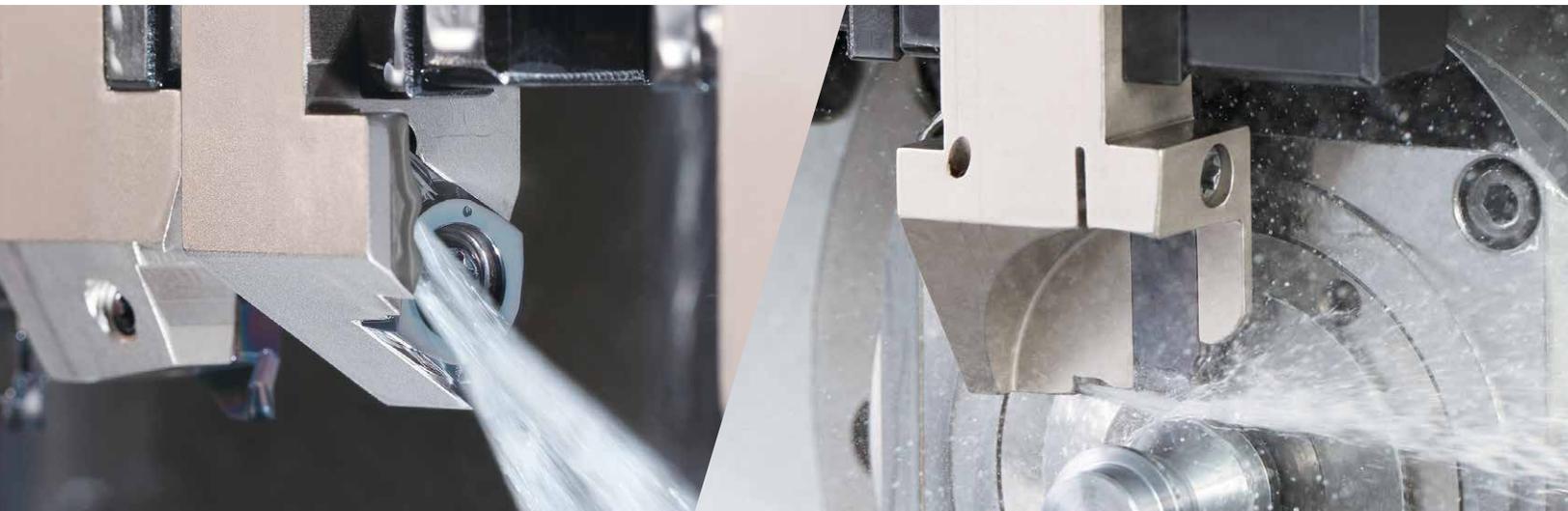




# JCTM Series

Jet Coolant-Through Holders for Small Parts Machining



Supports Fewer Piping Attachments with Direct Coolant Supply

Can Take Advantage of Different Supply Styles and can Support Internal Coolant with/without Piping System

Large Lineup for Various Tooling Operations

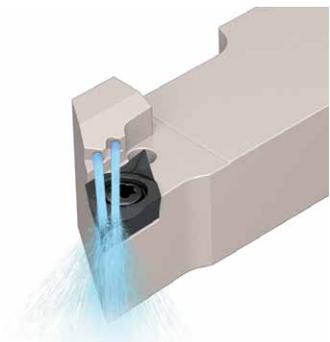
Long Tool Life with Kyocera's High-performance Insert Grade



**JCTM Expansion**

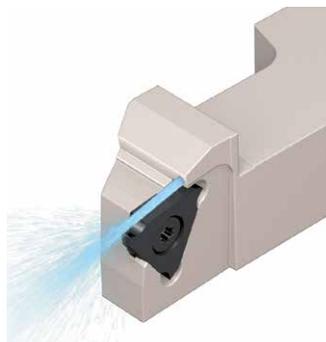
3/8" / 10mm Shank Sizes Added

Turning



Screw Clamp - JCTM

External Grooving



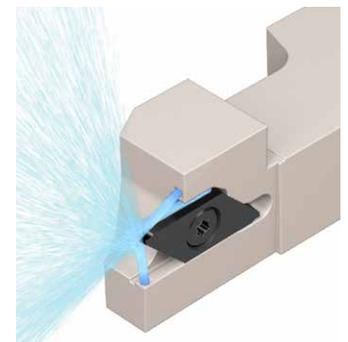
KGBF - JCTM

Cut-Off



KGZ - JCTM

Cut-Off



KTKF - JCTM

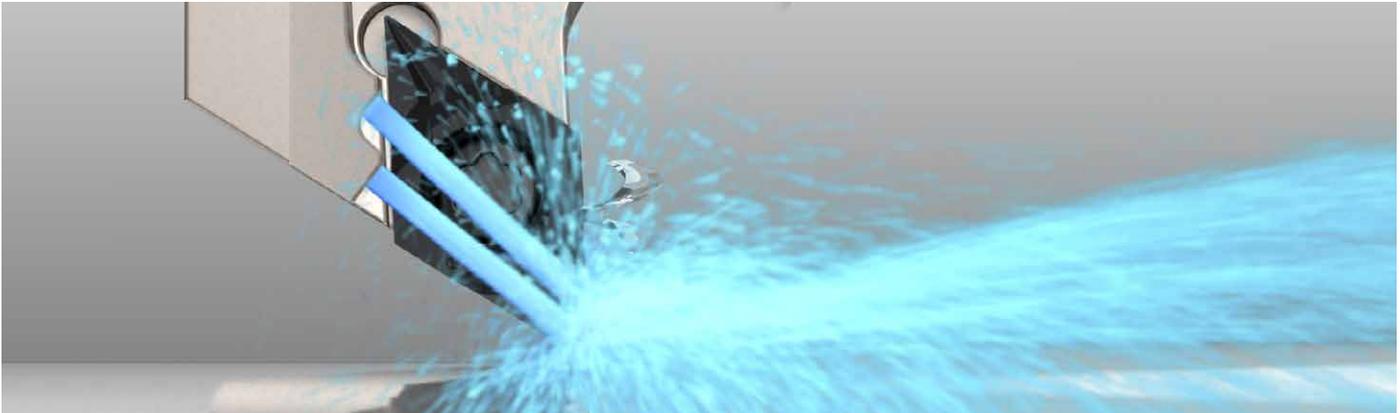
# JCTM Series

Jet Coolant Holders for Small Parts Machining

Supports Internal Coolant with or without Piping Systems

Lineup of Turning, Grooving (KGBF), and Cut-off (KGZ/KTKF) Holders

## 1 Using Internal Coolant to Enhance Tool Performance



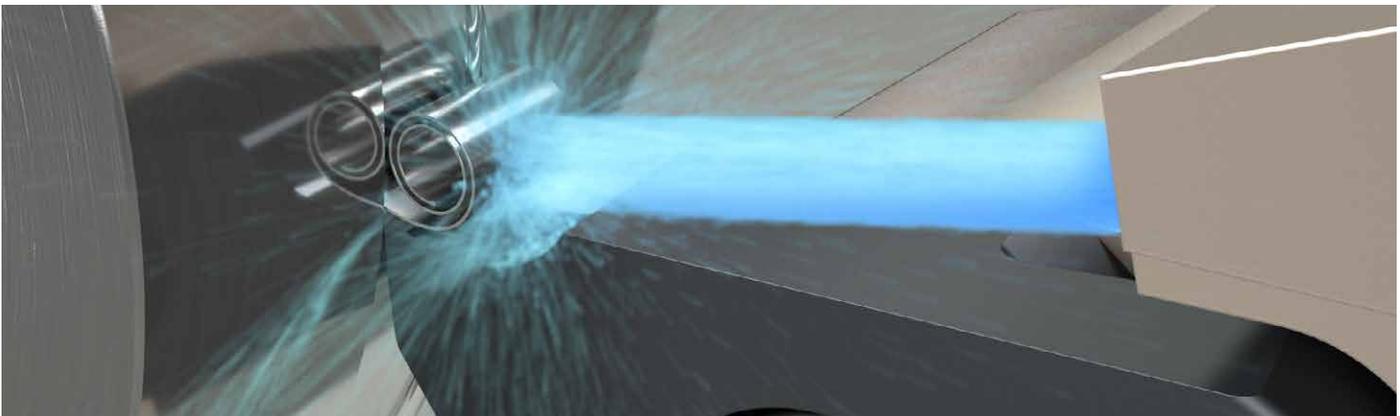
CG Image

### Challenges

- Difficulty with automated operations due to sudden chip entanglement issues
- Insert change is not enough to extend tool life

### SOLUTIONS

- The JCTM series is compatible with internal coolant in a wide range of machines and also works under normal pressure
- Reduces down time by improving chip control and reduces cost by extending tool life



CG Image

## Switching to internal coolant toolholder reduces chip entanglement issues

### Internal Coolant (2.5 MPa)



### External Coolant



### Pin Alloy Tool Steel

Vc = 590 sfm, D.O.C. = 0.055"

f = 0.005 ipr, Wet

SDJC Holder / DCMT3251 Insert

(User Evaluation)

## 2 Supports Internal Coolant with or without Piping Systems

### Internal Coolant without Piping **\*When the tool plate supports direct coolant**

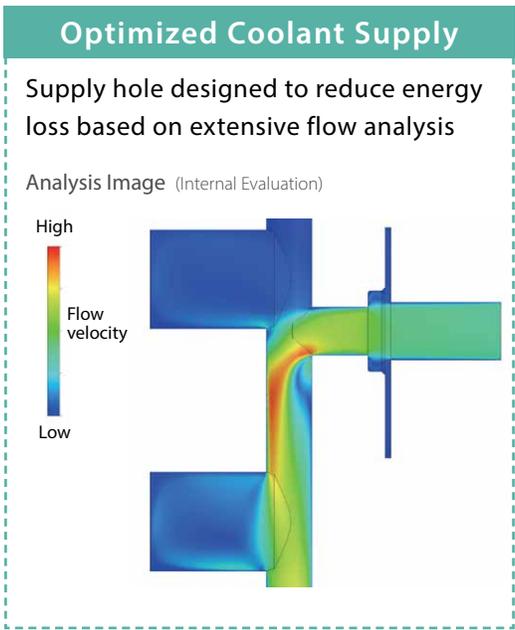
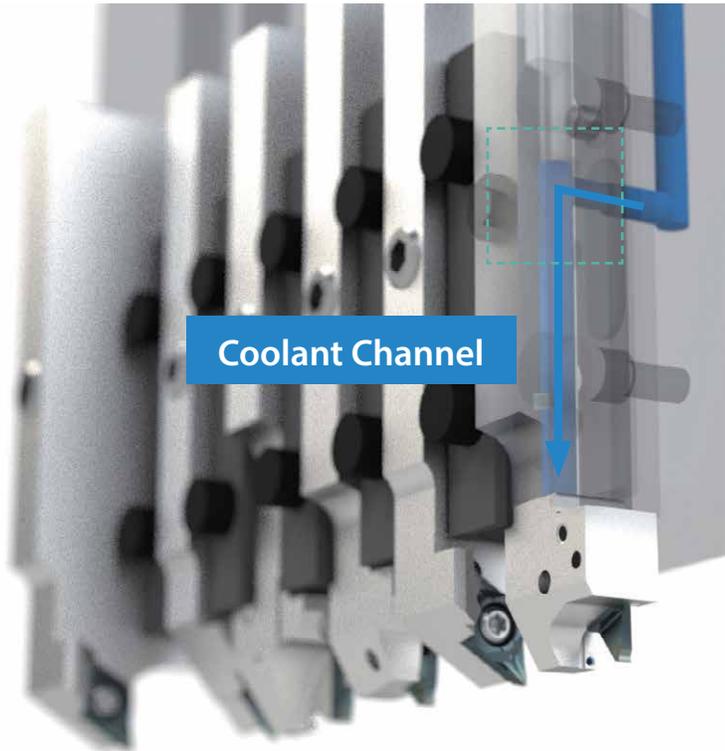
Coolant is supplied directly from the tool plate into the holder without the need to install piping

Applicable to Wide Range of Machines

Direct coolant is optional. Please contact our company sales representative for details.

CITIZEN MACHINERY CO., LTD. (L12(2M), L20(2M/3M), L32(2M), D25, M32(5M))  
STAR MICRONICS CO., LTD. (SB Series, SD Series, SP Series)  
TSUGAMI CORPORATION (B026/032-III Series, BW269/329ZJ, SS267/327-III Series, S205/206-II, S205A/206A-II)  
Compatible with various machine including the above. Toolholders can be customized as well.

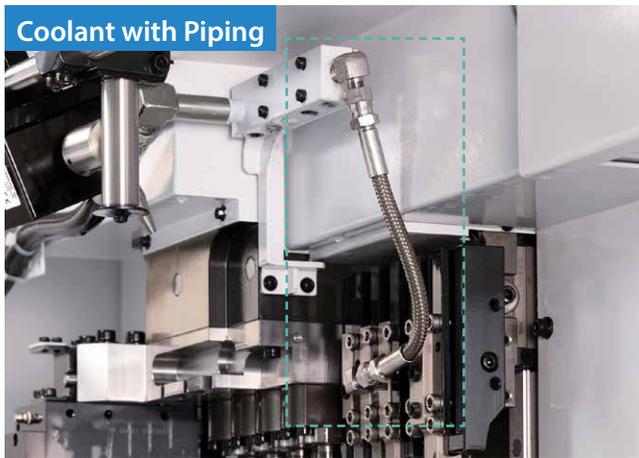
(Random order)  
Based on Kyocera Survey in October 2025



### Internal Coolant with Piping **\*Piping parts: See pages 14 and 15**

Compatible with internal coolant on any machine with standard piping parts

Commercial piping parts are available when using at normal pressure



### 3 Large Lineup for Various Tooling Operations

#### Turning Screw Clamp - JCTM



- **Double coolant holes**  
Provide coolant toward the cutting edge surface of the insert
- **Lineup**  
SCLC-JCTM / SDJC-JCTM  
SVJB-JCTM / SVJP-JCTM  
\*SV-- □0.375" / □0.500" shank size : Single hole  
\*SV-- □10mm / □12mm shank size : Single hole

#### Coolant Supply Structure Comparison (Internal Evaluation)

➔ P6

Screw clamp - JCTM		Competitor A	
Discharges coolant toward the rake surface of insert		Discharges coolant down onto the chip forcing the chip into the part	
Chip control performance	✓ Provides stable chip curls	Chip control performance	Chip becomes unstable
Cooling effect	✓ The cutting edge stays cool	Cooling effect	Chip can cause interference with the workpiece

#### External Grooving KGBF - JCTM



- Provides coolant toward the rake surface of insert
- **Specification**  
Edge Width: 0.010" - 0.118" (0.25mm - 3mm)  
Ground Chipbreaker / Molded GL Chipbreaker  
Maximum groove depth: 0.118" (3mm)

#### Coolant Discharge Comparison (Internal Evaluation)

➔ P10

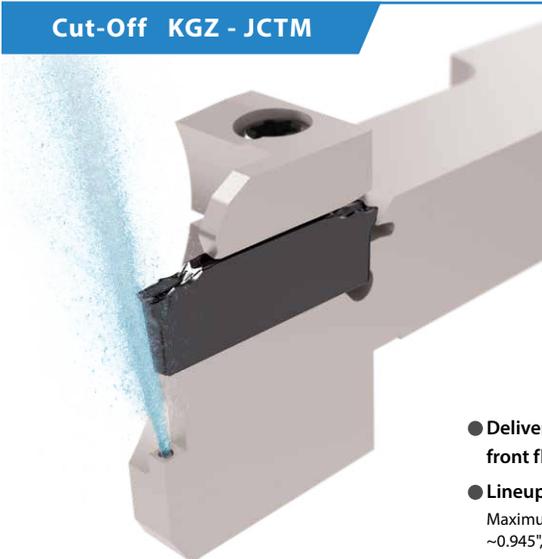
Small chips and better cooling of the insert leads to longer tool life.

