Small Tools (External)

E1~E48

E

Summary of External Turning / Advice on one point E2~E10

Small Tools Identification System E11

Toolholders for Back Turning E12~E19

TKFB Insert	(Back Turning, Goose-neck Holder)	E12
TKF-AS Insert	(Back Turning, Goose-neck Holder)	E16
ABS Insert	(Back Turning)	E17
ABW Insert	(Back Turning)	E18

Goose-neck Holder E20~E21

DC□□ Insert	(Goose-neck Holder)	E20
VP□□ Insert	(Goose-neck Holder)	E21

Toolholders for External Turning (Back Clamp / Screw Clamp) E22~E33

CC□□ Insert	(Without Offset / With Offset)	E22
DC□□ Insert	(Without Offset / With Offset)	E24
DP□□ Insert	(Without Offset)	E28
TC / TP□□ Insert		E29
VB / VC□□ Insert	(Without Offset / With Offset)	E30
VP□□ Insert	(Without Offset / With Offset)	E32

External Sleeve Holder E34~E36

CC□□ Insert		E34
DC□□ Insert		E35
VB / VC□□ Insert		E36

Toolholders for Small Double Sided Tooling (Screw Clamp) E37~E39

CN□U Insert	(Without Offset)	E38
DN□U Insert	(Without Offset)	E38
TN□U Insert	(Without Offset)	E39

Toolholder for Double Sided Tooling for Automatic Lathe (Lever Lock) E40~E41

CN□□ Insert	(Without Offset)	E40
TN□□ Insert	(Without Offset)	E41

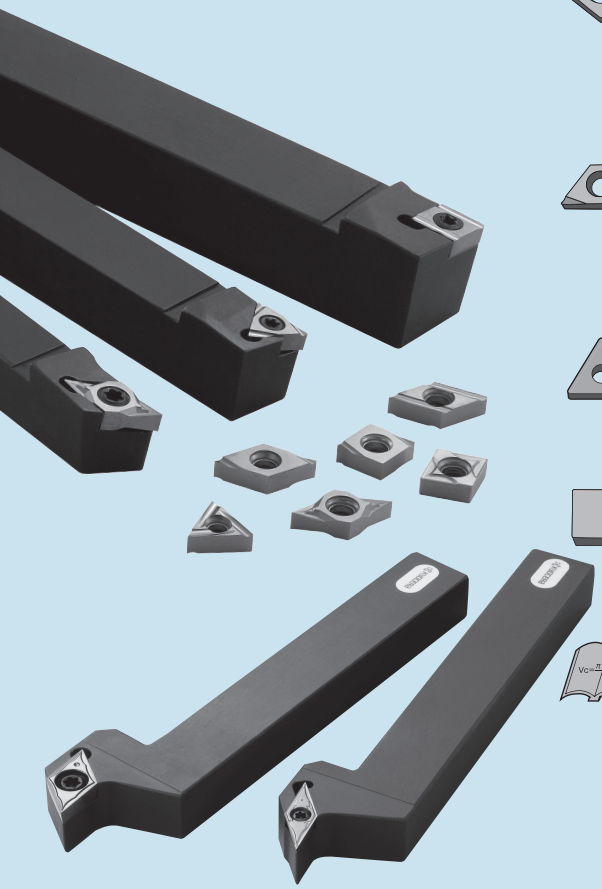
External Toolholder (Top Clamp) E42~E43

SP□R / SP□N Insert		E42
TP□R / TP□N Insert		E43

Technical Information E44~E45

Recommended Cutting Conditions		E44

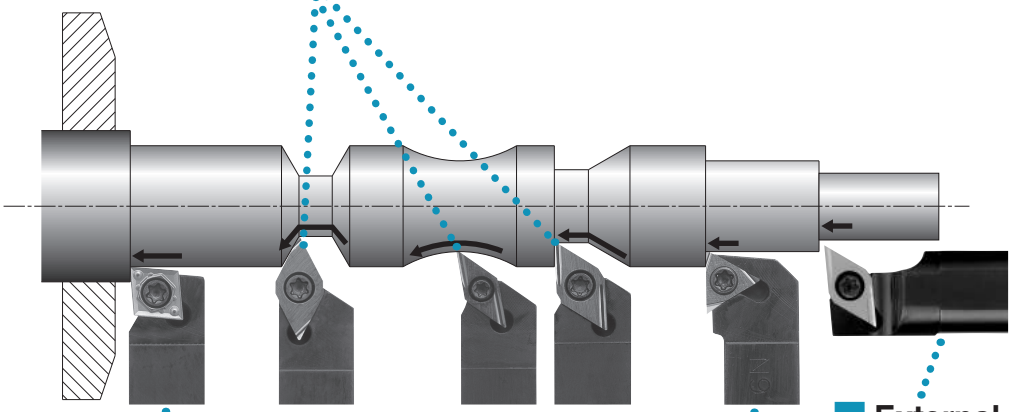
Alternative Toolholder Reference Table for Small Tools E46~E48



Summary of External Turning

External / Copying

ADJC-FF	SDJC-FF	SDJC	SDLC-FF SDLP-FF	SDLN-FF	SDNC-F	SDNC
Back Clamp Without Offset	Screw Clamp Without Offset	Screw Clamp	Screw Clamp Without Offset	Screw Clamp Without Offset	Screw Clamp	Screw Clamp
E24	E25	E25	E26, E28	E38	E27	E27



External / Facing

ACLC-FF	SCLC-FF	SCLC	SCLN-FF
Back Clamp Without Offset	Screw Clamp Without Offset	Screw Clamp	Screw Clamp Without Offset
E22	E23	E23	E38

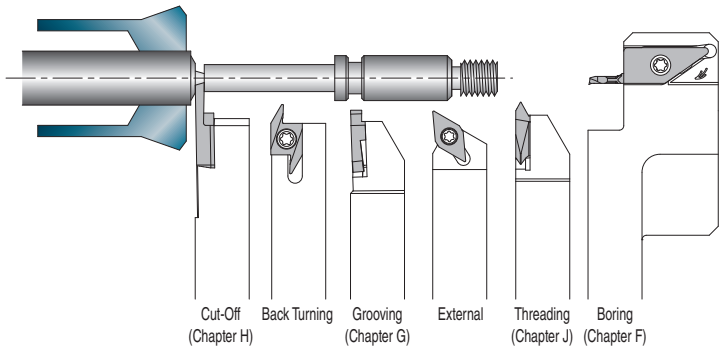
External

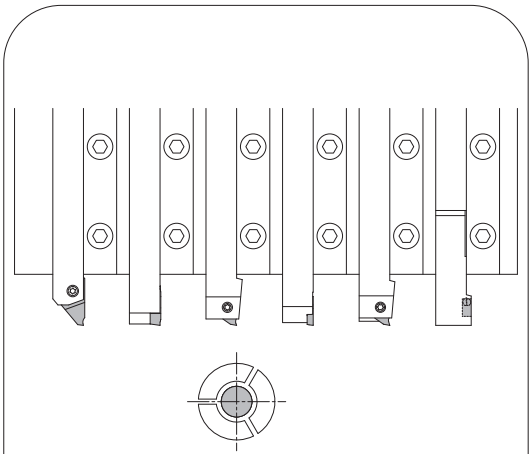
STGC(P)	STLN-FF
Screw Clamp	Screw Clamp Without Offset
E29	E39

External Sleeve Holder

S-SDLC
Screw Clamp Shank Dia. : ϕ12 ~ ϕ25.4
E35

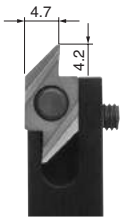
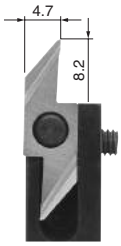
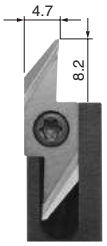
Tooling example (1) CNC Automatic lathe (Gang Type)

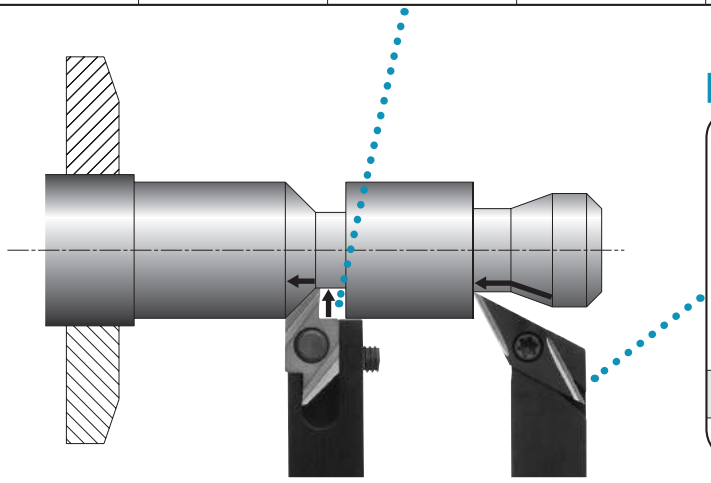




Tools installed on Gang Type Automatic Lathe

Back Turning

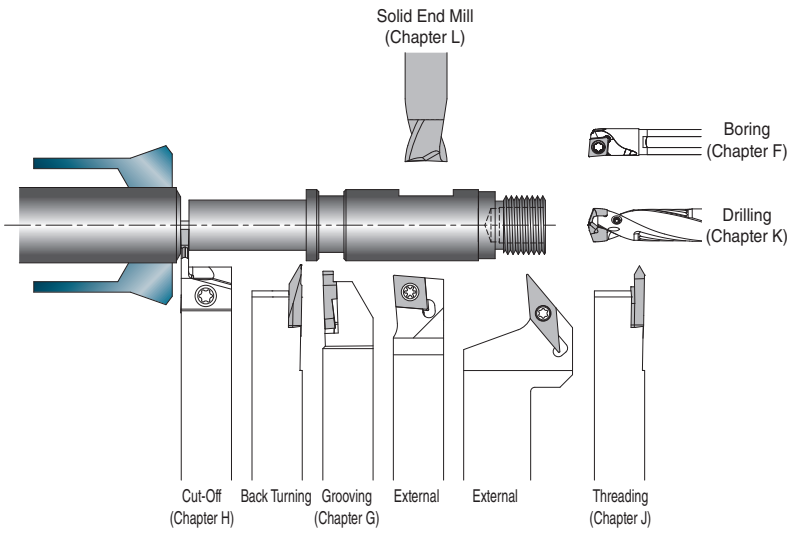
AABS-40F	SABS-40F	AABW-40F	SABW-40F	AABW-50F	SABW-50F	KTKF
						
Back Clamp Edge Width: 2.8 ap: ~4.0	Screw Clamp Edge Width: 2.8 ap: ~4.0	Back Clamp Edge Width: 4.7 ap: ~4.0	Screw Clamp Edge Width: 4.7 ap: ~4.0	Back Clamp Edge Width: 4.7 ap: ~5.0	Screw Clamp Edge Width: 4.7 ap: ~5.0	Screw Clamp Edge Width: 1.5~3.8 Max. ap: 1.8~5.5
E17	E17	E18	E18	E19	E19	E12

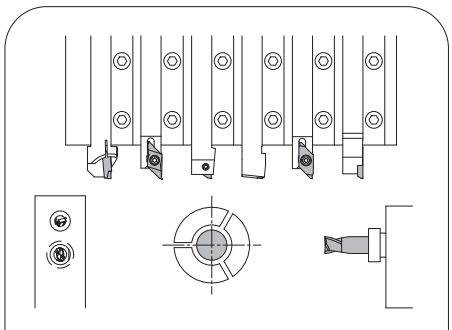


External / Facing / Copying / Undercutting

SVPB	SVPP-FF
Screw Clamp	Screw Clamp Without Offset
E31	E33

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





Tools installed on gang tool post + milling toolholder

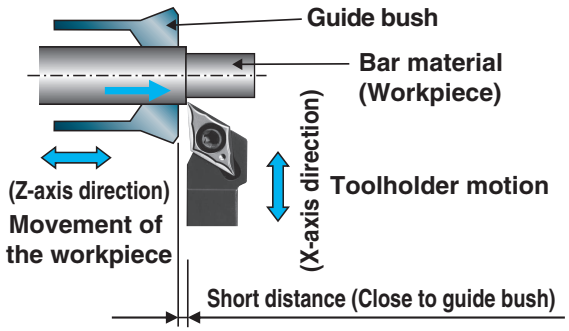
For Swiss tool automatic lathe (Gang type tool post)

How to use
Goose-neck holder

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)

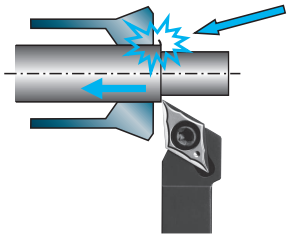
In case of machining with the conventional toolholder



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

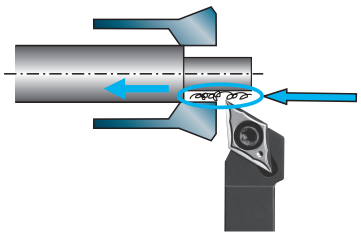
Problems of machining with the conventional toolholder

Problems of machining with the conventional toolholder

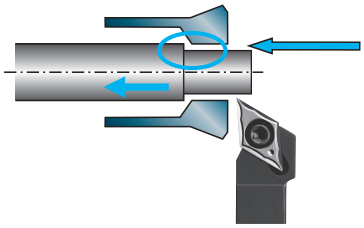


<Case 1>
During multiple passes, when bar material returns into guide bush, the burr contacts and breaks guide bush.

<Case 2>
The workpiece burr contacts the guide bush and causes dimensional variation.



<Case 3>
During multiple passes, when bar material returns into guide bush, the chips contacts and breaks guide bush.

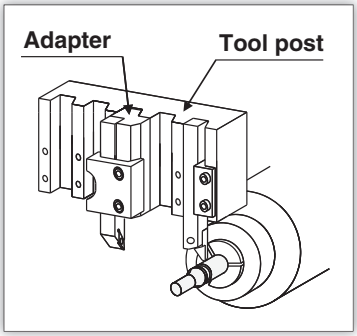


<Case 4>
Bar material deviation from the guide bush disables machining.

