	0.260	1.000	5.900	1.690	1.177	0.787 (20mm)
			0.984 (25mm)	1.378	1.969					-35-5C-C		●	1.000	1.000	0.260	1.000	6.100	1.890	1.177	0.984 (25mm)
				1.969	2.953					-50-5C-C		●								
				2.953	4.528					-75-5C-C		●								
				4.528	7.087					-115-5C-C		●								
				7.087	9.252					-180-5C-C		●								
				9.252	∞					-235-5C-C		●								

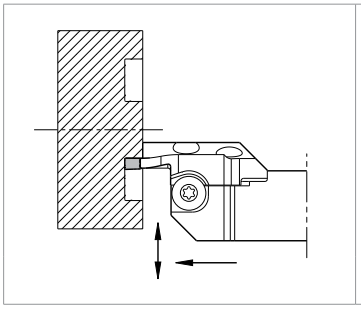
Note 1) If the unit part number is not listed (No Unit Part Number), please purchase toolholder and blade separately.
2) Dimension **CDX*** : Shows the maximum grooving depth. If the dimension **CDX** is 0.787" (20mm) or more, using a 2-edge insert, the maximum grooving depth is 0.709" (18mm).
3) Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder. For Spare Parts, see ➡ G104

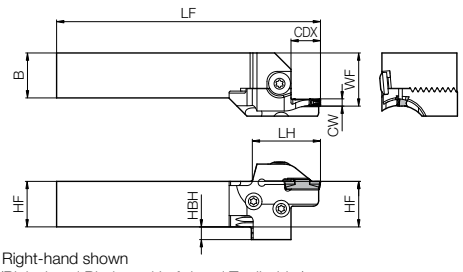
Applicable Inserts ➡ G103

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

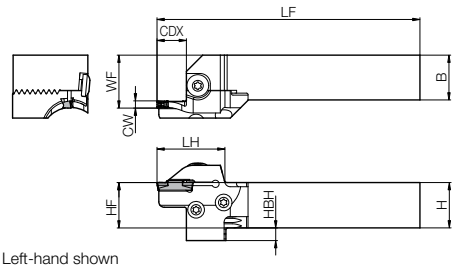
KGDF Face Grooving 0° SwitchBlade Toolholders (Inch-Size)

0.236" Insert Width





• Right-hand shown
(Right-hand Blade and Left-hand Toolholder)



• Left-hand shown
(Left-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions

(Choose **Right-hand** Blade for **Left-hand** Toolholder and **Left-hand** Blade for **Right-hand** Toolholder)

Shank Angle	Insert Width CW (in)	Shank Size (in)	Max. Grooving Depth (in)	Face Grooving Dia. (in) DAXN (min)	DAXX (max)	Unit Part Number (Toolholder + Blade)	Toolholder Part Number ➡ G41	Stock R	Stock L	Blade Part Number ➡ G127	Stock R	Stock L	Dimensions (in) H	HF	HBH	B	LF	LH	WF	CDX*
0°	0.236 (6mm)	□0.75	0.591 (15mm)	0.984	1.378	No Unit Part Number ➡	KGDL12-C		●	KGDFR -25-6B-C	●		0.750	0.750	0.510	0.750	4.720	1.500	0.927	0.591 (15mm)
				1.378	1.969					-35-6B-C	●									
				1.969	2.953					-50-6B-C	●									
				2.953	4.528					-75-6B-C	●									
				4.528	7.087					-115-6B-C	●									
				7.087	9.252					-180-6B-C	●									
				9.252	∞					-235-6B-C	●									
			0.787 (20mm)	0.984	1.378					KGDFR -25-6C-C	●		0.750	0.750	0.510	0.750	4.920	1.690	0.927	0.787 (20mm)
			0.984 (25mm)	1.378	1.969					-35-6C-C	●		0.750	0.750	0.510	0.750	5.120	1.890	0.927	0.984 (25mm)
				1.969	2.953					-50-6C-C	●									
				2.953	4.528					-75-6C-C	●									
				4.528	7.087					-115-6C-C	●									
				7.087	9.252					-180-6C-C	●									
				9.252	∞					-235-6C-C	●									
		□1.00	0.591 (15mm)	0.984	1.378	No Unit Part Number ➡	KGDL16-C		●	KGDFR -25-6B-C	●		1.000	1.000	0.260	1.000	5.700	1.500	1.177	0.591 (15mm)
				1.378	1.969					-35-6B-C	●									
				1.969	2.953					-50-6B-C	●									
				2.953	4.528					-75-6B-C	●									
				4.528	7.087					-115-6B-C	●									
				7.087	9.252					-180-6B-C	●									
				9.252	∞					-235-6B-C	●									
			0.787 (20mm)	0.984	1.378					KGDFR -25-6C-C	●		1.000	1.000	0.260	1.000	5.900	1.690	1.177	0.787 (20mm)
			0.984 (25mm)	1.378	1.969					-35-6C-C	●		1.000	1.000	0.260	1.000	6.100	1.890	1.177	0.984 (25mm)
				1.969	2.953					-50-6C-C	●									
				2.953	4.528					-75-6C-C	●									
				4.528	7.087					-115-6C-C	●									
				7.087	9.252					-180-6C-C	●									
				9.252	∞					-235-6C-C	●									
0°	0.236 (6mm)	□0.75	0.591 (15mm)	0.984	1.378	No Unit Part Number ➡	KGDR12-C	●		KGDFL -25-6B-C		●	0.750	0.750	0.510	0.750	4.720	1.500	0.927	0.591 (15mm)
				1.378	1.969					-35-6B-C		●								
				1.969	2.953					-50-6B-C		●								
				2.953	4.528					-75-6B-C		●								
				4.528	7.087					-115-6B-C		●								
				7.087	9.252					-180-6B-C		●								
				9.252	∞					-235-6B-C		●								
			0.787 (20mm)	0.984	1.378					KGDFL -25-6C-C		●	0.750	0.750	0.510	0.750	4.920	1.690	0.927	0.787 (20mm)
			0.984 (25mm)	1.378	1.969					-35-6C-C		●	0.750	0.750	0.510	0.750	5.120	1.890	0.927	0.984 (25mm)
				1.969	2.953					-50-6C-C		●								
				2.953	4.528					-75-6C-C		●								
				4.528	7.087					-115-6C-C		●								
				7.087	9.252					-180-6C-C		●								
				9.252	∞					-235-6C-C		●								
		□1.00	0.591 (15mm)	0.984	1.378	No Unit Part Number ➡	KGDR16-C	●		KGDFL -25-6B-C		●	1.000	1.000	0.260	1.000	5.700	1.500	1.177	0.591 (15mm)
				1.378	1.969					-35-6B-C		●								
				1.969	2.953					-50-6B-C		●								
				2.953	4.528					-75-6B-C		●								
				4.528	7.087					-115-6B-C		●								
				7.087	9.252					-180-6B-C		●								
				9.252	∞					-235-6B-C		●								
			0.787 (20mm)	0.984	1.378					KGDFL -25-6C-C		●	1.000	1.000	0.260	1.000	5.900	1.690	1.177	0.787 (20mm)
			0.984 (25mm)	1.378	1.969					-35-6C-C		●	1.000	1.000	0.260	1.000	6.100	1.890	1.177	0.984 (25mm)
				1.969	2.953					-50-6C-C		●								
				2.953	4.528					-75-6C-C		●								
				4.528	7.087					-115-6C-C		●								
				7.087	9.252					-180-6C-C		●								
				9.252	∞					-235-6C-C		●								

Note 1) If the unit part number is not listed (No Unit Part Number), please purchase toolholder and blade separately.
2) Dimension **CDX*** : Shows the maximum grooving depth. If the dimension **CDX** is 0.787" (20mm) or more, using a 2-edge insert, the maximum grooving depth is 0.709" (18mm).
3) Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder. For Spare Parts, see ➡ **G104**

Applicable Inserts ➡ **G103**

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
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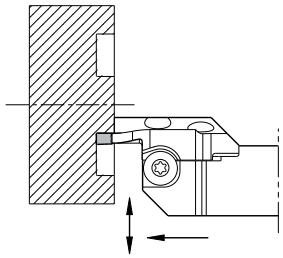
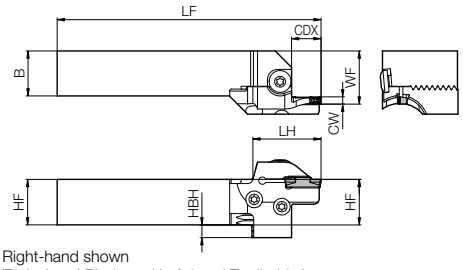
● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

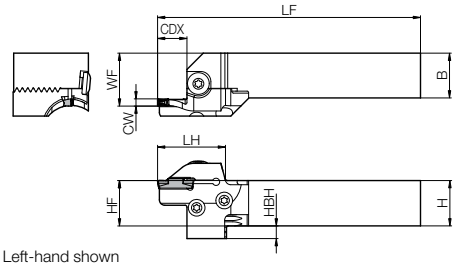
KGDF Face Grooving 0° SwitchBlade Toolholders (Metric-Size)

2mm Insert Width





• Right-hand shown
(Right-hand Blade and Left-hand Toolholder)



• Left-hand shown
(Left-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions

(Choose **Right-hand** Blade for **Left-hand** Toolholder and **Left-hand** Blade for **Right-hand** Toolholder)

Shank Angle	Insert Width CW (mm)	Shank Size (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. (mm) DAXN (min)	DAXX (max)	Unit Part Number (Toolholder + Blade)	Stock R	Stock L	Toolholder Part Number G41	Stock R	Stock L	Blade Part Number G127	Stock R	Stock L	Dimensions (mm) H	HF	HBH	B	LF	LH	WF	CDX*
0°	2	□20	6	25	30	KGDFR 2020X25-2AS	●		KGDL2020-C		●	KGDFR -25-2A-C	●		20	20	12	20	115	33	24.5	6
				30	35	No Unit Part Number ➡						-30-2A-C	●									
				35	45							-35-2A-C	●									
				45	60							-45-2A-C	●									
				60	80							-60-2A-C	●									
				80	100							-80-2A-C	●									
				100	130							-100-2A-C	●									
			13	25	30							KGDFR -25-2B-C	●		20	20	12	20	118	36	24.5	13
			15	30	35							KGDFR -30-2B-C	●		20	20	12	20	120	38	24.5	15
				35	45							-35-2B-C	●									
				45	60							-45-2B-C	●									
				60	80							-60-2B-C	●									
				80	100							-80-2B-C	●									
				100	130							-100-2B-C	●									
		□25	6	25	30	KGDFR 2525X25-2AS	△		KGDL2525-C		●	KGDFR -25-2A-C	●		25	25	7	25	140	33	29.5	6
				30	35	2525X30-2AS	△					-30-2A-C	●									
				35	45	2525X35-2AS	△					-35-2A-C	●									
				45	60	2525X45-2AS	△					-45-2A-C	●									
				60	80	2525X60-2AS	△					-60-2A-C	●									
				80	100	2525X80-2AS	△					-80-2A-C	●									
				100	130	2525X100-2AS	△					-100-2A-C	●									
			13	25	30	No Unit Part Number ➡						KGDFR -25-2B-C	●		25	25	7	25	143	36	29.5	13
			15	30	35							KGDFR -30-2B-C	●		25	25	7	25	145	38	29.5	15
				35	45							-35-2B-C	●									
				45	60							-45-2B-C	●									
				60	80							-60-2B-C	●									
				80	100							-80-2B-C	●									
				100	130							-100-2B-C	●									
		□32	6	25	30	No Unit Part Number ➡			KGDL3232-C		●	KGDFR -25-2A-C	●		32	32	-	32	160	33	36.5	6
				30	35							-30-2A-C	●									
				35	45							-35-2A-C	●									
				45	60							-45-2A-C	●									
				60	80							-60-2A-C	●									
				80	100							-80-2A-C	●									
				100	130							-100-2A-C	●									
			13	25	30							KGDFR -25-2B-C	●		32	32	-	32	163	36	36.5	13
			15	30	35	No Unit Part Number ➡						KGDFR -30-2B-C	●		32	32	-	32	165	38	36.5	15
				35	45							-35-2B-C	●									
				45	60							-45-2B-C	●									
				60	80							-60-2B-C	●									
				80	100							-80-2B-C	●									
				100	130							-100-2B-C	●									

Note 1) If the unit part number is not listed (No Unit Part Number), please purchase toolholder and blade separately.
2) Dimension **CDX*** : Shows the maximum grooving depth. If the dimension **CDX** is 0.787" (20mm) or more, using a 2-edge insert, the maximum grooving depth is 0.709" (18mm).
3) Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder. For Spare Parts, see G104

Applicable Inserts ➡ G103

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Toolholder + Blade Dimensions

3mm Insert Width

(Choose **Right-hand** Blade for **Left-hand** Toolholder and **Left-hand** Blade for **Right-hand** Toolholder)

Shank Angle	Insert Width CW (mm)	Shank Size (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. (mm) DAXN (min)	Face Grooving Dia. (mm) DAXX (max)	Unit Part Number (Toolholder + Blade)	Stock R	Stock L	Toolholder Part Number G41	Stock R	Stock L	Blade Part Number G127	Stock R	Stock L	Dimensions (mm) Diagram on Page G105 H	HF	HBH	B	LF	LH	WF	CDX*
0°	3	□20	13	25	30	KGDF R/L 2020X25-3AS	△	△	KGD R/L 2020-C	●	●	KGDF R/L -25-3A-C	●	●	20		12	20	118	36	24.5	13
				30	40	2020X30-3AS	△					-30-3A-C	●	●								
				40	50	No Unit Part Number ➡						-40-3A-C	●	●								
			15	50	65	KGDF R/L 2020X50-3BS	△					-50-3B-C	●	●	20		12	20	120	38	24.5	15
				65	85	No Unit Part Number ➡						-65-3B-C	●	●								
				85	110							-85-3B-C	●	●								
				110	145							-110-3B-C	●	●								
			22	50	65	KGDF R/L 2020X50-3CS	△					KGDF R/L -50-3C-C	●	●	20		12	20	127	45	24.5	22
				65	85	No Unit Part Number ➡						-65-3C-C	●	●								
			25	85	110							-85-3C-C	●	●	20		12	20	130	48	24.5	25
				110	145							-110-3C-C	●	●								
		□25	13	25	30	KGDF R/L 2525X25-3AS	△		KGD R/L 2525-C	●	●	KGDF R/L -25-3A-C	●	●	25		7	25	143	36	29.5	13
				30	40	2525X30-3AS	△					-30-3A-C	●	●								
				40	50	2525X40-3AS	△					-40-3A-C	●	●								
			15	50	65	2525X50-3BS	△	△				-50-3B-C	●	●	25		7	25	145	38	29.5	15
				65	85	2525X65-3BS	△	△				-65-3B-C	●	●								
				85	110	2525X85-3BS	△	△				-85-3B-C	●	●								
				110	145	2525X110-3BS	△					-110-3B-C	●	●								
			22	50	65	KGDF R/L 2525X50-3CS	△					KGDF R/L -50-3C-C	●	●	25		7	25	152	45	29.5	22
				65	85	No Unit Part Number ➡						-65-3C-C	●	●								
			25	85	110							-85-3C-C	●	●	25		7	25	155	48	29.5	25
				110	145	KGDF R/L 2525X110-3CS	△					-110-3C-C	●	●								
		□32	13	25	30	No Unit Part Number ➡			KGD R/L 3232-C	●	●	KGDF R/L -25-3A-C	●	●	32		-	32	163	36	36.5	13
				30	40							-30-3A-C	●	●								
				40	50							-40-3A-C	●	●								
			15	50	65							-50-3B-C	●	●	32		-	32	165	38	36.5	15
				65	85							-65-3B-C	●	●								
				85	110							-85-3B-C	●	●								
				110	145							-110-3B-C	●	●								
			22	50	65							KGDF R/L -50-3C-C	●	●	32		-	32	172	45	36.5	22
				65	85							-65-3C-C	●	●								
				85	110							-85-3C-C	●	●	32		-	32	175	48	36.5	25
				110	145							-110-3C-C	●	●								

Note 1) If the unit part number is not listed (No Unit Part Number), please purchase toolholder and blade separately.
2) Dimension **CDX*** : Shows the maximum grooving depth. If the dimension **CDX** is 0.787" (20mm) or more, using a 2-edge insert, the maximum grooving depth is 0.709" (18mm).
3) Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder. For Spare Parts, see G104

Applicable Inserts G103

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● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Toolholder + Blade Dimensions

4mm Insert Width

(Choose **Right-hand** Blade for **Left-hand** Toolholder and **Left-hand** Blade for **Right-hand** Toolholder)

Shank Angle	Insert Width CW (mm)	Shank Size (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. (mm) DAXN (min)	Face Grooving Dia. (mm) DAXX (max)	Unit Part Number (Toolholder + Blade)	Stock R	Stock L	Toolholder Part Number ➡ G41	Stock R	Stock L	Blade Part Number ➡ G127	Stock R	Stock L	Dimensions (mm) Diagram on Page ➡ G105 H	HF	HBH	B	LF	LH	WF	CDX*
0°	4	□20	13	25	35	KGDF R/L 2020X25-4AS	△		KGD R/L 2020-C	●	●	KGDF R/L -25-4A-C	●	●	20	20	12	20	118	36	24.5	13
			15	35	50	2020X35-4BS	△					-35-4B-C	●	●	20	20	12	20	120	38	24.5	15
				50	70	No Unit Part Number ➡						-50-4B-C	●	●								
				70	100							-70-4B-C	●	●								
				100	150							-100-4B-C	●	●								
				150	220							-150-4B-C	●	●								
				220	∞							-220-4B-C	●	●								
			25	35	50							KGDF R/L -35-4C-C	●	●	20	20	12	20	130	48	24.5	25
				50	70							-50-4C-C	●	●								
				70	100							-70-4C-C	●	●								
				100	150							-100-4C-C	●	●								
				150	220							-150-4C-C	●	●								
				220	∞							-220-4C-C	●	●								
		□25	13	25	35	KGDF R/L 2525X25-4AS	△		KGD R/L 2525-C	●	●	KGDF R/L -25-4A-C	●	●	25	25	7	25	143	36	29.5	13
			15	35	50	2525X35-4BS	△	△				-35-4B-C	●	●	25	25	7	25	145	38	29.5	15
				50	70	2525X50-4BS	△	△				-50-4B-C	●	●								
				70	100	2525X70-4BS	△					-70-4B-C	●	●								
				100	150	2525X100-4BS	△	△				-100-4B-C	●	●								
				150	220	2525X150-4BS	△					-150-4B-C	●	●								
				220	∞	2525X220-4BS	△	△				-220-4B-C	●	●								
			25	35	50	KGDF R/L 2525X35-4CS	△					KGDF R/L -35-4C-C	●	●	25	25	7	25	155	48	29.5	25
				50	70	2525X50-4CS	△					-50-4C-C	●	●								
				70	100	2525X70-4CS	△	△				-70-4C-C	●	●								
				100	150	2525X100-4CS	△					-100-4C-C	●	●								
				150	220	2525X150-4CS	△					-150-4C-C	●	●								
				220	∞	2525X220-4CS	△	△				-220-4C-C	●	●								
		□32	13	25	35	No Unit Part Number ➡			KGD R/L 3232-C	●	●	KGDF R/L -25-4A-C	●	●	32	32	-	32	163	36	36.5	13
			15	35	50							-35-4B-C	●	●	32	32	-	32	165	38	36.5	15
				50	70							-50-4B-C	●	●								
				70	100							-70-4B-C	●	●								
				100	150							-100-4B-C	●	●								
				150	220							-150-4B-C	●	●								
				220	∞							-220-4B-C	●	●								
			25	35	50							KGDF R/L -35-4C-C	●	●	32	32	-	32	175	48	36.5	25
				50	70							-50-4C-C	●	●								
				70	100							-70-4C-C	●	●								
				100	150							-100-4C-C	●	●								
				150	220							-150-4C-C	●	●								
				220	∞							-220-4C-C	●	●								

Note 1) If the unit part number is not listed (No Unit Part Number), please purchase toolholder and blade separately.
2) Dimension **CDX*** : Shows the maximum grooving depth. If the dimension **CDX** is 0.787" (20mm) or more, using a 2-edge insert, the maximum grooving depth is 0.709" (18mm).
3) Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder. For Spare Parts, see ➡ G104

Applicable Inserts ➡ G103

Toolholder + Blade Dimensions

5mm Insert Width

(Choose **Right-hand** Blade for **Left-hand** Toolholder and **Left-hand** Blade for **Right-hand** Toolholder)

Shank Angle	Insert Width CW (mm)	Shank Size (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. (mm) DAXN (min)	Face Grooving Dia. (mm) DAXX (max)	Unit Part Number (Toolholder + Blade)	Stock R	Stock L	Toolholder Part Number ➡ G41	Stock R	Stock L	Blade Part Number ➡ G127	Stock R	Stock L	Dimensions (mm) Diagram on Page ➡ G105 H	HF	HBH	B	LF	LH	WF	CDX*
0°	5	□20	15	25	35	No Unit Part Number ➡			KGD R/L 2020-C	●	●	KGDF R/L -25-5B-C	●	●	20	20	12	20	120	38	24.5	15
				35	50							-35-5B-C	●	●								
				50	75							-50-5B-C	●	●								
				75	115							-75-5B-C	●	●								
				115	180							-115-5B-C	●	●								
				180	235							-180-5B-C	●	●								
				235	∞							-235-5B-C	●	●								
			20	25	35							KGDF R/L -25-5C-C	●	●	20	20	12	20	125	43	24.5	20
			25	35	50							-35-5C-C	●	●	20	20	12	20	130	48	24.5	25
				50	75							-50-5C-C	●	●								
				75	115							-75-5C-C	●	●								
				115	180							-115-5C-C	●	●								
				180	235							-180-5C-C	●	●								
				235	∞							-235-5C-C	●	●								
			32	75	115							KGDF R/L -75-5D-C	●	●	20	20	12	20	137	55	24.5	32
				115	180							-115-5D-C	●	●								
				180	235							-180-5D-C	●	●								
				235	∞							-235-5D-C	●	●								
		□25	15	25	35	KGDF R/L 2525X25-5BS	△		KGD R/L 2525-C	●	●	KGDF R/L -25-5B-C	●	●	25	25	7	25	145	38	29.5	15
				35	50	No Unit Part Number ➡						-35-5B-C	●	●								
				50	75	KGDF R/L 2525X50-5BS	△					-50-5B-C	●	●								
				75	115	2525X75-5BS	△	△				-75-5B-C	●	●								
				115	180	No Unit Part Number ➡						-115-5B-C	●	●								
				180	235							-180-5B-C	●	●								
				235	∞	KGDF R/L 2525X235-5BS	△					-235-5B-C	●	●								
			20	25	35	No Unit Part Number ➡						KGDF R/L -25-5C-C	●	●	25	25	7	25	150	43	29.5	20
			25	35	50	KGDF R/L 2525X35-5CS	△					-35-5C-C	●	●	25	25	7	25	155	48	29.5	25
				50	75	2525X50-5CS	△					-50-5C-C	●	●								
				75	115	No Unit Part Number ➡						-75-5C-C	●	●	25	25	7	25	155	48	29.5	25
				115	180							-115-5C-C	●	●								
				180	235							-180-5C-C	●	●								
				235	∞							-235-5C-C	●	●								
			32	75	115	KGDF R/L 2525X75-5DS	△					KGDF R/L -75-5D-C	●	●	25	25	7	25	162	55	29.5	32
				115	180	2525X115-5DS	△					-115-5D-C	●	●								
				180	235	2525X180-5DS	△					-180-5D-C	●	●								
				235	∞	2525X235-5DS	△					-235-5D-C	●	●								
		□32	15	25	35	No Unit Part Number ➡			KGD R/L 3232-C	●	●	KGDF R/L -25-5B-C	●	●	32	32	-	32	165	38	36.5	15
				35	50							-35-5B-C	●	●								
				50	75							-50-5B-C	●	●								
				75	115							-75-5B-C	●	●								
				115	180							-115-5B-C	●	●								
				180	235							-180-5B-C	●	●								
				235	∞							-235-5B-C	●	●								
			20	25	35							KGDF R/L -25-5C-C	●	●	32	32	-	32	170	43	36.5	20
			25	35	50							-35-5C-C	●	●	32	32	-	32	175	48	36.5	25
				50	75							-50-5C-C	●	●								
				75	115							-75-5C-C	●	●								
				115	180							-115-5C-C	●	●								
				180	235							-180-5C-C	●	●								
				235	∞							-235-5C-C	●	●								
			32	75	115							KGDF R/L -75-5D-C	●	●	32	32	-	32	182	55	36.5	32
				115	180							-115-5D-C	●	●								
				180	235							-180-5D-C	●	●								
				235	∞							-235-5D-C	●	●								

Note 1) If the unit part number is not listed (No Unit Part Number), please purchase toolholder and blade separately.
2) Dimension **CDX*** : Shows the maximum grooving depth. If the dimension **CDX** is 0.787" (20mm) or more, using a 2-edge insert, the maximum grooving depth is 0.709" (18mm).
3) Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder. For Spare Parts, see ➡ G104

Applicable Inserts ➡ G103

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
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● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Toolholder + Blade Dimensions

6mm Insert Width

(Choose **Right-hand** Blade for **Left-hand** Toolholder and **Left-hand** Blade for **Right-hand** Toolholder)

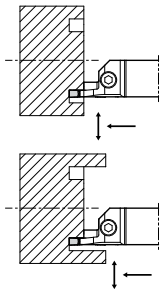
Shank Angle	Insert Width CW (mm)	Shank Size (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. (mm) DAXN (min)	Face Grooving Dia. (mm) DAXX (max)	Unit Part Number (Toolholder + Blade)	Stock R	Stock L	Toolholder Part Number ➡ G41	Stock R	Stock L	Blade Part Number ➡ G127	Stock R	Stock L	Dimensions (mm) Diagram on Page ➡ G105 H	HF	HBH	B	LF	LH	WF	CDX*
0°	6	□20	15	25	35	No Unit Part Number ➡			KGD R/L 2020-C	●	●	KGDF R/L -25-6B-C	●	●	20	20	12	20	120	38	24.5	15
				35	50							-35-6B-C	●	●								
				50	75							-50-6B-C	●	●								
				75	115							-75-6B-C	●	●								
				115	180							-115-6B-C	●	●								
				180	235							-180-6B-C	●	●								
				235	∞							-235-6B-C	●	●								
			20	25	35							KGDF R/L -25-6C-C	●	●	20	20	12	20	125	43	24.5	20
			25	35	50							-35-6C-C	●	●	20	20	12	20	130	48	24.5	25
				50	75							-50-6C-C	●	●								
				75	115							-75-6C-C	●	●								
				115	180							-115-6C-C	●	●								
				180	235							-180-6C-C	●	●								
				235	∞							-235-6C-C	●	●								
			32	75	115							KGDF R/L -75-6D-C	●	●	20	20	12	20	137	55	24.5	32
				115	180							-115-6D-C	●	●								
				180	235							-180-6D-C	●	●								
				235	∞							-235-6D-C	●	●								
		□25	15	25	35	No Unit Part Number ➡			KGD R/L 2525-C	●	●	KGDF R/L -25-6B-C	●	●	25	25	7	25	145	38	29.5	15
				35	50							-35-6B-C	●	●								
				50	75							-50-6B-C	●	●								
				75	115							-75-6B-C	●	●								
				115	180							-115-6B-C	●	●								
				180	235							-180-6B-C	●	●								
				235	∞							-235-6B-C	●	●								
			20	25	35							KGDF R/L -25-6C-C	●	●	25	25	7	25	150	43	29.5	20
			25	35	50							-35-6C-C	●	●	25	25	7	25	155	48	29.5	25
				50	75							-50-6C-C	●	●								
				75	115							-75-6C-C	●	●								
				115	180							-115-6C-C	●	●								
				180	235							-180-6C-C	●	●								
				235	∞							-235-6C-C	●	●								
			32	75	115							KGDF R/L -75-6D-C	●	●	25	25	7	25	162	55	29.5	32
				115	180							-115-6D-C	●	●								
				180	235							-180-6D-C	●	●								
				235	∞							-235-6D-C	●	●								
		□32	15	25	35	No Unit Part Number ➡			KGD R/L 3232-C	●	●	KGDF R/L -25-6B-C	●	●	32	32	-	32	165	38	36.5	15
				35	50							-35-6B-C	●	●								
				50	75							-50-6B-C	●	●								
				75	115							-75-6B-C	●	●								
				115	180							-115-6B-C	●	●								
				180	235							-180-6B-C	●	●								
				235	∞							-235-6B-C	●	●								
			20	25	35							KGDF R/L -25-6C-C	●	●	32	32	-	32	170	43	36.5	20
			25	35	50							-35-6C-C	●	●	32	32	-	32	175	48	36.5	25
				50	75							-50-6C-C	●	●								
				75	115							-75-6C-C	●	●								
				115	180							-115-6C-C	●	●								
				180	235							-180-6C-C	●	●								
				235	∞							-235-6C-C	●	●								
			32	75	115							KGDF R/L -75-6D-C	●	●	32	32	-	32	182	55	36.5	32
				115	180							-115-6D-C	●	●								
				180	235							-180-6D-C	●	●								
				235	∞							-235-6D-C	●	●								

