G

KGD Grooving (External Grooving and Traversing)

· Integral Type

Type	KGD
Edge Width	0.079" ~ 0.315" (2.00mm ~ 8.00mm)
Max. Grooving Depth	0.236" ~ 1.181" (6.00mm ~ 30.00mm)
Ref. Page	G44

· Integral Type (Coolant-Through Holders)

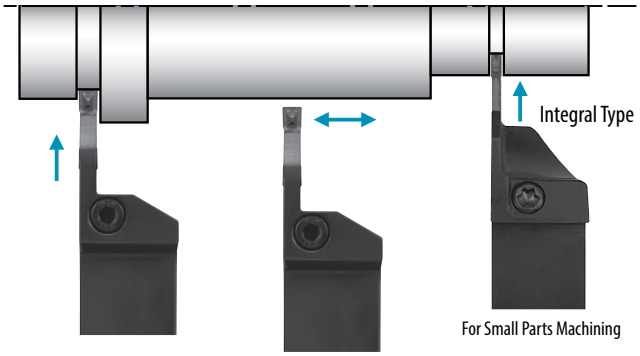
Type	KGD-JCT
Edge Width	0.118" ~ 0.157" (3.00mm ~ 5.00mm)
Max. Grooving Depth	0.787" ~ 1.000" (6.00mm ~ 25.00mm)
Ref. Page	G48

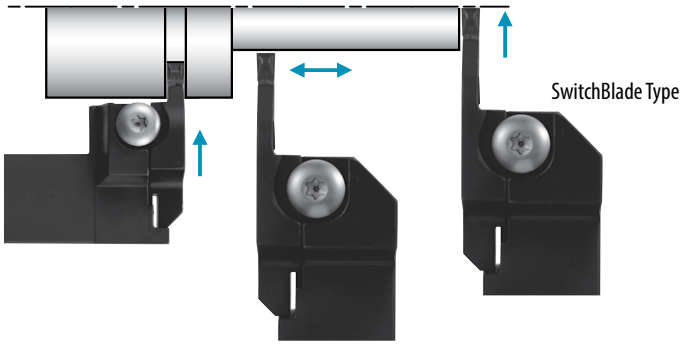
· Integral Type for Small Sarts

Type	KGD
Edge Width	0.079" ~ 0.157" (2.00mm ~ 4.00mm)
Max. Grooving Depth	0.394" ~ 0.827" (10.00mm ~ 25.5mm)
Ref. Page	G46

· Integral Type for Small Parts (Coolant-Through Holders)

Type	KGD-JCTM
Edge Width	0.079" ~ 0.157" (2.00mm ~ 4.00mm)
Max. Grooving Depth	0.472" ~ 0.630" 12.00mm ~ 16.00mm
Ref. Page	G51





· SwitchBlade 90°

Type	*KGDS-S
Edge Width	0.079" ~ 0.197" (2.00mm ~ 5.00mm)
Max. Grooving Depth	0.394" ~ 0.984" (10.00mm ~ 25.00mm)
Ref. Page	G54

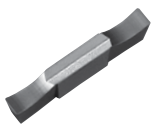
* The SwitchBlade Type toolholders can accept all the blades if their hand is matching.

· SwitchBlade 0°

Type	*KGD-S
Edge Width	0.079" ~ 0.197" (2.00mm ~ 5.00mm)
Max. Grooving Depth	0.394" ~ 0.984" (10.00mm ~ 25.00mm)
Ref. Page	G52

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

Low cutting force GS



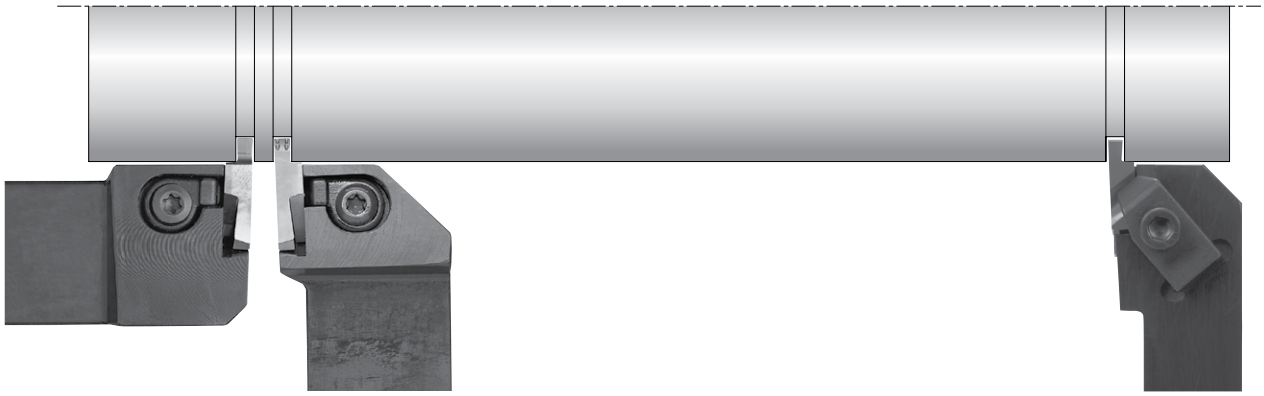
Low feed GL

General purpose GM

High feed PH

Copying CM

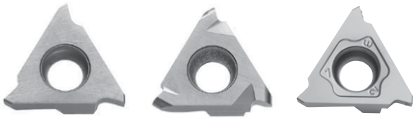
Shallow Grooving (Grooving Depth: ~0.197" / 5mm)

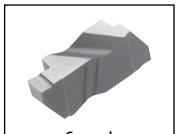


Type	KGBAS
Edge Width	0.031" ~ 0.189" (0.33mm ~ 4.80mm)
Max. Grooving Depth	0.032" ~ 0.197" (0.80mm ~ 5.00mm)
Ref. Page	G14

KGBA (-JCT)
0.031" ~ 0.189" (0.33mm ~ 4.80mm)
0.032" ~ 0.197" (0.80mm ~ 5.00mm)
G13, G15

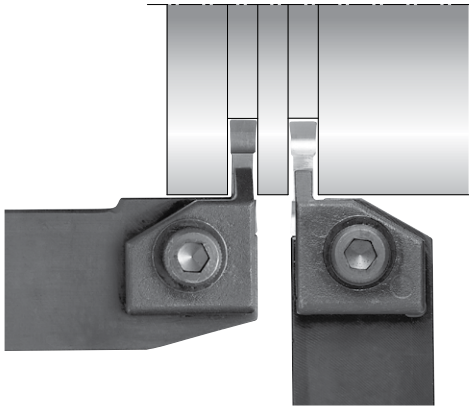
KKC
0.031" ~ 0.250"
0.050" ~ 0.250"
G65





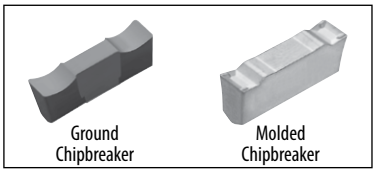
Edge Shape	General (Square)	Full-R (Round)	GM Chipbreaker
			

Deep Grooving (Grooving Depth: ~0.984" / 25mm)

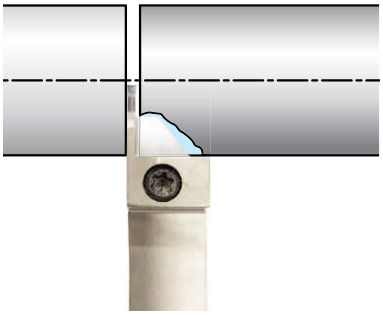


Type	KGHS
Edge Width	0.157" ~ 0.315" (4.00mm ~ 8.00mm)
Max. Grooving Depth	0.512" (13.00mm)
Ref. Page	G68

KGH
0.157" ~ 0.472" (4.00mm ~ 12.00mm)
0.512" ~ 0.669" (13.00mm ~ 17.00mm)
G67



External Grooving of Precision Parts (Small Part Machining)



KGZ Grooving Inserts

GM Chipbreaker
General Purpose

GL Chipbreaker
Low Feed

PH Chipbreaker
High Feed

CM Chipbreaker
Full-R / Copying

GS Chipbreaker
Low Cutting Force

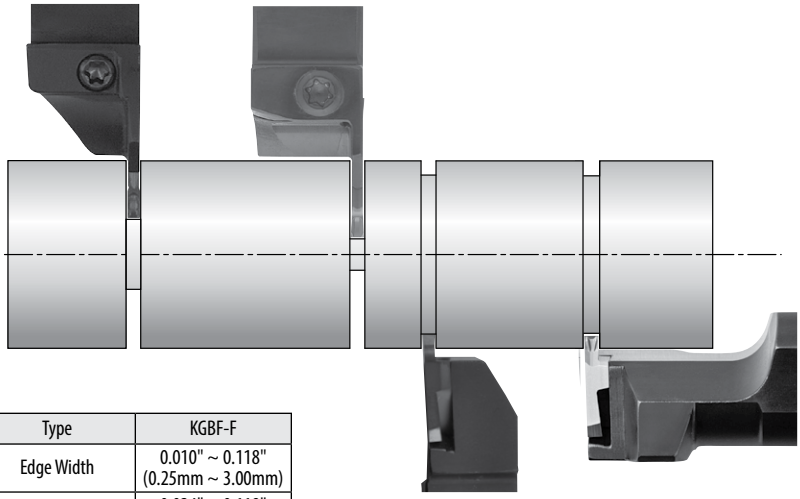
NB PCD
for Alluminum

Type	KGZ
Edge Width	0.079" ~ 0.118" (2.00mm ~ 3.00mm)
Max. Grooving Depth	0.394" ~ 0.827" (10.00mm ~ 25.5mm)
Ref. Page	G32

Type	KGZ-JCTM
Edge Width	0.079" ~ 0.118" (2.00mm ~ 3.00mm)
Max. Grooving Depth	0.472" ~ 0.630" (12.00mm ~ 16.00mm)
Ref. Page	G30

Type	KGD
Edge Width	0.079" ~ 0.157" (2.00mm ~ 4.00mm)
Max. Grooving Depth	0.394" ~ 0.827" (10.00mm ~ 21.00mm)
Ref. Page	G46

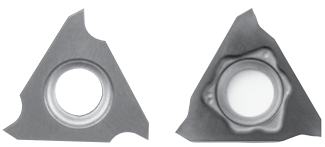
Type	KGD-JCTM
Edge Width	0.079" ~ 0.157" (2.00mm ~ 4.00mm)
Max. Grooving Depth	0.472" ~ 0.630" 12.00mm ~ 16.00mm
Ref. Page	G51



Type	KGBF-F
Edge Width	0.010" ~ 0.118" (0.25mm ~ 3.00mm)
Max. Grooving Depth	0.024" ~ 0.118" (0.60mm ~ 3.00mm)
Ref. Page	G21

Type	KGBFS	KGBF-JCTM
Edge Width	0.010" ~ 0.118" (0.25mm ~ 3.00mm)	0.010" ~ 0.118" (0.25mm ~ 3.00mm)
Max. Grooving Depth	0.024" ~ 0.118" (0.60mm ~ 3.00mm)	0.024" ~ 0.118" (0.60mm ~ 3.00mm)
Ref. Page	G23	G22

Type	S-KGBF
Edge Width	0.010" ~ 0.118" (0.25mm ~ 3.00mm)
Max. Grooving Depth	0.024" ~ 0.118" (0.60mm ~ 3.00mm)
Ref. Page	G24

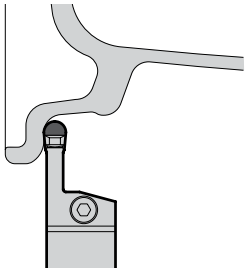


Ground Chipbreaker

GL Chipbreaker

800.823.7284
www.kyocera precisiontools.com

External Grooving of Aluminum Wheels (External / Facing / Copying)



Type	KGMW
Edge Width	0.236" ~ 0.315" (6.00mm ~ 8.00mm)
Max. Grooving Depth	0.984" (25.00mm)
Ref. Page	G72

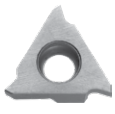
1-edge PCD

GBA32

Insert Size	IC		S		D1	
	in	mm	in	mm	in	mm
GBA32...	3/8	9.525	1/8	3.18	0.173	4.4

Carbon Steel / Alloy Steel	●	●	○	○		●		P
Stainless Steel		●	○	○				M
Cast Iron	●		○		○			K
Non-Ferrous Metals					●			N
Titanium Alloy					●			S
Hard Materials (~ 40HRC)			●					H
Hard Materials (40HRC ~)								

Insert		Part Number		No. of Edges	Dimensions (mm)							Tolerance (mm)		Carbide					Cermet		Applicable Toolholder ⇨ G13~G15 G89
					CW		CDX	IC	S	D1	RE	CW min.	CW max.	PVD				-	PVD	-	
					in	mm								PR2015	PR2025	PR1215	PR1625	KW10	PV7040	TN90	
		GBA32R	033-005	3	0.013	0.33	0.8	9.525	3.18	4.4	0.05	-0.03	+0.02	●	●		●				KGBAR...3 KGBAR...16 KGBAR...16JCT KGBASL...3 KGBASL...16 KIGBAL...3 KIGBAL...16
			050-005*		0.020	0.50	1				0.05	0	+0.05					●		●	
							1.2							●	●		●				
			075-005		0.030	0.75	2				0.05	-0.025	+0.025	●	●	●	●	●	●	●	
			095-005		0.037	0.95	2				0.05	-0.025	+0.025	●	●		●	●		●	
			100-005		0.039	1.00	2				0.05	-0.025	+0.025	●	●	●	●	●	●	●	
			110-005		0.043	1.10	2				0.05	-0.025	+0.025	●	●		●				
			120-005		0.047	1.20	2				0.05	-0.025	+0.025	●	●	●	●				
			125-020		0.049	1.25	2				0.2	-0.025	+0.025	●	●	●	●	●	●	●	
			130-020		0.051	1.30	2				0.2	-0.025	+0.025	●	●	●	●				
			140-020		0.055	1.40	2.5				0.2	-0.025	+0.025	●	●	●	●				
			145-020*		0.057	1.45	2				0.2	-0.025	+0.025					●		●	
							2.5							●	●	●	●				
			150-020*		0.059	1.50	2				0.2	-0.025	+0.025						●	●	
							2.5							●	●	●	●				
			160-020		0.063	1.60	2.5				0.2	-0.025	+0.025	●	●	●	●				
			170-020		0.067	1.70	2.5				0.2	-0.025	+0.025	●	●	●	●				
			175-020*		0.069	1.75	2				0.2	-0.025	+0.025					●		●	
							2.5							●	●	●	●				
			200-020		0.079	2.00	2.5				0.2	-0.025	+0.025	●	●	●	●	●	●	●	
			225-020		0.089	2.25	2.5				0.2	-0.025	+0.025	●	●	●	●				
			250-020		0.098	2.50	2.5				0.2	-0.025	+0.025	●	●	●	●	●		●	
			300-020		0.118	3.00	2.5				0.2	-0.025	+0.025	●	●	●	●				
		GBA32L	033-005	3	0.013	0.33	0.8	9.525	3.18	4.4	0.05	-0.03	+0.02	●	●		●				KGBAL...3 KGBAL...16 KGBAL...16JCT KGBASR...3 KGBASR...16 KIGBAR...3 KIGBAR...16
			050-005*		0.020	0.50	1				0.05	0	+0.05					●			
							1.2							●	●	△	●				
			075-005		0.030	0.75	2				0.05	-0.025	+0.025	●	●		●	●	●		
			095-005		0.037	0.95	2				0.05	-0.025	+0.025	●	●	●	●	●			
			100-005		0.039	1.00	2				0.05	-0.025	+0.025	●	●	●	●	●	●	●	
			110-005		0.043	1.10	2				0.05	-0.025	+0.025	●	●		●				
			120-005		0.047	1.20	2				0.05	-0.025	+0.025	●	●	●	●				
			125-020		0.049	1.25	2				0.2	-0.025	+0.025	●	●	●	●	●	●	●	
			130-020		0.051	1.30	2				0.2	-0.025	+0.025	●	●	●	●				
			140-020		0.055	1.40	2.5				0.2	-0.025	+0.025	●	●	●	●				
			145-020*		0.057	1.45	2				0.2	-0.025	+0.025					●			
							2.5							●	●	●	●				
			150-020*		0.059	1.50	2				0.2	-0.025	+0.025						●	●	
							2.5							●	●	●	●				
			160-020		0.063	1.60	2.5				0.2	-0.025	+0.025	●	●	●	●				
			170-020		0.067	1.70	2.5				0.2	-0.025	+0.025	●	●	●	●				
			175-020*		0.069	1.75	2				0.2	-0.025	+0.025					●		●	
							2.5							●	●	●	●				
			200-020		0.079	2.00	2.5				0.2	-0.025	+0.025	●	●	●	●	●	●	●	
			225-020		0.089	2.25	2.5				0.2	-0.025	+0.025	●	●	●	●				
			250-020		0.098	2.50	2.5				0.2	-0.025	+0.025	●	●	●	●	●		●	
			300-020		0.118	3.00	2.5				0.2	-0.025	+0.025	●	●	●	●				



Right-hand shown
CDX shows available grooving depth.
*CDX dimension is different based on grade.

Recommended Cutting Conditions ⇨ G153

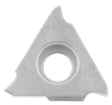
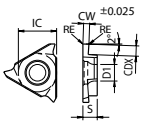
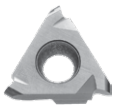
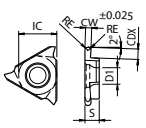
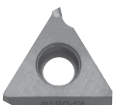
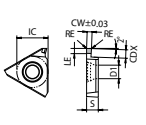
GBA Inserts are sold in 10 piece boxes

● : 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

GBA32

Insert Size	IC		S		D1	
	in	mm	in	mm	in	mm
GBA32...	3/8	9.525	1/8	3.18	0.173	4.4

Carbon Steel / Alloy Steel	●	◕	○	◔	●			P
Stainless Steel		◕	○	◔				M
Cast Iron	◕		◔					K
Non-Ferrous Metals						●		N
Titanium Alloy						●		S
Hard Materials (~ 40HRC)	●		○					H
Hard Materials (40HRC ~)								

Insert	Part Number	No. of Edges	Dimensions (mm)								Tolerance (mm)		Carbide				Cermet	PCD		Applicable Toolholder ⇒ G13~G15 G89
			CW		CDX	IC	S	D1	RE	LE	CW min.	CW max.	PVD				-	-		
			in	mm									PR2015	PR2025	PR1215	PR1625	TN620	KPD001	KPD010	
	 Sharp edge	GBA32R 050-005F	0.020	0.5	1	9.525	3.18	4.4	0.05	-	0	+0.05					●			KGBAR...3 KGBAR...16 KGBAR...16JCT KGBASL...3 KGBASL...16 KIGBAL...3 KIGBAL...16
		075-005F	0.030	0.75	2				0.05		-0.025	+0.025					●			
		095-005F	0.037	0.95	2				0.05		-0.025	+0.025					●			
		100-005F	0.039	1	2				0.05		-0.025	+0.025					●			
		125-020F	0.049	1.25	2				0.2		-0.025	+0.025					●			
		145-020F	0.057	1.45	2				0.2		-0.025	+0.025					●			
		150-020F	0.059	1.5	2				0.2		-0.025	+0.025					●			
		175-020F	0.069	1.75	2				0.2		-0.025	+0.025					●			
		200-020F	0.079	2	2.5				0.2		-0.025	+0.025					●			
		250-020F	0.098	2.5	2.5				0.2		-0.025	+0.025					●			
		GBA32L 050-005F	0.020	0.5	1	9.525	3.18	4.4	0.05	-	0	+0.05					●			KGBAL...3 KGBAL...16 KGBAL...16JCT KGBASR...3 KGBASR...16 KIGBAR...3 KIGBAR...16
		075-005F	0.030	0.75	2				0.05		-0.025	+0.025					●			
		095-005F	0.037	0.95	2				0.05		-0.025	+0.025					●			
		100-005F	0.039	1	2				0.05		-0.025	+0.025					●			
		125-020F	0.049	1.25	2				0.2		-0.025	+0.025					●			
		145-020F	0.057	1.45	2				0.2		-0.025	+0.025					●			
		150-020F	0.059	1.5	2				0.2		-0.025	+0.025					●			
		175-020F	0.069	1.75	2				0.2		-0.025	+0.025					●			
		200-020F	0.079	2	2.5				0.2		-0.025	+0.025					●			
		250-020F	0.098	2.5	2.5				0.2		-0.025	+0.025					●			
	 Full R	GBA32R 200-100R	0.079	2	2.5	9.525	3.18	4.4	1	-	-0.025	+0.025	●	●	●	●				KGBAR...3 KGBAR...16 KGBAR...16JCT KGBASL...3 KGBASL...16 KIGBAL...3 KIGBAL...16
		300-150R	0.118	3					1.5				●	●	●	●				
	 1-edge	GBA32R 125-010	0.049	1.25	2	9.525	3.18	4.4	0.1	1.7	-0.03	+0.03						●	●	KGBAR...3 KGBAR...16 KGBAR...16JCT KGBASL...3 KGBASL...16 KIGBAL...3 KIGBAL...16
		150-010	0.059	1.5	2													●	●	
		200-010	0.079	2	2.5													●		

Right-hand shown
CDX shows available grooving depth.

Recommended Cutting Conditions ⇒ G153

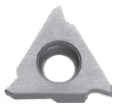
CBN & PCD Inserts are sold in 1 piece boxes

● : 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

GBA43

Insert Size	IC		S		D1	
	in	mm	in	mm	in	mm
GBA43...	1/2	12.7	3/16	4.76	0.217	5.5
GBA43R480-...	1/2	12.7	0.197	5.00	0.217	5.5

Carbon Steel / Alloy Steel	●	●	○	○		●		P
Stainless Steel		●	○	○				M
Cast Iron	●		○		○			K
Non-Ferrous Metals					●			N
Titanium Alloy					●			S
Hard Materials (~ 40HRC)			●					H
Hard Materials (40HRC ~)								

Insert	Part Number	No. of Edges	Dimensions (mm)								Tolerance (mm)		Carbide					Cermet		Applicable Toolholder ⇨ G13~G15 G89
			CW		CDX	IC	S	D1	RE		CW min.	CW max.	PVD				-	PVD	-	
			in	mm									PR2015	PR2025	PR1215	PR1625	KW10	PV7040	TN90	
	GBA43R 125-010	3	0.049	1.25	2	12.7	4.76	5.5	0.1		-0.025	+0.025	●	●	●	●				KGBAR...4-15 KGBAR...22-15 KGBAR...22-15JCT KGBASL...4-15 KGBASL...22-15 KIGBAL...4 KIGBAL...22
	125-020		0.049	1.25	2	12.7	4.76	5.5	0.2		-0.025	+0.025	●	●	●	●	●	●	●	
	140-020		0.055	1.4	3.5	12.7	4.76	5.5	0.2		-0.025	+0.025	●	●	●	●				
	145-020*		0.057	1.45	2	12.7	4.76	5.5	0.2		-0.025	+0.025					●		●	
					3.5								●	●	●	●				
	150-010		0.059	1.5	3.5	12.7	4.76	5.5	0.1		-0.025	+0.025	●	●	●	●				
	150-020		0.059	1.5	3.5	12.7	4.76	5.5	0.2		-0.025	+0.025	●	●	●	●	●	●	●	
	170-020		0.067	1.7	3.5	12.7	4.76	5.5	0.2		-0.025	+0.025	●	●	●	●				
	175-020		0.069	1.75	3.5	12.7	4.76	5.5	0.2		-0.025	+0.025	●	●	●	●	●		●	
	185-020		0.073	1.85	3.5	12.7	4.76	5.5	0.2		-0.025	+0.025	●	●	●	●	●		●	
	195-020		0.077	1.95	3.5	12.7	4.76	5.5	0.2		-0.025	+0.025	●	●		●				
	200-010		0.079	2	3.5	12.7	4.76	5.5	0.1		-0.025	+0.025	●	●	●	●				
	200-020		0.079	2	3.5	12.7	4.76	5.5	0.2		-0.025	+0.025	●	●	●	●	●	●	●	
	225-020		0.089	2.25	3.5	12.7	4.76	5.5	0.2		-0.025	+0.025	●	●	●	●				
	230-020		0.091	2.3	3.5	12.7	4.76	5.5	0.2		-0.025	+0.025	●	●	●	●	●		●	
	250-010		0.098	2.5	5	12.7	4.76	5.5	0.1		-0.025	+0.025	●	●	●	●				*1
	250-030*		0.098	2.5	4	12.7	4.76	5.5	0.3		-0.025	+0.025					●	●	●	*2
					5								●	●	●	●				*1
	265-030*		0.104	2.65	4	12.7	4.76	5.5	0.3		-0.025	+0.025					●		●	*2
					5								●	●	●	●				*1
	280-030*		0.110	2.8	4	12.7	4.76	5.5	0.3		-0.025	+0.025					●		●	*2
					5								●	●	●	●				*1
	300-010		0.118	3	5	12.7	4.76	5.5	0.1		-0.025	+0.025	●	●	●	●				
	300-030*		0.118	3	4	12.7	4.76	5.5	0.3		-0.025	+0.025					●	●	●	*2
					5								●	●	●	●				*1
	325-030		0.128	3.25	5	12.7	4.76	5.5	0.3		-0.025	+0.025	●	●		●				
	330-030*		0.130	3.3	4	12.7	4.76	5.5	0.3		-0.025	+0.025					●		●	*2
					5								●	●	●	●				*1
	350-010		0.138	3.5	5	12.7	4.76	5.5	0.1		-0.025	+0.025	●	●	●	●				KGBAR...4-35 KGBAR...22-35 KGBAR...22-35JCT KGBASL...4-35 KGBASL...22-35 KIGBAL...4 KIGBAL...35
	350-030		0.138	3.5	5	12.7	4.76	5.5	0.3		-0.025	+0.025	●	●	●	●	●		●	
	400-010		0.157	4	5	12.7	4.76	5.5	0.1		-0.025	+0.025	●	●	●	●				
	400-040		0.157	4	5	12.7	4.76	5.5	0.4		-0.025	+0.025	●	●	●	●	●	●	●	
	430-040		0.169	4.3	5	12.7	4.76	5.5	0.4		-0.025	+0.025	●	●	●	●	●		●	
	450-040		0.177	4.5	5	12.7	4.76	5.5	0.4		-0.025	+0.025	●	●	●	●	●		●	
	480-040		0.189	4.8	5	12.7	5	5.5	0.4		-0.025	+0.025	●	●	●	●	●		●	

Right-hand shown
CDX shows available grooving depth.
*CDX dimension is different based on grade.
*1 : KGBAR...4-25, KGBAR...22-25T5, KGBAR...22-25JCT | KGBASL...4-25, KGBASL...22-25T5 | KIGBAL...4, KIGBAL...22
*2 : KGBAR...4-25, KGBAR...22-25, KGBAR...22-25T5, KGBAR...22-25JCT | KGBASL...4-25, KGBASL...22-25, KGBASL...22-25T5 | KIGBAL...4, KIGBAL...22

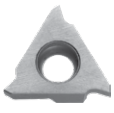
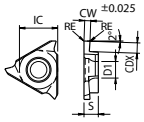
Recommended Cutting Conditions ⇨ G153

● : 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

GBA43

Insert Size	IC		S		D1	
	in	mm	in	mm	in	mm
GBA43...	1/2	12.7	3/16	4.76	0.217	5.5
GBA43L480-...	1/2	12.7	0.197	5.00	0.217	5.5

Carbon Steel / Alloy Steel	●	●	○	◔		●	P
Stainless Steel		●	○	◔			M
Cast Iron	●		◔		◔		K
Non-Ferrous Metals					●		N
Titanium Alloy					●		S
Hard Materials (~ 40HRC)			●				H
Hard Materials (40HRC ~)							

Insert	Part Number	No. of Edges	Dimensions (mm)							Tolerance (mm)		Carbide				Cermet		Applicable Toolholder ➡ G13~G15 G89
			CW		CDX	IC	S	D1	RE	CW min.	CW max.	PVD			-	PVD	-	
			in	mm								PR2015	PR2025	PR1215	PR1625	KW10	PV7040	TN90	
 	GBA43L 125-010	3	0.049	1.25	2	12.7	4.76	5.5	0.1	-0.025	+0.025	●	●	●	●				KGBAL...4-15 KGBAL...22-15 KGBAL...22-15JCT KGBASR...4-15 KGBASR...22-15 KIGBAR...4 KIGBAR...22
	125-020		0.049	1.25	2	12.7	4.76	5.5	0.2	-0.025	+0.025	●	●	●	●	●	●	●	
	140-020		0.055	1.4	3.5	12.7	4.76	5.5	0.2	-0.025	+0.025	●	●	●	●				
	145-020*		0.057	1.45	2	12.7	4.76	5.5	0.2	-0.025	+0.025					●		●	
					3.5							●	●	●	●				
	150-010		0.059	1.5	3.5	12.7	4.76	5.5	0.1	-0.025	+0.025	●	●	●	●				
	150-020		0.059	1.5	3.5	12.7	4.76	5.5	0.2	-0.025	+0.025	●	●	●	●	●	●	●	
	170-020		0.067	1.7	3.5	12.7	4.76	5.5	0.2	-0.025	+0.025	●	●	●	●				
	175-020		0.069	1.75	3.5	12.7	4.76	5.5	0.2	-0.025	+0.025	●	●	●	●	●			
	185-020		0.073	1.85	3.5	12.7	4.76	5.5	0.2	-0.025	+0.025	●	●	●	●	●			
	195-020		0.077	1.95	3.5	12.7	4.76	5.5	0.2	-0.025	+0.025	●	●		●				
	200-010		0.079	2	3.5	12.7	4.76	5.5	0.1	-0.025	+0.025	●	●	●	●				
	200-020		0.079	2	3.5	12.7	4.76	5.5	0.2	-0.025	+0.025	●	●	●	●	●	●	●	
	225-020		0.089	2.25	3.5	12.7	4.76	5.5	0.2	-0.025	+0.025	●	●	●	●				
	230-020		0.091	2.3	3.5	12.7	4.76	5.5	0.2	-0.025	+0.025	●	●	●	●	●		●	
	250-010		0.098	2.5	5	12.7	4.76	5.5	0.1	-0.025	+0.025	●	●	●	●				*3
	250-030*		0.098	2.5	4	12.7	4.76	5.5	0.3	-0.025	+0.025					●	●	●	*4
					5							●	●	●	●				*3
	265-030*		0.104	2.65	4	12.7	4.76	5.5	0.3	-0.025	+0.025					●		●	*4
					5							●	●	●	●				*3
	280-030*		0.110	2.8	4	12.7	4.76	5.5	0.3	-0.025	+0.025					●		●	*4
					5							●	●	●	●				*3
	300-010		0.118	3	5	12.7	4.76	5.5	0.1	-0.025	+0.025	●	●	●	●				
	300-030*		0.118	3	4	12.7	4.76	5.5	0.3	-0.025	+0.025					●	●	●	*4
					5							●	●	●	●				*3
	330-030*		0.130	3.3	4	12.7	4.76	5.5	0.3	-0.025	+0.025					●			*4
					5							●	●	●	●				*3
	350-010		0.138	3.5	5	12.7	4.76	5.5	0.1	-0.025	+0.025	●	●		●				KGBAL...4-35 KGBAL...22-35 KGBAL...22-35JCT KGBASR...4-35 KGBASR...22-35 KIGBAR...4 KIGBAR...35
	350-030		0.138	3.5	5	12.7	4.76	5.5	0.3	-0.025	+0.025	●	●	●	●	●		●	
	400-010		0.157	4	5	12.7	4.76	5.5	0.1	-0.025	+0.025	●	●	●	●				
	400-040		0.157	4	5	12.7	4.76	5.5	0.4	-0.025	+0.025	●	●	●	●	●	●	●	
	430-040		0.169	4.3	5	12.7	4.76	5.5	0.4	-0.025	+0.025	●	●	●	●	●			
	450-040		0.177	4.5	5	12.7	4.76	5.5	0.4	-0.025	+0.025	●	●	●	●	●			
	480-040		0.189	4.8	5	12.7	5	5.5	0.4	-0.025	+0.025	●	●	●	●	●			

Right-hand shown
CDX shows available grooving depth.
*CDX dimension is different based on grade.
*3 : KGBAL...4-25, KGBAL...22-25T5, KGBAL...22-25JCT | KGBASR...4-25, KGBASR...22-25T5 | KIGBAR...4, KIGBAR...22
*4 : KGBAL...4-25, KGBAL...22-25, KGBAL...22-25T5, KGBAL...22-25JCT | KGBASR...4-25, KGBASR...22-25, KGBASR...22-25T5 | KIGBAR...4, KIGBAR...22

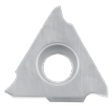
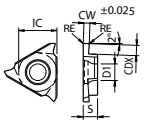
Recommended Cutting Conditions ➡ G153

● : 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

GBA43

Insert Size	IC		S		D1	
	in	mm	in	mm	in	mm
GBA43...	1/2	12.7	3/16	4.76	0.217	5.5
GBA43R480-...	1/2	12.7	0.197	5.00	0.217	5.5

Carbon Steel / Alloy Steel	●	P
Stainless Steel		M
Cast Iron		K
Non-Ferrous Metals		N
Titanium Alloy		S
Hard Materials (~ 40HRC)		H
Hard Materials (40HRC ~)		

Insert	Part Number	No. of Edges	Dimensions (mm)							Tolerance (mm)		Cermet	Applicable Toolholder ⇒ G13~G15 G89
			CW		CDX	IC	S	D1	RE	CW min.	CW max.	-	
			in	mm								TN620	
  Sharp Edge	GBA43R 125-020F	3	0.049	1.25	2	12.7	4.76	5.5	0.2	-0.025	+0.025	●	KGBAR...4-15 KGBAR...22-15 KGBAR...22-15JCT KGBASL...4-15 KGBASL...22-15 KIGBAL...4 KIGBAL...22
	145-020F		0.057	1.45	2		4.76		0.2			●	
	150-020F		0.059	1.5	3.5		4.76		0.2			●	
	175-020F		0.069	1.75	3.5		4.76		0.2			●	
	185-020F		0.073	1.85	3.5		4.76		0.2			●	
	200-020F		0.079	2	3.5		4.76		0.2			●	
	230-020F		0.091	2.3	3.5		4.76		0.2			●	
	250-030F		0.098	2.5	4		4.76		0.3			●	*2
	265-030F		0.104	2.65	4		4.76		0.3			●	
	280-030F		0.110	2.8	4		4.76		0.3			●	
	300-030F		0.118	3	4		4.76		0.3			●	
	330-030F		0.130	3.3	4		4.76		0.3			●	
	350-030F		0.138	3.5	5		4.76		0.3			●	*5
	400-040F		0.157	4	5		4.76		0.4			●	
	430-040F		0.169	4.3	5	12.7	4.76	5.5	0.4	-0.025	+0.025	●	
	450-040F		0.177	4.5	5		4.76		0.4			●	
	480-040F		0.189	4.8	5		5		0.4			●	
	GBA43L 125-020F	3	0.049	1.25	2	12.7	4.76	5.5	0.2	-0.025	+0.025	●	KGBAL...4-15 KGBAL...22-15 KGBAL...22-15JCT KGBASR...4-15 KGBASR...22-15 KIGBAR...4 KIGBAR...22
	145-020F		0.057	1.45	2				0.2			●	
	150-020F		0.059	1.5	3.5				0.2			●	
	175-020F		0.069	1.75	3.5				0.2			●	
	185-020F		0.073	1.85	3.5				0.2			●	
	200-020F		0.079	2	3.5				0.2			●	
	230-020F		0.091	2.3	3.5				0.2			●	
	250-030F		0.098	2.5	4				0.3			●	*4
	265-030F		0.104	2.65	4				0.3			●	
	280-030F		0.110	2.8	4				0.3			●	
	300-030F		0.118	3	4				0.3			●	
	330-030F		0.130	3.3	4				0.3			●	
	350-030F		0.138	3.5	5	12.7	4.76	5.5	0.3	-0.025	+0.025	●	*6
	400-040F		0.157	4	5				0.4			●	

Right-hand shown
CDX shows available grooving depth.

Recommended Cutting Conditions ⇒ G153

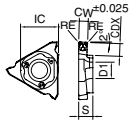
*2 : KGBAR...4-25, KGBAR...22-25, KGBAR...22-25T5, KGBAR...22-25JCT | KGBASL...4-25, KGBASL...22-25, KGBASL...22-25T5 | KIGBAL...4, KIGBAL...22
*4 : KGBAL...4-25, KGBAL...22-25, KGBAL...22-25T5, KGBAL...22-25JCT | KGBASR...4-25, KGBASR...22-25, KGBASR...22-25T5 | KIGBAR...4, KIGBAR...22
*5 : KGBAR...4-35, KGBAR...22-35, KGBAR...22-35JCT | KGBASL...4-35, KGBASL...22-35 | KIGBAL...4, KIGBAL...35
*6 : KGBAL...4-35, KGBAL...22-35, KGBAL...22-35JCT | KGBASR...4-35, KGBASR...22-35 | KIGBAR...4, KIGBAR...35

● : 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

GBA43

Insert Size	IC		S		D1	
	in	mm	in	mm	in	mm
GBA43...	1/2	12.7	3/16	4.76	0.217	5.5

Carbon Steel / Alloy Steel	●	◕	○	◔	●	P
Stainless Steel		◕	○	◔		M
Cast Iron	◕		◔			K
Non-Ferrous Metals						N
Titanium Alloy						S
Hard Materials (~ 40HRC)			●			H
Hard Materials (40HRC ~)						

Insert	Part Number	No. of Edges	Dimensions (mm) CW in	CW mm	CDX	IC	S	D1	RE	Tolerance (mm) CW min.	CW max.	Carbide PVD PR2015	PR2025	PR1215	PR1625	Cermet - TN620	Applicable Toolholder ⇨ G13~G15 G89
	 Molded Chipbreaker	GBA43R 140-010GM	0.055	1.4	3.5	12.7	4.76	5.5	0.1	-0.025	+0.025	●	●	●	●	●	KGBAR...4-15 KGBAR...22-15 KGBAR...22-15JCT KGBASL...4-15 KGBASL...22-15 KIGBAL...4 KIGBAL...22
		150-020GM	0.059	1.5	3.5				0.2			●	●	●	●	●	
		175-020GM	0.069	1.75	3.5				0.2			●	●	●	●	●	
		185-020GM	0.073	1.85	3.5				0.2			●	●	●	●	●	
		200-020GM	0.079	2	3.5				0.2			●	●	●	●	●	
		230-020GM	0.091	2.3	3.5				0.2			●	●	●	●	●	
		250-030GM	0.098	2.5	5	12.7	4.76	5.5	0.3	-0.025	+0.025	●	●	●	●	●	*2
		265-030GM	0.104	2.65	5				0.3			●	●	●	●	●	
		300-030GM	0.118	3	5				0.3			●	●	●	●	●	
		330-030GM	0.130	3.3	5				0.3			●	●	●	●	●	
		350-030GM	0.138	3.5	5	12.7	4.76	5.5	0.3	-0.025	+0.025	●	●	●	●	●	*5
		400-040GM	0.157	4	5				0.4			●	●	●	●	●	
		GBA43L 140-010GM	0.055	1.4	3.5	12.7	4.76	5.5	0.1	-0.025	+0.025	●	●	●	●	●	KGBAL...4-15 KGBAL...22-15 KGBAL...22-15JCT KGBASR...4-15 KGBASR...22-15 KIGBAR...4 KIGBAR...22
		150-020GM	0.059	1.5	3.5				0.2			●	●	●	●	●	
		175-020GM	0.069	1.75	3.5				0.2			●	●	●	●	●	
		185-020GM	0.073	1.85	3.5				0.2			●	●	●	●	●	
		200-020GM	0.079	2	3.5				0.2			●	●	●	●	●	
		230-020GM	0.091	2.3	3.5				0.2			●	●	●	●	●	
		250-030GM	0.098	2.5	5	12.7	4.76	5.5	0.3	-0.025	+0.025	●	●	●	●	●	*4
		265-030GM	0.104	2.65	5				0.3			●	●		●	●	
		300-030GM	0.118	3	5				0.3			●	●	●	●	●	
		330-030GM	0.130	3.3	5				0.3			●	●	●	●	●	
		350-030GM	0.138	3.5	5	12.7	4.76	5.5	0.3	-0.025	+0.025	●	●	●	●	●	*6
		400-040GM	0.157	4	5				0.4			●	●	●	●	●	

Right-hand shown
CDX shows available grooving depth.

Recommended Cutting Conditions ⇨ G153

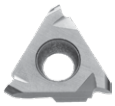
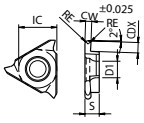
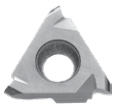
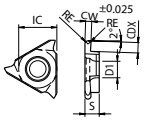
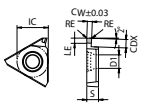
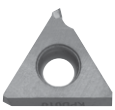
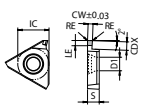
*2 : KGBAR...4-25, KGBAR...22-25, KGBAR...22-25T5, KGBAR...22-25JCT | KGBASL...4-25, KGBASL...22-25, KGBASL...22-25T5 | KIGBAL...4, KIGBAL...22
*4 : KGBAL...4-25, KGBAL...22-25, KGBAL...22-25T5, KGBAL...22-25JCT | KGBASR...4-25, KGBASR...22-25, KGBASR...22-25T5 | KIGBAR...4, KIGBAR...22
*5 : KGBAR...4-35, KGBAR...22-35, KGBAR...22-35JCT | KGBASL...4-35, KGBASL...22-35 | KIGBAL...4, KIGBAL...35
*6 : KGBAL...4-35, KGBAL...22-35, KGBAL...22-35JCT | KGBASR...4-35, KGBASR...22-35 | KIGBAR...4, KIGBAR...35

● : 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

GBA43

Insert Size	IC		S		D1	
	in	mm	in	mm	in	mm
GBA43...	1/2	12.7	3/16	4.76	0.217	5.5

Carbon Steel / Alloy Steel	P
Stainless Steel	M
Cast Iron	K
Non-Ferrous Metals	N
Titanium Alloy	S
Hard Materials (~ 40HRC)	H
Hard Materials (40HRC ~)	H

Insert		Part Number	No. of Edges	Dimensions (mm)								Tolerance (mm)		Carbide								Cermet			CBN		PCD		Applicable Toolholder G13~G15 G89
				CW		CDX	IC	S	D1	RE	LE	CW min.	CW max.	PVD				-				PVD	-		-		-		
				in	mm									PR2015	PR2025	PR1215	PR1625	KW10				PV7040	TN620	TN90	KBN510	KBN525	KPD001	KPD010	
	 Full R	GBA43R 100-050R	3	0.039	1	2	12.7	4.76	5.5	0.5	-	-0.025	+0.025	●	●	●	●	●				●		●					*1
		150-075R		0.059	1.5	3.5				0.75				●	●	●	●	●				●		●					
		200-100R		0.079	2	3.5				1				●	●	●	●	●				●							
		250-125R		0.098	2.5	4				1.25				●	●	●	●	●						●					*3
		300-150R		0.118	3	4				1.5				●	●	●	●	●						●					
		400-200R		0.157	4	5				2				●	●	●	●	●						●					*5
		GBA43L 100-050R	3	0.039	1	2	12.7	4.76	5.5	0.5	-	-0.025	+0.025	●	●	●	●	●				●		●					*2
		150-075R		0.059	1.5	3.5				0.75				●	●	●	●	●				●		●					
		200-100R		0.079	2	3.5				1				●	●	●	●	●				●							
		250-125R		0.098	2.5	4				1.25				●	●	●	●	●											*4
		300-150R		0.118	3	4				1.5				●	●	●	●	●						●					
		400-200R		0.157	4	5				2				●	●	●	●	●											*6
	 Full R / Sharp Edge	GBA43R 100-050RF	3	0.039	1	2	12.7	4.76	5.5	0.5	-	-0.025	+0.025							●									*1
		150-075RF		0.059	1.5	3.5				0.75										●									
		200-100RF		0.079	2	3.5				1										●									
		250-125RF		0.098	2.5	4				1.25										●									*3
		300-150RF		0.118	3	4				1.5										●									
		400-200RF		0.157	4	5				2										●									*5
		GBA43L 100-050RF	3	0.039	1	2	12.7	4.76	5.5	0.5	-	-0.025	+0.025							●									*2
		150-075RF		0.059	1.5	3.5				0.75										●									
		200-100RF		0.079	2	3.5				1										●									
		250-125RF		0.098	2.5	4				1.25										●									*4
		300-150RF		0.118	3	4				1.5										●									
	 1-edge	GBA43R 125-020	1	0.049	1.25	2	12.7	4.76	5.5	0.2	1.9	-0.03	+0.03												●	●			*1
		150-020		0.059	1.5	3.5																			●	●			
		200-020		0.079	2	3.5																			●	●			
		250-020		0.098	2.5	4																			●	●			*3
		300-020		0.118	3	4																			●	●			
		GBA43L 125-020	1	0.049	1.25	2	12.7	4.76	5.5	0.2	1.9	-0.03	+0.03												●				*2
		150-020		0.059	1.5	3.5																			●	●			
		200-020		0.079	2	3.5																			●	●			
		250-020		0.098	2.5	4																				●			*4
		300-020		0.118	3	4																				●			
	 1-edge	GBA43R 125-010	1	0.049	1.25	2	12.7	4.76	5.5	0.1	1.9	-0.03	+0.03															●	*1
		150-010		0.059	1.5	3.5																					●	●	
		200-010		0.079	2	3.5																					●	●	
		250-010		0.098	2.5	4																					●	●	*3
		300-010		0.118	3	4																					●	●	
		GBA43L 125-010	1	0.049	1.25	2	12.7	4.76	5.5	0.1	1.9	-0.03	+0.03															●	*2
		150-010		0.059	1.5	3.5																					●	●	
		200-010		0.079	2	3.5																					●	●	
		250-010		0.098	2.5	4																					●	●	*4
		300-010		0.118	3	4																					●		

Right-hand shown
CDX shows available grooving depth.

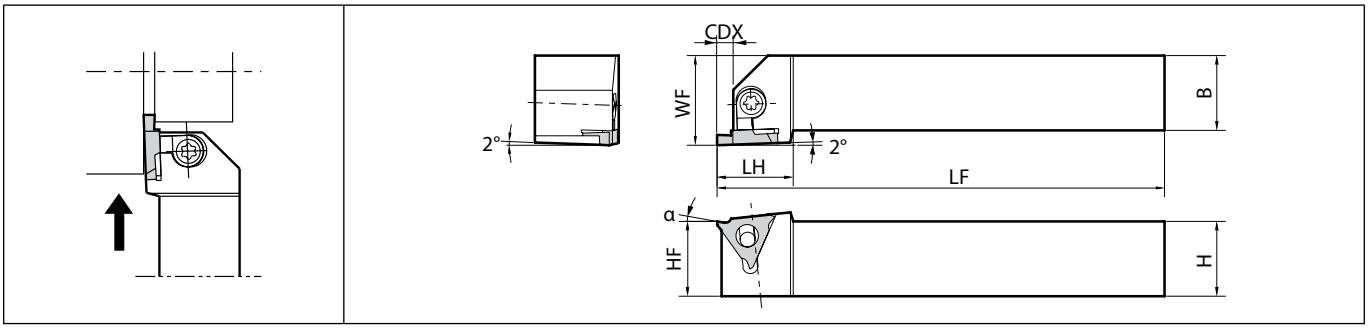
Recommended Cutting Conditions G153

*1 : KGBAR...4-15, KGBAR...22-15, KGBAR...22-15JCT | KGBASL...4-15, KGBASL...22-15 | KIGBAL...4, KIGBAL...22
*2 : KGBAL...4-15, KGBAL...22-15, KGBAL...22-15JCT | KGBASR...4-15, KGBASR...22-15 | KIGBAR...4, KIGBAR...22
*3 : KGBAR...4-25, KGBAR...22-25, KGBAR...22-25T5, KGBAR...22-25JCT | KGBASL...4-25, KGBASL...22-25, KGBASL...22-25T5 | KIGBAL...4, KIGBAL...22
*4 : KGBAL...4-25, KGBAL...22-25, KGBAL...22-25T5, KGBAL...22-25JCT | KGBASR...4-25, KGBASR...22-25, KGBASR...22-25T5 | KIGBAR...4, KIGBAR...22
*5 : KGBAR...4-35, KGBAR...22-35, KGBAR...22-35JCT | KGBASL...4-35, KGBASL...22-35 | KIGBAL...4, KIGBAL...35
*6 : KGBAL...4-35, KGBAL...22-35, KGBAL...22-35JCT | KGBASR...4-35, KGBASR...22-35 | KIGBAR...4, KIGBAR...35

CBN & PCD Inserts are sold in 1 piece boxes

● : 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

KGBA (External Grooving / Shallow Grooving)



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

Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	CDX	H	B	LH	HF	LF	WF	Spare Parts: Clamp Set	Spare Parts: Wrench	Applicable Inserts ➡ G6~G12
Inch	KGBA R/L 12-3	●	●	0.098	0.750	0.750	0.945	0.750	5.000	1.000	LGBA-16 R/L S	FT-15	GBA32 R/L
	16-3	●	●		1.000	1.000		1.000	6.000	1.250			
	KGBA R/L 12-4-15	●	●	0.157	0.750	0.750	1.004	0.750	5.000	1.000	LGBA-22 R/L S	FT-15	GBA43 R/L
	12-4-25	●	●	0.177									
	12-4-35	●	●	0.217									
	16-4-15	●	●	0.157	1.000	1.000		1.000	6.000	1.250			
	16-4-25	●	●	0.177									
	16-4-35	●	●	0.217									
mm	KGBA R/L 2020K-16	●	●	2.5	20	20	24	20	125	25	LGBA-16 R/L S	FT-15	GBA32 R/L
	2525M-16	●	●		25	25		25	150	30			
	KGBA R/L 2020H22-15	●		4	20	20	25.5	20	100	25	LGBA-22RS	FT-15	GBA43 R/L
	2020H22-25	●		4.5									
	2020H22-35	●		5.5									
	2020K22-15	●	●	4					125		LGBA-22 R/L S		
	2020K22-25	●	●	4.5									
	2020K22-25T5	●	●	5.5									
	2020K22-35	●	●										
	2525M22-15	●	●	4	25	25		25	150	30			
	2525M22-25	●	●	4.5									
	2525M22-25T5	●	●	5.5									
	2525M22-35	●	●										

CDX shows the distance from the toolholder to the cutting edge. Available Groove Depth : "CDX" of Insert.
Clamp Set : LGBA-OORS for Right-hand Toolholder and LGBA-OOLS for Left-hand Toolholder.

Rake Angle (α) after Installment of GBA insert

GBA32 R/L OOO-OOO		GBA43 R/L OOO-OOO		GBA43 R/L OOO-OOOR (Full-R)		
α	Insert Grades	α	Insert Grades	α	Insert Grades	Full-R Part Number
10°	TN620, TN90, PV7040 PR2015, PR2025, PR1625, PR1215 KPD001, KPD010	0°	KBN510, KBN525	10°	TN620, TN90, PV7040 PR2015, PR2025, PR1625, PR1215	050R~150R
		10°	TN620, TN90, PV7040 PR2015, PR2025, PR1625, PR1215 KPD001, KPD010	14°	TN620, TN90, PV7040 PR2015, PR2025, PR1625, PR1215	200R
20°	KW10				KW10	050R~200R
		20°	KW10			

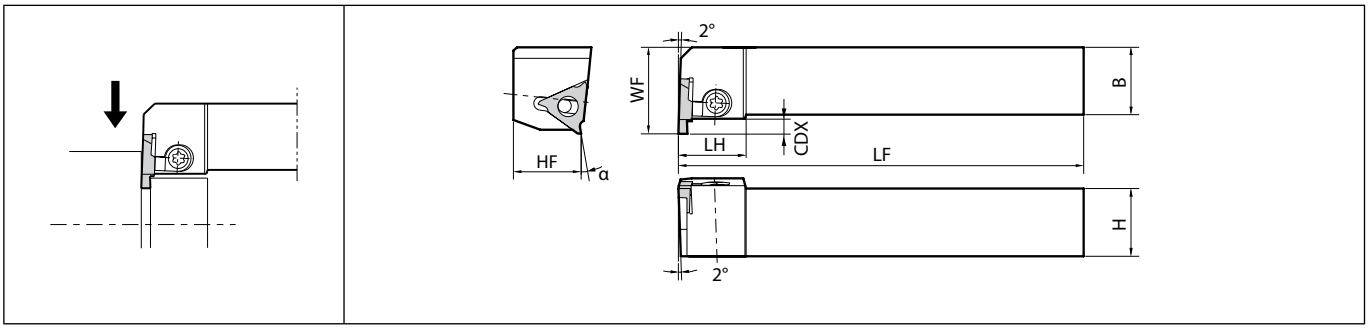
Rake Angle (α) after Installment of GBA-GM insert

α	Insert Part Number
10°	GBA43 R/L 150-020GM
15°	GBA43 R/L 175-020GM ≀ GBA43 R/L 265-030GM
12°	GBA43 R/L 300-030GM ≀ GBA43 R/L 400-040GM

α indicates the rake angle at the center of the edge width, after installing insert.

● : 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

KGBAS (External Grooving / Shallow Grooving)



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

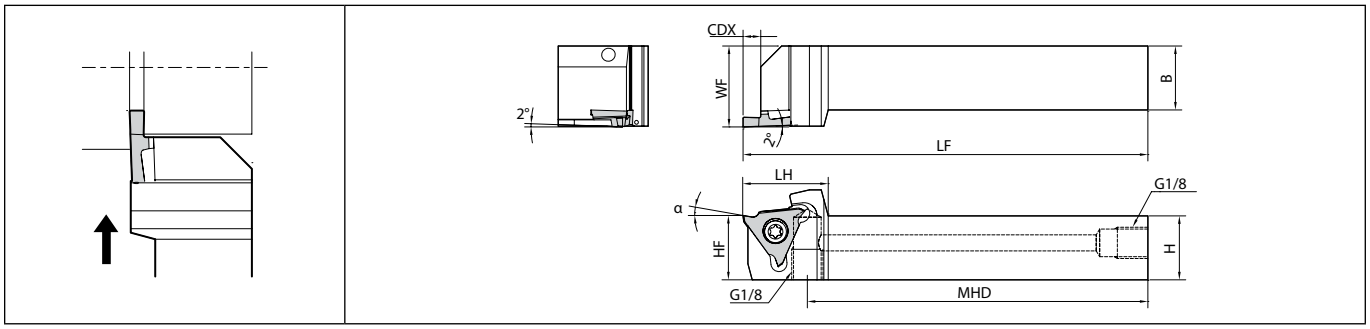
Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	Dimensions CDX	H	B	LH	HF	LF	WF	Spare Parts: Clamp Set	Spare Parts: Wrench	Applicable Inserts G6~G12
Inch	KGBASR 12-3	●		0.098	0.750	0.750	0.984	0.750	5.000	0.984	LGBA-16LS	FT-15	GBA32L
	16-3	●			1.000	1.000		1.000	6.000	1.181			
	KGBASR 12-4-15	●		0.157	0.750	0.750	0.984	0.750	5.000	1.062	LGBA-22LS	FT-15	GBA43L
	12-4-25	●		0.177									
	12-4-35	●		0.217									
	16-4-15	●		0.157	1.000	1.000		1.000	6.000	1.260			
	16-4-25	●		0.177						1.250			
	16-4-35	●		0.217						1.260			
mm	KGBASR/L 2020K-16	●	●	2.5	20	20	25	20	125	25	LGBA-16L/RS	FT-15	GBA32L/R
	2525M-16	●	●		25	25		25	150	30			
	KGBASR/L 2020K22-15	●	●	4	20	20	25	20	125	27	LGBA-22L/RS	FT-15	GBA43L/R
	2020K22-25	●	●	4.5									
	2020K22-25T5	●	●	5.5									
	2020K22-35	●	●										
	2525M22-15	●	●	4	25	25		25	150	32			
	2525M22-25	●	●	4.5									
	2525M22-25T5	●	●	5.5									
	2525M22-35	●	●										

CDX shows the distance from the toolholder to the cutting edge. Available Groove Depth : "CDX" of Insert.
See Page **G13** for Rake Angle (α) after Installment of Insert.
Clamp Set : LGBA-OOLS for Right-hand Toolholder and LGBA-OORS for Left-hand Toolholder.

● : 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

KGBA-JCT (External Grooving / Shallow Grooving, Coolant-Through Toolholder)



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

Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	CDX	H	B	LH	MHD	HF	LF	WF	Coolant Hole	Spare Parts: Plug	Spare Parts: Screw	Spare Parts: Wrench	Spare Parts: Wrench	Applicable Inserts
																	☛ G6~G12
mm	KGBA□□ 2020K-16JCT	●	●	2.5	20	20	24	107.5	20	125	25	Yes	HSG1/8X8.0	SB-4085TR	FT-15	-	GBA32□□
	2525K-16JCT	●	●		25	25			25		30						
	KGBA□□ 2020K22-15JCT	●	●	4	20	20	26.5	105	20	125	25	Yes	HSG1/8X8.0	SB-5085TR	-	LTW-20	GBA43□□
	2020K22-25JCT	●	●	5.5													
	2020K22-35JCT	●	●														
	2525K22-15JCT	●	●	4	25	25			25		30						
	2525K22-25JCT	●	●	5.5													
	2525K22-35JCT	●	●														

CDX shows the distance from the toolholder to the cutting edge. Available Groove Depth : "CDX" of Insert.
See Page **G13** for Rake Angle (α) after Installment of Insert.
KGBA-JCT toolholder is screw clamp type.
Please see page **H16** and **H17** for piping parts of coolant-through holders.

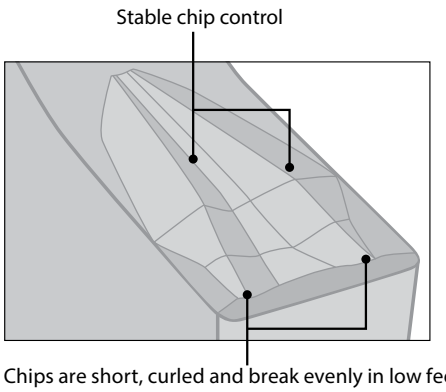
● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

GBF (for Small Parts)

High precision with edge width tolerance of ±0.02 mm
High efficiency MEGACOAT coating technology for long tool life

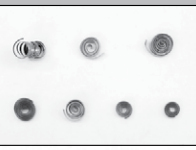
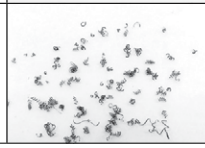
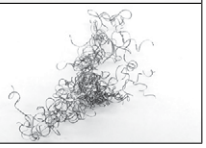
1 Stable chip control with GL chipbreaker

GL Chipbreaker controls chips stable at both grooving and turning.
(Turning is not recommended for GBF32R075-005GL)



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

Chip control comparison (internal evaluation)

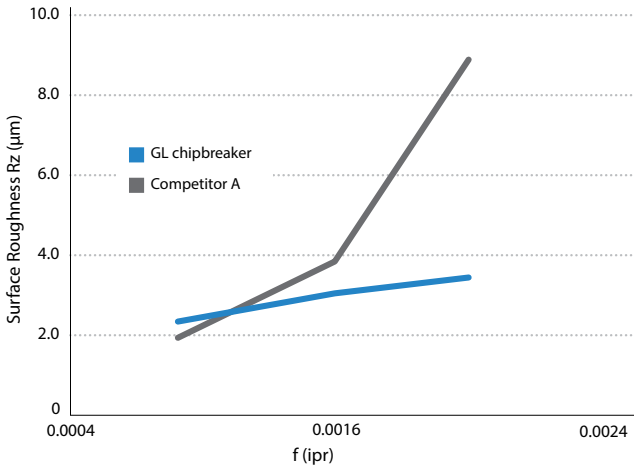
	GL chipbreaker	Competitor A
Grooving f = 0.0020 ipr d = 0.059"		
Turning f = 0.0016 ipr D.O.C. = 0.008"		

Cutting conditions: VVc = 260 sfm, Edge Width 0.039" (1mm)
Workpiece material : 304

2 Good surface finish

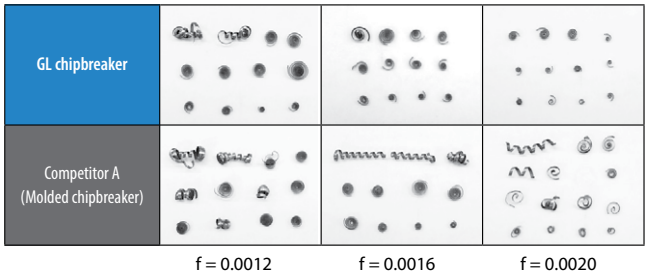
GL chipbreaker controls chips stable at high feed machining,
Good surface finish of side wall

Surface finish comparison (internal evaluation)



Cutting conditions: Vc = 260 sfm, d = 0.059", f = 0.001~0.002 ipr, Edge Width 0.039" (1mm)
Workpiece material : Chromium Steel

Chip control comparison (internal evaluation)



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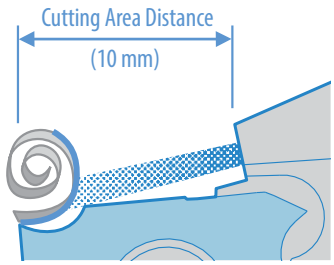
KGBF-JCTM (for Small Parts)

Discharges coolant from the top of the insert



Coolant Hole

Coolant Hole discharges coolant to the cutting edge and prevents coolant stream spreading which slows the coolant flow

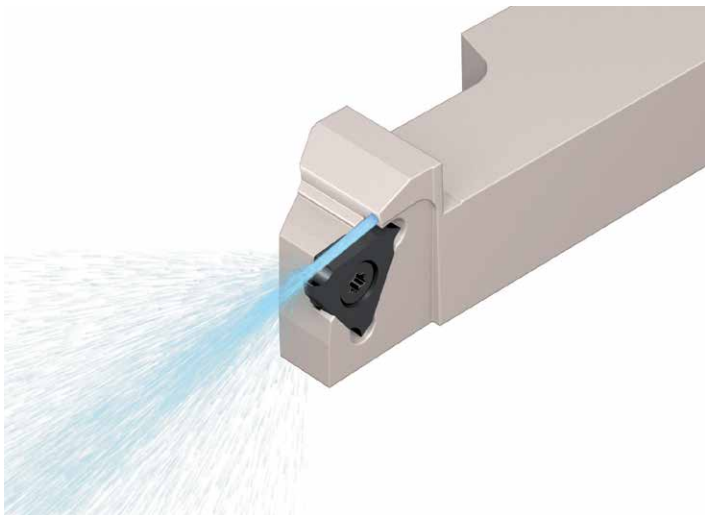
Coolant Direction

Sufficient coolant between the chipbreaker and the chips to provide stable chip curls and sufficient cooling of the insert

1 Excellent chip control

2 Superior cooling action improves tool life

External Grooving KGBF-JCTM



Discharges coolant from the top of the insert to deliver superior chip control and longer tool life

Edge Width : 0.041"-0.094" / 0.25mm-3.00mm

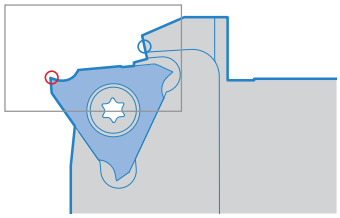
Ground Chipbreaker / Molded GL Chipbreaker

Maximum groove depth : 0.079 / 3mm

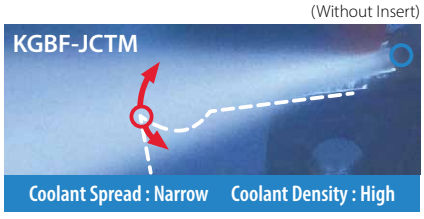
Coolant Discharging Comparison (Internal Evaluation)

Small chips and better cooling of the insert leads to longer tool life

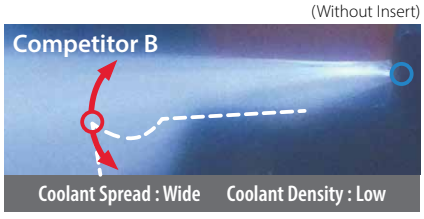
○ Cutting Edge
○ Coolant Hole



(Without Insert)



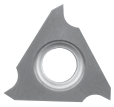
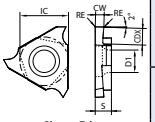
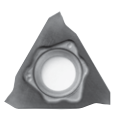
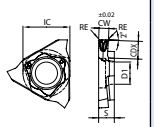
(Without Insert)



GBF

Insert Size	IC		S		D1	
	in	mm	in	mm	in	mm
GBF32...	3/8	9.525	1/8	3.18	0.173	4.4

Carbon Steel / Alloy Steel	●	◔		P
Stainless Steel	○	●		M
Cast Iron			●	K
Non-Ferrous Metals			●	N
Titanium Alloy		●	◔	S
Hard Materials (~ 40HRC)				H
Hard Materials (40HRC ~)				

Insert		Part Number		No. of Edges	Dimensions (mm)							Tolerance (mm)		Carbide			Applicable Toolholder ➡ G21~G24
					CW		CDX	IC	S	D1	RE	CW min.	CW max.	PVD		-	
					in	mm								PR1215	PR1535	GW15	
	 Sharp Edge	GBF32R	025-000F	3	0.010	0.25	0.6	9.525	3.18	4.4	0	-0.02	+0.02	●	●	●	KGBFR...-16F KGBFR...-3... KGBFR...-16FJCTM KGBFSL...-16 S...KGBFL16
			030-000F		0.012	0.3	0.8					-0.02	+0.02	●	●	●	
			033-000F		0.013	0.33	0.8					-0.025	+0.015	●	●	●	
			043-000F		0.017	0.43	1					-0.025	+0.015	●	●	●	
			050-000F		0.020	0.5	1.2					-0.02	+0.02	●	●	●	
			053-000F		0.021	0.53	1.2					-0.025	+0.015	●	●	●	
			065-000F		0.026	0.65	1.2					-0.02	+0.02	●	●	●	
			075-000F		0.030	0.75	2					-0.02	+0.02	●	●	●	
			080-000F		0.031	0.8	2					-0.02	+0.02	●	●	●	
			095-000F		0.037	0.95	2					-0.02	+0.02	●	●	●	
			100-000F		0.039	1	2					-0.02	+0.02	●	●	●	
			110-000F		0.043	1.1	2					-0.02	+0.02	●	●	●	
			120-000F		0.047	1.2	2					-0.02	+0.02	●	●	●	
			125-000F		0.049	1.25	2					-0.02	+0.02	●	●	●	
			130-000F		0.051	1.3	2					-0.02	+0.02	●	●	●	
			140-000F		0.055	1.4	2.7					-0.02	+0.02	●	●	●	
			145-000F		0.057	1.45	2.7					-0.02	+0.02	●	●	●	
			150-000F		0.059	1.5	2.7					-0.02	+0.02	●	●	●	
			165-000F		0.065	1.65	2.7					-0.02	+0.02	●	●	●	
			170-000F		0.067	1.7	3					-0.02	+0.02	●	●	●	
			175-000F		0.069	1.75	3					-0.02	+0.02	●	●	●	
			200-000F		0.079	2	3					-0.02	+0.02	●	●	●	
		GBF32L	025-000F	3	0.010	0.25	0.6	9.525	3.18	4.4	0	-0.02	+0.02	●	●	●	KGBFL...-16F KGBFL...-3... KGBFSR...-16
			030-000F		0.012	0.3	0.8					-0.02	+0.02	●	●	●	
			033-000F		0.013	0.33	0.8					-0.025	+0.015	●	●	●	
			043-000F		0.017	0.43	1					-0.025	+0.015	●	●	●	
			050-000F		0.020	0.5	1.2					-0.02	+0.02	●	●	●	
			053-000F		0.021	0.53	1.2					-0.025	+0.015	●	●	●	
			065-000F		0.026	0.65	1.2					-0.02	+0.02	●	●	●	
			075-000F		0.030	0.75	2					-0.02	+0.02	●	●	●	
			080-000F		0.031	0.8	2					-0.02	+0.02	●	●	●	
			095-000F		0.037	0.95	2					-0.02	+0.02	●	●	●	
			100-000F		0.039	1	2					-0.02	+0.02	●	●	●	
			110-000F		0.043	1.1	2					-0.02	+0.02	●	●	●	
			120-000F		0.047	1.2	2					-0.02	+0.02	●	●	●	
			125-000F		0.049	1.25	2					-0.02	+0.02	●	●	●	
			130-000F		0.051	1.3	2					-0.02	+0.02	●	●	●	
			140-000F		0.055	1.4	2.7					-0.02	+0.02	●	●	●	
			145-000F		0.057	1.45	2.7					-0.02	+0.02	●	●	●	
			150-000F		0.059	1.5	2.7					-0.02	+0.02	●	●	●	
			165-000F		0.065	1.65	2.7					-0.02	+0.02	●	●	●	
			170-000F		0.067	1.7	3					-0.02	+0.02	●	●	●	
			175-000F		0.069	1.75	3					-0.02	+0.02	●	●	●	
			200-000F		0.079	2	3					-0.02	+0.02	●	●	●	
	 Molded Chipbreaker	GBF32R	075-005GL	3	0.030	0.75	2	9.525	3.18	4.4	0.05	-0.02	+0.02	●	●		KGBFR...-16F KGBFR...-3... KGBFR...-16FJCTM KGBFSL...-16 S...KGBFL16
			095-005GL		0.037	0.95	2				0.05	-0.02	+0.02	●	●		
			100-005GL		0.039	1	2				0.05	-0.02	+0.02	●	●		
			150-010GL		0.059	1.5	2.7				0.1	-0.02	+0.02	●	●		
			200-010GL		0.079	2	3				0.1	-0.02	+0.02	●	●		
			300-010GL		0.118	3	3				0.1	-0.02	+0.02	●	●		

Right-hand shown
Max. Cutting Dia. : See Page **G25**

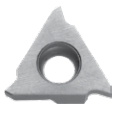
Recommended Cutting Conditions ➡ **G154**

● : 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

GBF

Insert Size	IC		S		D1	
	in	mm	in	mm	in	mm
GBF32...	3/8	9.525	1/8	3.18	0.173	4.4

Carbon Steel / Alloy Steel	●	◌		P
Stainless Steel	○	●		M
Cast Iron			●	K
Non-Ferrous Metals			●	N
Titanium Alloy		●	◌	S
Hard Materials (~ 40HRC)				H
Hard Materials (40HRC ~)				

Insert	Part Number	No. of Edges	Dimensions (mm)							Tolerance (mm)		Carbide			Applicable Toolholder ➡ G21~G24
			CW		CDX	IC	S	D1	RE	CW min.	CW max.	PVD		-	
			in	mm								PR1215	PR1535	GW15	
	GBF32R 025-005		0.010	0.25	0.6				0.05	-0.02	+0.02	●	●	●	
	030-005		0.012	0.3	0.8				0.05	-0.02	+0.02	●	●	●	
	033-005		0.013	0.33	0.8				0.05	-0.025	+0.015	●	●	●	
	043-005		0.017	0.43	1				0.05	-0.025	+0.015	●	●	●	
	050-005		0.020	0.5	1.2				0.05	-0.02	+0.02	●	●	●	
	053-005		0.021	0.53	1.2				0.05	-0.025	+0.015	●	●	●	
	065-005		0.026	0.65	1.2				0.05	-0.02	+0.02	●	●	●	
	075-005		0.030	0.75	2				0.05	-0.02	+0.02	●	●	●	
	075-010		0.030	0.75	2				0.1	-0.02	+0.02	●	●	●	
	080-005		0.031	0.8	2				0.05	-0.02	+0.02	●	●	●	
	080-010		0.031	0.8	2				0.1	-0.02	+0.02	●	●	●	
	095-005		0.037	0.95	2				0.05	-0.02	+0.02	●	●	●	
	095-010		0.037	0.95	2				0.1	-0.02	+0.02	●	●	●	
	100-005		0.039	1	2				0.05	-0.02	+0.02	●	●	●	
	100-010		0.039	1	2				0.1	-0.02	+0.02	●	●	●	
	041N		0.041	1.05	1				0.05	-0.03	+0.03	●	●	●	
	110-005		0.043	1.1	2				0.05	-0.02	+0.02	●	●	●	
	110-010		0.043	1.1	2				0.1	-0.02	+0.02	●	●	●	
	120-005		0.047	1.2	2				0.05	-0.02	+0.02	●	●	●	
	120-010		0.047	1.2	2				0.1	-0.02	+0.02	●	●	●	
	125-005		0.049	1.25	2				0.05	-0.02	+0.02	●	●	●	
	125-010		0.049	1.25	2				0.1	-0.02	+0.02	●	●	●	KGBFR...-16F
	130-005		0.051	1.3	2				0.05	-0.02	+0.02	●	●	●	KGBFR...-3...
	130-010	3	0.051	1.3	2	9.525	3.18	4.4	0.1	-0.02	+0.02	●	●	●	KGBFR...-16FJCTM
	140-005		0.055	1.4	2.7				0.05	-0.02	+0.02	●	●	●	KGBFSL...-16
	140-010		0.055	1.4	2.7				0.1	-0.02	+0.02	●	●	●	S...KGBFL16
	145-005		0.057	1.45	2.7				0.05	-0.02	+0.02	●	●	●	
	145-010		0.057	1.45	2.7				0.1	-0.02	+0.02	●	●	●	
	058N		0.058	1.47	1.2				0.1	-0.03	+0.03	●	●	●	
	150-005		0.059	1.5	2.7				0.05	-0.02	+0.02	●	●	●	
	150-010		0.059	1.5	2.7				0.1	-0.02	+0.02	●	●	●	
	062N		0.062	1.57	1.2				0.1	-0.03	+0.03	●	●	●	
	165-005		0.065	1.65	2.7				0.05	-0.02	+0.02	●	●	●	
	165-010		0.065	1.65	2.7				0.1	-0.02	+0.02	●	●	●	
	170-005		0.067	1.7	3				0.05	-0.02	+0.02	●	●	●	
	170-010		0.067	1.7	3				0.1	-0.02	+0.02	●	●	●	
	175-005		0.069	1.75	3				0.05	-0.02	+0.02	●	●	●	
	175-010		0.069	1.75	3				0.1	-0.02	+0.02	●	●	●	
	200-005		0.079	2	3				0.05	-0.02	+0.02	●	●	●	
	200-010		0.079	2	3				0.1	-0.02	+0.02	●	●	●	
	225-005		0.089	2.25	3				0.05	-0.02	+0.02	●	●	●	
	225-010		0.089	2.25	3				0.1	-0.02	+0.02	●	●	●	
	094N		0.094	2.39	2				0.1	-0.03	+0.03	●	●	●	
	250-005		0.098	2.5	3				0.05	-0.02	+0.02	●	●	●	
	250-010		0.098	2.5	3				0.1	-0.02	+0.02	●	●	●	
	300-005		0.118	3	3				0.05	-0.02	+0.02	●	●	●	
	300-010		0.118	3	3				0.1	-0.02	+0.02	●	●	●	

Right-hand shown
Max. Cutting Dia. : See Page **G25**

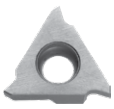
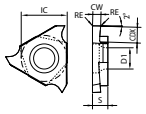
Recommended Cutting Conditions ➡ **G154**

● : 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

GBF

Insert Size	IC		S		D1	
	in	mm	in	mm	in	mm
GBF32...	3/8	9.525	1/8	3.18	0.173	4.4

Carbon Steel / Alloy Steel	●	◔		P
Stainless Steel	○	●		M
Cast Iron			●	K
Non-Ferrous Metals			●	N
Titanium Alloy		●	◔	S
Hard Materials (~ 40HRC)				H
Hard Materials (40HRC ~)				

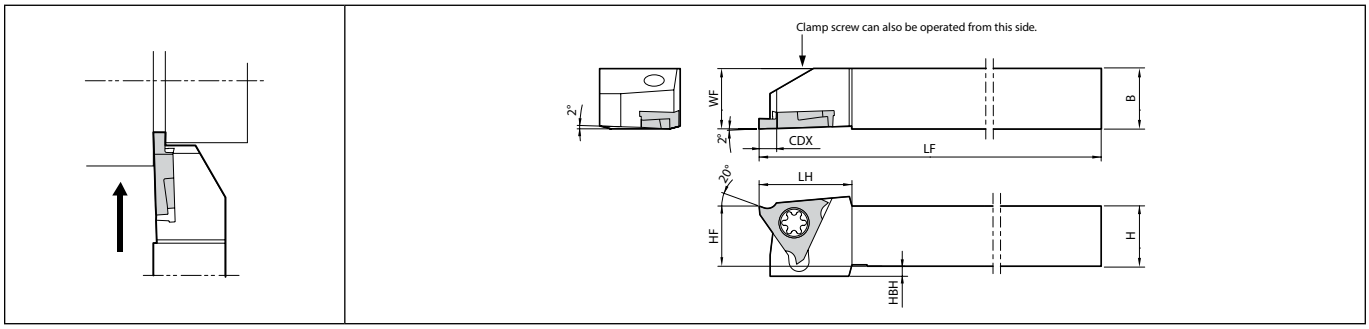
Insert	Part Number	No. of Edges	Dimensions (mm)							Tolerance (mm)		Carbide			Applicable Toolholder
			CW		CDX	IC	S	D1	RE	CW min.	CW max.	PVD		-	
			in	mm								PR1215	PR1535	GW15	G21, G23
 	GBF32L 025-005	3	0.010	0.25	0.6	9.525	3.18	4.4	0.05	-0.02	+0.02	●	●	●	KGBFL...-16F KGBFL...-3... KGBFSR...-16
	030-005		0.012	0.3	0.8				0.05	-0.02	+0.02	●	●	●	
	033-005		0.013	0.33	0.8				0.05	-0.025	+0.015	●	●	●	
	043-005		0.017	0.43	1				0.05	-0.025	+0.015	●	●	●	
	050-005		0.020	0.5	1.2				0.05	-0.02	+0.02	●	●	●	
	053-005		0.021	0.53	1.2				0.05	-0.025	+0.015	●	●	●	
	065-005		0.026	0.65	1.2				0.05	-0.02	+0.02	●	●	●	
	075-005		0.030	0.75	2				0.05	-0.02	+0.02	●	●	●	
	075-010		0.030	0.75	2				0.1	-0.02	+0.02	●	●	●	
	080-005		0.031	0.8	2				0.05	-0.02	+0.02	●	●	●	
	080-010		0.031	0.8	2				0.1	-0.02	+0.02	●	●	●	
	095-005		0.037	0.95	2				0.05	-0.02	+0.02	●	●	●	
	095-010		0.037	0.95	2				0.1	-0.02	+0.02	●	●	●	
	100-005		0.039	1	2				0.05	-0.02	+0.02	●	●	●	
	100-010		0.039	1	2				0.1	-0.02	+0.02	●	●	●	
	041N		0.041	1.05	1				0.05	-0.03	+0.03	●	●	●	
	110-005		0.043	1.1	2				0.05	-0.02	+0.02	●	●	●	
	110-010		0.043	1.1	2				0.1	-0.02	+0.02	●	●	●	
	120-005		0.047	1.2	2				0.05	-0.02	+0.02	●	●	●	
	120-010		0.047	1.2	2				0.1	-0.02	+0.02	●	●	●	
	125-005		0.049	1.25	2				0.05	-0.02	+0.02	●	●	●	
	125-010		0.049	1.25	2				0.1	-0.02	+0.02	●	●	●	
	130-005		0.051	1.3	2				0.05	-0.02	+0.02	●	●	●	
	130-010		0.051	1.3	2				0.1	-0.02	+0.02	●	●	●	
	140-005		0.055	1.4	2.7				0.05	-0.02	+0.02	●	●	●	
	140-010		0.055	1.4	2.7				0.1	-0.02	+0.02	●	●	●	
	145-005		0.057	1.45	2.7				0.05	-0.02	+0.02	●	●	●	
	145-010		0.057	1.45	2.7				0.1	-0.02	+0.02	●	●	●	
	058N		0.058	1.47	1.2				0.1	-0.03	+0.03	●	●	●	
	150-005		0.059	1.5	2.7				0.05	-0.02	+0.02	●	●	●	
	150-010		0.059	1.5	2.7				0.1	-0.02	+0.02	●	●	●	
	062N		0.062	1.57	1.2				0.1	-0.03	+0.03	●	●	●	
	165-005		0.065	1.65	2.7				0.05	-0.02	+0.02	●	●	●	
	165-010		0.065	1.65	2.7				0.1	-0.02	+0.02	●	●	●	
	170-005		0.067	1.7	3				0.05	-0.02	+0.02	●	●	●	
	170-010		0.067	1.7	3				0.1	-0.02	+0.02	●	●	●	
	175-005		0.069	1.75	3				0.05	-0.02	+0.02	●	●	●	
	175-010		0.069	1.75	3				0.1	-0.02	+0.02	●	●	●	
	200-005		0.079	2	3				0.05	-0.02	+0.02	●	●	●	
	200-010		0.079	2	3				0.1	-0.02	+0.02	●	●	●	
	225-005		0.089	2.25	3				0.05	-0.02	+0.02	●	●	●	
	225-010		0.089	2.25	3				0.1	-0.02	+0.02	●	●	●	
	094N		0.094	2.39	2				0.1	-0.03	+0.03	●	●	●	
	250-005		0.098	2.5	3				0.05	-0.02	+0.02	●	●	●	
	250-010		0.098	2.5	3				0.1	-0.02	+0.02	●	●	●	
	300-005		0.118	3	3				0.05	-0.02	+0.02	●	●	●	
	300-010		0.118	3	3				0.1	-0.02	+0.02	●	●	●	

Right-hand shown
Max. Cutting Dia. : See Page **G25**

Recommended Cutting Conditions **G154**

● : 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

KGBF-F (External Grooving / Shallow Grooving)



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

Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions								Spare Parts		Applicable Inserts ⇨ G18~G20
		R	L	CDX	H	B	LH	HF	HBH	LF	WF	Screw	Wrench	
Inch	KGBF□ 6-3JXF	●	●	0.118	0.375	0.375	0.728	0.375	0.157	4.750	0.375	SB-4070TRW	FT-8	GBF32□
	8-3JXF	●	●		0.500	0.500		0.500	0.079		0.500			
	10-3JXF	●	●		0.625	0.625		0.625	-		0.625			
mm	KGBF□ 1010JX-16F	●	●	3	10	10	18.5	10	4	120	10	SB-4070TRW	FT-8	GBF32□
	1212JX-16F	●	●		12	12		12	2		12			
	1616JX-16F	●	●		16	16		16	-		16			
	2020JX-16F	●	●		20	20		20			20			

CDX shows the distance from the toolholder to the cutting edge. Available Groove Depth : "CDX" of Insert.

