KYOCERA

GBF

Grooving Tools for Small Parts Machining

High Precision Grooving Tools for Small Parts Machining

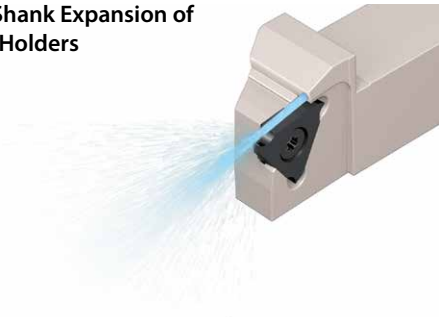
Large Tooling Lineup

Groove Widths from 0.041" to 0.094" and 0.25mm to 3.00mm and Maximum Groove Depths up to 3mm

Available Corner-R : 0.00/0.05/0.10 mm

Stable Chip Control with GL Chipbreaker

NEW **JCTM-Series Square Shank Expansion of Jet Coolant-Through Holders**

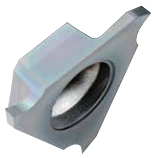
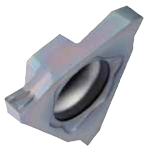


GBF

High Precision, Long Tool Life, and High Efficiency Machining with MEGACOAT Coating Technology

1 Large Tooling Lineup for a Variety of Small Part Operations

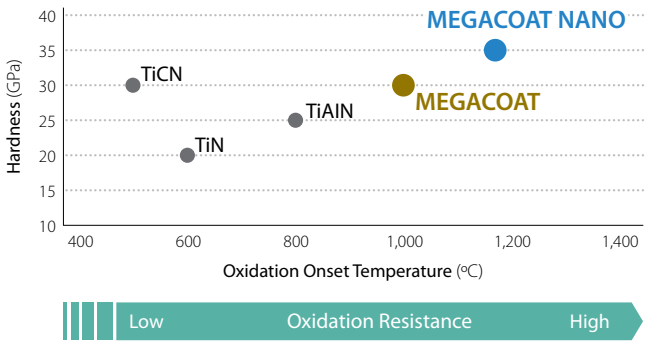
Inserts

	Lineup		Features
 **Ground Chipbreaker**	Groove Width [CW] 0.041"~0.094" 0.25~0.65mm 0.75~2.00mm 2.25~3.00mm Each width of groove has both R-hand and L-hand	CornerR [RE] 0.002"/0.004" 0.00/0.05mm 0.00/0.05/0.10mm 0.05/0.10mm	· Sharp Cutting Performance · Large Lineup
 **Molded GL Chipbreaker**	Groove Width [CW] (mm) 0.75~1.00 1.50~3.00 R-hand Only	CornerR [RE] (mm) 0.05 0.10	· Excellent Chip Control · Stable Machining

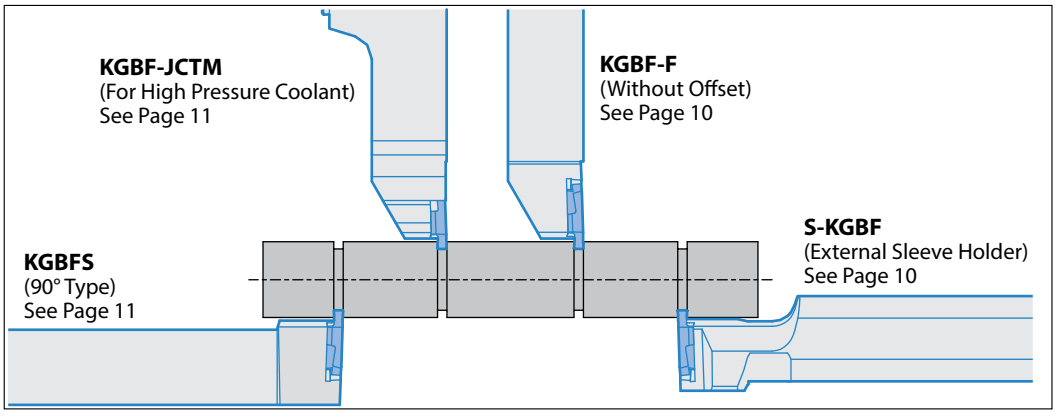
1st Recommendation

Steel	**PR1215** MEGACOAT
Stainless Steel	**PR1535** MEGACOAT NANO
Non-Ferrous	**GW15**
Cast Iron	**GW15**

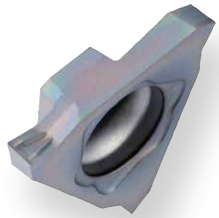
Coating Properties



Toolholders

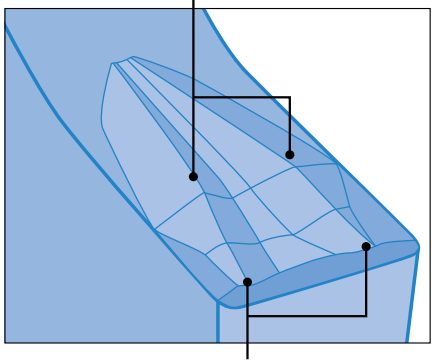


2 Stable Chip Control with GL Chipbreaker



GL Chipbreaker maintains stable chip control while grooving and traversing (Traversing is not recommended for GBF32R075-005GL)

Twin Dots Stabilizes and maintains control of the chip



Front Edge Dots Curls chips and breaks them short to prevent chip clogging or entanglemnt.