○ Cutting Edge  
○ Coolant Hole

**KGBF-JCTM** (Without Insert)  
Coolant Spread: Narrow Coolant Density: High

**Competitor B** (Without Insert)  
Coolant Spread: Wide Coolant Density: Low

#### Cut-Off KGZ - JCTM



- Delivers coolant directly to front flank face
- **Lineup**  
Maximum Cutting Dia. :  
~0.945", ~1.024", ~1.260" / ~24mm, ~26mm, ~32mm

#### Coolant discharge comparison (Image)

➔ P13

KGZ-JCTM	Competitor C
Cooling the cutting edge leads to longer tool life	Coolant does not flow directly toward the cutting edge

## Cut-Off KTKF - JCTM



- Discharges coolant in three directions toward rake surface of insert

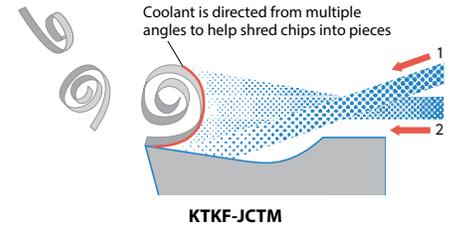
(Two holes toward the rake face and one hole toward the flank face of the insert)

- Lineup

TKF 12 Type (Maximum Cut-Off:  $\varnothing 0.197'' - \varnothing 0.472'' / \varnothing 5\text{mm} - \varnothing 12\text{mm}$ )  
TKF 16 Type (Maximum Cut-Off:  $\varnothing 0.630'' / \varnothing 16\text{mm}$ )

➔ P18

### Coolant Discharge Structure Comparison



KTKF-JCTM



Competitor D

## 4 Kyocera's High-Performance Insert Grades

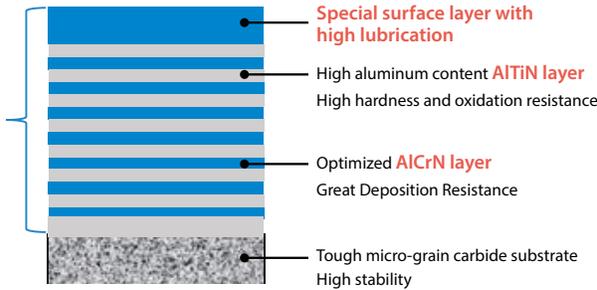
### PR1725 1st Recommendation for Steel Machining Excellent Surface Finish and Long Tool Life

#### MEGACOAT NANO PLUS

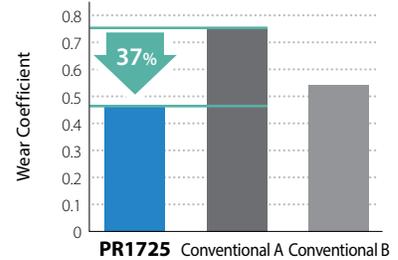
AlTiN/AlCrN Nano laminated film with superior wear resistance and adhesion resistance

#### Reduces Cracking

Reduces abnormal damages such as chipping because of increased lamination layer with a thinner gap than conventional coatings.



#### Wear Coefficient Comparison (Internal Evaluation)

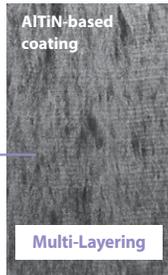
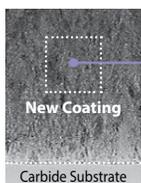


### PR20 Series Achieves long tool life with the combination of high content aluminum nano coating layer



Multi-layering of high content aluminum nano layers  
Excellent wear resistance, high-temperature hardness and plastic deformation resistance

Insert cross-section



#### Long Tool Life

High melting point material having different concentration  
Excellent oxidation resistance

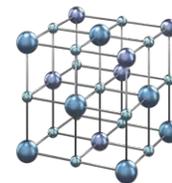
#### Stable Machining

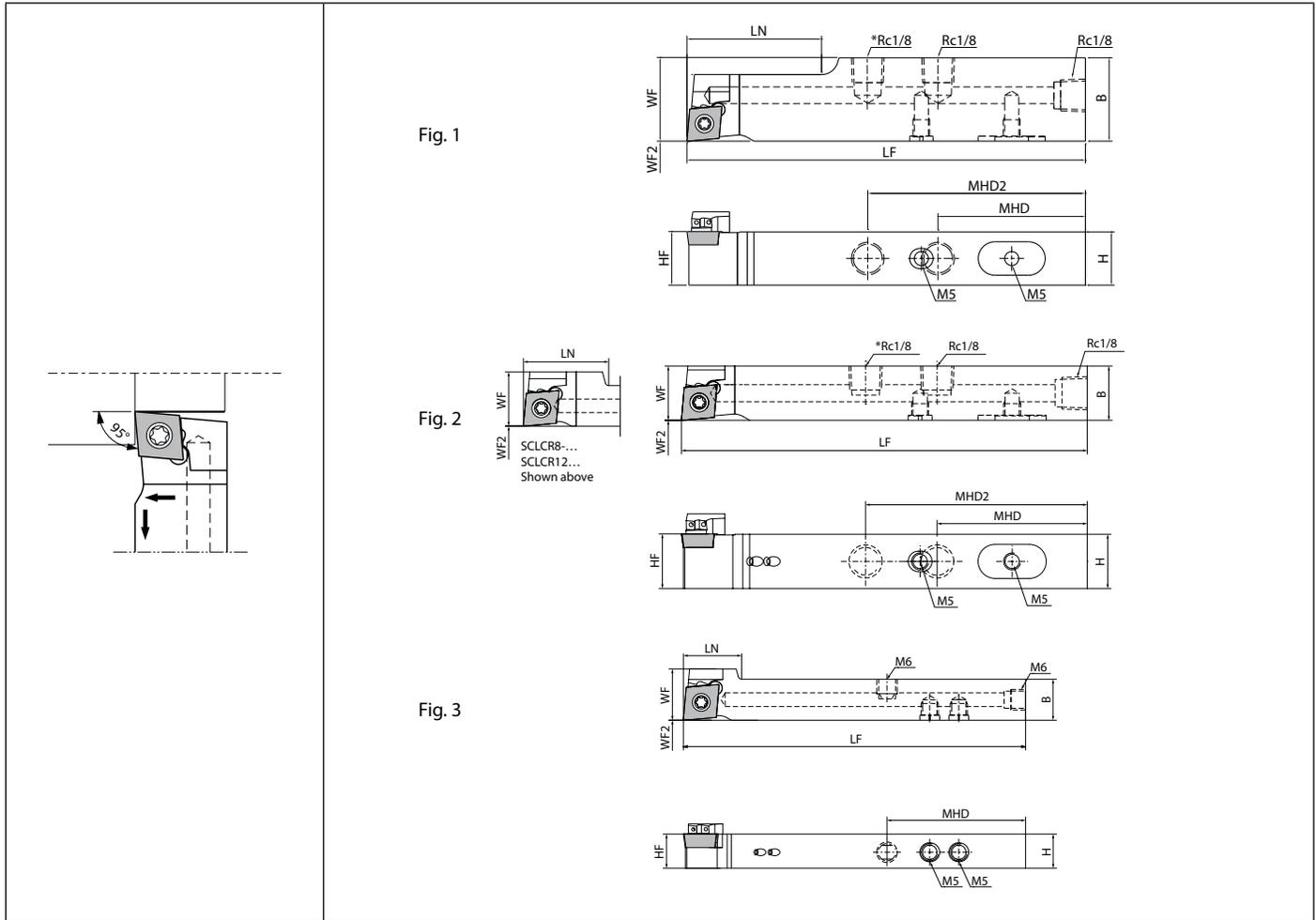
Crystal grain refinement  
High coating toughness  
Suppresses crack growth

#### Unique technology (Patent applied)

#### Proprietary coating process improves high content aluminum nano layers performance

Maintains a cubic crystal structure to maximize the properties of aluminum (Al)





Right-hand shown

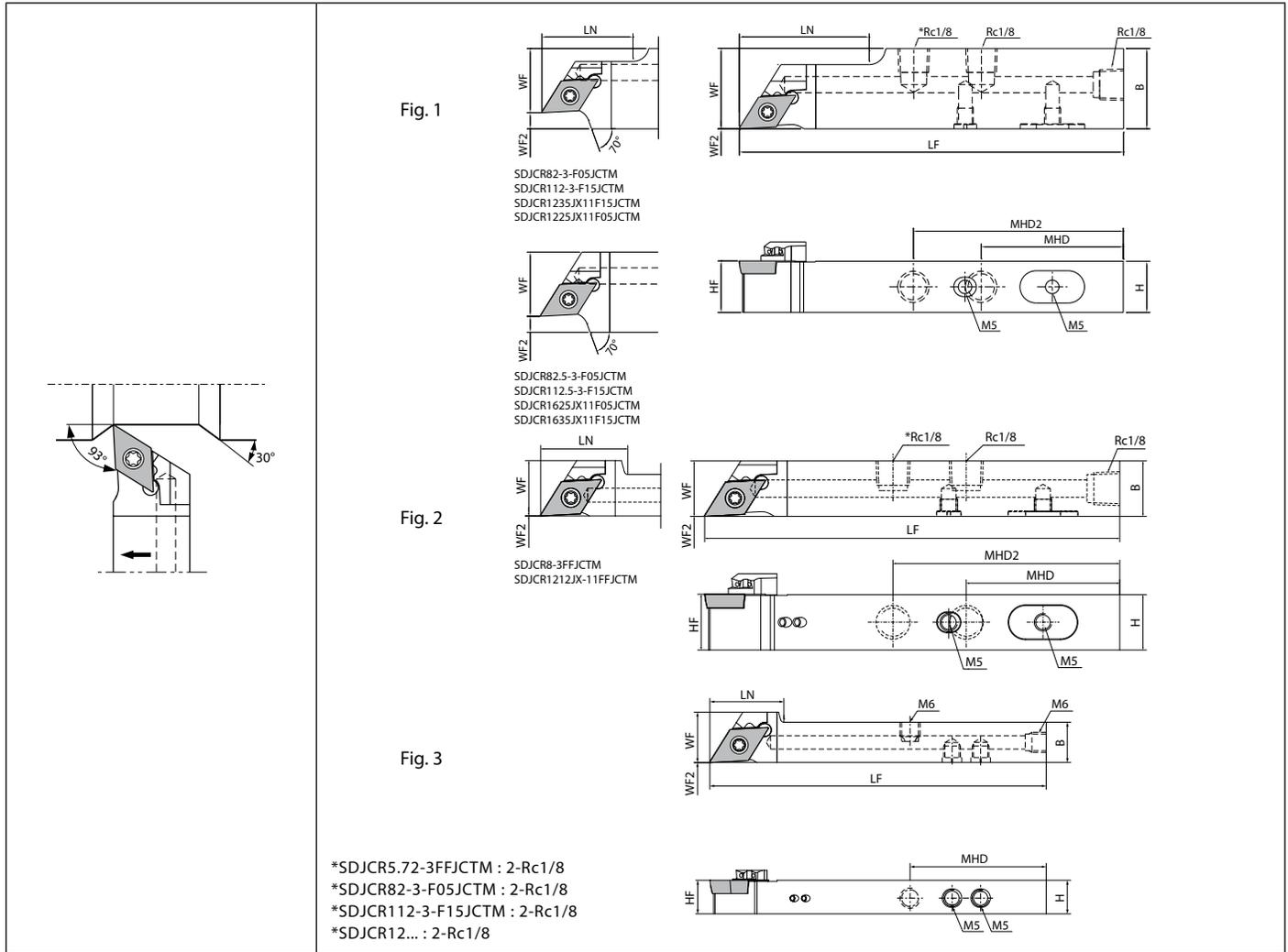
SCLCR5.72..., SCLCR8-... : 2-Rc1/8  
SCLCR1218..., SCLCR1212... : 2-Rc1/8

Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions									Fig.	Standard Corner-R (RE)	Spare Parts				Applicable Inserts
			R	H	B	MHD	MHD2	HF	LF	LN	WF			WF2	Plug	Plug	Screw	
Inch	SCLCR 3.81.5-3HFFJCTM	●	0.375	0.472	1.575	-	0.375	3.937	0.669	0.591	0	3	0.008	HS6X6LP		SB-4085TR	FT-15	CC□T325... CC□W325...
	5.72-3FFJCTM	●	0.500	0.709	2.126	-	0.500	4.750	1.102	0.630	0	1	0.008	GP-1	HS5X4LP	SB-4085TR	FT-15	
	82.5-3FFJCTM	●	0.625	1.000	1.732	2.559	0.625	4.750	1.575	0.787	0	1	0.008	GP-1	HS5X4LP	SB-4085TR	FT-15	
	SCLCR 8-3FFJCTM	●	0.500	0.500	2.323	-	0.500	4.750	0.984	0.630	0	2	0.008	GP-1	HS5X4LP	SB-4085TR	FT-15	
	10-3FFJCTM	●	0.625	0.625	1.732	2.559	0.625	4.750	-	0.625	0	2	0.008	GP-1	HS5X4LP	SB-4085TR	FT-15	
	12-3FFJCTM	●	0.750	0.750	1.732	2.559	0.750	4.750	-	0.750	0	2	0.008	GP-1	HS5X4LP	SB-4085TR	FT-15	
mm	SCLCR 1012H-09FFJCTM	●	10	12	40	-	10	100	17	15	0	3	0.2	HS6X6LP		SB-4085TR	FT-15	CC□T325... CC□W325...
	1218JX-09FFJCTM	●	12	18	54	-	12	120	28	18	0	1	0.2	GP-1	HS5X4LP	SB-4085TR	FT-15	
	1625JX-09FFJCTM	●	16	25	44	65	16	120	40	25	0	1	0.2	GP-1	HS5X4LP	SB-4085TR	FT-15	
	2025JX-09FFJCTM	●	20	25	44	65	20	120	40	25	0	1	0.2	GP-1	HS5X4LP	SB-4085TR	FT-15	
	SCLCR 1212JX-09FFJCTM	●	12	12	59	-	12	120	25	16	0	2	0.2	GP-1	HS5X4LP	SB-4085TR	FT-15	
	1616JX-09FFJCTM	●	16	16	44	65	16	120	-	16	0	2	0.2	GP-1	HS5X4LP	SB-4085TR	FT-15	
	2020JX-09FFJCTM	●	20	20	44	65	20	120	-	20	0	2	0.2	GP-1	HS5X4LP	SB-4085TR	FT-15	
	2020JX-09FFJCTM	●	20	20	44	65	20	120	-	20	0	2	0.2	GP-1	HS5X4LP	SB-4085TR	FT-15	

