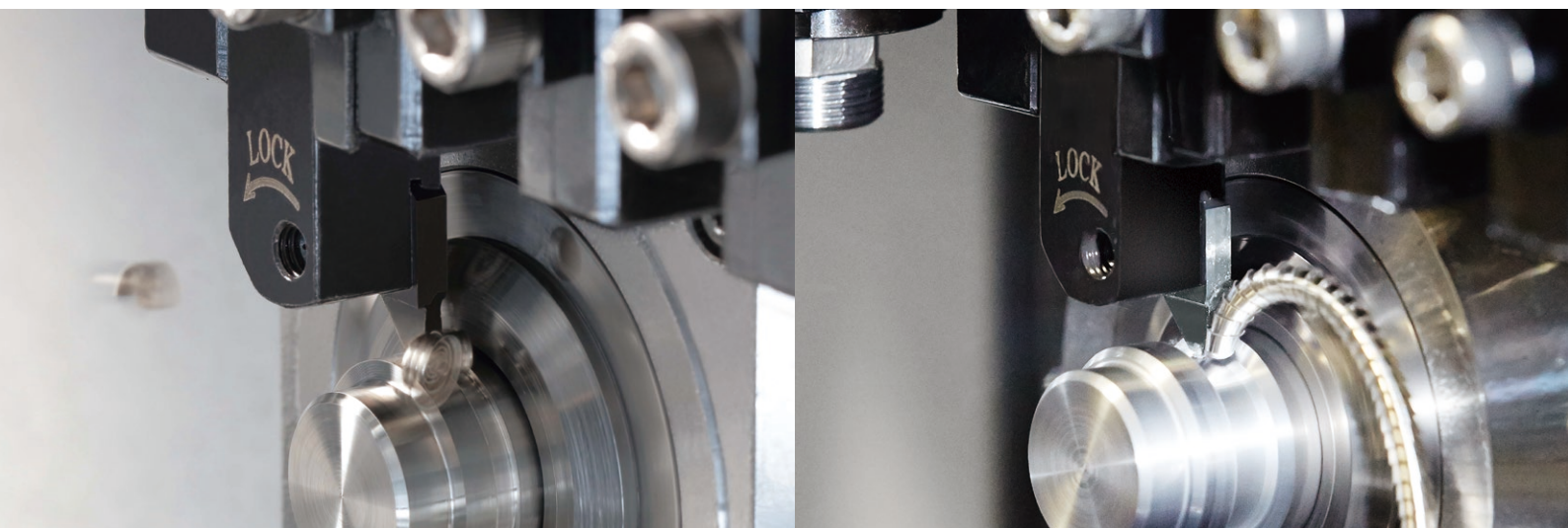


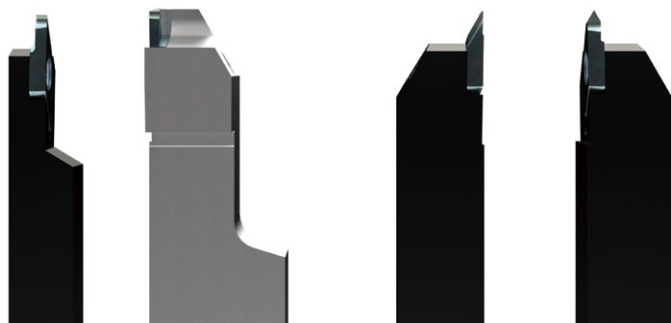
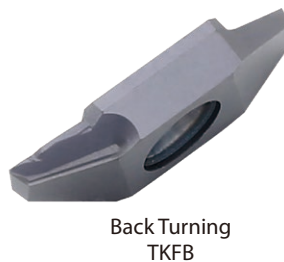
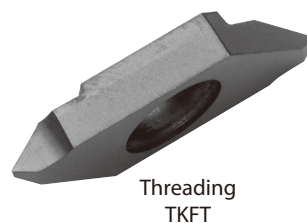
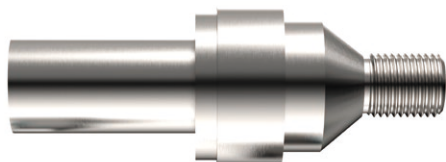
For Small Parts Machining

KTKF Series



Multi-Functional, Cut-Off, Back Turning, and Threading Tools

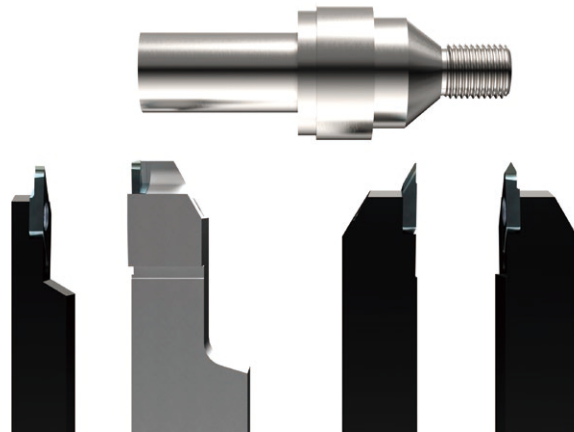
Large variety of applications available
Kyocera's High-performance Insert Grade



For Small Parts Machining

KTKF Series

Multi-Functional, Cut-Off, Back Turning,
and Threading Tools

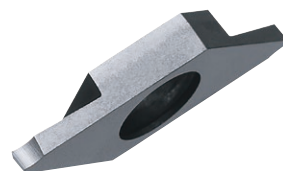


1 Choose from a large variety of applications

Inserts

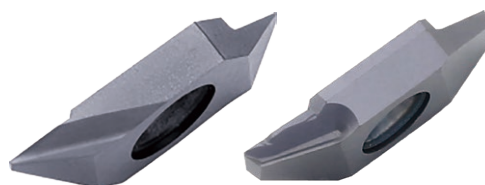
Cut-Off : TKF

- Available for small and ultra-small diameter workpieces
- Standardized minimum cut-off width of 0.5mm (TKF12 type)
- Low cutting resistance S chipbreaker enables sharp Cut-Off
- Tough edge T chipbreaker for increased feed rate and interrupted cut-off
- Corner R (RE) = 0mm (no chipbreaker)
- Available with 16° and 20° lead angles
- Cutting Diameter : Max Ø5 - Ø12 (TKF12), Max Ø16 (TKF16)
- Edge width : 0.5 - 2.0mm(TKF12) 1.5 / 2.0mm(TKF16)



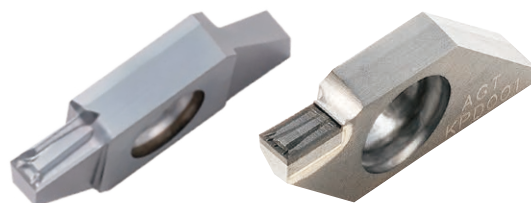
Back Turning : TKFB

- Low cutting force design improves dimensional accuracy
- Good chip control
- Excellent surface finish is obtainable by optimizing angle of wiper edge
- Molded chipbreaker inserts (GQ) are also available



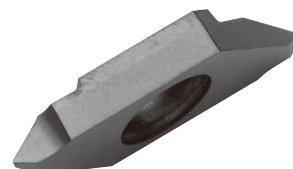
Multi-Functional : TKF

- GTP Chipbreaker Reduce cycle time with grooving and turning capabilities
- AGT Chipbreaker Improved chip control for various aluminum alloy machining applications



Threading : TKFT

- **Thread type** : Metric (M) / Unified (UN)
Parallel pipe [G(PF)]
Taper pipe [R(PT) (BSPT)]
- **Profile type** : Partial profile
- **Multiple cutting edge types for various workpiece shapes**
(Cutting edge position : A/B/N Type)



Toolholder

KTKF General Purpose Multi-Functional (Cut-Off / Back Turning / Threading)

- Shank : □10-25
- Side Screw Clamp



KTKF-S Sub Spindle Tooling (Cut-Off)

- Shank : □10-12
- Side Screw Clamp



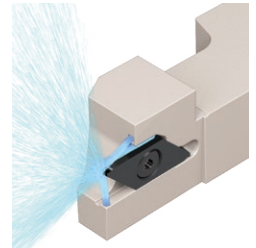
KTKFR-Y Y-axis Toolholder (Cut-Off / Back Turning / Threading)

- Shank : 12×16, □16
- Side Screw Clamp



KTKF-JCTM Holder for High Pressure Coolant (Cut-Off)

- Shank : (Right-hand) 12×18, 16×25, 20×25
□12, □16, □20
(Left-hand) 16×25, 20×25
□16, □20
- Side Screw Clamp



KTKFL Goose-neck Holder (Cut-Off / Back Turning / Threading)

- Shank : 12×16, 16×20
- Side Screw Clamp

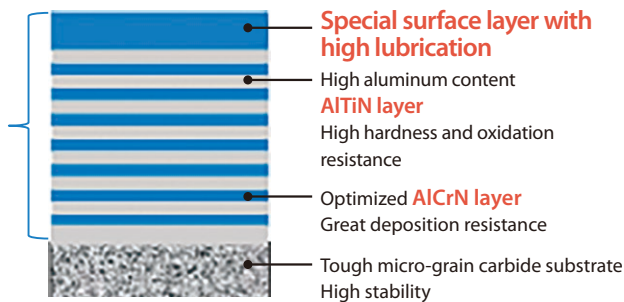
2

Kyocera's High-performance Insert Grade

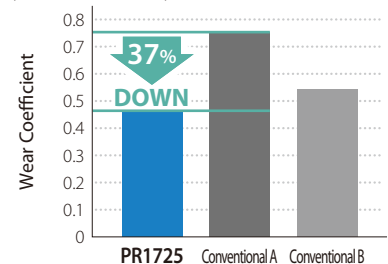
PR1725 1st Recommendation for Steel Machining. Excellent Surface Finish and Long Tool Life

MEGACOAT NANO® PLUS AITiN/AICrN 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)

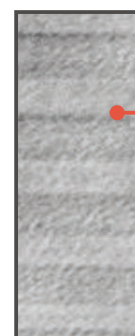


PR1535 The combination of a high-toughness base material and a special nano layer coating maintains long tool life and stable machining of stainless steel

MEGACOAT NANO®

- Point 1** An increase in cobalt content yields a substrate with greater toughness *In comparison to our conventional material grade
- Point 2** Improved stability by optimization and homogenization of grains in the base material
- Point 3** MEGACOAT NANO coating technology for long tool life and stable machining

Cracking Comparison by Diamond Indenter (Internal evaluation)



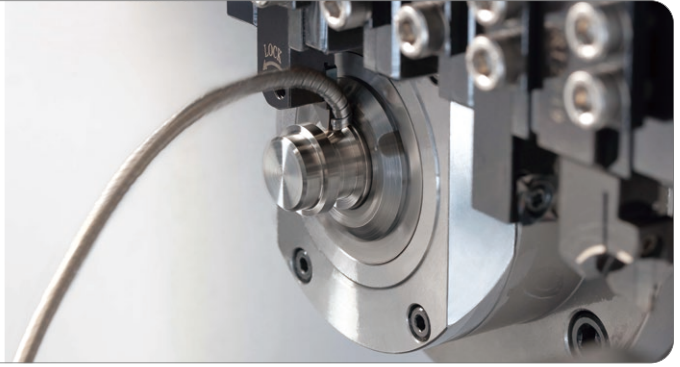
MEGACOAT Base Layer Structure

Point

PR1535 shows superior performance in steel machining under unstable conditions

Back Turning Insert

Guidelines for Chipbreaker Selection



Steel / Stainless Steel

Non-ferrous Metals

Multi-Functional

(External Turning,
Grooving, and
Back Turning)

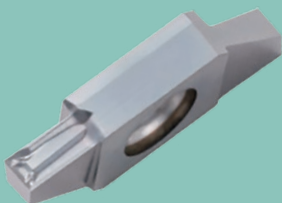
Back Turning

**Chip Control
Issues**

Chatter

For Multi-Functional Machining

**GTP
Chipbreaker**

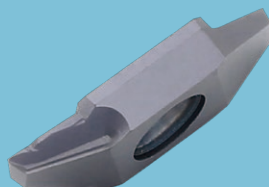


Multi-Functional

Product Page
➔ P7-P8

Molded Chipbreaker

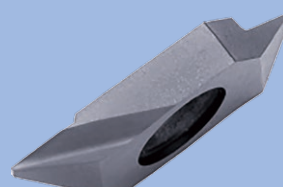
**GQ
Chipbreaker**



**Chip Control
Oriented**

Product Page
➔ P5-P6

**Ground
Chipbreaker**



**Sharpness
Focused**

Select according
to depth of cut
➔ See Page 15

PCD Insert

**AGT
Chipbreaker**



**Molded Chipbreaker
PCD Insert**

Product Page
➔ P4

3D PCD Chipbreaker

AGT Chipbreaker

Improved Chip Control for Various Aluminum Alloy Machining Applications

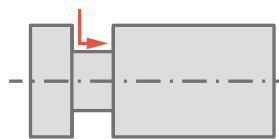
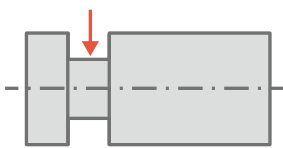


Improved
Chip Control

Multifunctional
PCD Chipbreaker
for Grooving and
Turning

1 Stable Machining for a Wide Range of Applications

Chip control and surface finish comparison with grooving and turning

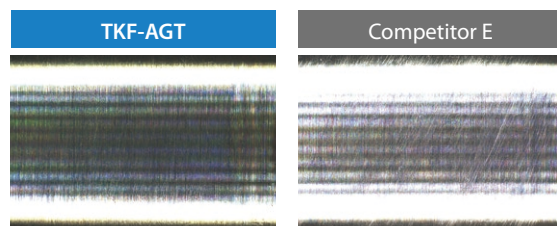


Chip Control Comparison (Grooving) (Internal evaluation)



Cutting Conditions : $V_c = 250$ m/min, $a_p = 2.0$ mm, Wet Workpiece : A6061

Surface Finish Comparison (Turning) (Internal evaluation)



