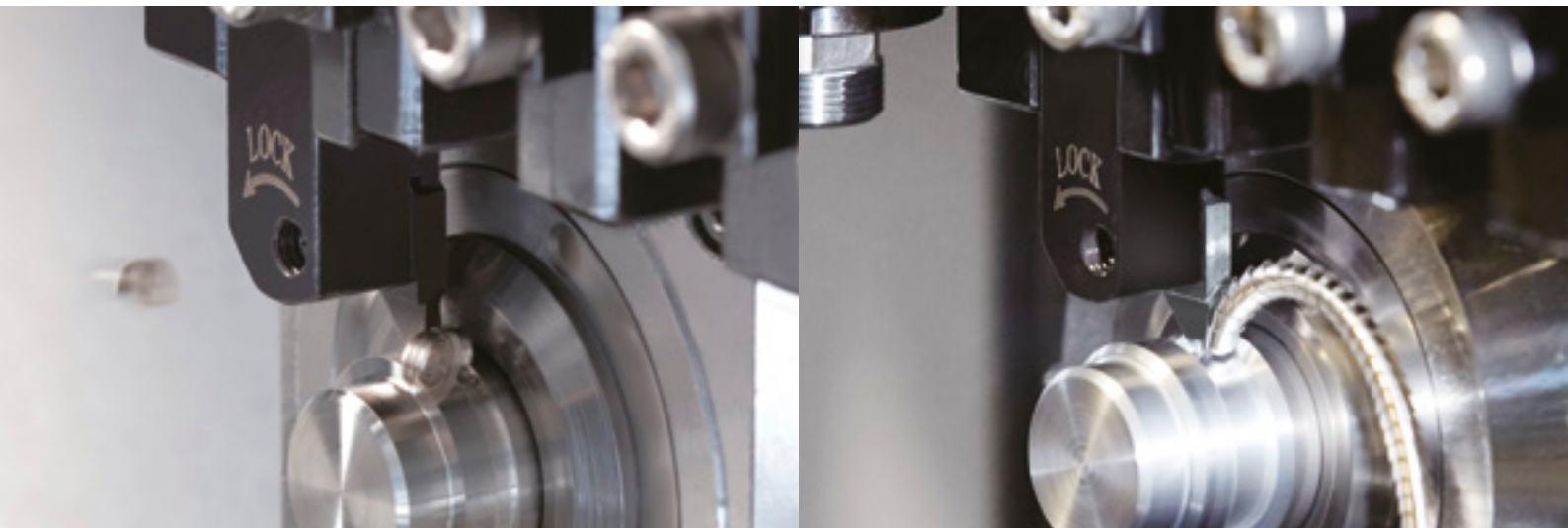
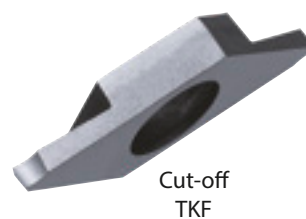
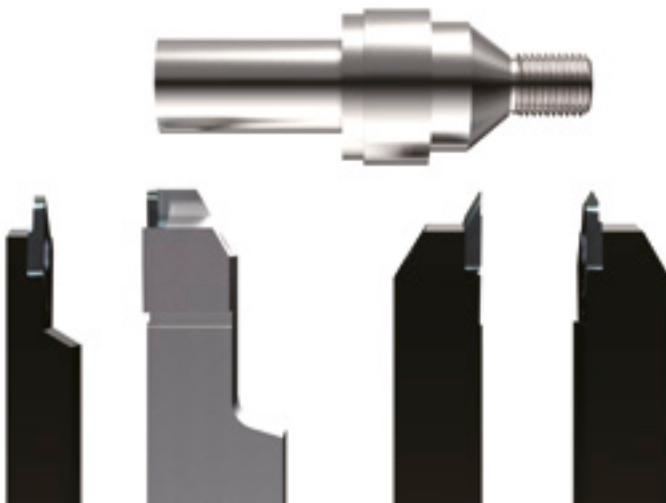


KTKF Series



Multi-functional, cut-off, back turning, and threading tools

Large variety of applications available
Kyocera's high-performance insert grades



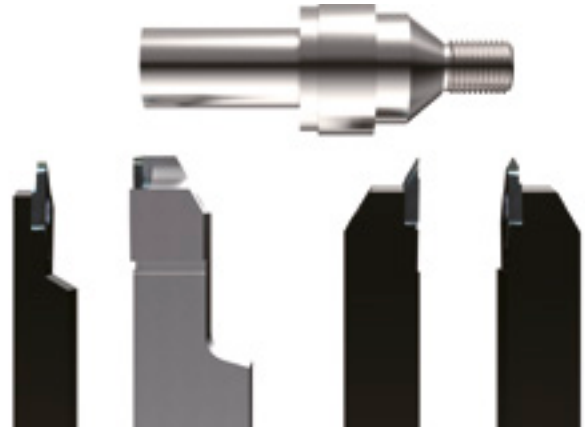
**KEEPS YOU
AHEAD**



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
- Standardised 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) = 0 mm (no chipbreaker)
- Available with 16° and 20° lead angles
- Cutting diameter: Max $\varnothing 5$ - $\varnothing 12$ (TKF12), Max $\varnothing 16$ (TKF16)
- Edge width: 0.5 – 2.0 mm (TKF12), 1.5 / 2.0 mm (TKF16).



Back turning: TKFB

- Low cutting force design improves dimensional accuracy
- Good chip control
- Excellent surface finish is obtainable by optimising angle of wiper edge
- Moulded 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 aluminium 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)

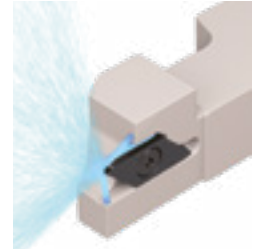
- Shank: 12×16, □16
- Side screw clamp



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

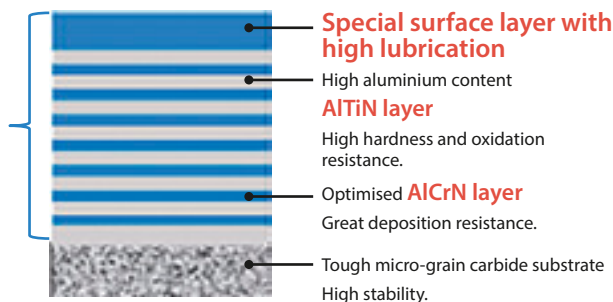
Kyocera's high-performance insert grades

PR1725 1st recommendation for steel machining. Excellent surface finish and long tool life

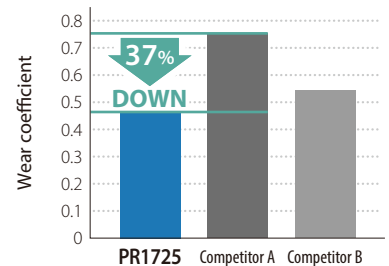
MEGACOAT NANO® PLUS AITiN/AlCrN Nano laminated film with superior wear resistance and adhesion resistance.

Reduces cracking

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



Wear coefficient comparison (Internal evaluation)



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®

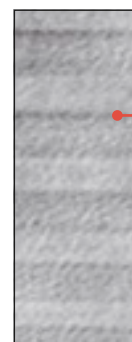
- 1 An increase in cobalt content yields a substrate with greater toughness *In comparison to our conventional material grade
- 2 Improved stability by optimisation and homogenization of grains in the base material
- 3 MEGACOAT NANO coating technology for long tool life and stable machining

Cracking comparison by diamond indenter (Internal evaluation)



UP
23%
Fracture Toughness *

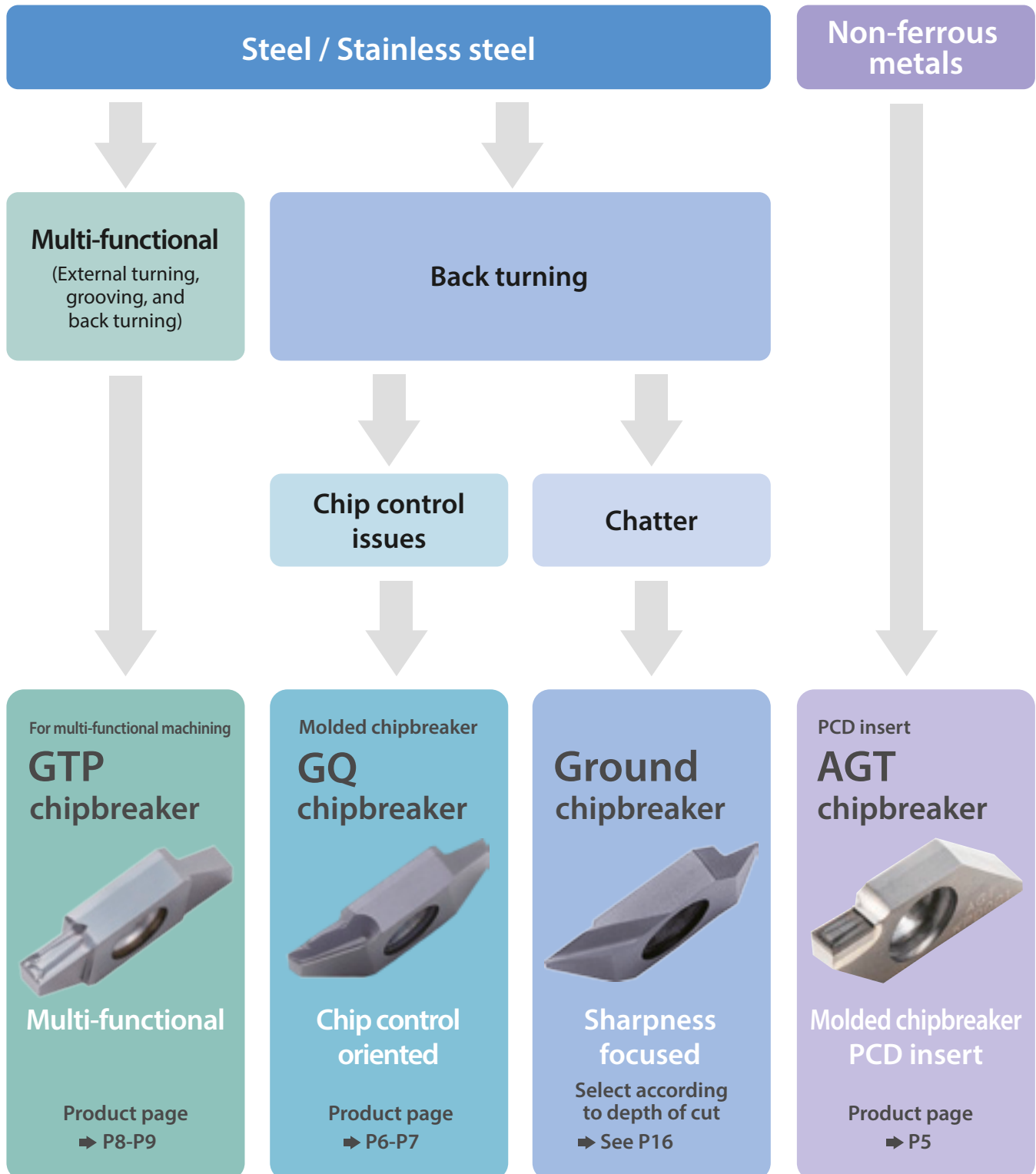
UP
Impact Resistance



PR1535 shows superior performance in steel machining under unstable conditions.