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

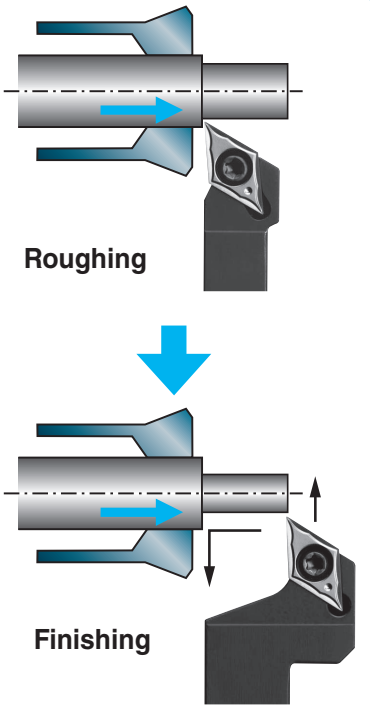
Advantages of Using Goose-neck Holder

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

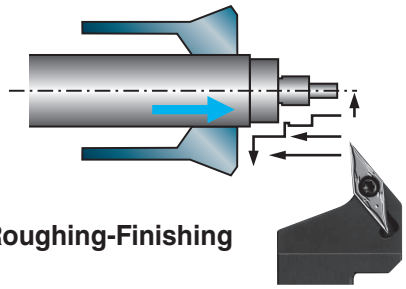
Available for machining after roughing without returning bar material into guide bush, preventing damages and improving precision.

Pattern 1

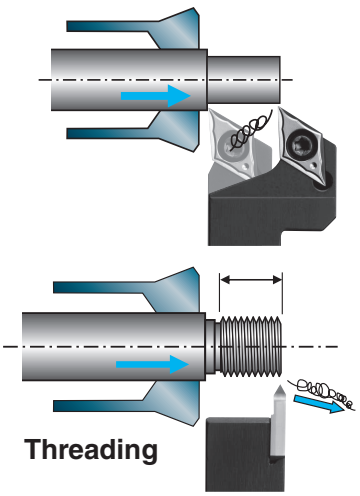


Available for roughing and finishing with one Goose-neck Holder.

Pattern 2



For better chip control



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

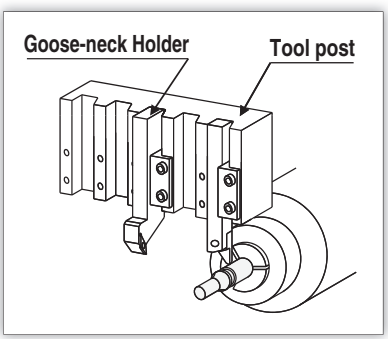
* With conventional threading toolholders, chip biting into guide bush can cause damages on threads.

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

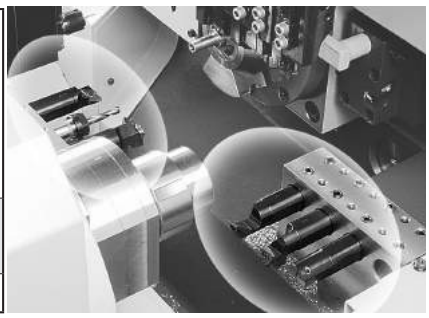


External Sleeve Holder

More tools attachable to CNC Automatic Lathe !

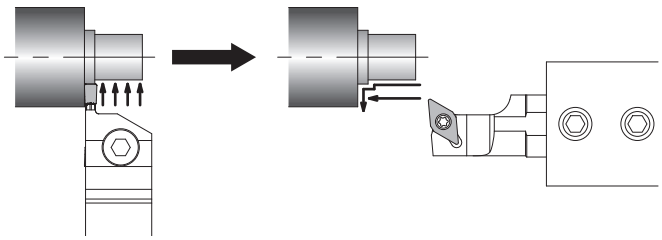
Limit to attachable tools at intricate part machining ► ► ► Use External Sleeve Holders

S-SCLC	S-SDUC	S-SDLC	S-SVUB(C)
Screw Clamp Shank Dia. ϕ12~ϕ25.4	Screw Clamp Shank Dia. ϕ14~ϕ25.4	Screw Clamp Shank Dia. ϕ12~ϕ25.4	Screw Clamp Shank Dia. ϕ12~ϕ25.4
E34	E35	E35	E36



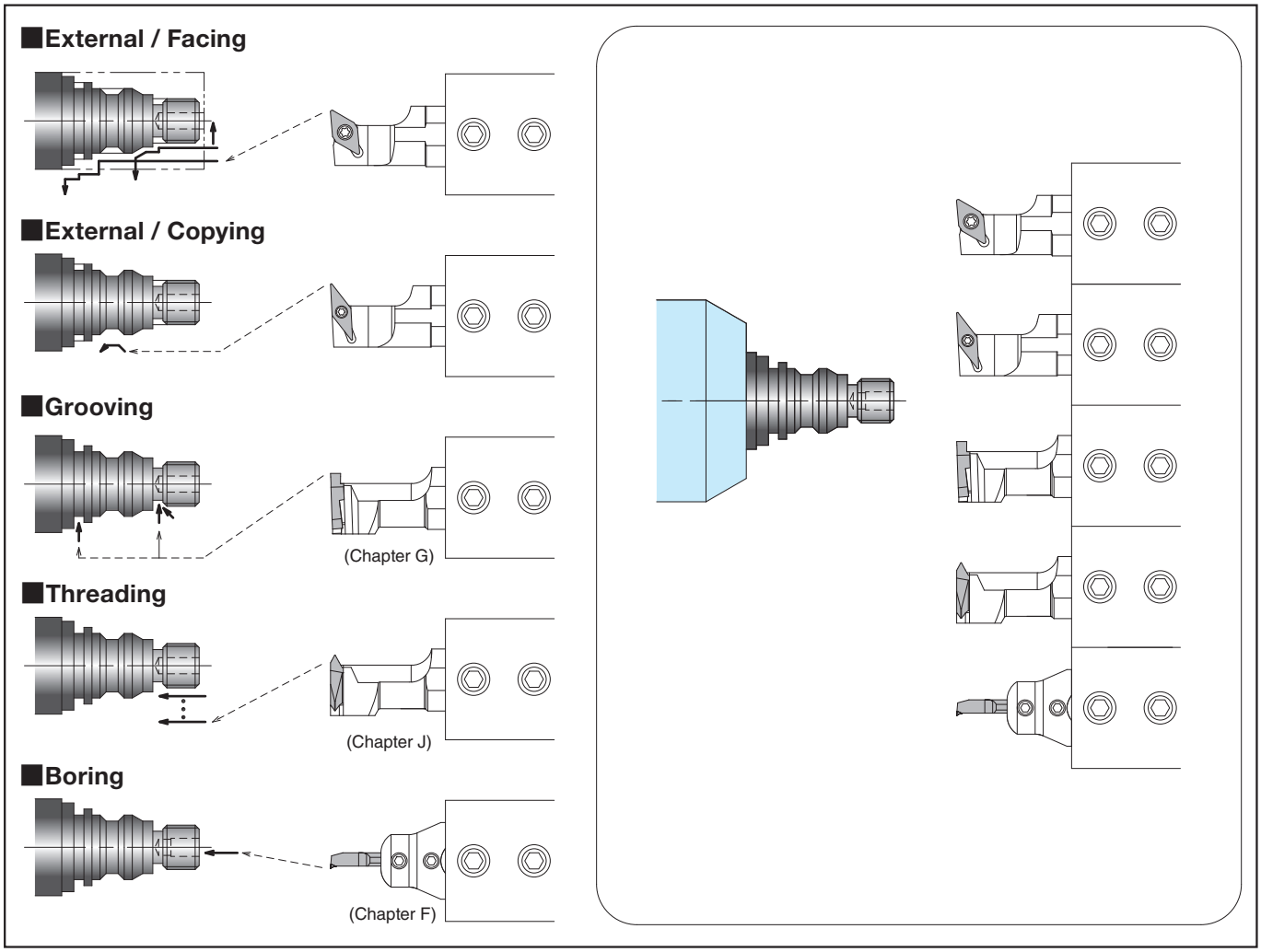
See Page R38~R45 for Tooling Layout and Automatic Lathe List by Manufacturer.

● Finishing by Sleeve Holder



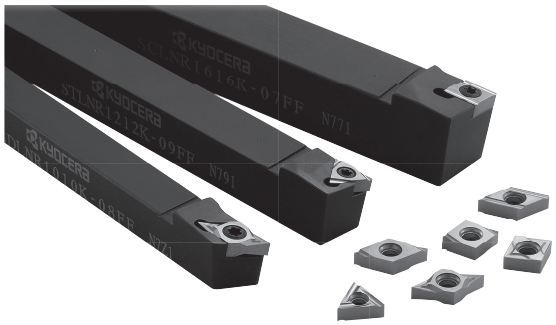
1) Roughing by grooving toolholder
2) Finishing by Sleeve Holder improves chip control and reduces cutting time

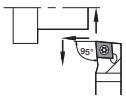
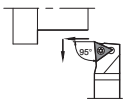
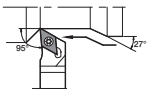
Tooling Example (3) CNC Automatic Lathe (Opposed Gang Type)



See Page R38~R45 for Tooling Layout and Automatic Lathe List by Manufacturer.

Toolholders for Small Double Sided Tooling (Screw Clamp)

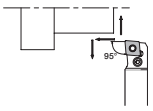
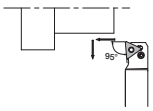


Applications	External / Facing	External / Up Facing	External / Copying
Cutting Edge Angle	95°	95°	95°
Screw Clamp (Without Offset)	 SCLN	 STLN	 SDLN
See Page	E38	E39	E38

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)

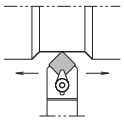
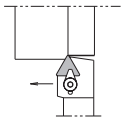
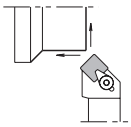
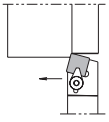
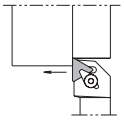
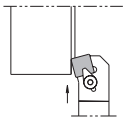
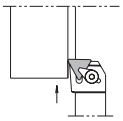
Toolholder for Double Sided Tooling for Automatic Lathe

(Lever Lock, Without Offset)

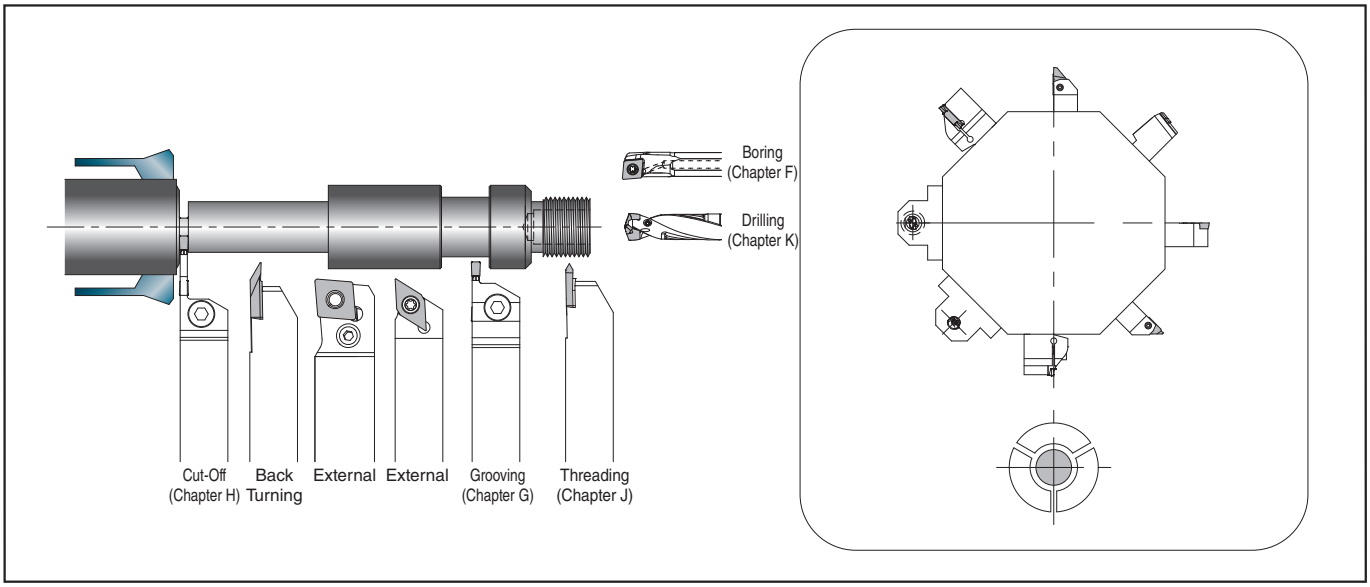
Applications	External / Facing	External / Up Facing
Cutting Edge Angle	95°	95°
Lever Lock (Without Offset)	 PCLN-FF	 PTLN-FF
See Page	E40	E41

The Lever lock type is available for small tools for external machining

Top Clamp (for Insert without Hole)

Applications	External / Chamfering		External / Facing / Chamfering	External		Facing	
Cutting Edge Angle	45°	60°	45°	75°	91°	15°	-1°
Top Clamp	 CSDP	 CTTP	 CSSP	 CSBP	 CTGP	 CSKP	 CTFP
See Page	E42	E43	E42	E42	E43	E42	E43

Tooling Example (4)

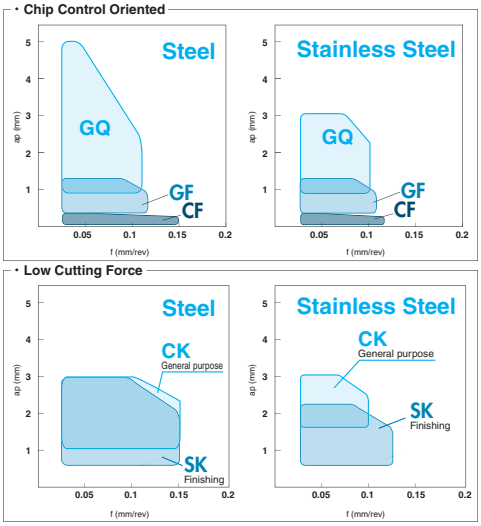


See Page R38~R45 for Tooling Layout and Automatic Lathe List by Manufacturer.