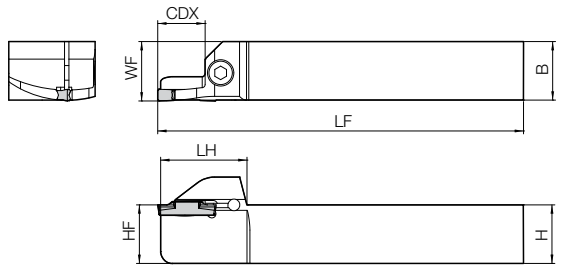
Note 1) If the unit part number is not listed (No Unit Part Number), please purchase toolholder and blade separately.
2) Dimension **CDX*** : Shows the maximum grooving depth. If the dimension **CDX** is 0.787" (20mm) or more, using a 2-edge insert, the maximum grooving depth is 0.709" (18mm).
3) Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder. For Spare Parts, see ➡ G104

Applicable Inserts ➡ G103

KGDF-Z

3mm / 4mm / 5mm Insert Width





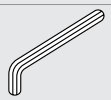
• Right-hand shown

Toolholder Dimensions

Insert Width CW (mm)	Shank Size (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. (mm) DAXN (min)	Face Grooving Dia. (mm) DAXX (max)	Part Number	Stock R	Stock L	Dimensions (mm) H	HF	B	LF	LH	WF	CDX
3	□20	15	50	65	KGDF R/L 2020K50-3B-Z	●	●	20	20	20	125	30.5	20.3	15
			65	85	2020K65-3B-Z	●	●							
			85	110	2020K85-3B-Z	●	●							
			110	145	2020K110-3B-Z	●	●							
	□25		50	65	KGDF R/L 2525M50-3B-Z	●	●	25	25	25	150	30.5	25.3	15
			65	85	2525M65-3B-Z	●	●							
			85	110	2525M85-3B-Z	●	●							
			110	145	2525M110-3B-Z	●	●							
4	□20	15	50	70	KGDF R/L 2020K50-4B-Z	●	●	20	20	20	125	30.5	20.3	15
			70	100	2020K70-4B-Z	●	●							
			100	150	2020K100-4B-Z	●	●							
	□25		50	70	KGDF R/L 2525M50-4B-Z	●	●	25	25	25	150	30.5	25.3	15
			70	100	2525M70-4B-Z	●	●							
			100	150	2525M100-4B-Z	●	●							
5	□20	15	50	75	KGDF R/L 2020K50-5B-Z	●	●	20	20	20	125	30.5	20.3	15
			75	115	2020K75-5B-Z	●	●							
			115	180	2020K115-5B-Z	●	●							
	□25		50	75	KGDF R/L 2525M50-5B-Z	●	●	25	25	25	150	30.5	25.3	15
			75	115	2525M75-5B-Z	●	●							
			115	180	2525M115-5B-Z	●	●							

Applicable Inserts ➲ G103

Spare Parts

Part Number	Spare Parts: Clamp Bolt	Spare Parts: Wrench
		
KGDF R/L ····Z	HH5X16	LW-4

Toolholder Identification System (Integral Type)

KGDF R 2525 M 50 3 B Z

Series	Hand of Tool	Shank Size	Toolholder Length	Min. Face Groove Dia.	Width	Grooving Depth	Toolholder Type
KGDF Face Grooving	**R**: Right-hand	**2020** : □20mm	**K** : 125mm	**50** : 50mm	**3** : 3mm	**B** : 15mm	**Z** : Integral Type
	L: Left-hand	**2525** : □25mm	**M** : 150mm	:	**4** : 4mm		
				115 : 115mm	**5** : 5mm		

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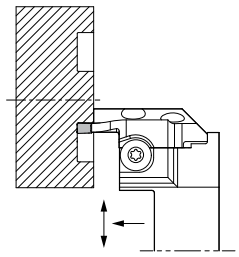
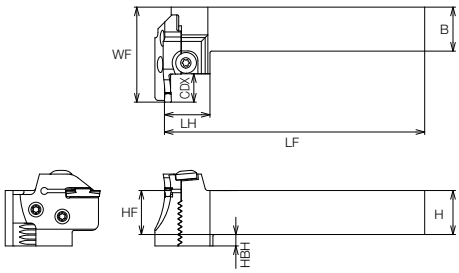
● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

KGDF Face Grooving 90° SwitchBlade Toolholders (Inch-Size)

0.079" Insert Width





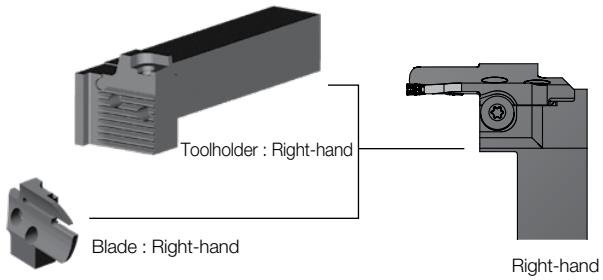
• Right-hand shown (Right-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions

(Choose **Right-hand** Blade for **Right-hand** Toolholder and **Left-hand** Blade for **Left-hand** Toolholder)

Shank Angle	Insert Width CW (in)	Shank Size (in)	Max. Grooving Depth (in)	Face Grooving Dia. (in) DAXN (min)	Face Grooving Dia. (in) DAXX (max)	Unit Part Number (Toolholder + Blade)	Toolholder Part Number G41	Stock R	Stock L	Blade Part Number G127	Stock R	Stock L	H	HF	HBH	B	LF	LH	WF	CDX
90°	0.079 (2mm)	□0.75	0.236 (6mm)	0.984	1.181	No Unit Part Number ➡	KGDSR12-C	●		KGDFR -25-2A-C	●		0.750	0.750	0.510	0.750	4.921	0.988	1.957	0.236 (6mm)
				1.181	1.378					-30-2A-C	●									
				1.378	1.772					-35-2A-C	●									
				1.772	2.362					-45-2A-C	●									
				2.362	3.150					-60-2A-C	●									
				3.150	3.937					-80-2A-C	●									
				3.937	5.118					-100-2A-C	●									
			0.512 (13mm)	0.984	1.181					KGDFR -25-2B-C	●		0.750	0.750	0.510	0.750	4.921	0.988	2.075	0.512 (13mm)
			0.591 (15mm)	1.181	1.378					KGDFR -30-2B-C	●		0.750	0.750	0.510	0.750	4.921	0.988	2.154	0.591 (15mm)
				1.378	1.772					-35-2B-C	●									
				1.772	2.362					-45-2B-C	●									
				2.362	3.150					-60-2B-C	●									
				3.150	3.937					-80-2B-C	●									
				3.937	5.118					-100-2B-C	●									
		□1.00	0.236 (6mm)	0.984	1.181	No Unit Part Number ➡	KGDSR16-C	●		KGDFR -25-2A-C	●		1.000	1.000	0.260	1.000	5.910	0.988	1.957	0.236 (6mm)
				1.181	1.378					-30-2A-C	●									
				1.378	1.772					-35-2A-C	●									
				1.772	2.362					-45-2A-C	●									
				2.362	3.150					-60-2A-C	●									
				3.150	3.937					-80-2A-C	●									
				3.937	5.118					-100-2A-C	●									
			0.512 (13mm)	0.984	1.181					KGDFR -25-2B-C	●		1.000	1.000	0.260	1.000	5.910	0.988	2.075	0.512 (13mm)
			0.591 (15mm)	1.181	1.378					KGDFR -30-2B-C	●		1.000	1.000	0.260	1.000	5.910	0.988	2.154	0.591 (15mm)
				1.378	1.772					-35-2B-C	●									
				1.772	2.362					-45-2B-C	●									
				2.362	3.150					-60-2B-C	●									
				3.150	3.937					-80-2B-C	●									
				3.937	5.118					-100-2B-C	●									

Applicable Inserts ➡ G103

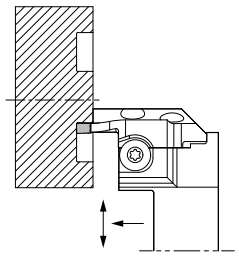


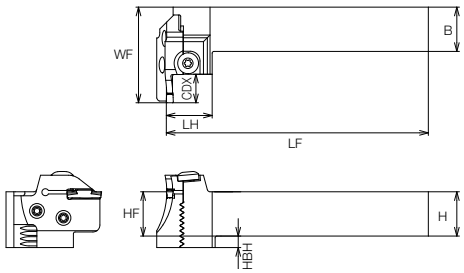
- KGDF 90° SwitchBlade type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
- **Right-hand** Blade for **Right-hand** Toolholder, **Left-hand** Blade for **Left-hand** Toolholder.
- Insert clamp screw (BH6X10TR), Blade fixing screw (SB-60120TR) and Wrench (LTW-25) come with toolholder.

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

KGDF Face Grooving 90° SwitchBlade Toolholders (Inch-Size)

0.118" Insert Width





• Right-hand shown (Right-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions (0.118" Insert Width)

(Choose **Right-hand** Blade for **Right-hand** Toolholder and **Left-hand** Blade for **Left-hand** Toolholder)

Shank Angle	Insert Width CW (in)	Shank Size (in)	Max. Grooving Depth (in)	Face Grooving Dia. (in) DAXN (min)	Face Grooving Dia. (in) DAXX (max)	Unit Part Number (Toolholder + Blade)	Toolholder Part Number ➡ G41	Stock R	Stock L	Blade Part Number ➡ G127	Stock R	Stock L	Dimensions (in) H	HF	HBH	B	LF	LH	WF	CDX
90°	0.118 (3mm)	□0.75	0.512 (13mm)	0.984	1.181	No Unit Part Number ➡	KGDS R/L 12-C	●	●	KGDF R/L -25-3A-C	●	●	0.750	0.750	0.510	0.750	4.921	0.988	2.075	0.512
				1.181	1.575					-30-3A-C	●	●								
				1.575	1.969					-40-3A-C	●	●								
			0.591 (15mm)	1.969	2.559					-50-3B-C	●	●	0.750	0.750	0.510	0.750	4.921	0.988	2.154	0.591
				2.559	3.346					-65-3B-C	●	●								
				3.346	4.331					-85-3B-C	●	●								
				4.331	5.709					-110-3B-C	●	●								
			0.866 (22mm)	1.969	2.559					KGDF R/L -50-3C-C	●	●	0.750	0.750	0.510	0.750	4.921	0.988	2.350	0.866
				2.559	3.346					-65-3C-C	●	●								
			0.984 (25mm)	3.346	4.331					-85-3C-C	●	●	0.750	0.750	0.510	0.750	4.921	0.988	2.429	0.984
				4.331	5.709					-110-3C-C	●	●								
		□1.00	0.512 (13mm)	0.984	1.181	No Unit Part Number ➡	KGDS R/L 16-C	●	●	KGDF R/L -25-3A-C	●	●	1.000	1.000	0.260	1.000	5.906	0.988	2.075	0.512
				1.181	1.575					-30-3A-C	●	●								
				1.575	1.969					-40-3A-C	●	●								
			0.591 (15mm)	1.969	2.559					-50-3B-C	●	●	1.000	1.000	0.260	1.000	5.906	0.988	2.154	0.591
				2.559	3.346					-65-3B-C	●	●								
				3.346	4.331					-85-3B-C	●	●								
				4.331	5.709					-110-3B-C	●	●								
			0.866 (22mm)	1.969	2.559					KGDF R/L -50-3C-C	●	●	1.000	1.000	0.260	1.000	5.906	0.988	2.350	0.866
				2.559	3.346					-65-3C-C	●	●								
			0.984 (25mm)	3.346	4.331					-85-3C-C	●	●	1.000	1.000	0.260	1.000	5.906	0.988	2.429	0.984
				4.331	5.709					-110-3C-C	●	●								

• KGDF 90° SwitchBlade type is not available as unit (toolholder + blade).
Blade and toolholder are available to assemble when purchasing individually.

Applicable Inserts ➡ **G103**

• **Right-hand** Blade for **Right-hand** Toolholder, **Left-hand** Blade for **Left-hand** Toolholder.

• Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) and Wrench (LTW-25) come with toolholder. For Spare Parts, see ➡ **G104**

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
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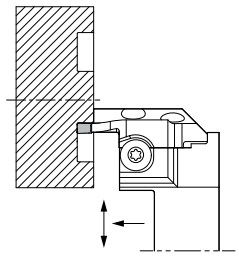
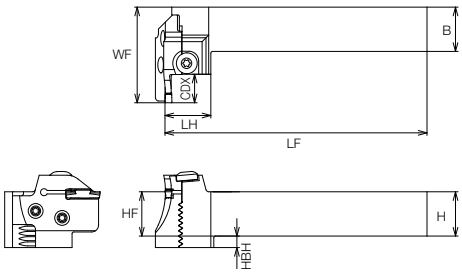
● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

KGDF Face Grooving 90° SwitchBlade Toolholders (Inch-Size)

0.157" Insert Width





• Right-hand shown (Right-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions (0.157" Insert Width)

(Choose **Right-hand** Blade for **Right-hand** Toolholder and **Left-hand** Blade for **Left-hand** Toolholder)

Shank Angle	Insert Width CW (in)	Shank Size (in)	Max. Grooving Depth (in)	Face Grooving Dia. (in) DAXN (min)	Face Grooving Dia. (in) DAXX (max)	Unit Part Number (Toolholder + Blade)	Toolholder Part Number ➡ G41	Stock R	Stock L	Blade Part Number ➡ G127	Stock R	Stock L	Dimensions (in) H	HF	HBH	B	LF	LH	WF	CDX
90°	0.157 (4mm)	□0.75	0.512 (13mm)	0.984	1.378	No Unit Part Number ➡	KGDS%12-C	●	●	KGDF%L -25-4A-C	●	●	0.750	0.750	0.510	0.750	4.921	0.988	2.075	0.512
			0.591 (15mm)	1.378	1.969					KGDF%L -35-4B-C	●	●	0.750	0.750	0.510	0.750	4.921	0.988	2.154	0.591
				1.969	2.756					-50-4B-C	●	●								
				2.756	3.937					-70-4B-C	●	●								
				3.937	5.906					-100-4B-C	●	●								
				5.906	8.661					-150-4B-C	●	●								
				8.661	∞					-220-4B-C	●	●								
			0.984 (25mm)	1.378	1.969					KGDF%L -35-4C-C	●	●	0.750	0.750	0.510	0.750	4.921	0.988	2.550	0.984
				1.969	2.756					-50-4C-C	●	●								
				2.756	3.937					-70-4C-C	●	●								
				3.937	5.906					-100-4C-C	●	●								
				5.906	8.661					-150-4C-C	●	●								
				8.661	∞					-220-4C-C	●	●								
		□1.00	0.512 (13mm)	0.984	1.378	No Unit Part Number ➡	KGDS%16-C	●	●	KGDF%L -25-4A-C	●	●	1.000	1.000	0.260	1.000	5.906	0.988	2.075	0.512
			0.591 (15mm)	1.378	1.969					KGDF%L -35-4B-C	●	●	1.000	1.000	0.260	1.000	5.906	0.988	2.154	0.591
				1.969	2.756					-50-4B-C	●	●								
				2.756	3.937					-70-4B-C	●	●								
				3.937	5.906					-100-4B-C	●	●								
				5.906	8.661					-150-4B-C	●	●								
				8.661	∞					-220-4B-C	●	●								
			0.984 (25mm)	1.378	1.969					KGDF%L -35-4C-C	●	●	1.000	1.000	0.260	1.000	5.906	0.988	2.550	0.984
				1.969	2.756					-50-4C-C	●	●								
				2.756	3.937					-70-4C-C	●	●								
				3.937	5.906					-100-4C-C	●	●								
				5.906	8.661					-150-4C-C	●	●								
				8.661	∞					-220-4C-C	●	●								

• KGDF 90° SwitchBlade type is not available as unit (toolholder + blade).
Blade and toolholder are available to assemble when purchasing individually.

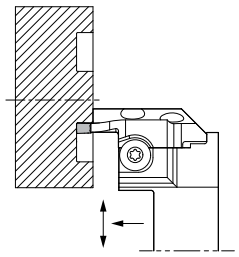
Applicable Inserts ➡ **G103**

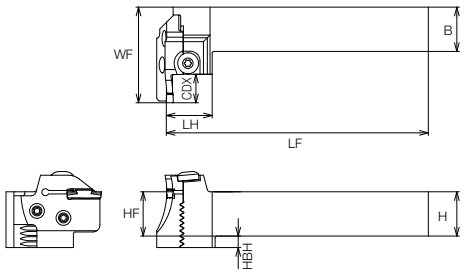
• **Right-hand** Blade for **Right-hand** Toolholder, **Left-hand** Blade for **Left-hand** Toolholder.

• Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) and Wrench (LTW-25) come with toolholder. For Spare Parts, see ➡ **G104**

KGDF Face Grooving 90° SwitchBlade Toolholders (Inch-Size)

0.197" Insert Width





• Right-hand shown (Right-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions

(Choose **Right-hand** Blade for **Right-hand** Toolholder and **Left-hand** Blade for **Left-hand** Toolholder)

Shank Angle	Insert Width CW (in)	Shank Size (in)	Max. Grooving Depth (in)	Face Grooving Dia. (in) DAXN (min)	Face Grooving Dia. (in) DAXX (max)	Unit Part Number (Toolholder + Blade)	Toolholder Part Number ➡ G41	Stock R	Stock L	Blade Part Number ➡ G127	Stock R	Stock L	Dimensions (in) H	HF	HBH	B	LF	LH	WF	CDX
90°	0.197 (5mm)	□0.75	0.591 (15mm)	0.984	1.378	No Unit Part Number ➡	KGDS%12-C	●	●	KGDF%L -25-5B-C	●	●	0.750	0.750	0.510	0.750	4.921	0.927	2.154	0.591
				1.378	1.969					-35-5B-C	●	●								
				1.969	2.953					-50-5B-C	●	●								
				2.953	4.528					-75-5B-C	●	●								
				4.528	7.087					-115-5B-C	●	●								
				7.087	9.252					-180-5B-C	●	●								
				9.252	∞					-235-5B-C	●	●								
			0.787 (20mm)	0.984	1.378					KGDF%L -25-5C-C	●	●	0.750	0.750	0.510	0.750	4.921	0.927	2.35	0.787
			0.984 (25mm)	1.378	1.969					-35-5C-C	●	●	0.750	0.750	0.510	0.750	4.921	0.927	2.547	0.984
				1.969	2.953					-50-5C-C	●	●								
				2.953	4.528					-75-5C-C	●	●								
				4.528	7.087					-115-5C-C	●	●								
				7.087	9.252					-180-5C-C	●	●								
				9.252	∞					-235-5C-C	●	●								
			1.260 (32mm)	2.953	4.528					KGDF%L -75-5D-C	●	●	0.750	0.750	0.510	0.750	4.921	0.927	2.823	1.26
				4.528	7.087					-115-5D-C	●	●								
				7.087	9.252					-180-5D-C	●	●								
				9.252	∞					-235-5D-C	●	●								
		□1.00	0.591 (15mm)	0.984	1.378	No Unit Part Number ➡	KGDS%16-C	●	●	KGDF%L -25-5B-C	●	●	1.000	1.000	0.260	1.000	5.906	1.177	2.154	0.591
				1.378	1.969					-35-5B-C	●	●								
				1.969	2.953					-50-5B-C	●	●								
				2.953	4.528					-75-5B-C	●	●								
				4.528	7.087					-115-5B-C	●	●								
				7.087	9.252					-180-5B-C	●	●								
				9.252	∞					-235-5B-C	●	●								
			0.787 (20mm)	0.984	1.378					KGDF%L -25-5C-C	●	●	1.000	1.000	0.260	1.000	5.906	1.177	2.35	0.787
			0.984 (25mm)	1.378	1.969					-35-5C-C	●	●	1.000	1.000	0.260	1.000	5.906	1.177	2.547	0.984
				1.969	2.953					-50-5C-C	●	●								
				2.953	4.528					-75-5C-C	●	●								
				4.528	7.087					-115-5C-C	●	●								
				7.087	9.252					-180-5C-C	●	●								
				9.252	∞					-235-5C-C	●	●								
			1.260 (32mm)	2.953	4.528					KGDF%L -75-5D-C	●	●	1.000	1.000	0.260	1.000	5.906	1.177	2.823	1.26
				4.528	7.087					-115-5D-C	●	●								
				7.087	9.252					-180-5D-C	●	●								
				9.252	∞					-235-5D-C	●	●								

Applicable Inserts ➡ **G103**

- KGDF 90° SwitchBlade type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
- **Right-hand** Blade for **Right-hand** Toolholder, **Left-hand** Blade for **Left-hand** Toolholder.
- Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) and Wrench (LTW-25) come with toolholder. For Spare Parts, see ➡ **G104**

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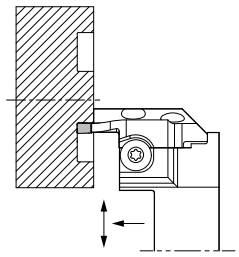
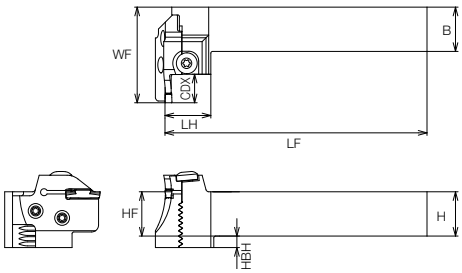
● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

KGDF Face Grooving 90° SwitchBlade Toolholders (Inch-Size)

0.236" Insert Width





• Right-hand shown (Right-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions

(Choose **Right-hand** Blade for **Right-hand** Toolholder and **Left-hand** Blade for **Left-hand** Toolholder)

Shank Angle	Insert Width CW (in)	Shank Size (in)	Max. Grooving Depth (in)	Face Grooving Dia. (in) DAXN (min)	Face Grooving Dia. (in) DAXX (max)	Unit Part Number (Toolholder + Blade)	Toolholder Part Number ➡ G41	Stock R	Stock L	Blade Part Number ➡ G127	Stock R	Stock L	Dimensions (in) H	HF	HBH	B	LF	LH	WF	CDX
90°	0.236 (6mm)	□0.75	0.591 (15mm)	0.984	1.378	No Unit Part Number ➡	KGDS%12-C	●	●	KGDF%L -25-6B-C	●	●	0.750	0.750	0.510	0.750	4.921	0.988	2.154	0.591
				1.378	1.969					-35-6B-C	●	●								
				1.969	2.953					-50-6B-C	●	●								
				2.953	4.528					-75-6B-C	●	●								
				4.528	7.087					-115-6B-C	●	●								
				7.087	9.252					-180-6B-C	●	●								
				9.252	∞					-235-6B-C	●	●								
			0.787 (20mm)	0.984	1.378					KGDF%L -25-6C-C	●	●	0.750	0.750	0.510	0.750	4.921	0.988	2.350	0.787
			0.984 (25mm)	1.378	1.969					-35-6C-C	●	●	0.750	0.750	0.510	0.750	4.921	0.988	2.547	0.984
				1.969	2.953					-50-6C-C	●	●								
				2.953	4.528					-75-6C-C	●	●								
				4.528	7.087					-115-6C-C	●	●								
				7.087	9.252					-180-6C-C	●	●								
				9.252	∞					-235-6C-C	●	●								
			1.260 (32mm)	2.953	4.528					KGDF%L -75-6D-C	●	●	0.750	0.750	0.510	0.750	4.921	0.988	2.823	1.260
				4.528	7.087					-115-6D-C	●	●								
				7.087	9.252					-180-6D-C	●	●								
				9.252	∞					-235-6D-C	●	●								
		□1.00	0.591 (15mm)	0.984	1.378	No Unit Part Number ➡	KGDS%16-C	●	●	KGDF%L -25-6B-C	●	●	1.000	1.000	0.260	1.000	5.906	0.988	2.154	0.591
				1.378	1.969					-35-6B-C	●	●								
				1.969	2.953					-50-6B-C	●	●								
				2.953	4.528					-75-6B-C	●	●								
				4.528	7.087					-115-6B-C	●	●								
				7.087	9.252					-180-6B-C	●	●								
				9.252	∞					-235-6B-C	●	●								
			0.787 (20mm)	0.984	1.378					KGDF%L -25-6C-C	●	●	1.000	1.000	0.260	1.000	5.906	0.988	2.350	0.787
			0.984 (25mm)	1.378	1.969					-35-6C-C	●	●	1.000	1.000	0.260	1.000	5.906	0.988	2.547	0.984
				1.969	2.953					-50-6C-C	●	●								
				2.953	4.528					-75-6C-C	●	●								
				4.528	7.087					-115-6C-C	●	●								
				7.087	9.252					-180-6C-C	●	●								
				9.252	∞					-235-6C-C	●	●								
			1.260 (32mm)	2.953	4.528					KGDF%L -75-6D-C	●	●	1.000	1.000	0.260	1.000	5.906	0.988	2.823	1.260
				4.528	7.087					-115-6D-C	●	●								
				7.087	9.252					-180-6D-C	●	●								
				9.252	∞					-235-6D-C	●	●								

• KGDF 90° SwitchBlade type is not available as unit (toolholder + blade).
Blade and toolholder are available to assemble when purchasing individually.

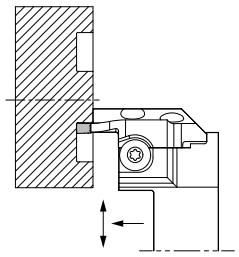
• **Right-hand** Blade for **Right-hand** Toolholder, **Left-hand** Blade for **Left-hand** Toolholder.

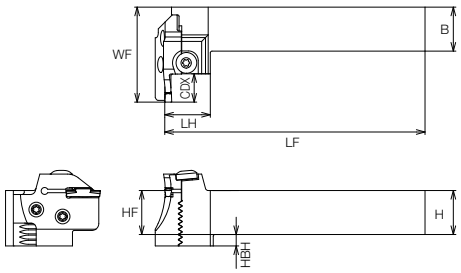
• Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) and Wrench (LTW-25) come with toolholder. For Spare Parts, see ➡ **G104**

Applicable Inserts ➡ **G103**

KGDF Face Grooving 90° SwitchBlade Toolholders (Metric-Size)

2mm Insert Width





• Right-hand shown (Right-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions

(Choose **Right-hand** Blade for **Right-hand** Toolholder and **Left-hand** Blade for **Left-hand** Toolholder)

Shank Angle	Insert Width CW (mm)	Shank Size (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. (mm) DAXN (min)	Face Grooving Dia. (mm) DAXX (max)	Unit Part Number (Toolholder + Blade)	Toolholder Part Number G41	Stock R	Stock L	Blade Part Number G127	Stock R	Stock L	Dimensions (mm) H	HF	HBH	B	LF	LH	WF	CDX
90°	2	□20	6	25	30	No Unit Part Number ➡	KGDSR2020-C	●		KGDFR -25-2A-C	●		20	20	12	20	125	27.7	49.7	6
				30	35					-30-2A-C	●									
				35	45					-35-2A-C	●									
				45	60					-45-2A-C	●									
				60	80					-60-2A-C	●									
				80	100					-80-2A-C	●									
				100	130					-100-2A-C	●									
			13	25	30					KGDFR -25-2B-C	●		20	20	12	20	125	27.7	52.7	13
			15	30	35					KGDFR -30-2B-C	●		20	20	12	20	125	27.7	54.7	15
				35	45					-35-2B-C	●									
				45	60					-45-2B-C	●									
				60	80					-60-2B-C	●									
				80	100					-80-2B-C	●									
				100	130					-100-2B-C	●									
		□25	6	25	30	No Unit Part Number ➡	KGDSR2525-C	●		KGDFR -25-2A-C	●		25	25	7	25	150	27.7	49.7	6
				30	35					-30-2A-C	●									
				35	45					-35-2A-C	●									
				45	60					-45-2A-C	●									
				60	80					-60-2A-C	●									
				80	100					-80-2A-C	●									
				100	130					-100-2A-C	●									
			13	25	30					KGDFR -25-2B-C	●		25	25	7	25	150	27.7	52.7	13
			15	30	35					KGDFR -30-2B-C	●		25	25	7	25	150	27.7	54.7	15
				35	45					-35-2B-C	●									
				45	60					-45-2B-C	●									
				60	80					-60-2B-C	●									
				80	100					-80-2B-C	●									
				100	130					-100-2B-C	●									

• KGDF 90° SwitchBlade type is not available as unit (toolholder + blade).
Blade and toolholder are available to assemble when purchasing individually.