Back turning insert

Guidelines for chipbreaker selection



3D PCD chipbreaker

AGT chipbreaker

Improved chip control for various aluminium alloy machining applications

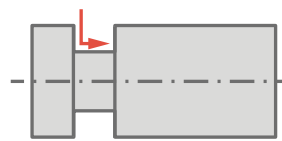
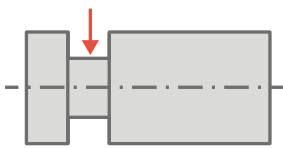


Improved chip control

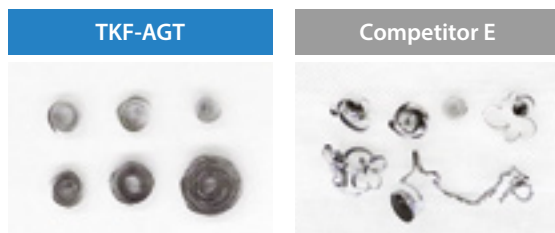
Multifunctional PCD chipbreaker for grooving and turning

1 Stable machining for a wide range of applications

Chip control and surface finish comparison with grooving and turning

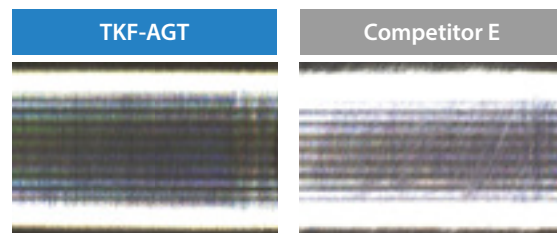


Chip control comparison (Grooving) (Internal evaluation)



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

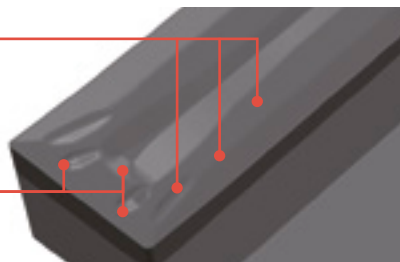
Turning

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.



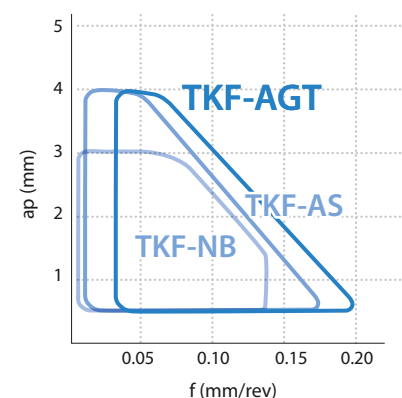
Sloped cutting edge

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 moulded chipbreaker

Reduced cycle time by increasing depth of cut capabilities

1

Excellent chip evacuation with moulded chipbreaker

Original moulded chipbreaker with two features

Grooving Good surface finish

Prevents chip crunching

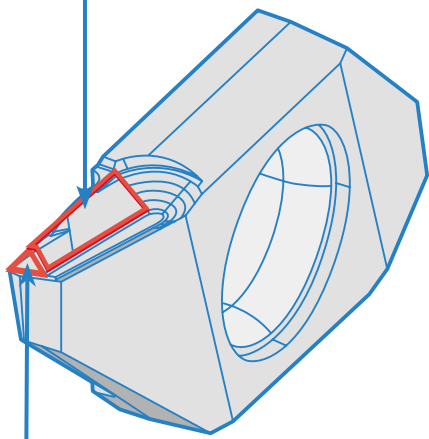
GQ chipbreaker



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

Cutting conditions: Vc = 100 m/min., Wet.

SUS304						
(f) (ap)	GQ chipbreaker			Competitor D (Moulded)		
	0.02 mm/rev	0.04 mm/rev	0.06 mm/rev	0.02 mm/rev	0.04 mm/rev	0.06 mm/rev
4 mm Competitor (3.5)						
3 mm						
2 mm						

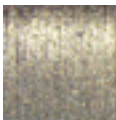
Cutting conditions: Vc = 80 m/min., Wet.

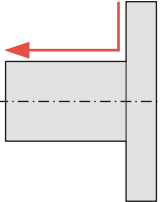
2

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)
Workpiece surface	Grooving	 Rz = 2.92 μm	 Rz = 31.23 μm
	Turning	 Rz = 3.85 μm	 Rz = 7.67 μm



1-pass machining

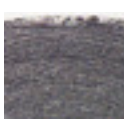
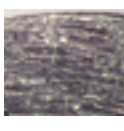
Reduced cycle time

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

Surface finish comparison (Internal evaluation)

Grooving: Excellent surface finish at large depths of cut

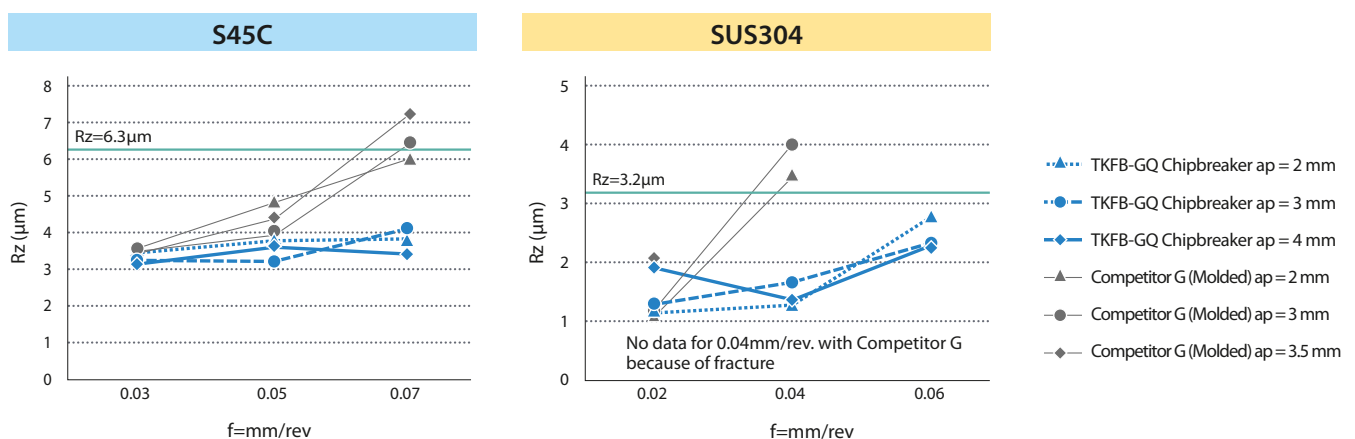
Flange finish

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

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

For multi-functional machining

GTP chipbreaker

Reduce cycle time with grooving and turning capabilities



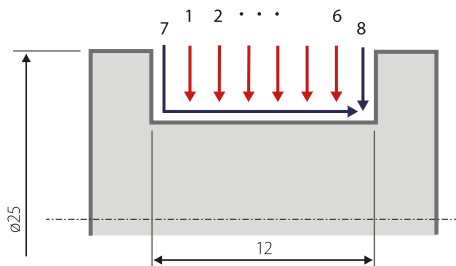
1 Grooving and turning available

Cutting time comparison (Internal evaluation)

Competitor A

Multiple grooves and a finishing pass

Workpiece: S45C (ø25)



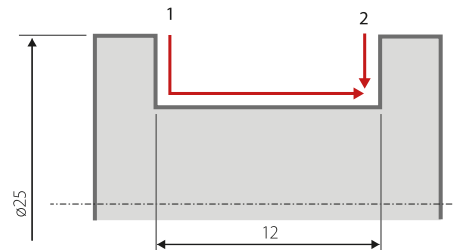
Cutting conditions : Multiple grooves
Vc=100m/min
ap=3.5mm, f=0.10mm/rev