Comparison of Chip Control (Internal Evaluation)

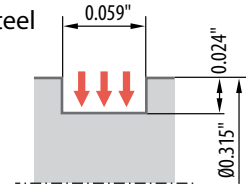
	GL Chipbreaker	Competitor A
Grooving d = 0.059" f = 0.0020 ipr		
Traversing D.O.C. = 0.008" f = 0.0016 ipr		

Cutting Conditions: Vc = 260 sfm, Insert width 0.039" (1mm)
Workpiece: 304

Case Studies

Nozzle Parts - Stainless Steel

Vc = 150 sfm
f = 0.002 ipr
Groove Depth 0.024", Wet
KGBFR1212JX-16F
GBF32R100-005GL PR1535



GL Chipbreaker PR1535

Competitor A

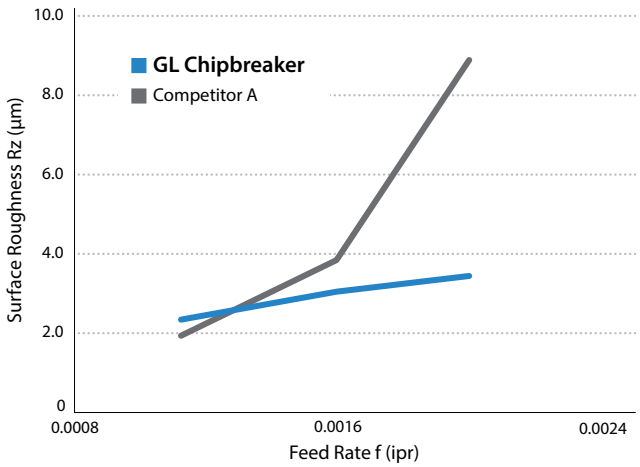
Competitor A's chips became entangled with workpiece due to unstable chip control.
GL Chipbreaker maintained stable chip control without entanglement.

(User Evaluation)

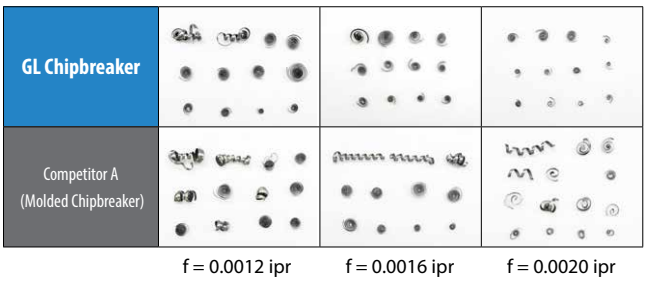
3 Good Surface Finish

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

Surface Finish Comparison (Internal Evaluation)



Chip Control Comparison (Internal Evaluation)

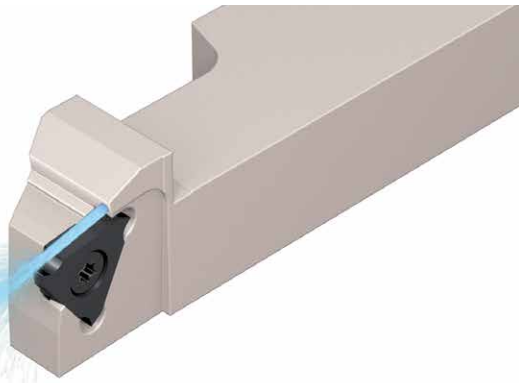


Cutting Conditions: Vc = 260 sfm, d = 0.059", f = 0.0012~0.0020 ipr, Insert width 0.039" (1mm)
Workpiece: 4140

4 JCTM Series Direct Coolant Holder for Small Parts Machining

Supports internal coolant with or without piping systems

Internal coolant delivers improved chip control and longer tool life while grooving