Available Piping Parts see Pages 26-27

● : Standard Item



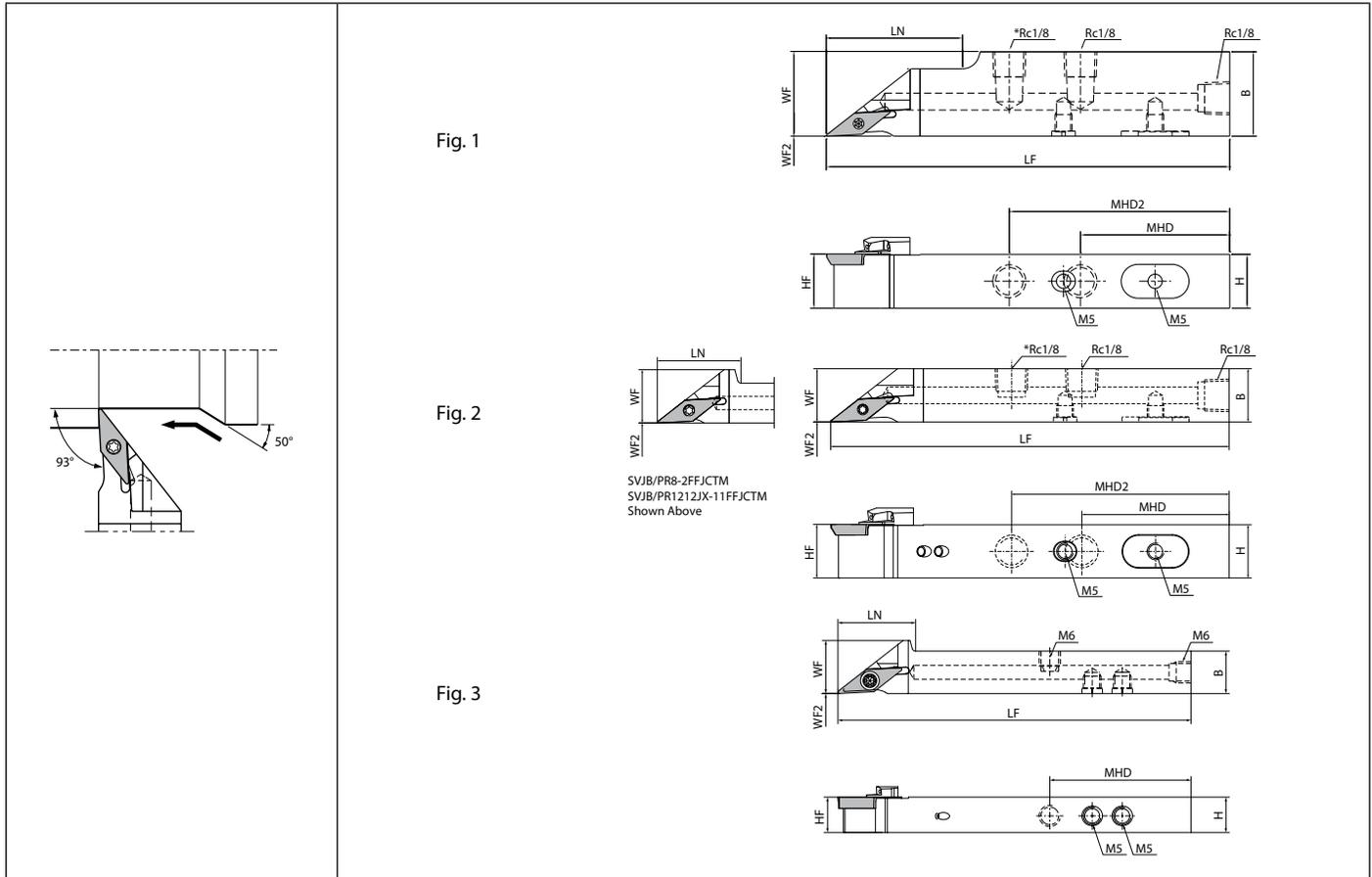
Right-hand shown

Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions									Fig.	Standard Corner-R (RE)	Spare Parts				Applicable Inserts
			R	H	B	MHD	MHD2	HF	LF	LN	WF			WF2	Plug	Plug	Screw	
Inch	SDJCR 3.81.5-3HFFJCTM 5.72-3FFJCTM 82.5-3FFJCTM	● 0.375	0.472	1.575	-	0.375	3.937	0.866	0.591	0	3	0.008	HS6X6LP					DC□T325... DC□W325... DC□X325...
		● 0.500	0.709	2.126	-	0.500		4.750	1.102	0.630	0	0.008	GP-1	HSSX4LP	SB-4085STR	FT-15		
		● 0.625	1.000	1.732	2.559	0.625		4.750	1.575	0.787	0	0.008	GP-1	HSSX4LP	SB-4085STR	FT-15		
	SDJCR 82-3-F05JCTM 112-3-F15JCTM 82.5-3-F05JCTM 112.5-3-F15JCTM	● 0.500	1.000	2.126	-	0.500	4.750	1.102	0.630	0.197	1	0.008	GP-1	HSSX4LP	SB-4085STR	FT-15	DC□T325... DC□W325... DC□X325...	
		● 0.625	1.000	1.732	2.559	0.625	4.750	-	0.787	0.197	0	0.008	GP-1	HSSX4LP	SB-4085STR	FT-15		
		● 0.625	1.375	1.732	2.559	0.625	4.750	-	0.787	0.591	0	0.008	GP-1	HSSX4LP	SB-4085STR	FT-15		
SDJCR 8-3FFJCTM 10-3FFJCTM 12-3FFJCTM	● 0.500	0.500	2.323	-	0.500		0.984	0.630		2	0.008	GP-1	HSSX4LP	SB-4085STR	FT-15	DC□T325... DC□W325... DC□X325...		
	● 0.625	0.625	1.732	2.559	0.625	4.750	-	0.625	0	0.008	GP-1	HSSX4LP	SB-4085STR	FT-15				
	● 0.750	0.750	1.732	2.559	0.750	4.750	-	0.750	0	0.008	GP-1	HSSX4LP	SB-4085STR	FT-15				
mm	SDJCR 1012H-11FFJCTM 1218JX-11FFJCTM 1625JX-11FFJCTM 2025JX-11FFJCTM	● 10	12	40	-	10	100	22	15	0	3	0.2	HS6X6LP				DC□T325... DC□W325... DC□X325...	
		● 12	18	54	-	12		28	18	0	0.2	GP-1	HSSX4LP	SB-4085STR	FT-15			
		● 16	25	44	65	16	120	40	25	0	0.2	GP-1	HSSX4LP	SB-4085STR	FT-15			
		● 20	25	44	65	20	120	40	25	0	0.2	GP-1	HSSX4LP	SB-4085STR	FT-15			
	SDJCR 1225JX11F05JCTM 1235JX11F15JCTM 1625JX11F05JCTM 1635JX11F15JCTM	● 12	25	54	-	12		28		5	1	0.2	GP-1	HSSX4LP	SB-4085STR	FT-15	DC□T325... DC□W325... DC□X325...	
		● 12	35	54	-	12		28	20	15	0.2	GP-1	HSSX4LP	SB-4085STR	FT-15			
		● 16	25	44	65	16		-		5	0.2	GP-1	HSSX4LP	SB-4085STR	FT-15			
		● 16	35	44	65	16		-		15	0.2	GP-1	HSSX4LP	SB-4085STR	FT-15			
	SDJCR 1212JX-11FFJCTM 1616JX-11FFJCTM 2020JX-11FFJCTM	● 12	12	59	-	12		25		16	2	0.2	GP-1	HSSX4LP	SB-4085STR	FT-15	DC□T325... DC□W325... DC□X325...	
		● 16	16	44	65	16	120	-		16	0	0.2	GP-1	HSSX4LP	SB-4085STR	FT-15		
		● 16	16	44	65	16	120	-		16	0	0.2	GP-1	HSSX4LP	SB-4085STR	FT-15		
		● 20	20	44	65	20	120	-		20	0	0.2	GP-1	HSSX4LP	SB-4085STR	FT-15		

Available Piping Parts see Pages 26-27

● : Standard Item



Right-hand shown  
 SVJB/PR5.72..., SVJB/PR8-... : 2-Rc1/8  
 SVJB/PR1218..., SVJB/PR1212... : 2-Rc1/8

Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions										Fig.	Standard Corner-R (RE)	Spare Parts				Applicable Inserts
			R	H	B	MHD	MHD2	HF	LF	LN	WF	WF2			Plug	Plug	Screw	Wrench	
Inch	SVJBR 3.81.5-2HFFJCTM 5.72-2FFJCTM 82.5-2FFJCTM	●	0.375	0.472	1.575	-	0.375	3.937	0.866	0.591	0	3	1/64	HS6X6LP					VB□T22... VB□W22...
		●	0.500	0.709	2.126	-	0.500	4.750	1.102	0.630	0	1	1/64	GP-1	HS5X4LP	SB-2570TR	FT-8		
		●	0.625	1.000	1.732	2.559	0.625	4.750	1.575	0.787	0	1	1/64	GP-1	HS5X4LP	SB-2570TR	FT-8		
Inch	SVJBR 8-2FFJCTM 10-2FFJCTM 12-2FFJCTM	●	0.500	0.500	2.323	-	0.500	4.750	0.984	0.630	0	2	1/64	GP-1	HS5X4LP	SB-2570TR	FT-8	VB□T22... VB□W22...	
		●	0.625	0.625	1.732	2.559	0.625	4.750	-	0.625	0	2	1/64	GP-1	HS5X4LP	SB-2570TR	FT-8		
		●	0.750	0.750	1.732	2.559	0.750	4.750	-	0.750	0	2	1/64	GP-1	HS5X4LP	SB-2570TR	FT-8		
mm	SVJBR 1012H-11FFJCTM 1218JX-11FFJCTM 1625JX-11FFJCTM 2025JX-11FFJCTM	●	10	12	40	-	10	100	22	15	0	3	0.4	HS6X6LP				VB□T22... VB□W22...	
		●	12	18	54	-	12	120	28	18	0	1	0.4	GP-1	HS5X4LP	SB-2570TR	FT-8		
		●	16	25	44	65	16	120	40	25	0	1	0.4	GP-1	HS5X4LP	SB-2570TR	FT-8		
		●	20	25	44	65	20	120	40	25	0	1	0.4	GP-1	HS5X4LP	SB-2570TR	FT-8		
		●	20	20	44	65	20	120	40	25	0	1	0.4	GP-1	HS5X4LP	SB-2570TR	FT-8		
mm	SVJBR 1212JX-11FFJCTM 1616JX-11FFJCTM 2020JX-11FFJCTM	●	12	12	59	-	12	120	25	16	0	2	0.4	GP-1	HS5X4LP	SB-2570TR	FT-8	VB□T22... VB□W22...	
		●	16	16	44	65	16	120	-	16	0	2	0.4	GP-1	HS5X4LP	SB-2570TR	FT-8		
		●	16	16	44	65	16	120	-	16	0	2	0.4	GP-1	HS5X4LP	SB-2570TR	FT-8		
		●	20	20	44	65	20	120	-	20	0	2	0.4	GP-1	HS5X4LP	SB-2570TR	FT-8		
		●	20	20	44	65	20	120	-	20	0	2	0.4	GP-1	HS5X4LP	SB-2570TR	FT-8		
Inch	SVJPR 3.81.5-2HFFJCTM 5.72-2FFJCTM 82.5-2FFJCTM	●	0.375	0.472	1.575	-	0.375	3.937	0.866	0.591	0	3	0.008	HS6X6LP				VP□T22...	
		●	0.500	0.709	2.126	-	0.500	4.750	1.102	0.630	0	1	0.008	GP-1	HS5X4LP	SB-2570TR	FT-8		
		●	0.625	1.000	1.732	2.559	0.625	4.750	1.575	0.787	0	1	0.008	GP-1	HS5X4LP	SB-2570TR	FT-8		
Inch	SVJPR 8-2FFJCTM 10-2FFJCTM 12-2FFJCTM	●	0.500	0.500	2.323	-	0.500	4.750	0.984	0.630	0	2	0.008	GP-1	HS5X4LP	SB-2570TR	FT-8	VP□T22...	
		●	0.625	0.625	1.732	2.559	0.625	4.750	-	0.625	0	2	0.008	GP-1	HS5X4LP	SB-2570TR	FT-8		
		●	0.750	0.750	1.732	2.559	0.750	4.750	-	0.750	0	2	0.008	GP-1	HS5X4LP	SB-2570TR	FT-8		
mm	SVJPR 1012H-11FFJCTM 1218JX-11FFJCTM 1625JX-11FFJCTM 2025JX-11FFJCTM	●	10	12	40	-	10	100	22	15	0	3	0.2	HS6X6LP				VP□T22...	
		●	12	18	54	-	12	120	28	18	0	1	0.2	GP-1	HS5X4LP	SB-2570TR	FT-8		
		●	16	25	44	65	16	120	40	25	0	1	0.2	GP-1	HS5X4LP	SB-2570TR	FT-8		
		●	20	25	44	65	20	120	40	25	0	1	0.2	GP-1	HS5X4LP	SB-2570TR	FT-8		
		●	20	20	44	65	20	120	40	25	0	1	0.2	GP-1	HS5X4LP	SB-2570TR	FT-8		
mm	SVJPR 1212JX-11FFJCTM 1616JX-11FFJCTM 2020JX-11FFJCTM	●	12	12	59	-	12	120	25	16	0	2	0.2	GP-1	HS5X4LP	SB-2570TR	FT-8	VP□T22...	
		●	16	16	44	65	16	120	-	16	0	2	0.2	GP-1	HS5X4LP	SB-2570TR	FT-8		
		●	16	16	44	65	16	120	-	16	0	2	0.2	GP-1	HS5X4LP	SB-2570TR	FT-8		
		●	20	20	44	65	20	120	-	20	0	2	0.2	GP-1	HS5X4LP	SB-2570TR	FT-8		
		●	20	20	44	65	20	120	-	20	0	2	0.2	GP-1	HS5X4LP	SB-2570TR	FT-8		

Available Piping Parts see Pages 26-27

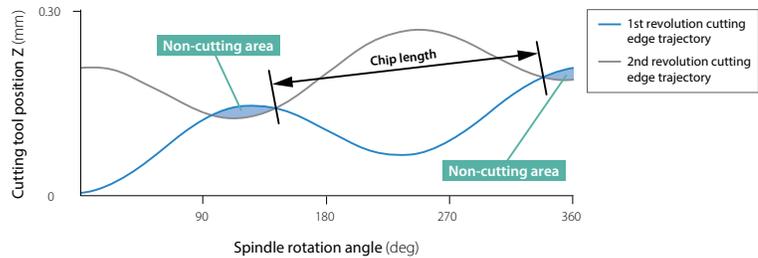
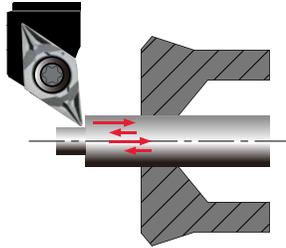
● : Standard Item

# Featured Inserts for Vibration Machining

## What is vibration or oscillation machining?

This unique vibration machining method generates intentional micro vibrations of a tool or workpiece in a cutting direction to finely cut chips. This creates a stable and intermittent discharge of chips to prevent entanglement issues with the workpiece and is compatible with a variety of workpiece materials.