Cutting Conditions : $V_c = 250$ m/min, $a_p = 0.5$ mm, Wet Workpiece : A6061

AGT Chipbreaker showed better chip control when grooving compared to competitor

It also showed superior surface finish with less scratching when turning

2 Unique Chipbreaker Provides Excellent Chip Control



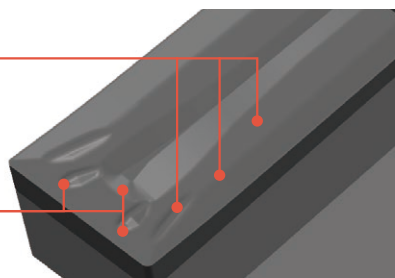
Dots

Turning

Reduces chip clogging by adjusting the width of the chipbreaker to the D.O.C.
Dots around cutting edge for small D.O.C

Grooving

Stable machining with three chipbreaker dots

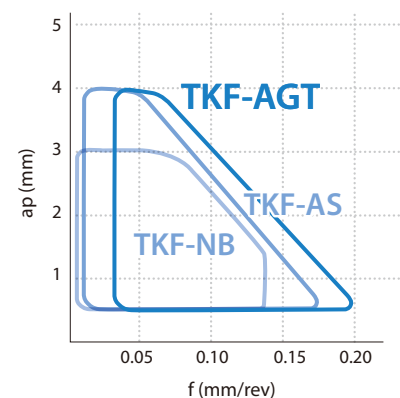


Sloped cutting edge

Reduces chattering with low cutting force design
Good surface finish with excellent chip evacuation



Applicable chipbreaker range



GQ Chipbreaker

Excellent Chip Control and Surface Finish with Molded Chipbreaker

Reduced Cycle Time by Increasing Depth of Cut Capabilities

1 Excellent Chip Evacuation with Molded Chipbreaker

Original Molded Chipbreaker with Two Features

Grooving Good Surface Finish

Prevents Chip Crunching

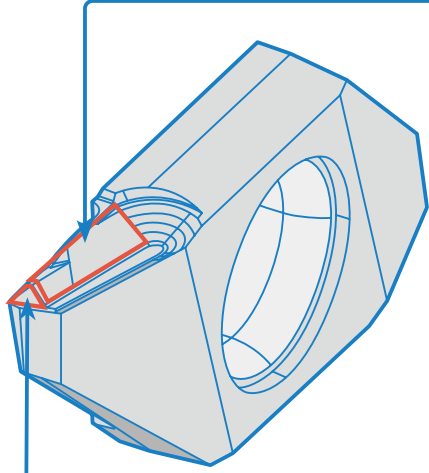
GQ Chipbreaker



Competitor A (Ground)



(Internal evaluation)



Turning Stable Chip Control

Prevents Chip Entanglement

GQ Chipbreaker



Competitor B (Ground)



(Internal evaluation)

Chip Control Comparison (Turning)

(Internal evaluation)

Prevents Entanglement with Tightly Curled Chips

Stable Chip Control Over Wide Range of Cutting Conditions

S45C

SUS304

		GQ Chipbreaker			Competitor C (Molded)		
(ap)	(f)	0.03 mm/rev	0.05 mm/rev	0.07 mm/rev	0.03 mm/rev	0.05 mm/rev	0.07 mm/rev
4mm Competitor (3.5)							
3mm							
2mm							

Cutting Conditions : Vc=100m/min, Wet

		GQ Chipbreaker			Competitor D (Molded)		
(ap)	(f)	0.02 mm/rev	0.04 mm/rev	0.06 mm/rev	0.02 mm/rev	0.04 mm/rev	0.06 mm/rev
4mm Competitor (3.5)							
3mm							
2mm							

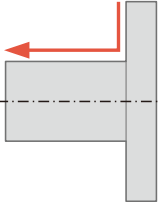
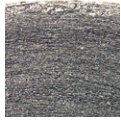
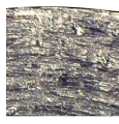
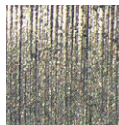
Cutting Conditions : Vc=80m/min, Wet

2

Excellent Surface Finish by Preventing Chip Crunching and Clogging

Reduced Cycle Time with GQ Chipbreaker by Increasing Depth of Cut Capabilities

Surface Finish Comparison (Internal evaluation)

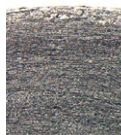
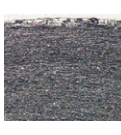
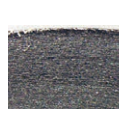
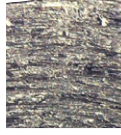
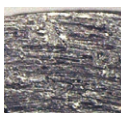
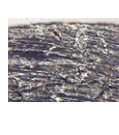
		GQ Chipbreaker	Competitor E (Ground)	 1-Pass Machining Reduced Cycle Time
Workpiece Surface	Grooving	 Rz=2.92μm	 Rz=31.23μm	
	Turning	Excellent Surface  Rz=3.85μm	Chip Crunching  Rz=7.67μm	

Cutting Conditions :
 $V_c=100\text{m/min}$, $a_p=3.0\text{mm}$
 $f=0.02\text{mm/rev}$ (Grooving)
 0.05mm/rev (Turning)
 Wet Workpiece : S45C

Surface Finish Comparison (Internal evaluation)

Grooving : Excellent Surface Finish at Large Depths of Cut

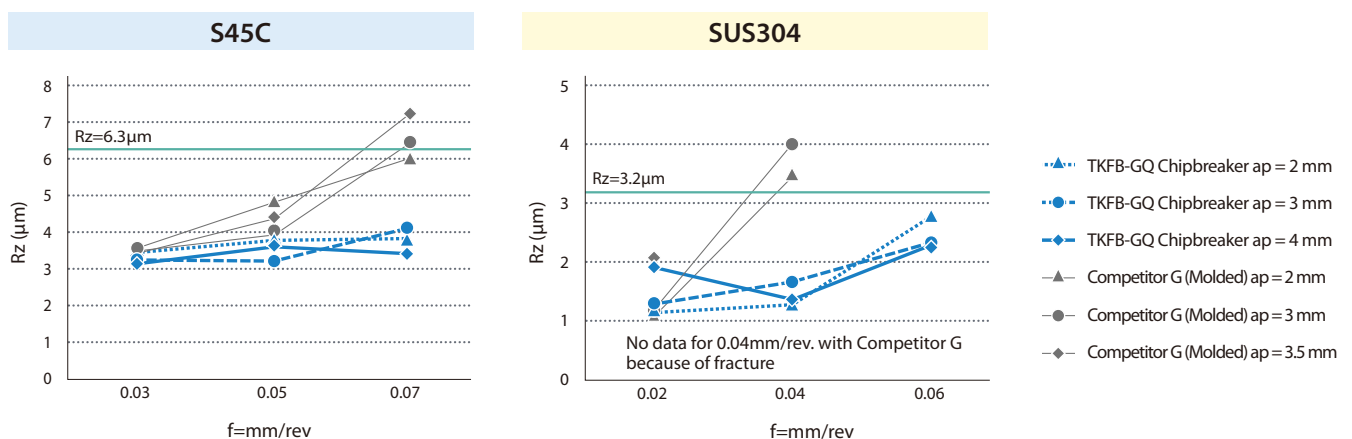
Flange Finish

a_p	4mm	3mm	2mm
GQ Chipbreaker	 Rz=2.63μm	 Rz=2.92μm	 Rz=2.41μm
Competitor F (Ground)	 Rz=27.88μm	 Rz=31.23μm	 Rz=25.56μm

Cutting Conditions : $V_c=100\text{m/min}$, $f=0.02\text{mm/rev}$, Wet Workpiece : S45C

Turning : Prevents Chip Clogging and Entanglement at High Feed Rates

Surface Finish During External Turning (Internal evaluation)



Cutting Conditions : $V_c=100\text{m/min}$ (S45C), 80m/min (SUS304) $f=0.03\text{--}0.07\text{mm/rev}$ (S45C), $0.02\text{--}0.06\text{mm/rev}$ (SUS304) Wet

For Multi-Functional Machining

GTP Chipbreaker

Reduce Cycle Time with Grooving and Turning Capabilities



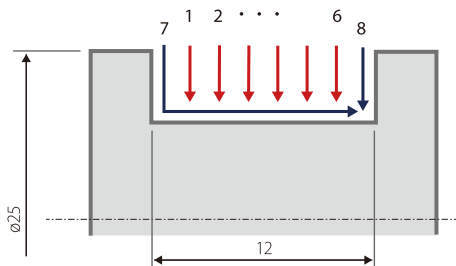
1 Grooving and Turning Available

Cutting time comparison (Internal evaluation)

Competitor A

Multiple Grooves and a Finishing Pass

Workpiece : S45C (ø25)



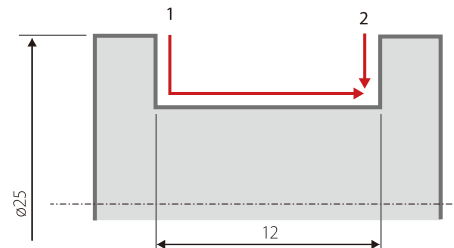
Cutting Conditions : Multiple Grooves
Vc=100m/min
ap=3.5mm, f=0.10mm/rev

Cutting Conditions : Finishing
Vc=100m/min
ap=0.5mm, f=0.05mm/rev

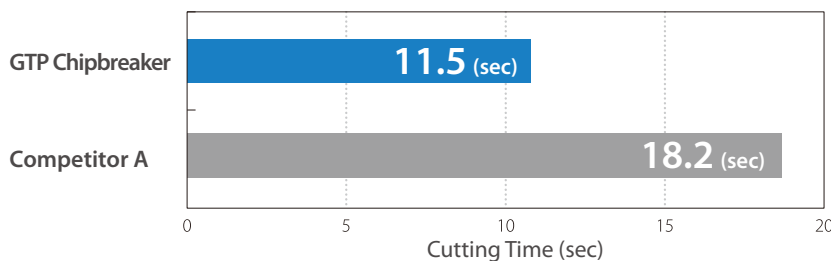
TKF12R200-GTP

Grooving and Turning

Workpiece : S45C (ø25)



Cutting Conditions : Grooving and Turning
Vc=100m/min
ap=4mm, f=0.05mm/rev



GTP chipbreaker required fewer machining paths than Competitor A

40%

Cutting Time Reduction

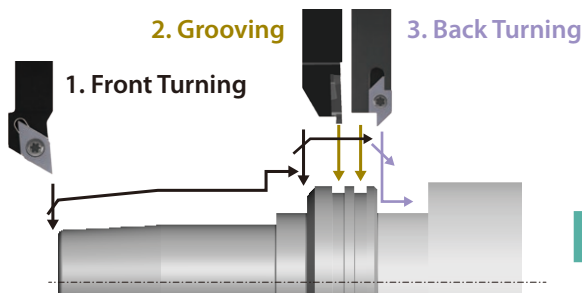
Solution to Integrate Tools

A GTP Chipbreaker provides integration of front turning, grooving and back turning

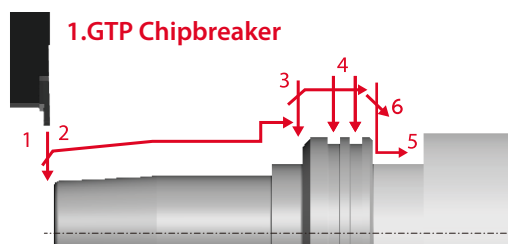


Workpiece example

Conventional Tools



GTP Chipbreaker



*Maximum grooving width and cutting depth. (Max.grooving width/Max. D.O.C.)

TKF12R200-GTP(2.0mm/4.0mm) 、TKF16R300-GTP(3.0mm/5.5mm)

2 Stable Chip Control and Superior Surface Finish Quality for Wide Range of Machining Applications

Chipbreaker Features

Dots for Grooving

Utilized dots for each machining application maintains good chip control in small ap

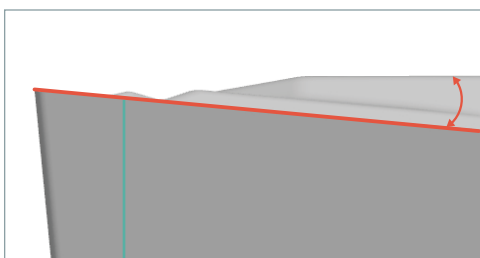
Dots for Turning

Side cutting edge (Back)

Side cutting edge (Front)

Chipbreaker width

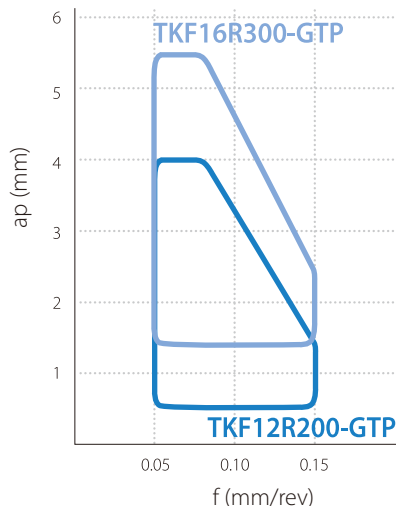
Width is optimized for depth of cut
Maintains good chip control for wide range of machining application



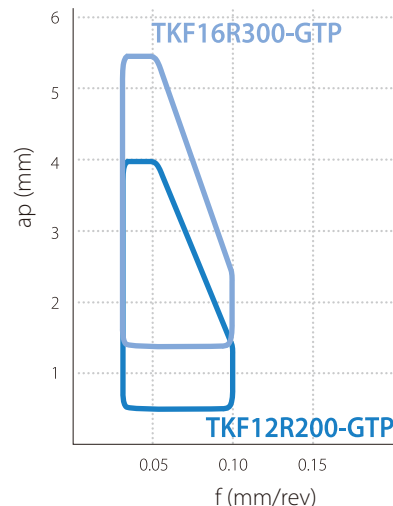
Sloped cutting edge

Sloped cutting edge reduces radial force
Great chattering resistance

Recommended Chipbreaker Range (Steel)



Recommended Chipbreaker Range (SUS)

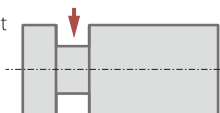


Chip control comparison (Internal evaluation)

Grooving

f (mm/rev)	0.05	0.07	0.10
TKF12R 200-GTP			
Competitor B			

Cutting Conditions : $V_c=100\text{m/min}$, $a_p=4\text{mm}$, Wet
Workpiece : S45C($\phi 25$)

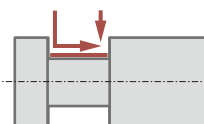


Surface finish comparison (Internal evaluation)