Chip control improvement at external machining

1) Choose a chipbreaker applicable for varying ap

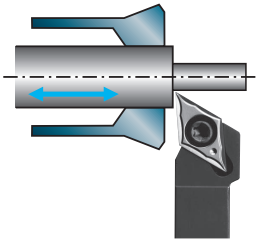
- Applicable to high precision cutting, sharp cutting due to periphery ground edge
- Superior surface finish due to anti-adhesion polished edge



2) Improve chip control dividing tool passes into 2; roughing and finishing

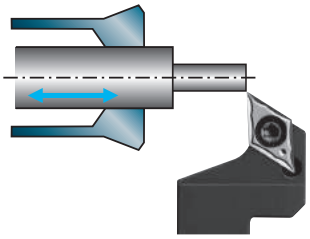
- When chip control is not good in 1 pass machining
  - ⇨ Use Goose-neck Holders or Sleeve Holders

Roughing and finishing at one time by conventional toolholder <Case> Bad chip control

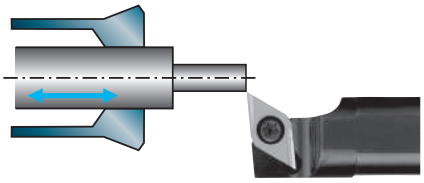


After roughing

Countermeasures (1)
Finishing by Goose-neck Holder



Countermeasures (2)
Finishing: Move Sleeve Holder forward



How to choose toolholders to improve productivity in external turning

Applications	Tooling Example	Toolholder	Advantages	Workpiece Dia.	Medium-roughing of steel (Radial ap: mm)
Medium-Roughing	SCLN-FF SDLN-FF STLN-FF	Small Double Sided Tooling (Screw Clamp)	Cost reduction	Over ϕ6	ap=~2.5mm
	PCLN-FF PTLN-FF	Toolholder for Double Sided Tooling for Automatic Lathe (Lever Lock) With FP-TK Chipbreaker	Cost reduction	Over ϕ16	ap=1.5~5mm
Medium-Roughing + Finishing	**See Page E9 Fig.1**	Small Double Sided Tooling (Screw Clamp)	Cost reduction	Under ϕ16	ap=~2.5mm
		Goose-neck Holder (External Sleeve Holder)	Chip Control	-	-
	See Page E9 Fig.2	Toolholder for Double Sided Tooling for Automatic Lathe (Lever Lock) With FP-TK Chipbreaker	Cost reduction	ϕ16~ϕ32	ap=1.5~5mm
		Goose-neck Holder (External Sleeve Holder)	Chip Control	-	-
	See Page E9 Fig.3	Grooving Toolholder	Long curled chips are evacuated toward a fixed direction	ϕ16~ϕ32	ap=over 4mm
		Goose-neck Holder (External Sleeve Holder)	Chip Control	-	-

External toolholder selection for productivity improvement

Guideline for roughing: ap=~2.5mm

<Roughing>
Use Small Double Sided Tooling

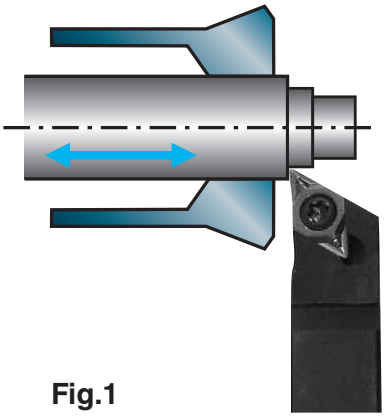
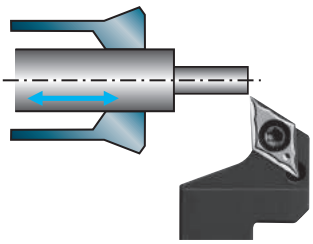
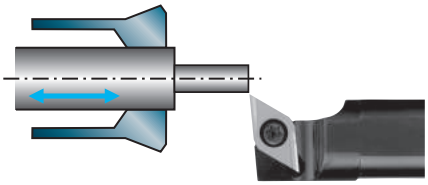


Fig.1

Improvement of Finishing (1)
Use Goose-neck Holder



Improvement of Finishing (2)
Use External Sleeve Holder



Guideline for roughing: ap=1.5~5mm

<Roughing>
Use FP-TK Chipbreaker (G-class negative insert)

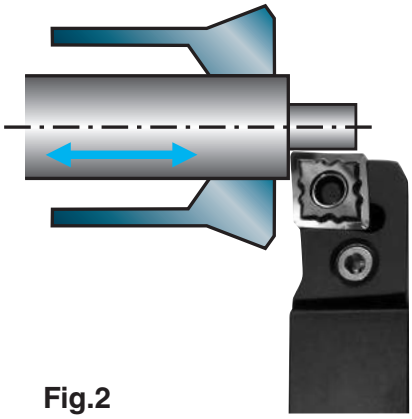
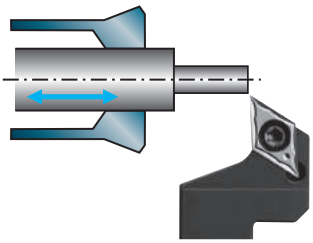
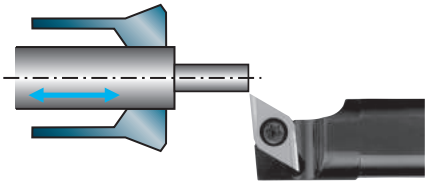


Fig.2

Improvement of Finishing (1)
Use Goose-neck Holder



Improvement of Finishing (2)
Use External Sleeve Holder



Guideline for roughing: ap= over 4mm

<Roughing>
Use grooving toolholder

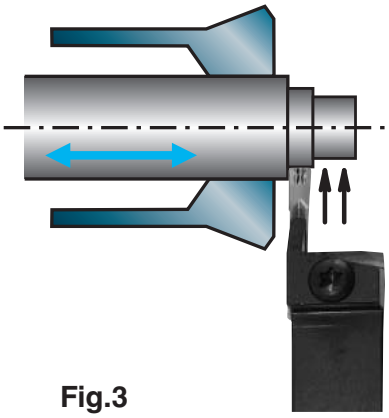
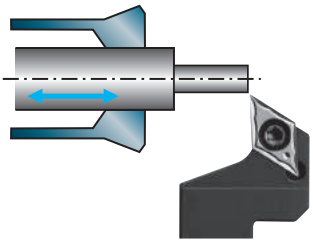
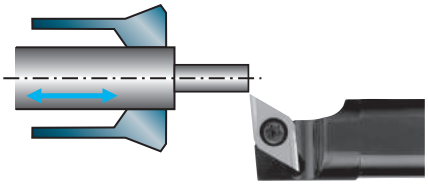


Fig.3

Improvement of Finishing (1)
Use Goose-neck Holder



Improvement of Finishing (2)
Use External Sleeve Holder

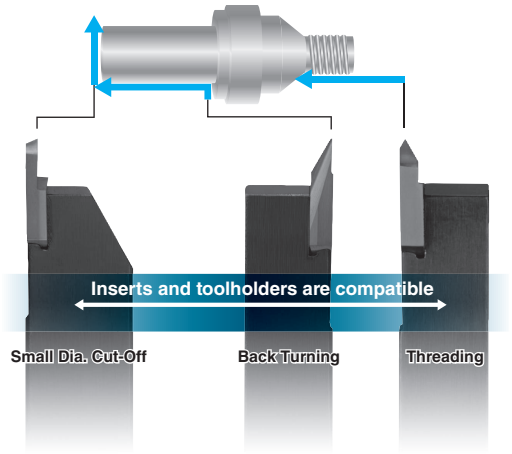


Summary of External Turning

Cutting tool for small workpiece

KTKF

See Page E12



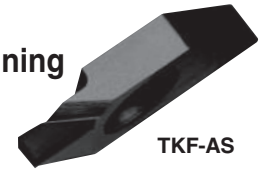
Inserts for back turning

TKFB

See Page E12

- Molded Chipbreaker (GQ Chipbreaker) Added to anti-adhesion polished edge Improved chip control
- Insert Grades for Steel Machining PR1425
- Insert Grades for Stainless Steel Machining PR1535
- "TKF..L-ASR" type is added in "TKF-AS" PCD inserts

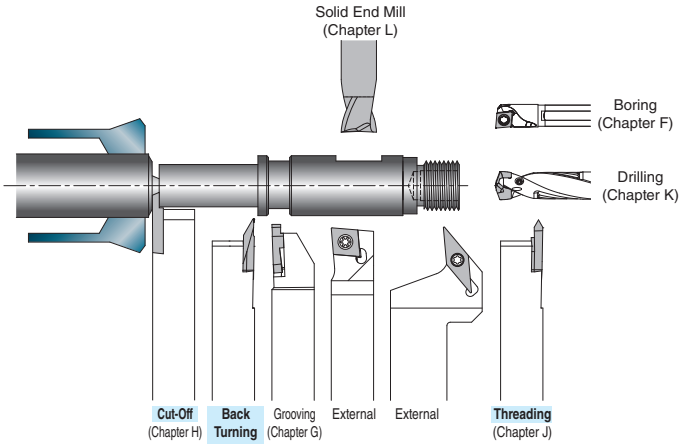
GQ Chipbreaker

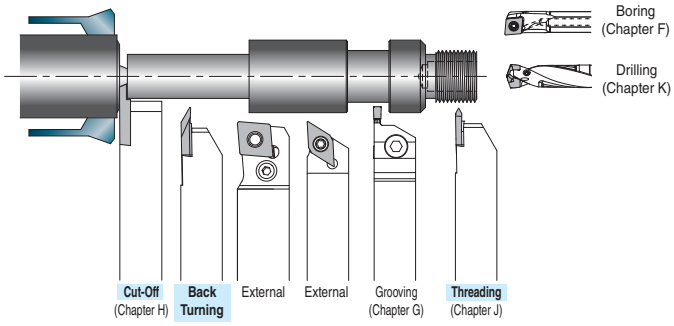


TKF-AS

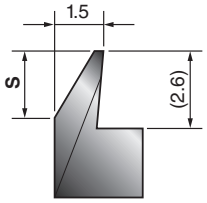
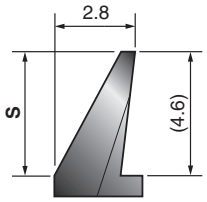
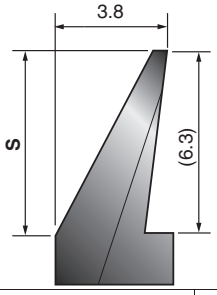
KTKF is applicable to back turning, threading and cut-off with one toolholder

Tooling example of KTKF toolholder





Details of cutting edge

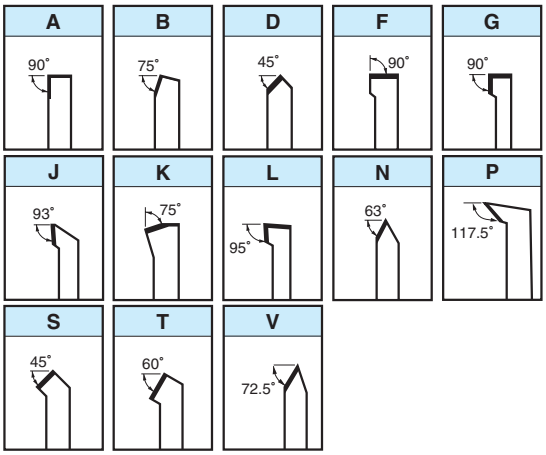
Small machining		General purpose		Large machining	
					
Description	Cutting Edge Length S	Description	Cutting Edge Length S	Description	Cutting Edge Length S
TKFB12R15..	2.1	TKFB12R28..	4.2	TKFB16R38..	5.8
-	-	TKFB12L28..	4.4	TKFB16L38..	6.2
For small diameter and short length workpiece Stable machining with minimum overhang		For general purpose Good chip control		Large ap at one pass	

Square Shank Identification System

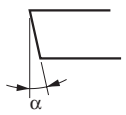
Clamping System	Insert Shape	Hand of Tool	Shank Height	Shank Width	Others
A : Back Clamp **C** : Top Clamp **P** : Lever Lock **S** : Screw Clamp	**C** : 80° Rhombic **D** : 55° Rhombic **S** : 90° Square **T** : 60° Triangle **V** : 35° Rhombic	**R** : Right-hand **L** : Left-hand **N** : Neutral	Shank Height (mm)	Shank Width (mm)	Manufacture's Option Optional Mark or Number e.g.) FF: Without Offset

S	C	L	C	R	12	12	JX	–	09	FF

Cutting Edge Angle

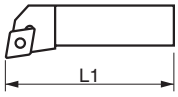


Insert Relief Angle



B: 5° Positive
C: 7° Positive
N: 0° Negative
P: 11° Positive

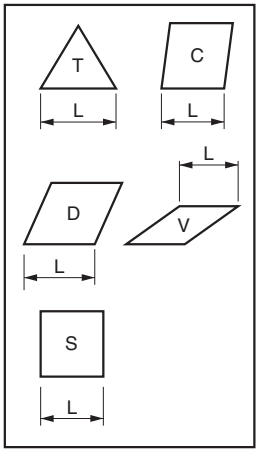
Toolholder Length



(mm)

F : 80 (85)	**JX**: 120
H : 100	**K** : 125
	M : 150

Insert Size



● Some back turning toolholders are Kyocera's original products, therefore their descriptions are not accordant with international standards.

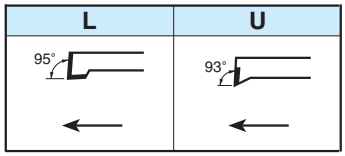
External Sleeve Holder Identification System

Shank	Toolholder Length	Clamping System	Insert Shape	Hand of Tool
S Steel	**F** : 80 (85) **G** : 90 **H** : 100 **K** : 125 (120)	**S** : Screw Clamp	**C** : 80° Rhombic **D** : 55° Rhombic **V** : 35° Rhombic	**L** : Left-hand

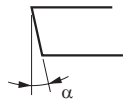
S	20	K	–	S	C	L	C	L	09

Shank Diameter

Cutting Edge Angle

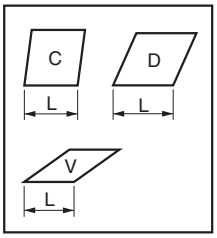


Insert Relief Angle



B : 5° Positive
C : 7° Positive

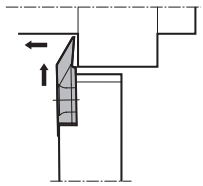
Insert Size



●Specification may change without any prior notice.

●Due to the installation size contrains on the machine, the toolholder length of some products may not match with the symbol.