Example of vibration machining



## Solution

Inserts for high precision, high quality, and high productivity

Combination of a high toughness substrate and special coating to withstand high machining load

PVD Coating MEGACOAT NANO  
**PR1535**

+

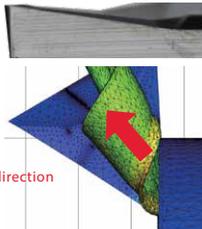
Low cutting resistance enables longer tool life and stable machining  
Controls chips with a slanted cutting edge

Molded Sharp Edge Chipbreaker  
**SK Chipbreaker / CK Chipbreaker**

## Chip Evacuation Examples (Internal Evaluation)

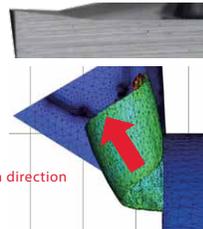
### SK Chipbreaker

Sloped Cutting Edge



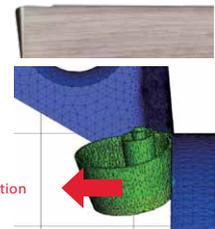
### CK Chipbreaker

Sloped cutting edge



### U Chipbreaker

No slope



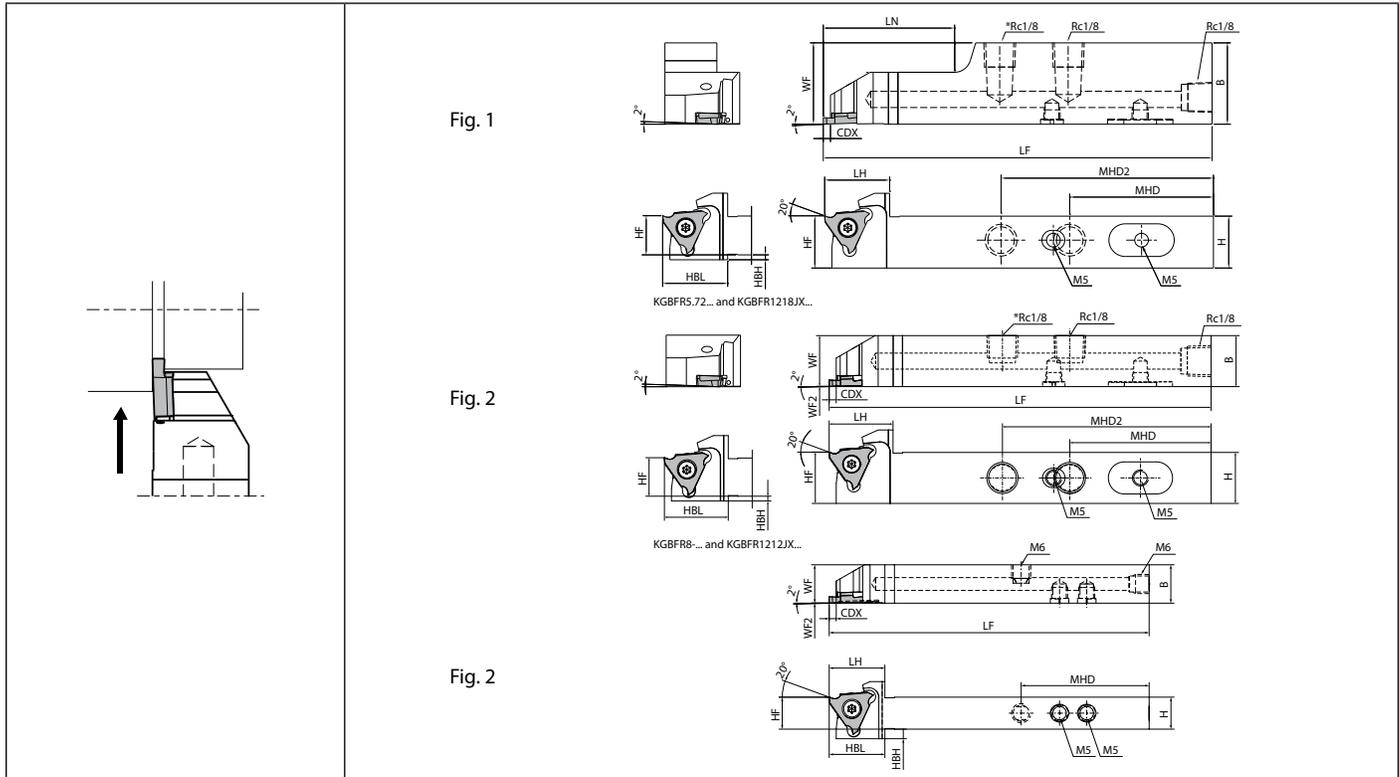
## Machining Condition Comparison in Vibration Machining (Internal Evaluation)

SK chipbreaker shows good chip condition, reduced burrs, and excellent surface finish.

In vibration machining, the combination of PR1535 and SK or CK chipbreakers provides excellent performance.

	SK Chipbreaker	Competitor Q (Sloped Cutting Edge)	Competitor R (No Slope)
Chips	✓	✗	✗
Surface finish	✓	✓	✗
Burr	✓	✗	✓

Cutting Conditions : Vc = 200 sfm, f = 0.002 ipr, D.O.C. = 0.079", 304



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.	Spare Parts				Applicable Inserts Page 11-12
			R	CDX	H	B	LH	MHD	MHD2	HF	HBH	HBL	LF	LN		WF	Plug	Plug	Screw	
Inch	KGBFR 3.815-16FJCTM	●		0.375	0.472	0.685	1.575	-	0.375	0.118	0.685	3.937	-	0.472	3	HS6X6LP				
	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	GP-1	HSSX4LP	SB-4070TRW	FT-8	GBF32R
	82.5-16FJCTM	●		0.625	1.000		1.732	2.559	0.625	-	-				0.625					
Inch	KGBFR 8-16FJCTM	●		0.500	0.500		2.323	-	0.500	0.059	0.787	4.750	-	0.500	2	GP-1	HSSX4LP	SB-4070TRW	FT-8	GBF32R
	10-16FJCTM	●	0.118	0.625	0.625	0.787	1.732	2.559	0.625	-	-			0.625						
	12-16FJCTM	●		0.750	0.750				0.750	-	-			0.750						
mm	KGBFR 1012H-16FJCTM	●	3	10	12	17.4	40	-	10	3	17.4	100	-	12	3	HS6X6LP				
	1218JX-16FJCTM	●		12	18		54	-	12	1.5	20		28	12		HSSX4LP	SB-4070TRW	FT-8	GBF32R	
	1625JX-16FJCTM	●		16		20			16	-	-	120		16	1	GP-1				
	2025JX-16FJCTM	●		20	25		44	65	20	-	-		40	20						
	KGBFR 1212JX-16FJCTM	●		12	12		59	-	12	1.5	20			12	2	GP-1	HSSX4LP	SB-4070TRW	FT-8	GBF32R
mm	1616JX-16FJCTM	●	3	16	16		44	65	16	-	-	120	-	16						
	2020JX-16FJCTM	●		20	20				20	-	-			20						

CDX shows the distance from the toolholder to the cutting edge. Available Groove Depth : "CDX" of Insert.  
 Available Piping Parts see [Pages 26-27](#)

● : Standard Item

Precautions

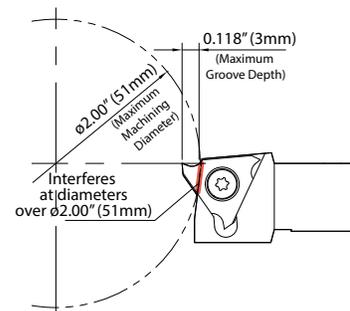
• GBF and GBA Compatibility

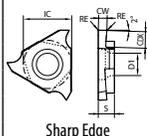
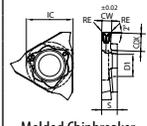
- GBF will fit KGBA/KGBAS holders.  
 Caution : The maximum groove depth for KGBA/KGBAS holders is 0.098" (2.5mm)
- GBA inserts will also fit KGBF/KGBFS holders  
 Caution : The rake angle after installation in the toolholder is 11° (GBF is not compatible with TGF)

• 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.

• Grooving Depth : 0.118" (3mm)



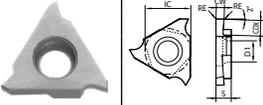
Insert Size							Carbon Steel / Alloy Steel							Titanium Alloy			Cast Iron			Stainless Steel									
IC		S		D1			Dimensions (mm)							Tolerance (mm)		Carbide			Applicable Toolholder ➔ Page 10										
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	CW min.	CW max.	PVD	-												
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	min.	max.	PR1215	PR1535	GW15											
GBF32...							3/8	9.525	1/8	3.18	0.173	4.4								●	○	●	●	●	P	M	K	N	S
  Sharp Edge	GBF32R	025-000F	3	0.010	0.25	0.6	9.525	3.18	4.4	0	-0.02	+0.02	●	●	●	KGBFR...-16FJCTM													
		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...-16FJCTM													
		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 in a groove depth of 0.118" (3mm) is Ø2.008" (51mm) (Please check caution on Page 10)

● : Standard Item

Recommended Cutting Conditions ➔ Page 23

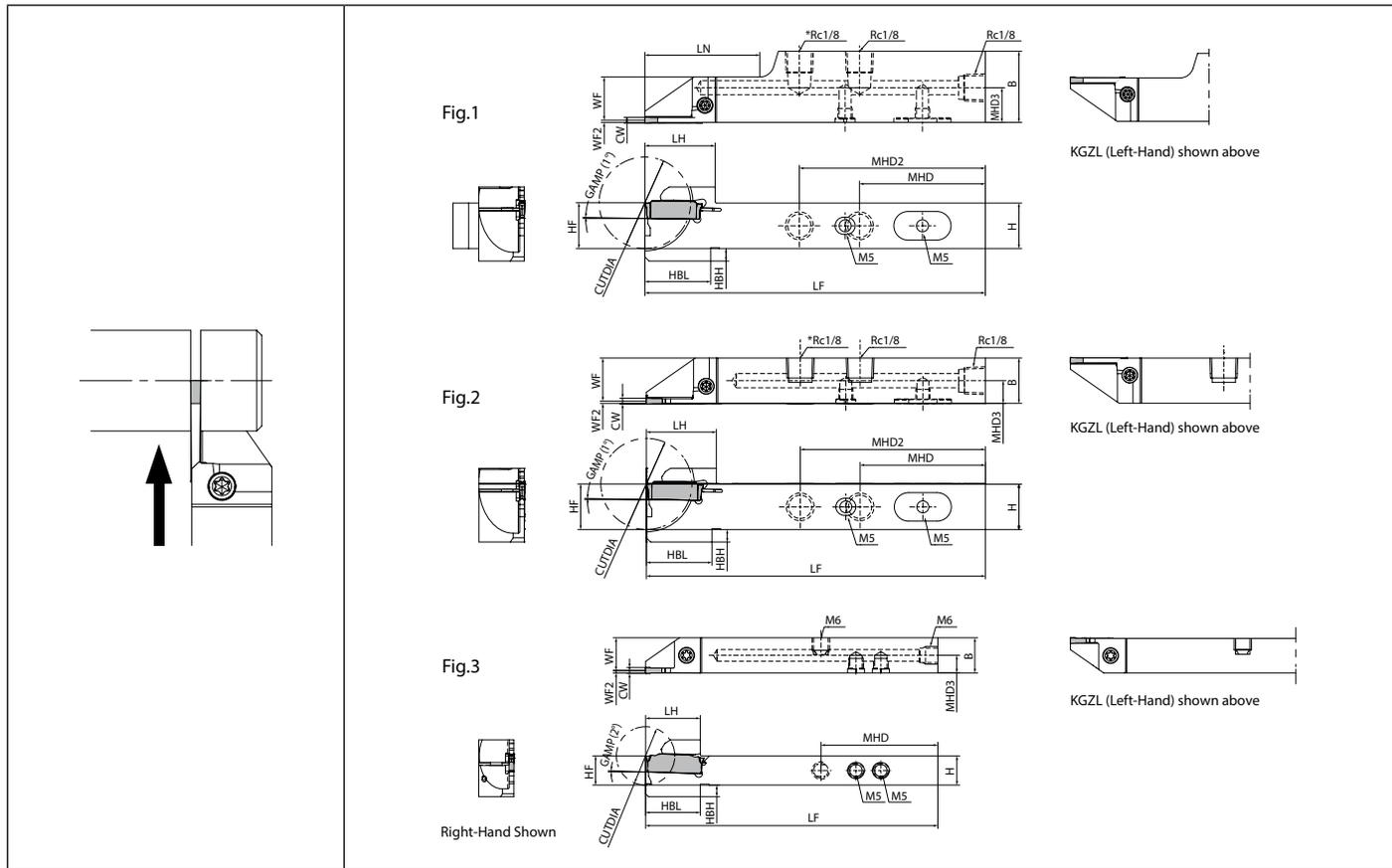
# KGBF-JCTM Applicable Inserts

Insert Size							Carbon Steel / Alloy Steel											P			
IC		S		D1			Stainless Steel											M			
in		mm		in			mm			Cast Iron											K
GBF32...		3/8 9.525		1/8 3.18		0.173 4.4			Non-Ferrous Metals											N	
							Titanium Alloy											S			
Insert	Part Number	No. of Edges	Dimensions (mm)						Tolerance (mm)			Carbide			Applicable Toolholder Page 10						
			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...-16FJCTM						
	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 in a groove depth of 0.118" (3mm) is Ø2.008" (51mm) (Please check caution on Page 10)