Applicable Inserts ➡ G103

• **Right-hand** Blade for **Right-hand** Toolholder, **Left-hand** Blade for **Left-hand** Toolholder.

• Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) and Wrench (LTW-25) come with toolholder. For Spare Parts, see ➡ G104

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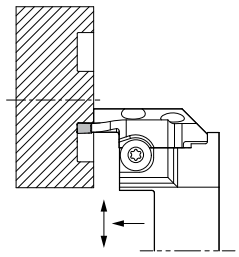
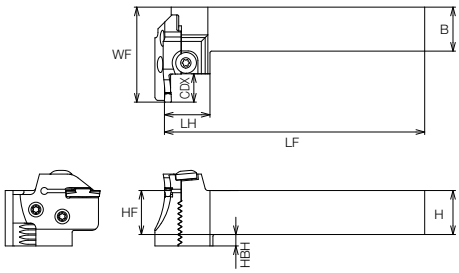
KGDF Face Grooving 90° SwitchBlade Toolholders (Metric-Size)

3mm Insert Width





• Right-hand shown (Right-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions

(Choose **Right-hand** Blade for **Right-hand** Toolholder and **Left-hand** Blade for **Left-hand** Toolholder)

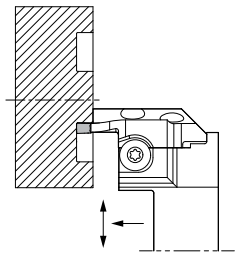
Shank Angle	Insert Width CW (mm)	Shank Size (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. (mm) DAXN (min)	Face Grooving Dia. (mm) DAXX (max)	Unit Part Number (Toolholder + Blade)	Toolholder Part Number G41	Stock R	Stock L	Blade Part Number G127	Stock R	Stock L	Dimensions (mm) H	HF	HBH	B	LF	LH	WF	CDX
90°	3	□20	13	25	30	No Unit Part Number ➡	KGDS R/L 2020-C	●	●	KGDF R/L -25-3A-C	●	●	20	20	12	20	125	27.7	52.7	13
				30	40					-30-3A-C	●	●								
				40	50					-40-3A-C	●	●								
			15	50	65					KGDF R/L -50-3B-C	●	●	20	20	12	20	125	27.7	54.7	15
				65	85					-65-3B-C	●	●								
				85	110					-85-3B-C	●	●								
				110	145					-110-3B-C	●	●								
			22	50	65					KGDF R/L -50-3C-C	●	●	20	20	12	20	125	27.7	59.7	22
				65	85					-65-3C-C	●	●								
			25	85	110					-85-3C-C	●	●	20	20	12	20	125	27.7	61.7	25
				110	145					-110-3C-C	●	●								
		□25	13	25	30	No Unit Part Number ➡	KGDS R/L 2525-C	●	●	KGDF R/L -25-3A-C	●	●	25	25	7	25	150	27.7	52.7	13
				30	40					-30-3A-C	●	●								
				40	50					-40-3A-C	●	●								
			15	50	65					-50-3B-C	●	●	25	25	7	25	150	27.7	54.7	15
				65	85					-65-3B-C	●	●								
				85	110					-85-3B-C	●	●								
				110	145					-110-3B-C	●	●								
			22	50	65					KGDF R/L -50-3C-C	●	●	25	25	7	25	150	27.7	59.7	22
				65	85					-65-3C-C	●	●								
			25	85	110					KGDF R/L -85-3C-C	●	●	25	25	7	25	150	27.7	61.7	25
				110	145					-110-3C-C	●	●								

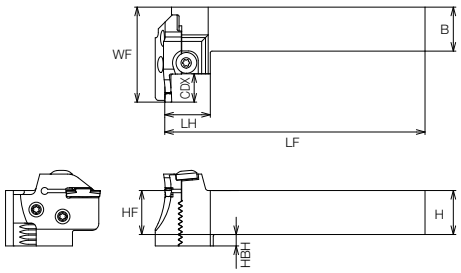
Applicable Inserts ➡ **G103**

- KGDF 90° SwitchBlade type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
- **Right-hand** Blade for **Right-hand** Toolholder, **Left-hand** Blade for **Left-hand** Toolholder.
- Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) and Wrench (LTW-25) come with toolholder. For Spare Parts, see ➡ **G104**

KGDF Face Grooving 90° SwitchBlade Toolholders (Metric-Size)

4mm Insert Width





• Right-hand shown (Right-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions

(Choose **Right-hand** Blade for **Right-hand** Toolholder and **Left-hand** Blade for **Left-hand** Toolholder)

Shank Angle	Insert Width CW (mm)	Shank Size (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. (mm) DAXN (min)	Face Grooving Dia. (mm) DAXX (max)	Unit Part Number (Toolholder + Blade)	Toolholder Part Number ➡ G41	Stock R	Stock L	Blade Part Number ➡ G127	Stock R	Stock L	Dimensions (mm) H	HF	HBH	B	LF	LH	WF	CDX
90°	4	□20	13	25	35	No Unit Part Number ➡	KGDS R/L 2020-C	●	●	KGDF R/L -25-4A-C	●	●	20	20	12	20	125	27.7	52.7	13
			15	35	50					-35-4B-C	●	●	20	20	12	20	125	27.7	54.7	15
				50	70					-50-4B-C	●	●								
				70	100					-70-4B-C	●	●								
				100	150					-100-4B-C	●	●								
				150	220					-150-4B-C	●	●								
				220	∞					-220-4B-C	●	●								
			25	35	50					KGDF R/L -35-4C-C	●	●	20	20	12	20	125	27.7	64.7	25
				50	70					-50-4C-C	●	●								
				70	100					-70-4C-C	●	●								
				100	150					-100-4C-C	●	●								
				150	220					-150-4C-C	●	●								
				220	∞					-220-4C-C	●	●								
		□25	13	25	35	No Unit Part Number ➡	KGDS R/L 2525-C	●	●	KGDF R/L -25-4A-C	●	●	25	25	7	25	150	27.7	52.7	13
			15	35	50					-35-4B-C	●	●	25	25	7	25	150	27.7	54.7	15
				50	70					-50-4B-C	●	●								
				70	100					-70-4B-C	●	●								
				100	150					-100-4B-C	●	●								
				150	220					-150-4B-C	●	●								
				220	∞					-220-4B-C	●	●								
			25	35	50					KGDF R/L -35-4C-C	●	●	25	25	7	25	150	27.7	64.7	25
				50	70					-50-4C-C	●	●								
				70	100					-70-4C-C	●	●								
				100	150					-100-4C-C	●	●								
				150	220					-150-4C-C	●	●								
				220	∞					-220-4C-C	●	●								

Applicable Inserts ➡ **G103**

- KGDF 90° SwitchBlade type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
- **Right-hand** Blade for **Right-hand** Toolholder, **Left-hand** Blade for **Left-hand** Toolholder.
- Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) and Wrench (LTW-25) come with toolholder. For Spare Parts, see ➡ **G104**

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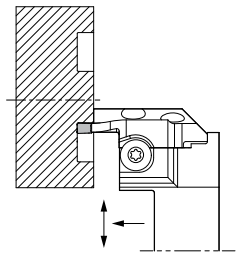
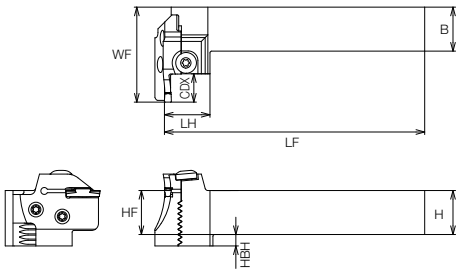
● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

KGDF Face Grooving 90° SwitchBlade Toolholders (Metric-Size)

5mm Insert Width





• Right-hand shown (Right-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions

(Choose **Right-hand** Blade for **Right-hand** Toolholder and **Left-hand** Blade for **Left-hand** Toolholder)

Shank Angle	Insert Width CW (mm)	Shank Size (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. (mm) DAXN (min)	Face Grooving Dia. (mm) DAXX (max)	Unit Part Number (Toolholder + Blade)	Toolholder Part Number ➡ G41	Stock R	Stock L	Blade Part Number ➡ G127	Stock R	Stock L	Dimensions (mm) H	HF	HBH	B	LF	LH	WF	CDX
90°	5	□20	15	25	35	No Unit Part Number ➡	KGDS R/L 2020-C	●	●	KGDF R/L -25-5B-C	●	●	20	20	12	20	125	27.7	54.7	15
				35	50					-35-5B-C	●	●								
				50	75					-50-5B-C	●	●								
				75	115					-75-5B-C	●	●								
				115	180					-115-5B-C	●	●								
				180	235					-180-5B-C	●	●								
				235	∞					-235-5B-C	●	●								
			20	25	35					KGDF R/L -25-5C-C	●	●	20	20	12	20	125	27.7	59.7	20
			25	35	50					-35-5C-C	●	●	20	20	12	20	125	27.7	64.7	25
				50	75					-50-5C-C	●	●								
				75	115					-75-5C-C	●	●								
				115	180					-115-5C-C	●	●								
				180	235					-180-5C-C	●	●								
				235	∞					-235-5C-C	●	●								
			32	75	115					KGDF R/L -75-5D-C	●	●	20	20	12	20	125	27.7	71.7	32
				115	180					-115-5D-C	●	●								
				180	235					-180-5D-C	●	●								
				235	∞					-235-5D-C	●	●								
		□25	15	25	35	No Unit Part Number ➡	KGDS R/L 2525-C	●	●	KGDF R/L -25-5B-C	●	●	25	25	7	25	150	27.7	54.7	15
				35	50					-35-5B-C	●	●								
				50	75					-50-5B-C	●	●								
				75	115					-75-5B-C	●	●								
				115	180					-115-5B-C	●	●								
				180	235					-180-5B-C	●	●								
				235	∞					-235-5B-C	●	●								
			20	25	35					KGDF R/L -25-5C-C	●	●	25	25	7	25	150	27.7	59.7	20
			25	35	50					-35-5C-C	●	●	25	25	7	25	150	27.7	64.7	25
				50	75					-50-5C-C	●	●								
				75	115					-75-5C-C	●	●								
				115	180					-115-5C-C	●	●								
				180	235					-180-5C-C	●	●								
				235	∞					-235-5C-C	●	●								
			32	75	115					KGDF R/L -75-5D-C	●	●	25	25	7	25	150	27.7	71.7	32
				115	180					-115-5D-C	●	●								
				180	235					-180-5D-C	●	●								
				235	∞					-235-5D-C	●	●								

• KGDF 90° SwitchBlade type is not available as unit (toolholder + blade).
Blade and toolholder are available to assemble when purchasing individually.

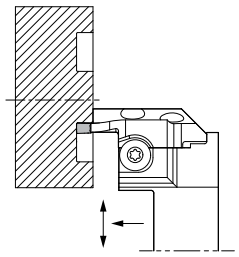
Applicable Inserts ➡ G103

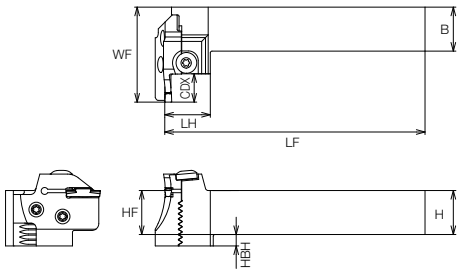
• **Right-hand** Blade for **Right-hand** Toolholder, **Left-hand** Blade for **Left-hand** Toolholder.

• Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) and Wrench (LTW-25) come with toolholder. For Spare Parts, see ➡ G104

KGDF Face Grooving 90° SwitchBlade Toolholders (Metric-Size)

6mm Insert Width





• Right-hand shown (Right-hand Blade and Right-hand Toolholder)

Toolholder + Blade Dimensions

(Choose **Right-hand** Blade for **Right-hand** Toolholder and **Left-hand** Blade for **Left-hand** Toolholder)

Shank Angle	Insert Width CW (mm)	Shank Size (mm)	Max. Grooving Depth (mm)	Face Grooving Dia. (mm) DAXN (min)	Face Grooving Dia. (mm) DAXX (max)	Unit Part Number (Toolholder + Blade)	Toolholder Part Number ➡ G41	Stock R	Stock L	Blade Part Number ➡ G127	Stock R	Stock L	Dimensions (mm) H	HF	HBH	B	LF	LH	WF	CDX
90°	6	□20	15	25	35	No Unit Part Number ➡	KGDS R/L 2020-C	●	●	KGDF R/L -25-6B-C	●	●	20	20	12	20	125	27.7	54.7	15
				35	50					-35-6B-C	●	●								
				50	75					-50-6B-C	●	●								
				75	115					-75-6B-C	●	●								
				115	180					-115-6B-C	●	●								
				180	235					-180-6B-C	●	●								
				235	∞					-235-6B-C	●	●								
			20	25	35					KGDF R/L -25-6C-C	●	●	20	20	12	20	125	27.7	59.7	20
			25	35	50					-35-6C-C	●	●	20	20	12	20	125	27.7	64.7	25
				50	75					-50-6C-C	●	●								
				75	115					-75-6C-C	●	●								
				115	180					-115-6C-C	●	●								
				180	235					-180-6C-C	●	●								
				235	∞					-235-6C-C	●	●								
			32	75	115					KGDF R/L -75-6D-C	●	●	20	20	12	20	125	27.7	71.7	32
				115	180					-115-6D-C	●	●								
				180	235					-180-6D-C	●	●								
				235	∞					-235-6D-C	●	●								
		□25	15	25	35	No Unit Part Number ➡	KGDS R/L 2525-C	●	●	KGDF R/L -25-6B-C	●	●	25	25	7	25	150	27.7	54.7	15
				35	50					-35-6B-C	●	●								
				50	75					-50-6B-C	●	●								
				75	115					-75-6B-C	●	●								
				115	180					-115-6B-C	●	●								
				180	235					-180-6B-C	●	●								
				235	∞					-235-6B-C	●	●								
			20	25	35					KGDF R/L -25-6C-C	●	●	25	25	7	25	150	27.7	59.7	20
			25	35	50					-35-6C-C	●	●	25	25	7	25	150	27.7	64.7	25
				50	75					-50-6C-C	●	●								
				75	115					-75-6C-C	●	●								
				115	180					-115-6C-C	●	●								
				180	235					-180-6C-C	●	●								
				235	∞					-235-6C-C	●	●								
			32	75	115					KGDF R/L -75-6D-C	●	●	25	25	7	25	150	27.7	71.7	32
				115	180					-115-6D-C	●	●								
				180	235					-180-6D-C	●	●								
				235	∞					-235-6D-C	●	●								

• KGDF 90° SwitchBlade type is not available as unit (toolholder + blade).
Blade and toolholder are available to assemble when purchasing individually.

Applicable Inserts ➡ **G103**

• **Right-hand** Blade for **Right-hand** Toolholder, **Left-hand** Blade for **Left-hand** Toolholder.

• Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) and Wrench (LTW-25) come with toolholder. For Spare Parts, see ➡ **G104**

Face Grooving Toolholder Assembly Identification System

Hand of Tool
R: Right-hand
L: Left-hand

Width	
2 : 2mm	**5** : 5mm
3 : 3mm	**6** : 6mm
4 : 4mm	

Blade Symbol
C : Applicable to toolholder with suffix "-C"

KGDF R – 25 – 3 A – C

Series
KGDF Face Grooving

Min. Diameter in Face Grooving
Indicates the minimum external diameter suitable for the initial face grooving.
25 : 25mm : **235** : 235mm

Grooving Depth	
A : 13mm **B** : 15mm	2-Edge Insert (1-Edge Insert can also be used.)
C : 20~25mm **D** : 32mm	1-Edge Insert

Example of printing of blade number

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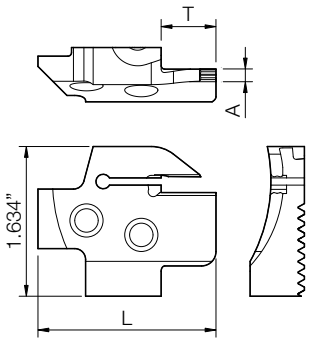
Blade Dimensions

Shape	Blade Part Number	Stock R	Stock L	Dimensions (in) L	Dimensions (in) T	Dimensions (in) A	Face Grooving Dia. (in) DAXN (min)	Face Grooving Dia. (in) DAXX (max)	Width (in) CW	Applicable Inserts G103	Toolholder Part Number G41
 Right-hand Shown	KGDFR -25-2A-C	●		1.746	0.236	0.059	0.984	1.181	0.079 (2mm)	GDFM 2020N-020GM	KGDR/L....-C KGDSR/L....-C
	-30-2A-C	●					1.181	1.378			
	-35-2A-C	●					1.378	1.772			
	-45-2A-C	●					1.772	2.362			
	-60-2A-C	●					2.362	3.150			
	-80-2A-C	●					3.150	3.937			
	-100-2A-C	●					3.937	5.118			
	-25-2B-C	●		1.864	0.512		0.984	1.181			
	-30-2B-C	●		1.943	0.591		1.181	1.378			
	-35-2B-C	●					1.378	1.772			
	-45-2B-C	●					1.772	2.362			
	-60-2B-C	●					2.362	3.150			
	-80-2B-C	●					3.150	3.937			
	-100-2B-C	●					3.937	5.118			
	KGDFR/L -25-3A-C	●	●	1.864	0.512	0.079	0.984	1.181	0.118 (3mm)	GDFM 3020N-030GM GDFM 3020N-030DM GDFMS 3020N-030DM GDFM 3020N-150R-CM	
	-30-3A-C	●	●				1.181	1.575			
	-40-3A-C	●	●				1.575	1.969			
	-50-3B-C	●	●	1.943	0.591		1.969	2.559			
	-65-3B-C	●	●				2.559	3.346			
	-85-3B-C	●	●				3.346	4.331			
	-110-3B-C	●	●				4.331	5.709			
	-50-3C-C	●	●	2.219	0.866		1.969	2.559			
	-65-3C-C	●	●				2.559	3.346			
	-85-3C-C	●	●	2.337	0.984		3.346	4.331			
	-110-3C-C	●	●				4.331	5.709			
	KGDFR/L -25-4A-C	●	●	1.864	0.512	0.118	0.984	1.378	0.157 (4mm)	GDFM 4020N-040GM GDFM 4020N-040GH GDFM 4020N-040DM GDFMS 4020N-040DM GDFM 4020N-200R-CM	
	-35-4B-C	●	●	1.943	0.591		1.378	1.969			
	-50-4B-C	●	●				1.969	2.756			
	-70-4B-C	●	●				2.756	3.937			
	-100-4B-C	●	●				3.937	5.906			
	-150-4B-C	●	●				5.906	8.661			
	-220-4B-C	●	●				8.661	∞			
	-35-4C-C	●	●	2.337	0.984		1.378	1.969			
	-50-4C-C	●	●				1.969	2.756			
	-70-4C-C	●	●				2.756	3.937			
	-100-4C-C	●	●				3.937	5.906			
	-150-4C-C	●	●				5.906	8.661			
	-220-4C-C	●	●				8.661	∞			
	KGDFR/L -25-5B-C	●	●	1.943	0.591	0.157	0.984	1.378	0.197 (5mm)	GDFM 5020N-040GM GDFM 5020N-080GM GDFM 5020N-040GH GDFM 5020N-080GH GDFM 5020N-040DM GDFMS 5020N-040DM GDFM 5020N-250R-CM	
	-35-5B-C	●	●				1.378	1.969			
	-50-5B-C	●	●				1.969	2.953			
	-75-5B-C	●	●				2.953	4.528			
	-115-5B-C	●	●				4.528	7.087			
	-180-5B-C	●	●				7.087	9.252			
	-235-5B-C	●	●				9.252	∞			
	-25-5C-C	●	●	2.140	0.787		0.984	1.378			
	-35-5C-C	●	●	2.337	0.984		1.378	1.969			
	-50-5C-C	●	●				1.969	2.953			
	-75-5C-C	●	●				2.953	4.528			
	-115-5C-C	●	●				4.528	7.087			
	-180-5C-C	●	●				7.087	9.252			
	-235-5C-C	●	●				9.252	∞			
	-75-5D-C	●	●	2.612	1.260		2.953	4.528			
	-115-5D-C	●	●				4.528	7.087			
	-180-5D-C	●	●				7.087	9.252			
	-235-5D-C	●	●				9.252	∞			
	KGDFR/L -25-6B-C	●	●	1.943	0.591	0.197	0.984	1.378	0.236 (6mm)	GDFM 6020N-040GM GDFM 6020N-080GM GDFM 6020N-040GH GDFM 6020N-080GH GDFM 6020N-040DM GDFMS 6020N-040DM GDFM 6020N-300R-CM	
	-35-6B-C	●	●				1.378	1.969			
	-50-6B-C	●	●				1.969	2.953			
	-75-6B-C	●	●				2.953	4.528			
	-115-6B-C	●	●				4.528	7.087			
	-180-6B-C	●	●				7.087	9.252			
	-235-6B-C	●	●				9.252	∞			
	-25-6C-C	●	●	2.140	0.787		0.984	1.378			
	-35-6C-C	●	●	2.337	0.984		1.378	1.969			
	-50-6C-C	●	●				1.969	2.953			
	-75-6C-C	●	●				2.953	4.528			
	-115-6C-C	●	●				4.528	7.087			
	-180-6C-C	●	●				7.087	9.252			
	-235-6C-C	●	●				9.252	∞			
	-75-6D-C	●	●	2.612	1.260		2.953	4.528			
	-115-6D-C	●	●				4.528	7.087			
	-180-6D-C	●	●				7.087	9.252			
	-235-6D-C	●	●				9.252	∞			

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

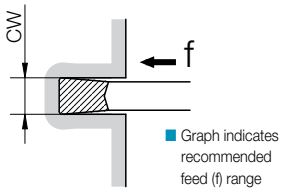
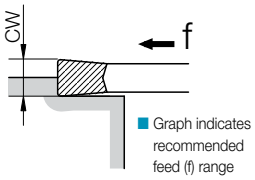
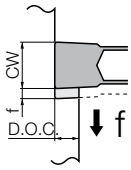
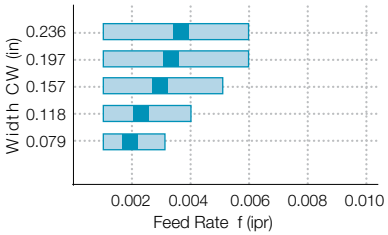
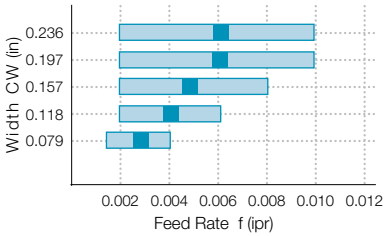
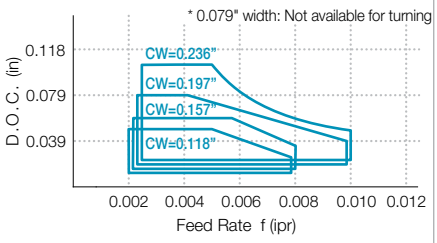
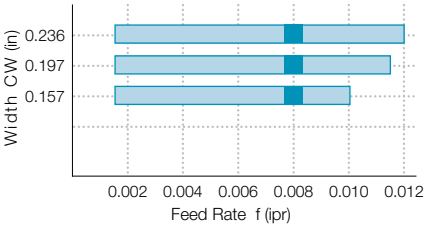
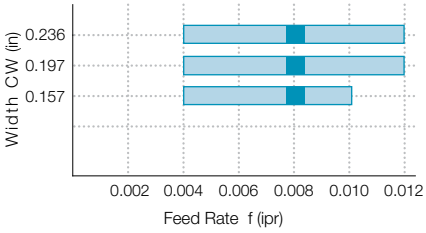
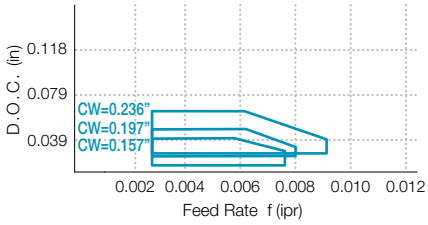
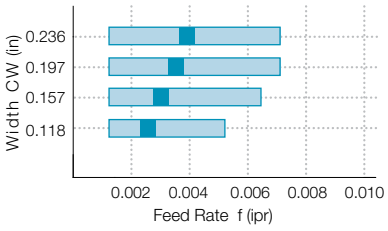
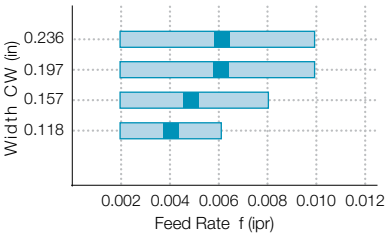
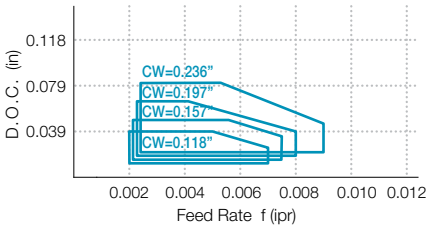
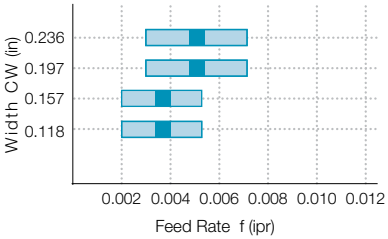
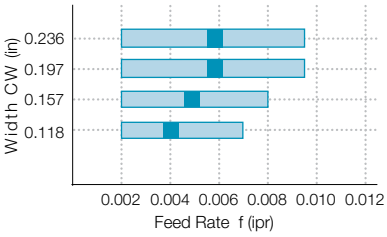
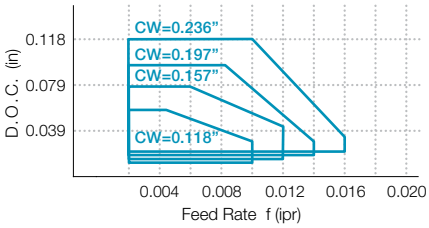
Recommended Cutting Conditions (Vc)

Workpiece Material	Recommended Insert Grade (Vc : sfm)					Notes
	Cermet		MEGACOAT		Carbide	
	TN620	**TN90**	**PR1225**	**PR1215**	**GW15**	
Carbon Steel	☆ 200~660	☆ 260~660	★ 200~520	☆ 260~520	-	Coolant
Alloy Steel	☆ 200~520	☆ 230~520	★ 200~490	☆ 200~490	-	
Stainless Steel	-	-	★ 160~390	☆ 160~390	-	
Cast Iron	-	-	-	★ 260~520	-	
Aluminum Alloy	-	-	-	-	★ 520~1,310	
Brass	-	-	-	-	★ 260~520	

★ : 1st Recommendation ☆ : 2nd Recommendation

Recommended Cutting Conditions (Feed Rate / D.O.C.)

(Workpiece Material : 1049)

	Grooving	Shoulder Grooving (Side Grooving)	Turning
Chipbreaker			
GM (Grooving and Turning)			
GH (Grooving, Turning and High Feed Grooving)			
DM (Deep Grooving and Turning)			
CM (Copying)			

When shouldering,
- If D.O.C. is set smaller, set feed higher.
- If D.O.C. is set larger, set feed lower.

1) The above values reflect a **CDX** dimension that is 0.591" (15mm) or less.
When **CDX** dimension is over 0.669" (17mm), set the values for turning to less than 90% of recommended cutting conditions above.

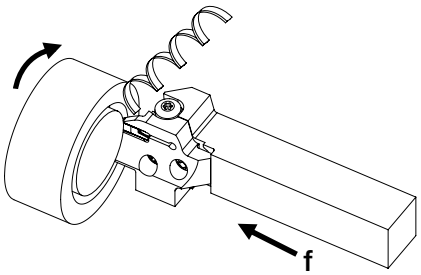
Face Grooving Guide

1 Toolholder Selection

Check the range of applicable "face grooving diameter" as well as the groove width and depth.

