Vischer & Bolli
OSG GROUP COMPANY

Direct coolant holder for small parts machining

JCTM Series

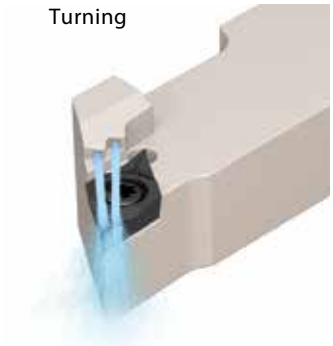
NEW

Superior chip control and long tool life

Applicable to different supply styles, like internal coolant with/without piping system

Large lineup for various tooling operations

Turning

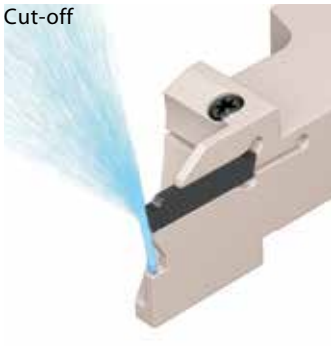


Screw clamp - JCTM

External grooving

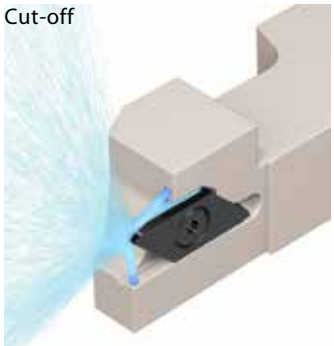
KGBF-JCTM

Cut-off



KGD-JCTM

Cut-off



KTKF-JCTM

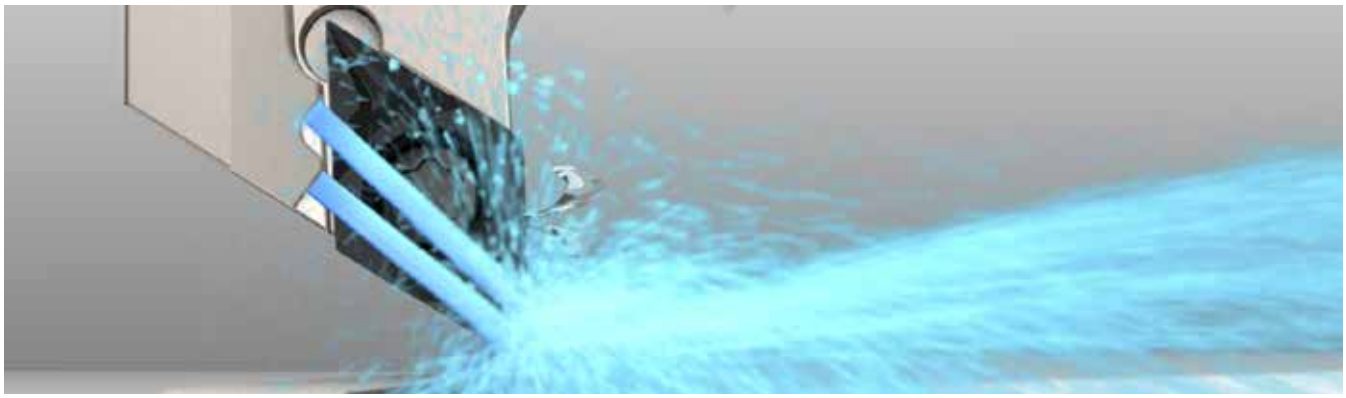
KYOCERA

JCTM Series direct coolant holder for small parts machining

JCTM Series

Applicable to different supply styles.
Supports internal coolant with/without piping system.
Lineup of turning, grooving (KGBF), and cut-off (KGD/KTKF) holders

1 Using internal coolant to enhance tool performance



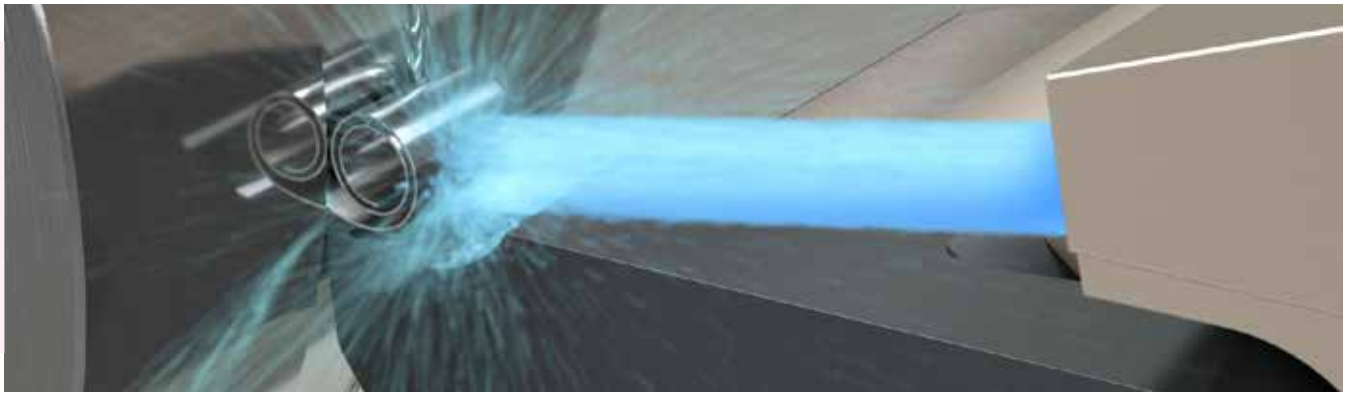
CG Image

Challenges

- Difficulty in automatic operation due to sudden chip entanglement
- Insert change is not enough to extend tool life

Solution

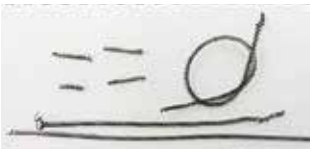
- The JCTM series is compatible with internal coolant supply system in a wide range of machines and also works under normal pressure
- Reduces down time by improving chip control and reduces cost by extending tool life



CG Image

Switching to internal coolant toolholder reduces chip entanglement

Internal coolant (2.5 MPa)



External coolant

Pin Alloy tool steel (SKS 93, JIS)

Vc = 180 m/min, ap = 1.4 mm
f = 0.13 mm/rev, wet
SDJC / DCMT11T304 type (User evaluation)

2 Applicable to different supply styles. Supports internal coolant with/without piping system

Internal coolant without piping

*When the tool turret supports direct coolant

NEW

Coolant is supplied directly from tool turret into the holder. No need for piping just by installing tools

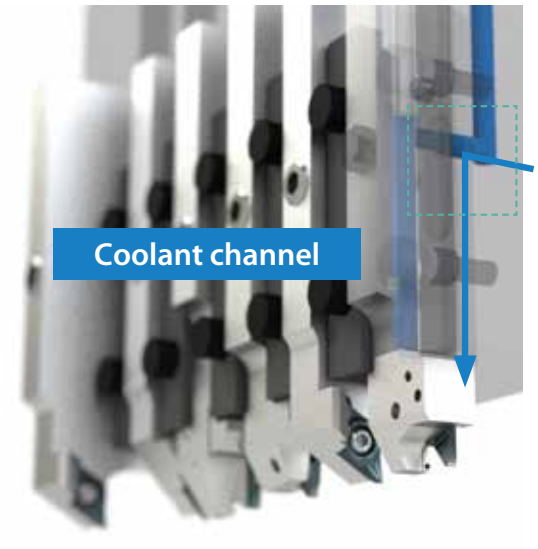
Applicable to wide range of machines

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

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

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

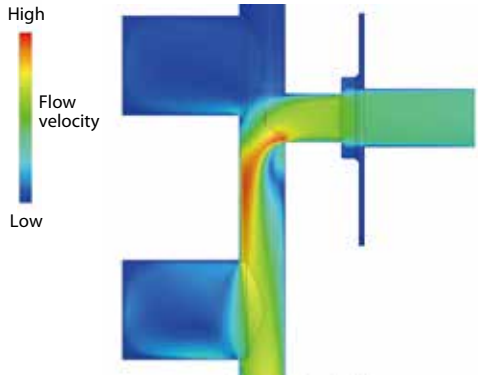
(Random order)
Based on Kyocera survey in January 2021



Point

Appropriate hole design to reduce energy loss based on deep analysis

Analysis image (Internal evaluation)