Turning

	TKF12R200-GTP	Competitor C
Surface Finish	 Rz= 3.21 μm	 Rz= 4.11 μm Tear

Cutting Conditions : $V_c=100\text{m/min}$, $a_p=4\text{mm}$, $f=0.05\text{mm/rev}$, Wet
Workpiece : S45C($\phi 25$)

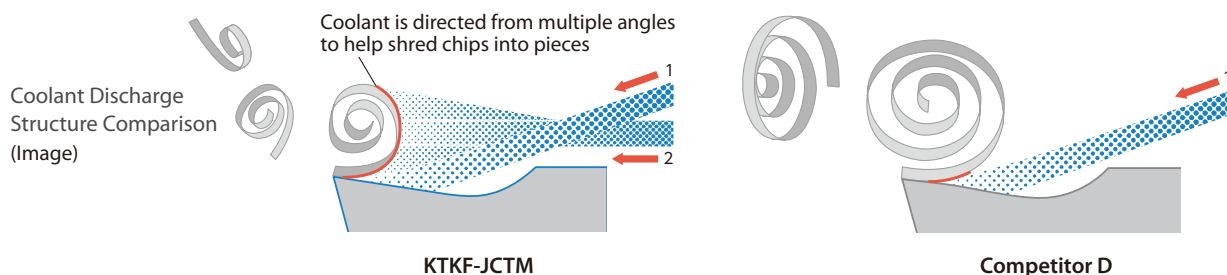


GTP Chipbreaker showed superior chip control and surface finish when compared to Competitor C

JCTM Series

Applicable to Different Supply Styles. Supports Internal Coolant with/without Piping System

1 Using Internal Coolant to Enhance Tool Performance



2 Applicable to Different Supply Styles Supports Internal Coolant with/without Piping System

Internal Coolant without Piping

***When the tool turret supports direct coolant**

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

Applicable to Wide Range of Machines

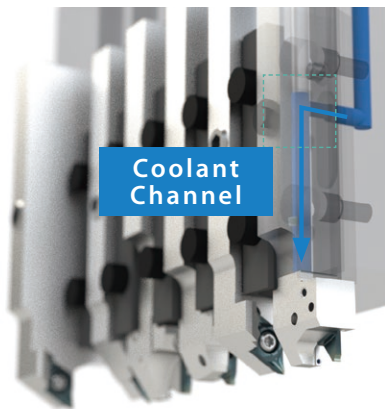
CITIZEN MACHINERY CO., LTD.
(L20, D25, M32)

STAR MICRONICS CO., LTD.
(SB-R series, SR series, SV series)

TSUGAMI CORPORATION
(S205/206-II □16 type,
S205A/206A-II □16 type)

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

(Random order)
Based on Kyocera Survey in January 2021



Point

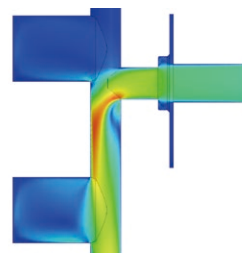
Appropriate hole design to reduce energy loss based on deep analysis

Analysis Image
(Internal evaluation)

High

Flow velocity

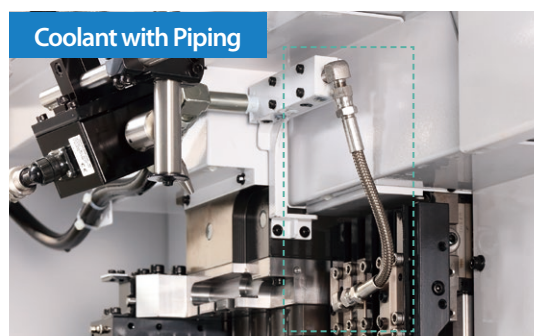
Low



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

Internal Coolant with Piping

*Piping parts : See pages 29 and 30



Compatible with internal coolant on any machine with standard piping parts

Commercial piping parts are available when using at normal pressure

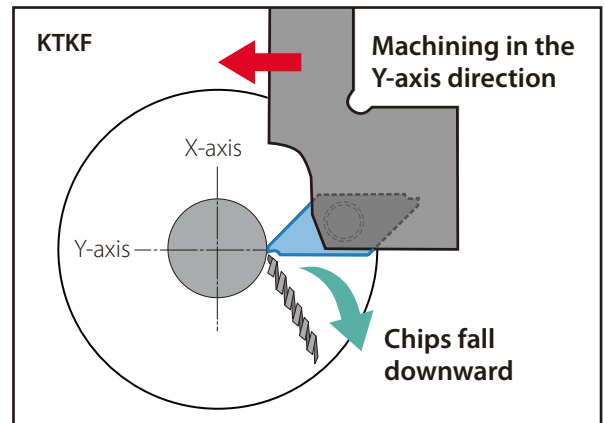
Improved Chip Control

Y-axis Toolholder

New Special Shape Toolholder for Small Parts Machining

1

Controlled Chip Evacuation for Stable Machining



The Y-axis machining direction allows the chips to fall down and away from the workpiece, improving chip evacuation

Cut-Off Tool Holders for Automatic Lathe Available for Sub-spindle Operations

KTKF-S

1

Recommended for Cut-Off with Small Clearance Between Main and Sub-spindle

Thin holder head is applicable when minimal clearance exists between the main spindle and sub spindle

2

For Micro Diameter and For Small Diameter Available

Compatible with TKF inserts

TKF12 : Max. Dia. $\phi 5 - \phi 12$

TKF16 : Max. Dia. $\phi 16$

3

Provide with Wide Selection of Inserts

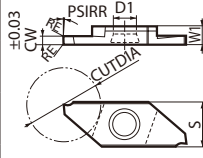
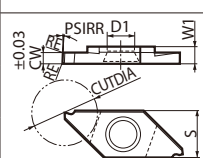
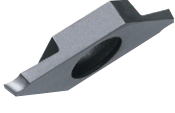
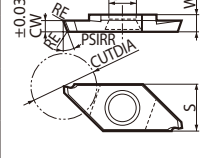
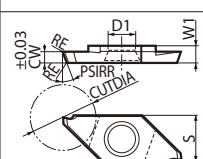
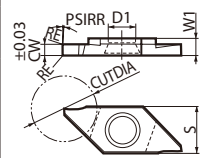
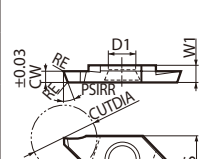
Available Chipbreakers : Right lead angle, S Chipbreaker, T Chipbreaker and Without Chipbreaker

Available Insert Grades : PR1725 for Steel Machining, PR1535 for Stainless Steel Machining and PDL025 for Aluminum Machining



Cut-Off

TKF12

Insert		Description	Dimension (mm)						Angle (°)	MEGACOAT NANO PLUS	MEGACOAT NANO	MEGACOAT	DLC coated carbide	Carbide
			CW	S	D1	RE	W1	CUTDIA		PR1725	PR1535	PR1225	PDL025	KW10
										R L	R L	R L	R L	R L
		TKF12 R/L 050-S	0.5	8.7	5	0.03	3	5	0	●	●	●	●	●
		070-S	0.7					8		●	●	●	●	●
		100-S	1					12		●	●	●	●	●
		125-S	1.25					12		●	●	●	●	●
		150-S	1.5					12		●	●	●	●	●
		200-S	2					12		●	●	●	●	●
		TKF12 R/L 100-T	1	8.7	5	0.08	3	12	0	●	●	●	●	●
		150-T	1.5					12		●	●	●	●	●
		200-T	2					12		●	●	●	●	●
		TKF12 R/L 050-S-16DR	0.5	8.7	5	0.03	3	5	16	●	●	●	●	●
		070-S-16DR	0.7					8		●	●	●	●	●
		100-S-16DR	1					12		●	●	●	●	●
		125-S-16DR	1.25					12		●	●	●	●	●
		150-S-16DR	1.5					12		●	●	●	●	●
		200-S-16DR	2					12		●	●	●	●	●
		TKF12 R/L 100-T-16DR	1	8.7	5	0.08	3	12	16	●	●	●	●	●
		150-T-16DR	1.5					12		●	●	●	●	●
		200-T-16DR	2					12		●	●	●	●	●
		TKF12 R/L 050-NB	0.5	8.7	5	0	3	5	0	●	●	●	●	●
		070-NB	0.7					8		●	●	●	●	●
		100-NB	1					12		●	●	●	●	●
		150-NB	1.5					12		●	●	●	●	●
		200-NB	2					12		●	●	●	●	●
		TKF12 R/L 050-NB-20DR	0.5	8.7	5	0	3	5	20	●	●	●	●	●
		070-NB-20DR	0.7					8		●	●	●	●	●
		100-NB-20DR	1					12		●	●	●	●	●
		150-NB-20DR	1.5					12		●	●	●	●	●
		200-NB-20DR	2					12		●	●	●	●	●

Right-hand shown

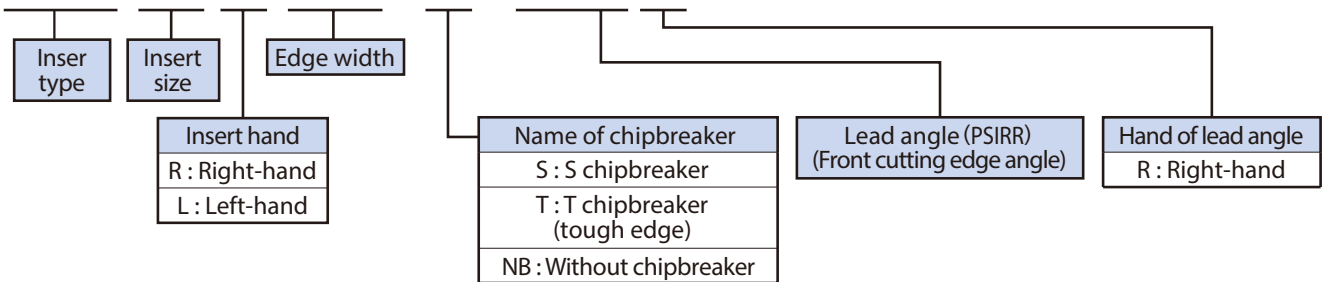
Lead angle (PSIRR) shows the angle when installed in toolholder.

As Fig. 1 of P23 shows, the cut-off diameter of the insert (CUTDIA) is indicated when the top of the cut-off edge progresses 1 mm from the center.

● : Standard item

Inserts identification system

TKF 12 R 050 - S - 16D R



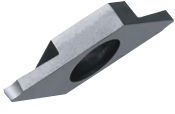
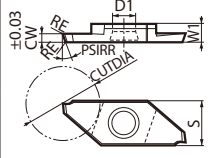
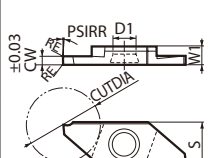
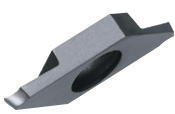
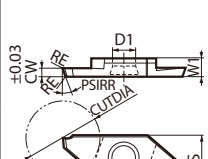
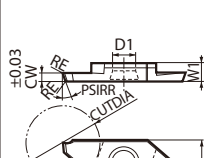
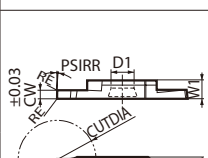
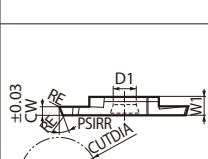
Toolholder	Right-hand	Toolholder	Left-hand
Insert	Right-hand	Insert	Left-hand
Lead angle	Right-hand	Lead angle	Right-hand
Toolholder Hand : R		Toolholder Hand : L	

Descriptions of chipbreaker edge shape

Edge shape	S chipbreaker		T chipbreaker (Tough edge)		NB (Without chipbreaker)	
	GAN	Description	GAN	Description	GAN	Description
	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				

Cut-Off

TKF16

Insert		Description	Dimension (mm)							Angle (°)	MEGACOAT NANO PLUS	MEGACOAT NANO	MEGACOAT	DLC coated carbide	Carbide
			CW	S	D1	RE	W1	CUTDIA	PSIR°/L						
											PR1725	PR1535	PR1225	PDL025	KW10
											R L	R L	R L	R L	R L
		TKF16 R/L 150-S	1.5								●	●	●	●	●
		200-S	2	9.5	5	0.05	4	16	0		●	●	●	●	●
		TKF16 R/L 150-T	1.5								●	●	●	●	
		200-T	2	9.5	5	0.08	4	16	0		●	●	●	●	
		TKF16 R/L 150-S-16DR	1.5								●	●	●	●	●
		200-S-16DR	2	9.5	5	0.05	4	16	16		●	●	●	●	●
		TKF16 R/L 150-T-16DR	1.5								●	●	●	●	
		200-T-16DR	2	9.5	5	0.08	4	16	16		●	●	●	●	
		TKF16 R/L 150-NB	1.5								●	●	●		●
		200-NB	2	9.5	5	0	4	16	0		●	●	●		●
		TKF16 R/L 150-NB-20DR	1.5								●	●	●		●
		200-NB-20DR	2	9.5	5	0	4	16	20		●	●	●		●

Right-hand shown
Lead angle (PSIRR) shows the angle when installed in toolholder.

As Fig. 1 of P23 shows, the cut-off diameter of the insert (CUTDIA) is indicated when the top of the cut-off edge progresses 1 mm from the center.

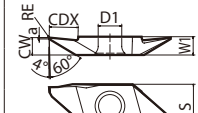
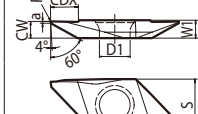
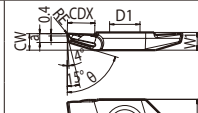
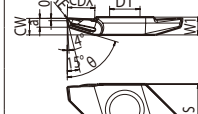
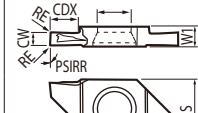
●: Standard item

Recommended cutting conditions (TKF12 / 16) ★ : 1st Recommendation ☆ : 2nd Recommendation

Workpiece material	Recommended insert grades (Vc : m/min)					TKF12						TKF16		Remarks
						Edge width CW (mm)								
	MEGACOAT NANO PLUS	MEGACOAT NANO	MEGACOAT	DLC coated carbide	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)								
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)	Coolant
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	
Aluminum alloys	-	-	-	★ 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	

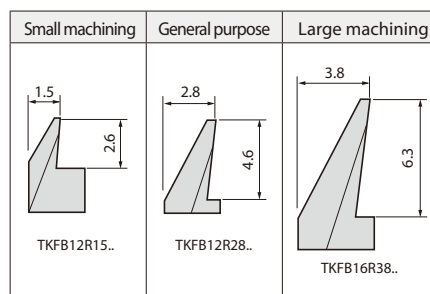
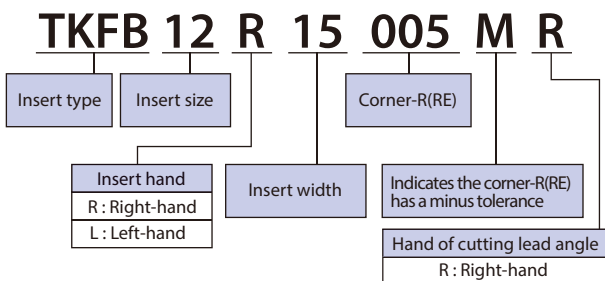
*() : Tough edge type (TKF.T.)