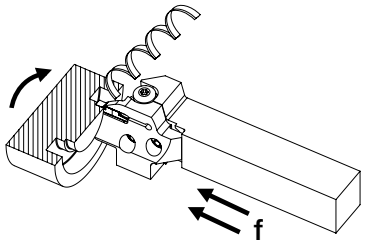
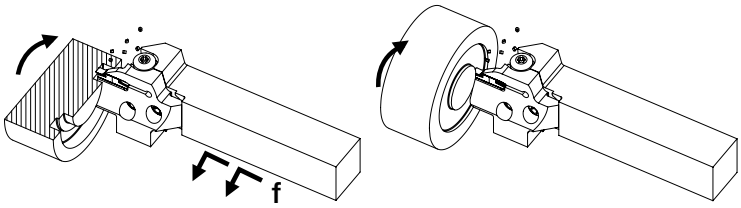
2 Cutting Conditions (Feed Rate : f)

When machining steel, set the feed rate (f) so that chips are created in a helical form when plunging.



3 Expanding Groove Width (Plunging and Turning)

Start machining from the outside and then proceed to the inside to improve chip control.

Plunging (Grooving + Side Grooving)	Turning
	

4 Guide for Turning

A. When the cutting amount (D.O.C.) is over 0.020" (0.5mm)

① Plunge
② Pull back tool by 0.004" (0.1mm)
(Failure to pull the tool back before turning will result in an unbalanced load applied on only one side of the cutting edge.)
③ Perform turning (see Fig.1)

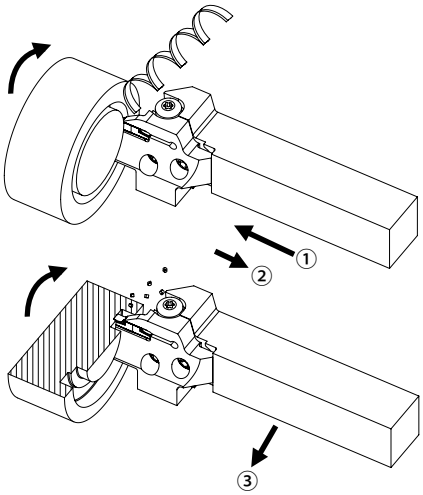
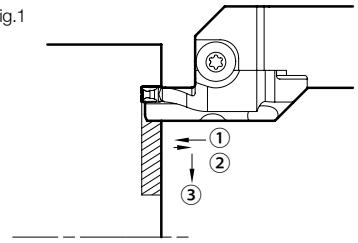


Fig.1

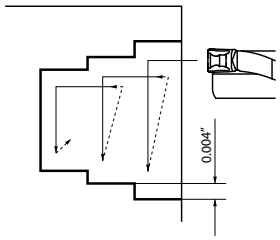


● **When Widening the Face Groove Width (see Fig.2)**

Use "Step Turning" as shown in Fig.2. This allows for the deflection that occurs during traversing. To ensure perpendicularity of the side walls, two final shoulder plunges should be made.

Then perform finishing.

Fig.2



B. When the cutting amount (D.O.C.) is under 0.020"(0.5mm)

① Use plunging
② Perform turning
Machining without interruption is possible. (see **Fig.3**)

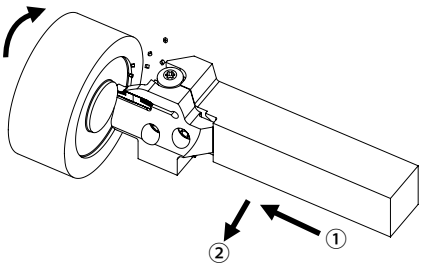
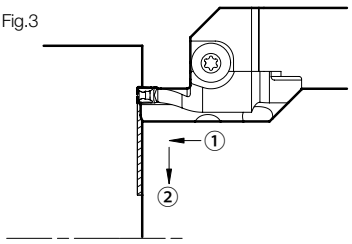
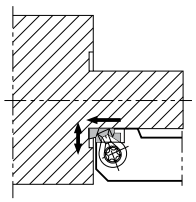
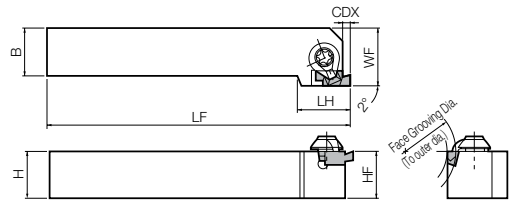


Fig.3

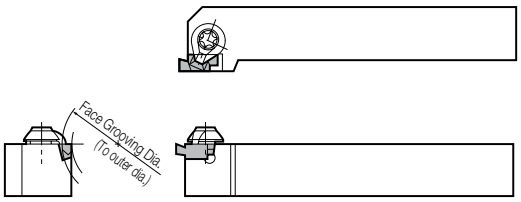


GFVS-AA





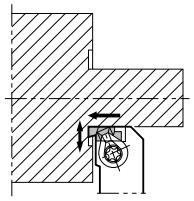
• Right-hand shown

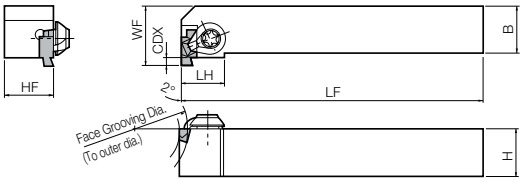


• Left-hand shown

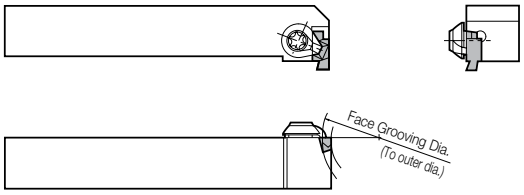
• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

GFVT-AA





• Right-hand shown



• Left-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Part Number		Stock R	Stock L	H	HF	B	LF	LH	WF	CDX	Face Grooving Dia. DAXN (min)	Face Grooving Dia. DAXX (max)	Spare Parts: Clamp Set	Spare Parts: Wrench	Applicable Inserts
				Dimensions (mm)											G131
GFVS R/L	2020K-08AA	●	●	20	20	20	125	18	25	2.2	8 (0)	∞ (∞)	CPS-5V	FT-15	GVF R/L 100-005AA ~ GVF R/L 300-005AA
	2525M-08AA	●	●	25	25	25	150	18	32	2.2					
GFVT R/L	2020K-08AA	●	●	20	20	20	125	14	25	2.2	8 (0)	∞ (∞)	CPS-5V	FT-15	GVF R/L 100-005AA ~ GVF R/L 300-005AA
	2525M-08AA	●	●	25	25	25	150	14	32	2.2					

Note 1. Dimension **CDX** shows available grooving depth.

2. The value ( ) of Face Grooving Dia. DAXX (max) in ( ) is the maximum outer diameter value after the initial groove between DAXN (min) ~ DAXX (max). It is possible to widen the groove to infinity ∞. The value ( ) of Face Grooving Dia. DAXN (min) is the minimum diameter of the boss which remains in the center when widening the groove width to a smaller value after the initial groove between DAXN (min) ~ DAXX (max).

(Customer Service) **800.823.7284 - Option 1**
(Technical Support) **800.823.7284 - Option 2**
Visit us online at **KyoceraPrecisionTools.com**

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

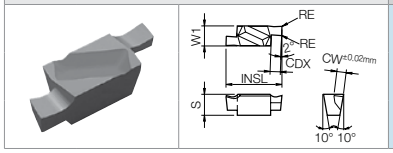
Applicable Inserts

(mm)

Part Number		W1	INSL	S
GVF®L	100-…AA	4.3	12	4.5
	200-…AA	4.3	12	4.5
	300-…AA	4.3	12	4.5

P	Carbon Steel / Alloy Steel	●	○	
M	Stainless Steel	●	○	
K	Cast Iron			◕
N	Non-ferrous Metals			◕
S	Titanium Alloy			◕
H	Hard materials (≤40HRC)	●	○	
	Hard materials (≥40HRC)			

Classification of Usage
◕ : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

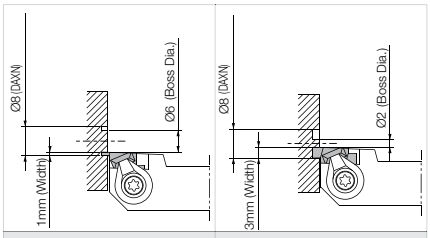
Insert (Right-handed Insert Shown)		Part Number	Previous Part Number	Dimensions (mm) CW	CDX	RE	MEGACOAT PR1225	PVD PR930	Carbide KW10	Applicable Toolholders	Ref. Page for Toolholder
		GVF®L 100-005AA	GVF®L 100AA	1.00	2.2	0.05	●	●	●	GFVS®L…-08AA GFVT®L…-08AA	G130
		200-005AA	200AA	2.00	2.2		●	●	●		
		300-005AA	300AA	3.00	2.2		●	●	●		

- Dimension **CDX** shows available grooving depth.
- GVF®L…005AA inserts are not compatible with GVF®L…–OOOA (Ref. to Page G128) inserts because their Side Relief Angle is 10°.

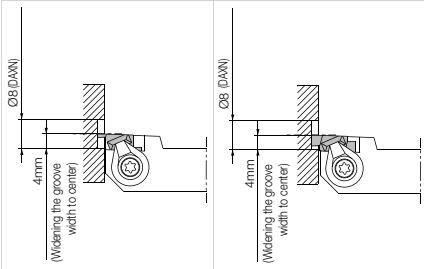
Face Grooving Diameter of GFVS-AA (also GFVT-AA)

Part Number		Face Grooving Dia. DAXN (min)	DAXX (max)	Applicable Inserts
GFVS®L	2020K-08AA	8	∞	GVF®L100-005AA ~ GVF®L300-005AA
	2525M-08AA			
GFVT®L	2020K-08AA	(0)	(∞)	
	2525M-08AA			

- Maximum diameter of initial groove plunge.
- When machining towards the outer diameter, there is no maximum limit to the groove diameter.
- Minimum Dia. of Initial Groove Plunge
  If the initial groove is made smaller than this, the toolholder interferes with the workpiece.
- When widening the groove to center, This is minimum diameter.



Installing GVFL100-005AA | Installing GVFL300-005AA



Installing GVFL100-005AA | Installing GVFL300-005AA

Recommended Cutting Conditions (GFVS-AA / GFVT-AA)

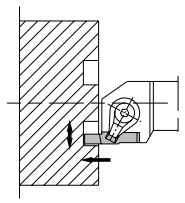
Workpiece Material	Recommended Insert Grade (Vc sfm) MEGACOAT PR1225	PVD PR930	Carbide KW10	Grooving Feed Rate (ipr)	Turning D.O.C.	Turning Feed Rate (ipr)	Notes
Carbon Steel / Alloy Steel	★ 160~330	☆ 160~330	-	0.0004~0.0020	Max 0.0197	0.0004~0.0020	Wet
Stainless Steel	★ 160~260	☆ 160~260	-	0.0004~0.0012	Max 0.0118	0.0004~0.0008	
Non-ferrous Metals	-	-	★ ~660	0.0004~0.0031	Max 0.0197	0.0004~0.0031	

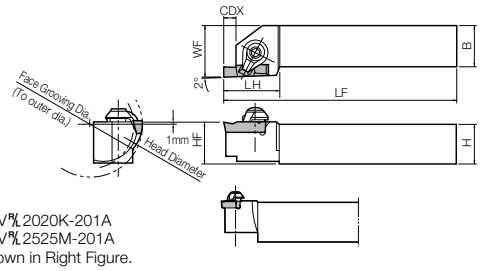
* D.O.C. has to be set for less than corner-R (RE) when turning with 0.039" edge (GVF®L100-005AA).

★ : 1st Recommendation ☆ : 2nd Recommendation

Inserts are sold in 10 piece boxes.

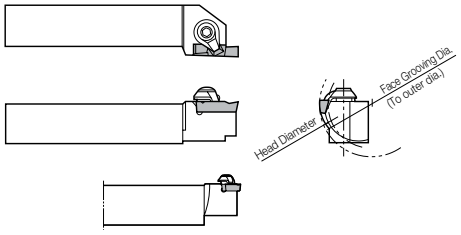
GFV





GFV R/L 2020K-201A
GFV R/L 2525M-201A
Shown in Right Figure.

• Right-hand shown



• Left-hand shown

• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

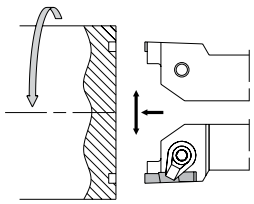
Toolholder Dimensions

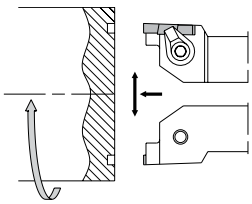
Part Number		Stock R	Stock L	H	HF	B	LF	LH	WF	CDX	Face Grooving Dia. DAXN (min)	Face Grooving Dia. DAXX (min)	Spare Parts: Clamp Set	Spare Parts: Clamp Set	Spare Parts: Wrench	Applicable Inserts (G138)
GFV R/L	2020K-201A	●	●	20	21	20	125	20	25	2.2	20 (12)	∞	CPS-5V	-	FT-15	GVF R/L 200~340-020A GVF R/L 200-…~300-…AR
	2525M-201A	●	●	25	26	25	150	23	32	2.2						
GFV R/L	2020K-351B	●	●	20	21	20	125	28	25	4.6	35 (25)	50 (∞)	-	CPS-6V	LW-3	GVF R/L 250~350-020B GVF R/L 300-150BR
	2525M-351B	●	●	25	26	25	150	30	32	4.6						
	2020K-352B	●	●	20	21	20	125	28	25	5.1						GVF R/L 400~490-020B GVF R/L 400-200BR
	2525M-352B	●	●	25	26	25	150	30	32	5.1						
	2020K-501B	●	●	20	21	20	125	28	25	4.6	50 (25)	70 (∞)	-	CPS-6V	LW-3	GVF R/L 250~350-020B GVF R/L 300-150BR
	2525M-501B	●	●	25	26	25	150	30	32	4.6						
	2020K-502B	●	●	20	21	20	125	28	25	5.1						GVF R/L 400~490-020B GVF R/L 400-200BR
	2525M-502B	●	●	25	26	25	150	30	32	5.1						
	2020K-701B	●	●	20	21	20	125	28	25	4.6	70 (25)	100 (∞)	-	CPS-6V	LW-3	GVF R/L 250~350-020B GVF R/L 300-150BR
	2525M-701B	●	●	25	26	25	150	30	32	4.6						
	2020K-702B	●	●	20	21	20	125	28	25	5.1						GVF R/L 400~490-020B GVF R/L 400-200BR
	2525M-702B	●	●	25	26	25	150	30	32	5.1						
GFV R/L	2525M-501C	●	●	25	26	25	150	35	32	6.6	50 (25)	70 (∞)	-	CPS-8V	LW-4	GVF R/L 350~450-040C
	2525M-502C	●	●	25	26	25	150	35	32	8.1						GVF R/L 500~600-040C
	2525M-701C	●	●	25	26	25	150	35	32	6.6	70 (25)	100 (∞)	-	CPS-8V	LW-4	GVF R/L 350~450-040C
	2525M-702C	●	●	25	26	25	150	35	32	8.1						GVF R/L 500~600-040C
	2525M-1001C	●	●	25	26	25	150	35	32	6.6	100 (25)	150 (∞)	-	CPS-8V	LW-4	GVF R/L 350~450-040C
	2525M-1002C	●	●	25	26	25	150	35	32	8.1						GVF R/L 500~600-040C
	2525M-1501C	●	●	25	26	25	150	35	32	6.6	150 (25)	250 (∞)	-	CPS-8V	LW-4	GVF R/L 350~450-040C
	2525M-1502C	●	●	25	26	25	150	35	32	8.1						GVF R/L 500~600-040C

Note 1. Dimension **CDX** shows available grooving depth.
2. The value ( ) of Face Grooving Dia. DAXX (max) in ( ) is the maximum outer diameter value after the initial groove between DAXN (min) ~ DAXX (max). It is possible to widen the groove to infinity ∞. The value ( ) of Face Grooving Dia. DAXN (min) is the minimum diameter of the boss which remains in the center when widening the groove width to a smaller value after the initial groove between DAXN (min) ~ DAXX (max).
3. Standard toolholders are designed with the edge position 1.0mm above the center. When using non-standard Toolholders, set the Edge position 1.0mm above the center.

Selection of Toolholder & Insert

Toolholder	Right-hand (R)	Toolholder	Left-hand (L)
Insert	Right-hand (R)	Insert	Left-hand (L)





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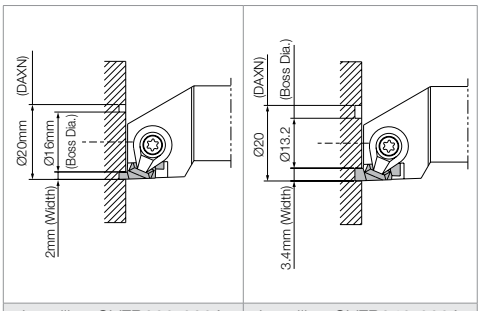
◆ Face Grooving Diameter of GVF

(1) e.g.) GVF R/L…-201A

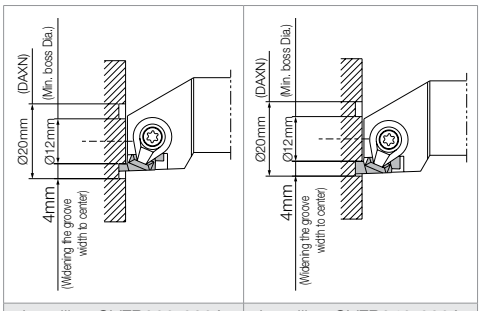
Part Number		Face Grooving Dia. DAXN (min)	Face Grooving Dia. DAXX (min)	Applicable Inserts
GVF R/L	2020K-201A	20	∞	GVF R/L 200~340-020A
	2525M-201A	(12)	(∞)	GVF R/L 200-…~300-…AR

- Maximum diameter (DAXX) of initial groove plunge.
- When machining towards the outer diameter, there is no maximum limit to the grooving diameter.
- When widening the groove to center, this is no minimum diameter.

- Minimum Dia. (DAXN: Ø20mm) of Initial Groove Plunge
  If the initial groove is made smaller than this, the toolholder interferes with the workpiece.



Installing GVFR200-020A | Installing GVFR340-020A



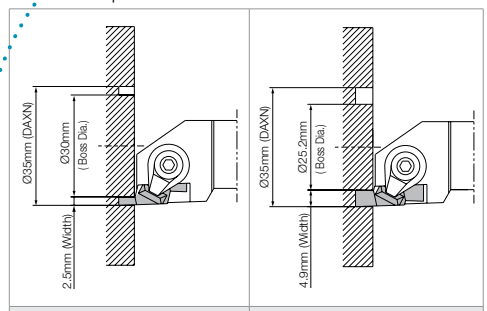
Installing GVFR200-020A | Installing GVFR340-020A

(2) e.g.) GVF R/L…-351B/352B (same as GVF R/L…-○○○B or GVF R/L…-○○○C)

Part Number		Face Grooving Dia. DAXN (min)	Face Grooving Dia. DAXX (min)	Applicable Inserts
GVF R/L	2020K-351B	35	50	GVF R/L 200~340-020A
	2525M-351B	(25)	(∞)	GVF R/L 200-…~300-…AR
	2020K-352B			
	2525M-352B			

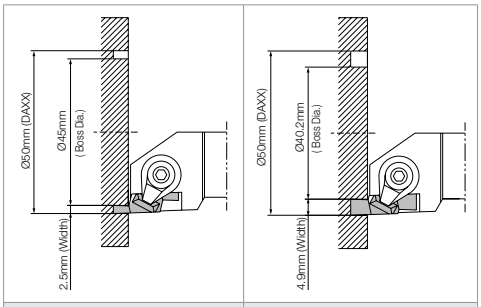
- It is possible to widen the groove to infinity ∞ when machining the initial groove within DAXN ~ DAXX and then widening to outer diameter.

- When machining the initial groove on the face at (DAXN: Ø35mm)
  If the initial groove is made smaller than this, the toolholder interferes with the workpiece.
  Boss Dia. depends on insert width.



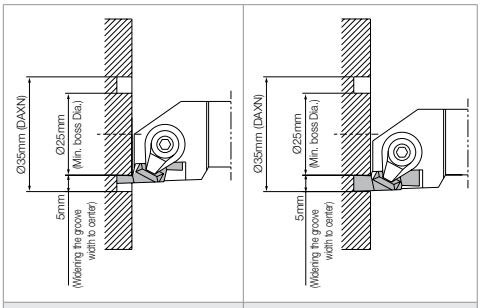
Installing GVFR250-020B | Installing GVFR490-020B

- When machining the initial groove on the face at (DAXX: Ø50mm).
  If the initial groove is made smaller than this, the toolholder interferes with the workpiece.
  Boss Dia. depends on insert width.

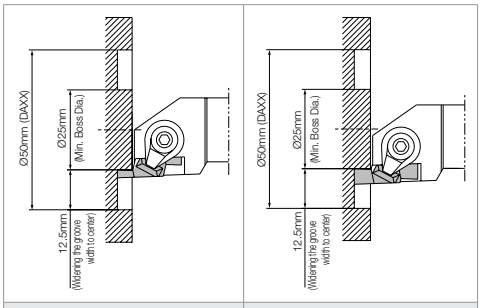


Installing GVFR250-020B | Installing GVFR490-020B

- When widening the groove width to inner diameter.
  Face Grooving Dia. (Ø25mm Boss Dia.) is the limitation regardless of insert width, even widening the groove width to the center from the initial groove at (DAXN: Ø35mm) or (DAXX: Ø50mm).
  The toolholder interferes with the workpiece when closer to the center.



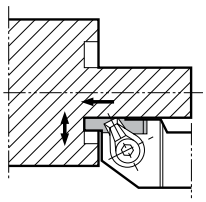
Installing GVFR250-020B | Installing GVFR490-020B

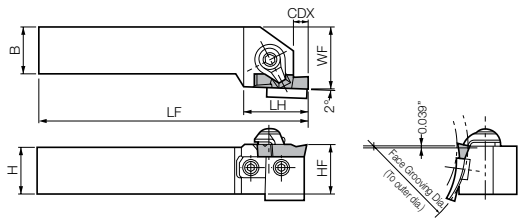


Installing GVFR250-020B | Installing GVFR490-020B

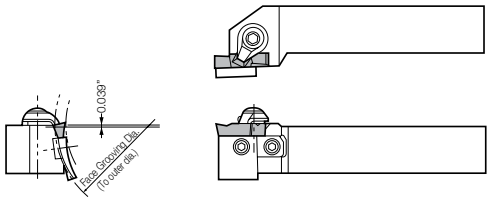
GFVS

This toolholder can machine various face grooving diameters by replacing the Blade.





• Right-hand shown

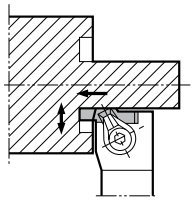


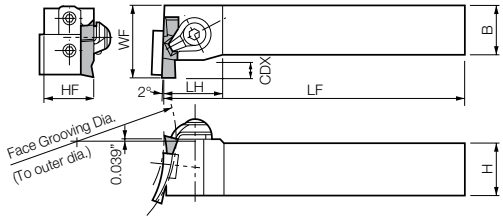
• Left-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

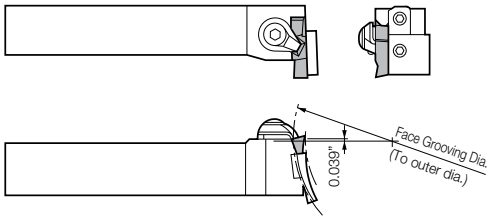
GFVT

This toolholder can machine various face grooving diameters by replacing the Blade.





• Right-hand shown

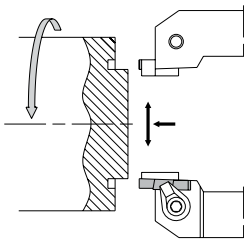


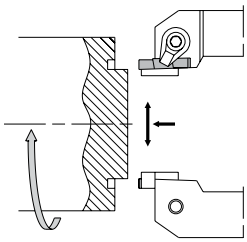
• Left-hand shown

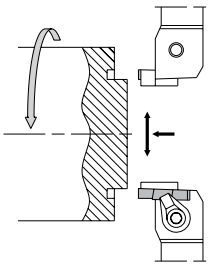
• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

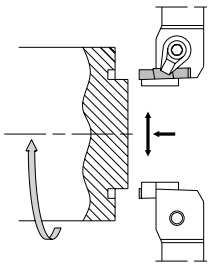
Selection of Toolholder & Insert

GFVS				GFVT			
Toolholder	Right-hand (R)	Toolholder	Left-hand (L)	Toolholder	Right-hand (R)	Toolholder	Left-hand (L)
Insert	Left-hand (L)	Insert	Right-hand (R)	Insert	Left-hand (L)	Insert	Right-hand (R)





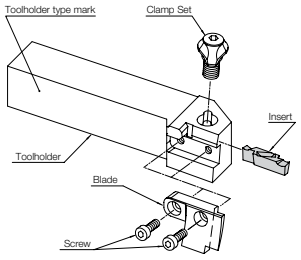


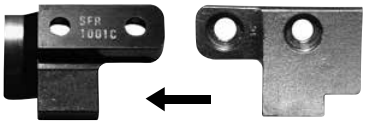


Combination of Base-Holder & Blade (Inch Size)

Part Number of Toolholder (Stamped Below)	Stock R	Stock L	Blade Part Number	Toolholder Part Number (Integrated Tool)
GFVS R/L 12-HB	●	●	SF R/L -351B	GFVS R/L 12 -351B
GFVT R/L 12-HB	●	●	-352B	GFVT R/L 12 -352B
			-501B	-501B
			-502B	-502B
			-701B	-701B
			-702B	-702B
GFVS R/L 16-HB	●	●	SF R/L -351B	GFVS R/L 16 -351B
GFVT R/L 16-HB	●	●	-352B	GFVT R/L 16 -352B
			-501B	-501B
			-502B	-502B
			-701B	-701B
			-702B	-702B
GFVS R/L 16-HC	●	●	SF R/L -501C	GFVS R/L 16 -501C
GFVT R/L 16-HC	●	●	-502C	GFVT R/L 16 -502C
			-701C	-701C
			-702C	-702C
			-1001C	-1001C
			-1002C	-1002C
			-1501C	-1501C
			-1502C	-1502C

Example of Installation (GFVS)





Blade (Back side) (With Blade Description) — Blade (Face side)

How to refer to the face grooving toolholder and blade

Q: Though "GFVSR16-HC" is marked on the face grooving toolholder, the size of cutting dia. is unknown. How can it be found out?

A: Take off the blade. Description of the blade is listed on the back of the blade. Using the description, check the description of the toolholder in the catalog. If "SFR-1001C" is installed with "GFVSR16-HC", the description of the toolholder is "GVFSR16-1001C"

- Right-hand Blade for Right-hand Toolholder, Left-hand Blade for Left-hand Toolholder.
- Installation of GFVT type follows installation example of GFVS type.