● : 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

KGBF-JCTM (External Grooving / Shallow Grooving, Coolant-Through Toolholder)

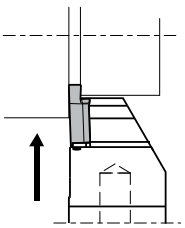
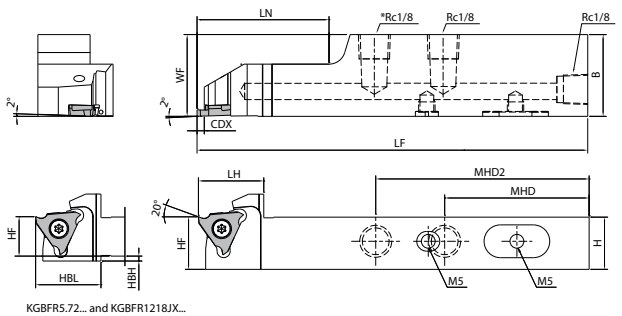
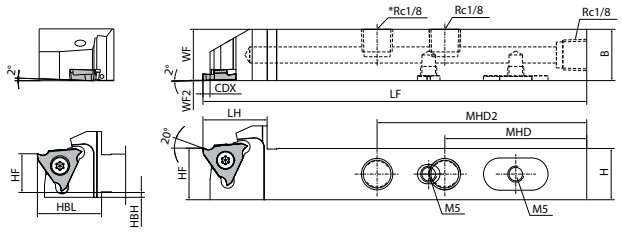


Fig. 1



KGBFR5.72... and KGBFR1218JX...

Fig. 2



KGBFR8-... and KGBFR1212JX...

Right-hand shown | Right-hand Insert for Right-hand Toolholder.
KGBFR5.72-..., KGBFR8-... : 2-Rc1/8
KGBFR1218JX..., KGBFR1212JX... : 2-Rc1/8

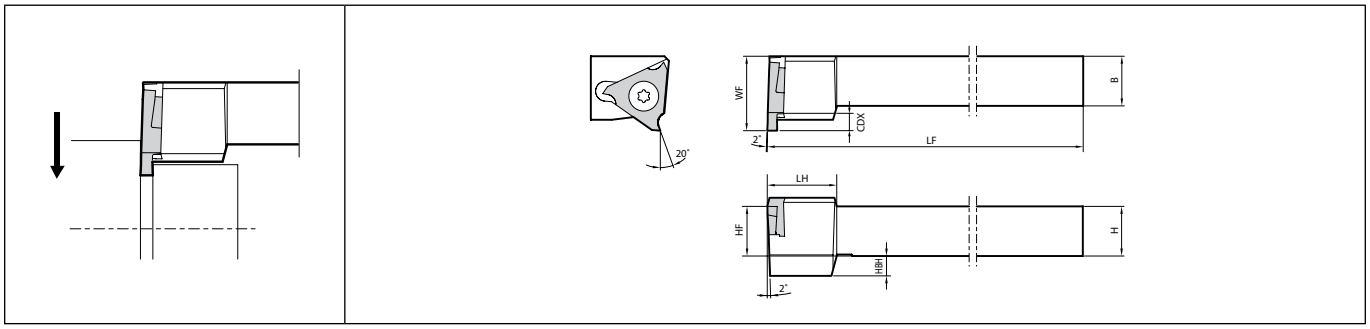
Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions												Fig.	Coolant Hole	Spare Parts				Applicable Inserts G18~G19
																	Plug	Plug	Screw	Wrench	
		R	CDX	H	B	LH	MHD	MHD2	HF	HBH	HBL	LF	LN	WF							
Inch	KGBFR 5.72-16FJCTM	●	0.118	0.500	0.709	0.787	2.126	-	0.500	0.059	0.787	4.750	1.110	0.500	1	Yes	GP-1	HS5X4LP	SB-4070TRW	FT-8	GBF32R
	82.5-16FJCTM	●		0.625	1.000		1.732	2.559	0.625	-	-			0.625				-			
	KGBFR 8-16FJCTM	●	0.118	0.500	0.500	0.787	2.323	-	0.500	0.059	0.787	4.750	-	0.500	2	Yes	GP-1	HS5X4LP	SB-4070TRW	FT-8	GBF32R
	10-16FJCTM	●		0.625	0.625		1.732	2.559	0.625	-	-			0.625							
	12-16FJCTM	●		0.750	0.750				0.750					0.750				-			
mm	KGBFR 1218JX-16FJCTM	●	3	12	18	20	54	-	12	1.5	20	120	28	12	1	Yes	GP-1	HS5X4LP	SB-4070TRW	FT-8	GBF32R
	1625JX-16FJCTM	●		16	25		44	65	16	-	-		40	16							
	2025JX-16FJCTM	●		20					20					20				-			
	KGBFR 1212JX-16FJCTM	●	3	12	12	20	59	-	12	1.5	20	120	-	12	2	Yes	GP-1	HS5X4LP	SB-4070TRW	FT-8	GBF32R
	1616JX-16FJCTM	●		16	16		44	65	16	-	-			16							
	2020JX-16FJCTM	●		20	20				20					20				-			

CDX shows the distance from the toolholder to the cutting edge. Available Groove Depth : "CDX" of Insert.
Please see page **H16** and **H17** for piping parts of coolant-through holders.

● : 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

KGBFS (External Grooving / Shallow Grooving)



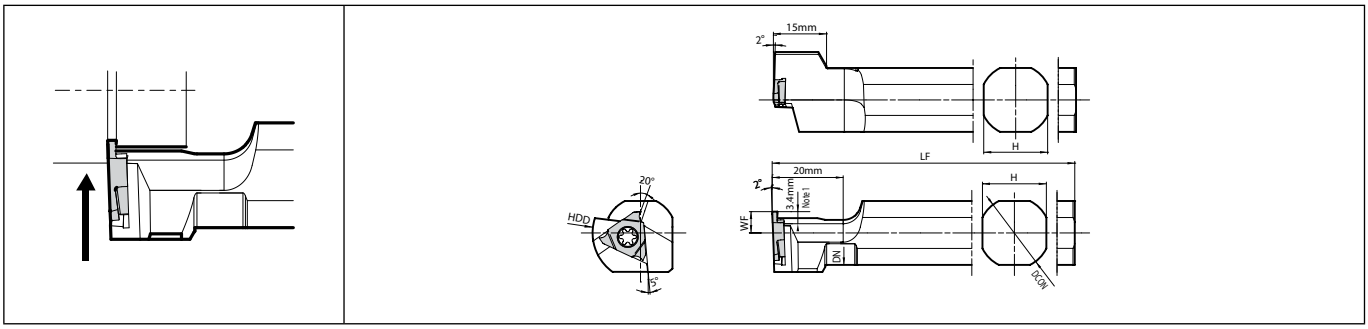
Right-hand shown | Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions								Spare Parts		Applicable Inserts G18~G20
		R	L	CDX	H	B	LH	HF	HBH	LF	WF	Screw	Wrench	
mm	KGBFS□ 1010JX-16	●	●	3	10	10	14	10	4	120	15	SB-4070TRW	FT-8	GBF32L/R
	1212JX-16	●	●		12	12		12	2		16			
	1616JX-16	●	●		16	16		16	-		20			

CDX shows the distance from the toolholder to the cutting edge. Available Groove Depth : "CDX" of Insert.

S-KGBF (External Grooving / Shallow Grooving)



Left-hand shown | Right-hand Insert for Left-hand Toolholder. | Note 1) CDX shows available grooving depth.

Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions						Spare Parts		Applicable Inserts G18~G19
									Screw	Wrench	
		L	DCON	H	DN	HDD	LF	WF			
Inch	S15F- KGBFL16	●	0.625	0.591	0.591	1.063	3.346	0.236	SB-4070TRW	FT-8	GBF32R
	S19G- KGBFL16	●	0.750	0.669	0.709		3.543				
	S19K- KGBFL16	●					4.724				
	S25K- KGBFL16	●	1.000	0.906	0.945	1.260	3.937	0.394			
mm	S12F- KGBFL16	●	12	11	11	27	80	6	SB-4070TRW	FT-8	GBF32R
	S14H- KGBFL16	●	14	13	13		100				
	S16F- KGBFL16	●	16	15	15		85				
	S20G- KGBFL16	●	20	18	19		90				
	S20K- KGBFL16	●					120				
	S22K KGBFL16	●	22	20	21						
	S25.0H- KGBFL16	●	25	23	24	32	100	10			

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

● : 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

Compatiblity with GBF and GBA

1. GBF will fit KGBA / KGBAS toolholders
   - Caution: The maximum groove depth for KGBA / KGBAS toolholders is 0.098" (2.5mm)
2. GBA inserts will also fit KGBF-F toolholders
   - Caution: The rake angle after installation in the toolholder is 11°

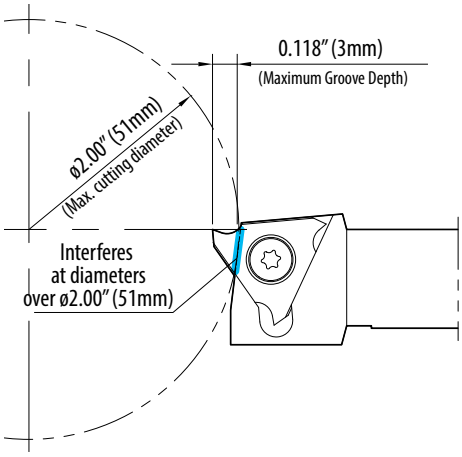
KGBF-F toolholder with GBF insert maximum machining diameter

- 0.118" (3mm) groove depth is available on workpiece diameters up to ø2.008" (ø51mm)
- 0.106" (2.7mm) groove depth is available on workpiece diameters up to ø3.937" (ø100mm)
- 0.098" (2.5mm) or less groove depth is available on workpiece diameters up to ø7.874" (ø200mm)

The workpiece will interfere with the holder at maximum diameter or larger

Max. cutting diameter

Max. cutting diameter at 0.118" (3mm) grooving depth



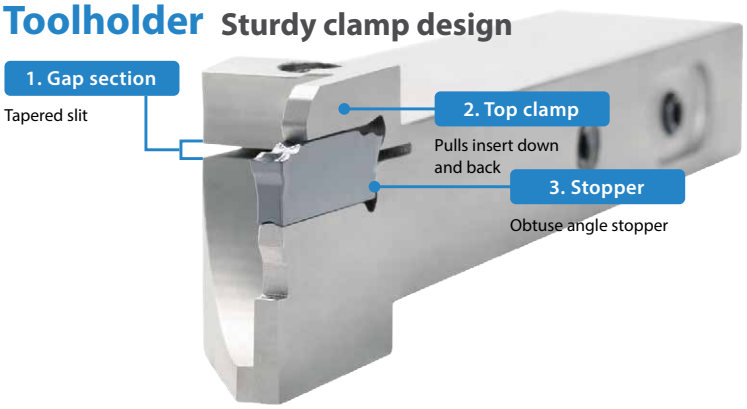
KGZ

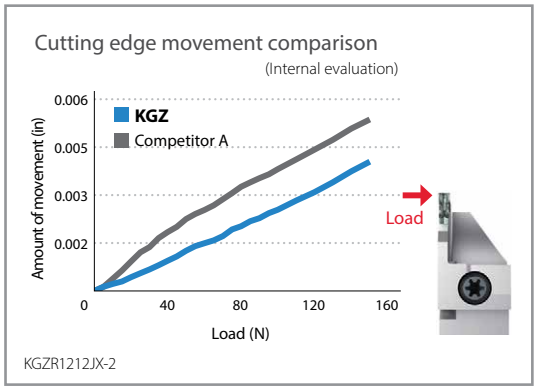
Grooving and Cut-Off Solutions for Small Parts Machining

Provides stable machining and is easy to use with unique clamp design
New coating PR20 series provides longer tool life and supports a wide range of applications

1 Achieve stable machining with newly developed clamp structure

Toolholder Sturdy clamp design





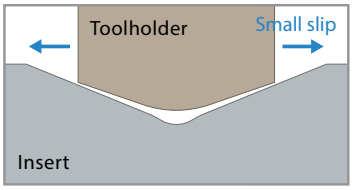
Insert Ease insert installation

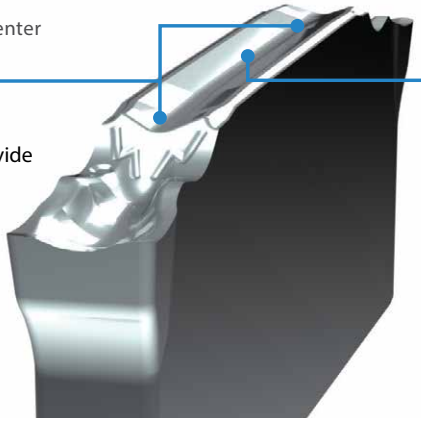
Top V Shape Different groove angles at ends and center

Groove End

Small groove angle on top of insert

These grooves prevent the insert from shifting and provide fast and accurate insert mounts

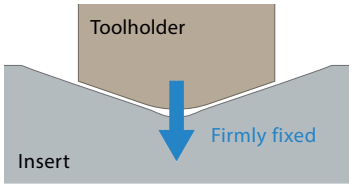




Groove Center

Large groove angle on top of insert

firmly engages the toolholder to increase hold



Excellent chatter resistance

Machined surface comparison (Internal evaluation)

Cutting conditions : Vc = ~ 200 sfm, f = 0.005 ipt
Workpiece : 303 (ø0.551") Wet (External coolant) KGZR1212JX-2
Edge width 0.079" (2mm) (PM Chipbreaker)

800.823.7284
www.kyocera precisiontools.com

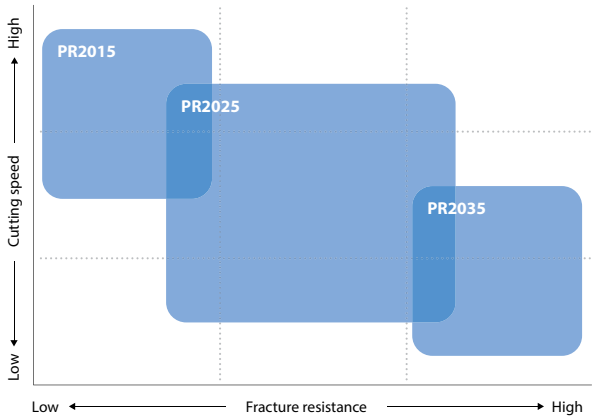
2 New insert grades PR20 series with MEGACOAT NANO EX coating technology provides longer tool life

PR20 Series

PR2015 — **1st recommendation for cast iron**
Also available for steel and stainless steel

PR2025 — **1st recommendation for steel**
Also available for stainless steel

PR2035 — **1st recommendation for stainless steel**
Also available for steel

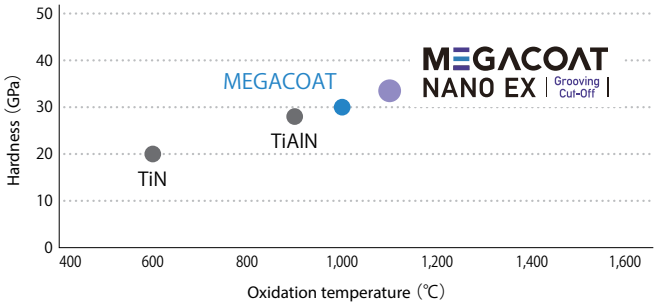


New coating for grooving and cut-off machining

MEGACOAT NANO EX | Grooving Cut-Off

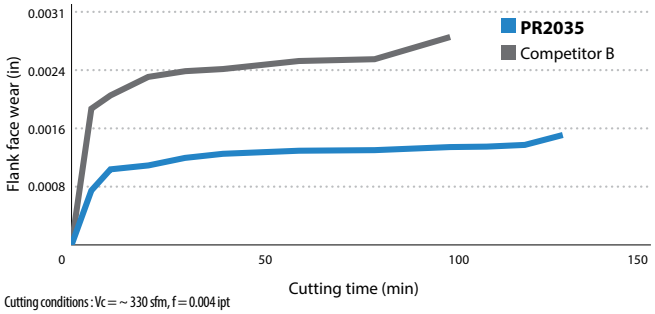
Achieve long tool life and high stability with
the combination of high content aluminum nano coating layer

Coating characteristics (Internal evaluation)



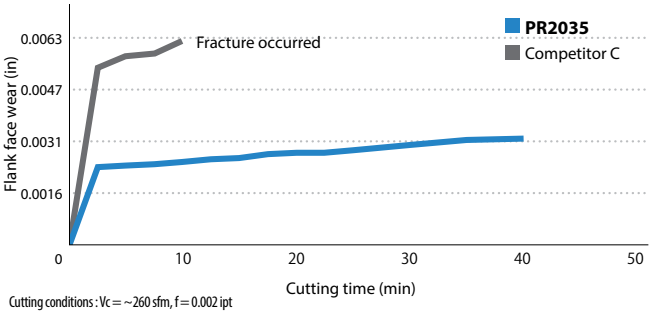
Cutting Performance

1045 Wear resistance comparison (Internal evaluation)



Cutting conditions : Vc = ~ 330 sfm, f = 0.004 ipt
Workpiece : 1045 (ø0.787") Wet (External coolant) GZM2020N-020PM

304 Wear resistance comparison (Internal evaluation)



Cutting conditions : Vc = ~260 sfm, f = 0.002 ipt
Workpiece : 304 (ø0.787") Wet (External coolant) GZM2020N-020PM

3 Large variety of insert and chipbreaker combinations for a wide range of applications

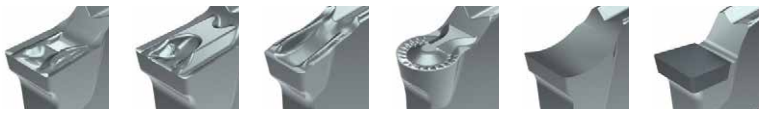
Insert

Cut-off (H22)

Low feed	Medium feed	High feed	Low cutting force
PF	**PM**	**PH**	**PG**

Grooving (G28)

General purpose	Low feed	High feed	Copying	Low cutting force	PCD
GM	**GL**	**PH**	**CM**	**GS**	**NB**



Grades

PVD coating (P M K)
PR2015 / PR2025 / PR2035

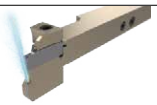
Cermet (P) — **TN620**
DLC coating (N) — **PDL025**

Non-coated carbide (K N)
GW15

PCD (N)
KPD001

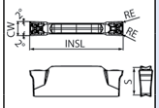
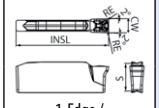
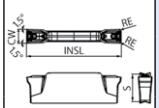
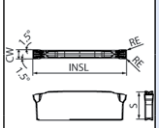
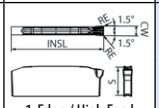
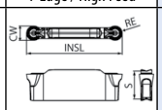
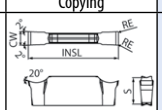
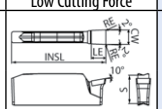
Tool holder

Internal coolant
JCTM Series for direct coolant



External coolant
Standard type / for Sub-spindle tooling

GZM/GZMS/GZG

Insert		Part Number		Edge Prep	No. of Edges	Dimensions (mm) CW in	CW mm	S	RE	INSL	LE	Tolerance (mm) CW min.	CW max.	Cermet TN620	Carbide PVD PR2015	Carbide PVD PR2025	Carbide PVD PR2035	Carbide - GW15	PCD - KPD001	Applicable Toolholder ⇨ G30~G33
Carbon Steel / Alloy Steel														●	◌	●	◌			P
Stainless Steel															◌	◌	●			M
Cast Iron															●			◌		K
Non-Ferrous Metals																		◌	●	N
	 General Purpose	GZM	2420N-020GM	-	2	0.094	2.4	5.9	0.2	20	-	-0.03	+0.03	●	●	●	●			KGZ R/L ...2(...), KGZ R/L ...2.4(...) KGZS R/L ...2A/B
			3020N-020GM			0.118	3		0.2					●	●	●	●			KGZ R/L ...2(...), KGZ R/L ...2.4(...) KGZ R/L ...3(...), KGZS R/L ...2A/B
			3020N-040GM			0.118	3		0.4					●	●	●	●			
	 1-Edge / General Purpose	GZMS	2220N-020GM	-	1	0.087	2.2	5.9	0.2	20	-	-0.03	+0.03	●	●	●	●			KGZ R/L ...2(...) KGZS R/L ...2A/B
			3020N-040GM			0.118	3		0.4					●	●	●	●			KGZ R/L ...2(...) KGZ R/L ...2.4(...) KGZ R/L ...3(...) KGZS R/L ...2A/B
	 Low Feed	GZM	2420N-020GL	-	2	0.094	2.4	5.9	0.2	20	-	-0.03	+0.03	●	●	●	●			KGZ R/L ...2(...), KGZ R/L ...2.4(...) KGZS R/L ...2A/B
			3020N-020GL			0.118	3		0.2					●	●	●	●			KGZ R/L ...2(...), KGZ R/L ...2.4(...) KGZ R/L ...3(...), KGZS R/L ...2A/B
			3020N-040GL			0.118	3		0.4					●	●	●	●			
	 High Feed	GZM	2020N-020PH	-	2	0.079	2	5.9	0.2	20	-	-0.03	+0.03		●	●	●			KGZ R/L ...2(...) KGZS R/L ...2A/B
			2520N-020PH			0.098	2.5		0.2						●	●	●			KGZ R/L ...2(...), KGZ R/L ...2.4(...) KGZS R/L ...2A/B
			3020N-030PH			0.118	3		0.3						●	●	●			KGZ R/L ...2(...), KGZ R/L ...2.4(...) KGZ R/L ...3(...), KGZS R/L ...2A/B
	 1-Edge / High Feed	GZMS	2020N-020PH	-	1	0.079	2	5.9	0.2	20	-	-0.03	+0.03		●	●	●			KGZ R/L ...2(...) KGZS R/L ...2A/B
			3020N-030PH			0.118	3		0.3						●	●	●			KGZ R/L ...2(...), KGZ R/L ...2.4(...) KGZ R/L ...3(...), KGZS R/L ...2A/B
	 Copying	GZM	3020N-150R-CM	-	2	0.118	3	5.9	1.5	20	-	-0.03	+0.03	●	●	●	●			KGZ R/L ...2(...), KGZ R/L ...2.4(...) KGZ R/L ...3(...), KGZS R/L ...2A/B
	 Low Cutting Force	GZG	2520N-020GS	-	2	0.098	2.5	5.9	0.2	20	-	-0.02	+0.02	●	●	●	●	●		KGZ R/L ...2(...), KGZ R/L ...2.4(...) KGZS R/L ...2A/B
			3020N-020GS			0.118	3							●	●	●	●	●		KGZ R/L ...2(...), KGZ R/L ...2.4(...) KGZ R/L ...3(...), KGZS R/L ...2A/B
	 1-Edge	GZGS	2020N-020NB	F	1	0.079	2	5.9	0.2	20	2.9	-0.02	+0.02						●	KGZ R/L ...2(...) KGZS R/L ...2A/B
			3020N-020NB			0.118	3												●	KGZ R/L ...2(...), KGZ R/L ...2.4(...) KGZ R/L ...3(...), KGZS R/L ...2A/B

GZM and GZG inserts cannot be used in KGM or KGD holders.

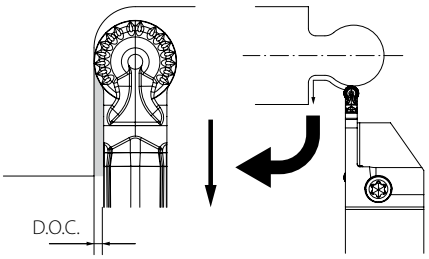
Recommended Cutting Conditions ⇨ G35

● : 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

CM Chipbreaker [Depth of cut (D.O.C.) when back copying]

Maximum D.O.C. when back copying

Insert Part Number	Maximum D.O.C.		
	Toolholder Part Number		
	KGZ...2(...)	KGZ...2.4(...)	KGZ...3(...)
GZM3020N-150R-CM	0.009" (0.24mm)	0.009" (0.24mm)	0.008" (0.2mm)



Inserts Identification System

Tolerance symbol	
G	Ground insert
M	M class

Edge width			
13	1.3 mm	25	2.5 mm
15	1.5 mm	30	3 mm
20	2 mm		

Hand of tool	
R	Right-hand
L	Left-hand
N	Neutral

Chipbreaker symbol			
PF	Low feed	PH	High feed
PM	Medium feed	PG	Low cutting force

GZ **M** **S** **20** **20** **N** - **020** **PM** - **6D**

Series
Grooving / Cut-off
GZ Series

No. of edge	
No indication	2-edge
S	1-edge

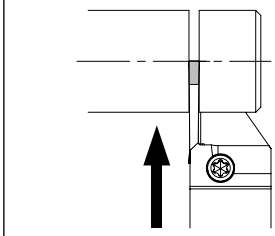
Insert length	
16	16 mm
20	20 mm

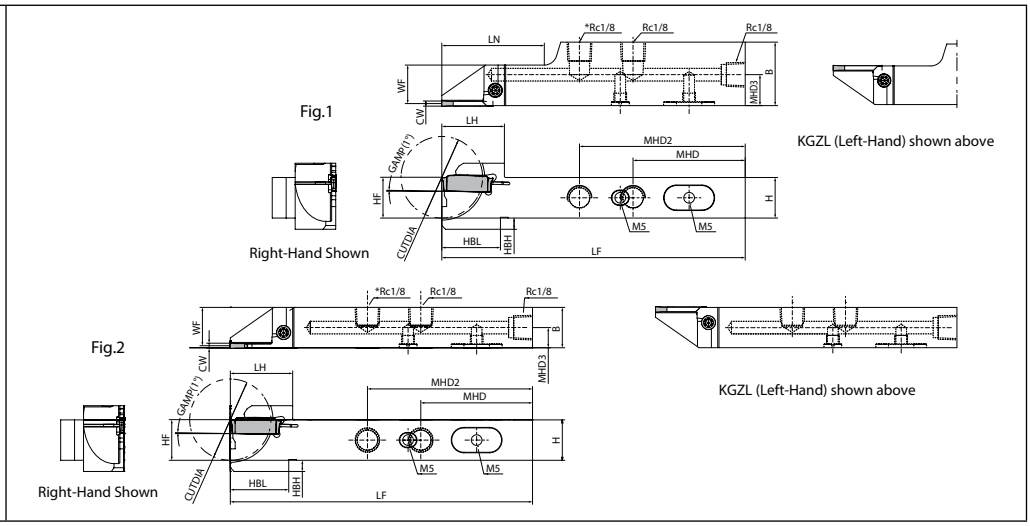
Corner-R (RE)			
003	0.03 mm	020	0.2 mm
005	0.05 mm	025	0.25 mm
015	0.15 mm	030	0.3 mm

Lead angle	
No indication	0°
6D	6°
15D	15°

KGZ-JCTM (External Grooving, Coolant-Through Toolholder)

Coolant Piping Parts ➡ H16, H17





Right-hand shown | KGZR/L 5.72...-JCTM, KGZR/L 8-...-JCTM : 2-Rc1/8

Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	CUTDIA	H	B	LH	MHD	MHD2	MHD3	HF	HBH	HBL	LF	LN	WF	CW min.	CW max.	Angle GAMP (°)	Fig.	Coolant Hole	Spare Parts: Plug	Spare Parts: Plug	Spare Parts: Screw	Spare Parts: Wrench	Applicable Inserts ➡ G28
Inch	KGZR 5.72-2JCTM	●		0.945	0.500	0.709	0.780	2.126	-	0.331	0.500	0.335	0.778	4.750	1.717	0.469	0.079" (2mm)	0.118" (3mm)	1	1	Yes	GP-1	HS5X4LP	SB-40120TR	LTW-15S	GZ...2020... GZ...2220... GZ...2420... GZ...2520... GZ...3020...
	KGZL 5.72-2JCTM		●							0.303																
	KGZR 82.5-2JCTM	●		1.260	0.625	1.000	0.976	1.732	2.559	0.480	0.625	0.177	0.913		1.575	0.594										
	KGZL 82.5-2JCTM		●							0.303																
	KGZR 5.72-2.4JCTM	●		0.945	0.500	0.709	0.780	2.126	-	0.331	0.500	0.335	0.778	4.750	1.717	0.461	0.095" (2.4mm)	0.118" (3mm)	1	1	Yes	GP-1	HS5X4LP	SB-40120TR	LTW-15S	GZ...2420... GZ...2520... GZ...3020...
	KGZL 5.72-2.4JCTM		●							0.303																
	KGZR 82.5-2.4JCTM	●		1.260	0.625	1.000	0.976	1.732	2.559	0.480	0.625	0.177	0.913		1.575	0.586										
	KGZL 82.5-2.4JCTM		●							0.303																
	KGZR 5.72-3JCTM	●		0.945	0.500	0.709	0.780	2.126	-	0.339	0.500	0.335	0.778	4.750	1.717	0.453	0.118" (3mm)	0.118" (3mm)	1	1	Yes	GP-1	HS5X4LP	SB-40120TR	LTW-15S	GZ...3020...
	KGZL 5.72-3JCTM		●							0.303																
	KGZR 82.5-3JCTM	●		1.260	0.625	1.000	0.976	1.732	2.559	0.480	0.625	0.177	0.913		1.575	0.578										
	KGZL 82.5-3JCTM		●							0.303																
	KGZR/L 8-2JCTM	●	●	0.945	0.500	0.500	0.780	2.323	-	0.236	0.500	0.236	0.780	4.750	-	0.469	0.079" (2mm)	0.118" (3mm)	1	2	Yes	GP-1	HS5X4LP	SB-40120TR	LTW-15S	GZ...2020... GZ...2220... GZ...2420... GZ...2520... GZ...3020...
	KGZR/L 10-2D26JCTM	●	●	1.024	0.625	0.625	0.976	1.732	2.559	0.315	0.625	0.039	0.913			0.594										
	KGZR/L 10-2JCTM	●	●	1.260								0.177														
	KGZR/L 8-2.4JCTM	●	●	0.945	0.500	0.500	0.780	2.323	-	0.236	0.500	0.236	0.780	4.750	-	0.461	0.095" (2.4mm)	0.118" (3mm)	1	2	Yes	GP-1	HS5X4LP	SB-40120TR	LTW-15S	GZ...2420... GZ...2520... GZ...3020...
	KGZR/L 10-2.4D26JCTM	●	●	1.024	0.625	0.625	0.976	1.732	2.559	0.315	0.625	0.039	0.913			0.586										
	KGZR/L 10-2.4JCTM	●	●	1.260								0.177														
	KGZR/L 8-3JCTM	●	●	0.945	0.500	0.500	0.780	2.323	-	0.236	0.500	0.236	0.780	4.750	-	0.453	0.118" (3mm)	0.118" (3mm)	1	2	Yes	GP-1	HS5X4LP	SB-40120TR	LTW-15S	GZ...3020...
	KGZR/L 10-3D26JCTM	●	●	1.024	0.625	0.625	0.976	1.732	2.559	0.315	0.625	0.039	0.913			0.578										
	KGZR/L 10-3JCTM	●	●	1.260								0.177														

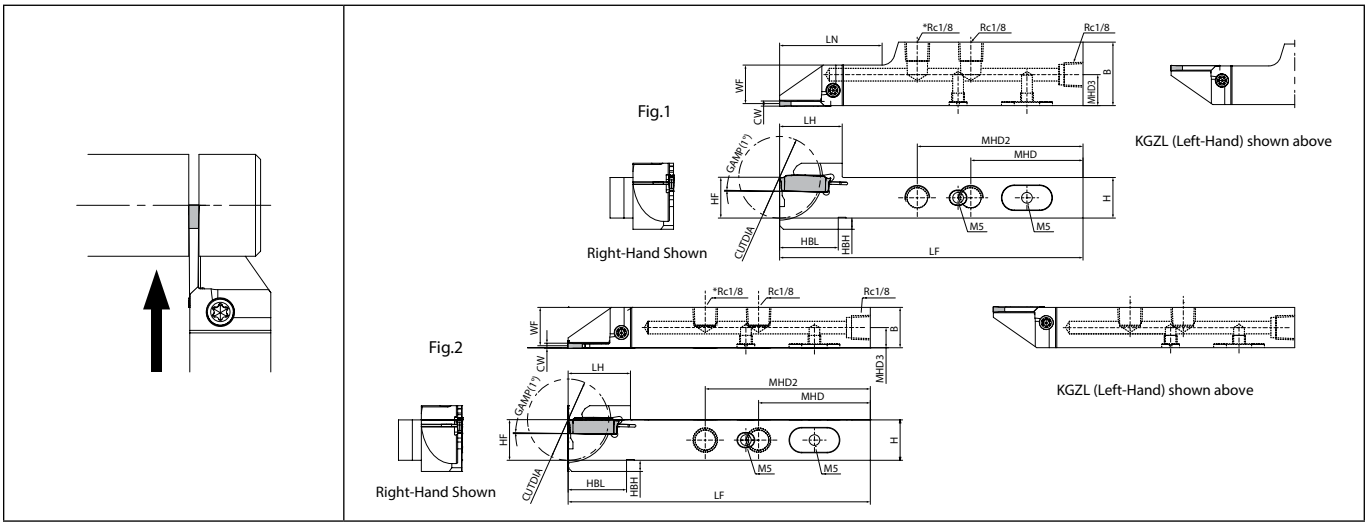
Recommended tightening torque : 2.0N · m(SB-40120TR)

GM* and GD* inserts cannot be installed in the KGZ holder (GMM, GMG, GMN, GMR/L, GDM, GDG, GDGS, GDMS).

● : 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

KGZ-JCTM (External Grooving, Coolant-Through Toolholder)

Coolant Piping Parts H16, H17



Right-hand shown | KGZ□12...-JCTM : 2-Rc1/8

Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	CUTDIA	H	B	LH	MHD	MHD2	MHD3	HF	HBH	HBL	LF	LN	WF	CW min.	CW max.	Angle GAMP (°)	Fig.	Coolant Hole	Spare Parts: Plug	Spare Parts: Plug	Spare Parts: Screw	Spare Parts: Wrench	Applicable Inserts G28
mm	KGZR 1218JX-2JCTM	●		24	12	18	19.8	54	-	8.4	12	8.5	19.8	120	43.7	11.2	0.079" (2mm)	0.118" (3mm)	1	1	Yes	GP-1	HS5X4LP	SB-40120TR	LTW-15S	GZ...2020... GZ...2220... GZ...2420... GZ...2520... GZ...3020...
	KGZL 1218JX-2JCTM		●							7.7																
	KGZR 1625JX-2JCTM	●		32	16	25	24.8	44	65	12.2	16	4.5	23.2		40.0	15.2										
	KGZL 1625JX-2JCTM		●							7.7																
	KGZR 1218JX-2.4JCTM	●		24	12	18	19.8	54	-	8.4	12	8.5	19.8	120	43.7	11.0	0.095" (2.4mm)	0.118" (3mm)	1	1	Yes	GP-1	HS5X4LP	SB-40120TR	LTW-15S	GZ...2420... GZ...2520... GZ...3020...
	KGZL 1218JX-2.4JCTM		●							7.7																
	KGZR 1625JX-2.4JCTM	●		32	16	25	24.8	44	65	12.2	16	4.5	23.2		40.0	15.0										
	KGZL 1625JX-2.4JCTM		●							7.7																
	KGZR 1218JX-3JCTM	●		24	12	18	19.8	54	-	8.6	12	8.5	19.8	120	43.7	10.8	0.118" (3mm)	0.118" (3mm)	1	1	Yes	GP-1	HS5X4LP	SB-40120TR	LTW-15S	GZ...3020...
	KGZL 1218JX-3JCTM		●							7.7																
	KGZR 1625JX-3JCTM	●		32	16	25	24.8	44	65	12.2	16	4.5	23.2		40.0	14.8										
	KGZL 1625JX-3JCTM		●							7.7																
	KGZ□ 1212JX-2JCTM	●	●	24	12	12	19.8	59	-	6	12	5	19.8	120	-	11.2	0.079" (2mm)	0.118" (3mm)	1	2	Yes	GP-1	HS5X4LP	SB-40120TR	LTW-15S	GZ...2020... GZ...2220... GZ...2420... GZ...2520... GZ...3020...
	KGZ□ 1616JX2D26JCTM	●	●	26	16	16	24.8	44	65	8	16	1	23.2			15.2										
	KGZ□ 1616JX-2JCTM	●	●	32								4.5														
	KGZ□ 1212JX-2.4JCTM	●	●	24	12	12	19.8	59	-	6	12	5	19.8	120		11.0	0.095" (2.4mm)	0.118" (3mm)	1	2	Yes	GP-1	HS5X4LP	SB-40120TR	LTW-15S	GZ...2420... GZ...2520... GZ...3020...
	KGZ□ 1616JX2.4D26JCTM	●	●	26	16	16	24.8	44	65	8	16	1	23.2													
	KGZ□ 1616JX-2.4JCTM	●	●	32								4.5				15.0										
	KGZ□ 1212JX-3JCTM	●	●	24	12	12	19.8	59	-	6	12	5	19.8	120		10.8	0.118" (3mm)	0.118" (3mm)	1	2	Yes	GP-1	HS5X4LP	SB-40120TR	LTW-15S	GZ...3020...
	KGZ□ 1616JX3D26JCTM	●	●	26	16	16	24.8	44	65	8	16	1	23.2			14.8										
	KGZ□ 1616JX-3JCTM	●	●	32								4.5														

Recommended tightening torque : 2.0N · m(SB-40120TR)
GM* and GD* inserts cannot be installed in the KGZ holder (GMM, GMG, GMN, GMR/L, GDM, GDG, GDGS, GDMS).

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KGZ (External Grooving, Standard Toolholder)

Coolant Piping Parts ⇨ H16, H17

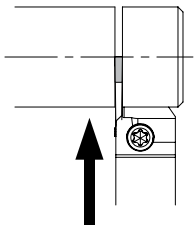
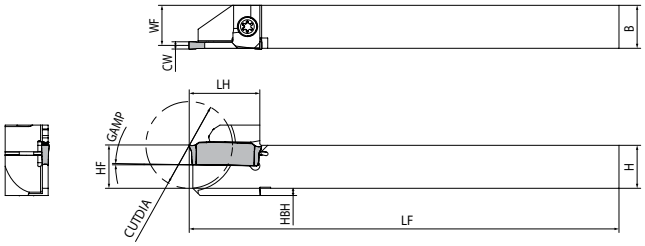


Fig.2



Right-hand shown

Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	CUTDIA	H	B	LH	HF	HBH	LF	WF	CW min.	CW max.	GAMP (°)	Spare Parts: Screw	Spare Parts: Screw	Spare Parts: Wrench	Applicable Inserts ⇨ G28
Inch	KGZ R/L 6-2JX	●	●	0.787	0.375	0.375	0.736	0.375	0.101	4.750	0.344	0.079" (2mm)	0.118" (3mm)	2	SB-40120TR	-	LTW-15S	GZ...2020... GZ...2220... GZ...2420... GZ...2520... GZ...3020...
	8-2JX	●	●	0.945	0.500	0.500	0.780	0.500	0.055		0.469							
	10-2JX	●	●	1.260	0.625	0.625	0.976	0.625	-		0.594							
	KGZ R/L 6-2.4JX	●	●	0.787	0.375	0.375	0.736	0.375	0.101	4.750	0.336	0.095" (2.4mm)	0.118" (3mm)	2	SB-40120TR	-	LTW-15S	GZ...2420... GZ...2520... GZ...3020...
	8-2.4JX	●	●	0.945	0.500	0.500	0.780	0.500	0.055		0.461							
	10-2.4JX	●	●	1.260	0.625	0.625	0.976	0.625	-		0.586							
	KGZ R/L 8-3JX	●	●	0.945	0.500	0.500	0.780	0.500	0.055	4.750	0.453	0.118" (3mm)	0.118" (3mm)	1	SB-40120TR	-	LTW-15S	GZ...3020...
	10-3JX	●	●	1.260	0.625	0.625	0.976	0.625	-		0.578							
	10-3D38JX	●	●	1.496	0.625	0.625	1.134	0.625	-		0.578				-	SE-50125TR	LTW-20	
	12-3D42JX	●	●	1.654	0.750	0.750	1.217	0.750			0.703							
	43-3D42JX	●	●	1.654	0.750	0.750	1.217	0.750			0.453							

Recommended tightening torque : 2.0N · m (SB-40120TR), 2.5N · m (SE-50125TR)
When machining large cutting dia. (over 1.417" (36mm)) with KGZ R/L...-3D38 or KGZ R/L...-3D42, please follow the instructions below
· Use 1-edge inserts
· Maximum workpiece diameter for 2-edge inserts is ø1.417" (36mm)
KGM* and GD* inserts cannot be installed in the KGZ holder (GMM, GMG, GMN, GMR/L, GDM, GDG, GDGS, GDMS).

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KGZ (External Grooving, Standard Toolholder)

Coolant Piping Parts ➡ H16, H17

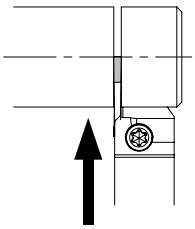
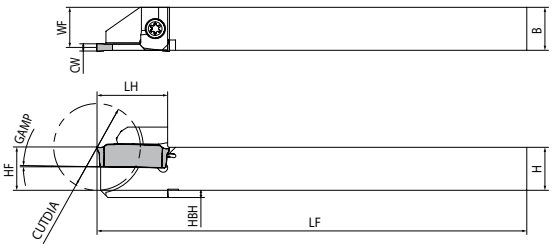


Fig.2



Right-hand shown

Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	CUTDIA	H	B	LH	HF	HBH	LF	WF	CW min.	CW max.	Angle GAMP (°)	Spare Parts: Clamp Bolt	Spare Parts: Screw	Spare Parts: Screw	Spare Parts: Wrench	Spare Parts: Wrench	Applicable Inserts ➡ G28
mm	KGZ R/L 1010JX-2	●	●	20	10	10	18.7	10	2.1	120	9.2	0.079" (2mm)	0.118" (3mm)	2	-	SB-40120TR	-	-	LTW-15S	GZ...2020... GZ...2220... GZ...2420... GZ...2520... GZ...3020...
	1212F-2	●	●	24	12	12	19.8	12		85	11.2			1						
	1212JX-2	●	●							120										
	1616JX-2	●	●	32	16	16	24.8	16	-	120	15.2				-	-	SE-50125TR	-	LTW-20	
	2012K-2D34	●	●	34	20	12	26.8	20		125	11.2									
	2020K-2D34	●	●			20					19.2									
	2525K-2D34	●	●		25	25	32.7	25			24.2				HH5X16	-	-	LW-4	-	
	KGZ R/L 1010JX-2.4	●	●	20	10	10	18.7	10	2.1	120	9	0.094" (2.4mm)	0.118" (3mm)	2	-	SB-40120TR	-	-	LTW-15S	GZ...2420... GZ...2520... GZ...3020...
	1212F-2.4	●	●	24	12	12	19.8	12		85	11			1						
	1212JX-2.4	●	●							120										
	1616JX-2.4	●	●	32	16	16	24.6	16	-	120	15				-	-	SE-50125TR	-	LTW-20	
	2012K-2.4D34	●	●	34	20	12	26.6	20		125	11									
	2020K-2.4D34	●	●			20					19									
	2525K-2.4D34	●	●		25	25	32.7	25			24				HH5X16	-	-	LW-4	-	
	KGZ R/L 1212JX-3	●	●	24	12	12	19.8	12	2.1	120	10.8	0.118" (3mm)	0.118" (3mm)	1	-	SB-40120TR	-	-	LTW-15S	GZ...3020...
	1616JX-3	●	●	32	16	16	24.6	16	-		14.8				-	-	SE-50125TR	-	LTW-20	
	1616JX-3D38	●	●	38			28.6													
	1913K-3D38	●	●		19	13		19		125	11.8									
	2012JX-3D42	●	●	42	20	12	30.7	20		120	10.8									
	2012JX-3D51	●	●	51			35.2													
	2020JX-3D42	●	●	42		20	30.7				18.8									
	2020JX-3D51	●	●	51			35.2													
	2525K-3D51	●	●		25	25	41.7	25		125	23.8				HH5X16	-	-	LW-4	-	

Recommended tightening torque : 2.0N · m (SB-40120TR), 2.5N · m (SE-50125TR)
When machining large cutting dia. (over 1.417" (36mm)) with KGZ R/L...-3D38 or KGZ R/L...-3D42, please follow the instructions below
· Use 1-edge inserts
· Maximum workpiece diameter for 2-edge inserts is ø1.417" (36mm)
KGM* and GD* inserts cannot be installed in the KGZ holder (GMM, GMG, GMN, GMR/L, GDM, GDG, GDGS, GDMS).

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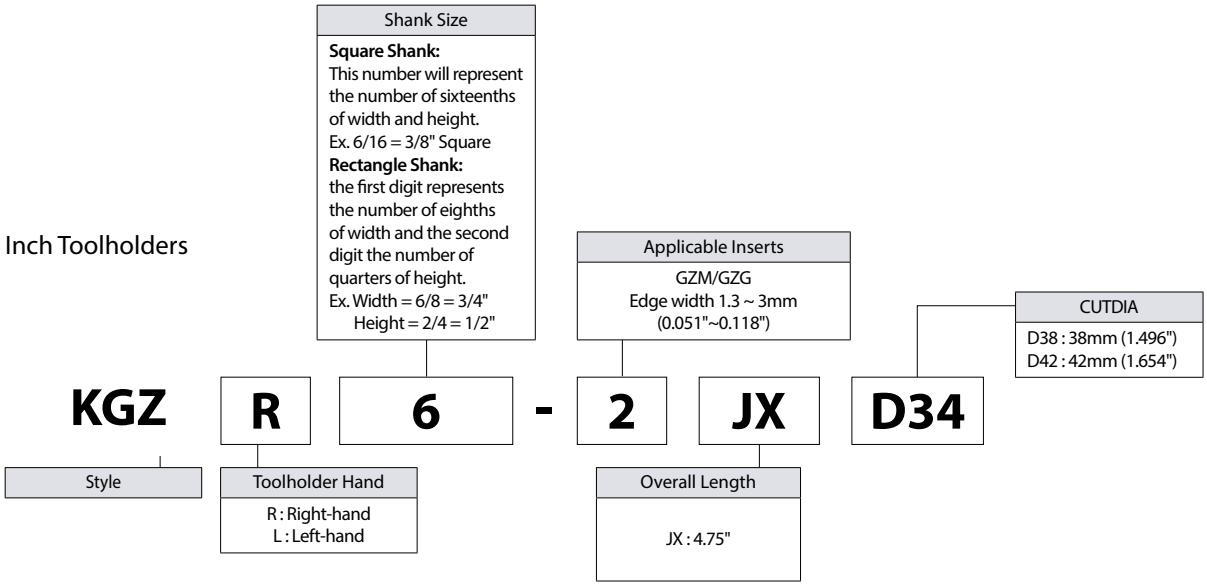
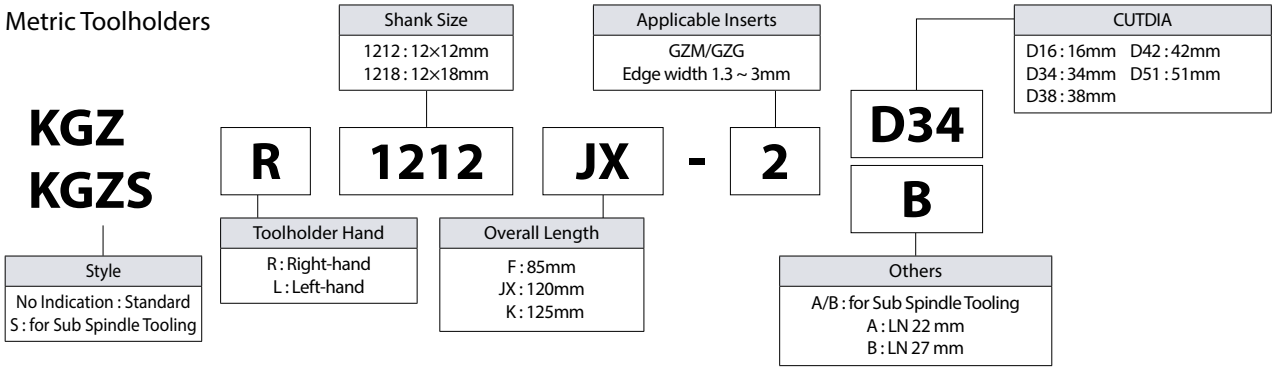
Toolholder Identification System

Inch Toolholders



Metric Toolholders



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KGZ Recommended Cutting Conditions

GM / GL / PH / CM Chipbreaker

Workpiece Material	Recommended Insert Grade (Vc : sfm)						f (ipr)						Notes
							GM		GL		PH	CM	
	MEGACOAT NANO EX			Cermet	Carbide	PCD	CW						
	PR2015	PR2025	PR2035	TN620	GW15	KPD001	0.087"~0.095" (2.2mm~2.4mm)	0.118" (3.0mm)	0.095" (2.4mm)	0.118" (3.0mm)	0.079"~0.118" (2.0mm~3.0mm)	0.118" (3.0mm)	
Carbon Steel	☆ 230 ~ 590	★ 230 ~ 490	☆ 230 ~ 490	★ 260 ~ 490	-	-	0.0020 ~ 0.0051	0.0028 ~ 0.0067	0.0012 ~ 0.0043	0.0016 ~ 0.0059	0.0039 ~ 0.0079	0.0020 ~ 0.0059	Coolant
Alloy Steel	☆ 230 ~ 590	★ 230 ~ 490	☆ 230 ~ 490	★ 260 ~ 490	-	-							
Stainless Steel	☆ 200 ~ 490	☆ 200 ~ 390	★ 200 ~ 390	-	-	-	0.0012 ~ 0.0047	0.0020 ~ 0.0059	0.0008 ~ 0.0039	0.0012 ~ 0.0047	0.0031 ~ 0.006	0.0016 ~ 0.0047	
Cast Iron	★ 260 ~ 660	-	-	-	☆ 160 ~ 330	-	0.0020 ~ 0.0051	0.0028 ~ 0.0067	0.0012 ~ 0.0043	0.0016 ~ 0.0059	0.0039 ~ 0.0079	0.0020 ~ 0.0059	
Aluminum Alloy	-	-	-	-	☆ 660 ~ 1480	★ 490 ~ 6560	-	-	-	-	-	-	
Brass	-	-	-	-	☆ 330 ~ 660	★ 660 ~ 2620	-	-	-	-	-	-	

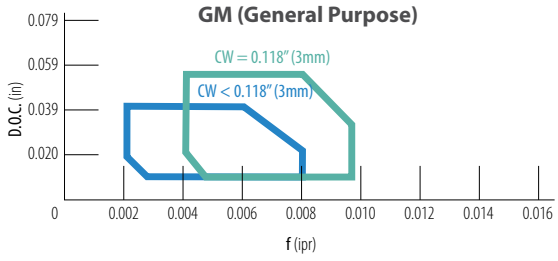
★:1st Recommendation ☆:2nd Recommendation

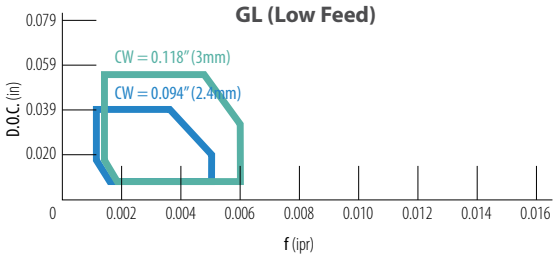
GS / NB (Non-Ferrous)

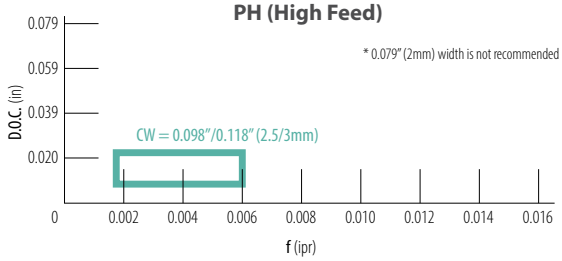
Workpiece Material	Recommended Insert Grade (Vc : sfm)						f (ipr)			Notes
							GS	NB		
	MEGACOAT NANO EX			Cermet	Carbide	PCD	CW			
	PR2015	PR2025	PR2035	TN620	GW15	KPD001	0.098"~0.118" (2.5mm~3.0mm)	0.079" (2.0mm)	0.118" (3.0mm)	
Carbon Steel	☆ 230 ~ 590	★ 230 ~ 490	☆ 230 ~ 490	★ 260 ~ 490	-	-	0.0016 ~ 0.0035	-	-	Coolant
Alloy Steel	☆ 230 ~ 590	★ 230 ~ 490	☆ 230 ~ 490	★ 260 ~ 490	-	-				
Stainless Steel	☆ 200 ~ 490	☆ 200 ~ 390	★ 200 ~ 390	-	-	-	0.0012 ~ 0.0031	-	-	
Cast Iron	★ 260 ~ 660	-	-	-	☆ 160 ~ 330	-	0.0016 ~ 0.0035	-	-	
Aluminum Alloy	-	-	-	-	☆ 660 ~ 1480	★ 490 ~ 6560	0.0012 ~ 0.0028	0.0020 ~ 0.0059	0.0020 ~ 0.0059	
Brass	-	-	-	-	☆ 330 ~ 660	★ 660 ~ 2620	-			

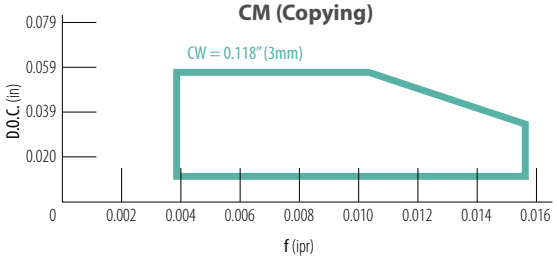
★:1st Recommendation ☆:2nd Recommendation

Turning
(Workpiece Material : 1049)







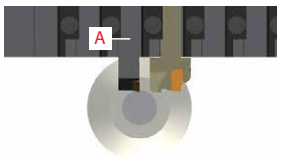


Precautions

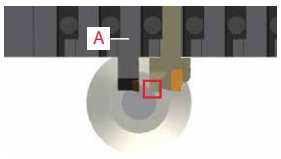
Maximum D.O.C. of the next tool (indicated as tool A) and holder interference

When using JCTM holder 1218/1212 , note maximum D.O.C. of the next tool to avoid interference.

No interference



Interference



Estimated maximum D.O.C. of tool A (mm)

Workpiece Dia. / JCTM Part Number	ø12mm	ø16mm	ø20mm
KGZ R/L 1218JX-*JCTM	2.4	2.0	1.7
KGZ R/L 1212JX-*JCTM	-	-	3.8

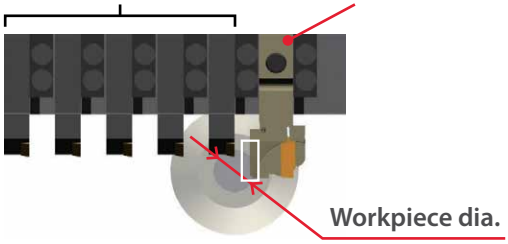
When using the JCTM holder 1218/1625/1616 for T01 on the following models, please check the workpiece diameter in advance to avoid interference.

<Target Models>

T01: Machines where both □16mm (or Spacer plate +□12mm) holders can be mounted

Non-T01: Machines where only □12mm holders can be mounted

Non-T01: □12mm **T01 : □16mm (or Spacer plate +□12mm)**



KGZ Compatibility

Workpiece Dia. / JCTM Part Number	ø14mm or smaller	ø14mm or larger
KGZ R/L 1218JX-*JCTM	Compatible	Please use KGZ R/L 1212JX-*JCTM or KGZ R/L 1616JX*D26JCTM
KGZ R/L 1625JX-*JCTM		
KGZ R/L 1616JX-*JCTM		

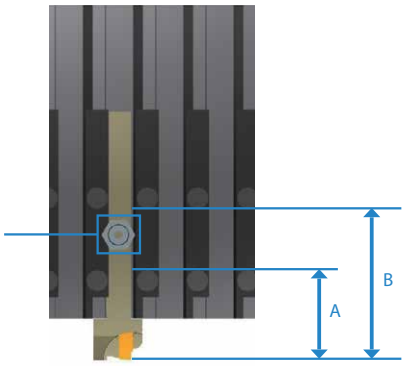
Piping part interference avoidance

Rectangular shank are recommended for use with piping parts connected to JCTM holders.

When connecting the J-**-R1/8-G1/8-L piping parts to the rectangular shank, please check for any potential interference with the machine in advance.

When connecting piping parts to the JCTM square shank, check the lengths of A and B below to avoid interference with the screws of the tool turret.

Adjust the piping part to fit between the top and bottom screws.

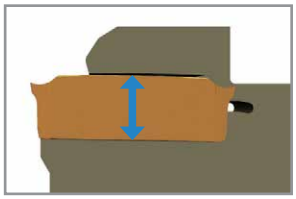


Shank Size	Square Shank Use
□0.500" □12mm	"A" shorter than 51.5mm and "B" longer than 68.5mm → Available Other than the above conditions → Use J-**-R1/8-G1/8-L or a rectangular shank
□0.625" □16mm	Available

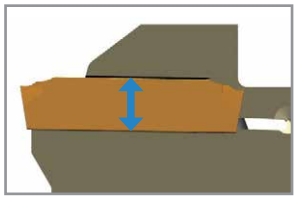
Compatibility with Conventional Tools

KGZ is not compatible with the conventional tools (KGD/KGM)

KGZ



Conventional



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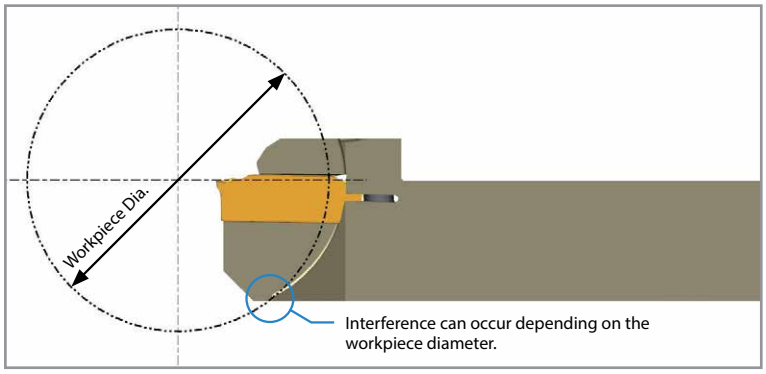
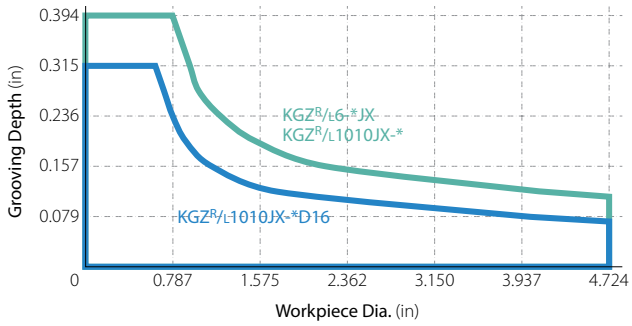
Maximum Grooving Depth Limitations

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

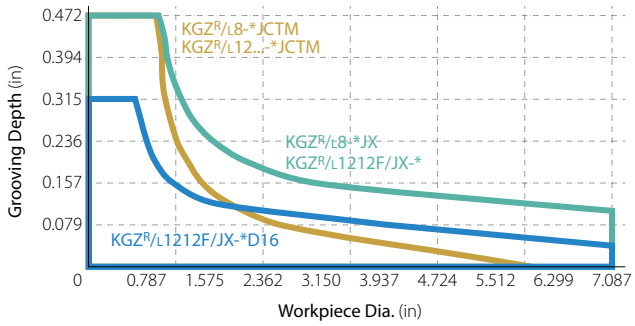


Guideline for Grooving Depth

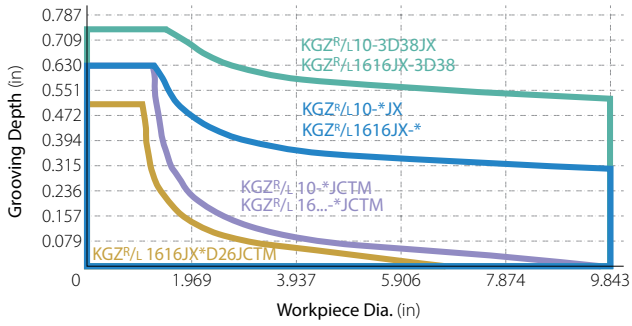
☐ 0.375" / 10mm Toolholders



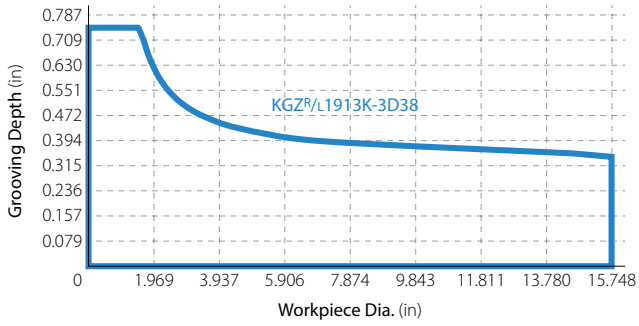
☐ 0.500" / 12mm Toolholders



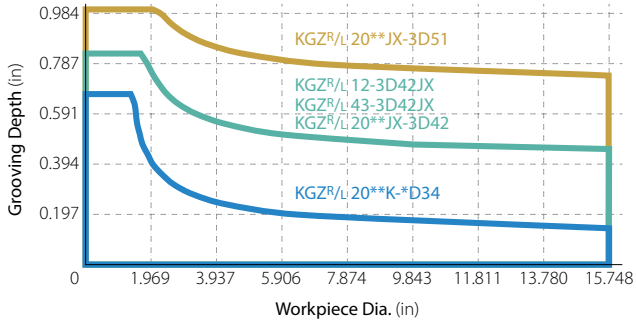
☐ 0.625" / 16mm Toolholders



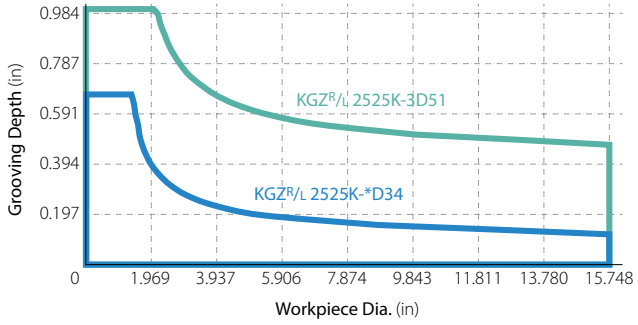
☐ 19mm Toolholders



☐ 0.750" / 20mm Toolholders



☐ 25mm Toolholders



KGD Insert Lineup

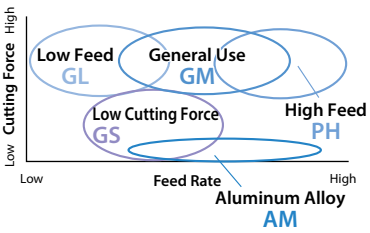
Smooth chip control
» Newly-introduced chipbreakers designed to cover a variety of workpiece materials.

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

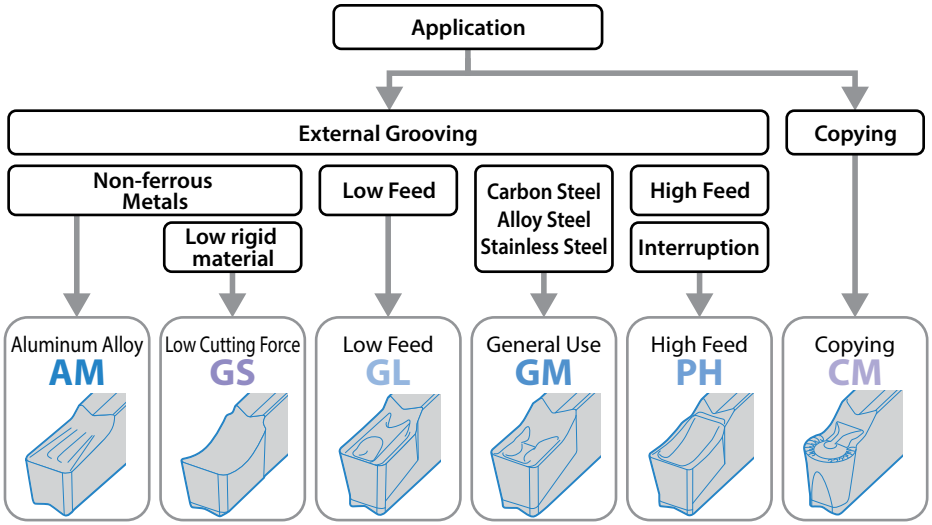
Highly-reputed MEGACOAT technology
» Long tool life and high efficiency machining achieved by superior oxidation resistance and wear resistance.

Application Maps

External Grooving and Turning



Chipbreaker Selection (External)



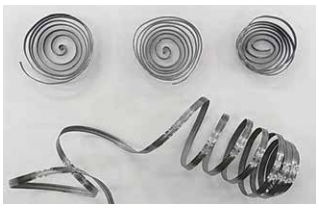
Chip Control Comparison (In-house Evaluation)
Cutting Conditions : Vc = 490 sfm, f = 0.006 ipr Workpiece : Chromium Molybdenum Steel

Better Chip Control than Competitors
Reduces Damage of Cutting Edge Caused by Crushing Chips

GM Chipbreaker

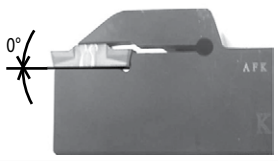
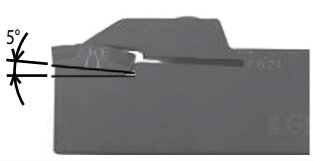
Competitor A

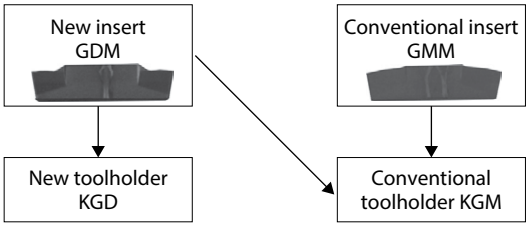
Competitor B



Toolholder and insert combination of KGD type (new) and KGM type (conventional)

Insert setting angle for grooving toolholders

KGD...0°	Conventional tools KGM...5°
	



Installing conventional inserts to the new toolholder is not recommended.

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KGD Grooving Toolholder

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

Integral Type

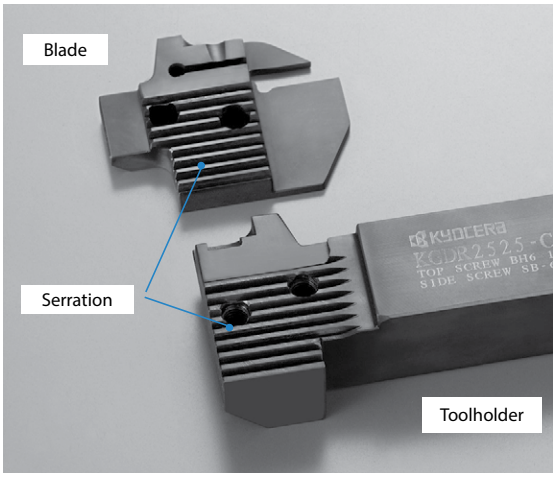
SwitchBlade Type

High Rigidity SwitchBlade Toolholder

- Adaptable to wide applications by changing 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.