TKFB / TKF

		Classification of usage					P	Carbon steel / Alloy steel								
		: Light Interruption / 1st Choice : Light Interruption / 2nd Choice : Continuous / 1st Choice : Continuous / 2nd Choice					M	Stainless steel								
							K	Cast iron								
							N	Non-ferrous metals								
Insert		Description	Dimension (mm)								Angle (°)		MEGACOAT NANOPLUS	MEGACOAT NANO	MEGACOAT	Carbide
CW	CDX		S	D1	RE	W1	a	PSIRP/L	θ	PR1725	PR1535	PR1225	KW10			
		TKFB 12R15005M	1.5	2.6	8.7	5.2	<0.05	3	0.25	-	-					
		12R28005M	2.8	4.6			<0.05		0.3							
		12R28010M	2.8	4.6			<0.1		0.3							
		TKFB 16R38005M	3.8	6.3	9.5	5.2	<0.05	4	0.3	-	-					
		16R38010M					<0.1									
		TKFB 12L28005MR	2.8	4.6	8.7	5.2	<0.05	3	0.3	-	-					
		12L28010MR					<0.1									
		TKFB 16L38005MR	3.8	6.3	9.5	5.2	<0.05	4	0.3	-	-					
		16L38010MR					<0.1									
		 Polished		TKFB 12R28005P-GQ	2.8	4.6	8.7	5.2	0.05	3	1.5	-	74			
12R28015P-GQ	0.15															
TKFB 16R38005P-GQ	3.8			6.3	9.5	5.2	0.05	4	1.8	-	72					
16R38015P-GQ							0.15									
				TKFB 12R28005-GQ	2.8	4.6	8.7	5.2	0.05	3	1.5	-	74			
		12R28015-GQ	0.15													
		TKFB 16R38005-GQ	3.8	6.3	9.5	5.2	0.05	4	1.8	-	72					
		16R38015-GQ					0.15									
				TKF 12R200-GTP	2	4.3	8.7	5	0.08	3	-	0	-			
TKF 16R300-GTP	3			5.8	9.5	5	0.08	4	-	0	-					

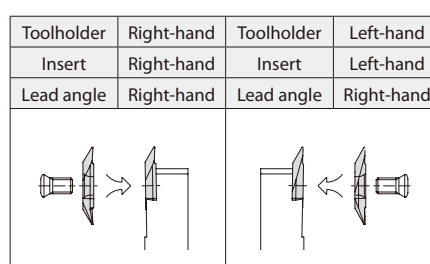
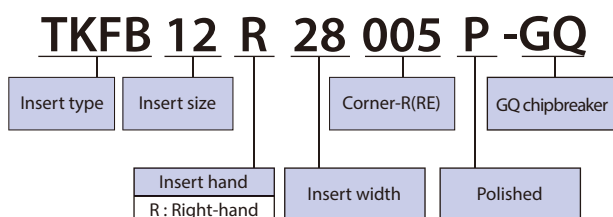
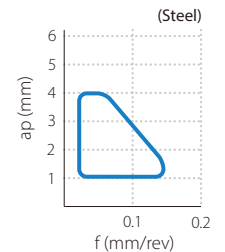
● : Standard item

Inserts identification system

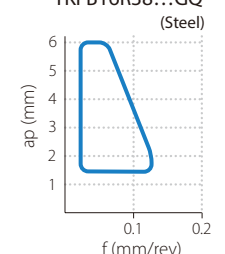


Applicable chipbreaker range

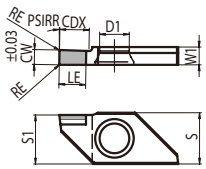
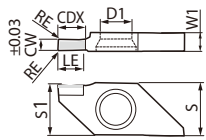
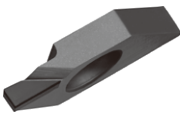
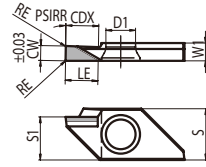
TKFB12R28...GQ (Steel)



TKFB16R38...GQ (Steel)



TKF(PCD Insert)

		Classification of usage										P	Carbon steel / Alloy steel							
		☛ : Light Interruption / 1st Choice										M	Stainless steel							
		☺ : Light Interruption / 2nd Choice										K	Cast iron							
		● : Continuous / 1st Choice										N	Non-ferrous metals				●			
		○ : Continuous / 2nd Choice																		
Insert		Description	Dimension (mm)								Angle (°)	Tolerance (mm)				PCD				
			CW	CDX	S	S1	D1	RE	LE	W1	PSIRR/L	CW min.	CW max.	RE min.	RE max.	KPD001				
		TKF12R 150-NB	1.5	3.5					2		0	-0.03	+0.03	-0.05	0	●				
	200-NB	2	4	8.7					8.3							5	0.1	3	3	●
	250-NB	2.5	4															3		●
		TKF12R 200-AGT	2	4.8	8.7	8.3	5	0.1	4.2	3	0	-0.03	+0.03	-0.05	0	●				
	250-AGT	2.5														●				
		TKF12R 200-AS	2	5	8.7	7.3	5	0.1	5.3	3	0	-0.03	+0.03	-0.05	0	●				
		250-AS	2.5													●				
		TKF12L 200-AS	2													●				
		TKF16R 250-AS	2.5	8	9.5	8	5	0.1	6.3	4	0	-0.03	+0.03	-0.05	0	●				
		TKF16L 250-AS														●				

● : Standard item

Inserts identification system

TKF 12 R 200 - AGT
TKF 12 L 200 - AS

Insert type	Insert size	Width (Edge width)
R : Right-hand		
L : Left-hand		
	Insert hand	Name of chipbreaker
	R : Right-hand	AGT : AGT chipbreaker
	L : Left-hand	AS : AS chipbreaker
		NB : Without chipbreaker

Applicable range

* PCD Inserts for turning and grooving

* Not recommended for cut-off

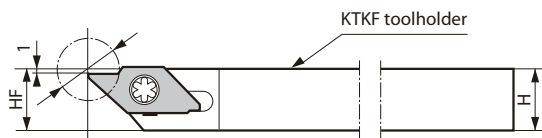
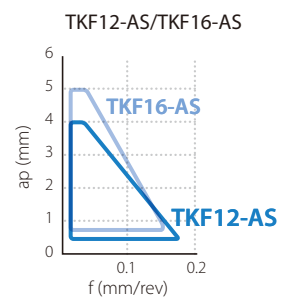
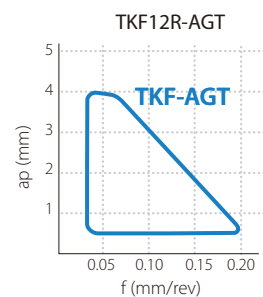


Fig. 1 When a TKF-AS insert is attached
(The cutting edge is 1mm lower than the center line)

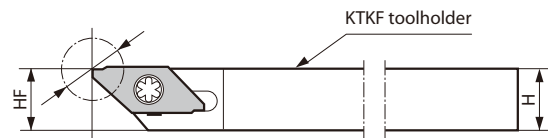


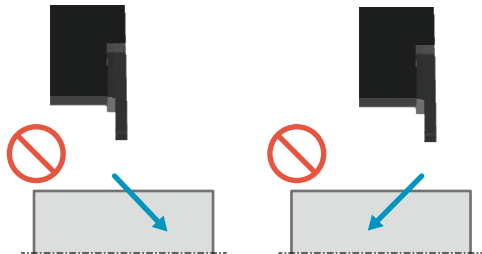
Fig. 2 When installing TKF-AGT/TKF-NB

Note 1) The cutting edge of the TKF-AS will be 1 mm lower than the center line when attached to the KTKF toolholder (Ref. to Fig. 1).
Adjust the height by making NC lathe parameter settings or inserting a plate.

2) If the 1 mm adjustment is not possible, use the TKF.-AGT/TKF.-NB.(Ref. to Fig. 2)

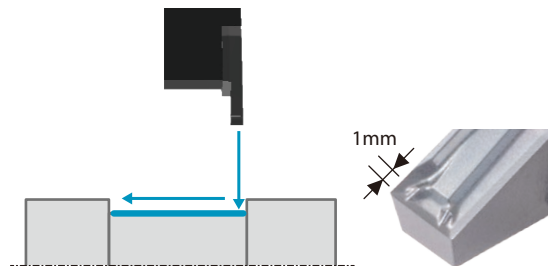
Caution when using GTP chipbreaker inserts

Ramping



Ramping is not recommended if the workpiece is not pre-machined as shown in the right figures

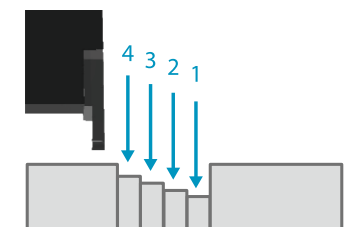
Back turning



When back turning is used for finishing, make sure that the side cutting edge (back) of the tool is within 1mm

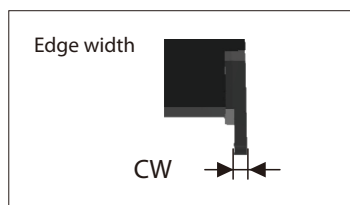
Tips for ramping

Step grooving is required before ramping. (Refer to the figure below)

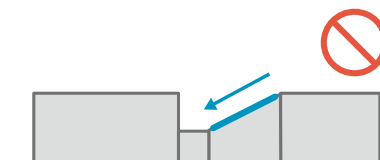


CW >

*The width of the groove must be smaller than the edge width to overlap the previous groove



Back turning is not recommended on the tapered surface



Case Studies

Spool Valves

GTP Chipbreaker

Vc=120m/min, ap=2.5mm
f=0.02mm/rev, Wet
TKF12R200-GTP (PR1535)

GTP Chipbreaker (Edge width : 2mm)



Showed good chip control without chip entanglement.
Further machining possible.

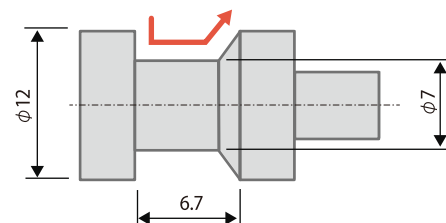
Conventional A

Vc=120m/min, ap=2.3mm (Grooving)
0.2mm (Finishing)
f=0.02mm/rev, Wet

Conventional A (Edge width : 2mm)



Chip entanglement occurred during turning (finishing).



GTP chipbreaker reduces the amount of tool paths and improved chip control.

(User evaluation)

Recommended Cutting Conditions (Back Turning / Multi-Function) - Diameters $\phi 16\text{mm}$ or less ★ : 1st Recommendation ☆ : 2nd Recommendation

TKFB

Workpiece material		MEGACOAT NANO PLUS		MEGACOAT NANO		MEGACOAT		Remarks
		PR1725		PR1535		PR1225		
		Grooving	Turning	Grooving	Turning	Grooving	Turning	
Carbon steel / Alloy steel	Vc (m/min)	★ 60 – 200		☆ 60 – 150		☆ 60 – 150		Coolant
	f (mm/rev)	0.01 – 0.03	0.02 – 0.15	0.01 – 0.03	0.02 – 0.15	0.01 – 0.03	0.02 – 0.15	
Stainless steel	Vc (m/min)	☆ 60 – 150		★ 60 – 130		☆ 60 – 130		
	f (mm/rev)	0.01 – 0.02	0.02 – 0.1	0.01 – 0.02	0.02 – 0.1	0.01 – 0.02	0.02 – 0.1	

Workpiece material		Carbide		PCD		Remarks
		KW10		KPD001		
		Grooving	Turning	Grooving	Turning	
Cast iron	Vc (m/min)	50 – 100		-		Coolant
	f (mm/rev)	0.01 – 0.02	0.02 – 0.15	-		
Aluminum alloys	Vc (m/min)	200 – 450		200 – 500		
	f (mm/rev)	0.01 – 0.03	0.02 – 0.15	0.01 – 0.03	0.02 – 0.12	
Brass	Vc (m/min)	100 – 200		100 – 350		
	f (mm/rev)	0.01 – 0.05	0.02 – 0.2	0.01 – 0.05	0.02 – 0.15	

TKFB (GQ chipbreaker)

Workpiece material		MEGACOAT NANO PLUS		MEGACOAT NANO		MEGACOAT		Remarks
		PR1725		PR1535		PR1225		
		Grooving	Turning	Grooving	Turning	Grooving	Turning	
Carbon steel / Alloy steel	Vc(m/min)	★ 60 – 200		☆ 60 – 150		☆ 60 – 150		Coolant
	f(mm/rev)	0.01 – 0.04	0.02 – 0.15	0.01 – 0.04	0.02 – 0.15	0.01 – 0.04	0.02 – 0.15	
Stainless steel	Vc(m/min)	☆ 60 – 150		★ 60 – 130		☆ 60 – 130		
	f(mm/rev)	0.01 – 0.03	0.02 – 0.1	0.01 – 0.03	0.02 – 0.1	0.01 – 0.03	0.02 – 0.1	

TKF (GTP chipbreaker)