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Toolholder Dimensions (Inch Size)

Part Number	Stock R	Stock L	H	HF	B	LF	LH	WF	CDX	Face Grooving Dia. DAXN (min)	Face Grooving Dia. DAXX (max)	Spare Parts: Clamp Set	Spare Parts: Wrench	Spare Parts: Blade	Spare Parts: Screw	Applicable Inserts (G138)
GFVS R/L 12-351B	●	●	0.75	0.79	0.75	5.00	1.18	1.00	0.20	1.378 (0.984)	1.969 (∞)	CPS-6V	LW-3	SF R/L-351B	HH4X12	GVF R/L 250~350-020B GVF R/L 300-150BR
16-351B	●	●	1.00	1.04	1.00	6.00	1.26	1.25	(0.18)							
12-352B	●	●	0.75	0.79	0.75	5.00	1.18	1.00	0.20					SF R/L-352B		GVF R/L 400~490-020B GVF R/L 400-200BR
16-352B	●	●	1.00	1.04	1.00	6.00	1.26	1.25	(0.20)							
12-501B	●	●	0.75	0.79	0.75	5.00	1.18	1.00	0.20	1.969 (0.984)	2.756 (∞)			SF R/L-501B		GVF R/L 250~350-020B GVF R/L 300-150BR
16-501B	●	●	1.00	1.04	1.00	6.00	1.26	1.25	(0.18)							
12-502B	●	●	0.75	0.79	0.75	5.00	1.18	1.00	0.20					SF R/L-502B		GVF R/L 400~490-020B GVF R/L 400-200BR
16-502B	●	●	1.00	1.04	1.00	6.00	1.26	1.25	(0.20)							
12-701B	●	●	0.75	0.79	0.75	5.00	1.18	1.00	0.20	2.756 (0.984)	3.937 (∞)			SF R/L-701B		GVF R/L 250~350-020B GVF R/L 300-150BR
16-701B	●	●	1.00	1.04	1.00	6.00	1.26	1.25	(0.18)							
12-702B	●	●	0.75	0.79	0.75	5.00	1.18	1.00	0.20					SF R/L-702B		GVF R/L 400~490-020B GVF R/L 400-200BR
16-702B	●	●	1.00	1.04	1.00	6.00	1.26	1.25	(0.20)							
GFVS R/L 16-501C	●	●	1.00	1.04	1.00	6.00	1.38	1.25	0.32 (0.26)	1.969 (0.984)	2.756 (∞)	CPS-8V	LW-4	SF R/L-501C	HH4X12	GVF R/L 350~450-040C
16-502C	●	●							0.32 (0.32)					SF R/L-502C		GVF R/L 500~600-040C
16-701C	●	●							0.32 (0.26)	2.756 (0.984)	3.937 (∞)			SF R/L-701C		GVF R/L 350~450-040C
16-702C	●	●							0.32 (0.32)					SF R/L-702C		GVF R/L 500~600-040C
16-1001C	●	●							0.32 (0.26)	3.937 (0.984)	5.906 (∞)			SF R/L-1001C		GVF R/L 350~450-040C
16-1002C	●	●							0.32 (0.32)					SF R/L-1002C		GVF R/L 500~600-040C
16-1501C	●	●							0.32 (0.26)	5.906 (0.984)	9.843 (∞)			SF R/L-1501C		GVF R/L 350~450-040C
16-1502C	●	●							0.32 (0.32)					SF R/L-1502C		GVF R/L 500~600-040C
GFVT R/L 12-351B	●	●	0.75	0.79	0.75	5.00	0.87	1.18	0.20	1.378 (0.984)	1.969 (∞)	CPS-6V	LW-3	SF R/L-351B	HH4X12	GVF R/L 250~350-020B GVF R/L 300-150BR
16-351B	●	●	1.00	1.04	1.00	6.00	0.98	1.38	(0.18)							
12-352B	●	●	0.75	0.79	0.75	5.00	0.87	1.18	0.20					SF R/L-352B		GVF R/L 400~490-020B GVF R/L 400-200BR
16-352B	●	●	1.00	1.04	1.00	6.00	0.98	1.38	(0.20)							
12-501B	●	●	0.75	0.79	0.75	5.00	0.87	1.18	0.20	1.969 (0.984)	2.756 (∞)			SF R/L-501B		GVF R/L 250~350-020B GVF R/L 300-150BR
16-501B	●	●	1.00	1.04	1.00	6.00	0.98	1.38	(0.18)							
12-502B	●	●	0.75	0.79	0.75	5.00	0.87	1.18	0.20					SF R/L-502B		GVF R/L 400~490-020B GVF R/L 400-200BR
16-502B	●	●	1.00	1.04	1.00	6.00	0.98	1.38	(0.20)							
12-701B	●	●	0.75	0.79	0.75	5.00	0.87	1.18	0.20	2.756 (0.984)	3.937 (∞)			SF R/L-701B		GVF R/L 250~350-020B GVF R/L 300-150BR
16-701B	●	●	1.00	1.04	1.00	6.00	0.98	1.38	(0.18)							
12-702B	●	●	0.75	0.79	0.75	5.00	0.87	1.18	0.20					SF R/L-702B		GVF R/L 400~490-020B GVF R/L 400-200BR
16-702B	●	●	1.00	1.04	1.00	6.00	0.98	1.38	(0.20)							
GFVT R/L 16-501C	●	●	1.00	1.04	1.00	6.00	1.06	1.50	0.32(0.26)	1.969 (0.984)	2.756 (∞)	CPS-8V	LW-4	SF R/L-501C	HH4X12	GVF R/L 350~450-040C
16-502C	●	●							0.32(0.32)					SF R/L-502C		GVF R/L 500~600-040C
16-701C	●	●							0.32(0.26)	2.756 (0.984)	3.937 (∞)			SF R/L-701C		GVF R/L 350~450-040C
16-702C	●	●							0.32(0.32)					SF R/L-702C		GVF R/L 500~600-040C
16-1001C	●	●							0.32(0.26)	3.937 (0.984)	5.906 (∞)			SF R/L-1001C		GVF R/L 350~450-040C
16-1002C	●	●							0.32(0.32)					SF R/L-1002C		GVF R/L 500~600-040C
16-1501C	●	●							0.32(0.26)	5.906 (0.984)	9.843 (∞)			SF R/L-1501C		GVF R/L 350~450-040C
16-1502C	●	●							0.32(0.32)					SF R/L-1502C		GVF R/L 500~600-040C

Note 1. Dimension **CDX** shows the distance from the Toolholder to the cutting edge. The grooving depth is shown in ( ).

2. The value ( ) of Face Grooving diameter. (DAXX) is the maximum outer diameter value after the initial groove between DAXN - DAXX (It is possible to widen the groove to infinity ∞).
The value ( ) of Face Grooving diameter. (DAXN) is the minimum diameter of the boss which remains in the center when widening the groove width to a smaller value after the initial groove between DAXN - DAXX.

3. Standard toolholders are designed with the edge position 0.039" above the center.
When using non-standard Toolholders, set the Edge position 0.039" above the center.

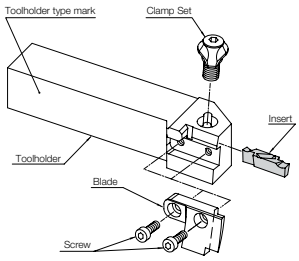
4. GFVS and GFVT are composed of a base body and a blade.
If the blade should be damaged, replace it with a new blade as listed in the left table.
(e.g.) GFVSR12-HB+SFR-351B = GFVSR12-351B
(e.g.) GFVTR12-HB+SFR-351B = GFVTR12-351B

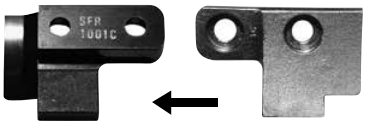
● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Combination of Base-Holder & Blade (Metric Size)

Part Number of Toolholder (Stamped Below)	Stock R	Stock L	Blade Part Number	Toolholder Part Number (Integrated Tool)
GFVS R/L 2020K-HB	●	●	SF R/L -351B	GFVS R/L 2020K -351B
GFVT R/L 2020K-HB	●	●	-352B	GFVT R/L 2020K -352B
			-501B	-501B
			-502B	-502B
			-701B	-701B
			-702B	-702B
GFVS R/L 2525M-HB	●	●	SF R/L -351B	GFVS R/L 2525M -351B
GFVT R/L 2525M-HB	●	●	-352B	GFVT R/L 2525M -352B
			-501B	-501B
			-502B	-502B
			-701B	-701B
			-702B	-702B
GFVS R/L 2525M-HC	●	●	SF R/L -501C	GFVS R/L 2525M -501C
GFVT R/L 2525M-HC	●	●	-502C	GFVT R/L 2525M -502C
			-701C	-701C
			-702C	-702C
			-1001C	-1001C
			-1002C	-1002C
			-1501C	-1501C
			-1502C	-1502C

Example of Installation (GFVS)





Blade (Back side) (With Blade Description) Blade (Face side)

How to refer to the face grooving toolholder and blade

Q: Though "GFVSR2525M-HC" is marked on the face grooving toolholder, the size of cutting dia. is unknown. How can it be found out?

A: Take off the blade. Description of the blade is listed on the back of the blade. Using the description, check the description of the toolholder in the catalog. If "SFR-1001C" is integrated to "GFVSR2525M-HC", the description of the toolholder is "GVFSR2525M-1001C"

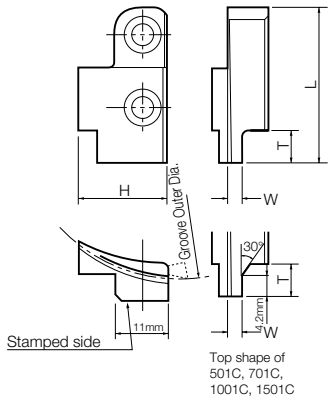
- Right-hand Blade for Right-hand Toolholder, Left-hand Blade for Left-hand Toolholder.
- Installation of GFVT type follows example installation of GFVS type.

Toolholder Dimensions (Metric Size)

Part Number	Stock R	Stock L	H	HF	B	LF	LH	WF	CDX	Face Grooving Dia. DAXN (min)	Face Grooving Dia. DAXX (max)	Clamp Set	Wrench	Blade	Screw	Applicable Inserts (G138)
GFVS R/L 2020K-351B	●	●	20	21	20	125	30	25	5.1	35 (25)	50 (∞)	CPS-6V	LW-3	SF R/L -351B	HH4X12	GVF R/L 250~350-020B GVF R/L 300-150BR
2525M-351B	●	●	25	26	25	150	32	32	(4.6)							
2020K-352B	●	●	20	21	20	125	30	25	5.1					SF R/L -352B		GVF R/L 400~490-020B GVF R/L 400-200BR
2525M-352B	●	●	25	26	25	150	32	32	(5.1)							
2020K-501B	●	●	20	21	20	125	30	25	5.1	50 (25)	70 (∞)			SF R/L -501B		GVF R/L 250~350-020B GVF R/L 300-150BR
2525M-501B	●	●	25	26	25	150	32	32	(4.6)							
2020K-502B	●	●	20	21	20	125	30	25	5.1					SF R/L -502B		GVF R/L 400~490-020B GVF R/L 400-200BR
2525M-502B	●	●	25	26	25	150	32	32	(5.1)							
2020K-701B	●	●	20	21	20	125	30	25	5.1	70 (25)	100 (∞)			SF R/L -701B		GVF R/L 250~350-020B GVF R/L 300-150BR
2525M-701B	●	●	25	26	25	150	32	32	(4.6)							
2020K-702B	●	●	20	21	20	125	30	25	5.1					SF R/L -702B		GVF R/L 400~490-020B GVF R/L 400-200BR
2525M-702B	●	●	25	26	25	150	32	32	(5.1)							
GFVS R/L 2525M-501C	●	●	25	26	25	150	32	32	8.1 (6.6)	50 (25)	70 (∞)	CPS-8V	LW-4	SF R/L -501C	HH4X12	GVF R/L 350~450-040C
2525M-502C	●	●	25	26	25	150	32	32	8.1 (8.1)					SF R/L -502C		GVF R/L 500~600-040C
2525M-701C	●	●	25	26	25	150	32	32	8.1 (6.6)	70 (25)	100 (∞)			SF R/L -701C		GVF R/L 350~450-040C
2525M-702C	●	●	25	26	25	150	32	32	8.1 (8.1)					SF R/L -702C		GVF R/L 500~600-040C
2525M-1001C	●	●	25	26	25	150	32	32	8.1 (6.6)	100 (25)	150 (∞)			SF R/L -1001C		GVF R/L 350~450-040C
2525M-1002C	●	●	25	26	25	150	32	32	8.1 (8.1)					SF R/L -1002C		GVF R/L 500~600-040C
2525M-1501C	●	●	25	26	25	150	32	32	8.1 (6.6)	150 (25)	250 (∞)			SF R/L -1501C		GVF R/L 350~450-040C
2525M-1502C	●	●	25	26	25	150	32	32	8.1 (8.1)					SF R/L -1502C		GVF R/L 500~600-040C
GFVT R/L 2020K-351B	●	●	20	21	20	125	22	30	5.1	35 (25)	50 (∞)	CPS-6V	LW-3	SF R/L -351B	HH4X12	GVF R/L 250~350-020B GVF R/L 300-150BR
2525M-351B	●	●	25	26	25	150	25	35	(4.6)							
2020K-352B	●	●	20	21	20	125	22	30	5.1					SF R/L -352B		GVF R/L 400~490-020B GVF R/L 400-200BR
2525M-352B	●	●	25	26	25	150	25	35	(5.1)							
2020K-501B	●	●	20	21	20	125	22	30	5.1	50 (25)	70 (∞)			SF R/L -501B		GVF R/L 250~350-020B GVF R/L 300-150BR
2525M-501B	●	●	25	26	25	150	25	35	(4.6)							
2020K-502B	●	●	20	21	20	125	22	30	5.1					SF R/L -502B		GVF R/L 400~490-020B GVF R/L 400-200BR
2525M-502B	●	●	25	26	25	150	25	35	(5.1)							
2020K-701B	●	●	20	21	20	125	22	30	5.1	70 (25)	100 (∞)			SF R/L -701B		GVF R/L 250~350-020B GVF R/L 300-150BR
2525M-701B	●	●	25	26	25	150	25	35	(4.6)							
2020K-702B	●	●	20	21	20	125	22	30	5.1					SF R/L -702B		GVF R/L 400~490-020B GVF R/L 400-200BR
2525M-702B	●	●	25	26	25	150	25	35	(5.1)							
GFVT R/L 2525M-501C	●	●	25	26	25	150	27	38	8.1 (6.6)	50 (25)	70 (∞)	CPS-8V	LW-4	SF R/L -501C	HH4X12	GVF R/L 350~450-040C
2525M-502C	●	●	25	26	25	150	27	38	8.1 (8.1)					SF R/L -502C		GVF R/L 500~600-040C
2525M-701C	●	●	25	26	25	150	27	38	8.1 (6.6)	70 (25)	100 (∞)			SF R/L -701C		GVF R/L 350~450-040C
2525M-702C	●	●	25	26	25	150	27	38	8.1 (8.1)					SF R/L -702C		GVF R/L 500~600-040C
2525M-1001C	●	●	25	26	25	150	27	38	8.1 (6.6)	100 (25)	150 (∞)			SF R/L -1001C		GVF R/L 350~450-040C
2525M-1002C	●	●	25	26	25	150	27	38	8.1 (8.1)					SF R/L -1002C		GVF R/L 500~600-040C
2525M-1501C	●	●	25	26	25	150	27	38	8.1 (6.6)	150 (25)	250 (∞)			SF R/L -1501C		GVF R/L 350~450-040C
2525M-1502C	●	●	25	26	25	150	27	38	8.1 (8.1)					SF R/L -1502C		GVF R/L 500~600-040C

Note 1. Dimension **CDX** shows the distance from the Toolholder to the cutting edge. The grooving depth is shown in ( ).
2. The value ( ) of Face Grooving diameter. (DAXX) is the maximum outer diameter value after the initial groove between DAXN - DAXX (It is possible to widen the groove to infinity ∞).
The value ( ) of Face Grooving diameter. (DAXN) is the minimum diameter of the boss which remains in the center when widening the groove width to a smaller value after the initial groove between DAXN - DAXX.
3. Standard toolholders are designed with the edge position 1.0mm above the center.
When using non-standard Toolholders, set the Edge position 1.0mm above the center.
4. GFVS and GFVT are composed of a base body and a blade.
If the blade should be damaged, replace it with a new blade as listed in the left table.
(e.g.) GFVSR2020K-HB+SFR-351B = GFVSR2020K-351B
(e.g.) GFVTR2020K-HB+SFR-351B = GFVTR2020K-351B

Blade Dimensions

Shape	Blade Part Number		Stock R	Stock L	Dimensions (mm) L	H	T	W	Face Grooving Dia. DAXN (min)	DAXX (max)	Applicable Inserts	Applicable Toolholders
	SF R/L	-351B	●	●	30.5	11	4.7	2.0	35	50	GVF R/L 250~350-020B GVF R/L 300-150BR	GFV(S/T) R/L ○○○○□ -○○○B (Toolholder Stamp (GFV(S/T) R/L ○○○○□-HB))
		-352B	●	●	30.5	11	4.7	3.4	35	50	GVF R/L 400~490-020B GVF R/L 400-200BR	
	SF R/L	-501B	●	●	30.5	15	4.7	2.0	50	70	GVF R/L 250~350-020B GVF R/L 300-150BR	
		-502B	●	●	30.5	15	4.7	3.4	50	70	GVF R/L 400~490-020B GVF R/L 400-200BR	
	SF R/L	-701B	●	●	30.5	17	4.7	2.0	70	100	GVF R/L 250~350-020B GVF R/L 300-150BR	
		-702B	●	●	30.5	17	4.7	3.4	70	100	GVF R/L 400~490-020B GVF R/L 400-200BR	
	SF R/L	-501C	●	●	35.0	15	7.5	2.8	50	70	GVF R/L 350~450-040C	GFV(S/T) R/L ○○○○□ -○○○C (Toolholder Stamp (GFV(S/T) R/L ○○○○□-HC))
		-502C	●	●	35.0	15	7.5	4.3	50	70	GVF R/L 500~600-040C	
	SF R/L	-701C	●	●	35.0	20	7.5	2.8	70	100	GVF R/L 350~450-040C	
		-702C	●	●	35.0	20	7.5	4.3	70	100	GVF R/L 500~600-040C	
	SF R/L	-1001C	●	●	35.0	23	7.5	2.8	100	150	GVF R/L 350~450-040C	
		-1002C	●	●	35.0	23	7.5	4.3	100	150	GVF R/L 500~600-040C	
• Right-hand Blade for Right-hand Toolholder, Left-hand Blade for Left-hand Toolholder.	SF R/L	-1501C	●	●	35.0	23	7.5	2.8	150	250	GVF R/L 350~450-040C	
		-1502C	●	●	35.0	23	7.5	4.3	150	250	GVF R/L 500~600-040C	

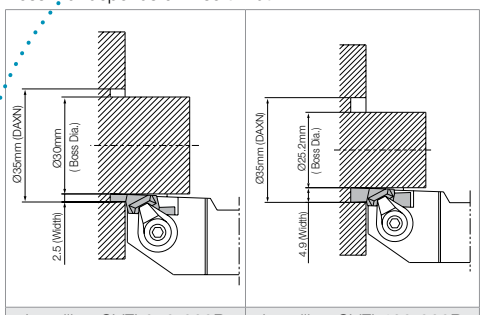
Face Groove Diameter of GFVS / GFVT

e.g.) GFVS R/L …-351B/352B
(same as GFVS R/L …-○○○B, …-○○○C ➡ G135~G136
GFVT R/L …-○○○B, …-○○○C ➡ G135~G136

Part Number	Face Grooving Dia. DAXN (min)	DAXX (min)	Applicable Inserts
GFVS R/L 2020K-351B 2525M-351B	35 (25)	50 (∞)	GVF R/L 250~350-020B GVF R/L 300-150BR
2020K-352B 2525M-352B			GVF R/L 400~490-020B GVF R/L 400-200BR

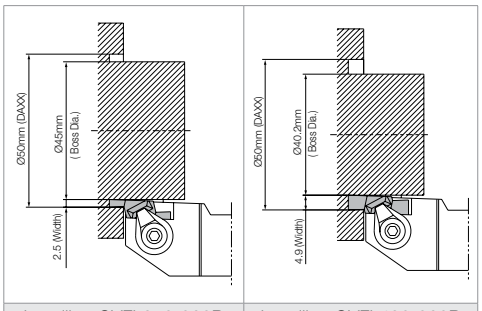
- It is possible to widen the groove to infinity ∞ when machining the initial groove within DAXN ~ DAXX and then widening to outer diameter.

- When machining the initial groove on the face at (DAXN: Ø35mm)
  If the initial groove is made smaller than this, the toolholder interferes with the workpiece.
  Boss Dia. depends on insert width.



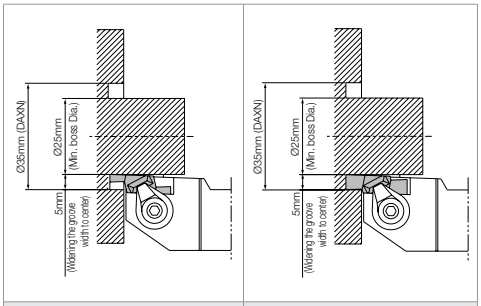
Installing GVFL250-020B | Installing GVFL490-020B

- When machining the initial groove on the face at (DAXX: Ø50mm).
  If the initial groove is made smaller than this, the toolholder interferes with the workpiece.
  Boss Dia. depends on insert width.

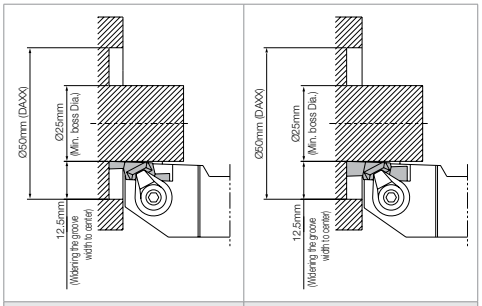


Installing GVFL250-020B | Installing GVFL490-020B

- When widening the groove width to inner diameter.
  Face Grooving Dia. (Ø25mm Boss Dia.) is the limitation regardless of insert width, even widening the groove width to the center from the initial groove at (DAXN: Ø35mm) or (DAXX: Ø50mm).
  The toolholder interferes with the workpiece when closer to the center.



Installing GVFL250-020B | Installing GVFL490-020B



Installing GVFL250-020B | Installing GVFL490-020B

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

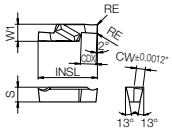
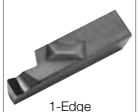
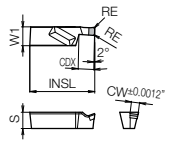
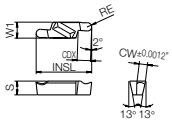
Applicable Inserts

(mm)

Part Number	W1	INSL	S
GVF R/L ...-○○○A	4.3	12	4.5
...-○○○B	5.8	20	5.0
...-○○○C	7.0	27	7.0
....-○○○AR	4.3	12	4.5
....-○○○BR	5.8	20	5.0

		Cermet			MEGA	PVD	Carbide	PCD
P	Carbon Steel / Alloy Steel				◐	◔		
M	Stainless Steel				◐	◔		
K	Cast Iron						◐	
N	Non-ferrous Metals						◐	●
S	Titanium Alloy						◐	●
H	Hard materials (≤40HRC)				●	○		
	Hard materials (≥40HRC)							

Classification of Usage
◐ : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert (Right-handed Insert Shown)	Part Number	Previous Part Number	Dimensions (in) CW in	CW mm	CDX	RE	TN90 R	TN90 L	TC40 R	TC40 L	TC60 R	TC60 L	PR1225 R	PR1225 L	PR930 R	PR930 L	KW10 R	KW10 L	KPD010 R	KPD010 L	Applicable Toolholders	Ref. Page for Toolholder
	GVF R/L 200-020A	GVF R/L 200A	0.079	2.00	0.091	0.008	△	△	●	●	●	●	●	●	●	●	●	●			GFV R/L ...-201A GIFV R/L ...-201A	G132 G134
	230-020A	230A	0.091	2.30	0.091				●				●	●	△		●	●				
	250-020A	250A	0.098	2.50	0.091				●	●	●		●	●	●	●	●	●				
	270-020A	270A	0.106	2.70	0.091								●	●	△	△	●	●				
	290-020A	290A	0.114	2.90	0.091				●	●			●	●	●		●	●				
	340-020A	340A	0.134	3.40	0.091				●				●	●	●	●	●	●				
	GVF R/L 250-020B	GVF R/L 250B	0.098	2.50	0.189	0.008	△	△	●	●	●	●	●	●	●	●	●	●	●		GFV R/L ...-○○1B GFVS R/L ...-○○1B GFVT R/L ...-○○1B GIFV R/L ...-○○1B	
	300-020B	300B	0.118	3.00	0.189		△	△	●	●	●	●	●	●	●	●	●	●	●	●		
	350-020B	350B	0.138	3.50	0.189		△	△	●	●	●	●	●	●	●	●	●	●				
	400-020B	400B	0.157	4.00	0.209		△	△	●	●	●	●	●	●	●	●	●	●			GFV R/L ...-○○2B GFVS R/L ...-○○2B GFVT R/L ...-○○2B GIFV R/L ...-○○2B	
	430-020B	430B	0.169	4.30	0.209				●	●	●	●	●	●		●	●	●				
	460-020B	460B	0.181	4.60	0.209				●	●			●	●	△	△	●	●				
	490-020B	490B	0.193	4.90	0.209				●	●	●	●	●	●	●	●	●	●				
	GVF R/L 350-040C	GVF R/L 350C	0.138	3.50	0.268	0.016	△	△	●	●	●	●	●	●	●	●	●	●			GFV R/L ...-○○1C GFVS R/L ...-○○1C GFVT R/L ...-○○1C GIFV R/L ...-○○1C	
	400-040C	400C	0.157	4.00	0.268		△	△	●	●	●	●	●	●	●	●	●	●				
	450-040C	450C	0.177	4.50	0.268				●	●	●	●	●	●	●	●	●	●				
	500-040C	500C	0.197	5.00	0.327		△	△	●	●	●	●	●	●	●	●	●	●			GFV R/L ...-○○2C GFVS R/L ...-○○2C GFVT R/L ...-○○2C GIFV R/L ...-○○2C	G132 G135 G136 G144
	550-040C	550C	0.217	5.50	0.327						●	●	●	●	●	●	●	●				
	600-040C	600C	0.236	6.00	0.327				●	●			●	●		●	●	●				
 1-Edge 	GVF R/L 250-020B	GVF R/L 250B	0.098	2.50	0.189	0.008									●	●	●	●	●	●	GFV R/L ...-○○1B GFVS R/L ...-○○1B GFVT R/L ...-○○1B GIFV R/L ...-○○1B	G132 G135 G136 G144
	300-020B	300B	0.118	3.00	0.189										●	●	●	●	●	●		
	400-020B	400B	0.157	4.00	0.209										●	●	●	●	□	□	GFV R/L ...-○○2B GFVS R/L ...-○○2B GFVT R/L ...-○○2B GIFV R/L ...-○○2B	
	GVF R/L 350-020C	-	0.138	3.50	0.268	0.008													□		GFV R/L ...-○○1C GFVS R/L ...-○○1C GFVT R/L ...-○○1C GIFV R/L ...-○○1C	
	400-020C	-	0.157	4.00	0.268														□			
	GVF R/L 350-040C	GVF R/L 350C	0.138	3.50	0.268	0.016													□			
	400-040C	400C	0.157	4.00	0.268														□			
Full-R 	GVF R/L 200-100AR	GVF R/L 100AR	0.079	2.00	0.091	0.039							●	●	●	●	●	●			GFV R/L ...-201A GIFV R/L ...-201A	G132 G134
	250-125AR	125AR	0.098	2.50	0.091	0.049							●	●	●		●	●				
	300-150AR	150AR	0.118	3.00	0.091	0.059							●	●	●	●	●	●				
	GVF R/L 300-150BR	GVF R/L 150BR	0.118	3.00	0.189	0.059							●	●	●	●	●	●			GFV R/L ...-○○1B GFVS R/L ...-○○1B GFVT R/L ...-○○1B GIFV R/L ...-○○1B	G132 G135
	400-200BR	200BR	0.157	4.00	0.209	0.079							●	●	●	●	●	●			GFV R/L ...-○○2B GFVS R/L ...-○○2B GFVT R/L ...-○○2B GIFV R/L ...-○○2B	G136 G144

- Dimension **CDX** shows available Grooving Depth.
- MEGA indicates MEGACOAT

Recommended Cutting Conditions G145

Inserts are sold in 10 piece boxes. *CBN & PCD Inserts are sold in 1 piece boxes.*

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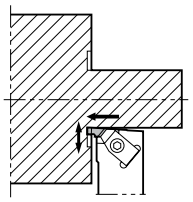
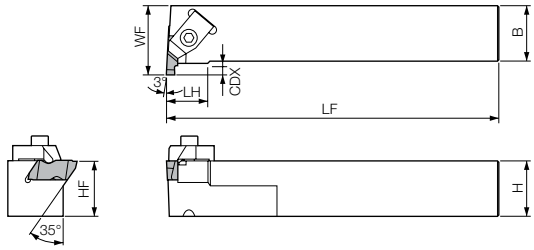
KKCE





• Right-hand shown

• Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

Toolholder Dimensions

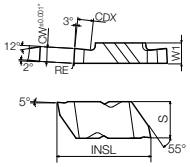
Part Number	Stock R	Stock L	H	HF	B	LF	LH	WF	CDX	Spare Parts: Clamp	Spare Parts: Clamp Screw	Spare Parts: Wrench
KKCE R/L 12-3B	●	●	0.750	0.750	0.750	4.500	0.750	1.125	0.210	CKC-3 R/L	SKC-3	LW-156
16-3D	●		1.000	1.000	1.000	6.000	0.750	1.250	0.210			

Applicable Inserts

Application	Face Grooving
Ref. Page	**Below**
Insert / Toolholder	
KKCE R/L...3	KCFP_3...