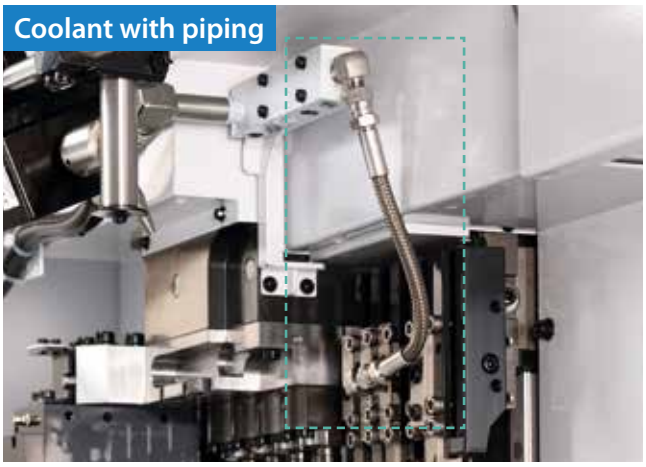


Internal coolant with piping

*Piping parts: See pages 13 and 14

Compatible with internal coolant on any machine with standard piping parts

Commercial piping parts are available when using at normal pressure

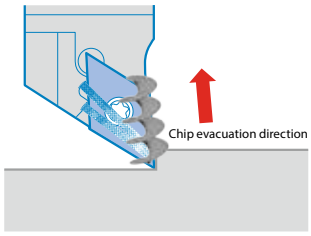
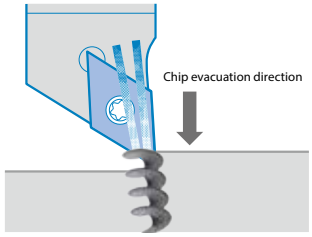


3 Large lineup for various tooling operations

Turning Screw clamp - JCTM

➡ P5

Coolant supply structure comparison (Internal evaluation) (Image)

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 prevent coolant supply to edges

- **Double coolant holes**
  Provide coolant toward the rake face of the insert
  (V Type □12: Single hole)
- **Lineup**
  SCLC-JCTM / SDJC-JCTM
  SVJB-JCTM / SVJP-JCTM

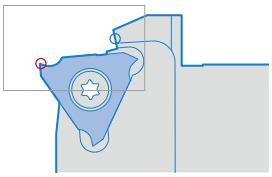
External grooving KGBF-JCTM

➡ P7

Coolant discharging comparison (Internal evaluation)

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

○ Cutting edge
○ Coolant hole



KGBF-JCTM

(Without insert)

Competitor B

(Without insert)

- **Provides coolant toward the rake surface of insert**
- **Specification**
  Edge width: 0.25 -3 mm
  Ground chipbreaker/3D GL Chipbreaker
  Maximum groove depth: 3 mm

4 Kyocera's high-performance insert grades

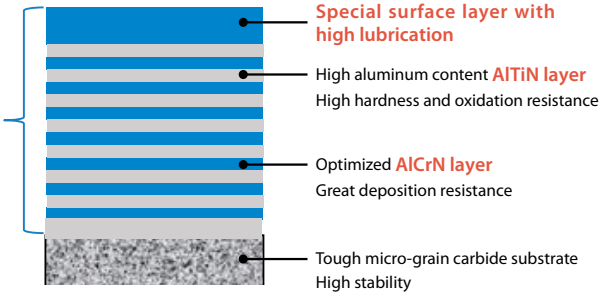
PR1725

1st recommendation for steel machining. Excellent surface finish and long tool life.

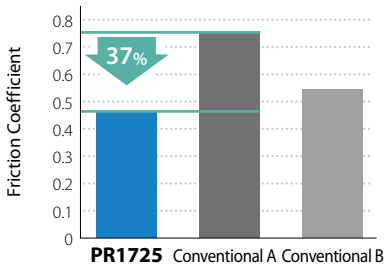
MEGACOAT NANO® PLUS

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.



Friction coefficient comparison (Internal evaluation)

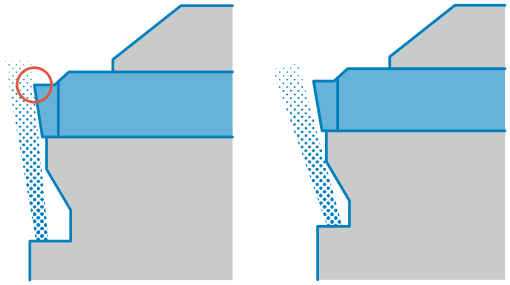


Cut-off KGD-JCTM

➔ P9

Coolant discharge comparison (Image)

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

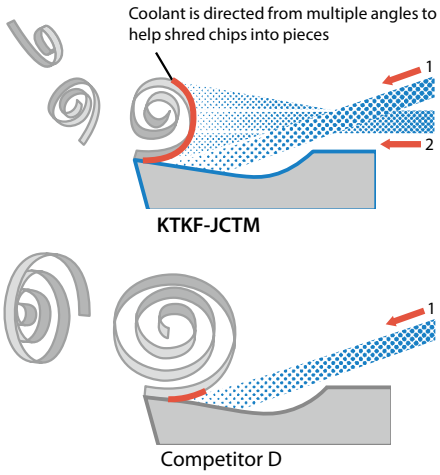


- **Delivers coolant directly to front flank face**
- **Lineup**
  Maximum cutting dia.: ~ 24 mm, ~ 32 mm

Cut-off KTKF-JCTM

➔ P11

Coolant discharge structure comparison (Image)



- **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 cutting dia. ø 5 - ø 12)
  TKF 16 Type (Maximum cutting dia. ø 16)

PR1535 Stable machining of stainless steel

MEGACOAT NANO®

The combination of a high-toughness substrate and a special nano layer coating maintains long tool life and stable machining of stainless steel

Cracking comparison by diamond indenter (Internal evaluation)

Long cracks | Short cracks

23%
Fracture toughness *

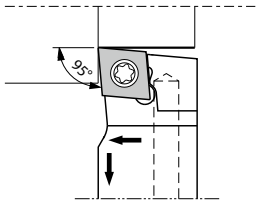
Impact resistance

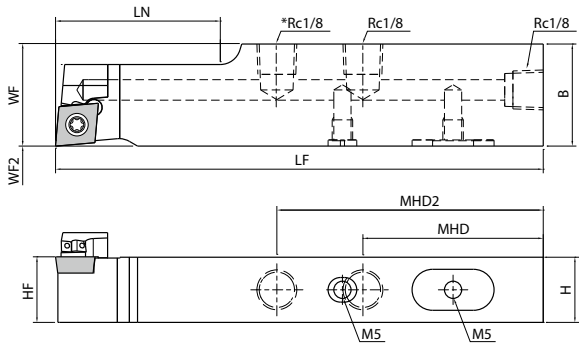
MEGACOAT base layer structure

Point

Superior performance in steel and stainless steel machining under unstable conditions

SCLC-JCTM





• Right-hand shown

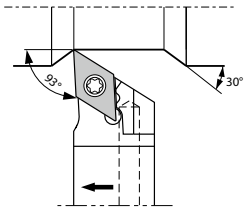
Toolholder dimensions

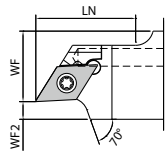
Description		Availability R	Availability L	H	HF	B	LF	LN	WF	WF2	MHD	MHD2	Reference Corner-R (RE)	Parts: Clamp Screw	Parts: Wrench	Parts: Plug 1	Parts: Plug 2
SCLCR	1218JX-09FFJCTM	●		12	12	18	120	28	18	0	54	-	0.2	SB-4085TR	FT-15	GP-1	HS5X4LP
	1625JX-09FFJCTM	●		16	16	25		40	25		44	65					
	2025JX-09FFJCTM	●		20	20												-

*For coolant holder piping parts, see pages 13 and 14.