Internal Coolant without Piping

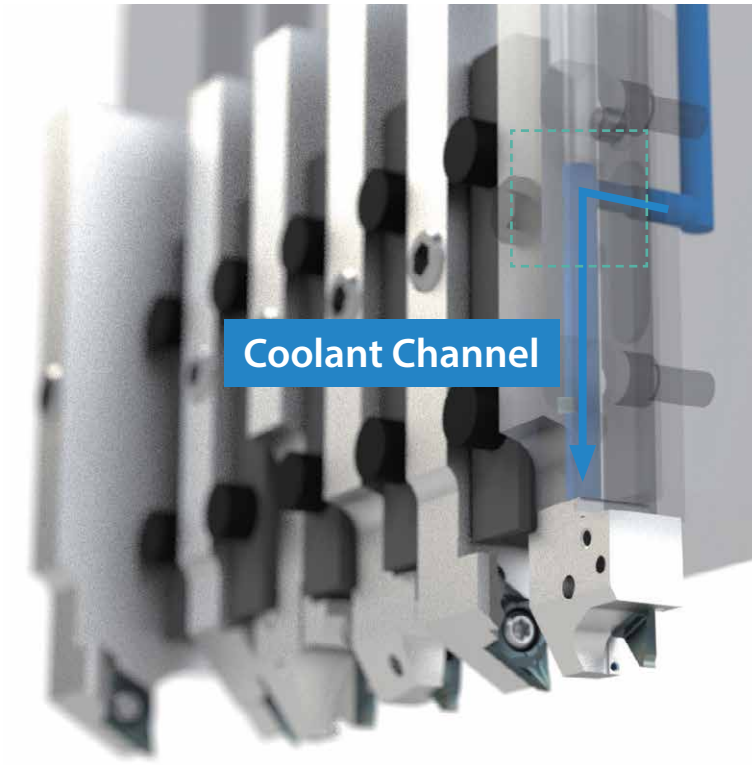
***When the tool plate supports direct coolant**

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

Applicable to Wide Range of Machines **The tool plate is optional. Please contact a Kyocera sales representative for details.**

CITIZEN MACHINERY CO., LTD. (L20, D25, M32)
STAR MICRONICS CO., LTD. (SB-R series, SR series, SV series)
TSUGAMI CORPORATION (S205/206-Ⅱ□16 type, S205A/206A-Ⅱ□16 type)
Compatible with various machine including the above. Toolholders can be customized as well.

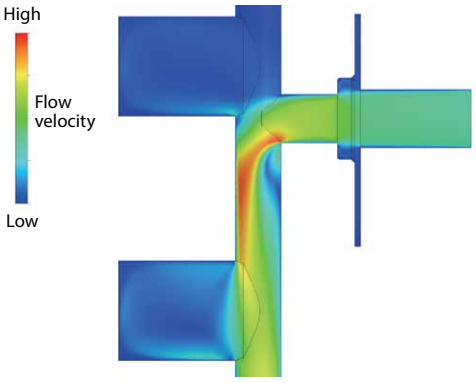
(Random order)
Based on Kyocera Survey in January 2021



Optimized Coolant Supply

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

Analysis Image (Internal Evaluation)