Face Grooving Limits		
Insert Part Number	Maximum Groove Depth	Minimum Groove Diameter
KCFP3...	0.060	0.940
	0.094	1.200
	0.125	1.420
	0.150	1.630

KCFP Inserts

Insert (Right-handed Insert Shown)	Part Number	Unit	CW (in)	CW (mm)	CDX	RE	W1	INSL	S	Insert Grade: Cermet TC40	Cermet TC60	PVD PR630	PVD PR930	Carbide KW10	Ceramic A65
	KCFP 3125 R/L	inch	0.125	3.15	0.150	0.008	0.195	0.886	0.344				●		
	3156 R/L		0.156	3.97	0.150	0.008	0.195	0.886	0.344				●		
	3189 R/L		0.189	4.80	0.150	0.023	0.195	0.886	0.344				●		

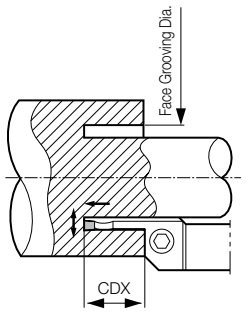
• Dimension **CDX** shows available Grooving Depth.

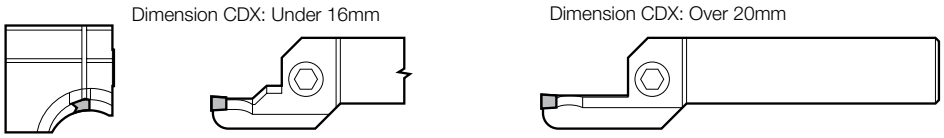
Recommended Cutting Conditions (Cera-Notch)

Workpiece Material	Cermet Feeds (ipr)	Carbide Feeds (ipr)	Recommended Insert Grade (Vc : sfm): Cermet TC40	Cermet TC60	MEGACOAT PR1215	Carbide PR660	Carbide PR930	Carbide KW10	Ceramic A65
Carbon Steel	0.002~0.005	0.002~0.010	300~900	250~900	300~800	200~550	250~650	-	-
Alloy Steel	0.002~0.005	0.002~0.010	250~800	250~800	300~750	100~500	150~550	-	-
Stainless Steel	0.002~0.005	0.002~0.010	-	200~600	300~600	100~550	100~550	-	-
Tool Steel	0.002~0.005	0.002~0.010	200~650	200~650	300~600	-	100~550	-	-
Hardened Steel (>45Rc)	-	-	-	-	-	-	-	-	250~500*
Gray Cast Iron	0.003~0.006	0.002~0.012	200~700	-	300~700	-	-	-	500~1000
Ductile Iron	0.003~0.006	0.002~0.012	-	150~600	300~600	-	-	-	500~1000
Aluminum	0.002~0.008	0.002~0.012	150~1600	-	-	-	-	500~1600	-

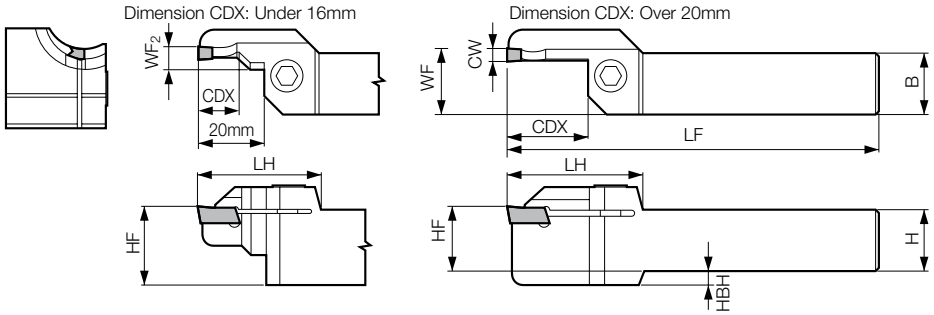
Speeds & Feeds listed are for external grooving. Reduce parameters by 10% for internal grooving.
*Feeds = 0.003~0.008 ipr

KFMS (will be phased out and switched to KGDF ➔ G100~G120)





• Left-hand shown



• Right-hand shown

Toolholder Dimensions

Part Number		Stock R	Stock L	Unit	H	HF	HBH	B	LF	LH	WF	WF_2	CDX	Width CW	Face Grooving Dia. DAXN (min)	Face Grooving Dia. DAXX (min)	Spare Parts: Clamp Bolt	Spare Parts: Wrench	Spare Parts: Washer
KFMS R/L	16-3-4050	●		inch	1.000	1.000	-	1.000	6.000	1.539	1.027	0.240	0.512	0.118	1.575	1.969	HH5X25	LW-4	-
	16-3-5065	●								1.618		-	0.866		1.969	2.559			
KFMS R/L	2020K2530-3	●		mm	20	20	-	20	125	39	20.7	6.1	13	3	25	30	HH5X20	LW-4	-
	2020K3040-3	●													30	40			
	2020K4050-3	●													40	50			
	2020K5065-3	●								41		-	22		50	65			
	2020K6585-3	●													65	85			
	2020K85110-3	●					5			44			25		85	110			
	2020K110145-3	●													110	145			
	2525M2530-3	●	●		25	25	-	25	150	39	25.7	6.1	13		25	30	HH5X25	LW-4	-
	2525M3040-3	●	●												30	40			
	2525M4050-3	●	●												40	50			
	2525M5065-3	●	●							41		-	22		50	65			
	2525M6585-3	●	●												65	85			
	2525M85110-3	●	●										25		85	110			
	2525M110145-3	●	●												110	145			
KFMS R/L	2020K2535-4	●		mm	20	20	-	20	125	39	20.7	7.1	12	4	25	35	HH5X20	LW-4	-
	2020K3550-4	●										-	20		35	50			
	2020K5070-4	●								44			25		50	70			
	2020K70100-4	●													70	100			
	2020K100150-4	●													100	150			
	2020K150220-4	●													150	220			
	2020K220800-4	●													220	∞			
	2525M2535-4	●	●		25	25	-	25	150	39	25.7	7.1	12		25	35	HH5X25	LW-4	-
	2525M3550-4	●	●									-	20		35	50			
	2525M5070-4	●	●							44			25		50	70			
	2525M70100-4	●	●												70	100			
	2525M100150-4	●	●												100	150			
	2525M150220-4	●	●												150	220			
	2525M220800-4	●	●												220	∞			

- Dimension **CDX** shows available grooving depth.
- Face Grooving Dia. ØD: The diameter range of the initial groove.
- For KFMS R/L ····-5 toolholder can hold a 0.236" width insert. ( ) value shows the dimension of a 0.236" width insert.

Applicable Inserts ➔ G141

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Contact your local Kyocera sales engineer to upgrade old products to new technology

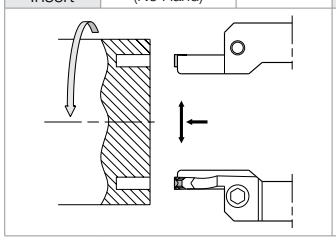
Toolholder Dimensions

Part Number	Stock R	Stock L	Unit	H	HF	HBH	B	LF	LH	WF	WF_2	CDX	Width CW	Face Grooving Dia. DAXN (min)	Face Grooving Dia. DAXX (min)	Spare Parts: Clamp Bolt	Spare Parts: Wrench
KFMS R/L 16-5-75115	●		inch	1.000		-	1.000	6.000	2.012	1.027 (1.047)	-	1.260	0.197 (0.236)	2.953	4.528	HH5X25	LW-4
16-5-115180	●													4.528	7.087		
16-5-180235	●													7.087	9.252		
KFMS R/L 2020K2535-5	●		mm	20		-	20	125	39	20.7 (21.2)	-	20	5 (6)	25	35	HH5X20	LW-4
2020K3550-5	●													35	50		
2020K5075-5	●							125	44			25		50	75		
2020K75115-5	●					5								75	115		
2020K115180-5	●													115	180		
2020K180235-5	●													180	235		
2020K235800-5	●													235	∞		
2525M2535-5	●	●		25		-	25	150	39	25.7 (26.2)	-	20	5 (6)	25	35	HH5X25	LW-4
2525M3550-5	●	●												35	50		
2525M5075-5	●	●							44			25		50	75		
2525M75115-5	●	●							51			32		75	115		
2525M115180-5	●	●												115	180		
2525M180235-5	●	●												180	235		
2525M235800-5	●	●												235	∞		

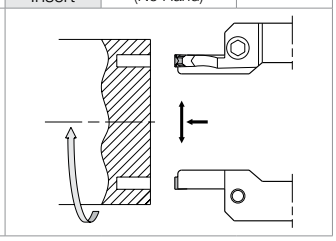
- Dimension **CDX** shows available grooving depth.
- Face Grooving Dia.: The diameter range of the initial groove.
- For KFMS R/L...-5 toolholder can hold a 0.236" width insert. ( ) value shows the dimension of a 0.236" width insert.

Selection of Toolholder & Insert

Toolholder	Right-hand (R)
Insert	(No Hand)



Toolholder	Left-hand (L)
Insert	(No Hand)



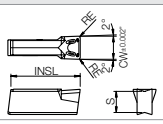
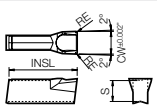
Applicable Inserts

(in)

Part Number	INSL	S
FMM30-03 FMM60-04	0.472	0.138
FMN3 FMN6	0.472	0.138

P	Carbon Steel / Alloy Steel				◐		
M	Stainless Steel				◐		
K	Cast Iron					◐	◔
N	Non-ferrous Metals						◐
S	Titanium Alloy						◐
H	Hard materials (≤40HRC)				○		

Classification of Usage
◐ : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

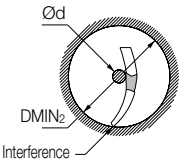
Insert		Part Number	Dimensions (in) CW inch	CW mm	RE	Cermet TN90	CVD Coated Carbide CR9025	PVD Coated Carbide PR915	PR930	PR905	Carbide KW10	Applicable Toolholders
Face Grooving Chip Control Oriented / M Class		FMM 30-03	0.118	3.0	0.012	●	●	●	●	●	●	KFMS R/L...-3(...)
		40-04	0.157	4.0	0.016	●	●	●	●	●	●	KFMS R/L...-4(...)
		50-04	0.197	5.0	0.016	●	●	●	●	●	●	KFMS R/L...-5(...)
		60-04	0.236	6.0	0.016	●	●		●	●	●	
Face Grooving Sharp-Cutting Oriented / M Class		FMN 3	0.118	3.0	0.010	●	●		●		●	KFMS R/L...-3(...)
		4	0.157	4.0	0.010	●			●		●	KFMS R/L...-4(...)
		5	0.197	5.0	0.010	●	●		●		●	KFMS R/L...-5(...)
		6	0.236	6.0	0.010		●		●		●	

- FMN type inserts are only for Deep Grooving and not applicable for Turning.

Recommended Cutting Conditions ➔ G150

Limit of Turning Toward Center

It causes the toolholder to interfere with the groove wall depending on the initial cut's diameter.



Remaining Boss Dia. Ød

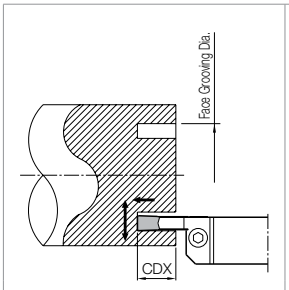
Part Number	DMIN2 25	26	27	28 and over
	Ød (mm)			
KFMS R/L 2020K2530-3 KFMS R/L 2525M2530-3	4	2	0	0
KFMS R/L 2020K2535-4 KFMS R/L 2525M2535-4	6	3	0	No remaining boss
KFMS R/L 2020K2535-5 KFMS R/L 2525M2535-5	7 *(5)	4 *(2)	1 *(0)	

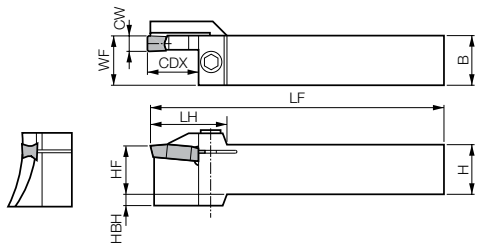
e.g.) KFMSR 2525M2530-3 with Ø25 as first cut towards the center, it will cause a rubbing with the toolholder cartridge if Ød is 4.0mm.

*( ) value shows the Dimension using FMM60-04 Insert.

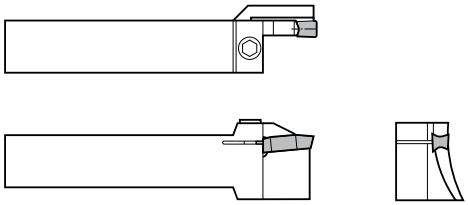
Inserts are sold in 10 piece boxes.

KFMS-8





• Right-hand shown



• Left-hand shown

Toolholder Dimensions

Part Number		Stock R	Stock L	H	HF	HBH	B	LF	LH	WF	CDX	CW	Face Grooving Dia. DAXN (min)	Face Grooving Dia. DAXX (min)	Spare Parts: Clamp Bolt	Spare Parts: Wrench
KFMS®/ℓ	2525M5464-8	●	●	25	25	-	25	150	41	26	25	8	54 (0)	64 (∞)	HH6X25	LW-5
	2525M6382-8	●	●	25	25	2.4	25	150	41	26	25	8	63 (0)	82 (∞)		
	2525M80115-8	●	●	25	25	6.0	25	150	40	26	25	8	80 (0)	115 (∞)		
	2525M105160-8	●	●	25	25	6.0	25	150	40	26	25	8	105 (0)	160 (∞)		
	2525M155510-8	●	●	25	25	6.0	25	150	43	26	25	8	155 (0)	510 (∞)		
	3232P155510-8	●		32	32	-	32	170	43	33	25	8				

- Dimension **CDX** shows available grooving depth.
- The value ( ) of Face Grooving Dia. DAXX (max) is the maximum outer diameter value after the initial groove between DAXN (min) ~ DAXX (max) (It is possible to widen the groove to infinity ∞).
  The value ( ) of Face Grooving Dia. DAXN (min) is the minimum diameter of the boss which remains in the center when widening the groove width to a smaller value after the initial groove between DAXN (min) ~ DAXX (max).

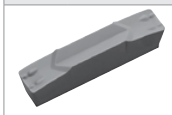
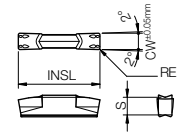
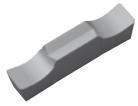
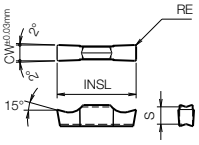
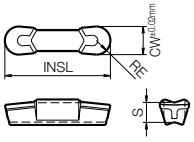
Applicable Inserts

(mm)

Part Number		INSL	S
GMM	8030-080MW	30	5.5
GMG	8030-050MG	30	5.5
GMGA	8030-400R	30	5.5

P	Carbon Steel / Alloy Steel				◕			
M	Stainless Steel				◔			
K	Cast Iron					◕	◔	
N	Non-ferrous Metals						◕	
S	Titanium Alloy						◕	
H	Hard materials (≤40HRC)				●			
	Hard materials (≥40HRC)							

Classification of Usage
◕ : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert		Part Number	Dimensions (mm) CW	Dimensions (mm) RE	Cermet TN90	CVD Coated Carbide CR9025	PVD Coated Carbide PR915	PVD Coated Carbide PR930	PVD Coated Carbide PR905	Carbide KW10	Applicable Toolholders
 Chip Control Oriented / M Class		GMM 8030-080MW	8.0	0.8		●		●	●	●	KFMS®/ℓ…8
 Sharp-Cutting Oriented / Precision Class Ground Chipbreaker		GMG 8030-050MG	8.0	0.5	●	●		●	●	●	
Sharp-Cutting Oriented / Precision Class Full-R / Copying		GMGA 8030-400R	8.0	4.0						●	

- If using a full-R insert with KIGM-8 type toolholder, you need to modify the corner of insert adapter of toolholder.

Recommended Cutting Conditions ➔ G153

Inserts are sold in 10 piece boxes.

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● : Standard Item △ : Phaseout Item (will be removed from next catalog)
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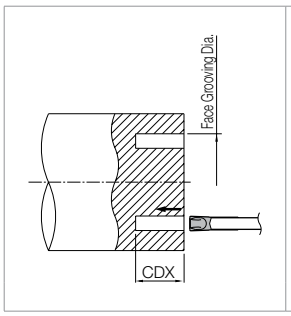
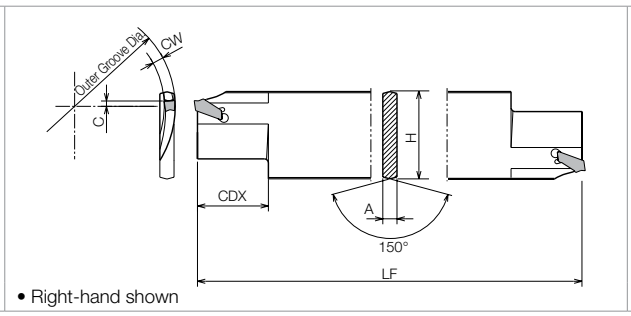
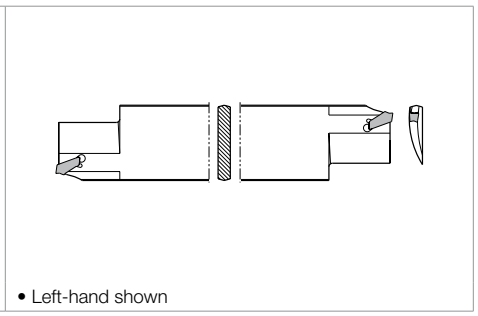
KFTB-S





• Right-hand shown



• Left-hand shown

Toolholder Dimensions

Part Number		Stock R	Stock L	Dimensions (mm) *H	LF	A	CDX	C	CW	Face Grooving Dia. DAXN (min)	DAXX (min)	Spare Parts Releasing Wrench	Applicable Inserts	Applicable Tool Block ➡ H51
KFTB®/L	65100-4S	●	●	32	150	5.2	25	4	4.0	65	100	LTK-5	FTK4	KTKTB 20-32, 25-32, 32-32; KTKTBF 25-32, 32-32
	90150-4S	●	●	32	150	5.2	30	0	4.0	90	150			
	150250-4S	●	●	32	150	5.2	30	0	4.0	140	250			
	250800-4S	●	●	32	150	3.2	30	0	4.0	230	∞			
KFTB®/L	90150-5S	●	●	32	150	5.2	30	0	5.0	90	150	LTK-5	FTK5	
	150250-5S	●	●	32	150	5.2	32	0	5.0	150	250			
	250800-5S	●	●	32	150	4.0	38	0	5.0	250	∞			

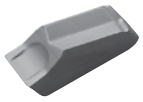
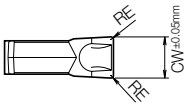
- Dimension **CDX** shows available grooving depth.
- Face Grooving Dia.: The diameter range of the initial groove.
- The insert has a Self-Clamping system and it is not suitable for tight tolerance grooves (tolerance ± 0.05mm).
- KFTB®/L65100-4S toolholder is designed with the edge position 4mm above the Center.

* Dimension H shows the length between virtual tops.

Applicable Inserts

P	Carbon Steel / Alloy Steel				◕	
M	Stainless Steel				◕	
K	Cast Iron					◕
N	Non-ferrous Metals					◕
S	Titanium Alloy					◕
H	Hard materials (≤40HRC)				○	
	Hard materials (≥40HRC)					

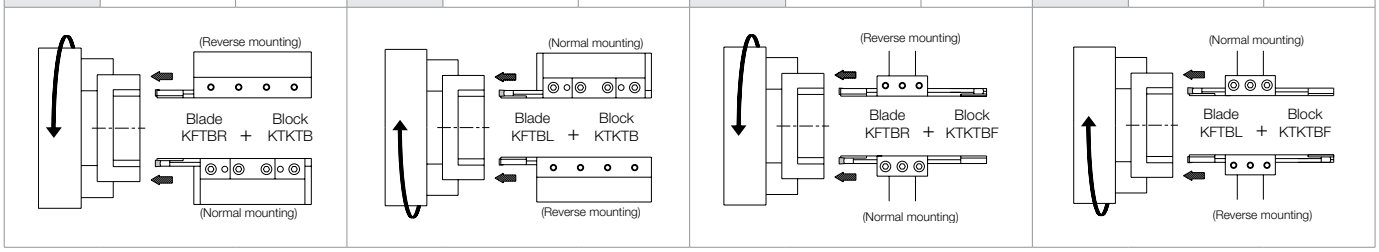
Classification of Usage
◕ : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert		Part Number		Dimensions (mm) CW	RE	Cermet TN90	CVD Coated Carbide CR9025	PVD Coated Carbide PR660	PVD Coated Carbide PR930	Carbide KW10	Applicable Toolholders
		FTK	4	4.0	0.25	△	●		●	●	KFTB®/L 65100-4S KFTB®/L 90150-4S KFTB®/L 150250-4S KFTB®/L 250800-4S
			5	5.0		△	●		●	●	KFTB®/L 90150-5S KFTB®/L 150250-5S KFTB®/L 250800-5S

Recommended Cutting Conditions ➡ G152

Selection of Blade and Insert

Combination of Blade + KTKTB						Combination of Blade + KTKTBF					
Blade	Right-hand (R)		Blade	Left-hand (L)		Blade	Right-hand (R)		Blade	Left-hand (L)	
Insert	Neutral		Insert	Neutral		Insert	Neutral		Insert	Neutral	



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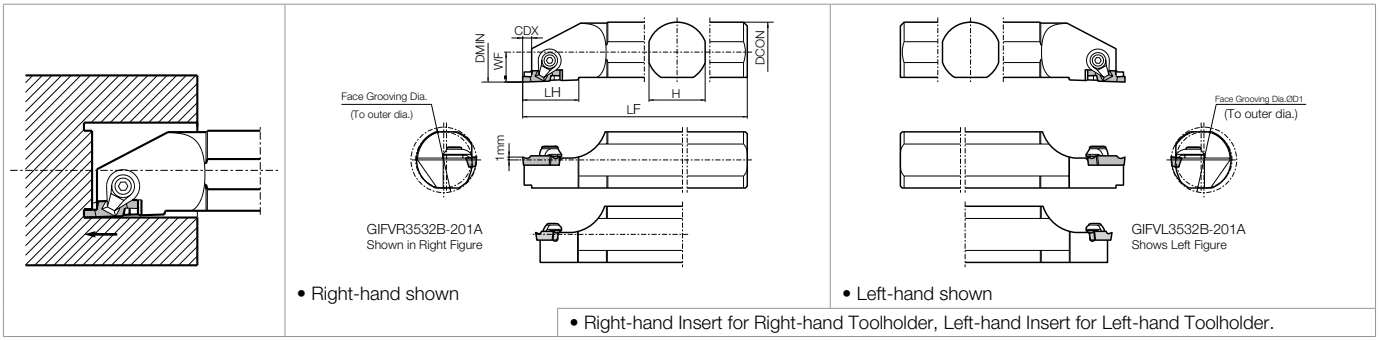
GIFV



• Right-hand shown

• Left-hand shown

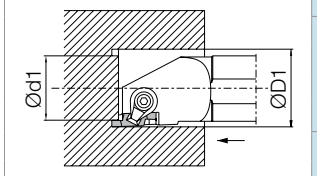
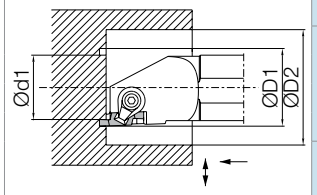
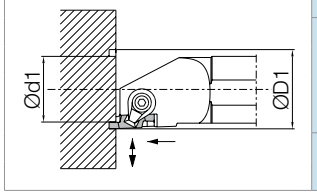
• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Part Number	Stock R	Stock L	DMIN	DCON	H	LF	LH	WF	CDX	Face Grooving Dia. DAXN (min)	Face Grooving Dia. DAXX (min)	Spare Parts: Clamp Set	Spare Parts: Clamp Set	Spare Parts: Wrench	Spare Parts: Wrench	Applicable Inserts (G138)
GIFV R/L 3532B-201A	●	●	35	32	30	250	23	16	2.2	35 (12)	∞	CPS-5V	-	FT-15	-	GVF R/L ...-...A GVF R/L ...-...AR
GIFV R/L 3532B-351B	●	●	35	32	30	250	30	16	4.6	35 (25)	50 (∞)	-	CPS-6V	-	LW-3	GVF R/L 250~350-020B GVF R/L 300-150BR
3532B-352B	●	●	35	32	30	250	30	16	5.1	35 (25)	50 (∞)					GVF R/L 400~490-020B GVF R/L 400-200BR
5032B-501B	●	●	50	32	30	250	30	16	4.6	50 (25)	70 (∞)					GVF R/L 250~350-020B GVF R/L 300-150BR
5032B-502B	●		50	32	30	250	30	16	5.1	50 (25)	70 (∞)					GVF R/L 400~490-020B GVF R/L 400-200BR
GIFV R/L 5032B-501C	●	●	50	32	30	250	35	16	6.6	50 (25)	70 (∞)	-	CPS-8V	-	LW-4	GVF R/L 350~450-040C
5032B-502C	●	●	50	32	30	250	35	16	8.1	50 (25)	70 (∞)					GVF R/L 500~600-040C

Note 1. Dimension **CDX** shows available grooving depth.
2. Standard toolholders are designed with the edge position 1.0mm above the center.

Face Grooving Dia. ØD1 depends on the application.

Applications	Part Number	Face Grooving Dia. Ød1 (mm) (MIN)	Face Grooving Dia. ØD (mm) MIN	Face Grooving Dia. ØD (mm) MAX	Face Grooving Dia. ØD (mm) (MAX)	Notes
	GIFV R/L 3532B-201A	-	35	∞	∞	-
	GIFV R/L 3532B-351B			50		
	3532B-352B					
	5032B-501B		50	70		
	5032B-502B					
	GIFV R/L 5032B-501C					
	5032B-502C					
	GIFV R/L 3532B-201A	12	35	∞	∞	If ØD2 ≧ 58-2W, the Face Grooving Dia. can be expanded to Ød1 (MIN.) toward the Center. W = Edge Width If ØD2 ≧ 75-2W, the Face Grooving Dia. can be expanded to Ød1 (MIN.) toward the Center. W = Edge Width
	GIFV R/L 3532B-351B	25		50		
	3532B-352B					
	5032B-501B		50	70		
	5032B-502B					
	GIFV R/L 5032B-501C					
	5032B-502C					
	GIFV R/L 3532B-201A	12	35	∞	∞	-
	GIFV R/L 3532B-351B	25		50		
	3532B-352B					
	5032B-501B		50	70		
	5032B-502B					
	GIFV R/L 5032B-501C					
	5032B-502C					

- The value ( ) of Face Grooving Dia. DAXX (max) is the maximum outer diameter value after the initial groove between DAXN (min) ~ DAXX (max) (It is possible to widen the groove to infinity ∞)
- The value ( ) of Face Grooving Dia. DAXN (min) is the minimum diameter of the boss which remains in the center when widening the groove width to a smaller value after the initial groove between DAXN (min) ~ DAXX (max)

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GBA (Ground Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)												① f (feed) during Grooving (ipr)					Notes
	MC*	Cermet			M*	MN*	PVD			Carbide	CBN	PCD	② f (feed) during Traversing (ipr)					
													③ D.O.C. during Traversing (in)					
	PV7040	TN620	TC40	TN90	PR1215	PR1625	PR930	PR1115	PR905	KW10	KBN510 KBN525	KPD001 (KPD010)	GBA○○% 033 ~ 100 031N ~ 041N	GBA○○% 125 ~ 200 047N ~ 078N	GBA○○% 230 ~ 300 094N ~ 109N	GBA○○% 330 ~ 400 125N ~ 156N	GBA○○% 400 ~ 480 172N ~ 188N	
Carbon Steel	☆ 490~790	★ 260~720	☆ 490~720	☆ 490~720	★ 260~660	★ 260~590	☆ 260~590	☆ 260~590	-	-	-	-	① 0.0012~0.0031 ② Traversing N/A ③ Traversing N/A	① 0.0016~0.0035 ② 0.0016~0.0035 ③ MAX 0.012	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.031	Wet
Alloy Steel	☆ 430~720	★ 260~660	☆ 430~660	☆ 430~660	★ 260~590	★ 260~520	☆ 260~520	☆ 260~520	-	-	-	-	① 0.0012~0.0028 ② Traversing N/A ③ Traversing N/A	① 0.0016~0.0031 ② 0.0016~0.0031 ③ MAX 0.012	① 0.0020~0.0035 ② 0.0020~0.0035 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.031	
Stainless Steel	-		-	☆ 230~490	☆ 200~490	★ 200~430	☆ 200~430	★ 200~430	-	-	-	-	① 0.0012~0.0028 ② Traversing N/A ③ Traversing N/A	① 0.0016~0.0031 ② 0.0016~0.0031 ③ MAX 0.012	① 0.0020~0.0035 ② 0.0020~0.0035 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.031	
Cast Iron	-		-	-	-		-	-	★ 260~590	☆ 200~390	★ 490~1310	-	① 0.0012~0.0031 ② Traversing N/A ③ Traversing N/A	① 0.0016~0.0035 ② 0.0016~0.0035 ③ MAX 0.012	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.031	
Aluminum	-		-	-	-		-	-	-	★ 490~1310	-	★ 490~6560	① 0.0020~0.0047 ② Traversing N/A ③ Traversing N/A	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.020	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.031	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	
Brass	-		-	-	-		-	-	-	★ 490~980	-	★ 660~2620	① 0.0020~0.0047 ② Traversing N/A ③ Traversing N/A	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.020	① 0.0020~0.0059 ② 0.0020~0.0059 ③ MAX 0.031	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	① 0.0031~0.0059 ② 0.0031~0.0059 ③ MAX 0.031	
Hardened Materials	-		-	-	-		-	-	-	-	★ 260~390	-	① - ② - ③ -	① 0.0008~0.0020 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0028 ② 0.0004~0.0016 ③ MAX 0.004	① - ② - ③ -	① - ② - ③ -	

• Above cutting condition is for external grooving. Set both cutting speed and feed 10% lower for internal grooving.