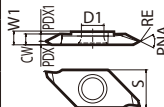
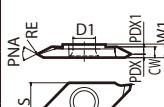
Workpiece material		MEGACOAT NANO PLUS		MEGACOAT NANO		Remarks
		PR1725		PR1535		
		Grooving	Turning	Grooving	Turning	
Carbon steel / Alloy steel	Vc (m/min)	★ 60 – 200		☆ 60 – 150		Coolant
	f (mm/rev)	0.03 – 0.07	0.05 – 0.15	0.03 – 0.07	0.05 – 0.15	
Stainless steel	Vc (m/min)	☆ 60 – 150		★ 60 – 130		
	f (mm/rev)	0.02 – 0.05	0.03 – 0.10	0.02 – 0.05	0.03 – 0.10	

TKF (AGT chipbreaker)

Workpiece material		PCD		Remarks
		KPD001		
		Grooving	Turning	
Aluminum alloys	Vc (m/min)	200 – 500		Coolant
	f (mm/rev)	0.03 – 0.15	0.03 – 0.20	
Brass	Vc (m/min)	100 – 350		
	f (mm/rev)	0.03 – 0.15	0.03 – 0.20	

Threading

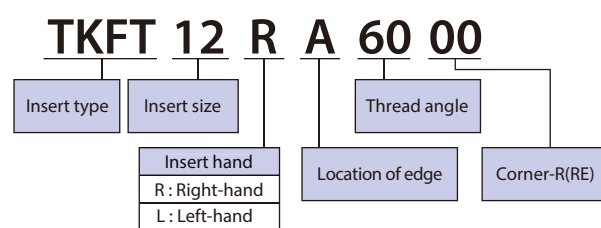
TKFT

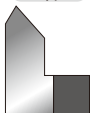
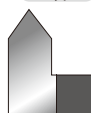
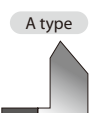
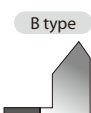
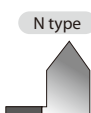
				Classification of usage		P	Carbon steel / Alloy steel				●	○	○		
				●: Light Interruption / 1st Choice ⦿: Light Interruption / 2nd Choice ●: Continuous / 1st Choice ○: Continuous / 2nd Choice		M	Stainless steel				○	●	○		
						K	Cast iron							●	
						N	Non-ferrous metals							●	
Insert		Description	Thread type	Dimension (mm)								MEGACOAT NANO PLUS	MEGACOAT NANO	MEGACOAT	Carbide
				CW	S	D1	RE	W1	PDX	PDX1	PR1725	PR1535	PR1225	KW10	
 Photo shows Right-hand	 Right-hand shown	TKFT12 RA6000	Metric Unified	M UN	2.5	8.7	5.2	Max. 0.05 Flat	3	0.4	2.1	●	●	●	●
		RB6000								2.1	0.4	●	●	●	●
		TKFT12 RA60005			2.5	8.7	5.2	0.05	3	0.8	1.7	●	●	●	●
		RB60005								1.7	0.8	●	●	●	●
		TKFT12 RN6001			2.5	8.7	5.2	0.1	3	1.25	1.25	●	●	●	●
	 Left-hand shown	TKFT12 RA55005	Parallel/ Tapered pipe	G, R, W	2.5	8.7	5.2	0.05	3	0.8	1.7	●	●	●	●
		RB55005								1.7	0.8	●	●		●
		TKFT12 LA6000	Metric Unified	M UN	2.5	8.7	5.2	Max. 0.05 Flat	3	2.1	0.4	●	●		●
		LB6000								0.4	2.1	●	●		●
		TKFT12 LA60005			2.5	8.7	5.2	0.05	3	1.7	0.8	●	●	●	●
		LB60005								0.8	1.7	●	●	●	●
		TKFT12 LN6001			2.5	8.7	5.2	0.1	3	1.25	1.25	●	●	●	●
		TKFT12 LA55005	Parallel/ Tapered pipe	G, R, W	2.5	8.7	5.2	0.05	3	1.7	0.8	●	●		●
										LB55005	0.8	1.7	●	●	

● : Standard item

Description	Thread type		Pitch				Profile type	Thread angle PNA (°)
			M (mm)		UN, G, R, W (TPI)			
			min.	max.	min.	max.		
TKFT12 RA6000	Metric Unified	M UN	0.2	0.6	64	48	Partial profile	60
RB6000								
TKFT12 RA60005			0.5	1.25	48	24		
RB60005								
TKFT12 RN6001			1	1.5	24	18		
TKFT12 RA55005	Parallel/ Tapered pipe Whitworth	G, R, W	-	-	40	16		55
RB55005								
TKFT12 LA6000	Metric Unified	M UN	0.2	0.6	64	48	Partial profile	60
LB6000								
TKFT12 LA60005			0.5	1.25	48	24		
LB60005								
TKFT12 LN6001			1	1.5	24	18		
TKFT12 LA55005	Parallel/ Tapered pipe Whitworth	G, R, W	-	-	40	16		55
LB55005								

Threading inserts identification system



Right-hand insert		
 TKFT12RA..	 TKFT12RB..	 TKFT12RN..
Left-hand insert		
 TKFT12LA..	 TKFT12LB..	 TKFT12LN..

Recommended cutting conditions

Workpiece material	Recommended insert grades			
	MEGACOAT NANO PLUS	MEGACOAT NANO	MEGACOAT	Carbide
	PR1725	PR1535	PR1225	KW10
Carbon steel	Vc=70 – 170 m/min			-
	First ap (Radial) : 0.2mm and under			
Alloy steel	Vc=70 – 170 m/min			-
	First ap (Radial) : 0.2mm and under			
Stainless steel	Vc = 60 – 100 m/mim			-
	First ap (Radial) : 0.15mm and under			
Cast iron	-			Vc = 100 m/mim
				First ap (Radial) : 0.2mm and under
Aluminum alloys	-			Vc = 150 – 400 m/mim
				First ap (Radial) : 0.2mm and under
Brass	-			Vc = 150 – 300 m/mim
				First ap (Radial) : 0.15mm and under

· Coolant is recommended.

· In case of threading stainless steel, please set two to three passes more than <ap - passes> listed below.

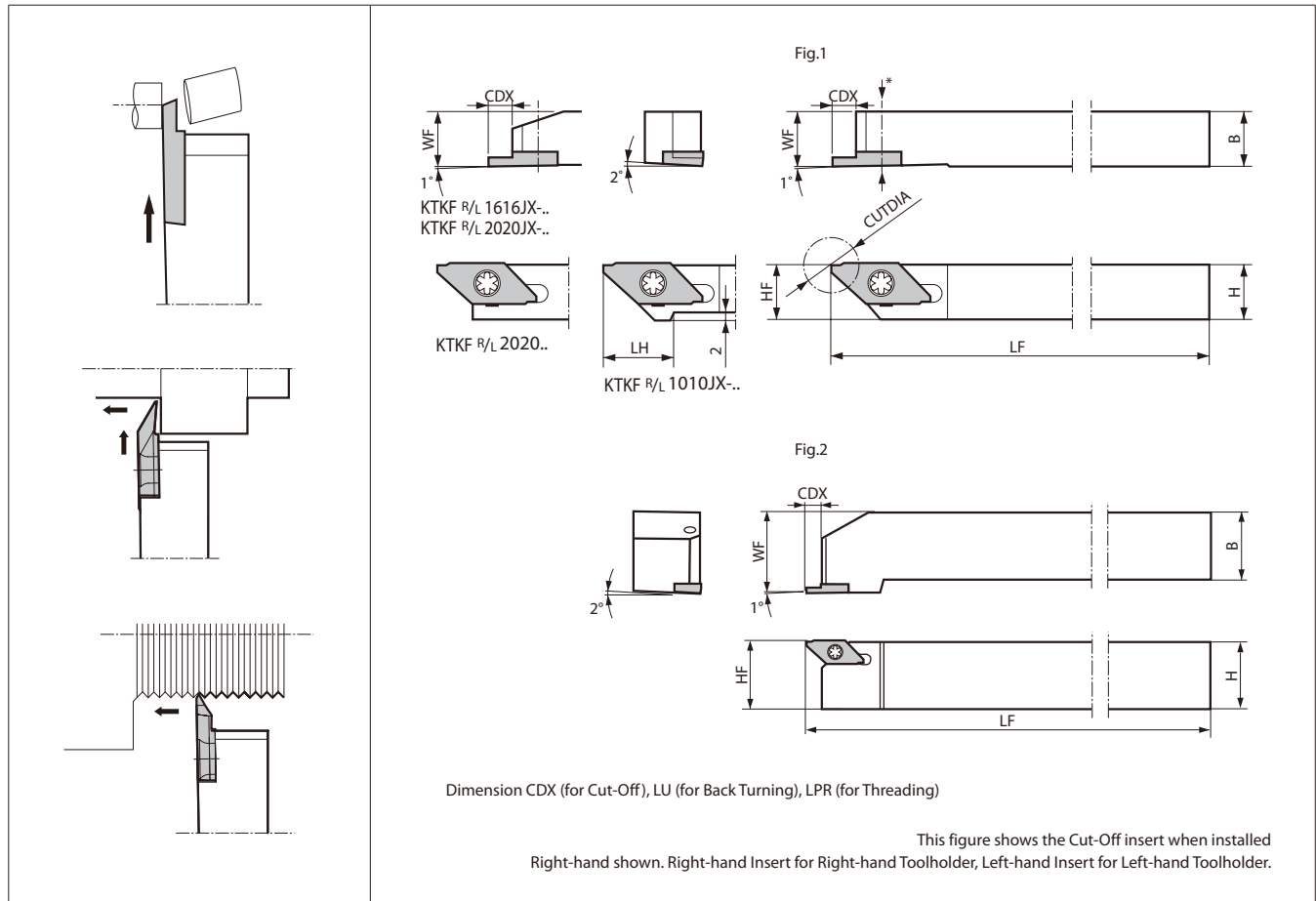
Depth of cut & number of passes

TKFT 60° / 55° Partial profile

(ap shows the value of radial ap)

Type	Pitch (mm/TPI)	Description	Corner-R(RE)	Total ap (mm)	No. of passes	1	2	3	4	5	6	7	8	9	10	11
Metric	External thread	0.20mm	TKFT 12°/L A/B6000	Max 0.05 Flat	0.15	4	0.06	0.04	0.03	0.02						
		0.25mm			0.19	4	0.07	0.06	0.04	0.02						
		0.30mm			0.23	4	0.08	0.07	0.06	0.02						
		0.35mm			0.27	5	0.08	0.07	0.06	0.04	0.02					
		0.40mm			0.30	5	0.10	0.08	0.06	0.04	0.02					
		0.45mm			0.34	6	0.10	0.08	0.06	0.04	0.04	0.02				
		0.50mm	TKFT 12°/L A/B6000 12°/L A/B60005	0.05	0.38	6	0.10	0.10	0.07	0.05	0.04	0.02				
					0.33	5	0.10	0.10	0.07	0.04	0.02					
		0.60mm	TKFT 12°/L A/B6000 12°/L A/B60005	Max 0.05 Flat	0.45	7	0.10	0.10	0.08	0.06	0.05	0.04	0.02			
					0.40	6	0.10	0.10	0.08	0.06	0.04	0.02				
		0.70mm	TKFT 12°/L A/B60005	0.05	0.48	6	0.10	0.10	0.10	0.10	0.06	0.02				
		0.75mm		0.05	0.52	7	0.10	0.10	0.10	0.08	0.07	0.05	0.02			
		0.80mm		0.05	0.56	7	0.10	0.10	0.10	0.10	0.08	0.06	0.02			
		1.00mm	TKFT 12°/L A/B60005 12°/L N6001	0.05	0.71	8	0.15	0.15	0.12	0.10	0.08	0.06	0.03	0.02		
				0.10	0.66	7	0.18	0.15	0.12	0.10	0.06	0.03	0.02			
		1.25mm		0.05	0.90	9	0.20	0.18	0.13	0.10	0.10	0.07	0.05	0.05	0.02	
				0.10	0.85	8	0.20	0.18	0.13	0.10	0.10	0.07	0.05	0.02		
		1.50mm	TKFT 12°/L N6001	0.10	1.04	10	0.20	0.18	0.14	0.12	0.10	0.10	0.08	0.05	0.05	0.02
Parallel pipe	External thread	28 ⅞/inch	TKFT 12°/L A/B55005	0.05	0.67	7	0.18	0.15	0.12	0.10	0.06	0.04	0.02			
		19 ⅞/inch		0.05	1.01	9	0.20	0.18	0.14	0.12	0.12	0.10	0.08	0.05	0.02	
Whitworth	External thread	24 ⅞/inch	TKFT 12°/L A/B55005	0.05	0.79	8	0.18	0.18	0.12	0.10	0.08	0.07	0.04	0.02		
		20 ⅞/inch		0.05	0.96	9	0.20	0.20	0.15	0.10	0.10	0.08	0.06	0.05	0.02	
		18 ⅞/inch		0.05	1.07	10	0.20	0.18	0.15	0.12	0.10	0.10	0.08	0.07	0.05	0.02
		16 ⅞/inch		0.05	1.21	11	0.20	0.18	0.15	0.15	0.12	0.10	0.10	0.08	0.07	0.04

KTKF



Toolholder dimensions

Description	Availability		Dimension (mm)							Fig.	Spare parts		Applicable inserts	
	R	L	CDX (LU) (LPR)	H	B	LH	HF	LF	WF		Screw	Wrench		
														
KTKF ^{R/L} 1010JX-12	●	●	6	10	10	15	10	120	10	1	SB-4590TRWN	FT-10	TKF12 ^{R/L} ... TKFB12 ^{R/L} ... TKFT12 ^{R/L} ...	
	1212F-12	●		●	12	12	-	12	85					12
	1212JX-12	●		●				16	16					120
	1616JX-12	●		●	20	20								
	2020JX-12	●		●	25	25		25	150					30
	2525M-12	●												
KTKF ^{R/L} 1010JX-16	●	●	8	10	10	20	10	120	10	1	SB-4590TRWN	FT-10	TKF16 ^{R/L} ... TKFB16 ^{R/L} ...	
	1212F-16	●		●	12	12	-	12	85					12
	1212JX-16	●		●				16	16					120
	1616JX-16	●		●	20	20								
	2020JX-16	●		●	25	25		25	150					30
	2525M-16	●												

CDX shows the distance from the toolholder to the cutting edge. Actual Grooving Depth : CUTDIA of Insert (see pages 11 and 13)

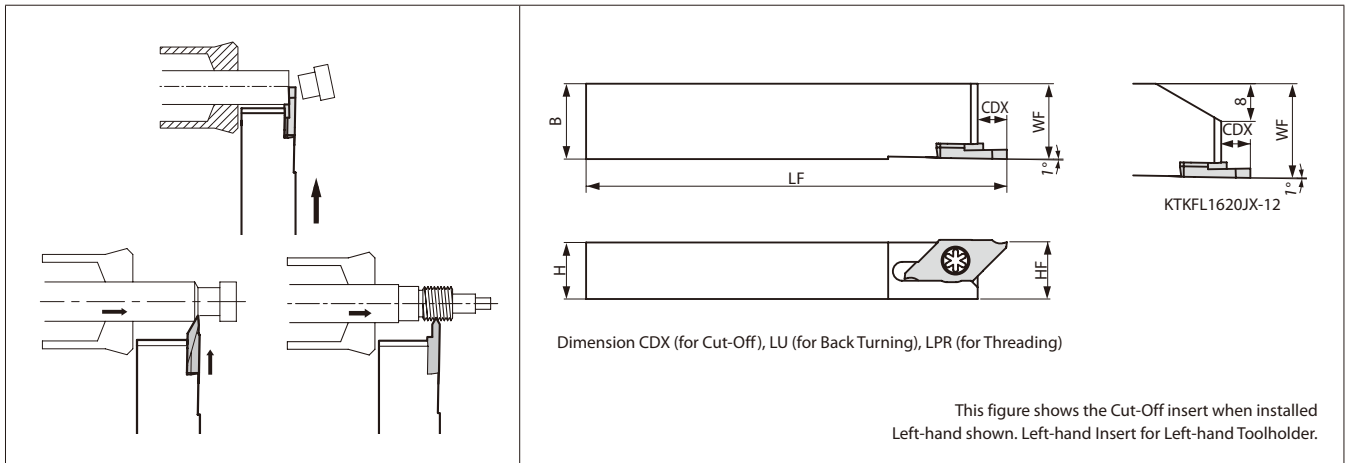
LU shows the distance from the toolholder to the cutting edge.