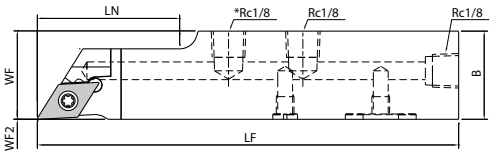
●: Available

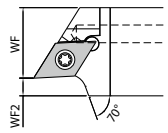
SDJC-JCTM



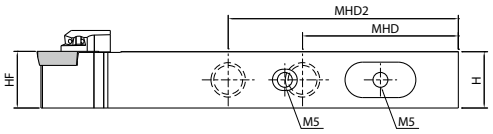


Above figure shows
SDJCR 1235 JX 11 F15JCTM
SDJCR 1225 JX 11 F05JCTM





Above figure shows
SDJCR 1625 JX 11 F05JCTM
SDJCR 1635 JX 11 F 15 JCTM



• Right-hand shown

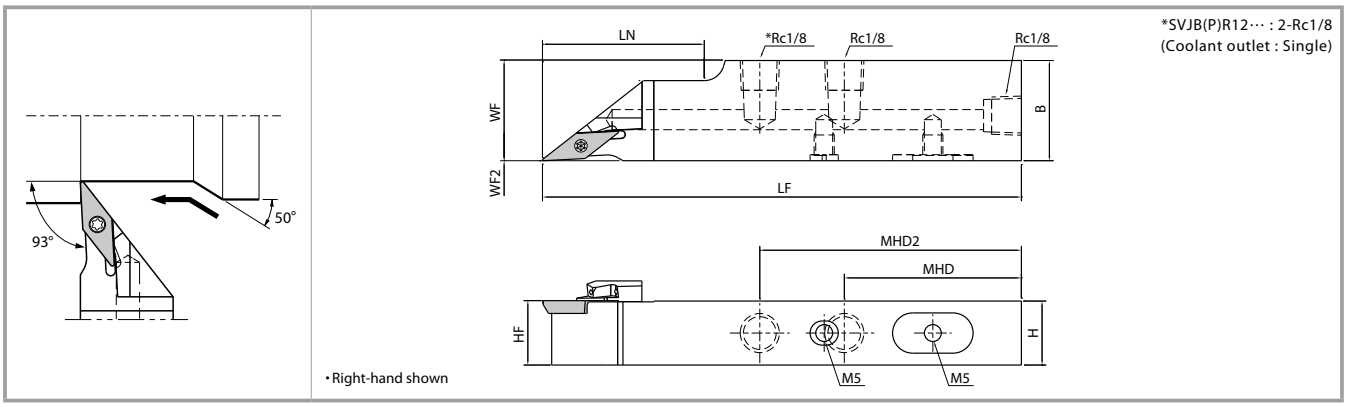
Toolholder dimensions

Description		Availability R	Availability L	H	HF	B	LF	LN	WF	WF2	MHD	MHD2	Reference corner-R (RE)	Parts: Clamp Screw	Parts: Wrench	Parts: Plug 1	Parts: Plug 2
SDJCR	1218JX-11FFJCTM	●		12	12	18	120	28	18	0	54	-	0.2	SB-4085TR	FT-15	GP-1	HS5X4LP
	1625JX-11FFJCTM	●		16	16	25		40	25		44	65					
	2025JX-11FFJCTM	●		20	20												-
SDJCR	1225JX11F05JCTM	●		12	12	25	120	28	20	5	54	-	0.2				HS5X4LP
	1235JX11F15JCTM	●				35				15							
SDJCR	1625JX11F05JCTM	●		16	16	25	120	-	20	5	44	65	0.2				
	1635JX11F15JCTM	●				35				15							

*For coolant holder piping parts, see pages 13 and 14.

●: Available

SVJB / SVJP-JCTM



Toolholder dimensions

Description		Stock R	Stock L	Dimensions (mm) H	HF	B	LF	LN	WF	WF2	MHD	MHD2	Reference corner-R (RE)	Parts: Clamp Screw	Wrench	Plug 1	Plug 2
SVJBR	1218JX-11FFJCTM	●		12	12	18	120	28	18	0	54	-	0.4	SB-2570TR	FT-8	GP-1	HS5X4LP
	1625JX-11FFJCTM	●		16	16	25		40	25		44	65					
	2025JX-11FFJCTM	●		20	20												-
SVJPR	1218JX-11FFJCTM	●		12	12	18	120	28	18	0	54	-	0.2	SB-2570TR	FT-8	GP-1	HS5X4LP
	1625JX-11FFJCTM	●		16	16	25		40	25		44	65					
	2025JX-11FFJCTM	●		20	20												-

*For coolant holder piping parts, see pages 13 and 14.

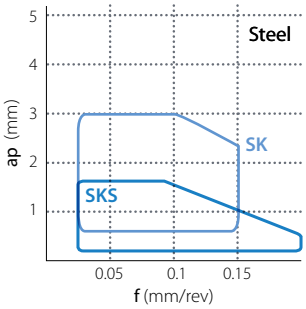
● : Available

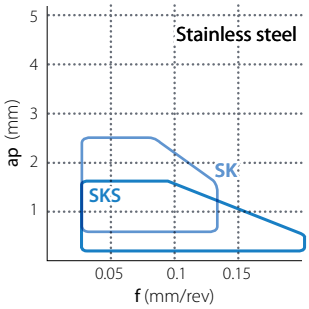
Applicable chipbreakers

3D Sharp edge chipbreaker series

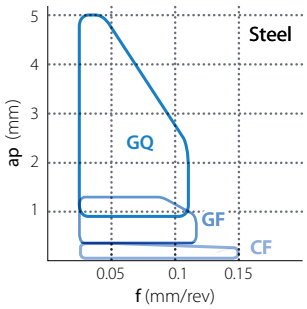
1. Excellent chip control in a wide range of machining applications
2. High precision with periphery grinding and sharp edge specification
3. Anti-welding properties with improved mirror surface finish

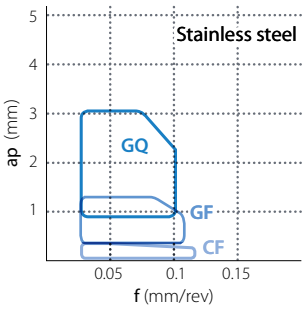
1st recommended chipbreakers (Low cutting force)



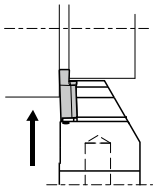


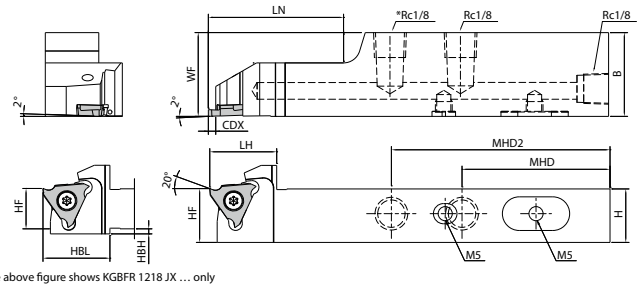
Additional chipbreakers (Chip control oriented)





KGBF-JCTM





• Right-hand shown

Right hand (R) insert applicable on right hand (R) holder

Toolholder dimensions

Description		Availability		Dimensions (mm)											Parts			
															Clamp Screw	Wrench	Plug 1	Plug 2
		R	L	H=HF	HBH	B	LF	HBL	LH	LN	WF	CDX *1	MHD	MHD2				
KGBFR	1218JX-16FJCTM	●		12	1.5	18	120	20	20	28	12	3	54	-	SB-4070TRW	FT-8	GP-1	HS5X4LP
	1625JX-16FJCTM	●		16	-	25		-		40	16		44	65				
	2025JX-16FJCTM	●		20							20							-

*For coolant holder piping parts, see pages 13 and 14.

*1. CDX indicates the distance from the holder face to the cutting edge. The actual machining depth is insert's CDX.

● : Available

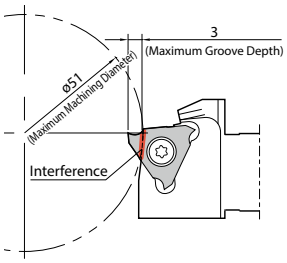
Precautions

GBF and GBA compatibility

1. GBF (Insert) can be attached to KGBA/KGBAS (holder).
   Caution: The maximum groove depth for KGBA/KGBAS holders is 2.5 mm
2. GBA (Insert) can be attached to KGBF-JCTM (holder).
   Caution: Rake angle when the holder is installed becomes 11 °.

Maximum cutting dia. limits

3 mm groove depth is available on workpiece diameters up to ø51mm
2.7 mm groove depth is available on workpiece diameters up to ø100mm,
2.5 mm groove depth is available on workpiece diameters up to ø200mm
The workpiece will interfere with the holder at maximum cutting diameters or larger.