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

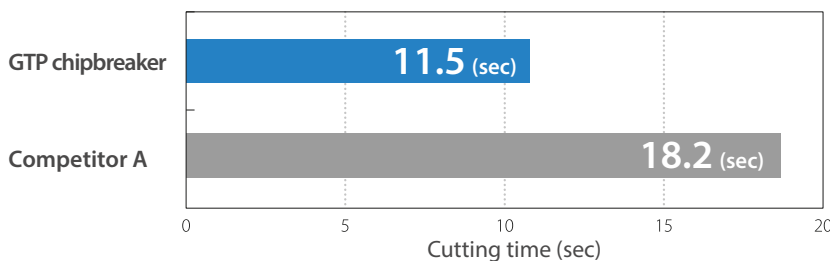
TKF12R200-GTP

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

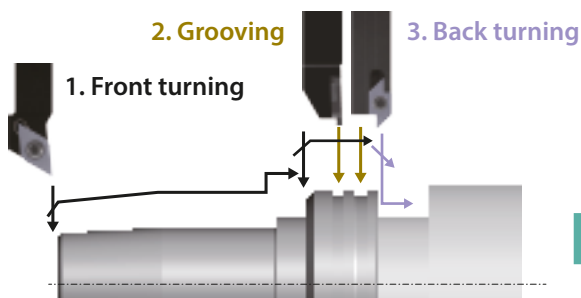
Solution to integrate tools

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

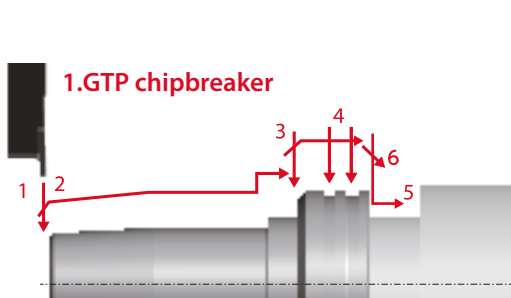


Workpiece example

Conventional tools



GTP chipbreaker

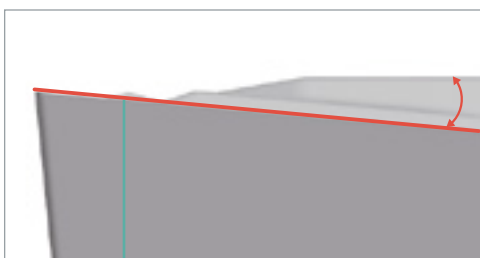
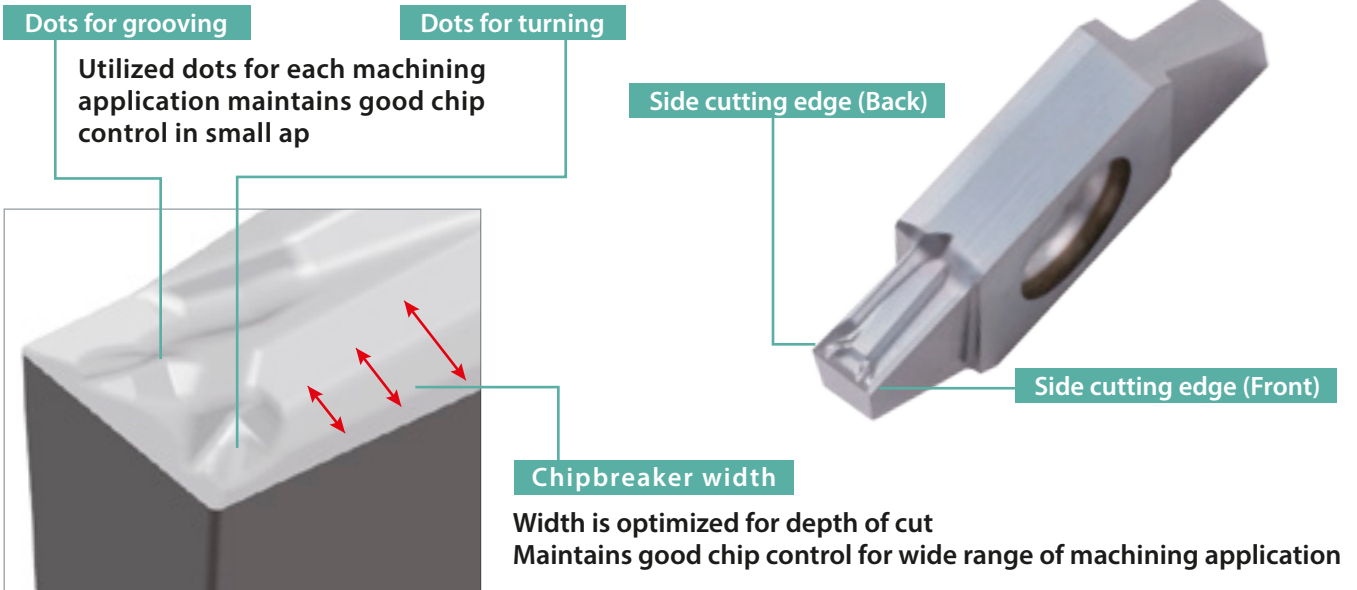


*Maximum grooving width and cutting depth. (Max. grooving width/Max. D.O.C.)

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

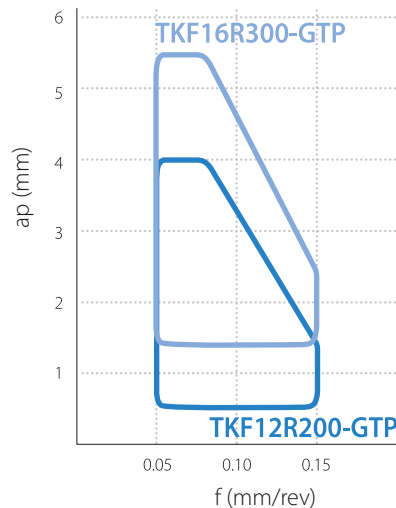
Chipbreaker features



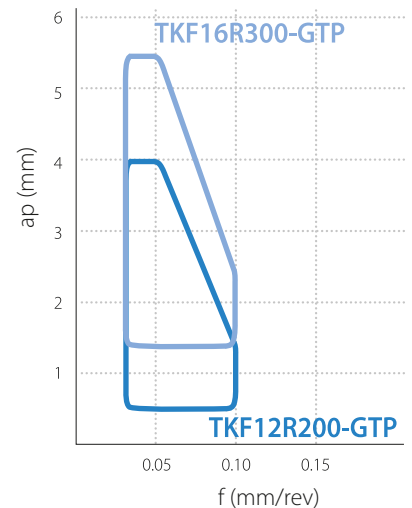
Sloped cutting edge

Sloped cutting edge reduces radial force
Great chattering resistance

Recommended chipbreaker Range (Steel)



Recommended chipbreaker Range (SUS)

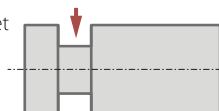


Chip control comparison (Internal evaluation)

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($\phi 25$)

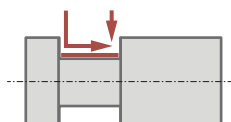


Surface finish comparison (Internal evaluation)

Turning

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

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



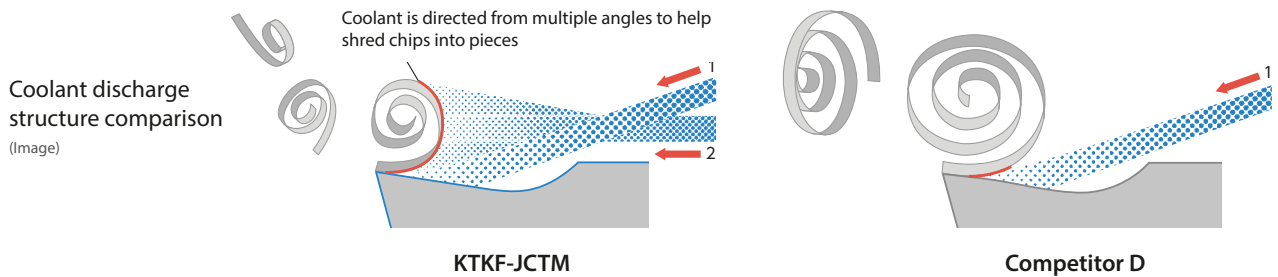
GTP Chipbreaker showed superior chip control and surface finish when compared to competitor C

Direct coolant holder for small parts machining

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

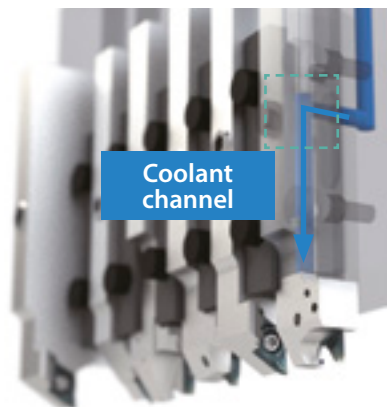
(S205/206-II□16 type,

S205A/206A-II□16 type)

Compatible with various machine including the above toolholders can be customised as well.

(Random order)

Based on Kyocera Survey in January 2021

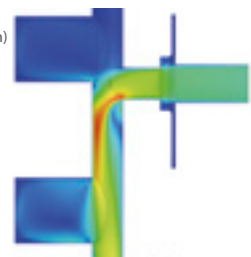


Point

Appropriate hole design to reduce energy loss based on deep analysis

Analysis Image
(Internal evaluation)

High
Flow velocity
Low

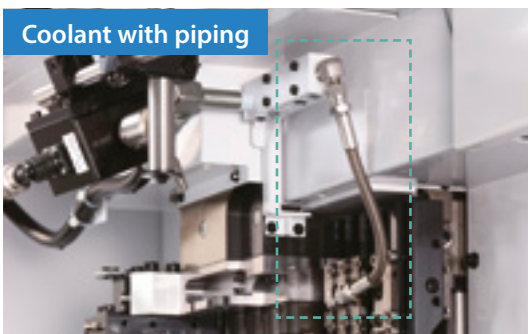


The tool turret is optional. Please contact our company sales representative for details.

Internal coolant with piping

*Piping parts: See pages 30 and 31

Coolant with piping



Compatible with internal coolant on any machine with standard piping parts

Commercial piping parts are available when using at normal pressure

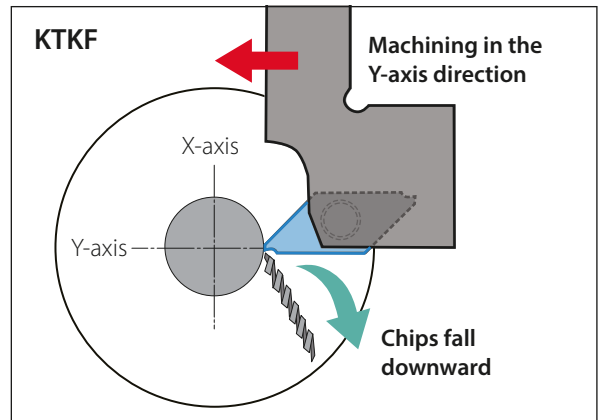
Improved chip control

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

KTKF-S

Available for sub-spindle operations

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: Maximum diameter $\phi 5 - \phi 12$

TKF16: Maximum diameter $\phi 16$

3

Provide with wide selection of inserts

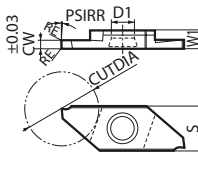
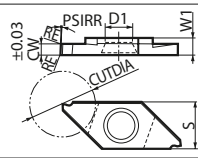
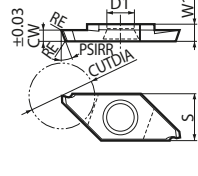
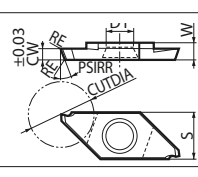
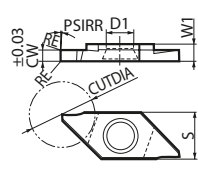
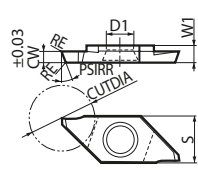
Available chipbreakers: Right lead angle, S chipbreaker, T chipbreaker and without chipbreaker.

Available insert grades: PR1725 for steel machining, PR1535 for stainless steel machining and PDL025 for aluminium machining.



Cut-off

TKF12

		Classification of usage		P	Carbon steel / Alloy steel															
		: Light interruption / 1 st choice : Light interruption / 2 nd choice : Continuous / 1 st choice : Continuous / 2 nd choice		M	Stainless steel															
				K	Cast iron															
				N	Non-ferrous metals															
Insert		Description	Dimension (mm)						Angle (°)	MEGACOAT NANO PLUS	MEGACOAT NANO		MEGACOAT		DLC coated carbide		Carbide			
			CW	S	D1	RE	W1	CUT-DIA	PSIRR	PR1725		PR1535		PR1225		PDL025		KW10		
										R	L	R	L	R	L	R	L	R	L	
		TKF12%/ 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%/ 100-T	1	8.7	5	0.08	3	12	0											
		150-T	1.5					12												
		200-T	2					12												
		TKF12%/ 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%/ 100-T-16DR	1	8.7	5	0.08	3	12	16											
		150-T-16DR	1.5					12												
		200-T-16DR	2					12												
		TKF12%/ 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%/ 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												

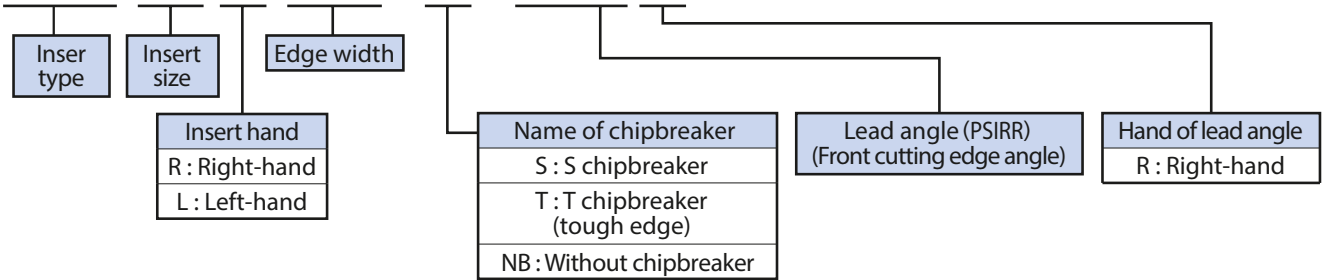
Right-hand shown

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

As Fig. 1 of page 24 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.