★ : 1st Recommendation ☆ : 2nd Recommendation

* **MC**: MEGACOAT Cermet, **M**: MEGACOAT PVD, **MN**: MEGACOAT NANO PVD.

GBA (GM Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)			① f (feed) during Grooving (ipr)					Notes
	Cermet	MEGACOAT NANO	MEGACOAT	② f (feed) during Traversing (ipr)					
				③ D.O.C. during Traversing (in)					
	TN620	PR1625	PR1215	GBA43% 140-010GM	GBA43% 150-020GM	GBA43% 175-020GM~ 230-020GM	GBA43% 250-030GM~ 350-030GM	GBA43% 400-040GM	
Carbon Steel	★ 260~790	★ 260~720	☆ 260~720	① 0.0012~0.0039 ② 0.0012~0.0031 ③ MAX 0.008	① 0.0012~0.0047 ② 0.0012~0.0031 ③ MAX 0.012	① 0.0012~0.0047 ② 0.0012~0.0035 ③ MAX 0.012	① 0.0016~0.0059 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0059 ② 0.0020~0.0039 ③ MAX 0.031	Wet
Alloy Steel	★ 260~720	★ 260~660	☆ 260~660	① 0.0012~0.0039 ② 0.0012~0.0031 ③ MAX 0.008	① 0.0012~0.0047 ② 0.0012~0.0031 ③ MAX 0.012	① 0.0012~0.0047 ② 0.0012~0.0035 ③ MAX 0.012	① 0.0016~0.0059 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0059 ② 0.0020~0.0039 ③ MAX 0.031	
Stainless Steel	-	★ 200~490	★ 200~490	① 0.0012~0.0039 ② 0.0012~0.0031 ③ MAX 0.008	① 0.0012~0.0039 ② 0.0012~0.0031 ③ MAX 0.012	① 0.0012~0.0039 ② 0.0012~0.0035 ③ MAX 0.012	① 0.0016~0.0047 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0016~0.0047 ② 0.0020~0.0039 ③ MAX 0.031	

• Above cutting condition is for external grooving. Set both cutting speed and feed 20% lower for internal grooving.

★ : 1st Recommendation ☆ : 2nd Recommendation

GBA (MY Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)								① f (feed) during Grooving (ipr)					Notes
	Cermet		M	PVD		Carbide	CBN	PCD	② f (feed) during Traversing (ipr)					
									③ D.O.C. during Traversing (in)					
	TN6020	TC40	PR1215	PR930	PR1115	KW10	KBN510	KPD001 (KPD010)	GBA43% 175MY~ 200MY GBA43% 078MYN~ 200MY	GBA43% 230MY~ 265MY GBA43% 094MYN	GBA43% 300MY	GBA43% 330MY~ 350MY GBA43% 125MYN	GBA43% 400MY GBA43% 156MYN	
Carbon Steel	☆ 490~720	-	★ 260~660	☆ 260~660	☆ 260~660	-	-	-	① 0.0012~0.0031 ② 0.0012~0.0031 ③ MAX 0.012	① 0.0016~0.0035 ② 0.0016~0.0035 ③ MAX 0.012	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0047 ② 0.0020~0.0039 ③ MAX 0.031	Wet
Alloy Steel	☆ 430~660	-	★ 260~590	☆ 260~590	☆ 260~590	-	-	-	① 0.0012~0.0028 ② 0.0012~0.0039 ③ MAX 0.012	① 0.0016~0.0031 ② 0.0016~0.0031 ③ MAX 0.012	① 0.0020~0.0035 ② 0.0020~0.0035 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.031	
Stainless Steel	☆ 230~490	-	☆ 200~490	☆ 200~490	★ 200~490	-	-	-	① 0.0012~0.0028 ② 0.0012~0.0039 ③ MAX 0.012	① 0.0016~0.0031 ② 0.0016~0.0031 ③ MAX 0.012	① 0.0020~0.0035 ② 0.0020~0.0035 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.020	① 0.0020~0.0039 ② 0.0020~0.0039 ③ MAX 0.031	

• Above cutting condition is for external grooving. Set both cutting speed and feed 10% lower for internal grooving.

★ : 1st Recommendation ☆ : 2nd Recommendation

* **M**: MEGACOAT PVD

GBF Insert

Workpiece Material	Recommended Insert Grade (Vc sfm)			① f (feed) during Grooving (ipr) / ② f (feed) during Traversing (ipr) / ③ D.O.C. during Traversing (in)				Notes
	MEGACOAT	MEGACOAT NANO	Carbide					
	PR1215	**PR1535**	**KW10**	GBF32R/L025... ~ GBF32R/L053...	GBF32R/L065... ~ GBF32R/L095...	GBF32R/L100... ~ GBF32R/L145...	GBF32R/L150... ~ GBF32R/L300...	
Carbon Steel	★ 260~590	☆ 230~530	-	① 0.0004~0.0020 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0028 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	Wet
Alloy Steel	★ 260~590	☆ 230~530	-	① 0.0004~0.0016 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0024 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	
Stainless Steel	☆ 200~430	★ 160~390	-	① 0.0004~0.0016 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0024 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	
Cast Iron	-	-	★ 200~330	① 0.0004~0.0020 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0028 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	
Aluminum Alloys	-	-	★ 490~1,310	① 0.0004~0.0020 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0028 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	
Brass	-	-	★ 490~980	① 0.0004~0.0016 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0024 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	

★ : 1st Recommendation ☆ : 2nd Recommendation

GBF-GL Insert

Workpiece Material	Recommended Insert Grade (Vc sfm)		① f (feed) during Grooving (ipr) / ② f (feed) during Traversing (ipr) / ③ D.O.C. during Traversing (in)				Notes
	MEGACOAT	MEGACOAT NANO					
	PR1215	**PR1535**	GBF32R075-005GL	GBF32R095-005GL ~ GBF32R100-005GL	GBF32R150-010GL ~ GBF32R200-010GL	GBF32R300-010GL	
Carbon Steel	★ 260~590	☆ 230~530	① 0.0004~0.0020 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0028 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	Wet
Alloy Steel	★ 260~590	☆ 230~530	① 0.0004~0.0016 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0024 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	
Stainless Steel	☆ 200~430	★ 160~390	① 0.0004~0.0016 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0024 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	

★ : 1st Recommendation ☆ : 2nd Recommendation

TGF (Ground Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)							① f (feed) during Grooving (ipr) / ② f (feed) during Traversing (ipr) / ③ D.O.C. during Traversing (in)				Notes
	Cermet	MEGA	PVD		Carbide	CBN	PCD					
	TC40	**PR1215**	**PR930**	**PR1115**	**KW10**	**KBN510**	**KPD001 (KPD010)**	TGF32R/L 033~050-005	TGF32R/L 075~095-010	TGF32R/L 100~145-010	TGF32R/L 150~250-010	
Carbon Steel	☆ 490~720	★ 260~590	☆ 260~590	☆ 260~590	-	-	-	① 0.0004~0.0020 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0028 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	Wet
Alloy Steel	☆ 430~660	★ 260~520	☆ 260~520	☆ 260~520	-	-	-	① 0.0004~0.0016 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0024 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	
Stainless Steel	-	☆ 200~430	☆ 200~430	★ 200~430	-	-	-	① 0.0004~0.0016 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0024 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	
Cast Iron	-	-	-	-	★ 200~330	-	-	① 0.0004~0.0020 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0028 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	
Aluminum	-	-	-	-	★ 490~1310	-	★ 490~6560	① 0.0004~0.0020 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0028 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	① 0.0012~0.0031 ② 0.0012~0.0024 ③ MAX 0.008	
Brass	-	-	-	-	★ 490~980	-	★ 660~2620	① 0.0004~0.0016 ② Traversing N/A ③ Traversing N/A	① 0.0008~0.0024 ② Traversing N/A ③ Traversing N/A	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	① 0.0012~0.0028 ② 0.0008~0.0020 ③ MAX 0.008	

* MEGA indicates MEGACOAT.

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GH (Ground Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)								① f (feed) during Grooving (ipr)				Notes
	Cermet			PVD	Carbide	Ceramic			② f (feed) during Traversing (ipr)				
	TN90	TC40	TC60	PR930	KW10	A65	A66N	PT600M	③ D.O.C. during Traversing (in)				
									GH 40~50...	GH 55~70...	GH 75~80...	GH 100~120...	
Carbon Steel	☆ 490~720	☆ 490~720	☆ 330~490	★ 260~590	-	-	-	-	① 0.0028~0.0079	① 0.0028~0.0079	① 0.0039~0.0098	① 0.0059~0.0118	Wet
									② 0.0028~0.0059	② 0.0028~0.0059	② 0.0039~0.0079	② 0.0059~0.0098	
									③ MAX 0.039	③ MAX 0.039	③ MAX 0.059	③ MAX 0.079	
Alloy Steel	☆ 430~660	☆ 430~660	☆ 260~430	★ 260~520	-	-	-	-	① 0.0028~0.0071	① 0.0028~0.0071	① 0.0039~0.0091	① 0.0059~0.0106	
									② 0.0028~0.0051	② 0.0028~0.0051	② 0.0039~0.0071	② 0.0059~0.0087	
									③ MAX 0.039	③ MAX 0.039	③ MAX 0.059	③ MAX 0.079	
Stainless Steel	☆ 230~490	-	☆ 200~330	★ 200~430	-	-	-	-	① 0.0028~0.0063	① 0.0028~0.0063	① 0.0039~0.0083	① 0.0059~0.0098	
									② 0.0028~0.0051	② 0.0028~0.0051	② 0.0039~0.0071	② 0.0059~0.0087	
									③ MAX 0.039	③ MAX 0.039	③ MAX 0.059	③ MAX 0.079	
Cast Iron	-	-	-	-	★ 200~330	☆ 490~980	☆ 490~980	☆ 490~980	**KW10**	**KW10**	**KW10**	**KW10**	
									① 0.0028~0.0079	① 0.0028~0.0079	① 0.0039~0.0098	① 0.0059~0.0118	
									② 0.0028~0.0059	② 0.0028~0.0059	② 0.0039~0.0079	② 0.0059~0.0098	
									③ MAX 0.039	③ MAX 0.039	③ MAX 0.059	③ MAX 0.079	
									A65 / A66N	**A65 / A66N**	**A65 / A66N**	**A65 / A66N**	
									① 0.0012~0.0028	① 0.0012~0.0028	① 0.002~0.0035	① 0.002~0.0035	
									② Traversing N/A	② Traversing N/A	② Traversing N/A	② Traversing N/A	
									③ Traversing N/A	③ Traversing N/A	③ Traversing N/A	③ Traversing N/A	
Aluminum	-	-	-	-	★ 490~1310	-	-	-	① 0.0028~0.0079	① 0.0028~0.0079	① 0.0039~0.0098	① 0.0059~0.0118	
									② 0.0028~0.0059	② 0.0028~0.0059	② 0.0039~0.0079	② 0.0059~0.0098	
									③ MAX 0.039	③ MAX 0.039	③ MAX 0.059	③ MAX 0.079	
Brass	-	-	-	-	★ 490~980	-	-	-	① 0.0028~0.0079	① 0.0028~0.0079	① 0.0039~0.0098	① 0.0059~0.0118	
									② 0.0028~0.0059	② 0.0028~0.0059	② 0.0039~0.0079	② 0.0059~0.0098	
									③ MAX 0.039	③ MAX 0.039	③ MAX 0.059	③ MAX 0.079	
Hardened Materials	-	-	-	-	-	☆ 130~260	☆ 130~260	☆ 130~260	① 0.0008~0.0020	① 0.0008~0.0020	① 0.0008~0.002	① -	
									② 0.0004~0.0012	② 0.0004~0.0012	② 0.0004~0.0016	② -	
									③ MAX 0.004	③ MAX 0.008	③ MAX 0.008	③ -	

* Above cutting condition is for external grooving. Set both cutting speed and feed 10% lower for internal grooving.

★ : 1st Recommendation ☆ : 2nd Recommendation

GHU (Molded Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)								① f (feed) during Grooving (ipr)			Notes
	Cermet			CVD	PVD		Ceramic		② f (feed) during Traversing (ipr)			
	TN60	TC40	TC60	CR9025	PR630	PR930	A65	A66N	③ D.O.C. during Traversing (in)			
									GHU 40~20	GHU 50~20	GHU 60~20	
Carbon Steel	☆ 430~660	-	-	☆ 260~590	-	-	-	-	① 0.0024~0.0047	① 0.0024~0.0047	① 0.0024~0.0059	Wet
									② 0.0020~0.0039	② 0.0020~0.0039	② 0.0020~0.0047	
									③ MAX 0.039	③ MAX 0.039	③ MAX 0.059	
Alloy Steel	☆ 330~590	-	-	☆ 260~520	-	-	-	-	① 0.0024~0.0047	① 0.0024~0.0047	① 0.0024~0.0059	
									② 0.0020~0.0039	② 0.0020~0.0039	② 0.0020~0.0047	
									③ MAX 0.039	③ MAX 0.039	③ MAX 0.059	
Stainless Steel	-	-	-	☆ 200~430	-	-	-	-	① 0.0024~0.0039	① 0.0024~0.0039	① 0.0024~0.0047	
									② 0.0020~0.0031	② 0.0020~0.0031	② 0.0020~0.0039	
									③ MAX 0.031	③ MAX 0.031	③ MAX 0.047	

* Above cutting condition is for external grooving. Set both cutting speed and feed 10% lower for internal grooving.

★ : 1st Recommendation ☆ : 2nd Recommendation

GA (Molded Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)								① f (feed) during Grooving (ipr)			Notes
	Cermet				CVD	PVD		Carbide	② f (feed) during Traversing (ipr)			
	TN60	TN90	TC40	TC60	CR9025	PR630	PR930	KW10	③ D.O.C. during Traversing (in)			
									GA 30	GA 40	GA 50	
Carbon Steel	☆ 430~660	-	-	-	★ 260~590	-	-	-	① 0.0024~0.0071	① 0.0024~0.0083	① 0.0024~0.0098	Wet
									② 0.0020~0.0059	② 0.0020~0.0067	② 0.0020~0.0079	
									③ MAX 0.031	③ MAX 0.039	③ MAX 0.051	
Alloy Steel	☆ 330~590	-	-	-	★ 260~520	-	-	-	① 0.0024~0.0059	① 0.0024~0.0071	① 0.0024~0.0087	
									② 0.0020~0.0047	② 0.0020~0.0059	② 0.0020~0.0071	
									③ MAX 0.012	③ MAX 0.020	③ MAX 0.031	
Stainless Steel	-	-	-	-	★ 200~430	-	-	-	① 0.0024~0.0039	① 0.0024~0.0039	① 0.0024~0.0047	
									② 0.0020~0.0031	② 0.0020~0.0031	② 0.0020~0.0039	
									③ MAX 0.031	③ MAX 0.031	③ MAX 0.047	

★ : 1st Recommendation ☆ : 2nd Recommendation

SIGC

Workpiece	Recommended Insert Grade (Vc : sfm)		(1) Feed Rate for Grooving (ipr)			Notes
	MEGACOAT NANO PLUS	MEGACOAT NANO	(2) Feed Rate for Traversing (ipr)			
			(3) D.O.C. for Traversing (in)			
	PR1725	**PR1535**	**GC08R/L...**	**GC10R/L, GC12R/L 100 ~ 200...**	**GC10R/L, GC12R/L 250 ~ 300...**	
Carbon Steel	★ 160 - 260	☆ 160 - 260	(1) 0.0004 ~ 0.0012	(1) 0.0008 ~ 0.0016	(1) 0.0008 ~ 0.0016	Coolant
			(2) 0.0004 ~ 0.0012	(2) 0.0008 ~ 0.0016	(2) 0.0008 ~ 0.0016	
			(3) Max. 0.0020	(3) Max. 0.0020	(3) Max. 0.0039	
Alloy Steel	★ 160 - 260	☆ 160 - 260	(1) 0.0004 ~ 0.0012	(1) 0.0008 ~ 0.0016	(1) 0.0008 ~ 0.0016	
			(2) 0.0004 ~ 0.0012	(2) 0.0008 ~ 0.0016	(2) 0.0008 ~ 0.0016	
			(3) Max. 0.0020	(3) Max. 0.0020	(3) Max. 0.0039	
Stainless Steel	☆ 160 - 260	★ 160 - 260	(1) 0.0004 ~ 0.0012	(1) 0.0004 ~ 0.0012	(1) 0.0004 ~ 0.0012	
			(2) 0.0004 ~ 0.0012	(2) 0.0004 ~ 0.0012	(2) 0.0004 ~ 0.0012	
			(3) Max. 0.0020	(3) Max. 0.0020	(3) Max. 0.0039	

★ : 1st Recommendation ☆ : 2nd Recommendation

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◆ SIGE (Ground Chipbreaker : GE%...A(R), GE%...B(R))

Workpiece Material	Recommended Insert Grade (Vc sfm)				① f (feed) during Grooving (ipr) ② f (feed) during Traversing (ipr) ③ D.O.C. during Traversing (in)			Notes
	Cermet	MEGACOAT	PVD	Carbide	GE%031-002A ~ GE%078-004A GE%100-005A ~ GE%200-010A GER100-050AR ~ GER200-100AR	GE%031-002B ~ GE%088-004B GE%100-005B ~ GE%200-010B GER100-050BR ~ GER200-100BR	GE%094-004B ~ GE%122-008B GE%250-020B ~ GE%300-020B	
	TN6020	**PR1225**	**PR1025**	**KW10**				
Carbon Steel	☆ 160~260	★ 160~260	☆ 160~260	-	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0020	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0020	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0039	Wet
Alloy Steel	☆ 160~260	★ 160~260	☆ 160~260	-	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0020	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0020	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0039	
Stainless Steel	-	★ 160~260	☆ 160~260	-	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0020	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0020	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0039	
Cast Iron	-	-	-	★ 160~260	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0020	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0020	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0039	
Aluminum	-	-	-	★ 160~330	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0039	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0039	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0079	
Brass	-	-	-	★ 160~330	① 0.0004~0.0012 ② 0.0004~0.0012 ③ Max. 0.0039	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0039	① 0.0008~0.0016 ② 0.0008~0.0016 ③ Max. 0.0079	

- Use PVD coated grade or uncoated carbide for traversing with edge width 0.0394"(1mm). (GE%100-005A/100-005B)

★ : 1st Recommendation ☆ : 2nd Recommendation

◆ SIGE (Ground Chipbreaker : GE%...C(R),GE%...D(R),GE%...E)

Workpiece Material	Recommended Insert Grade (Vc sfm)				① f (feed) during Grooving (ipr) ② f (feed) during Traversing (ipr) ③ D.O.C. during Traversing (in)							Notes
	Cermet	MEGA-COAT	PVD	Carbide	GE% 100~200-010C 200-100CR	GE% 250~350-020C 250~300-150CR						
	TN6020	**PR1225**	**PR1025**	**GW15**	GE% 100~145-010D	GE% 150~195-010D	GE% 200~280-020D 200-100DR		GE% 300~400-020D 300-150DR			
					GE% 100-010E	GE% 150~195-010E	GE% 200~225-010E 230-020E	GE% 250~330-020E		GE% 350~430-020E	GE% 450~500-020E	
Carbon Steel	☆ 390~590	★ 200~460	☆ 200~460	-	① 0.0012~0.0031 ② 0.0012~0.0031 ③ Max. 0.0118	① 0.0012~0.0031 ② 0.0012~0.0031 ③ Max. 0.0118	① 0.0016~0.0035 ② 0.0016~0.0035 ③ Max. 0.0118	① 0.0016~0.0035 ② 0.0016~0.0035 ③ Max. 0.0118	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0197	Wet
Alloy Steel	☆ 330~520	★ 200~390	☆ 200~390	-	① 0.0012~0.0028 ② 0.0012~0.0039 ③ Max. 0.0118	① 0.0012~0.0028 ② 0.0012~0.0039 ③ Max. 0.0118	① 0.0016~0.0031 ② 0.0016~0.0031 ③ Max. 0.0118	① 0.0016~0.0031 ② 0.0016~0.0031 ③ Max. 0.0118	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0197	
Stainless Steel	☆ 230~430	★ 200~360	☆ 200~360	-	① 0.0012~0.0028 ② 0.0012~0.0039 ③ Max. 0.0118	① 0.0012~0.0028 ② 0.0012~0.0039 ③ Max. 0.0118	① 0.0016~0.0031 ② 0.0016~0.0031 ③ Max. 0.0118	① 0.0016~0.0031 ② 0.0016~0.0031 ③ Max. 0.0118	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0197	
Cast Iron	-	-	-	★ 200~330	① 0.0012~0.0031 ② 0.0012~0.0031 ③ Max. 0.0118	① 0.0012~0.0031 ② 0.0012~0.0031 ③ Max. 0.0118	① 0.0016~0.0035 ② 0.0016~0.0035 ③ Max. 0.0118	① 0.0016~0.0035 ② 0.0016~0.0035 ③ Max. 0.0118	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0197	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0197	
Aluminum	-	-	-	★ 490~980	① 0.0020~0.0047 ② 0.0020~0.0047 ③ Max. 0.0197	① 0.0020~0.0047 ② 0.0020~0.0047 ③ Max. 0.0197	① 0.0020~0.0059 ② 0.0020~0.0059 ③ Max. 0.0197	① 0.0020~0.0059 ② 0.0020~0.0059 ③ Max. 0.0197	① 0.0031~0.0059 ② 0.0031~0.0059 ③ Max. 0.0315	① 0.0031~0.0059 ② 0.0031~0.0059 ③ Max. 0.0315	① 0.0031~0.0059 ② 0.0031~0.0059 ③ Max. 0.0315	
Brass	-	-	-	★ 330~820	① 0.0020~0.0047 ② 0.0020~0.0047 ③ Max. 0.0197	① 0.0020~0.0047 ② 0.0020~0.0047 ③ Max. 0.0197	① 0.0020~0.0059 ② 0.0020~0.0059 ③ Max. 0.0197	① 0.0020~0.0059 ② 0.0020~0.0059 ③ Max. 0.0197	① 0.0031~0.0059 ② 0.0031~0.0059 ③ Max. 0.0315	① 0.0031~0.0059 ② 0.0031~0.0059 ③ Max. 0.0315	① 0.0031~0.0059 ② 0.0031~0.0059 ③ Max. 0.0315	

- Use PVD coated grade or uncoated carbide for traversing with edge width 0.0394" (1mm). (GE%100-010C / 100-010D / 100-010E)

★ : 1st Recommendation ☆ : 2nd Recommendation

◆ SIGE (Molded Chipbreaker : GER...CM, GER...DM, GER...EM)

Workpiece Material	Recommended Insert Grade (Vc sfm)				① f (feed) during Grooving (ipr) ② f (feed) during Traversing (ipr) ③ D.O.C. during Traversing (in)						Notes
	Cermet	MEGA COAT	PVD	Carbide	GER 150~200-010CM	GER 250~350-020CM					
	TN6020	**PR1225**	**PR1025**	**GW15**	GER 150~200-010DM		GER 230~250-020DM	GER 300~400-020DM			
					GER 150~200-010EM			GER 250~350-020EM	GER 350~400-020EM	GER 450~500-020CM	
Carbon Steel	-	★ 200~520	☆ 200~520	-	① 0.0012~0.0039 ② 0.0012~0.0039 ③ Max. 0.0394	① 0.0012~0.0047 ② 0.0012~0.0039 ③ Max. 0.0591	① 0.0016~0.0047 ② 0.0016~0.0039 ③ Max. 0.0591	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0591	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0591	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0591	Wet
Alloy Steel	-	★ 200~460	☆ 200~460	-	① 0.0012~0.0039 ② 0.0012~0.0039 ③ Max. 0.0394	① 0.0012~0.0039 ② 0.0012~0.0039 ③ Max. 0.0591	① 0.0016~0.0047 ② 0.0016~0.0039 ③ Max. 0.0591	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0591	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0591	① 0.0020~0.0047 ② 0.0020~0.0039 ③ Max. 0.0591	
Stainless Steel	-	★ 200~360	☆ 200~360	-	① 0.0012~0.0031 ② 0.0012~0.0039 ③ Max. 0.0394	① 0.0012~0.0031 ② 0.0012~0.0039 ③ Max. 0.0591	① 0.0016~0.0031 ② 0.0016~0.0039 ③ Max. 0.0591	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0591	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0591	① 0.0020~0.0039 ② 0.0020~0.0039 ③ Max. 0.0591	

★ : 1st Recommendation ☆ : 2nd Recommendation

GIA (Molded Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)								① f (feed) during Grooving (ipr)			Notes
	Cermet				CVD	PVD		Carbide	② f (feed) during Traversing (ipr)			
	TN60	TN90	TC40	TC60	CR9025	PR630	PR930	KW10	③ D.O.C. during Traversing (in)			
									GIA 30	GIA 40	GIA 50	
Carbon Steel	☆ 200~390	-	-	-	★ 200~390	-	-	-	① 0.0016~0.0031	① 0.0016~0.0035	① 0.0020~0.0039	Wet
									② 0.0008~0.0031	② 0.0008~0.0031	② 0.0020~0.0031	
									③ MAX 0.012	③ MAX 0.016	③ MAX 0.020	
Alloy Steel	☆ 200~330	-	-	-	★ 200~330	-	-	-	① 0.0016~0.0028	① 0.0016~0.0028	① 0.0020~0.0031	
									② 0.0008~0.0028	② 0.0008~0.0028	② 0.0020~0.0031	
									③ MAX 0.012	③ MAX 0.016	③ MAX 0.020	
Stainless Steel	-	-	-	-	★ 200~260	-	-	-	① 0.0016~0.0028	① 0.0016~0.0028	① 0.0020~0.0031	
									② 0.0008~0.0028	② 0.0008~0.0028	② 0.0020~0.0031	
									③ MAX 0.012	③ MAX 0.016	③ MAX 0.020	

★ : 1st Recommendation ☆ : 2nd Recommendation

FMM / FMN

Workpiece Material	Recommended Insert Grade (Vc sfm)						Face Grooving (FMM / FMN)			Traversing (FMM)			Notes
	Cermet	CVD	PVD			Carbide	Edge Width (in)			Edge Width (in)			
	TN90	CR9025	PR915	PR930	PR905	KW10	0.1181	0.1575	0.1969 / 0.2362	0.1181	0.1575	0.1969 / 0.2362	
							Feed Rate (ipr)			Feed Rate (ipr)			
Carbon Steel	☆ 330~720	☆ 260~660	☆ 260~660	★ 260~660	-	-	0.0012~0.0020	0.0012~0.0031	0.0020~0.0039	0.0020~0.0039	0.0020~0.0098	0.0039~0.0118	Wet
Alloy Steel	☆ 260~660	☆ 230~590	☆ 230~590	★ 230~590	-	-	0.0012~0.0020	0.0012~0.0031	0.0020~0.0039	0.0020~0.0039	0.0020~0.0098	0.0039~0.0118	
Stainless Steel	☆ 230~520	☆ 200~490	★ 200~490	☆ 200~490	-	-	0.0012~0.0020	0.0012~0.0031	0.0020~0.0039	0.0020~0.0039	0.0020~0.0098	0.0039~0.0118	
Cast Iron	-	-	-	-	★ 260~590	☆ 230~490	0.0012~0.0020	0.0012~0.0031	0.0020~0.0039	0.0020~0.0039	0.0020~0.0098	0.0039~0.0118	
Aluminum	-	-	-	-	-	★ 660~1640	0.0012~0.0020	0.0012~0.0031	0.0020~0.0039	0.0020~0.0039	0.0020~0.0098	0.0039~0.0118	
Brass	-	-	-	-	-	★ 330~660	0.0012~0.0020	0.0012~0.0031	0.0020~0.0039	0.0020~0.0039	0.0020~0.0098	0.0039~0.0118	

- Set the feed rate 1/100 of edge width on the first groove and check chip evacuation.
- FMN type Inserts are only for Deep Grooving, and when used for turning, set to D.O.C. = 0.079" and under.