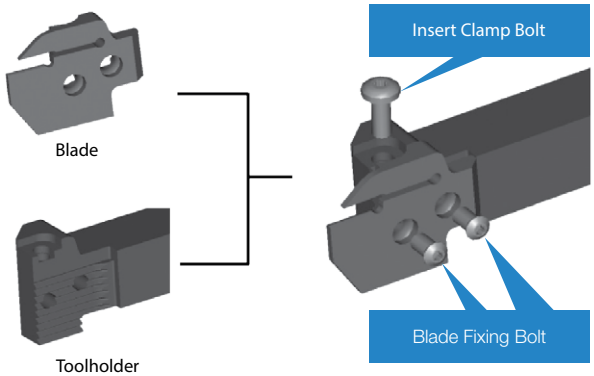
Toolholders for High Pressure Coolant

- Added jet coolant-through holder KGD-JCTM with superior chip control and long tool life

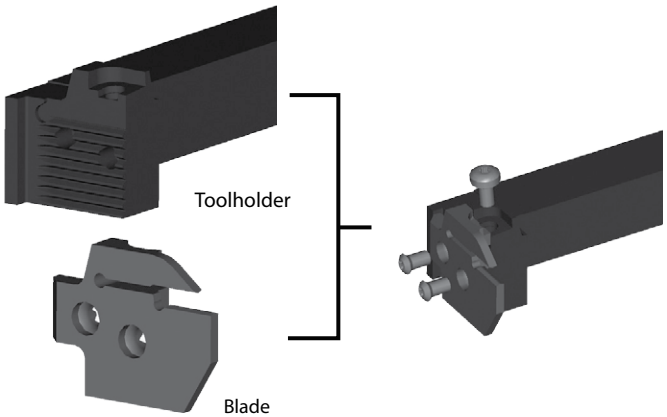


Structure of Toolholder Unit (Toolholder + Blade)

KGD-S (0˚SwitchBlade Type)



KGDS-S (90˚SwitchBlade Type)



Blade Combination of 0˚ SwitchBlade Type

Toolholder (KGDR ○○○○-C)
+
Blade (KGDR-○T○○-C)

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

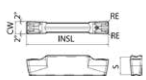
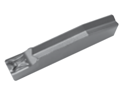
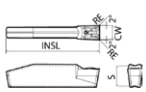
Blade Combination of 90° SwitchBlade Type

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.

GDM/GDMS/GDG

Work material	PR1215	PR1225	PR1535	TN620	TN90	
Carbon Steel / Alloy Steel	◔	◕		●	○	P
Stainless Steel	◔	◔	◕			M
Cast Iron	◕					K
Non-Ferrous Metals						N
Titanium Alloy			◕			S
Hard Materials (~ 40HRC)		○				H
Hard Materials (40HRC ~)						H

Insert		Part Number	No. of Edges	Dimensions (mm) CW in	CW mm	S	RE	INSL	Tolerance (mm) CW min.	CW max.	Carbide PVD PR1215	PR1225	PR1535	Cermet TN620	TN90	Applicable Toolholder ➡ G44~G56
	 General Purpose	GDM 2420N-020GM	2	0.094	2.4	4.3	0.2	20	- 0.03	+ 0.03	●	●	●	●	●	KGD R/L ...2.4... KGD R/L ...2...
		GDM 3020N-020GM	2	0.118	3	4.3	0.2	20	- 0.03	+ 0.03	●	●	●	●	●	KGD R/L ...3... KGD R/L ...2.4...
		3020N-040GM					0.4				●	●	●	●	●	
		GDM 4020N-020GM	2	0.157	4	4.3	0.2	20	- 0.03	+ 0.03	●	●	●	●	●	KGD R/L ...4... KGD R/L ...3...
		4020N-040GM					0.4				●	●	●	●	●	
		4020N-080GM					0.8				●	●	●	●	●	
		GDM 5020N-040GM	2	0.197	5	4.3	0.4	20	- 0.04	+ 0.04	●	●	●	●	●	KGD R/L ...5... KGD R/L ...4...
		5020N-080GM					0.8				●	●	●	●		
		GDM 6020N-040GM	2	0.236	6	4.3	0.4	20	- 0.04	+ 0.04	●	●	●	●	●	KGD R/L ...6... KGD R/L ...5...
		6020N-080GM					0.8				●	●	●	●	●	
		GDM 8030N-080GM	2	0.315	8	5.5	0.8	30	- 0.05	+ 0.05	●	●	●			KGD R/L ...-8T25
	 1-edge / General Purpose	GDMS 2220N-020GM	1	0.087	2.2	4.3	0.2	20	- 0.03	+ 0.03	●	●	●	●	●	KGD R/L ...2...
		GDMS 3020N-040GM	1	0.118	3	4.3	0.4	20	- 0.03	+ 0.03	●	●	●	●		KGD R/L ...3... KGD R/L ...2.4...
		GDMS 4020N-040GM	1	0.157	4	4.3	0.4	20	- 0.03	+ 0.03	●	●	●	●	●	KGD R/L ...4... KGD R/L ...3...
		GDMS 5020N-080GM	1	0.197	5	4.3	0.8	20	- 0.04	+ 0.04	●	●	●	●		KGD R/L ...5... KGD R/L ...4...
		GDMS 6020N-080GM	1	0.236	6	4.3	0.8	20	- 0.04	+ 0.04	●	●	●	●		KGD R/L ...6... KGD R/L ...5...

Recommended Cutting Conditions ➡ G58

Inserts identification system

GD M S 30 20 N - 040 GM

Series: GD

Tolerance symbol	
M	M class
G	G class

Number of edges	
Without indication	2-edge
S	1-edge

Edge width	
20	2 mm
30	3 mm
40	4 mm

Insert length	
20	20 mm
30	30 mm

Hand of tool	
N	Neutral

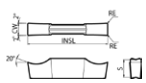
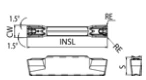
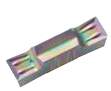
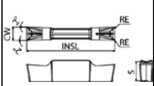
Corner-R (RE)	
020	0.2 mm
030	0.3 mm
040	0.4 mm
150R	1.5 mm (Full-R)

Chipbreaker symbol	
GM	Grooving and turning
GL	Low feed
GS	Low cutting force
CM	Copying
PH	High speed
NB	Without chipbreaker

● : 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

GDM/GDMS/GDG

	PR1215	PR1225	PR1535	PDL015	GW15	TN620	TN90	
Carbon Steel / Alloy Steel	◔	◐				●	○	P
Stainless Steel	◔	◔	◐					M
Cast Iron	◐							K
Non-Ferrous Metals				◐	◔			N
Titanium Alloy			◐	◔	◔			S
Hard Materials (~ 40HRC)		○						H
Hard Materials (40HRC ~)								H

Insert		Part Number	No. of Edges	Dimensions (mm) CW in	CW mm	S	RE	INSL	Tolerance (mm) CW min.	CW max.	Carbide PVD PR1215	PR1225	PR1535	DLC PDL015	- GW15	Cermet - TN620	TN90	Applicable Toolholder ➡ G44~G56
	 Low Cutting Force	GDG 2520N-020GS	2	0.098	2.5	4.3	0.2	20	- 0.02	+ 0.02	●	●	●		●	●	●	KGD R/L ...2.4... KGD R/L ...2...
		GDG 3020N-020GS	2	0.118	3	4.3	0.2	20	- 0.02	+ 0.02	●	●	●		●	●	●	KGD R/L ...3... KGD R/L ...2.4...
		GDG 3520N-020GS	2	0.138	3.5	4.3	0.2	20	- 0.02	+ 0.02	●	●	●		●	●		KGD R/L ...3...
		GDG 4020N-040GS	2	0.157	4	4.3	0.4	20	- 0.02	+ 0.02	●	●	●		●	●	●	KGD R/L ...4... KGD R/L ...3...
		GDG 5020N-040GS	2	0.197	5	4.3	0.4	20	- 0.02	+ 0.02	●	●	●		●	●	●	KGD R/L ...5... KGD R/L ...4...
		GDG 6020N-040GS	2	0.236	6	4.3	0.4	20	- 0.02	+ 0.02	●	●	●		●	●		KGD R/L ...6... KGD R/L ...5...
		GDG 8030N-040GS	2	0.315	8	5.5	0.4	30	- 0.02	+ 0.02	●	●	●		●	●		KGD R/L ...-8T25
	 Low Feed	GDM 2420N-020GL	2	0.094	2.4	4.3	0.2	20	- 0.03	+ 0.03	●	●	●			●	●	KGD R/L ...2.4... KGD R/L ...2...
		GDM 3020N-020GL	2	0.118	3	4.3	0.2	20	- 0.03	+ 0.03	●	●	●			●	●	KGD R/L ...3... KGD R/L ...2.4...
		3020N-040GL					0.4				●	●	●			●	●	
		GDM 4020N-020GL	2	0.157	4	4.3	0.2	20	- 0.03	+ 0.03	●	●	●			●	●	KGD R/L ...4... KGD R/L ...3...
		4020N-040GL					0.4				●	●	●			●		
		GDM 5020N-040GL	2	0.197	5	4.3	0.4	20	- 0.04	+ 0.04	●	●	●			●	●	KGD R/L ...5... KGD R/L ...4...
		GDM 6020N-040GL	2	0.236	6	4.3	0.4	20	- 0.04	+ 0.04	●	●	●			●		KGD R/L ...6... KGD R/L ...5...
	 For Aluminum	GDG 3020N-020AM	2	0.118	3	4.3	0.2	20	- 0.02	+ 0.02				●	●			KGD R/L ...3... KGD R/L ...2.4...
		GDG 4020N-040AM	2	0.157	4	4.3	0.4	20	- 0.02	+ 0.02				●	●			KGD R/L ...4... KGD R/L ...3...
		GDG 5020N-040AM	2	0.197	5	4.3	0.4	20	- 0.02	+ 0.02				●	●			KGD R/L ...5... KGD R/L ...4...
		GDG 6020N-040AM	2	0.236	6	4.3	0.4	20	- 0.02	+ 0.02				●	●			KGD R/L ...6... KGD R/L ...5...

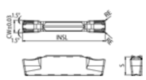
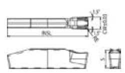
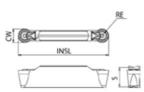
Recommended Cutting Conditions ➡ G58

INSERT GRADES A
TURNING INSERTS B
CBN / PCD INSERTS C
TURNING HOLDERS D
SMALL TOOLS E
BORING F
GROOVING G
CUT-OFF H
THREADING J
DRILLING K
MILLING M
QUICK CHANGE TOOLING N
SPARE PARTS P
TECHNICAL R
INDEX T

● : 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

GDM/GDMS/GDG

		PR1215	PR1225	PR1535	TN620	TN90	
Carbon Steel / Alloy Steel		◌	◕		●	○	P
Stainless Steel		◌	◌	◕			M
Cast Iron		◕					K
Non-Ferrous Metals							N
Titanium Alloy				◕			S
Hard Materials (~ 40HRC)			○				H
Hard Materials (40HRC ~)							H

Insert		Part Number	No. of Edges	Dimensions (mm) CW in	CW mm	S	RE	INSL	Tolerance (mm) CW min.	CW max.	Carbide PVD PR1215	PR1225	PR1535	Cermet - TN620	TN90	Applicable Toolholder ➡ G44~G56
	 High feed	GDM 2020N-020PH	2	0.079	2	4.3	0.2	20	- 0.03	+ 0.03	●	●	●			KGD R/L ...2...
		GDM 3020N-030PH	2	0.118	3	4.3	0.3	20	- 0.03	+ 0.03	●	●	●			KGD R/L ...3... KGD R/L ...2.4...
		GDM 4020N-030PH	2	0.157	4	4.3	0.3	20	- 0.03	+ 0.03	●	●	●			KGD R/L ...4... KGD R/L ...3...
	 1-edge / High feed	GDMS 2020N-020PH	1	0.079	2	4.3	0.2	20	- 0.03	+ 0.03	●	●	●			KGD R/L ...2...
		GDMS 3020N-030PH	1	0.118	3	4.3	0.3	20	- 0.03	+ 0.03	●	●	●			KGD R/L ...3... KGD R/L ...2.4...
		GDMS 4020N-030PH	1	0.157	4	4.3	0.3	20	- 0.03	+ 0.03	●	●	●			KGD R/L ...4... KGD R/L ...3...
	 Full R	GDM 3020N-150R-CM	2	0.118	3	4.3	1.5	20	- 0.03	+ 0.03	●	●	●	●	●	KGD R/L ...3... KGD R/L ...2.4...
		GDM 4020N-200R-CM	2	0.157	4	4.3	2	20	- 0.03	+ 0.03	●	●	●	●	●	KGD R/L ...4... KGD R/L ...3...
		GDM 5020N-250R-CM	2	0.197	5	4.3	2.5	21	- 0.04	+ 0.04	●	●	●	●	●	KGD R/L ...5... KGD R/L ...4...
		GDM 6020N-300R-CM	2	0.236	6	4.3	3	21	- 0.04	+ 0.04	●	●	●	●		KGD R/L ...6... KGD R/L ...5...

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

Recommended Cutting Conditions ➡ G58

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
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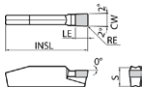
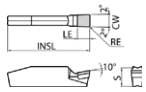
GDGS

Cutting Edge Preparation

Symbol	Specification	Example	
F	Sharp Edge	F	Sharp Edge
E	R-Honed	E003	R0.003" Honed

Carbon Steel / Alloy Steel					P
Stainless Steel					M
Cast Iron					K
Non-Ferrous Metals				●	N
Titanium Alloy				●	S
Hard Materials (~ 40HRC)					H
Hard Materials (40HRC ~)	●				
Sintered steel		●			

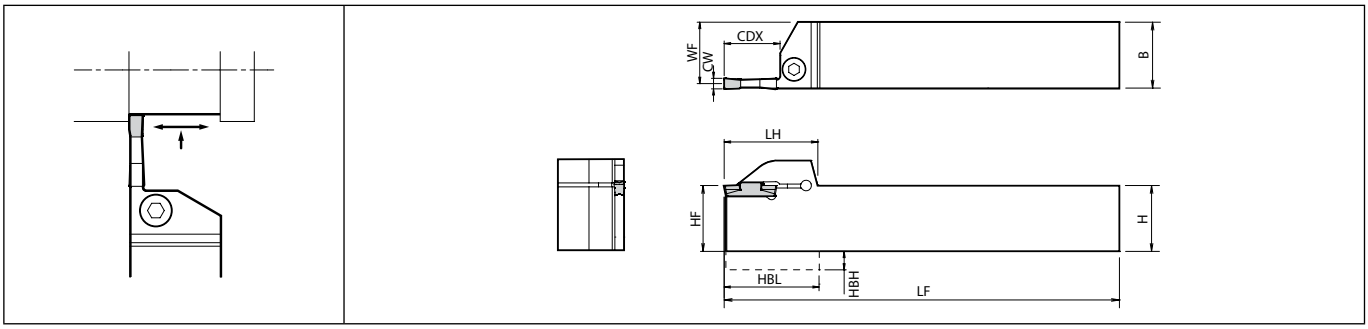
Insert		Part Number	Edge preparation type	No. of Edges	Dimensions (mm) CW in	CW mm	S	RE	INSL	LE	Tolerance (mm) CW min.	CW max.	CBN PVD KBN05M	CBN - KBN570	PCD - KPD001	Applicable Toolholder ⇨ G44~G56
	 1-edge	GDGS 2020N-020NB	E003 / E0008	1	0.079	2	4.3	0.2	20	2.9	-0.03	+0.03	●	●		KGD R/L ...2...
		GDGS 3020N-040NB	E003 / E0008	1	0.118	3	4.3	0.4	20	2.9	-0.03	+0.03	●	●		KGD R/L ...3... KGD R/L ...2.4...
		GDGS 4020N-040NB	E003 / E0008	1	0.157	4	4.3	0.4	20	2.9	-0.03	+0.03	●	●		KGD R/L ...4... KGD R/L ...3...
		GDGS 5020N-040NB	E003 / E0008	1	0.197	5	4.3	0.4	20	2.9	-0.03	+0.03	●	●		KGD R/L ...5... KGD R/L ...4...
		GDGS 6020N-040NB	E003	1	0.236	6	4.3	0.4	20	2.9	-0.03	+0.03	●			KGD R/L ...6... KGD R/L ...5...
	 1-edge	GDGS 2020N-020NB	F	1	0.079	2	4.3	0.2	20	2.9	-0.03	+0.03			●	KGD R/L ...2...
		GDGS 3020N-020NB	F	1	0.118	3	4.3	0.2	20	2.9	-0.03	+0.03			●	KGD R/L ...3... KGD R/L ...2.4...
		GDGS 4020N-020NB	F	1	0.157	4	4.3	0.2	20	2.9	-0.03	+0.03			●	KGD R/L ...4... KGD R/L ...3...
		GDGS 5020N-020NB	F	1	0.197	5	4.3	0.2	20	2.9	-0.03	+0.03			●	KGD R/L ...5... KGD R/L ...4...
		GDGS 6020N-020NB	F	1	0.236	6	4.3	0.2	20	2.9	-0.03	+0.03			●	KGD R/L ...6... KGD R/L ...5...

Recommended Cutting Conditions ⇨ G58

CBN & PCD Inserts are sold in 1 piece boxes

● : 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

KGD (External Grooving)



Right-hand shown

Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	CDX	H	B	LH	HF	HBH	HBL	LF	WF	CW min.	CW max.	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts G40~G43
Inch	KGD□□ 12-2T17	●	●	0.669	0.75	0.75	1.28	0.75	-	-	4.92	0.71	0.079" (2mm)	0.118" (3mm)	HH5X16	LW-4	GD..2020..., GD..2220... GD..2420..., GD..2520... GD..3020...
	16-2T17	●	●	0.669	1.00	1.00	1.28	1.00			5.90	0.96			HH5X25		
	KGD□□ 12-3T10	●	●	0.393	0.75	0.75	1.20	0.75	-	-	4.92	0.70	0.118" (3mm)	0.157" (4mm)	HH5X16	LW-4	GD..3020... GD..3520... GD..4020...
	12-3T20	●	●	0.787			1.35										
	12-3T254	●	●	1.000			1.52										
	16-3T10	●	●	0.393	1.00	1.00	1.20	1.00	-	-	5.90	0.95			HH5X25		
	16-3T20	●	●	0.787			1.39										
	16-3T254	●	●	1.000			1.52										
	KGD□□ 12-4T10	●	●	0.393	0.75	0.75	1.20	0.75	-	-	4.92	0.68	0.157" (4mm)	0.197" (5mm)	HH5X16	LW-4	GD..4020... GD..5020...
	12-4T20	●	●	0.787			1.35										
	16-4T10	●	●	0.393	1.00	1.00	1.20	1.00	-	-	5.90	0.93			HH5X25		
	16-4T20	●	●	0.787			1.39										
	16-4T25	●	●	0.984			1.59										
	KGD□□ 12-5T10	●	●	0.393	0.75	0.75	1.20	0.75	-	-	4.92	0.66	0.197" (5mm)	0.236" (6mm)	HH5X16	LW-4	GD..5020... GD..6020...
	12-5T17	●	●	0.669			1.47										
	16-5T10	●	●	0.393	1.00	1.00	1.20	1.00	-	-	5.90	0.91			HH5X25		
	16-5T17	●	●	0.669			1.47										
	16-5T25	●	●	0.984			1.59										
	KGD□□ 16-6T15	●	●	0.591	1.00	1.00	1.28	1.00	-	-	5.90	0.89	0.236" (6mm)	0.236" (6mm)	HH5X25	LW-4	GD..6020...
	16-6T30	●	●	1.181	1.00	1.00	1.79	1.00									
	KGD□□ 16-8T25	●	●	0.984	1.00	1.00	1.65	1.00	0.26	1.69	5.90	0.88	0.315" (8mm)	0.315" (8mm)	HH6X25	LW-5	GD..8030...

CDX : Maximum grooving depth. (If the CDX is 0.787" (20mm) or more, the maximum groove-depth of groove made by a 2-edge insert will be 0.709" (18mm.)
Recommended tightening torque of clamp bolt : 6.5N·m (HH5X○○), 8.0N·m (HH6X25), 2.5N·m (SE-50125TR)
Above toolholders are applicable to Cut-off, too.

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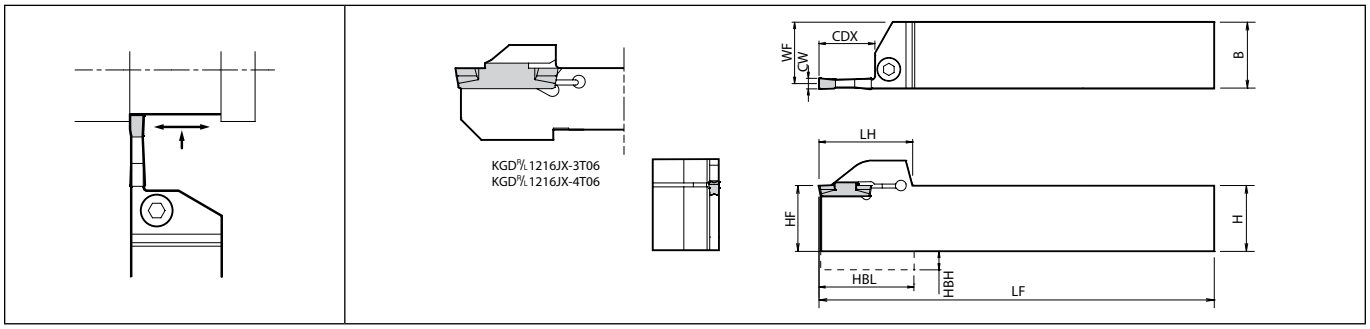
Contact your local Kyocera sales engineer to upgrade old products to new technology

KGD (External Grooving)



Right-hand shown

Toolholder Dimensions

Unit	Part Number		Std. Item		Dimensions										Spare Parts				Applicable Inserts ➡ G40~G43
															Clamp Screw	Screw	Wrench	Wrench	
			R	L	CDX	H	B	LH	HF	HBH	HBL	LF	WF	CW min.	CW max.					
mm	KGD□/L	1616H-2T06	●	●	6	16	16	27.7	16	4	28	100	15.2	2	3	HH5X16	-	LW-4	-	GD..2020... GD..2220... GD..2420... GD..2520... GD..3020...
		1616H-2T10	●	●	10			30.2			30.5									
		1616H-2T17	●	●	17			31.2			31.5									
		2012K-2T17	●	●	17	20	12	32.5	20	-	-	125	11.2							
		2020K-2T06	●	●	6		20	28					19.2							
		2020K-2T10	●	●	10			30.5												
		2020K-2T17	●	●	17			32.5												
		2525M-2T06	●	●	6	25	25	28	25			150	24.2			HH5X25				
		2525M-2T10	●	●	10			30.5												
		2525M-2T17	●	●	17			32.5												
	KGD□/L	2012K-2.4T17	●	●	17	20	12	32.5	20	-	-	125	11	2.4	3	HH5X16	-	LW-4	-	GD..2420... , GD..2520... GD..3020...
		2020K-2.4T17	●	●	17		20						19							
	KGD□/L	1216JX-3T06	●	●	6	12	16	19.5	12	2	19	120	14.8	3	4	-	SE-50125TR	-	LTW-20	GD..3020... GD..3520... GD..4020...
		1616H-3T06	●	●	6	16		27.7	16	4	28	100				HH5X16	-	LW-4	-	
		1616H-3T10	●	●	10			30.2			30.5									
		1616H-3T20	●	●	20			34.2			34.5									
		2012K-3T20	●	●	20	20	12	34.5	20	-	-	125	10.8							
		2020K-3T06	●	●	6		20	28					18.8							
		2020K-3T10	●	●	10			30.5												
		2020K-3T20	●	●	20			34.5												
		2525M-3T06	●	●	6	25	25	28	25			150	23.8			HH5X25				
		2525M-3T10	●	●	10			30.5												
		2525M-3T20	●	●	20			35.5												
	KGD□/L	1216JX-4T06	●	●	6	12	16	19.5	12	2	19	120	14.3	4	5	-	SE-50125TR	-	LTW-20	GD..4020... GD..5020...
		2020K-4T10	●	●	10	20	20	30.5	20	-	-	125	18.3			HH5X16	-	LW-4	-	
		2020K-4T20	●	●	20			34.5												
		2525M-4T10	●	●	10	25	25	30.5	25			150	23.3			HH5X25				
		2525M-4T20	●	●	20			35.5												
		2525M-4T25	●	●	25			40.5												
	KGD□/L	2020K-5T10	●	●	10	20	20	30.5	20	-	-	125	17.8	5	6	HH5X16	-	LW-4	-	GD..5020... GD..6020...
		2020K-5T17	●	●	17			37.5								HH5X25				
		2525M-5T10	●	●	10	25	25	30.5	25			150	22.8							
		2525M-5T17	●	●	17			37.5												
		2525M-5T25	●	●	25			40.5												
	KGD□/L	2525M-6T15	●	●	15	25	25	32.5	25	-	-	150	22.4	6	6	HH5X25	-	LW-4	-	GD..6020...
		2525M-6T30	●	●	30			45.5												
	KGD□/L	2525M-8T25	●	●	25	25	25	43.3	25	7	44.2	150	22	8	8	HH6X25	-	LW-5	-	GD..8030...
		3232P-8T25	●	●	25	32	32		32	-	-	170	29							

CDX : Maximum grooving depth. (If the CDX is 0.787" (20mm) or more, the maximum groove-depth of groove made by a 2-edge insert will be 0.709" (18mm.)
Recommended tightening torque of clamp bolt : 6.5N·m (HH5X○○), 8.0N·m (HH6X25), 2.5N·m (SE-50125TR)
Above toolholders are applicable to Cut-off, too.

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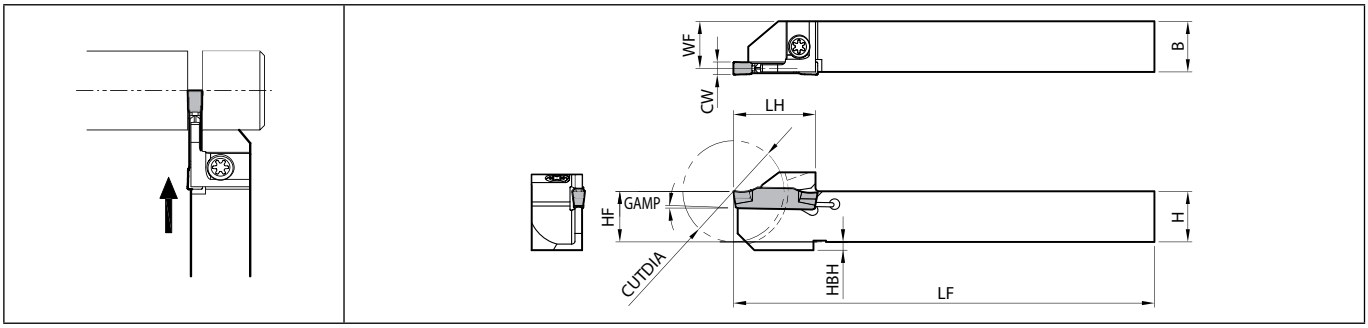
KGD (External Grooving, for Small Parts)



Right-hand shown

Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	CUTDIA	H	B	LH	HF	HBH	LF	WF	CW min.	CW max.	Angle (°) GAMP	Screw	Screw	Wrench	Applicable Inserts G40~G43
Inch	KGDR/L 6-2JX	●	●	0.787	0.375	0.375	0.709	0.375	0.098	4.75	0.342	0.079" (2mm)	0.118" (3mm)	1	SB-40120TR	-	LTW-15S	GD..2020..., GD..2220... GD..2420..., GD..2520... GD..3020...
	8-2JX	●	●	0.944	0.500	0.500	0.768	0.500	0.051		0.467							
	10-2JX	●	●	1.259	0.625	0.625	0.965	0.625	-		0.592							
	KGDR/L 6-2.4JX	●	●	0.787	0.375	0.375	0.709	0.375	0.098	4.75	0.336	0.094" (2.4mm)	0.118" (3mm)	1	SB-40120TR	-	LTW-15S	GD..2420... GD..2520... GD..3020...
	8-2.4JX	●	●	0.944	0.500	0.500	0.768	0.500	0.051		0.461							
	10-2.4JX	●	●	1.259	0.625	0.625	0.965	0.625	-		0.586							
	KGDR/L 8-3JX	●	●	0.944	0.500	0.500	0.768	0.500	0.051	4.75	0.453	0.118" (3mm)	0.118" (3mm)	1	SB-40120TR	-	LTW-15S	GD..3020...
	10-3JX	●	●	1.259	0.625	0.625	0.965	0.625	-	4.75	0.578	0.118" (3mm)	0.157" (4mm)	1	SB-40120TR	-	LTW-15S	GD..3020..., GD..3520... GD..4020...
	KGDR/L 10-3D38JX	●	●	1.496	0.625	0.625	1.142	0.625	-	4.75	0.578	0.118" (3mm)	0.157" (4mm)	1	-	SE-50125TR	LTW-20	GD..3020..., GD..3520... GD..4020...
	12-3D42JX	●	●	1.653	0.750	0.750	1.220	0.750	-		0.703							
	43-3D42JX	●	●	1.653	0.750	0.500	1.220	0.750	-		0.453							

0.157" (4mm) width insert cannot be installed in KGDR/L 1212JX-3
Recommended tightening torque of clamp screw : 2.0N·m (SB-40120TR), 2.5N·m (SE-50125TR)
When machining material greater than Ø1.417" (36mm) with KGDR/L ...-3D38, KGDR/L ...-3D42 and KGDR/L ...-3D51 toolholders, please use 1-edge inserts.
Maximum cutting diameter for 2-edge inserts is Ø1.417" (36mm).

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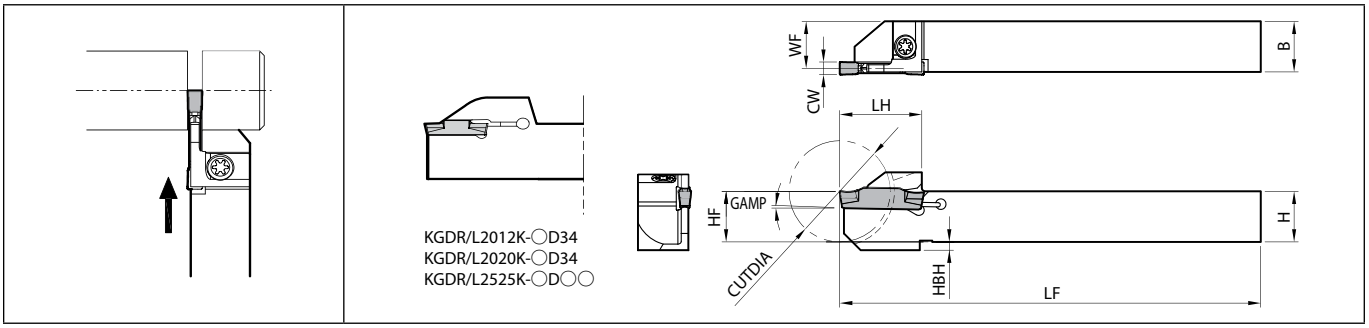
KGD (External Grooving, for Small Parts)



Right-hand shown

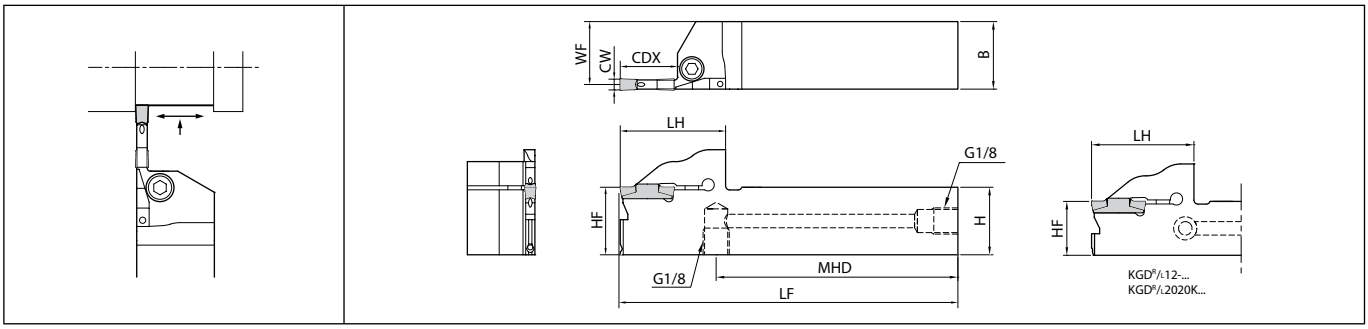
Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	CUTDIA	H	B	LH	HF	HBH	LF	WF	CW min.	CW max.	Angle (°) GAMP	Spare Parts: Clamp Screw	Spare Parts: Screw	Spare Parts: Screw	Spare Parts: Wrench	Spare Parts: Wrench	Applicable Inserts ➡ G40~G43
mm	KGD□ 1010JX-2	●	●	20	10	10	18	10	2	120	9.2	2	3	1	-	SB-40120TR	-	-	LTW-15S	GD..2020... GD..2220... GD..2420... GD..2520... GD..3020...
	1212F-2	●	●	24	12	12	19.5	12	2	85	11.2	2	3	1	-	SB-40120TR	-	-	LTW-15S	GD..2020... GD..2220... GD..2420... GD..2520... GD..3020...
	1212JX-2	●	●	24	12	12	19.5	12	2	120	11.2	2	3	1	-	SB-40120TR	-	-	LTW-15S	GD..2020... GD..2220... GD..2420... GD..2520... GD..3020...
	1616JX-2	●	●	32	16	16	24.5	16	-	120	15.2	2	3	1	-	SB-40120TR	-	-	LTW-15S	GD..2020... GD..2220... GD..2420... GD..2520... GD..3020...
	2012K-2D34	●	●	34	20	12	32.5	20	-	125	11.2	2	3	0	HH5X16	-	-	LW-4	-	GD..2020... GD..2220... GD..2420... GD..2520... GD..3020...
	2020K-2D34	●	●	34	20	20	32.5	20	-	125	19.2	2	3	0	HH5X16	-	-	LW-4	-	GD..2020... GD..2220... GD..2420... GD..2520... GD..3020...
	KGD□ 1010JX-2.4	●	●	20	10	10	18	10	2	120	9	2.4	3	1	-	SB-40120TR	-	-	LTW-15S	GD..2420... GD..2520... GD..3020...
	1212F-2.4	●	●	24	12	12	19.5	12	2	85	11	2.4	3	1	-	SB-40120TR	-	-	LTW-15S	GD..2420... GD..2520... GD..3020...
	1212JX-2.4	●	●	24	12	12	19.5	12	2	120	11	2.4	3	1	-	SB-40120TR	-	-	LTW-15S	GD..2420... GD..2520... GD..3020...
	1616JX-2.4	●	●	32	16	16	24.5	16	-	120	15	2.4	3	1	-	SB-40120TR	-	-	LTW-15S	GD..2420... GD..2520... GD..3020...
	2012K-2.4D34	●	●	34	20	12	32.5	20	-	125	11	2.4	3	0	HH5X16	-	-	LW-4	-	GD..2420... GD..2520... GD..3020...
	2020K-2.4D34	●	●	34	20	20	32.5	20	-	125	19	2.4	3	0	HH5X16	-	-	LW-4	-	GD..2420... GD..2520... GD..3020...
	KGD□ 1212JX-3	●	●	24	12	12	19.5	12	2	120	10.8	3	3	1	-	SB-40120TR	-	-	LTW-15S	GD..3020...
	KGD□ 1616JX-3	●	●	32	16	16	24.5	16	-	120	14.8	3	4	1	-	SB-40120TR	-	-	LTW-15S	GD..3020... GD..3520... GD..4020...
	1616JX-3D38	●	●	38	19	16	29	19	-	120	14.8	3	4	1	-	-	SE-50125TR	-	LTW-20	GD..3020... GD..3520... GD..4020...
	1913K-3D38	●	●	38	19	13	29	19	-	125	11.8	3	4	1	-	-	SE-50125TR	-	LTW-20	GD..3020... GD..3520... GD..4020...
	2012JX-3D42	●	●	42	20	12	31	20	-	120	10.8	3	4	1	-	-	SE-50125TR	-	LTW-20	GD..3020... GD..3520... GD..4020...
	2012JX-3D51	●	●	51	20	12	36	20	-	120	10.8	3	4	1	-	-	SE-50125TR	-	LTW-20	GD..3020... GD..3520... GD..4020...
	2020JX-3D42	●	●	42	20	20	31	20	-	120	18.8	3	4	1	-	-	SE-50125TR	-	LTW-20	GD..3020... GD..3520... GD..4020...
	2020JX-3D51	●	●	51	20	20	36	20	-	120	18.8	3	4	1	-	-	SE-50125TR	-	LTW-20	GD..3020... GD..3520... GD..4020...

0.157" (4mm) width insert cannot be installed in KGD□ 1212JX-3
Recommended tightening torque of clamp screw : 2.0N·m (SB-40120TR), 2.5N·m (SE-50125TR)
When machining material greater than Ø1.417" (36mm) with KGD□ ...-3D38, KGD□ ...-3D42 and KGD□ ...-3D51 toolholders, please use 1-edge inserts.
Maximum cutting diameter for 2-edge inserts is Ø1.417" (36mm).

● : 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

KGD-JCT (External Grooving, Coolant-Through Toolholder)



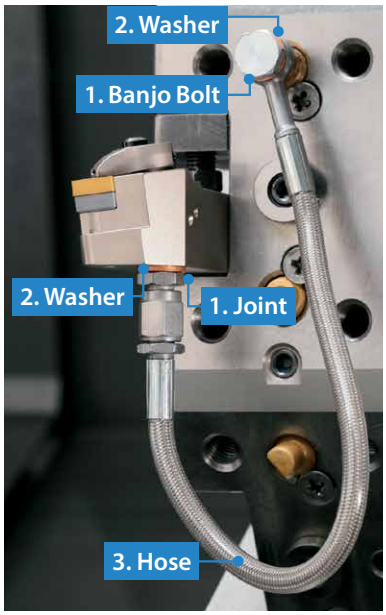
Right-hand shown | Pressure Resistance : ~2,175 psi

Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	CDX	H	B	LH	MHD	HF	LF	WF	CW min.	CW max.	Coolant Hole	Spare Parts: Clamp Screw	Spare Parts: Plug	Spare Parts: Wrench	Applicable Inserts G40~G43
Inch	KGD® 12-3T20JCT	●	●	0.787	0.750	0.750	1.496	3.590	0.750	5.000	0.702	0.118" (3mm)	0.157" (4mm)	Yes	HH5X16	HSG1/8X8.0	LW-4	GD..3020..., GD..3520...
	16-3T20JCT	●	●		1.000	1.000	1.535	3.551	1.000		0.952				HH5X25			GD..4020...
	KGD® 12-4T20JCT	●		0.787	0.750	0.750	1.496	3.590	0.750	5.000	0.683	0.157" (4mm)	0.197" (5mm)	Yes	HH5X16	HSG1/8X8.0	LW-4	GD..4020...
	16-4T20JCT	●	●		1.000	1.000	1.535	3.551	1.000		0.933				HH5X25			GD..5020...
	KGD® 16-4T25.4JCT	●	●	1.000	1.000	1.000	1.732	3.354	1.000	5.000	0.933				HH5X25			
mm	KGD® 2020K-3T06JCT	●	●	6	20	20	31.5	96.2	20	125	18.8	3	4	Yes	HH5X16	HSG1/8X8.0	LW-4	GD..3020...
	2525K-3T06JCT	●	●		25	25		96.5	25		23.8				HH5X25			GD..3520...
	KGD® 2020K-3T10JCT	●	●	10	20	20	34	94.2	20	125	18.8	3	4	Yes	HH5X16	HSG1/8X8.0	LW-4	GD..4020...
	2525K-3T10JCT	●	●		25	25		94.5	25		23.8				HH5X25			
	KGD® 2020K-3T20JCT	●	●	20	20	20	38	90.2	20	125	18.8	3	4	Yes	HH5X16	HSG1/8X8.0	LW-4	
	2525K-3T20JCT	●	●		25	25	39	89.5	25		23.8				HH5X25			
	KGD® 2020K-4T10JCT	●	●	10	20	20	34	94.2	20	125	18.3	4	5	Yes	HH5X16	HSG1/8X8.0	LW-4	GD..4020...
	2525K-4T10JCT	●	●		25	25		94.5	25		23.3				HH5X25			GD..5020...
	KGD® 2020K-4T20JCT	●	●	20	20	20	38	90.2	20	125	18.3	4	5	Yes	HH5X16	HSG1/8X8.0	LW-4	
	2525K-4T20JCT	●	●		25	25	39	89.5	25		23.3				HH5X25			
	KGD® 2525K-4T25JCT	●	●	25	25	25	44	84.5	25	125	23.3	4	5	Yes	HH5X25	HSG1/8X8.0	LW-4	

● : 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

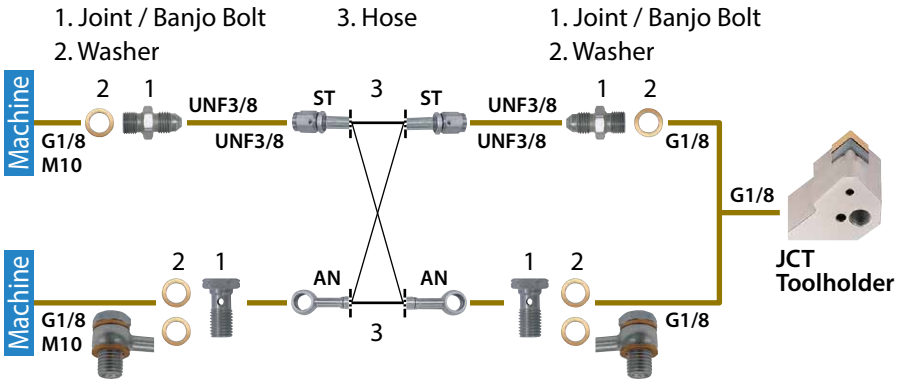
Easy Connection with High Pressure Hose and Joint



· 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



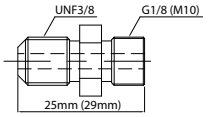
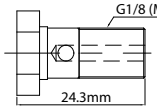
Piping Parts

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

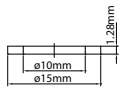
1. Joint / Banjo Bolt

Pressure Resistance: up to 4,350 psi

Shape		Part Number	Std. Item	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

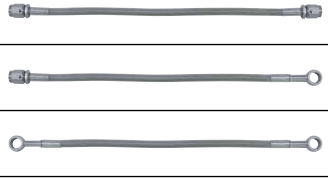
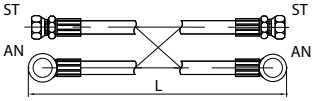
Pressure Resistance: up to 4,350 psi

Shape		Part Number	Std. Item
		WS-10	●

* Use 2 washers for a banjo bolt

3. Hose

Pressure Resistance: up to 4,350 psi

Shape		Part Number	Std. Item	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.

● : 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

JCTM Series

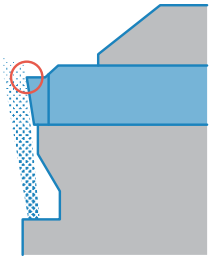
Direct Coolant Holders for Small Parts Machining

Cut-off holders for high pressure coolant with long tool life
Optimized coolant hole position effectively cools the cutting edge

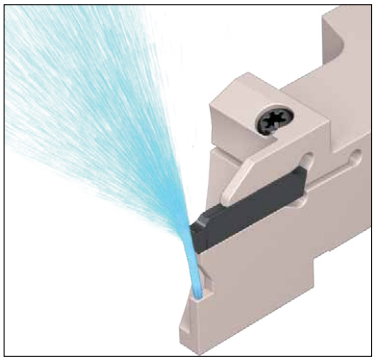
1 Optimized coolant hole position

2 Discharges coolant towards the flank face of the inserts

KGD-JCTM
Cooling the cutting edge leads to longer tool life



Competitor C
Coolant does not flow directly toward the cutting edge



Supports Internal Coolant with or without Piping Systems

Internal Coolant without Piping

***When the tool plate supports direct coolant**

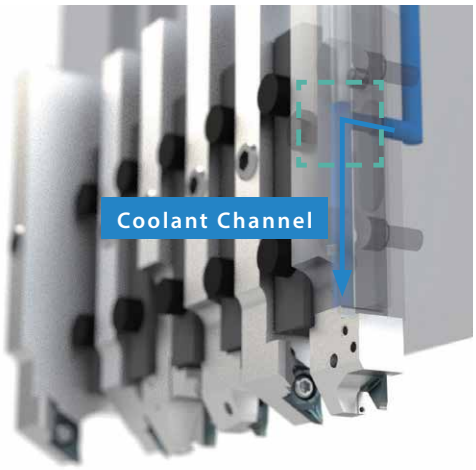
Coolant is supplied directly from the tool plate into the holder without the need to install piping

Applicable to Wide Range of Machines

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

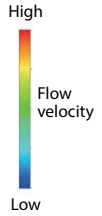
Compatible with various machine including the above.Toolholders can be customized as well.

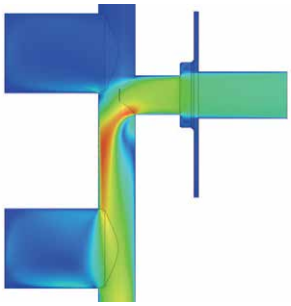


Optimized Coolant Supply

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

Analysis Image
(Internal Evaluation)





800.823.7284
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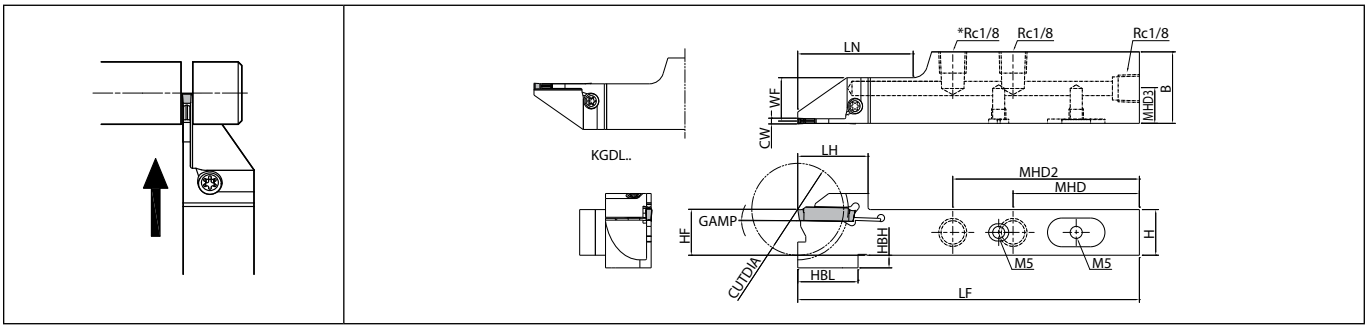
KGD-JCTM (External Grooving, Coolant-Through Toolholder)



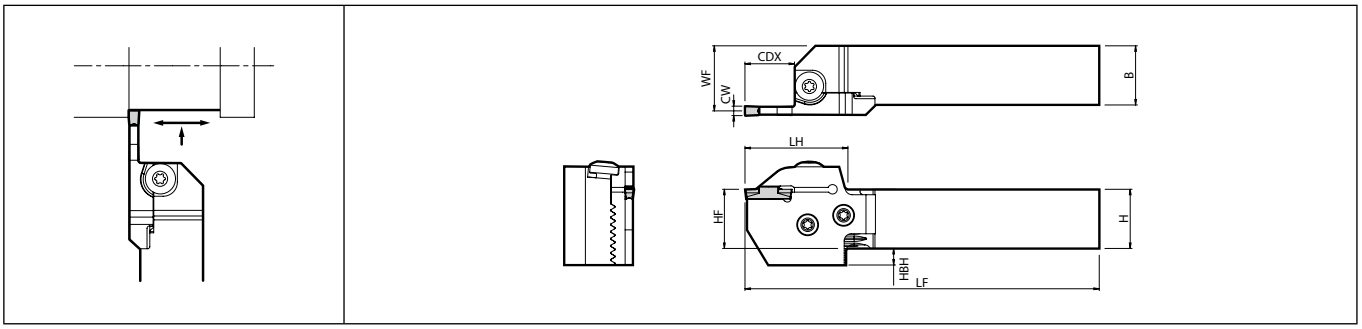
Right-hand shown | KGDR/L 5.72...-JCTM, KGDR/L 12...-JCTM : 2-Rc1/8

Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions															Angle (°)	Coolant Hole	Spare Parts				Applicable Inserts ➡ G40~G43
																					Plug	Plug	Screw	Wrench	
		R	L	CUTDIA	H	B	LH	MHD	MHD2	MHD3	HF	HBH	HBL	LF	LN	WF	CW min.	CW max.	GAMP						
Inch	KGDR 5.72-2JCTM	●		0.945	0.500	0.709	0.770	2.125	-	0.331	0.500	0.330	0.825	4.750	1.725	0.500	0.079" (2mm)	0.118" (3mm)	1	Yes	GP-1	HS5X4LP	SB-40120TR	LTW-15S	GD..2020... GD..2220... GD..2420... GD..2520... GD..3020...
	KGDL 5.72-2JCTM		●							0.303			0.843												
	KGDR 82.5-2JCTM	●		1.260	0.625	1.000	0.965	1.730	2.560	0.480	0.625	0.175	0.825		1.585	0.625									
	KGDL 82.5-2JCTM		●							0.303															
	KGDR 5.72-2.4JCTM	●		0.945	0.500	0.709	0.770	2.125	-	0.331	0.500	0.330	0.825	4.750	1.725	0.500	0.094" (2.4mm)	0.118" (3mm)	1	Yes	GP-1	HS5X4LP	SB-40120TR	LTW-15S	GD..2420... GD..2520... GD..3020...
	KGDL 5.72-2.4JCTM		●							0.303			0.843												
	KGDR 82.5-2.4JCTM	●		1.260	0.625	1.000	0.965	1.730	2.560	0.480	0.625	0.175	0.825		1.585	0.625									
	KGDL 82.5-2.4JCTM		●							0.303															
	KGDR 5.72-3JCTM	●		0.945	0.500	0.709	0.770	2.125	-	0.331	0.500	0.330	0.825	4.750	1.725	0.500	0.118" (3mm)	0.118" (3mm)	1	Yes	GP-1	HS5X4LP	SB-40120TR	LTW-15S	GD..3020... GD..3520... GD..4020...
	KGDL 5.72-3JCTM		●							0.303			0.843												
	KGDR 82.5-3JCTM	●		1.260	0.625	1.000	0.965	1.730	2.560	0.480	0.625	0.175	0.825		1.585	0.625	0.118" (3mm)	0.157" (4mm)							
	KGDL 82.5-3JCTM		●							0.303															
mm	KGDR 1218JX-2JCTM	●		24	12	18	19.5	54	-	8.4	12	8.5	21	120	44	11.2	0.079" (2mm)	0.118" (3mm)	1	Yes	GP-1	HS5X4LP	SB-40120TR	LTW-15S	GD..2020... GD..2220... GD..2420... GD..2520... GD..3020...
	KGDL 1218JX-2JCTM		●							7.7			21.5												
	KGDR 1625JX-2JCTM	●		32	16	25	24.5	44	65	12.2	16	4.5	21		40	15.2									
	KGDL 1625JX-2JCTM		●							7.7															
	KGDR 1218JX-2.4JCTM	●		24	12	18	19.5	54	-	8.4	12	8.5	21	120	44	11	0.094" (2.4mm)	0.118" (3mm)	1	Yes	GP-1	HS5X4LP	SB-40120TR	LTW-15S	GD..2420... GD..2520... GD..3020...
	KGDL 1218JX-2.4JCTM		●							7.7			21.5												
	KGDR 1625JX-2.4JCTM	●		32	16	25	24.5	44	65	12.2	16	4.5	21		40	15									
	KGDL 1625JX-2.4JCTM		●							7.7															
	KGDR 1218JX-3JCTM	●		24	12	18	19.5	54	-	8.6	12	8.5	21	120	44	10.8	0.118" (3mm)	0.118" (3mm)	1	Yes	GP-1	HS5X4LP	SB-40120TR	LTW-15S	GD..3020... GD..3520... GD..4020...
	KGDL 1218JX-3JCTM		●							7.7			21.5												
	KGDR 1625JX-3JCTM	●		32	16	25	24.5	44	65	12.2	16	4.5	21		40	14.8	0.118" (3mm)	0.157" (4mm)							
	KGDL 1625JX-3JCTM		●							7.7															

● : 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

KGD-S (External Grooving / 0° SwitchBlade Type)



Right-hand shown (Right-hand blade and right-hand toolholder)

Toolholder Dimensions (Blade and Toolholder)

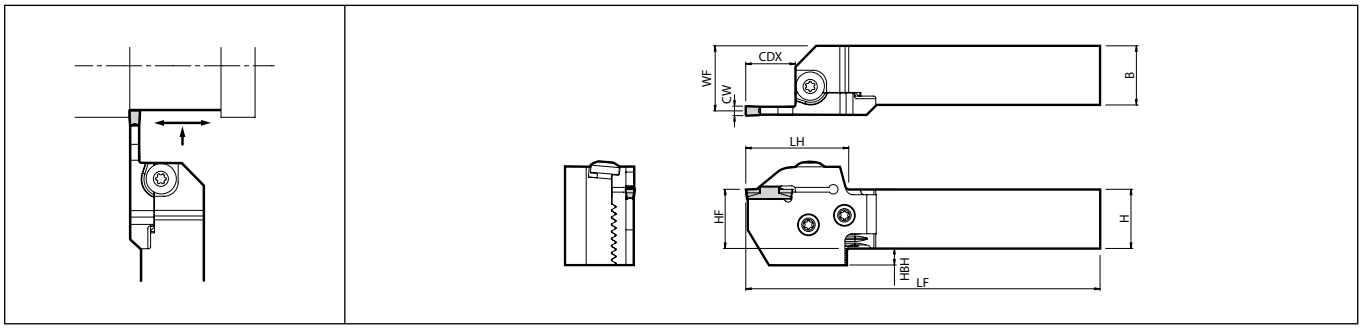
Unit	Shank Angle	Width (in)	Max. Depth of Cut (in)	Shank Size (in)	Unit Part Number	Std. Item R	Std. Item L	Blade Part Number G56	Toolholder Part Number G56	Dimensions CDX	H	B	LH	HF	HBH	LF	WF	CW min.	CW max.	Spare Parts: Clamp Screw (for insert clamp)	Screw (for blade)	Wrench
Inch	0°	0.079" (2mm)	0.669" (17mm)	□0.75	KGD□/L 12X-2T17S	●	●	KGD□/L-2T17-C	KGD□/L 12-C	0.669	0.75	0.75	1.57	0.75	0.472	4.80	0.88	0.079" (2mm)	0.118" (3mm)	BH6X10TR	SB-60120TR	LTW-25
				□1.00	16X-2T17S	●	●		KGD□/L 16-C		1.00	1.00	1.57	1.00	0.276	5.78	1.13					
				□1.25	No Unit Part Number ⇨				KGD□/L 20-C		1.25	1.25	1.57	1.25	-	6.58	1.38					
		0.118" (3mm)	0.394" (10mm)	□0.75	KGD□/L 12X-3T10S	●	●	KGD□/L-3T10-C	KGD□/L 12-C	0.394	0.75	0.75	1.29	0.75	0.472	4.52	0.86	0.118" (3mm)	0.157" (4mm)			
				□1.00	16X-3T10S	●	●		KGD□/L 16-C		1.00	1.00	1.29	1.00	0.276	5.51	1.11					
				□1.25	No Unit Part Number ⇨				KGD□/L 20-C		1.25	1.25	1.29	1.25	-	6.30	1.37					
			0.787" (20mm)	□0.75	KGD□/L 12X-3T20S	●	●	KGD□/L-3T20-C	KGD□/L 12-C	0.787	0.75	0.75	1.68	0.75	0.472	4.92	0.86					
				□1.00	16X-3T20S	●	●		KGD□/L 16-C		1.00	1.00	1.68	1.00	0.276	5.90	1.11					
				□1.25	No Unit Part Number ⇨				KGD□/L 20-C		1.25	1.25	1.68	1.25	-	6.70	1.37					
		0.157" (4mm)	0.394" (10mm)	□0.75	KGD□/L 12X-4T10S	●	●	KGD□/L-4T10-C	KGD□/L 12-C	0.394	0.75	0.75	1.29	0.75	0.472	4.52	0.84	0.157" (4mm)	0.197" (5mm)			
				□1.00	16X-4T10S	●	●		KGD□/L 16-C		1.00	1.00	1.29	1.00	0.276	5.51	1.09					
				□1.25	No Unit Part Number ⇨				KGD□/L 20-C		1.25	1.25	1.29	1.25	-	6.30	1.35					
			0.787" (20mm)	□0.75	KGD□/L 12X-4T20S	●	●	KGD□/L-4T20-C	KGD□/L 12-C	0.787	0.75	0.75	1.68	0.75	0.472	4.92	0.84					
				□1.00	16X-4T20S	●	●		KGD□/L 16-C		1.00	1.00	1.68	1.00	0.276	5.90	1.09					
				□1.25	No Unit Part Number ⇨				KGD□/L 20-C		1.25	1.25	1.68	1.25	-	6.70	1.35					
			0.984" (25mm)	□0.75	KGD□/L 12X-4T25S	●	●	KGD□/L-4T25-C	KGD□/L 12-C	0.984	0.75	0.75	1.88	0.75	0.472	5.11	0.84					
				□1.00	16X-4T25S	●	●		KGD□/L 16-C		1.00	1.00	1.88	1.00	0.276	6.10	1.09					
				□1.25	No Unit Part Number ⇨				KGD□/L 20-C		1.25	1.25	1.88	1.25	-	6.89	1.35					
		0.197" (5mm)	0.394" (10mm)	□0.75	KGD□/L 12X-5T10S	●	●	KGD□/L-5T10-C	KGD□/L 12-C	0.394	0.75	0.75	1.29	0.75	0.472	4.52	0.82	0.197" (5mm)	0.236" (6mm)			
				□1.00	16X-5T10S	●	●		KGD□/L 16-C		1.00	1.00	1.29	1.00	0.276	5.51	1.07					
				□1.25	No Unit Part Number ⇨				KGD□/L 20-C		1.25	1.25	1.29	1.25	-	6.30	1.33					
			0.984" (25mm)	□0.75	KGD□/L 12X-5T25S	●	●	KGD□/L-5T25-C	KGD□/L 12-C	0.984	0.75	0.75	1.89	0.75	0.472	5.12	0.83					
				□1.00	16X-5T25S	●	●		KGD□/L 16-C		1.00	1.00	1.88	1.00	0.276	6.10	1.07					
				□1.25	No Unit Part Number ⇨				KGD□/L 20-C		1.25	1.25	1.88	1.25	-	6.89	1.33					

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 descriptions are printed on the toolholder body. (Unit Part Number is not printed.)
   KGD-S: Right-hand blade for right-hand toolholder, left-hand blade for left-hand toolholder.
   The toolholder is applicable for all blade with suitable hand.
3. If the unit description is not listed ("No Unit Part Number"), please purchase toolholder and blade separately.
4. CDX: Maximum grooving depth. (If the CDX is 0.787" (20mm) or more, the maximum groove-depth of groove made by a 2-edge insert will be 0.709" (18mm.)
   Above toolholders are applicable to Cut-off, too.

Choose an insert with a width that falls within the CW min. and CW max. parameters shown in table above.
Applicable Inserts G40~G43

● : 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

KGD-S (External Grooving / 0° SwitchBlade Type)



Right-hand shown (Right-hand blade and right-hand toolholder)

Toolholder Dimensions (Blade and Toolholder)

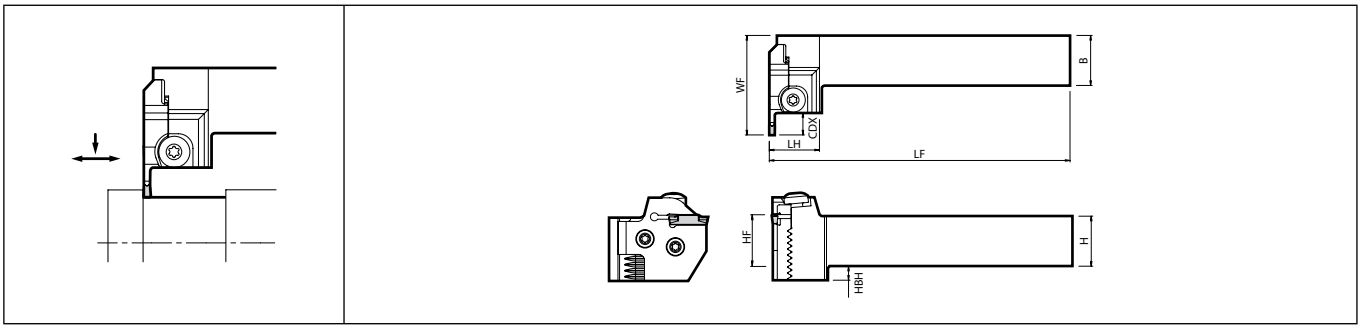
Unit	Shank Angle	Width (mm)	Max. Depth of Cut (mm)	Shank Size (mm)	Unit Part Number	Std. Item R	Std. Item L	Blade Part Number ⇨G56	Toolholder Part Number ⇨G56	Dimensions CDX	H	B	LH	HF	HBH	LF	WF	CW min.	CW max.	Spare Parts: Clamp Screw (for insert clamp)	Screw (for blade)	Wrench
mm	0°	2	17	□20	KGD□L 2020X-2T17S	●		KGD□L-2T17-C	KGD□L 2020-C	17	20	20	40	20	12	122	23.4	2	3	BH6X10TR	SB-60120TR	LTW-25
				□25	2525X-2T17S	●	●		KGD□L 2525-C		25	25		25	7	147	28.4					
				□32	No Unit Part Number ⇨				KGD□L 3232-C		32	32		32	-	167	35.4					
		3	10	□20	KGDR 2020X-3T10S	●		KGD□L-3T10-C	KGD□L 2020-C	10	20	20	33	20	12	115	23	3	4			
				□25	2525X-3T10S	●			KGD□L 2525-C		25	25		25	7	140	28					
				□32	No Unit Part Number ⇨				KGD□L 3232-C		32	32		32	-	160	35					
			20	□20	KGD□L 2020X-3T20S	●	●	KGD□L-3T20-C	KGD□L 2020-C	20	20	20	43	20	12	125	23					
				□25	2525X-3T20S	●	●		KGD□L 2525-C		25	25		25	7	150	28					
				□32	3232X-3T20S	●			KGD□L 3232-C		32	32		32	-	170	35					
		4	10	□20	KGDR 2020X-4T10S	●		KGD□L-4T10-C	KGD□L 2020-C	10	20	20	33	20	12	115	22.5	4	5			
				□25	2525X-4T10S	●			KGD□L 2525-C		25	25		25	7	140	27.5					
				□32	No Unit Part Number ⇨				KGD□L 3232-C		32	32		32	-	160	34.5					
			20	□20	KGD□L 2020X-4T20S	●		KGD□L-4T20-C	KGD□L 2020-C	20	20	20	43	20	12	125	22.5					
				□25	2525X-4T20S	●	●		KGD□L 2525-C		25	25		25	7	150	27.5					
				□32	3232X-4T20S	●			KGD□L 3232-C		32	32		32	-	170	34.5					
			25	□20	KGD□L 2020X-4T25S	●	●	KGD□L-4T25-C	KGD□L 2020-C	25	20	20	48	20	12	130	22.5					
				□25	2525X-4T25S	●	●		KGD□L 2525-C		25	25		25	7	155	27.5					
				□32	3232X-4T25S	●			KGD□L 3232-C		32	32		32	-	175	34.5					
		5	10	□20	KGD□L 2020X-5T10S	●	●	KGD□L-5T10-C	KGD□L 2020-C	10	20	20	33	20	12	115	22	5	6			
				□25	2525X-5T10S	●			KGD□L 2525-C		25	25		25	7	140	27					
				□32	No Unit Part Number ⇨				KGD□L 3232-C		32	32		32	-	160	34					
			25	□20	No Unit Part Number ⇨			KGD□L-5T25-C	KGD□L 2020-C	25	20	20	48	20	12	130	22					
				□25	KGD□L 2525X-5T25S	●	●		KGD□L 2525-C		25	25		25	7	155	27					
				□32	3232X-5T25S	●			KGD□L 3232-C		32	32		32	-	175	34					

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 descriptions are printed on the toolholder body. (Unit Part Number is not printed.)
   KGD-S: Right-hand blade for right-hand toolholder, left-hand blade for left-hand toolholder.
   The toolholder is applicable for all blade with suitable hand.
3. If the unit description is not listed ("No Unit Part Number"), please purchase toolholder and blade separately.
4. CDX: Maximum grooving depth. (If the CDX is 0.787" (20mm) or more, the maximum groove-depth of groove made by a 2-edge insert will be 0.709" (18mm.)
   Above toolholders are applicable to Cut-off, too.

Choose an insert with a width that falls within the CW min. and CW max. parameters shown in table above.
Applicable Inserts ⇨G40~G43

● : 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

KGDS-S (External Grooving / 90° SwitchBlade Type)



Right-hand shown (Left-hand blade and right-hand toolholder)

Toolholder Dimensions (Blade and Toolholder)

Unit	Shank Angle	Width (in)	Max. Depth of Cut (in)	Shank Size (in)	Unit Part Number	Std. Item R	Std. Item L	Blade Part Number ⇨ G56	Toolholder Part Number ⇨ G56	Dimensions CDX	H	B	LH	HF	HBH	LF	WF	CW min.	CW max.	Spare Parts: Clamp Screw (for insert clamp)	Screw (for blade)	Wrench
Inch	90°	0.079" (2mm)	0.669" (17mm)	□0.75	No Unit Part Number ⇨			KGD$^{L/R}$-2T17-C	KGDS□ 12-C	0.669	0.75	0.75	1.09	0.75	0.472	4.92	2.19	0.079" (2mm)	0.118" (3mm)	BH6X10TR	SB-60120TR	LTW-25
				□1.00					KGDS□ 16-C		1.00	1.00	1.09	1.00	0.276	5.91	2.25					
		0.118" (3mm)	0.394" (10mm)	□0.75				KGD$^{L/R}$-3T10-C	KGDS□ 12-C	0.394	0.75	0.75	1.09	0.75	0.472	4.92	1.92	0.118" (3mm)	0.157" (4mm)			
				□1.00					KGDS□ 16-C		1.00	1.00	1.09	1.00	0.276	5.91	1.97					
			0.787" (20mm)	□0.75				KGD$^{L/R}$-3T20-C	KGDS□ 12-C	0.787	0.75	0.75	1.09	0.75	0.472	4.92	2.31					
				□1.00					KGDS□ 16-C		1.00	1.00	1.09	1.00	0.276	5.91	2.37					
		0.157" (4mm)	0.394" (10mm)	□0.75				KGD$^{L/R}$-4T10-C	KGDS□ 12-C	0.394	0.75	0.75	1.09	0.75	0.472	4.92	1.92	0.157" (4mm)	0.197" (5mm)			
				□1.00					KGDS□ 16-C		1.00	1.00	1.09	1.00	0.276	5.91	1.97					
			0.787" (20mm)	□0.75				KGD$^{L/R}$-4T20-C	KGDS□ 12-C	0.787	0.75	0.75	1.09	0.75	0.472	4.92	2.31					
				□1.00					KGDS□ 16-C		1.00	1.00	1.09	1.00	0.276	5.91	2.37					
			0.984" (25mm)	□0.75				KGD$^{L/R}$-4T25-C	KGDS□ 12-C	0.984	0.75	0.75	1.09	0.75	0.472	4.92	2.51					
				□1.00					KGDS□ 16-C		1.00	1.00	1.09	1.00	0.276	5.91	2.56					
		0.197" (5mm)	0.394" (10mm)	□0.75				KGD$^{L/R}$-5T10-C	KGDS□ 12-C	0.394	0.75	0.75	1.09	0.75	0.472	4.92	1.92	0.197" (5mm)	0.236" (6mm)			
				□1.00					KGDS□ 16-C		1.00	1.00	1.09	1.00	0.276	5.91	1.97					
			0.984" (25mm)	□0.75				KGD$^{L/R}$-5T25-C	KGDS□ 12-C	0.984	0.75	0.75	1.09	0.75	0.472	4.92	2.51					
				□1.00					KGDS□ 16-C		1.00	1.00	1.09	1.00	0.276	5.91	2.56					

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 descriptions are printed on the toolholder body. (Unit Part Number is not printed.)
   KGDS-S : Left-hand Blade for Right-hand Toolholder, Right-hand Blade for Left-hand Toolholder.
3. If the unit description is not listed ("No Unit Part Number"), please purchase toolholder and blade separately.
4. CDX: Maximum grooving depth. (If the CDX is 0.787" (20mm) or more, the maximum groove-depth of groove made by a 2-edge insert will be 0.709" (18mm.)

Choose an insert with a width that falls within the CW min. and CW max. parameters shown in table above.
Applicable Inserts ⇨ **G40**~**G43**

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
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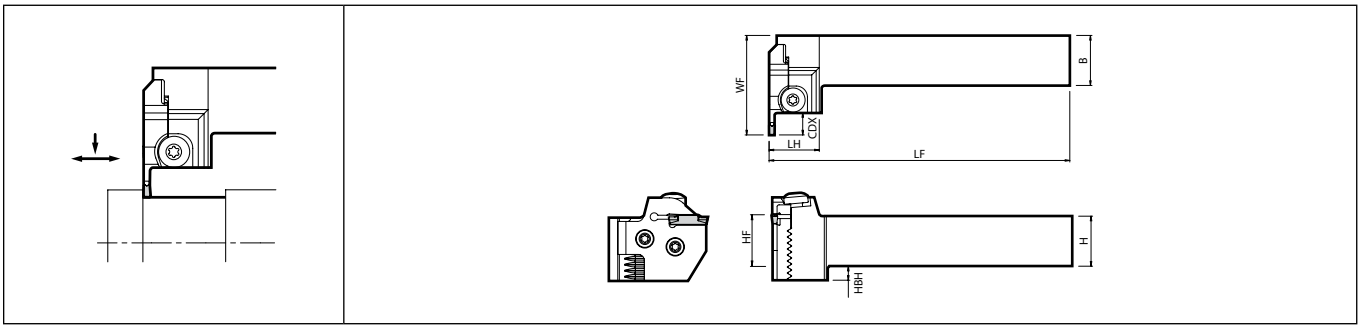
KGDS-S (External Grooving / 90° SwitchBlade Type)



Right-hand shown (Left-hand blade and right-hand toolholder)

Toolholder Dimensions (Blade and Toolholder)

Unit	Shank Angle	Width (mm)	Max. Depth of Cut (mm)	Shank Size (mm)	Unit Part Number	Std. Item R	Std. Item L	Blade Part Number ⇨ G56	Toolholder Part Number ⇨ G56	Dimensions CDX	H	B	LH	HF	HBH	LF	WF	CW min.	CW max.	Spare Parts: Clamp Screw (for insert clamp)	Screw (for blade)	Wrench
mm	90°	2	17	□20	No Unit Part Number ⇨			KGD$^{L/R}$-2T17-C	KGDS$^{R/L}$ 2020-C	17	20	20	27.7	20	12	125	56.7	2	3	BH6X10TR	SB-60120TR	LTW-25
				□25					KGDS$^{R/L}$ 2525-C		25	25		25	7	150						
		3	10	□20	KGDS$^{R/L}$ 2020X-3T10S	●	●	KGD$^{L/R}$-3T10-C	KGDS$^{R/L}$ 2020-C	10	20	20		20	12	125	49.7	3	4			
				□25	2525X-3T10S	●	●		KGDS$^{R/L}$ 2525-C		25	25		25	7	150						
			20	□20	No Unit Part Number ⇨			KGD$^{L/R}$-3T20-C	KGDS$^{R/L}$ 2020-C	20	20	20		20	12	125	59.7					
				□25					KGDS$^{R/L}$ 2525-C		25	25		25	7	150						
		4	10	□20				KGD$^{L/R}$-4T10-C	KGDS$^{R/L}$ 2020-C	10	20	20		20	12	125	49.7	4	5			
				□25					KGDS$^{R/L}$ 2525-C		25	25		25	7	150						
			20	□20				KGD$^{L/R}$-4T20-C	KGDS$^{R/L}$ 2020-C	20	20	20		20	12	125	59.7					
				□25					KGDS$^{R/L}$ 2525-C		25	25		25	7	150						
			25	□20				KGD$^{L/R}$-4T25-C	KGDS$^{R/L}$ 2020-C	25	20	20		20	12	125	64.7					
				□25					KGDS$^{R/L}$ 2525-C		25	25		25	7	150						
		5	10	□20				KGD$^{L/R}$-5T10-C	KGDS$^{R/L}$ 2020-C	10	20	20		20	12	125	49.7	5	6			
				□25					KGDS$^{R/L}$ 2525-C		25	25		25	7	150						
			25	□20				KGD$^{L/R}$-5T25-C	KGDS$^{R/L}$ 2020-C	25	20	20		20	12	125	64.7					
				□25					KGDS$^{R/L}$ 2525-C		25	25		25	7	150						

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 descriptions are printed on the toolholder body. (Unit Part Number is not printed.)
   KGDS-S : Left-hand Blade for Right-hand Toolholder, Right-hand Blade for Left-hand Toolholder.
3. If the unit description is not listed ("No Unit Part Number"), please purchase toolholder and blade separately.
4. CDX: Maximum grooving depth. (If the CDX is 0.787" (20mm) or more, the maximum groove-depth of groove made by a 2-edge insert will be 0.709" (18mm.)

Choose an insert with a width that falls within the CW min. and CW max. parameters shown in table above.
Applicable Inserts ⇨ G40~G43

Toolholder identification system

KGD
KGDS

R	2020	X	–	3	T10	S

- R: Toolholder hand — R: Right-hand, L: Left-hand
- 2020: Shank Size — 20 x 20 mm
- X: Toolholder type — Unit Part Number
- 3: Applicable Inserts — GDM / GDMS, 3-4 mm
- T10: Max. Depth of Cut — 10: 10 mm
- S: SwitchBlade Type / unit description

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
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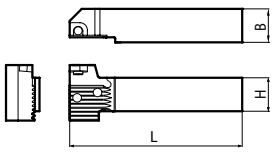
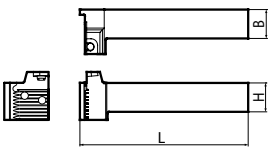
Toolholder Dimensions (Blade and Toolholder)

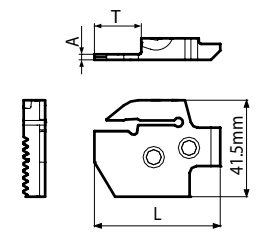
KGD-C (0° SwitchBlade Type)

Drawing of 0° type Right-hand shown	Unit	Toolholder Part Number	Std. Item R	Std. Item L	Dimensions L	Dimensions B	Dimensions H
	Inch	KGD□ 12-C	●	●	4.09	0.75	0.75
		16-C	●	●	5.08	1.00	1.00
		20-C	●	●	5.86	1.25	1.25
	mm	KGD□ 2020-C	●	●	104	20	20
		2525-C	●	●	129	25	25
		3232-C	●	●	149	32	32

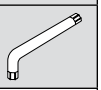
KGDS-C (90° SwitchBlade Type)

Drawing of 90° type Right-hand shown	Unit	Toolholder Part Number	Std. Item R	Std. Item L	Dimensions L	Dimensions B	Dimensions H
	Inch	KGDS□ 12-C	●	●	4.80	0.75	0.75
		16-C	●	●	5.79	1.00	1.00
	mm	KGDS□ 2020-C	●	●	122	20	20
		2525-C	●	●	147	25	25

Blade

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

Spare Parts

Unit Part Number	Spare Parts: Clamp Screw (for insert clamp)	Spare Parts: Screw (for blade)	Spare Parts: Wrench
			
KGD□ ...S KGDS□ ...S	BH6X10TR	SB-60120TR	LTW-25

* Parts are included with the toolholder and unit.