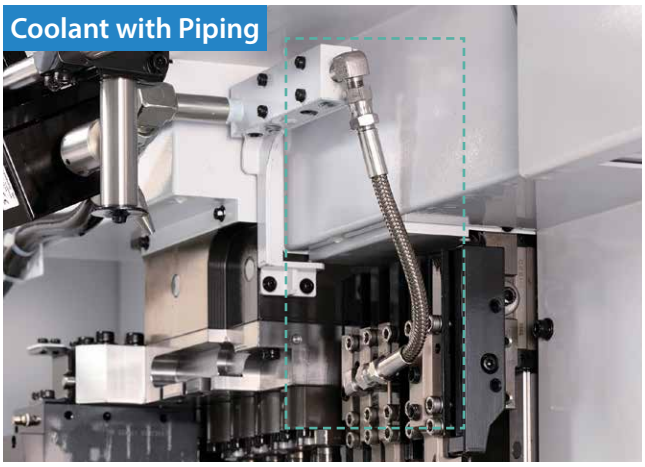


Internal Coolant with Piping

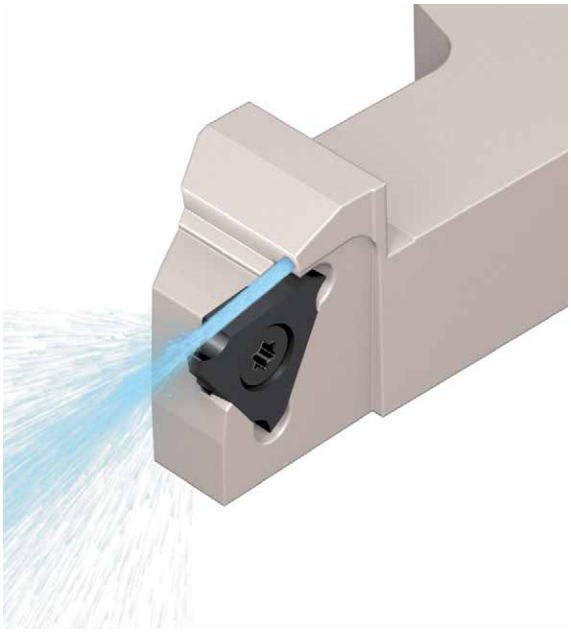
*Piping Parts : See Pages **10-11**

Compatible with internal coolant on any machine with standard piping parts

Commercial piping parts are available when using at normal pressure



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

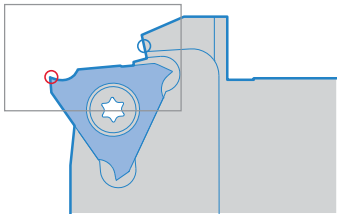
Ground Chipbreaker / Molded GL Chipbreaker

Maximum groove depth : 0.079 / 3mm

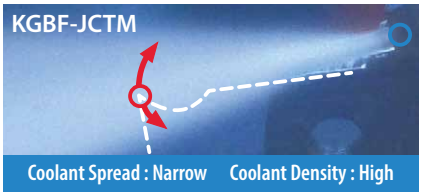
Coolant Discharging Comparison (Internal Evaluation)

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

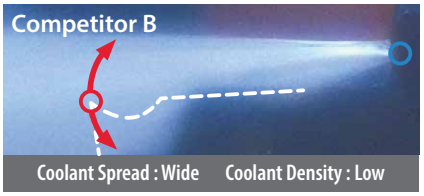
○ Cutting Edge
○ Coolant Hole



(Without Insert)



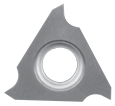
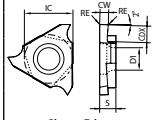
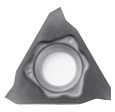
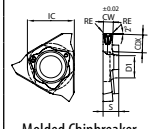
(Without Insert)



GBF Inserts (Sharp Edge / GL Chipbreaker)

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

Insert		Part Number	No. of Edges	Dimensions (mm)							Tolerance (mm)		Carbide			Applicable Toolholder ➡ P10~P12
				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	●	●		

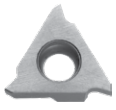
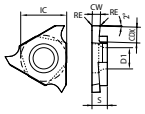
The maximum machining diameter is Ø2.008" (51mm) (Please check caution on **Page 9**)

● : Standard Item

GBF Inserts (Standard / Right-Hand)

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

Insert	Part Number	No. of Edges	Dimensions (mm)							Tolerance (mm)		Carbide			Applicable Toolholder ▶ P10~P12
			CW		CDX	IC	S	D1	RE	CW min.	CW max.	PVD		-	
			in	mm								PR1215	PR1535	GW15	
 	GBF32R 025-005	3	0.010	0.25	0.6	9.525	3.18	4.4	0.05	-0.02	+0.02	●	●	●	KGBFR...-16F KGBFR...-3... KGBFR...-16FJCTM KGBFSL...-16 S...KGBFL16
	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	●	●	●	

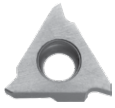
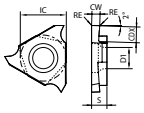
The maximum machining diameter is Ø2.008" (51mm) (Please check caution on **Page 9**)

● : Standard Item

GBF Inserts (Standard / Left-Hand)

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

Insert		Part Number	No. of Edges	Dimensions (mm)							Tolerance (mm)		Carbide			Applicable Toolholder ➡ P10~P12
				CW		CDX	IC	S	D1	RE	CW min.	CW max.	PVD		-	
				in	mm								PR1215	PR1535	GW15	
		GBF32L 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	●	●	●	
		130-005		0.051	1.3	2				0.05	-0.02	+0.02	●	●	●	KGBFL...-16F
		130-010	3	0.051	1.3	2	9.525	3.18	4.4	0.1	-0.02	+0.02	●	●	●	KGBFL...-3...
		140-005		0.055	1.4	2.7				0.05	-0.02	+0.02	●	●	●	KGBFSR...-16
		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	●	●	●	

The maximum machining diameter is Ø2.008" (51mm) (Please check caution on **Page 9**)

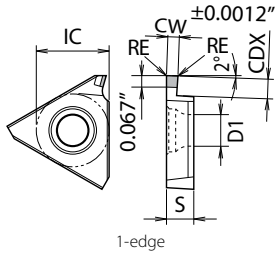
● : Standard Item

GBA PCD Inserts

When using a KGBF/KGBFS holders to machine non-ferrous metals, etc.

Applicable PCD Insert

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

Insert	Part Number		Dimensions (mm)				PCD	
			CW		CDX	RE	KPD001	KPD010
			in	mm			R	R
 1-edge	GBA32R	125-010	0.049	1.25	2.00	0.10	●	●
		150-010	0.059	1.50			●	●
		200-010	0.079	2.00	2.50		●	

· CDX shows available grooving depth.