Recommended cutting conditions

★ 1st Recommendation ☆ 2nd Recommendation

GBF

Workpiece	Recommended insert grade (Vc: m/min)			1. Feed during grooving machining (mm/rev) 2. Feed during traversing (mm/rev) 3. D.O.C. during traversing (mm)			
	MEGACOAT	MEGACOAT NANO	Carbide				
	PR1215	PR1535	GW15	GBF32R 025 - 053 (~000F)	GBF32R 065 - 095 (~000F)	GBF32R 100 - 145 (~000F)	GBF32R 150 - 300 (~200 - 000F)
Carbon steel	★ 80 – 180	☆ 70 – 160	–	1. 0.01 – 0.05 (0.005 - 0.03) 2. Traversing is NOT Recommended 3. Traversing is NOT Recommended	1. 0.02 – 0.07 (0.01 - 0.04) 2. Traversing is NOT Recommended 3. Traversing is NOT Recommended	1. 0.03 – 0.08 (0.01 - 0.05) 2. 0.03 – 0.06 (0.01 - 0.04) 3. MAX. 0.2	1. 0.03 – 0.08 (0.01 - 0.05) 2. 0.03 – 0.06 (0.01 - 0.04) 3. MAX. 0.2
Alloy steel	★ 80 – 180	☆ 70 – 160	–	1. 0.01 – 0.04 (0.005 - 0.025) 2. Traversing is NOT Recommended 3. Traversing is NOT Recommended	1. 0.02 – 0.06 (0.01 - 0.03) 2. Traversing is NOT Recommended 3. Traversing is NOT Recommended	1. 0.03 – 0.07 (0.01 - 0.04) 2. 0.02 – 0.05 (0.01 - 0.03) 3. MAX. 0.2	1. 0.03 – 0.07 (0.01 - 0.04) 2. 0.02 – 0.05 (0.01 - 0.03) 3. MAX. 0.2
Stainless steel	☆ 60 – 130	★ 50 – 120	–	1. 0.01 – 0.04 (0.005 - 0.02) 2. Traversing is NOT Recommended 3. Traversing is NOT Recommended	1. 0.02 – 0.06 (0.01 - 0.025) 2. Traversing is NOT Recommended 3. Traversing is NOT Recommended	1. 0.03 – 0.07 (0.01 - 0.03) 2. 0.02 – 0.05 (0.01 - 0.025) 3. MAX. 0.2	1. 0.03 – 0.07 (0.01 - 0.03) 2. 0.02 – 0.05 (0.01 - 0.025) 3. MAX. 0.2
Cast iron	–	–	★ 60 – 100	1. 0.01 – 0.05 (0.005 - 0.03) 2. Traversing is NOT Recommended 3. Traversing is NOT Recommended	1. 0.02 – 0.07 (0.01 - 0.04) 2. Traversing is NOT Recommended 3. Traversing is NOT Recommended	1. 0.03 – 0.08 (0.01 - 0.05) 2. 0.03 – 0.06 (0.01 - 0.04) 3. MAX. 0.2	1. 0.03 – 0.08 (0.01 - 0.05) 2. 0.03 – 0.06 (0.01 - 0.04) 3. MAX. 0.2
Aluminum alloy	–	–	★ 150 – 400	1. 0.01 – 0.05 (0.005 - 0.03) 2. Traversing is NOT Recommended 3. Traversing is NOT Recommended	1. 0.02 – 0.07 (0.01 - 0.04) 2. Traversing is NOT Recommended 3. Traversing is NOT Recommended	1. 0.03 – 0.08 (0.01 - 0.05) 2. 0.03 – 0.06 (0.01 - 0.04) 3. MAX. 0.2	1. 0.03 – 0.08 (0.01 - 0.05) 2. 0.03 – 0.06 (0.01 - 0.04) 3. MAX. 0.2
Brass	–	–	★ 150 – 300	1. 0.01 – 0.04 (0.01 - 0.03) 2. Traversing is NOT Recommended 3. Traversing is NOT Recommended	1. 0.02 – 0.06 (0.01 - 0.04) 2. Traversing is NOT Recommended 3. Traversing is NOT Recommended	1. 0.03 – 0.07 (0.01 - 0.05) 2. 0.02 – 0.05 (0.01 - 0.04) 3. MAX. 0.2	1. 0.03 – 0.07 (0.01 - 0.05) 2. 0.02 – 0.05 (0.01 - 0.04) 3. MAX. 0.2

GBF-GL

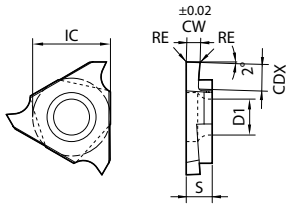
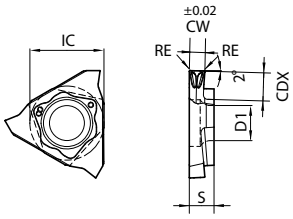
Workpiece	Recommended insert grade (Vc: m/min)		1. Feed during grooving machining (mm/rev) 2. Feed during traversing (mm/rev) 3. D.O.C. during traversing (mm)			
	MEGACOAT	MEGACOAT NANO				
	PR1215	PR1535	GBF32R 075 – 005GL	GBF32R 095 – 100-005GL	GBF32R 150 – 200-010GL	GBF32R 300 – 010GL
Carbon steel	★ 80 – 180	☆ 70 – 160	1. 0.02 – 0.07 2. Traversing is NOT Recommended 3. Traversing is NOT Recommended	1. 0.03 – 0.08 2. 0.03 – 0.06 3. MAX. 0.2	1. 0.03 – 0.08 2. 0.03 – 0.06 3. MAX. 0.3	1. 0.04 – 0.1 2. 0.04 – 0.08 3. MAX. 0.5
Alloy steel	★ 80 – 180	☆ 70 – 160	1. 0.02 – 0.06 2. Traversing is NOT Recommended 3. Traversing is NOT Recommended	1. 0.03 – 0.07 2. 0.03 – 0.06 3. MAX. 0.2	1. 0.03 – 0.07 2. 0.03 – 0.06 3. MAX. 0.3	1. 0.04 – 0.09 2. 0.04 – 0.08 3. MAX. 0.5
Stainless steel	☆ 60 – 130	★ 50 – 120	1. 0.02 – 0.06 2. Traversing is NOT Recommended 3. Traversing is NOT Recommended	1. 0.03 – 0.07 2. 0.03 – 0.06 3. MAX. 0.2	1. 0.03 – 0.07 2. 0.03 – 0.06 3. MAX. 0.3	1. 0.04 – 0.09 2. 0.04 – 0.08 3. MAX. 0.5

List of KGBF-JCTM applicable inserts

Applicable inserts

Description	IC	S	D1
GBF32	9.525	3.18	4.4

Usage classification					
◉ : Continuous-light interruption /1st Choice	P	Carbon steel /Alloy steel	◉	◯	
◯ : Continuous-light interruption /2nd Choice	M	Stainless steel	◯	◉	
● : Continuous/1st Choice	K	Cast iron			◉
○ : Continuous /2nd Choice	N	Non-ferrous metal			◉
	S	Titanium alloy			◉

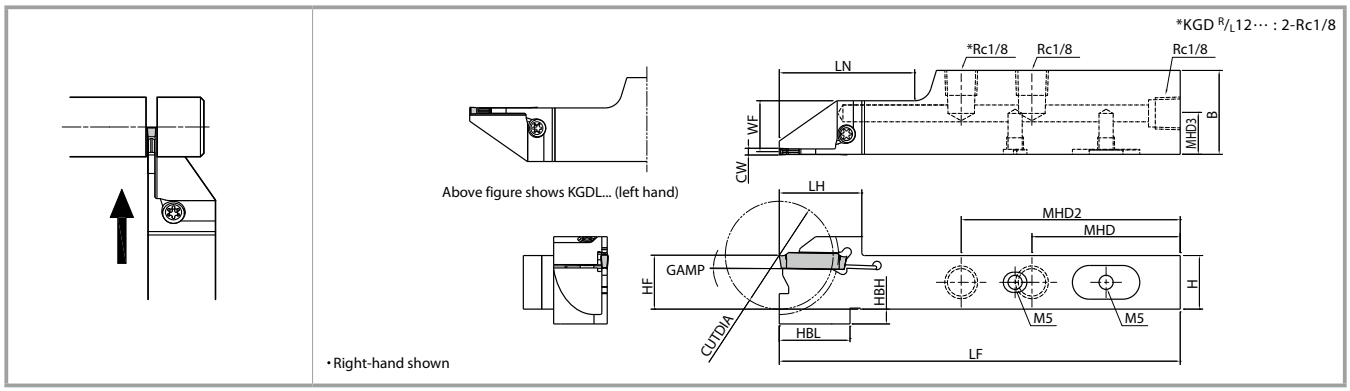
Shape	Description		Dimensions (mm) CW	CDX	RE	MEGACOAT PR1215	MEGACOAT NANO PR1535	Carbide GW15
	GBF32R	025-000F	0.25	0.6	0.00	●	●	●
		025-005			0.05	●	●	●
		030-000F	0.30	0.8	0.00	●	●	●
		030-005			0.05	●	●	●
		033-000F *1	0.33	0.8	0.00	●	●	●
		033-005 *1			0.05	●	●	●
		043-000F *2	0.43	1.0	0.00	●	●	●
		043-005 *2			0.05	●	●	●
		050-000F	0.50	1.2	0.00	●	●	●
		050-005			0.05	●	●	●
		053-000F *3	0.53	1.2	0.00	●	●	●
		053-005 *3			0.05	●	●	●
		065-000F	0.65	1.2	0.00	●	●	●
		065-005			0.05	●	●	●
		075-000F	0.75	2.0	0.00	●	●	●
		075-005			0.05	●	●	●
		080-000F	0.80	2.0	0.00	●	●	●
		080-005			0.05	●	●	●
		095-000F	0.95	2.0	0.00	●	●	●
		095-005			0.05	●	●	●
		100-000F	1.00	2.0	0.00	●	●	●
		100-005			0.05	●	●	●
		110-000F	1.10	2.0	0.00	●	●	●
		110-005			0.05	●	●	●
		120-000F	1.20	2.0	0.00	●	●	●
		120-005			0.05	●	●	●
		125-000F	1.25	2.0	0.00	●	●	●
		125-005			0.05	●	●	●
		125-010			0.1	●	●	●
		130-000F	1.30	2.0	0.00	●	●	●
		130-005			0.05	●	●	●
		130-010			0.1	●	●	●
		140-000F	1.40	2.7	0.00	●	●	●
		140-005			0.05	●	●	●
		140-010			0.1	●	●	●
		145-000F	1.45	2.7	0.00	●	●	●
		145-005			0.05	●	●	●
		145-010			0.1	●	●	●
		150-000F	1.50	2.7	0.00	●	●	●
		150-005			0.05	●	●	●
		150-010			0.1	●	●	●
		165-000F	1.65	2.7	0.00	●	●	●
		165-005			0.05	●	●	●
		165-010			0.1	●	●	●
		170-000F	1.70	3.0	0.00	●	●	●
		170-005			0.05	●	●	●
		170-010			0.1	●	●	●
		175-000F	1.75	3.0	0.00	●	●	●
		175-005			0.05	●	●	●
		175-010			0.1	●	●	●
		200-000F	2.00	3.0	0.00	●	●	●
		200-005			0.05	●	●	●
		200-010			0.1	●	●	●
		225-005	2.25	3.0	0.05	●	●	●
		225-010			0.1	●	●	●
		250-005	2.50	3.0	0.05	●	●	●
		250-010			0.1	●	●	●
		300-005	3.00	3.0	0.05	●	●	●
		300-010			0.1	●	●	●
	GBF32R	075-005GL	0.75	2.0	0.05	●	●	
		095-005GL	0.95	2.0	0.05	●	●	
		100-005GL	1.00	2.0	0.05	●	●	
		150-010GL	1.50	2.7	0.10	●	●	
		200-010GL	2.00	3.0	0.10	●	●	
		300-010GL	3.00	3.0	0.10	●	●	

Maximum cutting dia. in a groove depth of 3 mm is ø 51 mm (Please check the precautions on page 7.)