● : Standard Item

Recommended Cutting Conditions Page 23



Right-hand shown | KGZ% 5.72...-JCTM, KGZ% 8...-JCTM : 2-Rc1/8

Toolholder Dimensions

Unit	Part Number	Std. Item		Dimensions																Angle	Spare Parts				Applicable Inserts Page 15-17		
		R	L	CUTDIA	H	B	LH	MHD	MHD2	MHD3	HF	HBH	HBL	LF	LN	WF	WF2*	CW min.	CW max.		GAMP (°)	Fig.	Plug	Plug		Screw	Wrench
Inch	KGZR 3.815-2HJCTM	●	●	0.787	0.375	0.472	0.736	1.575	-	0.236	0.375	0.157	0.736	3.937	-	0.441	0.031	0.079"	0.118"	2	3	H56X6LP	H55X4LP	SB-40120TR	LTW-15S	GZ...2020... GZ...2220... GZ...2420... GZ...2520... GZ...3020...	
	KGZL 3.815-2HJCTM	●	●																								
	KGZR 5.72-2JCTM	●	●	0.945	0.500	0.709	0.780	2.126	-	0.331	0.500	0.335	0.778	4.750	-	0.469	0.031	0.079"	0.118"	1	1	GP-1	H55X4LP	SB-40120TR	LTW-15S	GZ...2420... GZ...2520... GZ...3020...	
	KGZL 5.72-2JCTM	●	●																								
	KGZR 82.5-2JCTM	●	●	1.260	0.625	1.000	0.976	1.732	2.559	0.480	0.625	0.177	0.913	4.750	-	0.594	0.031	0.079"	0.118"	1	1	GP-1	H55X4LP	SB-40120TR	LTW-15S	GZ...2420... GZ...2520... GZ...3020...	
	KGZL 82.5-2JCTM	●	●																								
	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	-	0.461	0.039	0.095"	0.118"	1	1	GP-1	H55X4LP	SB-40120TR	LTW-15S	GZ...2420... GZ...2520... GZ...3020...	
	KGZL 5.72-2.4JCTM	●	●																								
	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	4.750	-	0.586	0.039	0.095"	0.118"	1	1	GP-1	H55X4LP	SB-40120TR	LTW-15S	GZ...2420... GZ...2520... GZ...3020...	
	KGZL 82.5-2.4JCTM	●	●																								
	KGZR 5.72-3JCTM	●	●	0.945	0.500	0.709	0.780	2.126	-	0.339	0.500	0.335	0.778	4.750	-	0.453	0.047	0.118"	0.118"	1	1	GP-1	H55X4LP	SB-40120TR	LTW-15S	GZ...3020...	
	KGZL 5.72-3JCTM	●	●																								
	KGZR 82.5-3JCTM	●	●	1.260	0.625	1.000	0.976	1.732	2.559	0.480	0.625	0.177	0.913	4.750	-	0.578	0.047	0.118"	0.118"	1	1	GP-1	H55X4LP	SB-40120TR	LTW-15S	GZ...3020...	
	KGZL 82.5-3JCTM	●	●																								
	KGZ% 8-2JCTM	●	●	0.945	0.500	0.500	0.780	2.323	-	0.236	0.500	0.236	0.780	4.750	-	0.469	0.031	0.079"	0.118"	1	2	GP-1	H55X4LP	SB-40120TR	LTW-15S	GZ...2020... GZ...2220... GZ...2420... GZ...2520... GZ...3020...	
	KGZ% 10-2D26JCTM	●	●	1.024	0.625	0.625	0.976	1.732	2.559	0.315	0.625	0.039	0.913	4.750	-	0.594	0.031	0.079"	0.118"	1	2	GP-1	H55X4LP	SB-40120TR	LTW-15S		GZ...2020... GZ...2220... GZ...2420... GZ...2520... GZ...3020...
	KGZ% 10-2JCTM	●	●	1.260	0.625	0.625	0.976	1.732	2.559	0.315	0.625	0.177	0.913	4.750	-	0.586	0.039	0.095"	0.118"	1	2	GP-1	H55X4LP	SB-40120TR	LTW-15S	GZ...2420... GZ...2520... GZ...3020...	
	KGZ% 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	0.039	0.095"	0.118"	1	2	GP-1	H55X4LP	SB-40120TR	LTW-15S		GZ...2420... GZ...2520... GZ...3020...
	KGZ% 10-2.4D26JCTM	●	●	1.024	0.625	0.625	0.976	1.732	2.559	0.315	0.625	0.039	0.913	4.750	-	0.586	0.039	0.095"	0.118"	1	2	GP-1	H55X4LP	SB-40120TR	LTW-15S	GZ...2420... GZ...2520... GZ...3020...	
	KGZ% 10-2.4JCTM	●	●	1.260	0.625	0.625	0.976	1.732	2.559	0.315	0.625	0.177	0.913	4.750	-	0.586	0.039	0.095"	0.118"	1	2	GP-1	H55X4LP	SB-40120TR	LTW-15S		GZ...2420... GZ...2520... GZ...3020...
KGZ% 8-3JCTM	●	●	0.945	0.500	0.500	0.780	2.323	-	0.236	0.500	0.236	0.780	4.750	-	0.453	0.047	0.118"	0.118"	1	2	GP-1	H55X4LP	SB-40120TR	LTW-15S	GZ...3020...		
KGZ% 10-3D26JCTM	●	●	1.024	0.625	0.625	0.976	1.732	2.559	0.315	0.625	0.039	0.913	4.750	-	0.578	0.047	0.118"	0.118"	1	2	GP-1	H55X4LP	SB-40120TR	LTW-15S		GZ...3020...	
KGZ% 10-3JCTM	●	●	1.260	0.625	0.625	0.976	1.732	2.559	0.315	0.625	0.177	0.913	4.750	-	0.578	0.047	0.118"	0.118"	1	2	GP-1	H55X4LP	SB-40120TR	LTW-15S	GZ...3020...		

\*L-hand toolholder has no WF2 dimension  
 Recommended tightening torque : 2.0Nm (SB-40120TR)  
 GM\* and GD\* inserts cannot be installed in the KGZ holder (GMM, GMG, GMN, GMR/L, GDM, GDG, GDGS, GDMS).  
 Available Piping Parts see **Pages 26-27**

● : Standard Item



# KGZ-JCTM Applicable Inserts (Cut-Off)

		Carbon Steel / Alloy Steel		Stainless Steel		Cast Iron		Non-Ferrous Metals		P		M		K		N																
Insert	Part Number	No. of Edges	Dimensions (mm)				Angle (°)	Tolerance (mm)		Carbide				Applicable Toolholder Page 13-14																		
			CW		S	RE		INSL	PSIR%	CW min.	CW max.	DLC	PVD		-																	
			in	mm									PR2025			PR2035	GW15															
 <p>Low Feed</p>	GZM 2020N-003PF 2020N-015PF	2	0.079	2	5.9	0.03	20	-	-0.04	+0.04	●	●	●	●	●	●	●	KGZ P/L ...-2(...)														
	GZM 2520N-003PF 2520N-015PF		0.098	2.5		0.03												0.15	●	●	●	●	●	●	●	●	●	●	●	KGZ P/L ...-2(...) KGZ P/L ...-2.4(...)		
	GZM 3020N-003PF 3020N-015PF		0.118	3		0.03												0.15	●	●	●	●	●	●	●	●	●	●	●	KGZ P/L ...-2(...), KGZ P/L ...-2.4(...) KGZ P/L ...-3(...)		
 <p>Low Feed</p>	GZM 2020R-003PF-15D 2020L-003PF-15D 2020R-015PF-15D	2	0.079	2	5.9	0.03	20	15	-0.04	+0.04	●	●	●	●	●	●	●	●	KGZ P/L ...-2(...)													
	GZM 2520R-003PF-15D 2520L-003PF-15D 2520R-015PF-15D		0.098	2.5		0.03													0.15	●	●	●	●	●	●	●	●	●	●	●	KGZ P/L ...-2(...) KGZ P/L ...-2.4(...)	
	GZM 3020R-003PF-15D 3020L-003PF-15D 3020R-015PF-15D		0.118	3		0.03													0.15	●	●	●	●	●	●	●	●	●	●	●	●	KGZ P/L ...-2(...) KGZ P/L ...-2.4(...) KGZ P/L ...-3(...)
 <p>Low Cutting Force</p>	GZG 2020N-005PG	2	0.079	2	5.9	0.05	20	-	-0.02	+0.02	●	●	●	●	●	●	●	●	KGZ P/L ...-2(...)													
	GZG 2520N-005PG		0.098	2.5															●	●	●	●	●	●	●	●	●	●	●	●	●	KGZ P/L ...-2(...) KGZ P/L ...-2.4(...)
	GZG 3020N-005PG		0.118	3															●	●	●	●	●	●	●	●	●	●	●	●	●	●
 <p>Low Cutting Force</p>	GZG 2020R-005PG-15D	2	0.079	2	5.9	0.05	20	15°	-0.02	+0.02	●	●	●	●	●	●	●	●	KGZ P/L ...-2(...)													
	GZG 2520R-005PG-15D		0.098	2.5															●	●	●	●	●	●	●	●	●	●	●	●	●	KGZ P/L ...-2(...) KGZ P/L ...-2.4(...)
	GZG 3020R-005PG-15D		0.118	3															●	●	●	●	●	●	●	●	●	●	●	●	●	●

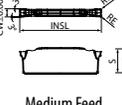
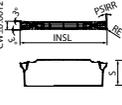
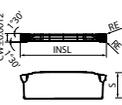
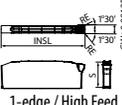
Handed insert shows Right-hand  
Using the PF / PM chipbreaker (for cut-off) for grooving cannot create a flat bottom (Ref. to the right figure).  
GZM and GZG inserts cannot be used in KGM or KGD holders.



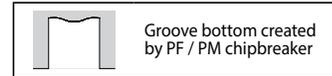
Groove bottom created by PF / PM chipbreaker

● : Standard Item

# KGZ-JCTM Applicable Inserts (Cut-Off)

		Carbon Steel / Alloy Steel		Stainless Steel		Cast Iron		Non-Ferrous Metals		P		M		K		N	
Insert	Part Number	No. of Edges	Dimensions (mm)				Angle (°)	Tolerance (mm)		Carbide			Applicable Toolholder ➔ Page 13-14				
			CW		S	RE		INSL	PSIR %	CW min.	CW max.	PVD					
			in	mm								PR2015		PR2025	PR2035		
  Medium Feed	GZM 2020N-020PM	2	0.079	2	5.9	0.2	20	-	-0.03	+0.03	●	●	●	KGZ P% ...-2(...)			
	GZM 2520N-020PM		0.098	2.5							●	●	●	KGZ P% ...-2(...), KGZ P% ...-2.4(...)			
	GZM 3020N-025PM		0.118	3							●	●	●	KGZ P% ...-2(...), KGZ P% ...-2.4(...) KGZ P% ...-3(...)			
  Medium Feed	GZM 2020R-020PM-6D	2	0.079	2	5.9	0.2	6	-	-0.03	+0.03	●	●	●	KGZ P% ...-2(...)			
	GZM 2520R-020PM-6D		0.098	2.5							●	●	●	KGZ P% ...-2(...), KGZ P% ...-2.4(...)			
	GZM 3020R-025PM-6D		0.118	3							●	●	●	KGZ P% ...-2(...), KGZ P% ...-2.4(...) KGZ P% ...-3(...)			
  High Feed	GZM 2020N-020PH	2	0.079	2	5.9	0.2	20	-	-0.03	+0.03	●	●	●	KGZ P% ...-2(...)			
	GZM 2520N-020PH		0.098	2.5							●	●	●	KGZ P% ...-2(...) KGZ P% ...-2.4(...)			
	GZM 3020N-030PH		0.118	3							●	●	●	KGZ P% ...-2(...), KGZ P% ...-2.4(...) KGZ P% ...-3(...)			
  1-edge / High Feed	GZMS 2020N-020PH	1	0.079	2	5.9	0.2	20	-	-0.03	+0.03	●	●	●	KGZ P% ...-2(...)			
	GZMS 3020N-030PH		0.118	3							●	●	●	KGZ P% ...-2(...), KGZ P% ...-2.4(...) KGZ P% ...-3(...)			

Handed insert shows Right-hand  
Using the PF / PM chipbreaker (for cut-off) for grooving cannot create a flat bottom (Ref. to the right figure).  
GZM and GZG inserts cannot be used in KGM or KGD holders.



● : Standard Item

Recommended Cutting Conditions ➔ Page 24

## Solution High efficiency machining with PH chipbreaker

Supports high feed machining with  $f = \sim 0.008$  ipr (steel) and  $f = \sim 0.006$  ipr (stainless steel)

Excellent chip control in a wide range of machining area

1045 Chip Control Comparison (Internal Evaluation)

f (ipr)	0.004	0.006	0.008
KGZ PH			
Competitor D			
Competitor E			

Cutting Conditions : Vc = ~490 sfm Workpiece : 1045 (ø0.551") Wet (External coolant)  
KGZR1616JX-2 Edge Width : 0.079" (2mm) (PH Chipbreaker)

304 Chip Control Comparison (Internal Evaluation)

f (ipr)	0.004	0.005	0.006
KGZ PH			
Competitor D			
Competitor E			

Cutting Conditions : Vc = ~260 sfm Workpiece : 304 (ø0.551") Wet (External coolant)  
KGZR1616JX-2 Edge Width : 0.079" (2mm) (PH Chipbreaker)