● : Standard Item

When using a KGBF/KGBFS holder for non-ferrous metal machining, use a GBA PCD insert.
*See above details for insert description. Also, please refer to the precautions below when using.

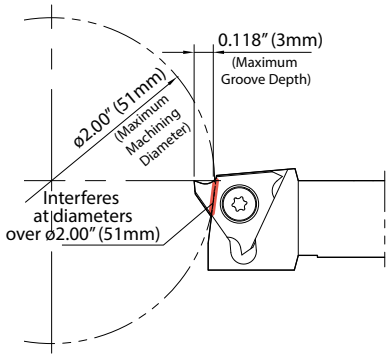
Precautions

· GBF and GBA Compatibility

1 GBF will fit KGBA/KGBAS holders.
Caution : The maximum groove depth for KGBA/KGBAS holders is 0.098" (2.5mm)

2 GBA inserts will also fit KGBF/KGBFS holders
Caution : The rake angle after installation in the toolholder is 11°

· Grooving Depth : 0.118" (3mm)



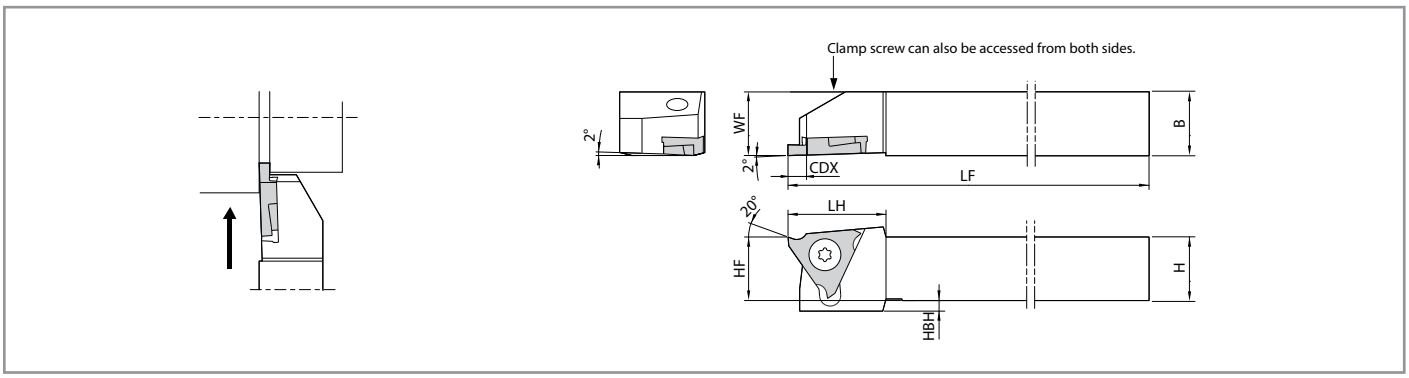
· KGBF/KGBFS Holder with GBF Insert Maximum Machining Diameter

0.118" (3mm) groove depth is available on workpiece diameters up to ø2.008" (51mm)
0.106" (2.7mm) groove depth is available on workpiece diameters up to ø3.937" (100mm)
0.098" (2.5mm) groove depth is available on workpiece diameters up to ø7.874" (200mm)
The workpiece will interfere with the holder at maximum cutting diameter or larger.

GBA32 (PCD) Recommended Cutting Conditions

Workpiece Material	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)
	PCD	
	KPD001 (KPD010)	GBA32R 125 – 200 (-010)
Aluminum Alloy	★ 490 - 6,560	[1] 0.0020 – 0.0059 [2] 0.0020 – 0.0059 [3] MAX. 0.0197
Brass	★ 660 - 2,620	[1] 0.0020 – 0.0059 [2] 0.0020 – 0.0059 [3] MAX. 0.0197

KGBF-F (Without Offset)



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 ➡ P6~P8
												Screw	Wrench	
		R	L	CDX	H	B	LH	HF	HBH	LF	WF			
Inch	KGBF□L 6-3JXF	●	●	0.118	0.375	0.375	0.728	0.375	0.157	4.750	0.375	SB-4070TRW	FT-8	GBF32□L
	8-3JXF	●	●		0.500	0.500		0.500	0.079		0.500			
	10-3JXF	●	●		0.625	0.625		0.625	-		0.625			
mm	KGBF□L 1010JX-16F	●	●	3	10	10	18.5	10	4	120	10	SB-4070TRW	FT-8	GBF32□L
	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