*1. GBF 32 R 033-000F/005 Edge width tolerance : 0.33 $^{+0.015}_{-0.025}$ *2. GBF 32 R043-000F/005 Edge width tolerance :0.43 $^{+0.015}_{-0.025}$ *3. GBF 32 R053-000F/005 Edge width tolerance : 0.53 $^{+0.015}_{-0.025}$

● : Available

KGD-JCTM



Toolholder dimensions

Description	Availability R	Availability L	Cutting dia. CUTDIA	Dimensions (mm) H=HF	HBH	B	LF	LH	HBL	LN	WF	MHD	MHD2	MHD3	Angle GAMP	Edge width CW (mm) MIN.	MAX.	Parts: Clamp screw	Wrench	Plug 1	Plug 2	Applicable inserts
KGDR 1218JX-2JCTM	●		24	12	8.5	18	120	19.5	21	44	11.2	54	-	8.4	1°	2.0	3.0	SB-40120TR	LTW-15S	GP-1	HS5X4LP	GDM Type GDG Type (GDMS Type) (GDGS Type)
KGDL 1218JX-2JCTM		●							21.5					7.7								
KGDR 1625JX-2JCTM	●		32	16	4.5	25		24.5	21	40	15.2	44	65	12.2								
KGDL 1625JX-2JCTM		●												7.7								
KGDR 1218JX-2.4JCTM	●		24	12	8.5	18	120	19.5	21	44	11	54	-	8.4	1°	2.4	3.0					
KGDL 1218JX-2.4JCTM		●							21.5					7.7								
KGDR 1625JX-2.4JCTM	●		32	16	4.5	25		24.5	21	40	15	44	65	12.2								
KGDL 1625JX-2.4JCTM		●												7.7								
KGDR 1218JX-3JCTM	●		24	12	8.5	18	120	19.5	21	44	10.8	54	-	8.6	1°	3.0	3.0					
KGDL 1218JX-3JCTM		●							21.5					7.7								
KGDR 1625JX-3JCTM	●		32	16	4.5	25		24.5	21	40	14.8	44	65	12.2			4.0					
KGDL 1625JX-3JCTM		●												7.7								

*For coolant holder piping parts, see pages 13 and 14.

●: Available

Recommended cutting conditions

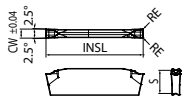
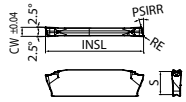
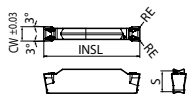
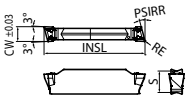
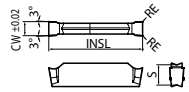
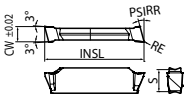
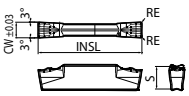
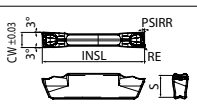
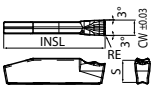
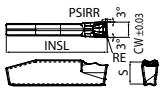
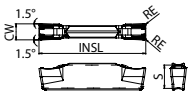
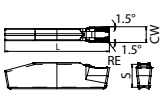
★ 1st Recommendation ☆ 2nd Recommendation

Workpiece	Chipbreaker	Recommended insert grade (Vc: m/min): MEGACOAT NANO PR1535	MEGACOAT PR1225	MEGACOAT PR1215	DLC Coating PDL025	Carbide GW15	f (mm/rev) Edge width CW (mm): 2.0	2.0 - 4.0	2.5 / 3.0	3.0 - 4.0	Remarks
Carbon steel	PF(RE=0.03)	☆ 70 – 150	★ 70 – 150	☆ 70 – 180	–	–	0.02 – 0.06	–	0.02 – 0.08	–	Wet
	PF(RE=0.15)						0.03 – 0.08		0.04 – 0.10		
	PQ						0.03 – 0.1		0.04 – 0.12		
	PG						0.01 – 0.04		0.01 – 0.05		
	PM	☆ 80 – 200	★ 80 – 200	☆ 100 – 200			–	0.08 – 0.18	–	–	
	PH						0.1 – 0.25	–		0.15 – 0.28	
Alloy steel	PF(RE=0.03)	☆ 70 – 150	★ 70 – 150	☆ 70 – 180	–	–	0.02 – 0.06	–	0.02 – 0.08	–	
	PF(RE=0.15)						0.03 – 0.08		0.04 – 0.10		
	PQ						0.03 – 0.1		0.04 – 0.12		
	PG						0.01 – 0.04		0.01 – 0.05		
	PM	☆ 70 – 180	★ 70 – 180	☆ 80 – 180			–	0.08 – 0.18	–	–	
	PH						0.1 – 0.25	–		0.15 – 0.28	
Stainless steel	PF(RE=0.03)	★ 60 – 120	☆ 60 – 120	☆ 60 – 150	–	–	0.01 – 0.04	–	0.01 – 0.05	–	
	PF(RE=0.15)						0.03 – 0.07		0.04 – 0.08		
	PQ						0.02 – 0.07		0.02 – 0.08		
	PG						0.01 – 0.03		0.01 – 0.04		
	PM	★ 60 – 150	☆ 60 – 150	☆ 60 – 150			–	0.06 – 0.12	–	–	
	PH						0.05 – 0.12	–		0.08 – 0.15	
Cast iron	PF(RE=0.03)	–	–	★ 80 – 200	–	–	0.02 – 0.07	–	0.03 – 0.08	–	
	PF(RE=0.15)						0.03 – 0.09		0.04 – 0.10		
	PQ					☆ 50 – 100	0.04 – 0.1		0.04 – 0.12		
	PG						0.01 – 0.04		0.01 – 0.05		
	PM			★ 100 – 200		–	–	0.08 – 0.18	–	–	
	PH						0.1 – 0.25	–		0.15 – 0.28	
Aluminium alloy	PQ	–	–	–	★ 200 – 500	☆ 200 – 450	–	–	–	–	
	PG						0.01 – 0.05		0.01 – 0.06		
Brass	PQ	–	–	–	–	★ 100 – 200	–	–	–	–	
	PG						0.01 – 0.07		0.01 – 0.08		

List of KGD-JCTM applicable inserts

Usage classification							
◕ : Continuous-light interruption /1st Choice ◔ : Continuous-light interruption /2nd Choice ● : Continuous/1st Choice ○ : Continuous /2nd Choice	P	Carbon steel /Alloy steel	◔	◕	◔		
	M	Stainless steel	◕	◔	◔		
	N	Non-ferrous metal				◕	◔