LPR shows the distance from the toolholder to the cutting edge.

See Page 27, 28 for internal coolant type (coolant-through holders)

● : Standard item

KTKF (Goose-neck holder)



Toolholder dimensions

Description	Availability	Dimension (mm)							Spare parts		Applicable inserts
									Screw	Wrench	
		L	CDX (LU) (LPR)	H	B	HF	LF	WF			
KTKFL 1216JX-12	●	6	6	12	16	12	120	16	SB-4590TRWN	FT-10	TKF12L..., TKFB12L..., TKFT12L...
1620JX-12	●			16	20	16		20			

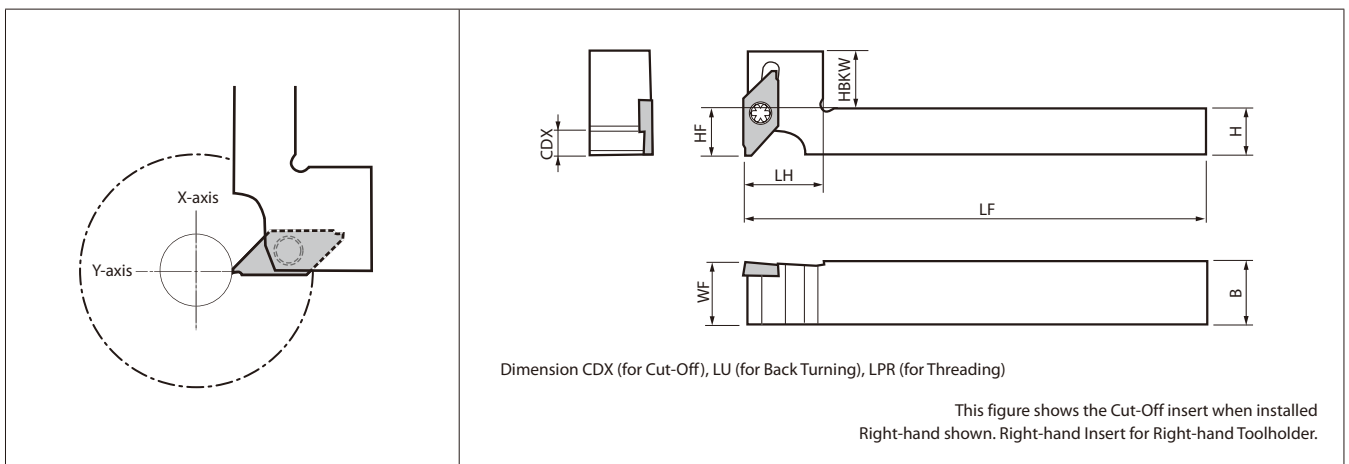
CDX shows the distance from the toolholder to the cutting edge. Actual Grooving Depth : CUTDIA of Insert (see pages 11 and 13)

LU shows the distance from the toolholder to the cutting edge.

LPR shows the distance from the toolholder to the cutting edge.

● : Standard item

KTKF (Y-axis toolholder)



Toolholder dimensions

Description	Availability	Dimension (mm)									Spare parts		Applicable inserts
											Screw	Wrench	
		R	CDX (LU) (LPR)	H	B	LH	HF	HBKW	LF	WF			
KTKFR 1216JX-12-Y	●	6	6	12	16	20	12	15	120	16	SB-4590TRWN	FT-10	TKF12R..., TKFB12R..., TKFT12R...
1616JX-12-Y	●			16		25	16	11					

CDX shows the distance from the toolholder to the cutting edge. Actual Grooving Depth : CUTDIA of Insert (see pages 11 and 13)

LU shows the distance from the toolholder to the cutting edge.

LPR shows the distance from the toolholder to the cutting edge.

● : Standard item

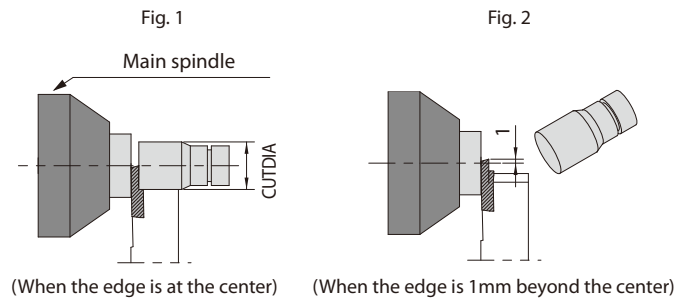
How to Use

When using main spindle only

Maximum cutting diameter is CUTDIA (Fig.1).

Even if the cutting edge runs beyond the center line (Fig.2), the insert does not contact the workpiece, since the workpiece falls off.

(The clearance between the insert and the workpiece is 0.2 mm)



When using both main and sub spindles

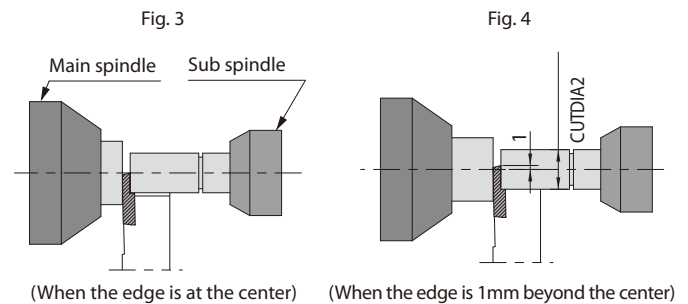
In this case, when the cutting edge runs beyond the center line, the insert will contact the workpiece, since the workpiece does not fall off.

Therefore the programmed distance beyond the center must be considered.

e.g.) When the cutting edge is programmed to run 1mm beyond the center.

Workpiece maximum, CUTDIA2 (Fig.4) = [CUTDIA – 1 mm × 2] (mm)

(The clearance between the insert and the workpiece is 0.2 mm)



How to select edge preparation

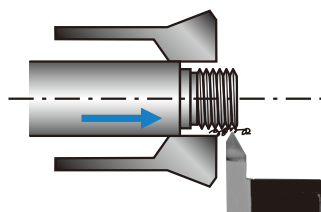
Troubleshooting

Problems	Countermeasures	Countermeasures						
		Lead angle (PSIRR)		Edge width		Name of chipbreaker		
		Neutral (0°)	Yes	Narrower	Wider	S	T	NB
Insert fracture	Insert fracture prevention	Effective			Effective		Effective	Effective
Long cutting time	Cutting time reduction	Effective			Effective		Effective	Effective
Entangled chips	Prevention of chip entanglement	Effective		Effective		Effective		
Large boss remain	Small boss remain		Effective	Effective		Effective		
Ring remain (Hollow workpiece)	Prevention of ring remain		Effective	Effective		Effective		
Deformation of hollow workpiece (pipe)	Preventing deformation		Effective	Effective		Effective		

Swiss tool automatic lathe (Guide bush system)

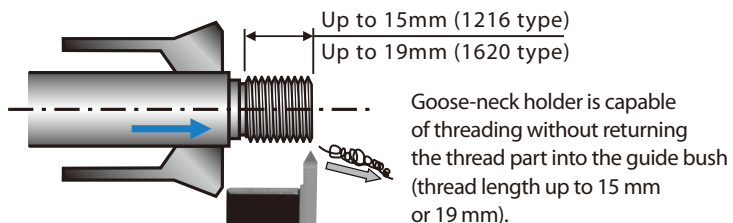
Goose-neck holder is applicable to automatic lathes whose toolholder does not move to longitudinal direction (Z-axis direction).

Conventional tool



Chips may come into the guide bush and scratch the thread surface.

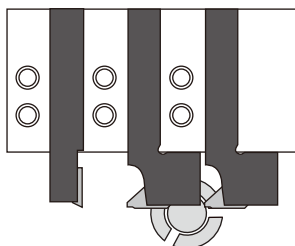
Goose-neck holder



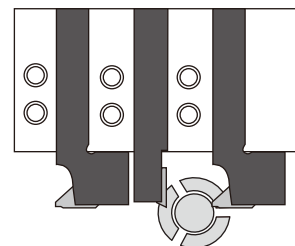
Precautions for using Y-axis toolholder

Do not use Y-axis toolholders side by side to prevent interference. (Only two Y-axis holder can be used at the same time)

With interference

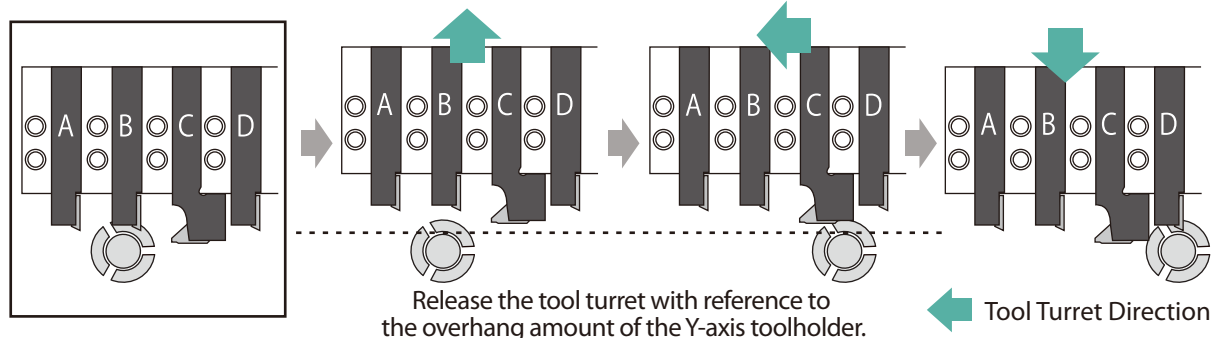


Without interference



Standard toolholders may be mounted between two Y-axis toolholders.

When changing the tool, set the retracted position with reference to the cutting edge of the Y-axis holder. (When exchanging from tool B to D)



Note that using other toolholders together will result in different outside diameters.

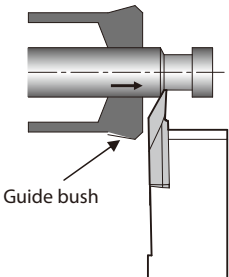
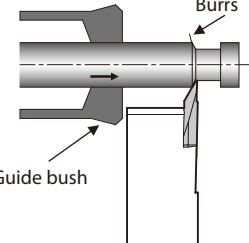
(Unit : mm)

Y-axis Toolholder Overhang	Examples	Overhang Amount : L Available Outside Cutting Diameter(φ)	20	22	25
20		A	Without Restriction	Without Restriction	Without Restriction
		B	13.0	13.0	13.0
		C	Without Restriction	Without Restriction	Without Restriction
25		A	38.0	58.0	Without Restriction
		B	14.9	13.6	13.0
		C	45.0	60.0	Without Restriction

Toolholders for back turning

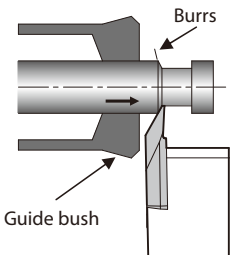
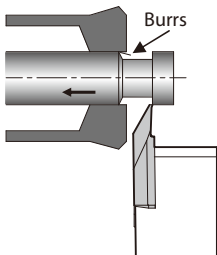
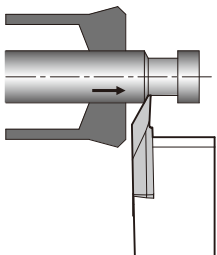
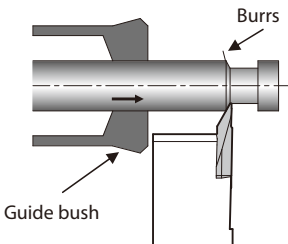
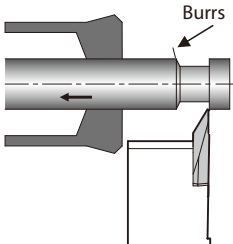
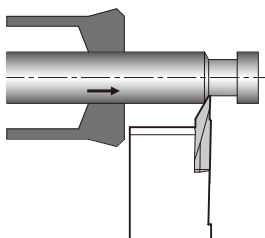
- TKFB insert

How to select back turning toolholder hand

Right-hand		• Machining near the guide bush is possible • Because of narrow width of edge (1.5mm), TKFB12R15005M can set near guide bush → Optimum for small parts and high precision machining
Left-hand	The workpiece burr does not contact the guide bush. 	• Machining with a distance from guide bush • Good chip control due to large space between the guide bush and the tool. → Excellent chip control in roughing and finishing (several passes) In the case of left hand cut, even if burrs occur at workpiece corners, TKFB insert can be processed without returning to the guide bush, outer diameter dimension becomes stable. Also, damage of guide bush caused by mesh engagement is prevented.