● : Available

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

		Classification of usage		P	Carbon steel / Alloy steel														
			Light Interruption / 1 st choice	M	Stainless steel														
			Continuous / 1 st choice	K	Cast iron														
			Continuous / 2 nd choice	N	Non-ferrous metals														
Insert		Description	Dimension (mm)						Angle (°)	MEGACOAT NANO PLUS	MEGACOAT NANO		MEGACOAT		DLC coated carbide		Carbide		
			CW	S	D1	RE	W1	CUTDIA	PSIR-R/L	PR1725		PR1535		PR1225		PDL025		KW10	
										R	L	R	L	R	L	R	L	R	L
		TKF16/L 150-S	1.5																
		200-S	2	9.5	5	0.05	4	16	0										
		TKF16/L 150-T	1.5																
		200-T	2	9.5	5	0.08	4	16	0										
		TKF16/L 150-S-16DR	1.5																
		200-S-16DR	2	9.5	5	0.05	4	16	16										
		TKF16/L 150-T-16DR	1.5																
		200-T-16DR	2	9.5	5	0.08	4	16	16										
		TKF16/L 150-NB	1.5																
		200-NB	2	9.5	5	0	4	16	0										
		TKF16/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 page 24 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.

● : Available

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

Cut-off

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..)

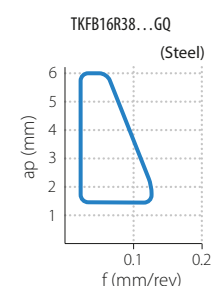
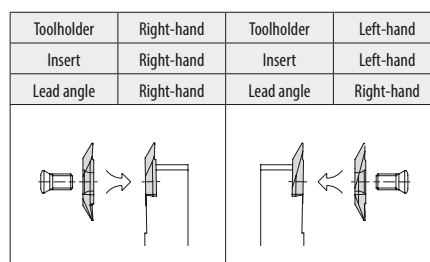
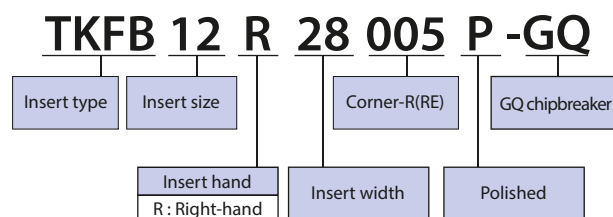
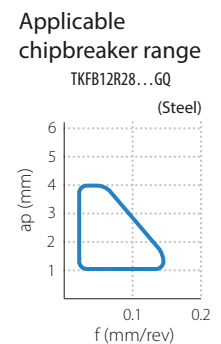
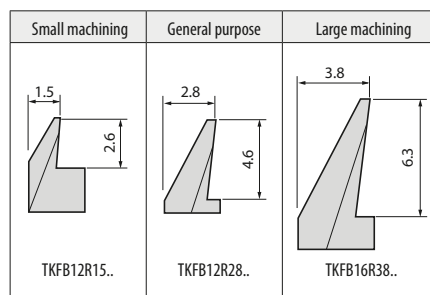
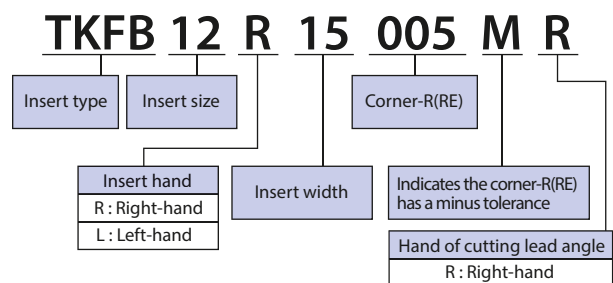
Back turning / Multi-functional

TKFB / TKF

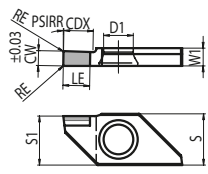
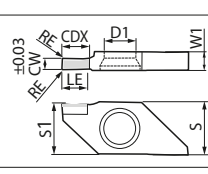
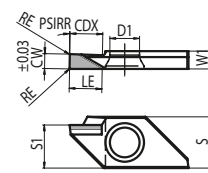
		Classification of usage				P	Carbon steel / Alloy steel										
		☛ : Light Interruption / 1 st choice				M	Stainless steel				☛		☛		☛		
		☛ : Light Interruption / 2 nd choice				K	Cast iron										☛
		● : Continuous / 1 st choice ○ : Continuous / 2 nd choice				N	Non-ferrous metals										☛
Insert		Description	Dimension (mm)								Angle (°)		MEGA-COAT NANO PLUS	MEGA-COAT NANO	MEGA-COAT	Carbide	
			CW	CDX	S	D1	RE	W1	a	PSIR-R/L	θ						
		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	-	●	●				

● : Available

Inserts identification system



TKF (PCD insert)

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

● : Available

Inserts identification system

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

Insert type	Insert size	Width (Edge width)
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

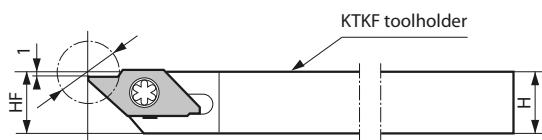
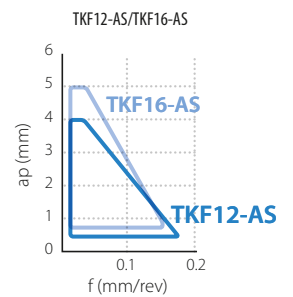
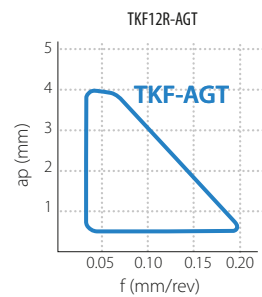


Fig. 1 When a TKF-AS insert is attached
(The cutting edge is 1mm lower than the center line)

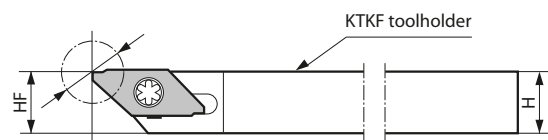


Fig. 2 When installing TKF-AGT/TKF-NB

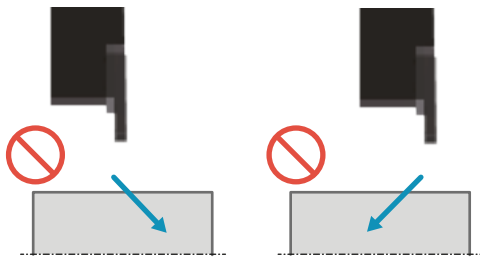
Note 1) The cutting edge of the TKF-AS will be 1 mm lower than the center line when attached to the KTKF toolholder (Ref. to Fig. 1).
Adjust the height by making NC lathe parameter settings or inserting a plate.

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

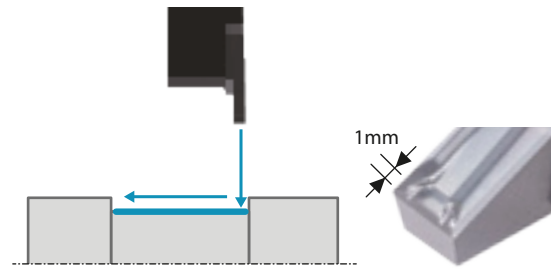
Multi-functional

Ramping



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

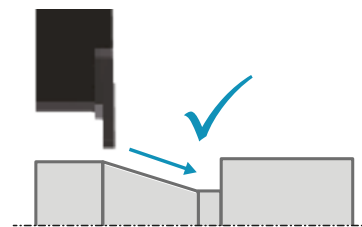
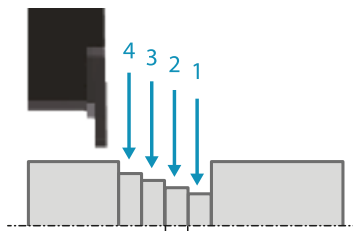
Back turning



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

Tips for ramping

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



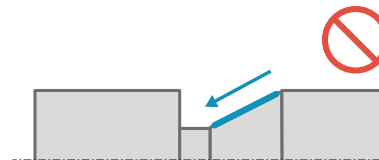
CW > →

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

Edge width

CW →

Back turning is not recommended on the tapered surface



Case studies

Spool valves

GTP chipbreaker

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

GTP Chipbreaker (Edge width : 2 mm)



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

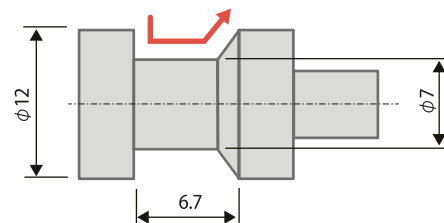
Conventional A

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

Conventional A (Edge width : 2 mm)



Chip entanglement occurred during turning (finishing).



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

(User evaluation)

Recommended cutting conditions ★ : 1st recommendation ☆ : 2nd recommendation

Back turning / Multi-functional. Diameters ø16 mm or less.

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	-		
Aluminium 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)

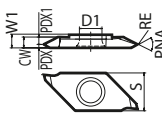
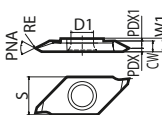
Workpiece material		MEGACOAT NANO PLUS		MEGACOAT NANO		Remarks
		PR1725		PR1535		
		Grooving	Turning	Grooving	Turning	
Carbon steel / Alloy steel	Vc (m/min)	★ 60 – 200		☆ 60 – 150		Coolant
	f (mm/rev)	0.03 – 0.07	0.05 – 0.15	0.03 – 0.07	0.05 – 0.15	
Stainless steel	Vc (m/min)	☆ 60 – 150		★ 60 – 130	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

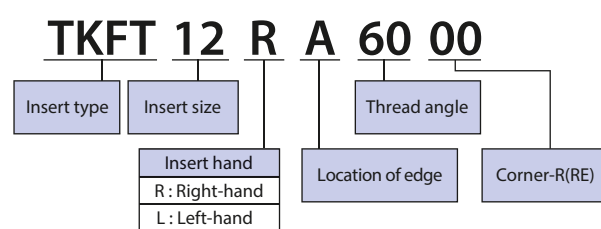
TKFT

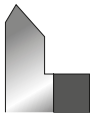
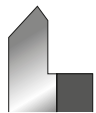
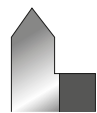
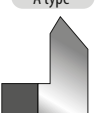
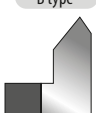
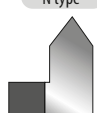
		Classification of usage		P	Carbon steel / Alloy steel		●	○	○						
		☛ : Light interruption / 1 st choice		M	Stainless steel			○	●	●					
		☺ : Light interruption / 2 nd choice		K	Cast iron						●				
		● : Continuous / 1 st choice ○ : Continuous / 2 nd choice		N	Non-ferrous metals						●				
Insert		Description	Thread type	Dimension (mm)								MEGA-COAT NANO PLUS	MEGA-COAT NANO	MEGA-COAT	Carbide
				CW	S	D1	RE	W1	PDX	PDX1	PR1725				
 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 RA6000S			2.5	8.7	5.2	0.05	3	0.8	1.7	●	●	●	●
		RB6000S								1.7	0.8	●	●	●	●
		TKFT12 RN6001			2.5	8.7	5.2	0.1	3	1.25	1.25	●	●	●	●
		TKFT12 RA5500S								0.8	1.7	●	●	●	●
	RB5500S	1.7	0.8	●	●		●								
	 Left-hand shown	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 LA6000S			2.5	8.7	5.2	0.05	3	1.7	0.8	●	●	●	●
		LB6000S								0.8	1.7	●	●	●	●
		TKFT12 LN6001			2.5	8.7	5.2	0.1	3	1.25	1.25	●	●	●	●
TKFT12 LA5500S		1.7								0.8	●	●		●	
LB5500S	0.8	1.7	●	●		●									

● : Available

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		60
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		60
TKFT12	LA55005	Parallel/ Tapered pipe Whitworth	G, R, W	-	-	40	16	55	
	LB55005								

Threading inserts identification system



Right-hand insert		
A type	B type	N type
		
TKFT12RA..	TKFT12RB..	TKFT12RN..
Left-hand insert		
A type	B type	N type
		
TKFT12LA..	TKFT12LB..	TKFT12LN..