KTKF / KTKF Goose-neck Holder



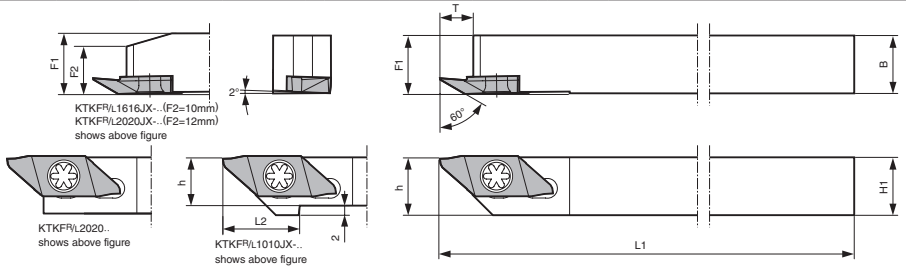
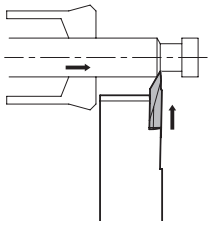


Fig.1

●Right-hand shown

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



<Goose-neck Holder>

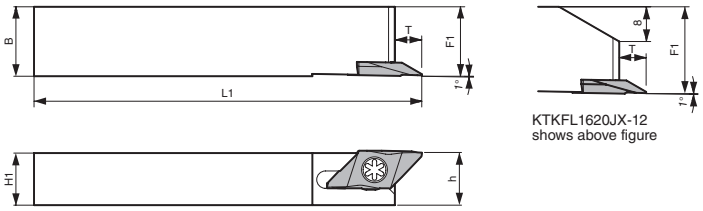


Fig.2

●Left-hand shown

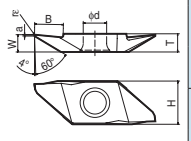
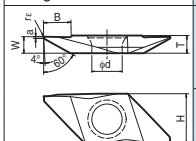
Left-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Description		Std. R	Std. L	Dimension (mm) H1=h	B	L1	L2	F1	T	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench	Applicable Inserts
KTKF R/L	1010JX-12	●	●	10	10	120	15	10	6	Fig.1	SB-4590TRWN	LTW-10S	TKFB12R/L …
	1212JX-12	●	●	12	12		-	12					
	1616JX-12	●	●	16	16			16					
	2020JX-12	●	●	20	20			20					
KTKF R/L	1010JX-16	●	●	10	10	120	20	10	8		SB-4590TRWN	LTW-10S	TKFB16R/L …
	1212JX-16	●	●	12	12		-	12					
	1616JX-16	●	●	16	16			16					
	2020JX-16	●	●	20	20			20					
KTKF R/L	1212F-12	●	●	12	12	85	-	12	6		SB-4590TRWN	LTW-10S	TKFB12R/L …
	1212F-16	●	●						8				TKFB16R/L …
KTKFL	1216JX-12		●	12	16	120	-	16	6	Fig.2	SB-4590TRWN	LTW-10S	TKFB12L …
	1620JX-12		●	16	20			20					

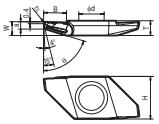
· Dimension T shows the distance from the Toolholder to the cutting edge.

Applicable Inserts (See Page B98)

Insert (Photo shows Right-hand)	Description		Corner-R(rε) (mm)
	TKFB	12R15005M	<0.05
 ●Right-hand shown		12R28005M	<0.05
		12R28010M	<0.1
	TKFB	16R38005M	<0.05
		16R38010M	<0.1
 ●Left-hand shown	TKFB	12L28005MR	<0.05
		12L28010MR	<0.1
	TKFB	16L38005MR	<0.05
		16L38010MR	<0.1

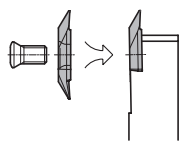
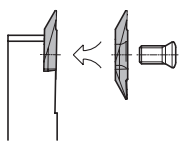
Recommended Cutting Conditions E45

Applicable Inserts (Molded Chipbreaker, P: Polished edge, See Page B99)

Insert	Description		Corner-R(rε) (mm)
 ●Right-hand shown	TKFB	12R28005(P)-GQ	0.05
		12R28015(P)-GQ	0.15
	TKFB	16R38005(P)-GQ	0.05
		16R38015(P)-GQ	0.15

Recommended Cutting Conditions E45

Combination of Toolholders and Inserts

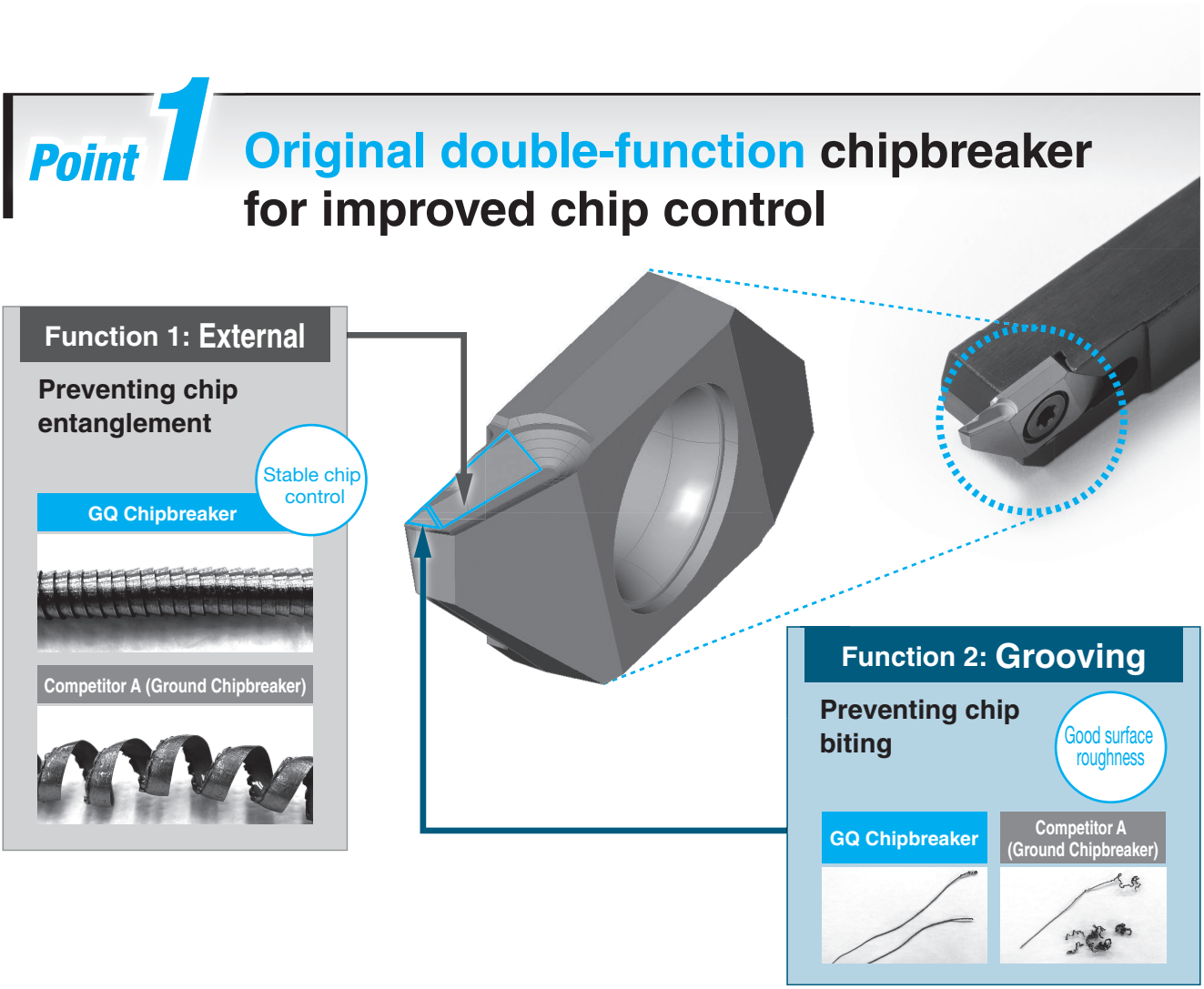
Toolholder	Right-hand	Toolholder	Left-hand
Insert	Right-hand	Insert	Left-hand
			

● : Std. Item

TKFB type GQ Chipbreaker for back Turning

Solution for problems in the conventional back-turning tools
Original molded chipbreaker realizes excellent surface finish by smooth chip control

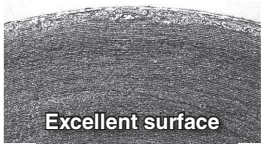
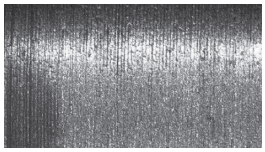
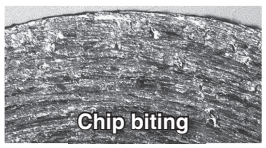
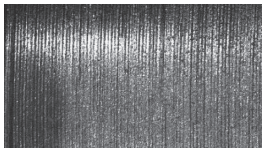
Point 1 Original double-function chipbreaker for improved chip control



Point 2 Excellent surface finish by preventing chip biting and clogging

Surface finish comparison

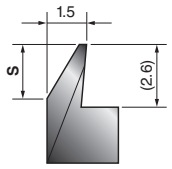
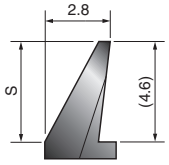
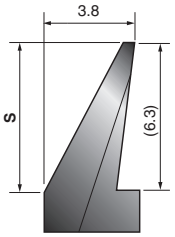
Cutting Conditions : Vc=100m/min ap=3.0mm f=0.02mm/rev (Grooving),0.05mm/rev (External)
Workpiece Material : S45C Wet

	TKFB GQ Chipbreaker		Competitor B (Ground Chipbreaker)	
	Facing	External	Facing	External
Workpiece surface	 Excellent surface		 Chip biting	
	2.9μmRz	3.8μmRz	31.2μmRz	7.6μmRz

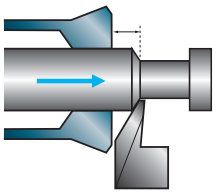
GQ Chipbreaker realizes excellent surface finish with single pass. Suitable for cycle time reduction.

Details of cutting edge and how to select

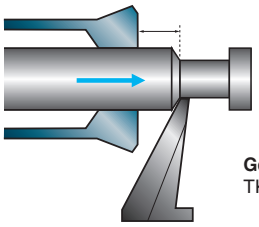
Details of cutting edge

Small machining		General purpose		Large machining	
					
Description	Cutting Edge Length S	Description	Cutting Edge Length S	Description	Cutting Edge Length S
TKFB12R15..	2.1	**TKFB12R28..**	4.2	**TKFB16R38..**	5.8
-	-	**TKFB12L28..**	4.4	**TKFB16L38..**	6.2
For small diameter and short length workpiece Stable machining with minimum overhang		For general purpose Good chip control		Large ap at one pass	

Selection



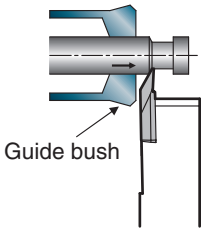
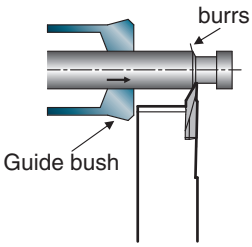
Small machining
TKFB12R15..



General purpose
TKFB12R28..

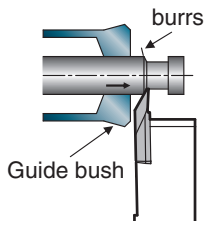
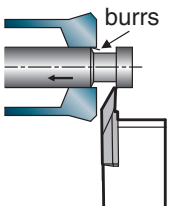
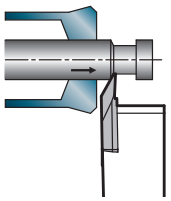
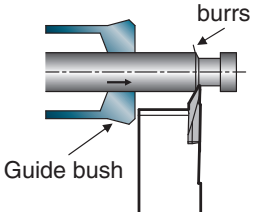
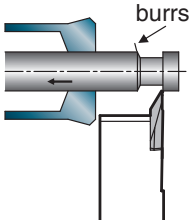
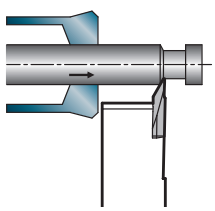
In case ap is same, if the insert with narrower edge width is used, overhang length from the guide bush is shorter, which enables better stability due to less workpiece deflection.
⇨High precision machining

How to select back turning toolholder hand

Right-hand		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.

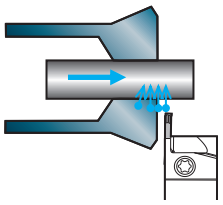
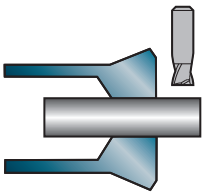
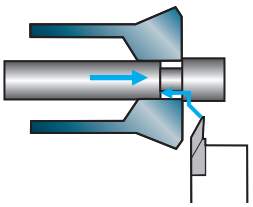
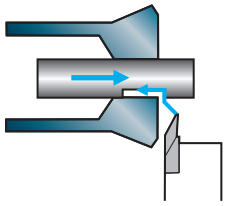
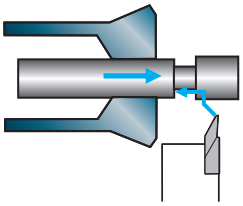
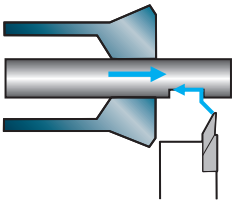
Workpiece movement and tool hand selection

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

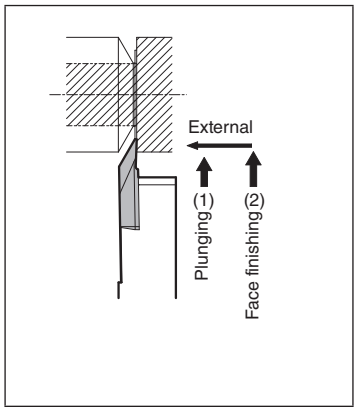
	Chip control improvement by tool pass changes I	Chip control improvement by tool pass changes II
Roughing	● Roughing with grooving tools (1) GMM2420-020MW (Grooving) 	● Pre-Stage machining is processed with solid end mill (1) 2FESW040-040-04 (Solid End Mill) 
Finishing (Countermeasures 1) Use Right-hand toolholder	(1) When using TKFB12R28010M (for back turning / right hand)  Advantages : Good surface roughness Disadvantages : If a machining pass is long, the guide bush can not support the workpiece	(1) When using TKFB12R28010M (for back turning / right hand)  Advantages : 1. Minimal deflection in long machining passes 2. Chips are broken into small pieces, though the workpiece material is sticky Disadvantages : The pre-stage machining may cause fractures, because of interrupted machining
Finishing (Countermeasures 2) Use Left-hand toolholder	(2) When using TKFB12L28010M (for back turning / left hand)  Advantages : 1. Good surface roughness 2. High precision machining if the machined portion does not contact the guide bush Disadvantages : If a machining pass is long, the guide bush can not support the workpiece	(2) When using TKFB12L28010M (for back turning / left hand)  Advantages : 1. Minimal deflection in long machining passes 2. Chips are broken into small pieces, though the workpiece material is sticky 3. High precision machining if the machined portion does not contact the guide bush Disadvantages: The pre-stage machining may cause fractures, because of interrupted machining