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
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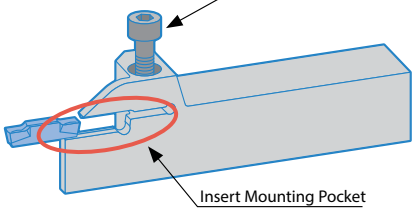
Mounting the Insert

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)

Fig.1



Clamp Screw (for Automatic Lathe)
Recommended tightening torque : 2.0N・m (SB-40120TR) : 2.5N・m (SE-50125TR)
Clamp Bolt
Recommended tightening torque : 6.5N・m (Width 2 ~ 6mm) : 8.0N・m (Width 8mm)

Fig.2

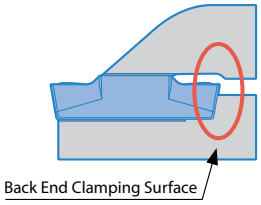
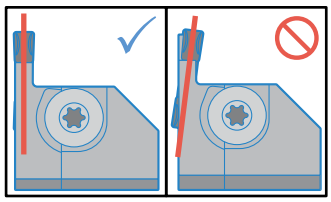


Fig.3



Setting the Blade Into the Toolholder (SwitchBlade Type)

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, and also fit the blade end to the toolholder. (See **Fig.2**)
3. Tighten the blade fixing screws at an appropriate torque. You can tighten them in any order. (See **Fig.2**) (Recommended tightening torque : 8Nm)
4. Set the insert after setting the blade.

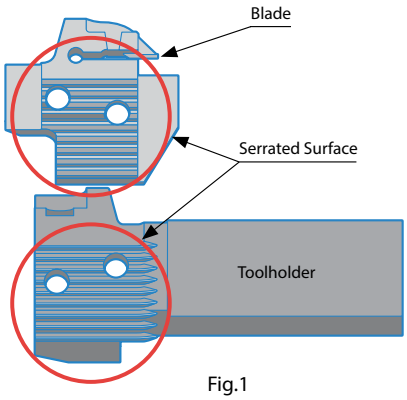
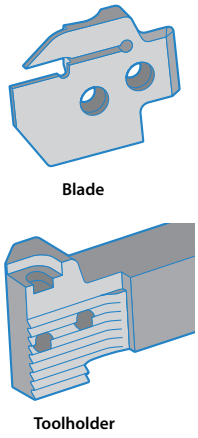


Fig.1



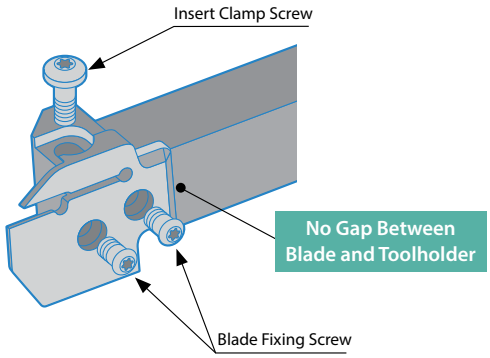
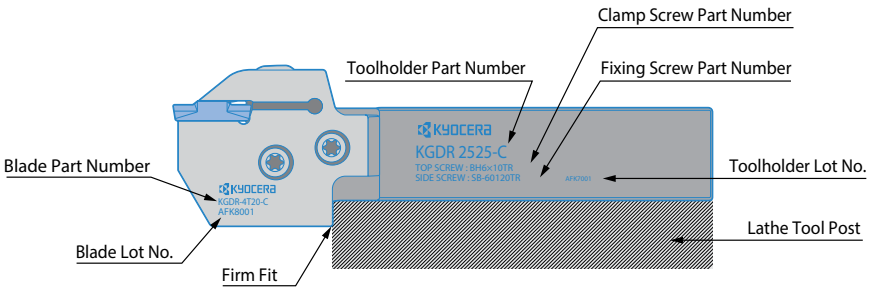


Fig.2

SwitchBlade Toolholder Identification System and Lathe Setting

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



● : 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

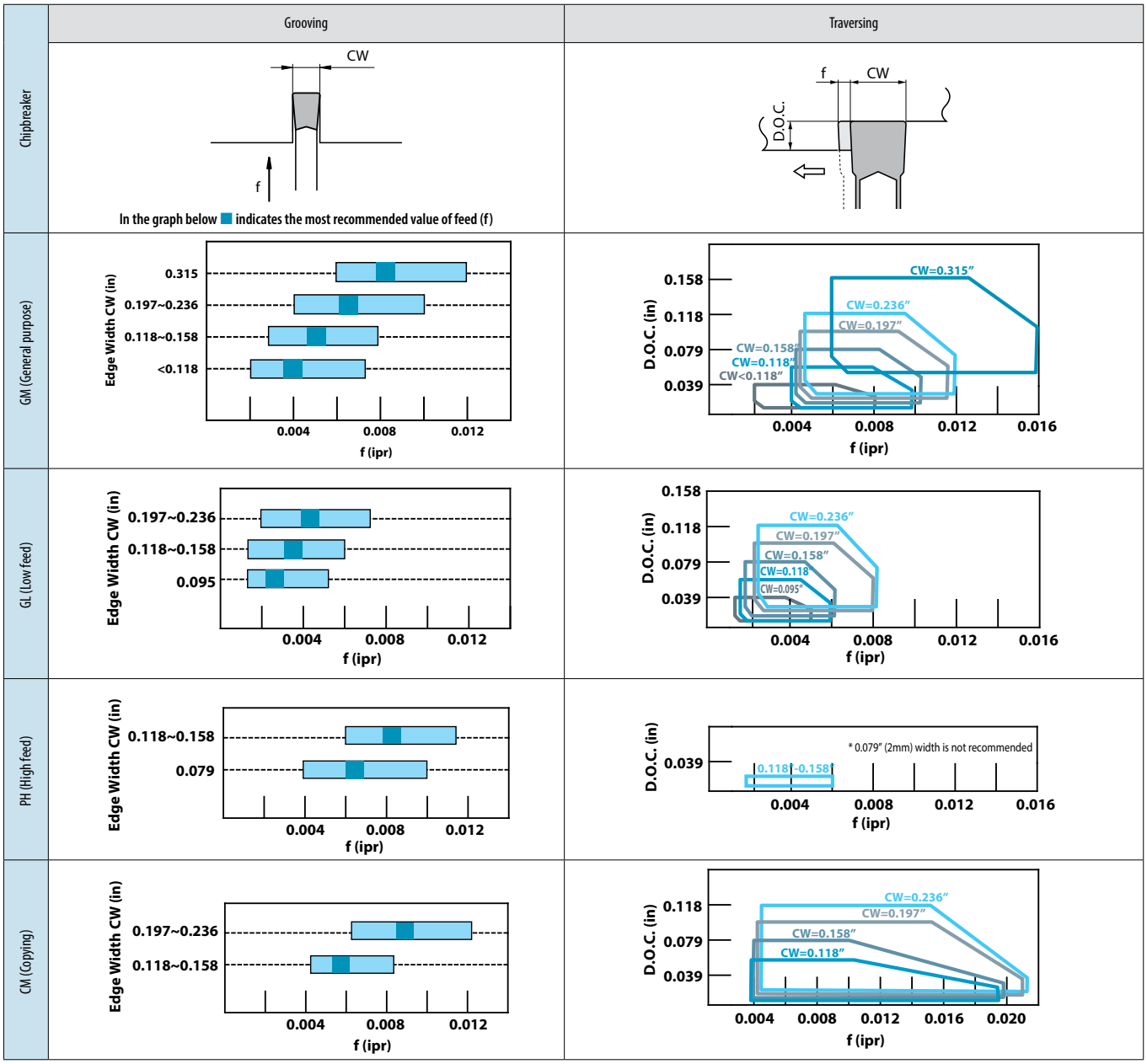
Recommended Cutting Conditions (Cutting Speed Vc)

Workpiece Material	Chipbreaker	Recommended Insert Grades (Vc: sfm)									Notes
		Cermet		MEGACOAT NANO	MEGACOAT		DLC	Carbide	MEGACOAT CBN	CBN	PCD	
		TN620	TN90	PR1535	PR1225	PR1215	PDL025	GW15	KBN05M	KBN570	KPD001	
Carbon Steel	GM GL CM PH GS	☆ 260 - 720	☆ 330 - 720	☆ 260 - 660	★ 260 - 660	☆ 330 - 660	-	-	-	-	-	Coolant
Alloy Steel		☆ 230 - 660	☆ 260 - 660	☆ 230 - 590	★ 230 - 590	☆ 260 - 590	-	-	-	-	-	
Stainless Steel		-	-	★ 200 - 490	☆ 200 - 490	☆ 200 - 490	-	-	-	-	-	
Cast Iron		-	-	-	-	★ 330 - 660	-	-	-	-	-	
Aluminum	GS AM	-	-	-	-	-	★ 660 - 1,640	☆ 660 - 1,480	-	-	★ 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

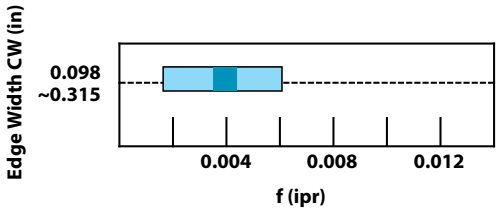


Note 1. The above values reflect a CDX dimension that is 0.669" (17mm) or less.
2. If the toolholder is not for the 0.315" (8mm) width insert and its CDX dimension is over 0.669" (17mm), set the values for traversing to less than 90% of recommended cutting conditions above.

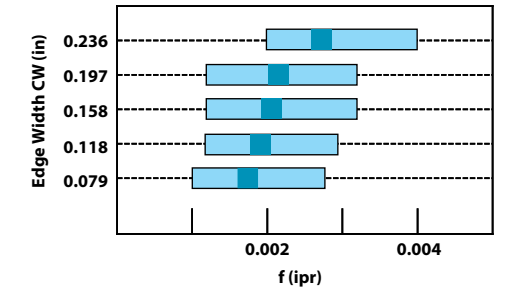
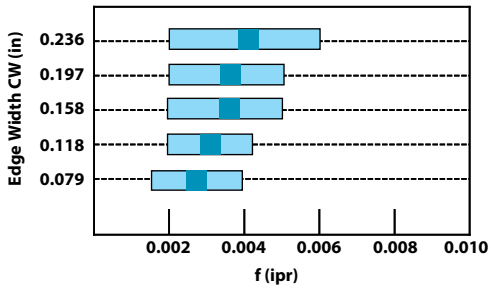
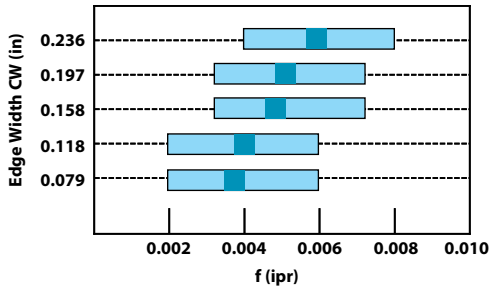
800.823.7284
www.kyocera precisiontools.com

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

Workpiece Material: 1049

Chipbreaker	Grooving
GS (Low cutting force)	 When turning: keep ap less than or equal to the corner-R(RE).

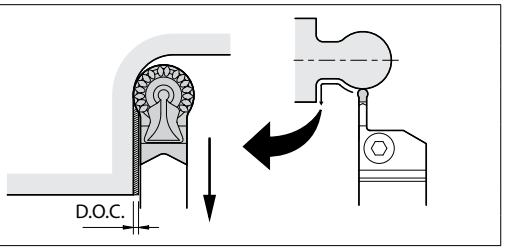
Note 1. The above values reflect a CDX dimension that is 0.669" (17mm) or less.

Workpiece material	Insert grades	Grooving
Hard Materials	KBN05M	
Sintered steel	KBN570	
Non-ferrous metals	KPD001	

CM Chipbreaker [Cutting amount (D.O.C.) for back copying]

Maximum D.O.C. for back copying

Part Number		Maximum 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

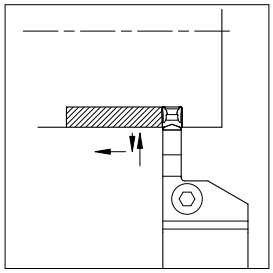
Note 1 - Traversing after Grooving

1. Grooving depths over 0.020" (0.5mm): For roughing - refer to 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.

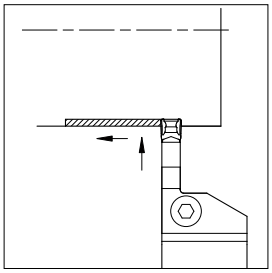
2. Grooving depths under 0.020" (0.5mm): For finishing - refer to fig. 2
Traversing subsequent to grooving is possible because shallow groove depths apply a small load on the cutting edge.
Dwell-motion is not necessary

Note 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



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



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

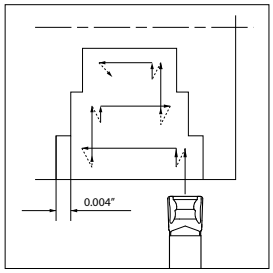
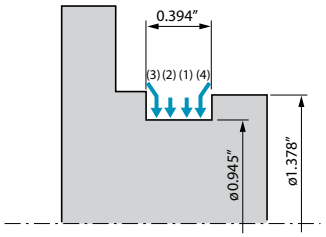


Fig. 3

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

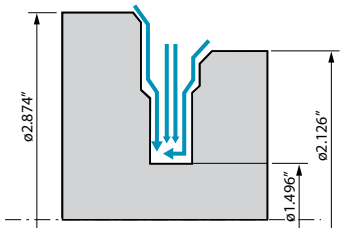
- GM chipbreaker (PR1225) showed 6 times longer tool life than that of Competitor K.
- Good chip control without burned chips.

GM chipbreaker Competitor K

Evaluation by the user

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 occurrence rate of tangle of chips (occurrence rate 80% to 10%). The problem was persistent with Competitor L.
- Machining productivity is improved.

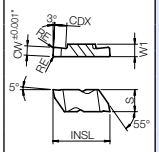
GM Chipbreaker (Finishing)
Smooth chip control

Competitor L (Finishing)
Chips easily tangled

Evaluation by the user

KCGP

Carbon Steel / Alloy Steel	P
Stainless Steel	M
Cast Iron	K
Non-Ferrous Metals	N
Titanium Alloy	S
Hard Materials (~ 40HRC)	H
Hard Materials (40HRC ~)	H

Insert	Part Number	No. of Edges	Dimensions (in) CW in	CW mm	CDX	W1	S	INSL	RE	Tolerance (in) CW min.	CW max.	Carbide PVD PR1625	PVD PR1215	PVD PR930	- KW10	Applicable Toolholder ⇒ G65 G94
 2-Edge 	KCGP 2031R	2	0.031	0.79	0.050	0.150	0.219	0.540	0.003	- 0.001	+ 0.001	●	△	△	●	KKCR...-2 A...-KKCL...-2
	2041R		0.041	1.04									●			
	2047R		0.047	1.19								●	△	△	△	
	2058R		0.058	1.47									●			
	2062R		0.062	1.57	0.110	0.150	0.219	0.540	0.008	- 0.001	+ 0.001	●	△	△		
	2094R		0.094	2.39								●	△			
	2125R		0.125	3.18									●		△	
	KCGP 3031R	2	0.031	0.79	0.050	0.195	0.344	0.810	0.008	- 0.001	+ 0.001	●	△	△		KKCR...-3 A...-KKCL...-3
	3047R		0.047	1.19	0.075							●	△	△		
	3062R		0.062	1.57	0.094	0.195	0.344	0.810	0.008	- 0.001	+ 0.001	●	△	△	●	
	3072R		0.072	1.83									●			
	3078R		0.078	1.98								●	△			
	3088R		0.088	2.24								●	△	△		
	3094R		0.094	2.39	0.150	0.195	0.344	0.810	0.008	- 0.001	+ 0.001	●	△	△	●	
	3097R		0.097	2.46								●				
	3105R		0.105	2.67								●		△		
	3110R		0.110	2.79									△			
	3125R		0.125	3.18								●	△	△		
	3142R		0.142	3.61	0.150	0.195	0.344	0.810	0.008	- 0.001	+ 0.001	●		△		
	3156R		0.156	3.96								●				
	3189R		0.189	4.80	0.150	0.195	0.344	0.810	0.008	- 0.001	+ 0.001		●	△		
	KCGP 4125R	2	0.125	3.18	0.150	0.255	0.453	1.272	0.018	- 0.001	+ 0.001		●			KKCR...-4 A...-KKCL...-4
	4189R		0.189	4.80	0.250							●	△	△		
	4250R		0.250	6.35									●	△		

Right-hand shown
CDX : Maximum grooving depth.

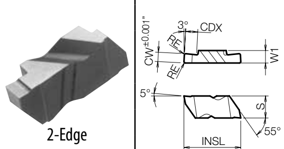
Recommended Cutting Conditions ⇒ G65

● : 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

KCGP

	PR1625	PR1215	PR930	KW10	
Carbon Steel / Alloy Steel	●	○			P
Stainless Steel	●	○			M
Cast Iron					K
Non-Ferrous Metals				●	N
Titanium Alloy					S
Hard Materials (~ 40HRC)					H
Hard Materials (40HRC ~)					H

Insert	Part Number	No. of Edges	CW in	CW mm	CDX	W1	S	INSL	RE	CW min.	CW max.	PR1625	PR1215	PR930	KW10	Applicable Toolholder (G65, G94)
	KCGP 2031L		0.031	0.79								●	△		△	
	2041L		0.041	1.04	0.050	0.150	0.219	0.540	0.003	- 0.001	+ 0.001		●			
	2047L	2	0.047	1.19								●	△	△	△	KKCL...-2 A...-KKCR...-2
	2062L		0.062	1.57								●	△	△		
	2094L		0.094	2.39	0.110	0.150	0.219	0.540	0.008	- 0.001	+ 0.001	●	△			
	2125L		0.125	3.18								●	△	△		
	KCGP 3031L		0.031	0.79	0.050	0.195	0.344	0.810	0.008	- 0.001	+ 0.001	●	△			
	3047L		0.047	1.19	0.075								●			
	3062L		0.062	1.57								●	△			
	3072L		0.072	1.83	0.094	0.195	0.344	0.810	0.008	- 0.001	+ 0.001	●	△			
	3078L		0.078	1.98									△			
	3094L	2	0.094	2.39								●	△	△		KKCL...-3 A...-KKCR...-3
	3105L		0.105	2.67	0.150	0.195	0.344	0.810	0.008	- 0.001	+ 0.001	●		△		
	3110L		0.110	2.79									△			
	3122L		0.122	3.10										△		
	3125L		0.125	3.18	0.150	0.195	0.344	0.810	0.008	- 0.001	+ 0.001	●	△	△	●	
	3156L		0.156	3.96									●			
	3189L		0.189	4.80	0.150	0.195	0.344	0.810	0.008	- 0.001	+ 0.001	●	△	△		
	KCGP 4125L		0.125	3.18	0.150								●			
	4189L	2	0.189	4.80	0.250	0.255	0.453	1.272	0.018	- 0.001	+ 0.001	●	△			KKCL...-4 A...-KKCR...-4
	4213L		0.213	5.41										△		
	4250L		0.250	6.35									●			



2-Edge

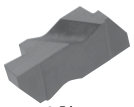
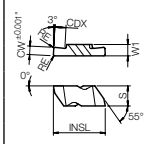
Right-hand shown
CDX : Maximum grooving depth.

Recommended Cutting Conditions ➡ G65

INSERT GRADES A | TURNING INSERTS B | CBN / PCD INSERTS C | TURNING HOLDERS D | SMALL TOOLS E | BORING F | GROOVING G | CUT-OFF H | THREADING J | DRILLING K | MILLING M | QUICK CHANGE TOOLING N | SPARE PARTS P | TECHNICAL R | INDEX T

● : 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

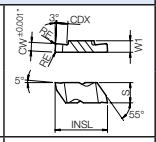
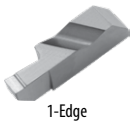
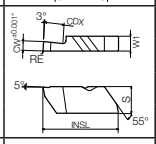
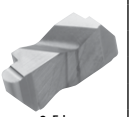
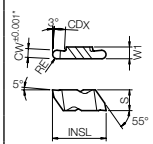
KCG

Insert		Part Number		No. of Edges	Dimensions (in) CW in	CW mm	CDX	W1	S	INSL	RE	Tolerance (in) CW min.	CW max.	Ceramic - A65	Applicable Toolholder G65 G94
Carbon Steel / Alloy Steel															P
Stainless Steel															M
Cast Iron														●	K
Non-Ferrous Metals															N
Titanium Alloy															S
Hard Materials (~ 40HRC)															H
Hard Materials (40HRC ~)														●	
 2-Edge		KCG	2062R	2	0.062	1.57	0.110	0.150	0.219	0.540	0.008	- 0.001	+ 0.001	●	KKCR...-2 A...-KKCL...-2
			3062R		0.062	1.57	0.094	0.195	0.344	0.810	0.008	- 0.001	+ 0.001	●	KKCR...-3 A...-KKCL...-3
			3094R		0.094	2.39	0.150							●	
			3125R		0.125	3.18								●	
			3156R		0.156	3.96								●	
		KCG	2062L	2	0.062	1.57	0.110	0.150	0.219	0.540	0.008	- 0.001	+ 0.001	●	KKCL...-2 A...-KKCR...-2
			2125L		0.125	3.18								●	
			3094L		0.094	2.39	0.150	0.195	0.344	0.810	0.008	- 0.001	+ 0.001	●	KKCL...-3 A...-KKCR...-3
			3156L		0.156	3.96								●	

Right-hand shown
CDX : Maximum grooving depth.

Recommended Cutting Conditions G65

KCGDP / KCRP

Insert		Part Number		No. of Edges	Dimensions (in) CW in	CW mm	CDX	W1	S	INSL	RE	Tolerance (in) CW min.	CW max.	Carbide PVD PR1625	PR1215	PR930	- KW10	Applicable Toolholder G65 G94
Carbon Steel / Alloy Steel														●	○			P
Stainless Steel														●	○			M
Cast Iron																		K
Non-Ferrous Metals																	●	N
Titanium Alloy																		S
Hard Materials (~ 40HRC)																		H
Hard Materials (40HRC ~)																		
 2-Edge		KCGDP	3062R	2	0.062	1.57	0.125	0.195	0.344	0.886	0.008	- 0.001	+ 0.001		●			KKCR...-3, A...-KKCL...-3
		KCGDP	3062L	2	0.062	1.57	0.125	0.195	0.344	0.886	0.008	- 0.001	+ 0.001		●			KKCL...-3, A...-KKCR...-3
 1-Edge		KCGDP	3094R	1	0.094	2.39	0.250	0.195	0.344	0.990	0.008	- 0.001	+ 0.001	●	△			KKCR...-3 A...-KKCL...-3
			3125R		0.125	3.18								●	△	△		
		KCGDP	3094L	1	0.094	2.39	0.250	0.195	0.344	0.990	0.008	- 0.001	+ 0.001	●	△	△		KKCL...-3 A...-KKCR...-3
			3125L		0.125	3.18								●	△	△		
 2-Edge		KCRP	2031R	2	0.062	1.57	0.094	0.150	0.219	0.540	0.031	- 0.001	+ 0.001	●	△	△		KKCR...-2 A...-KKCL...-2
			2047R		0.094	2.39	0.150				0.047				●			
			2062R		0.125	3.18	0.150				0.062				●			
			3031R		0.062	1.57	0.094	0.195	0.344	0.810	0.031	- 0.001	+ 0.001		●	△		KKCR...-3 A...-KKCL...-3
			3047R		0.094	2.39	0.150				0.047				●	△		
			3062R		0.125	3.18	0.150				0.062			●	△	△		
			3094R		0.188	4.78	0.150				0.094				●	△		
		KCRP	2031L	2	0.062	1.57	0.094	0.150	0.219	0.540	0.031	- 0.001	+ 0.001		●			KKCR...-2 A...-KKCL...-2
			2047L		0.094	2.39	0.150				0.047				●			
			2062L		0.125	3.18	0.150				0.062				●			
			3031L		0.062	1.57	0.094	0.195	0.344	0.810	0.031	- 0.001	+ 0.001		●	△	△	KKCR...-3 A...-KKCL...-3
			3047L		0.094	2.39	0.150				0.047				●	△		
			3062L		0.125	3.18	0.150				0.062			●	△	△		
			3078L		0.156	3.96	0.150	0.195	0.344	0.810	0.078					△		
			3094L		0.188	4.78	0.150				0.094				●	△		

Right-hand shown
CDX : Maximum grooving depth.

Recommended Cutting Conditions G65

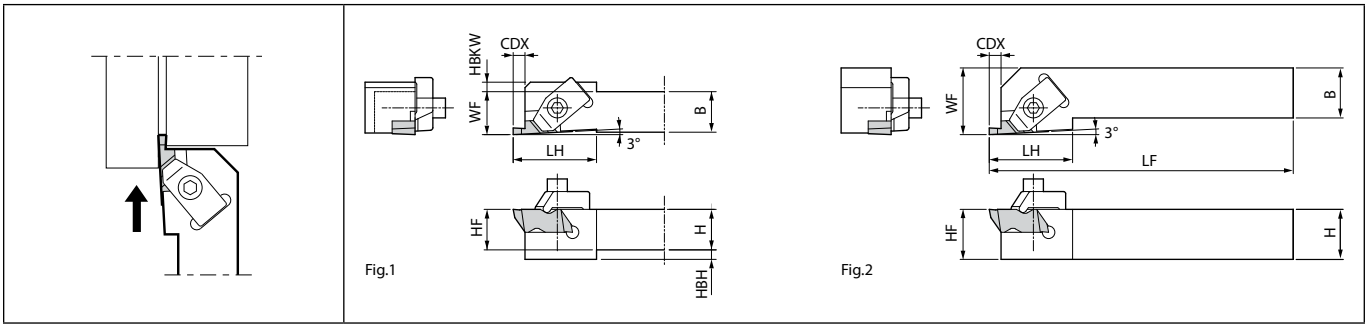
● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grades (Vc: sfm)					Carbide Feed Rate f (ipr)	Ceramic Feed Rate f (ipr)	Notes
	MEGACOAT NANO	MEGACOAT	Carbide		Ceramic			
	PR1625	PR1215	PR930	KW10	A65			
Carbon Steel	★ 250~650	☆ 300~800	☆ 250~650	-	-	0.002~0.010	0.003~0.008	Coolant
Alloy Steel	★ 150~550	☆ 300~750	☆ 150~550	-	-			
Stainless Steel	★ 100~550	☆ 300~600	☆ 100~550	-	-			
Tool steel	★ 100~550	☆ 300~600	☆ 100~550	-	-			
Hardened Steel (>45Rc)	-	-	-	-	★ 250~500			
Gray Cast Iron	-	★ 300~700	-	-	★ 500~1000			
Nodular Cast Iron	-	★ 300~600	-	-	★ 500~1000			
Aluminum	-	-	-	★ 500~1,600	-			

Recommendations shown are for external grooving. Reduce parameters by 10% for internal grooving.

KKC (External Grooving)



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

Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions									Fig.	Spare Parts			Applicable Inserts ➡ G62~G64
														Clamp	Clamp Screw	Wrench	
		R	L	CDX	H	B	LH	HF	HBH	HBL	LF	WF					
Inch	KKC☐ 6-2CF	●	●	0.138	0.375	0.375	0.750	0.375	0.125	0.125	5.000	0.385	1	CKC-2☐	SKC-2	(7/64 hex)	KCGP2... KCG2... KCRP2...
	8-2X	●			0.500	0.500		0.500	-	-	3.500	0.750	2				
	8-2DF	●									6.000	0.510	1				
	10-2DF	●	●		0.625	0.625		0.625			6.000	0.635					
	12-2B	●	●		0.750	0.750		0.750	-	-	4.500	1.000	2				
	12-2C	●									5.000	1.000					
	16-2C	●	●		1.000	1.000		1.000	-	-	5.000	1.250					
	16-2D	●	●								6.000	1.250					
	KKC☐ 12-3B	●	●	0.210	0.750	0.750	1.250	0.750	-	-	4.500	1.000	2	CKC-3☐	SKC-3	LW-156	KCGP3... KCG3... KCGDP3... KCRP3...
	12-3C	●	●								5.000	1.000					
	16-3C	●	●		1.000	1.000		1.000			5.000	1.250					
	16-3D	●	●								6.000	1.250					
	20-3D	●	●		1.250	1.250		1.250			6.000	1.500					
	KKC☐ 16-4D	●	●	0.294	1.000	1.000	1.380	1.000	-	-	6.000	1.250	2	CKC-3☐	SKC-3	LW-156	KCGP4... KCRP4...
	20-4D	●			1.250	1.250	1.380	1.250				1.500					
mm	KKCR 1212M-2-150F	●		0.669	0.75	0.75	1.28	0.75	-	-	4.92	0.71	1	CKC-2☐	SKC-2	(7/64 hex)	KCGP2..., KCG2..., KCRP2...

CDX shows the distance from the toolholder to the cutting edge. Available Groove Depth : "CDX" of Insert.
Clamp: CKC-OR for Right-hand Toolholder and CKC-OL for Left-hand Toolholder.
Above toolholders are also available for threading. See Page **J35.**

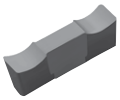
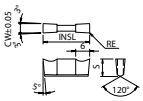
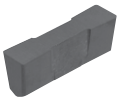
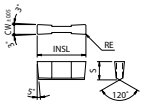
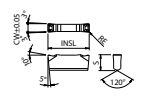
● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

GH/GHU/GA

Cutting edge preparation

Symbol	Specification	Example	
S	Chamfered and R-honed	S01020	0.10mm × 20° chamfered and R-honed
T	Chamfered	T01020	0.10mm × 20° chamfered

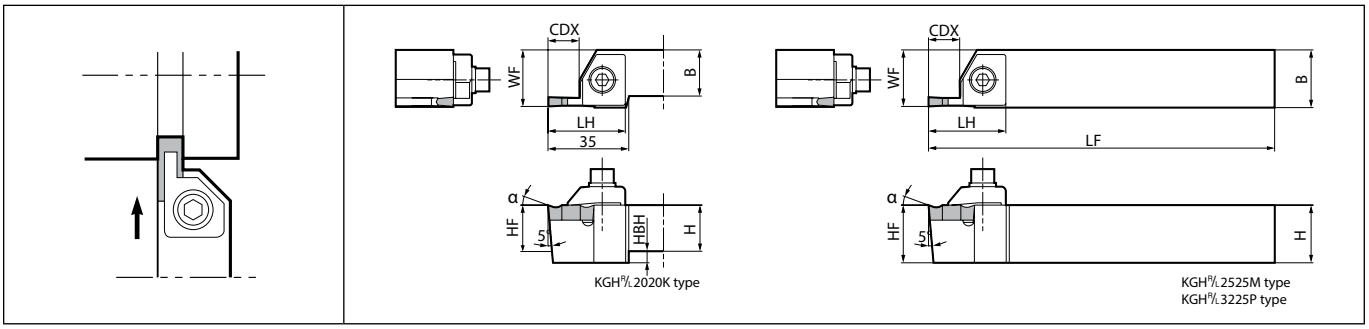
Carbon Steel / Alloy Steel		✱										P
Stainless Steel		●										M
Cast Iron			●		●	○						K
Non-Ferrous Metals			●									N
Titanium Alloy			●									S
Hard Materials (~ 40HRC)		●										H
Hard Materials (40HRC ~)				○	●							

Insert		Part Number	Edge preparation type	No. of Edges	Dimensions					Tolerance (mm)		Carbide			Ceramic			Cermet			Applicable Toolholder ➡ G62~G64
					CW		S	RE	INSL	CW min.	CW max.	CVD	PVD	-	PVD		-	-			
					in	mm						CR9025	PR930	KW10	A66N	PT600M	A65	TC40	TC60	TN60	
		GH 4020-02	-	2	0.157	4	7.5	0.2	20	-0.05	+0.05		●	●							KGH□/L ...4 KGHS□/L ...4
		4020-05						0.5					●	●							
		GH 5020-02	-	2	0.197	5	7.5	0.2	20	-0.05	+0.05		●	●							KGH□/L ...5 KGHS□/L ...5
		5020-05						0.5					●	●							
		GH 6020-02	-	2	0.236	6	7.5	0.2	20	-0.05	+0.05		●	●				●			
		6020-05						0.5					●	●							
		GH 7020-02	-	2	0.276	7	7.5	0.2	20	-0.05	+0.05		●	●							KGH□/L ...7
		7020-05						0.5					●	●							
		GH 8020-02	-	2	0.315	8	7.5	0.2	20	-0.05	+0.05		●	●							
		8020-05						0.5					●	●					●	●	
		GH 10025-05	-	2	0.394	10	7.5	0.5	25	-0.05	+0.05		●	●							KGH□/L ...10
		GH 12025-05	-	2	0.472	12	7.5	0.5	25	-0.05	+0.05		●	●							
		GH 4020-05	S01020	2	0.157	4	7.5	0.5	20	-0.05	+0.05				●						KGH□/L ...4 KGHS□/L ...4
			T01020													●	●				
		GH 5020-05	S01020	2	0.197	5	7.5	0.5	20	-0.05	+0.05				●						KGH□/L ...5 KGHS□/L ...5
			T01020													●	●				
		GH 6020-05	T01020	2	0.236	6	7.5	0.5	20	-0.05	+0.05						●				
		GH 7020-05	T01020	2	0.276	7	7.5	0.5	20	-0.05	+0.05						●				KGH□/L ...7
		GHU 40-20	-	2	0.157	4	7.5	0.25	20	-0.05	+0.05	●								●	KGH□/L ...4 KGHS□/L ...4
		GHU 50-20	-	2	0.197	5	7.5	0.3	20	-0.05	+0.05	●								●	KGH□/L ...5 KGHS□/L ...5
		GHU 60-20	-	2	0.236	6	7.5	0.3	20	-0.05	+0.05	●								●	

Recommended Cutting Conditions ➡ G69

● : 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

KGH (External Grooving)



Right-hand shown

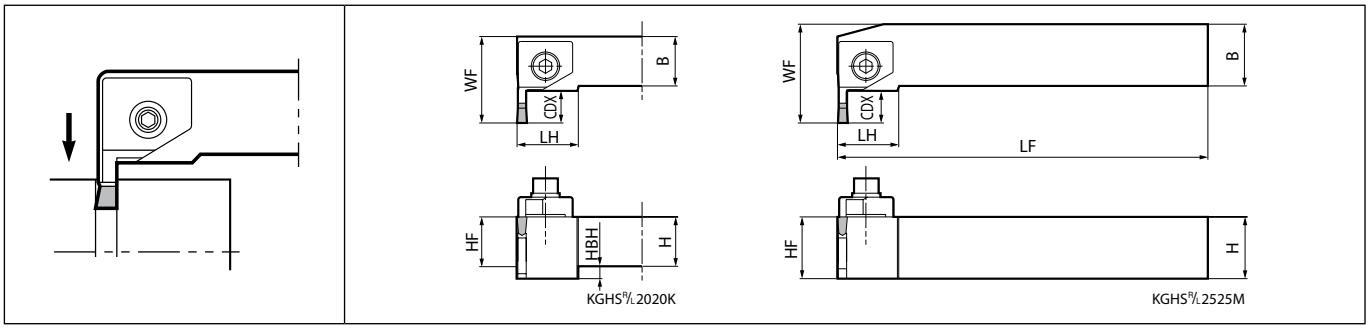
Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions									Clamp	Clamp Screw	Spring	Washer	Wrench	Applicable Inserts ➡ G66
		R	L	CDX	H	B	LH	HF	HBH	LF	WF (min.)	WF (max.)						
mm	KGH□/□ 2020K-4	●	●	13	20	20	33.5	20	5	125	24.5	24.8	CGH-1□/□	HH6X25	SP-6	W-6	LW-5	GH4.20-.. GHU40-20
	2525M-4	●	●		25	25		25	-	150								
	KGH□/□ 2020K-5	●	●	13	20	20	33.5	20	5	125	25	25.8	CGH-1□/□	HH6X25	SP-6	W-6	LW-5	GH5.20-.. , GHU50-20 GH6.20-.. , GHU60-20
	2525M-5	●	●		25	25		25	-	150								
	3225P-5	●	●		32			32		170								
	KGH□/□ 2020K-7	●	●	13	20	20	33.5	20	7	125	24.5	25	CGH-2□/□	HH6X25	SP-6	W-6	LW-5	GH7.20-.. GH8020-..
	2525M-7	●	●		25	25		25	-	150								
	KGH□/□ 2525M-10	●	●	17	25	25	41	25	-	150	25.5	26.5	CGH-3□/□	HH6X25	SP-6	W-6	LW-5	GH10025-05 GH12025-05
	3225P-10	●			32			32		170								

CDX shows available grooving depth.
WF of KGH□/□ Toolholder depends on the insert's edge width.
Clamp : CGH-○R for Right-hand Toolholder and CGH-○L for Left-hand Toolholder.

● : 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

KGHS (External Grooving)



Right-hand shown

Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions								Spare Parts					Applicable Inserts ➡ G66
												Clamp	Clamp Screw	Spring	Washer	Wrench	
		R	L	CDX	H	B	LH	HF	HBH	LF	WF						
mm	KGHSR/L 2020K-4	●	●	13	20	20	25	20	5	125	35	CGH-1L/R	HH6X25	SP-6	W-6	LW-5	GH4.20-.. GHU40-20
	2525M-4	●	●		25	25		25	-	150	40						
	KGHSR/L 2020K-5	●	●	13	20	20	25	20	5	125	35	CGH-1L/R	HH6X25	SP-6	W-6	LW-5	GH5.20-.. , GHU50-20 GH6.20-.. , GHU60-20
	2525M-5	●	●		25	25		25	-	150	40						

CDX shows available grooving depth.
Clamp : CGH-◯L for Right-hand Toolholder and CGH-◯R for Left-hand Toolholder.

Rake Angle (α) after Installment of GH / GHU insert

When using GHOO-OO		When using GHUOO-OO	
α	Insert Grades	α	Insert Grades
0°	A65, A66N, PT600M	10°	TN60 CR9025
10°	TC40		
20°	TN90, TC60 PR930 KW10		

● : 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

GH inserts - Ground Chipbreaker

Workpiece Material	Recommended Insert Grades (Vc: sfm)							(1) f (feed) during Grooving (ipr) (2) f (feed) during Traversing (ipr) (3) D.O.C. during Traversing (in)				Notes
	Cermet		PVD	Carbide	Ceramic							
	TC40	TC60	PR930	KW10	A65	A66N	PT600M	GH 40~50...	GH 55~70...	GH 75~80...	GH 100~120...	
Carbon Steel	☆ 490~720	☆ 330~490	★ 260~590	-	-	-	-	(1) 0.0028~0.0079 (2) 0.0028~0.0059 (3) MAX 0.039	(1) 0.0028~0.0079 (2) 0.0028~0.0059 (3) MAX 0.039	(1) 0.0039~0.0098 (2) 0.0039~0.0079 (3) MAX 0.059	(1) 0.0059~0.0118 (2) 0.0059~0.0098 (3) MAX 0.079	Coolant
Alloy Steel	☆ 430~660	☆ 260~430	★ 260~520	-	-	-	-	(1) 0.0028~0.0071 (2) 0.0028~0.0051 (3) MAX 0.039	(1) 0.0028~0.0071 (2) 0.0028~0.0051 (3) MAX 0.039	(1) 0.0039~0.0091 (2) 0.0039~0.0071 (3) MAX 0.059	(1) 0.0059~0.0106 (2) 0.0059~0.0087 (3) MAX 0.079	
Stainless Steel	-	☆ 200~330	★ 200~430	-	-	-	-	(1) 0.0028~0.0063 (2) 0.0028~0.0051 (3) MAX 0.039	(1) 0.0028~0.0063 (2) 0.0028~0.0051 (3) MAX 0.039	(1) 0.0039~0.0083 (2) 0.0039~0.0071 (3) MAX 0.059	(1) 0.0059~0.0098 (2) 0.0059~0.0087 (3) MAX 0.079	
Cast Iron	-	-	-	★ 200~330	☆ 490~980	☆ 490~980	☆ 490~980	KW10 (1) 0.0028~0.0079 (2) 0.0028~0.0059 (3) MAX 0.039 A65 / A66N (1) 0.0012~0.0028 (2) Traversing N/A (3) Traversing N/A	KW10 (1) 0.0028~0.0079 (2) 0.0028~0.0059 (3) MAX 0.039 A65 / A66N (1) 0.0012~0.0028 (2) Traversing N/A (3) Traversing N/A	KW10 (1) 0.0039~0.0098 (2) 0.0039~0.0079 (3) MAX 0.059 A65 / A66N (1) 0.002~0.0035 (2) Traversing N/A (3) Traversing N/A	KW10 (1) 0.0059~0.0118 (2) 0.0059~0.0098 (3) MAX 0.079 A65 / A66N (1) 0.002~0.0035 (2) Traversing N/A (3) Traversing N/A	
Aluminum	-	-	-	★ 490~1310	-	-	-	(1) 0.0028~0.0079 (2) 0.0028~0.0059 (3) MAX 0.039	(1) 0.0028~0.0079 (2) 0.0028~0.0059 (3) MAX 0.039	(1) 0.0039~0.0098 (2) 0.0039~0.0079 (3) MAX 0.059	(1) 0.0059~0.0118 (2) 0.0059~0.0098 (3) MAX 0.079	
Brass	-	-	-	★ 490~980	-	-	-	(1) 0.0028~0.0079 (2) 0.0028~0.0059 ③ MAX 0.039	(1) 0.0028~0.0079 (2) 0.0028~0.0059 (3) MAX 0.039	(1) 0.0039~0.0098 (2) 0.0039~0.0079 (3) MAX 0.059	(1) 0.0059~0.0118 (2) 0.0059~0.0098 (3) MAX 0.079	
Hardened Materials	-	-	-	-	☆ 130~260	☆ 130~260	☆ 130~260	(1) 0.0008~0.0020 (2) 0.0004~0.0012 (3) MAX 0.004	(1) 0.0008~0.0020 (2) 0.0004~0.0012 (3) MAX 0.008	(1) 0.0008~0.002 (2) 0.0004~0.0016 (3) MAX 0.008		

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

★:1st recommendation ☆:2nd recommendation

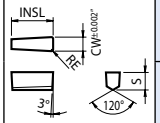
GHU Inserts - Molded Chipbreaker

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	CVD				
	TN60	CR9025	GHU 40~20	GHU 50~20	GHU 60~20	
Carbon Steel	☆ 430~660	☆ 260~590	(1) 0.0024~0.0047 (2) 0.0020~0.0039 (3) MAX 0.039	(1) 0.0024~0.0047 (2) 0.0020~0.0039 (3) MAX 0.039	(1) 0.0024~0.0059 (2) 0.0020~0.0047 (3) MAX 0.059	Coolant
Alloy Steel	☆ 330~590	☆ 260~520	(1) 0.0024~0.0047 (2) 0.0020~0.0039 (3) MAX 0.039	(1) 0.0024~0.0047 (2) 0.0020~0.0039 (3) MAX 0.039	(1) 0.0024~0.0059 (2) 0.0020~0.0047 (3) MAX 0.059	
Stainless Steel	-	☆ 200~430	(1) 0.0024~0.0039 (2) 0.0020~0.0031 (3) MAX 0.031	(1) 0.0024~0.0039 (2) 0.0020~0.0031 (3) MAX 0.031	(1) 0.0024~0.0047 (2) 0.0020~0.0039 (3) MAX 0.047	

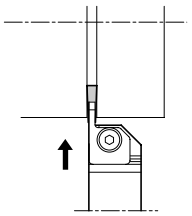
* Above cutting conditions are for external grooving. Set both cutting speed and feed 10% lower for internal grooving.

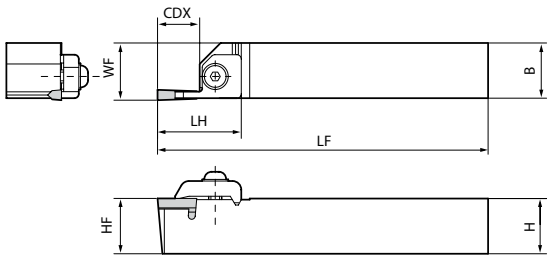
★:1st recommendation ☆:2nd recommendation

GG

Insert		Part Number	Edge Prep	No. of Edges	Dimensions (in)					Tolerance (in)		Ceramic	Applicable Toolholder
					CW		S	RE	INSL	CW min.	CW max.	-	
					in	mm						A65	
		GG 157-20T00320	T00320	2	0.157	4.0	0.197	0.020	0.591	- 0.002	+ 0.002	●	EGTR16-1
		GG 197-32T00320			0.197	5.0	0.197	0.032	0.591	- 0.002	+ 0.002	●	

EGT (External Grooving)





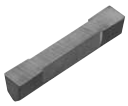
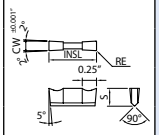
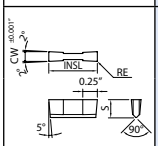
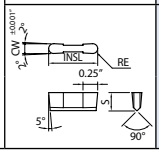
Right-hand shown

Toolholder Dimensions

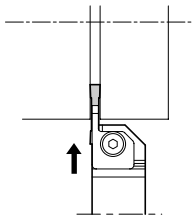
Unit	Part Number	Std. Item	Dimensions								Spare Parts		Applicable Inserts
											Clamp Set	Wrench	
		R	CDX	H	B	LH	HF	LF	WF (min.)	WF (max.)			
Inch	EGTR 16-1	●	0.63	1.00	1.00	1.34	1.00	6.00	1.0085	1.0285	R: HCL-009 L: HCL-011	LW-156	GG157... GG197...

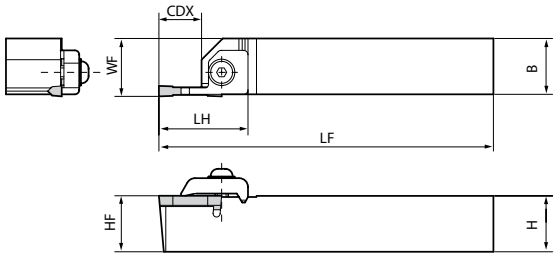
CDX shows available grooving depth.
Clamp Set : HCL-009 for Right-hand Toolholder and HCL-011 for Left-hand Toolholder.
WF of EGTR/L Toolholder depends on the insert's edge width.

DB

Insert	Part Number	No. of Edges	Dimensions (in) CW in	CW mm	S	RE	INSL	Tolerance (in) CW min.	CW max.	Cermet - / TN60	Ceramic - / A65	Applicable Toolholder
 	DB 125R15	2	0.125	3.18	0.250	0.015	1.125	-0.001	+0.001	●		KDBR16-1
	187R30		0.187	4.75		0.030				●		
	250R15		0.250	6.35		0.015				●		
	375R30		0.375	9.525		0.030				●		
	DB 125R15T00420	2	0.125	3.18	0.250	0.015	1.125	-0.001	+0.001		●	
	187R30T00420		0.187	4.75		0.030					●	
	DB 125FNRT00420	2	0.125	3.18	0.250	0.063	1.125	-0.001	+0.001		●	
	187FNRT00420		0.187	4.75		0.094					●	

KDB (External Grooving)





Right-hand shown

Toolholder Dimensions

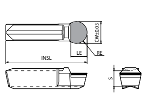
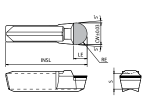
Unit	Part Number	Std. Item R	Dimensions CDX	H	B	HF	LF	WF (min.)	WF (max.)	Spare Parts: Clamp Set	Spare Parts: Wrench	Applicable Inserts
Inch	KDBR 16-1	●	0.75	1.00	1.00	1.00	6.00	1.0050	1.0360	R: HCL-009 L: HCL-011	LW-156	DB...

CDX shows available grooving depth.
Clamp Set : HCL-009 for Right-hand Toolholder and HCL-011 for Left-hand Toolholder.
WF of KDB R/L Toolholder depends on the insert's edge width.

● : 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

GMGW

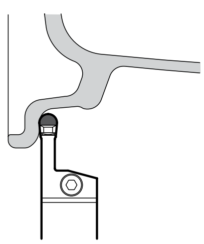
Work Material	KPD001	
Carbon Steel / Alloy Steel		P
Stainless Steel		M
Cast Iron		K
Non-Ferrous Metals	●	N
Titanium Alloy	●	S
Hard Materials (~ 40HRC)		H
Hard Materials (40HRC ~)		H

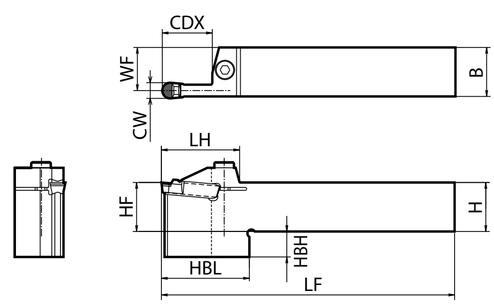
Insert		Part Number	No. of Edges	Dimensions (mm) CW in	CW mm	S	RE	INSL	LE	Tolerance (mm) CW min.	CW max.	PCD - KPD001	Applicable Toolholder
		GMGW 6030-30R	1	0.236	6	5.5	3	30	4.5	- 0.03	+ 0.03	●	KGMW R/L 2525M-6
		GMGW 8030-40R	1	0.315	8	5.5	4	30	6	- 0.03	+ 0.03	●	-
		GMGW 8030-40R-HR	1	0.315	8	5.5	4	30	5	- 0.03	+ 0.03	●	-

GMGW inserts are exclusively used for KGMW toolholder. They cannot be used for other toolholder because of different installation angles.
GMGW inserts Edge Preparation : R-honed Cutting Edge.

G GROOVING
EXTERNAL
INTERNAL
FACE

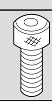
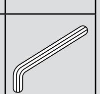
KGMW (External Grooving / Face Grooving / Copying)





Right-hand shown

Toolholder Dimensions

Unit	Part Number	Std. Item R	CDX	H	B	LH	HF	HBH	HBL	LF	WF	Spare Parts Clamp Screw 	Wrench 	Applicable Inserts
mm	KGMWR 2525M-6	●	25	25	25	40	25	13	55	150	22.8	HH6X25	LW-5	GMGW6030-30R

Recommended Cutting Conditions

Workpiece Material	Recommended insert grades (Vc: sfm) PCD KPD001	(1) f for grooving (ipr) (2) f for traversing (ipr) (3) D.O.C. for traversing (in)
Aluminum	★ 490~8,860	(1) 0.0020 ~ 0.0118 (2) 0.0079 ~ 0.0315 (3) Max. 0.1181

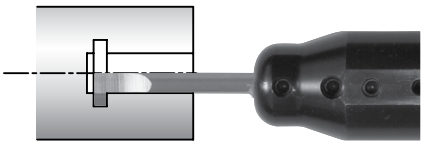
★ :1st recommendation

PCD inserrts are sold in 1 piece boxes

● : 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

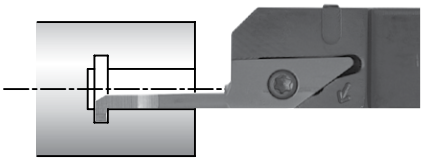
Small Diameter Internal Grooving

Ez Bar and Swiss IQ Bars



Type	EZG
Min. Bore Diameter	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	G75

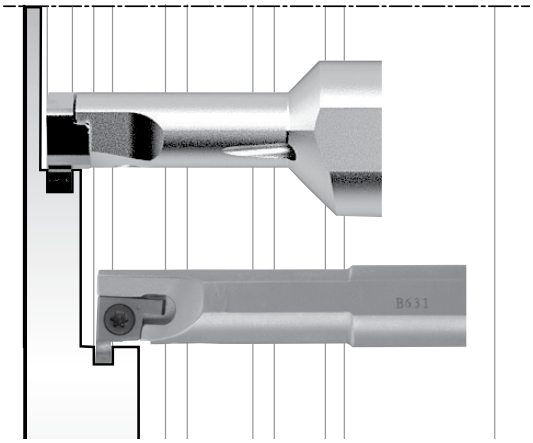
EZ Bars



Type	VNG
Min. Bore Diameter	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	G77

Swiss IQ Bars

External Shallow Grooving Ø0.315"~ / (Ø8mm)~



Type	SIGC
Min. Bore Diameter	8.0mm~12.00mm
Edge Width	1.0mm ~ 3.0mm
Grooving Depth	1.0mm ~ 3.0mm
Ref. Page	G80

1-Edge

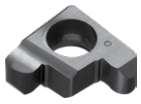
Ground Chipbreaker

Type	SIGE
Min. Bore Diameter	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	G86

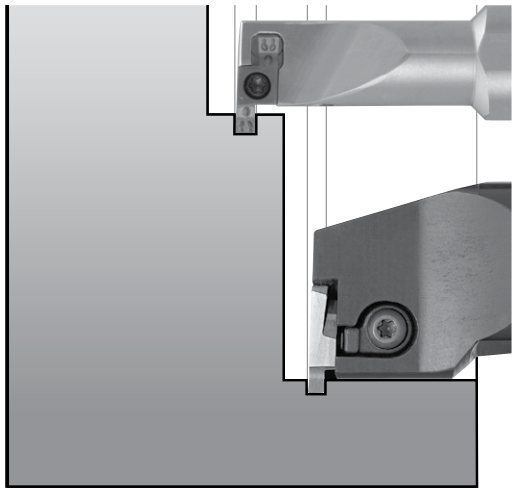
2-Edge

Ground Chipbreaker

2-Edge



Ground Chipbreaker Full-R

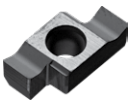


Type	SIGE
Min. Bore Diameter	0.551"~1.575" (14.0mm~40.0mm)
Edge Width	0.039"~0.197" (1.0mm~5.0mm)
Grooving Depth	0.098"~0.256" (2.5mm~6.5mm)
Ref. Page	G34

2-Edge

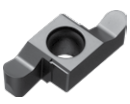
Molded Chipbreaker

2-Edge



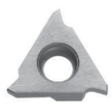
Ground Chipbreaker

2-Edge

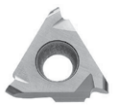


Ground Chipbreaker Full-R

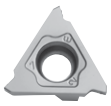
Type	KIGBA
Min. Bore Diameter	1.378"~1.575" (35.0mm~40.0mm)
Edge Width	0.013"~0.189" (0.33mm~4.8mm)
Grooving Depth	0.032"~0.110" (0.8mm~2.8mm)
Ref. Page	G89



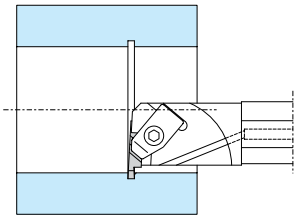
Ground Chipbreaker



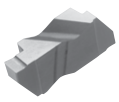
Ground Chipbreaker Full-R



GM Chipbreaker

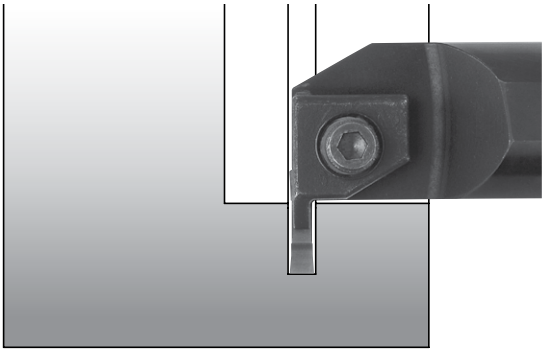


Type	A-KKC
Min. Bore Diameter	1.000"~2.750"
Edge Width	0.031"~0.189"
Grooving Depth	0.040"~0.240"
Ref. Page	G94

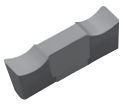


Ground Chipbreaker

Internal Deep Grooving



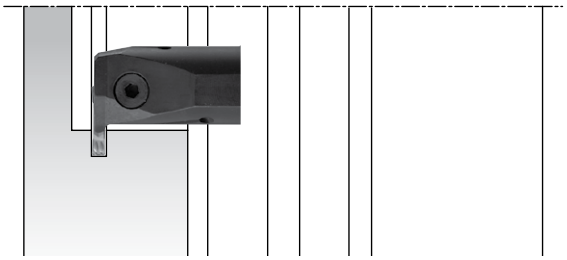
Type	KIGH
Min. Bore Diameter	1.772"~2.559" (45.0mm~65.0mm)
Edge Width	1.575"~0.315" (4.0mm~8.0mm)
Grooving Depth	0.472" (12.0mm)
Ref. Page	G93



Ground Chipbreaker

Molded Chipbreaker

Internal Grooving & Traversing Ø0.787"~ (Ø20mm~)



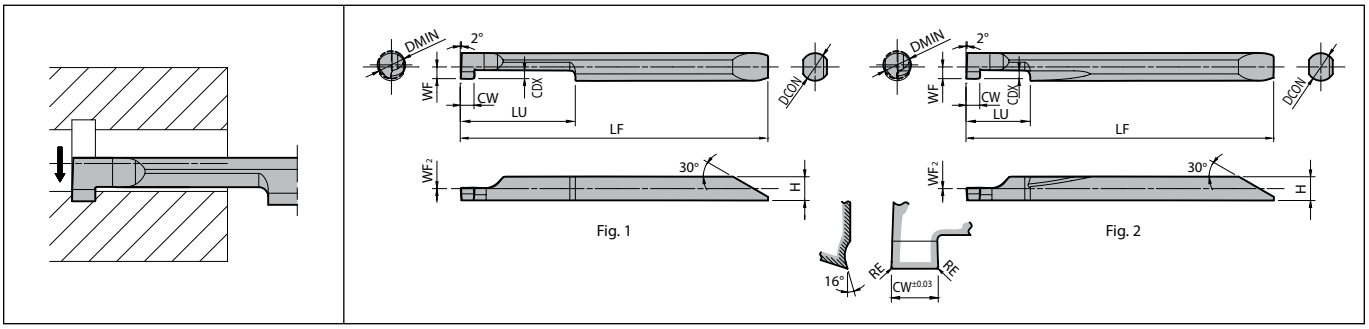
Type	KGDI
Min. Bore Diameter	0.709"~1.575" (18.0mm~40.0mm)
Edge Width	0.079"~0.197" (2.0mm~5.0mm)
Grooving Depth	0.177"~0.433" (4.5mm~11.0mm)
Ref. Page	G91

GM Chipbreaker

Molded Chipbreaker Full-R

800.823.7284
www.kyocera precisiontools.com

EZG (Internal Grooving)



Right-hand shown

Dimensions

Part Number	No. of Edges	Dimensions (mm) DMIN	CW in	CW mm	CDX	RE	DCON	H	LF	LU	WF	WF2	Fig.	Tolerance (mm) CW min.	CW max.	RE min.	RE max.	Carbide PVD PR1225 R	Carbide PVD PR1225 L	Carbide - GW05 R	Applicable Sleeve F40~F45
EZGR/L 040040-050	1	4	0.020	0.5	1	0.05	4	3.45	44.7	12	1.7	0	2	-0.03	+0.03	-0.013	+0.013	●	□	●	EZH040...
040040-100			0.039	1														●	□	●	
040040-150			0.059	1.5														●	□	●	
040040-200			0.079	2														●	□	●	
EZGR/L 050050-100	1	5	0.039	1	1.5	0.05	5	4.3	52.8	20	2.15	0	1	-0.03	+0.03	-0.013	+0.013	●	□	●	EZH050...
050050-150			0.059	1.5														●	□	●	
050050-200			0.079	2														●	□	●	
EZGR/L 060060-100	1	6	0.039	1	2	0.05	6	5.15	60.7	20	2.65	0	1	-0.03	+0.03	-0.013	+0.013	●	□	●	EZH060...
060060-150			0.059	1.5														●	□	●	
060060-200			0.079	2														●	□	●	
EZGR/L 070070-100	1	7	0.039	1	2	0.05	7	6.2	63.7	25	3.05	0	1	-0.03	+0.03	-0.013	+0.013	●	□	●	EZH070...
070070-150			0.059	1.5														●	□	●	
070070-200			0.079	2														●	□	●	
EZGR/L 080070-100	1	8	0.039	1	2	0.05	7	6.2	63.7	25	3.45	0	1	-0.03	+0.03	-0.013	+0.013	●	□	●	
080070-150			0.059	1.5														●	□	●	
080070-200			0.079	2														●	□	●	
EZGR 030030-050S	1	3	0.020	0.5	0.8	0.05	3	2.5	38.7	5	1.25	0	2	-0.03	+0.03	-0.013	+0.013	●			EZH030...
030030-100S			0.039	1														●			
EZGR 040040-050S	1	4	0.020	0.5	1	0.05	4	3.45	44.7	8	1.7	0	2	-0.03	+0.03	-0.013	+0.013	●			EZH040...
040040-100S			0.039	1														●			
040040-150S			0.059	1.5														●			
040040-200S			0.079	2														●			
EZGR 050050-100S	1	5	0.039	1	1.5	0.05	5	4.3	52.8	10	2.15	0	2	-0.03	+0.03	-0.013	+0.013	●			EZH050...
050050-150S			0.059	1.5														●			
050050-200S			0.079	2														●			
EZGR 060060-100S	1	6	0.039	1	2	0.05	6	5.15	60.7	10	2.65	0	2	-0.03	+0.03	-0.013	+0.013	●			EZH060...
060060-150S			0.059	1.5														●			
060060-200S			0.079	2														●			
EZGR 070070-100S	1	7	0.039	1	2	0.05	7	6.2	63.7	10	3.05	0	2	-0.03	+0.03	-0.013	+0.013	●			EZH070...
070070-150S			0.059	1.5														●			
070070-200S			0.079	2														●			
EZGR 080070-100S	1	8	0.039	1	2	0.05	7	6.2	63.7	10	3.45	0	2	-0.03	+0.03	-0.013	+0.013	●			
080070-150S			0.059	1.5														●			
080070-200S			0.079	2														●			

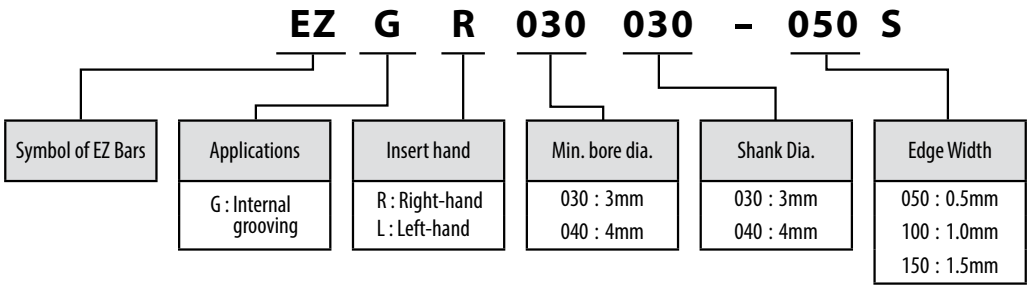
CDX shows available grooving depth.

Recommended Cutting Conditions G155

EZ bars are sold in 1 piece boxes

● : 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

EZ Bars Identification System



Applicable Sleeves

Sleeve				Applicable Internal Grooving Bar		
EZH-CT (Adjustable Overhang Length / with Coolant Hole) ➡ F40~F41	EZH-HP (Adjustable Overhang Length) ➡ F42~F43	EZH-ST ➡ F44~F45	Sleeve Shank Dia. DCON (mm)	EZG	EZ Bar Shank Dia. DCON (mm)	Applicable Machine Manufacturer
-	-	EZH 03012ST-80	12	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	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	EZG_ 030030-...	3	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	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	EZG_ 030030-...	3	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.

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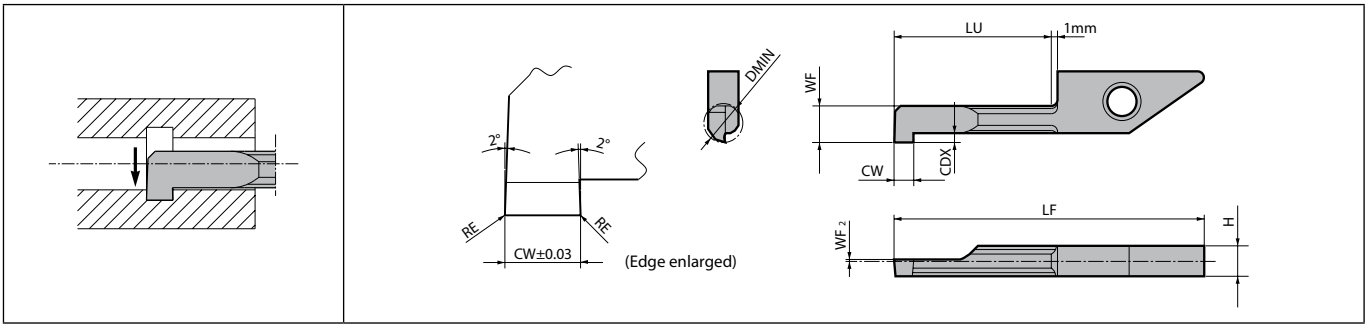
VNG



Right-hand shown

Dimensions

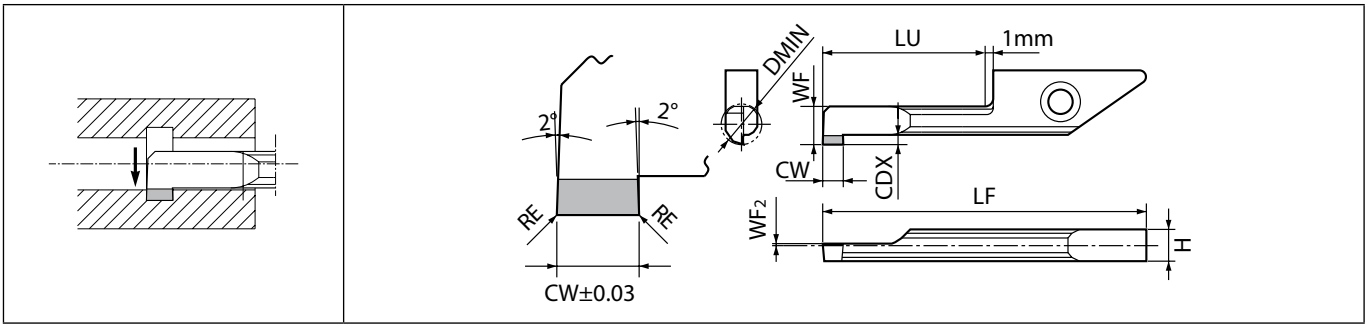
Part Number	No. of Edges	Dimensions (mm)										Tolerance (mm)		Carbide		Applicable Toolholder ➡ F50~F53
		DMIN	CW in	CW mm	CDX	RE	H	LF	LU	WF	WF_2	CW min.	CW max.	PVD PR1225	PVD PR930	- KW10	
VNGR 0410-11	1	4	0.039	1	0.8	0.05	3.9	30.8	11	3.5	0.1	-0.03	+0.03	●	●	●	SVNR...-12N SVNSR...-12-..(N) S...-SVNR12(N) S...-SVNR12SN
0420-11			0.079	2										●	●	●	
VNGR 0510-11	1	5	0.039	1	1	0.05	3.9	30.8	11	4.4	0.1	-0.03	+0.03	●	●	●	
0520-11			0.079	2										●	●	●	
VNGR 0610-20	1	6	0.039	1	1.8	0.05	3.9	39.8	20	5.2	0.3	-0.03	+0.03	●	●	●	
0620-20			0.079	2										●	●	●	
VNGR 0710-20	1	7	0.039	1	2	0.05	3.9	39.8	20	6.2	0.3	-0.03	+0.03	●	●	●	
0720-20			0.079	2										●	●	●	

CDX shows available grooving depth.
WF_2 indicates the cutting edge is above the Tool's Center Position.

Recommended Cutting Conditions ➡ G155

Swiss IQ Bars are sold in 5 piece boxes

VNG-NB



Right-hand shown

Dimensions

Part Number	No. of Edges	Dimensions (mm)										Tolerance (mm)		PCD - KPD001	Applicable Toolholder ➡ F50~F53
		DMIN	CW in	CW mm	CDX	RE	H	LF	LU	WF	WF_2	CW min.	CW max.		
VNGR 0410-11NB	1	4	0.039	1	0.8	0.05	3.9	30.8	11	3.5	0.1	-0.03	+0.03	□	SVNR...-12N SVNSR...-12-..(N) S...-SVNR12(N) S...-SVNR12SN
0420-11NB			0.079	2										□	
VNGR 0510-11NB	1	5	0.039	1	1	0.05	3.9	30.8	11	4.4	0.1	-0.03	+0.03	□	
0520-11NB			0.079	2										□	
VNGR 0610-20NB	1	6	0.039	1	1.8	0.05	3.9	39.8	20	5.2	0.3	-0.03	+0.03	□	
0620-20NB			0.079	2										□	
VNGR 0710-20NB	1	7	0.039	1	2	0.05	3.9	39.8	20	6.2	0.3	-0.03	+0.03	□	
0720-20NB			0.079	2										□	

CDX shows available grooving depth.
WF_2 indicates the cutting edge is above the Tool's Center Position.
● : 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

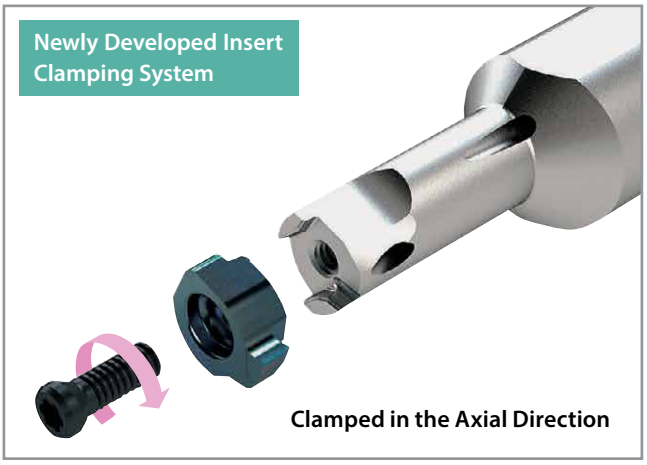
PCD Swiss IQ Bars are sold in 1 piece boxes

SIGC

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

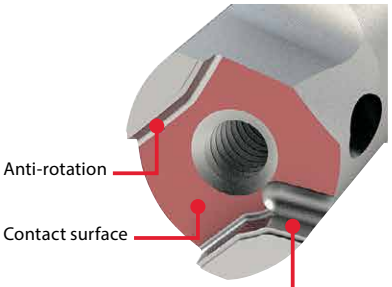
1 Firm Insert Clamping System for High-Precision Machining

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

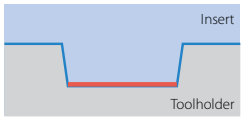


Clamping Part

Large contact surface improves chip stability

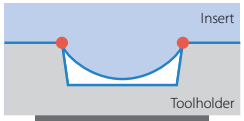


SIGC



Bottom Surface Contact

Competitor A

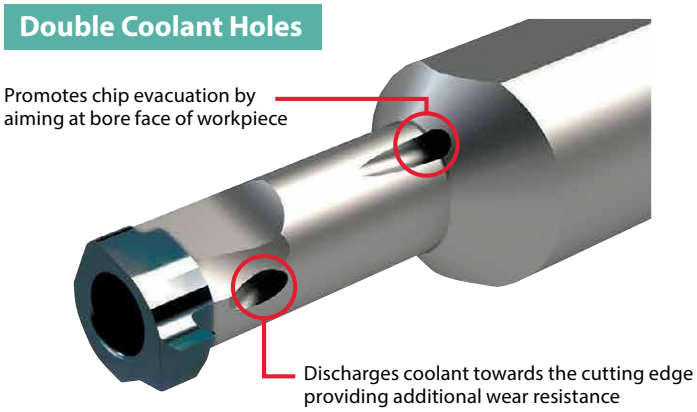


Point Contact

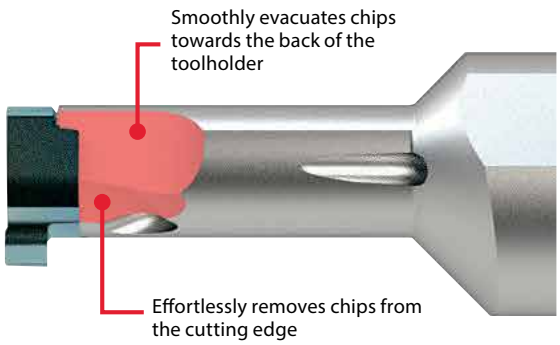
2 Excellent Chip Evacuation

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

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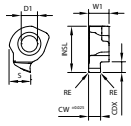
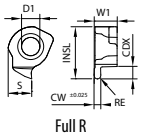
GC

Carbon Steel / Alloy Steel	P
Stainless Steel	M
Cast Iron	K
Non-Ferrous Metals	N
Titanium Alloy	S
Hard Materials (~ 40HRC)	H
Hard Materials (40HRC ~)	H

Insert	Part Number	No. of Edges	Dimensions (mm) CW in	CW mm	CDX	S	D1	RE	INSL	W1	Tolerance (mm) CW min.	CW max.	Carbide PVD PR1535	PR1725	Applicable Toolholder G80~G81
 	GC08R 100-005	1	0.039	1	1.5	3.5	2.7	0.05	7.7	3.4	-0.025	+0.025	●	●	SIGCR08...
	120-005		0.047	1.2				0.05					●	●	
	125-005		0.049	1.25				0.05					●	●	
	150-010		0.059	1.5				0.1					●	●	
	200-010		0.079	2				0.1					●	●	
	GC08L 100-005		0.039	1				0.05					●	●	SIGCL08...
	120-005		0.047	1.2				0.05					●	●	
	125-005		0.049	1.25				0.05					●	●	
	150-010		0.059	1.5				0.1					●	●	
	200-010		0.079	2				0.1					●	●	
	GC10R 100-005	1	0.039	1	2.2	4.4	3.5	0.05	9.6	4.7	-0.025	+0.025	●	●	SIGCR10...
	120-005		0.047	1.2				0.05					●	●	
	125-005		0.049	1.25				0.05					●	●	
	145-010		0.057	1.45				0.1					●	●	
	150-010		0.059	1.5				0.1					●	●	
	200-010		0.079	2				0.1					●	●	
	250-020		0.098	2.5				0.2					●	●	
	300-020		0.118	3				0.2					●	●	
	GC10L 100-005		0.039	1				0.05					●	●	SIGCL10...
	120-005		0.047	1.2				0.05					●	●	
	125-005		0.049	1.25				0.05					●	●	
	145-010		0.057	1.45				0.1					●	●	
	150-010		0.059	1.5				0.1					●	●	
	200-010		0.079	2				0.1					●	●	
	250-020		0.098	2.5				0.2					●	●	
	300-020		0.118	3				0.2					●	●	
	GC12R 100-005	1	0.039	1	2.2	5.4	3.5	0.05	11.6	4.7	-0.025	+0.025	●	●	SIGCR12...
	120-005		0.047	1.2				0.05					●	●	
	125-005		0.049	1.25				0.05					●	●	
	145-010		0.057	1.45				0.1					●	●	
	150-010		0.059	1.5				0.1					●	●	
	200-010		0.079	2				0.1					●	●	
	250-020		0.098	2.5				0.2					●	●	
	300-020		0.118	3				0.2					●	●	
	GC12L 100-005		0.039	1				0.05					●	●	SIGCL12...
	120-005		0.047	1.2				0.05					●	●	
	125-005		0.049	1.25				0.05					●	●	
	145-010		0.057	1.45				0.1					●	●	
	150-010		0.059	1.5				0.1					●	●	
	200-010		0.079	2				0.1					●	●	
	250-020		0.098	2.5				0.2					●	●	
	300-020		0.118	3				0.2					●	●	
  Full R	GC08R 100-050R	1	0.039	1	1.5	3.5	2.7	0.5	7.7	3.4	-0.025	+0.025	●	●	SIGCR08...
	200-100R		0.079	2				1					●	●	
	GC10R 100-050R	1	0.039	1	2.2	4.4	3.5	0.5	9.6	4.7	-0.025	+0.025	●	●	SIGCR10...
	200-100R		0.079	2				1					●	●	
	GC12R 100-050R	1	0.039	1	2.2	5.4	3.5	0.5	11.6	4.7	-0.025	+0.025	●	●	SIGCR12...
	200-100R		0.079	2				1					●	●	

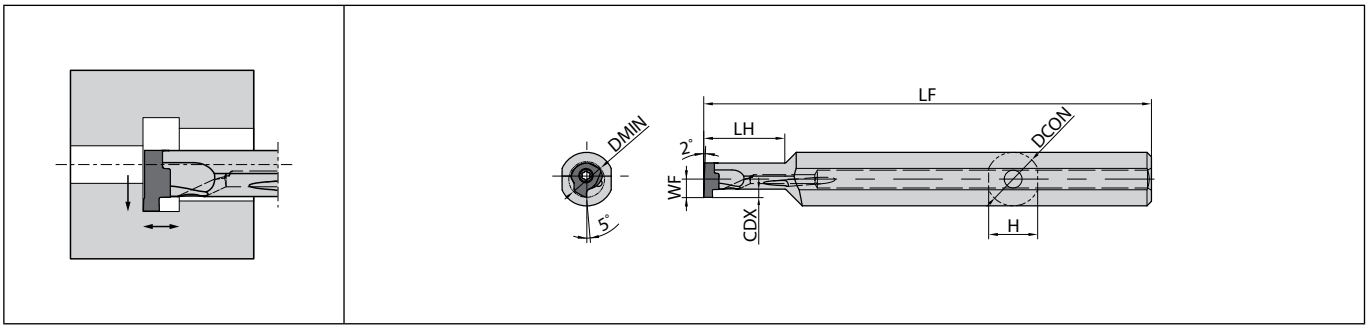
Right-hand shown
CDX shows available grooving depth.