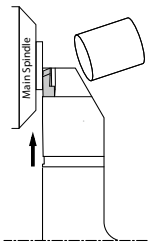
Applicable inserts

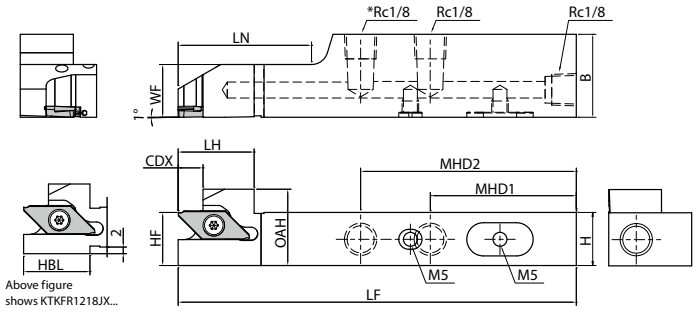
Shape (Handed insert shows right-hand)		Description		Dimensions (mm) CW	Tolerance	RE	INSL	S	Angle PSIR R/L	MEGACOAT NANO PR1535	MEGACOAT PR1225	MEGACOAT PR1215	DLC Coating PDL025	Carbide GW15
Cut-off (Low feed)		GDM	2020N-003PF	2.0	±0.04	0.03	20	4.3	—	●	●	●		
			2020N-015PF			0.15				●	●	●		
			2520N-003PF	2.5		0.03				●	●	●		
			2520N-015PF			0.15				●	●	●		
			3020N-003PF	3.0		0.03				●	●	●		
			3020N-015PF			0.15				●	●	●		
	 With 15 ° Lead angle	GDM	2020 R/L-003PF-15D	2.0	±0.04	0.03	20	4.3	15°	●	●	●		
			2020R -015PF-15D			0.15				R	R	R		
			2520 R/L-003PF-15D	2.5		0.03				●	●	●		
			2520R -015PF-15D			0.15				R	R	R		
			3020 R/L-003PF-15D	3.0		0.03				●	●	●		
			3020R -015PF-15D			0.15				R	R	R		
Cut-off (Medium feed)		GDM	2020N-010PQ	2.0	±0.03	0.1	20	4.3	—	●	●	●		
			2520N-010PQ	2.5						●	●	●		
			3020N-010PQ	3.0						●	●	●		
	 With 15 ° Lead angle	GDM	2020R-010PQ-15D	2.0	±0.03	0.1	20	4.3	15°	R	R	R		
			2520R-010PQ-15D	2.5						R	R	R		
			3020R-010PQ-15D	3.0						R	R	R		
Cut-off (Low cutting force)		GDG	2020N-005PG	2.0	±0.02	0.05	20	4.3	—	●	●		●	●
			2520N-005PG	2.5						●	●		●	●
			3020N-005PG	3.0						●	●		●	●
	 With 15 ° Lead angle	GDG	2020R-005PG-15D	2.0	±0.02	0.05	20	4.3	15°	R	R		R	R
			2520R-005PG-15D	2.5						R	R		R	R
			3020R-005PG-15D	3.0						R	R		R	R
Cut-off (General use)		GDM	2020N-020PM	2.0	±0.03	0.2	20	4.3	—	●	●	●		
			2520N-020PM	2.5						●	●	●		
			3020N-025PM	3.0		0.25				●	●	●		
			4020N-030PM	4.0		0.3				●	●	●		
	 With 6 ° Lead angle	GDM	2020R-020PM-6D	2.0	±0.03	0.2	20	4.3	6°	●	●	●		
			2520R-020PM-6D	2.5						●	●	●		
			3020R-025PM-6D	3.0		0.25				●	●	●		
	 1-edge	GDMS	2020N-020PM	2.0	±0.03	0.2	20	4.3	—	●	●	●		
			3020N-025PM	3.0		0.25				●	●	●		
			4020N-030PM	4.0		0.3				●	●	●		
	 1-edge with 6 ° Lead angle	GDMS	2020R-020PM-6D	2.0	±0.03	0.2	20	4.3	6°	R	R	R		
			3020R-025PM-6D	3.0		0.25				R	R	R		
			4020R-030PM-6D	4.0		0.3				R	R	R		
Grooving/Cut-off (High feed)		GDM	2020N-020PH	2.0	±0.03	0.2	20	4.3	—	●	●	●		
			3020N-030PH	3.0		0.3				●	●	●		
			4020N-030PH	4.0		0.3				●	●	●		
	 1-edge	GDMS	2020N-020PH	2.0	±0.03	0.2	20	4.3	—	●	●	●		
			3020N-030PH	3.0		0.3				●	●	●		
			4020N-030PH	4.0		0.3				●	●	●		

● : Available
R: Right hand (R) only available

KTKF-JCTM

Right hand (R)

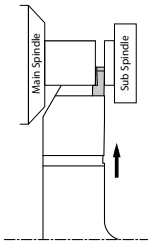


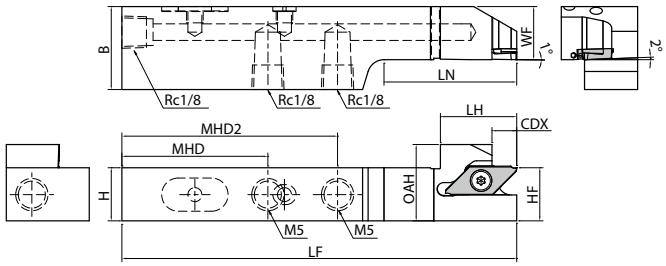


• Right-hand shown

R-hand insert (R) for R-hand (R) toolholder

Left hand (L)





• Left-hand (L) shown

L-hand insert (L) for L-hand (L) toolholder

Toolholder dimensions

Description		Availability R	Availability L	H	HF	OAH	B	LF	HBL	LH	LN	WF	CDX	MHD	MHD2	Parts: Clamp screw	Parts: Wrench	Parts: Plug 1	Parts: Plug 2	Applicable inserts
KTKFR	1218JX-12JCTM	●		12	12	19	18	120	20	20	28	12	7.5	54	-	SB-4590TRWN	FT-10	GP-1	HSSX4LP	TKF12R… TKFT12R…
KTKF R/L	1625JX-12JCTM	●	●	16	16	23	25		-	23	40	16		44	21(65)					TKF12R/L… TKFT12R/L…
KTKF R/L	2025JX-12JCTM	●	●	20	20	27						20							-	
KTKF R/L	1625JX-16JCTM	●	●	16	16	23	25	120	-	23	40	16	9.6	44	21(65)	SB-4590TRWN	FT-10	GP-1	HSSX4LP	TKF16R/L… TKFT16R/L…
KTKF R/L	2025JX-16JCTM	●	●	20	20	27					41	20								

*For coolant holder piping parts, see pages 13 and 14.

● : Available

Recommended cutting conditions ★ 1st Recommendation ☆ 2nd Recommendation

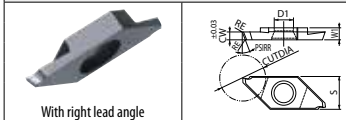
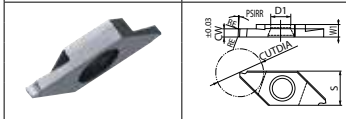
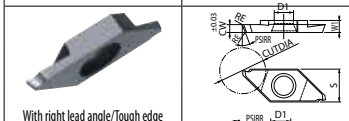
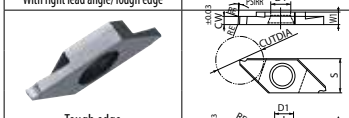
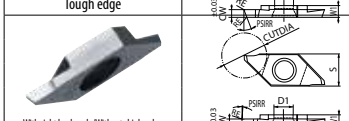
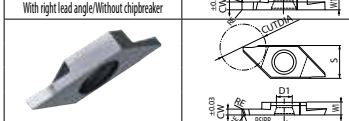
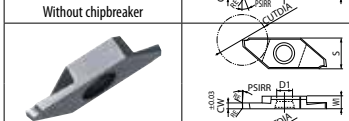
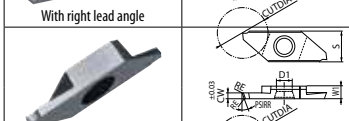
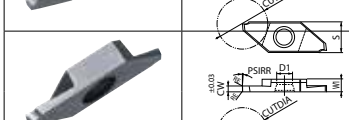
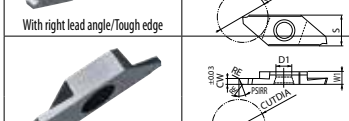
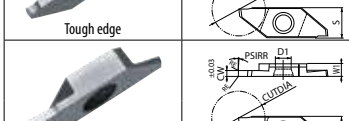
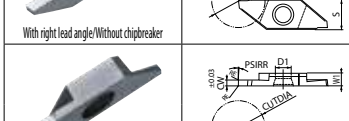
Workpiece	Recommended insert grade (Vc: m/min)					TKF12 Edge width CW (mm)						TKF16 Edge width CW (mm)		Remarks
	MEGACOAT NANO PLUS	MEGACOAT NANO	MEGACOAT	DLC Coating	Carbide	0.5	0.7	1.0	1.25	1.5	2.0	1.5	2.0	
	PR1725	PR1535	PR1225	PDL025	KW10	f (mm/rev)						f (mm/rev)		
Carbon Steel	★ 70 – 170 (50 – 140)	☆ 70 – 150 (50 – 120)	☆ 70 – 150 (50 – 120)	–	–	0.01 – 0.02	0.01 – 0.03	0.01 – 0.04 (0.01 – 0.05)	0.01 – 0.04	0.01 – 0.04 (0.02 – 0.1)	0.01 – 0.04 (0.02 – 0.1)	0.02 – 0.07 (0.02 – 0.1)	0.02 – 0.07 (0.02 – 0.1)	Wet
Alloy Steel	★ 70 – 170 (50 – 140)	☆ 70 – 150 (50 – 120)	☆ 70 – 150 (50 – 120)	–	–	0.01 – 0.02	0.01 – 0.03	0.01 – 0.04 (0.01 – 0.05)	0.01 – 0.04	0.01 – 0.04 (0.02 – 0.1)	0.01 – 0.04 (0.02 – 0.1)	0.02 – 0.07 (0.02 – 0.1)	0.02 – 0.07 (0.02 – 0.1)	
Stainless Steel	☆ 60 – 140 (40 – 120)	★ 60 – 120 (40 – 100)	☆ 60 – 120 (40 – 100)	–	–	0.005 – 0.015	0.01 – 0.02	0.01 – 0.02 (0.01 – 0.03)	0.01 – 0.02	0.01 – 0.02 (0.01 – 0.05)	0.01 – 0.02 (0.01 – 0.05)	0.01 – 0.04 (0.01 – 0.05)	0.01 – 0.04 (0.01 – 0.05)	
Cast Iron	–	–	–	–	★ 50 – 100	0.01 – 0.03	0.01 – 0.04	0.01 – 0.05	0.01 – 0.05	0.01 – 0.05	0.01 – 0.05	0.02 – 0.08	0.02 – 0.08	
Aluminium	–	–	–	★ 200 – 500	☆ 200 – 450	0.01 – 0.03	0.01 – 0.04	0.01 – 0.05	0.01 – 0.05	0.01 – 0.05	0.01 – 0.05	0.02 – 0.08	0.02 – 0.08	
Brass	–	–	–	–	★ 100 – 200	0.01 – 0.03	0.01 – 0.04	0.01 – 0.06	0.01 – 0.06	0.01 – 0.06	0.01 – 0.06	0.02 – 0.1	0.02 – 0.1	

Recommendations in parentheses ( ) : Tough edge type (TKF..T..)