Countermeasure against peeled surface in face back turning

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

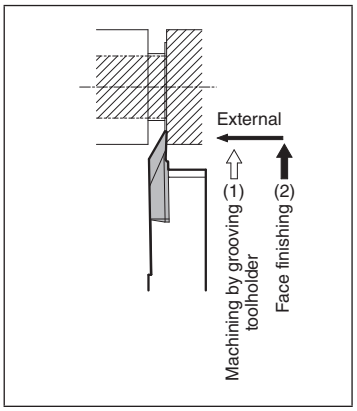
● **Countermeasures 1**

Face finishing



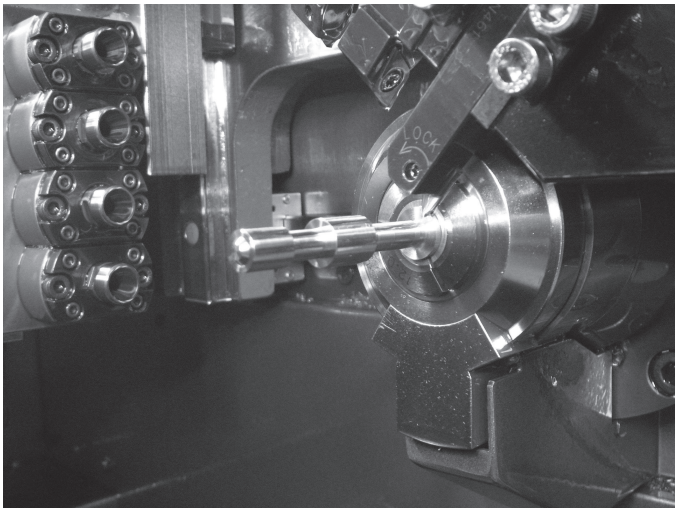
● **Countermeasures 2**

Face finishing after grooving



When using TKF-AS type Inserts

The KTKF toolholder can be used as a multi-functional tooling for non-ferrous metals and non-metals when combined with a TKF-AS insert. (Fig.1)



Example of spool machining

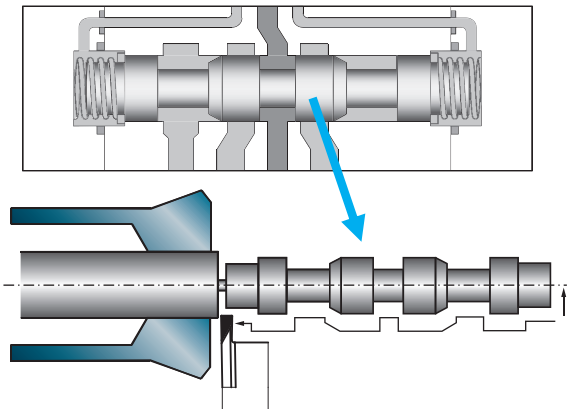
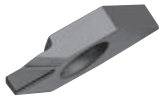
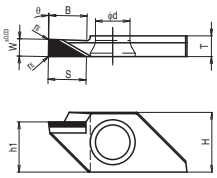
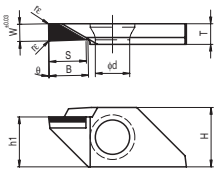
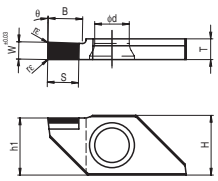


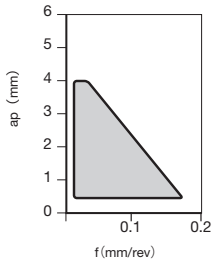
Fig.1 Example of the pass of KTKF toolholder + TKF-AS insert

Applicable Inserts (See Page C32)

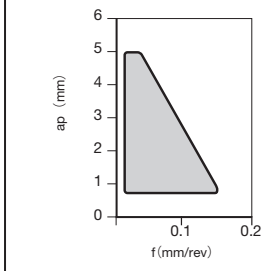
Insert (Photo shows Right-hand)		Description	
 Turning / Grooving	 ● Right-hand shown	TKF12R/L	200-AS
			250-AS
		TKF16R/L	250-AS
	 ● Insert hand: Left-hand / PCD edge hand: Right-hand shown	TKF12L	200-ASR
			250-ASR
		TKF16L	250-ASR
Grooving (Turning is possible)	 ● Right-hand shown	TKF12R/L	150-NB
			200-NB
			250-NB
			250-NB4.5

Applicable Range

TKF12-AS/-ASR



TKF16-AS/-ASR



* PCD Inserts for turning and Grooving

* Not recommended for cut-off

Inserts Identification System

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

- TKF: Insert Type
- 12: Insert Size
- R / L: Insert Hand (R : Right-hand, L : Left-hand)
- 200: Width (Edge Width)
- AS / NB: Name of Chipbreaker (AS: AS Chipbreaker, NB: Without Chipbreaker)
- R: PCD insert hand (No Indication: The edge hand is same as the insert hand; R: Right-hand)

Applicable Toolholders ➔ E12
Recommended Cutting Conditions ➔ E45

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..-NB. (Ref. to Fig.3)

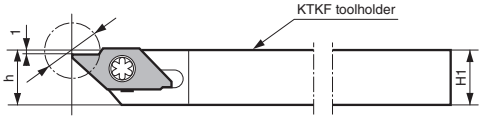


Fig.2 When a TKF-AS / -ASR insert is attached
(The cutting edge is 1mm lower than the center line)

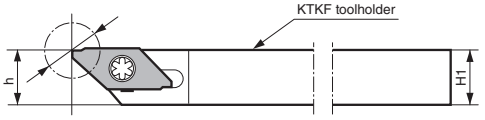
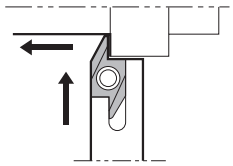
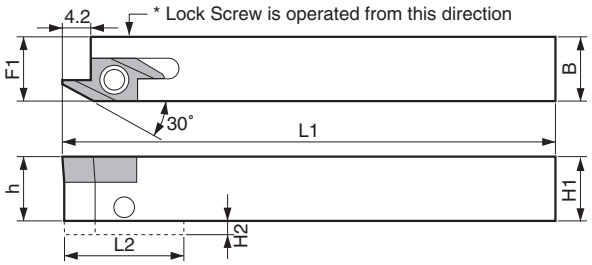


Fig.3 When a TKF-NB insert is attached

Toolholders for Back Turning [ABS15 Insert]

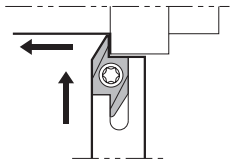
AABS-40F (Edge Width: 2.8mm, MAX. Depth: 4mm)

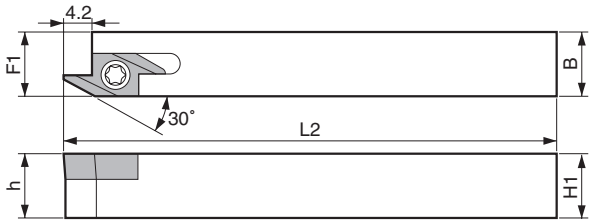




● Right-hand shown

SABS-40F (Edge Width: 2.8mm, MAX. Depth: 4mm)



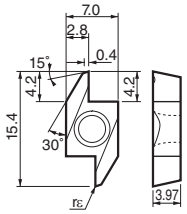


● Right-hand shown

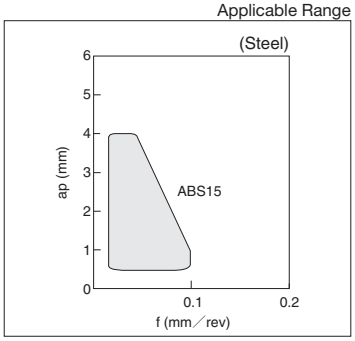
● Toolholder Dimensions

Description		Std.	Dimension (mm)							Standard Corner-R(rε)	Spare Parts				
			H1=h	H2	B	L1	L2	F1			Anchor Pin	Lock Screw	Clamp Screw	Wrench	
AABSR	1010JX-40F	●	10		10			10.2			LPA-11				
	1212JX-40F	●	12	-	12	120	-	12.2		0.15	LPA-13	HSB4X8R	-	FH-2	
	1616JX-40F	●	16		16			16.2			LPA-17				
SABSR	1010JX-40F	●	10		10			10.2							
	1212JX-40F	●	12	-	12	120	-	12.2		0.15	-	-	SB-3080TR	FT-10	
	1616JX-40F	●	16		16			16.2							
SABSR	1212F -40F	●	12	-	12	85	-	12.2		0.15	-	-	SB-3080TR	FT-10	
	2020K -40F	●	20		20	125		20.2							

● Applicable Inserts

Insert		Description	Corner-R(rε) (mm)	See Page
		**ABS15R4005**	0.05	**B97**
		15R4015	0.15	
		ABS15R4005M	<0.05	
		15R4015M	<0.15	

Applicable Range

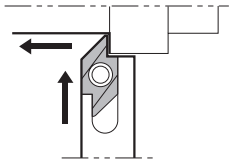


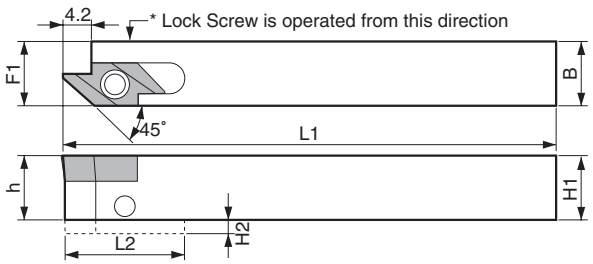
Recommended Cutting Conditions E45

● : Std. Item

Toolholders for Back Turning [ABW15 Insert]

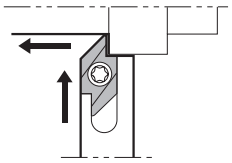
AABW-40F (Edge Width: 4.7mm, MAX. Depth: 4mm)

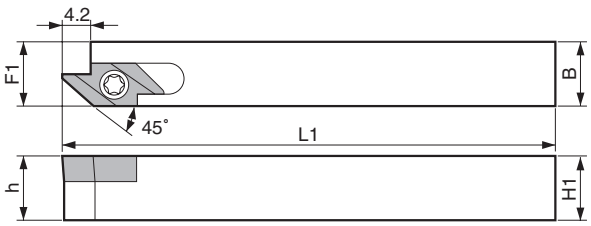




● Right-hand shown

SABW-40F (Edge Width: 4.7mm, MAX. Depth: 4mm)



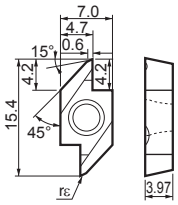


● Right-hand shown

● Toolholder Dimensions

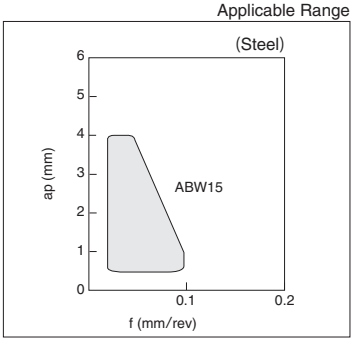
Description		Std.	Dimension (mm)							Standard Corner-R(rε)	Spare Parts				
			H1=h	H2	B	L1	L2	F1			Anchor Pin	Lock Screw	Clamp Screw	Wrench	
AABWR	1010JX-40F	●	10		10			10.2			LPA-11				
	1212JX-40F	●	12	-	12	120	-	12.2		0.15	LPA-13	HSB4X8R	-	FH-2	
	1616JX-40F	●	16		16			16.2			LPA-17				
SABWR	1010JX-40F	●	10		10			10.2							
	1212JX-40F	●	12	-	12	120	-	12.2		0.15	-	-	SB-3080TR	FT-10	
	1616JX-40F	●	16		16			16.2							
SABWR	2020K -40F	●	20	-	20	125	-	20.2		0.15	-	-	SB-3080TR	FT-10	

● Applicable Inserts

Insert		Description	Corner-R(rε) (mm)	See Page
		**ABW15R4005**	0.05	**B97**
		15R4015	0.15	
		ABW15R4005M	<0.05	
		15R4015M	<0.15	

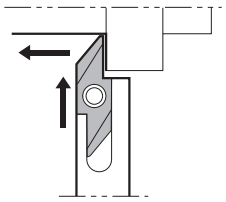
Recommended Cutting Conditions ➡ **E45**

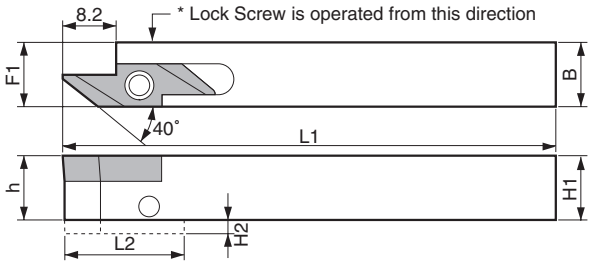
Applicable Range



● : Std. Item

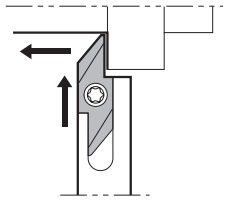
AABW-50F (Edge Width: 4.7mm, MAX. Depth: 5mm)

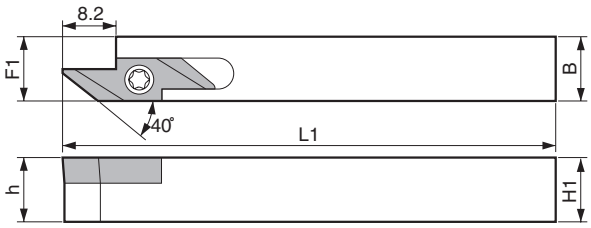




● Right-hand shown

SABW-50F (Edge Width: 4.7mm, MAX. Depth: 5mm)



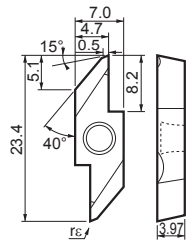


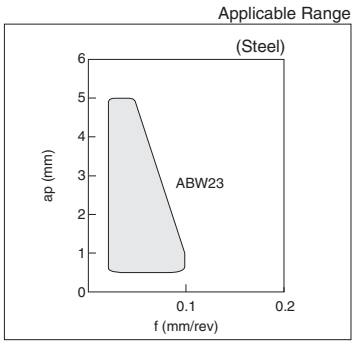
● Right-hand shown

● Toolholder Dimensions

Description		Std.	Dimension (mm)							Standard Corner-R(rε)	Spare Parts				
			H1=h	H2	B	L1	L2	F1			Anchor Pin	Lock Screw	Clamp Screw	Wrench	
AABWR	1010JX-50F	●	10		10			10.2			LPA-11				
	1212JX-50F	●	12	-	12	120	-	12.2		0.15	LPA-13	HSB4X8R	-	FH-2	
	1616JX-50F	●	16		16			16.2			LPA-17				
SABWR	1010JX-50F	●	10		10			10.2							
	1212JX-50F	●	12	-	12	120	-	12.2		0.15	-	-	SB-3080TR	FT-10	
	1616JX-50F	●	16		16			16.2							
SABWR	2020K -50F	●	20	-	20	125	-	20.2		0.15	-	-	SB-3080TR	FT-10	