Recommended cutting conditions

Threading

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): 0.2 mm and under			
Alloy steel	Vc=70 – 170 m/min.			-
	First ap (Radial): 0.2 mm and under			
Stainless steel	Vc = 60 – 100 m/min.			-
	First ap (Radial): 0.15 mm and under			
Cast iron	-			Vc = 100 m/min.
				First ap (Radial): 0.2 mm and under
Aluminium alloys	-			Vc = 150 – 400 m/min.
				First ap (Radial): 0.2 mm and under
Brass	-			Vc = 150 – 300 m/min.
				First ap (Radial): 0.15 mm and under

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

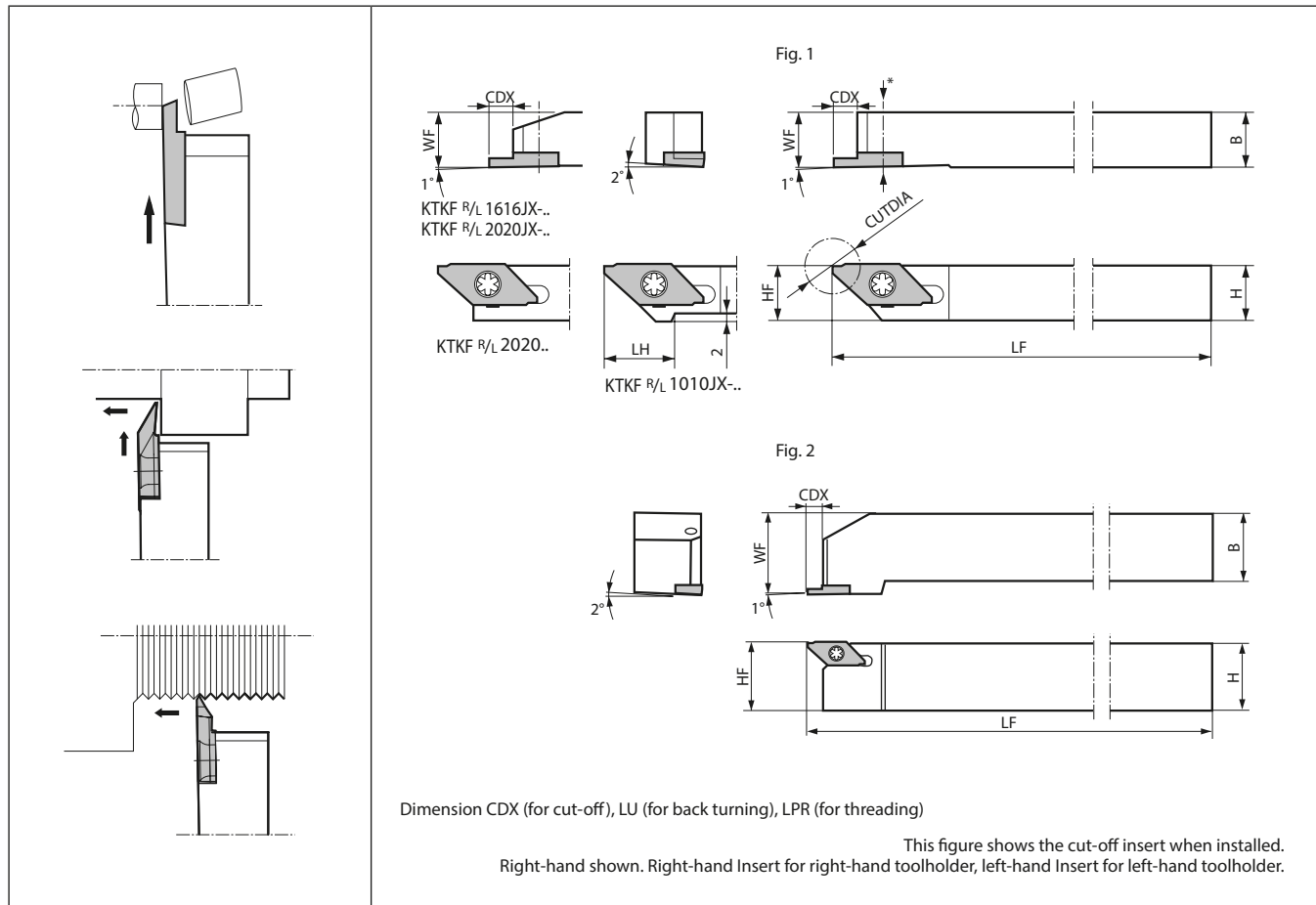
Depth of cut and number of passes

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
External thread	0.20 mm	TKFT 12%/ A/B6000	Max 0.05 Flat	0.15	4	0.06	0.04	0.03	0.02						
	0.25 mm			0.19	4	0.07	0.06	0.04	0.02						
	0.30 mm			0.23	4	0.08	0.07	0.06	0.02						
	0.35 mm			0.27	5	0.08	0.07	0.06	0.04	0.02					
	0.40 mm			0.30	5	0.10	0.08	0.06	0.04	0.02					
	0.45 mm			0.34	6	0.10	0.08	0.06	0.04	0.04	0.02				
	0.50 mm	TKFT 12%/ A/B6000	0.05	0.38	6	0.10	0.10	0.07	0.05	0.04	0.02				
		12%/ A/B60005		0.33	5	0.10	0.10	0.07	0.04	0.02					
	0.6 0mm	TKFT 12%/ A/B6000	Max 0.05 Flat	0.45	7	0.10	0.10	0.08	0.06	0.05	0.04	0.02			
		12%/ A/B60005	0.05	0.40	6	0.10	0.10	0.08	0.06	0.04	0.02				
	0.70 mm	TKFT 12%/ A/B60005	0.05	0.48	6	0.10	0.10	0.10	0.10	0.06	0.02				
	0.75 mm		0.05	0.52	7	0.10	0.10	0.10	0.08	0.07	0.05	0.02			
	0.8 0mm		0.05	0.56	7	0.10	0.10	0.10	0.10	0.08	0.06	0.02			
	1.00 mm	TKFT 12%/ A/B60005 12%/ 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			
	1.25 mm		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		
	1.50 mm	TKFT 12%/ 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

KTKF



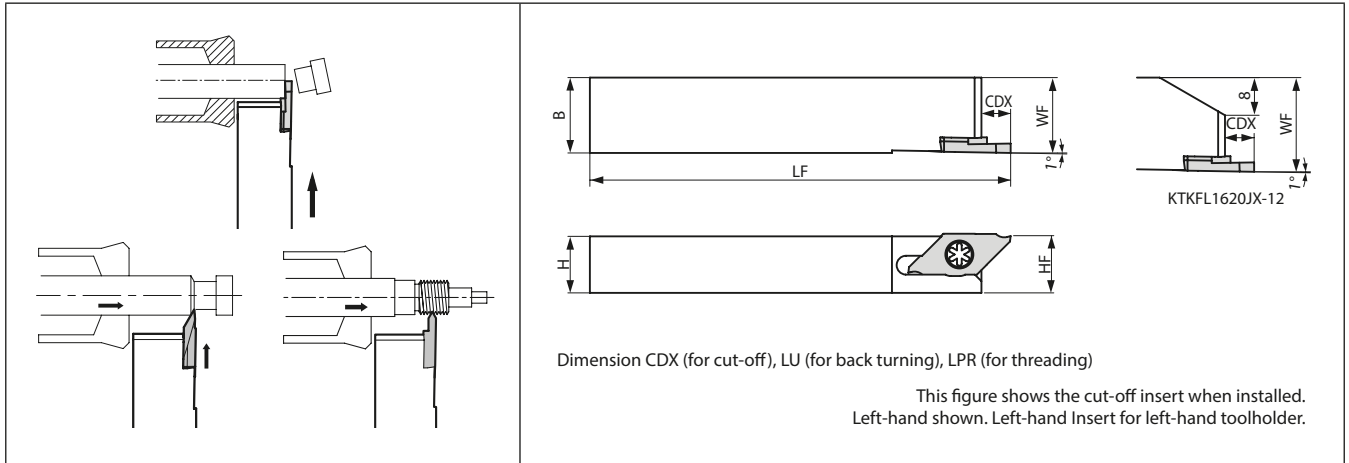
Toolholder dimensions

Description		Availability		Dimension (mm)						Fig.	Spare parts		Applicable inserts	
											Screw	Wrench		
		R	L	CDX (LU) (LPR)	H	B	LH	HF	LF		WF			
KTKF [®] /L	1010JX-12	●	●	6	10	10	15	10	120	10	1	SB-4590TRWN	FT-10	TKF12 [®] /L... TKFB12 [®] /L... TKFT12 [®] /L...
	1212F-12	●	●		12	12	-	12	85	12				
	1212JX-12	●	●		16	16		16	120	16				
	1616JX-12	●	●		20	20		20	20					
	2020JX-12	●	●		25	25		25	150	30				
	2525M-12	●												
KTKF [®] /L	1010JX-16	●	●	8	10	10	20	10	120	10	1	SB-4590TRWN	FT-10	TKF16 [®] /L... TKFB16 [®] /L...
	1212F-16	●	●		12	12	-	12	85	12				
	1212JX-16	●	●		16	16		16	120	16				
	1616JX-16	●	●		20	20		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 12 and 14)
 LU shows the distance from the toolholder to the cutting edge.
 LPR shows the distance from the toolholder to the cutting edge.
 See page 28, 29 for internal coolant type (coolant-through holders).