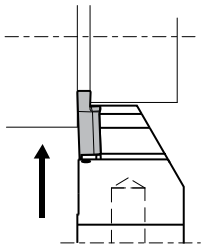
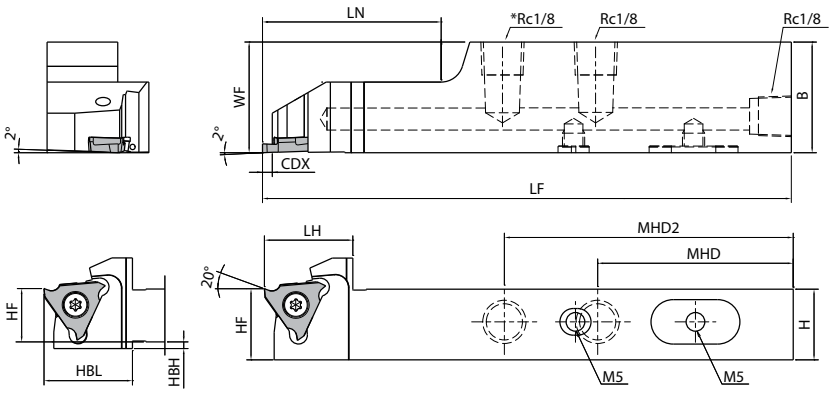
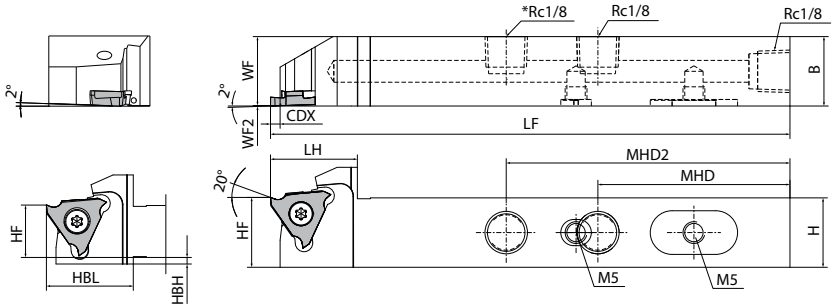


Fig. 1



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

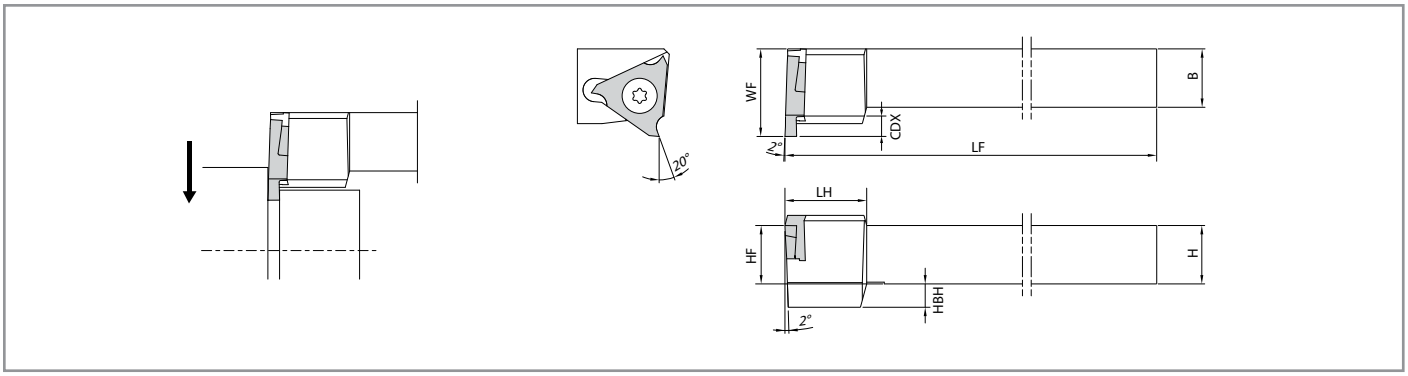
Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions													Fig.	Coolant Hole	Spare Parts				Applicable Inserts ➡ P6~P8
																		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 **14** and **15** for piping parts of coolant-through holders.

● : Standard Item

KGBFS (90° Type)