Recommended Cutting Conditions G156

GC type inserts are sold in 5 piece boxes

● : 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

SIGC Excellent Bar (Internal Grooving)



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

Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	DMIN	DCON	CDX	H	LH	LF	WF	Coolant Hole	Spare Parts: Screw	Spare Parts: Wrench	Applicable Inserts ➡ G79
mm	SIGC R/L 0812-EH	●	●	8	12	1.5	11	18	100	4.1	Yes	SB-2270T R/L	FT-7	GC08 R/L ...
mm	SIGC R/L 1016-EH	●	●	10	16	2.2	15	21	100	5	Yes	SB-3070T R/L	FT-8	GC10 R/L ...
mm	SIGC R/L 1216-EH	●	●	12	16	2.2	15	25	110	6	Yes	SB-3070T R/L	FT-8	GC12 R/L ...

Setting the insert

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

Mount the insert into the toolholder 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.

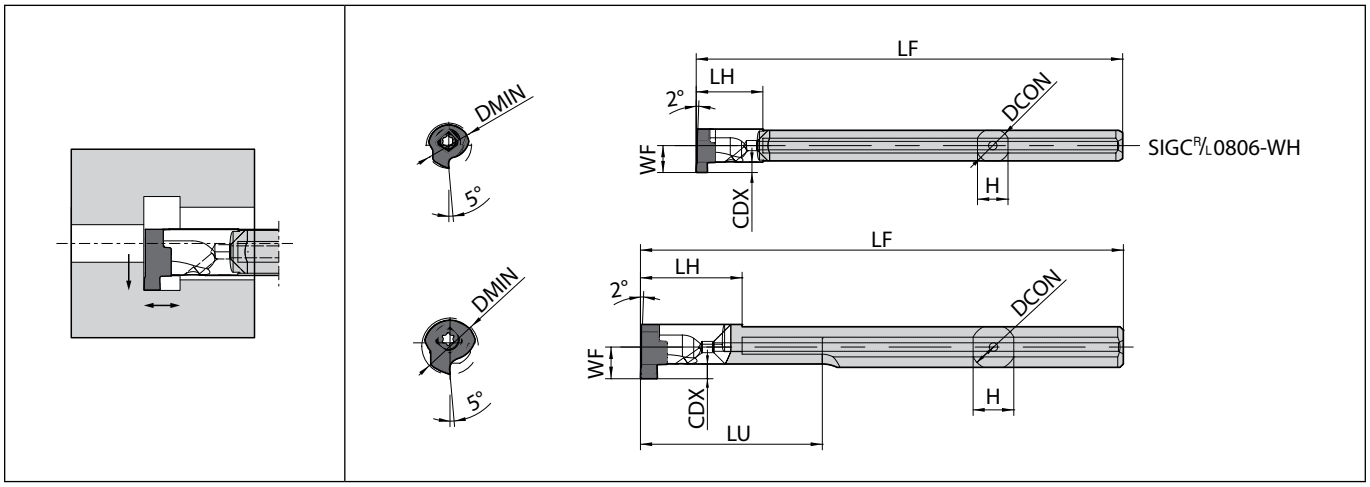
Recommended tightening torque : 0.8 N·m (SB-2270T R/L), 1.2 N·m (SB-3070T R/L)

L-hand clamp screw for L-hand toolholder

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

● : 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

SIGC Carbide Shank Bar (Internal Grooving)



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

Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	DMIN	DCON	CDX	H	LH	LF	LU	WF	Coolant Hole	Spare Parts: Screw	Spare Parts: Wrench	Applicable Inserts (G79)
mm	SIGCR/L 0806-WH	●	●	8	6	1.5	5.4	12	75	-	4.8	Yes	SB-2270TR/L	FT-7	GC08R/L...
	SIGCR/L 1008-WH-L85	●	●	10	8	2.2	7.2	18	85	32	5.6	Yes	SB-3070TR/L	FT-8	GC10R/L...
	1008-WH-L100	●							100	45			SB-3070TR		
	SIGCR/L 1210-WH-L95	●		12	10	2.2	9.2	18	95	32	6.6	Yes	SB-3070TR/L	FT-8	GC12R/L...
	1210-WH-L110	●	●						110	45					

Setting the insert
- Use compressed air or other measures to remove chips from the insert pocket.
- Mount the insert into the toolholder 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 : 0.8 N·m (SB-2270TR/L), 1.2 N·m (SB-3070TR/L)
L-hand clamp screw for L-hand toolholder

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

Applicable Sleeves

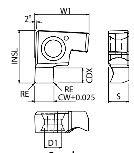
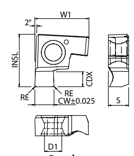
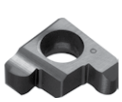
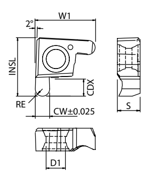
Shank Size (Hole Dia.: mm)	06 (6 mm)	08 (8 mm)	10 (10 mm)	12 (12 mm)	16 (16 mm)
Toolholder Part Number	SIGCR/L 0806-WH	SIGCR/L 1008-WH-L85 SIGCR 1008-WH-L100	SIGCR 1210-WH-L95 SIGCR/L 1210-WH-L110	SIGCR/L 0812-EH	SIGCR/L 1016-EH SIGCR/L 1216-EH
SH Sleeves (For Boring Bars)	SH 06…	SH 08…	SH 10…	SH 12…	SH 16…
SHC Sleeves (Coolant Sleeve)	–	SHC 08…	SHC 10…	SHC 12…	SHC 16…
SHA Sleeves	–	SHA 08…	SHA 10…	SHA 12…	–
EZH Sleeves (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

● : 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

GE

Work material	PR2025	PR1225	KW10	TN6020	
Carbon Steel / Alloy Steel	●	○		○	P
Stainless Steel	●	○			M
Cast Iron			○		K
Non-Ferrous Metals			●		N
Titanium Alloy			●		S
Hard Materials (~ 40HRC)	○	●			H
Hard Materials (40HRC ~)					H

Insert	Part Number	No. of Edges	CW in	CW mm	CDX	S	D1	RE	INSL	W1	Tolerance (mm) CW min.	Tolerance (mm) CW max.	PR2025 (Carbide PVD)	PR1225 (Carbide PVD)	KW10 (Carbide -)	TN6020 (Cermet -)	Applicable Toolholder (G86~G88)
  2-edge	GER 100-005A	2	0.039	1	1.5	2.58	2.5	0.05	6.5	6.69	- 0.025	+ 0.025	●	●	●	●	SIGER05EH SIGER0808A-EH SIGER0808A-WH
	GER 120-005A		0.047	1.2				0.05					●	●		●	
	GER 125-005A		0.049	1.25				0.05					●	●	●		
	GER 150-010A		0.059	1.5				0.1					●	●	●	●	
	GER 200-010A		0.079	2				0.1					●	●	●	●	
	GEL 100-005A		0.039	1				0.05					●	●			SIGEL05EH SIGEL0808A-EH SIGEL0808A-WH
	GEL 120-005A		0.047	1.2				0.05					●	●			
	GEL 125-005A		0.049	1.25				0.05					●	●			
	GEL 150-010A		0.059	1.5				0.1					●	●	●		
	GEL 200-010A		0.079	2				0.1					●	●			
  2-edge	GER 100-005B	2	0.039	1	2.2	3.18	2.7	0.05	8.2	8.46	- 0.025	+ 0.025	●	●	●	●	SIGER06EH SIGER....B-EH SIGER....B-WH SIGER....B-WH-90
	GER 120-005B		0.047	1.2				0.05					●	●	●	●	
	GER 125-005B		0.049	1.25				0.05					●	●	●		
	GER 145-010B		0.057	1.45				0.1					●	●	●	●	
	GER 150-010B		0.059	1.5				0.1					●	●	●	●	
	GER 200-010B		0.079	2				0.1					●	●	●	●	
	GER 250-020B		0.098	2.5				0.2					●	●	●	●	
	GER 300-020B		0.118	3				0.2					●	●	●	●	
	GEL 100-005B		0.039	1				0.05					●	●	●		SIGEL06EH SIGEL....B-EH SIGEL....B-WH
	GEL 120-005B		0.047	1.2				0.05					●	●			
	GEL 125-005B		0.049	1.25				0.05					●	●			
	GEL 145-010B		0.057	1.45				0.1					●	●			
	GEL 150-010B		0.059	1.5				0.1					●	●		●	
	GEL 200-010B		0.079	2				0.1					●	●	●	●	
	GEL 250-020B		0.098	2.5				0.2					●	●		●	
	GEL 300-020B		0.118	3				0.2					●	●	●	●	
  2-edge / Full R	GER 100-050AR	2	0.039	1	1.5	2.58	2.5	0.5	6.5	6.69	- 0.025	+ 0.025	●	●	●		SIGER05EH SIGER0808A-EH SIGER0808A-WH
	GER 200-100AR		0.079	2				1					●	●			
	GER 100-050BR	2	0.039	1	2.2	3.18	2.7	0.5	8.2	8.46	- 0.025	+ 0.025	●	●	●		SIGER06EH SIGER....B-EH SIGER....B-WH SIGER....B-WH-90
	GER 200-100BR		0.079	2				1					●	●	●		

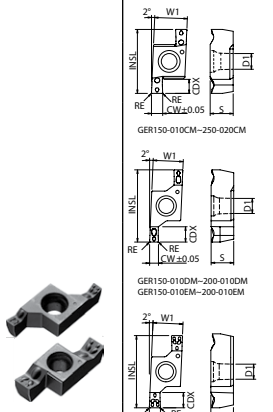
Right-hand shown
CDX shows available grooving depth.

Recommended Cutting Conditions ➡ G157

● : 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

GE

Carbon Steel / Alloy Steel	●	P
Stainless Steel	●	M
Cast Iron		K
Non-Ferrous Metals		N
Titanium Alloy		S
Hard Materials (~ 40HRC)	○	H
Hard Materials (40HRC ~)	●	

Insert	Part Number	No. of Edges	Dimensions (mm) CW in	CW mm	CDX	S	D1	RE	INSL	W1	Tolerance (mm) CW min.	CW max.	Carbide PVD PR2025	PR1225	Applicable Toolholder G86~G88
 GER150-010CM–250-020CM GER150-010DM–200-010DM GER150-010EM–200-010EM GER230-020DM–250-020DM GER250-020EM–400-020EM GER300-020CM–350-020CM GER300-020DM–400-020DM GER450-020EM–500-020EM 2-edge / Molded Chipbreaker	GER 150-010CM	2	0.059	1.5	2.5	4.05	2.8	0.1	11.48	5.8	-0.05	+0.05	●	●	SIGER....C-EH SIGER....C-WH SIGER....C-WH-90
	200-010CM		0.079	2				0.1					●	●	
	250-020CM		0.098	2.5				0.2					●	●	
	300-020CM		0.118	3				0.2					●	●	
	350-020CM		0.138	3.5				0.2					●	●	
	GER 150-010DM	2	0.059	1.5	3	5.05	3.4	0.1	16.44	6.8	-0.05	+0.05	●	●	SIGER...D-EH
	200-010DM		0.079	2	3.2			0.1					●	●	
	230-020DM		0.091	2.3	3.2			0.2					●	●	
	250-020DM		0.098	2.5	3.2			0.2					●	●	
	300-020DM		0.118	3	4.5			0.2					●	●	
	350-020DM		0.138	3.5	4.5			0.2					●	●	
	400-020DM		0.157	4	4.5			0.2					●	●	

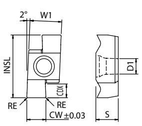
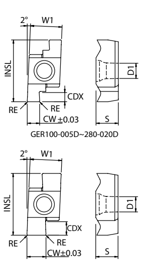
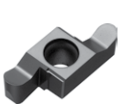
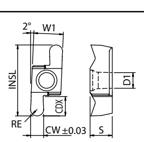
Right-hand shown
CDX shows available grooving depth.

Recommended Cutting Conditions G157

● : 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

GE

	PR2025	PR1225	GW15	TN6020	
Carbon Steel / Alloy Steel	◕	◔		○	P
Stainless Steel	◕	◔			M
Cast Iron			◔		K
Non-Ferrous Metals			◕		N
Titanium Alloy			◕		S
Hard Materials (~ 40HRC)	○	●			H
Hard Materials (40HRC ~)					H

Insert	Part Number		No. of Edges	CW in	CW mm	CDX	S	D1	RE	INSL	W1	CW min.	CW max.	PR2025 (Carbide PVD)	PR1225 (Carbide PVD)	GW15 (Carbide -)	TN6020 (Cermet -)	Applicable Toolholder ➡ G86~G88
  2-edge	GER	100-005C	2	0.039	1	2.5	4.05	3.1	0.05	11.48	5.8	- 0.03	+ 0.03	●	●	●	●	SIGER....C-EH SIGER....C-WH SIGER....C-WH-90
		120-005C		0.047	1.2				0.05					●	●	●	●	
		125-005C		0.049	1.25				0.05					●	●	●	●	
		140-005C		0.055	1.4				0.05					●	●	●	●	
		145-010C		0.057	1.45				0.1					●	●			
		150-010C		0.059	1.5				0.1					●	●	●	●	
		170-010C		0.067	1.7				0.1					●	●	●		
		185-010C		0.073	1.85				0.1					●	●			
		195-010C		0.077	1.95				0.1					●	●			
		200-010C		0.079	2				0.1					●	●	●	●	
		250-020C		0.098	2.5				0.2					●	●	●	●	
		300-020C		0.118	3				0.2					●	●	●	●	
		350-020C		0.138	3.5				0.2					●	●	●		
	GEL	100-005C		0.039	1				0.05					●	●	●	●	SIGEL....C-EH SIGEL....C-WH
		120-005C		0.047	1.2				0.05					●	●			
		125-005C		0.049	1.25				0.05					●	●	●		
		145-010C		0.057	1.45				0.1					●	●			
		150-010C		0.059	1.5				0.1					●	●	●		
		200-010C		0.079	2				0.1					●	●	●		
		250-020C		0.098	2.5				0.2					●	●	●	●	
		300-020C		0.118	3				0.2					●	●		●	
		350-020C		0.138	3.5				0.2					●	●			
  2-edge	GER	100-005D	2	0.039	1	2.5	5.05	3.6	0.05	16.44	6.8	- 0.03	+ 0.03	●	●	●	●	SIGER...D-EH
		140-005D		0.055	1.4	2.5			0.05					●	●	●	●	
		145-010D		0.057	1.45	2.5			0.1					●	●		●	
		150-010D		0.059	1.5	3			0.1					●	●	●	●	
		170-010D		0.067	1.7	3			0.1					●	●		●	
		185-010D		0.073	1.85	3			0.1					●	●			
		195-010D		0.077	1.95	3			0.1					●	●			
		200-010D		0.079	2	3.2			0.1					●	●	●	●	
		225-010D		0.089	2.25	3.2			0.1					●	●			
		230-020D		0.091	2.3	3.2			0.2					●	●	●	●	
		250-020D		0.098	2.5	3.2			0.2					●	●	●	●	
		280-020D		0.110	2.8	3.2			0.2					●	●	●		
		300-020D		0.118	3	4.5			0.2					●	●	●	●	
		330-020D		0.130	3.3	4.5			0.2					●	●			
		350-020D		0.138	3.5	4.5			0.2					●	●			
		400-020D		0.157	4	4.5			0.2					●	●	●	●	
	GEL	100-005D		0.039	1	2.5			0.05					●	●	●		SIGEL...D-EH
		140-005D		0.055	1.4	2.5			0.05					●	●			
		145-010D		0.057	1.45	2.5			0.1					●	●			
		150-010D		0.059	1.5	3			0.1					●	●	●	●	
		170-010D		0.067	1.7	3			0.1					●	●			
		200-010D		0.079	2	3.2			0.1					●	●		●	
		225-010D		0.089	2.25	3.2			0.1					●	●			
		230-020D		0.091	2.3	3.2			0.2					●	●			
		250-020D		0.098	2.5	3.2			0.2					●	●		●	
		300-020D		0.118	3	4.5			0.2					●	●	●	●	
		400-020D		0.157	4	4.5			0.2					●	●			
  2-edge / Full R	GER	200-100CR	2	0.079	2	2.5	4.05	3.1	1	11.48	5.8	- 0.03	+ 0.03	●	●	●		SIGER....C-EH SIGER....C-WH(-..)
		250-125CR		0.098	2.5				1.25					●	●	●		
		300-150CR		0.118	3				1.5					●	●	●		
	GER	200-100DR	2	0.079	2	3.2	5.05	3.6	1	16.44	6.8	- 0.03	+ 0.03	●	●	●		SIGER...D-EH
		300-150DR		0.118	3	4.5			1.5					●	●	●		

Right-hand shown
CDX shows available grooving depth.

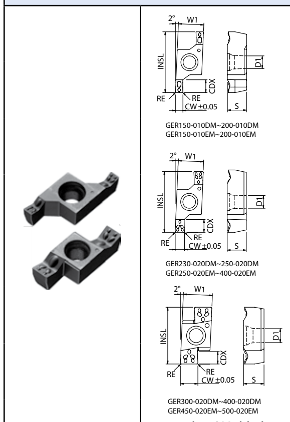
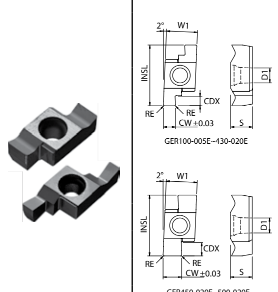
Recommended Cutting Conditions ➡ G157

● : 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

G GROOVING EXTERNAL INTERNAL FACE

GE/GER

Material		PR2025	PR1225	GW15	TN6020	ISO
Carbon Steel / Alloy Steel		◐	◌		○	P
Stainless Steel		◐	◌			M
Cast Iron				◌		K
Non-Ferrous Metals				◐		N
Titanium Alloy				◐		S
Hard Materials (~ 40HRC)		○	●			H
Hard Materials (40HRC ~)						H

Insert	Part Number	No. of Edges	CW in	CW mm	CDX	S	D1	RE	INSL	W1	Tolerance CW min.	Tolerance CW max.	Carbide PVD PR2025	Carbide PVD PR1225	Carbide - GW15	Cermet - TN6020	Applicable Toolholder (G86~G88)
 2-edge / Molded Chipbreaker	GER 150-010EM	2	0.059	1.5	3	5.55	4.4	0.1	21.66	9.54	- 0.05	+ 0.05	●	●			SIGER....E-EH
	200-010EM		0.079	2	3.2			0.1					●	●			
	250-020EM		0.098	2.5	4.5			0.2					●	●			
	300-020EM		0.118	3	4.5			0.2					●	●			
	350-020EM		0.138	3.5	5.5			0.2					●	●			
	400-020EM		0.157	4	5.5			0.2					●	●			
	450-020EM		0.177	4.5	6.5			0.2					●	●			
	500-020EM		0.197	5	6.5			0.2					●	●			
 2-edge	GER 100-005E	2	0.039	1	2.5	5.55	4.6	0.05	21.66	9.54	- 0.03	+ 0.03	●	●	●	●	SIGER....E-EH
	150-010E		0.059	1.5	3			0.1					●	●	●	●	
	170-010E		0.067	1.7	3			0.1					●	●	●	●	
	185-010E		0.073	1.85	3			0.1					●	●		●	
	195-010E		0.077	1.95	3			0.1					●	●			
	200-010E		0.079	2	3.2			0.1					●	●	●	●	
	225-010E		0.089	2.25	3.2			0.1					●	●	●	●	
	230-020E		0.091	2.3	3.2			0.2					●	●	●	●	
	250-020E		0.098	2.5	4.5			0.2					●	●	●	●	
	275-020E		0.108	2.75	4.5			0.2					●		●		
	280-020E		0.110	2.8	4.5			0.2					●	●		●	
	300-020E		0.118	3	4.5			0.2					●	●	●	●	
	330-020E		0.130	3.3	4.5			0.2					●	●		●	
	350-020E		0.138	3.5	5.5			0.2					●	●	●	●	
	400-020E		0.157	4	5.5			0.2					●	●	●	●	
	430-020E		0.169	4.3	5.5			0.2					●	●		●	
	450-020E		0.177	4.5	6.5			0.2					●	●	●	●	
	460-020E		0.181	4.6	6.5			0.2					●	●			
	500-020E		0.197	5	6.5			0.2					●	●	●	●	
	GEL 100-005E		0.039	1	2.5			0.05					●	●			SIGEL....E-EH
	150-010E		0.059	1.5	3			0.1					●	●	●		
	170-010E		0.067	1.7	3			0.1					●	●			
	185-010E		0.073	1.85	3			0.1					●	●			
	195-010E		0.077	1.95	3			0.1					●	●			
	200-010E		0.079	2	3.2			0.1					●	●	●		
	230-020E		0.091	2.3	3.2			0.2								●	
	250-020E		0.098	2.5	4.5			0.2					●	●	●	●	
	280-020E		0.110	2.8	4.5			0.2					●	●			
	300-020E		0.118	3	4.5			0.2					●	●	●	●	
	330-020E		0.130	3.3	4.5			0.2					●	●			
	350-020E		0.138	3.5	5.5			0.2					●	●		●	
	400-020E		0.157	4	5.5			0.2					●	●	●		
	500-020E		0.197	5	6.5			0.2					●	●			

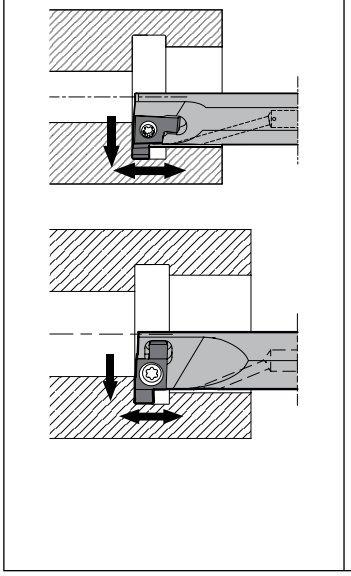
Right-hand shown
CDX shows available grooving depth.

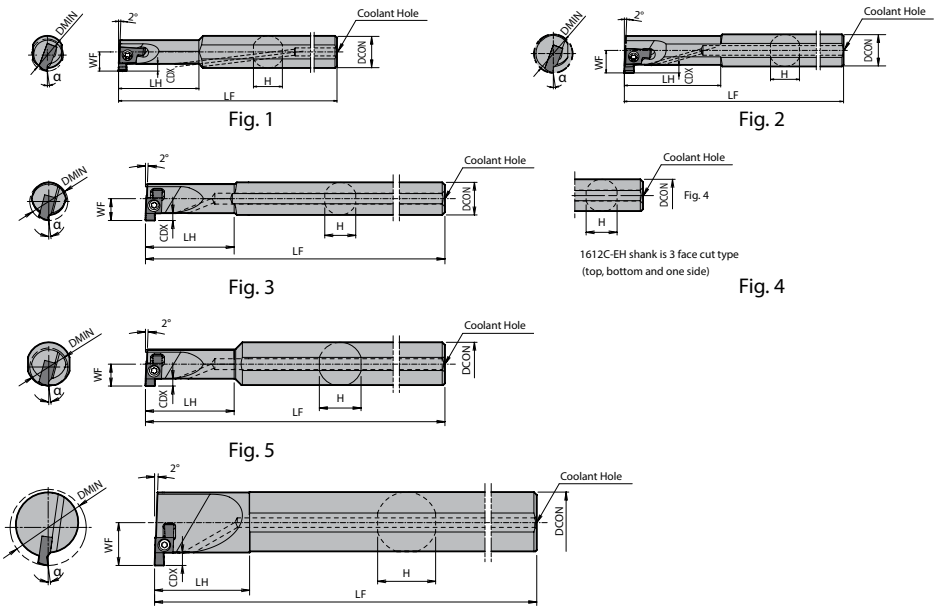
Recommended Cutting Conditions ➡ G157

● : 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

INSERT GRADES A
TURNING INSERTS B
CBN / PCD INSERTS C
TURNING HOLDERS D
SMALL TOOLS E
BORING F
GROOVING G
CUT-OFF H
THREADING J
DRILLING K
MILLING M
QUICK CHANGE TOOLING N
SPARE PARTS P
TECHNICAL R
INDEX T

SIGE-EH Excellent Bar (Internal Grooving)





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

Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	DMIN	DCON	CDX	H	LH	LF	WF	Coolant Hole	Fig.	Spare Parts: Screw	Spare Parts: Wrench	Spare Parts: Wrench	Spare Parts: Wrench	Applicable Inserts ⇒ G82~G85
Inch	SIGE□ 05EH	●	●	0.313	0.313	0.059	0.283	0.787	3.940	0.177	Yes	1	SB-2045TRN	-	-	FT-6	GE□...A / AR
	SIGE□ 06EH	●	●	0.394	0.375	0.087	0.354	0.984	4.920	0.232	Yes	1	SB-2255TR	-	DTM-7	-	GE□...B, GE□...BR
	SIGE□ 0809C-EH	●	●	0.551	0.500	0.098	0.460	1.300	5.900	0.315	Yes	3	SB-2570TR	-	-	FT-8	GE□...C, GE□...CM GE□...CR
	0810C-EH	●	●	0.630				0.788		0.335							
	SIGE□ 1213D-EH	●	●	0.790	0.750	0.177	0.710	1.575	7.09	0.477	Yes	5	SB-3080TR	-	-	FT-10	GE□...D / DM / DR
	SIGE□ 1616E-EH	●	●	1.000	1.000	0.255	0.960	1.772	7.88	0.614	Yes	5	SB-4085TR	FT-15	-	-	GE□...E GE□...EM
	2020E-EH	●	●	1.250	1.250		1.170	2.166	8.66	0.748							
	2025E-EH	●	●	1.575				1.772	9.84	0.906							
mm	SIGE□ 0808A-EH	●	●	8	8	1.5	7.2	20	100	4.8	Yes	1	SB-2045TRN	-	-	FT-6	GE□...A / AR
	SIGE□ 1010B-EH	●	●	10	10	2.2	9	25	125	6.2	Yes	1	SB-2255TR	-	DTM-7	-	GE□...B GE□...BR
	1210B-EH	●	●	12				30		7		2					
	SIGE□ 1412C-EH	●	●	14	12	2.5	11.4	33	150	8	Yes	3	SB-2570TR	-	-	FT-8	GE□...C GE□...CM GE□...CR
	1612C-EH	●	●	16				20		8.5		4					
	1616C-EH	●	●		16		15	36	160	9		5					
	SIGE□ 2020D-EH	●	●	20	20	4.5	19	40	180	12.1	Yes	5	SB-3080TR	-	-	FT-10	GE□...D / DM / DR
	SIGE□ 2525E-EH	●	●	25	25	6.5	24	45	200	15.6	Yes	5	SB-4085TR	FT-15	-	-	GE□...E GE□...EM
	3232E-EH	●	●	32	32		30.4	55	220	19		5					
	4032E-EH	●	●	40				45	250	23		6					

CDX shows the distance from the toolholder to the cutting edge. Available Groove Depth : "CDX" of Insert.

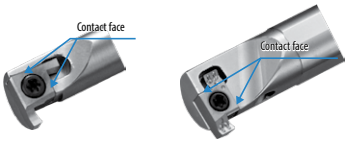
Applicable Sleeve ⇒ F171, F172

Features

Large chip pocket screw clamp toolholder design enables excellent chip evacuation

Cost effective chip control from a molded chipbreaker

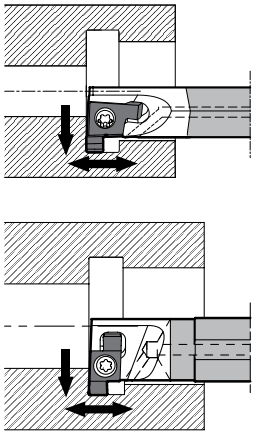
Cutting edge is protected in the pocket



An 8mm minimum bore diameter with a 2-edge design

● : 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

SIGE-WH Carbide Shank Bar (Internal Grooving)



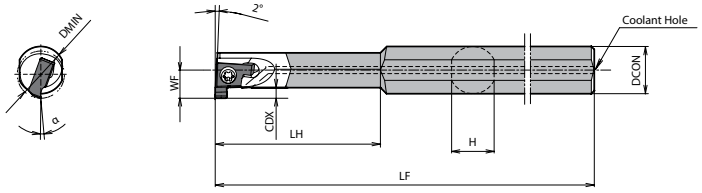


Fig. 1

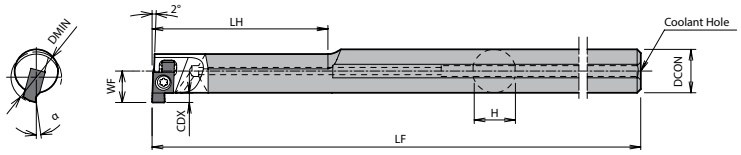


Fig. 2

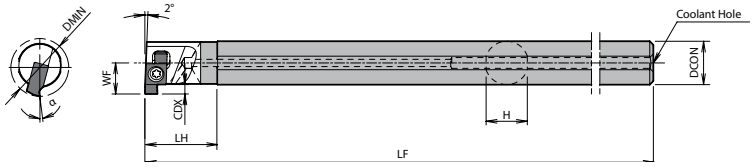


Fig. 3

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

Toolholder Dimensions

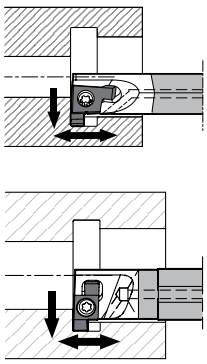
Unit	Part Number	Std. Item		Dimensions							Coolant Hole	Fig.	Spare Parts			Applicable Inserts ⇨ G82~G83
		R	L	DMIN	DCON	CDX	H	LH	LF	WF			Screw	Wrench	Wrench	
mm	SIGE□ 0808A-WH	●	●	8	8	1.5	7.2	28	125	4.8	Yes	1	SB-2045TRN	-	FT-6	GE□...A / AR
	SIGE□ 1010B-WH	●		10	10	2.2	9	35	125	6.2	Yes	1	SB-2255TR	DTM-7	-	GE□...B
	1210B-WH	●	●	12				45	140	7						GE□...BR
	SIGE□ 1412C-WH	●	●	14	12	2.5	11.4	50	150	8.7	Yes	2	SB-2570TR	-	FT-8	GE□...C
	1612C-WH	●	●	16				20	180	8.5		3				GE□...CM GE□...CR

CDX shows the distance from the toolholder to the cutting edge. Available Groove Depth : "CDX" of Insert.

Applicable Sleeve ⇨ F171, F172

● : 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

SIGE-WH-90 Carbide Shank Bar (Internal Grooving / for Small Parts)



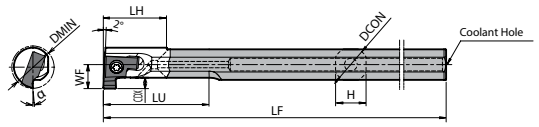


Fig. 1

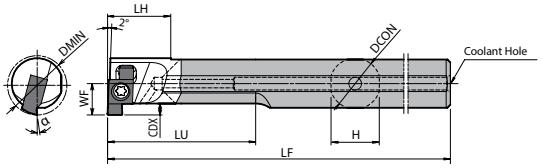


Fig. 2

Right-hand shown | Right-hand Insert for Right-hand Toolholder.

Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions								Coolant Hole	Fig.	Spare Parts		Applicable Inserts ➡ G82~G83
		R	DMIN	DCON	CDX	H	LH	LF	LU	WF			Screw	Wrench	
mm	SIGER 1008B-WH-90	●	10	8	2.2	7.2	15	90	25	5.6	Yes	1	SB-2255TR	FT-7	GE□...B GE□...BR
	1210B-WH-90	●	12	10		9.4			30	6.6					
	SIGER 1412C-WH-90	●	14	12	2.5	11.4	15	90	35	7.4	Yes	2	SB-2570TR	FT-8	GE□...C / CM/ CR

CDX shows the distance from the toolholder to the cutting edge.
LH shows minimum overhang length.

Applicable Sleeve ➡ F171, F172

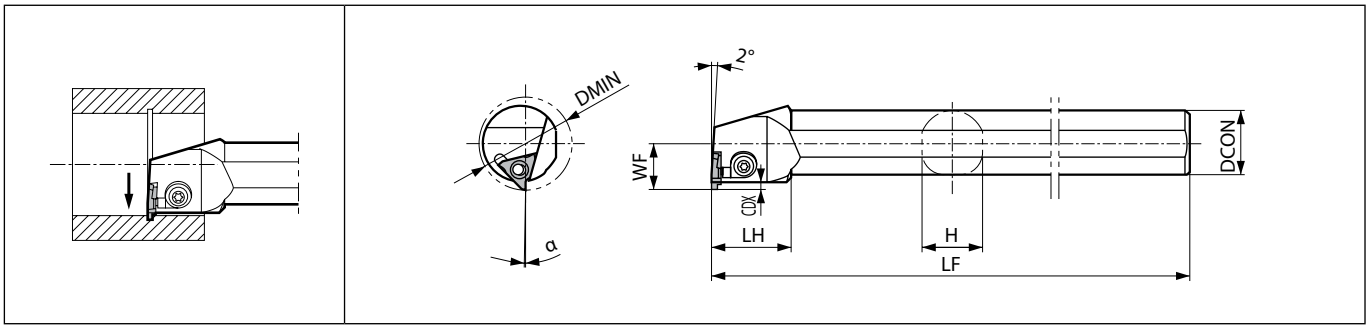
Applicable Insert & Rake Angle (α) after Installment of Insert

Toolholder		Ground Chipbreaker	α	Molded Chipbreaker	α
SIGE□	05EH	GE□ 100-005A~GE□ 200-010A GER100-050AR~GER200-100AR	5°	-	-
	06EH	GE□ 100-005B~GE□ 300-020B GER100-050BR~GER200-100BR	5°	-	-
SIGE□	0808A-EH	GE□ 100-005A~GE□ 200-010A GER100-050AR~GER200-100AR	5°	-	-
	0809C-EH 0810C-EH	GE□ 100-005C~GE□ 350-020C GER200-100CR~GER300-150CR	8	GER150-010CM~GER350-020CM	10°
	1010B-EH 1210B-EH	GE□ 100-005B~GE□ 300-020B GER100-050BR~GER200-100BR	5°	-	-
	1213D-EH	GE□ 100-005D~GE□ 400-020D GER200-100DR~GER300-150DR	9°	GER150-010DM~GER400-020DM	10°
	1412C-EH 1612C-EH 1616C-EH	GE□ 100-005C~GE□ 350-020C GER200-100CR~GER300-150CR	8°	GER150-010CM~GER350-020CM	10°
	1616E-EH	GE□ 100-005E~GE□ 500-020E	10°	GER150-010EM~GER500-020EM	10°
	2020D-EH	GE□ 100-005D~GE□ 400-020D GER200-100DR~GER300-150DR	9°	GER150-010DM~GER400-020DM	10°
	2020E-EH 2025E-EH 2525E-EH 3232E-EH 4032E-EH	GE□ 100-005E~GE□ 500-020E	10°	GER150-010EM~GER500-020EM	10°
SIGE□	0808A-WH	GE□ 100-005A~GE□ 200-010A GER100-050A0.3125 R~GER200-100AR	5°	-	-
	1010B-WH 1210B-WH 1008B-WH-90 1210B-WH-90	GE□ 100-005B~GE□ 300-020B GER100-050BR~GER200-100BR	5°	-	-
	1412C-WH 1612C-WH 1412C-WH-90	GE□ 100-005C~GE□ 350-020C GER200-100CR~GER300-150CR	8°	GER150-010CM~GER350-020CM	10°

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

● : 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

KIGBA (Internal Grooving / Shallow Grooving)

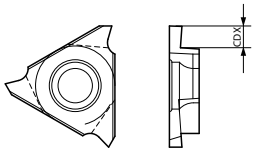


Right-hand shown | Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions							Spare Parts		Applicable Inserts G6~G12
		R	L	DMIN	DCON	CDX	H	LH	LF	WF	Clamp Set	Wrench	
Inch	KIGBA R/L 16-3	●	●	1.38	1.00	0.12	0.92	1.18	9.0	0.69	LGBA-16 L/R S	FT-15	GBA32 L/R type
Inch	KIGBA R/L 20-4	●	●	1.57	1.25	0.12	1.18	1.18	10.0	0.90	LGBA-22 L/R S	FT-15	GBA43 L/R type
mm	KIGBA R/L 3525-16	●	●	35	25	2.8	23	30	220	17.5	LGBA-16 L/R S	FT-15	GBA32 L/R type
mm	KIGBA R/L 4032-22	●	●	40	32	3	30	30	250	23	LGBA-22 L/R S	FT-15	GBA43 L/R type

CDX shows the distance from the toolholder to the cutting edge.
Available Grooving Depth depends on the insert.
KIGBA R/L 3525-16 : CDX of the applicable insert (GBA32)
4032-22 : CDX of the applicable insert (GBA43) (1) 2.0 mm (CDX < 3.0 mm) (2) 3.0 mm (CDX ≥ 3.0 mm)
Clamp Set : LGBA-OOLS for Right-hand Toolholder, and LGBA-OORS for Left-hand Toolholder.



Rake Angle (α) after Installment of GBA insert

GBA32 R/L OOO-OOO		GBA43 R/L OOO-OOO		GBA43 R/L OOO-OOOR (Full-R)		
α	Insert Grades	α	Insert Grades	α	Insert Grades	Full-R
+1°	TN620, TN90, PV7040 PR2015, PR2025, PR1215, PR1625 KPD001, KPD010	-9°	KBN510, KBN525	+1°	TN620, TN90, PV7040 PR2015, PR2025, PR1215, PR1625	050R~150R
		+1°	TN620, TC40, TN90, PV7040, PR2015, PR2025, PR1215, PR1625 KPD001, KPD010	+5°	TN620, TN90, PV7040 PR2015, PR2025, PR1215, PR1625	200R
+11°	KW10				KW10	050R~200R
		+11°	KW10			

Rake Angle (α) after Installment of GBA-GM insert

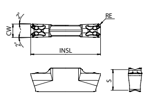
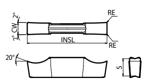
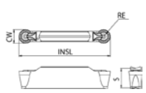
α	Insert Part Number
+1°	GBA43 R/L 150-020GM
+6°	GBA43 R/L 175-020GM ~ GBA43 R/L 265-030GM
+3°	GBA43 R/L 300-030GM ~ GBA43 R/L 400-040GM

α indicates the rake angle at the center of the edge width, after installing insert.

● : 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

GDM/GDG

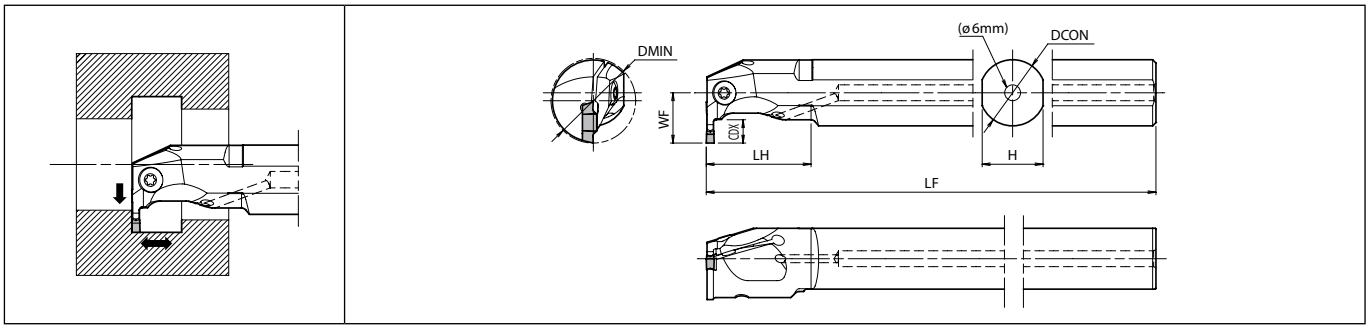
Workpiece Material	PR1215	PR1225	PR1535	GW15	TN620	TN90	
Carbon Steel / Alloy Steel	◌	◕	◌		●	○	P
Stainless Steel	◌	◌	◕				M
Cast Iron	◕						K
Non-Ferrous Metals				◕			N
Titanium Alloy				◕			S
Hard Materials (~ 40HRC)							H
Hard Materials (40HRC ~)							H

Insert		Part Number	No. of Edges	Dimensions (mm) CW in	CW mm	S	RE	INSL	Tolerance (mm) CW min.	CW max.	Carbide PVD PR1215	PR1225	PR1535	Carbide - GW15	Cermet - TN620	TN90	Applicable Toolholder ➡ G91
	 General purpose	GDM 2013N-020GMI	2	0.079	2	4.3	0.2	13.5	- 0.03	+ 0.03	●	●	●		●		KGDIR/L...-2
		GDM 3015N-040GMI	2	0.118	3	4.6	0.4	15.5	- 0.03	+ 0.03	●	●	●		●		KGDIR/L...-3
		GDM 4020N-040GMI	2	0.157	4	4.3	0.4	20	- 0.03	+ 0.03	●	●	●		●		KGDIR/L...-4
		GDM 5020N-040GMI	2	0.197	5	4.3	0.4	20	- 0.04	+ 0.04	●	●	●		●		KGDIR/L...-4
		GDM 5020N-080GMI					0.8				●	●	●		●		KGDIR/L...-5
	 Low cutting force	GDG 3015N-020GS	2	0.118	3	4.6	0.2	15.6	- 0.02	+ 0.02				●			KGDIR/L...-3
		GDG 4020N-040GS	2	0.157	4	4.3	0.4	20	- 0.02	+ 0.02	●	●	●	●	●	●	KGDIR/L...-4
		GDG 5020N-040GS	2	0.197	5	4.3	0.4	20	- 0.02	+ 0.02	●	●	●	●	●	●	KGDIR/L...-4 KGDIR/L...-5
	 Full R	GDM 3015N-150R-CM	2	0.118	3	4.6	1.5	16.3	- 0.03	+ 0.03	●	●	●		●		KGDIR/L...-3
		GDM 4020N-200R-CM	2	0.157	4	4.3	2	20	- 0.03	+ 0.03	●	●	●		●	●	KGDIR/L...-4
		GDM 5020N-250R-CM	2	0.197	5	4.3	2.5	21	- 0.04	+ 0.04	●	●	●		●	●	KGDIR/L...-4 KGDIR/L...-5

Recommended Cutting Conditions ➡ G159

● : 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

KGDI (Internal Grooving)



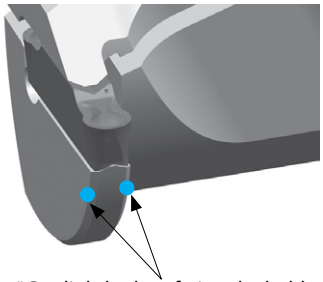
Right-hand shown

Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	Dimensions DMIN with GMI/GS	DMIN with CM	DMIN * with CM	DCON	CDX	H	LH	LF	WF	CW min.	CW max.	Coolant Hole	Spare Parts Clamp screw (Torx)	Spare Parts Screw	Spare Parts Wrench	Spare Parts Wrench	Applicable Inserts G90
Inch	KGDIR 10B-2	●		0.709			0.625	0.177	0.591	0.984	6.000	0.374	0.079" (2mm)	0.079" (2mm)	Yes	-	GS-50	LW-3	-	GDM2013N-020GMI
	12B-2	●		0.984	-	-	0.750	0.236	0.709	1.181	7.000	0.571								
	16B-2	●		1.260			1.000	0.276	0.906	1.575	8.000	0.748				SB-5TR	-	-	LTW-20	
	KGDIR 10B-3	●		0.787	0.827		0.625	0.217	0.591	0.984	6.000	0.453	0.118" (3mm)	0.118" (3mm)	Yes	-	GS-50	LW-3	-	GDM3015N-...
	12B-3	●		0.984	1.024	-	0.750	0.236	0.709	1.181	7.000	0.571								
	16B-3	●		1.260	1.299		1.000	0.315	0.906	1.575	8.000	0.748				SB-5TR	-	-	LTW-20	
	KGDIR 16B-4	●		1.260	1.575	1.299	1.000	0.335	0.906	1.575	8.000	0.748	0.157" (4mm)	0.197" 5mm)	Yes	SB-5TR	-	-	LTW-20	GDM4020N-...
	20B-4	●		1.575	1.890	1.614	1.250	0.433	1.142	1.969	8.500	0.925								
	KGDIR 16B-5	●		1.260	1.457	1.338	1.000	0.335	0.906	1.575	8.000	0.748	0.197" 5mm)	0.197" 5mm)	Yes	SB-5TR	-	-	LTW-20	GDM5020N-...
	20B-5	●		1.575	1.772	1.653	1.250	0.433	1.142	1.969	8.500	0.925								
mm	KGDIR/L 1816B-2	●	●	18			16	4.5	15	25	150	9.5	0.079" (2mm)	0.079" (2mm)	Yes	-	GS-50	LW-3	-	GDM2013N-020GMI
	2520B-2	●	●	25	-	-	20	6	18	30	180	14.5								
	3225B-2	●	●	32			25	7	23	40	200	19				SB-5TR	-	-	LTW-20	
	KGDIR/L 2016B-3	●	●	20	21		16	5.5	15	25	150	11.5	0.118" (3mm)	0.118" (3mm)	Yes	-	GS-50	LW-3	-	GDM3015N-...
	2520B-3	●	●	25	26	-	20	6	18	30	180	14.5								
	3225B-3	●	●	32	33		25	8	23	40	200	19				SB-5TR	-	-	LTW-20	
	KGDIR/L 3225B-4	●	●	32	40	34	25	8.5	23	40	200	19	0.157" (4mm)	0.197" 5mm)	Yes	SB-5TR	-	-	LTW-20	GDM4020N-...
	4032B-4	●	●	40	48	42	32	11	29	50	220	23.5								
	KGDIR/L 3225B-5	●	●	32	37	34	25	8.5	23	40	200	19	0.197" 5mm)	0.197" 5mm)	Yes	SB-5TR	-	-	LTW-20	GDM5020N-...
	4032B-5	●	●	40	45	42	32	11	29	50	220	23.5								

* Possible by slightly chamfering toolholder's tip about 0.002" (0.5 mm)

Additional processing of toolholder tip when CM chipbreaker is installed



* By slightly chamfering the holder tip of about 0.5 mm, the cutting diameter can be minimized.

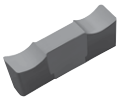
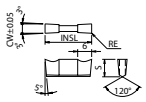
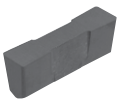
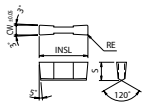
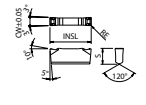
● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

GH/GHU

Cutting edge preparation

Symbol	Specification	Example	
S	Chamfered and R-honed	S01020	0.10mm × 20° chamfered and R-honed
T	Chamfered	T01020	0.10mm × 20° chamfered

Carbon Steel / Alloy Steel		✱										P
Stainless Steel		●										M
Cast Iron			●		●	○						K
Non-Ferrous Metals			●									N
Titanium Alloy			●									S
Hard Materials (~ 40HRC)		●										H
Hard Materials (40HRC ~)				○	●							

Insert	Part Number	Edge Prep (mm)	No. of Edges	Dimensions (mm) CW in	CW mm	S	RE	INSL	Tolerance (mm) CW min.	CW max.	Carbide CVD	Carbide PVD	Carbide -	Ceramic PVD	Ceramic -	Cermet -			Applicable Toolholder ➔ G93
														CR9025	PR930	KW10	A66N PT600M	A65	TC40	TC60	TN60	
		GH 4020-02	-	2	0.157	4	7.5	0.2	20	-0.05	+0.05		●	●					KIGHR4532B-4 KIGHR5540B-4 KIGHR6550B-4
		GH 4020-05						0.5					●	●					
		GH 5020-02	-	2	0.197	5	7.5	0.2	20	-0.05	+0.05		●	●					KIGHR4532B-5 KIGHR5540B-5 KIGHR6550B-5
		GH 5020-05						0.5					●	●					
		GH 6020-02	-	2	0.236	6	7.5	0.2	20	-0.05	+0.05		●	●			●		
		GH 6020-05						0.5					●	●					
		GH 7020-02	-	2	0.276	7	7.5	0.2	20	-0.05	+0.05		●	●					KIGHR5540B-7 KIGHR6550B-7
		GH 7020-05						0.5					●	●					
		GH 8020-02	-	2	0.315	8	7.5	0.2	20	-0.05	+0.05		●	●			●	●	
		GH 8020-05						0.5					●	●					
		GH 4020-05	S01020	2	0.157	4	7.5	0.5	20	-0.05	+0.05				●				KIGHR4532B-4 KIGHR5540B-4 KIGHR6550B-4
			T01020													●	●		
		GH 5020-05	S01020	2	0.197	5	7.5	0.5	20	-0.05	+0.05				●				KIGHR4532B-5 KIGHR5540B-5 KIGHR6550B-5
			T01020													●	●		
		GH 6020-05	T01020	2	0.236	6	7.5	0.5	20	-0.05	+0.05					●			
		GH 7020-05	T01020	2	0.276	7	7.5	0.5	20	-0.05	+0.05					●			KIGHR5540B-7 KIGHR6550B-7
	 Molded Chipbreaker	GHU 40-20	-	2	0.157	4	7.5	0.25	20	-0.05	+0.05	●						●	KIGHR4532B-4 KIGHR5540B-4 KIGHR6550B-4
		GHU 50-20	-	2	0.197	5	7.5	0.3	20	-0.05	+0.05	●						●	KIGHR4532B-5 KIGHR5540B-5 KIGHR6550B-5
		GHU 60-20	-	2	0.236	6	7.5	0.3	20	-0.05	+0.05	●						●	

Recommended Cutting Conditions ➔ G69

● : 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

KIGH (Internal Grooving / Deep Grooving)

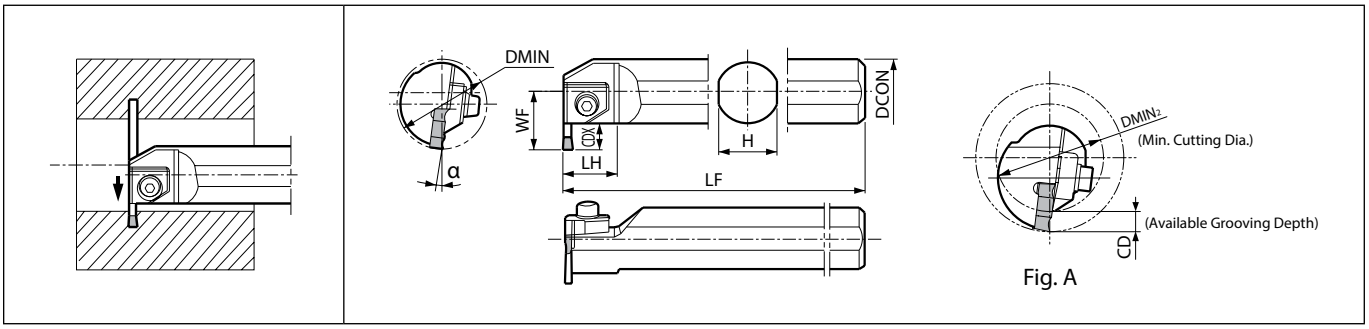


Fig. A

Right-hand shown

Toolholder Dimensions

Unit	Part Number		Std. Item	Dimensions							Spare Parts					Applicable Inserts G92
											Clamp (L)	Clamp Screw	Spring	Washer	Wrench	
			R	DMIN	DCON	CDX	H	LH	LF	WF						
mm	KIGHR	4532B-4	●	45	32		30		200	28.2						
		5540B-4	●	55	40	12	38	27	250	32.3	CGH-1L	HH6X25	SP-6	W-6	LW-5	GH4020-... / GHU40-... GH4520-...
		6550B-4	●	65	50		48		300	37.3						
	KIGHR	4532B-5	●	45	32		30		200	28.2						
		5540B-5	●	55	40	12	38	27	250	32.3	CGH-1L	HH6X25	SP-6	W-6	LW-5	GH5020-... / GHU50-... / GH5520-... GH6020-... / GHU60-... / GH6520-...
		6550B-5	●	65	50		48		300	37.3						
	KIGHR	5540B-7	●	55	40	12	38	27	250	32.3	CGH-2L	HH6X25	SP-6	W-6	LW-5	GH7020-... / GH7520-... / GH8020-...

CDX shows the distance from the toolholder to the cutting edge. For the available grooving depth (CD), ref. to „List of Min. Available Cutting Diameter and Groove Depth".
LH depends on the insert's edge width.

Rake Angle (α) after Installment of GH / GHU insert

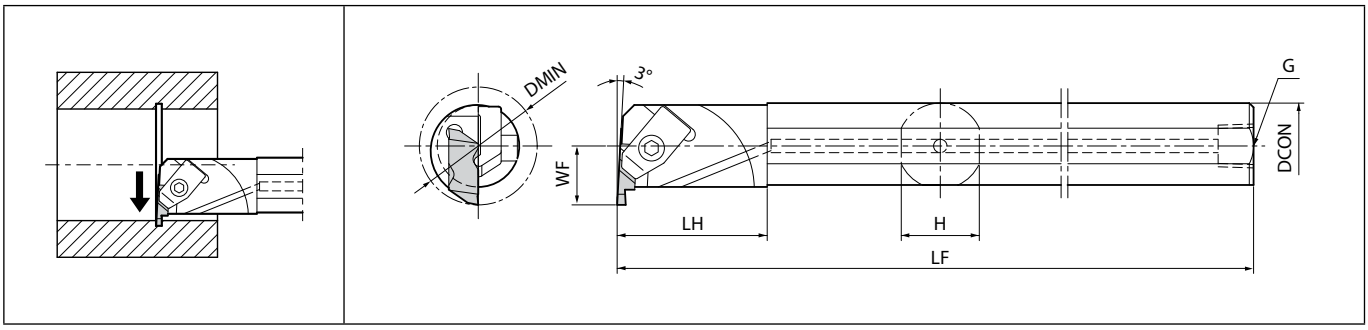
GHOOOO-OO		GHUOO-OO	
α	Insert Grades	α	Insert Grades
-5°	A65, A66N, PT600M	+5°	TN60 CR9025
+5°	TC40		
+15°	TN90, TC60 PR930 KW10		

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

Toolholder Part Number		DMIN2 (Min. Cutting Dia. mm)					
KIGHR	4532B-O	ø110	ø70	ø65	ø60	ø55	ø45
	5540B-O	ø70	ø60	ø55			
	6550B-O	ø65					
Available Grooving Depth CD (mm)		12	11.5	11	10	9	Under 8

● : 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

A-KKC (External Grooving)

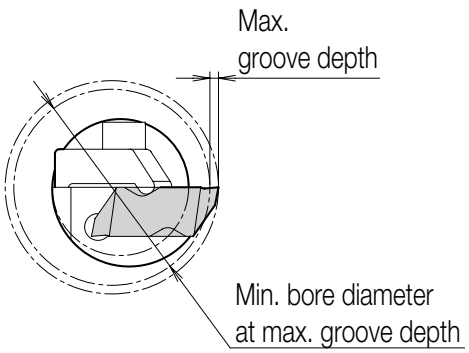


Right-hand shown | Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	DMIN	DCON	H	LH	LF	WF	G	Spare Parts: Clamp	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts ➡ G62~G64
Inch	A10M- KKCR-2	●		1.000	0.625	0.596	1.153	6.00	0.500	1/8-27 NPT	CKC-2L	SKC-2	(7/64 Hex)	KCGP2... KCG2... KCRP2...
	A10S- KKCR-2	●						10.00						
	A12R- KKCR-2	●		1.125	0.750	0.728	1.171	8.00	0.562					
	A12S- KKCR-2	●						10.00						
	A16T- KKCR3/8-2	●	●	1.375	1.000	0.910	1.100	12.00	0.688		CKC-3 3/8L	SKC-3	(LW-156)	
	A16X- KKCR-3	●		1.375	1.000	0.910	1.750	9.00	0.688	1/8-27 NPT	CKC-3 3/8L	SKC-3	(LW-156)	KCGP3... KCG3... KCRP3...
	A16T- KKCR3/8-3	●	●					12.00						
	A20U- KKCR-3	●		1.750	1.250	1.138	1.750	14.00	0.875	1/4-18 NPT				
	A24U- KKCR3/8-3	●	●	2.000	1.500	1.366			1.000					
	A28U- KKCR-4	●		2.500	1.750	1.593	1.750	14.00	1.250	1/4-18 NPT	CKC-3 3/8L	SKC-3	(LW-156)	KCGP4... KCRP4...

Clamp: CKC-OL for Right-hand Toolholder and CKC-OR for Left-hand Toolholder.
Above toolholders are also available for threading. See Page **J35.**



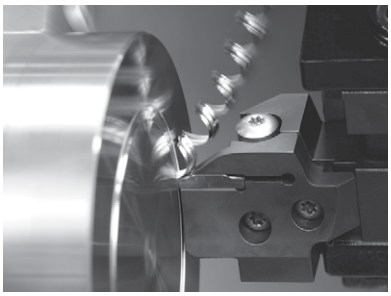
"**CDX**" dimension is same as the "**CDX** dimension" of the available insert.

Insert Size	CDX	Max Groove Depth (in)	Min Bore Dia. (in)
KCG2 KCGP2 KCRP2	0.050	0.040	1.000
	0.110	0.110	2.500
		0.102	1.750
		0.098	1.500
		0.080	1.000
KCG3 KCGP3 KCRP3	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
KCGP4 KCRP4	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 □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

External Diameter of the Groove 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.



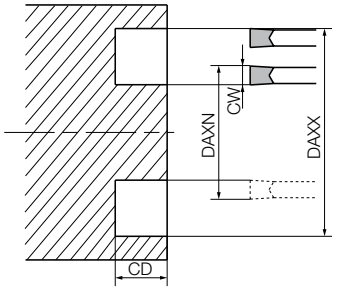
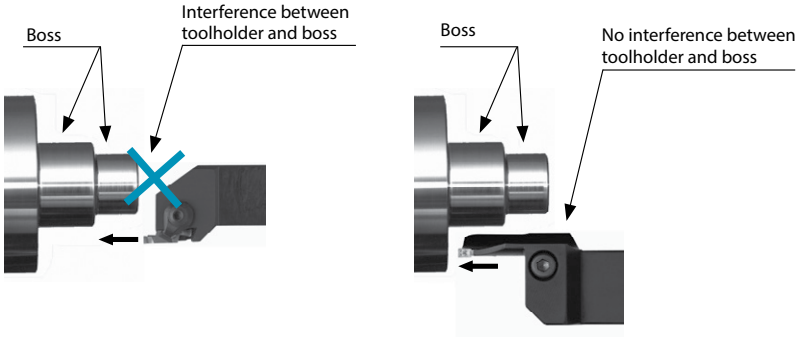


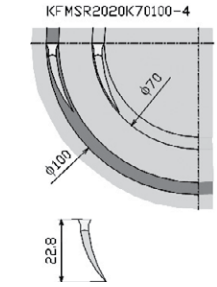
Fig.1

Caution for Face Grooving

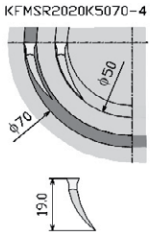
1. When face grooving, the suitable toolholder depends on the length of the boss



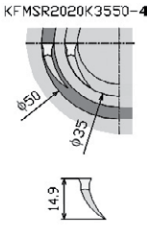
2. Selection of Face Grooving Toolholder



Shape of below Jaw



Shape of below Jaw

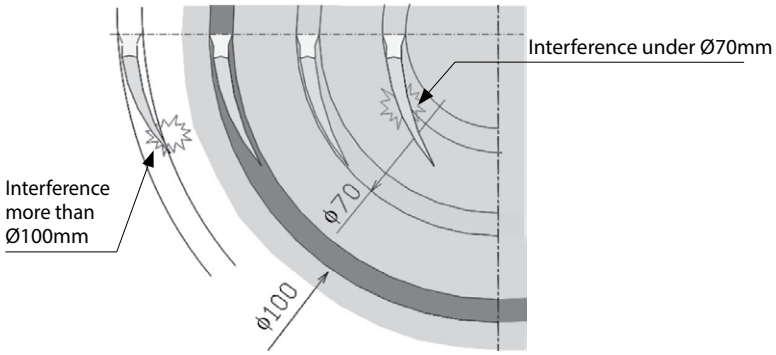


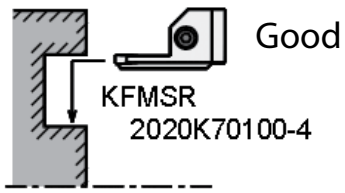
Shape of below Jaw

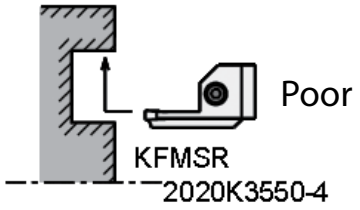
Wider grooving (turning) should be performed from the outside inwards.

3. Interference of Face Grooving Toolholder

e.g.) KFMSR2525M70100-4



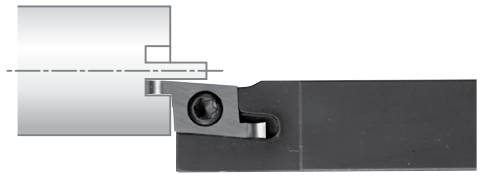




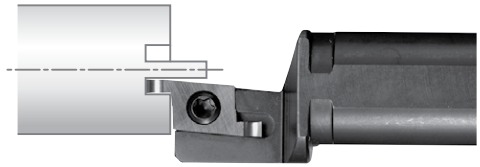
Example of usage for the face grooving toolholder.

When face grooving, KFMSR2525M70100-4 should be 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.

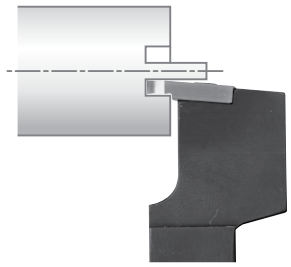
Small Diameter Face Grooving Ø0.236" (Ø6mm)~



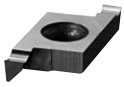
Type	STW
Min. Face Groove Diameter	0.236" (6.0mm)
Edge Width	0.020"~0.079" (0.5mm ~ 2.0mm)
Grooving Depth	0.039"~0.118" (1.0mm ~ 3.0mm)
Ref. Page	G102



Type	S...-STW
Min. Face Groove Diameter	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	G103



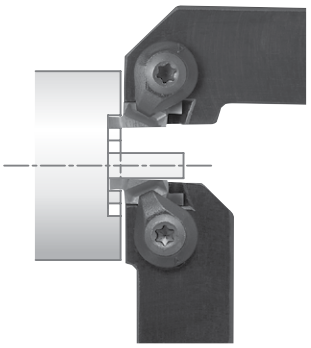
Type	STWS
Min. Face Groove Diameter	0.236" (6.0mm)
Edge Width	0.020"~0.079" (0.5mm ~ 2.0mm)
Grooving Depth	0.039"~0.118" (1.0mm ~ 3.0mm)
Ref. Page	G105



Twin Bar Horizontal Type

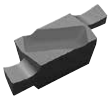
Twin Bar Vertical Type

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



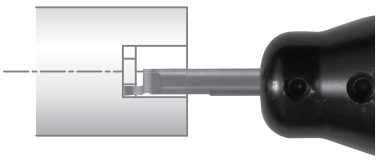
Type	GFVS-AA
Min. Face Groove Diameter	0.315" (8.0mm)
Edge Width	0.039"~0.118" (1.0mm ~ 3.0mm)
Grooving Depth	0.0866" (2.2mm)
Ref. Page	G135

Type	GFVT-AA
Min. Face Groove Diameter	0.315" (8.0mm)
Edge Width	0.039"~0.118" (1.0mm ~ 3.0mm)
Grooving Depth	0.0866" (2.2mm)
Ref. Page	G135

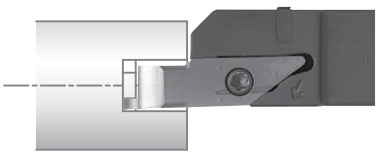


Ground Chipbreaker

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



Type	EZFG
Min. Face Groove Diameter	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	G99



Type	VNFG
Min. Face Groove Diameter	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	G101

EZ-Bar

Swiss IQ Bar

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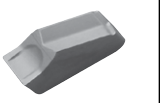
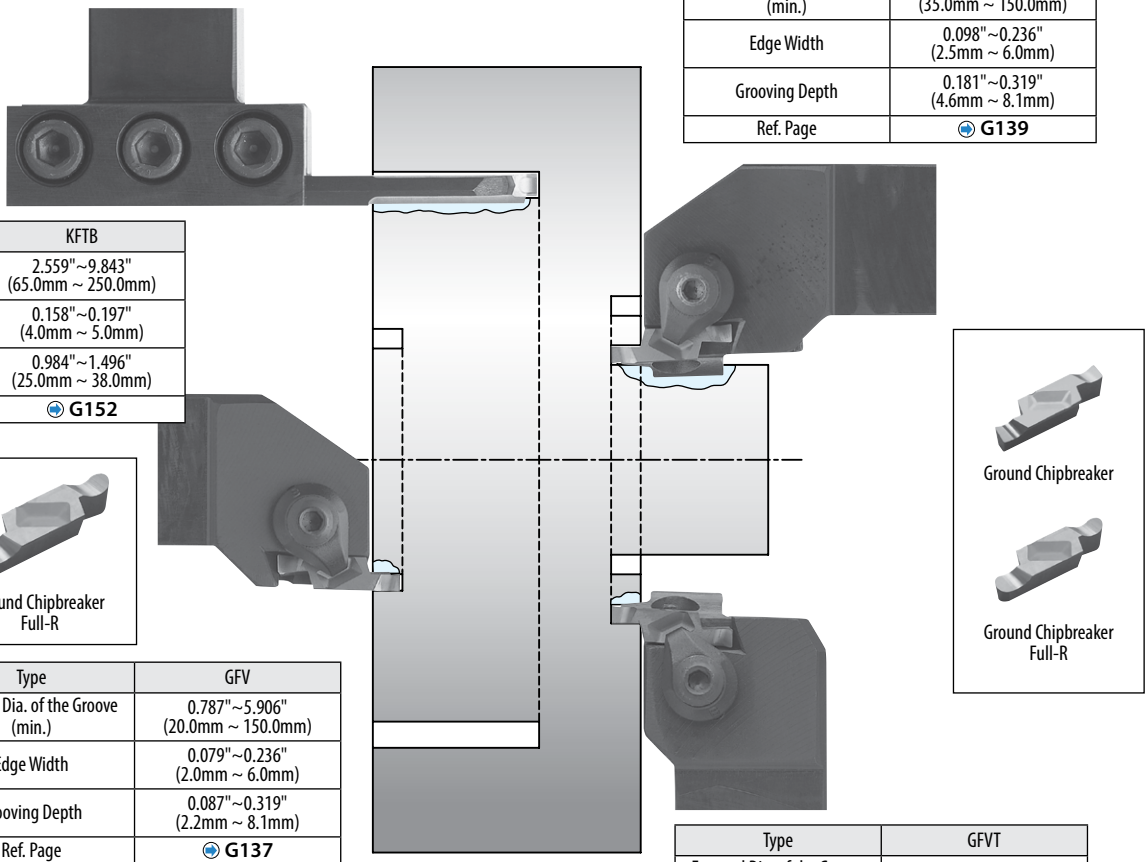
Face Grooving Ø0.787" (Ø20mm)~

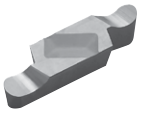


Molded Chipbreaker



Type	KFTB
External Dia. of the Groove (min.)	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	G152

Ground Chipbreaker



Ground Chipbreaker Full-R

Type	GFV
External Dia. of the Groove (min.)	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	G137

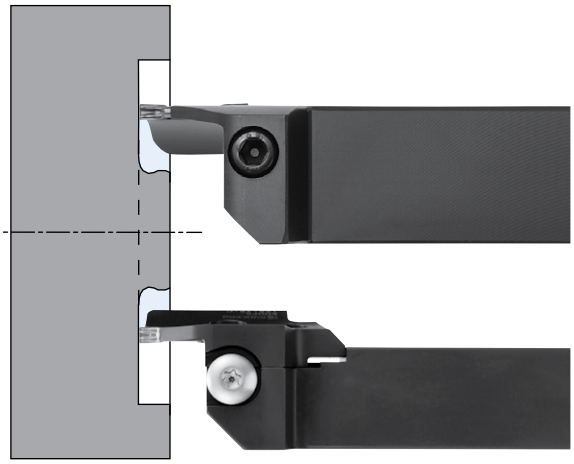
Type	GFVS
External Dia. of the Groove (min.)	1.378"~5.906" (35.0mm ~ 150.0mm)
Edge Width	0.098"~0.236" (2.5mm ~ 6.0mm)
Grooving Depth	0.181"~0.319" (4.6mm ~ 8.1mm)
Ref. Page	G139

Ground Chipbreaker

Ground Chipbreaker Full-R

Type	GFVT
External Dia. of the Groove (min.)	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	G141

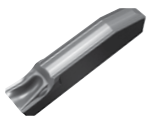
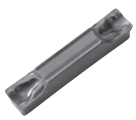
KGDF Face Grooving Ø0.984" (Ø25mm)~



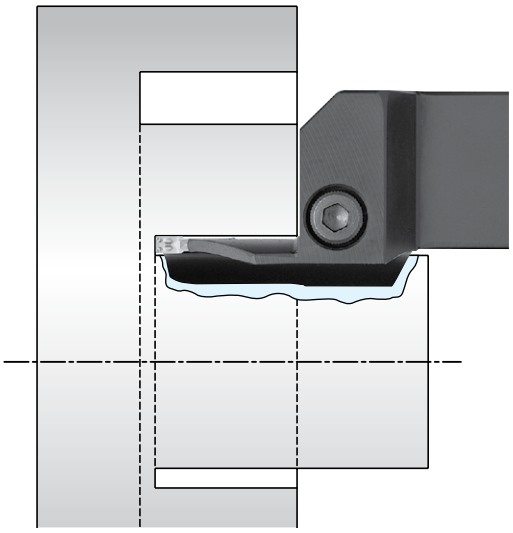
Type	KGDF-Z
External Dia. of the Groove (min.)	1.969"~4.528" (50mm ~ 115mm)
Edge Width	0.118"~0.197" (3.0mm ~ 5.0mm)
Grooving Depth	0.591" (15mm)
Ref. Page	G120

Type	*KGDF
External Dia. of the Groove (min.)	0.984"~9.252" (25mm ~ 235mm)
Edge Width	0.079"~0.236" (2.0mm ~ 6.0mm)
Grooving Depth	0.181"~0.319" (6mm ~ 32mm)
Ref. Page	G110

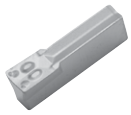
*The SwitchBlade Type toolholders can accept all blades if their hand is matching.