# KGZ-JCTM Applicable Inserts (Grooving)

		Carbon Steel / Alloy Steel										P							
		Stainless Steel										M							
		Cast Iron										K							
		Non-Ferrous Metals										N							
Insert	Part Number	Edge Prep	No. of Edges	Dimensions (mm)						Tolerance (mm)		Germet Carbide					PCD	Applicable Toolholder ● Page 13-14	
				CW		S	RE	INSL	LE	CW min.	CW max.	PVD							
				in	mm							TiN20	PR2015	PR2025	PR2035	GW15			KP001
 General Purpose	GZM 2420N-020GM	-	2	0.094	2.4		0.2												KGZ <sup>®</sup> /L ...2(...), KGZ <sup>®</sup> /L ...2.4(...)
	3020N-020GM			0.118	3	5.9	0.2	20	-	-0.03	+0.03	●	●	●	●	●	●	●	KGZ <sup>®</sup> /L ...2(...), KGZ <sup>®</sup> /L ...2.4(...) KGZ <sup>®</sup> /L ...3(...)
	3020N-040GM			0.118	3		0.4					●	●	●	●	●	●	●	
 1-Edge / General Purpose	GZMS 2220N-020GM	-	1	0.087	2.2		0.2												KGZ <sup>®</sup> /L ...2(...)
	3020N-040GM			0.118	3	5.9	0.4	20	-	-0.03	+0.03	●	●	●	●	●	●	●	KGZ <sup>®</sup> /L ...2(...), KGZ <sup>®</sup> /L ...2.4(...) KGZ <sup>®</sup> /L ...3(...)
 Low Feed	GZM 2420N-020GL	-	2	0.094	2.4		0.2												KGZ <sup>®</sup> /L ...2(...), KGZ <sup>®</sup> /L ...2.4(...)
	3020N-020GL			0.118	3	5.9	0.2	20	-	-0.03	+0.03	●	●	●	●	●	●	●	KGZ <sup>®</sup> /L ...2(...), KGZ <sup>®</sup> /L ...2.4(...) KGZ <sup>®</sup> /L ...3(...)
	3020N-040GL			0.118	3		0.4					●	●	●	●	●	●	●	
 High Feed	GZM 2020N-020PH	-	2	0.079	2		0.2												KGZ <sup>®</sup> /L ...2(...)
	2520N-020PH			0.098	2.5	5.9	0.2	20	-	-0.03	+0.03	●	●	●	●	●	●	●	KGZ <sup>®</sup> /L ...2(...), KGZ <sup>®</sup> /L ...2.4(...)
	3020N-030PH			0.118	3		0.3					●	●	●	●	●	●	●	KGZ <sup>®</sup> /L ...2(...), KGZ <sup>®</sup> /L ...2.4(...) KGZ <sup>®</sup> /L ...3(...)
 1-Edge / High Feed	GZMS 2020N-020PH	-	1	0.079	2		0.2												KGZ <sup>®</sup> /L ...2(...)
	3020N-030PH			0.118	3	5.9	0.3	20	-	-0.03	+0.03	●	●	●	●	●	●	●	KGZ <sup>®</sup> /L ...2(...), KGZ <sup>®</sup> /L ...2.4(...) KGZ <sup>®</sup> /L ...3(...)
 Copying	GZM 3020N-150R-CM	-	2	0.118	3	5.9	1.5	20	-	-0.03	+0.03	●	●	●	●	●	●	●	KGZ <sup>®</sup> /L ...2(...), KGZ <sup>®</sup> /L ...2.4(...) KGZ <sup>®</sup> /L ...3(...)
 Low Cutting Force	GZG 2520N-020GS	-	2	0.098	2.5		0.2												KGZ <sup>®</sup> /L ...2(...), KGZ <sup>®</sup> /L ...2.4(...)
	3020N-020GS			0.118	3	5.9	0.2	20	-	-0.02	+0.02	●	●	●	●	●	●	●	KGZ <sup>®</sup> /L ...2(...), KGZ <sup>®</sup> /L ...2.4(...) KGZ <sup>®</sup> /L ...3(...)
 1-Edge	GZGS 2020N-020NB	F	1	0.079	2		0.2												● KGZ <sup>®</sup> /L ...2(...)
	3020N-020NB			0.118	3	5.9	0.2	20	2.9	-0.02	+0.02	●	●	●	●	●	●	●	● KGZ <sup>®</sup> /L ...2(...), KGZ <sup>®</sup> /L ...2.4(...) KGZ <sup>®</sup> /L ...3(...)

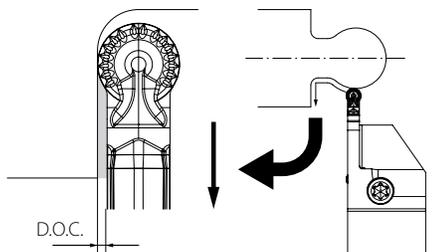
GZM and GZG inserts cannot be used in KGM or KGD holders.

● : Standard Item

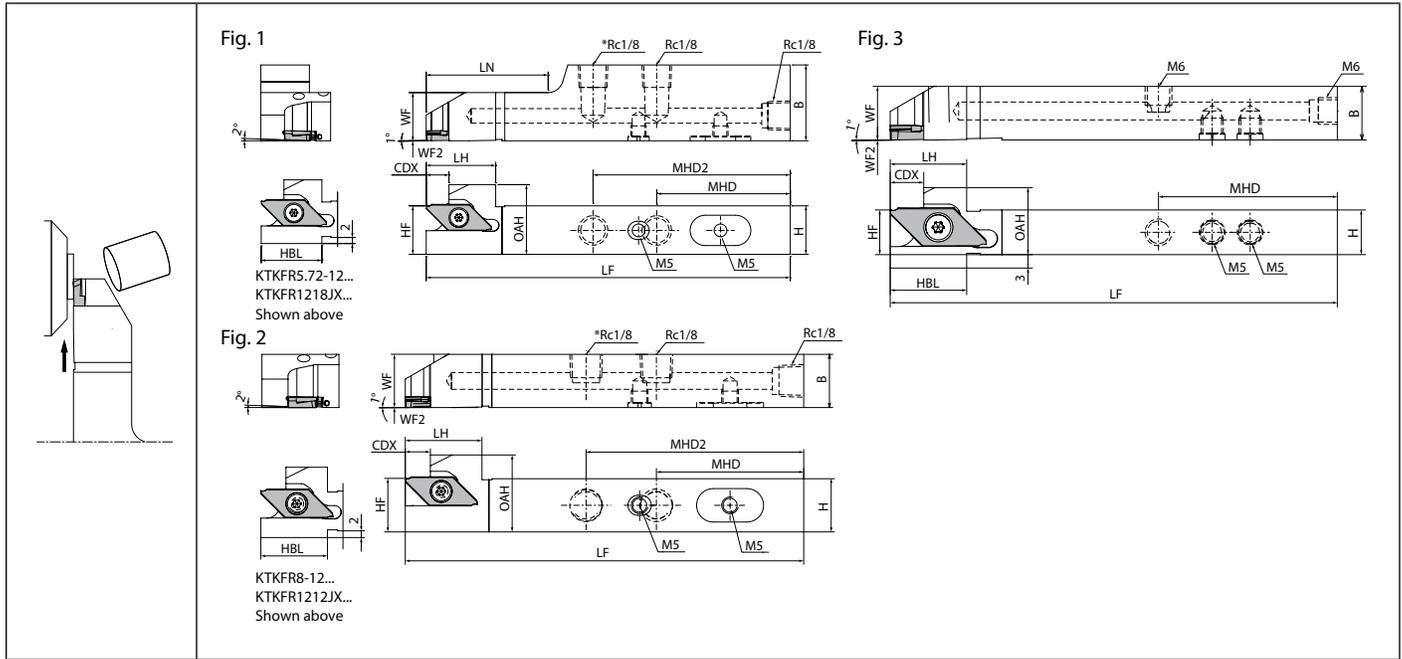
## CM Chipbreaker [Depth of Cut (D.O.C.) when Back Copying]

Recommended Cutting Conditions ● Page 24-25

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)



# KTKFR-JCTM (Right-Hand)



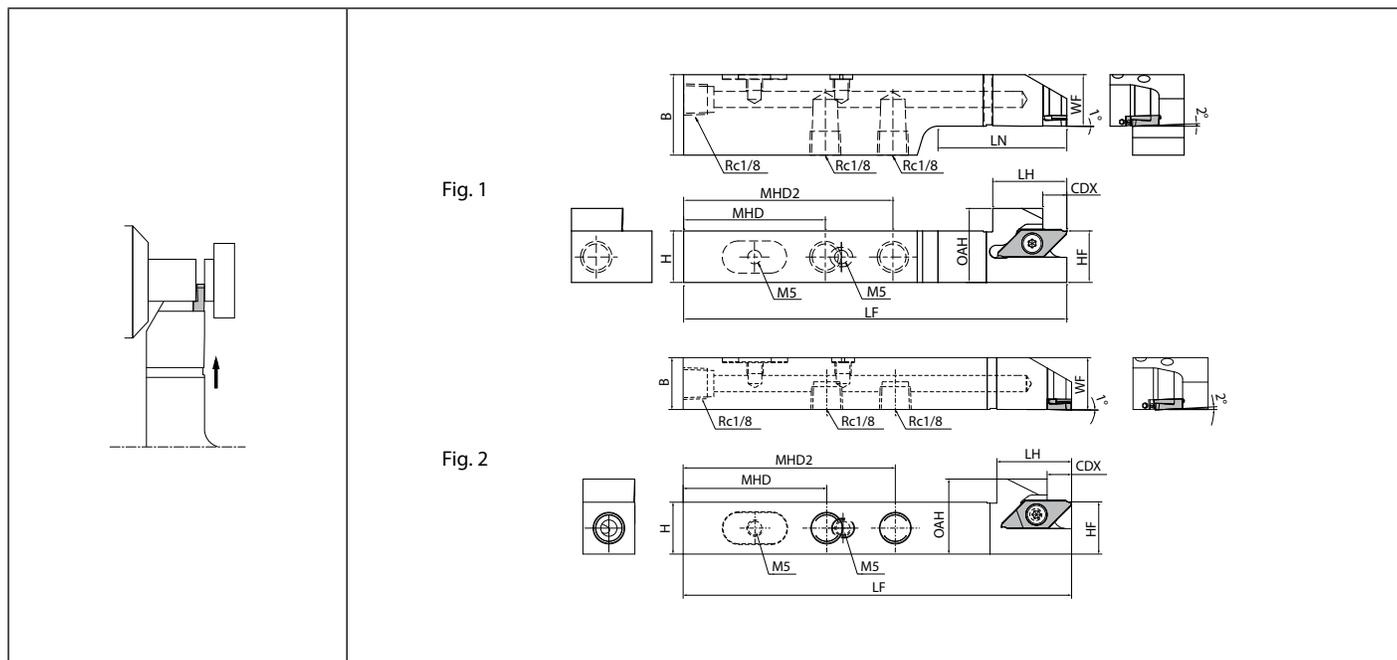
Right-hand shown | Right-hand Insert for Right-hand Toolholder.  
 KTKFR5.72-..., KTKFR8-... : 2-Rc1/8  
 KTKFR1218-..., KTKFR1212-... : 2-Rc1/8

## Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions												Spare Parts				Applicable Inserts Page 20-22		
			R	CDX	H	B	LH	OAH	MHD	MHD2	HF	HBL	LF	LN	WF	Fig.	Plug	Plug		Screw	Wrench
Inch	KTKFR 3.81-5-12HJCTM	●		0.375	0.472	0.673	0.591	1.575	-	0.375	0.673	3.937	-	0.472	3	HS6X6LP					
	KTKFR 5.72-12JCTM	●	0.295	0.500	0.709	0.787	0.776	2.126	-	0.500	0.787		1.110	0.500	1	GP-1	HS5X4LP	SB-4590TRWN	FT-10	TKF12R...	
	KTKFR 82.5-12JCTM	●		0.625	1.000	0.906	0.901	1.732	2.559	0.625	-	4.750	1.585	0.625	1	GP-1	HS5X4LP	SB-4590TRWN	FT-10	TKF16R...	
	KTKFR 82.5-16JCTM	●	0.378	0.625	1.000	0.906	0.901	1.732	2.559	0.625	-	4.750	1.585	0.625	1	GP-1	HS5X4LP	SB-4590TRWN	FT-10	TKF16R...	
	KTKFR 8-12JCTM	●		0.500	0.500	0.787	0.776	2.323	-	0.500	0.787			0.500	2	GP-1	HS5X4LP	SB-4590TRWN	FT-10	TKF12R...	
	KTKFR 10-12JCTM	●	0.295	0.625	0.625	0.906	0.901	1.732	2.559	0.625	-	4.750	-	0.625	2	GP-1					
mm	KTKFR 10-16JCTM	●	0.378	0.625	0.625	0.906	0.901	1.732	2.559	0.625	-	4.750	-	0.625	2	GP-1	HS5X4LP	SB-4590TRWN	FT-10	TKF16R...	
	KTKFR 12-16JCTM	●		0.750	0.750	1.026	1.026	1.732	2.559	0.750	-	4.750	-	0.750	2	GP-1					
	KTKFR 1012H-12JCTM	●		10	12	17.1	15	40	-	10	17.1	100	-	12	3	HS6X6LP					
	KTKFR 1218JX-12JCTM	●	7.5	12	18	20	19	54	-	12	20		28	12	1	GP-1	HS5X4LP	SB-4590TRWN	FT-10	TKF12R...	
	KTKFR 1625JX-12JCTM	●		16	25	23	23	44	65	16	-	120	40	16	1	GP-1					
	KTKFR 2025JX-12JCTM	●		20	25	23	27	44	65	20	-	120	40	16	1	GP-1					
	KTKFR 1625JX-16JCTM	●	9.6	16	25	23	23	44	65	16	-	120	40	16	1	GP-1	HS5X4LP	SB-4590TRWN	FT-10	TKF16R...	
	KTKFR 2025JX-16JCTM	●		20	25	23	27	44	65	20	-	120	41	20	1	GP-1					
	KTKFR 1212JX-12JCTM	●		12	12	20	19	59	-	12	20			12	2	GP-1	HS5X4LP	SB-4590TRWN	FT-10	TKF12R...	
	KTKFR 1616JX-12JCTM	●	7.5	16	16	23	23	44	65	16	-	120	-	16	2	GP-1					
	KTKFR 2020JX-12JCTM	●		20	20	23	27	44	65	20	-	120	-	20	2	GP-1					
	KTKFR 1616JX-16JCTM	●	9.6	16	16	23	23	44	65	16	-	120	-	16	2	GP-1	HS5X4LP	SB-4590TRWN	FT-10	TKF16R...	
KTKFR 2020JX-16JCTM	●		20	20	23	27	44	65	20	-	120	-	20	2	GP-1						

Available Piping Parts see **Pages 26-27**

● : Standard Item



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

Toolholder Dimensions

Unit	Part Number	Std. Item	Dimensions											Fig.	Spare Parts				Applicable Inserts ➔ Page 20-22
			L	CDX	H	B	LH	OAH	MHD	MHD2	HF	LF	LN		WF	Plug	Plug	Screw	
Inch	KTKFL 82.5-12JCTM	●	0.295	0.625	1.000	0.906	0.901	1.732	2.559	0.625	4.750	1.585	0.625	1	GP-1	H55X4LP	SB-4590TRWN	FT-10	TKF12L...
	KTKFL 82.5-16JCTM	●	0.378	0.625	1.000	0.906	0.901	1.732	2.559	0.625	4.750	1.585	0.625	1	GP-1	H55X4LP	SB-4590TRWN	FT-10	TKF16L...
	KTKFL 10-12JCTM	●	0.295	0.625	0.625	0.906	0.901	1.732	2.559	0.625	4.750	-	0.625	2	GP-1	H55X4LP	SB-4590TRWN	FT-10	TKF12L...
	KTKFL 12-12JCTM	●		0.750	0.750		1.026			0.750			0.750						
KTKFL 10-16JCTM	●	0.378	0.625	0.625	0.906	0.901	1.732	2.559	0.625	4.750	-	0.625	2	GP-1	H55X4LP	SB-4590TRWN	FT-10	TKF16L...	
KTKFL 12-16JCTM	●		0.750	0.750		1.026			0.750			0.750							
mm	KTKFL 1625JX-12JCTM	●	7.5	16	25	23	23	44	65	16	120	40	16	1	GP-1	H55X4LP	SB-4590TRWN	FT-10	TKF12L...
	KTKFL 2025JX-12JCTM	●		20			27			20			20						
	KTKFL 1625JX-16JCTM	●	9.6	16	25	23	23	44	65	16	120	40	16	1	GP-1	H55X4LP	SB-4590TRWN	FT-10	TKF16L...
	KTKFL 2025JX-16JCTM	●		20			27			20			41						
KTKFL 1616JX-12JCTM	●	7.5	16	16	23	23	44	65	16	120	-	16	2	GP-1	H55X4LP	SB-4590TRWN	FT-10	TKF12L...	
KTKFL 2020JX-12JCTM	●		20	20		27			20			20							
KTKFL 1616JX-16JCTM	●	9.6	16	16	23	23	44	65	16	120	-	16	2	GP-1	H55X4LP	SB-4590TRWN	FT-10	TKF16L...	
KTKFL 2020JX-16JCTM	●		20	20		27			20			20							

Available Piping Parts see Pages 26-27

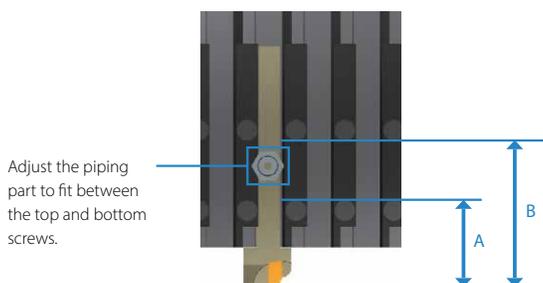
● : Standard Item

Piping part interference avoidance

Rectangular shanks (KTKFR5.72..., KTKFR/L82.5...) are recommended when using 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 plate.



