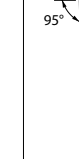
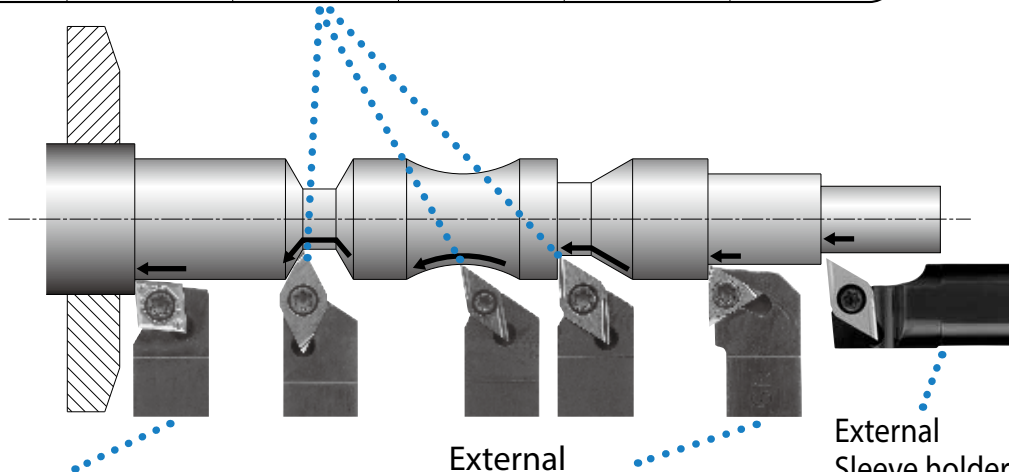


Introduction		E2
Toolholders for back turning		E12
TKF / TKFB insert	KTGF	E15
	KTGF Goose-neck holder / KTGF-Y Y-axis toolholder	E16
ABS15 insert	AABS-40F / SABS-40F	E20
ABW15 insert	AABW-40F / SABW-40F	E21
ABW23 insert	AABW-50F / SABW-50F	E22
Goose-neck toolholders		E23
DC insert	SDJC	E23
VP insert	SVLP	E24
External toolholders		E26
CC insert	ACLC-FF / SCLC-FF	E26
	SCLC-FFJCTM	E27
	SCLC	E28
DC insert	ADJC-FF / SDJC-FF	E29
	SDJC-FFJCTM	E30
	SDJC	E31
	SDJC-FF-Y	E32
	SDLC-FF / SDXC	E34
	SDNC-F / SDNC	E35
	SDLP-FF	E37
TC insert	STGC	E38
TP insert	STGP	E39
VB insert	AVJB-FF / SVJB-FF / SVJB-FFJCTM / SVJB / SVPB / SVVB	E40
VC insert	SVJC-FF / SVLC-FF / SVPC-FF / SVVC	E44
VP insert	SVJP-FF / SVJP-FFJCTM / SVLP-FF / SVPP-FF	E47
ZB insert	SZLB / SZPB / SZVBN	E52
External sleeve holder		E54
CC insert	S...SCLC	E54
DC insert	S...SDUC/S...SDLC	E55
VB insert	S...SVUB	E58
VC insert	S...SVUC	E59
Toolholders for small double sided tooling		E60
CN insert	SCLN-FF	E60
DN insert	SDLN-FF	E61
TN insert	STLN-FF	E62
Toolholders for double sided tooling for automatic lathes		E63
CN insert	PCLN-FF	E63
TN insert	PTLN-FF	E64
Recommended cutting conditions		E65

Summary of External turning

External / Copying

							
ADJC-FF	SDJC-FF(JCTM) SDJC-FF-Y	SDJC	SDLC-FF SDLP-FF	SDLN-FF	SDNC-F	SDNC	SDNC
Back clamp Without offset	Screw clamp Without offset	Screw clamp	Screw clamp Without offset	Screw clamp Without offset	Screw clamp	Screw clamp	Screw clamp
➡ E29	➡ E29, E30, E32	➡ E31	➡ E34, E37	➡ E61	➡ E35	➡ E35	➡ E35



External / Facing

			
ACLC-FF	SCLC-FF(JCTM)	SCLC	SCLN-FF
Back clamp Without offset	Screw clamp Without offset	Screw clamp	Screw clamp Without offset
➡ E26	➡ E26, E27	➡ E28	➡ E60

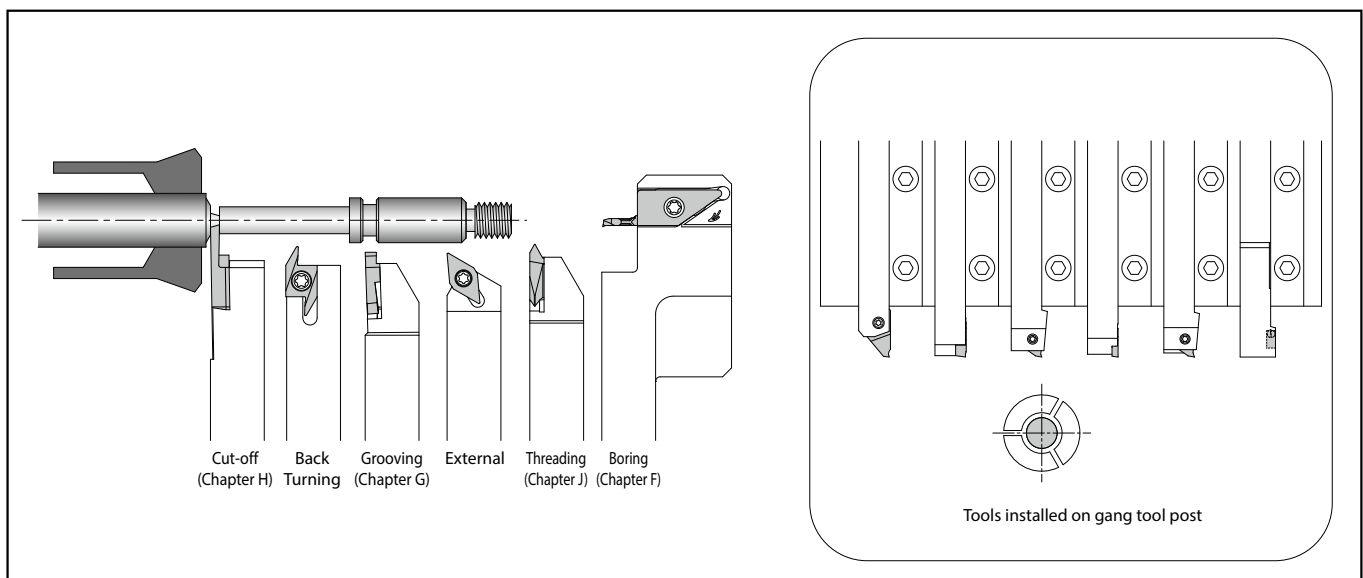
External

	
STGC(P)	STLN-FF
Screw clamp	Screw clamp Without offset
➡ E38, E39	➡ E62

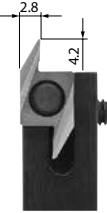
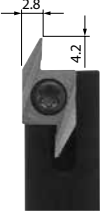
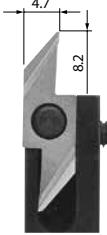
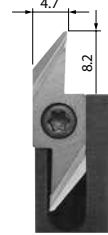
External
Sleeve holder

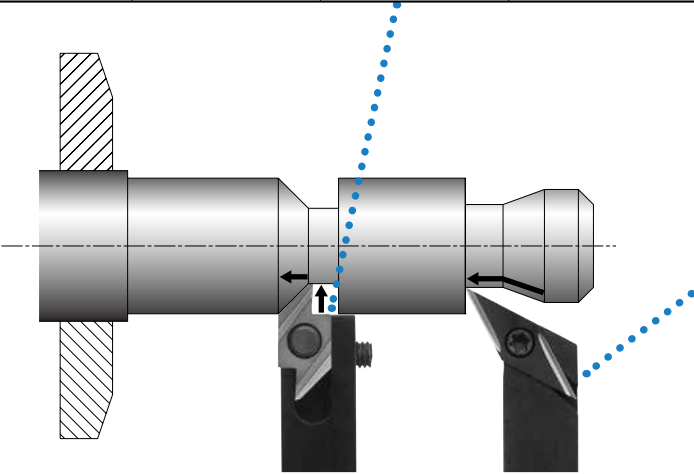

S-SDLC
Screw clamp Shank dia. ø12~ø25.4
➡ E56

Tooling example (1) CNC Automatic lathe (Gang type)



Back turning

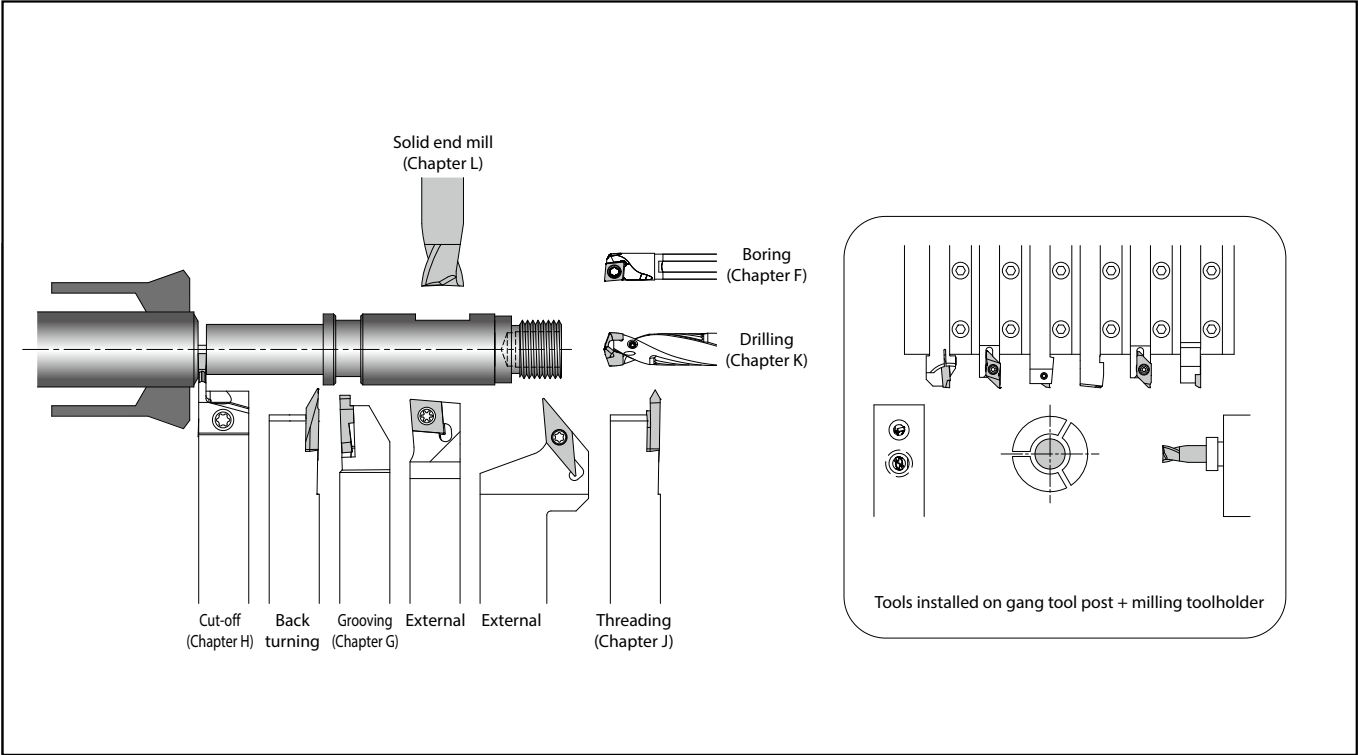
						
AABS-40F	SABS-40F	AABW-40F	SABW-40F	AABW-50F	SABW-50F	KTKF
Back clamp Edge width : 2.8 ap : ~4.0	Screw clamp Edge width : 2.8 ap : ~4.0	Back clamp Edge width : 4.7 ap : ~4.0	Screw clamp Edge width : 4.7 ap : ~4.0	Back clamp Edge width : 4.7 ap : ~5.0	Screw clamp Edge width : 4.7 ap : ~5.0	Screw clamp Edge width : 1.5~3.8 Max. ap : 1.8~5.5
E20	E20	E21	E21	E22	E22	E15, E16



External / Facing / Copying / Undercutting

	
SVPB	SVPP-FF
Screw clamp	Screw clamp Without offset
E42	E49

Tooling example (2) CNC Automatic lathe (Gang type)



How to use goose-neck holder for swiss tool automatic lathe (Gang type tool post)



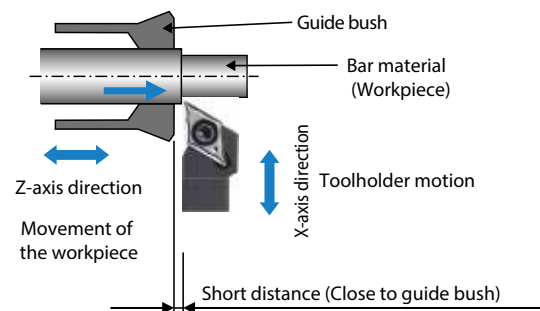
E

Swiss tool automatic lathe (Guide bush system)

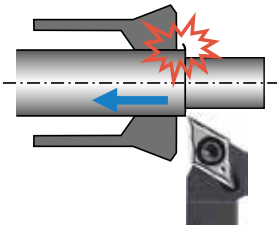
Goose-neck holder is applicable to automatic lathes whose toolholder does not move to longitudinal direction (Z-axis direction).

In case of machining with the conventional toolholder

Goose-neck holder is applicable to automatic lathe that toolholder does not move to longitudinal direction (Z-axis direction)

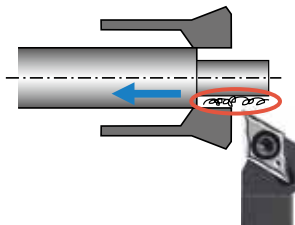


Problems of machining with the conventional toolholder



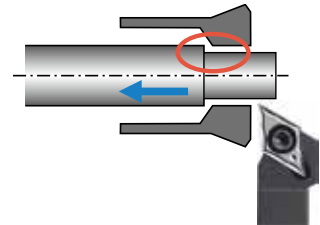
Case 1

During multiple passes, when bar material returns into guide bush, the burr contacts and breaks guide bush.



Case 3

During multiple passes, when bar material returns into guide bush, the chips contacts and breaks guide bush.



Case 4

Bar material deviation from the guide bush disables machining.

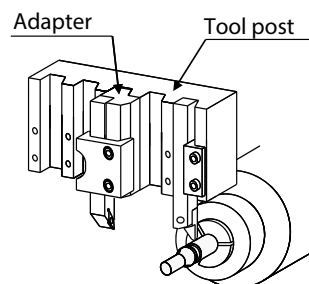
Case 2

The workpiece burr contacts the guide bush and causes dimensional variation.

Problems of toolholder Installation

When using a conventional toolholder

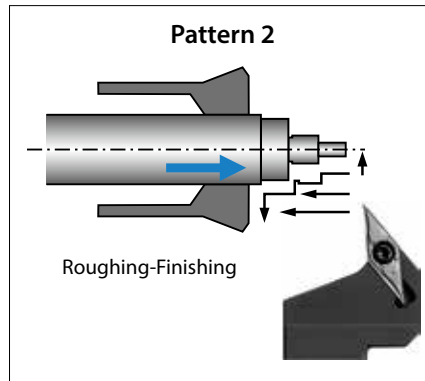
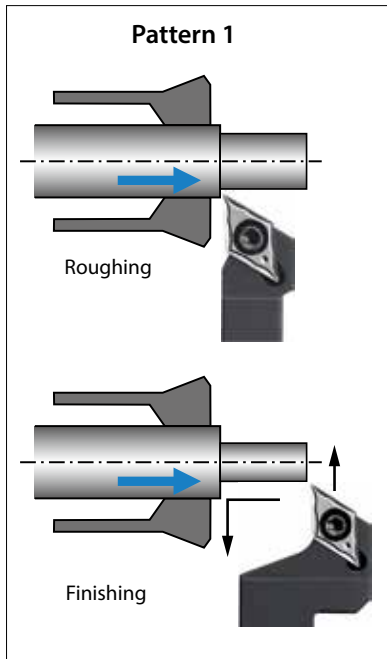
1. Additional space is required for an adapter.
2. Toolholder's handling is difficult due to limited space.
3. Necessary to buy an adapter.
4. An adapter may interfere with the next tool post.



Advantages of goose-neck holder

When using goose-neck holder

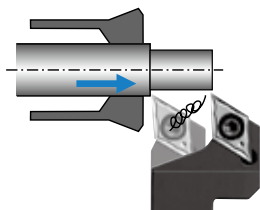
1. Machining precision improves by additional finishing process.
2. Chips do not come into the guide bush.
3. Better chip control due to large chip evacuation space.



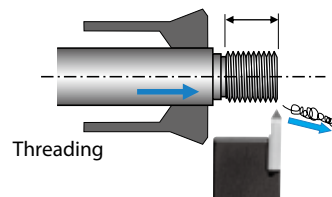
Available for roughing and finishing with one Goose-neck holder.

Available for machining after roughing without returning bar material into guide bush, preventing damages and improving precision.

For better chip control



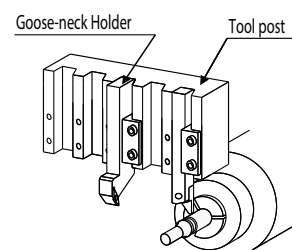
Optimum cutting edge position and large space for efficient chip evacuation.



With conventional threading toolholders, chip biting into guide bush can cause damages on threads.

Advantages of Toolholder installation - When using a goose-neck holder

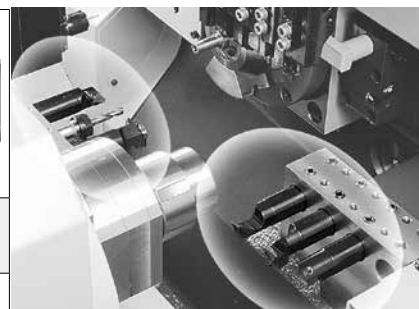
1. Maximum number of toolholders can be attached.
2. No interference with next tool post.



Summary of External turning

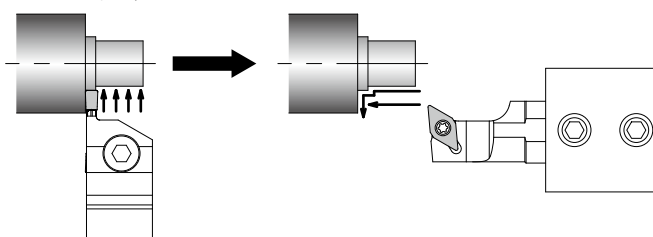
External sleeve holder

			
S-SCLC	S-SDUC	S-SDLC	S-SVUB(C)
Screw clamp Shank dia. $\phi 12 \sim \phi 25.4$	Screw clamp Shank dia. $\phi 14 \sim \phi 25.4$	Screw clamp Shank dia. $\phi 12 \sim \phi 25.4$	Screw clamp Shank dia. $\phi 12 \sim \phi 25.4$
 E54	 E55	 E56	 E58, E59



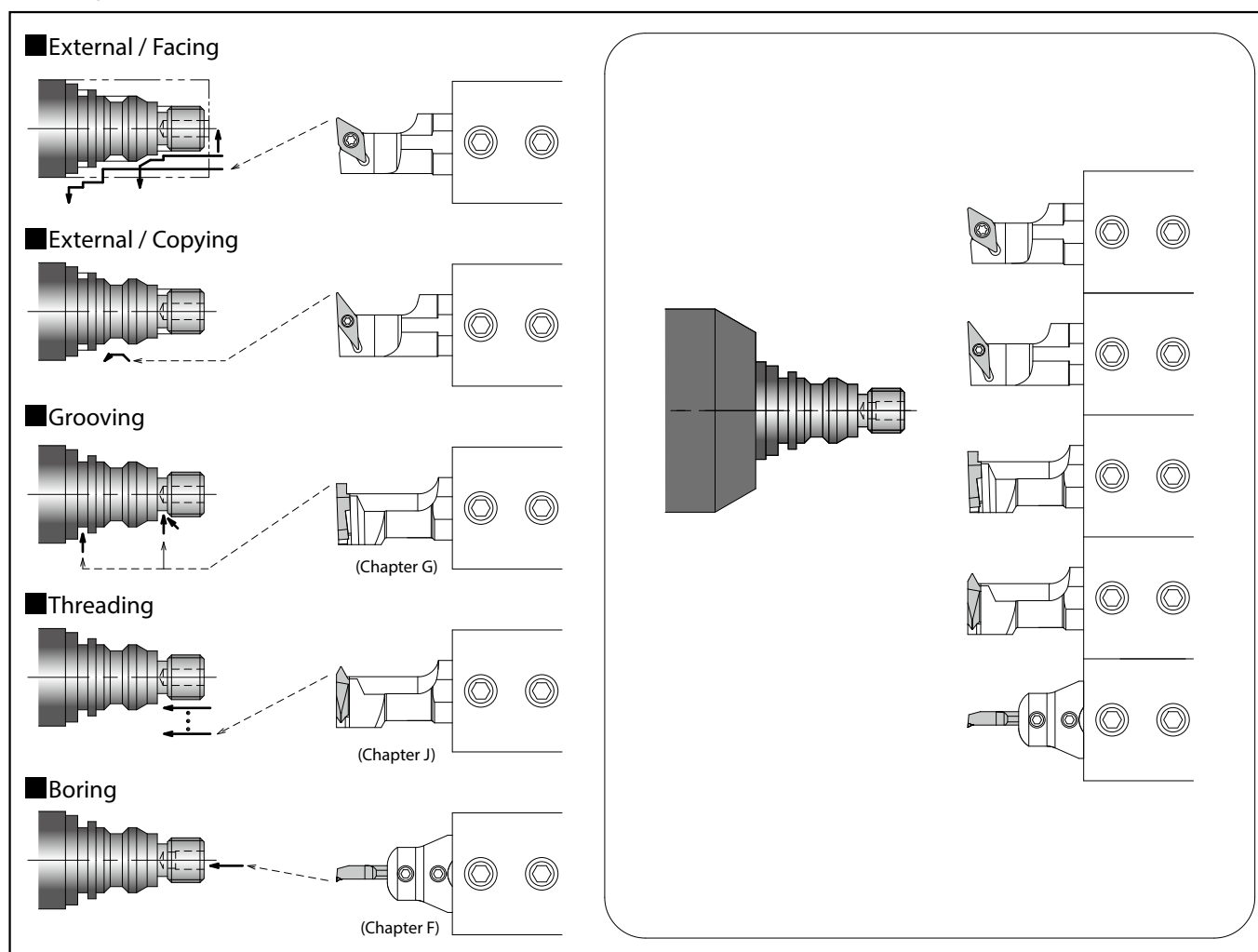
For tooling layout and automatic lathe list by manufacturer, See page  R46~R54

● Finishing by sleeve holder



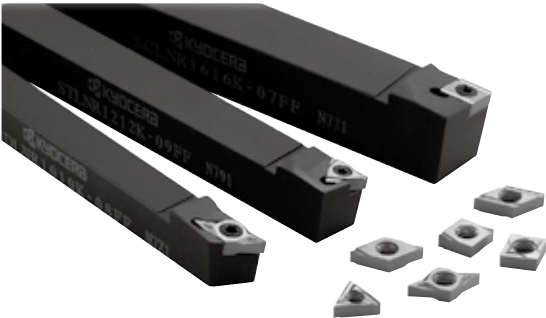
- 1) Roughing by grooving toolholder
- 2) Finishing by sleeve holder improves chip control and reduces cutting time

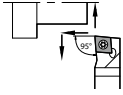
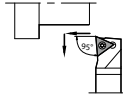
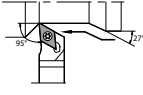
Tooling example (3) CNC automatic lathe (Opposed gang type)



For tooling layout and automatic lathe list by manufacturer, See page  R46~R54

Toolholders for small double sided tooling (Screw clamp)

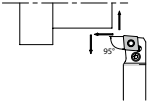
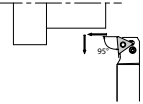


Applications	External / Facing	External / Up Facing	External / Copying
Cutting edge angle	95°	95°	95°
Screw clamp (Without offset)			
See page	E60	E62	E61

Newly designed negative inserts (double-sided) enable high productivity and stability by economical doubled insert edge numbers
Sharp cutting equivalent to positive inserts (single-sided)

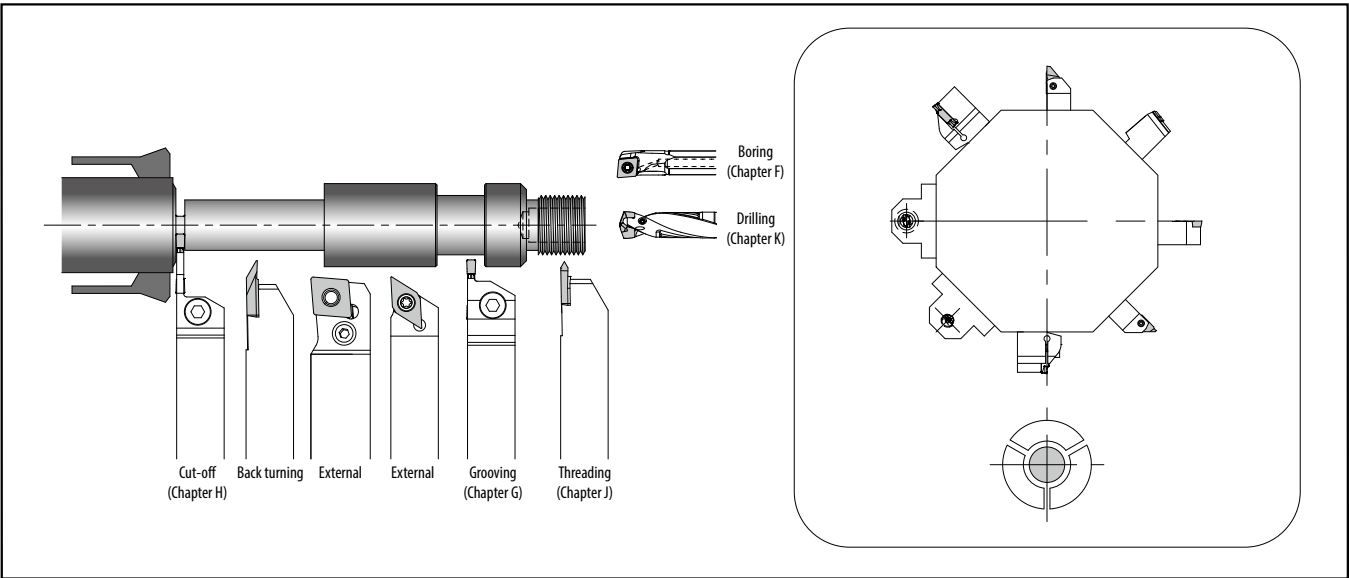
Toolholder for double sided tooling for automatic lathe
(Lever Lock, Without Offset)



Applications	External / Facing	External / Up Facing
Cutting edge angle	95°	95°
Lever lock (Without offset)		
See page	E63	E64

The lever lock type is available for small parts machining for external machining

Tooling example (4)



For tooling layout and automatic lathe list by manufacturer, See page [R46~R54](#)

JCTM Series direct coolant holder for small parts machining

JCTM Series

Applicable to different supply styles.

Supports internal coolant with/without piping system.