● : Available

KTKF (Goose-neck holder)



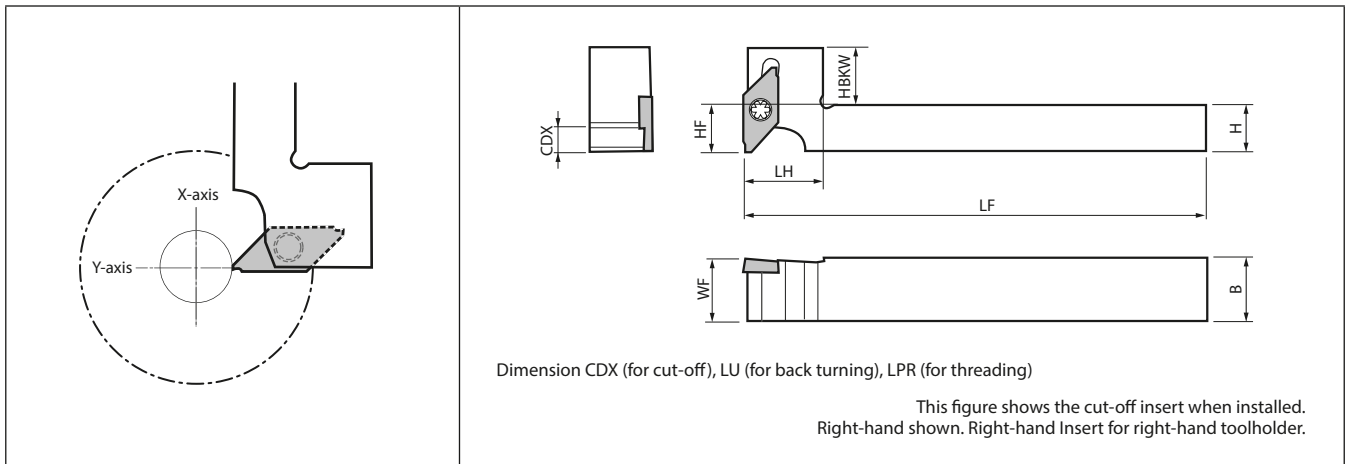
Toolholder dimensions

Description	Availability	Dimension (mm)							Spare parts		Applicable inserts
									Screw	Wrench	
		L	CDX (LU) (LPR)	H	B	HF	LF	WF			
KTKFL 1216JX-12	●	6	12	16	12	120	16	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 12 and 14)
LU shows the distance from the toolholder to the cutting edge.
LPR shows the distance from the toolholder to the cutting edge.

● : Available

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	12	16	20	12	15	120	16	SB-4590TRWN	FT-10	TKF12R..., TKFB12R..., TKFT12R...
	1616JX-12-Y	●		16		25	16	11					

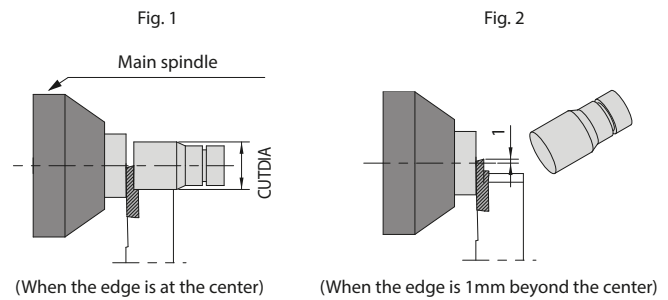
CDX shows the distance from the toolholder to the cutting edge. Actual grooving depth: CUTDIA of insert (See pages 12 and 14)
LU shows the distance from the toolholder to the cutting edge.
LPR shows the distance from the toolholder to the cutting edge.

● : Available

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)

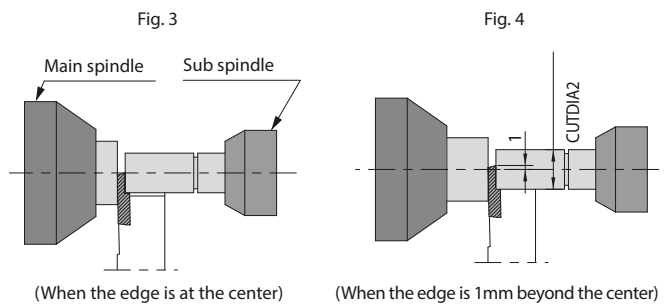


When using both main and sub spindles

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 1 mm beyond the center.

Workpiece maximum, CUTDIA2 (Fig. 4) = $[CUTDIA - 1 \text{ mm} \times 2]$ (mm)
 (The clearance between the insert and the workpiece is 0.2 mm)



How to select edge preparation

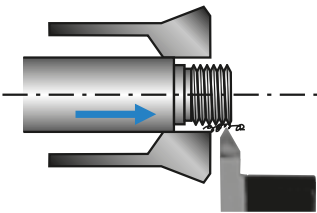
Troubleshooting

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)

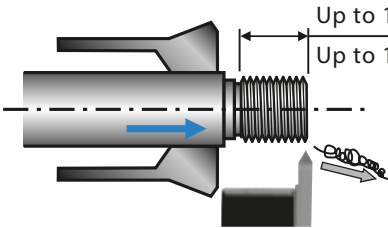
Goose-neck holder is applicable to automatic lathes whose toolholder does not move to longitudinal direction (Z-axis direction).

Conventional tool



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

Goose-neck holder



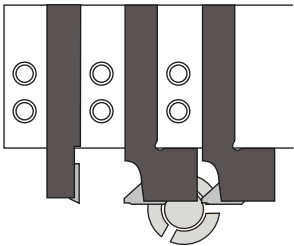
Up to 15mm (1216 type)
Up to 19mm (1620 type)

Goose-neck holder is capable of threading without returning the thread part into the guide bush (thread length up to 15 mm or 19 mm).

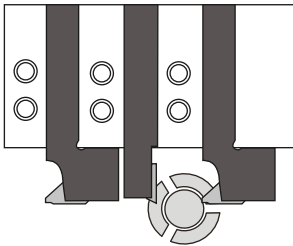
Precautions for using Y-axis toolholder

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

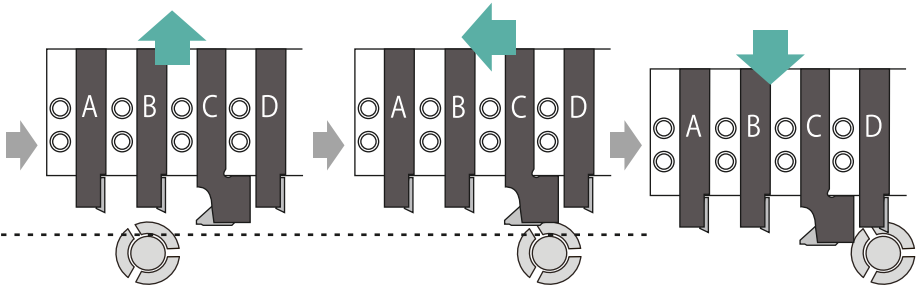
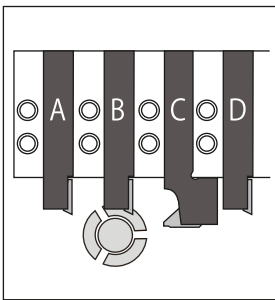


Without interference



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)



Release the tool turret with reference to the overhang amount of the Y-axis toolholder.

Tool turret direction

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

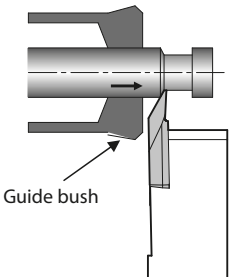
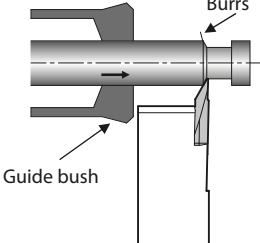
(Unit : mm)

Y-axis toolholder overhang	Examples	Overhang amount : L	20	22	25
Available outside cutting dia. (ø)					
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

How to select back turning toolholder hand

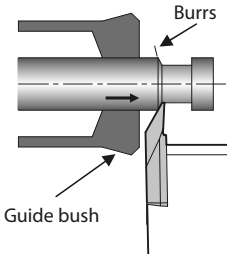
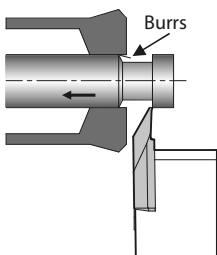
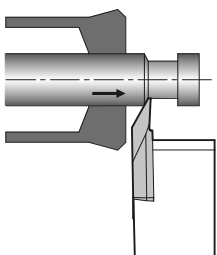
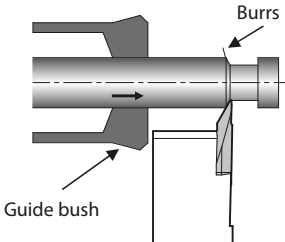
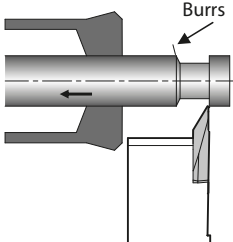
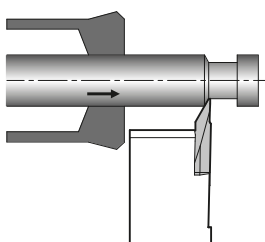
Toolholders for back turning

TKFB insert

Right-hand		• Machining near the guide bush is possible. • Because of narrow width of edge (1.5 mm), 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.

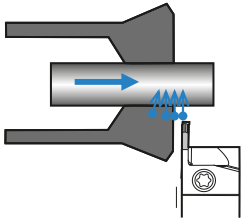
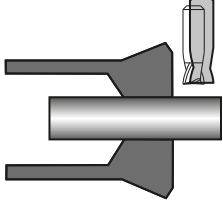
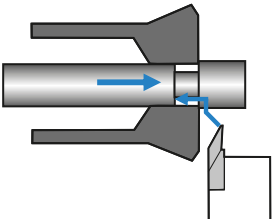
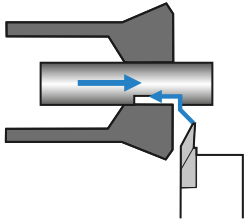
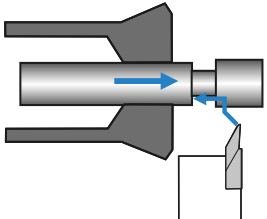
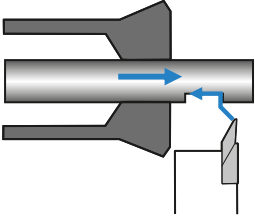
Workpiece material motion and how to select hand of tool

When roughing, medium, and 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

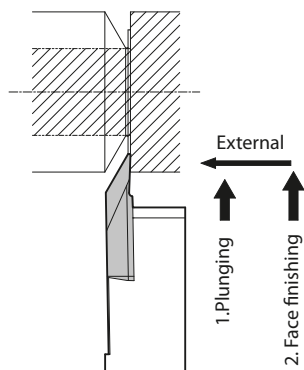
	Chip control improvement by tool pass changes - 1	Chip control improvement by tool pass changes - 2
Roughing	Roughing with grooving tools 1. GMM2420-020MW (Grooving) 	Pre-Stage machining is processed with solid end mill 1. Solid end mill 
Finishing (Countermeasures 1) Use right-hand toolholder	When using 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.