Shank Size	Square Shank Use
<input type="checkbox"/> 0.500" <input type="checkbox"/> 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
<input type="checkbox"/> 0.625" <input type="checkbox"/> 16mm	Available

# KTKF-JCTM Applicable Inserts (TKF12)

		Carbon Steel / Alloy Steel											P				
		Stainless Steel											M				
		Cast Iron											K				
		Non-Ferrous Metals											N				
Insert	Part Number	No. of Edges	Dimensions (mm)							Angle (°)	Tolerance (mm)		Carbide				Applicable Toolholder Page 18-19
			CW		S	D1	RE	W1	CUTDIA		PSIRR	CW min.	CW max.	DLC	PVD	-	
			in	mm													
	TKF12R 050-S 070-S 100-S 125-S 150-S 200-S	2	0.020	0.5	8.7	5	0.03	3	5	0	-0.03	+0.03	●	●	●	●	KTKFR-12JCTM
			0.028	0.7					8				●	●	●	●	
			0.039	1					12				●	●	●	●	
			0.049	1.25					12				●	●	●	●	
			0.059	1.5					12				●	●	●	●	
			0.079	2					12				●	●	●	●	
	TKF12L 050-S 070-S 100-S 125-S 150-S 200-S	2	0.020	0.5	8.7	5	0.03	3	5	0	-0.03	+0.03	●	●	●	●	KTKFL-12JCTM
			0.028	0.7					8				●	●	●	●	
			0.039	1					12				●	●	●	●	
			0.049	1.25					12				●	●	●	●	
			0.059	1.5					12				●	●	●	●	
			0.079	2					12				●	●	●	●	
	TKF12R 100-T 150-T 200-T	2	0.039	1	8.7	5	0.08	3	12	0	-0.03	+0.03	●	●	●	●	KTKFR-12JCTM
			0.059	1.5									●	●	●	●	
			0.079	2									●	●	●	●	
	TKF12L 100-T 150-T 200-T	2	0.039	1	8.7	5	0.08	3	12	0	-0.03	+0.03	●	●	●	●	KTKFL-12JCTM
			0.059	1.5									●	●	●	●	
			0.079	2									●	●	●	●	
	TKF12R 050-S-16DR 070-S-16DR 100-S-16DR 125-S-16DR 150-S-16DR 200-S-16DR	2	0.020	0.5	8.7	5	0.03	3	5	16	-0.03	+0.03	●	●	●	●	KTKFR-12JCTM
			0.028	0.7					8				●	●	●	●	
			0.039	1					12				●	●	●	●	
			0.049	1.25					12				●	●	●	●	
			0.059	1.5					12				●	●	●	●	
			0.079	2					12				●	●	●	●	
	TKF12L 050-S-16DR 070-S-16DR 100-S-16DR 125-S-16DR 150-S-16DR 200-S-16DR	2	0.020	0.5	8.7	5	0.03	3	5	16	-0.03	+0.03	●	●	●	●	KTKFL-12JCTM
			0.028	0.7					8				●	●	●	●	
			0.039	1					12				●	●	●	●	
			0.049	1.25					12				●	●	●	●	
			0.059	1.5					12				●	●	●	●	
			0.079	2					12				●	●	●	●	
	TKF12R 100-T-16DR 150-T-16DR 200-T-16DR	2	0.039	1	8.7	5	0.08	3	12	16	-0.03	+0.03	●	●	●	●	KTKFR-12JCTM
			0.059	1.5									●	●	●	●	
			0.079	2									●	●	●	●	
	TKF12L 100-T-16DR 150-T-16DR 200-T-16DR	2	0.039	1	8.7	5	0.08	3	12	16	-0.03	+0.03	●	●	●	●	KTKFL-12JCTM
			0.059	1.5									●	●	●	●	
			0.079	2									●	●	●	●	
	TKF12R 050-NB 070-NB 100-NB 150-NB 200-NB	2	0.020	0.5	8.7	5	0	3	5	0	-0.03	+0.03	●	●	●	●	KTKFR-12JCTM
			0.028	0.7					8				●	●	●	●	
			0.039	1					12				●	●	●	●	
			0.059	1.5					12				●	●	●	●	
			0.079	2					12				●	●	●	●	
			TKF12L 050-NB 070-NB 100-NB 150-NB 200-NB	2					0.020				0.5	8.7	5	0	
	0.028	0.7			8	●	●	●	●								
	0.039	1			12	●	●	●	●								
	0.059	1.5			12	●	●	●	●								
	0.079	2			12	●	●	●	●								

Lead angle (PSIRR) shows the angle when installed in toolholder.

The cut-off diameter of the insert (CUTDIA) is indicated when the top of the cut-off edge progresses 0.039" (1mm) from the center.

Right-hand shown

● : Standard Item

# KTKF-JCTM Applicable Inserts (TKF12)

Insert		Part Number		Dimensions (mm)							Angle (°)	Tolerance (mm)		Carbide			Applicable Toolholder Page 18-19	
				CW		S	D1	RE	W1	CUTDIA		PSIRR	CW min.	CW max.	PVD			KW10
				in	mm										PR155	PR175		
<p>Without Chipbreaker</p>		TKF12R 050-NB-20DR		0.020	0.5	8.7	5	0	3	5	20	-0.03	+0.03	●	●	KTKFR-12JCTM		
		070-NB-20DR		0.028	0.7									●	●			
		100-NB-20DR		0.039	1									●	●			
		150-NB-20DR		0.059	1.5									●	●			
		200-NB-20DR		0.079	2									●	●			
		TKF12L 050-NB-20DR		0.020	0.5	8.7	5	0	3	5	20	-0.03	+0.03	●	●	KTKFL-12JCTM		
		070-NB-20DR		0.028	0.7									●	●			
		100-NB-20DR		0.039	1									●	●			
		150-NB-20DR		0.059	1.5									●	●			
		200-NB-20DR		0.079	2									●	●			

Lead angle (PSIRR) shows the angle when installed in toolholder.  
 The cut-off diameter of the insert (CUTDIA) is indicated when the top of the cut-off edge progresses 0.039" (1mm) from the center.  
 Right-hand shown

Recommended Cutting Conditions Page 25

## Inserts Identification System

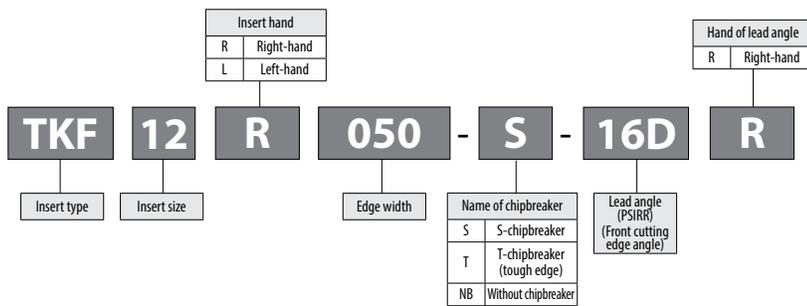


Table 1

Toolholder	Right-hand	Toolholder	Left-hand
Insert	Right-hand	Insert	Left-hand
Lead angle	Right-hand	Lead angle	Right-hand

## Descriptions of Chipbreaker Edge Shape

Edge Shape	S Chipbreaker		T Chipbreaker (Tough Edge)		NB (Without Chipbreaker)	
	GAN	Part Number	GAN	Part Number	GAN	Part Number
	15°	TKF12...-S	12°	TKF...-T TKF...-T-16DR	0°	TKF...-NB TKF...-NB-20DR
	20°	TKF16...-S TKF16...-S-16DR				
	25°	TKF12...-S-16DR				

# KTGF-JCTM Applicable Inserts (TKF16)

		Carbon Steel / Alloy Steel											P					
		Stainless Steel											M					
		Cast Iron											K					
		Non-Ferrous Metals											N					
Insert	Part Number	No. of Edges	Dimensions (mm)							Angle (°)	Tolerance (mm)		Carbide				Applicable Toolholder Page 18-19	
			CW		S	D1	RE	W1	CUTDIA		PSIRR	CW min.	CW max.	DLC	PVD			-
			in	mm											PRI025	PRI225		
	TKF16R 150-S	2	0.059	1.5	9.5	5	0.05	4	16	0	-0.03	+0.03	●	●	●	●	KTKFR-16JCTM	
	200-S		0.079	2									●	●	●	●		
	TKF16L 150-S		0.059	1.5									●	●	●	●		
	200-S		0.079	2									●	●	●	●		
	TKF16R 150-T	2	0.059	1.5	9.5	5	0.08	4	16	0	-0.03	+0.03	●	●	●	●	KTKFR-16JCTM	
	200-T		0.079	2									●	●	●	●		
	TKF16L 150-T		0.059	1.5									●	●	●	●		
	200-T		0.079	2									●	●	●	●		
	TKF16R 150-S-16DR	2	0.059	1.5	9.5	5	0.05	4	16	16	-0.03	+0.03	●	●	●	●	KTKFR-16JCTM	
	200-S-16DR		0.079	2									●	●	●	●		
	TKF16L 150-S-16DR		0.059	1.5									●	●	●	●		
	200-S-16DR		0.079	2									●	●	●	●		
	TKF16R 150-T-16DR	2	0.059	1.5	9.5	5	0.08	4	16	16	-0.03	+0.03	●	●	●	●	KTKFR-16JCTM	
	200-T-16DR		0.079	2									●	●	●	●		
	TKF16L 150-T-16DR		0.059	1.5									●	●	●	●		
	200-T-16DR		0.079	2									●	●	●	●		
	TKF16R 150-NB	2	0.059	1.5	9.5	5	0	4	16	0	-0.03	+0.03	●	●	●	●	KTKFR-16JCTM	
	200-NB		0.079	2									●	●	●	●		
	TKF16L 150-NB		0.059	1.5									●	●	●	●		
	200-NB		0.079	2									●	●	●	●		
	TKF16R 150-NB-20DR	2	0.059	1.5	9.5	5	0	4	16	20	-0.03	+0.03	●	●	●	●	KTKFR-16JCTM	
	200-NB-20DR		0.079	2									●	●	●	●		
	TKF16L 150-NB-20DR		0.059	1.5									●	●	●	●		
	200-NB-20DR		0.079	2									●	●	●	●		

Lead angle (PSIRR) shows the angle when installed in toolholder.

The cut-off diameter of the insert (CUTDIA) is indicated when the top of the cut-off edge progresses 0.039" (1mm) from the center.

Right-hand shown

● : Standard Item

Recommended Cutting Conditions Page 25

# Recommended Cutting Conditions - GBF

## GBF inserts

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)				Notes
	MEGACOAT	MEGACOAT NANO	Carbide	GBF32 <sup>®</sup> 025~053	GBF32 <sup>®</sup> 065~095	GBF32 <sup>®</sup> 100~145	GBF32 <sup>®</sup> 150~300	
	PR1215	PR1535	GW15					
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 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)				Notes
	MEGACOAT	MEGACOAT NANO	Carbide	GBF32 <sup>®</sup> 025 ~ 053 - 000F	GBF32 <sup>®</sup> 065 ~ 095 - 000F	GBF32 <sup>®</sup> 100 ~ 145 - 000F	GBF32 <sup>®</sup> 150 ~ 200 - 000F	
	PR1215	PR1535	GW15					
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 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)				Notes
	MEGACOAT	MEGACOAT NANO	GBF32R075~005GL	GBF32R095 ~ 100-005GL	GBF32R 150 - 200 (GL)	GBF32R 300 (GL)	
	PR1215	PR1535					
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

# Recommended Cutting Conditions - KGZ

## Cut-Off - PF Chipbreaker

Workpiece Material	Recommended Insert Grade (Cutting Speed Vc: sfm)					Feed Rate f (ipr)						Notes
						PF (RE = 0.0012")			PF (RE = 0.0059")			
	MEGACOAT NANO EX			DLC	Carbide	CW						
	PR2015	PR2025	PR2035	PDL025	GW15	0.051"~0.059" (1.3mm~1.5mm)	0.079" (2mm)	0.098"~0.118" (2.5mm~3.0mm)	0.051~0.059 (1.3mm~1.5mm)	0.079" (2mm)	0.098"~0.118" (2.5mm~3.0mm)	
Carbon Steel	☆ 230~590	★ 230~590	☆ 230~490	-	-	0.0004~0.0016	0.0008~0.0024	0.0008~0.0031	0.0004~0.002	0.0012~0.0031	0.0016~0.0031	
Alloy Steel	☆ 230~590	★ 230~590	☆ 230~490	-	-							
Stainless Steel	☆ 200~490	☆ 200~390	★ 200~390	-	-	0.0004~0.0012	0.0004~0.0016	0.0004~0.0020	0.0004~0.0016	0.0012~0.0028	0.0016~0.0031	
Cast Iron	★ 260~660	-	-	-	☆ 160~330	0.0004~0.0020	0.001~0.0028	0.0012~0.0031	0.0004~0.0024	0.0012~0.0035	0.0016~0.0039	
Aluminum Alloy	-	-	-	★ 660~1640	☆ 660~1480	-	-	-	-	-	-	
Brass	-	-	-	-	★ 330~660	-	-	-	-	-	-	