Lineup of turning, grooving (KGBF), and cut-off (KGZ/KGD/KTKF) holders

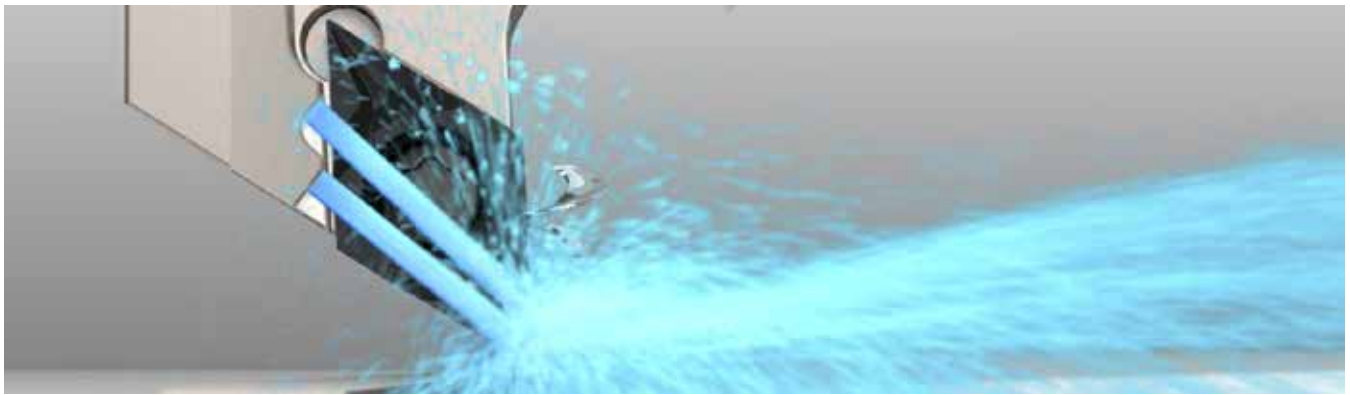
E



Small tools

1

Using internal coolant to enhance tool performance



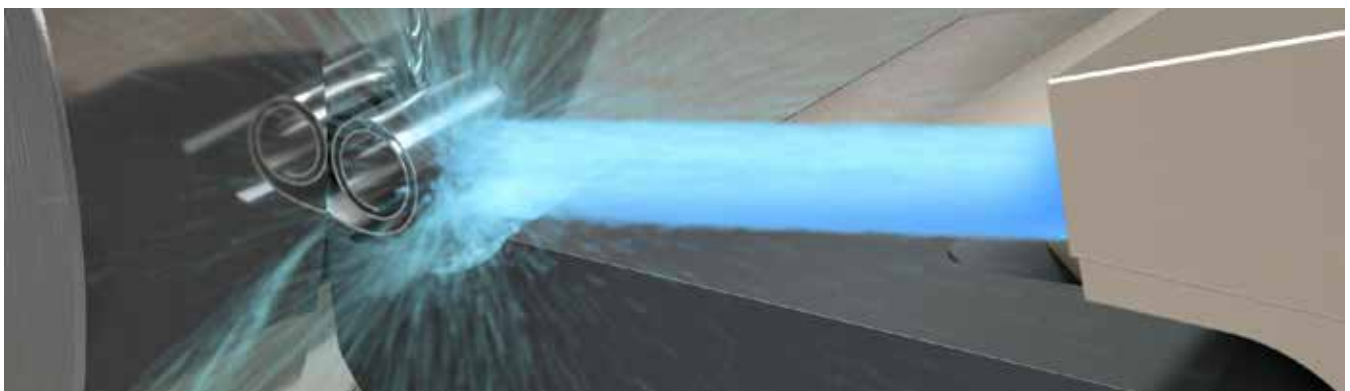
CG Image

Challenges

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

Solution

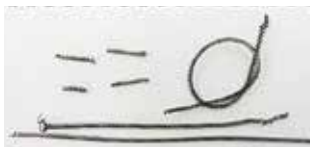
- The JCTM series is compatible with internal coolant supply system in a wide range of machines and also works under normal pressure
- Reduces down time by improving chip control and reduces cost by extending tool life



CG Image

Switching to internal coolant toolholder reduces chip entanglement

Internal coolant (2.5 MPa)



External coolant



Pin Alloy tool steel (SKS93, JIS)

$V_c = 180 \text{ m/min}$, $a_p = 1.4 \text{ mm}$

$f = 0.13 \text{ mm/rev}$, wet

SDJC / DCMT11T304 type (User evaluation)

2

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

Internal coolant without piping

*When the tool turret supports direct coolant

NEW

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

Applicable to wide range of machines

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

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

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

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

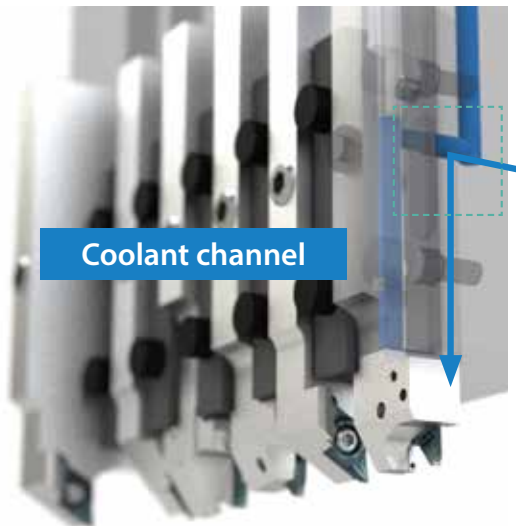
Compatible with various machine including the above. Toolholders can be customized as well.

(Random order)
Based on Kyocera survey in January 2021

E



Small tools



Point

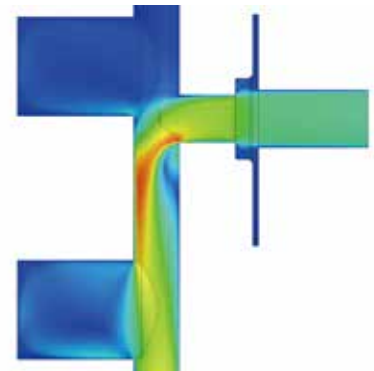
Appropriate hole design to reduce energy loss based on deep analysis

Analysis image (Internal evaluation)

High

Flow velocity

Low

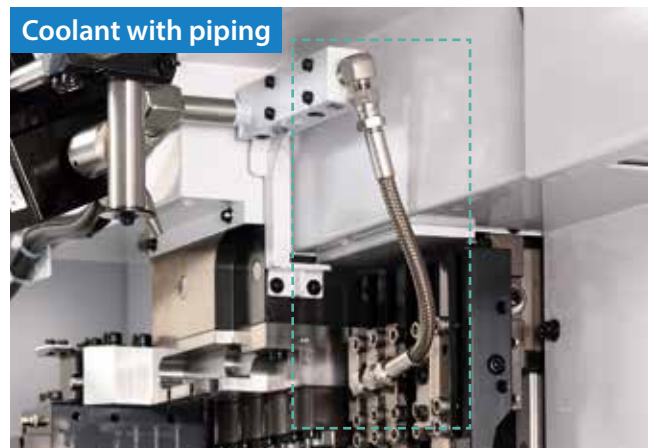


Internal coolant with piping

Compatible with internal coolant on any machine with standard piping parts

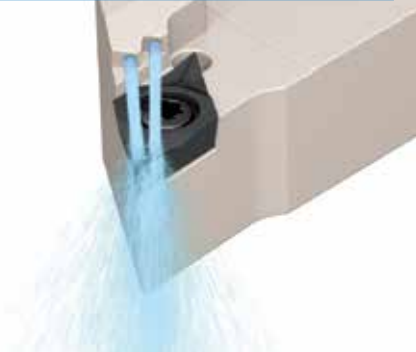
Commercial piping parts are available when using at normal pressure

Coolant with piping



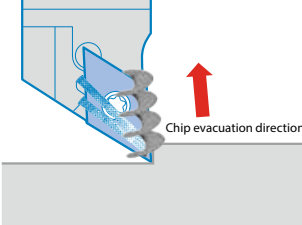
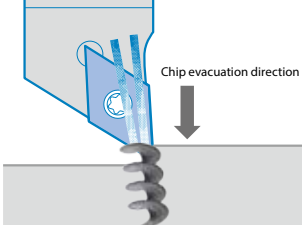
3 Large lineup for various tooling operations

Turning Screw clamp - JCTM

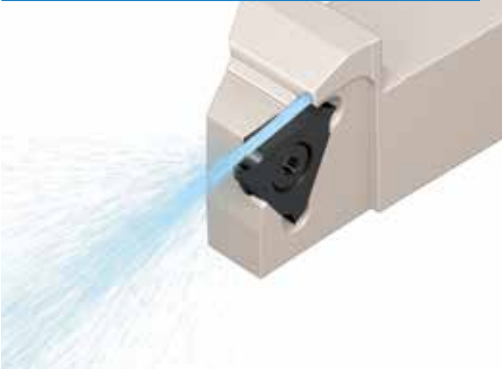


- Double coolant holes
Provide coolant toward the rake face of the insert
(V Type □12: Single hole)
- Lineup
SCLC-JCTM / SDJC-JCTM
SVJB-JCTM / SVJP-JCTM

Coolant supply structure comparison (Internal evaluation) (Image)

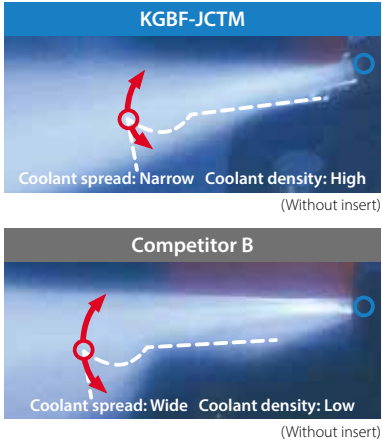
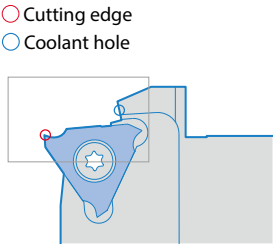
Screw clamp- JCTM	Competitor A
Discharges coolant toward the rake surface of insert	Discharges coolant down onto the chip forcing the chip into the part
	
Chip control performance ✓ Provides stable chip curls	Chip control performance Chip becomes unstable
Cooling effect ✓ The cutting edge stays cool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

External grooving KGBF-JCTM

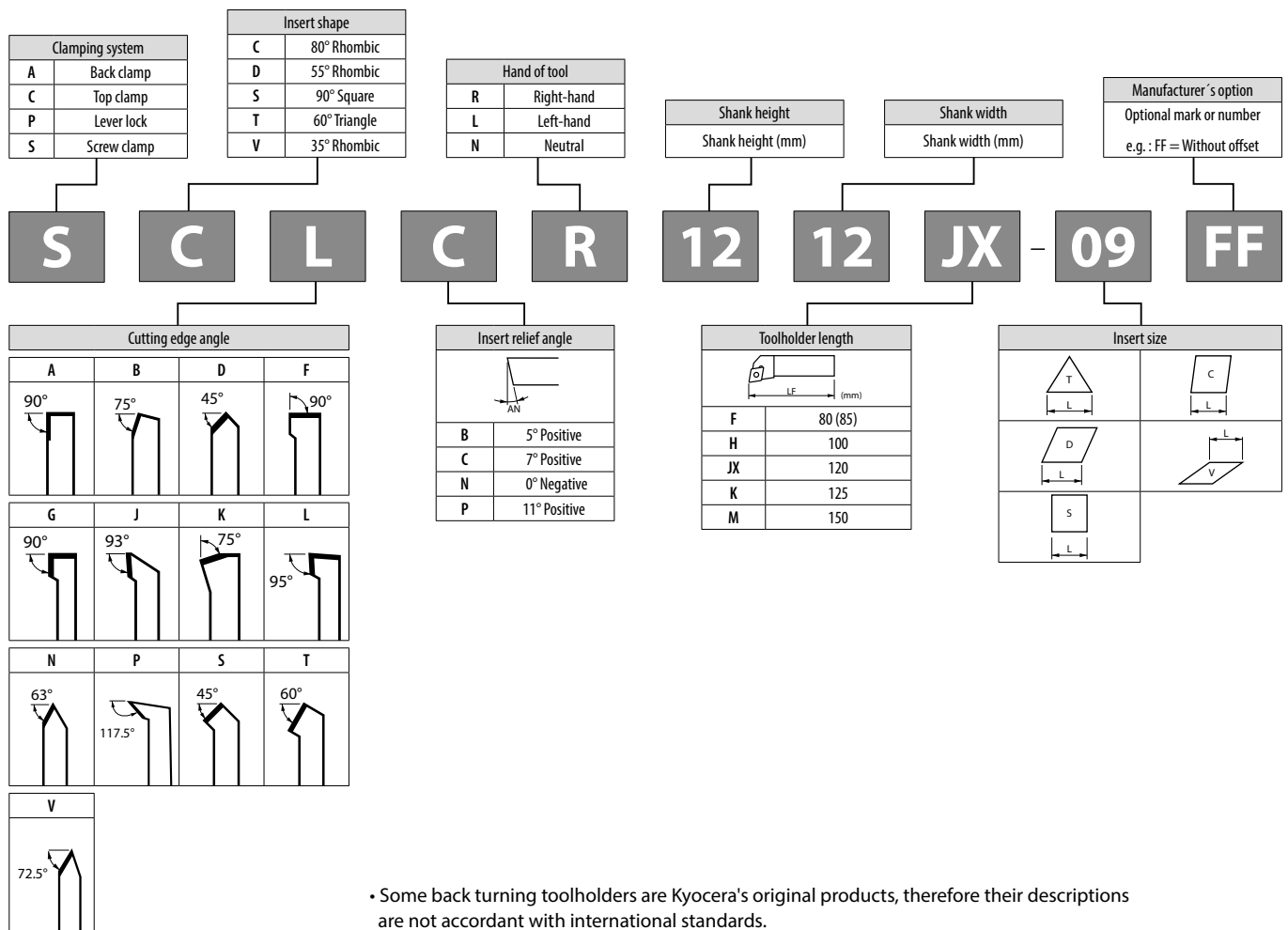


- Provides coolant toward the rake surface of insert
- Specification
Edge width: 0.25 -3 mm
Ground chipbreaker/3D GL chipbreaker
Maximum groove depth: 3 mm

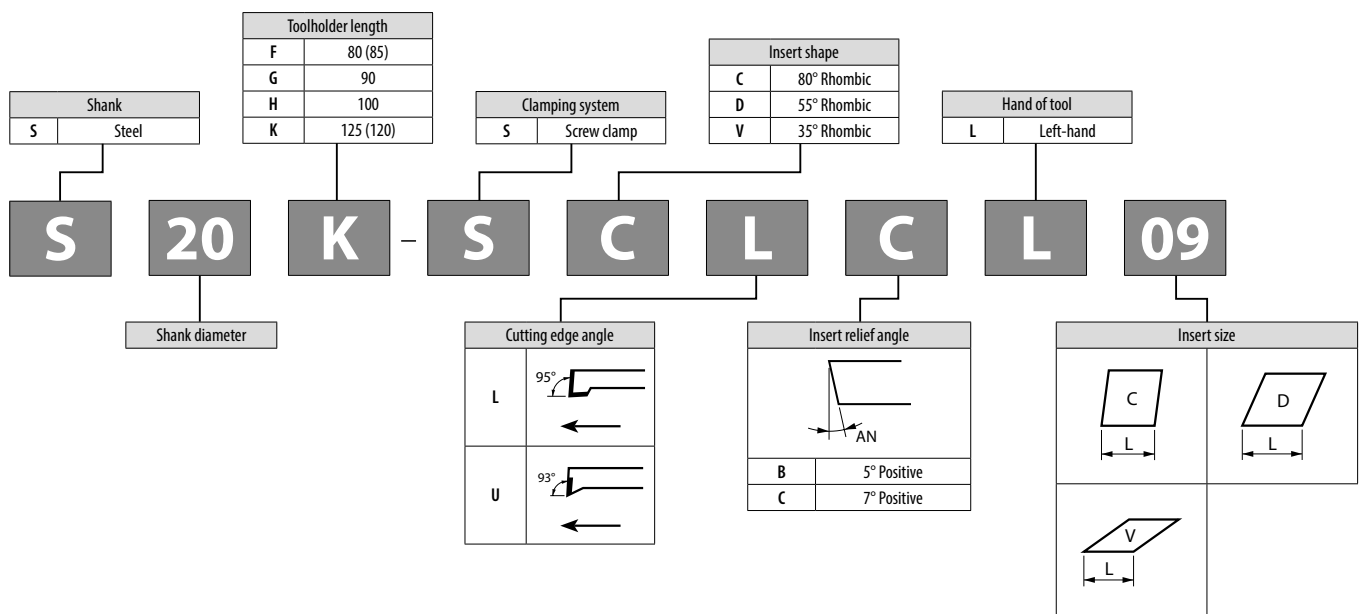
Coolant discharging comparison (Internal evaluation)
Small chips and better cooling of the insert leads to longer tool life.



Square shank identification system (small tools)

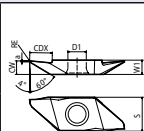
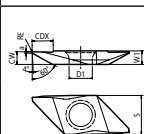
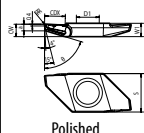
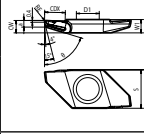
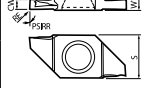


External sleeve holder identification system



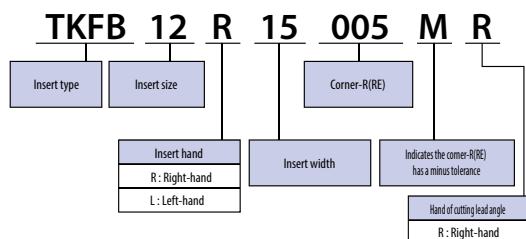
- Specification may change without any prior notice.
- Due to the installation size constraints on the machine, the toolholder length of some products may not match with the symbol.

TKF / TKFB

			Carbon steel / Alloy steel										☺☺☺☺		P	
			Stainless steel										☺☺☺☺		M	
			Cast iron										☺☺☺☺		K	
			Non-ferrous metals										☺☺☺☺		N	
Insert		Description	No. of edges	Dimension (mm)							Angle (°)		Carbide		Applicable toolholder ☺ E15, E16	
				CW	CDX	S	D1	RE	W1	a	PSIR% _L	θ	PVD			-
													PR1225	PR1535		
		TKFB 12R15005M 12R28005M 12R28010M	2	1.5 2.8 2.8	2.6 4.6 4.6	8.7	5.2	< 0.05 < 0.05 < 0.1	3	0.25 0.3 0.3	-	-	●●●●●●●●●●	●●●●●●●●●●	●●●●●●●●●●	KTKFR...-12 KTKFR...-12-Y
		TKFB 16R38005M 16R38010M	2	3.8 3.8	6.3 6.3	9.5 9.5	5.2	< 0.05 < 0.1	4	0.3 0.3	-	-	●●●●●●●●●●	●●●●●●●●●●	●●●●●●●●●●	
		TKFB 12L28005MR 12L28010MR	2	2.8 2.8	4.6 4.6	8.7	5.2	< 0.05 < 0.1	3	0.3 0.3	-	-	●●●●●●●●●●	●●●●●●●●●●	●●●●●●●●●●	KTKFL...-12
		TKFB 16L38005MR 16L38010MR	2	3.8 3.8	6.3 6.3	9.5 9.5	5.2	< 0.05 < 0.1	4	0.3 0.3	-	-	●●●●●●●●●●	●●●●●●●●●●	●●●●●●●●●●	
	 Polished	TKFB 12R28005P-GQ 12R28015P-GQ	2	2.8 2.8	4.6 4.6	8.7	5.2	0.05 0.15	3	1.5 1.5	-	74	●●●●●●●●●●	●●●●●●●●●●	●●●●●●●●●●	KTKFR...-12 KTKFR...-12-Y
		TKFB 16R38005P-GQ 16R38015P-GQ	2	3.8 3.8	6.3 6.3	9.5 9.5	5.2	0.05 0.15	4	1.8 1.8	-	72	●●●●●●●●●●	●●●●●●●●●●	●●●●●●●●●●	
		TKFB 12R28005-GQ 12R28015-GQ	2	2.8 2.8	4.6 4.6	8.7	5.2	0.05 0.15	3	1.5 1.5	-	74	●●●●●●●●●●	●●●●●●●●●●	●●●●●●●●●●	KTKFR...-12 KTKFR...-12-Y
		TKFB 16R38005-GQ 16R38015-GQ	2	3.8 3.8	6.3 6.3	9.5 9.5	5.2	0.05 0.15	4	1.8 1.8	-	72	●●●●●●●●●●	●●●●●●●●●●	●●●●●●●●●●	
	 Plunge and turn	TKF 12R200-GTP	2	2	4.3	8.7	5	0.08	3	-	0	-	●●●●●●●●●●	●●●●●●●●●●	●●●●●●●●●●	KTKFR...-12 KTKFR...-12-Y
		TKF 16R300-GTP	2	3	5.8	9.5	5	0.08	4	-	0	-	●●●●●●●●●●	●●●●●●●●●●	●●●●●●●●●●	

Recommended cutting conditions E67

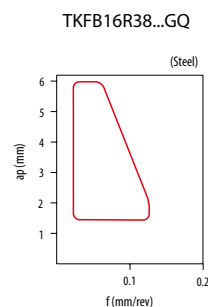
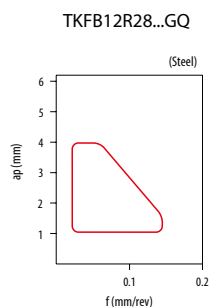
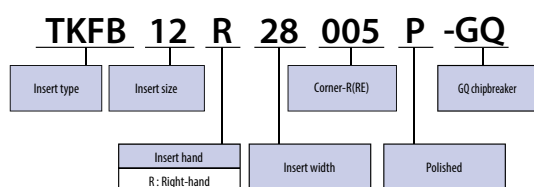
Inserts identification system (Ref. to Tables 1 and 2)



Small machining	General purpose	Large machining
TKFB12R15..	TKFB12R28..	TKFB16R38..

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

Applicable chipbreaker range



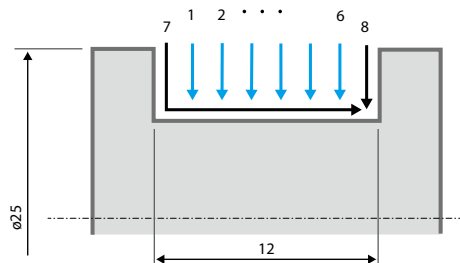
● : Standard item

GTP chipbreaker - Grooving and Turning available

Cutting time comparison (Internal evaluation)

Competitor A

Multiple grooves and a finishing pass
Workpiece material : S45C(ø25)

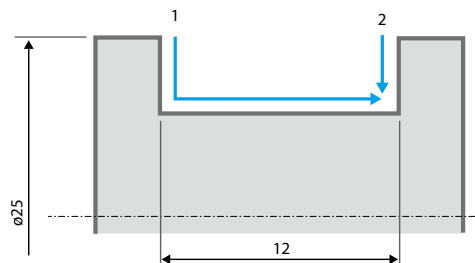


Cutting conditions: Multiple grooves
 $V_c=100\text{m/min}$
 $a_p=3.5\text{mm}$, $f=0.10\text{mm/rev}$

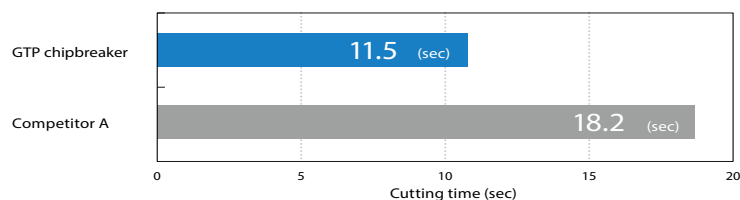
Cutting conditions: Finishing
 $V_c=100\text{m/min}$
 $a_p=0.5\text{mm}$, $f=0.05\text{mm/rev}$

TKF12R200-GTP

Grooving and Turning
Workpiece material : S45C(ø25)



Cutting conditions: Grooving and Turning
 $V_c=100\text{m/min}$
 $a_p=4\text{mm}$, $f=0.05\text{mm/rev}$



GTP chipbreaker required fewer machining paths than competitor

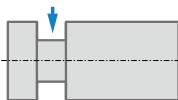
40%
Cutting time reduction

Chip control comparison (Internal evaluation)

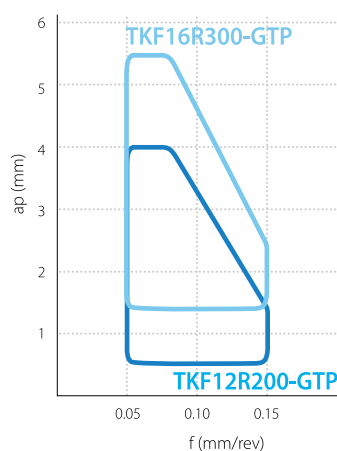
Grooving

f (mm/rev)	0.05	0.07	0.10
TKF12R200-GTP			
Competitor B			

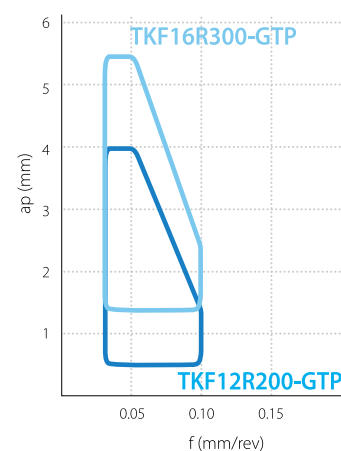
Cutting conditions : $V_c=100\text{m/min}$, $a_p=4\text{mm}$, Wet
Workpiece material : S45C (ø25)



Recommended chipbreaker range (Steel)

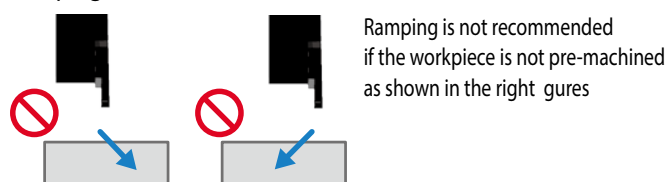


Recommended chipbreaker range (Stainless steel)

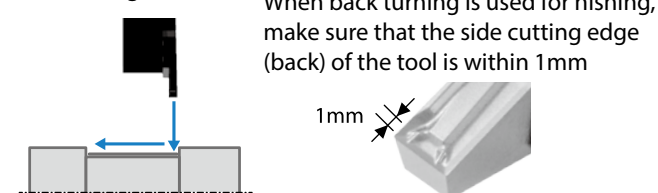


Caution for machining

Ramping

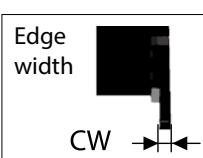
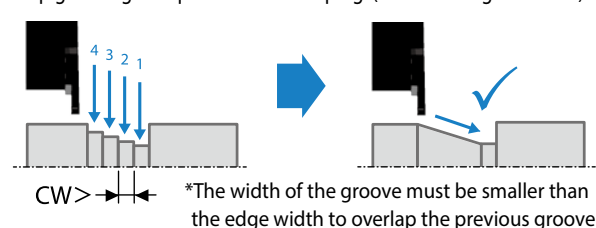


Back turning



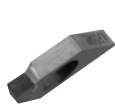
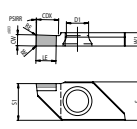
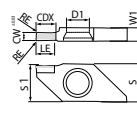
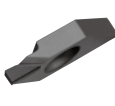
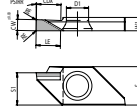
Tips for ramping

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



Back turning is not recommended on the tapered surface.