★ : 1st Recommendation ☆ : 2nd Recommendation

Turning Conditions

① **FMM Toolholder**

	Recommended Cutting Conditions	
D.O.C. (MAX) (in)	Under 50% of Edge Width	D.O.C. ≤ 0.0197CW
f (MAX) (ipr)	Under 3~5% of Edge Width	f≤ [0.0012(Min.) ~ 0.0020(Max.)]CW

- (D.O.C.) x (f) should be as follows.

Edge Width (in) / Load (in^2)	0.1181	0.1575	0.1969	0.2362
D.O.C. x Feed Rate (f)	~0.004	~0.006	~0.010	~0.014

- D.O.C. x f ≤ $0.0004CW^2$

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GV (Ground Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)						① f (feed) during Grooving (ipr)							Notes
	Cermet			MEGA	PVD	Carbide	② f (feed) during Turning (ipr)							
							③ D.O.C. during Turning (in)							
							GV® 100~300-...SS 100~300-...S	GV® 145~185-...B	GV® 200~280-...B	GV® 300~400-...B				
							GV® 100~340-...A 200~300-...AR		GV® 200-100BR	GV® 300-150BR	GV® 280~300-...C	GV® 340~400-...C	GV® 430~500-...C	
	TN90	TC40	TC60	PR1225	PR930	KW10								
Carbon Steel	☆ 390~590	☆ 390~590	☆ 260~390	★ 260~520	☆ 260~460	-	① 0.0012~0.0031	① 0.0012~0.0031	① 0.0016~0.0035	① 0.0020~0.0047	① 0.0016~0.0035	① 0.0020~0.0047	① 0.0020~0.0047	Wet
							② 0.0012~0.0031	② 0.0012~0.0031	② 0.0016~0.0035	② 0.0020~0.0039	② 0.0016~0.0035	② 0.0020~0.0039	② 0.0020~0.0039	
							③ MAX 0.012	③ MAX 0.012	③ MAX 0.012	③ MAX 0.020	③ MAX 0.012	③ MAX 0.020	③ MAX 0.020	
Alloy Steel	☆ 330~520	☆ 330~520	☆ 260~330	★ 260~460	☆ 260~390	-	① 0.0012~0.0028	① 0.0012~0.0028	① 0.0016~0.0031	① 0.0020~0.0039	① 0.0016~0.0031	① 0.0020~0.0039	① 0.0020~0.0039	
							② 0.0012~0.0039	② 0.0012~0.0039	② 0.0016~0.0031	② 0.0020~0.0039	② 0.0016~0.0031	② 0.0020~0.0039	② 0.0020~0.0039	
							③ MAX 0.012	③ MAX 0.012	③ MAX 0.012	③ MAX 0.020	③ MAX 0.012	③ MAX 0.020	③ MAX 0.020	
Stainless Steel	☆ 230~430	-	☆ 200~330	★ 200~430	☆ 200~360	-	① 0.0012~0.0028	① 0.0012~0.0028	① 0.0016~0.0031	① 0.0020~0.0039	① 0.0016~0.0031	① 0.0020~0.0039	① 0.0020~0.0039	
							② 0.0012~0.0039	② 0.0012~0.0039	② 0.0016~0.0031	② 0.0020~0.0039	② 0.0016~0.0031	② 0.0020~0.0039	② 0.0020~0.0039	
							③ MAX 0.012	③ MAX 0.012	③ MAX 0.012	③ MAX 0.020	③ MAX 0.012	③ MAX 0.020	③ MAX 0.020	
Cast Iron	-	-	-	-	-	★ 200~330	① 0.0012~0.0031	① 0.0012~0.0031	① 0.0016~0.0035	① 0.0020~0.0047	① 0.0016~0.0035	① 0.0020~0.0047	① 0.0020~0.0047	
							② 0.0012~0.0031	② 0.0012~0.0031	② 0.0016~0.0035	② 0.0020~0.0039	② 0.0016~0.0035	② 0.0020~0.0039	② 0.0020~0.0039	
							③ MAX 0.012	③ MAX 0.012	③ MAX 0.012	③ MAX 0.020	③ MAX 0.012	③ MAX 0.020	③ MAX 0.020	
Aluminum	-	-	-	-	-	★ 490~980	① 0.0020~0.0047	① 0.0020~0.0047	① 0.0020~0.0059	① 0.0031~0.0059	① 0.0020~0.0059	① 0.0031~0.0059	① 0.0031~0.0059	
							② 0.0020~0.0047	② 0.0020~0.0047	② 0.0020~0.0059	② 0.0031~0.0059	② 0.0020~0.0059	② 0.0031~0.0059	② 0.0031~0.0059	
							③ MAX 0.020	③ MAX 0.020	③ MAX 0.020	③ MAX 0.031	③ MAX 0.020	③ MAX 0.031	③ MAX 0.031	
Brass	-	-	-	-	-	★ 330~820	① 0.0020~0.0047	① 0.0020~0.0047	① 0.0020~0.0059	① 0.0031~0.0059	① 0.0020~0.0059	① 0.0031~0.0059	① 0.0031~0.0059	
							② 0.0020~0.0047	② 0.0020~0.0047	② 0.0020~0.0059	② 0.0031~0.0059	② 0.0020~0.0059	② 0.0031~0.0059	② 0.0031~0.0059	
							③ MAX 0.020	③ MAX 0.020	③ MAX 0.020	③ MAX 0.031	③ MAX 0.020	③ MAX 0.031	③ MAX 0.031	

* Use MEGACOAT, PVD coated grade or carbide for turning with edge width 0.0394" (1mm) (GV® 100SS/100S/100A)

★ : 1st Recommendation ☆ : 2nd Recommendation

GVF (Ground Chipbreaker)

Workpiece Material	Recommended Insert Grade (Vc sfm)							① f (feed) during Grooving (ipr)					Notes
	Cermet				MEGA	PVD	Carbide	② f (feed) during Traversing (ipr)					
								③ D.O.C. during Traversing (in)					
								GVF® 200~340...A	GVF® 250~350...B	GVF® 400~490...B	GVF® 350~450...C	GVF® 500~600...C	
								GVF® 200-100AR ~300-150AR	GVF® 300-150BR	GVF® 400-200BR			
	TN60	TN90	TC40	TC60	PR1225	PR930	KW10						
Carbon Steel	-	☆ 490~720	☆ 490~720	☆ 330~490	★ 260~660	☆ 260~590	-	① 0.0012~0.0031	① 0.0016~0.0035	① 0.0020~0.0039	① 0.0020~0.0047	① 0.0020~0.0047	Wet
								② 0.0012~0.0031	② 0.0016~0.0035	② 0.0020~0.0039	② 0.0020~0.0039	② 0.0020~0.0039	
								③ MAX 0.012	③ MAX 0.012	③ MAX 0.020	③ MAX 0.020	③ MAX 0.031	
Alloy Steel	-	☆ 430~660	☆ 430~660	☆ 260~430	★ 260~590	☆ 260~520	-	① 0.0012~0.0028	① 0.0016~0.0031	① 0.0020~0.0035	① 0.0020~0.0039	① 0.0020~0.0039	
								② 0.0012~0.0039	② 0.0016~0.0031	② 0.0020~0.0035	② 0.0020~0.0039	② 0.0020~0.0039	
								③ MAX 0.012	③ MAX 0.012	③ MAX 0.020	③ MAX 0.020	③ MAX 0.031	
Stainless Steel	-	☆ 230~490	-	☆ 200~330	★ 260~490	☆ 200~430	-	① 0.0012~0.0028	① 0.0016~0.0031	① 0.0020~0.0035	① 0.0020~0.0039	① 0.0020~0.0039	
								② 0.0012~0.0039	② 0.0016~0.0031	② 0.0020~0.0035	② 0.0020~0.0039	② 0.0020~0.0039	
								③ MAX 0.012	③ MAX 0.012	③ MAX 0.020	③ MAX 0.020	③ MAX 0.031	
Cast Iron	-	-	-	-	-	-	★ 200~330	① 0.0012~0.0031	① 0.0016~0.0035	① 0.0020~0.0039	① 0.0020~0.0047	① 0.0020~0.0047	
								② 0.0012~0.0031	② 0.0016~0.0035	② 0.0020~0.0039	② 0.0020~0.0039	② 0.0020~0.0039	
								③ MAX 0.012	③ MAX 0.012	③ MAX 0.020	③ MAX 0.020	③ MAX 0.031	
Aluminum	-	-	-	-	-	-	★ 490~1310	① 0.0020~0.0047	① 0.0020~0.0059	① 0.0020~0.0059	① 0.0031~0.0059	① 0.0031~0.0059	
								② 0.0020~0.0047	② 0.0020~0.0059	② 0.0020~0.0059	② 0.0031~0.0059	② 0.0031~0.0059	
								③ MAX 0.020	③ MAX 0.020	③ MAX 0.031	③ MAX 0.031	③ MAX 0.031	
Brass	-	-	-	-	-	-	★ 490~980	① 0.0020~0.0047	① 0.0020~0.0059	① 0.0020~0.0059	① 0.0031~0.0059	① 0.0031~0.0059	
								② 0.0020~0.0047	② 0.0020~0.0059	② 0.0020~0.0059	② 0.0031~0.0059	② 0.0031~0.0059	
								③ MAX 0.020	③ MAX 0.020	③ MAX 0.031	③ MAX 0.031	③ MAX 0.031	

- Apply a sufficient amount of coolant.
- The D.O.C. should be under 0.020" (0.5mm) if a good surface finish is required.

★ : 1st Recommendation ☆ : 2nd Recommendation

FTK

	Recommended Insert Grade (Vc sfm)					Edge Width (in)		Notes
	Cermet	CVD	PVD		Carbide	0.1575	0.1969	
	TN90	**CR9025**	**PR660**	**PR930**	**KW10**	Feed Rate (ipr)		
Carbon Steel	☆ 390~660	★ 260~590	☆ 200~430	☆ 200~430	-	0.0020~0.0059	0.0020~0.0059	Wet
Alloy Steel	☆ 330~520	★ 230~490	☆ 200~430	☆ 200~430	-	0.0020~0.0059	0.0020~0.0059	
Stainless Steel	☆ 260~490	☆ 200~460	★ 160~390	☆ 160~390	-	0.0020~0.0059	0.0020~0.0059	
Cast Iron	-	-	-	-	★ 160~330	0.0039~0.0118	0.0039~0.0118	
Aluminum	-	-	-	-	★ 660~1480	0.0020~0.0098	0.0020~0.0098	
Brass	-	-	-	-	★ 330~660	0.0020~0.0098	0.0020~0.0098	

★ : 1st Recommendation ☆ : 2nd Recommendation

GMN (CBN / PCD)

Workpiece Material	Recommended Insert Grade (Vc sfm)		① f (feed) during Grooving (ipr)				Notes
	CBN	PCD	② f (feed) during Traversing (ipr)				
	KBN510 KBN525	**KPD001 (KPD010)**	③ D.O.C. during Traversing (in)				
			GMN2	GMN3	GMN4 GMN5	GMN6	
Aluminum	-	★ 490~6560	① 0.0020~0.0059	① 0.0020~0.0059	① 0.0031~0.0071	① 0.0039~0.0079	Wet
			② 0.0020~0.0059	② 0.0020~0.0059	② 0.0031~0.0071	② 0.0039~0.0079	
			③ MAX 0.020	③ MAX 0.031	③ MAX 0.031	③ MAX 0.031	
Brass	-	★ 660~2620	① 0.0020~0.0059	① 0.0020~0.0059	① 0.0031~0.0071	① 0.0039~0.0079	
			② 0.0020~0.0059	② 0.0020~0.0059	② 0.0031~0.0071	② 0.0039~0.0079	
			③ MAX 0.020	③ MAX 0.031	③ MAX 0.031	③ MAX 0.031	
Cast Iron	★ 490~1310	-	① 0.0016~0.0035	① 0.0020~0.0039	① 0.0020~0.0047	① 0.0020~0.0059	
			② 0.0016~0.0035	② 0.0020~0.0039	② 0.0020~0.0047	② 0.0020~0.0059	
			③ MAX 0.012	③ MAX 0.020	③ MAX 0.020	③ MAX 0.031	
Hardened Materials	★ 260~390	-	① 0.0008~0.0020	① 0.0012~0.0028	① 0.0012~0.0031	① 0.0020~0.0039	
			② 0.0004~0.0012	② 0.0004~0.0020	② 0.0012~0.0031	② 0.0020~0.0039	
			③ MAX 0.004	③ MAX 0.008	③ MAX 0.012	③ MAX 0.016	

★ : 1st Recommendation ☆ : 2nd Recommendation

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GMG / GMM / GMN / GMGA

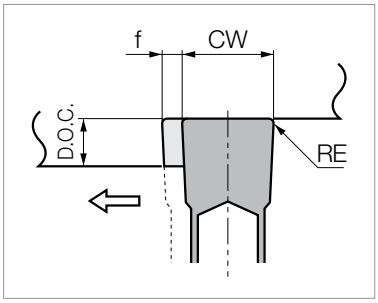
Workpiece Material	Recommended Insert Grade (Vc sfm)						Grooving				Traversing				Notes
	Cermet	CVD	PVD			Carbide	Edge Width (in)				Edge Width (in)				
	TN90	CR9025	PR915	PR930	PR905	KW10	0.0787~0.1181	0.1575	0.1969	0.2362/0.3150	0.0787~0.1181	0.1575	0.1969	0.2362/0.3150	
							Feed Rate (ipr)				Feed Rate (ipr)				
Carbon Steel	☆ 330~720	☆ 260~660	☆ 260~660	★ 260~660	-	-	0.0020~0.0059	0.0039~0.0098	0.0059~0.0138	0.0079~0.0138	0.0039~0.0079	0.0059~0.0118	0.0079~0.0157	0.0098~0.0157	Wet
Alloy Steel	☆ 260~660	☆ 230~590	☆ 230~590	★ 230~590	-	-	0.0020~0.0059	0.0039~0.0098	0.0059~0.0138	0.0079~0.0138	0.0039~0.0079	0.0059~0.0118	0.0079~0.0157	0.0098~0.0157	
Stainless Steel	☆ 230~520	☆ 200~490	★ 200~490	☆ 200~490	-	-	0.0020~0.0059	0.0039~0.0079	0.0059~0.0138	0.0079~0.0138	0.0039~0.0079	0.0059~0.0098	0.0079~0.0157	0.0098~0.0157	
Cast Iron	-	-	-	-	★ 330~660	☆ 230~490	0.0020~0.0079	0.0039~0.0118	0.0059~0.0157	0.0079~0.0157	0.0039~0.0098	0.0059~0.0138	0.0079~0.0177	0.0098~0.0177	
Aluminum	-	-	-	-	-	★ 660~1640	0.0020~0.0079	0.0031~0.0098	0.0039~0.0098	0.0047~0.0118	0.0039~0.0079	0.0039~0.0098	0.0039~0.0098	0.0059~0.0118	
Brass	-	-	-	-	-	★ 330~660	0.0020~0.0059	0.0031~0.0079	0.0039~0.0098	0.0047~0.0118	0.0039~0.0079	0.0039~0.0098	0.0039~0.0098	0.0059~0.0118	

★ : 1st Recommendation ☆ : 2nd Recommendation

Traversing Conditions

① **KGM Toolholder**

	Recommended Cutting Conditions	
D.O.C.(MAX) (in)	Under 80% of Edge Width	D.O.C.≤0.0315CW
f (MAX) (ipr)	Under 10% of Edge Width	f≤0.0039CW



• (D.O.C.) x (f) should not exceed ½ of D.O.C.(MAX) x f(MAX)

Load (in²) \ Edge Width (in)	0.0787~0.0984	0.1181	0.1575	0.1969	0.2362	0.3150
D.O.C. x Feed Rate (f)	~0.0079	~0.0142	~0.0252	~0.0394	~0.0567	~0.1008

• D.O.C. x f ≤ ½ x 0.0315w x 0.0039w = 0.0016w²

② **KGM-T Toolholder** (Deep Grooving)

Use KGM-T toolholder under 90% lower cutting conditions than the KGM Toolholder

③ **KGMM / KGMS / KFMS-8 Toolholder**

	Recommended Cutting Conditions	
D.O.C.(MAX) (in)	Under 50% of Edge Width	D.O.C.≤0.0197CW
f (MAX) (ipr)	Under 4% of Edge Width	f≤0.0016CW

• (D.O.C.) x (f) should not exceed ½ of D.O.C.(MAX) x f(MAX)

Load (in²) \ Edge Width (in)	0.0787~0.0984	0.1181	0.1575	0.1969	0.2362	0.3150
D.O.C. x Feed Rate (f)	~0.0039	~0.0071	~0.0126	~0.0197	~0.0283	~0.0504

• D.O.C. x f ≤ 0.0008w²

④ **KIGM Toolholder**

	Recommended Cutting Conditions	
D.O.C.(MAX) (in)	Under 70% of Edge Width	D.O.C.≤0.0276CW
f (MAX) (ipr)	Under 8% of Edge Width	f≤0.0031CW

• (D.O.C.) x (f) should be as follows. (under 70% of KGM)

Load (in²) \ Edge Width (in)	0.1181	0.1575	0.1969
D.O.C. x Feed Rate (f)	~0.0098	~0.0173	~0.0276

• D.O.C. x f ≤ 0.0016CW²

GMG / GMM / GMGA 8030 (Face Grooving)

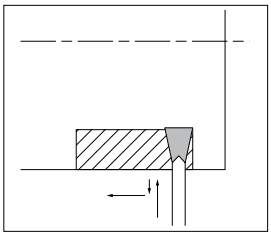
Workpiece Material	Recommended Insert Grade (Vc sfm)						Face Grooving	Traversing	Notes
	Cermet	CVD	PVD			Carbide	Edge Width (in)	Edge Width (in)	
	TN90	CR9025	PR915	PR930	PR905	KW10	0.3150	0.3150	
							Feed Rate (ipr)	Feed Rate (ipr)	
Carbon Steel	☆ 330~720	☆ 260~520	☆ 260~520	★ 260~520	-	-	0.0039~0.0079	0.0039~0.0098	Wet
Alloy Steel	☆ 260~520	☆ 230~520	☆ 230~520	★ 230~520	-	-	0.0039~0.0079	0.0039~0.0098	
Stainless Steel	☆ 230~460	☆ 200~430	★ 200~430	☆ 200~430	-	-	0.0039~0.0079	0.0039~0.0098	
Cast Iron	-	-	-	-	★ 260~590	☆ 230~430	0.0039~0.0118	0.0039~0.0138	
Aluminum	-	-	-	-	-	★ 660~980	0.0031~0.0098	0.0031~0.0118	
Brass	-	-	-	-	-	★ 330~490	0.0031~0.0098	0.0031~0.0118	

★ : 1st Recommendation ☆ : 2nd Recommendation

Guide for External Grooving

Point (I) (Traversing after Grooving)

1) Grooving Depth Over 0.5mm: At roughing (Refer to Fig.1)
   Before Traversing, pull the tool back about 0.1mm after grooving.
   (Failure to pull the tool back before traverse machining will result in an unbalanced load applied on only one side of the cutting edge.)
2) Grooving Depth under 0.5mm: At finishing (Refer to Fig.2)
   Traversing subsequent to grooving is possible because shallow groove depths relate a small load on the cutting edge.
   (Dwell time is not necessary.)

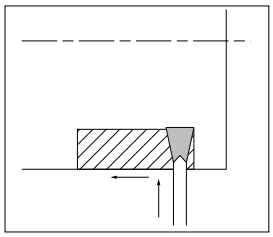


Before Traversing, pull the tool back about 0.1mm after grooving.
(Grooving Depth Over 0.5mm: At roughing)
Fig.1

Point (II)

1) When widening the groove width
   (Refer to Fig.3), apply the "Step Traversing" as shown in Fig.3.
2) The side walls should be finished with a plunging pass.
   (For better chip control, ap over 0.5mm is recommended.)

Note) If the workpiece is not supported at the center, reduce the feed rate when grooving towards center.



Traversing subsequent to grooving is possible because there is only a small force on the cutting edge.
(Grooving Depth under 0.5mm: At finishing)
Fig.2

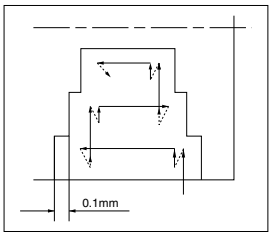


Fig.3

Guide for Face Grooving

<Toolholder Selection>

(1) Choose the best tool depending on the groove width.
   The Cutting Dia. ØD listed in the catalog indicates the depth of the first plunge of face grooving as shown in Fig.1.

(2) Confirm Grooving Depth (dimension CDX)

(3) It is recommended to install the toolholder in the reverse position. (Fig. 2)
   (This will provide smooth chip flow and chip clearance.)

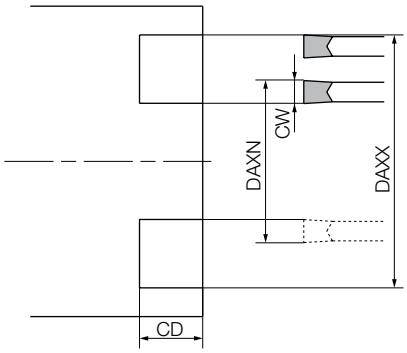


Fig.1

Toolholder	Right-hand (R)		Toolholder	Left-hand (L)	
Insert	(No Hand)		Insert	(No Hand)	

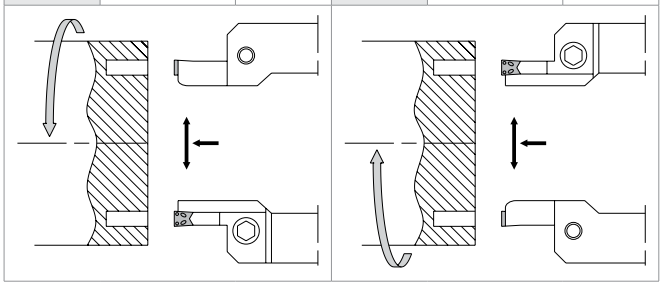


Fig.2 Toolholder's Hand and Rotation

<Guide for Traversing>

Traversing direction should be from the outer diameter to the inner diameter as shown in Fig.3
This improves chip evacuation.

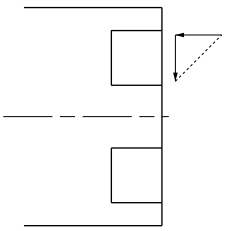


Fig.3

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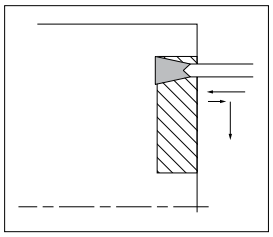
Guide for External Grooving (Continued)

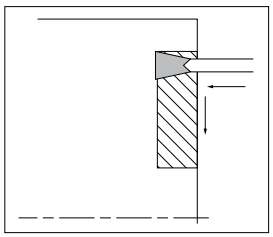
Point (I) (Traversing after Grooving)

1) Grooving Depth Over 0.5mm: At roughing (Refer to Fig.4)
Before Traversing, pull the tool back about 0.1mm after grooving.
(Failure to pull the tool back before traverse machining will result in an unbalanced load applied on only one side of the cutting edge.)



Before Traversing, pull the tool back about 0.1mm after grooving.
(Grooving Depth Over 0.5mm: At roughing)
Fig.4

2) Grooving Depth under 0.5mm: At finishing (Refer to Fig.5)
Traversing subsequent to grooving is possible because shallow groove depths relate a small load on the cutting edge.
(Dwell time is not necessary.)



Traversing subsequent to grooving is possible because there is only a small force on the cutting edge.
(Grooving Depth under 0.5mm: At finishing)
Fig.5

Point (II)

1) When widening the groove width, apply the “Step Traversing” as shown in Fig. 6.
2) The side walls should be finished with a plunging pass.
(For better chip control, D.O.C. over 0.5mm is recommended.)

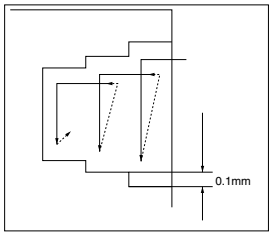
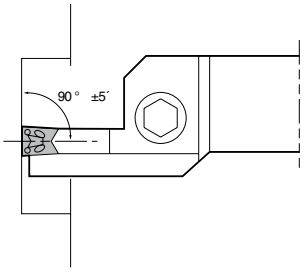


Fig.6

Troubleshooting

Trouble	Countermeasures
Whitish trace remains at the groove bottom.	(1) Increase the cutting speed for finishing process only. (This can handle most of the cases.) If the method is not successful, try (2) as follows. (2) Check the insert edge's parallelness. [Adjustment: Apply the insert edge to the work face and adjust the toolholder within the angle of ±5'. (Fig.7)]  Fig.7
Chips are entangled.	(1) Install the toolholder in the reverse position. Adjust the coolant flow to the cutting edge. (2) When widening the groove, do not machine one deep groove. Instead, repeat shallow grooving and Traversing.
Insert cracks when Traversing.	Reverse the facing direction.
Groove is not straight.	Check the edge's parallelness. Decrease the feed rate.

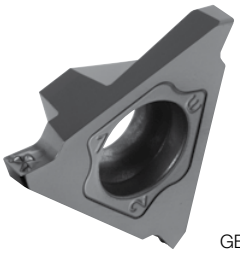
Guide for Grooving with Cermet Insert (Steel)

1. Set the feed under 0.0047" ipr (0.0020"~0.0039" ipr normally).
2. Coolant is recommended.
3. Set the cutting speed Vc = 490~720 sfm.
4. Set the toolholder overhang as short as possible.

How to Improve Surface Finish (when surface roughness below 3μm Rz is required)

1. Increase the cutting speed (Vc = 720 sfm MAX.)
2. Program retention time at the groove bottom.
3. Apply a light hone to the cutting edge.

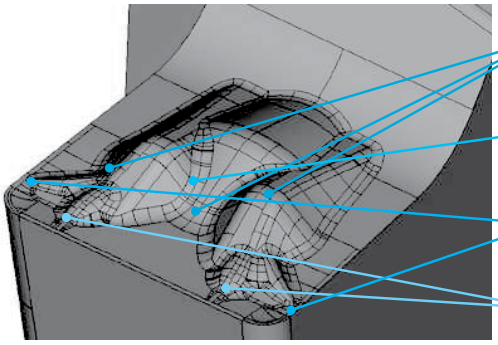
Chip Control of Grooving Insert with Molded Chipbreaker



GBA type GM chipbreaker

1. Good chip control to cover a wide application range of stable chip control at high cutting speed, covering wide range of feed rates
2. Improved chip control and excellent surface finish
   Superior chip control performance
3. Chip control improvement with automated production line.
   (prevents frequent machine stops)

Multi Bump Design



Center bump and dent squeeze chips for better control.

Helps modifying chip shape.

Stable chip control during shouldering and chamfering.

Front Bump: Stabilize chip control at low feed rates.

Smooth chip control due to optimized bump design of the chipbreaker

Alternative Toolholder Reference Table for Grooving Toolholder

Conventional Toolholder			Spare Parts			Alternative Toolholder			
Part Number		Overall Length (mm)	Clamp Screw	Wrench	Wrench	Part Number		Overall Length (mm)	Notes	Reference Page
KTGF R/L	1010K-16F	125	SB-4070TRW	FT-8	-	KTGF R/L	1010JX-16F	120		G20
	1212M-16F	150					1212JX-16F	120		
	1616M-16F	150					1616JX-16F	120		
KGM R/L	0810K-1.5-125	125	SE-40120TR	-	LTW-15S	-		-	No replacement	G52
	1010K-1.5-125	125				KGM R/L	1010JX-1.5	120		
	1212M-1.5-150	150					1212JX-1.5	120		
KGM R/L	0810K-2-125	125	SE-40120TR	-	LTW-15S	-		-	No replacement	
	1010K-2-125	125				KGM R/L	1010JX-2	120		
	1212M-2-150	150					1212JX-2	120		
	1616M-2-150	150	SE-50125TR	-	LTW-20		1616JX-2	120		
KGM R/L	1010K-2.5-125	125	SE-40120TR	-	LTW-15S	KGM R/L	1010JX-2.5	120		
	1212M-2.5-150	150					1212JX-2.5	120		
	1616M-2.5-150	150	SE-50125TR	-	LTW-20		1616JX-2.5	120		
KGM R/L	1616M-3-150	150	SE-50125TR	-	LTW-20	KGM R/L	1616JX-3	120		

Note) The corresponding replacements may be different from the conventional parts in insert clamping system or insert size.
Make sure their specifications referring to the catalog or other documents.