Grooving and Traversing	Deep Grooving and Traversing	High Feed Rate	Full Radius (R)	Non-Ferrous Machining
GM	DM	GH	CM	GS
				

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



Type	KFMS
External Dia. of the Groove (min.)	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	G149

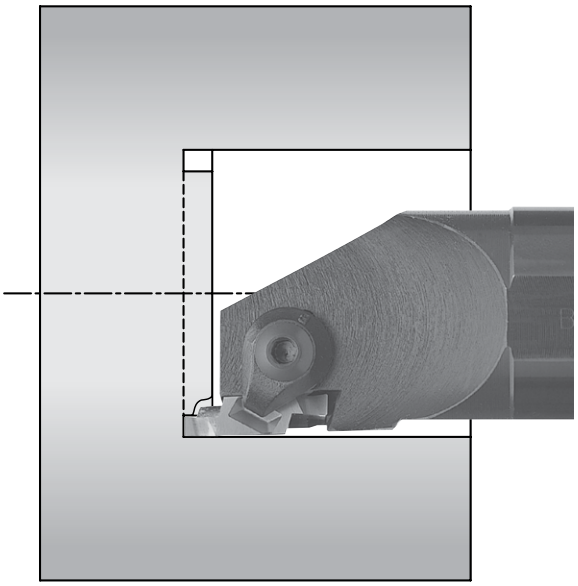


Molded Chipbreaker

Type	KKCE
External Dia. of the Groove (min.)	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	G147

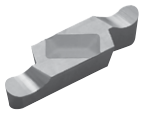
Ground Chipbreaker

Face Grooving Ø1.378" (Ø35mm)~



Type	GIFV
External Dia. of the Groove (min.)	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	G145

Ground Chipbreaker



Ground Chipbreaker Full-R

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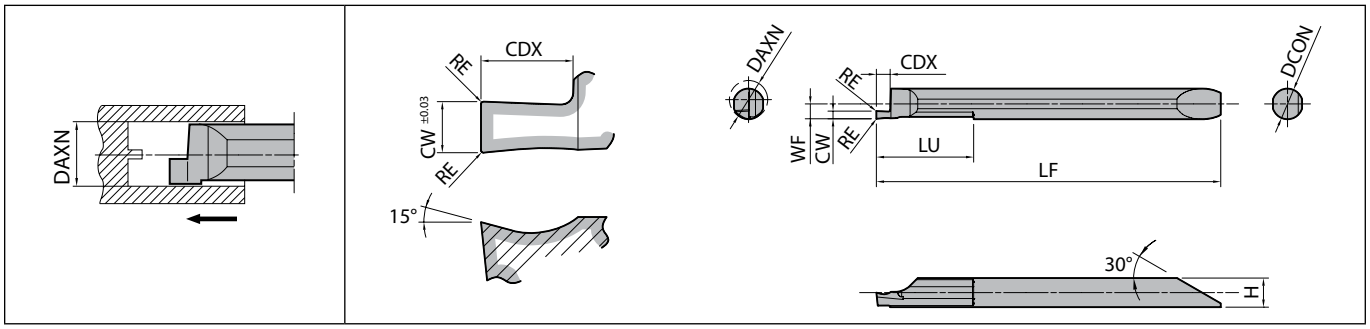
EZFG (Internal Grooving / Face Grooving)



Right-hand shown

Dimensions

Part Number	No. of Edges	External dia.of the groove (mm)	Dimensions (mm)									Tolerance (mm)				Carbide			Applicable Sleeve F38~F45
																PVD		-	
		DAXN (min.)	CW		CDX	RE	DCON	H	LF	LU	WF	CW min.	CW max.	RE min.	RE max.	PR1225		GW05	
			in	mm												R	L	R	
EZFG R/L 050040-100	1	5	0.039	1	1.5	0.05	4	3.8	45	12	1.9	-0.03	+0.03	-0.013	+0.013	●	●	●	EZH040...
050040-150			0.059	1.5	2											●	●	●	
EZFG R/L 060050-100	1	6	0.039	1	1.5	0.05	5	4.8	53.2	15	2.4	-0.03	+0.03	-0.013	+0.013	●	●	●	EZH050...
060050-150			0.059	1.5	2.5											●	●	●	
060050-200			0.079	2	3											●	●	●	
EZFG R/L 080070-100	1	8	0.039	1	2	0.05	7	6.8	64.2	25	3.4	-0.03	+0.03	-0.013	+0.013	●	●	●	EZH070...
080070-150			0.059	1.5	2.5											●	●	●	
080070-200			0.079	2	3											●	●	●	
080070-300			0.118	3	3											●	●	●	

CDX shows available grooving depth.

Recommended Cutting Conditions G100

EZ Bars Identification System

EZ FG R 050 040 – 100

Symbol of EZ Bars	Applications	Insert hand	External dia. of the groove (min.)	Shank Dia.	Edge Width
	FG : Face Grooving	R : Right-hand L : Left-hand	050 : 5mm 060 : 6mm 080 : 8mm	040 : 4mm 050 : 5mm 070 : 7mm	100 : 1.0mm 150 : 1.5mm 200 : 2.0mm 300 : 3.0mm

EZ Bars are sold in 1 piece boxes

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
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Applicable Sleeves

Sleeve				Applicable bar for internal face grooving		Applicable machine manufacturer
EZH-CT (Adjustable Overhang Length / with Coolant Hole) ➡ F40~F41	EZH-HP (Adjustable Overhang Length) ➡ F42~F43	EZH-ST ➡ F44~F45	Sleeve shank dia. DCON(mm)	EZFG	Shank dia. DCON(mm)	
-	-	EZH 04012ST-80	12	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	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	EZFG R/L 050040-...	4	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	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	EZFG R/L 050040-...	4	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.
· Adjustment Pin cannot be installed on **EZH-ST** sleeves. To adjust overhang of the bar, please use **EZH-CT / HP** sleeves.
· Machine manufacturers in random order

Recommended Cutting Conditions

Workpiece Material	Insert Grades (Vc: sfm)		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
	MEGACOAT	Carbide					
	PR1225	GW05	f (ipr)				
Carbon Steel / Alloy Steel	★ 100~330	-	~0.0008	~0.0012	~0.0016	~0.0020	Coolant
Stainless Steel	★ 100~260	-	~0.0004	~0.0008	~0.0008	~0.0012	
Non-Ferrous Metals	-	★ ~980	~0.0012	~0.0020	~0.0024	~0.0031	

★: 1st recommendation

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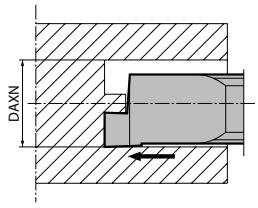
VNFG (Internal Grooving / Face Grooving)



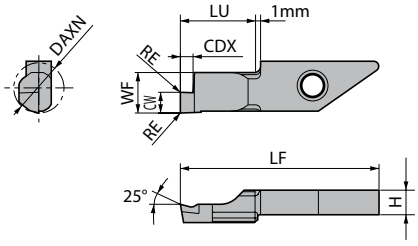


Fig. 1

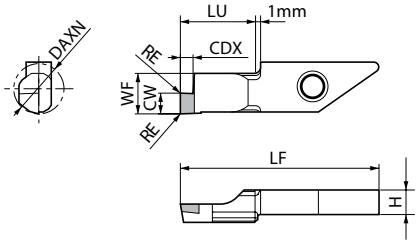


Fig. 2

Right-hand shown

Dimensions

Part Number	No. of Edges	External dia.of the groove (mm)		Dimensions (mm)								Tolerance (mm)		Fig.	Carbide			PCD	Applicable Toolholder ➡ F50~F53
		DAXN (min.)	DAXX (max.)	CW		CDX	RE	H	LF	LU	WF	CW min.	CW max.		PVD		-	-	
				in	mm										PR1225	PR930	KW10	KPD001	
VNFGR 0810-10	1	8 (0)	∞ (∞)	0.039	1	2	0.05	3.9	29.6	10	7.3	-0.03	+0.03	1	●	●	●		SVNR...-12N S...-SVNR12(N) S...-SVNR12SN
VNFGR 0820-10	1			0.079	2	2									●	●	●		
VNFGR 0830-10	1			0.118	3	3									●	●	●		
VNFGR 0820-10NB	1			0.079	2	2	0.05	3.9	29.6	10	7.3	-0.03	+0.03	2				□	
VNFGR 0830-10NB	1			0.118	3	3												□	

CDX shows available grooving depth.
External dia. of the groove DAXN (0) means that you can make the initial groove within DAXN ~ DAXX and then widen it to the center.

Recommended cutting conditions

Workpiece Material	Recommended insert grades (Vc: sfm)			VNFG0810	VNFG0820	VNFG0830	Notes
	MEGACOAT	PVD Coated Carbide	Carbide				
	PR1225	PR930	KW10	f (ipr)			
Carbon Steel / Alloy Steel	★ 100~330	☆ 100~330		~0.0008	~0.0016	~0.0020	Coolant
Stainless Steel	★ 100~260	☆ 100~260		~0.0004	~0.0008	~0.0012	
Non-Ferrous Metals			★ ~980	~0.0016	~0.0024	~0.0031	

★:1st recommendation ☆:2nd recommendation

Swiss IQ bars are sold in 5 piece boxes

PCD Inserts are sold in 1 piece boxes

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
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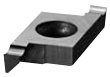
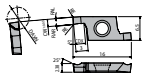
TWFG (Face Grooving, Horizontal Type)

		Carbon Steel / Alloy Steel										●		P
		Stainless Steel										●		M
		Cast Iron												K
		Non-Ferrous Metals											●	N
		Titanium Alloy												S
		Hard Materials (~ 40HRC)												H
		Hard Materials (40HRC ~)												
Insert		Part Number	No. of Edges	External dia. of the groove (mm) DAXN (min.)	External dia. of the groove (mm) DAXX (max.)	Dimensions (mm) CW in	Dimensions (mm) CW mm	Dimensions (mm) CDX	Dimensions (mm) RE	Tolerance (mm) CW min.	Tolerance (mm) CW max.	Angle (°) RA	Carbide PVD PR1535	Carbide - KW10	Applicable Toolholder ⇒ G102 G103
		TWFGL 050	2	6 (0)	∞ (∞)	0.020	0.5	1	0.05	- 0.03	+ 0.03	1.5	●	●	STWL.....-15 S...-STWL15
		080				0.031	0.8	1.5				1.5	●	●	
		100				0.039	1	2.2				2	●	●	
		125				0.049	1.25	2.2				2	●	●	
		150				0.059	1.5	2.2				2	●	●	
		180				0.071	1.8	3				2	●	●	
		200				0.079	2	3				2	●	●	

CDX shows available grooving depth.
External dia. of the groove DAXN (0) means that you can make the initial groove within DAXN ~ DAXX and then widen it to the center.
Left-hand shown

Recommended Cutting Conditions ⇒ G101

STW (Face Grooving, Square Shank for Horizontal Type Insert)

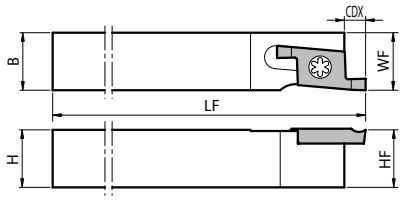


Fig. 1

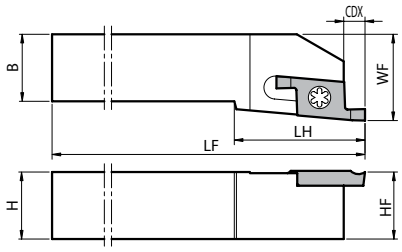


Fig. 2

Left-hand shown | Left-hand Insert for Left-hand Toolholder. | (For right-hand toolholder for boring, See page **F56**.)

Toolholder Dimensions

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

CDX shows the distance from the toolholder to the cutting edge. Available Groove Depth : "CDX" of Insert.

Twin Bars are sold in 5 piece boxes

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
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S-STW (Face Grooving, Round Shank for Horizontal Type Insert)

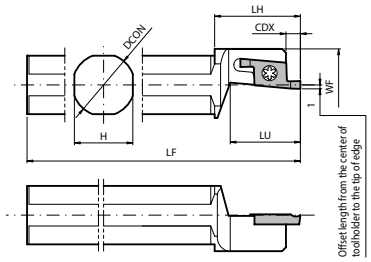


Fig. 1

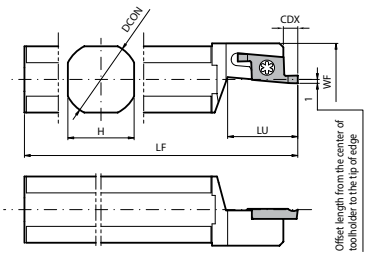


Fig. 2

Left-hand shown | Left-hand Insert for Left-hand Toolholder. | (For right-hand toolholder for boring, See page **F57**.)

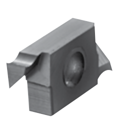
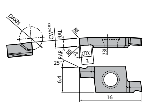
Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions							Coolant Hole	Fig.	Spare Parts		Applicable Inserts ➔ G102
			L	DCON	CDX	H	LH	LF	LU	WF			Screw	Wrench	
Inch	S19G- STWL15	●	0.750	0.118	0.669	-	3.543	0.709	0.728	No	2	SB-3080TR	LTW-10S	TWFGL...
	S19K- STWL15	●					4.724							
	S25K- STWL15	●	1.000	0.118	0.906		4.724	0.866	0.984					
mm	S12F- STWL15	●	12	3	11	22	80	18	20	No	1	SB-3080TR	LTW-10S	TWFGL...
	S16F- STWL15	●	16		15		100							
	S20K- STWL15	●	20	3	18	-	120	18	19.5	No	2			
	S22K- STWL15	●	22		20		125	22	21.5					
	S25.0J- STWL15	●	25		23		110		24.5					

CDX shows the distance from the toolholder to the cutting edge. Available Groove Depth : "CDX" of Insert.

TWFGT (Face Grooving, Vertical Type)

Material	PR1535	KW10	
Carbon Steel / Alloy Steel	●		P
Stainless Steel	●		M
Cast Iron			K
Non-Ferrous Metals		●	N
Titanium Alloy			S
Hard Materials (~ 40HRC)			H
Hard Materials (40HRC ~)			H

Insert	Insert (drawing)	Part Number	No. of Edges	External dia. of the groove (mm) DAXN (min.)	External dia. of the groove (mm) DAXX (max.)	Dimensions (mm) CW in	Dimensions (mm) CW mm	Dimensions (mm) CDX	Dimensions (mm) RE	Tolerance (mm) CW min.	Tolerance (mm) CW max.	Angle (°) RA ℞/L	Carbide PVD PR1535	Carbide - KW10	Applicable Toolholder ➡ G109
		TWFGTR 050	2	6 (0)	∞ (∞)	0.020	0.5	1	0.05	- 0.03	+ 0.03	1.5	●	●	STWSR.....-15T
		080				0.031	0.8	1.5				1.5	●	●	
		100				0.039	1	2.2				2	●	●	
		125				0.049	1.25	2.2				2	●	●	
		150				0.059	1.5	2.2				2	●	●	
		180				0.071	1.8	3				2	●	●	
		200				0.079	2	3				2	●	●	

CDX shows available grooving depth.
External dia. of the groove DAXN (0) means that you can make the initial groove within DAXN ~ DAXX and then widen it to the center.
Right-hand shown

Recommended Cutting Conditions ➡ G105

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
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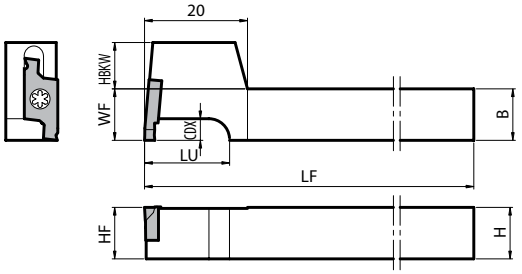
STWS (Face Grooving, Square Shank for Vertical Type , L-Shape)



Right-hand shown

Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions								Spare Parts		Applicable Inserts G104
			R	H	B	LU	HF	HBKW	LF	CDX	WF	Screw	Wrench	
mm	STWSR 1010F-15T	●	10	10	16	10	9	85	3	10	SB-3080TR	LTW-10S	TWFGTR...
	1010JX-15T	●						120					
	1212F-15T	●	12	12		12	7	85		12			
	1212JX-15T	●						120					
	1616JX-15T	●	16	16	20	16	3			16			

CDX shows the distance from the toolholder to the cutting edge. Available Groove Depth : "CDX" of Insert.

Recommended cutting conditions TWFG / TWFGT

Workpiece Material	Recommended insert grades (Vc:sfm)			TWFGL050 TWFGL080 TWFGL100 TWFGTR050 TWFGTR080 TWFGTR100	TWFGL125 TWFGL150 TWFGTR125 TWFGTR150	TWFGL180 TWFGL200 TWFGTR180 TWFGTR200	Notes
	MEGACOAT	PVD coated carbide	Carbide				
	PR1535	PR1025	KW10	f (ipr)			
Carbon Steel / Alloy Steel	★ 100~330	☆ 100~330	-	~0.0008	~0.0012	~0.0016	Coolant
Stainless Steel	★ 100~260	☆ 100~260	-	~0.0004	~0.0008	~0.0008	
Non-Ferrous Metals	-	-	★ ~980	~0.0012	~0.0016	~0.0024	

★:1st recommendation ☆:2nd recommendation

● : 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

KGDF: Face Grooving

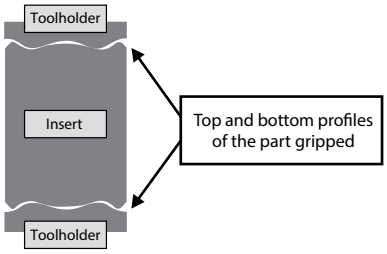
SwitchBlade type toolholder (toolholder + blade) and Integral type toolholder are available.
Adaptable to a wide range of face grooving applications by changing blades

Separate type toolholder

Insert Clamping System "W grip"

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

1. Prevents abnormal machining surface and / or insert breakage resulting from slip of insert.
2. Improves repetitive installation accuracy of insert (GDFM and GDFMS inserts are not applicable to KGD external grooving, cut-off and KGDI internal grooving toolholders.)

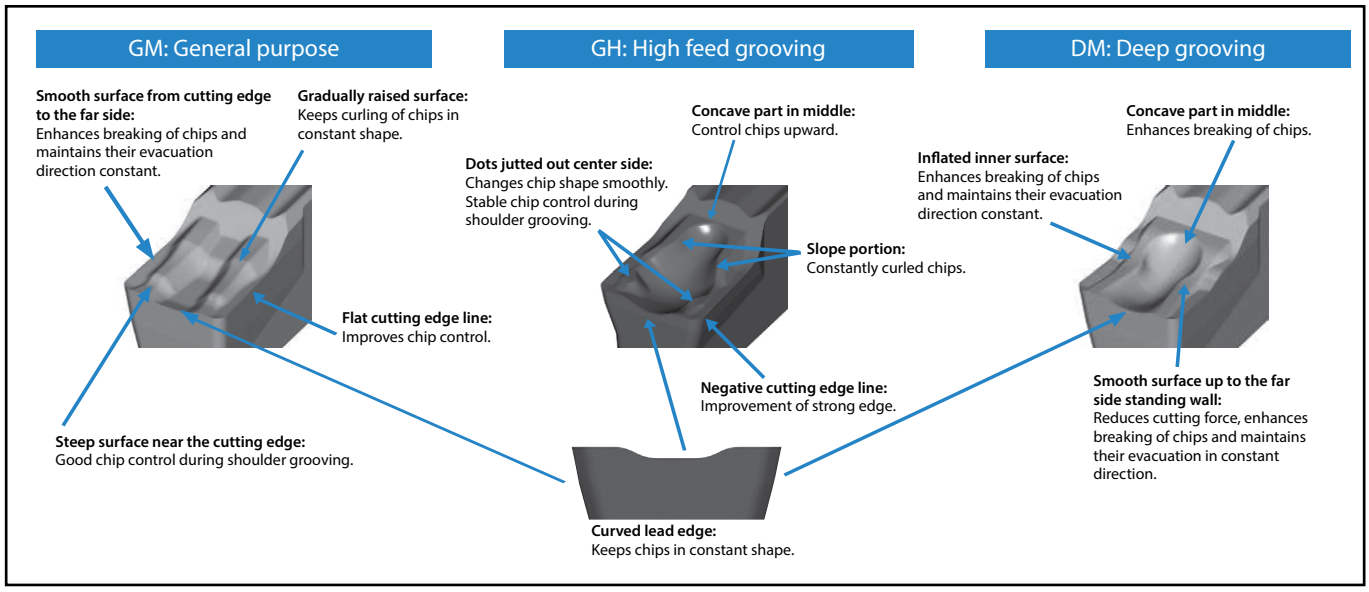


W grip technology

Smooth Chip Control

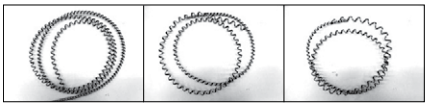
For general purpose GM chipbreaker, for high feed grooving GH chipbreaker, for deep grooving DM chipbreaker

Advantages of chipbreaker



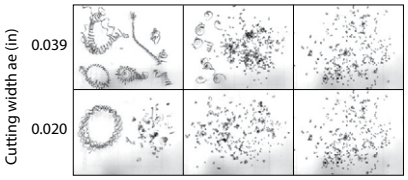
Chip control of GM chipbreaker

Face grooving (ø2.440" / ø62mm)



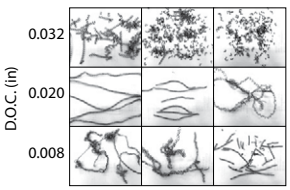
Feed rate f (ipr)

Side grooving



f (ipr)

Traversing



f (ipr)

Cutting Conditions: Vc = 490 sfm, f = 0.002 ~ 0.008 ipr, GDFM5020N-040GM, 4118, wet

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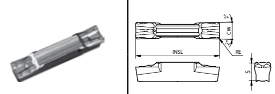
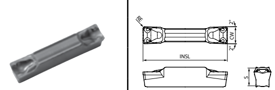
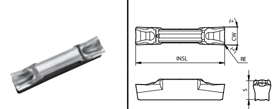
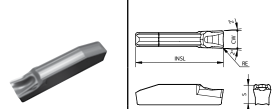
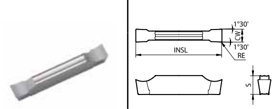
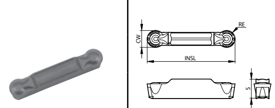
GDFM/GDFMS

Work material	PR1215	PR1225	GW15	TN620	TN90	
Carbon Steel / Alloy Steel	○	◕		●	○	P
Stainless Steel	○	◕				M
Cast Iron	◕					K
Non-Ferrous Metals			◕			N
Titanium Alloy			○			S
Hard Materials (~ 40HRC)						H
Hard Materials (40HRC ~)						H

Insert		Part Number	No. of Edges	Dimensions (mm) CW in	CW mm	S	RE	INSL	Tolerance (mm) CW min.	CW max.	Carbide PVD PR1215	PR1225	- GW15	Cermet - TN620	TN90	Applicable Toolholder ➡ G110~G131
	General purpose	GDFM 2020N-020GM	2	0.079	2	3.9	0.2	21	- 0.03	+ 0.03	●	●			●	KGDF R/L ...-2...
		GDFM 3020N-030GM	2	0.118	3	4.3	0.3	20	- 0.03	+ 0.03	●	●			●	KGDF R/L ...-3...
		GDFM 4020N-040GM	2	0.157	4	4.5	0.4	20	- 0.03	+ 0.03	●	●			●	KGDF R/L ...-4...
		GDFM 5020N-040GM	2	0.197	5	4.5	0.4	20	- 0.04	+ 0.04	●	●			●	KGDF R/L ...-5...
		5020N-080GM					0.8				●	●			●	
		GDFM 6020N-040GM	2	0.236	6	4.5	0.4	20	- 0.04	+ 0.04	●	●			●	KGDF R/L ...-6...
		6020N-080GM					0.8				●	●			●	
	High feed	GDFM 4020N-040GH	2	0.157	4	4.5	0.4	20	- 0.03	+ 0.03	●	●				KGDF R/L ...-4...
		GDFM 5020N-040GH	2	0.197	5	4.5	0.4	20	- 0.04	+ 0.04	●	●				KGDF R/L ...-5...
		5020N-080GH					0.8				●	●				
		GDFM 6020N-040GH	2	0.236	6	4.5	0.4	20	- 0.04	+ 0.04	●	●				KGDF R/L ...-6...
		6020N-080GH					0.8				●	●				
	Deep Grooving	GDFM 3020N-030DM	2	0.118	3	4.3	0.3	20	- 0.03	+ 0.03	●	●			●	KGDF R/L ...-3...
		GDFM 4020N-040DM	2	0.157	4	4.5	0.4	20	- 0.03	+ 0.03	●	●			●	KGDF R/L ...-4...
		GDFM 5020N-040DM	2	0.197	5	4.5	0.4	20	- 0.04	+ 0.04	●	●			●	KGDF R/L ...-5...
		GDFM 6020N-040DM	2	0.236	6	4.5	0.4	20	- 0.04	+ 0.04	●	●			●	KGDF R/L ...-6...
	Deep Grooving / 1-edge	GDFMS 3020N-030DM	1	0.118	3	4.3	0.3	20	- 0.03	+ 0.03	●	●			●	KGDF R/L ...-3...
		GDFMS 4020N-040DM	1	0.157	4	4.5	0.4	20	- 0.03	+ 0.03	●	●			●	KGDF R/L ...-4...
		GDFMS 5020N-040DM	1	0.197	5	4.5	0.4	20	- 0.04	+ 0.04	●	●			●	KGDF R/L ...-5...
		GDFMS 6020N-040DM	1	0.236	6	4.5	0.4	20	- 0.04	+ 0.04	●	●			●	KGDF R/L ...-6...
	Non-Ferrous Metals	GDFG 3020N-020GS	2	0.118	3	4.3	0.2	20	- 0.2	+ 0.2			●			KGDF R/L ...-3...
		GDFG 4020N-040GS	2	0.157	4	4.5	0.4	20	- 0.2	+ 0.2			●			KGDF R/L ...-4...
		GDFG 5020N-040GS	2	0.197	5	4.5	0.4	20	- 0.2	+ 0.2			●			KGDF R/L ...-5...
		GDFG 6020N-040GS	2	0.236	6	4.5	0.4	20	- 0.2	+ 0.2			●			KGDF R/L ...-6...
	Full R	GDFM 3020N-150R-CM	2	0.118	3	4.3	1.5	20	- 0.03	+ 0.03	●	●		●		KGDF R/L ...-3...
		GDFM 4020N-200R-CM	2	0.157	4	4.5	2	21	- 0.03	+ 0.03	●	●		●		KGDF R/L ...-4...
		GDFM 5020N-250R-CM	2	0.197	5	4.5	2.5	21	- 0.04	+ 0.04	●	●		●		KGDF R/L ...-5...
		GDFM 6020N-300R-CM	2	0.236	6	4.5	3	22	- 0.04	+ 0.04	●	●		●		KGDF R/L ...-6...

GDFM40/50/60-CM differs from other descriptions in length (INSL) to avoid interference of a toolholder with workpiece.

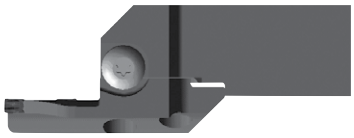
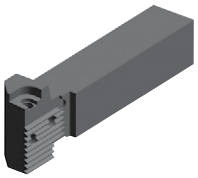
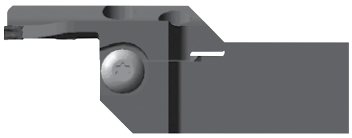
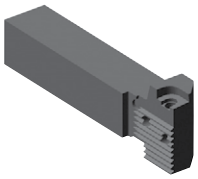
Recommended Cutting Conditions ➡ G132

Inserts identification system

GDF	M	S	30	20	N	-	030	DM
Series	Tolerance symbol M : M Class	No. of edge No indication : 2-edge S : 1-edge	Edge width 20 : 2mm 30 : 3mm ⋮	Insert length 20 : 20mm	Hand of tool N : Neutral		Corner-R(RE) 020 : 0.2mm 030 : 0.3mm 040 : 0.4mm 150R : 1.5mm (Full-R)	Chipbreaker symbol GM : Grooving and turning DM : Deep grooving GH : High feed grooving CM : Full-R

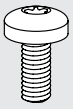
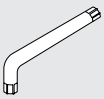
● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

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 description is not printed on the product. It is printed on the box label.
- Combination of the toolholder and blade (both separately sold) can make up the corresponding assembly.
- The insert clamping screw (BH6X10TR), blade fixing screw (SB-60120TR) and wrench (LTW-25) which are included in the toolholder can be used.

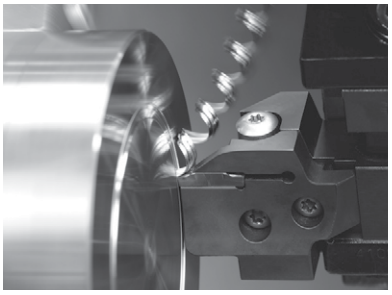
Spare Parts (Common among SwitchBlade Holders)

Clamp Bolt (for Insert Clamp)	Clamp Screw (for Blade)	Wrench
		
BH6X10TR	SB-60120TR	LTW-25

800.823.7284
www.kyoceraprecisiontools.com

External dia. of the groove DAXN / DAXX

External dia. of the groove within DAXN ~ DAXX are the available range for the initial grooving on the unprocessed workpiece (Ref. to Fig. 1). Then, you can widen it up to the center towards the inside (excluding the models listed in the right table) and towards the outside according to machine limits.



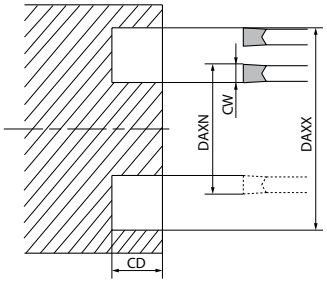
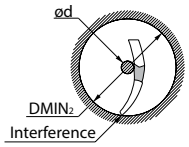


Fig. 1

Limit of Turning toward Center

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

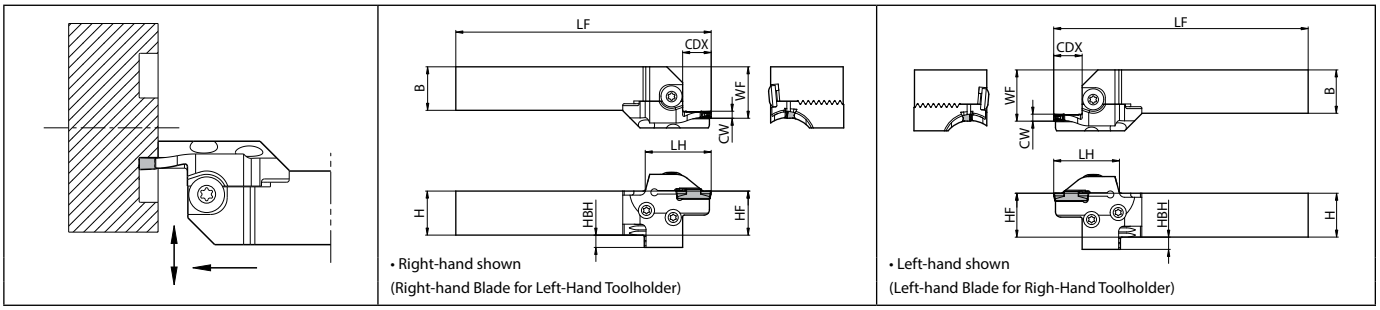


Remaining Boss Dia.ød

Part Number	DMIN2	25	26	27	28 and over
		ød (mm)			
KGDFR/L-25-3A-C + KGDL/R2020-C KGDFR/L-25-3A-C + KGDL/R2525-C		4	2	0	0 (No remaining Boss)
KGDFR/L-25-4A-C + KGDL/R2020-C KGDFR/L-25-4A-C + KGDL/R2525-C		6	3	0	
KGDFR/L-25-5B-C + KGDL/R2020-C KGDFR/L-25-5B-C + KGDL/R2525-C		7	4	1	
KGDFR/L-25-6B-C + KGDL/R2020-C KGDFR/L-25-6B-C + KGDL/R2525-C		9	4	1	

e.g.)
Toolholder assembled from KGDFR-25-3A-C and KGDL2020-C with ø25 as first cut towards the center, it will cause a rubbing with the toolholder cartridge if ød is 4.0mm.

KGDF (Face Grooving / 0° SwitchBlade Type)



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

Unit	Shank Angle	Cutting Width CW	Shank Size (in)	Max. Depth of Cut CDX	External dia. of the groove (in) DAXN (min.)	DAXX (max.)	Toolholder Part Number G56	Std. Item R	Std. Item L	Blade Part Number G131	Std. Item R	Std. Item L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Spare Parts: Screw (for blade)	Spare Parts: Wrench
Inch	0°	0.079" (2mm)	□0.75	0.236" (6mm)	0.984	1.181	KGDL12-C		●	KGDFR -25-2A-C	●		0.750	0.750	1.299	0.750	0.510	4.528	0.927	BH6X10TR	SB-60120TR	LTW-25
					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	1.417	0.750	0.510	4.646	0.927			
				0.591 (15mm)	1.181	1.378				-30-2B-C	●		0.750	0.750	1.496	0.750	0.510	4.724	0.927			
					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	KGDL16-C		●	KGDFR -25-2A-C	●		1.000	1.000	1.299	1.000	0.260	5.512	1.177			
					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	1.417	1.000	0.260	5.630	1.177			
				0.591 (15mm)	1.181	1.378				-30-2B-C	●		1.000	1.000	1.496	1.000	0.260	5.709	1.177			
					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	●											
			□1.25	0.236" (6mm)	0.984	1.181	KGDL20-C		●	KGDFR -25-2A-C	●		1.250	1.250	1.299	1.250	-	6.299	1.427			
					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	●		1.250	1.250	1.417	1.250	-	6.417	1.427			
				0.591 (15mm)	1.181	1.378				-30-2B-C	●		1.250	1.250	1.496	1.250	-	6.496	1.427			
					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. KGDF SwitchBlade Type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
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.

Applicable Inserts G107

● : 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

KGDF (Face Grooving / 0° SwitchBlade Type)

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

Unit	Shank Angle	Cutting Width CW	Shank Size (in)	Max. Depth of Cut CDX	External dia. of the groove (in) DAXN (min.)	DAXX (max.)	Toolholder Part Number G56	Std. Item R	Std. Item L	Blade Part Number G131	Std. Item R	Std. Item L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Screw (for blade)	Wrench
Inch	0°	0.118" (3mm)	□0.75	0.512" (13mm)	0.984	1.181	KGD□ 12-C	●	●	KGDF□ -25-3A-C	●	●	0.750	0.750	1.420	0.750	0.510	4.650	0.927	BH6X10TR	SB-60120TR	LTW-25
					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	1.500	0.750	0.510	4.720	0.927			
					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□ -50-3C-C	●	●	0.750	0.750	1.770	0.750	0.510	5.000	0.927			
					2.559	3.346				-65-3C-C	●	●										
				0.984" (25mm)	3.346	4.331				-85-3C-C	●	●	0.750	0.750	1.890	0.750	0.510	5.120	0.927			
					4.331	5.709				-110-3C-C	●	●										
			□1.00	0.512" (13mm)	0.984	1.181	KGD□ 16-C	●	●	KGDF□ -25-3A-C	●	●	1.000	1.000	1.420	1.000	0.260	5.630	1.177			
					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	1.500	1.000	0.260	5.710	1.177			
					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□ -50-3C-C	●	●	1.000	1.000	1.770	1.000	0.260	5.980	1.177			
					2.559	3.346				-65-3C-C	●	●										
				0.984" (25mm)	3.346	4.331				-85-3C-C	●	●	1.000	1.000	1.890	1.000	0.260	6.100	1.177			
					4.331	5.709				-110-3C-C	●	●										
			□1.25	0.512" (13mm)	0.984	1.181	KGD□ 20-C	●	●	KGDF□ -25-3A-C	●	●	1.250	1.250	1.417	1.250	-	6.417	1.427			
					1.181	1.575				-30-3A-C	●	●										
					1.575	1.969				-40-3A-C	●	●										
				0.591" (15mm)	1.969	2.559				-50-3B-C	●	●	1.250	1.250	1.496	1.250	-	6.496	1.427			
					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□ -50-3C-C	●	●	1.250	1.250	1.772	1.250	-	6.772	1.427			
					2.559	3.346				-65-3C-C	●	●										
				0.984" (25mm)	3.346	4.331				-85-3C-C	●	●	1.250	1.250	1.890	1.250	-	6.890	1.427			
					4.331	5.709				-110-3C-C	●	●										

1. KGDF SwitchBlade Type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
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.

Applicable Inserts G107

KGDF (Face Grooving / 0° SwitchBlade Type)

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

Unit	Shank Angle	Cutting Width CW	Shank Size (in)	Max. Depth of Cut CDX	External dia. of the groove (in) DAXN (min.)	DAXX (max.)	Toolholder Part Number ➡ G56	Std. Item R	Std. Item L	Blade Part Number ➡ G131	Std. Item R	Std. Item L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Screw (for blade)	Wrench
Inch	0°	0.157" (4mm)	□0.75	0.512" (13mm)	0.984	1.378	KGDR/L 12-C	●	●	KGDFR/L -25-4A-C	●	●	0.750	0.750	1.420	0.750	0.510	4.650	0.927	BH6X10TR	SB-60120TR	LTW-25
				0.591" (15mm)	1.378	1.969				-35-4B-C	●	●	0.750	0.750	1.500	0.750	0.510	4.720	0.927			
					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/L -35-4C-C	●	●	0.750	0.750	1.890	0.750	0.510	5.120	0.927			
					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	KGDR/L 16-C	●	●	KGDFR/L -25-4A-C	●	●	1.000	1.000	1.420	1.000	0.260	5.630	1.177			
				0.591" (15mm)	1.378	1.969				-35-4B-C	●	●	1.000	1.000	1.500	1.000	0.260	5.710	1.177			
					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/L -35-4C-C	●	●	1.000	1.000	1.890	1.000	0.260	6.100	1.177			
					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	●	●										
			□1.25	0.512" (13mm)	0.984	1.378	KGDR/L 20-C	●	●	KGDFR/L -25-4A-C	●	●	1.250	1.250	1.417	1.250	-	6.417	1.427			
				0.591" (15mm)	1.378	1.969				-35-4B-C	●	●	1.250	1.250	1.496	1.250	-	6.496	1.427			
					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/L -35-4C-C	●	●	1.250	1.250	1.890	1.250	-	6.890	1.427			
					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. KGDF SwitchBlade Type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
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.

Applicable Inserts ➡ G107

● : 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

KGDF (Face Grooving / 0° SwitchBlade Type)

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

Unit	Shank Angle	Cutting Width CW	Shank Size (in)	Max. Depth of Cut CDX	External dia. of the groove (in) DAXN (min.)	DAXX (max.)	Toolholder Part Number G56	Std. Item R	Std. Item L	Blade Part Number G131	Std. Item R	Std. Item L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Spare Parts: Screw (for blade)	Spare Parts: Wrench
Inch	0°	0.197" (5mm)	□0.75	0.591" (15mm)	0.984	1.378	KGDR/L 12-C	●	●	KGDFR/L -25-5B-C	●	●	0.750	0.750	1.500	0.750	0.510	4.720	0.927	BH6X10TR	SB-60120TR	LTW-25
					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/L -25-5C-C	●	●	0.750	0.750	1.690	0.750	0.510	4.920	0.927			
				0.984" (25mm)	1.378	1.969				-35-5C-C	●	●	0.750	0.750	1.890	0.750	0.510	5.120	0.927			
					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				KGDFR/L -75-5D-C	●	●	0.750	0.750	2.165	0.750	0.510	5.394	0.927			
					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	KGDR/L 16-C	●	●	KGDFR/L -25-5B-C	●	●	1.000	1.000	1.500	1.000	0.260	5.700	1.177			
					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/L -25-5C-C	●	●	1.000	1.000	1.690	1.000	0.260	5.900	1.177			
				0.984" (25mm)	1.378	1.969				-35-5C-C	●	●	1.000	1.000	1.890	1.000	0.260	6.100	1.177			
					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				KGDFR/L -75-5D-C	●	●	1.000	1.000	2.165	1.000	0.260	6.378	1.177			
					4.528	7.087				-115-5D-C	●	●										
					7.087	9.252				-180-5D-C	●	●										
					9.252	∞				-235-5D-C	●	●										
			□1.25	0.591" (15mm)	0.984	1.378	KGDR/L 20-C	●	●	KGDFR/L -25-5B-C	●	●	1.250	1.250	1.496	1.250	-	6.496	1.427			
					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/L -25-5C-C	●	●	1.250	1.250	1.693	1.250	-	6.693	1.427			
				0.984" (25mm)	1.378	1.969				-35-5C-C	●	●	1.250	1.250	1.890	1.250	-	6.890	1.427			
					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				KGDFR/L -75-5D-C	●	●	1.250	1.250	2.165	1.250	-	7.165	1.427			
					4.528	7.087				-115-5D-C	●	●										
					7.087	9.252				-180-5D-C	●	●										
					9.252	∞				-235-5D-C	●	●										

1. KGDF SwitchBlade Type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
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.

Applicable Inserts G107

● : 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

KGDF (Face Grooving / 0° SwitchBlade Type)

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

Unit	Shank Angle	Cutting Width CW	Shank Size (in)	Max. Depth of Cut CDX	External dia. of the groove (in) DAXN (min.)	External dia. of the groove (in) DAXX (max.)	Toolholder Part Number G56	Std. Item R	Std. Item L	Blade Part Number G131	Std. Item R	Std. Item L	Dimensions (See diagram on G110) H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Spare Parts: Screw (for blade)	Spare Parts: Wrench
Inch	0°	0.236" (6mm)	□0.75	0.591" (15mm)	0.984	1.378	KGDR/L 12-C	●	●	KGDFR/L -25-6B-C	●	●	0.750	0.750	1.500	0.750	0.510	4.720	0.927	BH6X10TR	SB-60120TR	LTW-25
					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/L -25-6C-C	●	●	0.750	0.750	1.690	0.750	0.510	4.920	0.927			
				0.984" (25mm)	1.378	1.969				-35-6C-C	●	●	0.750	0.750	1.890	0.750	0.510	5.120	0.927			
					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				KGDFR/L -75-6D-C	●	●	0.750	0.750	2.165	0.750	0.510	5.394	0.927			
					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	KGDR/L 16-C	●	●	KGDFR/L -25-6B-C	●	●	1.000	1.000	1.500	1.000	0.260	5.700	1.177			
					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/L -25-6C-C	●	●	1.000	1.000	1.690	1.000	0.260	5.900	1.177			
				0.984" (25mm)	1.378	1.969				-35-6C-C	●	●	1.000	1.000	1.890	1.000	0.260	6.100	1.177			
					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				KGDFR/L -75-6D-C	●	●	1.000	1.000	2.165	1.000	0.260	6.378	1.177			
					4.528	7.087				-115-6D-C	●	●										
					7.087	9.252				-180-6D-C	●	●										
					9.252	∞				-235-6D-C	●	●										
			□1.25	0.591" (15mm)	0.984	1.378	KGDR/L 20-C	●	●	KGDFR/L -25-6B-C	●	●	1.250	1.250	1.496	1.250	-	6.496	1.427			
					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/L -25-6C-C	●	●	1.250	1.250	1.693	1.250	-	6.693	1.427			
				0.984" (25mm)	1.378	1.969				-35-6C-C	●	●	1.250	1.250	1.890	1.250	-	6.890	1.427			
					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				KGDFR/L -75-6D-C	●	●	1.250	1.250	2.165	1.250	-	7.165	1.427			
					4.528	7.087				-115-6D-C	●	●										
					7.087	9.252				-180-6D-C	●	●										
					9.252	∞				-235-6D-C	●	●										

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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.

Applicable Inserts G107

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
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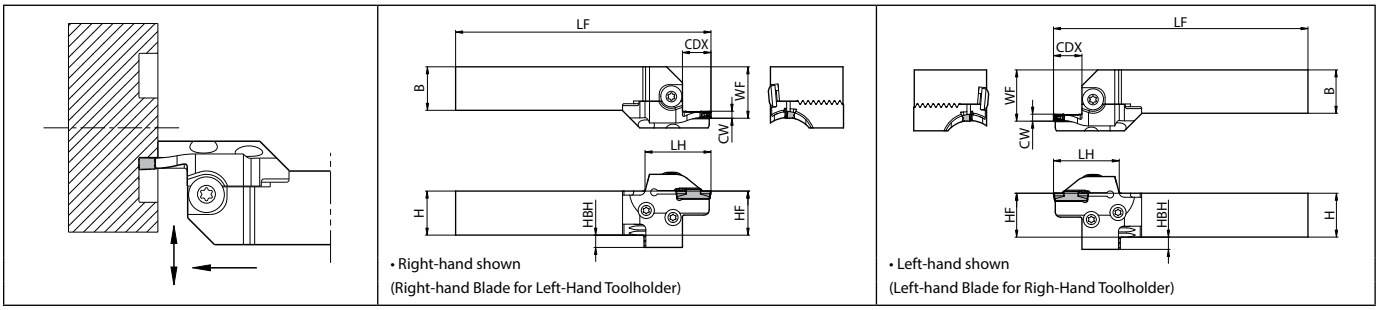
KGDF (Face Grooving / 0° SwitchBlade Type)



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

Unit	Shank Angle	Cutting Width CW	Shank Size (mm)	Max. Depth of Cut CDX	External dia. of the groove (mm) DAXN (min.)	DAXX (max.)	Toolholder Part Number G56	Std. Item R	Std. Item L	Blade Part Number G131	Std. Item R	Std. Item L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Spare Parts: Screw (for blade)	Spare Parts: Wrench
mm	0°	0.079" (2mm)	□20	0.236" (6mm)	25	30	KGDL2020-C		●	KGDFR -25-2A-C	●		20	20	33	20	12	115	24.5	BH6X10TR	SB-60120TR	LTW-25
					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	●											
				0.512" (13mm)	25	30				KGDFR -25-2B-C	●		20	20	36	20	12	118	24.5			
				0.591" (15mm)	30	35				-30-2B-C	●		20	20	38	20	12	120	24.5			
					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	0.236" (6mm)	25	30	KGDL2525-C		●	KGDFR -25-2A-C	●		25	25	33	25	7	140	29.5			
					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	●											
				0.512" (13mm)	25	30				KGDFR -25-2B-C	●		25	25	36	25	7	143	29.5			
				0.591" (15mm)	30	35				-30-2B-C	●		25	25	38	25	7	145	29.5			
					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	0.236" (6mm)	25	30	KGDL3232-C		●	KGDFR -25-2A-C	●		32	32	33	32	-	160	36.5			
					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	●											
				0.512" (13mm)	25	30				KGDFR -25-2B-C	●		32	32	36	32	-	163	36.5			
				0.591" (15mm)	30	35				-30-2B-C	●		32	32	38	32	-	165	36.5			
					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	●											

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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.

Applicable Inserts G107

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
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KGDF (Face Grooving / 0° SwitchBlade Type)

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

Unit	Shank Angle	Cutting Width CW	Shank Size (mm)	Max. Depth of Cut CDX	External dia. of the groove (mm) DAXN (min.)	DAXX (max.)	Toolholder Part Number G56	Std. Item R	Std. Item L	Blade Part Number G131	Std. Item R	Std. Item L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Screw (for blade)	Wrench
mm	0°	0.118" (3mm)	□20	0.512" (13mm)	25	30	KGD□2020-C	●	●	KGDF□-25-3A-C	●	●	20	20	36	20	12	118	24.5	BH6X10TR	SB-60120TR	LTW-25
					30	40				-30-3A-C	●	●										
					40	50				-40-3A-C	●	●										
				0.591" (15mm)	50	65				-50-3B-C	●	●	20	20	38	20	12	120	24.5			
					65	85				-65-3B-C	●	●										
					85	110				-85-3B-C	●	●										
					110	145				-110-3B-C	●	●										
				0.866" (22mm)	50	65				KGDF□-50-3C-C	●	●	20	20	45	20	12	127	24.5			
					65	85				-65-3C-C	●	●										
				0.984" (25mm)	85	110				-85-3C-C	●	●	20	20	48	20	12	130	24.5			
					110	145				-110-3C-C	●	●										
			□25	0.512" (13mm)	25	30	KGD□2525-C	●	●	KGDF□-25-3A-C	●	●	25	25	36	25	7	143	29.5			
					30	40				-30-3A-C	●	●										
					40	50				-40-3A-C	●	●										
				0.591" (15mm)	50	65				-50-3B-C	●	●	25	25	38	25	7	145	29.5			
					65	85				-65-3B-C	●	●										
					85	110				-85-3B-C	●	●										
					110	145				-110-3B-C	●	●										
				0.866" (22mm)	50	65				KGDF□-50-3C-C	●	●	25	25	45	25	7	152	29.5			
					65	85				-65-3C-C	●	●										
				0.984" (25mm)	85	110				-85-3C-C	●	●	25	25	48	25	7	155	29.5			
					110	145				-110-3C-C	●	●										
			□32	0.512" (13mm)	25	30	KGD□3232-C	●	●	KGDF□-25-3A-C	●	●	32	32	36	32	-	163	36.5			
					30	40				-30-3A-C	●	●										
					40	50				-40-3A-C	●	●										
				0.591" (15mm)	50	65				-50-3B-C	●	●	32	32	38	32	-	165	36.5			
					65	85				-65-3B-C	●	●										
					85	110				-85-3B-C	●	●										
					110	145				-110-3B-C	●	●										
				0.866" (22mm)	50	65				KGDF□-50-3C-C	●	●	32	32	45	32	-	172	36.5			
					65	85				-65-3C-C	●	●										
				0.984" (25mm)	85	110				-85-3C-C	●	●	32	32	48	32	-	175	36.5			
					110	145				-110-3C-C	●	●										

1. KGDF SwitchBlade Type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
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.

Applicable Inserts G107

● : 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

KGDF (Face Grooving / 0° SwitchBlade Type)

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

Unit	Shank Angle	Cutting Width CW	Shank Size (mm)	Max. Depth of Cut CDX	External dia. of the groove (mm) DAXN (min.)	DAXX (max.)	Toolholder Part Number G56	Std. Item R	Std. Item L	Blade Part Number G131	Std. Item R	Std. Item L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Spare Parts: Screw (for blade)	Spare Parts: Wrench
mm	0°	0.157" (4mm)	□20	0.512" (13mm)	25	35	KGD□2020-C	●	●	KGDF□-25-4A-C	●	●	20	20	36	20	12	118	24.5	BH6X10TR	SB-60120TR	LTW-25
				0.591" (15mm)	35	50				-35-4B-C	●	●	20	20	38	20	12	120	24.5			
					50	70				-50-4B-C	●	●										
					70	100				-70-4B-C	●	●										
					100	150				-100-4B-C	●	●										
					150	220				-150-4B-C	●	●										
					220	∞				-220-4B-C	●	●										
				0.984" (25mm)	35	50				KGDF□-35-4C-C	●	●	20	20	48	20	12	130	24.5			
					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	0.512" (13mm)	25	35	KGD□2525-C	●	●	KGDF□-25-4A-C	●	●	25	25	36	25	7	143	29.5			
				0.591" (15mm)	35	50				-35-4B-C	●	●	25	25	38	25	7	145	29.5			
					50	70				-50-4B-C	●	●										
					70	100				-70-4B-C	●	●										
					100	150				-100-4B-C	●	●										
					150	220				-150-4B-C	●	●										
					220	∞				-220-4B-C	●	●										
				0.984" (25mm)	35	50				KGDF□-35-4C-C	●	●	25	25	48	25	7	155	29.5			
					50	70				-50-4C-C	●	●										
					70	100				-70-4C-C	●	●										
					100	150				-100-4C-C	●	●										
					150	220				-150-4C-C	●	●										
					220	∞				-220-4C-C	●	●										
			□32	0.512" (13mm)	25	35	KGD□3232-C	●	●	KGDF□-25-4A-C	●	●	32	32	36	32	-	163	36.5			
				0.591" (15mm)	35	50				-35-4B-C	●	●	32	32	38	32	-	165	36.5			
					50	70				-50-4B-C	●	●										
					70	100				-70-4B-C	●	●										
					100	150				-100-4B-C	●	●										
					150	220				-150-4B-C	●	●										
					220	∞				-220-4B-C	●	●										
				0.984" (25mm)	35	50				KGDF□-35-4C-C	●	●	32	32	48	32	-	175	36.5			
					50	70				-50-4C-C	●	●										
					70	100				-70-4C-C	●	●										
					100	150				-100-4C-C	●	●										
					150	220				-150-4C-C	●	●										
					220	∞				-220-4C-C	●	●										

1. KGDF SwitchBlade Type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
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.

Applicable Inserts G107

● : 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

KGDF (Face Grooving / 0° SwitchBlade Type)

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

Unit	Shank Angle	Cutting Width CW	Shank Size (mm)	Max. Depth of Cut CDX	External dia. of the groove (mm) DAXN (min.)	DAXX (max.)	Toolholder Part Number G56	Std. Item R	Std. Item L	Blade Part Number G131	Std. Item R	Std. Item L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Spare Parts: Screw (for blade)	Spare Parts: Wrench
mm	0°	0.197" (5mm)	□20	0.591" (15mm)	25	35	KGD□2020-C	●	●	KGDF□-25-5B-C	●	●	20	20	38	20	12	120	24.5	BH6X10TR	SB-60120TR	LTW-25
					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	●	●										
				0.787" (20mm)	25	35				KGDF□-25-5C-C	●	●	20	20	43	20	12	125	24.5			
				0.984" (25mm)	35	50				-35-5C-C	●	●	20	20	48	20	12	130	24.5			
					50	75				-50-5C-C	●	●										
					75	115				-75-5C-C	●	●										
					115	180				-115-5C-C	●	●										
					180	235				-180-5C-C	●	●										
					235	∞				-235-5C-C	●	●										
				1.260" (32mm)	75	115				KGDF□-75-5D-C	●	●	20	20	55	20	12	137	24.5			
					115	180				-115-5D-C	●	●										
					180	235				-180-5D-C	●	●										
					235	∞				-235-5D-C	●	●										
			□25	0.591" (15mm)	25	35	KGD□2525-C	●	●	KGDF□-25-5B-C	●	●	25	25	38	25	7	145	29.5			
					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	●	●										
				0.787" (20mm)	25	35				KGDF□-25-5C-C	●	●	25	25	43	25	7	150	29.5			
				0.984" (25mm)	35	50				-35-5C-C	●	●	25	25	48	25	7	155	29.5			
					50	75				-50-5C-C	●	●										
					75	115				-75-5C-C	●	●	25	25	48	25	7	155	29.5			
					115	180				-115-5C-C	●	●										
					180	235				-180-5C-C	●	●										
					235	∞				-235-5C-C	●	●										
				1.260" (32mm)	75	115				KGDF□-75-5D-C	●	●	25	25	55	25	7	162	29.5			
					115	180				-115-5D-C	●	●										
					180	235				-180-5D-C	●	●										
					235	∞				-235-5D-C	●	●										
			□32	0.591" (15mm)	25	35	KGD□3232-C	●	●	KGDF□-25-5B-C	●	●	32	32	38	32	-	165	36.5			
					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	●	●										
				0.787" (20mm)	25	35				KGDF□-25-5C-C	●	●	32	32	43	32	-	170	36.5			
				0.984" (25mm)	35	50				-35-5C-C	●	●	32	32	48	32	-	175	36.5			
					50	75				-50-5C-C	●	●										
					75	115				-75-5C-C	●	●										
					115	180				-115-5C-C	●	●										
					180	235				-180-5C-C	●	●										
					235	∞				-235-5C-C	●	●										
				1.260" (32mm)	75	115				KGDF□-75-5D-C	●	●	32	32	55	32	-	182	36.5			
					115	180				-115-5D-C	●	●										
					180	235				-180-5D-C	●	●										
					235	∞				-235-5D-C	●	●										

1. KGDF SwitchBlade Type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
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.

Applicable Inserts G107

● : 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

KGDF (Face Grooving / 0° SwitchBlade Type)

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

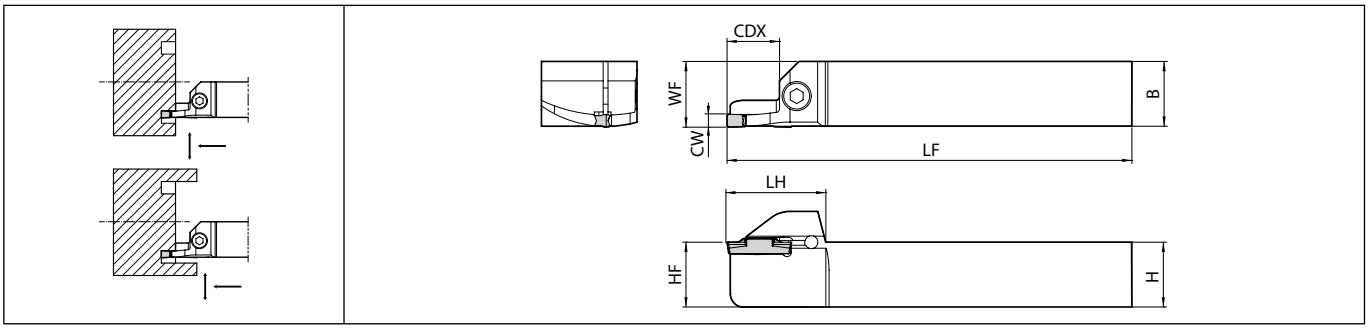
Unit	Shank Angle	Cutting Width CW	Shank Size (mm)	Max. Depth of Cut CDX	External dia. of the groove (mm) DAXN (min.)	DAXX (max.)	Toolholder Part Number G56	Std. Item R	Std. Item L	Blade Part Number G131	Std. Item R	Std. Item L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Screw (for blade)	Wrench
mm	0°	0.236" (6mm)	□20	0.591" (15mm)	25	35	KGD□2020-C	●	●	KGDF□-25-6B-C	●	●	20	20	38	20	12	120	24.5	BH6X10TR	SB-60120TR	LTW-25
					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	●	●										
				0.787" (20mm)	25	35				KGDF□-25-6C-C	●	●	20	20	43	20	12	125	24.5			
				0.984" (25mm)	35	50				-35-6C-C	●	●	20	20	48	20	12	130	24.5			
					50	75				-50-6C-C	●	●										
					75	115				-75-6C-C	●	●										
					115	180				-115-6C-C	●	●										
					180	235				-180-6C-C	●	●										
					235	∞				-235-6C-C	●	●										
				1.260" (32mm)	75	115				KGDF□-75-6D-C	●	●	20	20	55	20	12	137	24.5			
					115	180				-115-6D-C	●	●										
					180	235				-180-6D-C	●	●										
					235	∞				-235-6D-C	●	●										
			□25	0.591" (15mm)	25	35	KGD□2525-C	●	●	KGDF□-25-6B-C	●	●	25	25	38	25	7	145	29.5			
					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	●	●										
				0.787" (20mm)	25	35				KGDF□-25-6C-C	●	●	25	25	43	25	7	150	29.5			
				0.984" (25mm)	35	50				-35-6C-C	●	●	25	25	48	25	7	155	29.5			
					50	75				-50-6C-C	●	●										
					75	115				-75-6C-C	●	●										
					115	180				-115-6C-C	●	●										
					180	235				-180-6C-C	●	●										
					235	∞				-235-6C-C	●	●										
				1.260" (32mm)	75	115				KGDF□-75-6D-C	●	●	25	25	55	25	7	162	29.5			
					115	180				-115-6D-C	●	●										
					180	235				-180-6D-C	●	●										
					235	∞				-235-6D-C	●	●										
			□32	0.591" (15mm)	25	35	KGD□3232-C	●	●	KGDF□-25-6B-C	●	●	32	32	38	32	-	165	36.5			
					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	●	●										
				0.787" (20mm)	25	35				KGDF□-25-6C-C	●	●	32	32	43	32	-	170	36.5			
				0.984" (25mm)	35	50				-35-6C-C	●	●	32	32	48	32	-	175	36.5			
					50	75				-50-6C-C	●	●										
					75	115				-75-6C-C	●	●										
					115	180				-115-6C-C	●	●										
					180	235				-180-6C-C	●	●										
					235	∞				-235-6C-C	●	●										
				1.260" (32mm)	75	115				KGDF□-75-6D-C	●	●	32	32	55	32	-	182	36.5			
					115	180				-115-6D-C	●	●										
					180	235				-180-6D-C	●	●										
					235	∞				-235-6D-C	●	●										

1. KGDF SwitchBlade Type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
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.

Applicable Inserts G107

● : 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

KGDF-Z (Face Grooving)

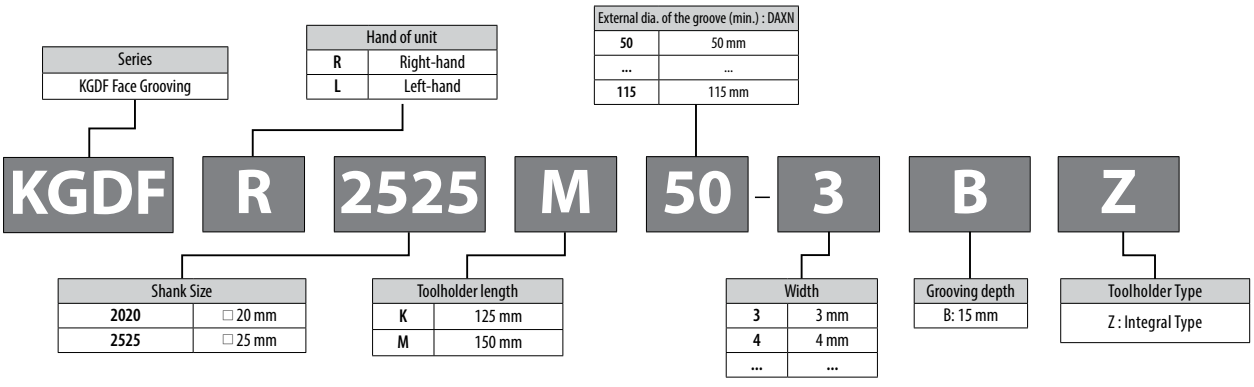


Right-hand shown

Toolholder Dimensions

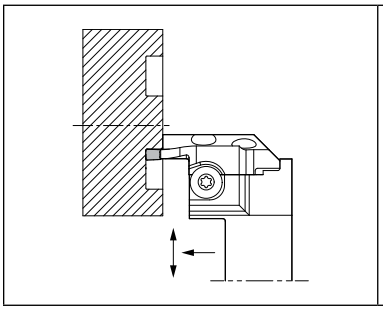
Unit	Part Number	Std. Item R	Std. Item L	External dia.of the groove (mm) DAXN (min.)	External dia.of the groove (mm) DAXX (max.)	Dimensions CW	CDX	H	B	LH	HF	LF	WF	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts G107
mm	KGDF R/L 2020K50-3B-Z	●	●	50	65	3	15	20	20	30.5	20	125	20.3	HH5X16	LW-4	GDFM 3020... GDFMS 3020... GDFG 3020...
	2020K65-3B-Z	●	●	65	85											
	2020K85-3B-Z	●	●	85	110											
	2020K110-3B-Z	●	●	110	145											
	2525M50-3B-Z	●	●	50	65			25	25		25	150	25.3			
	2525M65-3B-Z	●	●	65	85											
	2525M85-3B-Z	●	●	85	110											
	2525M110-3B-Z	●	●	110	145											
	KGDF R/L 2020K50-4B-Z	●	●	50	70	4	15	20	20	30.5	20	125	20.3	HH5X16	LW-4	GDFM 4020... GDFMS 4020... GDFG 4020...
	2020K70-4B-Z	●	●	70	100											
	2020K100-4B-Z	●	●	100	150											
	2525M50-4B-Z	●	●	50	70			25	25		25	150	25.3			
	2525M70-4B-Z	●	●	70	100											
	2525M100-4B-Z	●	●	100	150											
	KGDF R/L 2020K50-5B-Z	●	●	50	75	5	15	20	20	30.5	20	125	20.3	HH5X16	LW-4	GDFM 5020... GDFMS 5020... GDFG 5020...
	2020K75-5B-Z	●	●	75	115											
	2020K115-5B-Z	●	●	115	180											
	2525M50-5B-Z	●	●	50	75			25	25		25	150	25.3			
	2525M75-5B-Z	●	●	75	115											
	2525M115-5B-Z	●	●	115	180											

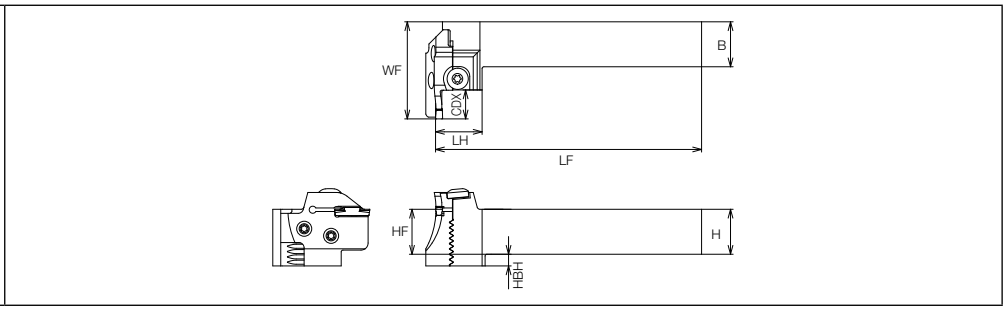
KGDF-Z toolholder identification system



● : 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

KGDF (Face Grooving / 90° SwitchBlade Type)



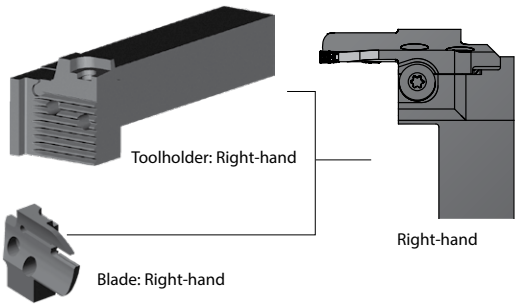


Toolholder Dimensions (Blade and Toolholder) (Choose **Right-hand** Blade for **Right-hand** Toolholder and **Left-hand** Blade for **Left-hand** Toolholder)

Unit	Shank Angle	Cutting Width CW	Shank Size (in)	Max. Depth of Cut CDX	External dia. of the groove (in) DAXN (min.)	DAXX (max.)	Toolholder Part Number G56	Std. Item R	Std. Item L	Blade Part Number G131	Std. Item R	Std. Item L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Screw (for blade)	Wrench
Inch	90°	0.079" (2mm)	□0.75	0.236" (6mm)	0.984	1.181	KGDSR12-C	●		KGDFR -25-2A-C	●		0.750	0.750	0.988	0.750	0.510	4.921	1.957	BH6X10TR	SB-60120TR	LTW-25
					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	0.988	0.750	0.510	4.921	2.075			
				0.591" (15mm)	1.181	1.378				KGDFR -30-2B-C	●		0.750	0.750	0.988	0.750	0.510	4.921	2.154			
					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	KGDSR16-C	●		KGDFR -25-2A-C	●		1.000	1.000	0.988	1.000	0.260	5.910	1.957			
					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	0.988	1.000	0.260	5.910	2.075			
				0.591" (15mm)	1.181	1.378				KGDFR -30-2B-C	●		1.000	1.000	0.988	1.000	0.260	5.910	2.154			
					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. KGDF SwitchBlade Type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
2. Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

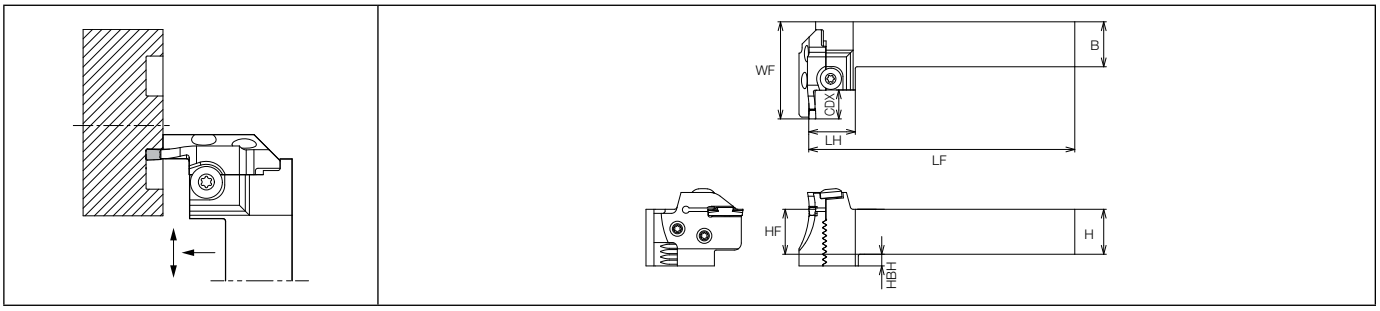
Applicable Inserts G107



- 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 □ : Made to Order △ : 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 Type)



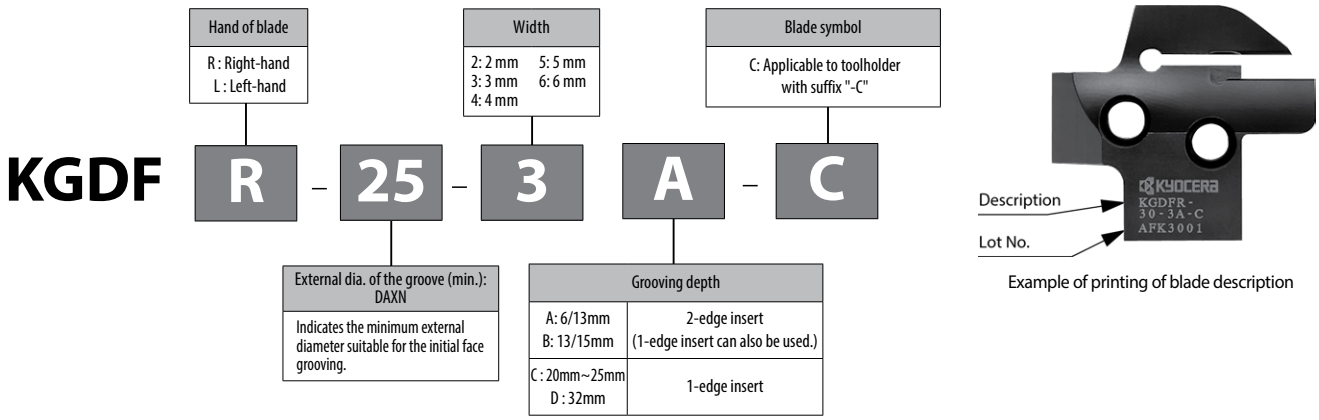
Toolholder Dimensions (Blade and Toolholder) (Choose **Right-hand** Blade for **Right-hand** Toolholder and **Left-hand** Blade for **Left-hand** Toolholder)

Unit	Shank Angle	Cutting Width CW	Shank Size (in)	Max. Depth of Cut CDX	External dia. of the groove (in) DAXN (min.)	DAXX (max.)	Toolholder Part Number G56	Std. Item R	L	Blade Part Number G131	Std. Item R	L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Screw (for blade)	Wrench
Inch	90°	0.118" (3mm)	□0.75	0.512" (13mm)	0.984	1.181	KGDS□12-C	●	●	KGDF□-25-3A-C	●	●	0.750	0.750	0.988	0.750	0.510	4.921	2.075	BH6X10TR	SB-60120TR	LTW-25
					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	0.988	0.750	0.510	4.921	2.154			
					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□-50-3C-C	●	●	0.750	0.750	0.988	0.750	0.510	4.921	2.350			
					2.559	3.346				-65-3C-C	●	●										
				0.984" (25mm)	3.346	4.331				-85-3C-C	●	●	0.750	0.750	0.988	0.750	0.510	4.921	2.429			
					4.331	5.709				-110-3C-C	●	●										
			□1.00	0.512" (13mm)	0.984	1.181	KGDS□16-C	●	●	KGDF□-25-3A-C	●	●	1.000	1.000	0.988	1.000	0.260	5.906	2.075			
					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	0.988	1.000	0.260	5.906	2.154			
					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□-50-3C-C	●	●	1.000	1.000	0.988	1.000	0.260	5.906	2.350			
					2.559	3.346				-65-3C-C	●	●										
				0.984" (25mm)	3.346	4.331				-85-3C-C	●	●	1.000	1.000	0.988	1.000	0.260	5.906	2.429			
					4.331	5.709				-110-3C-C	●	●										

1. KGDF SwitchBlade Type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
2. Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

Applicable Inserts G107

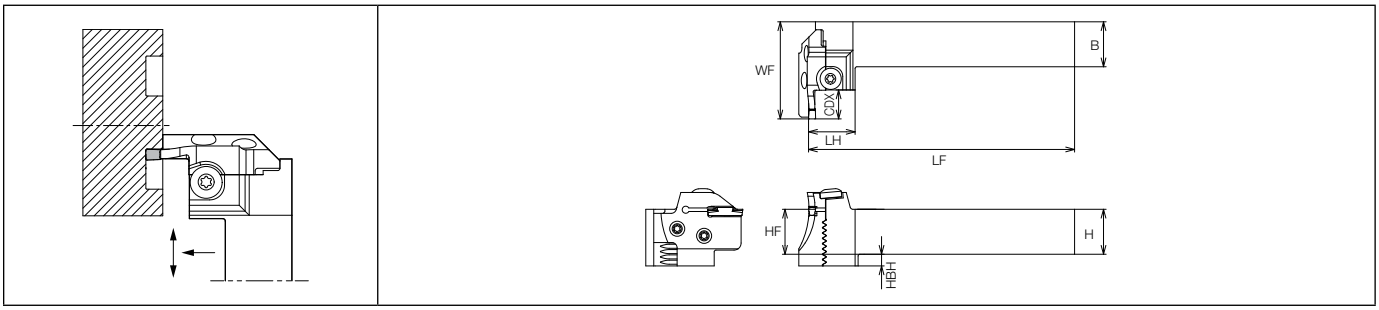
Face Grooving Blade identification system



Example of printing of blade description

● : 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

KGDF (Face Grooving / 90° SwitchBlade Type)



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

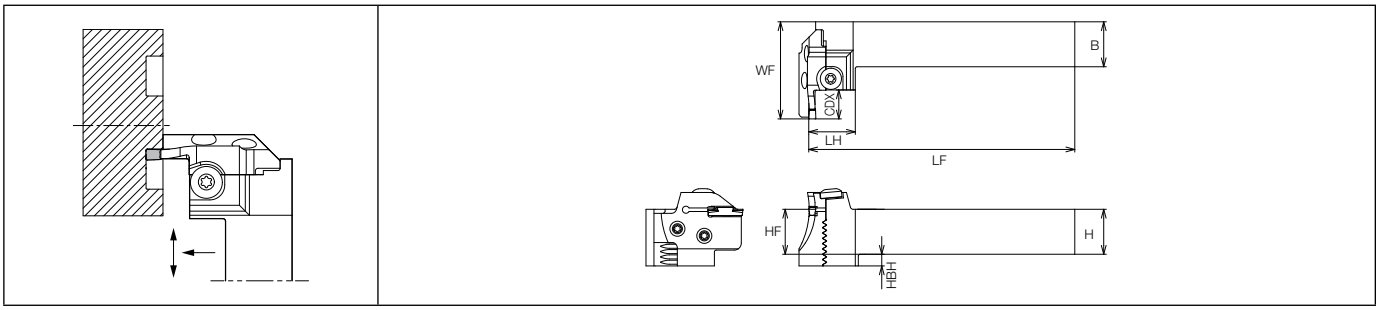
Unit	Shank Angle	Cutting Width CW	Shank Size (in)	Max. Depth of Cut CDX	External dia. of the groove (in) DAXN (min.)	DAXX (max.)	Toolholder Part Number G56	Std. Item R	Std. Item L	Blade Part Number G131	Std. Item R	Std. Item L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Screw (for blade)	Wrench
Inch	90°	0.157" (4mm)	□0.75	0.512" (13mm)	0.984	1.378	KGDS R/L 12-C	●	●	KGDF R/L -25-4A-C	●	●	0.750	0.750	0.988	0.750	0.510	4.921	2.075	BH6X10TR	SB-60120TR	LTW-25
				0.591" (15mm)	1.378	1.969				KGDF R/L -35-4B-C	●	●	0.750	0.750	0.988	0.750	0.510	4.921	2.154			
					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 R/L -35-4C-C	●	●	0.750	0.750	0.988	0.750	0.510	4.921	2.550			
					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	KGDS R/L 16-C	●	●	KGDF R/L -25-4A-C	●	●	1.000	1.000	0.988	1.000	0.260	5.906	2.075			
				0.591" (15mm)	1.378	1.969				KGDF R/L -35-4B-C	●	●	1.000	1.000	0.988	1.000	0.260	5.906	2.154			
					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 R/L -35-4C-C	●	●	1.000	1.000	0.988	1.000	0.260	5.906	2.550			
					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. KGDF SwitchBlade Type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
2. Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