TKF

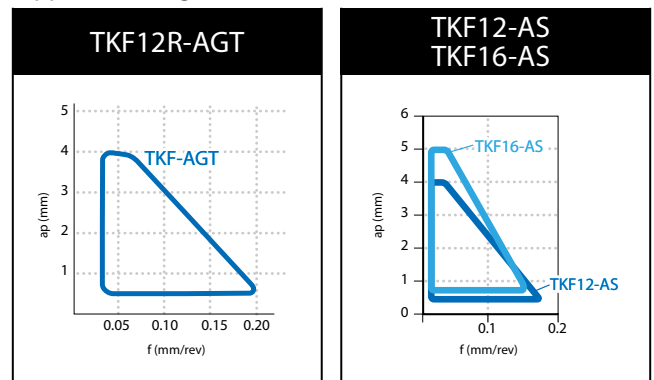
			Carbon steel / Alloy steel															P	
			Stainless steel															M	
			Cast iron															K	
Non-ferrous metals															N				
Insert		Description	No. of edges	Dimension (mm)								Angle (°)	Tolerance (mm)				PCD	Applicable toolholder E15, E16	
				CW	CDX	S	S1	D1	RE	LE	W1		PSIR°/L	CW min.	CW max.	RE (+/-) min.			RE (+/-) max.
		TKF12R 150-NB 200-NB 250-NB	1	1.5 2 2.5	3.5 4 4	8.7	8.3	5	0.1	2 3 3	3	0	-0.03	+0.03	-0.05	0	● ● ●	KTKFR...-12 KTKFR...-12-Y	
		TKF12R 200-AGT 250-AGT	1	2 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 250-AS TKF12L 200-AS	1	2 2.5 2	5	8.7	7.3	5	0.1	5.3	3	0	-0.03	+0.03	-0.05	0	● ● ●	KTKF°/L...-12 KTKFR...-12-Y	
			TKF16R 250-AS TKF16L 250-AS	1	2.5	8	9.5	8	5	0.1	6.3	4	0	-0.03	+0.03	-0.05	0	● ●	KTKF°/L...-16

Recommended cutting conditions E67

Inserts identification system

TKF	12	R	200	-	AGT
TKF	12	L	200	-	AS
Insert type	Insert size	Width (Edge width)	Name of chipbreaker		
		Insert hand			
		R : Right-hand	AGT : AGT chipbreaker		
		L : Left-hand	AS : AS chipbreaker		
			GTP : GTP chipbreaker		
			NB : Without chipbreaker		

Applicable range



* PCD Inserts for turning and grooving

* Not recommended for cut-off

Note 1) The cutting edge of the TKF-AS / -ASR will be 1 mm lower than the center line when attached to the KTKF toolholder (Ref. to Fig. 2).
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. 3)

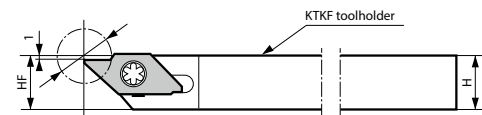


Fig. 2 When a TKF-AS / -ASR insert is attached (The cutting edge is 1mm lower than the center line)

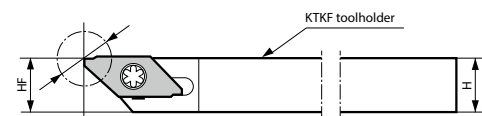
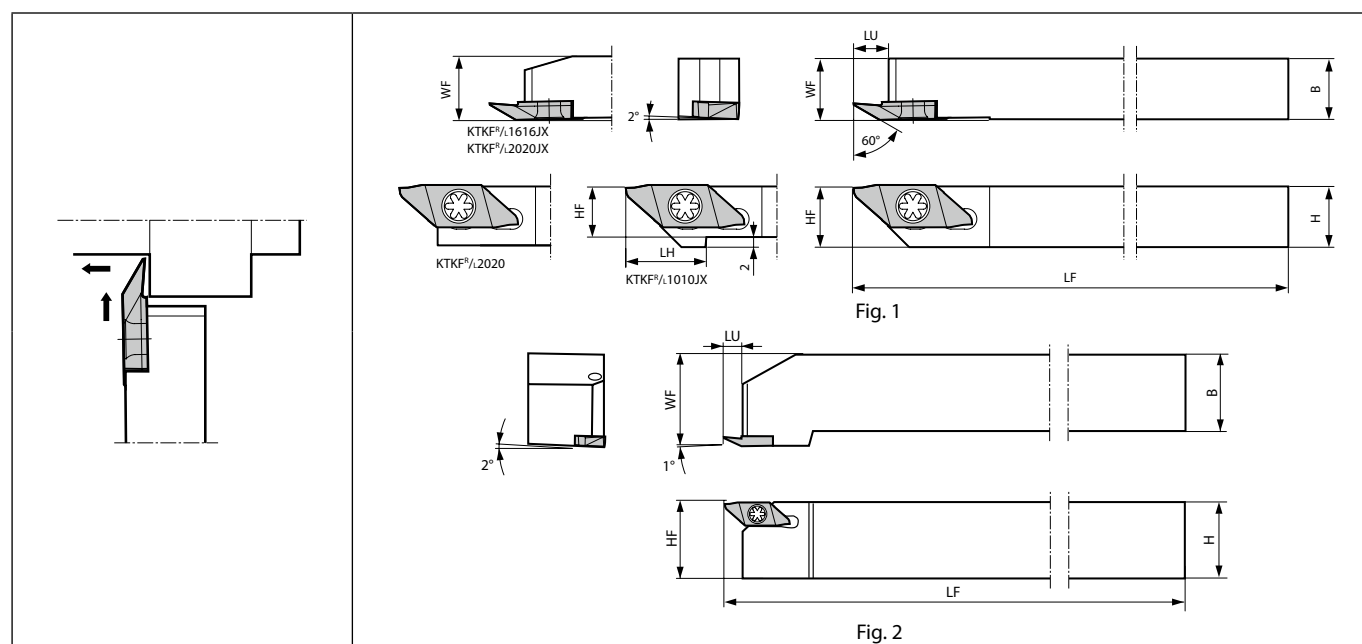


Fig. 3 When a TKF-NB insert is attached

● : Standard item

CBN & PCD Inserts are
sold in 1 piece boxes

KTKF (Back turning)



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

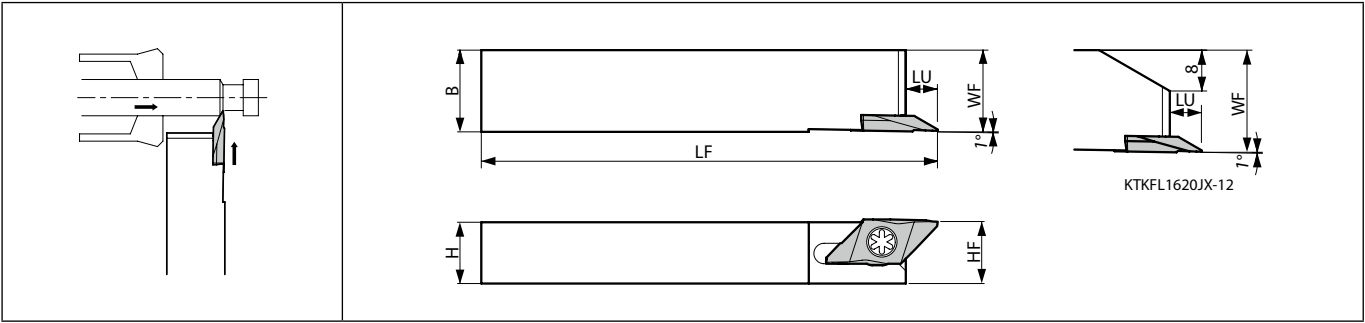
Toolholder dimensions

Description		Availability		Dimension (mm)							Fig.	Spare parts		Applicable inserts 🔧 E12, E14
												Screw	Wrench	
		R	L	H	B	LH	HF	LF	LU	WF				
KTKF [®] /L	1010JX-12	●	●	10	10	15	10	120	6	10	1	SB-4590TRWN	FT-10	TKF12 [®] /L... TKFB12 [®] /L...
	1212F-12	●	●	12	12	12	85	12		1				
	1212JX-12	●	●					16		120	16			
	1616JX-12	●	●	16	16	-	16				120			
	2020JX-12	●	●	20	20		20	120		20	1			
	2525M-12	●		25	25		25	150		30	2			
KTKF [®] /L	1010JX-16	●	●	10	10	20	10	120	8	10	1	SB-4590TRWN	FT-10	TKF16 [®] /L... TKFB16 [®] /L...
	1212F-16	●	●	12	12	12	85	120		12	1			
	1212JX-16	●	●							16	120			
	1616JX-16	●	●	16	16	-	16	120						
	2020JX-16	●	●	20	20		20	120		20	1			
	2525M-16	●		25	25		25	150		30	2			

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

See Page H15 for internal coolant type (coolant-through holders)

KTkF (Back turning , Goose-neck holder)



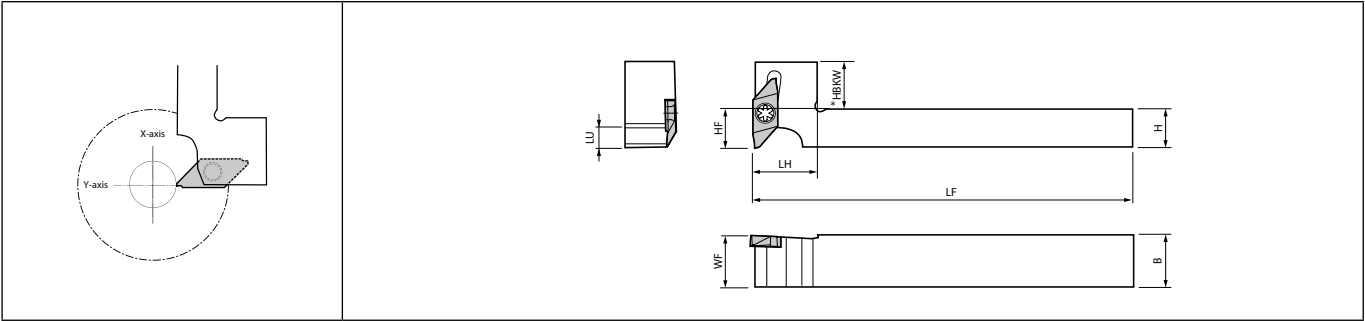
Left-hand shown | Left-hand Insert for Left-hand Toolholder.

Toolholder dimensions

Description	Availability	Dimension (mm)							Spare parts		Applicable inserts ➡ E12, E14
									Screw	Wrench	
		L	H	B	HF	LF	LU	WF			
KTkFL 1216JX-12 1620JX-12	●	12	16	12	120	6	16	20	SB-4590TRWN	FT-10	TKF12L... TKFB12L...
	●	16	20	16							

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

KTkF-Y (Back turning , Y-axis toolholder)



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

Toolholder dimensions

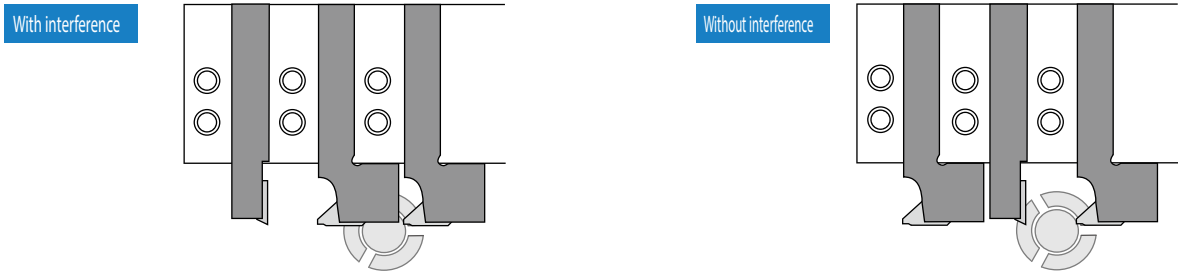
Description	Availability	Dimension (mm)									Spare parts		Applicable inserts ➡ E12, E14
											Screw	Wrench	
		R	H	B	LH	HF	HBKW	LF	LU	WF			
KTkFR 1216JX-12-Y 1616JX-12-Y	●	12	16	20	12	15	120	6	16	SB-4590TRWN	FT-10		TKF12R... TKFB12R...
	●	16		25	16	11							

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

● : Standard item

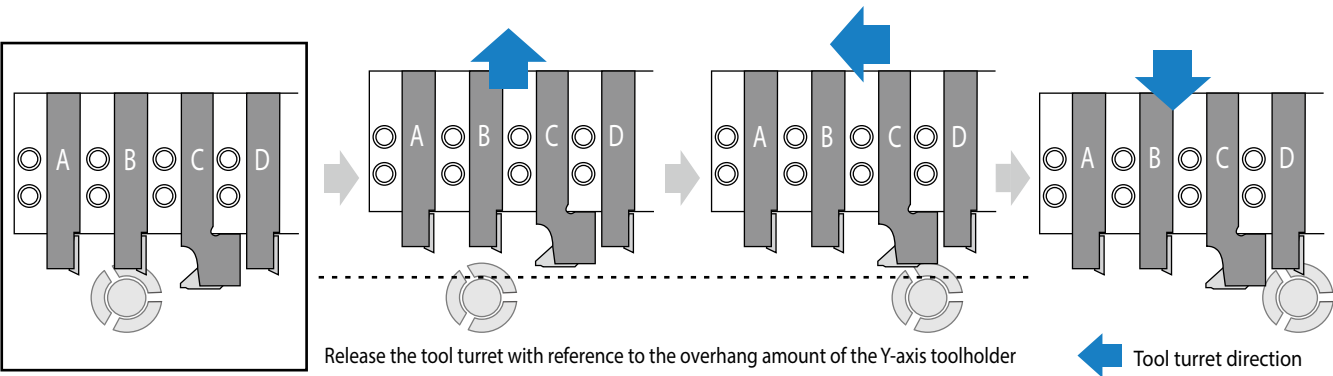
Precautions for using Y-axis toolholder

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



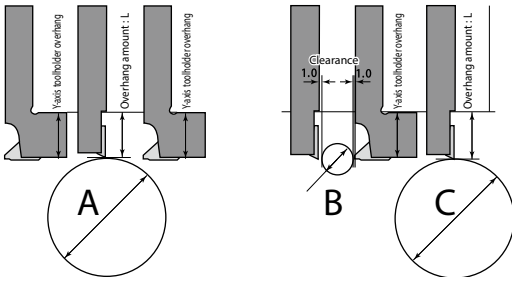
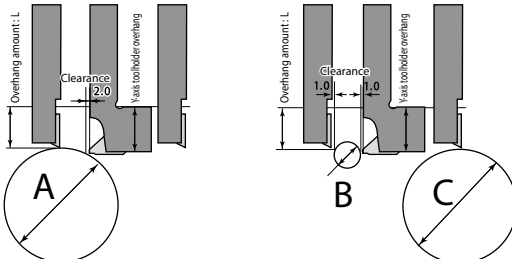
Standard toolholders may be mounted between two Y-axis toolholders

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)



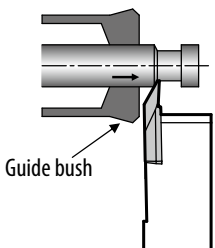
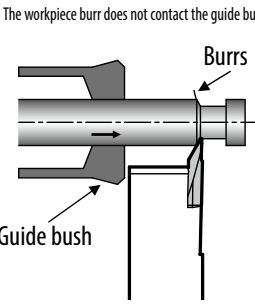
Note that using other toolholders together will result in different outside diameters

(Unit : mm)

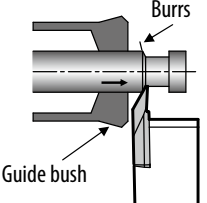
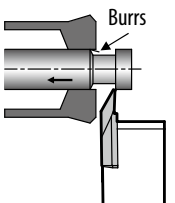
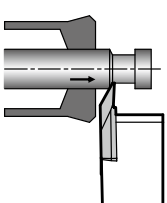
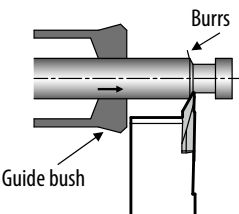
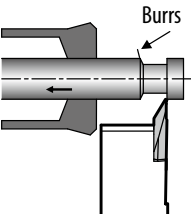
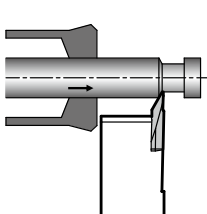
Y-axis toolholder overhang	Examples	Overhang amount L			
		Available outside cutting diameter (ø)	20	22	25
20		A	Without restriction	Without restriction	Without restriction
		B	13.0	13.0	13.0
		C	Without restriction	Without restriction	Without restriction
25		A	38.0	58.0	Without restriction
		B	14.9	13.6	13.0
		C	45.0	60.0	Without restriction

Toolholders for back turning - TKFB insert

How to select back turning toolholder hand

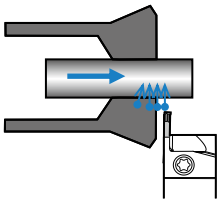
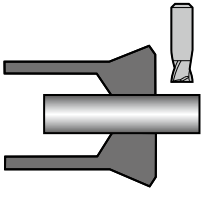
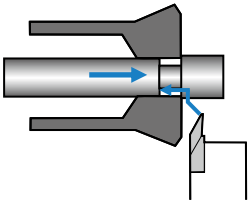
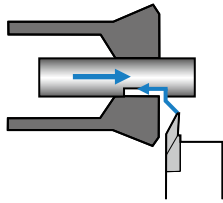
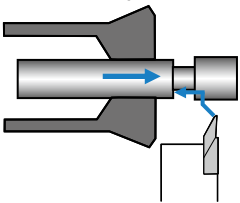
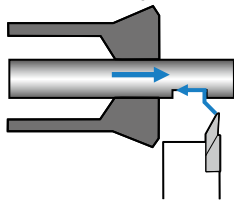
E Small tools		• Machining near the guide bush is possible • Narrow cutting edge width of TKFB12R15005M • Optimum for small parts and high precision machining
Left-hand	The workpiece burr does not contact the guide bush. 	• Machining with a distance from guide bush • Good chip control due to large space between the guide bush and the tool. • Excellent chip control in roughing and finishing (plural passes) • Stable accuracy of external diameter dimension: • When burrs occur, if a left-hand toolholder is used, it is not necessary to return workpiece into guide bush in finishing. • Also, left-hand toolholders prevent guide bush wear caused by chip biting.

Workpiece movement and tool hand selection - in roughing 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.

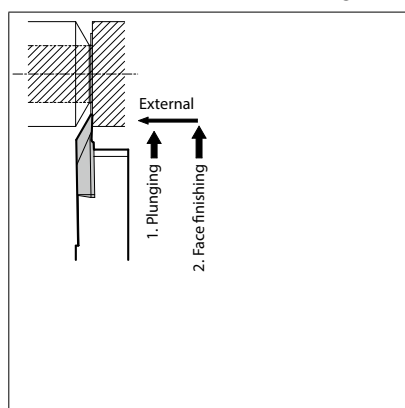
Chip control improvement in back turning

	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)  <u>Advantages:</u> • Good surface roughness <u>Disadvantages:</u> • If a machining pass is long, the guide bush can not support the workpiece.	When using TKFB12R28010M (for back turning / right hand)  <u>Advantages:</u> 1. Minimal deflection in long machining passes 2. Chips are broken into small pieces, though the workpiece material is sticky <u>Disadvantages:</u> • 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)  <u>Advantages:</u> 1. Good surface roughness 2. High precision machining if the machined portion does not contact the guide bush. <u>Disadvantages:</u> • If a machining pass is long, the guide bush can not support the workpiece.	When using TKFB12L28010M (for back turning / left hand)  <u>Advantages:</u> 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. <u>Disadvantages:</u> • The pre-stage machining may cause fractures, because of interrupted machining.

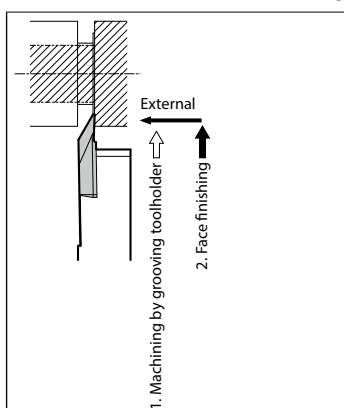
Countermeasure against peeled surface in face back turning

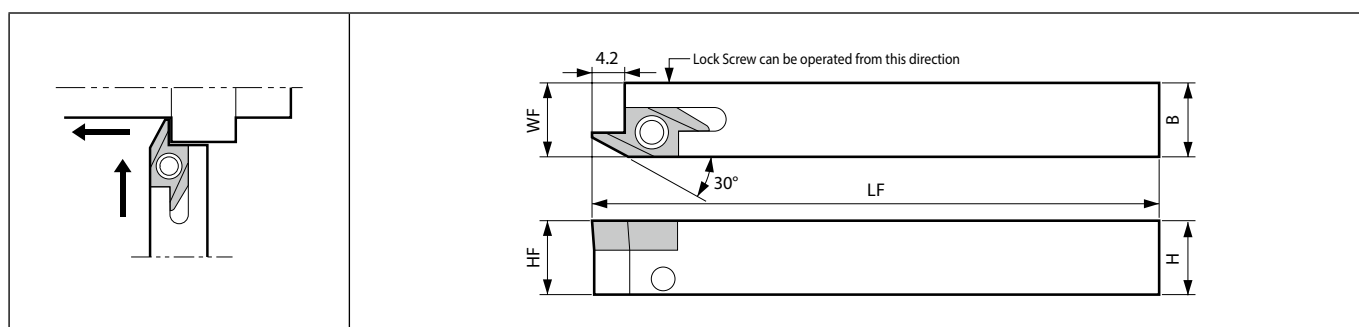
When peeled surface occurs on the workpiece face, please apply the countermeasures below.

Countermeasures 1 Face finishing



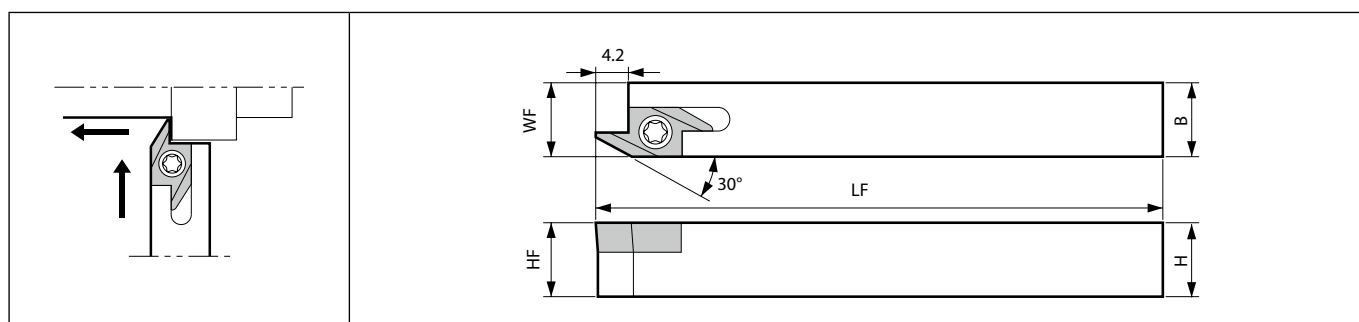
Countermeasures 2 Face finishing after grooving



AABS-40F (Back turning / Edge width : 2.8mm, Max. depth : 4mm)

Toolholder dimensions

Description		Availability	Dimension (mm)						Standard corner-R(RE)	Spare parts			Applicable inserts 🔧 B112
										Anchor pin	Lock screw	Wrench	
			R	H	B	HF	LF	WF					
AABSR	1010JX-40F	●	10	10	10		10.2	0.15	LPA-11	HSB4X8R	FH-2	ABS15R40...	
	1212JX-40F	●	12	12	12	120	12.2		LPA-13				
	1616JX-40F	●	16	16	16		16.2		LPA-17				

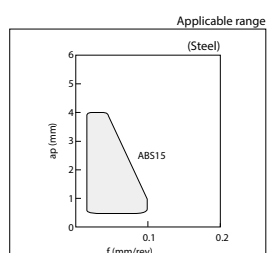
SABS-40F (Back turning / Edge width : 2.8mm, Max. depth : 4mm)

Toolholder dimensions

Description		Availability	Dimension (mm)						Standard corner-R(RE)	Spare parts		Applicable inserts  B112
										Screw	Wrench	
			R	H	B	HF	LF	WF				
SABSR	1010JX-40F		10	10	10	120	10.2	0.15	SB-3080TR	FT-10	ABS15R40...	
	1212F-40F		12	12	12	85	12.2					
	1212JX-40F					120	16.2					
	1616JX-40F		16	16	16	16.2						
	2020K-40F		20	20	20	125	20.2					

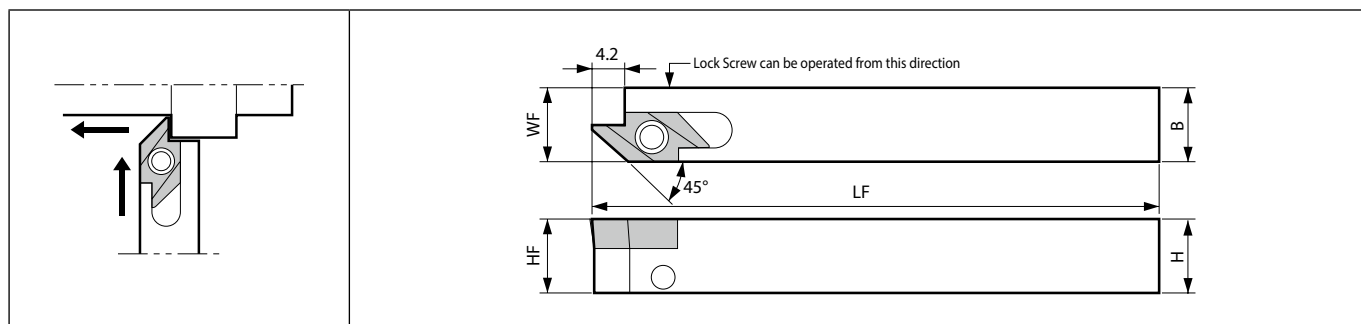
Applicable inserts

Applications	Back turning
Insert	
Type	ABS15
Page	B112



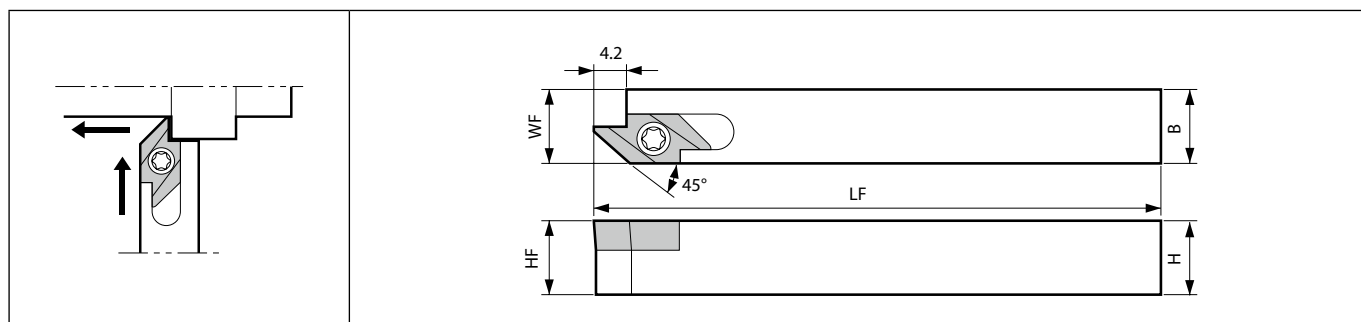
Recommended cutting conditions ➡ E67

● : Standard item

AABW-40F (Back turning / Edge width : 4.7mm, Max. depth : 4mm)

Toolholder dimensions

Description	Availability	Dimension (mm)						Standard corner-R(RE)	Spare parts			Applicable inserts ➔ B112
									Anchor pin	Lock screw	Wrench	
		R	H	B	HF	LF	WF					
AABWR 1010JX-40F	●	10	10	10			10.2	0.15	LPA-11	HSB4X8R	FH-2	ABW15R40...
1212JX-40F	●	12	12	12	120	12.2			LPA-13			
1616JX-40F	●	16	16	16		16.2			LPA-17			

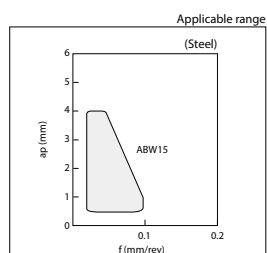
SABW-40F (Back turning / Edge width : 4.7mm, Max. depth : 4mm)

Toolholder dimensions

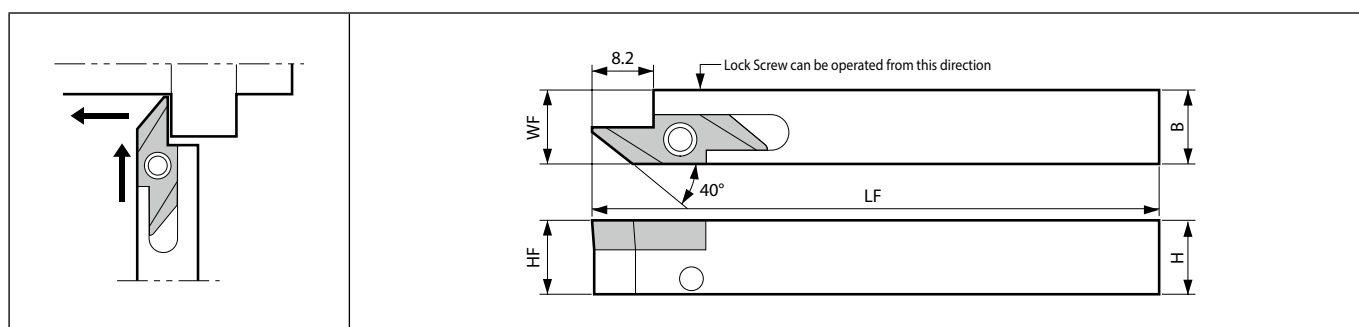
Description	Availability	Dimension (mm)						Standard corner-R(RE)	Spare parts		Applicable inserts ➔ B112
									Screw	Wrench	
		R	H	B	HF	LF	WF				
SABWR 1010JX-40F	●	10	10	10			10.2	0.15	SB-3080TR	FT-10	ABW15R40...
1212JX-40F	●	12	12	12	120	12.2					
1616JX-40F	●	16	16	16		16.2					
2020K-40F	●	20	20	20	125	20.2					

Applicable inserts

Applications	Back turning
Insert	
Type	ABW15
Page	B112

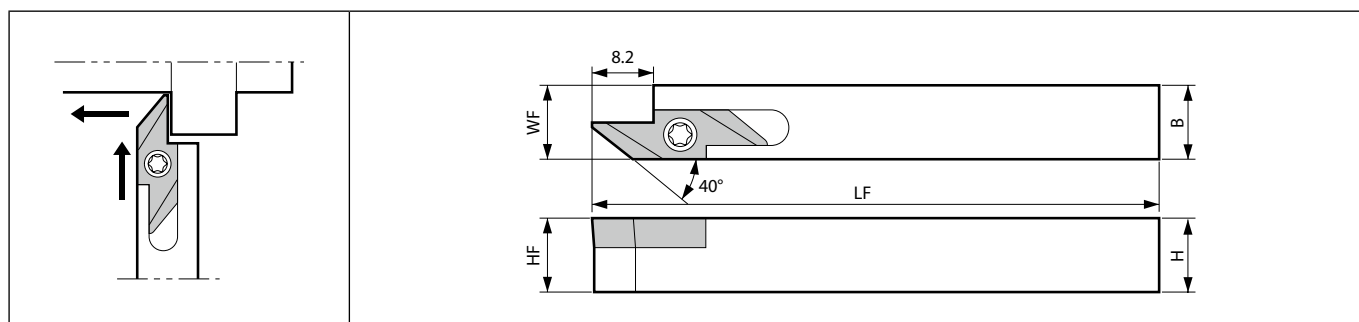


Recommended cutting conditions ➔ E67

AABW-50F (Back turning / Edge width : 4.7mm, Max. depth : 5mm)

Toolholder dimensions

Description		Availability	Dimension (mm)						Standard corner-R(RE)	Spare parts			Applicable inserts  B112
										Anchor pin	Lock screw	Wrench	
			R	H	B	HF	LF	WF					
AABWR	1010JX-50F	●	10	10	10		10.2	0.15	LPA-11	HSB4X8R	FH-2	ABW23R50...	
	1212JX-50F	●	12	12	12	120	12.2		LPA-13				
	1616JX-50F	●	16	16	16		16.2		LPA-17				

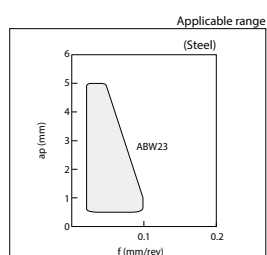
SABW-50F (Back turning / Edge width : 4.7mm, Max. depth : 5mm)

Toolholder dimensions

Description		Availability	Dimension (mm)						Standard corner-R(RE)	Spare parts		Applicable inserts  B112
										Screw	Wrench	
			R	H	B	HF	LF	WF				
SABWR	1010JX-50F	●	10	10	10		10.2	0.15	SB-3080TR	FT-10	ABW23R50...	
	1212JX-50F	●	12	12	12	120	12.2					
	1616JX-50F	●	16	16	16		16.2					
	2020K-50F	●	20	20	20	125	20.2					

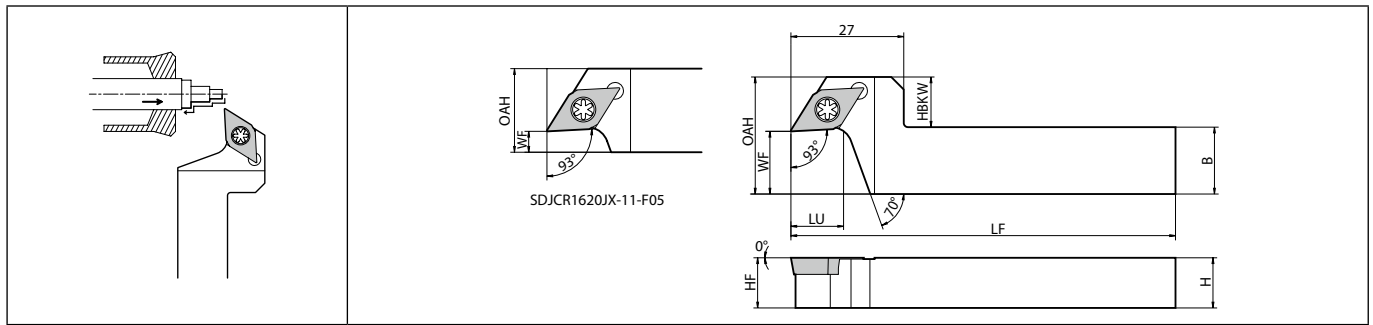
Applicable inserts

Applications	Back turning
Insert	
Type	ABW23
Page	B112



Recommended cutting conditions ➡ E67

● : Standard item

SDJC (External turning / External copying)

Right-hand shown

Toolholder dimensions

Description		Availability	Dimension (mm)									Standard corner-R(RE)	Spare parts		Applicable inserts
													Screw	Wrench	
			R	H	B	OA	HF	HBKW	LF	LU	WF				
SDJCR	1216JX-11-F05	●	12	16	18	12	2	120	12.6	5	0.2	SB-408STR	FT-15	DC□T11T3... DC□W11T3... DC□X11T3...	
	1216JX-11-F15	●			28	12	12			15					
	1620JX-11-F05	●	16	20	20	16	-			5					
	1620JX-11-F15	●			28	16	8			15					

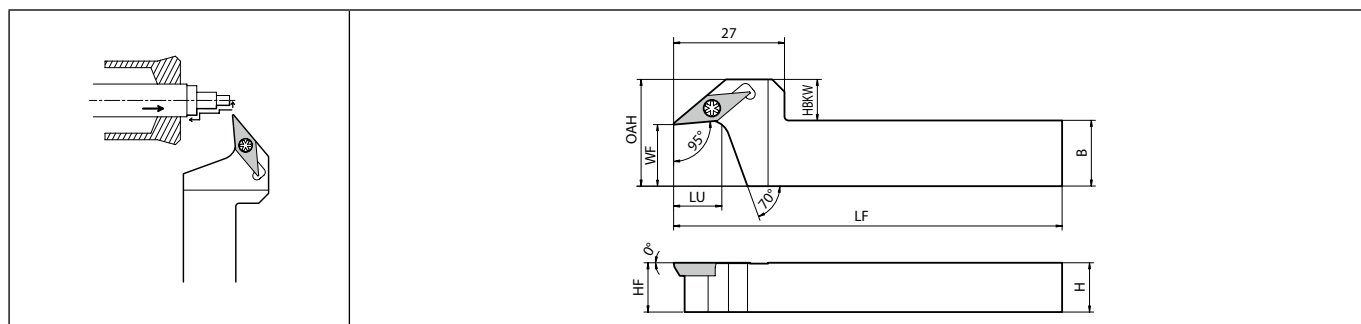
For WP chipbreaker, cutting edge offsets or program corrections are required on **R36** and **R37**.