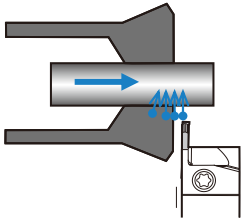
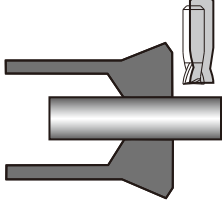
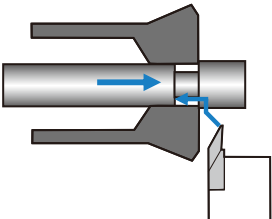
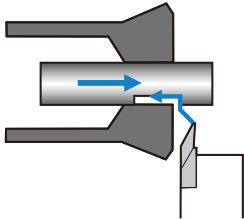
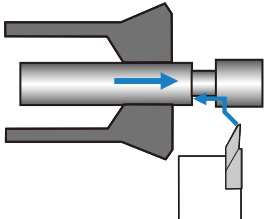
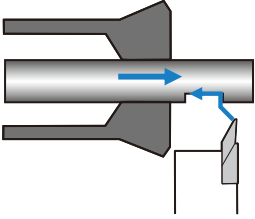
Workpiece Material Motion & How to Select Hand of Tool

When Roughing, Medium, & Finishing

	Roughing	Workpiece position after roughing	Finishing
Right-hand			
Left-hand			

* Good dimension accuracy : If a left-hand toolholder is used, burrs on workpiece generated in roughing do not damage the guide bush in finishing.

Chip control improvement in back turning

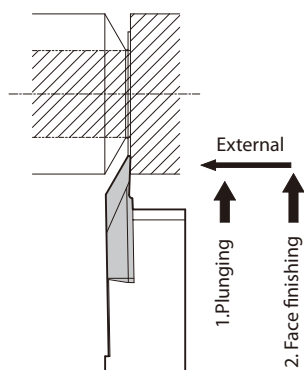
	Chip control improvement by tool pass changes - 1	Chip control improvement by tool pass changes - 2
Roughing	Roughing with grooving tools 1. GMM2420-020MW (Grooving) 	Pre-Stage machining is processed with solid end mill 1. Solid end mill 
Finishing (Countermeasures 1) Use right-hand toolholder	When using TKFB12R28010M (for back turning / right hand)  Advantages Good surface roughness Disadvantages If a machining pass is long, the guide bush can not support the workpiece.	When using TKFB12R28010M (for back turning / right hand)  Advantages 1. Minimal deflection in long machining passes 2. Chips are broken into small pieces, though the workpiece material is sticky Disadvantages The pre-stage machining may cause fractures, because of interrupted machining
Finishing (Countermeasures 2) Use left-hand toolholder	When using TKFB12L28010M (for back turning / left hand)  Advantages 1. Good surface roughness 2. High precision machining if the machined portion does not contact the guide bush. Disadvantages If a machining pass is long, the guide bush can not support the workpiece.	When using TKFB12L28010M (for back turning / left hand)  Advantages 1. Minimal deflection in long machining passes 2. Chips are broken into small pieces, though the workpiece material is sticky 3. High precision machining if the machined portion does not contact the guide bush. Disadvantages The pre-stage machining may cause fractures, because of interrupted machining

Countermeasure against peeled surface in face back turning

When peeled surface occurs on the workpiece face, please apply the countermeasures below.

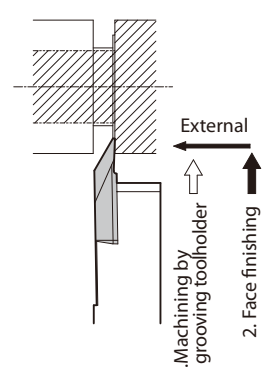
Countermeasures 1

Face finishing

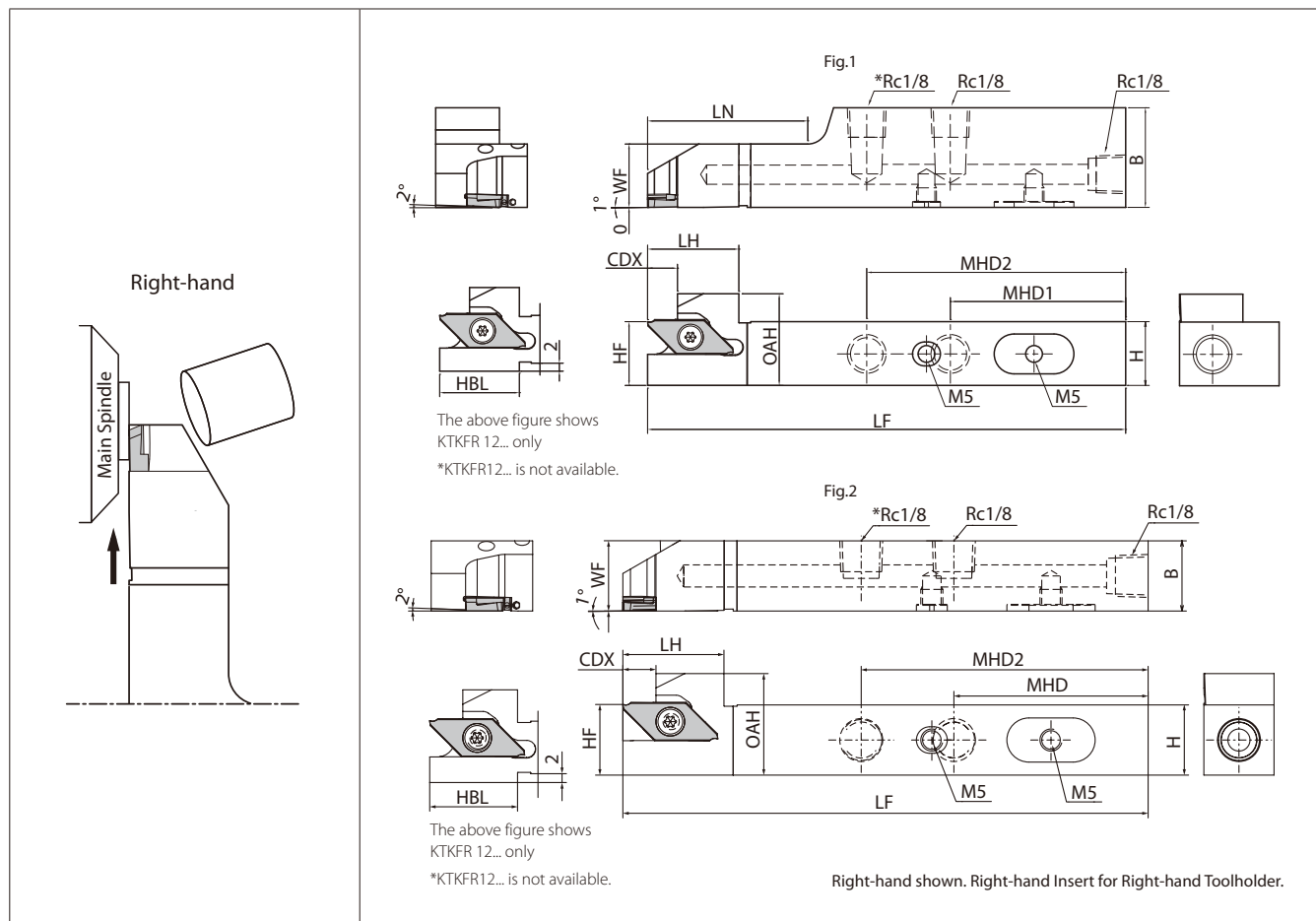


Countermeasures 2

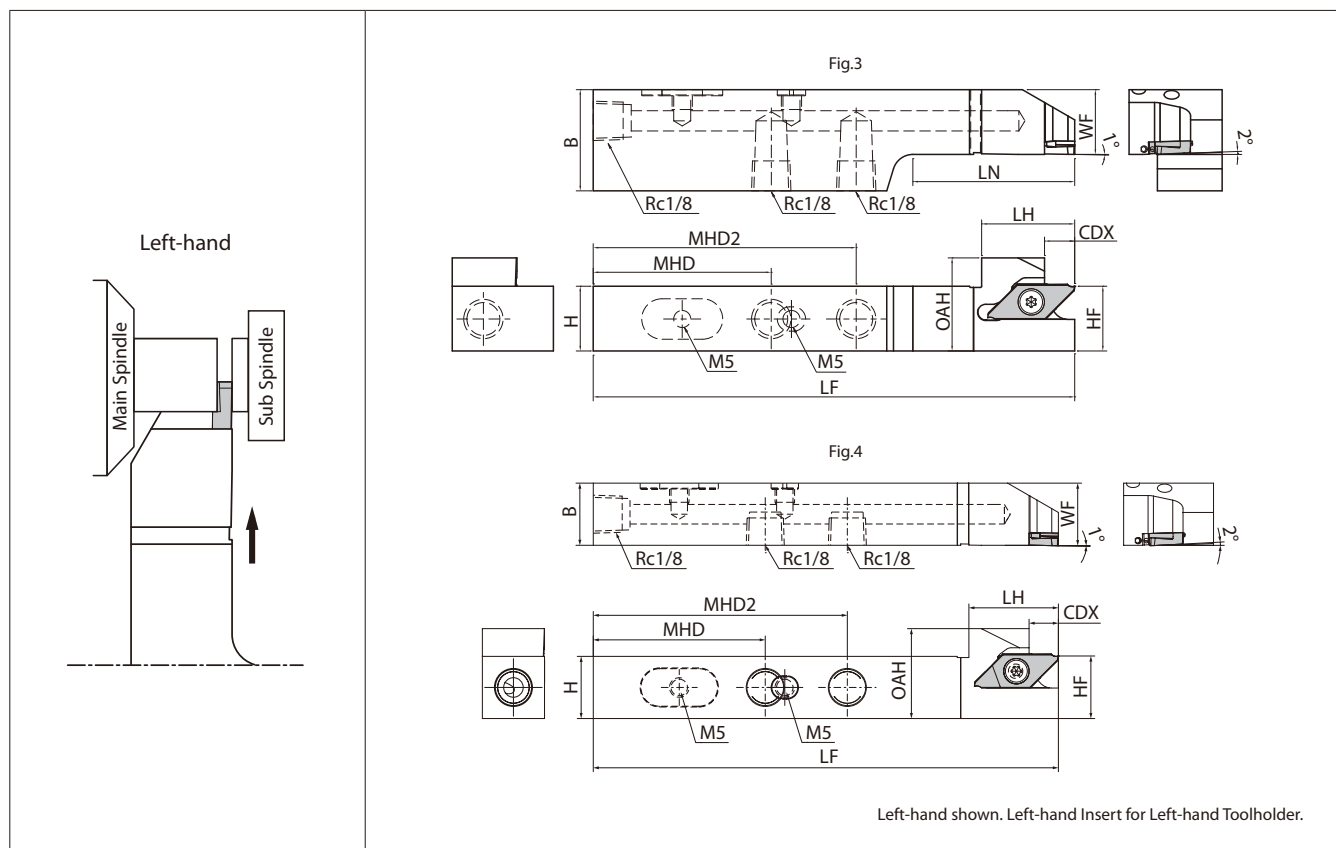
Face finishing after grooving



KTKFR-JCTM (Coolant-through holders / Right-hand(R))



KTKFL-JCTM (Coolant-through holders / Left-hand(L))



Toolholder Dimensions (Right-hand (R))

Description		Availability	Dimension (mm)												Fig.	Coolant hole	Spare parts				Applicable inserts
		R	CDX	H	B	LH	OAH	MHD	MHD2	HF	HBL	LF	LN	WF			Plug1	Plug2	Screw	Wrench	
																					
KTFR	1218JX-12JCTM	●	7.5	12	18	20	19	54	-	12	20	120	28	12	1	Yes	GP-1	HS5X4LP	SB-4590TR-WN	FT-10	TKF12R...
	1625JX-12JCTM	●		16	25	23	23	44	65	16	-		40	16							
	2025JX-12JCTM	●		20			27			20				20							
KTFR	1212JX-12JCTM	●	7.5	12	12	20	19	59	-	12	20	120		12	2	Yes	GP-1	HS5X4LP	SB-4590TR-WN	FT-10	TKF12R...
	1616JX-12JCTM	●		16	16	23	23	44	65	16	-			16							
	2020JX-12JCTM	●		20	20		27			20								20			
KTFR	1625JX-16JCTM	●	9.6	16	25	23	23	44	65	16	-	120	40	16	1	Yes	GP-1	HS5X4LP	SB-4590TR-WN	FT-10	TKF16R...
	2025JX-16JCTM	●		20			27			20			41	20							
KTFR	1616JX-16JCTM	●	9.6	16	16	23	23	44	65	16	-	120	-	16	2	Yes	GP-1	HS5X4LP	SB-4590TR-WN	FT-10	TKF16R...
	2020JX-16JCTM	●		20	20		27			20				20							

CDX shows the distance from the toolholder to the cutting edge. Actual Grooving Depth : CUTDIA of Insert (see pages 11 and 13)

*For coolant holder piping parts, see pages 29 and 30.

● : Standard item

Toolholder Dimensions (Left-hand (L))

Description		Availability	Dimension (mm)										Fig.	Coolant hole	Spare parts				Applicable inserts	
		L	CDX	H	B	LH	OAH	MHD	MHD2	HF	LF	LN			WF	Plug1	Plug2	Screw		Wrench
																				
KTKFL	1625JX-12JCTM	●	7.5	16	25	23	23	44	65	16	120	40	16	3	Yes	GP-1	HS5X4LP	SB-4590TRWN	FT-10	TKF12L...
	2025JX-12JCTM	●		20			27			20			20							
KTKFL	1616JX-12JCTM	●	7.5	16	16	23	23	44	65	16	120	-	16	4	Yes	GP-1	HS5X4LP	SB-4590TRWN	FT-10	TKF12L...
	2020JX-12JCTM	●		20			20			27			20				20			
KTKFL	1625JX-16JCTM	●	9.6	16	25	23	23	44	65	16	120	40	16	3	Yes	GP-1	HS5X4LP	SB-4590TRWN	FT-10	TKF16L...
	2025JX-16JCTM	●		20			27			20		41	20							
KTKFL	1616JX-16JCTM	●	9.6	16	16	23	23	44	65	16	120	-	16	4	Yes	GP-1	HS5X4LP	SB-4590TRWN	FT-10	TKF16L...
	2020JX-16JCTM	●		20			20			27			20				20			

CDX shows the distance from the toolholder to the cutting edge. Actual Grooving Depth : CUTDIA of Insert (see pages 11 and 13)

*For coolant holder piping parts, see pages 29 and 30.