Applicable Inserts G107

● : 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

KGDF (Face Grooving / 90° SwitchBlade Type)



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

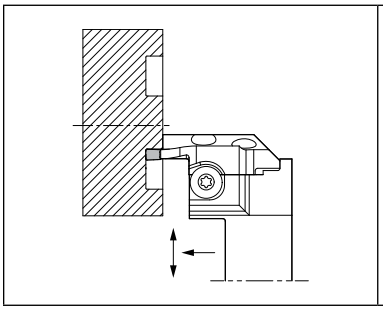
Unit	Shank Angle	Cutting Width CW	Shank Size (in)	Max. Depth of Cut CDX	External dia. of the groove (in) DAXN (min.)	DAXX (max.)	Toolholder Part Number G56	Std. Item R	Std. Item L	Blade Part Number G131	Std. Item R	Std. Item L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Spare Parts: Screw (for blade)	Spare Parts: Wrench
Inch	90°	0.197" (5mm)	□0.75	0.591" (15mm)	0.984	1.378	KGDS□ 12-C	●	●	KGDF□ -25-5B-C	●	●	0.750	0.750	0.927	0.750	0.510	4.921	2.154	BH6X10TR	SB-60120TR	LTW-25
					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□ -25-5C-C	●	●	0.750	0.750	0.927	0.750	0.510	4.921	2.35			
				0.984" (25mm)	1.378	1.969				-35-5C-C	●	●	0.750	0.750	0.927	0.750	0.510	4.921	2.547			
					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□ -75-5D-C	●	●	0.750	0.750	0.927	0.750	0.510	4.921	2.823			
					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	KGDS□ 16-C	●	●	KGDF□ -25-5B-C	●	●	1.000	1.000	1.177	1.000	0.260	5.906	2.154			
					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□ -25-5C-C	●	●	1.000	1.000	1.177	1.000	0.260	5.906	2.35			
				0.984" (25mm)	1.378	1.969				-35-5C-C	●	●	1.000	1.000	1.177	1.000	0.260	5.906	2.547			
					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□ -75-5D-C	●	●	1.000	1.000	1.177	1.000	0.260	5.906	2.823			
					4.528	7.087				-115-5D-C	●	●										
					7.087	9.252				-180-5D-C	●	●										
					9.252	∞				-235-5D-C	●	●										

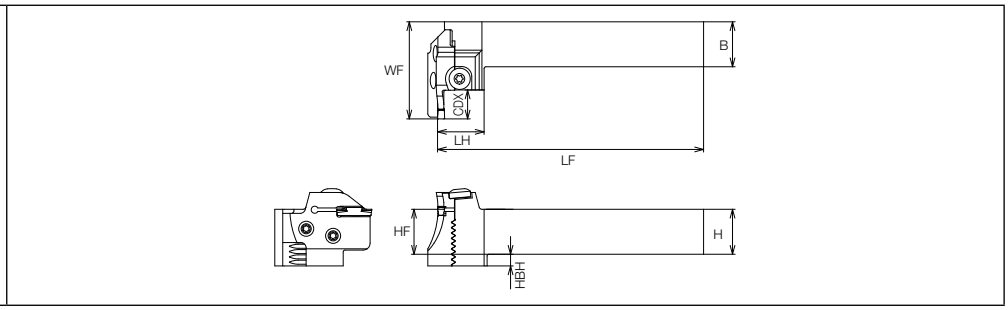
1. KGDF SwitchBlade Type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
2. Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

Applicable Inserts G107

● : 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

KGDF (Face Grooving / 90° SwitchBlade Type)





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

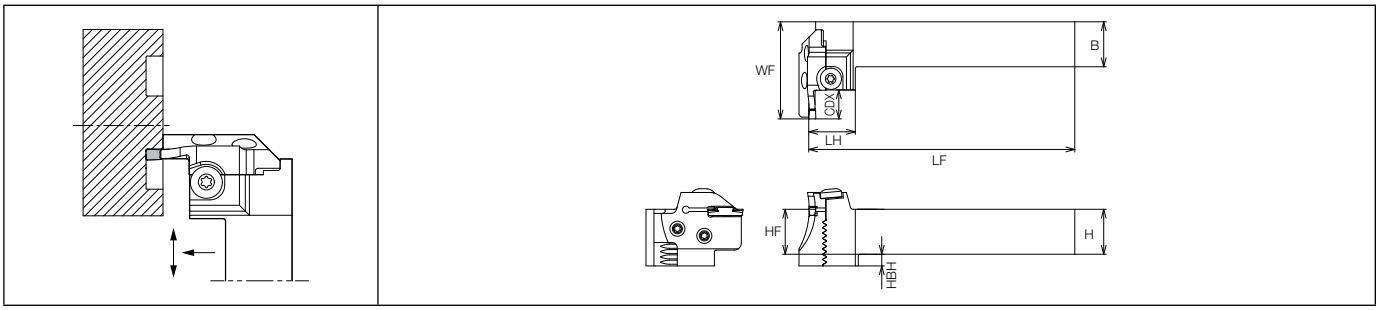
Unit	Shank Angle	Cutting Width CW	Shank Size (in)	Max. Depth of Cut CDX	External dia. of the groove (in) DAXN (min.)	DAXX (max.)	Toolholder Part Number G56	Std. Item R	Std. Item L	Blade Part Number G131	Std. Item R	Std. Item L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Screw (for blade)	Wrench
Inch	90°	0.236" (6mm)	□0.75	0.591" (15mm)	0.984	1.378	KGDS R/L 12-C	●	●	KGDF R/L -25-6B-C	●	●	0.750	0.750	0.988	0.750	0.510	4.921	2.154	BH6X10TR	SB-60120TR	LTW-25
					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 R/L -25-6C-C	●	●	0.750	0.750	0.988	0.750	0.510	4.921	2.350			
				0.984" (25mm)	1.378	1.969				-35-6C-C	●	●	0.750	0.750	0.988	0.750	0.510	4.921	2.547			
					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 R/L -75-6D-C	●	●	0.750	0.750	0.988	0.750	0.510	4.921	2.823			
					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	KGDS R/L 16-C	●	●	KGDF R/L -25-6B-C	●	●	1.000	1.000	0.988	1.000	0.260	5.906	2.154			
					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 R/L -25-6C-C	●	●	1.000	1.000	0.988	1.000	0.260	5.906	2.350			
				0.984" (25mm)	1.378	1.969				-35-6C-C	●	●	1.000	1.000	0.988	1.000	0.260	5.906	2.547			
					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 R/L -75-6D-C	●	●	1.000	1.000	0.988	1.000	0.260	5.906	2.823			
					4.528	7.087				-115-6D-C	●	●										
					7.087	9.252				-180-6D-C	●	●										
					9.252	∞				-235-6D-C	●	●										

1. KGDF SwitchBlade Type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
2. Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

Applicable Inserts G107

● : 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

KGDF (Face Grooving / 90° SwitchBlade Type)



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

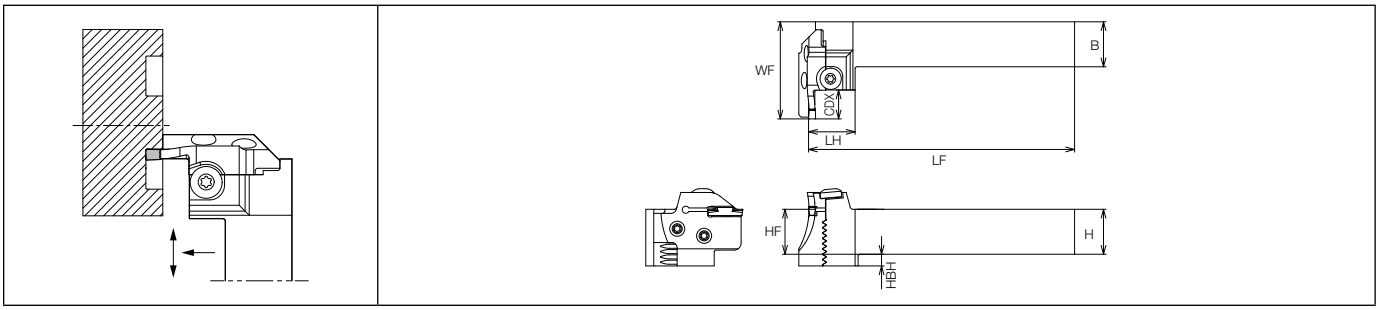
Unit	Shank Angle	Cutting Width CW	Shank Size (mm)	Max. Depth of Cut CDX	External dia. of the groove (mm) DAXN (min.)	DAXX (max.)	Toolholder Part Number G56	Std. Item R	Std. Item L	Blade Part Number G131	Std. Item R	Std. Item L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Spare Parts: Screw (for blade)	Spare Parts: Wrench
mm	90°	0.079" (2mm)	□20	0.236" (6mm)	25	30	KGDSR2020-C	●		KGDFR -25-2A-C	●		20	20	27.7	20	12	125	49.7	BH6X10TR	SB-60120TR	LTW-25
					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	●											
				0.512" (13mm)	25	30				KGDFR -25-2B-C	●		20	20	27.7	20	12	125	52.7			
				0.591" (15mm)	30	35				KGDFR -30-2B-C	●		20	20	27.7	20	12	125	54.7			
					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	0.236" (6mm)	25	30	KGDSR2525-C	●		KGDFR -25-2A-C	●		25	25	27.7	25	7	150	49.7			
					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	●											
				0.512" (13mm)	25	30				KGDFR -25-2B-C	●		25	25	27.7	25	7	150	52.7			
				0.591" (15mm)	30	35				KGDFR -30-2B-C	●		25	25	27.7	25	7	150	54.7			
					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	●											

1. KGDF SwitchBlade Type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
2. Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

Applicable Inserts G107

● : 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

KGDF (Face Grooving / 90° SwitchBlade Type)



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

Unit	Shank Angle	Cutting Width CW	Shank Size (mm)	Max. Depth of Cut CDX	External dia. of the groove (mm) DAXN (min.)	DAXX (max.)	Toolholder Part Number G56	Std. Item R	Std. Item L	Blade Part Number G131	Std. Item R	Std. Item L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Spare Parts: Screw (for blade)	Spare Parts: Wrench
mm	90°	0.118" (3mm)	□20	0.512" (13mm)	25	30	KGDS□2020-C	●	●	KGDF□-25-3A-C	●	●	20	20	27.7	20	12	125	52.7	BH6X10TR	SB-60120TR	LTW-25
					30	40				-30-3A-C	●	●										
					40	50				-40-3A-C	●	●										
				0.591" (15mm)	50	65				KGDF□-50-3B-C	●	●	20	20	27.7	20	12	125	54.7			
					65	85				-65-3B-C	●	●										
					85	110				-85-3B-C	●	●										
					110	145				-110-3B-C	●	●										
				0.866" (22mm)	50	65				KGDF□-50-3C-C	●	●	20	20	27.7	20	12	125	59.7			
					65	85				-65-3C-C	●	●										
				0.984" (25mm)	85	110				-85-3C-C	●	●	20	20	27.7	20	12	125	61.7			
					110	145				-110-3C-C	●	●										
			□25	0.512" (13mm)	25	30	KGDS□2525-C	●	●	KGDF□-25-3A-C	●	●	25	25	27.7	25	7	150	52.7			
					30	40				-30-3A-C	●	●										
					40	50				-40-3A-C	●	●										
				0.591" (15mm)	50	65				KGDF□-50-3B-C	●	●	25	25	27.7	25	7	150	54.7			
					65	85				-65-3B-C	●	●										
					85	110				-85-3B-C	●	●										
					110	145				-110-3B-C	●	●										
				0.866" (22mm)	50	65				KGDF□-50-3C-C	●	●	25	25	27.7	25	7	150	59.7			
					65	85				-65-3C-C	●	●										
				0.984" (25mm)	85	110				-85-3C-C	●	●	25	25	27.7	25	7	150	61.7			
					110	145				-110-3C-C	●	●										

1. KGDF SwitchBlade Type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
2. Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

Applicable Inserts G107

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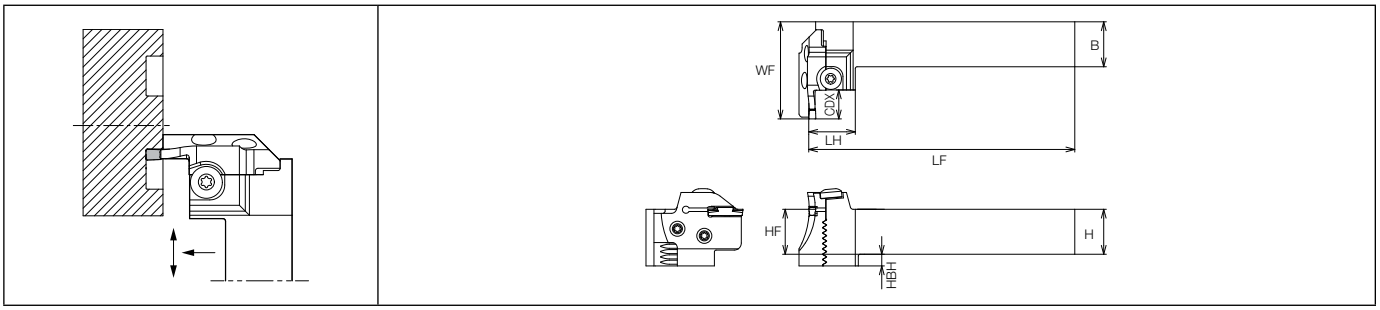
KGDF (Face Grooving / 90° SwitchBlade Type)



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

Unit	Shank Angle	Cutting Width CW	Shank Size (mm)	Max. Depth of Cut CDX	External dia. of the groove (mm) DAXN (min.)	DAXX (max.)	Toolholder Part Number G56	Std. Item R	Std. Item L	Blade Part Number G131	Std. Item R	Std. Item L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Spare Parts: Screw (for blade)	Spare Parts: Wrench
mm	90°	0.157" (4mm)	□20	0.512" (13mm)	25	35	KGDS□ 2020-C	●	●	KGDF□ -25-4A-C	●	●	20	20	27.7	20	12	125	52.7	BH6X10TR	SB-60120TR	LTW-25
				0.591" (15mm)	35	50				KGDF□ -35-4B-C	●	●	20	20	27.7	20	12	125	54.7			
					50	70				-50-4B-C	●	●										
					70	100				-70-4B-C	●	●										
					100	150				-100-4B-C	●	●										
					150	220				-150-4B-C	●	●										
					220	∞				-220-4B-C	●	●										
				0.984" (25mm)	35	50				KGDF□ -35-4C-C	●	●	20	20	27.7	20	12	125	64.7			
					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	0.512" (13mm)	25	35	KGDS□ 2525-C	●	●	KGDF□ -25-4A-C	●	●	25	25	27.7	25	7	150	52.7			
				0.591" (15mm)	35	50				KGDF□ -35-4B-C	●	●	25	25	27.7	25	7	150	54.7			
					50	70				-50-4B-C	●	●										
					70	100				-70-4B-C	●	●										
					100	150				-100-4B-C	●	●										
					150	220				-150-4B-C	●	●										
					220	∞				-220-4B-C	●	●										
				0.984" (25mm)	35	50				KGDF□ -35-4C-C	●	●	25	25	27.7	25	7	150	64.7			
					50	70				-50-4C-C	●	●										
					70	100				-70-4C-C	●	●										
					100	150				-100-4C-C	●	●										
					150	220				-150-4C-C	●	●										
					220	∞				-220-4C-C	●	●										

1. KGDF SwitchBlade Type is not available as unit (toolholder + blade). Blade and toolholder are available to assemble when purchasing individually.
2. Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

Applicable Inserts G107

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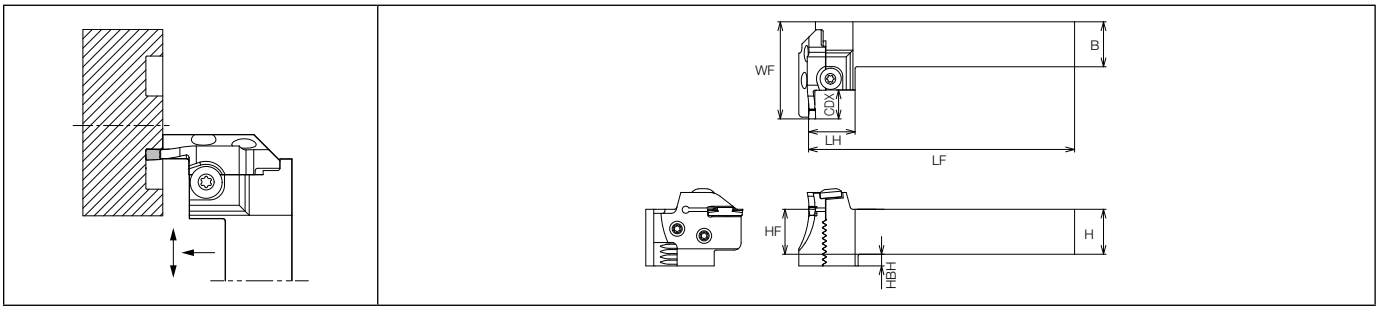
KGDF (Face Grooving / 90° SwitchBlade Type)



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

Unit	Shank Angle	Cutting Width CW	Shank Size (mm)	Max. Depth of Cut CDX	External dia. of the groove (mm) DAXN (min.)	DAXX (max.)	Toolholder Part Number G56	Std. Item R	Std. Item L	Blade Part Number G131	Std. Item R	Std. Item L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Screw (for blade)	Wrench
mm	90°	0.197" (5mm)	□20	0.591" (15mm)	25	35	KGDS□2020-C	●	●	KGDF□-25-5B-C	●	●	20	20	27.7	20	12	125	54.7	BH6X10TR	SB-60120TR	LTW-25
					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	●	●										
				0.787" (20mm)	25	35				KGDF□-25-5C-C	●	●	20	20	27.7	20	12	125	59.7			
				0.984" (25mm)	35	50				-35-5C-C	●	●	20	20	27.7	20	12	125	64.7			
					50	75				-50-5C-C	●	●										
					75	115				-75-5C-C	●	●										
					115	180				-115-5C-C	●	●										
					180	235				-180-5C-C	●	●										
					235	∞				-235-5C-C	●	●										
				1.260" (32mm)	75	115				KGDF□-75-5D-C	●	●	20	20	27.7	20	12	125	71.7			
					115	180				-115-5D-C	●	●										
					180	235				-180-5D-C	●	●										
					235	∞				-235-5D-C	●	●										
			□25	0.591" (15mm)	25	35	KGDS□2525-C	●	●	KGDF□-25-5B-C	●	●	25	25	27.7	25	7	150	54.7			
					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	●	●										
				0.787" (20mm)	25	35				KGDF□-25-5C-C	●	●	25	25	27.7	25	7	150	59.7			
				0.984" (25mm)	35	50				-35-5C-C	●	●	25	25	27.7	25	7	150	64.7			
					50	75				-50-5C-C	●	●										
					75	115				-75-5C-C	●	●										
					115	180				-115-5C-C	●	●										
					180	235				-180-5C-C	●	●										
					235	∞				-235-5C-C	●	●										
				1.260" (32mm)	75	115				KGDF□-75-5D-C	●	●	25	25	27.7	25	7	150	71.7			
					115	180				-115-5D-C	●	●										
					180	235				-180-5D-C	●	●										
					235	∞				-235-5D-C	●	●										

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2. Insert clamp bolt (BH6x10TR) and Blade fixing bolt (SB-60120TR) come with toolholder.

Applicable Inserts G107

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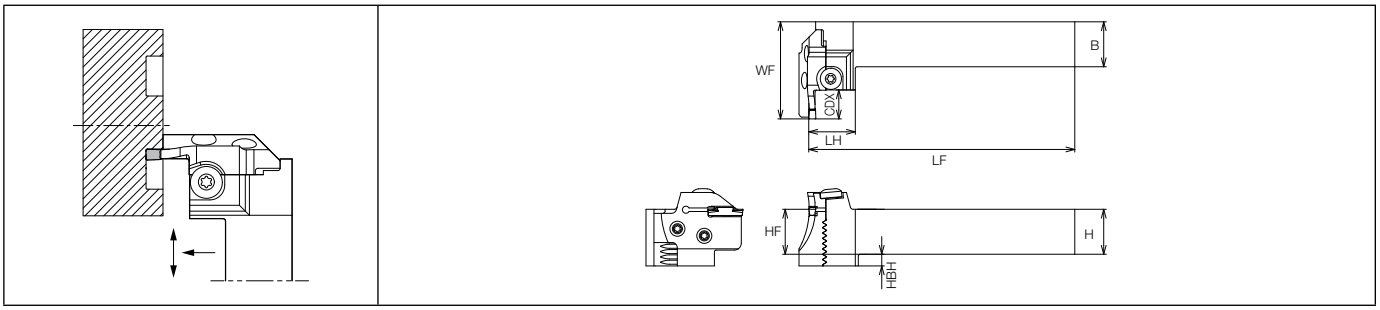
KGDF (Face Grooving / 90° SwitchBlade Type)



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

Unit	Shank Angle	Cutting Width CW	Shank Size (mm)	Max. Depth of Cut CDX	External dia. of the groove (mm) DAXN (min.)	DAXX (max.)	Toolholder Part Number G56	Std. Item R	Std. Item L	Blade Part Number G131	Std. Item R	Std. Item L	H	B	LH	HF	HBH	LF	WF	Spare Parts: Clamp Screw (for insert clamp)	Spare Parts: Screw (for blade)	Spare Parts: Wrench
mm	90°	0.236" (6mm)	□20	0.591" (15mm)	25	35	KGDS□ 2020-C	●	●	KGDF□ -25-6B-C	●	●	20	20	27.7	20	12	125	54.7	BH6X10TR	SB-60120TR	LTW-25
					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	●	●										
				0.787" (20mm)	25	35				KGDF□ -25-6C-C	●	●	20	20	27.7	20	12	125	59.7			
				0.984" (25mm)	35	50				-35-6C-C	●	●	20	20	27.7	20	12	125	64.7			
					50	75				-50-6C-C	●	●										
					75	115				-75-6C-C	●	●										
					115	180				-115-6C-C	●	●										
					180	235				-180-6C-C	●	●										
					235	∞				-235-6C-C	●	●										
				1.260" (32mm)	75	115				KGDF□ -75-6D-C	●	●	20	20	27.7	20	12	125	71.7			
					115	180				-115-6D-C	●	●										
					180	235				-180-6D-C	●	●										
					235	∞				-235-6D-C	●	●										
			□25	0.591" (15mm)	25	35	KGDS□ 2525-C	●	●	KGDF□ -25-6B-C	●	●	25	25	27.7	25	7	150	54.7			
					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	●	●										
				0.787" (20mm)	25	35				KGDF□ -25-6C-C	●	●	25	25	27.7	25	7	150	59.7			
				0.984" (25mm)	35	50				-35-6C-C	●	●	25	25	27.7	25	7	150	64.7			
					50	75				-50-6C-C	●	●										
					75	115				-75-6C-C	●	●										
					115	180				-115-6C-C	●	●										
					180	235				-180-6C-C	●	●										
					235	∞				-235-6C-C	●	●										
				1.260" (32mm)	75	115				KGDF□ -75-6D-C	●	●	25	25	27.7	25	7	150	71.7			
					115	180				-115-6D-C	●	●										
					180	235				-180-6D-C	●	●										
					235	∞				-235-6D-C	●	●										

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Applicable Inserts G107

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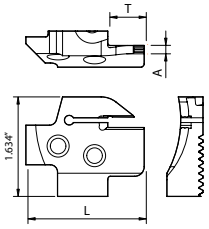
Blade Dimensions

Shape	Blade Part Number	Std. Item R	Std. Item L	External dia. of the groove (in) DAXN (min.)	External dia. of the groove (in) DAXX (max.)	Dimensions (in) L	Dimensions (in) T	Dimensions (in) A	Cutting Width CW	Applicable Inserts G107	Applicable Toolholder G56
	KGDFR -25-2A-C	●		0.984	1.181	1.746	0.236	0.059	0.079 (2mm)	GDFM 2020N-020GM	KGD$^{L}_{R}$....-C KGDS$^{R}_{L}$ ....-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						
	KGDFR -25-2B-C	●		0.984	1.181	1.864	0.512				
	-30-2B-C	●		1.181	1.378	1.943	0.591				
	-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						
	KGDF$^{R}_{L}$ -25-3A-C	●	●	0.984	1.181	1.864	0.512	0.079	0.118 (3mm)	GDFM 3020... GDFMS 3020... GDFG 3020...	
	-30-3A-C	●	●	1.181	1.575						
	-40-3A-C	●	●	1.575	1.969						
	-50-3B-C	●	●	1.969	2.559	1.943	0.591				
	-65-3B-C	●	●	2.559	3.346						
	-85-3B-C	●	●	3.346	4.331						
	-110-3B-C	●	●	4.331	5.709						
	KGDF$^{R}_{L}$ -50-3C-C	●	●	1.969	2.559	2.219	0.866				
	-65-3C-C	●	●	2.559	3.346						
	-85-3C-C	●	●	3.346	4.331	2.337	0.984				
	-110-3C-C	●	●	4.331	5.709						
	KGDF$^{R}_{L}$ -25-4A-C	●	●	0.984	1.378	1.864	0.512	0.118	0.157 (4mm)	GDFM 4020... GDFMS 4020... GDFG 4020...	
	-35-4B-C	●	●	1.378	1.969	1.943	0.591				
	-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	∞						
	KGDF$^{R}_{L}$ -35-4C-C	●	●	1.378	1.969	2.337	0.984				
	-50-4C-C	●	●	1.969	2.756						
	-70-4C-C	●	●	2.756	3.937						
	-100-4C-C	●	●	3.937	5.906						
	-150-4C-C	●	●	5.906	8.661						
	-220-4C-C	●	●	8.661	∞						
	KGDF$^{R}_{L}$ -25-5B-C	●	●	0.984	1.378	1.943	0.591	0.157	0.197 (5mm)	GDFM 5020... GDFMS 5020... GDFG 5020...	
	-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	●	●	0.984	1.378	2.140	0.787				
	-35-5C-C	●	●	1.378	1.969	2.337	0.984				
	-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	●	●	2.953	4.528	2.612	1.260				
	-115-5D-C	●	●	4.528	7.087						
	-180-5D-C	●	●	7.087	9.252						
	-235-5D-C	●	●	9.252	∞						
	KGDF$^{R}_{L}$ -25-6B-C	●	●	0.984	1.378	1.943	0.591	0.197	0.236 (6mm)	GDFM 6020... GDFMS 6020... GDFG 6020...	
	-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	●	●	0.984	1.378	2.140	0.787				
	-35-6C-C	●	●	1.378	1.969	2.337	0.984				
	-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	●	●	2.953	4.528	2.612	1.260				
	-115-6D-C	●	●	4.528	7.087						
	-180-6D-C	●	●	7.087	9.252						
	-235-6D-C	●	●	9.252	∞						

Applicable Inserts G107

● : 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

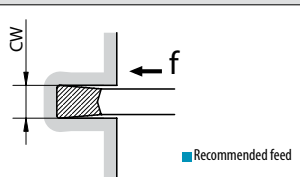
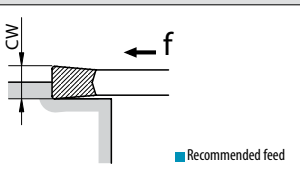
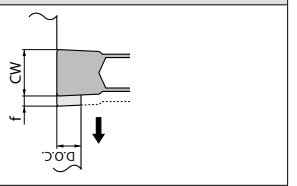
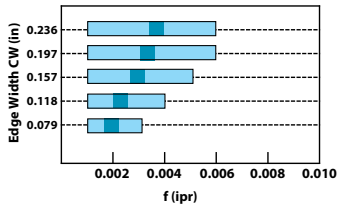
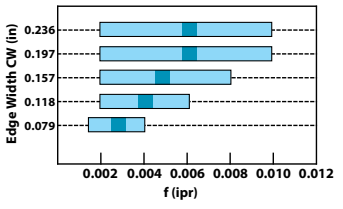
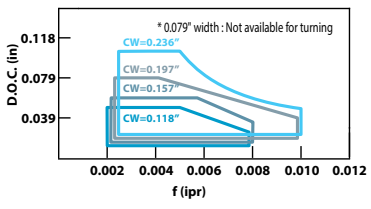
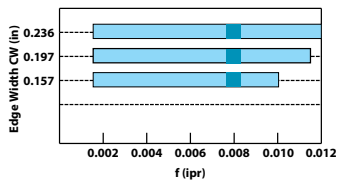
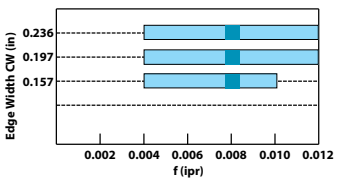
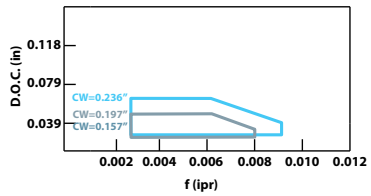
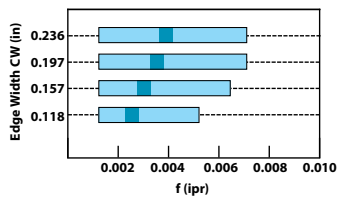
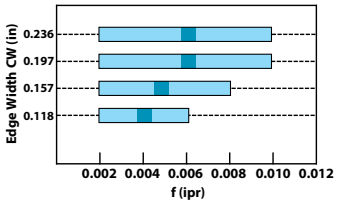
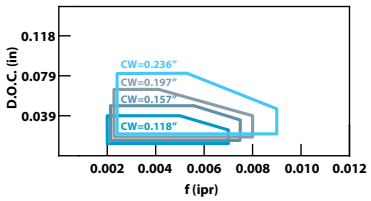
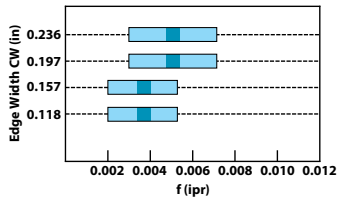
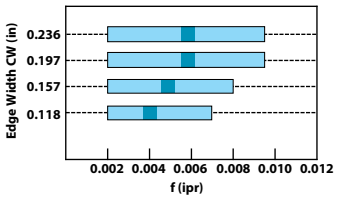
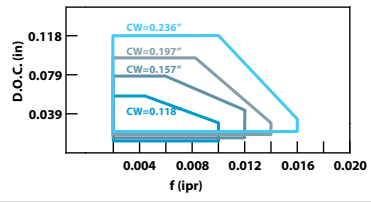
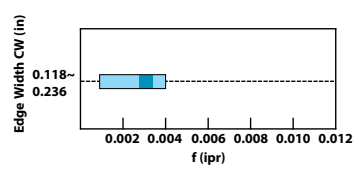
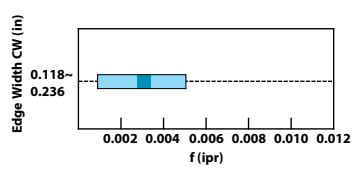
Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grades (Vc: sfm)				Notes
	Cermet		MEGACOAT		
	TN620	TN90	PR1225	PR1215	
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	

★: 1st recommendation ☆: 2nd recommendation

Workpiece Material	Recommended Insert Grades (Vc: sfm)	Notes
	Carbide	
	GW15	
Aluminum alloy	★ 520~1,310	Coolant
Brass	★ 260~520	

★: 1st recommendation

	Grooving	Shoulder grooving (side grooving)	Turning
Chipbreaker			
GM (Grooving, turning)			
GH (Grooving, turning, high feed grooving)			
DM (Deep grooving, turning)			
CM (Copying)			
GS (Aluminum / Non-ferrous)			

When shoulder grooving
- If D.O.C. is set smaller, set feed higher.
- If D.O.C. is set larger, set feed lower.

Workpiece material: 1049

1. The above values are based on the condition that the CDX of toolholder is 0.591" (15mm) or less.
2. If the toolholder's CDX is over 15 mm, set the values for turning to 90% or less of those above.

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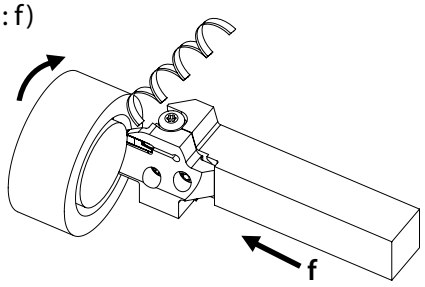
Face Grooving Guide

1 Toolholder Selection

Check the range of applicable face grooving diameter as well as the groove width and depth.

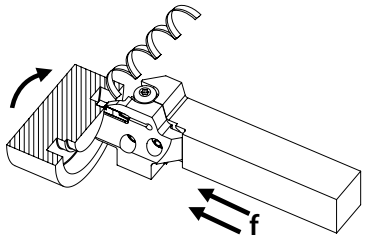
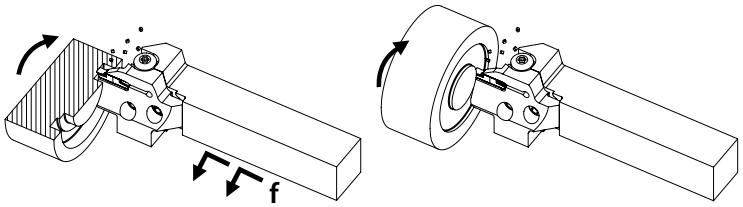
2 Cutting conditions (Feed rate : f)

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.
Chip control will be better in this way.

Plunging (Grooving + Side Grooving)	Turning
	

4 Guide for Turning

A. When the cutting amount (D.O.C.) is over 0.020"(0.5mm)

(1) Use plunging
(2) Return the cutting by 0.004" (1mm)
(Failure to pull the tool back before traverse cutting will result in an unbalanced load applied on only one side of the cutting edge.)
(3) Perform turning (see Fig.1)

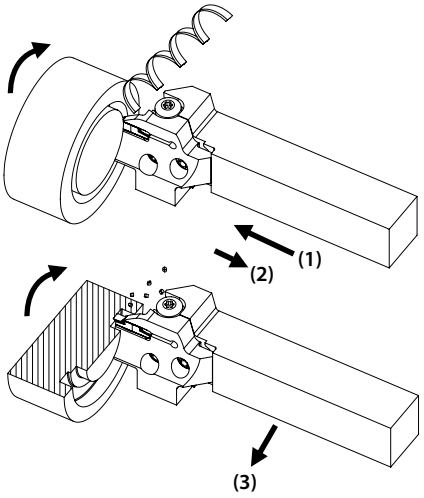
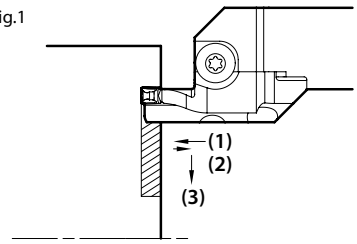
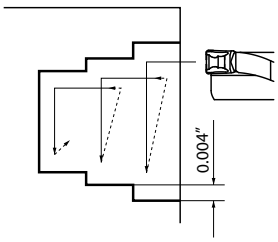


Fig.1



● When widening the face groove width (see Fig.2)
Use "Step Turning".
Then perform finishing.

Fig.2



B. When the cutting amount (D.O.C.) is under 0.5mm

(1) Use Plunging
(2) Perform turning
Machining without interruption is possible. (see Fig.3)

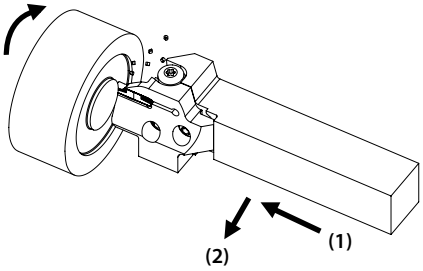
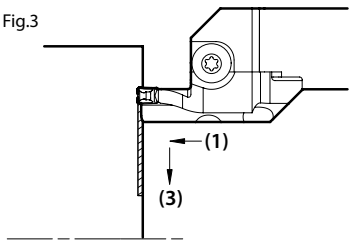
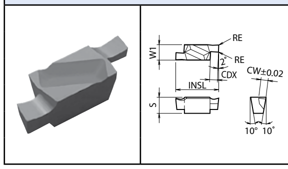


Fig.3



GVF-AA

Work material	PR1225	PR930	KW10	
Carbon Steel / Alloy Steel	●	○		P
Stainless Steel	●	○		M
Cast Iron			◐	K
Non-Ferrous Metals			◐	N
Titanium Alloy			◐	S
Hard Materials (~ 40HRC)	●	○		H
Hard Materials (40HRC ~)				H

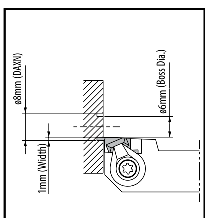
Insert	Part Number (Use with grade PR1225)	Previous Part Number (Use with grades PR930 / KW10)	No. of Edges	CW in	CW mm	CDX	S	RE	INSL	W1	Tolerance (mm) CW min.	Tolerance (mm) CW max.	Carbide PVD PR1225	PR930	- KW10	Applicable Toolholder ➡ G135
	GVFR 100-005AA	GVFR 100AA	2	0.039	1	2.2	4.5	0.05	12	4.3	- 0.02	+ 0.02	●	●	●	GFVSL....-08AA GFVTL....-08AA
	200-005AA	200AA		0.079	2								●	●	●	
	300-005AA	300AA		0.118	3								●	●	●	
	GVFL 100-005AA	GVFL 100AA		0.039	1								●	●	●	GFVSR....-08AA GFVTR....-08AA
	200-005AA	200AA		0.079	2								●	●	●	
	300-005AA	300AA		0.118	3								●	●	●	

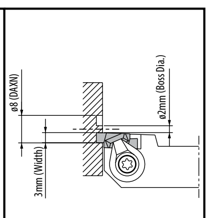
CDX shows available grooving depth.
GVF R/L ...005AA inserts are not compatible with GVF R/L ...−○○○A (See Page **G126**) inserts because their Side Relief Angle is 10°.

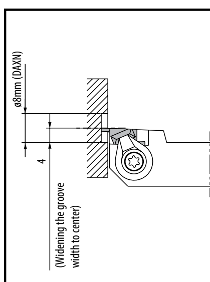
External dia. of the groove of GFVS-AA (also GFVT-AA)

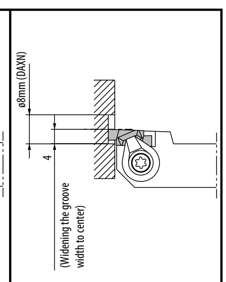
Description	External dia. of the groove (mm) DAXN (min.)	DAXX (max.)	Applicable inserts
GFVS R/L 2020K-08AA 2525M-08AA	8 (0)	∞ (∞)	GVF L/R...-...AA

- Maximum diameter of initial groove plunge (no limit).
- When machining towards the outer diameter then there is no MAX. limit to the groove diameter.
- Minimum diameter of the initial groove plunge DAXN ø8mm
  If the initial groove is made smaller than this, the toolholder interferes with the workpiece.
- When widening the groove to center, this is the minimum diameter.
  For machining up to the center of the workpiece regardless of insert width.


Installing GVFL100-005AA


Installing GVFL300-005AA


Installing GVFL100-005AA


Installing GVFL300-005AA

Recommended Cutting Conditions GFVS-AA / GFVT-AA

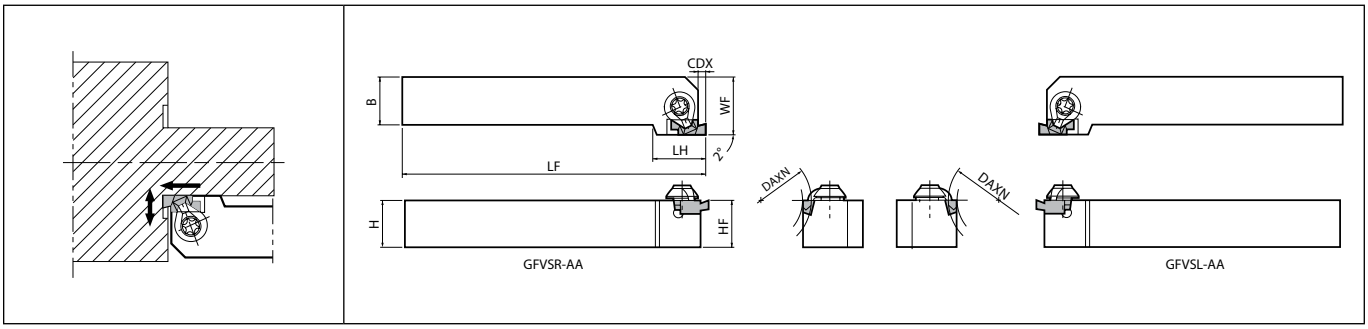
Workpiece Material	Recommended insert grades (Vc: sfm) MEGACOAT PR1225	PVD coated carbide PR930	Carbide KW10	Grooving f (ipr)	Turning* D.O.C. (in)	Turning* f (ipr)	Notes
Carbon Steel / Alloy Steel	★ 160~330	☆ 160~330		0.0004~0.0020	Max 0.0197	0.0004~0.0020	Coolant
Stainless Steel	★ 160~260	☆ 160~260		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 of edge width 0.039" (1.0mm) (GVF R/L 100-005AA).

★ :1st recommendation ☆:2nd recommendation

● : 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

GFVS-AA (Face Grooving)



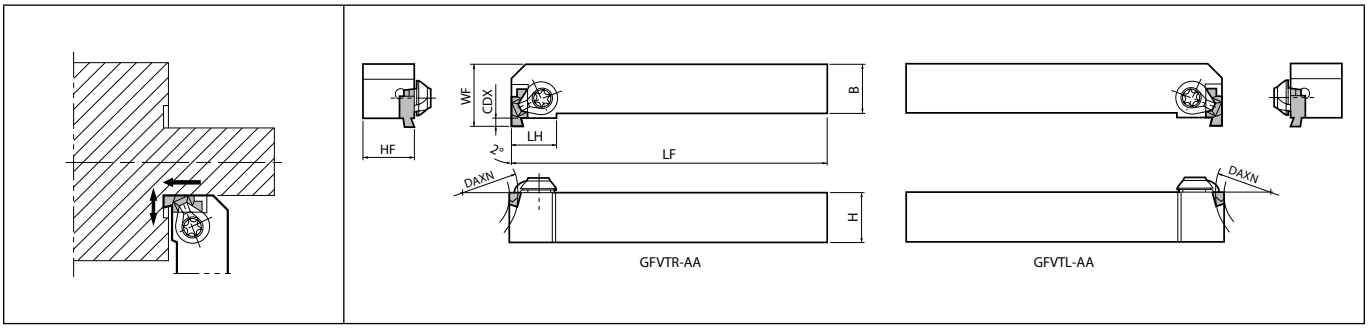
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	External dia. of the groove (mm) DAXN (min.)	External dia. of the groove (mm) DAXX (max.)	Dimensions CDX	H	B	LH	HF	LF	WF	Spare Parts: Clamp Set	Spare Parts: Wrench	Applicable Inserts ➡ G134
mm	GFVSR/L 2020K-08AA	●	●	8	∞	2.2	20	20	18	20	125	25	CPS-5V	FT-15	GVFL/R...-...AA
	2525M-08AA	●	●	(0)	(∞)		25	25		25	150	32			

CDX shows available grooving depth.
The value ( ) of External dia. of the groove (DAXX) is the maximum outer diameter value after the initial plunge between DAXN ~ DAXX. (It is possible to widen the groove to infinity ∞).
The value ( ) of External dia. of the groove (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 plunge between DAXN ~ DAXX.

GFVT-AA (Face Grooving)



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

Toolholder Dimensions

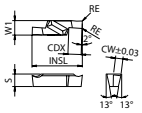
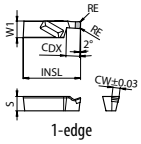
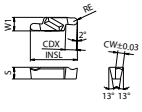
Unit	Part Number	Std. Item R	Std. Item L	External dia. of the groove (mm) DAXN (min.)	External dia. of the groove (mm) DAXX (max.)	Dimensions CDX	H	B	LH	HF	LF	WF	Spare Parts: Clamp Set	Spare Parts: Wrench	Applicable Inserts ➡ G134
mm	GFVTR/L 2020K-08AA	●	●	8	∞	2.2	20	20	14	20	125	25	CPS-5V	FT-15	GVFL/R...-...AA
	2525M-08AA	●	●	(0)	(∞)		25	25		25	150	32			

CDX shows available grooving depth.
The value ( ) of External dia. of the groove (DAXX) is the maximum outer diameter value after the initial plunge between DAXN ~ DAXX. (It is possible to widen the groove to infinity ∞).
The value ( ) of External dia. of the groove (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 plunge between DAXN ~ DAXX.

● : 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

GVF

	P	M	K	N	S	H
Carbon Steel / Alloy Steel	●	◌				
Stainless Steel	●	◌				
Cast Iron			●			
Non-Ferrous Metals			●	●		
Titanium Alloy			●		●	
Hard Materials (~ 40HRC)	●	○				
Hard Materials (40HRC ~)						

Insert	Part Number (Use with grade PR1225)	Previous Part Number (Use with grades PR930, KW10, TC40, TC60, KPD010)	No. of Edges	Dimensions (mm) CW in	CW mm	CDX	S	RE	INSL	W1	Tolerance (mm) CW min.	CW max.	Carbide PVD PR1225	Carbide PVD PR930	Carbide - KW10	Cermet - TC40	Cermet - TC60	PCD - KPD010	Applicable Toolholder G137~G145
 	GVFR 200-020A	GVFR 200A	2	0.079	2	2.3	4.5	0.2	12	4.3	-0.03	+0.03	●	●	●				GFVR....-201A GIFVR....-201A
	230-020A	230A		0.091	2.3								●		●				
	250-020A	250A		0.098	2.5								●	●	●				
	270-020A	270A		0.106	2.7								●		●				
	290-020A	290A		0.114	2.9								●	●	●				
	340-020A	340A		0.134	3.4								●	●	●				
	GVFL 200-020A	GVFL 200A		0.079	2								●	●	●				GFVL.....-201A GIFVL....-201A
	230-020A	230A		0.091	2.3								●		●				
	250-020A	250A		0.098	2.5								●	●	●				
	270-020A	270A		0.106	2.7								●		●				
	290-020A	290A		0.114	2.9								●		●				
	340-020A	340A		0.134	3.4								●	●	●				
	GVFR 250-020B	GVFR 250B	2	0.098	2.5	4.8	5	0.2	20	5.8	-0.03	+0.03	●	●	●				GFVR....-..1B *1 GFVSL....-..1B GFVTL....-..1B GIFVR....-..1B
	300-020B	300B		0.118	3	4.8							●	●	●				
	350-020B	350B		0.138	3.5	4.8							●	●	●				
	400-020B	400B		0.157	4	5.3							●	●	●				GFVR....-..2B *2 GFVSL....-..2B GFVTL....-..2B GIFVR....-..2B
	430-020B	430B		0.169	4.3	5.3							●		●				
	460-020B	460B		0.181	4.6	5.3							●		●				
	490-020B	490B		0.193	4.9	5.3							●	●	●				
	GVFL 250-020B	GVFL 250B	2	0.098	2.5	4.8	5	0.2	20	5.8	-0.03	+0.03	●	●	●		●		GFVL....-..1B *3 GFVSR....-..1B GFVTR....-..1B GIFVL....-..1B
	300-020B	300B		0.118	3	4.8							●	●	●	△			
	350-020B	350B		0.138	3.5	4.8							●	●	●				
	400-020B	400B		0.157	4	5.3							●	●	●				GFVL....-..2B *4 GFVSR....-..2B GFVTR....-..2B GIFVL....-..2B
	430-020B	430B		0.169	4.3	5.3							●	●	●				
	460-020B	460B		0.181	4.6	5.3							●		●				
	490-020B	490B		0.193	4.9	5.3							●	●	●				
	GVFR 350-040C	GVFR 350C	2	0.138	3.5	6.8	7	0.4	27	7	-0.03	+0.03	●	●	●				GFVR....-..1C *5 GFVSL....-..1C GFVTL....-..1C GIFVR....-..1C
	400-040C	400C		0.157	4	6.8							●	●	●				
	450-040C	450C		0.177	4.5	6.8							●	●	●				
	500-040C	500C		0.197	5	8.3							●	●	●				GFVR....-..2C GFVSL....-..2C GFVTL....-..2C GIFVR....-..2C
	550-040C	550C		0.217	5.5	8.3							●	●	●				
	600-040C	600C		0.236	6	8.3							●	●	●				
	GVFL 350-040C	GVFL 350C	2	0.138	3.5	6.8	7	0.4	27	7	-0.03	+0.03	●	●	●	●	△		GFVL....-..1C GFVSR....-..1C GFVTR....-..1C GIFVL....-..1C
	400-040C	400C		0.157	4	6.8							●	●	●				
	450-040C	450C		0.177	4.5	6.8							●	●	●				
	500-040C	500C		0.197	5	8.3							●	●	●				GFVL....-..2C GFVSR....-..2C GFVTR....-..2C GIFVL....-..2C
	550-040C	550C		0.217	5.5	8.3							●	●	●				
	600-040C	600C		0.236	6	8.3							●	●	●				
  1-edge	GVFR 250-020B	GVFR 250B	1	0.098	2.5	4.8	5	0.2	20	5.8	-0.03	+0.03						●	See *1 Above
	300-020B	300B		0.118	3	4.8												●	
	400-020B	400B		0.157	4	5.3												□	See *2 Above
	GVFL 250-020B	GVFL 250B		0.098	2.5	4.8												●	See *3 Above
	300-020B	300B		0.118	3	4.8												●	
	400-020B	400B		0.157	4	5.3												□	See *4 Above
	GVFR 350-040C	GVFR 350C	1	0.138	3.5	6.8	7	0.4	27	7	-0.03	+0.03						□	See *5 Above
  Full R	GVFR 200-100AR	GVFR 100AR	2	0.079	2	2.3	4.5	1	12	4.3	-0.03	+0.03	●	●	●				GFVR.....-201A GIFVR....-201A
	250-125AR	125AR		0.098	2.5			1.25					●	●	●				
	300-150AR	150AR		0.118	3			1.5					●	●	●				
	GVFL 200-100AR	GVFL 100AR		0.079	2			1					●	●	●				GFVL.....-201A GIFVL....-201A
	250-125AR	125AR		0.098	2.5			1.25					●	●	●				
	300-150AR	150AR		0.118	3			1.5					●	●	●				
	GVFR 300-150BR	GVFR 150BR	2	0.118	3	4.8	5	1.5	20	5.8	-0.03	+0.03	●	●	●				See *1 Above
	400-200BR	200BR		0.157	4	5.3		2					●	●	●				See *2 Above
	GVFL 300-150BR	GVFL 150BR		0.118	3	4.8		1.5					●	●	●				See *3 Above
	400-200BR	200BR		0.157	4	5.3		2					●	●	●				See *4 Above

Right-hand shown
CDX shows available grooving depth.

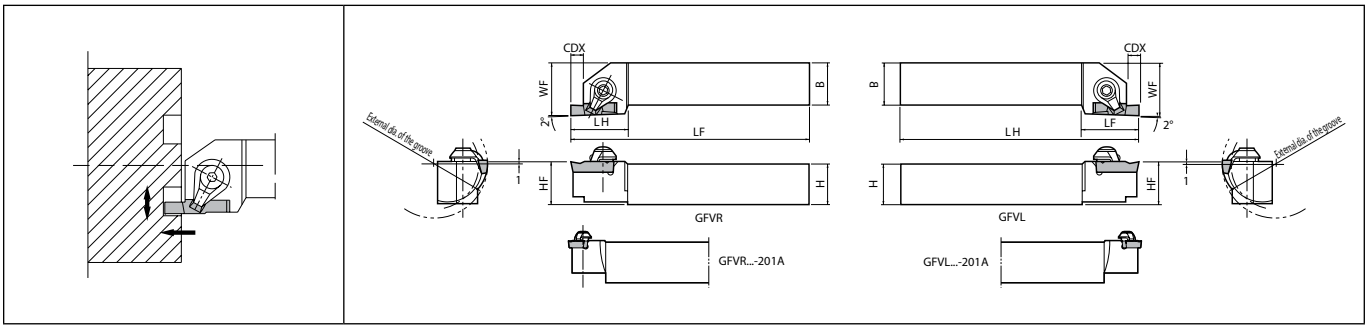
Recommended Cutting Conditions G158

Inserts are sold in 10 piece boxes

PCD Inserts are sold in 1 piece boxes

● : 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

GFV (Face Grooving)



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

Toolholder Dimensions

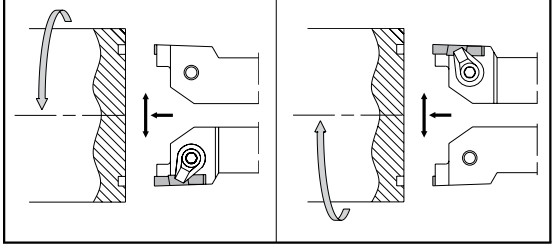
Unit	Part Number	Std. Item R	Std. Item L	External dia. of the groove (mm) DAXN (min.)	External dia. of the groove (mm) DAXX (max.)	Dimensions CDX	H	B	LH	HF	LF	WF	Spare Parts: Clamp Set	Spare Parts: Clamp Set	Spare Parts: Wrench	Spare Parts: Wrench	Applicable Inserts G136
mm	GFV R/L 2020K-201A	●	●	20 (12)	∞ (∞)	2.2	20	20	20	21	125	25	CPS-5V	-	-	FT-15	GVF R/L 200 ~ 340-...A
	2525M-201A	●	●				25	25	23	26	150	32					GVF R/L 200 ~ 300-...AR
	GFV R/L 2020K-351B	●	●	35 (25)	50 (∞)	4.6	20	20	28	21	125	25	-	CPS-6V	LW-3	-	GVF R/L 250 ~ 350-...B
	2525M-351B	●	●				25	25	30	26	150	32					GVF R/L 300-150BR
	2020K-352B	●	●			5.1	20	20	28	21	125	25					GVF R/L 400 ~ 490-...B
	2525M-352B	●	●				25	25	30	26	150	32					GVF R/L 400-200BR
	2020K-501B	●	●	50 (25)	70 (∞)	4.6	20	20	28	21	125	25					GVF R/L 250 ~ 350-...B
	2525M-501B	●	●				25	25	30	26	150	32					GVF R/L 300-150BR
	2020K-502B	●	●			5.1	20	20	28	21	125	25					GVF R/L 400 ~ 490-...B
	2525M-502B	●	●				25	25	30	26	150	32					GVF R/L 400-200BR
	2020K-701B	●	●	70 (25)	100 (∞)	4.6	20	20	28	21	125	25					GVF R/L 250 ~ 350-...B
	2525M-701B	●	●				25	25	30	26	150	32					GVF R/L 300-150BR
	2020K-702B	●	●			5.1	20	20	28	21	125	25					GVF R/L 400 ~ 490-...B
	2525M-702B	●	●				25	25	30	26	150	32					GVF R/L 400-200BR
	GFV R/L 2525M-501C	●	●	50 (25)	70 (∞)	6.6	25	25	35	26	150	32	-	CPS-8V	LW-4	-	GVF R/L 350 ~ 450-...C
	2525M-502C	●	●			8.1											GVF R/L 500 ~ 600-...C
	2525M-701C	●	●	70 (25)	100 (∞)	6.6											GVF R/L 350 ~ 450-...C
	2525M-702C	●	●			8.1											GVF R/L 500 ~ 600-...C
	2525M-1001C	●	●	100 (25)	150 (∞)	6.6											GVF R/L 350 ~ 450-...C
	2525M-1002C	●	●			8.1											GVF R/L 500 ~ 600-...C
	2525M-1501C	●	●	150 (25)	250 (∞)	6.6											GVF R/L 350 ~ 450-...C
	2525M-1502C	●	●			8.1											GVF R/L 500 ~ 600-...C

CDX shows available grooving depth.
The value ( ) of External dia. of the groove (DAXX) is the maximum outer diameter value after the initial plunge between DAXN ~ DAXX. (It is possible to widen the groove to infinity ∞).
The value ( ) of External dia. of the groove (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 plunge between DAXN ~ DAXX.
Standard toolholders are designed with the edge position 1.0 mm above the center. When using non-standard toolholders, set the edge position 0.039" (1.0mm) above the center.

Selection of Toolholder & Insert

Toolholder	Right-hand
Insert	Right-hand

Toolholder	Left-hand
Insert	Left-hand



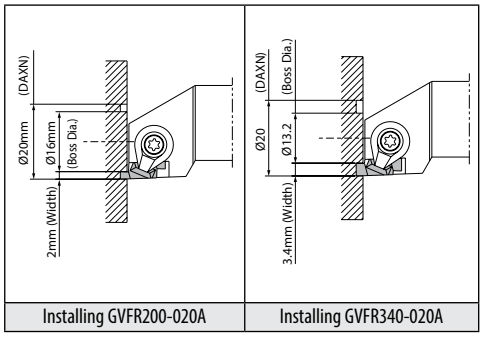
● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

External diameter of the groove for GFV

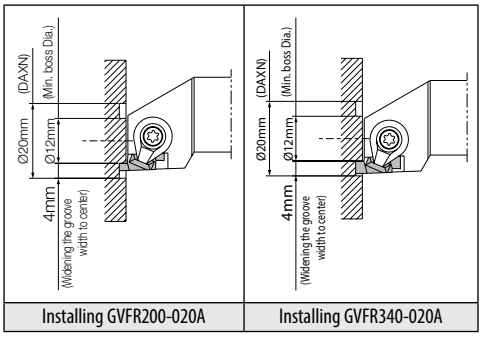
(1) e.g.) GFV R/L…-201A

Part Number	External Dia. of the Groove (mm) DAXN (min)	DAXX (min)	Applicable Inserts
GFV R/L 2020K-201A 2525M-201A	20 (12)	∞ (∞)	GFV R/L 200~340-020A 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 the 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

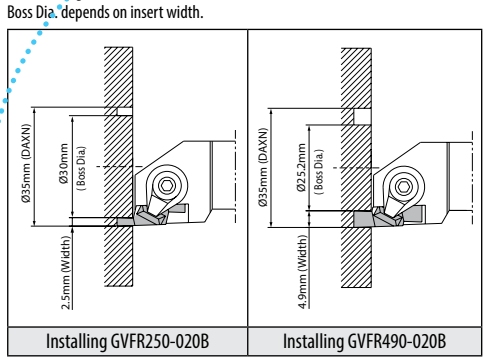


Installing GVFR200-020A | Installing GVFR340-020A

(2) e.g.) GFV R/L…-351B/352B (same as GFV R/L…-○○○B or GFV R/L…-○○○C)

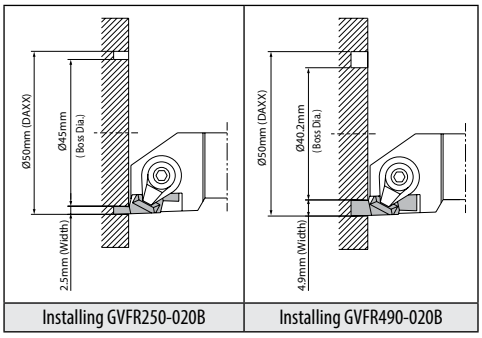
Part Number	External Dia. of the Groove (mm) DAXN (min)	DAXX (min)	Applicable Inserts
GFV R/L 2020K-351B 2525M-351B 2020K-352B 2525M-352B	35 (25)	50 (∞)	GFV R/L 200~340-020A GVF R/L 200-…~300-…AR

- 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.



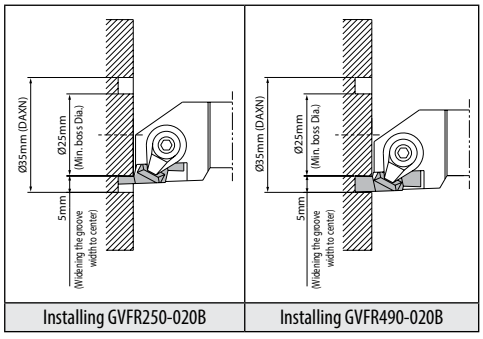
Installing GVFR250-020B | Installing GVFR490-020B

- 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.

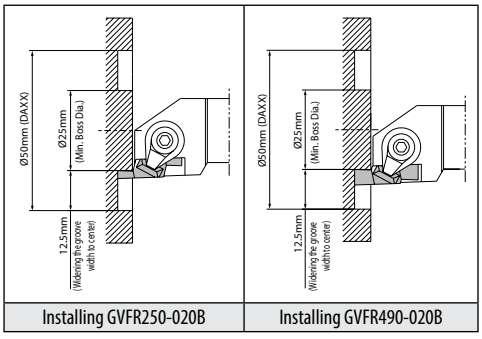


Installing GVFR250-020B | Installing GVFR490-020B

- 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

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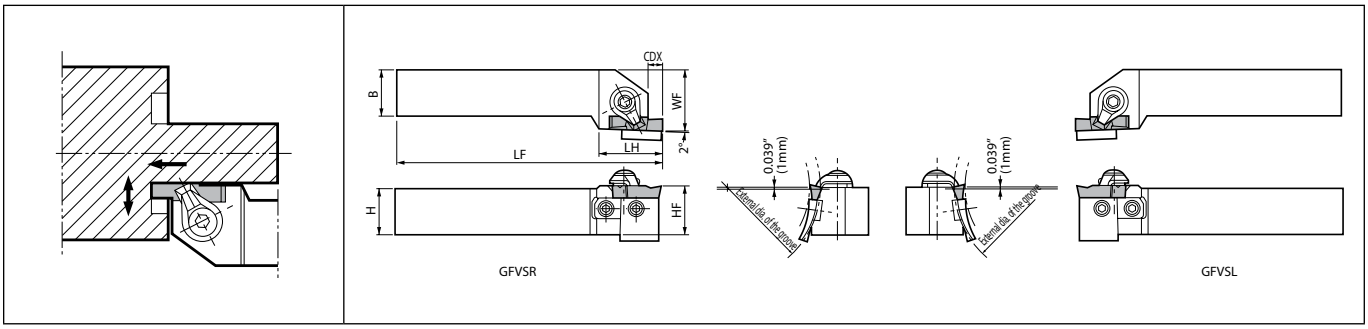
GFVS (Face Grooving)



Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.
This toolholder can machine various face grooving diameters by switching out the blade.

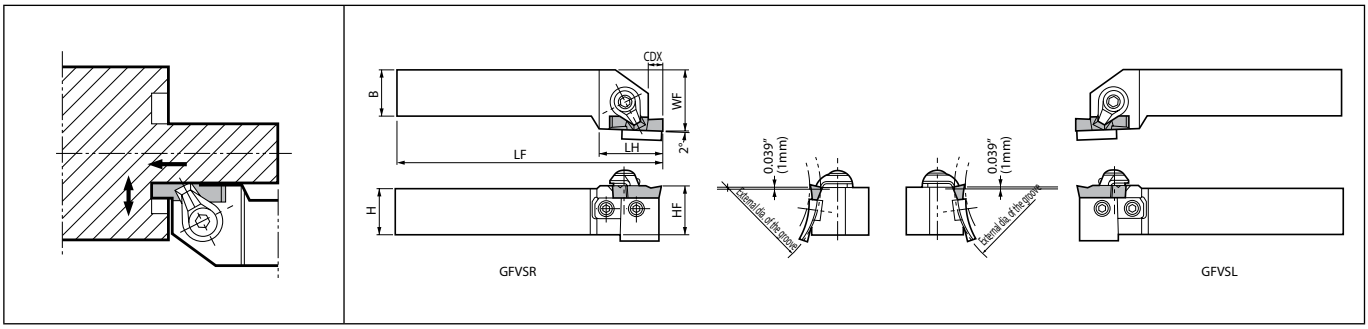
Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	External dia.of the groove (in) DAXN (min.)	External dia.of the groove (in) DAXX (max.)	Dimensions CDX	H	B	LH	HF	LF	WF	Spare Parts: Blade	Spare Parts: Bolt	Spare Parts: Clamp Set	Spare Parts: Wrench	Applicable Inserts ⇒ G136
Inch	GFVS R/L 12-351B	●	●	1.378 (0.984)	1.969 (∞)	5.1 (4.6)	0.75	0.75	1.18	0.79	5.00	1.00	SFR/L-351B	HH4X12	CPS-6V	LW-3	GVFL/R250 ~ 350-...B
	16-351B	●	●				1.00	1.00	1.26	1.04	6.00	1.25					GVFL/R300-150BR
	12-352B	●	●			5.1 (5.1)	0.75	0.75	1.18	0.79	5.00	1.00	SFR/L-352B				GVFL/R400 ~ 490-...B
	16-352B	●	●				1.00	1.00	1.26	1.04	6.00	1.25					GVFL/R400-200BR
	12-501B	●	●	1.969 (0.984)	2.756 (∞)	5.1 (4.6)	0.75	0.75	1.18	0.79	5.00	1.00	SFR/L-501B				GVFL/R250 ~ 350-...B
	16-501B	●	●				1.00	1.00	1.26	1.04	6.00	1.25					GVFL/R300-150BR
	12-502B	●	●			5.1 (5.1)	0.75	0.75	1.18	0.79	5.00	1.00	SFR/L-502B				GVFL/R400 ~ 490-...B
	16-502B	●	●				1.00	1.00	1.26	1.04	6.00	1.25					GVFL/R400-200BR
	12-701B	●	●	2.756 (0.984)	3.937 (∞)	5.1 (4.6)	0.75	0.75	1.18	0.79	5.00	1.00	SFR/L-701B				GVFL/R250 ~ 350-...B
	16-701B	●	●				1.00	1.00	1.26	1.04	6.00	1.25					GVFL/R300-150BR
	12-702B	●	●			5.1 (5.1)	0.75	0.75	1.18	0.79	5.00	1.00	SFR/L 702B				GVFL/R400 ~ 490-...B
	16-702B	●	●				1.00	1.00	1.26	1.04	6.00	1.25					GVFL/R400-200BR
	GFVS R/L 16-501C	●	●	1.969 (0.984)	2.756 (∞)	0.32 (*0.26)	1.00	1.00	1.38	1.04	6.00	1.25	SFR/L-501C	HH4X12	CPS-8V	LW-4	GVFL/R350 ~ 450-...C
	16-502C	●	●			0.32 (0.32)							SFR/L-502C				GVFL/R500 ~ 600-...C
	16-701C	●	●	2.756 (0.984)	3.937 (∞)	0.32 (*0.26)							SFR/L-701C				GVFL/R350 ~ 450-...C
	16-702C	●	●			0.32 (0.32)							SFR/L-702C				GVFL/R500 ~ 600-...C
	16-1001C	●	●	3.937 (0.984)	5.906 (∞)	0.32 (*0.26)							SFR/L-1001C				GVFL/R350 ~ 450-...C
	16-1002C	●	●			0.32 (0.32)							SFR/L-1002C				GVFL/R500 ~ 600-...C
	16-1501C	●	●	5.906 (0.984)	9.843 (∞)	0.32 (*0.26)							SFR/L-1501C				GVFL/R350 ~ 450-...C
	16-1502C	●	●			0.32 (0.32)							SFR/L-1502C				GVFL/R500 ~ 600-...C

CDX shows available grooving depth.
The value ( ) of External dia. of the groove (DAXX) is the maximum outer diameter value after the initial plunge between DAXN ~ DAXX. (It is possible to widen the groove to infinity ∞).
The value ( ) of External dia. of the groove (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 plunge between DAXN ~ DAXX.
Standard toolholders are designed with the edge position 0.039" (1.0mm) above the center. When using non-standard toolholders, set the edge position 0.039" (1.0mm) above the center.
CDX shows the distance from the toolholder to the cutting edge. The grooving depth is mentioned in ( ).
GFVS is composed of a base-holder and a blade. If the blade should be damaged, replace it with a new blade as listed in the table on **G143**.
(e.g.) GFVSR12-HB + SFR-351B = GFVSR12-351B
*GVFL/R400~450-040C: CDX is 0.260" (6.6mm)

● : 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

GFVS (Face Grooving)



Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.
This toolholder can machine various face grooving diameters by switching out the blade.

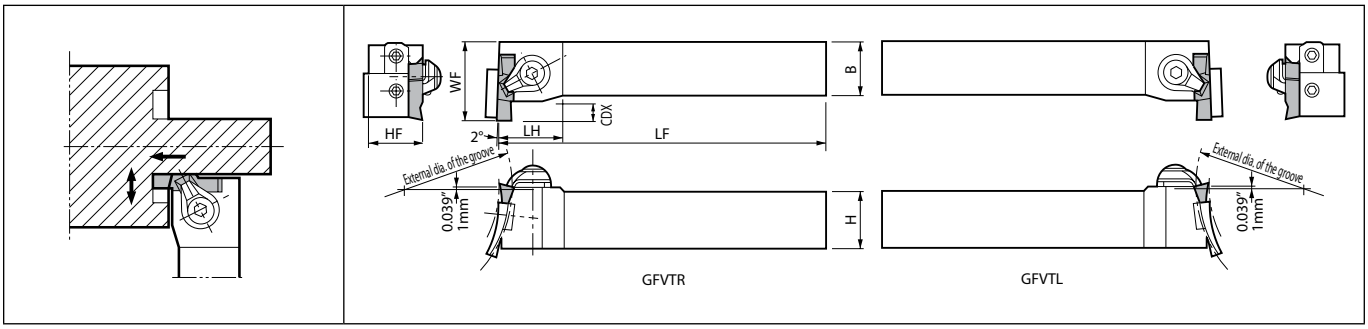
Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	External dia. of the groove (mm) DAXN (min.)	DAXX (max.)	Dimensions CDX	H	B	LH	HF	LF	WF	Spare Parts: Blade	Bolt	Clamp Set	Wrench	Applicable Inserts ➡ G136
mm	GFVSR/L 2020K-351B	●	●	35 (25)	50 (∞)	5.1 (4.6)	20	20	30	21	125	25	SFR/L-351B	HH4X12	CPS-6V	LW-3	GVFL/R250 ~ 350-...B
	2525M-351B	●	●				25	25	32	26	150	32					GVFL/R300-150BR
	2020K-352B	●	●			5.1 (5.1)	20	20	30	21	125	25	SFR/L-352B				GVFL/R400 ~ 490-...B
	2525M-352B	●	●				25	25	32	26	150	32					GVFL/R400-200BR
	2020K-501B	●	●	50 (25)	70 (∞)	5.1 (4.6)	20	20	30	21	125	25	SFR/L-501B				GVFL/R250 ~ 350-...B
	2525M-501B	●	●				25	25	32	26	150	32					GVFL/R300-150BR
	2020K-502B	●	●			5.1 (5.1)	20	20	30	21	125	25	SFR/L-502B				GVFL/R400 ~ 490-...B
	2525M-502B	●	●				25	25	32	26	150	32					GVFL/R400-200BR
	2020K-701B	●	●	70 (25)	100 (∞)	5.1 (4.6)	20	20	30	21	125	25	SFR/L-701B				GVFL/R250 ~ 350-...B
	2525M-701B	●	●				25	25	32	26	150	32					GVFL/R300-150BR
	2020K-702B	●	●			5.1 (5.1)	20	20	30	21	125	25	SFR/L 702B				GVFL/R400 ~ 490-...B
	2525M-702B	●	●				25	25	32	26	150	32					GVFL/R400-200BR
	GFVSR/L 2525M-501C	●	●	50 (25)	70 (∞)	8.1 (*5.1)	25	25	32	26	150	32	SFR/L-501C	HH4X12	CPS-8V	LW-4	GVFL/R350 ~ 450-...C
	2525M-502C	●	●			8.1 (8.1)							SFR/L-502C				GVFL/R500 ~ 600-...C
	2525M-701C	●	●	70 (25)	100 (∞)	8.1 (*5.1)							SFR/L-701C				GVFL/R350 ~ 450-...C
	2525M-702C	●	●			8.1 (8.1)							SFR/L-702C				GVFL/R500 ~ 600-...C
	2525M-1001C	●	●	100 (25)	150 (∞)	8.1 (*5.1)							SFR/L-1001C				GVFL/R350 ~ 450-...C
	2525M-1002C	●	●			8.1 (8.1)							SFR/L-1002C				GVFL/R500 ~ 600-...C
	2525M-1501C	●	●	150 (25)	250 (∞)	8.1 (*5.1)							SFR/L-1501C				GVFL/R350 ~ 450-...C
	2525M-1502C	●	●			8.1 (8.1)							SFR/L-1502C				GVFL/R500 ~ 600-...C

CDX shows available grooving depth.
The value ( ) of External dia. of the groove (DAXX) is the maximum outer diameter value after the initial plunge between DAXN ~ DAXX. (It is possible to widen the groove to infinity ∞).
The value ( ) of External dia. of the groove (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 plunge between DAXN ~ DAXX.
Standard toolholders are designed with the edge position 0.039" (1.0mm) above the center. When using non-standard toolholders, set the edge position 0.039" (1.0mm) above the center.
CDX shows the distance from the toolholder to the cutting edge. The grooving depth is mentioned in ( ).
GFVS is composed of a base-holder and a blade. If the blade should be damaged, replace it with a new blade as listed in the table on **G143**.
(e.g.) GFVSR2020K-HB + SFR-351B = GFVSR2020K-351B
*GVFL/R400~450-040C: CDX is 0.260" (6.6mm)

● : 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

GFVT (Face Grooving)



Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.
This toolholder can machine various face grooving diameters by replacing the blade.

Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	External dia.of the groove (in) DAXN (min.)	DAXX (max.)	Dimensions CDX	H	B	LH	HF	LF	WF	Spare Parts: Blade	Bolt	Clamp Set	Wrench	Applicable Inserts G136
Inch	GFVTR/L 12-351B	●	●	1.378 (0.984)	1.969 (∞)	0.20 (0.18)	0.75	0.75	0.87	0.79	5.00	1.18	SFR/L-351B	HH4X12	CPS-6V	LW-3	GVFL/R250 ~ 350-...B
	16-351B	●	●				1.00	1.00	0.98	1.04	6.00	1.38					GVFL/R300-150BR
	12-352B	●	●			0.20 (0.20)	0.75	0.75	0.87	0.79	5.00	1.18	SFR/L-352B				GVFL/R400 ~ 490-...B
	16-352B	●	●				1.00	1.00	0.98	1.04	6.00	1.38					GVFL/R400-200BR
	12-501B	●	●	1.969 (0.984)	2.756 (∞)	0.20 (0.18)	0.75	0.75	0.87	0.79	5.00	1.18	SFR/L-501B				GVFL/R250 ~ 350-...B
	16-501B	●	●				1.00	1.00	0.98	1.04	6.00	1.38					GVFL/R300-150BR
	12-502B	●	●			0.20 (0.20)	0.75	0.75	0.87	0.79	5.00	1.18	SFR/L-502B				GVFL/R400 ~ 490-...B
	16-502B	●	●				1.00	1.00	0.98	1.04	6.00	1.38					GVFL/R400-200BR
	12-701B	●	●	2.756 (0.984)	3.937 (∞)	0.20 (0.18)	0.75	0.75	0.87	0.79	5.00	1.18	SFR/L-701B				GVFL/R250 ~ 350-...B
	16-701B	●	●				1.00	1.00	0.98	1.04	6.00	1.38					GVFL/R300-150BR
	12-702B	●	●			0.20 (0.20)	0.75	0.75	0.87	0.79	5.00	1.18	SFR/L-702B				GVFL/R400 ~ 490-...B
	16-702B	●	●				1.00	1.00	0.98	1.04	6.00	1.38					GVFL/R400-200BR
	GFVTR/L 16-501C	●	●	1.969 (0.984)	2.756 (∞)	0.32 (*0.26)	1.00	1.00	1.06	1.04	6.00	1.50	SFR/L-501C	HH4X12	CPS-8V	LW-4	GVFL/R350 ~ 450-...C
	16-502C	●	●			0.32 (0.32)							SFR/L-502C				GVFL/R500 ~ 600-...C
	16-701C	●	●	2.756 (0.984)	3.937 (∞)	0.32 (*0.26)							SFR/L-701C				GVFL/R350 ~ 450-...C
	16-702C	●	●			0.32 (0.32)							SFR/L-702C				GVFL/R500 ~ 600-...C
	16-1001C	●	●	3.937 (0.984)	5.906 (∞)	0.32 (*0.26)							SFR/L-1001C				GVFL/R350 ~ 450-...C
	16-1002C	●	●			0.32 (0.32)							SFR/L-1002C				GVFL/R500 ~ 600-...C
	16-1501C	●	●	5.906 (0.984)	9.843 (∞)	0.32 (*0.26)							SFR/L-1501C				GVFL/R350 ~ 450-...C
	16-1502C	●	●			0.32 (0.32)							SFR/L-1502C				GVFL/R500 ~ 600-...C

CDX shows available grooving depth.
The value ( ) of External dia. of the groove (DAXX) is the maximum outer diameter value after the initial plunge between DAXN ~ DAXX. (It is possible to widen the groove to infinity ∞).
The value ( ) of External dia. of the groove (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 plunge between DAXN ~ DAXX.
Standard toolholders are designed with the edge position 0.039" (1.0mm) above the center. When using non-standard toolholders, set the edge position 0.039" (1.0mm) above the center.
CDX shows the distance from the toolholder to the cutting edge. The grooving depth is mentioned in ( ).
GFVS is composed of a base-holder and a blade. If the blade should be damaged, replace it with a new blade as listed in the table on **G143**.
(e.g.) GFVTR12-HB + SFR-351B = GFVTR12-351B
*GVFL/R400~450-040C: CDX is 0.260" (6.6mm)

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)
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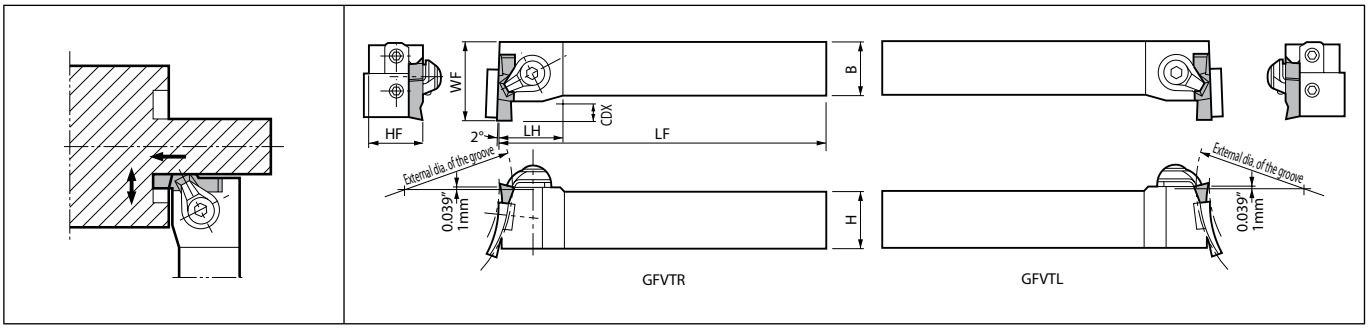
GFVT (Face Grooving)



Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.
This toolholder can machine various face grooving diameters by replacing the blade.

Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	External dia. of the groove (mm) DAXN (min.)	External dia. of the groove (mm) DAXX (max.)	Dimensions CDX	H	B	LH	HF	LF	WF	Spare Parts: Blade	Spare Parts: Bolt	Spare Parts: Clamp Set	Spare Parts: Wrench	Applicable Inserts G136
mm	GFVTR/L 2020K-351B	●	●	35 (25)	50 (∞)	5.1 (4.6)	20	20	22	21	125	30	SFR/L-351B	HH4X12	CPS-6V	LW-3	GVFL/R250 ~ 350-...B
	2525M-351B	●	●				25	25	25	26	150	35					GVFL/R300-150BR
	2020K-352B	●	●			5.1 (5.1)	20	20	22	21	125	30	SFR/L-352B				GVFL/R400 ~ 490-...B
	2525M-352B	●	●				25	25	25	26	150	35					GVFL/R400-200BR
	2020K-501B	●	●	50 (25)	70 (∞)	5.1 (4.6)	20	20	22	21	125	30	SFR/L-501B				GVFL/R250 ~ 350-...B
	2525M-501B	●	●				25	25	25	26	150	35					GVFL/R300-150BR
	2020K-502B	●	●			5.1 (5.1)	20	20	22	21	125	30	SFR/L-502B				GVFL/R400 ~ 490-...B
	2525M-502B	●	●				25	25	25	26	150	35					GVFL/R400-200BR
	2020K-701B	●	●	70 (25)	100 (∞)	5.1 (4.6)	20	20	22	21	125	30	SFR/L-701B				GVFL/R250 ~ 350-...B
	2525M-701B	●	●				25	25	25	26	150	35					GVFL/R300-150BR
	2020K-702B	●	●			5.1 (5.1)	20	20	22	21	125	30	SFR/L-702B				GVFL/R400 ~ 490-...B
	2525M-702B	●	●				25	25	25	26	150	35					GVFL/R400-200BR
	GFVTR/L 2525M-501C	●	●	50 (25)	70 (∞)	8.1 (*5.1)	25	25	27	26	150	38	SFR/L-501C	HH4X12	CPS-8V	LW-4	GVFL/R350 ~ 450-...C
	2525M-502C	●	●			8.1 (8.1)							SFR/L-502C				GVFL/R500 ~ 600-...C
	2525M-701C	●	●	70 (25)	100 (∞)	8.1 (*5.1)							SFR/L-701C				GVFL/R350 ~ 450-...C
	2525M-702C	●	●			8.1 (8.1)							SFR/L-702C				GVFL/R500 ~ 600-...C
	2525M-1001C	●	●	100 (25)	150 (∞)	8.1 (*5.1)							SFR/L-1001C				GVFL/R350 ~ 450-...C
	2525M-1002C	●	●			8.1 (8.1)							SFR/L-1002C				GVFL/R500 ~ 600-...C
	2525M-1501C	●	●	150 (25)	250 (∞)	8.1 (*5.1)							SFR/L-1501C				GVFL/R350 ~ 450-...C
	2525M-1502C	●	●			8.1 (8.1)							SFR/L-1502C				GVFL/R500 ~ 600-...C

CDX shows available grooving depth.
The value ( ) of External dia. of the groove (DAXX) is the maximum outer diameter value after the initial plunge between DAXN ~ DAXX. (It is possible to widen the groove to infinity ∞).
The value ( ) of External dia. of the groove (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 plunge between DAXN ~ DAXX.
Standard toolholders are designed with the edge position 0.039" (1.0mm) above the center. When using non-standard toolholders, set the edge position 0.039" (1.0mm) above the center.
CDX shows the distance from the toolholder to the cutting edge. The grooving depth is mentioned in ( ).
GFVS is composed of a base-holder and a blade. If the blade should be damaged, replace it with a new blade as listed in the table on **G143**.
(e.g.) GFVTR2020K-HB + SFR-351B = GFVTR2020K-351B
*GVFL/R400~450-040C: CDX is 0.260" (6.6mm)

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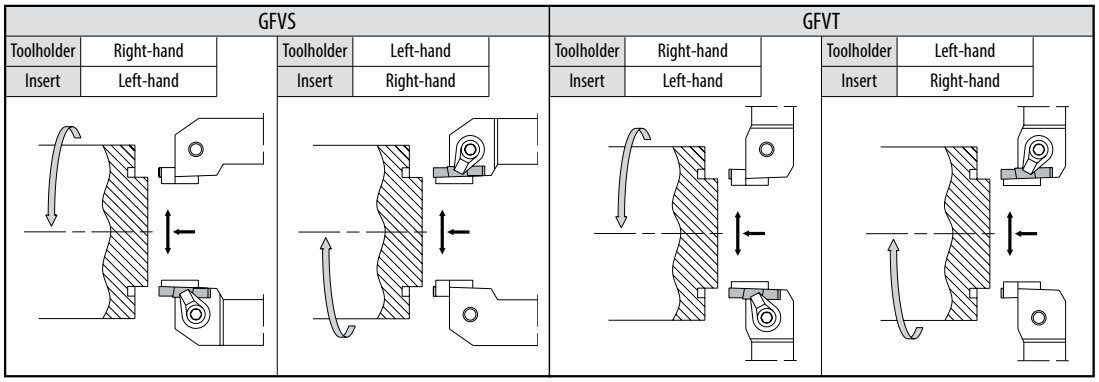
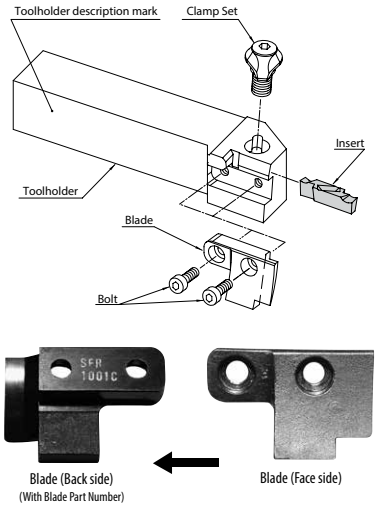
Selection of Toolholder & Insert



Combination of Base-Holder & Blade

	Toolholder Part Number (Stamped below)	Std. Item R	Std. Item L	Blade Part Number	Toolholder Part Number (Unit Part Number)	Example of installation (GFVS)	How to refer to the face grooving toolholder and blade
Inch	GFVS R/L 12-HB GFVT R/L 12-HB	● ●	● ●	SF R/L -351B -352B -501B -502B -701B -702B	GFVS R/L 12 -351B GFVT R/L 12 -352B -501B -502B -701B -702B		Q : Though "GFVSR16-HC" is marked on the face grooving toolholder, the size of cutting dia. is unknown. How could it be found out? A : Take off the blade. Part Number of the blade is listed on the back of the blade. Using the description, check the description of the toolholder in the catalog. If "SFR-1001C" is integrated to "GFVSR16-HC", the description of the toolholder is "GVFSR16-1001C".
Inch	GFVS R/L 16-HB GFVT R/L 16-HB	● ●	● ●	SF R/L -351B -352B -501B -502B -701B -702B	GFVS R/L 16 -351B GFVT R/L 16 -352B -501B -502B -701B -702B		
Inch	GFVS R/L 16-HC GFVT R/L 16-HC	● ●	● ●	SF R/L -501C -502C -701C -702C -1001C -1002C -1501C -1502C	GFVS R/L 16 -501C GFVT R/L 16 -502C -701C -702C -1001C -1002C -1501C -1502C		
mm	GFVS R/L 2020K-HB GFVT R/L 2020K-HB	● ●	● ●	SF R/L -351B -352B -501B -502B -701B -702B	GFVS R/L 2020K -351B GFVT R/L 2020K -352B -501B -502B -701B -702B		
mm	GFVS R/L 2525M-HB GFVT R/L 2525M-HB	● ●	● ●	SF R/L -351B -352B -501B -502B -701B -702B	GFVS R/L 2525M -351B GFVT R/L 2525M -352B -501B -502B -701B -702B		
mm	GFVS R/L 2525M-HC GFVT R/L 2525M-HC	● ●	● ●	SF R/L -501C -502C -701C -702C -1001C -1002C -1501C -1502C	GFVS R/L 2525M -501C GFVT R/L 2525M -502C -701C -702C -1001C -1002C -1501C -1502C		

· Right-hand Blade for Right-hand Toolholder, Left-hand Blade for Left-hand Toolholder.
· Installation of GFVT is also pursuing example of installation of GFVS.

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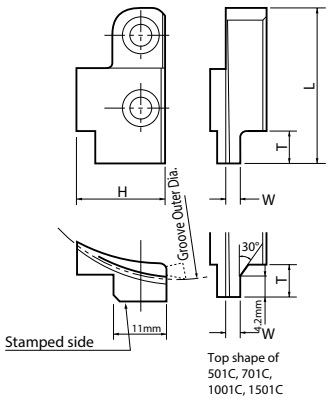
Blade Dimensions

Unit	Shape	Blade Part Number	Std. Item R	Std. Item L	Dimensions (mm) L	H	T	W	External dia. of the groove (mm) DAXN (min)	DAXX (max)	Applicable Inserts	Applicable Toolholders
mm		SF□L-351B	●	●	30.5	11	4.7	2.0	35	50	GVF□L 250~350-020B GVF□L 300-150BR	GFV(S/T)□L○○○○□ -○○○B (Toolholder Stamp (GFV(S/T)□L○○○○□-HB))
		-352B	●	●				3.4			GVF□L 400~490-020B GVF□L 400-200BR	
		SF□L-501B	●	●		15		2.0	50	70	GVF□L 250~350-020B GVF□L 300-150BR	
		-502B	●	●				3.4			GVF□L 400~490-020B GVF□L 400-200BR	
		SF□L-701B	●	●		17		2.0	70	100	GVF□L 250~350-020B GVF□L 300-150BR	
		-702B	●	●				3.4			GVF□L 400~490-020B GVF□L 400-200BR	
		SF□L-501C	●	●	35.0	15	7.5	2.8	50	70	GVF□L 350~450-040C	GFV(S/T)□L○○○○□ -○○○C (Toolholder Stamp (GFV(S/T)□L○○○○□-HC))
		-502C	●	●				4.3			GVF□L 500~600-040C	
		SF□L-701C	●	●		20		2.8	70	100	GVF□L 350~450-040C	
		-702C	●	●				4.3			GVF□L 500~600-040C	
		SF□L-1001C	●	●		23		2.8	100	150	GVF□L 350~450-040C	
		-1002C	●	●				4.3			GVF□L 500~600-040C	
		SF□L-1501C	●	●		23		2.8	150	250	GVF□L 350~450-040C	
		-1502C	●	●				4.3			GVF□L 500~600-040C	

Right-hand shown

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

External dia. of the groove for GFVS / GFVT

e.g.) GFVS□L…-351B/352B

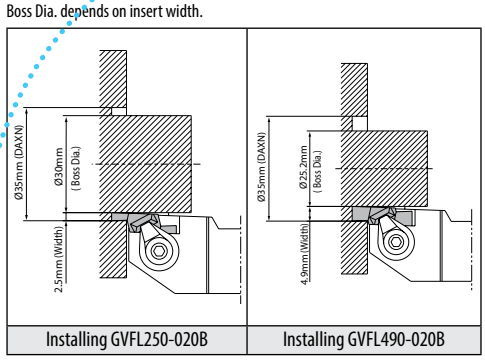
(same as GFVS□L…-○○○B, …-○○○C G139~G140

GFVT□L…-○○○B, …-○○○C G141~G142

Part Number	External dia. of the groove (mm) DAXN (min)	DAXX (min)	Applicable Inserts
GFVS□L 2020K-351B 2525M-351B 2020K-352B 2525M-352B	35 (25)	50 (∞)	GVF□L 250~350-020B GVF□L 300-150BR
			GVF□L 400~490-020B GVF□L 400-200BR

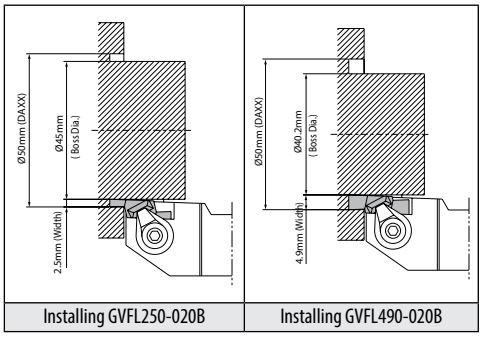
- It is possible to widen the groove to infinity ∞ when machining the initial groove within DAXN ~ DAXX and then widening to outer diameter.

- 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.



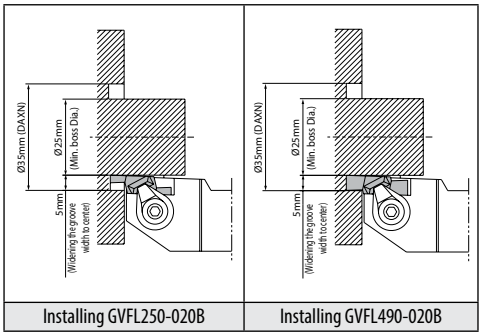
Installing GVFL250-020B | Installing GVFL490-020B

- 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.

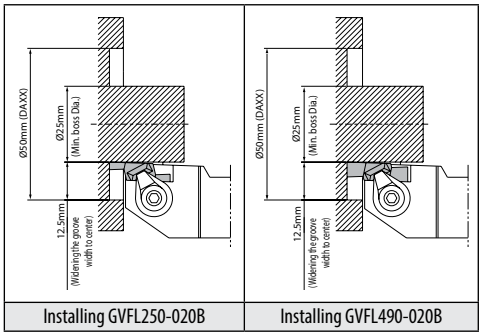


Installing GVFL250-020B | Installing GVFL490-020B

- 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

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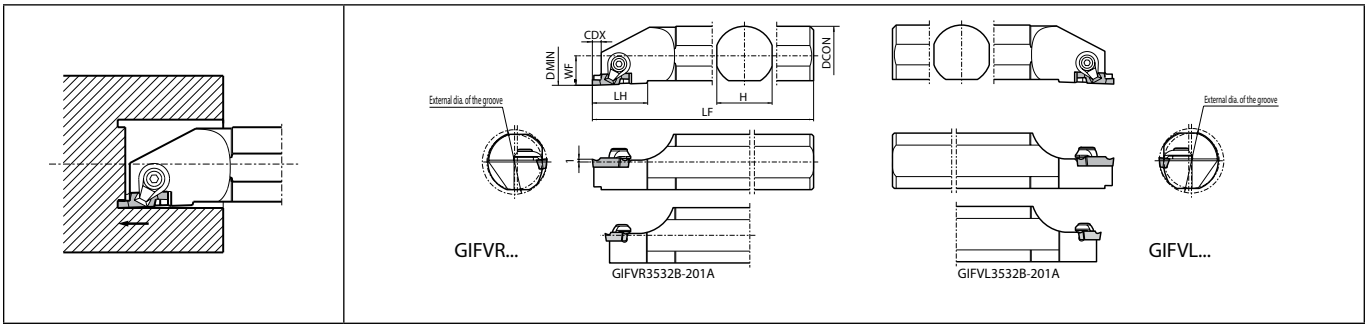
GIFV (Face Grooving)



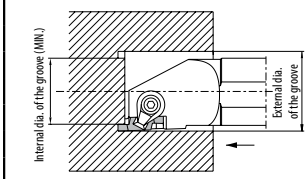
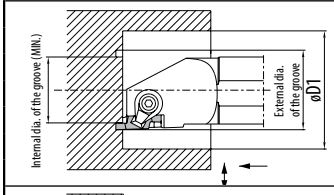
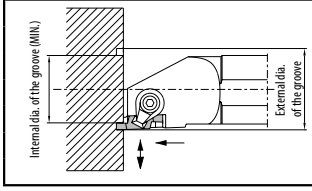
Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Unit	Part Number	Std. Item R	Std. Item L	External dia. of the groove (mm) DAXN (min.)	DAXX (max.)	Dimensions DMIN	DCON	CDX	H	LH	LF	WF	Spare Parts Clamp Set	Clamp Set	Wrench	Wrench	Applicable Inserts G136
mm	GIFV R/L 3532B-201A	●	●	35 (12)	∞ (∞)	35	32	2.2	30	23	250	16	CPS-5V	-	-	FT-15	GVF R/L ...-...A(R)
	GIFV R/L 3532B-351B	●	●	35 (25)	50 (∞)	35	32	4.6	30	30	250	16	-	CPS-6V	LW-3	-	GVF R/L 250 ~ 350-...B(R)
	3532B-352B	●	●					5.1									GVF R/L 400 ~ 490-...B(R)
	5032B-501B	●	●	50 (25)	70 (∞)	50		4.6									GVF R/L 250 ~ 350-...B(R)
	5032B-502B	●						5.1									GVF R/L 400 ~ 490-...B(R)
	GIFV R/L 5032B-501C	●	●	50 (25)	70 (∞)	50	32	6.6	30	35	250	16	-	CPS-8V	LW-4	-	GVF R/L 350 ~ 450-040C
	5032B-502C	●						8.1									GVF R/L 500 ~ 600-040C

CDX shows available grooving depth.
Standard toolholders are designed with the edge position 0.039" (1.0mm) above the center.

External dia. of the groove depends on the application.

Applications	Part Number	Internal dia. of the groove (min.)	External dia. of the groove DAXN [min.]	DAXX [max.]	(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 øD1 ≥ 58-2CW, the Face Grooving Dia. can be expanded to Internal dia. of the groove (min.) toward the Center. CW = Edge Width If øD1 ≥ 75-2CW, the Face Grooving Dia. can be expanded to Internal dia. of the groove (min.) toward the Center. CW = 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 External dia. of the groove (max.) is the maximum outer diameter value after the initial plunge between DAXN ~ DAXX (It is possible to widen the groove to infinity ∞).
The value ( ) of Internal dia. of the groove (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 plunge between DAXN ~ DAXX.

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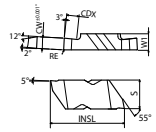
KCFP

		Carbon Steel / Alloy Steel										●	○	P
		Stainless Steel										●	○	M
		Cast Iron												K
		Non-Ferrous Metals												N
		Titanium Alloy												S
		Hard Materials (~ 40HRC)												H
		Hard Materials (40HRC ~)												
Insert		Part Number	No. of Edges	Dimensions (in)								Tolerance (in)		Carbide		Applicable Toolholder ⇒ G146
				CW		CDX	W1	S	INSL	RE		CW min.	CW max.	PVD		
				in	mm									PR1625	PR930	
		KCFP 3125R	1	0.125	3.15	0.150	0.195	0.344	0.886	0.008		- 0.001	+ 0.001		●	KKCEL...-3..
		KCFP 3125L	1	0.125	3.15	0.150	0.195	0.344	0.886	0.008		- 0.001	+ 0.001	●	△	KKCER...-3..
		3156L		0.156	3.97										△	

Right-hand shown
CDX : Maximum grooving depth.

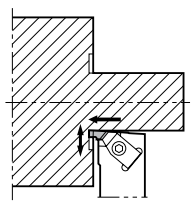
Recommended Cutting Conditions

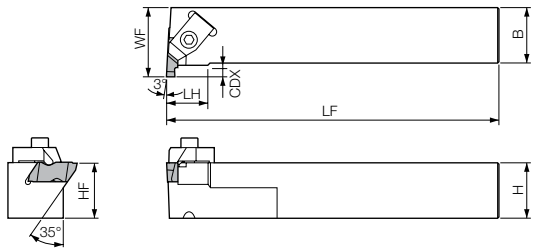
Workpiece Material	Recommended insert grades (Vc: sfm)		Feed Rate f (ipr)	Notes
	MEGACOAT NANO	Carbide		
	PR1625	PR930		
Carbon Steel	★ 250~650	☆ 250~650	0.002~0.010	Coolant
Alloy Steel	★ 150~550	☆ 150~550		
Stainless Steel	★ 100~550	☆ 100~550		
Tool steel	★ 100~550	☆ 100~550		

Speeds and Feeds listed are for grooving. ★:1st recommendation ☆:2nd recommendation

● : 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

KKCE (Face Grooving)





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

Toolholder Dimensions

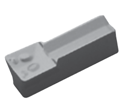
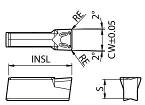
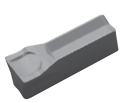
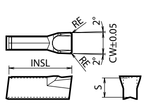
Unit	Part Number	Std. Item		Dimensions							Spare Parts			Applicable Inserts G145
		R	L	CDX	H	B	LH	HF	LF	WF	Clamp	Clamp Screw	Wrench	
Inch	KKCE□□ 12-3B	●	●	0.210	0.750	0.750	0.750	0.750	4.500	1.125	CKC-3□□	HH5X25	LW-4	KCFP3...
	16-3D	●			1.000	1.000		1.000	6.000	1.250				

CDX shows available grooving depth.
Clamp: CKC-3L for Right-hand Toolholder and CKC-3R for Left-hand Toolholder.

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

FMM/FMN

Work material	CR9025	PR905	PR915	PR930	KW10	TN90	
Carbon Steel / Alloy Steel				●			P
Stainless Steel				●			M
Cast Iron		●			○		K
Non-Ferrous Metals					●		N
Titanium Alloy					●		S
Hard Materials (~ 40HRC)				○			H
Hard Materials (40HRC ~)							H

Insert		Part Number	No. of Edges	Dimensions (mm) CW in	CW mm	S	RE	INSL	Tolerance (mm) CW min.	CW max.	Carbide CVD CR9025	PVD PR905	PVD PR915	PVD PR930	- KW10	Cermet - TN90	Applicable Toolholder ➡ G149~G150
	 Chip control oriented / M class	FMM 30-03	1	0.118	3	3.5	0.3	12	- 0.05	+ 0.05	△	△	△	△	△	△	KFMS R/L ...-3(...)
		FMM 40-04	1	0.157	4	3.5	0.4	12	- 0.05	+ 0.05	△	△	△	△	△	△	KFMS R/L ...-4(...)
		FMM 50-04	1	0.197	5	3.5	0.4	12	- 0.05	+ 0.05	△	△	△	△	△	△	KFMS R/L ...-5(...)
		FMM 60-04	1	0.236	6	3.5	0.4	12	- 0.05	+ 0.05	△	△		△	△	△	
	 Sharp cutting oriented / M class	FMN 3	1	0.118	3	3.5	0.25	12	- 0.05	+ 0.05	△			△	△	△	KFMS R/L ...-3(...)
		FMN 4	1	0.157	4	3.5	0.25	12	- 0.05	+ 0.05				△	△	△	KFMS R/L ...-4(...)
		FMN 5	1	0.197	5	3.5	0.25	12	- 0.05	+ 0.05	△			△	△	△	KFMS R/L ...-5(...)
		FMN 6	1	0.236	6	3.5	0.25	12	- 0.05	+ 0.05	△			△	△		

FMN inserts are only for Deep Grooving and not applicable for Turning.

Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grades (Vc: sfm) Cermet TN90	CVD coated carbide CR9025	PVD coated carbide PR915	PVD coated carbide PR930	PVD coated carbide PR905	Carbide KW10	Face Gooving (FMM / FMN) Edge Width (in) 0.118 f (ipr)	0.157	0.197 / 0.236	Turning (FMM) Edge Width (in) 0.118 f (ipr)	0.157	0.197 / 0.236	Notes
Carbon Steel	☆ 100~220	☆ 80~200	☆ 80~200	★ 80~200	-	-	0.0012~0.0020	0.0012~0.0031	0.0020~0.0039	0.0020~0.0039	0.0020~0.0098	0.0039~0.0118	Coolant
Alloy Steel	☆ 80~200	☆ 70~180	☆ 70~180	★ 70~180	-	-	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	☆ 70~160	☆ 60~150	★ 60~150	☆ 60~150	-	-	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	-	-	-	-	★ 80~180	☆ 70~150	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 Alloys	-	-	-	-	-	★ 200~500	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	-	-	-	-	-	★ 100~200	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. = 0.008" (0.2mm) and under.

★ :1st recommendation ☆:2nd recommendation

Refer to the notes below for turning conditions

D.O.C. and f of FMM

	Recommended cutting conditions	
D.O.C. (MAX.) (in)	under 50% of edge width	D.O.C. ≤ 0.0020"CW
f (MAX.) (ipr)	under 3~5% of edge width	f ≤ [0.0012"(Min.) ~ 0.0020"(Max.)]cw

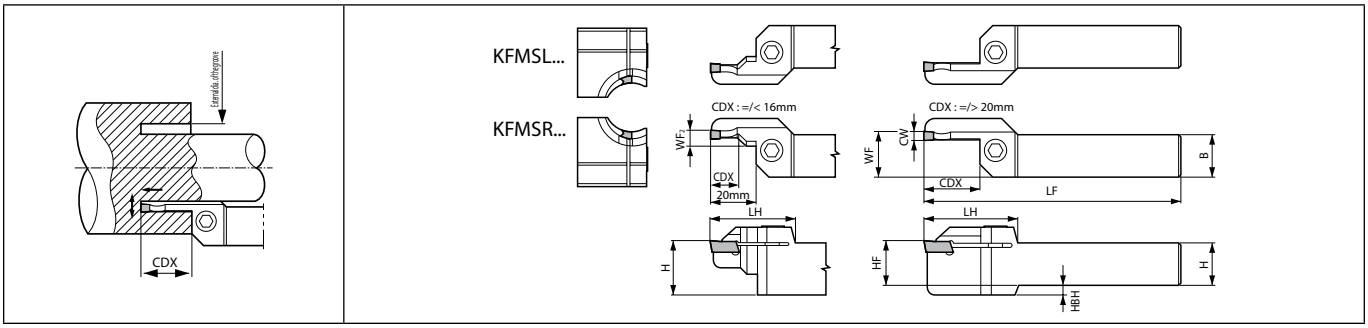
D.O.C. x f should be as follows.

Edge Width(in) / Load (in²)	0.118	0.157	0.197	0.236
D.O.C. x f	~0.004	~0.006	~0.010	~0.014

D.O.C. x f ≤ 0.0004"CW²

● : 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

KFMS (Face Grooving)



Toolholder Dimensions

Part Number	Unit	Std. Item R	Std. Item L	External dia.of the groove DAXN (min.)	External dia.of the groove DAXX (max.)	Dimensions CDX	H	B	LH	HF	HBH	LF	WF	WF_2	CW	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts G148
KFMSR 16-3-4050	inch	△		1.575	1.969	0.512	1.000	1.000	1.539	1.000	-	6.000	1.027	0.240	0.118	HH5X25	LW-4	FMM30-03 FMN3
16-3-5065	inch	△		1.969	2.559	0.866			1.618					-				
KFMSR 2020K2530-3	mm	△		25	30	13	20	20	39	20	-	125	20.7	6.1	3	HH5X20	LW-4	FMM30-03 FMN3
2020K3040-3	mm	△		30	40													
2020K4050-3	mm	△		40	50													
2020K5065-3	mm	△		50	65	22			41					-				
2020K6585-3	mm	△		65	85													
2020K85110-3	mm	△		85	110	25			44		5							
2020K110145-3	mm	△		110	145				44									
KFMS□L 2525M2530-3	mm	△	△	25	30	13	25	25	39	25	-	150	25.7	6.1		HH5X25		
2525M3040-3	mm	△	△	30	40													
2525M4050-3	mm	△	△	40	50													
2525M5065-3	mm	△	△	50	65	22			41					-				
2525M6585-3	mm	△	△	65	85													
2525M85110-3	mm	△	△	85	110	25			44									
2525M110145-3	mm	△	△	110	145													
KFMSR 2020K2535-4	mm	△		25	35	12	20	20	39	20	-	125	20.7	7.1	4	HH5X20	LW-4	FMM40-04 FMN4
2020K3550-4	mm	△		35	50	20								-				
2020K5070-4	mm	△		50	70	25			44		5							
2020K70100-4	mm	△		70	100													
2020K100150-4	mm	△		100	150													
2020K150220-4	mm	△		150	220													
2020K220800-4	mm	△		220	∞													
KFMS□L 2525M2535-4	mm	△	△	25	35	12	25	25	39	25	-	150	25.7	7.1		HH5X25		
2525M3550-4	mm	△	△	35	50	20								-				
2525M5070-4	mm	△	△	50	70	25			44									
2525M70100-4	mm	△	△	70	100													
2525M100150-4	mm	△	△	100	150													
2525M150220-4	mm	△	△	150	220													
2525M220800-4	mm	△	△	220	∞													

CDX shows available grooving depth.
External dia. of the groove : The diameter range of the initial plunge.
KFMS will be switched to KGDF=> **G114 ~ G118**

● : 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

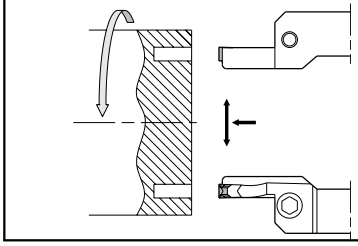
Toolholder Dimensions

Part Number	Unit	Std. Item R	Std. Item L	External dia.of the groove DAXN (min.)	External dia.of the groove DAXX (max.)	Dimensions CDX	H	B	LH	HF	HBH	LF	WF	WF_2	CW	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts ⇒ G148
KFMSR 16-5-75115	Inch	△		2.953	4.528	1.260	1.000	1.000	2.012	1.000	-	6.000	1.027 (1.047)	-	0.197 (0.236)	HH5X25	LW-4	FMM50-04 FMN5 FMM60-04 FMN6
16-5-115180	Inch	△		4.528	7.087													
KFMSR 2020K2535-5	mm	△		25	35	20	20	20	39	20	-	125	20.7 (21.2)	-	5 (6)	HH5X20	LW-4	FMM50-04 FMN5 FMM60-04 FMN6
2020K3550-5	mm	△		35	50													
2020K5075-5	mm	△		50	75	25			44		5							
2020K75115-5	mm	△		75	115													
2020K115180-5	mm	△		115	180													
2020K180235-5	mm	△		180	235													
2020K235800-5	mm	△		235	∞													
KFMS R/L 2525M2535-5	mm	△	△	25	35	20	25	25	39	25	-	150	25.7 (26.2)			HH5X25		
2525M3550-5	mm	△	△	35	50													
2525M5075-5	mm	△	△	50	75	25			44									
2525M75115-5	mm	△	△	75	115	32			51									
2525M115180-5	mm	△	△	115	180													
2525M180235-5	mm	△	△	180	235													
2525M235800-5	mm	△	△	235	∞													

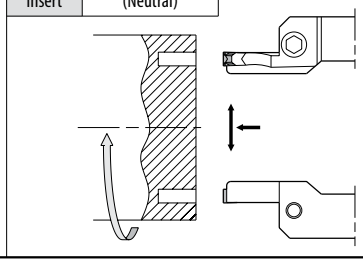
CDX shows available grooving depth.
External dia. of the groove : The diameter range of the initial plunge.
For KFMS R/L ...-5 toolholder can hold a 0.236" (6mm) width insert. ( ) value shows the dimension of a 0.236" (6mm) width insert.
KFMS will be phased out. Switch to KGDF=> ⇒ **G110~G131**

Selection of Toolholder & Insert

Toolholder	Right-hand
Insert	(Neutral)

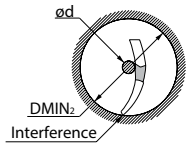


Toolholder	Left-hand
Insert	(Neutral)



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	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)	

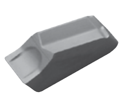
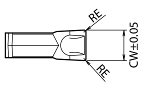
e.g.)
KFMSR 2525M2530-3 with ø25mm as first cut towards the center, it will cause a rubbing with the toolholder cartridge if ød is 4.0mm.

*( ) value shows the Dimension using FMM60-04 Insert.

● : 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

FTK

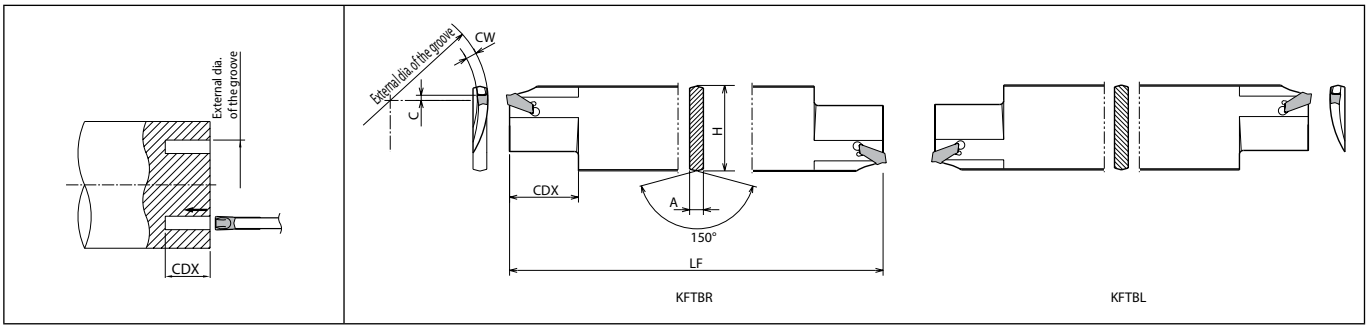
Workpiece Material									CR9025	PR930	KW10	
Carbon Steel / Alloy Steel										◐		P
Stainless Steel										◐		M
Cast Iron											◐	K
Non-Ferrous Metals											◐	N
Titanium Alloy											◐	S
Hard Materials (~ 40HRC)										○		H
Hard Materials (40HRC ~)												H

Insert		Part Number	No. of Edges	Dimensions (mm) CW in	Dimensions (mm) CW mm	RE	Tolerance (mm) CW min.	Tolerance (mm) CW max.	Carbide CVD CR9025	Carbide PVD PR930	Carbide - KW10	Applicable Toolholder ➡ G152
		FTK 4	1	0.157	4	0.25	- 0.05	+ 0.05	●	●	●	KFTB R/L ...-4S
		FTK 5	1	0.197	5	0.25	- 0.05	+ 0.05	●	●	●	KFTB R/L ...-5S

Recommended Cutting Conditions ➡ G158

● : 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

KFTB (Face Grooving Blade)



Toolholder Dimensions

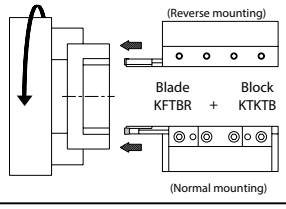
Unit	Part Number	Std. Item R	Std. Item L	External dia.of the groove (mm) DAXN (min.)	External dia.of the groove (mm) DAXX (max.)	Dimensions CDX	Dimensions H	Dimensions A	Dimensions C	Dimensions LF	Dimensions CW	Applicable Inserts G151	Applicable tool block G56, H57
mm	KFTB□ 65100-4S	●	●	65	100	25	32	5.2	4	150	4	FTK4	KPKTB..-32JCT KTKTB..-32 KTKTBF..-32
	90150-4S	●	●	90	150	30			0				
	150250-4S	●	●	140	250	30							
	250800-4S	●	●	230	∞			3.2					
	KFTB□ 90150-5S	●	●	90	150	30	32	5.2	0	150	5	FTK5	
	150250-5S	●	●	150	250	32							
	250800-5S	●	●	250	∞	38		4					

CDX shows available grooving depth.
External dia. of the groove : The diameter range of the initial plunge.
The insert has Self-Clamping system and it is not suitable for tight tolerance grooves (tolerance±0.05mm).
Lightly tap an Insert with a Plastic hammer. (End of insert does not touch toolholder.)
KFTB□ 65100-4S toolholder is designed with the edge position 4mm above the Center.
Dimension H shows virtual apex distance.

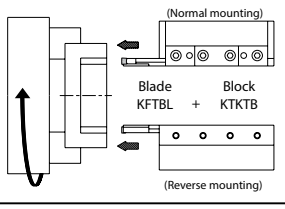
Selection of Blade and Insert

Combination of Blade + KTKTB

Blade	Right-hand
Insert	Neutral

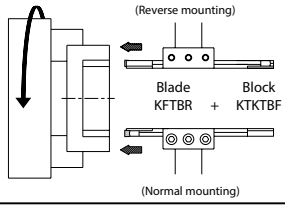


Blade	Left-hand
Insert	Neutral

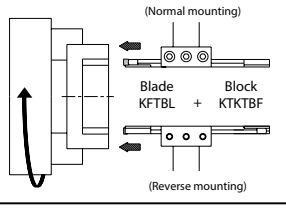


Combination of Blade + KTKTBF

Blade	Right-hand
Insert	Neutral



Blade	Left-hand
Insert	Neutral



● : 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

GBA Inserts - Ground Chipbreaker

Workpiece Material	Recommended Insert Grades (Vc: sfm)											(1) f for grooving (ipr) (2) f for traversing (ipr) (3) D.O.C. for traversing (mm)					Notes
	MEGACOAT NANO EX		MEGA COAT	MEGA COAT NANO	MEGA COAT Cermet	Cermet			Carbide	CBN	PCD						
	PR2015	PR2025	PR1215	PR1625	PV7040	TN620	TC40	TN90	KW10	KBN510 KBN525	KPD001 (KPD010)	GBA○○R/L 033~120-...	GBA○○R/L 125~225-...	GBA○○R/L 230~325-...	GBA○○R/L 330~350-...	GBA○○R/L 400~480-...	
Carbon Steel	★ 260~660	★ 260~590	☆ 260~660	☆ 260~590	☆ 490~790	★ 260~720	☆ 490~720	☆ 490~720	-	-	-	(1) 0.0012~0.0031 (2) Not Recomm. (3) Not Recomm.	(1) 0.0016~0.0035 (2) 0.0016~0.0035 (3) Max. 0.0118	(1) 0.0020~0.0039 (2) 0.0020~0.0039 (3) Max. 0.0197	(1) 0.0020~0.0047 (2) 0.0020~0.0039 (3) Max. 0.0197	(1) 0.0020~0.0047 (2) 0.0020~0.0039 (3) Max. 0.0315	Coolant
Alloy Steel	★ 260~590	☆ 260~520	☆ 260~590	☆ 260~520	☆ 430~720	★ 260~660	☆ 430~660	☆ 430~660	-	-	-	(1) 0.0012~0.0028 (2) Not Recomm. (3) Not Recomm.	(1) 0.0016~0.0031 (2) 0.0016~0.0031 (3) Max. 0.0118	(1) 0.0020~0.0035 (2) 0.0020~0.0035 (3) Max. 0.0197	(1) 0.0020~0.0039 (2) 0.0020~0.0039 (3) Max. 0.0197	(1) 0.0020~0.0039 (2) 0.0020~0.0039 (3) Max. 0.0315	
Stainless Steel	☆ 200~490	★ 200~430	☆ 200~490	☆ 200~430	-	-	-	☆ 230~490	-	-	-	(1) 0.0012~0.0028 (2) Not Recomm. (3) Not Recomm.	(1) 0.0016~0.0031 (2) 0.0016~0.0031 (3) Max. 0.0118	(1) 0.0020~0.0035 (2) 0.0020~0.0035 (3) Max. 0.0197	(1) 0.0020~0.0039 (2) 0.0020~0.0039 (3) Max. 0.0197	(1) 0.0020~0.0039 (2) 0.0020~0.0039 (3) Max. 0.0315	
Cast Iron	★ 260~590	-	-	-	-	-	-	-	☆ 200~390	★ 490~1,310	-	(1) 0.0012~0.0031 (2) Not Recomm. (3) Not Recomm.	(1) 0.0016~0.0035 (2) 0.0016~0.0035 (3) Max. 0.0118	(1) 0.0020~0.0039 (2) 0.0020~0.0039 (3) Max. 0.0197	(1) 0.0020~0.0047 (2) 0.0020~0.0039 (3) Max. 0.0197	(1) 0.0020~0.0047 (2) 0.0020~0.0039 (3) Max. 0.0315	
Aluminum Alloys	-	-	-	-	-	-	-	-	★ 490~1,310	-	★ 490~6,560	(1) 0.0020~0.0047 (2) Not Recomm. (3) Not Recomm.	(1) 0.0020~0.0059 (2) 0.0020~0.0059 (3) Max. 0.0197	(1) 0.0020~0.0059 (2) 0.0020~0.0059 (3) Max. 0.0315	(1) 0.0031~0.0059 (2) 0.0031~0.0059 (3) Max. 0.0315	(1) 0.0031~0.0059 (2) 0.0031~0.0059 (3) Max. 0.0315	
Brass	-	-	-	-	-	-	-	-	★ 490~980	-	★ 660~2,620	(1) 0.0020~0.0047 (2) Not Recomm. (3) Not Recomm.	(1) 0.0020~0.0059 (2) 0.0020~0.0059 (3) Max. 0.0197	(1) 0.0020~0.0059 (2) 0.0020~0.0059 (3) Max. 0.0315	(1) 0.0031~0.15 (2) 0.0031~0.15 (3) Max. 0.0315	(1) 0.0031~0.0059 (2) 0.0031~0.0059 (3) Max. 0.0315	
Hard Materials	-	-	-	-	-	-	-	-	-	★ 260~390	-	-	(1) 0.0008~0.0020 (2) Not Recomm. (3) Not Recomm.	(1) 0.0012~0.0028 (2) 0.0004~0.0016 (3) Max. 0.0039	-	-	

* Above cutting condition is for external grooving. Set both cutting speed and feed 10% lower for internal grooving.

★:1st recommendation ☆:2nd recommendation

GBA Inserts - GM Chipbreaker

Workpiece Material	Recommended Insert Grades (Vc: sfm)					(1) f for grooving (ipr) (2) f for traversing (ipr) (3) D.O.C. for traversing (mm)					Notes
	MEGACOAT NANO EX		MEGACOAT	MEGACOAT NANO	Cermet						
	PR2015	PR2025	PR1215	PR1625	TN620	GBA43R/L 140-010GM	GBA43R/L 150-020GM	GBA43R/L 175-020GM~230-020GM	GBA43R/L 250-030GM~350-030GM	GBA43R/L 400-040GM	
Carbon Steel	★ 260~720	★ 260~720	☆ 260~720	☆ 260~720	★ 260~790	(1) 0.0012 - 0.0039 (2) 0.0012 - 0.0031 (3) Max. 0.0079	(1) 0.0012 - 0.0047 (2) 0.0012 - 0.0031 (3) Max. 0.0118	(1) 0.0012 - 0.0047 (2) 0.0012 - 0.0035 (3) Max. 0.0118	(1) 0.0016 - 0.0059 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0059 (2) 0.0020 - 0.0039 (3) Max. 0.0315	Coolant
Alloy Steel	★ 260~660	★ 260~660	☆ 260~660	☆ 260~660	★ 260~720	(1) 0.0012 - 0.0039 (2) 0.0012 - 0.0031 (3) Max. 0.0079	(1) 0.0012 - 0.0047 (2) 0.0012 - 0.0031 (3) Max. 0.0118	(1) 0.0012 - 0.0047 (2) 0.0012 - 0.0035 (3) Max. 0.0118	(1) 0.0016 - 0.0059 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0020 - 0.0059 (2) 0.0020 - 0.0039 (3) Max. 0.0315	
Stainless Steel	☆ 200~490	★ 200~490	☆ 200~490	☆ 200~490	-	(1) 0.0012 - 0.0039 (2) 0.0012 - 0.0031 (3) Max. 0.0079	(1) 0.0012 - 0.0039 (2) 0.0012 - 0.0031 (3) Max. 0.0118	(1) 0.0012 - 0.0039 (2) 0.0012 - 0.0035 (3) Max. 0.0118	(1) 0.0016 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0016 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0315	
Cast Iron	★ 260~660	-	-	-	-	(1) 0.0012 - 0.0039 (2) 0.0012 - 0.0031 (3) Max. 0.0079	(1) 0.0012 - 0.0047 (2) 0.0012 - 0.0031 (3) Max. 0.0118	(1) 0.0012 - 0.0047 (2) 0.0012 - 0.0035 (3) Max. 0.0118	(1) 0.0016 - 0.0059 (2) 0.0020 - 0.0039 (3) Max. 0.0197	(1) 0.0016 - 0.0047 (2) 0.0020 - 0.0039 (3) Max. 0.0315	

* Above cutting condition is for external grooving. Set both cutting speed and feed 20% lower for internal grooving.

★:1st recommendation ☆:2nd recommendation

GBF inserts

Workpiece	Recommended Insert Grade (Cutting Speed Vc: sfm)			(1) Grooving Feed Rate (ipr) (2) Traversing Feed Rate (ipr) (3) Max D.O.C. for Traversing (in)				Notes
	MEGACOAT	MEGACOAT NANO	Carbide					
	PR1215	PR1535	GW15	GBF32R/L 025~053	GBF32R/L 065~095	GBF32R/L 100~145	GBF32R/L 150~300	
Carbon Steel	★ 260 - 590	☆ 230 - 530	-	(1) 0.0004 – 0.0020 (2) Not Recommended (3) Not Recommended	(1) 0.0008 – 0.0028 (2) Not Recommended (3) Not Recommended	(1) 0.0012 – 0.0031 (2) 0.0012 – 0.0024 (3) MAX. 0.0079	(1) 0.0012 – 0.0031 (2) 0.0012 – 0.0024 (3) MAX. 0.0079	Coolant
Alloy Steel	★ 260 - 590	☆ 230 - 530	-	(1) 0.0004 – 0.0016 (2) Not Recommended (3) Not Recommended	(1) 0.0008 – 0.0024 (2) Not Recommended (3) Not Recommended	(1) 0.0012 – 0.0028 (2) 0.0008 – 0.0020 (3) MAX. 0.0079	(1) 0.0012 – 0.0028 (2) 0.0008 – 0.0020 (3) MAX. 0.0079	
Stainless Steel	☆ 200 - 430	★ 160 - 390	-	(1) 0.0004 – 0.0016 (2) Not Recommended (3) Not Recommended	(1) 0.0008 – 0.0024 (2) Not Recommended (3) Not Recommended	(1) 0.0012 – 0.0028 (2) 0.0008 – 0.0020 (3) MAX. 0.0079	(1) 0.0012 – 0.0028 (2) 0.0008 – 0.0020 (3) MAX. 0.0079	
Cast Iron	-	-	★ 200 - 330	(1) 0.0004 – 0.0020 (2) Not Recommended (3) Not Recommended	(1) 0.0008 – 0.0028 (2) Not Recommended (3) Not Recommended	(1) 0.0012 – 0.0031 (2) 0.0012 – 0.0024 (3) MAX. 0.0079	(1) 0.0012 – 0.0031 (2) 0.0012 – 0.0024 (3) MAX. 0.0079	
Aluminum Alloy	-	-	★ 490 - 1,310	(1) 0.0004 – 0.0020 (2) Not Recommended (3) Not Recommended	(1) 0.0008 – 0.0028 (2) Not Recommended (3) Not Recommended	(1) 0.0012 – 0.0031 (2) 0.0012 – 0.0024 (3) MAX. 0.0079	(1) 0.0012 – 0.0031 (2) 0.0012 – 0.0024 (3) MAX. 0.0079	
Brass	-	-	★ 490 - 980	(1) 0.0004 – 0.0016 (2) Not Recommended (3) Not Recommended	(1) 0.0008 – 0.0028 (2) Not Recommended (3) Not Recommended	(1) 0.0012 – 0.0028 (2) 0.0008 – 0.0020 (3) MAX. 0.0079	(1) 0.0012 – 0.0028 (2) 0.0008 – 0.0020 (3) MAX. 0.0079	

★:1st recommendation ☆:2nd recommendation

GBF32...-000F inserts (RE = 0.00)

Workpiece	Recommended Insert Grade (Cutting Speed Vc: sfm)			(1) Grooving Feed Rate (ipr) (2) Traversing Feed Rate (ipr) (3) Max D.O.C. for Traversing (in)				Notes
	MEGACOAT	MEGACOAT NANO	Carbide					
	PR1215	PR1535	GW15	GBF32R/L 025 ~ 053 - 000F	GBF32R/L 065 ~ 095 - 000F	GBF32R/L 100 ~ 145 - 000F	GBF32R/L 150 ~ 200 - 000F	
Carbon Steel	★ 260 - 590	☆ 230 - 530	-	(1) 0.0002 – 0.0012 (2) Not Recommended (3) Not Recommended	(1) 0.0004 – 0.0016 (2) Not Recommended (3) Not Recommended	(1) 0.0004 – 0.0020 (2) 0.0004 – 0.0016 (3) MAX. 0.0079	(1) 0.0004 – 0.0020 (2) 0.0004 – 0.0016 (3) MAX. 0.0079	Coolant
Alloy Steel	★ 260 - 590	☆ 230 - 530	-	(1) 0.0002 – 0.0010 (2) Not Recommended (3) Not Recommended	(1) 0.0004 – 0.0012 (2) Not Recommended (3) Not Recommended	(1) 0.0004 – 0.0016 (2) 0.0004 – 0.0012 (3) MAX. 0.0079	(1) 0.0004 – 0.0016 (2) 0.0004 – 0.0012 (3) MAX. 0.0079	
Stainless Steel	☆ 200 - 430	★ 160 - 390	-	(1) 0.0002 – 0.0008 (2) Not Recommended (3) Not Recommended	(1) 0.0004 – 0.0010 (2) Not Recommended (3) Not Recommended	(1) 0.0004 – 0.0012 (2) 0.0004 – 0.0010 (3) MAX. 0.0079	(1) 0.0004 – 0.0012 (2) 0.0004 – 0.0010 (3) MAX. 0.0079	
Cast Iron	-	-	★ 200 - 330	(1) 0.0002 – 0.0012 (2) Not Recommended (3) Not Recommended	(1) 0.0004 – 0.0016 (2) Not Recommended (3) Not Recommended	(1) 0.0004 – 0.0020 (2) 0.0004 – 0.0016 (3) MAX. 0.0079	(1) 0.0004 – 0.0020 (2) 0.0004 – 0.0016 (3) MAX. 0.0079	
Aluminum Alloy	-	-	★ 490 - 1,310	(1) 0.0002 – 0.0012 (2) Not Recommended (3) Not Recommended	(1) 0.0004 – 0.0016 (2) Not Recommended (3) Not Recommended	(1) 0.0004 – 0.0020 (2) 0.0004 – 0.0016 (3) MAX. 0.0079	(1) 0.0004 – 0.0020 (2) 0.0004 – 0.0016 (3) MAX. 0.0079	
Brass	-	-	★ 490 - 980	(1) 0.0004 – 0.0012 (2) Not Recommended (3) Not Recommended	(1) 0.0004 – 0.0016 (2) Not Recommended (3) Not Recommended	(1) 0.0004 – 0.0020 (2) 0.0004 – 0.0016 (3) MAX. 0.0079	(1) 0.0004 – 0.0020 (2) 0.0004 – 0.0016 (3) MAX. 0.0079	

★:1st recommendation ☆:2nd recommendation

GBF-GL inserts

Workpiece	Recommended Insert Grade (Cutting Speed Vc: sfm)		(1) Grooving Feed Rate (ipr) (2) Traversing Feed Rate (ipr) (3) Max D.O.C. for Traversing (in)				Notes
	MEGACOAT	MEGACOAT NANO					
	PR1215	PR1535	GBF32R075~005GL	GBF32R095 ~ 100-005GL	GBF32R 150 – 200 (GL)	GBF32R 300 (GL)	
Carbon Steel	★ 260 - 590	☆ 230 - 530	(1) 0.0008 – 0.0028 (2) Not Recommended (3) Not Recommended	(1) 0.0012 – 0.0031 (2) 0.0012 – 0.0024 (3) MAX. 0.0079	(1) 0.0012 – 0.0031 (2) 0.0012 – 0.0024 (3) MAX. 0.0079	(1) 0.0016 – 0.0039 (2) 0.0016 – 0.0031 (3) MAX. 0.0197	Coolant
Alloy Steel	★ 260 - 590	☆ 230 - 530	(1) 0.0008 – 0.0024 (2) Not Recommended (3) Not Recommended	(1) 0.0012 – 0.0028 (2) 0.0012 – 0.0024 (3) MAX. 0.0079	(1) 0.0012 – 0.0028 (2) 0.0012 – 0.0024 (3) MAX. 0.0079	(1) 0.0016 – 0.0035 (2) 0.0016 – 0.0031 (3) MAX. 0.0197	
Stainless Steel	☆ 200 - 430	★ 160 - 390	(1) 0.0008 – 0.0024 (2) Not Recommended (3) Not Recommended	(1) 0.0012 – 0.0028 (2) 0.0012 – 0.0024 (3) MAX. 0.0079	(1) 0.0012 – 0.0028 (2) 0.0012 – 0.0024 (3) MAX. 0.0079	(1) 0.0016 – 0.0035 (2) 0.0016 – 0.0031 (3) MAX. 0.0197	

★:1st recommendation ☆:2nd recommendation

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EZG

Workpiece Material	Recommended Insert Grade (Vc sfm)		EZGR030030-...S	EZG□L 040040-... EZG□L 050050-... EZG□L 040040-...S EZG□L 050050-...S	EZG□L 060060-... EZG□L 070070-... EZG□L 080070-... EZG□L 060060-...S EZG□L 070070-...S EZG□L 080070-...S	Notes
	MEGACOAT	Carbide				
	PR1225	GW05	Feed Rate (ipr)			
Carbon Steel / Alloy Steel	★ 100~330	-	~0.0008	~0.0012	~0.0020	Coolant
Stainless Steel	★ 100~260	-	~0.0004	~0.0008	~0.0012	
Non-Ferrous	-	★ ~980	-	~0.0020	~0.0031	

★:1st recommendation

VNG

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

★:1st recommendation ☆:2nd recommendation

SIGC

Workpiece Material	Recommended Insert Grade (Vc : sfm)		(1) Feed Rate for Grooving (ipr) (2) Feed Rate for Traversing (ipr) (3) D.O.C. for Traversing (in)			Notes
	MEGACOAT NANO PLUS	MEGACOAT NANO				
	PR1725	PR1535	GC08□□...	GC10□□, GC12□□ 100 ~ 200...	GC10□□, GC12□□ 250 ~ 300...	
Carbon Steel	★ 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	Coolant
Alloy Steel	★ 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	

★:1st recommendation ☆:2nd recommendation

Ground Chipbreaker: GE R/L...A(R), GE R/L...B(R)

Workpiece Material	Recommended insert grades (Vc : sfm)				(1) f for Grooving (ipr) (2) f for Traversing (ipr) (3) D.O.C. for Traversing (in)			Notes
	MEGACOAT NANO EX	MEGACOAT	Cermet	Carbide				
	PR2025	PR1225	TN6020	KW10	GE R/L 100 ~ 200 - 010A 100 ~ 200 - 100AR	GE R/L 100 ~ 200 - 010B 100 ~ 200 - 100BR	GE R/L 250 ~ 300 - 020B	
Carbon Steel	★ 160 ~ 260	☆ 160 ~ 260	☆ 160 ~ 260	-	(1) 0.0004 ~ 0.0012 (2) 0.0004 ~ 0.0012 (3) Max. 0.0020	(1) 0.0008 ~ 0.0016 (2) 0.0008 ~ 0.0016 (3) Max. 0.0020	(1) 0.0008 ~ 0.0016 (2) 0.0008 ~ 0.0016 (3) Max. 0.0039	Coolant
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 PR2025, PR1225, KW10 for traversing with edge width 0.039" (1mm). (GE R/L100-005A/100-005B)

★:1st recommendation ☆:2nd recommendation

Ground Chipbreaker: GE R/L...C(R), GE R/L...D(R), GE R/L...E

Workpiece Material	Recommended Insert Grades (Vc : sfm)				(1) f for Grooving (ipr) (2) f for Traversing (ipr) (3) D.O.C. for Traversing (in)							Notes
	MEGACOAT NANO EX	MEGACOAT	Cermet	Carbide								
	PR2025	PR1225	TN6020	GW15	GE R/L 100~200-010C 200-100CR	GE R/L 250~350-020C 250~300-150CR						
					GE R/L 100~145-010D	GE R/L 150~195-010D	GE R/L 200~280-020D 200-100DR		GE R/L 300~400-020D 300-150DR			
					GE R/L 100-010E	GE R/L 150~195-010E	GE R/L 200~225-010E 230-020E	GE R/L 250~330-020E		GE R/L 350~430-020E	GE R/L 450~500-020E	
Carbon Steel	★ 200 ~ 460	☆ 200 ~ 460	☆ 390 ~ 590	-	(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	Coolant
Alloy Steel	★ 200 ~ 390	☆ 200 ~ 390	☆ 330 ~ 520	-	(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	★ 200 ~ 360	☆ 200 ~ 360	☆ 230 ~ 430	-	(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 PR2025, PR1225, KW10 for traversing with edge width 0.039" (1mm). (GE R/L100-005A/100-005B)

★:1st recommendation ☆:2nd recommendation

Molded Chipbreaker: GER...CM, GER...DM, GER...EM

Workpiece Material	Recommended Insert Grades (Vc : sfm)		(1) f for Grooving (ipr) (2) f for Traversing (ipr) (3) D.O.C. for Traversing (in)						Notes
	MEGACOAT NANO EX	MEGACOAT							
	PR2025	PR1225	GER 150 ~ 200 - 010CM	GER 250 ~ 350 - 020CM					
			GER 150 ~ 200 - 010DM		GER 230 ~ 250 - 020DM	GER 300 ~ 400 - 020DM			
			GER 150 ~ 200 - 010EM			GER 250 ~ 300 - 020EM	GER 350 ~ 400 - 020EM	GER 450 ~ 500 - 020EM	
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	Coolant
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

GVF (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			MEGACOAT	PVD	Carbide	GVF R/L 200~340...A	GVF R/L 250~350...B	GVF R/L 400~490...B	GVF R/L 350~450...C	GVF R/L 500~600...C	
	TN90	TC40	TC60	PR1225	PR930	KW10	GVF R/L 200-100AR ~300-150AR	GVF R/L 300-150BR	GVF R/L 400-200BR			
Carbon Steel	☆ 490~720	☆ 490~720	☆ 330~490	★ 260~660	☆ 260~590	-	(1) 0.0012~0.0031 (2) 0.0012~0.0031 (3) MAX 0.012	(1) 0.0016~0.0035 (2) 0.0016~0.0035 (3) MAX 0.012	(1) 0.0020~0.0039 (2) 0.0020~0.0039 (3) MAX 0.020	(1) 0.0020~0.0047 (2) 0.0020~0.0039 (3) MAX 0.020	(1) 0.0020~0.0047 (2) 0.0020~0.0039 (3) MAX 0.031	Coolant
Alloy Steel	☆ 430~660	☆ 430~660	☆ 260~430	★ 260~590	☆ 260~520	-	(1) 0.0012~0.0028 (2) 0.0012~0.0039 (3) MAX 0.012	(1) 0.0016~0.0031 (2) 0.0016~0.0031 (3) MAX 0.012	(1) 0.0020~0.0035 (2) 0.0020~0.0035 (3) MAX 0.020	(1) 0.0020~0.0039 (2) 0.0020~0.0039 (3) MAX 0.020	(1) 0.0020~0.0039 (2) 0.0020~0.0039 (3) MAX 0.031	
Stainless Steel	☆ 230~490	-	☆ 200~330	★ 260~490	☆ 200~430	-	(1) 0.0012~0.0028 (2) 0.0012~0.0039 (3) MAX 0.012	(1) 0.0016~0.0031 (2) 0.0016~0.0031 (3) MAX 0.012	(1) 0.0020~0.0035 (2) 0.0020~0.0035 (3) MAX 0.020	(1) 0.0020~0.0039 (2) 0.0020~0.0039 (3) MAX 0.020	(1) 0.0020~0.0039 (2) 0.0020~0.0039 (3) MAX 0.031	
Cast Iron	-	-	-	-	-	★ 200~330	(1) 0.0012~0.0031 (2) 0.0012~0.0031 (3) MAX 0.012	(1) 0.0016~0.0035 (2) 0.0016~0.0035 (3) MAX 0.012	(1) 0.0020~0.0039 (2) 0.0020~0.0039 (3) MAX 0.020	(1) 0.0020~0.0047 (2) 0.0020~0.0039 (3) MAX 0.020	(1) 0.0020~0.0047 (2) 0.0020~0.0039 (3) MAX 0.031	
Aluminum	-	-	-	-	-	★ 490~1310	(1) 0.0020~0.0047 (2) 0.0020~0.0047 (3) MAX 0.020	(1) 0.0020~0.0059 (2) 0.0020~0.0059 (3) MAX 0.020	(1) 0.0020~0.0059 (2) 0.0020~0.0059 (3) MAX 0.031	(1) 0.0031~0.0059 (2) 0.0031~0.0059 (3) MAX 0.031	(1) 0.0031~0.0059 (2) 0.0031~0.0059 (3) MAX 0.031	
Brass	-	-	-	-	-	★ 490~980	(1) 0.0020~0.0047 (2) 0.0020~0.0047 (3) MAX 0.020	(1) 0.0020~0.0059 (2) 0.0020~0.0059 (3) MAX 0.020	(1) 0.0020~0.0059 (2) 0.0020~0.0059 (3) MAX 0.031	(1) 0.0031~0.0059 (2) 0.0031~0.0059 (3) MAX 0.031	(1) 0.0031~0.0059 (2) 0.0031~0.0059 (3) MAX 0.031	

Apply a sufficient amount of coolant.
The D.O.C. should be under 0.020" (0.5mm) if a good surface finish is required.

★:1st recommendation ☆:2nd recommendation

FTK

Workpiece Material	Recommended Insert Grade (Vc sfm)				Edge Width (in)		Notes
	Cermet	CVD		Carbide	0.1575	0.1969	
	TN90	CR9025	PR930	KW10	Feed Rate (ipr)		
Carbon Steel	☆ 390~660	★ 260~590	☆ 200~430	-	0.0020~0.0059	0.0020~0.0059	Coolant
Alloy Steel	☆ 330~520	★ 230~490	☆ 200~430	-	0.0020~0.0059	0.0020~0.0059	
Stainless Steel	☆ 260~490	☆ 200~460	☆ 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	

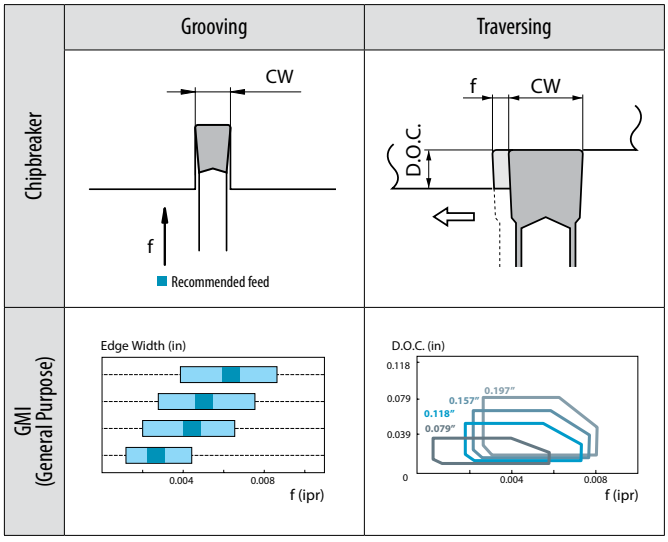
★:1st recommendation ☆:2nd recommendation

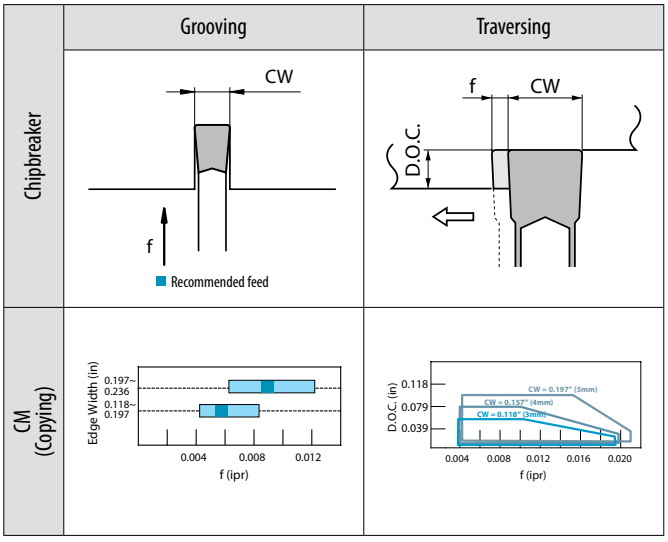
KGDI - Recommended Cutting Conditions (Vc)

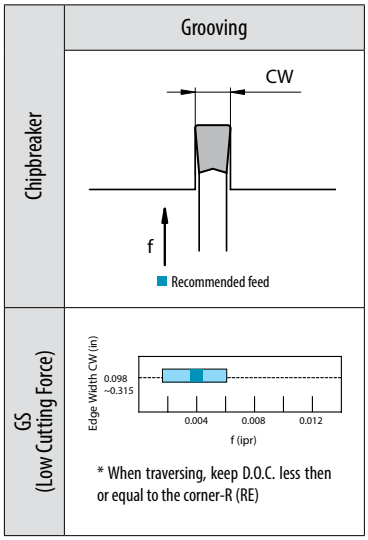
Workpiece Material	Chipbreaker	Recommended Insert Grade (Vc: sfm)						Notes
		Cermet		MEGACOAT NANO	MEGACOAT		Uncoated Carbide	
		TN620	TN90	PR1535	PR1225	PR1215	GW15	
Carbon Steel	GMI CM GS	☆ 330 ~ 720	☆ 330 ~ 720	☆ 260 ~ 490	★ 260 ~ 660	☆ 330 ~ 660	-	Coolant
Alloy Steel		☆ 260 ~ 660	☆ 260 ~ 660	☆ 230 ~ 490	★ 230 ~ 590	☆ 260 ~ 590	-	
Stainless Steel		☆ 230 ~ 590	☆ 230 ~ 590	★ 200 ~ 490	★ 200 ~ 490	☆ 200 ~ 490	-	
Cast Iron		-		-	-	★ 330 ~ 660	-	
Aluminum Alloys							★ 660 ~ 1,640	
Brass		-		-	-	-	★ 330 ~ 660	

★:1st recommendation ☆:2nd recommendation

KGDI - Recommended Cutting Conditions (f and D.O.C.)

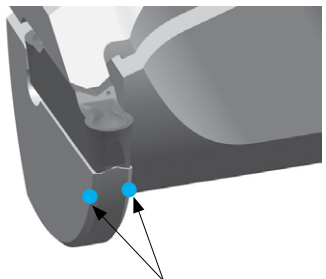






* When traversing, keep D.O.C. less then or equal to the corner-R (RE)

Additional processing of toolholder tip when CM chipbreaker is installed



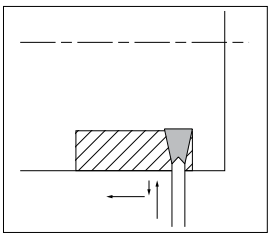
* By slightly chamfering the holder tip of about 0.5 mm, the cutting diameter can be minimized.

Guide for External Grooving

(1) (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)

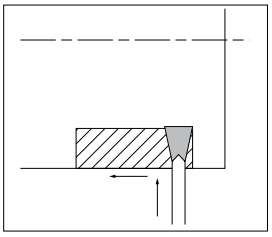
Fig.1

(2)

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

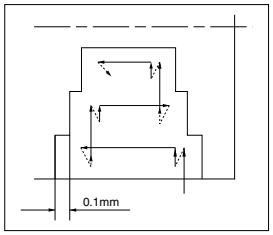


Fig.3

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.

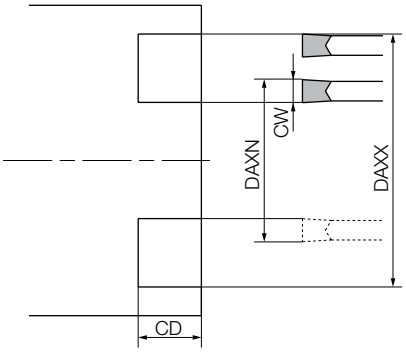


Fig.1

(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.)

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

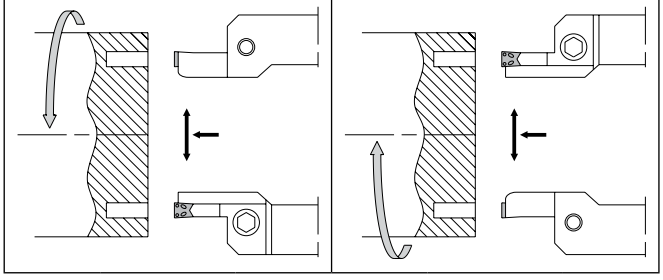


Fig.2 Toolholder's Hand and Rotation

<Guide for Traversing>

Traversing direction should be from the outer diameter to the inner diameter as shown in Fig.3
This improves chip evacuation.

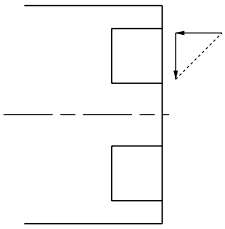
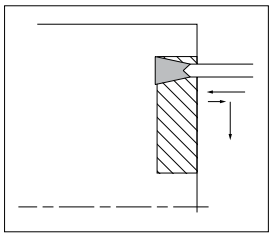


Fig.3

Guide for Face Grooving (Continued)

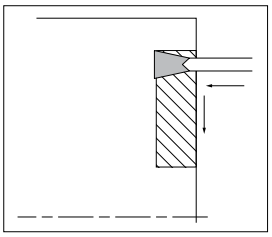
(1) (Traversing after Grooving)

1) Grooving Depth Over 0.020" (0.5mm): At roughing (Refer to Fig.4)
Before Traversing, pull the tool back about 0.004" (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 0.020": At roughing)
Fig.4

2) Grooving Depth under 0.020" (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 0.020": At finishing)
Fig.5

(2)

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 0.020" (0.5mm) is recommended.)

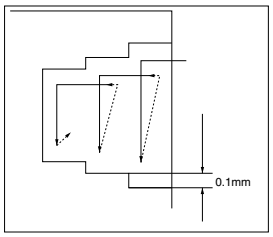
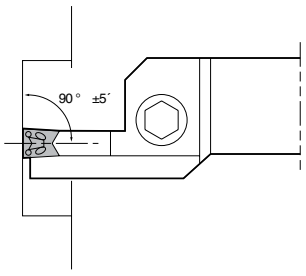


Fig.6

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.