Applicable inserts

Applications	Minute ap	Finishing	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing
Insert								
Chipbreaker type	CF	GF	SKS	SK	CK	GQ	WP	¾-WP
Page	B68	B68	B68	B68	B68	B69	B69	B69
Applications	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Medium	Medium	Finishing	Finishing
Insert								
Chipbreaker type	PP	GP	GK	HQ	STD	MF	¾-F	¾-FSF
Page	B69	B69	B70	B70	B70	B70	B72, B73	B72
Applications	Low feed	Low feed	Low feed	Low feed	Low carbon steel	Low carbon steel	Stainless steel / Heat-resistant alloys	Cast iron
Insert								
Chipbreaker type	¾-U	¾-USF	¾-J	¾-JSF	XP	XQ	MQ	No CB
Page	B74~B76	B74	B77	B76	B71	B71	B71	B78
Applications	Non-ferrous metals	Non-ferrous metals	Non-ferrous metals	Non-ferrous metals	Non-ferrous metals	Hard materials		
Insert								
Chipbreaker type	AP	¾-A3	AH	PCD	APD	CBN		
Page	B78	B78	B78	C42	C42	C22		

Recommended cutting conditions E65, E66

● : Standard item

SVLP (External turning / External copying)

Right-hand shown

Toolholder dimensions

Description	Availability	Dimension (mm)									Standard corner-R(RE)	Spare parts		Applicable inserts
												Screw	Wrench	
		R	H	B	OAH	HF	HBKW	LF	LU	WF				
SVLPR 1216JX-11-F15	●	12	16	26	12	10	120	12	15	0.2	SB-2570TR	FT-8	VP□T1103...	
1620JX-11-F15	●	16	20		16	6								

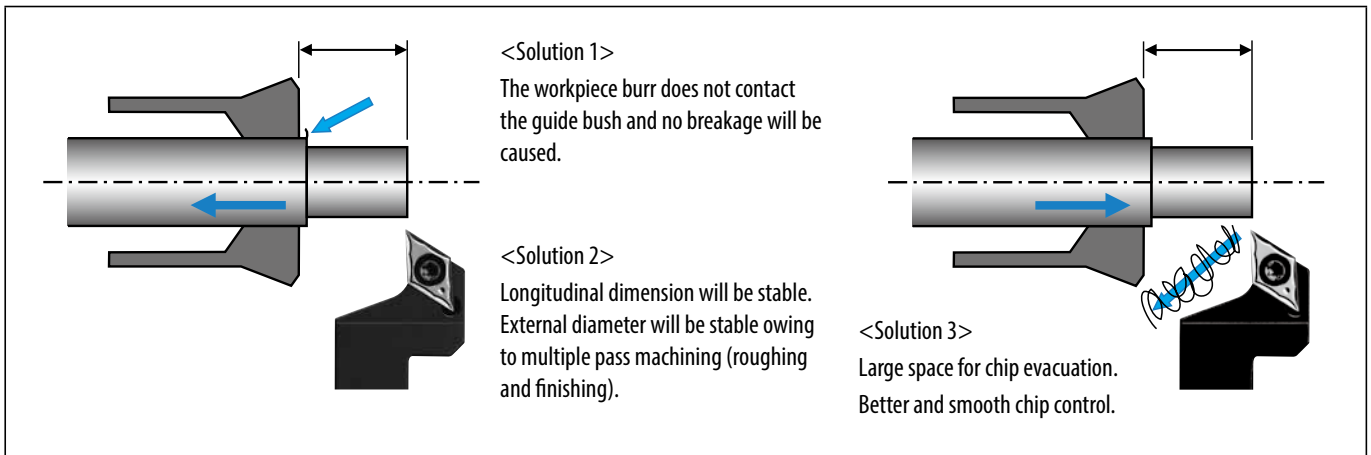
Applicable inserts

Applications	Minute ap	Finishing	Finishing	Finishing	Finishing	Finishing	Low feed	Low feed
Insert								
Chipbreaker type	CF	GF	SKS	CK	°/L-F	°/L-FSF	°/L-U	°/L-USF
Page	B102	B102	B102	B102	B103	B103	B104	B104
Applications	Low feed							
Insert								
Chipbreaker type	°/L-J							
Page	B104							

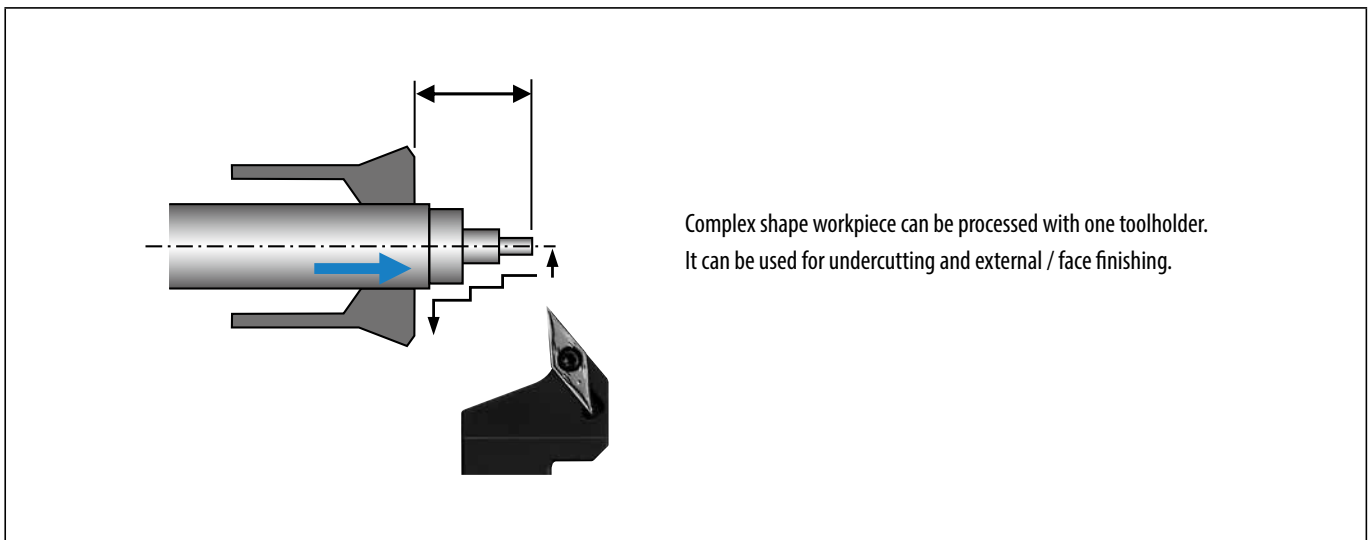
Recommended cutting conditions ➡ E65, E66

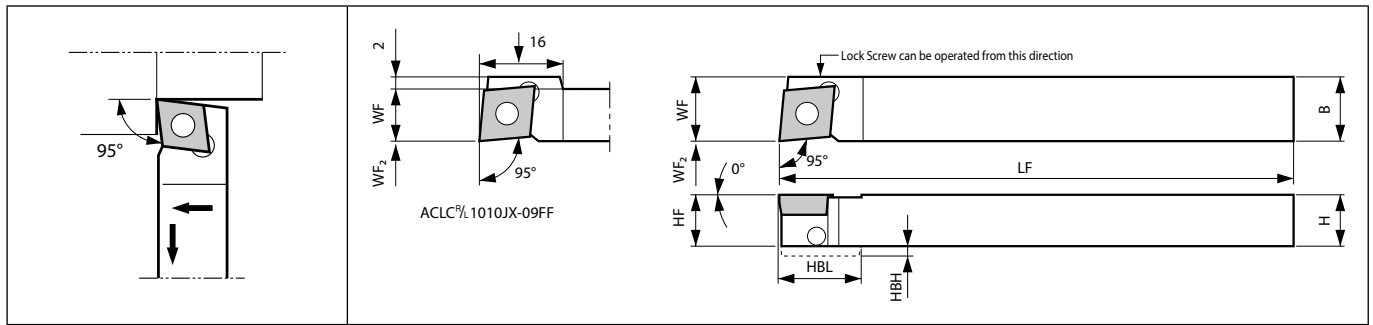
● : Standard item

Goose-neck holder is available for multiple passes at roughing and finishing



One toolholder for complex shape workpiece



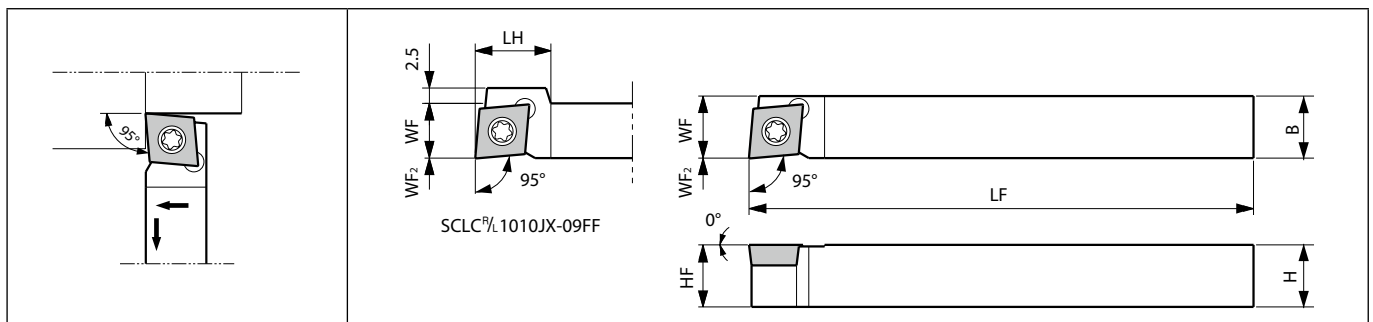
ACLC-FF (External turning / External facing , Back clamp, Without offset)

Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)										Spare parts			Applicable inserts
													Anchor pin	Lock screw	Wrench	
	R	L	H	B	HF	HBH	HBL	LF	WF	WF2	Standard corner-R(RE)					
ACLC% 1010JX-06FF	●	●	10	10	10	-	-	120	10	0	0.2	LPF-11	HSB4X8%	FH-2		CC-T0602... CC-W0602...
ACLC% 1010JX-09FF	●	●	10	10	10	2	16	120	10	0	0.2	LPF-13	HSB4X8%	FH-2		CC-T09T3... CC-W09T3...
1212JX-09FF	●	●	12	12	12	-	-	120	12	0		LPF-17				
1616JX-09FF	●	●	16	16	16	-	-	16	16	0						

Lock screw : HSB4X8R for Right-hand Toolholder, HSB4X8L for Left-hand Toolholder.

SCLC-FF (External turning / External facing , Screw clamp, Without offset)

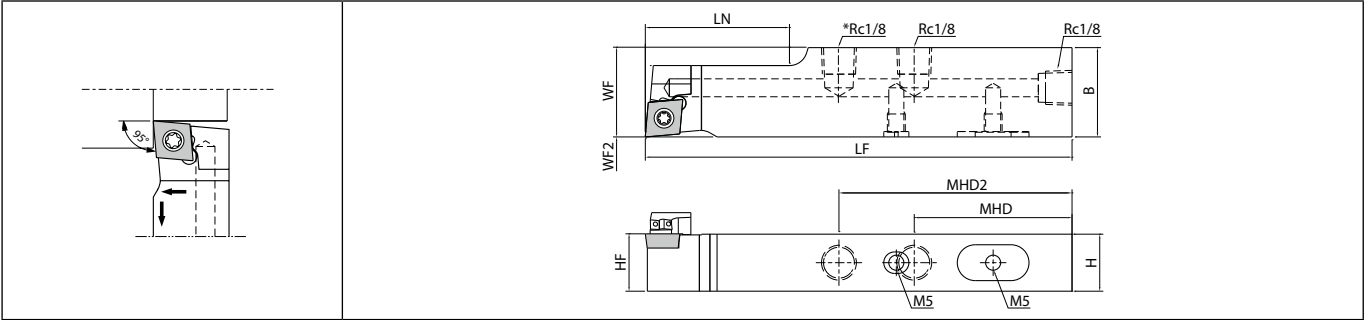
Right-hand shown

Toolholder dimensions

Description		Availability		Dimension (mm)							Standard corner-R(RE)	Spare parts			Applicable inserts	
												Screw	Wrench	Wrench		
		R	L	H	B	LH	HF	LF	WF	WF2						
SCLC%	0808F-06FF	●	●	8	8	-	8	85	8	0	0.2	SB-2570TR	-	FT-8	CC-T0602...	
	1010JX-06FF	●	●	10	10	-	10	120	10						CC-W0602...	
SCLC%	1010JX-09FF	●	●	10	10	15	10	120	10	0	0.2	SB-4085TR	FT-15	-	CC-T09T3...	
	1212F-09FF	●	●	12	12	-	12	85	12							
	1212JX-09FF	●	●	12	12	-	12	120	12							
	1616JX-09FF	●	●	16	16	-	16	120	16							
	2020JX-09FF	●	●	20	20	-	20	120	20							

● : Standard item

SCLC-FFJCTM (External turning / External facing , Screw clamp, Without offset, Coolant-through holder)



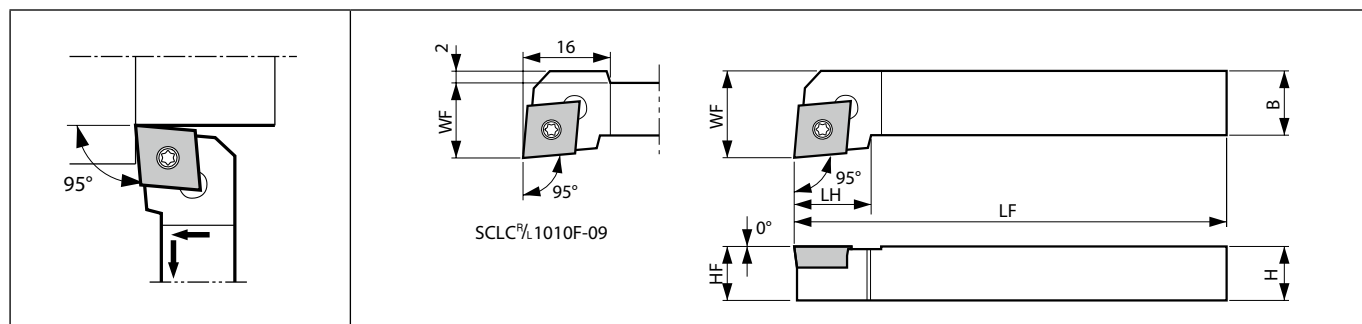
Right-hand shown | SCLCR12...: 2-Rc1/8

Toolholder dimensions

Description	Availability	Dimension (mm)										Standard corner-R(RE)	Coolant hole	Spare parts				Applicable inserts
		R	H	B	MHD	MHD2	HF	LF	LN	WF	WF ₂							
SCLCR 1218JX-09FFJCTM	●	12	18	54	-	12		28	18	0	0.2	Yes	GP-1	HS5X4LP	SB-4085TR	FT-15	CC□T09T3... CC□W09T3...	
1625JX-09FFJCTM	●	16	25	44	65	16	120	40	25									
2025JX-09FFJCTM	●	20				20												

Please see page H16 and H17 for piping parts of coolant-through holders.

● : Standard item

SCLC (External turning / External facing , Screw clamp)

Right-hand shown

Toolholder dimensions

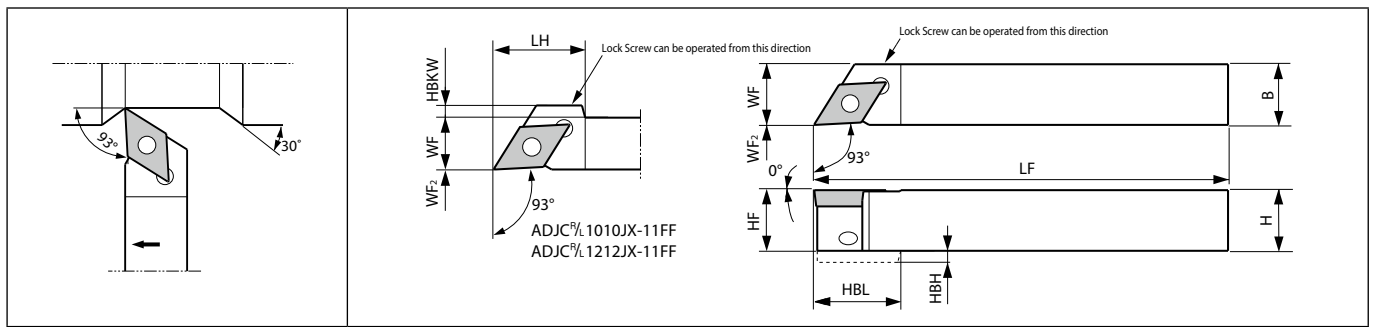
Description	Availability		Dimension (mm)							Standard corner-R(RE)	Spare parts				Applicable inserts
											Screw	Wrench	Wrench	Wrench	
	R	L	H	B	LH	HF	LF	WF							
SCLC% 1010F-06	●	●	10	10	9	10	80	12	0.2	SB-2570TR	-	FT-8	-	CC T0602... CC W0602...	
SCLC% 1010F-09 1212H-09 1616H-09 2020K-09 2525M-09	●	●	10	10	14	10	80	14	0.2	SB-4085TR	FT-15	-	-	CC T09T3... CC W09T3...	
	●	●	12	12		12	100	16							
	●	●	16	16	15	16	20	20							
	●	●	20	20	20	20	125	25							
	●	●	25	25	22	25	150	32							
SCLC% 1616H-12 2020K-12 2525M-12	●	●	16	16	20	16	100	20	0.4	SB-5090TR	-	-	LTW-20	CC T1204...	
	●	●	20	20	22	20	125	25							
	●	●	25	25		25	150	32							

Applicable inserts (ACLC-FF / SCLC-FF / SCLC-FFJCTM / SCLC)

Applications	Finishing	Finishing	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing
Insert								
Chipbreaker type	PF	GF	SKS	SK	CK	GQ	WP	PP
Page	B58	B58	B59	B59	B59	B59	B60	B60
Applications	Finishing - Medium	Finishing - Medium	Medium	Medium	Low feed	Low feed	Stainless steel / Heat-resistant alloys	Cast iron
Insert								
Chipbreaker type	GK	HQ	STD	MF	U	J	MQ	No CB
Page	B60	B60	B60	B61	B63~B65	B65	B61	B66
Applications	Non-ferrous metals	Non-ferrous metals	Non-ferrous metals	Non-ferrous metals	Non-ferrous metals	Hard materials		
Insert								
Chipbreaker type	AP	A3	AH	PCD	APD	CBN		
Page	B66	B66	B66	C39	C40	C20		

Recommended cutting conditions E65, E66

● : Standard item

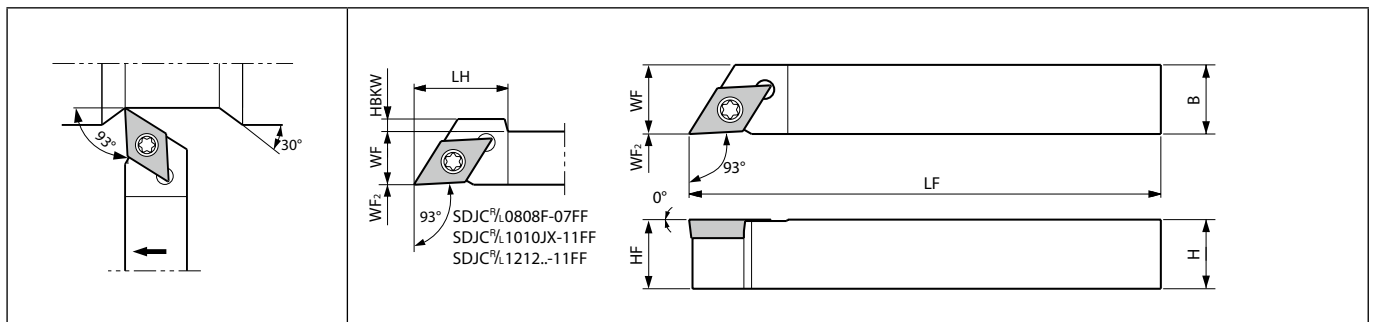
ADJC-FF (External turning / External copying , Back clamp, Without offset)

Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)											Standard corner-R(RE)	Spare parts			Applicable inserts
															Anchor pin	Lock screw	Wrench	
	R	L	H	B	LH	HF	HBH	HBKW	HBL	LF	WF	WF ₂						
ADJC%L 1010JX-07FF	●	●	10	10	-	10	-	-	-	120	10	0	0.2	LPF-11	HSB4X8%L	FH-2	DC□T0702... DC□W0702... DC□X0702...	
ADJC%L 1010JX-11FF 1212JX-11FF 1616JX-11FF	●	●	10	10	20	10	2	3	20		10		0	0.2	LPF-13	HSB4X8%L	FH-2	DC□T11T3... DC□W11T3... DC□X11T3...
	●	●	12	12			12	-	1		120	12						
	●	●	16	16		-	16	-	-	-		16						

Lock screw : HSB4X8R for Right-hand Toolholder, HSB4X8L for Left-hand Toolholder.

For WP chipbreaker, cutting edge offsets or program corrections are required on **R36** and **R37**.**SDJC-FF** (External turning / External copying, Screw clamp, Without offset)

Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)									Standard corner-R(RE)	Spare parts			Applicable inserts
													Screw	Wrench	Wrench	
	R	L	H	B	LH	HF	HBKW	LF	WF	WF ₂						
SDJC%L 0808F-07FF 1010JX-07FF	●	●	8	8	14	8	0.5	85	8	0	0.2	SB-2570TR	-	FT-8	DC□T0702... DC□W0702... DC□X0702...	
	●	●	10	10	-	10	-	120	10							
SDJC%L 1010JX-11FF 1212F-11FF 1212JX-11FF 1616JX-11FF 2020JX-11FF	●	●	10	10	20	10	3	120	10	0	0.2	SB-4085TR	FT-15	-	DC□T11T3... DC□W11T3... DC□X11T3...	
	●	●	12	12		12	1	85	12							
	●	●	16	16	-	16	-	120	16							
	●	●	20	20	-	20	-	120	20							
	●	●	20	20	-	20	-	120	20							

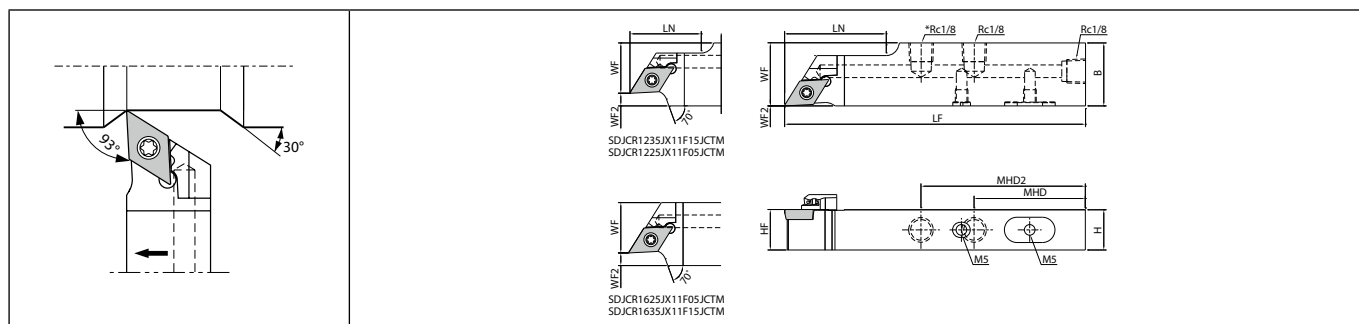
For WP chipbreaker, cutting edge offsets or program corrections are required on **R36** and **R37**.

● : Standard item

E



Small tools

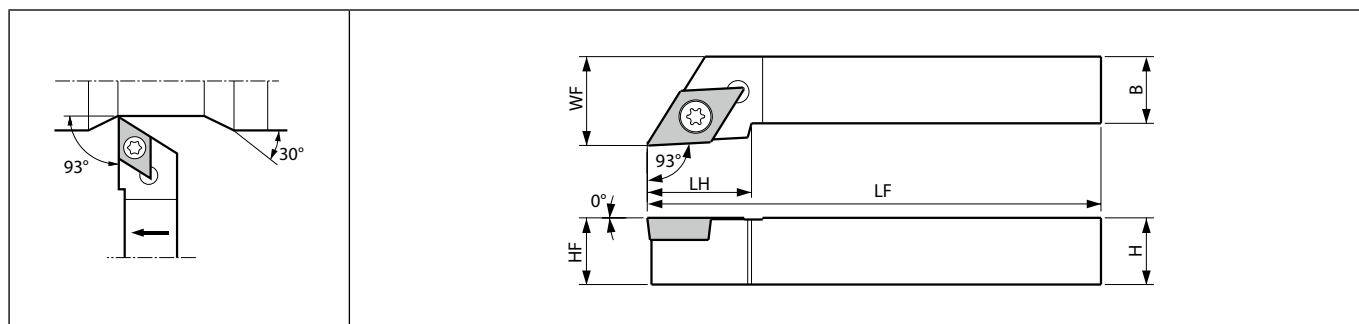
SDJC-FFJCTM (External turning / External copying, Screw clamp, Without offset, Coolant-through holder)

Right-hand shown | SDJCR12...:2-Rc1/8

Toolholder dimensions

Description		Availability	Dimension (mm)									Standard corner-R(RE)	Coolant hole	Spare parts				Applicable inserts
														Plug	Plug	Screw	Wrench	
			R	H	B	MHD	MHD2	HF	LF	LN	WF			WF ₂				
SDJCR	1218JX-11FFJCTM	●	12	18	54	-	12		28	18	0	0.2	Yes	GP-1	HSSX4LP	SB-4085TR	FT-15	DC□T11T3... DC□W11T3... DC□X11T3...
	1625JX-11FFJCTM	●	16	25	44	65	16	120	40	25					0			
	2025JX-11FFJCTM	●	20															
SDJCR	1225JX11F05JCTM	●	12	25	54	-	12	120	28	20	5	0.2	Yes	GP-1	HSSX4LP	SB-4085TR	FT-15	DC□T11T3... DC□W11T3... DC□X11T3...
	1235JX11F15JCTM	●		35					28									
	1625JX11F05JCTM	●	25	-	15	5												
	1635JX11F15JCTM	●	16				35		44	65								

Please see page **H16** and **H17** for piping parts of coolant-through holders.For WP chipbreaker, cutting edge offsets or program corrections are required on **R36** and **R37**.