List of KTKF-JCTM applicable inserts

Usage classification			MEGACOAT NANO PLUS	MEGACOAT NANO	MEGACOAT	DLC Coating	Carbide
	P	Carbon steel /Alloy steel	◉	◯	◯		
◉ : Continuous-light interruption /1st Choice	M	Stainless steel	◯	◉	◯		
◯ : Continuous-light interruption /2nd Choice	K	Cast iron					◉
● : Continuous/1st Choice	N	Non-ferrous metal				◉	◯
○ : Continuous /2nd Choice							

Applicable inserts (TKF 12/TKF 16)

Shape (Handed insert shows right-hand)	Description		Dimensions (mm)						Angle	MEGACOAT NANO PLUS PR1725		MEGACOAT NANO PR1535		MEGACOAT PR1225		DLC Coating PDL025		Carbide KW10	
			CW	CUTDIA	RE	W1	S	D1	PSIR R/L	R	L	R	L	R	L	R	L	R	L
 With right lead angle	TKF12 R/L	050-S-16DR	0.5	5	0.03	3	8.7	5	16°	●	●	●	●	●	●			●	●
		070-S-16DR	0.7	8						●	●	●	●	●	●			●	●
		100-S-16DR	1.0	12						●	●	●	●	●	●	●	●	●	●
		125-S-16DR	1.25							●	●	●	●	●	●	●	●		
		150-S-16DR	1.5							●	●	●	●	●	●	●	●	●	●
		200-S-16DR	2.0							●	●	●	●	●	●	●	●	●	●
	TKF12 R/L	050-S	0.5	5	0.03	3	8.7	5	0°	●	●	●	●	●	●	●	●	●	●
		070-S	0.7	8						●	●	●	●	●	●	●	●	●	●
		100-S	1.0	12						●	●	●	●	●	●	●	●	●	●
		125-S	1.25							●	●	●	●	●	●	●	●		
		150-S	1.5							●	●	●	●	●	●	●	●	●	●
		200-S	2.0							●	●	●	●	●	●	●	●	●	●
 With right lead angle/Tough edge	TKF12 R/L	100-T-16DR	1.0	12	0.08	3	8.7	5	16°	●	●	●	●	●	●				
		150-T-16DR	1.5							●	●	●	●	●	●				
		200-T-16DR	2.0							●	●	●	●	●	●				
 Tough edge	TKF12 R/L	100-T	1.0	12	0.08	3	8.7	5	0°	●	●	●	●	●	●				
		150-T	1.5							●	●	●	●	●	●				
		200-T	2.0							●	●	●	●	●	●				
 With right lead angle/Without chipbreaker	TKF12 R/L	050-NB-20DR	0.5	5	0	3	8.7	5	20°	●	●	●	●					●	●
		070-NB-20DR	0.7	8						●	●	●	●					●	●
		100-NB-20DR	1.0	12						●	●	●	●					●	●
		150-NB-20DR	1.5							●	●	●	●					●	●
		200-NB-20DR	2.0							●	●	●	●					●	●
 Without chipbreaker	TKF12 R/L	050-NB	0.5	5	0	3	8.7	5	0°	●	●	●	●					●	●
		070-NB	0.7	8						●	●	●	●					●	●
		100-NB	1.0	12						●	●	●	●					●	●
		150-NB	1.5							●	●	●	●					●	●
		200-NB	2.0							●	●	●	●					●	●
 With right lead angle	TKF16 R/L	150-S-16DR	1.5	16	0.05	4	9.5	5	16°	●	●	●	●	●	●	●	●	●	●
		200-S-16DR	2.0							●	●	●	●	●	●	●	●	●	●
	TKF16 R/L	150-S	1.5	16	0.05	4	9.5	5	0°	●	●	●	●	●	●	●	●	●	●
		200-S	2.0							●	●	●	●	●	●	●	●	●	●
 With right lead angle/Tough edge	TKF16 R/L	150-T-16DR	1.5	16	0.08	4	9.5	5	16°	●	●	●	●	●	●				
		200-T-16DR	2.0							●	●	●	●	●	●				
 Tough edge	TKF16 R/L	150-T	1.5	16	0.08	4	9.5	5	0°	●	●	●	●	●	●				
		200-T	2.0							●	●	●	●	●	●				
 With right lead angle/Without chipbreaker	TKF16 R/L	150-NB-20DR	1.5	16	0	4	9.5	5	20°	●	●	●	●					●	●
		200-NB-20DR	2.0							●	●	●	●					●	●
 Without chipbreaker	TKF16 R/L	150-NB	1.5	16	0	4	9.5	5	0°	●	●	●	●					●	●
		200-NB	2.0							●	●	●	●					●	●

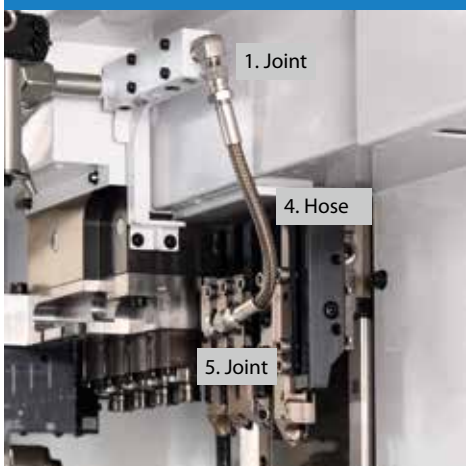
Lead angle (front cutting edge angle: PSIR R / L) shows the angle when installed in the toolholder.
Insert's cutting dia. (CUTDIA) indicates the cutting dia. when the tool tip has proceeded to the center of workpiece.

● :Available

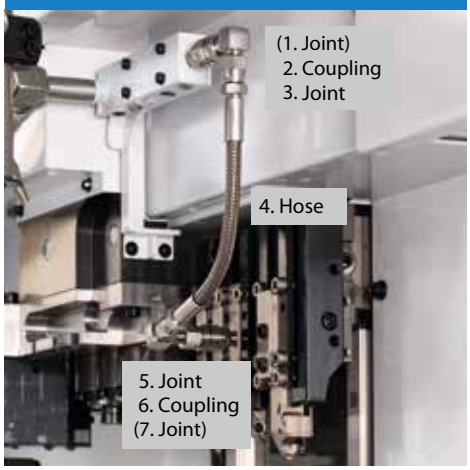
Piping parts

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

Without coupling (Pump pressure: Up to 20 MPa)



With coupling (Pump pressure: Up to 7.5 MPa)



Combination part description (Example)

Parts	Description
1. Joint	J-AN-R1/8-G1/8
4. Hose	HS-G1/8-G1/8-200
5. Joint	J-AN-R1/8-G1/8

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

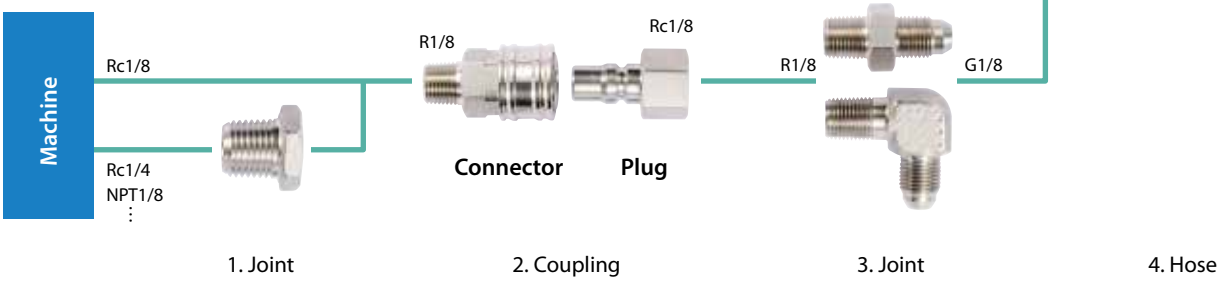
Combination part description (Example)

Parts	Description
(1. Joint)	–
2. Coupling	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. Coupling	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 coupling (Rc1/8, etc.) or hose (G1/8) for use.
Use sealing agents such as seal tapes when installing piping parts.