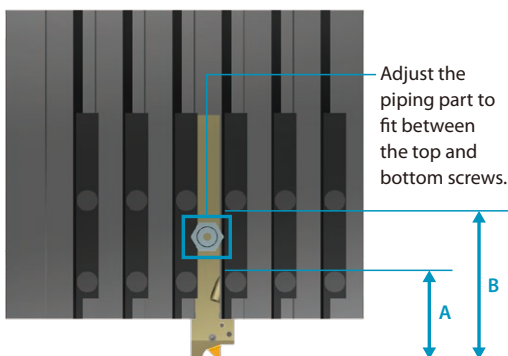
● : Standard item

Piping part interference avoidance

Rectangular shanks (KTFR1218..., KTFR/L1625, KTFR/L2025...) 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 turret.

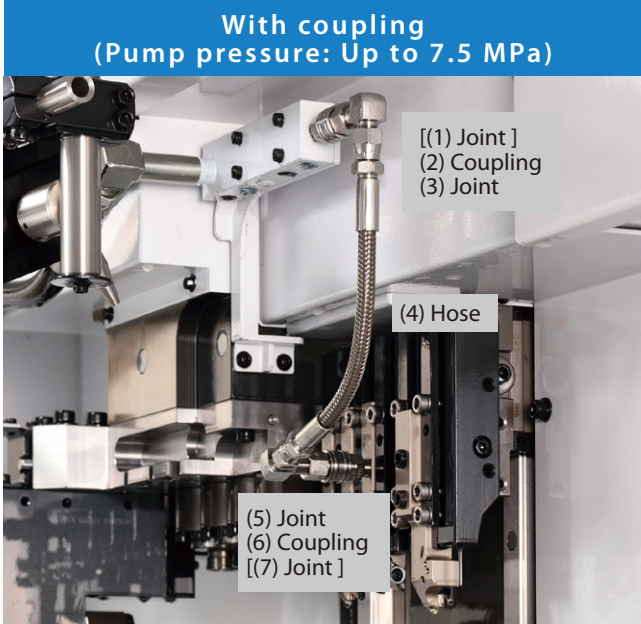
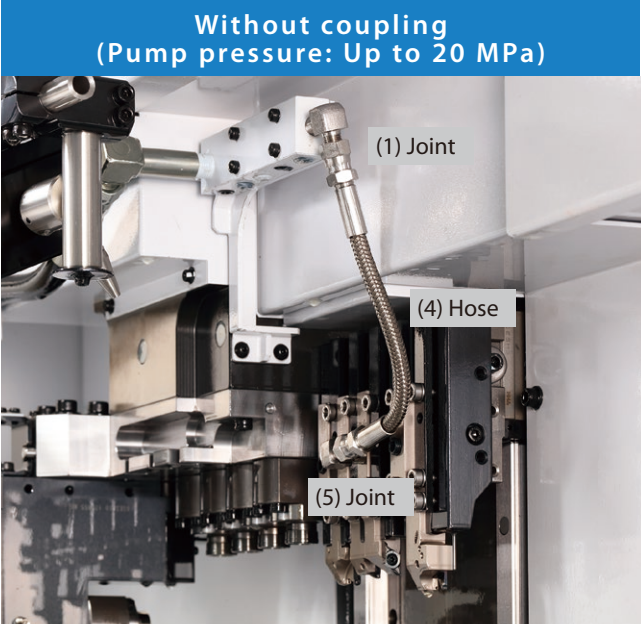


Shank Size	Availability of square shank use
□ 12	"A" shorter than 51.5 mm and "B" longer than 68.5 mm → Available Other than the above conditions → Use J-**-R1/8-G1/8-L or a rectangular shank
□ 16 / □ 20	Available

Piping Parts

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

Pump Pressure : Up to 20 MPa. Pump Pressure : Up to 7.5 MPa if coupling is used.



Combination part description (Example)

Spare 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

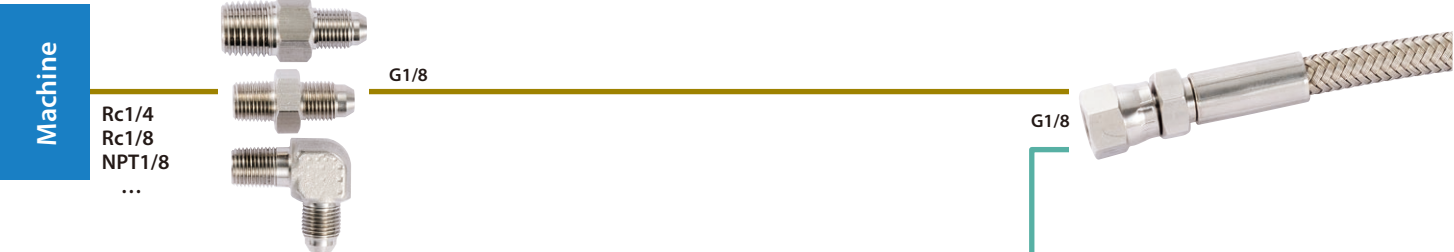
Convert the thread standards on the machine's side (Rc1/4, Rc1/8, NPT1/8, etc.) to the thread standard on the hose side (G1/8) for use.
Use sealing agents such as seal tapes when installing piping parts.

Combination part description (Example)

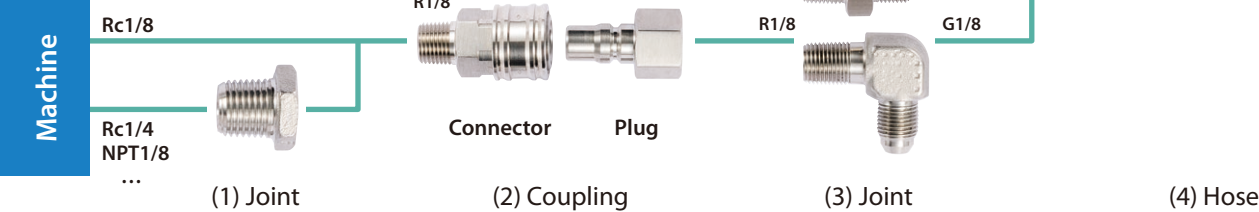
Spare parts	Description
[(1) Joint]	-
(2) Coupling	CP-ST-R1/8、P-ST-RC1/8
(3) Joint	J-AN-R1/8-G1/8
(4) Hose	HS-G1/8-G1/8-200
(5) Joint	J-AN-R1/8-G1/8
(6) Coupling	P-ST-RC1/8、CP-ST-R1/8
[(7) Joint]	-

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 7.5MPa)



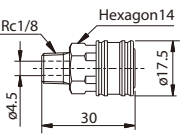
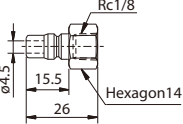
Piping Part Dimensions

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

Shape	Description	Stock	ød1	ød2	L	L1	L2	T1	T2
	J-ST-R1/4-G1/8	●	5.5	4.0	34	13	13	R1/4	G1/8
	J-ST-NPT1/8-G1/8	●	3.5	3.5	29	10	13	NPT1/8	G1/8
	J-ST-R1/8-G1/8	●	4.0	4.0	29	10	13	R1/8	G1/8
	J-ST-R1/8-G1/8-L	●	4.0	4.0	40	20	14	R1/8	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

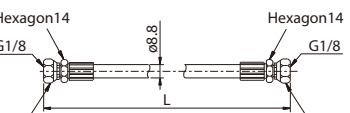
Elbow piping (J-AN-R1/8-G1/8) is recommended. ● : Standard item

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

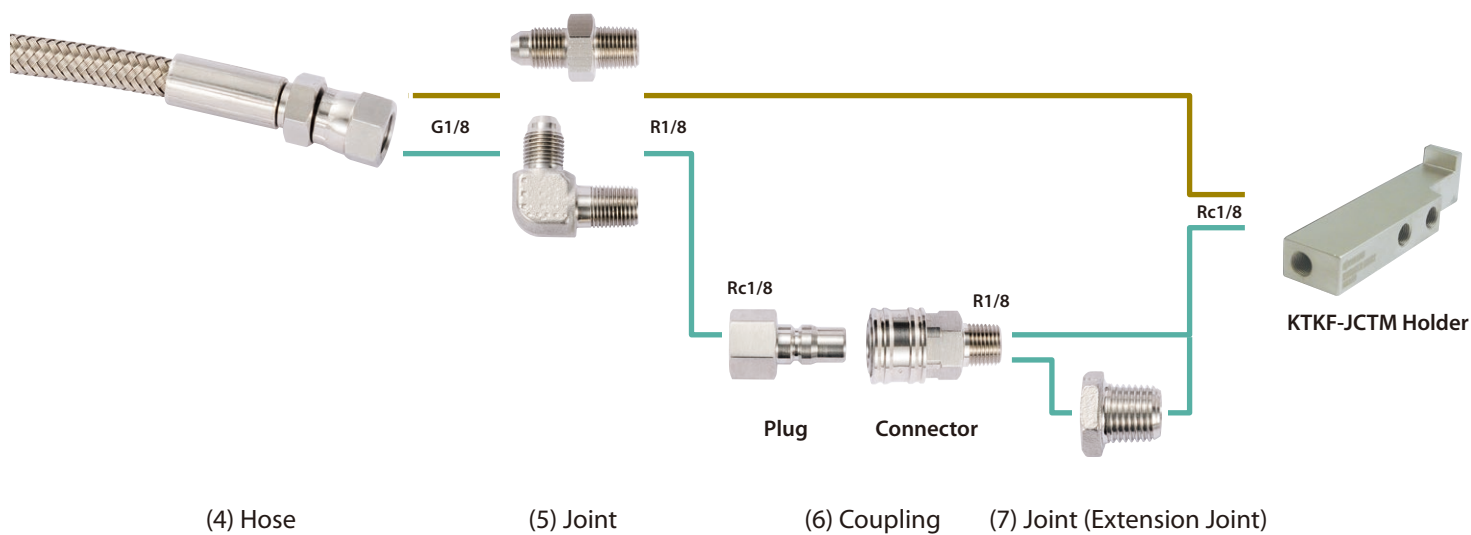
Shape	Description	Stock
 	CP-ST-R1/8	●
 	P-ST-RC1/8	●

● : Standard item

Hose (4) Pressure : Up to 20.0 MPa (Unit : mm)

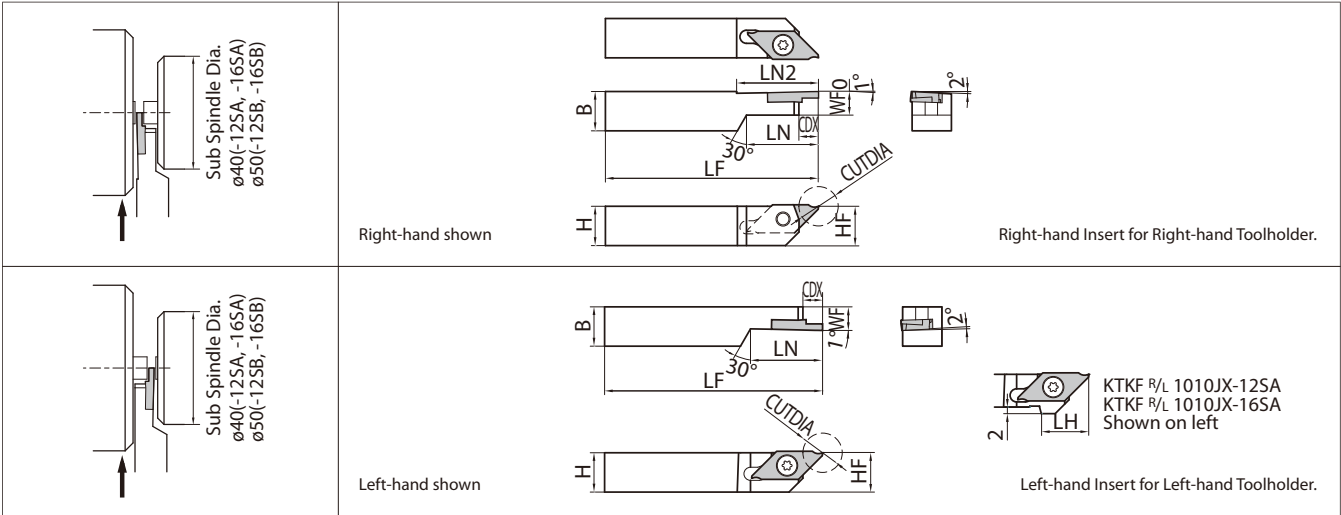
Shape	Description	Stock	L
 	HS-G1/8-G1/8-200	●	200
	HS-G1/8-G1/8-300	●	300
	HS-G1/8-G1/8-400	●	400
	HS-G1/8-G1/8-500	●	500
	HS-G1/8-G1/8-600	●	600
	HS-G1/8-G1/8-800	●	800

● : Standard item



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

KTKF-S (Cut-off / for sub spindle tooling)



Toolholder dimensions

Description	Availability		Dimension (mm)									Spare parts		Applicable inserts
	R	L	CDX	H	B	LH	HF	LF	LN	LN2	WF	Screw	Wrench	
														
KTKF R/L 1010JX-12SA	●	●	6	10	10	15	10	120	22	26	7.2	SB-4570TRN	FT-10	TKF12R/L...
1212F-12SA	●	●						85						
KTKF R/L 1212JX-12SB	●	●			12	12	-	12	120					
KTKF R/L 1010JX-16SA	●	●	8	10	10	20	10	120	22	30	7.2	SB-4570TRN	FT-10	TKF16R/L...
1212F-16SA	●	●						85						
KTKF R/L 1212JX-16SB	●	●			12	12	-	12	120					

CDX shows the distance from the toolholder to the cutting edge.
Cut-off diameter (CUTDIA) depends on the insert edge width.
See page 11,13 for the actual cut-off diameter.
Only Right-hand is available for LN2 dimension.

●: Standard item

KTKF / KTKF-S selection reference