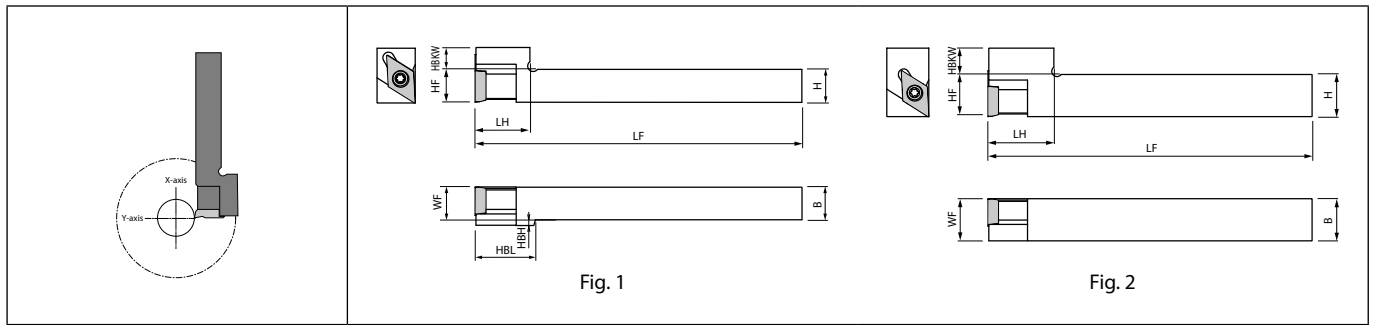
SDJC (External turning / External copying , Screw clamp)

Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Spare parts			Applicable inserts
											Screw	Wrench	Wrench	
	R	L	H	B	LH	HF	LF	WF						
SDJC% 1010F-07	●	●	10	10	12	10	80	12	0.2	SB-2570TR	-	FT-8	DC□T0702... DC□W0702... DC□X0702...	
SDJC% 1010F-11	●	●	10	10	18	10	80	12	0.2	SB-4085TR	FT-15	-	DC□T11T3... DC□W11T3... DC□X11T3...	
1212H-11	●	●	12	12		12	100	16						
1616H-11	●	●	16	16		16	20	20						
2020K-11	●	●	20	20		20	125	25						
2525M-11	●	●	25	25	23	25	150	32						

For WP chipbreaker, cutting edge offsets or program corrections are required on **R36** and **R37**.

SDJC-FF-Y (External turning / External copying, Y-axis toolholder)

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

Toolholder dimensions

Description	Availability	Dimension (mm)										Fig.	Coolant hole	Spare parts		Applicable inserts
														Screw	Wrench	
		R	H	B	LH	HF	HBH	HBKW	HBL	LF	WF					
SDJCR 1212JX-11FF-Y	●	12	12	20	12	2	8	22	120	12	1	No	SB-4085TR	FT-15	DC□T11T3... DC□W11T3... DC□X11T3...	
1616JX-11FF-Y	●	16	16	25	16	-	10	-		16	2					

For WP chipbreaker, cutting edge offsets or program corrections are required on **R36** and **R37**.**Applicable inserts (ADJC-FF / SDJC-FF / SDJC-FFJCTM / SDJC / SDJC-FF-Y)**

Applications	Minute ap	Finishing	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing
Insert								
Chipbreaker type	CF	GF	SKS	SK	CK	GQ	WP	³ / ₄ -WP
Page	B68	B68	B68	B68	B68	B69	B69	B69
Applications	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Medium	Medium	Finishing	Finishing
Insert								
Chipbreaker type	PP	GP	GK	HQ	STD	MF	³ / ₄ -F	³ / ₄ -FSF
Page	B69	B69	B70	B70	B70	B70	B72, B73	B72
Applications	Low feed	Low feed	Low feed	Low feed	Low carbon steel	Low carbon steel	Stainless steel / Heat-resistant alloys	Cast iron
Insert								
Chipbreaker type	³ / ₄ -U	³ / ₄ -USF	³ / ₄ -J	³ / ₄ -JSF	XP	XQ	MQ	No CB
Page	B74~B76	B74	B77	B76	B71	B71	B71	B78
Applications	Non-ferrous metals	Non-ferrous metals	Non-ferrous metals	Non-ferrous metals	Non-ferrous metals	Hard materials		
Insert								
Chipbreaker type	AP	³ / ₄ -A3	AH	PCD	APD	CBN		
Page	B78	B78	B78	C42	C42	C22		

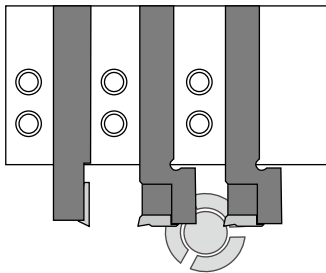
Recommended cutting conditions ● E65, E66

● : Standard item

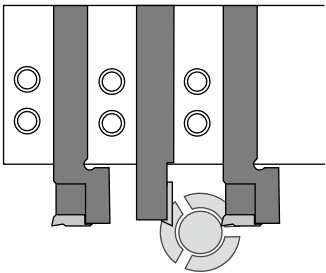
Precautions for using Y-axis toolholder

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

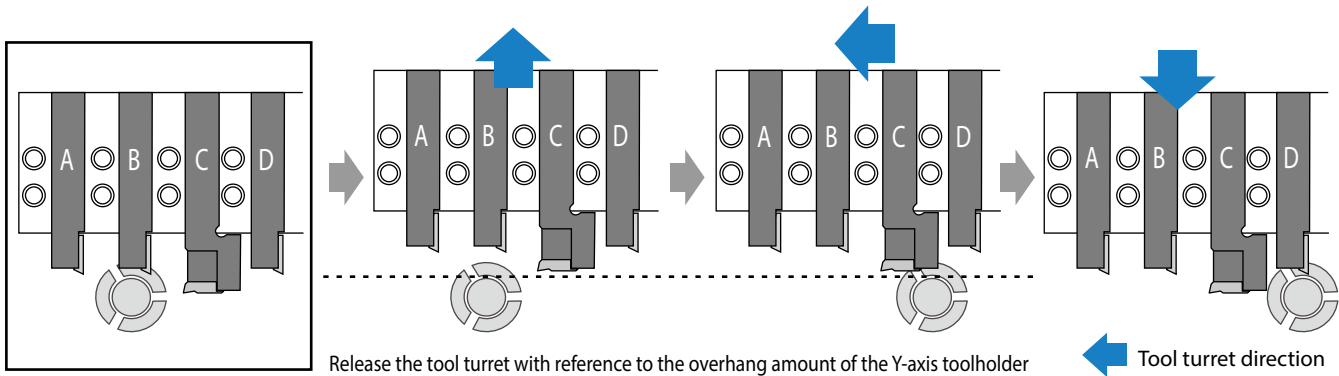


Without interference



Standard toolholders may be mounted between two Y-axis toolholders

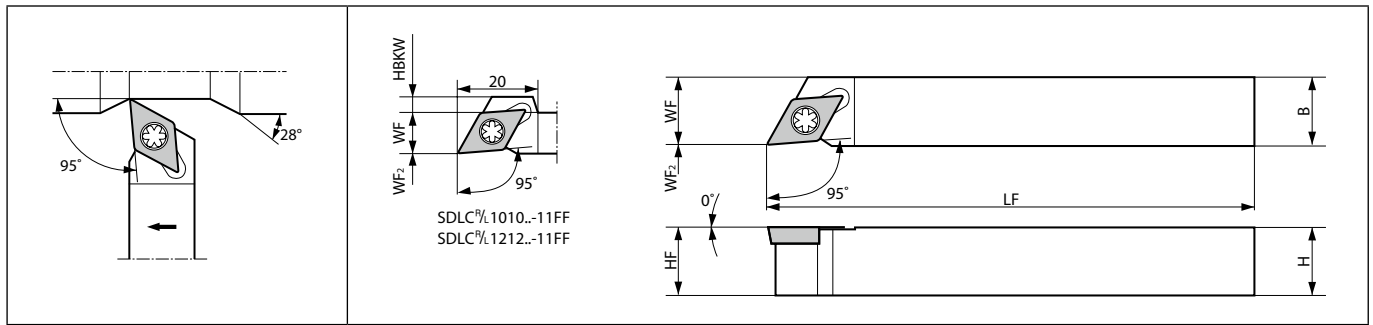
When changing the tool, set the retracted position with reference to the cutting edge of the Y-axis holder. (When exchanging from tool B to D)



E
Small tools

Note that using other toolholders together will result in dierent outside diameters (Unit : mm)

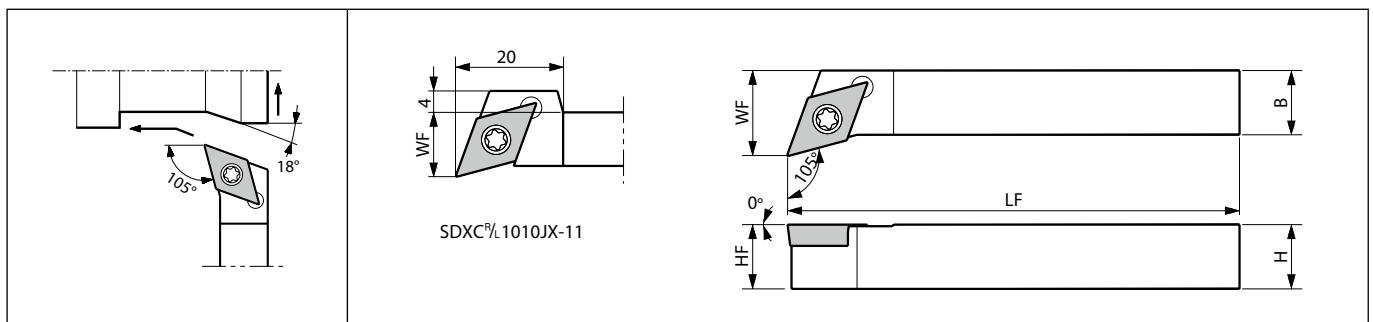
Y-axis toolholder overhang	Examples	Overhang amount L			
		Available outside cutting diameter (φ)	20	22	25
20		A	Without restriction	Without restriction	Without restriction
		B	13.0	13.0	13.0
		C	Without restriction	Without restriction	Without restriction
25		A	38.0	58.0	Without restriction
		B	14.9	13.6	13.0
		C	45.0	60.0	Without restriction

SDLC-FF (External turning / External copying, Screw clamp, Without offset)

Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Spare parts			Applicable inserts
											Screw	Wrench	Wrench	
	R	L	H	B	HF	HBKW	LF	WF	WF ₂					
SDLC% 1010JX-07FF	●	●	10	10	10		120	10		0.2	SB-2570TR	-	FT-8	DC□T0702... DC□W0702...
1212F-07FF	●	●	12	12	12	-	85	12						
1212JX-07FF	●	●	12	12	12	-	120	12						
1616JX-07FF	●	●	16	16	16			16						
SDLC% 1010F-11FF	●		10	10	10	4	80	10		0.2	SB-4085TR	FT-15	-	DC□T11T3... DC□W11T3...
1010JX-11FF	●	●	10	10	10	4	120	10						
1212F-11FF	●		12	12	12	2	85	12						
1212JX-11FF	●	●	12	12	12	2	120	12						
1616H-11FF	●		16	16	16	-	100	16						
1616JX-11FF	●	●	16	16	16	-	120	16						

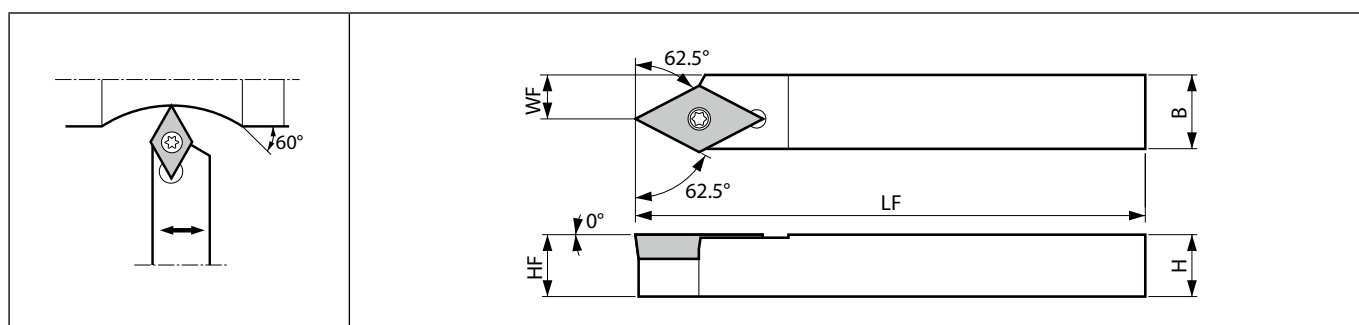
SDXC (External turning / External facing / External copying)

Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Spare parts			Applicable inserts
											Screw	Wrench	Wrench	
	R	L	H	B	HF	LF	WF							
SDXC% 1010JX-07	●	●	10	10	10	120	12	0.2		0.2	SB-2570TR	-	FT-8	DC□T0702... DC□W0702...
SDXC% 1010JX-11	●	●	10	10	10		12			0.2	SB-4085TR	FT-15	-	DC□T11T3... DC□W11T3...
1212JX-11	●	●	12	12	12	120	16							
1616JX-11	●	●	16	16	16		20							

● : Standard item

SDNC-F (External turning / External copying)

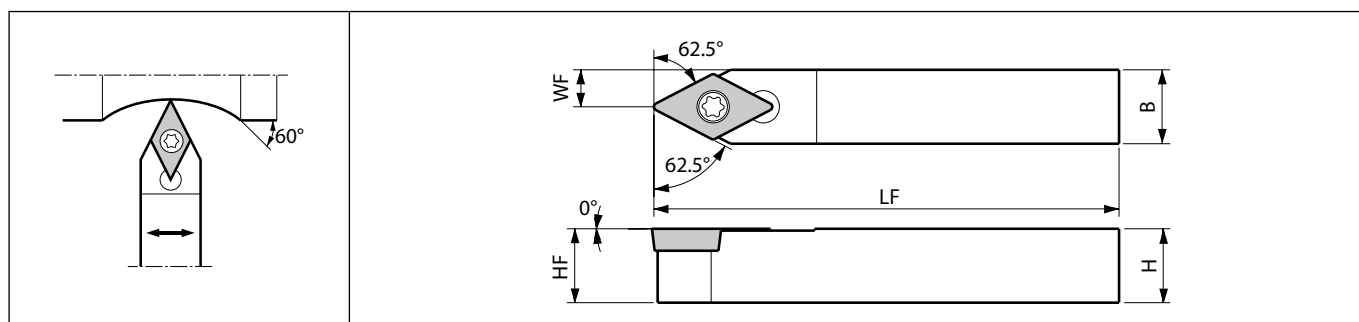
Right-hand shown

Toolholder dimensions

Description	Availability		Dimension (mm)						Standard corner-R(RE)	Spare parts		Applicable inserts
										Screw	Wrench	
	R	L	H	B	HF	LF	WF					
SDNC ⁹ 1010JX-07F	●	●	10	10	10	120	7	0.2	SB-2570TR	FT-8	DC□T0702... DC□W0702...	



Small tools

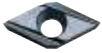
SDNC (External turning / External copying)

Toolholder dimensions

Description	Availability	Dimension (mm)						Standard corner-R(RE)	Spare parts			Applicable inserts
									Screw	Wrench	Wrench	
		N	H	B	HF	LF	WF					
SDNCN 0808F-07 1010JX-07 1212JX-07	●	8	8	8	85	4		0.2	SB-2570TR	-	FT-8	DC□T0702... DC□W0702...
	●	10	10	10	120	5						
	●	12	12	12	120	6						
SDNCN 1010F-11 1010JX-11 1212F-11 1212JX-11 1616H-11 1616JX-11	●	10	10	10	80	5		0.2	SB-4085TR	FT-15	-	DC□T11T3... DC□W11T3...
	●	10	10	10	120	5						
	●	12	12	12	85	6						
	●	12	12	12	120	6						
	●	16	16	16	100	8						
	●	16	16	16	120	8						

● : Standard item

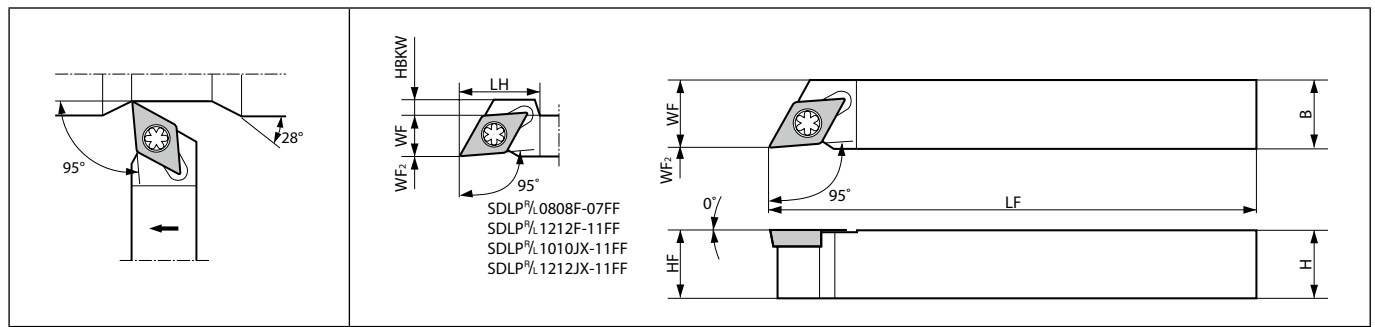
Applicable inserts (SDLC-FF / SDXC / SDNC-F / SDNC)

Applications	Minute ap	Finishing	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing
Insert								
Chipbreaker type	CF	GF	SKS	SK	CK	GQ	PP	GP
Page	B68	B68	B68	B68	B68	B69	B69	B69
Applications	Finishing - Medium	Finishing - Medium	Medium	Medium	Finishing	Finishing	Low feed	Low feed
Insert								
Chipbreaker type	GK	HQ	STD	MF	$\frac{R}{L}$ -F	$\frac{R}{L}$ -FSF	$\frac{R}{L}$ -U	$\frac{R}{L}$ -USF
Page	B70	B70	B70	B70	B72, B73	B72	B74~B76	B74
Applications	Low feed	Low feed	Low carbon steel	Low carbon steel	Stainless steel / Heat-resistant alloys	Cast iron	Non-ferrous metals	Non-ferrous metals
Insert								
Chipbreaker type	$\frac{R}{L}$ -J	$\frac{R}{L}$ -JSF	XP	XQ	MQ	No CB	AP	$\frac{R}{L}$ -A3
Page	B77	B76	B71	B71	B71	B78	B78	B78
Applications	Non-ferrous metals	Non-ferrous metals	Non-ferrous metals	Hard materials				
Insert								
Chipbreaker type	AH	PCD	APD	CBN				
Page	B78	C42	C42	C22				

Recommended cutting conditions  E65, E66

E

Small tools

SDLP-FF (External turning / External copying, Screw clamp, Without offset)

Right-hand shown

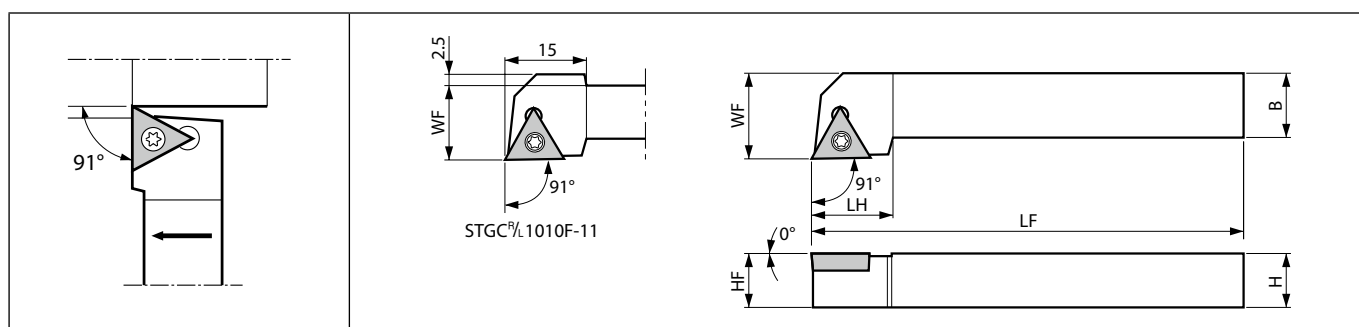
Toolholder dimensions

Description	Availability		Dimension (mm)										Standard corner-R(RE)	Spare parts			Applicable inserts
														Screw	Wrench	Wrench	
	R	L	H	B	LH	HF	HBKW	LF	WF	WF2							
SDLP% 0808F-07FF	●	●	8	8	14	8	0.5	85	8	0	0.2	SB-2570TR	-	FT-8			DPET0702...
1010JX-07FF	●	●	10	10	-	10	-	120	10								
SDLP% 1010JX-11FF	●	●	10	10	20	10	4	10									
1212JX-11FF	●	●	12	12		12	2	120	12								
1616JX-11FF	●	●	16	16	-	16	-		16								

Applicable inserts

Applications	Finishing	Low feed
Insert		
Chipbreaker type	^R /L-FSF	^R /L-USF
Page	B79	B79

Recommended cutting conditions  E65, E66

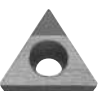
STGC (External turning)

Right-hand shown

Toolholder dimensions

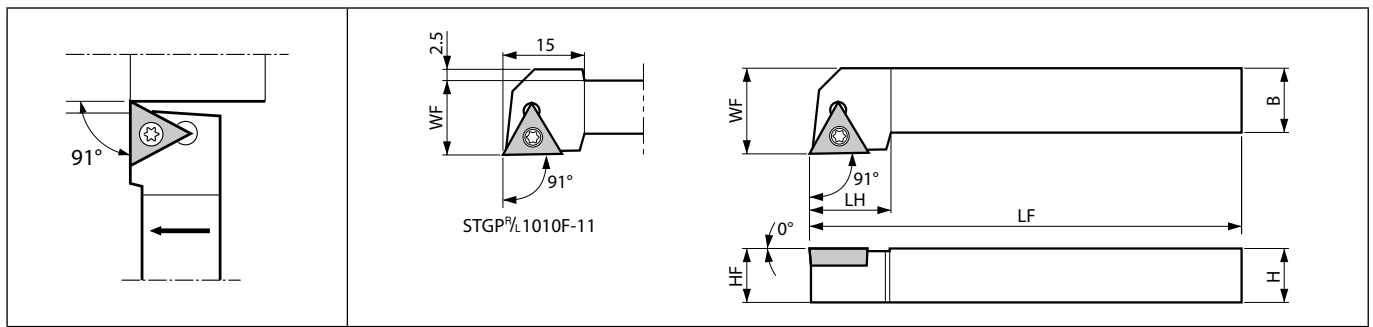
Description		Availability		Dimension (mm)							Standard corner-R(RE)	Spare parts		Applicable inserts
												Screw	Wrench	
		R	L	H	B	LH	HF	LF	WF					
STGC%	0808E-08	●		8	8	12	8	70	10	0.2	SB-2050TR	FT-6	TC□T0802... TC□W0802...	
	1010F-08	●	●	10	10		10	80	12					
STGC%	1010F-11	●	●	10	10	15	10	80	14	0.4	SB-2570TR	FT-8	TC□T1103... TC□W1103...	
	1212H-11	●	●	12	12		12	100	16					
	1616H-11	●	●	16	16		16	20	20					
	2020K-11	●	●	20	20		20	125	25					
	2525M-11	●	●	25	25		20	25	150					32

Applicable inserts

Applications	Low feed	Low feed	Cast iron	Non-ferrous metals	Non-ferrous metals
Insert					
Chipbreaker type	R/L-U	R/L-USF	No CB	R/L-A3	PCD
Page	B86	B85	B87	B87	C45

Recommended cutting conditions  E65, E66

● : Standard item

STGP (External turning)

Right-hand shown

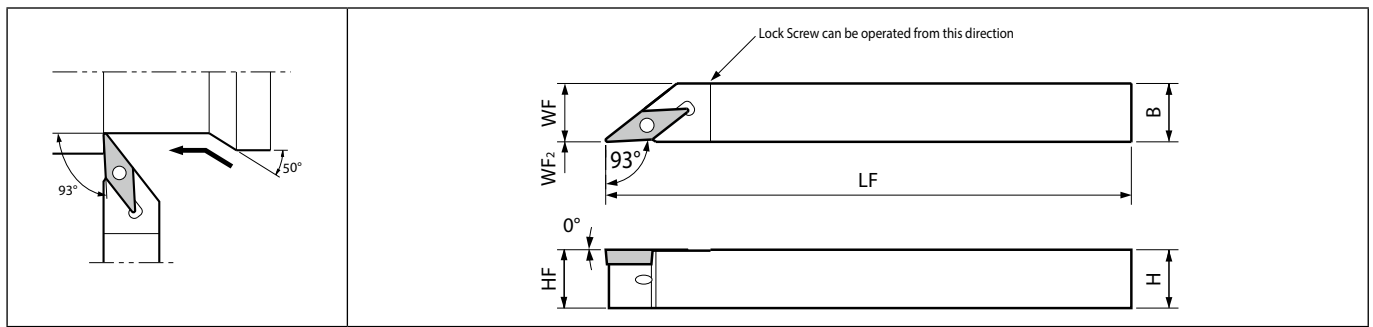
Toolholder dimensions

Description	Availability		Dimension (mm)							Standard corner-R(RE)	Spare parts		Applicable inserts
											Screw	Wrench	
	R	L	H	B	LH	HF	LF	WF					
STGPR 0808E-08	●		8	8	12	8	70	10	0.2	SB-2050TR	FT-6	TP□B0802..., TP□H0802... TP□T0802...	
STGP% 1010F-11 1212H-11 1616H-11	●	●	10	10	15	10	80	14	0.2	SB-3080TR	FT-10	TP□B1103... TP□H1103... TP□T1103...	
	●	●	12	12		12	100	16					
	●	●	16	16		16		20					

Applicable inserts

Applications	Minute ap	Finishing	Finishing	Finishing - Medium	Finishing	Finishing	Low feed	Medium
Insert								
Chipbreaker type	CF	PP	GP	HQ	R/L	1/2-FSF	1/2-USF	1/2-H
Page	B88	B88	B89	B89	B90, B91	B92	B94	B93
Applications	Low carbon steel	Low carbon steel	Cast iron	Non-ferrous metals	Non-ferrous metals	Non-ferrous metals	Hard materials	
Insert								
Chipbreaker type	XP	XQ	No CB	AP	PCD	APD	CBN	
Page	B89	B89	B94	B94	C46, C47	C47	C23	

Recommended cutting conditions E65, E66

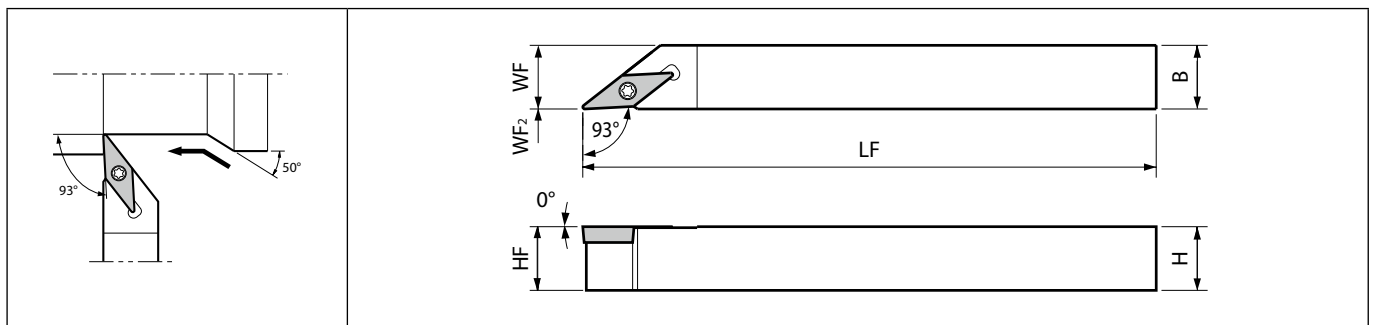
AVJB-FF (External turning / External copying , Back clamp, Without offset)

Right-hand shown

Toolholder dimensions

Description		Availability		Dimension (mm)						Standard corner-R(RE)	Spare parts			Applicable inserts
											Anchor pin	Lock screw	Wrench	
		R	L	H	B	HF	LF	WF	WF ₂					
AVJB ⁵ /L	1010JX-11FF	●	●	10	10	10	120	10	0	0.4	LPF-11	HSB4X8%	FH-2	VB□T1103... VB□W1103...
	1212JX-11FF	●	●	12	12	12		12			LPF-1113			
	1616JX-11FF	●	●	16	16	16		16			LPF-1117			

Lock screw : HSB4X8R for Right-hand Toolholder, HSB4X8L for Left-hand Toolholder.