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

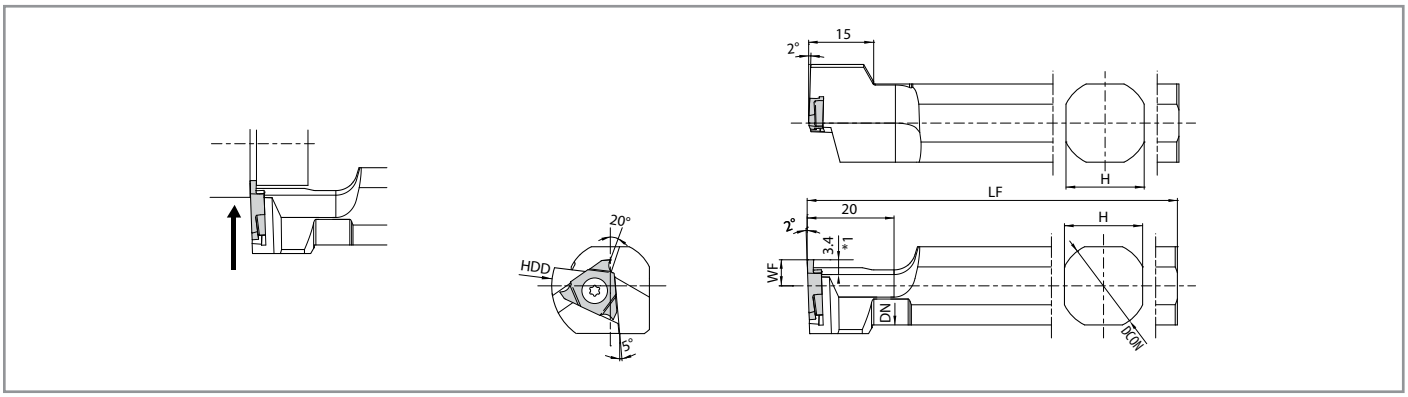
Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions								Spare Parts		Applicable Inserts ➡ P6~P8
												Screw	Wrench	
		R	L	CDX	H	B	LH	HF	HBH	LF	WF			
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.

● : Standard Item

S-KGBF (Sleeve Holder)



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 ➡ P6~P8
									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

Recommended Cutting Conditions ★ 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	

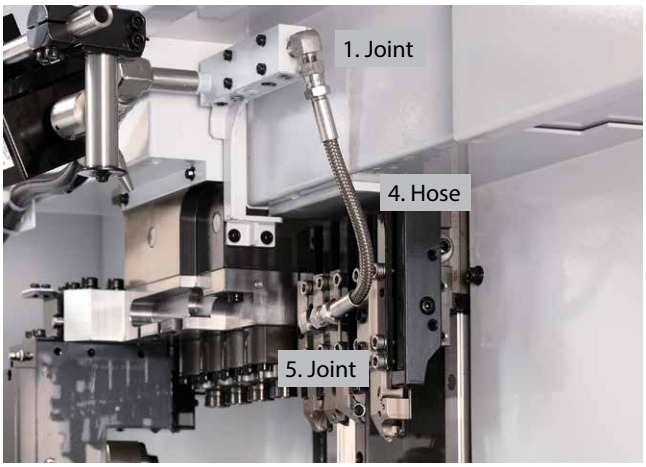
★:1st recommendation ☆:2nd recommendation

Coolant Piping Parts

Pipe parts will be required separately if internal coolant is used

Pump Pressure: up to 2,900 psi
Pump Pressure: up to 1,090 psi if couplers are used

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

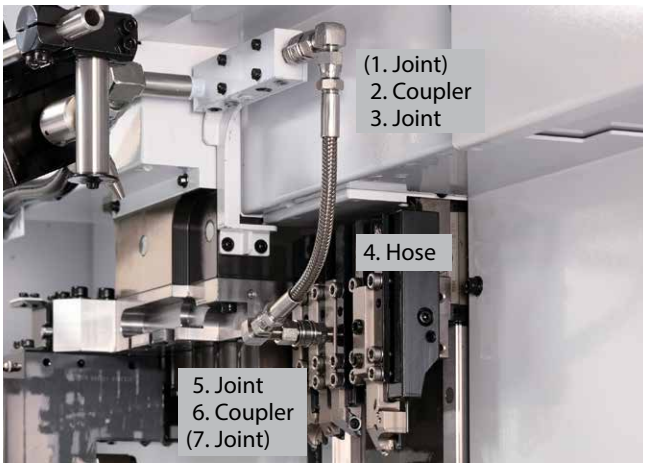


Combination Part Number (Example)

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

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

With Coupler (Pump Pressure: Up to 1,090 psi)



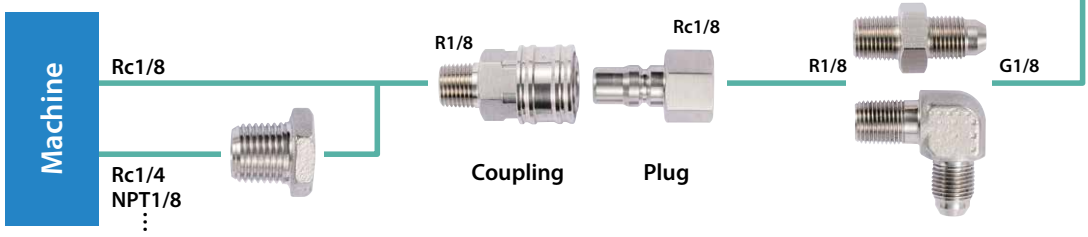
Combination Part Number (Example)

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

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

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

With Coupler (Pump Pressure: up to 1,090 psi)