● Applicable Inserts

Insert		Description	Corner-R(rε) (mm)	See Page
		**ABW23R5005**	0.05	**B97**
		23R5015	0.15	
		ABW23R5005M	<0.05	
		23R5015M	<0.15	

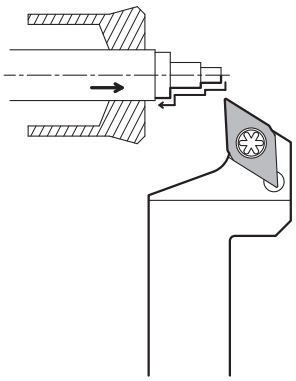


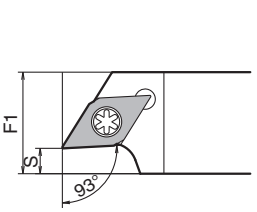
Recommended Cutting Conditions ➔ E45

● : Std. Item

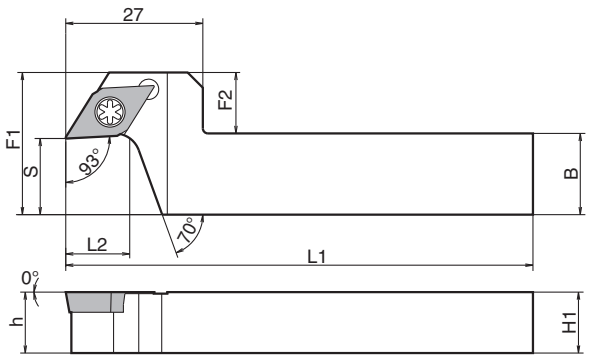
Goose-neck Holder [DC□□ Insert]

SDJC (External / Copying)





SDJCR1620JX-11-F05
shows above figure



● Right-hand shown

● Toolholder Dimensions

Description		Std.	Dimension (mm)							Standard Corner-R(rε)	Spare Parts		
			H1=h	B	L1	L2	F1	F2	S		Clamp Screw	Wrench	
SDJCR	1216JX-11-F05	●	12	16	120	12.6	18	2	5	0.2	SB-4085TR	FT-15	
	1216JX-11-F15	●					28	12	15				
	1620JX-11-F05	●	16	20			20	-	5				
	1620JX-11-F15	●					28	8	15				

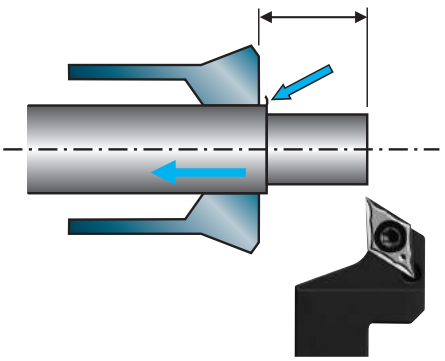
● Applicable Inserts

Applications	Minute ap	Finishing	*Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing	Finishing / Precision	Low Feed	Low Feed / Precision
See Page	B61	B61	B62	B62	B63	B62	B66	B65	B67,B68	B67
Insert / Toolholder Description	CF	GF	WP(Wiper)	PP	GK	GQ	R-F	R-FSF	(E/F) R-U	FR-USF
SDJCR..-11-F..	DCGT11T3..	DCGT11T3..	DCMX11T3..	DCMT11T3..	DCMT11T3..	DCGT11T3..	DCGT11T3..	DCET11T3..	DCGT11T3..	DCET11T3..
Applications	Low Feed	Low Feed / Precision	Soft Steel / Finishing	Soft Steel / Finishing-Medium	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials
See Page	B69,B70	B69	B64	B64	B64	B70	B70	B70	C25	C15
Insert / Toolholder Description	(E/F) R-J	FR-JSF	XP	XQ	MQ	Without Chipbreaker	AH	R-A3	PCD	CBN
SDJCR..-11-F..	DCGT11T3..	DCET11T3..	DCMT11T3..	DCMT11T3..	DCMT11T3..	DCGW11T3..	DCGT11T3..	DCGT11T3..	DCMT11T3..	DCMW11T3..

* For WP chipbreaker, cutting edge offsets or program corrections are required. F94

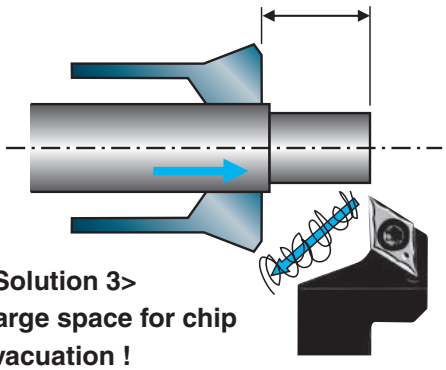
Recommended Cutting Conditions E44

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



<Solution 1>
The workpiece burr does not contact the guide bush and no breakage will be caused !

<Solution 2>
Longitudinal dimension will be stable. External diameter will be stable owing to multiple pass machining (roughing and finishing).

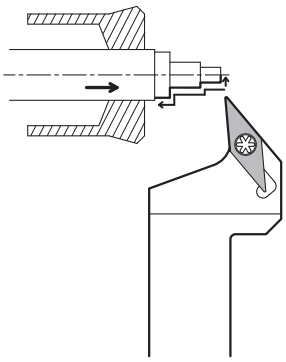


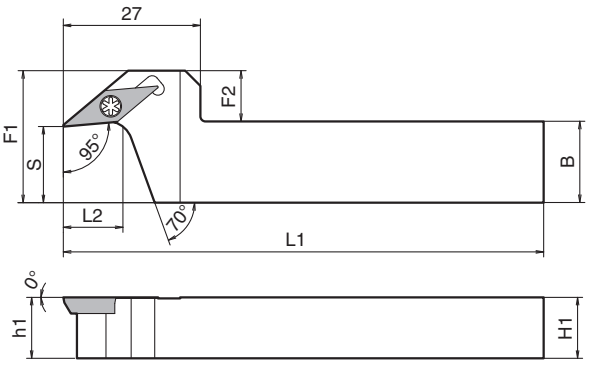
<Solution 3>
Large space for chip evacuation !
Better and smooth chip control.

● : Std. Item

Goose-neck Holder [VP□□ Insert]

SVLP (External / Copying)





● Right-hand shown

● Toolholder Dimensions

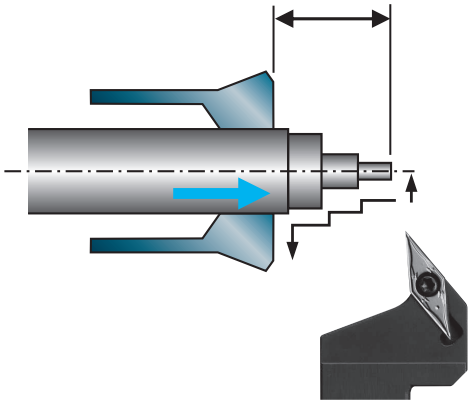
Description		Std.	Dimension (mm)							Standard Corner-R(rε)	Spare Parts		
			H1=h	B	L1	L2	F1	F2	S		Clamp Screw	Wrench	
SVLPR	1216JX-11-F15	●	12	16	120	12	26	10	15	0.2	SB-2570TR	FT-8	
	1620JX-11-F15	●	16	20				6					

● Applicable Inserts

Applications	Minute ap	Finishing	Finishing	Finishing / Precision	Low Feed	Low Feed / Precision				
See Page	B91	B91	B91	B92	B93	B93				
Insert / Toolholder Description	CF	CK	GF	R-FSF	FR-U	FR-USF				
SVLPR...-11-F..	VPGT1103..	VPGT1103..	VPGT1103..	VPET1103..	VPET1103..	VPET1103..				

Recommended Cutting Conditions E44

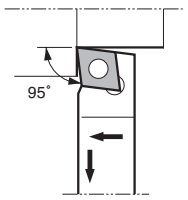
● One toolholder for complex shape workpiece

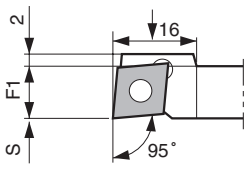


Toolholder for VP type insert is available !
Complex shape workpiece can be processed with one toolholder.
It can be used for undercutting and external / face finishing.

● :Std. Item

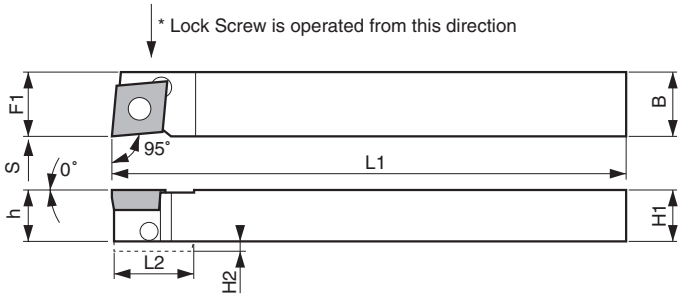
ACLC-FF (Without Offset) (External / Facing)





ACLC$^{R}_{L}$1010JX-09FF shows above figure

● Right-hand shown



Toolholder Dimensions

Description		Std. R	Std. L	Dimension (mm) H1=h	H2	B	L1	L2	F1	S	Standard Corner-R(rε)	Spare Parts: Anchor Pin	Lock Screw	Wrench		
ACLC$^{R}_{L}$	1010JX-06FF	●	●	10	-	10	120	-	10	0	0.2	LPF-11	HSB4X8$^{R}_{L}$	FH-2		
	1010JX-09FF	●	●	10	2	10		16	10			LPF-13				
	1212JX-09FF	●	●	12	-	12		-	12							
	1616JX-09FF	●	●	16		16			16			LPF-17				

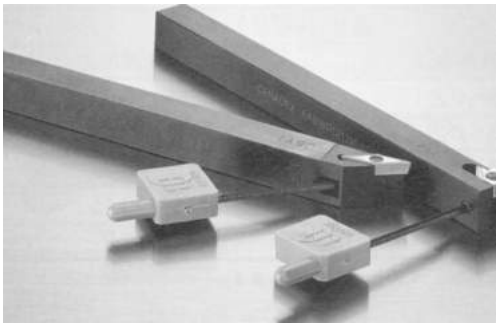
· Lock Screw: HSB4X8R for Right-hand Toolholder, HSB4X8L for Left-hand Toolholder.

Applicable Inserts

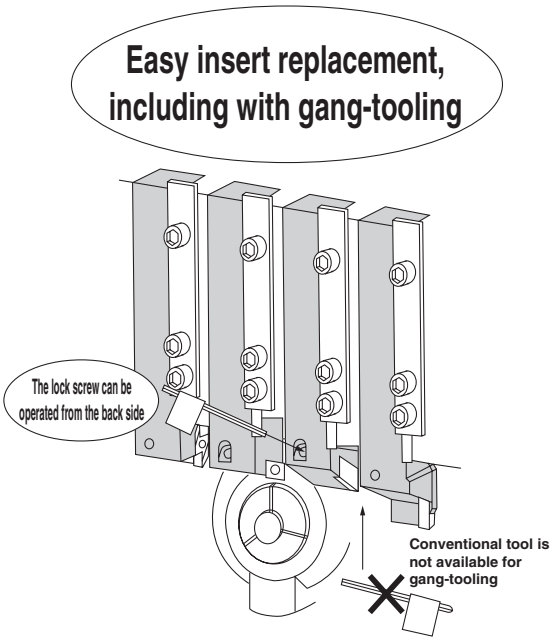
Applications	Finishing	Finishing-Medium	Finishing-Medium	Low Feed	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials
See Page	B53	B54	B53,B54	B57,B58	B55	B59	B59	B59	C24	C14
Insert / Toolholder Description	GF	GK	GQ	(E/F)$^{R}_{L}$-U	MQ	Without Chipbreaker	AH	$^{R}_{L}$-A3	PCD	CBN
ACLC$^{R}_{L}$...-06FF	CCGT0602..	CCMT0602..	CCGT0602..	CCGT0602..	-	CCGW0602..	-	-	CCMT0602.. CCGW0602..	CCMW0602..
ACLC$^{R}_{L}$...-09FF	CCGT09T3..	CCMT09T3..	CCGT09T3..	CCGT09T3..	CCMT09T3..	CCGW09T3..	CCGT09T3..	CCGT09T3..	CCMT09T3.. CCGW09T3..	CCMW09T3..