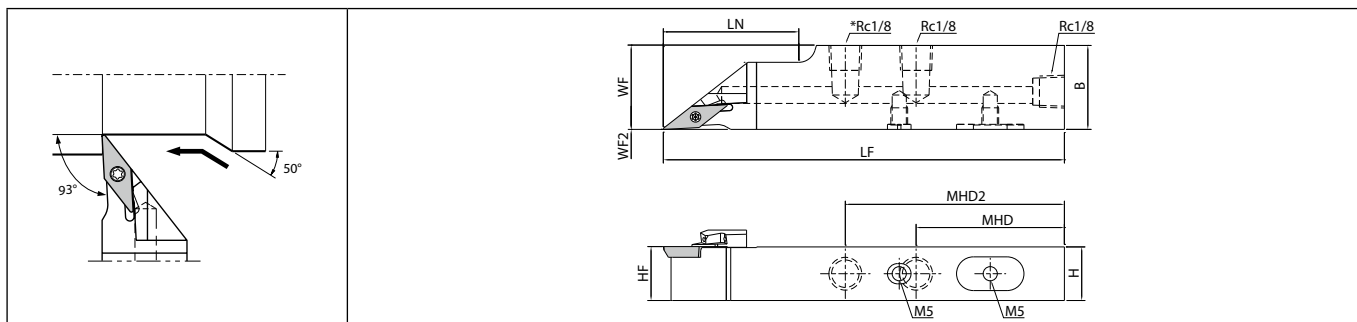
SVJB-FF (External turning / External copying, Screw clamp, Without offset)

Right-hand shown

Toolholder dimensions

Description		Availability		Dimension (mm)							Standard corner-R(RE)	Spare parts		Applicable inserts
												Screw	Wrench	
		R	L	H	B	HF	LF	WF	WF ₂					
SVJB [®] 1010JX-11FF 1212JX-11FF 1616JX-11FF 2020JX-11FF	●	●	10	10	10	120	10	0	0.4	SB-2570TR	FT-8	VB□T1103... VB□W1103...		
	●	●	12	12	12		12							
	●	●	16	16	16		16							
	●	●	20	20	20		20							

● : Standard item

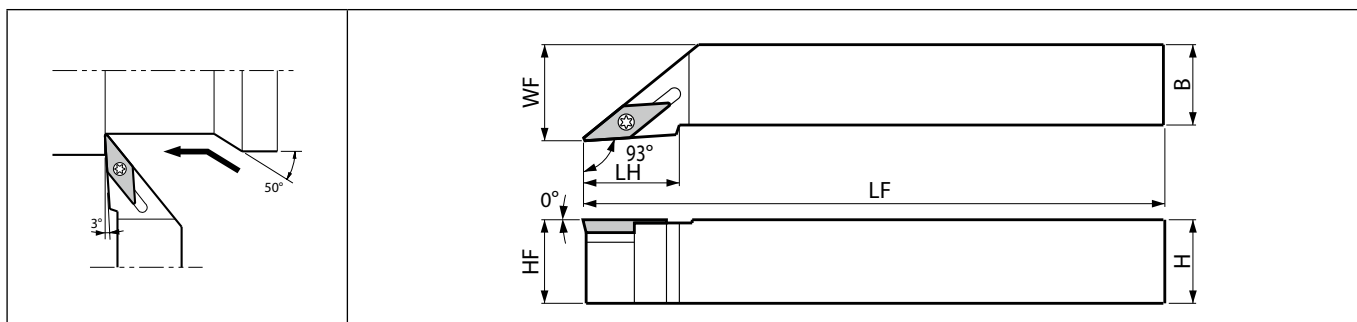
SVJB-FFJCTM (External turning / External copying, Screw clamp, Without offset, Coolant-through holder)

Right-hand shown | SVJBR12...: 2-Rc1/8

Toolholder dimensions

Description		Availability	Dimension (mm)									Standard corner-R(RE)	Coolant hole	Spare parts				Applicable inserts
														Plug	Plug	Screw	Wrench	
			R	H	B	MHD	MHD2	HF	LF	LN	WF			WF ₂				
SVJBR	1218JX-11FFJCTM	●	12	18	54	-	12		28	18		0.4	Yes	GP-1	HSSX4LP	SB-2570TR	FT-8	VB□T1103... VB□W1103...
	1625JX-11FFJCTM	●	16				16	120										
	2025JX-11FFJCTM	●	20	25	44	65	20		40	25					-			

Please see page H16 and H17 for piping parts of coolant-through holders.

SVJB (External turning / External copying, Screw clamp)

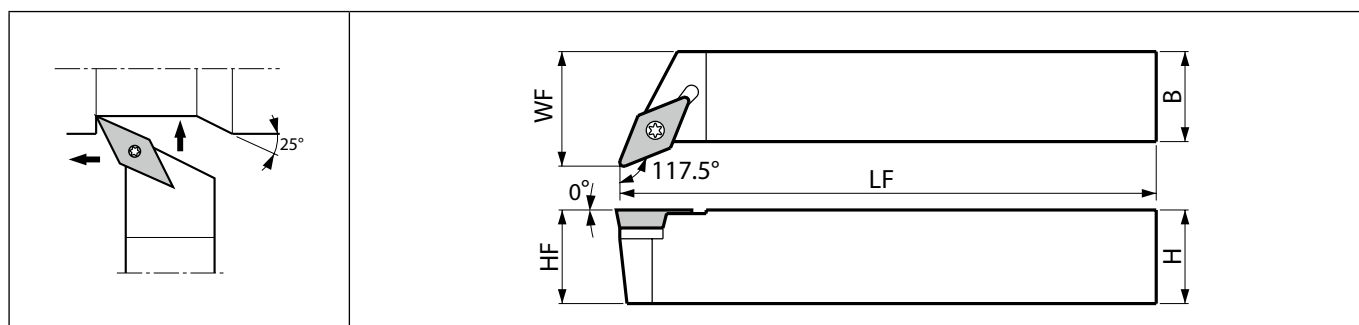
Right-hand shown

Toolholder dimensions

Description		Availability		Dimension (mm)						Standard corner-R(RE)	Spare parts						Applicable inserts
											Screw	Wrench	Wrench	Shim screw	Shim	Wrench	
		R	L	H	B	LH	HF	LF	WF								
SVJB% 2020K-11 2525M-11	●	●	20	20	30	20	125	25	0.4	SB-2570TR	-	FT-8	-	-	-	VB□T1103... VB□W1103...	
	●	●	25	25	35	25	150	32									
SVJB% 2020K-16N 2525M-16N	●	●	20	20	30	20	125	25	0.8	SB-40125TRN	FT-15	-	SS-4N	SVN-32N (SVN-32S*)	LW-4	VB□T1604..., VB□W1604... VC□T1604...	
	●	●	25	25		25	150	32									

When using inserts whose corner-R(RE) is 0.2 or 0.4mm, shim (SVN-32S) is recommended (sold separately).

● : Standard item

SVPB (External turning / External facing / External copying / Undercutting, Screw clamp)

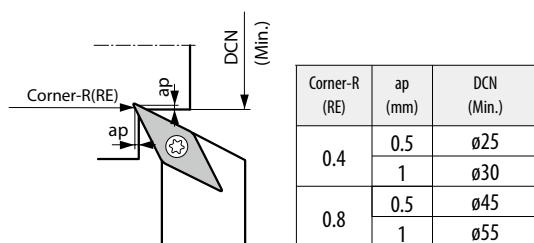
Right-hand shown

Toolholder dimensions

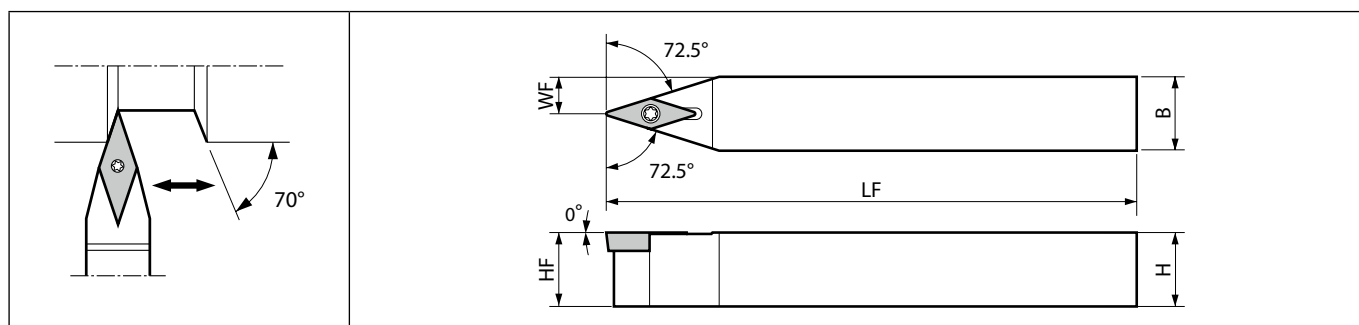
Description	Availability		Dimension (mm)						Standard corner-R(RE)	Spare parts						Applicable inserts
										Screw	Wrench	Wrench	Shim screw	Shim	Wrench	
	R	L	H	B	HF	LF	WF									
SVPB% 1010JX-11 1212JX-11 1616JX-11 2020K-11 2525M-11	● ● ● ● ●	● ● ● ● ●	10 12 16 20 25	10 12 16 20 25	10 12 16 20 25	120 16.5 20.5 25 32	0.4	SB-2570TR	-	FT-8	-	-	-	VB□T1103... VB□W1103...		
SVPB% 2020K-16N 2525M-16N	● ●	● ●	20 25	20 25	20 25	125 150 32	0.8	SB-40125TRN	FT-15	-	SS-4N	SVN-32N (SVN-32S*)	LW-4	VB□T1604..., VB□W1604... VC□T1604...		

When using inserts whose corner-R(RE) is 0.2 or 0.4mm, shim (SVN-32S) is recommended (sold separately).

Undercutting diameter of SVPB



● : Standard item

SVVB (External turning / External copying)

Toolholder dimensions

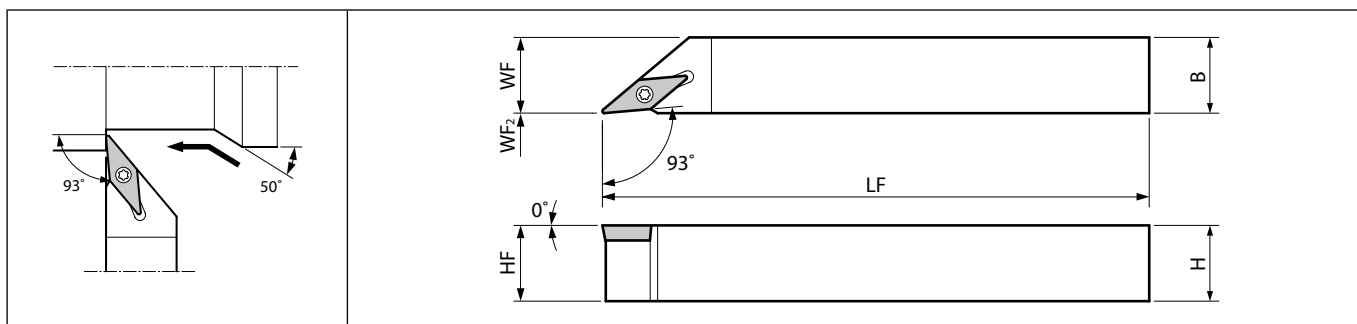
Description	Availability	Dimension (mm)						Standard corner-R(RE)	Spare parts						Applicable inserts
									Screw	Wrench	Wrench	Shim screw	Shim	Wrench	
		N	H	B	HF	LF	WF								
SVVBN 1010F-11 1010JX-11 1212F-11 1212JX-11 1616H-11 1616JX-11 2020K-11 2525M-11	●	10	10	10	80	5	0.4	SB-2570TR	-	FT-8	-	-	-	-	VB-T1103... VB-W1103...
	●	10	10	10	120	5									
	●	12	12	12	85	6									
	●	12	12	12	120	6									
	●	16	16	16	100	8									
	●	16	16	16	120	8									
	●	20	20	20	125	10									
	●	25	25	25	150	12.5									
SVVBN 2020K-16N 2525M-16N	●	20	20	20	125	10	0.8	SB-40125TRN	FT-15	-	SS-4N	SVN-32N (SVN-32S*)	LW-4	VB-T1604..., VB-W1604... VC-T1604...	
	●	25	25	25	150	12.5									

When using inserts whose corner-R(RE) is 0.2 or 0.4mm, shim (SVN-32S) is recommended (sold separately).

Applicable inserts (AVJB-FF / SVJB-FF / SVJB-FFJCTM / SVJB / SVPB / SVVB)

Applications	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing	Finishing - Medium	Non-ferrous metals
Insert								
Chipbreaker type	PP	GP	VF	HQ	%/-F	%/-FSF	%/-Y	PCD
Page	B97	B97	B97	B97	B98	B98	B99	C49
Applications	Hard materials							
Insert								
Chipbreaker type	CBN							
Page	C26							

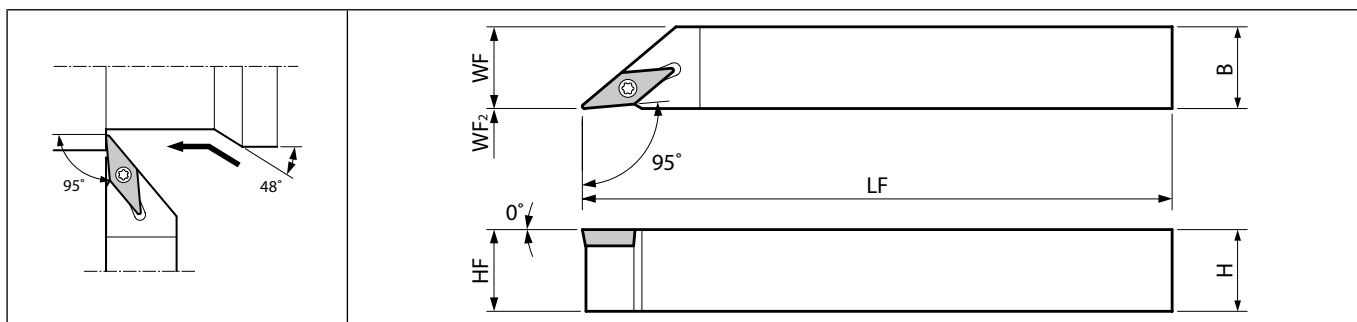
Recommended cutting conditions ➡ E65, E66

SVJC-FF (External turning / External copying, Screw clamp, Without offset)

Right-hand shown

Toolholder dimensions

Description		Availability		Dimension (mm)							Standard corner-R(RE)	Spare parts		Applicable inserts
												Screw	Wrench	
		R	L	H	B	HF	LF	WF	WF ₂					
SVJC%	1010JX-11FF	●	●	10	10	10	120	10	0	0.2	SB-2570TR	FT-8	VC□T1103...	
	1212F-11FF	●	●	12	12	12	85	12						
	1212JX-11FF	●	●				120	16						
	1616JX-11FF	●	●	16	16									
	2020JX-11FF	●	●	20	20	20		20						

SVLC-FF (External turning / External copying, Screw clamp, Without offset)

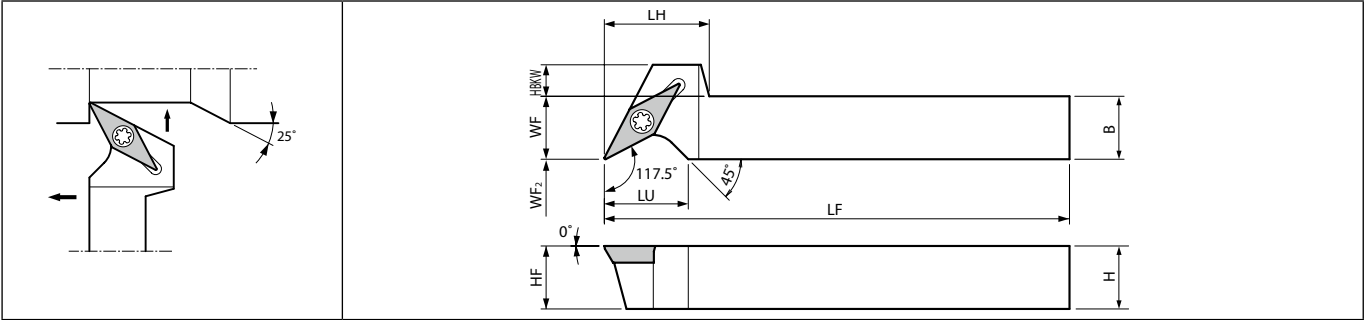
Right-hand shown

Toolholder dimensions

Description		Availability		Dimension (mm)						Standard corner-R(RE)	Spare parts		Applicable inserts
											Screw	Wrench	
		R	L	H	B	HF	LF	WF	WF ₂				
SVLC [®] /	1212F-11FF	●	●	12	12	12	85	12	0	0.2	SB-2570TR	FT-8	VC□T1103...
	1212JX-11FF	●	●				120						
	1616JX-11FF	●	●	16	16	16	16						

● : Standard item

SVPC-FF (External turning / External facing / External copying / Undercutting, Screw clamp, Without offset)

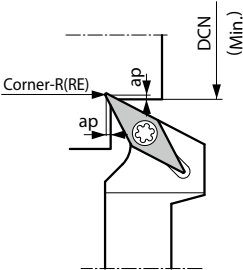


Right-hand shown

Toolholder dimensions

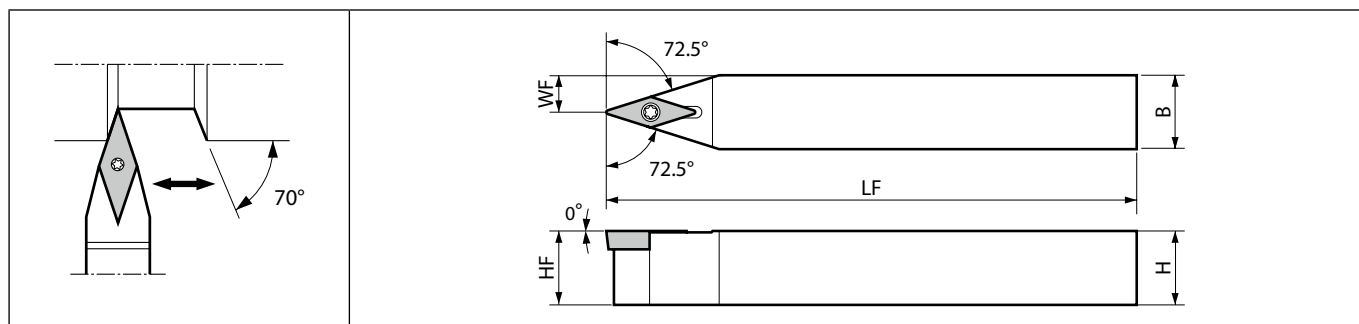
Description	Availability	Dimension (mm)										Standard corner-R(RE)	Spare parts		Applicable inserts
		R	H	B	LH	HF	HBKW	LF	LU	WF	WF ₂		Screw	Wrench	
															
SVPCR 1010JX-11FF	●	10	10	20	10	8	120	16	10	0	0.2	SB-2570TR	FT-8	VC□T1103...	
1212F-11FF	●	12	12		12	6	85		12						
1212JX-11FF	●	16	16		16	2	120		20						16
1616JX-11FF	●														

Undercutting diameter of SVPC-FF



Corner-R (RE)	ap (mm)	DCN (Min.)
0.2	0.5	ø20
	0.7	ø25

● : Standard item

SVVC (External turning / External copying)**E**

Toolholder dimensions

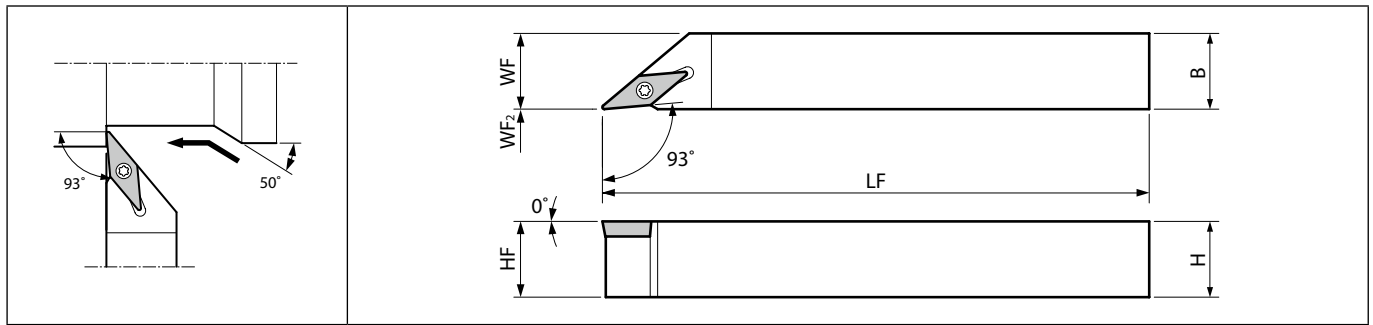
Description	Availability	Dimension (mm)						Standard corner-R(RE)	Spare parts		Applicable inserts
									Screw	Wrench	
		N	H	B	HF	LF	WF				
SVVCN 1010JX-11	●	10	10	10			5	0.2	SB-2570TR	FT-8	VC□T1103...
1212JX-11	●	12	12	12	120	6	6				
1616JX-11	●	16	16	16		8	8				

Applicable inserts (SVJC-FF / SVLC-FF / SVPC-FF / SVVC)

Applications	Minute ap	Finishing	Finishing	Finishing	Finishing - Medium
Insert					
Chipbreaker type	CF	GF	SKS	^P / _L -F	^P / _L -Y
Page	B100	B100	B100	B101	B101

Recommended cutting conditions ➡ **E65, E66**

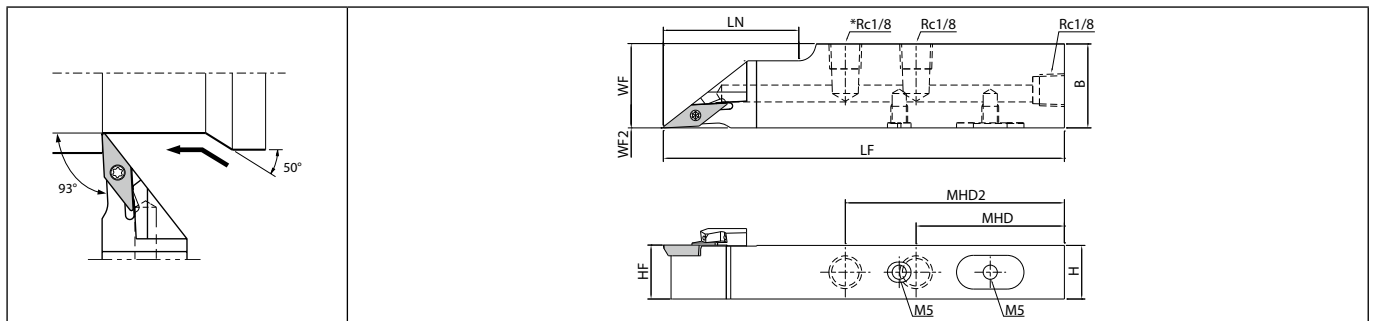
● : Standard item

SVJP-FF (External turning / External copying, Screw clamp, Without offset)

Right-hand shown

Toolholder dimensions

Description		Availability		Dimension (mm)							Standard corner-R(RE)	Spare parts		Applicable inserts
												Screw	Wrench	
		R	L	H	B	HF	LF	WF	WF ₂					
SVJP ⁹⁰ /L	1212F-11FF	●	●	12	12	12	85	12	0	0.2	SB-2570TR	FT-8	VP□T1103...	
	1212JX-11FF	●	●											
	1616JX-11FF	●	●	16	16	16	120	16						
	2020JX-11FF	●	●	20	20	20		20						

SVJP-FFJCTM (External turning / External copying, Screw clamp, Without offset, Coolant-through holder)

Right-hand shown | SVJPR12...: 2-Rc1/8

Toolholder dimensions

Description		Availability	Dimension (mm)									Standard corner-R(RE)	Coolant hole	Spare parts				Applicable inserts	
														Plug	Plug	Screw	Wrench		
			R	H	B	MHD	MHD2	HF	LF	LN	WF			WF2					
SVJPR	1218JX-11FFJCTM	●	12	18	54	-	12		28	18	0	0.2	Yes	GP-1	HS5X4LP	SB-2570TR	FT-8	VP□T1103...	
	1625JX-11FFJCTM	●	16		25	44	65	16	120	40					25				-
	2025JX-11FFJCTM	●	20					20											

Please see page H16 and H17 for piping parts of coolant-through holders.

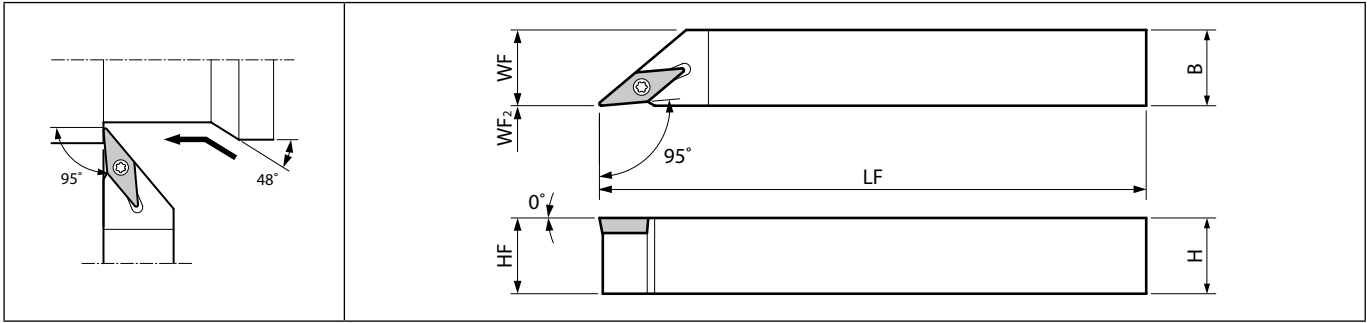
● : Standard item

E



Small tools

SVLP-FF (External turning / External copying, Screw clamp, Without offset)

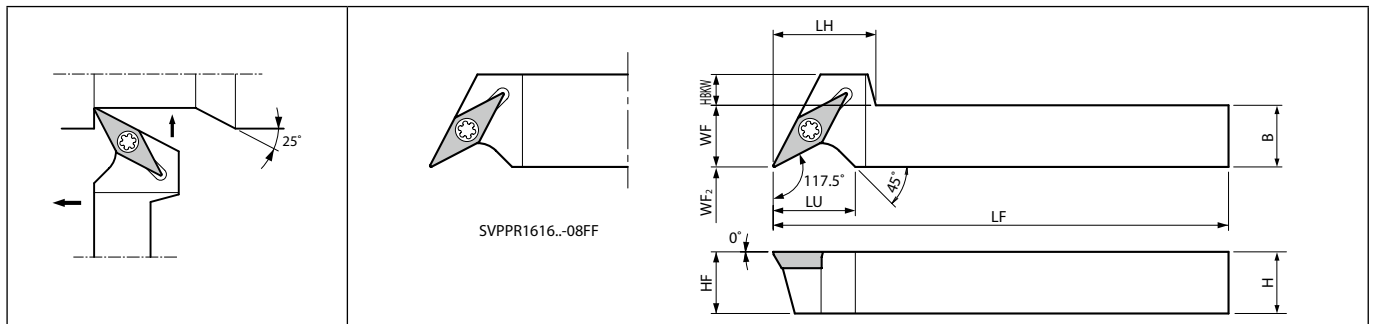


Right-hand shown

Toolholder dimensions

Description		Availability		Dimension (mm)						Standard corner-R(RE)	Spare parts		Applicable inserts
											Screw	Wrench	
		R	L	H	B	HF	LF	WF	WF ₂				
SVLP ^{P/L} 1010JX-08FF 1212F-08FF 1212JX-08FF 1616JX-08FF	●	●	10	10	10	120	10	0	0.1	SB-2050TR	FT-6	VP□T0802...	
	●	●	12	12	12	85	12						
	●	●				120	16						
	●	●	16	16	16	120	16						
SVLP ^{P/L} 1212F-11FF 1212JX-11FF 1616JX-11FF	●	●	12	12	12	85	12	0	0.2	SB-2570TR	FT-8	VP□T1103...	
	●	●				120	12						
	●	●	16	16	16	120	16						

● : Standard item

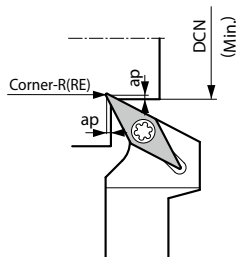
SVPP-FF (External turning / External facing / External copying / Undercutting, Screw clamp, Without offset)

Right-hand shown

Toolholder dimensions

Description		Availability	Dimension (mm)										Standard corner-R(RE)	Spare parts		Applicable inserts
														Screw	Wrench	
			R	H	B	LH	HF	HBKW	LF	LU	WF	WF ₂				
SVPPR	1010JX-08FF	●	10	10	16	10	4	120	12	10	0	0.1	SB-2050TR	FT-6	VP□T0802...	
	1212F-08FF	●	12	12		12	2	85		12						12
	1212JX-08FF	●	16	16	-	16	-	120	16							
	1616JX-08FF	●														
SVPPR	1010JX-11FF	●	10	10	20	10	8	120	16	10	0	0.2	SB-2570TR	FT-8	VP□T1103...	
	1212F-11FF	●	12	12		12	6	85		12						
	1212JX-11FF	●														
	1616JX-11FF	●	16	16		16	2	120		16						

Undercutting diameter of SVPP-FF



Corner-R (RE)	ap (mm)	DCN (Min.)
0.2	0.5	ø20
	1	ø25

Applicable inserts (SVJP-FF / SVJP-FFJCTM / SVLP-FF / SVPP-FF)

Applications	Minute ap	Finishing	Finishing	Finishing	Finishing	Finishing	Low feed	Low feed
Insert								
Chipbreaker type	CF	SKS	CK	GF	°/L-F	°/L-FSF	°/L-U	°/L-USF
Page	B102	B102	B102	B102	B103	B103	B104	B104
Applications	Low feed							
Insert								
Chipbreaker type	°/L-J							
Page	B104							

Recommended cutting conditions ● E65, E66

● : Standard item

25° Insert profiling tools

ZBMT Series

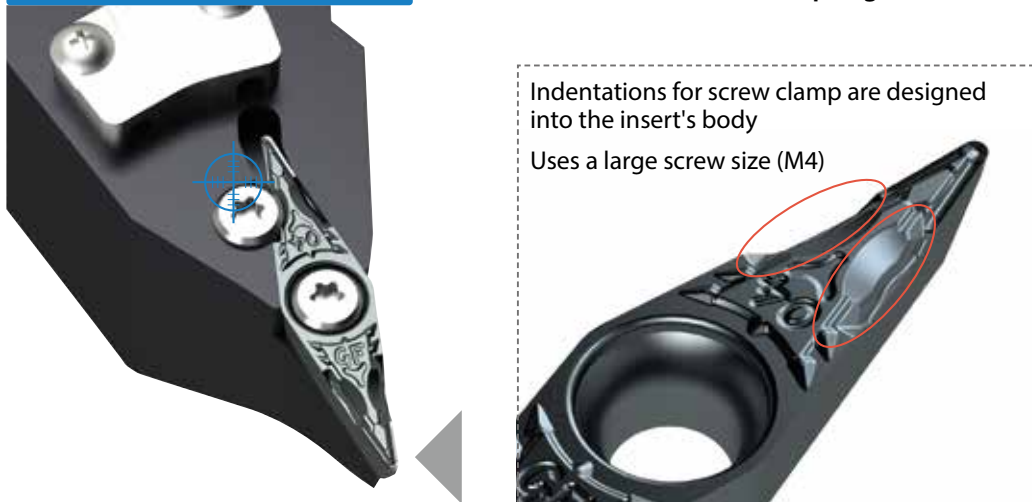
Unique clamping structure and a wide lineup of external toolholders and boring bars. High precision and stable machining in a wide range of applications including copying, undercutting, tapering, V-slotting, spherical machining, and more.