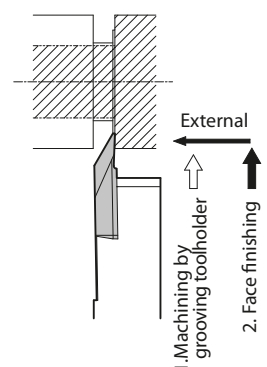
Countermeasures 1

Face finishing

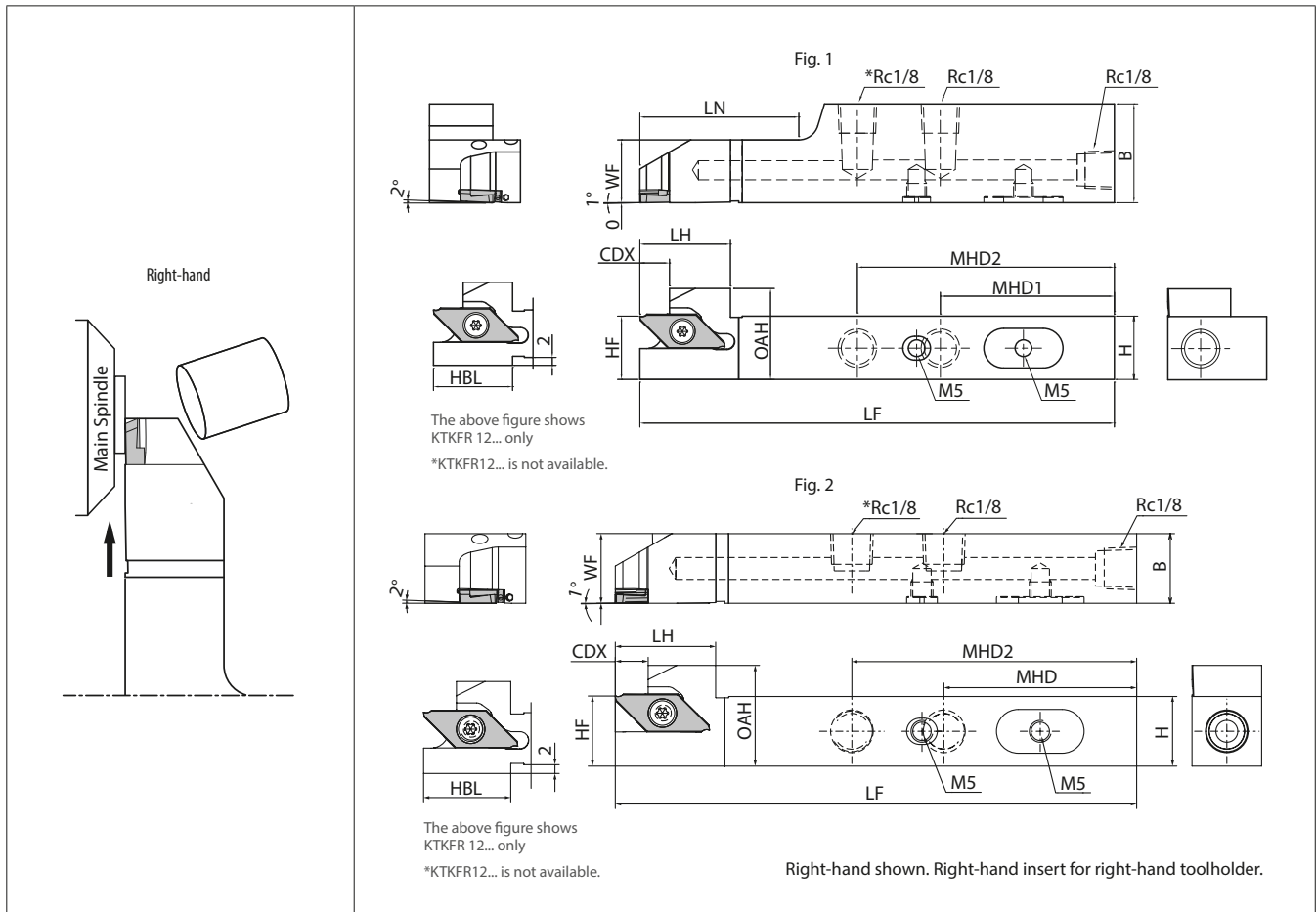


Countermeasures 2

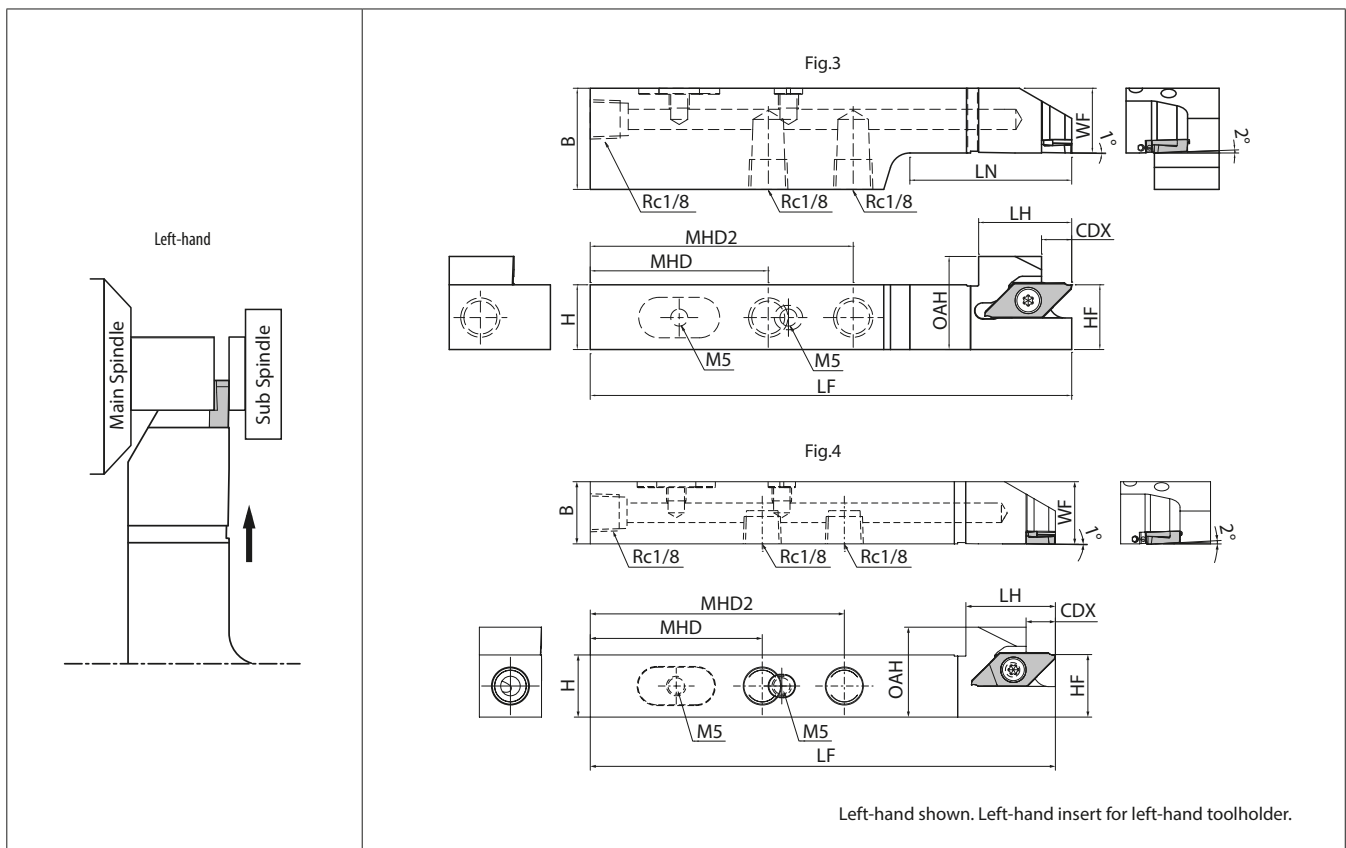
Face finishing
after grooving



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			Plug 1	Plug 2	Screw	Wrench	
																					
KTKFR	1218JX-12JCTM	●	7.5	12	18	20	19	54	-	12	20	120	28	12	1	Yes	GP-1		SB-4590TRWN	FT-10	TKF12R...
	1625JX-12JCTM	●		16	25	23	44	65	16	-	40		16								
	2025JX-12JCTM	●		20		27	20	-	20												
KTKFR	1212JX-12JCTM	●	7.5	12	12	20	19	59	-	12	20	120	-	12	2	Yes	GP-1		SB-4590TRWN	FT-10	TKF12R...
	1616JX-12JCTM	●		16	16	23	44	65	16	-	16										
	2020JX-12JCTM	●		20	20	27	27	20	-	20											
KTKFR	1625JX-16JCTM	●	9.6	16	25	23	23	44	65	16	-	120	40	16	1	Yes	GP-1	HSSX4LP	SB-4590TRWN	FT-10	TKF16R...
	2025JX-16JCTM	●		20		27	20	-	41	20											
KTKFR	1616JX-16JCTM	●	9.6	16	16	23	23	44	65	16	-	120	-	16	2	Yes	GP-1	HSSX4LP	SB-4590TRWN	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 12 and 14).
 *For coolant holder piping parts see pages 30 and 31.

● : Available

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			Plug 1	Plug 2	Screw	Wrench	
																				
KTKFL	1625JX-12JCTM	●	7.5	16	25	23	23	44	65	16	120	40	16	3	Yes	GP-1	H55X4LP	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	H55X4LP	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	H55X4LP	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	H55X4LP	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 12 and 14).
 *For coolant holder piping parts see pages 30 and 31.

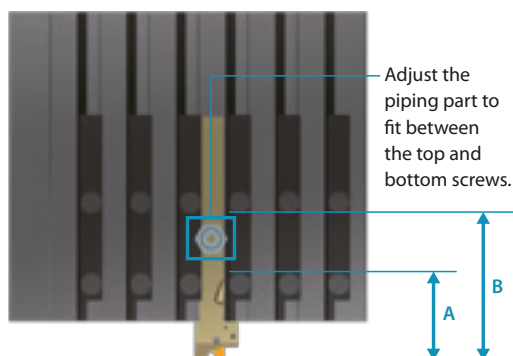
● : Available

Piping part interference avoidance

Rectangular shanks (KTKFR1218..., KTKFR^R/L1625, KTKFR^R/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.