Recommended Cutting Conditions E44

Back Clamp Toolholders



1. The lock screw can be operated from the back side and allows simple insert replacement on Swiss type automatic lathes. (Fig.1)
2. Simple insert replacement by slightly turning the wrench.
3. Rigid clamping with anchor pin and lock screw. (Fig.2)



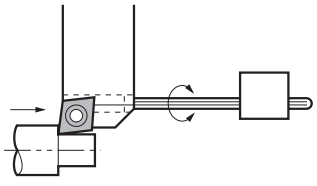


Fig.1

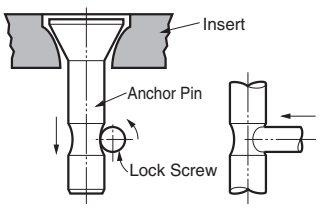
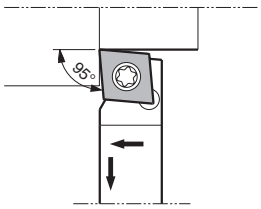


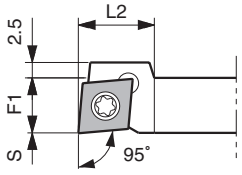
Fig.2

● : Std. Item

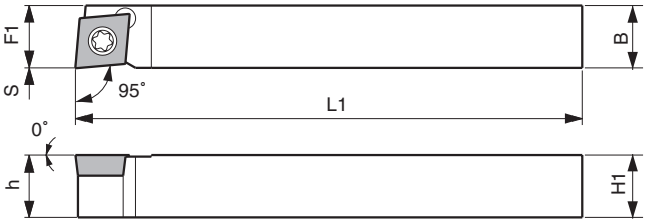
External Toolholders [CC□□ Insert]

SCLC-FF (Without Offset) (External / Facing)





SCLC$^{R}_{L}$1010JX-09FF
shows above figure

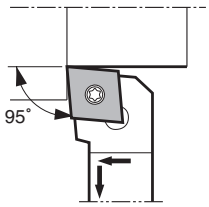


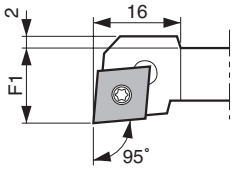
● Right-hand shown

● Toolholder Dimensions

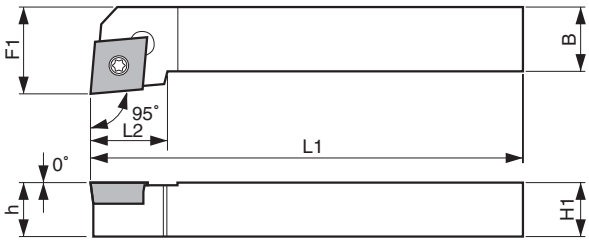
Description		Std. R	Std. L	Dimension (mm) H1=h	B	L1	L2	F1	S		Standard Corner-R(rε)	Spare Parts: Clamp Screw	Spare Parts: Wrench			
SCLC$^{R}_{L}$	0808F-06FF	●	●	8	8	85	-	8	0		0.2	SB-2570TR	FT-8			
	1212F-09FF	●	●	12	12			12				SB-4085TR	FT-15			
SCLC$^{R}_{L}$	1010JX-06FF	●	●	10	10	120	-	10	0		0.2	SB-2570TR	FT-8			
	1010JX-09FF	●	●	10	10		15	10			0.2	SB-4085TR	FT-15			
	1212JX-09FF	●	●	12	12			12								
	1616JX-09FF	●	●	16	16		-	16								
	2020JX-09FF	●	●	20	20			20								

SCLC (External / Facing)





SCLC$^{R}_{L}$1010F-09
shows above figure



● Right-hand shown

● Toolholder Dimensions

Description		Std. R	Std. L	Dimension (mm) H1=h	B	L1	L2	F1			Standard Corner-R(rε)	Spare Parts: Clamp Screw	Spare Parts: Wrench	Spare Parts: Wrench		
SCLC$^{R}_{L}$	1010F -06	●	●	10	10	80	9	12			0.2	SB-2570TR	FT-8	-		
	1010F -09	●	●	10	10	80	14	14			0.2	SB-4085TR	FT-15	-		
	1212H -09	●	●	12	12	100		16								
	1616H -09	●	●	16	16		15	20								
	2020K -09	●	●	20	20	125	20	25								
	2525M -09	●	●	25	25	150	22	32								
	1616H -12	●	●	16	16	100	20	20			0.4	SB-5090TR	-	LTW-20		
	2020K -12	●	●	20	20	125	22	25								
	2525M -12	●	●	25	25	150		32								

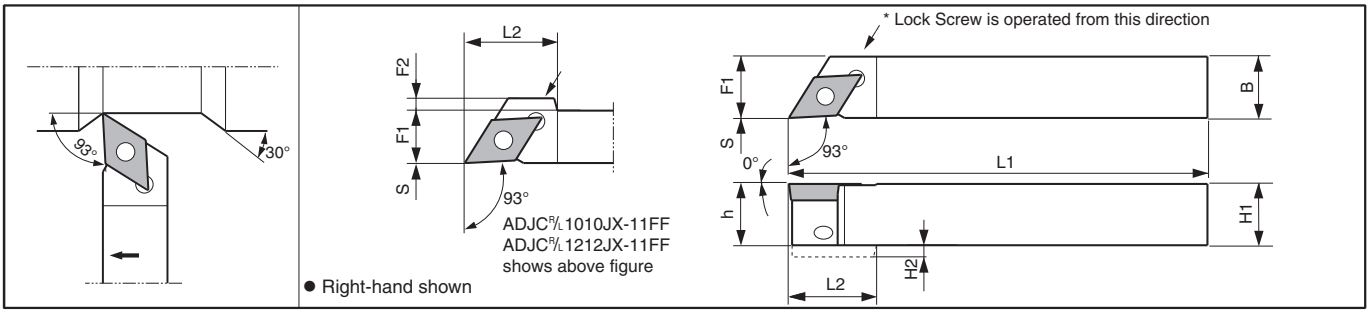
● Applicable Inserts (SCLC-FF / SCLC)

Applications	Finishing	Finishing-Medium	Finishing-Medium	Low Feed	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials
See Page	B53	B54	B53,B54	B57,B58	B55	B59	B59	B59	C24	C14
Insert / Toolholder Description	GF	GK	GQ	(E/F) $^{R}_{L}$-U	MQ	Without Chipbreaker	AH	$^{R}_{L}$-A3	PCD	CBN
SCLC$^{R}_{L}$...-06FF/-06	CCGT0602..	CCMT0602..	CCGT0602..	CCGT0602..	-	CCGW0602..	-	-	CCMT0602.. CCGW0602..	CCMW0602..
SCLC$^{R}_{L}$...-09FF/-09	CCGT09T3..	CCMT09T3..	CCGT09T3..	CCGT09T3..	CCMT09T3..	CCGW09T3..	CCGT09T3..	CCGT09T3..	CCMT09T3.. CCGW09T3..	CCMW09T3..
SCLC$^{R}_{L}$...-12	-	CCMT1204..	-	-	-	-	-	CCGT1204..	-	-

Recommended Cutting Conditions ➡ E44

● : Std. Item

ADJC-FF (Without Offset) (External / Copying)



Toolholder Dimensions

Description		Std. R	Std. L	Dimension (mm) H1=h	H2	B	L1	L2	F1	F2	S	Standard Corner-R(rε)	Spare Parts: Anchor Pin	Lock Screw	Wrench
ADJCR/L	1010JX-07FF	●	●	10	-	10	120	-	10	-	0	0.2	LPF-11	HSB4X8R/L	FH-2
	1010JX-11FF	●	●	10	2	10		20	10	3		0.2	LPF-13		
	1212JX-11FF	●	●	12	-	12			12	1					
	1616JX-11FF	●	●	16		16		-	16	-			LPF-17		

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

Applicable Inserts

Applications	Minute ap	Finishing	Finishing	*Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing	Finishing / Precision	Low Feed
See Page	B61	B61	B61,B62	B62	B62	B63	B62	B66	B65	B67,B68
Insert / Toolholder Description	CF	GF	CK	WP(Wiper)	PP	GK	GQ	R/L-F	R/L-FSF	(E/F) R/L-U
ADJCR/L...-07FF	DCGT0702..	DCGT0702..	DCGT0702..	DCMX0702..	DCMT0702..	DCMT0702..	DCGT0702..	DCGT0702..	DCET0702..	DCGT0702..
ADJCR/L...-11FF	DCGT11T3..	DCGT11T3..	DCGT11T3..	DCMX11T3..	DCMT11T3..	DCMT11T3..	DCGT11T3..	DCGT11T3..	DCET11T3..	DCGT11T3..

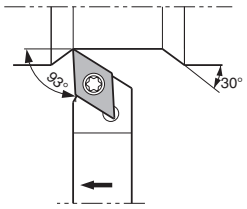
Applications	Low Feed / Precision	Low Feed	Soft Steel / Finishing	Soft Steel / Finishing-Medium	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials
See Page	B67	B69,B70	B64	B64	B64	B70	B70	B70	E20	C15
Insert / Toolholder Description	F R/L-USF	(E/F) R/L-J	XP	XQ	MQ	Without Chipbreaker	AH	R/L-A3	PCD	CBN
ADJCR/L...-07FF	DCET0702..	DCET0702..	DCMT0702..	-	DCMT0702..	DCGW0702..	-	-	DCMT0702..	DCMW0702..
ADJCR/L...-11FF	DCET11T3..	DC_T11T3..	DCMT11T3..	DCMT11T3..	DCMT11T3..	DCGW11T3..	DCGT11T3..	DCGT11T3..	DCMT11T3..	DCMW11T3..

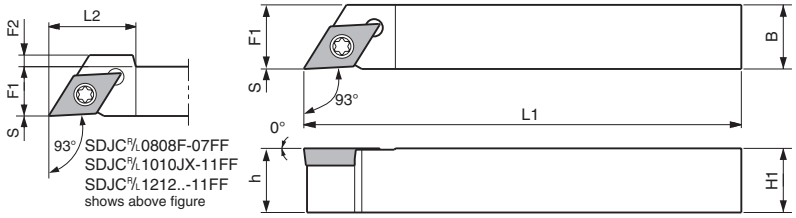
* For WP chipbreaker, cutting edge offsets or program corrections are required. F94

Recommended Cutting Conditions E44

● : Std. Item

SDJC-FF (Without Offset) (External / Copying)



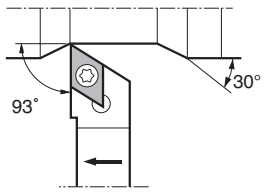


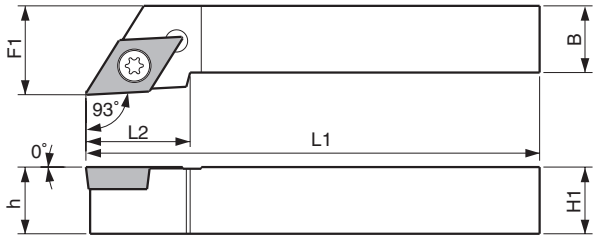
● Right-hand shown

● Toolholder Dimensions

Description		Std. R	Std. L	Dimension (mm) H1=h	B	L1	L2	F1	F2	S	Standard Corner-R(rε)	Spare Parts: Clamp Screw	Spare Parts: Wrench
SDJC R/L	0808F -07FF	●	●	8	8	85	14	8	0.5	0	0.2	SB-2570TR	FT-8
	1212F -11FF	●	●	12	12		20	12	1			SB-4085TR	FT-15
SDJC R/L	1010JX-07FF	●	●	10	10	120	-	10	-	0	0.2	SB-2570TR	FT-8
	1010JX-11FF	●	●	10	10		20	10	3		0.2	SB-4085TR	FT-15
	1212JX-11FF	●	●	12	12			12	1				
	1616JX-11FF	●	●	16	16		-	16	-				
	2020JX-11FF	●	●	20	20			20					

SDJC (External / Copying)





● Right-hand shown

● Toolholder Dimensions

Description		Std. R	Std. L	Dimension (mm) H1=h	B	L1	L2	F1	Standard Corner-R(rε)	Spare Parts: Clamp Screw	Spare Parts: Wrench
SDJC R/L	1010F -07	●	●	10	10	80	12	12	0.2	SB-2570TR	FT-8
SDJC R/L	1010F -11	●	●	10	10	80	18	12	0.2	SB-4085TR	FT-15
	1212H -11	●	●	12	12	100		16			
	1616H -11	●	●	16	16			20			
	2020K -11	●	●	20	20	125		25			
	2525M -11	●	●	25	25	150	23	32			

● Applicable Inserts

Applications	Minute ap	Finishing	Finishing	*Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing	Finishing / Precision	Low Feed
See Page	B61	B61	B61,B62	B62	B62	B63	B62	B66	B65	B67,B68
Insert / Toolholder Description	CF	GF	CK	WP(Wiper)	PP	GK	GQ	R/L-F	R/L-FSF	(E/F)R/L-U
SDJC R/L...-07FF/-07	DCGT0702..	DCGT0702..	DCGT0702..	DCMX0702..	DCMT0702..	DCMT0702..	DCGT0702..	DCGT0702..	DCET0702..	DCGT0702..
SDJC R/L...-11FF/-11	DCGT11T3..	DCGT11T3..	DCGT11T3..	DCMX11T3..	DCMT11T3..	DCMT11T3..	DCGT11T3..	DCGT11T3..	DCET11T3..	DCGT11T3..

Applications	Low Feed / Precision	Low Feed	Soft Steel / Finishing	Soft Steel / Finishing-Medium	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials
See Page	B67	B69,B70	B64	B64	B64	B70	B70	B70	C25	C15
Insert / Toolholder Description	F R/L-USF	(E/F) R/L-J	XP	XQ	MQ	Without Chipbreaker	AH	R/L-A3	PCD	CBN
SDJC R/L...-07FF/-07	DCET0702..	DCET0702..	DCMT0702..	-	DCMT0702..	DCGW0702..	-	-	DCMT0702..	DCMW0702..
SDJC R/L...-11FF/-11	DCET11T3..	DC_T11T3..	DCMT11T3..	DCMT11T3..	DCMT11T3..	DCGW11T3..	DCGT11T3..	DCGT11T3..	DCMT11T3..	DCMW11T3..

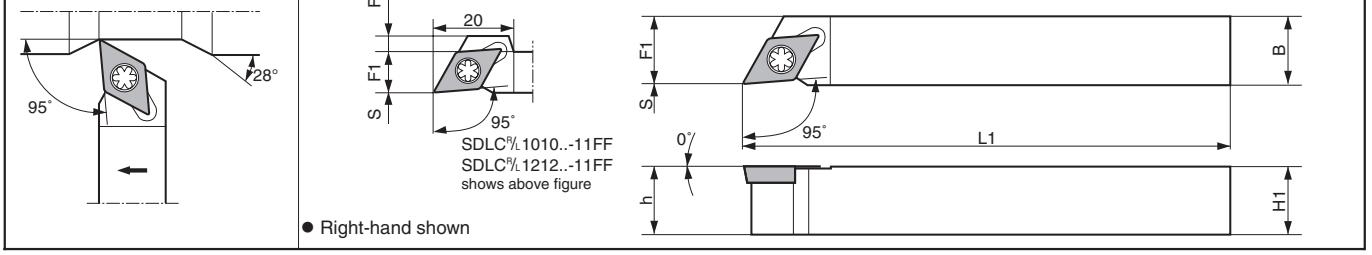
* For WP chipbreaker, cutting edge offsets or program corrections are required. F94

Recommended Cutting Conditions E44

● : Std. Item

External Toolholders [DC□□ Insert]

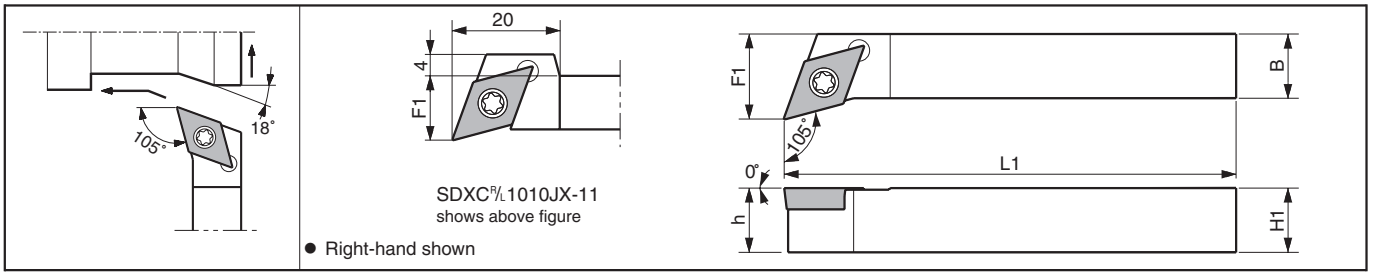
SDLC-FF (Without Offset) (External / Copying)