E

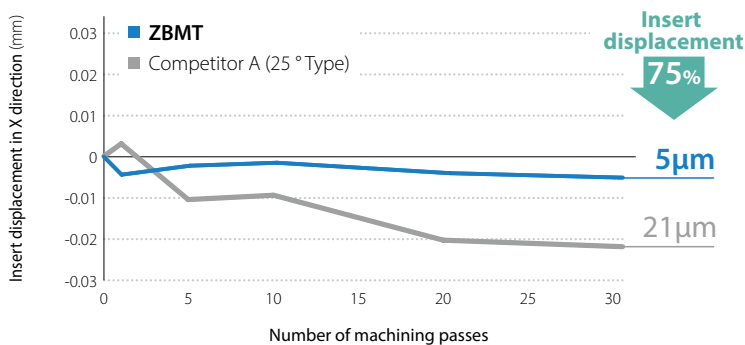
1 Newly developed unique-clamping mechanism achieves a higher rigidity

Side lock mechanism

Unique design holds insert at 2 points
Safe even for insert with small tip angle that is difficult to mount



Insert displacement during facing comparison (Internal evaluation)



Cutting conditions : $V_c = 230$ m/min, $a_p = 0.3$ mm, $f = 0.15$ mm/rev, Wet Workpiece material SCM435

*The above figures are not guaranteed. It depends on cutting conditions.

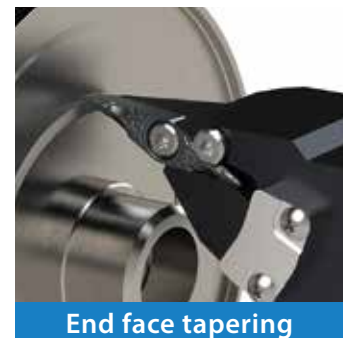
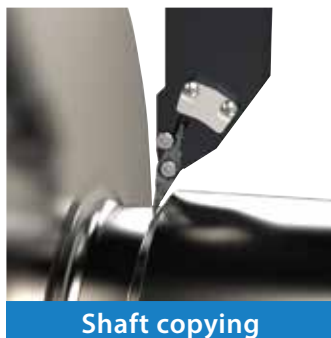
Check

By controlling insert displacement,

- Machining precision is stabilized and long tool life is enable
- Reduces defect rate due to sudden dimensional deviation

Provides high quality and stable machining in various machining applications

Excellent performance in various machining applications including copying, undercutting, tapering, V-slotting, spherical machining, etc.



CG images

2 Unique holder design to meet customers' needs

Both boring bars and external toolholders are compatible with internal coolant.

Uses a clamp with a small thickness that does not prevent chip flow

Unique double coolant hole design

Supplies coolant directly to the cutting edge and provides improved chip evacuation and long tool life (Coolant discharge direction: Fine adjustment possible)

*Though coolant stream hits side clamp screw, machining performance is not affected

*Pressure resistance: ~ 3 MPa

Fine tuned and adjustable
± 4 ° Adjustable oscillation

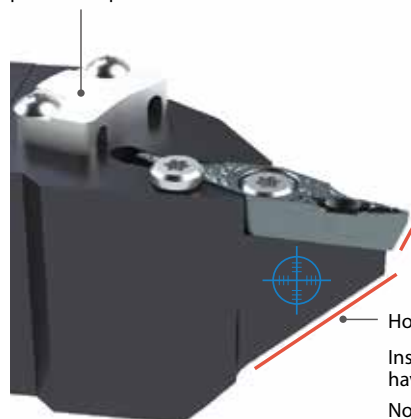
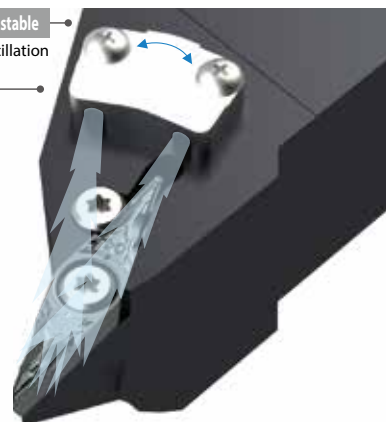
Easy to use for facing

Insert corner:
2-Step Positive Type (20°)

Effective for facing applications

Holder: Tapered shape
Inserts and toolholders have a unique end shape

No additional machining is required when trying to avoid interference with workpiece.



3 New GF chipbreaker for ZBMT reduces chip control issues at minute D.O.C.

GF chipbreaker

Solving chip control issues leads to high-quality surface finishes

The thin molded chipbreaker extends near the corner and reliably controls chips even in narrow spaces

Two-step dot

Responds to chip fluctuation

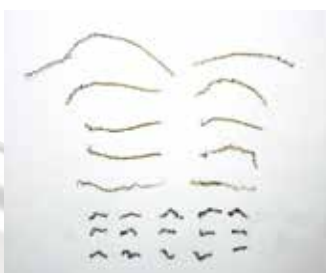
Sloped cutting edge

Improved chip control at small D.O.C.

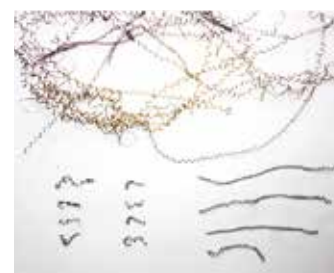
Mortar-shaped chipbreaker

Low resistance and excellent chip control even in ductile workpieces

Chip control comparison
(Internal evaluation)



GF chipbreaker

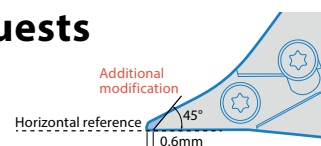


Competitor A (25° Type)

Cutting conditions: $V_c = 230$ m/min, $f = 0.15$ mm/rev, $a_p = 0.2 - 0.5$ mm,
Wet Workpiece material SCM435 Facing

15° Inserts are also available upon customer requests

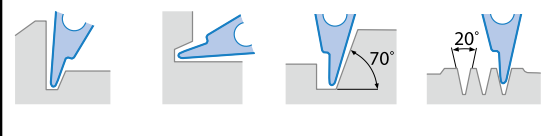
To avoid holder interference, additional modifications is required as shown in the figure on the right. Also, as shown in the figure below, special order for holders may be required depending on machining application.



Examples

When using the toolholder in reverse mounting position

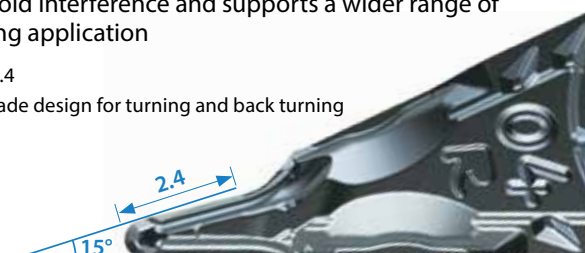
When using the toolholder in normal mounting position
* Holder: Special order specification

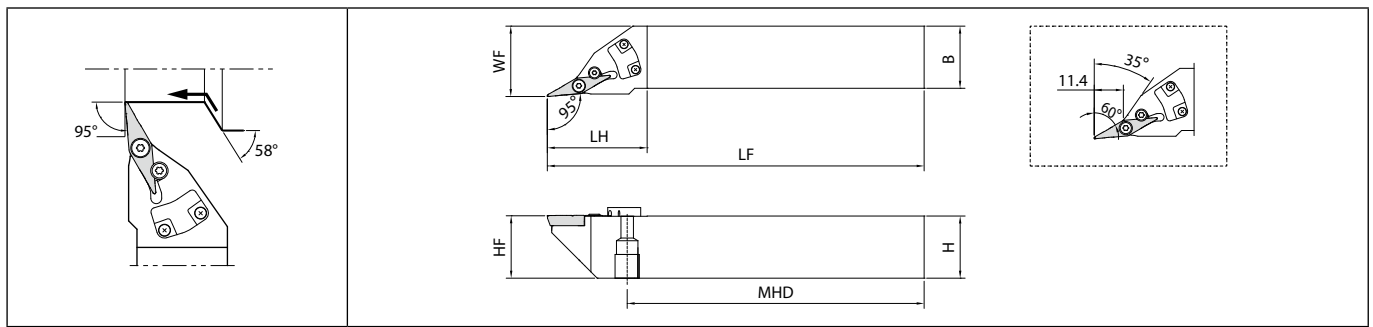


15° inserts are developed relative to 25° inserts
Helps avoid interference and supports a wider range of machining application

Corner-R 0.4

Double-blade design for turning and back turning



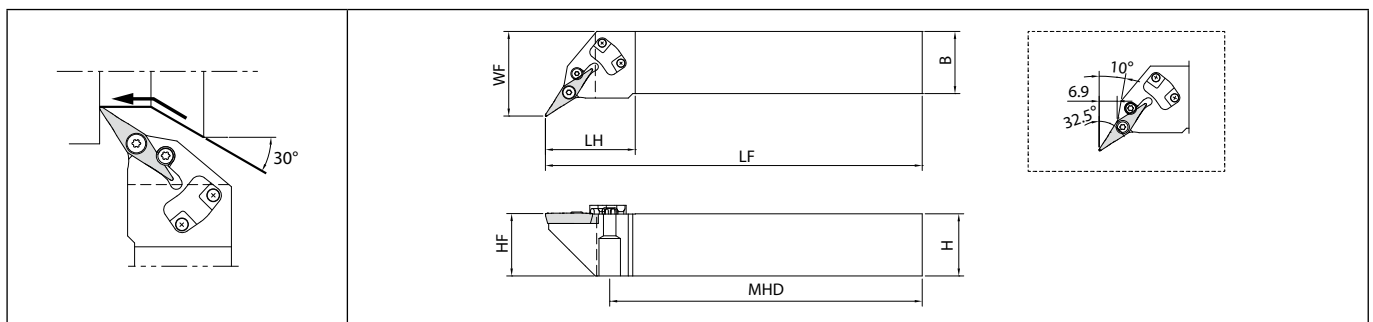
SZLB (External turning / External copying, Screw clamp, Coolant-through holder)

Right-hand shown | ZBMT13T304R-GF-15D is applicable to Right-hand Toolholder. | Applicable pressure : ~3MPa

Toolholder dimensions

Description		Availability		Dimension (mm)							Standard corner-R(RE)	Coolant hole	Spare parts				Applicable inserts
													Clamper screw	Clamper	Screw	Wrench	
		R	L	H	B	LH	MHD	HF	LF	WF							
SZLB%L	2020K-13C	●	●	20	20	40	92.6	20	125	23	0.4	Yes	BH2X6	ZCP-13	SB-3079TR	FT-8	ZBMT13T3...
	2525M-13C	●	●	25	25		118	25	150	28.2							

Please see page D12 for piping parts of coolant-through holders.

SZPB (External turning / External facing / External copying / Undercutting, Screw clamp, Coolant-through holder)

Right-hand shown | Applicable pressure : ~3MPa

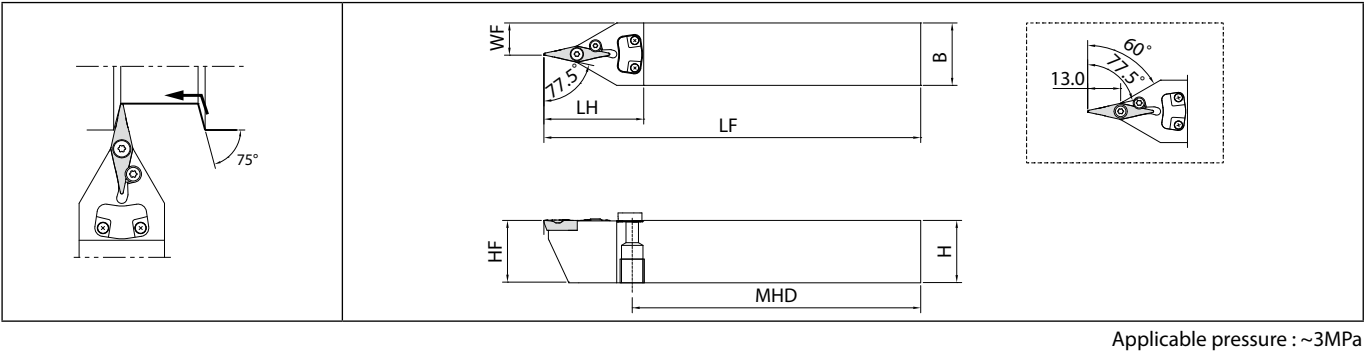
Toolholder dimensions

Description	Availability		Dimension (mm)								Standard corner-R(RE)	Coolant hole	Spare parts				Applicable inserts
													Clamper screw	Clamper	Screw	Wrench	
	R	L	H	B	LH	MHD	HF	LF	WF								
SZPB%L 2020K-13C 2525M-13C	●	●	20	20	37	95	20	125	27.2	0.4	Yes	BH2X6	ZCP-13	SB-3079TR	FT-8	ZBMT13T3...	
	●	●	25	25	36	124.2	25	150	33.9								

Please see page D12 for piping parts of coolant-through holders.

● : Standard item

SZVB (External turning / External copying, Screw clamp, Coolant-through holder)



Toolholder dimensions

Description	Availability	Dimension (mm)								Standard corner-R(RE)	Coolant hole	Spare parts				Applicable inserts
		N	H	B	LH	MHD	HF	LF	WF			Clamper screw	Clamper	Screw	Wrench	
																
SZVBN 2020K-13C 2525M-13C	●	20	20	40	89.6	20	125	10	0.4	Yes					ZBMT13T3...	
	●	25	25		114.6	25	150	12.5								

Please see page D12 for piping parts of coolant-through holders.

Applicable inserts

Applications	Finishing	Finishing	Non-ferrous metals
Insert			
Chipbreaker type	GF	R-GF-15D	NE
Page	B108	B108	C53

R-GF-15D inserts are only for the right-hand toolholders of SZLB.

Recommended cutting conditions ➡ E68

Instructions

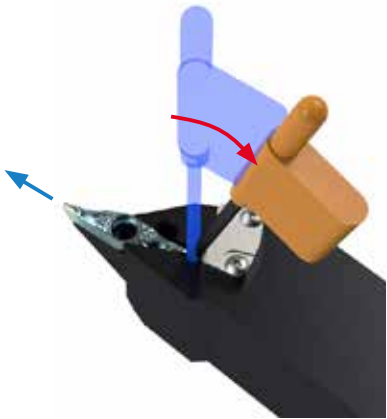
When mounting the insert (Tightening torque: 1.2 N·m)



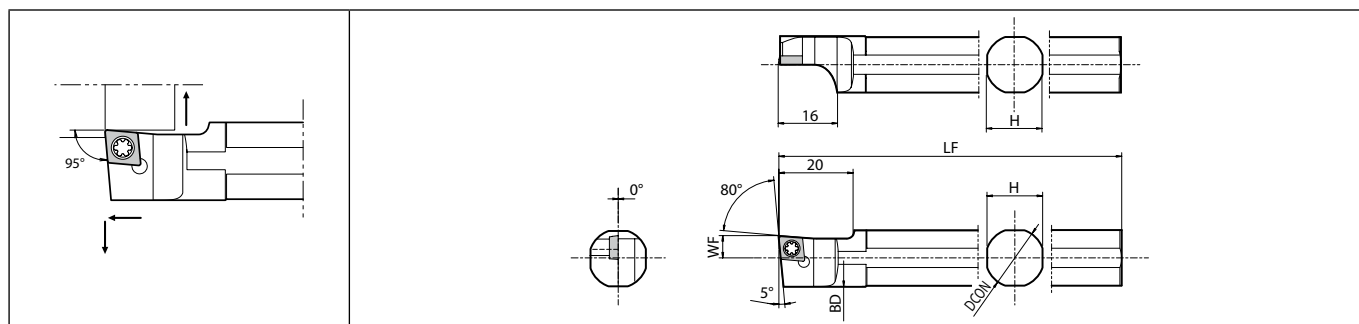
1. Tighten the main screw with the insert pressed against the contact surface with fingertips.
2. Tighten the side screw to complete the installation.

● : Standard item

When removing the insert



Remove the two screws and put the wrench into the gap at the back end of the insert. It can be easily removed by pushing out the insert as shown above.

S-SCLC (External turning / External facing)

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

Toolholder dimensions

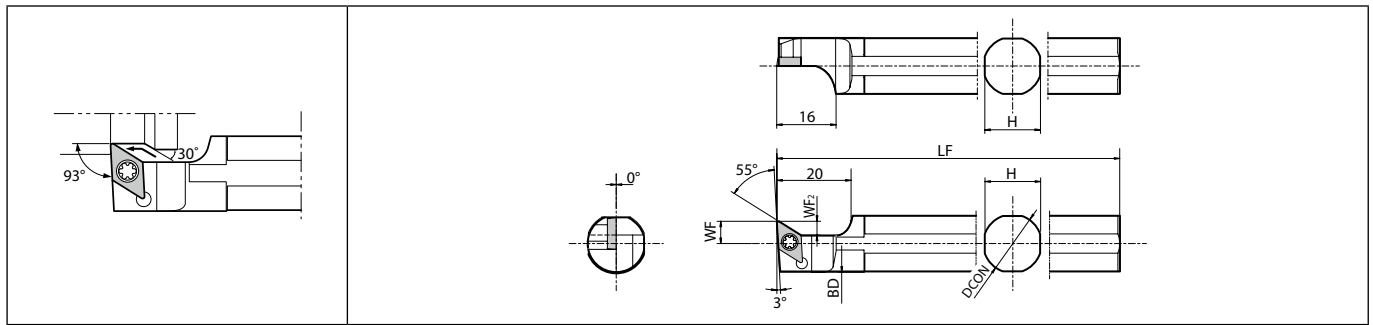
Description	Availability	Dimension (mm)						Standard corner-R(RE)	Spare parts			Applicable inserts
									Screw	Wrench	Wrench	
		L	DCON	H	BD	LF	WF					
S12F- SCLCL06	●	12	11	13.4	80	6	0.4	SB-2560TR	-	FT-8	CC□T0602... CC□W0602...	
S14H- SCLCL06	●	14	13		100			SB-2570TR				
S15F- SCLCL06	●	15.875	15	15.4	85							
S16F- SCLCL06	●	16										
S19G- SCLCL06	●	19.05	17	18.4	90							
S19K- SCLCL06	●				120							
S20G- SCLCL06	●				90							
S20K- SCLCL06	●	20	18	19.4	90	10	0.4	SB-4065TR	FT-15	-	CC□T09T3... CC□W09T3...	
S19G- SCLCL09	●	19.05	17	18.4	90							
S19K- SCLCL09	●				120							
S20G- SCLCL09	●	20	18	19.4	90							
S20K- SCLCL09	●				120							
S25.0H- SCLCL09	●				25							23
S25K- SCLCL09	●	25.4	24.8	120								

Applicable inserts

Applications	Finishing	Finishing	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing
Insert								
Chipbreaker type	PF	GF	SKS	SK	CK	GQ	WP	PP
Page	B58	B58	B59	B59	B59	B59	B60	B60
Applications	Finishing - Medium	Finishing - Medium	Medium	Medium	Low feed	Low feed	Stainless steel / Heat-resistant alloys	Cast iron
Insert								
Chipbreaker type	GK	HQ	STD	MF	R-U	R-J	MQ	No CB
Page	B60	B60	B60	B61	B63~B65	B65	B61	B66
Applications	Non-ferrous metals	Non-ferrous metals	Non-ferrous metals	Non-ferrous metals	Non-ferrous metals	Hard materials		
Insert								
Chipbreaker type	AP	R-A3	AH	PCD	APD	CBN		
Page	B66	B66	B66	C39	C40	C20		

Recommended cutting conditions E65, E66

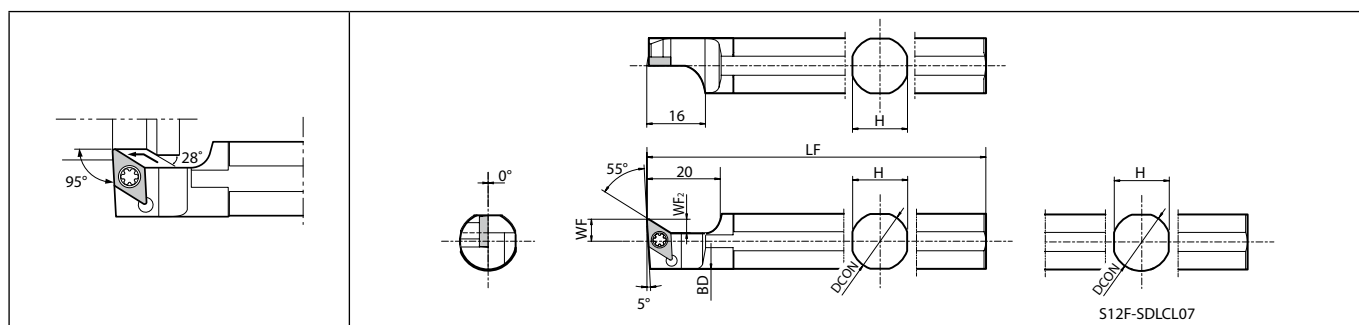
● : Standard item

S-SDUC (External turning / External copying)

Toolholder dimensions

Description	Availability	Dimension (mm)						Standard corner-R(RE)	Spare parts			Applicable inserts						
									Screw	Wrench	Wrench							
																		
S14H- SDUCL07	●	14	13	13.4	100	6	3.8	0.4	SB-2560TR	-	FT-8	DC□T0702... DC□W0702... DC□X0702...						
S15F- SDUCL07	●	15.875	15	15.4	85													
S19G- SDUCL07	●	19.05	17	18.4	90													
S19K- SDUCL07	●				120													
S20G- SDUCL07	●				90													
S20K- SDUCL07	●	20	18	19.4	120													
S19G- SDUCL11	●	19.05	17	18.4	90	10	5.8	0.4	SB-4085TR	FT-15	-	DC□T11T3... DC□W11T3... DC□X11T3...						
S19K- SDUCL11	●				120													
S20G- SDUCL11	●				90													
S20K- SDUCL11	●	20	18	19.4	120													
S22K- SDUCL11	●	22	20	21.4														
S25.0H- SDUCL11	●	25	23	24.4	100													
S25K- SDUCL11	●	25.4			24.8	120												

For WP chipbreaker, cutting edge offsets or program corrections are required on **R36** and **R37**.