★:1st Recommendation ☆:2nd Recommendation

## Cut-Off - PM / PH / PG Chipbreaker

Workpiece Material	Recommended Insert Grade (Cutting Speed Vc: sfm)					Feed Rate f (ipr)				Notes
						PM	PH	PG		
	MEGACOAT NANO EX			DLC	Carbide	CW				
	PR2015	PR2025	PR2035	PDL025	GW15	0.079~0.118" (2mm~3mm)	0.079~0.118" (2mm~3mm)	0.079" (2mm)	0.098"~0.118" (2.5mm~3.0mm)	
Carbon Steel	☆ 230~590	★ 230~590	☆ 230~490	-	-	0.0020~0.0059	0.0039~0.0079	0.0004~0.0016	0.0004~0.002	
Alloy Steel	☆ 230~590	★ 230~590	☆ 230~490	-	-					
Stainless Steel	☆ 200~490	☆ 200~390	★ 200~390	-	-	0.0016~0.0047	0.0031~0.0063	0.0004~0.0012	0.0004~0.0016	
Cast Iron	★ 260~660	-	-	-	☆ 160~330	0.002~0.0059	0.0039~0.0079	0.0004~0.0016	0.0004~0.002	
Aluminum Alloy	-	-	-	★ 660~1640	☆ 660~1480	-	-	0.0004~0.0020	0.0004~0.0024	
Brass	-	-	-	-	★ 330~660	-	-	0.0004~0.0028	0.0004~0.0031	

★:1st Recommendation ☆:2nd Recommendation

## Grooving - GM / GL / PH / CM Chipbreaker

Workpiece Material	Recommended Insert Grade (Cutting Speed Vc: sfm)						Feed Rate 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	
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

# Recommended Cutting Conditions - KGZ

## Grooving - GS / NB (Non-Ferrous)

Workpiece Material	Recommended Insert Grade (Cutting Speed Vc: sfm)						Feed Rate 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

# Recommended Cutting Conditions - KTKF

## TKF12

Workpiece Material	Recommended Insert Grade (Cutting Speed Vc: sfm)						TKF12						Notes
							Width (CW)						
	MEGACOAT NANO		MEGACOAT	DLC	Carbide		0.020" (0.50mm)	0.028" (0.70mm)	0.039" (1.00mm)	0.049" (1.25mm)	0.059" (1.50mm)	0.079" (2.00mm)	
	PR1725	PR1535	PR1225	PDL025	KW10		Feed Rate (ipr)						
Carbon Steel	★ 230~560 (160~460)	☆ 230~500 (160~400)	☆ 225~500 (175~400)	-	-		0.0004~0.0008	0.0004~0.0012	0.0004~0.0016 (0.0004~0.0020)	0.0004~0.0016	0.0004~0.0016 (0.0008~0.0039)	0.0004~0.0016 (0.0008~0.0039)	Coolant
Alloy Steel	★ 230~560 (160~460)	☆ 230~500 (160~400)	☆ 225~500 (175~400)	-	-		0.0004~0.0008	0.0004~0.0012	0.0004~0.0016 (0.0004~0.0020)	0.0004~0.0016	0.0004~0.0016 (0.0008~0.0039)	0.0004~0.0016 (0.0008~0.0039)	
Stainless Steel	☆ 200~460 (130~390)	★ 200~400 (130~330)	☆ 200~400 (125~325)	-	-		0.0002~0.0006	0.0004~0.0008	0.0004~0.0008 (0.0004~0.0012)	0.0004~0.0008	0.0004~0.0008 (0.0004~0.0020)	0.0004~0.0008 (0.0004~0.0020)	
Cast Iron	-	-	-	-	★ 175~325		0.0004~0.0012	0.0004~0.0016	0.0004~0.0020	0.0004~0.0020	0.0004~0.0020	0.0004~0.0020	
Aluminum Alloy	-	-	-	★ 660~1640	☆ 650~1475		0.0004~0.0012	0.0004~0.0016	0.0004~0.0020	0.0004~0.0020	0.0004~0.0020	0.0004~0.0020	
Brass	-	-	-	-	★ 325~650		0.0004~0.0012	0.0004~0.0016	0.0004~0.0024	0.0004~0.0024	0.0004~0.0024	0.0004~0.0024	

Values in parentheses ( ) are cutting conditions for tough edge inserts style TKF.T.

★:1st Recommendation ☆:2nd Recommendation

## TKF16

Workpiece Material	Recommended Insert Grade (Cutting Speed Vc: sfm)						TKF16		Notes
							Width (CW)		
	MEGACOAT NANO		MEGACOAT	DLC	Carbide		0.059" (1.50mm)	0.079" (2.00mm)	
	PR1725	PR1535	PR1225	PDL025	KW10		Feed Rate f (ipr)		
Carbon Steel	★ 230~560 (160~460)	☆ 230~500 (160~400)	☆ 225~500 (175~400)	-	-		0.0008~0.0028 (0.0008~0.0039)	0.0008~0.0028 (0.0008~0.0039)	Coolant
Alloy Steel	★ 230~560 (160~460)	☆ 230~500 (160~400)	☆ 225~500 (175~400)	-	-		0.0008~0.0028 (0.0008~0.0039)	0.0008~0.0028 (0.0008~0.0039)	
Stainless Steel	☆ 200~460 (130~390)	★ 200~400 (130~330)	☆ 200~400 (125~325)	-	-		0.0004~0.0016 (0.0004~0.0020)	0.0004~0.0016 (0.0004~0.0020)	
Cast Iron	-	-	-	-	★ 175~325		0.0008~0.0032	0.0008~0.0032	
Aluminum Alloy	-	-	-	★ 660~1640	☆ 650~1475		0.0008~0.0032	0.0008~0.0032	
Brass	-	-	-	-	★ 325~650		0.0008~0.0039	0.0008~0.0039	

Values in parentheses ( ) are cutting conditions for tough edge inserts style TKF.T.

★:1st Recommendation ☆:2nd Recommendation

# Piping Parts

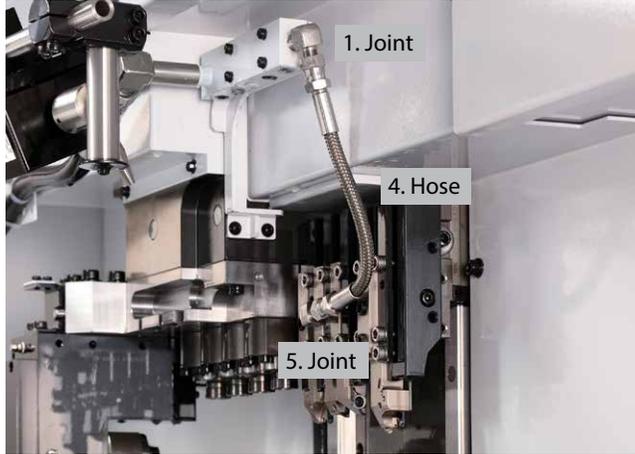
## Coolant Piping Parts

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)

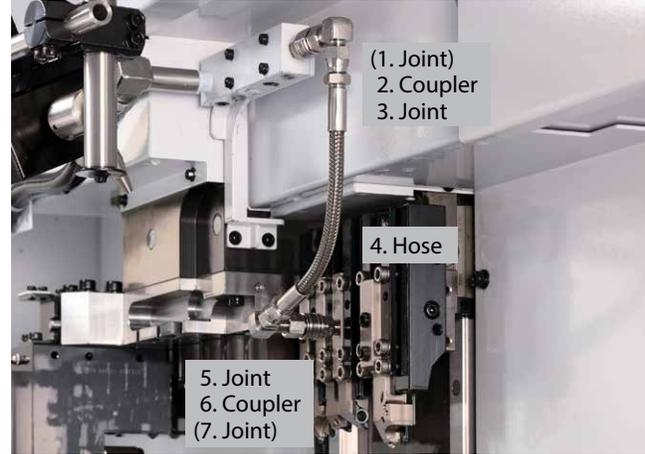


Combination Part Number (Example)

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)



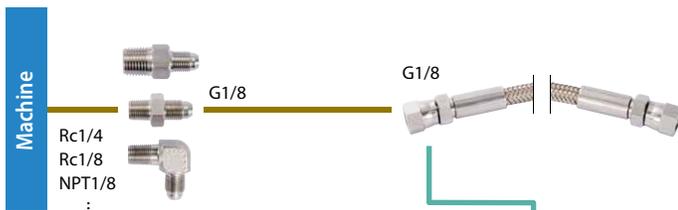
Combination Part Number (Example)

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)	-

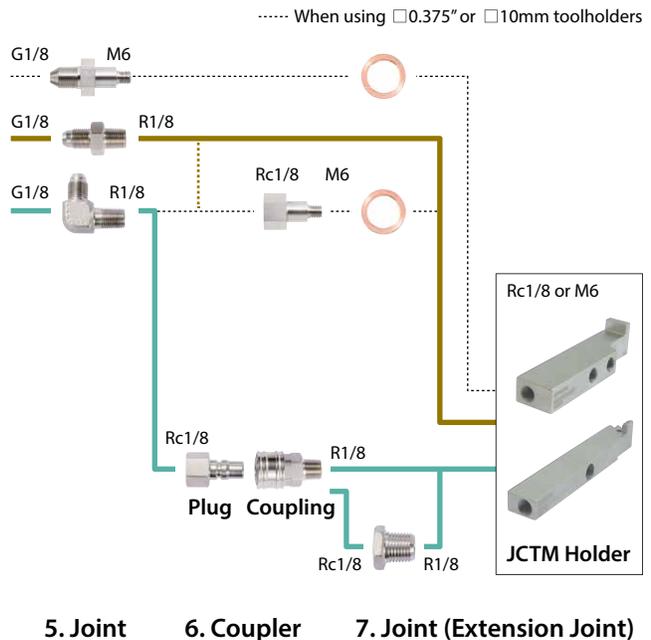
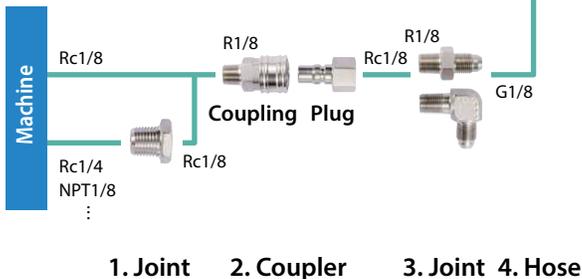
Convert the thread standards on the machine's side (Rc1/4, Rc1/8, NPT1/8, etc.) to thread standards of the coupler (Rc1/8, etc.) or hose (G1/8) for use.  
Use sealing agents such as seal tapes when installing piping parts.

## Combinations

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



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



# Piping Parts

## Piping Part Dimensions

Joint [(1)(3)(5)(7)] Pressure Resistance: up to 2,900 psi

(Unit: mm)

Shape	Part Number	Std. Item	ød1	ød2	L	L1	L2	T1	T2
	J-ST-R1/4-G1/8	●	5.5	4.0	34	13	13	R1/4	G1/8
	J-ST-NPT1/8-G1/8	●	3.5	3.5	29	10	13	NPT1/8	G1/8
	J-ST-R1/8-G1/8	●	4.0	4.0	29	10	13	R1/8	G1/8
	J-ST-R1/8-G1/8-L	●	4.0	4.0	40	20	14	R1/8	G1/8
	J-ST-M6-G1/8	●	2.5	4.0	34.2	15.2	13	M6	G1/8
	J-AN-R1/8-G1/8	●	4.0	4.0	27	14	13	R1/8	G1/8
	J-AN-R1/8-G1/8-L	●	4.0	4.0	34	20	14	R1/8	G1/8
	J-ST-R1/4-RC1/8	●	-	-	17	12	-	R1/4	Rc1/8
	J-ST-NPT1/8-RC1/8	●	3.5	-	30	10	-	NPT1/8	Rc1/8
	J-ST-R1/8-RC1/8	●	3.5	-	33	13	-	R1/8	Rc1/8
	J-ST-M6-RC1/8	●	2.5	4.0	25.2	15.2	-	M6	Rc1/8

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

Caution: Over-tightening may damage the pipe parts.

● : Standard Item

Coupler [(2)(6)] Pressure Resistance: up to 1,090 psi (Unit: mm)

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

● : Standard Item

Hose (4) Pressure Resistance: up to 2,900 psi

(Unit: mm)

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

● : Standard Item

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.

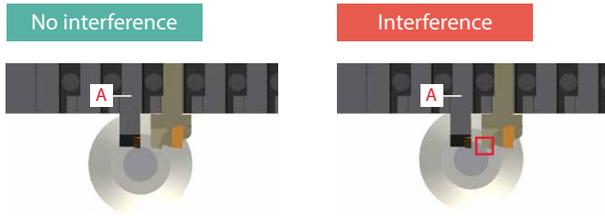
Washer

(Unit: mm)

Shape	Part Number	Std. Item
	WS-6	●

## 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.



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

JCTM Part Number	Workpiece Dia.		
	ø12mm	ø16mm	ø20mm
KGZ R/L 1012H-2JCTM	-	5.0	3.7
KGZ R/L 1218JX-*JCTM	2.4	2.0	1.7
KGZ R/L 1212JX-*JCTM	-	-	3.8

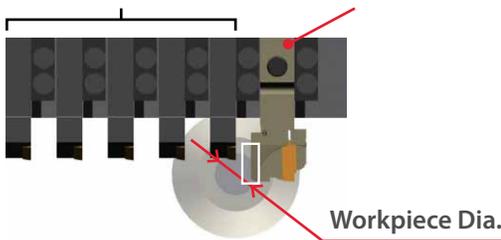
When using the JCTM holder 1218/1625/1616 for T01 on the following models, please check the workpiece diameter in advance to avoid interference.

### <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

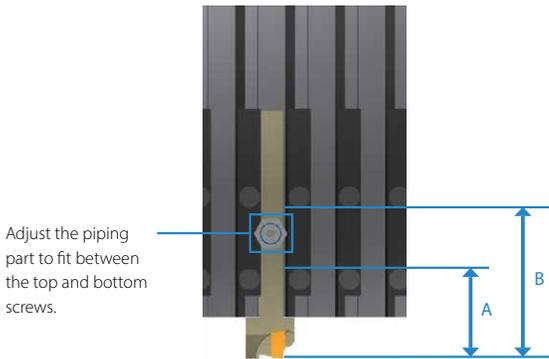
JCTM Part Number	Workpiece Dia.	
	ø14mm or smaller	ø14mm or larger
KGZ R/L 1218JX-*JCTM	Compatible	Please use KGZ R/L 1212JX-*JCTM or KGZ R/L 1616JX*D26JCTM
KGZ R/L 1625JX-*JCTM		
KGZ R/L 1616JX-*JCTM		

### 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.

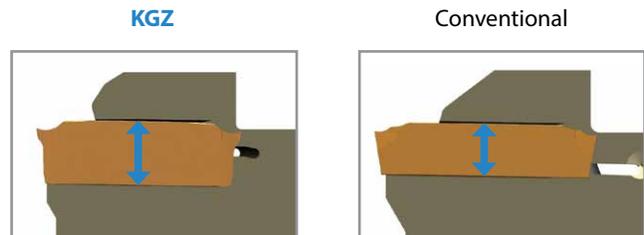
When connecting piping parts to the JCTM square shank, check the lengths of A and B below to avoid interference with the screws of the tool plate.



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)



### KYOCERA Precision Tools

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