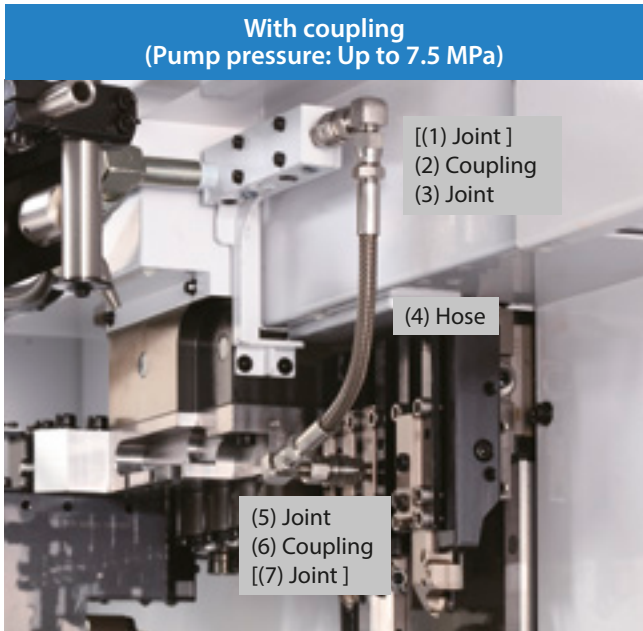
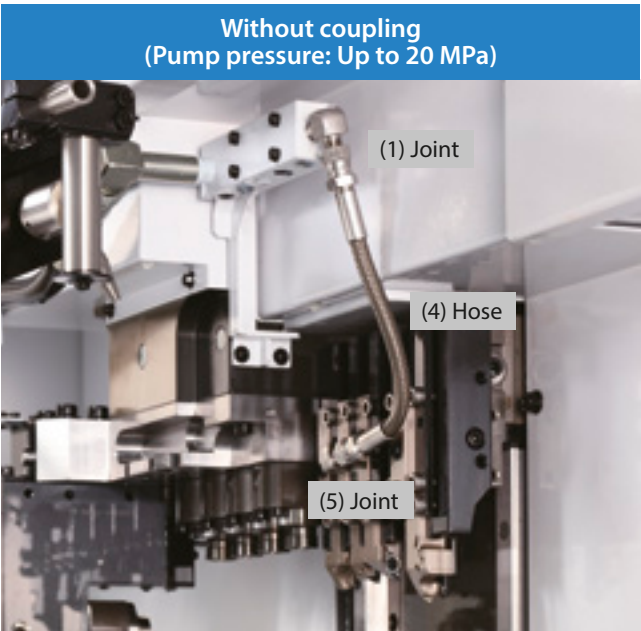


Shank size	Availability of square shank use
□12	"A" shorter than 51.5 mm and "B" longer than 68.5 mm → Available Other than the above conditions → Use J-**-R1/8-G1/8-L or a rectangular shank
□16 / □20	Available

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)

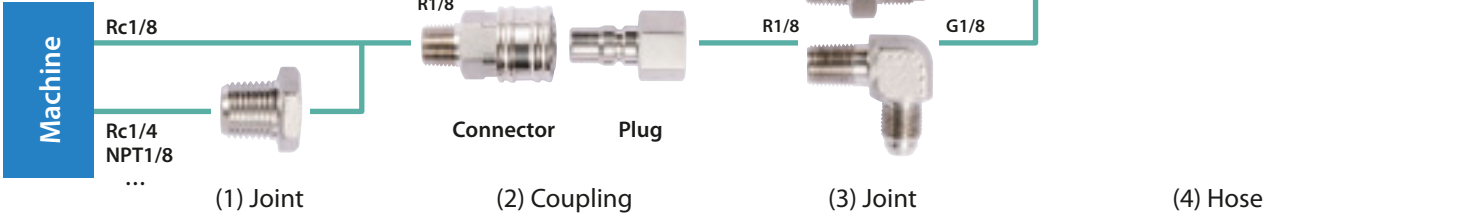
Spare parts	Description
[(1) Joint]	-
(2) Coupling	CP-ST-R1/8 • P-ST-RC1/8
(3) Joint	J-AN-R1/8-G1/8
(4) Hose	HS-G1/8-G1/8-200
(5) Joint	J-AN-R1/8-G1/8
(6) Coupling	P-ST-RC1/8 • CP-ST-R1/8
[(7) Joint]	-

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)



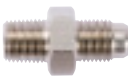
With coupling (Pump pressure : Up to 7.5MPa)



Piping parts dimensions

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

(Unit: mm)

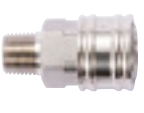
Shape	Description	Stock	ød1	ød2	L	L1	L2	T1	T2
	J-ST-R1/4-G1/8	●	5.5	4.0	34	13	13	R1/4	G1/8
	J-ST-NPT1/8-G1/8	●	3.5	3.5	29	10	13	NPT1/8	G1/8
	J-ST-R1/8-G1/8	●	4.0	4.0	29	10	13	R1/8	G1/8
	J-ST-R1/8-G1/8-L	●	4.0	4.0	40	20	14	R1/8	G1/8
	J-ST-R1/8-G1/8-L	●	4.0	4.0	40	20	14	R1/8	G1/8
	J-AN-R1/8-G1/8	●	4.0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

● : Available

Coupling (2, 6) Pressure up to 7.5 MPa

(Unit: mm)

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

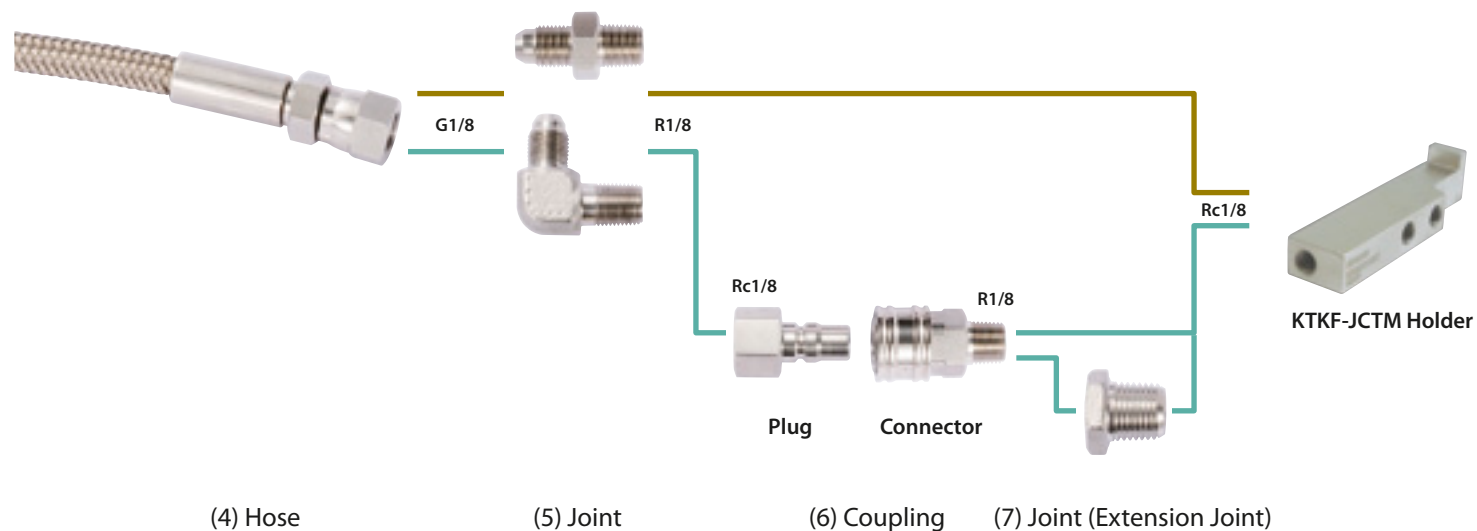
● : Available

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

● : Available



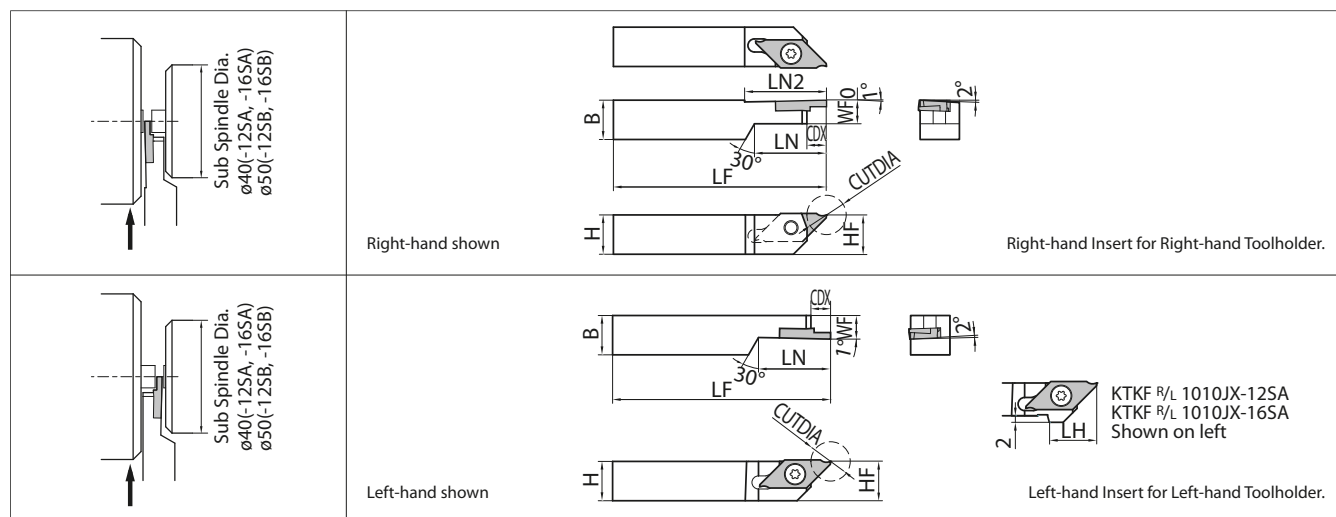
(4) Hose

(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
												Screw	Wrench	
		R	L	CDX	H	B	LH	HF	LF	LN	LN2	WF		
KTKF ^{R/L} 1010JX-12SA	●	●	6	10	10	15	10	120	22	26	7.2	SB-4570TRN	FT-10	TKF12%...
	1212F-12SA	●		●	12	12	-	12						
KTKF ^{R/L} 1212JX-12SB	●	●						120	26					
KTKF ^{R/L} 1010JX-16SA	●	●	8	10	10	20	10	120	22	30	7.2	SB-4570TRN	FT-10	TKF16%...
	1212F-16SA	●		●	12	12	-	12						
KTKF ^{R/L} 1212JX-16SB	●	●						120	26					

CDX shows the distance from the toolholder to the cutting edge.
Cut-off diameter (CUTDIA) depends on the insert edge width.
See page 12, 14 for the actual cut-off diameter.
Only right-hand is available for LN2 dimension.

● : Available

KTKF / KTKF-S selection reference

KTKF		KTKF-S	
Both right-hand and left-hand types are applicable to gang tool post. Basically left-hand type is used for cut-off operation using a sub spindle.		When machining workpiece with small diameter, use KTKF-S to reduce overhang distance from the main spindle.	
KTKF R (Right-hand toolholder) <1st. Recommendation> Use insert with lead angle to remove boss. · Not using sub spindle · Cut-off operation near main spindle side		KTKF L (Left-hand toolholder) <1st. Recommendation> Use insert without lead angle. · Using sub spindle · Cut-off operation near sub spindle side	
KTKF R-SA/B (Right-hand toolholder) <How to select> · Long workpiece and more rigidity · Cut-off operation near main spindle side <How to select> LN dimension · Sub Spindle Dia. ø40→22(SA type) ø50→26(SB type)		KTKF L-SA/B (Left-hand toolholder) <How to select> · Short workpiece and less rigidity · Cut-off operation near sub spindle side <How to select> LN dimension · Sub Spindle Dia. ø40→22(SA type) ø50→26(SB type)	



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