S-SDLC (External turning / External copying)

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

Toolholder dimensions

Description	Availability	Dimension (mm)							Standard corner-R(RE)	Spare parts			Applicable inserts
										Screw	Wrench	Wrench	
		L	DCON	H	BD	LF	WF	WF ₂					
S12F- SDLCLO7	●	12	11	13.4	80	6	3.8	0.4	SB-2560TR	-	FT-8	DC□T0702... DC□W0702...	
S14H- SDLCLO7	●	14	13		100								
S15F- SDLCLO7	●	15.875	15	15.4	85								
S16F- SDLCLO7	●	16											
S19G- SDLCLO7	●	19.05	17	18.4	90								
S19K- SDLCLO7	●				120								
S20G- SDLCLO7	●	20	18	19.4	90	10	5.8	0.4	SB-4085TR	FT-15	-	DC□T11T3... DC□W11T3...	
S20K- SDLCLO7	●				120								
S19G- SDLC11	●	19.05	17	18.4	90								
S19K- SDLC11	●				120								
S20G- SDLC11	●	20	18	19.4	90								
S20K- SDLC11	●				120								
S22K- SDLC11	●	22	20	21.4		23	24.8	120					
S25.0H- SDLC11	●	25		24.4	100								
S25K- SDLC11	●	25.4		24.8	120								

● : Standard item

Applicable inserts (S-SDUC / S-SDLC)

Applications	Minute ap	Finishing	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing
Insert								
Chipbreaker type	CF	GF	SKS	SK	CK	GQ	WP*	R-WP*
Page	B68	B68	B68	B68	B68	B69	B69	B69
Applications	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Medium	Medium	Finishing	Finishing
Insert								
Chipbreaker type	PP	GP	GK	HQ	STD	MF	R-F	R-FSF
Page	B69	B69	B70	B70	B70	B70	B72, B73	B72
Applications	Low feed	Low feed	Low feed	Low feed	Low carbon steel	Low carbon steel	Stainless steel / Heat-resistant alloys	Cast iron
Insert								
Chipbreaker type	R-U	R-USF	R-J	R-JSF	XP	XQ	MQ	No CB
Page	B74~B76	B74	B77	B76	B71	B71	B71	B78
Applications	Non-ferrous metals	Non-ferrous metals	Non-ferrous metals	Non-ferrous metals	Non-ferrous metals	Hard materials		
Insert								
Chipbreaker type	AP	R-A3	AH	PCD	APD	CBN		
Page	B78	B78	B78	C42	C42	C22		

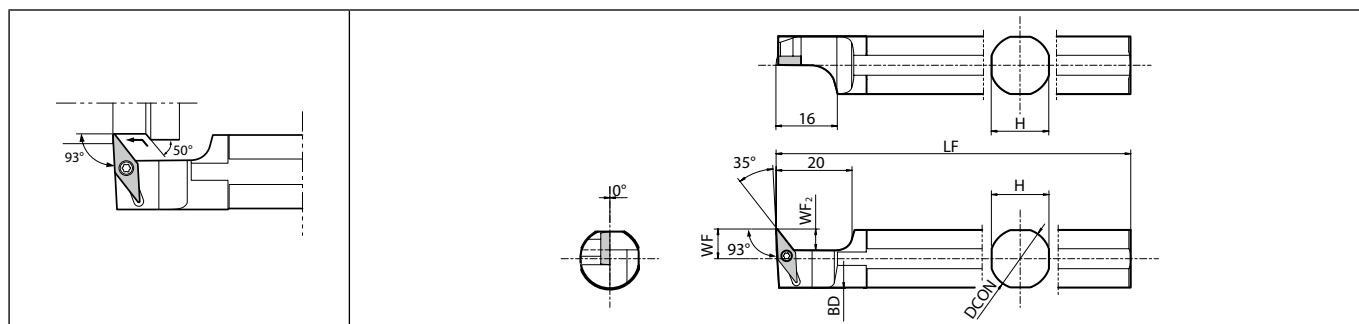
For WP chipbreaker, cutting edge offsets or program corrections are required on R36 and R37. (S-SDLC cannot be used)

Recommended cutting conditions ➡ E65, E66

E



Small tools

S-SVUB (External turning / External copying)

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

Toolholder dimensions

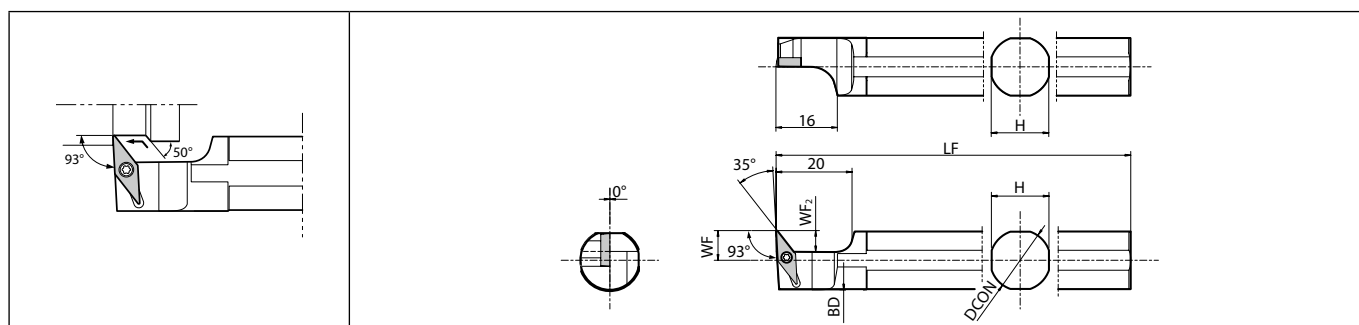
Description	Availability	Dimension (mm)							Standard corner-R(RE)	Coolant hole	Spare parts		Applicable inserts
		L	DCON	H	BD	LF	WF	WF ₂			Screw	Wrench	
S19G- SVUBL11	●	19.05	17	18.4	90	10.5	8	0.4	No	SB-2570TR	FT-8	VB□T1103... VB□W1103...	
S19K- SVUBL11	●				120								
S20G- SVUBL11	●				90								
S20K- SVUBL11	●				120								
S25.0H- SVUBL11	●	25	23	24.4	100								
S25K- SVUBL11	●	25.4		24.8	120								

Applicable inserts

Applications	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing	Finishing - Medium	Non-ferrous metals
Insert								
Chipbreaker type	PP	GP	VF	HQ	R-F	R-FSF	R-Y	PCD
Page	B97	B97	B97	B97	B98	B98	B99	C49
Applications	Hard materials							
Insert								
Chipbreaker type	CBN							
Page	C26							

Recommended cutting conditions ➡ E65, E66

● : Standard item

S-SVUC (External turning / External copying)

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

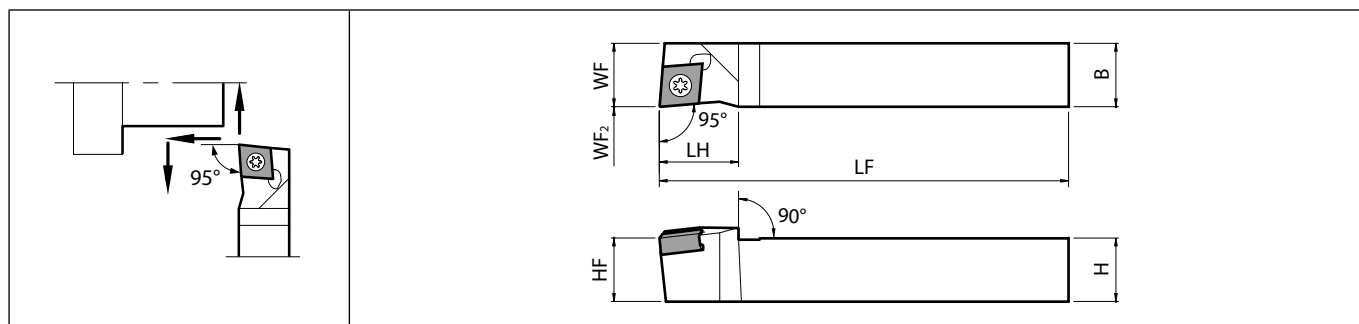
Toolholder dimensions

Description	Availability	Dimension (mm)							Standard corner-R(RE)	Coolant hole	Spare parts		Applicable inserts
											Screw	Wrench	
		L	DCON	H	BD	LF	WF	WF ₂					
S12F- SVUCL08	●	12	11	13.4	80	7.5	5.5	0.4	No		SB-2050TR	FT-6	VC□T0802... VC□W0802...
S14H- SVUCL08	●	14	13	13.4	100								
S15F- SVUCL08	●	15.875	15	15.4	85	8							
S16F- SVUCL08	●	16											
S19G- SVUCL11	●	19.05	17	18.4	90								
S19K- SVUCL11	●				120								
S20G- SVUCL11	●	20	18	19.4	90	10.5	8	0.2	No		SB-2570TR	FT-8	VC□T1103...
S20K- SVUCL11	●				120								
S25.0H- SVUCL11	●	25	23	24.4	100								
S25K- SVUCL11	●	25.4		24.8	120								

Applicable inserts

Applications	Minute ap	Finishing	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing - Medium
Insert								
Chipbreaker type	CF	GF	SKS	PP	VF	HQ	R-F	R-Y
Page	B100	B100	B100	B100	B100	B100	B101	B101
Applications	Non-ferrous metals	Hard materials						
Insert								
Chipbreaker type	PCD	CBN						
Page	C50	C27						

Recommended cutting conditions E65, E66

SCLN-FF (External turning / External facing, Screw clamp, Without offset)

Right-hand shown

Toolholder dimensions

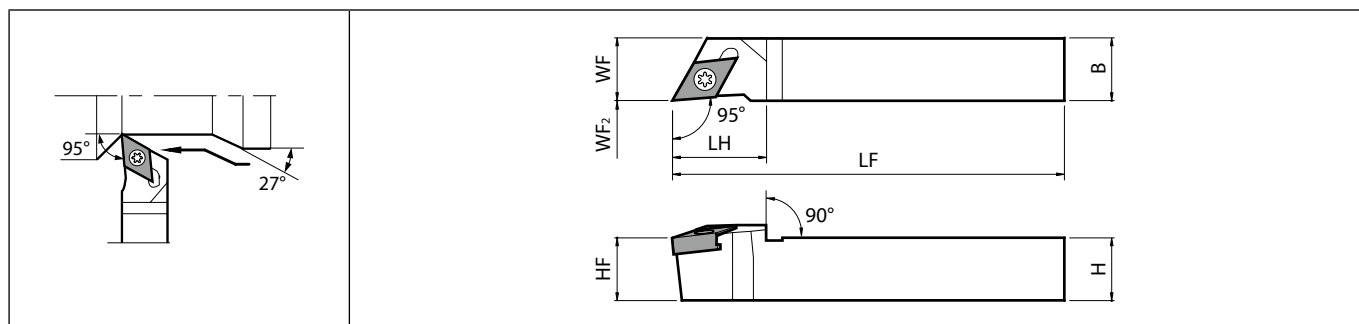
Description		Availability	Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts		Applicable inserts
													Screw	Wrench	
			R	H	B	LH	HF	LF	WF				WF ₂		
SCLNR	1010K-07FF	●	10	10	15	10	120	10	0	0.2	-6	-6	SB-3080TR	LTW-10SS	CN□U0703...
	1212F-07FF	●	12	12		12	85	12							
	1212K-07FF	●					120								
	1616K-07FF	●	16	16			16								

Applicable inserts

Applications	Finishing - Medium	Medium - Roughing	Finishing	Low feed
Insert				
Chipbreaker type	SK	GK	R-F	R-U
Page	B54	B54	B54	B54

Recommended cutting conditions ➡ E62

● : Standard item

SDLN-FF (External turning / External copying, Screw clamp, Without offset)

Right-hand shown

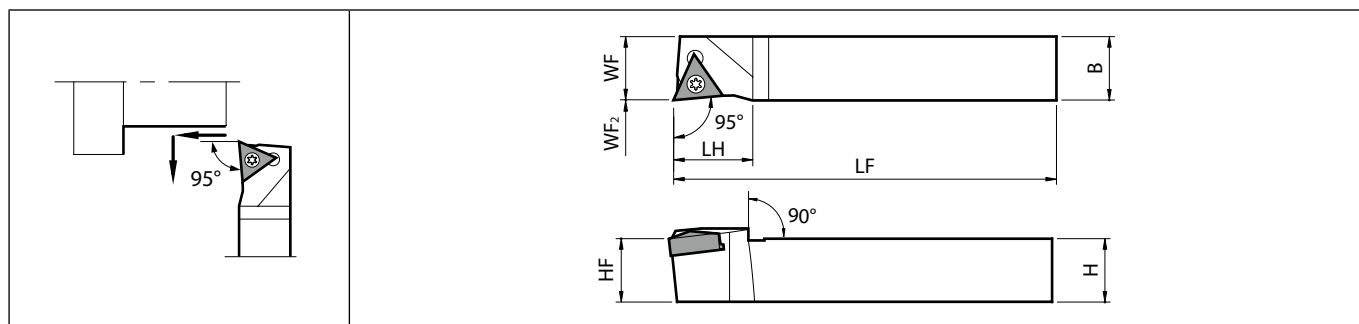
Toolholder dimensions

Description		Availability	Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts		Applicable inserts
													Screw	Wrench	
			R	H	B	LH	HF	LF	WF				WF ₂		
SDLNR	1010K-08FF	●	10	10	18	10	120	10	0	0.2	-6	-7	SB-3080TR	LTW-10SS	DN□U0803...
	1212F-08FF	●	12	12		12	85	12							
	1212K-08FF	●					120								
	1616K-08FF	●	16	16			16								

Applicable inserts

Applications	Finishing - Medium	Medium - Roughing	Finishing	Low feed
Insert				
Chipbreaker type	SK	GK	R-F	R-U
Page	B55	B55	B55	B55

Recommended cutting conditions  **E62**

STLN-FF (External turning, Screw clamp, Without offset)

Right-hand shown

Toolholder dimensions

Description		Availability	Dimension (mm)							Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts		Applicable inserts
													Screw	Wrench	
			R	H	B	LH	HF	LF	WF				WF ₂		
STLNR	1010K-09FF	●	10	10	15	10	120	10	0	0.2	-6	-7	SB-2570TR	LTW-8SS	TNGU0903...
	1212F-09FF	●	12	12		12	85	12							
	1212K-09FF	●					120								
	1616K-09FF	●	16	16			16								

Applicable inserts

Applications	Finishing	Low feed
Insert		
Chipbreaker type	R-F	R-U
Page	B56	B56

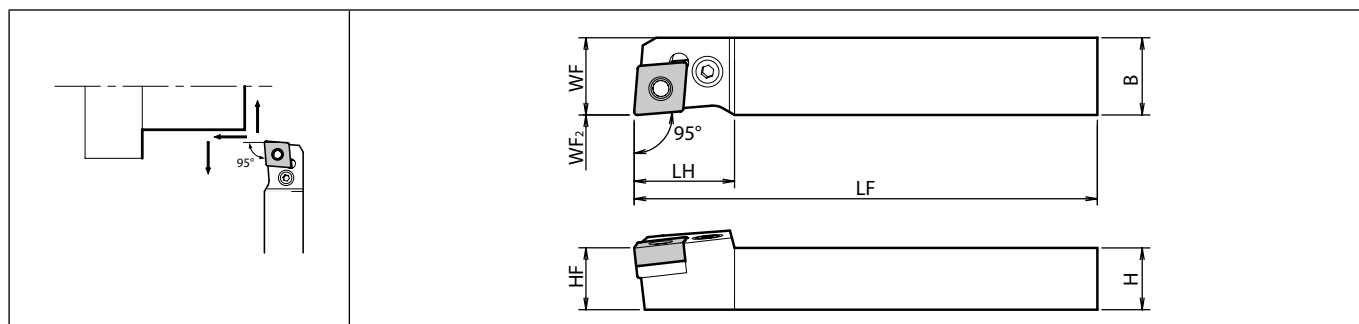
Recommended cutting conditions

Workpiece material	PR1225	PR1535	PR1705	PR1725
Free-cutting steel	-	-	 Vc = 100 m/min 60 ~ 150	 Vc = 100 m/min 60 ~ 150
Carbon steel / Alloy steel	 Vc = 100 m/min 60 ~ 150	 Vc = 100 m/min 60 ~ 150	 Vc = 130 m/min 60 ~ 220	 Vc = 130 m/min 60 ~ 200
Stainless steel	 Vc = 80 m/min 50 ~ 150	 Vc = 100 m/min 60 ~ 180	-	 Vc = 100 m/min 80 ~ 150

 : Continuous to light interruption: 1st recommendation

 : Continuous to light interruption: 2nd recommendation

● : Standard item

PCLN-FF (External turning / External facing, Without offset)

Right-hand shown

Toolholder dimensions

Description	Availability	Dimension (mm)								Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
													Lever	Lock screw	Punch	Shim pin	Shim	Wrench	
		R	H	B	LH	HF	LF	WF	WF ₂										
PCLNR 1620JX-12FF 2020JX-12FF	●	16	20	26	16	120	20	0	0.8	-6	-6		LL-2N	LS-2N	PC-2	LSP-2	LC-42N	LW-3	CN□G1204...
	●	20			20														

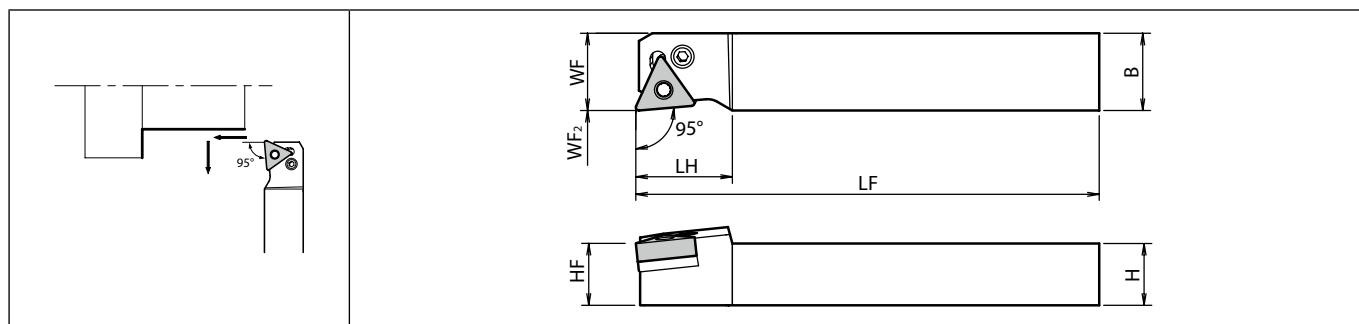
Applicable inserts

Applications	Finishing - Medium	Medium - Roughing
Insert		
Chipbreaker type	SK	FP-TK
Page	B20	B20

Recommended cutting conditions ➡ **E62**

Small tools

E

PTLN-FF (External turning, Without offset)

Right-hand shown

Toolholder dimensions

Description	Availability	Dimension (mm)								Standard corner-R(RE)	Side rake angle (°)	Inclination angle (°)	Spare parts						Applicable inserts
													Lever	Lock screw	Punch	Shim pin	Shim	Wrench	
		R	H	B	LH	HF	LF	WF	WF ₂										
PTLNR 1620JX-16FF 2020JX-16FF	●	16	20	24	16	120	20	0	0.8	-6	-6		LL-1N	LS-1N	PC-1	LSP-1	LT-32N	FH-2.5	TN□G1604...
	●	20			20												*LT-32N-20		

When using inserts whose corner-R(RE) is greater than 1.6 mm, please purchase a shim* and use it in order to prevent workpiece and shim from interfering each other.

Applicable inserts

Applications	Finishing - Medium	Medium - Roughing	Large ap
Insert			
Chipbreaker type	SK	FP-TK	R-LD
Page	B41	B41	B41

Recommended cutting conditions E62

● : Standard item

External turning (positive insert) - cutting diameter under $\varnothing 16\text{mm}$

ISO classification	Workpiece material	Hardness	Cutting range	Applications	Chipbreaker	Insert grade	Corner-R (RE)	Lower limit - Recommendation - Upper limit		
								Vc (m/min)	ap (mm)	f (mm/rev)
P *	Low carbon steel Low carbon alloy	HB $\leq$ 300	Precision finishing	Continuous	F	PR1725	0.05	100 - 150 - 200	0.05 - 0.07 - 0.15	0.03 - 0.05 - 0.1
				Interruption		PR1725	0.2	80 - 120 - 160	0.05 - 0.1 - 0.2	0.03 - 0.1 - 0.15
			Precision finishing Molded chipbreaker	Continuous	CF	PR1725	0.2	100 - 150 - 200	0.02 - 0.05 - 0.1	0.02 - 0.05 - 0.12
				Interruption		PR1725	0.4	80 - 120 - 160	0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2
			Finishing	Continuous	SKS	PR1725	0.2	100 - 140 - 180	0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2
	Medium carbon steel Medium carbon alloy	HB $\leq$ 330	Precision finishing	Continuous	F	PR1725	0.05	100 - 150 - 200	0.05 - 0.07 - 0.15	0.03 - 0.05 - 0.1
				Interruption		PR1725	0.2	80 - 120 - 160	0.05 - 0.1 - 0.2	0.03 - 0.1 - 0.15
			Precision finishing Molded chipbreaker	Continuous	CF	PR1725	0.2	100 - 150 - 200	0.02 - 0.05 - 0.1	0.02 - 0.05 - 0.12
				Interruption		PR1725	0.4	80 - 120 - 160	0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2
			Finishing	Continuous	SKS	PR1725	0.2	100 - 140 - 180	0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2
				Interruption		PR1725	0.4	80 - 120 - 160	0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2
			Finishing-Medium	Continuous	SK	PR1725	0.2	80 - 120 - 160	0.8 - 3.0 - 5.0	0.03 - 0.05 - 0.1
				Interruption		PR1725	0.4	60 - 100 - 140	0.8 - 2.0 - 3.0	0.03 - 0.05 - 0.1
			Low feed & Large ap	Continuous	J, U	PR1725	0.2	80 - 100 - 140	0.5 - 2.0 - 3.5	0.02 - 0.05 - 0.1
	High carbon alloy	HB $\leq$ 280	Precision finishing	Continuous	F	PR1725	0.05	100 - 150 - 200	0.05 - 0.07 - 0.15	0.03 - 0.05 - 0.1
				Interruption		PR1725	0.2	80 - 120 - 160	0.05 - 0.1 - 0.2	0.03 - 0.1 - 0.15
			Precision finishing Molded chipbreaker	Continuous	CF	PR1725	0.2	100 - 150 - 200	0.02 - 0.05 - 0.1	0.02 - 0.05 - 0.12
				Interruption		PR1725	0.4	80 - 120 - 160	0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2
			Finishing	Continuous	SKS	PR1725	0.2	100 - 140 - 180	0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2
M	Stainless steel (Austenitic related)	HB $\leq$ 220	Finishing	Continuous	SKS	PR1725	0.2	80 - 100 - 120	0.1 - 0.3 - 0.5	0.03 - 0.05 - 0.1
				Interruption		PR1535	0.4	60 - 80 - 100	0.3 - 0.5 - 1.0	0.05 - 0.1 - 0.15
			Medium	Continuous	SK	PR1725	0.2	80 - 100 - 120	0.5 - 1.5 - 3.0	0.03 - 0.08 - 0.12
				Interruption		PR1535	0.4	60 - 80 - 100	0.5 - 1.0 - 2.0	0.05 - 0.1 - 0.15
	Stainless steel (Precipitation hardening)	HB $\leq$ 300	Finishing	Continuous	SKS	PR1725	0.2	40 - 60 - 80	0.1 - 0.3 - 0.5	0.03 - 0.05 - 0.1
				Interruption		PR1535	0.4	30 - 50 - 70	0.3 - 0.5 - 1.0	0.05 - 0.1 - 0.15
			Medium	Continuous	SK	PR1725	0.2	40 - 60 - 80	0.5 - 1.0 - 2.0	0.03 - 0.08 - 0.12
				Interruption		PR1535	0.4	30 - 50 - 70	0.5 - 1.0 - 1.5	0.05 - 0.1 - 0.15

* For machining free-cutting steels, such as SUM, etc. use PR1705 at Vc = 200 m/min or less.
For ap and f, refer to specs for low carbon steels.

External turning (positive insert) - cutting diameter under $\varnothing 16\text{mm}$

ISO classification	Workpiece material	Hardness	Cutting range	Applications	Chipbreaker	Insert grade	Corner-R (RE)	Lower limit - Recommendation - Upper limit		
								Vc (m/min)	ap (mm)	f (mm/rev)
K	Gray cast iron	HB $\leq$ 250	Finishing	Continuous	Standard	CA310	0.4	100 - 120 - 150	0.2 - 0.5 - 1.0	0.1 - 0.15 - 0.2
				Interruption		CA315	0.4	80 - 100 - 120	0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.15
			Medium	Continuous	Standard	CA310	0.4	100 - 120 - 150	0.5 - 1.0 - 2.0	0.1 - 0.15 - 0.2
				Interruption		CA315	0.8	80 - 100 - 120	0.5 - 1.0 - 2.0	0.05 - 0.1 - 0.15
	Nodular cast iron	HB $\leq$ 270	Finishing	Continuous	Standard	CA310	0.4	80 - 100 - 120	0.2 - 0.5 - 1.0	0.1 - 0.15 - 0.2
				Interruption		CA315	0.4	60 - 80 - 100	0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.15
N	Non-ferrous metals Copper alloy Aluminum Aluminum alloys (Si10% or less) etc.	HB $\leq$ 100	High speed machining (Rainbow surface gloss)	Continuous	Without chipbreaker	KPD001	0.2	150 - 250 - 350	0.05 - 0.1 - 0.3	0.05 - 0.1 - 0.15
				Interruption		PDL025	0.2	100 - 150 - 200	0.05 - 0.3 - 0.5	0.02 - 0.07 - 0.1
			Finishing (Long tool life)	Continuous	F	PDL025	0.4	100 - 150 - 200	0.05 - 0.3 - 0.5	0.02 - 0.07 - 0.1
				Interruption		PDL025	0.4	100 - 150 - 200	0.05 - 0.3 - 0.5	0.02 - 0.07 - 0.1
			Finishing	Continuous	F	KW10	0.2	100 - 150 - 200	0.05 - 0.3 - 0.5	0.02 - 0.07 - 0.1
				Interruption		KW10	0.4	100 - 150 - 200	0.05 - 0.3 - 0.5	0.02 - 0.07 - 0.1
			Medium	Continuous	U	KW10	0.2	100 - 150 - 200	0.2 - 0.5 - 1.5	0.03 - 0.1 - 0.2
				Interruption		KW10	0.4	100 - 150 - 200	0.2 - 0.5 - 1.5	0.03 - 0.1 - 0.2
S	Titanium alloys	HB $\leq$ 400	Precision finishing (Rainbow surface gloss)	Continuous	Without chipbreaker	KPD001	0.2	100 - 120 - 150	0.05 - 0.1 - 0.3	0.03 - 0.07 - 0.1
				Interruption		KPD001	0.4	70 - 100 - 120	0.05 - 0.1 - 0.3	0.03 - 0.07 - 0.1
			Medium	Continuous	F, U	KW10	0.4	30 - 50 - 70	0.1 - 0.5 - 1.0	0.03 - 0.1 - 0.2
				Interruption		KW10	0.4	30 - 50 - 70	0.1 - 0.5 - 1.0	0.03 - 0.1 - 0.2
	Heat-resistant alloys	HB $\leq$ 350	Finishing	Continuous	F, U Without chipbreaker	KW10	0.4	10 - 30 - 50	0.1 - 0.3 - 0.5	0.03 - 0.05 - 0.1
				Interruption		KW10	0.8	10 - 30 - 50	0.2 - 0.5 - 0.7	0.03 - 0.05 - 0.1
H	Hardened steel Hard materials	40 ~ 50 HRC	Finishing	Continuous	GK	PR1725	0.2	40 - 60 - 80	0.1 - 0.3 - 0.5	0.02 - 0.07 - 0.1
				Interruption		PR1725	0.4	40 - 60 - 80	0.1 - 0.3 - 0.5	0.02 - 0.07 - 0.1
		50 ~ 68 HRC	Finishing	Continuous	ME MET	KBN010	0.2	80 - 120 - 150	0.1 - 0.3 - 0.5	0.02 - 0.07 - 0.1
				Interruption		KBN020	0.2	80 - 120 - 150	0.1 - 0.3 - 0.5	0.02 - 0.07 - 0.1
				Continuous		KBN010	0.4	60 - 100 - 120	0.1 - 0.3 - 0.5	0.02 - 0.07 - 0.1
				Interruption		KBN020	0.4	60 - 100 - 120	0.1 - 0.3 - 0.5	0.02 - 0.07 - 0.1

E

Small tools

Back Turning - cutting diameter under $\phi 16\text{mm}$

KTKF

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	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	

KTKF (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	

KTKF (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	

KTKF (AGT chipbreaker)

Workpiece material		PCD		Remarks
		KPD001		
		Grooving	Turning	
Aluminum alloy	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	

ABS15, ABW15, ABW23

Workpiece material		MEGACOAT NANO PLUS				MEGACOAT		PVD coated carbide		Remarks
		PR1725		PR1705		PR1225		PR930		
		Grooving	Turning	Grooving	Turning	Grooving	Turning	Grooving	Turning	
Carbon steel / Alloy steel	Vc (m/min)	★ 60 ~ 180		☆ 80 ~ 200		☆ 60 ~ 150		☆ 80 ~ 100		Coolant
	f (mm/rev)	0.02	0.02 ~ 0.07	0.02	0.02 ~ 0.07	0.02	0.02 ~ 0.07	0.02	0.02 ~ 0.07	
Stainless steel	Vc (m/min)	☆ 30 ~ 130		☆ 40 ~ 150		★ 40 ~ 120		☆ 30 ~ 50		
	f (mm/rev)	0.02	0.02 ~ 0.05	0.02	0.02 ~ 0.05	0.02	0.02 ~ 0.05	0.02	0.02 ~ 0.05	

Workpiece material		Carbide		Remarks
		KW10		
		Grooving	Turning	
Aluminum	Vc (m/min)	150 ~ 200		Coolant
	f (mm/rev)	0.02	0.02 ~ 0.10	
Brass	Vc (m/min)	100 ~ 160		
	f (mm/rev)	0.03	0.02 ~ 0.15	

★: 1st recommendation☆: 2nd recommendation

ZBMT

Workpiece material	Insert tip angle	Corner-R (RE)	Insert grade	Vc (m/min)	ap (mm)	f (mm/rev)
Carbon steel / Alloy steel	25°	0.2	PR1725	60 - 150 - 200	0.2 - 0.3 - 1.5	0.05 - 0.10 - 0.15
			PR1535	60 - 120 - 180	0.2 - 0.3 - 1.5	0.05 - 0.10 - 0.15
		0.4 / 0.8	PR1725	60 - 150 - 200	0.2 - 0.3 - 2.0	0.05 - 0.15 - 0.25
			PR1535	60 - 120 - 180	0.2 - 0.3 - 2.0	0.05 - 0.15 - 0.25
	15°	0.4	PR1725	60 - 150 - 200	0.2 - 0.3 - 1.0	0.05 - 0.10 - 0.15
			PR1535	60 - 120 - 180	0.2 - 0.3 - 1.0	0.05 - 0.10 - 0.15
Stainless steel	25°	0.2	PR1725	60 - 150 - 180	0.2 - 0.3 - 1.0	0.05 - 0.10 - 0.15
			PR1535	60 - 120 - 150	0.2 - 0.3 - 1.0	0.05 - 0.10 - 0.15
		0.4 / 0.8	PR1725	60 - 150 - 180	0.2 - 0.3 - 1.0	0.05 - 0.15 - 0.25
			PR1535	60 - 120 - 150	0.2 - 0.3 - 1.0	0.05 - 0.15 - 0.25
	15°	0.4	PR1725	60 - 150 - 180	0.2 - 0.3 - 1.0	0.05 - 0.10 - 0.15
			PR1535	60 - 120 - 150	0.2 - 0.3 - 1.0	0.05 - 0.10 - 0.15
Cast iron	25°	0.2	PR1725	60 - 150 - 180	0.2 - 0.3 - 1.5	0.05 - 0.10 - 0.15
		0.4 / 0.8	PR1725	60 - 150 - 180	0.2 - 0.3 - 2.0	0.05 - 0.15 - 0.25
	15°	0.4	PR1725	60 - 150 - 180	0.2 - 0.3 - 1.0	0.05 - 0.10 - 0.15

When using machining at ap 1.5 mm or more, reduce the feed by about 50%.

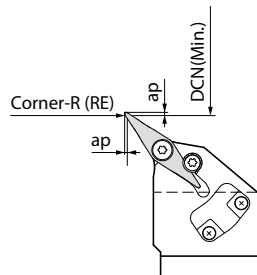
Boring/Facing available cutting diameter and maximum D.O.C.

SZPB type cutting diameter for undercutting



Standard corner-R(RE) 0.4

Cutting Dia.	Depth (mm)
ø30	0.5
ø50	1.5
ø65	3.0
ø80	6.0
ø100	10.0
ø150	14.0



Corner-R (RE)	ap (mm)	DCN (Min.)
0.2	0.5	ø30
	1	ø35
0.4	0.5	ø30
	1	ø35
0.8	0.5	ø110
	1	ø150

How to modify toolholder when using 15° insert

When using 15° insert, additional modification is required for the holder to avoid interference.

Recommended additional modification

- Set the edge of insert bearing surface at the end of the holder at horizontal reference shown below.
- Modify the holder to 0.6 mm from the tip at an angle of not less than 45 degrees from the horizontal.