1. Joint 2. Coupler 3. Joint 4. Hose

Piping Installation Parts Part Number

Joint [(1)(3)(5)(7)]

Pressure Resistance: up to 2,900 psi

Shape	Part Number	Thread Standard	Std. Item
	J-ST-R1/4-G1/8	R1/4 ⇔ G1/8	●
	J-ST-NPT1/8-G1/8	NPT1/8 ⇔ G1/8	●
	J-ST-R1/8-G1/8	R1/8 ⇔ G1/8	●
	J-ST-R1/8-G1/8-L		●
	J-AN-R1/8-G1/8		●
	J-AN-R1/8-G1/8-L		●
	J-ST-R1/4-RC1/8	R1/4 ⇔ Rc1/8	●
	J-ST-NPT1/8-RC1/8	NPT1/8 ⇔ Rc1/8	●
	J-ST-R1/8-RC1/8	Rc1/8 ⇔ R1/8 (Extension Joint)	●

Elbow piping (J-AN-R1/8-G1/8) is recommended.

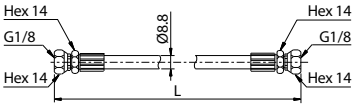
Coupler [(2)(6)]

Pressure Resistance: up to 1,090 psi

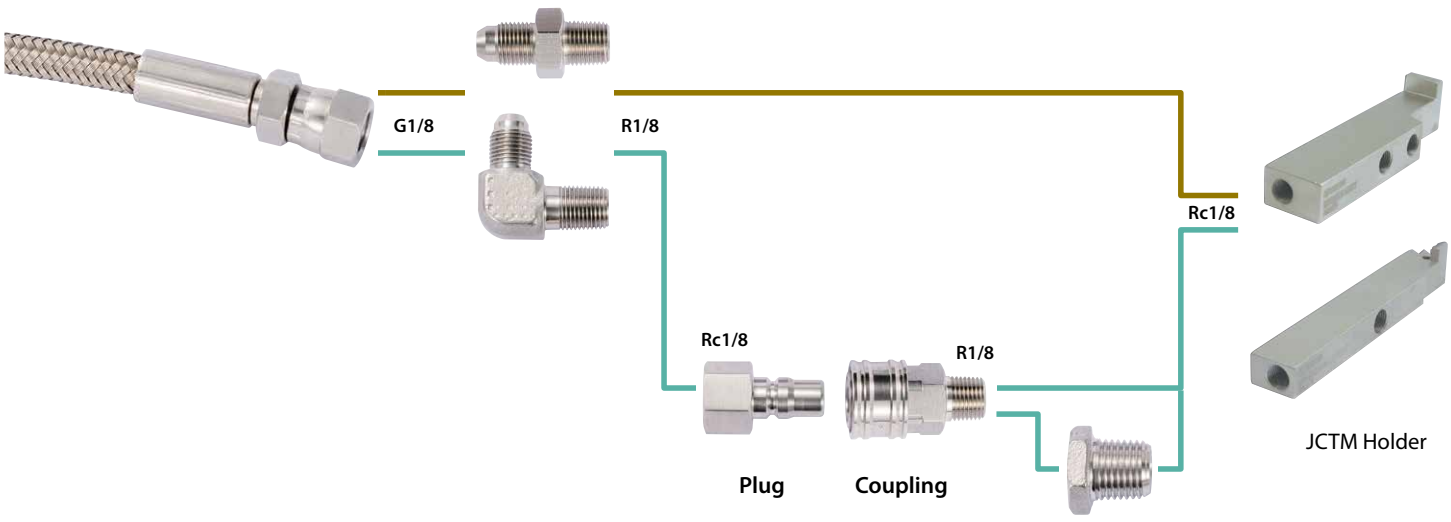
Shape	Part Number	Thread Standard	Std. Item
	CP-ST-R1/8	R1/8	●
	P-ST-RC1/8	Rc1/8	●

Hose (4)

Pressure Resistance: up to 2,900 psi

Shape		Part Number	Thread Standard	Total Length (mm)	Std. Item
		HS-G1/8-G1/8-200	G1/8	200	●
		HS-G1/8-G1/8-300		300	●
		HS-G1/8-G1/8-400		400	●
		HS-G1/8-G1/8-500		500	●
		HS-G1/8-G1/8-600		600	●
		HS-G1/8-G1/8-800		800	●

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 same. Check the pressure resistance before use.
6. Regularly changing the coolant filter is recommended.



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

KYOCERA Precision Tools
238 Marc Drive
Cuyahoga Falls, OH 44223
Customer Service | 800.823.7284 - Option 1
Technical Support | 800.823.7284 - Option 2

Official Website | www.kyoceraprecisiontools.com
Distributor Website | portal.kyoceraprecisiontools.com
Email | cuttingtools@kyocerapti.com