Without coupling (Pump pressure: Up to 20 MPa)

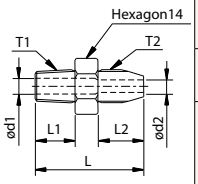
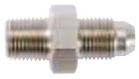
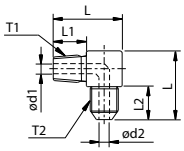
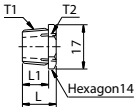
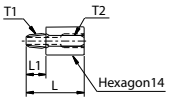
With coupling (Pump pressure: Up to 7.5 MPa)



Piping part dimensions

Joint (1, 3, 5, 7) Pressure: Up to 20.0 MPa

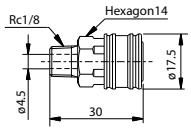
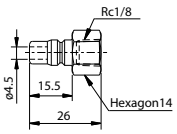
(Unit: mm)

Shape		Description	Availability	ød1	ød2	L	L1	L2	T1	T2
		J-ST-R1/4-G1/8	●	5.5	4.0	34	13	13	R1/4	G1/8
		J-ST-NPT1/8-G1/8	●	3.5	3.5	29	10	13	NPT1/8	G1/8
		J-ST-R1/8-G1/8	●	4.0	4.0	29	10	13	R1/8	G1/8
		J-AN-R1/8-G1/8	●	4.0	4.0	27	14	13	R1/8	G1/8
		J-ST-R1/4-RC1/8	●	–	–	17	12	–	R1/4	Rc1/8
		J-ST-NPT1/8-RC1/8	●	3.5	–	30	10	–	NPT1/8	Rc1/8
		J-ST-R1/8-RC1/8	●	3.5	–	33	13	–	R1/8	Rc1/8

●: Available

Coupling (2,6) Pressure: Up to 7.5 MPa

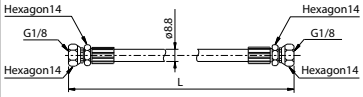
(Unit: mm)

Shape		Description	Availability
		CP-ST-R1/8	●
		P-ST-RC1/8	●

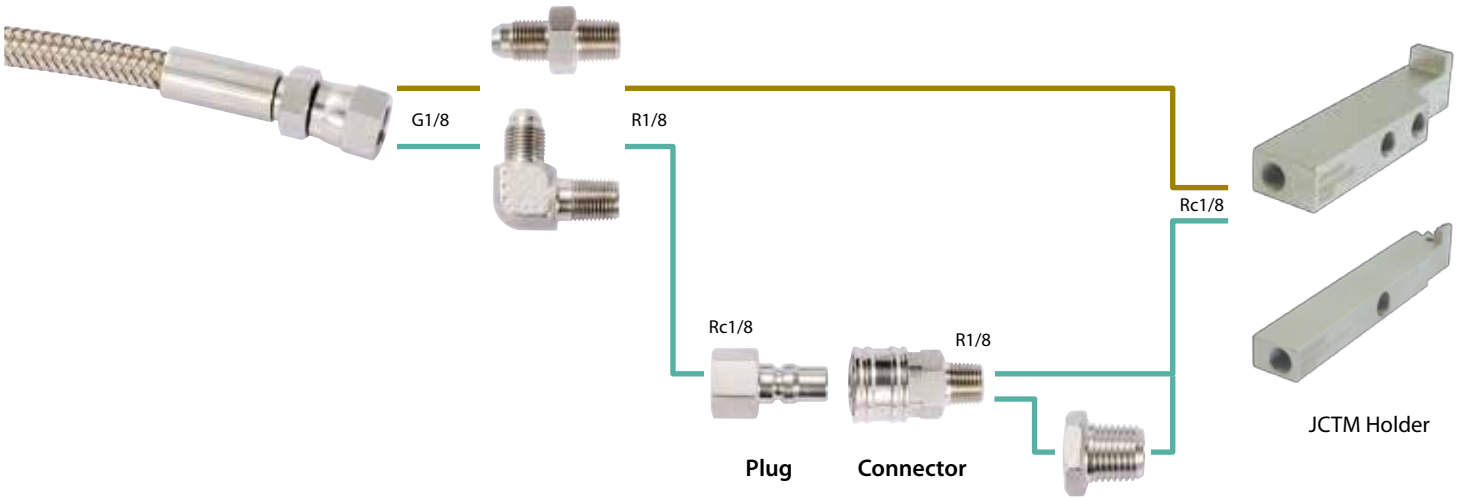
●: Available

Hose (4) Pressure: Up to 20 MPa

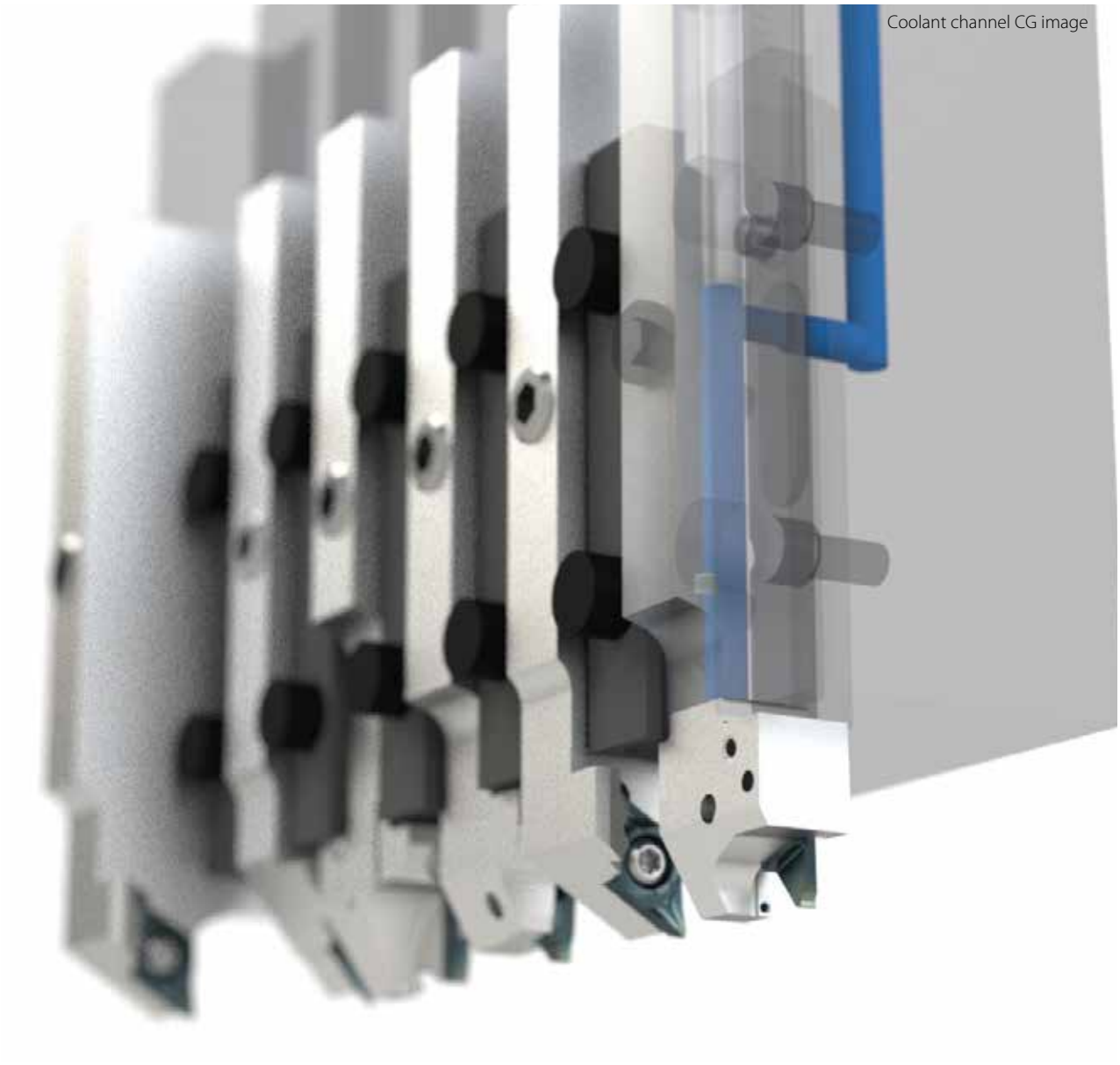
(Unit: mm)

Shape		Description	Availability	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

●: Available



4. Hose 5. Joint 6. Coupling 7. Joint (Extension joint)


Coolant channel CG image

Drastically improve machining performance by using **internal coolant**

Vischer & Bolli AG | Werkzeug- und Spanntechnik | T +41 44 802 15 15 | info@vb-tools.com
Vischer & Bolli SA | Technique d'usinage et de serrage | T +41 32 721 00 47 | info-fr@vb-tools.com
www.vb-tools.com