● Toolholder Dimensions

Description		Std. R	Std. L	Dimension (mm) H1=h	B	L1	F1	F2	S		Standard Corner-R(rε)	Spare Parts: Clamp Screw	Spare Parts: Wrench
SDLC R/L	1010JX-07FF	●	●	10	10	120	10	-	0		0.2	SB-2570TR	FT-8
	1212JX-07FF	●	●	12	12		12						
	1616JX-07FF	●	●	16	16		16						
SDLC R/L	1010JX-11FF	●	●	10	10	120	10	4	0		0.2	SB-4085TR	FT-15
	1212JX-11FF	●	●	12	12		12	2					
	1616JX-11FF	●	●	16	16		16	-					
SDLC R/L	1212F -07FF	●	●	12	12	85	12	-	0		0.2	SB-2570TR	FT-8
SDLC R/L	1010F -11FF	●	●	10	10	80	10	4	0		0.2	SB-4085TR	FT-15
	1212F -11FF	●	□	12	12	85	12	2					
	1616H -11FF	●		16	16	100	16	-					

SDXC (External / Facing / Copying)



● Toolholder Dimensions

Description		Std. R	Std. L	Dimension (mm) H1=h	B	L1	F1				Standard Corner-R(rε)	Spare Parts: Clamp Screw	Spare Parts: Wrench
SDXC R/L	1010JX-07	●	●	10	10	120	12				0.2	SB-2570TR	FT-8
	1010JX-11	●	●	10	10		12				0.2	SB-4085TR	FT-15
	1212JX-11	●	●	12	12		16						
	1616JX-11	●	●	16	16		20						

● Applicable Inserts (SDLC-FF / SDXC)

Applications	Minute ap	Finishing	Finishing	*Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing	Finishing / Precision	Low Feed
See Page	B61	B61	B61,B62	-	B62	B63	B62	B66	B65	B67,B68
Insert / Toolholder Description	CF	GF	CK	WP(Wiper)	PP	GK	GQ	R/L-F	R/L-FSF	(E/F) R/L-U
SDLC R/L...-07FF SDXC R/L...-07	DCGT0702..	DCGT0702..	DCGT0702..	-	DCMT0702..	DCMT0702..	DCGT0702..	DCGT0702..	DCET0702..	DCGT0702..
SDLC R/L...-11FF SDXC R/L...-11	DCGT11T3..	DCGT11T3..	DCGT11T3..	-	DCMT11T3..	DCMT11T3..	DCGT11T3..	DCGT11T3..	DCET11T3..	DCGT11T3..

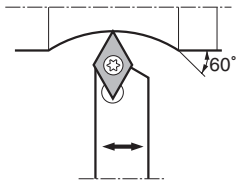
Applications	Low Feed / Precision	Low Feed	Soft Steel / Finishing	Soft Steel / Finishing-Medium	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials
See Page	B67	B69,B70	B64	B64	B64	B70	B70	B70	C25	C15
Insert / Toolholder Description	F R/L-USF	(E/F) R/L-J	XP	XQ	MQ	Without Chipbreaker	AH	R/L-A3	PCD	CBN
SDLC R/L...-07FF SDXC R/L...-07	DCET0702..	DCET0702..	DCMT0702..	-	DCMT0702..	DCGW0702..	-	-	DCMT0702..	DCMW0702..
SDLC R/L...-11FF SDXC R/L...-11	DCET11T3..	DC_T11T3..	DCMT11T3..	DCMT11T3..	DCMT11T3..	DCGW11T3..	DCGT11T3..	DCGT11T3..	DCMT11T3..	DCMW11T3..

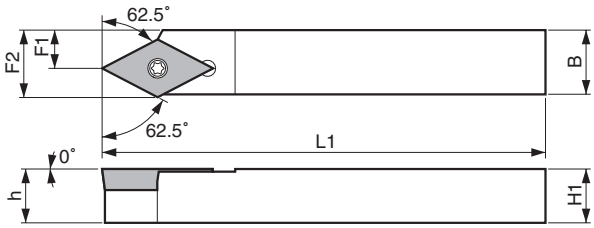
Recommended Cutting Conditions E44

● : Std. Item □ : Deleted from the next catalogue

External Toolholders [DC□□ Insert]

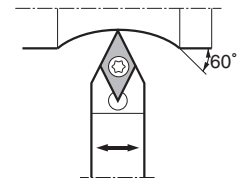
SDNC-F (External / Copying)

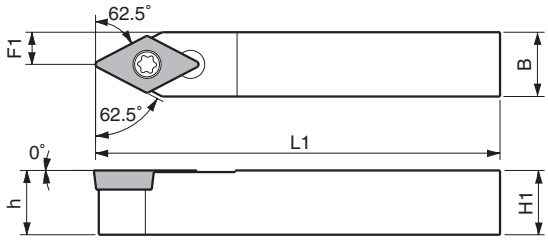




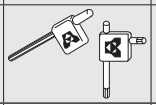
● Right-hand shown

SDNC (External / Copying)





● Toolholder Dimensions

Description		Std. R	Std. N	Std. L	Dimension (mm) H1=h	B	L1	F1	F2			Standard Corner-R(rε)	Spare Parts: Clamp Screw	Spare Parts: Wrench		
																
SDNC$^{R}_{L}$	1010JX-07F	●		●	10	10	120	7	10.5			0.2	SB-2570TR	FT-8		
SDNCN	1010JX-07		●		10	10		5	-			0.2	SB-2570TR	FT-8		
	1212JX-07		●		12	12		6								
	1010JX-11		●		10	10	120	5				0.2	SB-4085TR	FT-15		
	1212JX-11		●		12	12		6	-							
	1616JX-11		●		16	16		8								
SDNCN	0808F -07		●		8	8	85	4	-			0.2	SB-2570TR	FT-8		
SDNCN	1010F -11		●		10	10	80	5				0.2	SB-4085TR	FT-15		
	1212F -11		●		12	12	85	6	-							
	1616H -11		●		16	16	100	8								

● Applicable Inserts

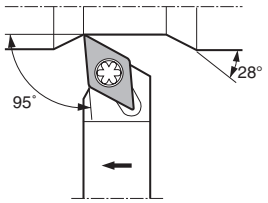
Applications	Minute ap	Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing	Finishing / Precision	Low Feed
See Page	B61	B61	B61,B62	-	B62	B63	B62	B66	B65	B67,B68
Insert / Toolholder Description	CF	GF	CK	WP(Wiper)	PP	GK	GQ	$^{R}_{L}$-F	$^{R}_{L}$-FSF	(E/F) $^{R}_{L}$-U
SDNC$^{R}_{L}$...-07F	DCGT0702..	DCGT0702..	DCGT0702..	-	DCMT0702..	DCMT0702..	DCGT0702..	DCGT0702..	DCET0702..	DCGT0702..
SDNCN...-07										
SDNCN...-11	DCGT11T3..	DCGT11T3..	DCGT11T3..	-	DCMT11T3..	DCMT11T3..	DCGT11T3..	DCGT11T3..	DCET11T3..	DCGT11T3..

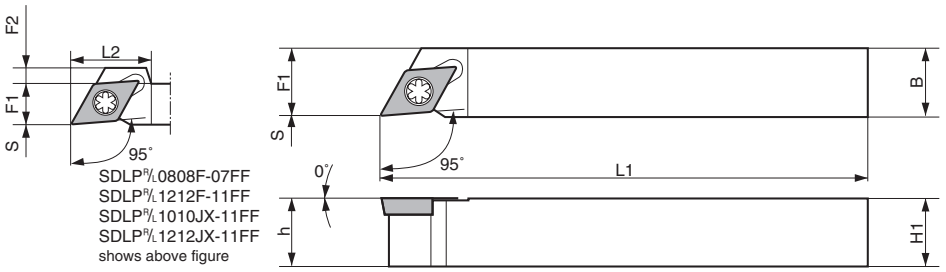
Applications	Low Feed / Precision	Low Feed	Soft Steel / Finishing	Soft Steel / Finishing-Medium	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials
See Page	B67	B69,B70	B64	B64	B64	B70	B70	B70	C25	C15
Insert / Toolholder Description	F$^{R}_{L}$-USF	(E/F)$^{R}_{L}$-J	XP	XQ	MQ	Without Chipbreaker	AH	$^{R}_{L}$-A3	PCD	CBN
SDNC$^{R}_{L}$...-07F	DCET0702..	DCET0702..	DCMT0702..	-	DCMT0702..	DCGW0702..	-	-	DCMT0702..	DCMW0702..
SDNCN...-07										
SDNCN...-11	DCET11T3..	DC_T11T3..	DCMT11T3..	DCMT11T3..	DCMT11T3..	DCGW11T3..	DCGT11T3..	DCGT11T3..	DCMT11T3..	DCMW11T3..

Recommended Cutting Conditions E44

● : Std. Item

SDLP-FF (Without Offset) (External / Copying)





SDLP R/L 0808F-07FF
SDLP R/L 1212F-11FF
SDLP R/L 1010JX-11FF
SDLP R/L 1212JX-11FF
shows above figure

● Right-hand shown

Toolholder Dimensions

Description		Std. R	Std. L	Dimension (mm) H1=h	B	L1	L2	F1	F2	S	Standard Corner-R(rε)	Spare Parts: Clamp Screw	Spare Parts: Wrench
SDLP R/L	0808F -07FF	●	●	8	8	85	14	8	0.5	0	0.2	SB-2570TR	FT-8
	1212F -11FF	□	□	12	12		20	12	2			SB-4085TR	FT-15
SDLP R/L	1010JX-07FF	●	●	10	10	120	-	10	-	0	0.2	SB-2570TR	FT-8
	1010JX-11FF	●	●	10	10		20	10	4		0.2	SB-4085TR	FT-15
	1212JX-11FF	●	●	12	12			12	2				
	1616JX-11FF	●	●	16	16		-	16	-				

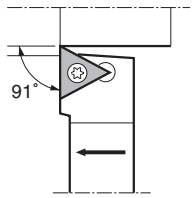
Applicable Inserts

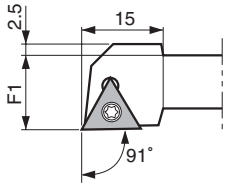
Applications	Finishing / Precision	Low Feed / Precision
See Page	B71	B71
Insert / Toolholder Description	R/L-FSF	F R/L-USF
SDLP R/L...-07FF	DPET0702..	DPET0702..
SDLP R/L...-11FF	DPET11T3..	DPET11T3..

Recommended Cutting Conditions E44

● : Std. Item
□ : Deleted from the next catalogue

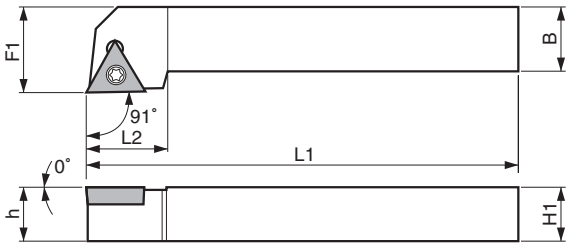
STGC(P) (External)





STGC(P)R/L1010F-11
shows above figure

● Right-hand shown



Toolholder Dimensions

Description		Std. R	Std. L	Dimension (mm) H1=h	B	L1	L2	F1			Standard Corner-R(rε)	Spare Parts: Clamp Screw	Spare Parts: Wrench
STGCR/L	0808E -08	●		8	8	70	12	10			0.2	SB-2050TR	FT-6
	1010F -08	●	●	10	10	80		12					
STGCR/L	1010F -11	●	●	10	10	80	15	14			0.4	SB-2570TR	FT-8
	1212H -11	●	●	12	12	100		16					
	1616H -11	●	●	16	16			20					
	2020K -11	●	●	20	20	125		25					
	2525M -11	●	●	25	25	150	20	32					
STGPR/L	0808E -08	●		8	8	70	12	10			0.2	SB-2050TR	FT-6
STGPR/L	1010F -11	●	●	10	10	80	15	14			0.2	SB-3080TR	FT-10
	1212H -11	●	●	12	12	100		16					
	1616H -11	●	●	16	16			20					

Applicable Inserts (STGC)

Applications	Low Feed	Low Feed / Precision	Cast Iron	Non-ferrous Metals	Non-ferrous Metals
See Page	B77	B76	B78	B78	C26
Insert / Toolholder Description	(E/F) R/L-U	FR/L-USF	Without Chipbreaker	R/L-A3	PCD
STGCR/L...-08	TCGT0802..	TCET0802..	TCGW0802..	-	TCMT0802..
STGCR/L...-11	TCGT1103..	TCET1103..	TCGW1103..	TCGT1103..	TCMT1103.. TCGW1103..

Applicable Inserts (STGP)

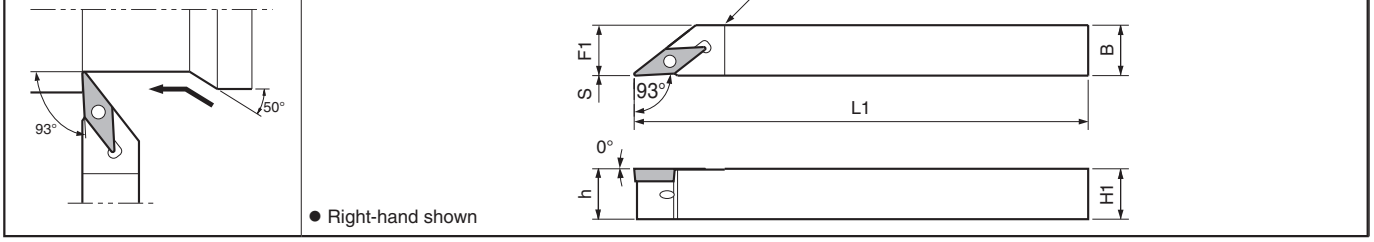
Applications	Minute ap	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Low Feed / Precision	Medium	Soft Steel / Finishing	Soft Steel / Finishing-Medium	Cast Iron
See Page	B79	B79	B80	B80,B81	B83	B83	B82	B80	B80	B84
Insert / Toolholder Description	CF	PP	HQ	R/L	R/L-FSF	FR/L-USF	R/L-H	XP	XQ	Without Chipbreaker
STGPR/L...-08	TPGT0802..	-	-	TPGH0802..	TPET0802..	TPET0802..	-	-	-	TPGB0802..
STGPR/L...-11	-	TPMT1103..	TPMT1103..	TPGH1103..	TPET1103..	TPET1103..	TPGH1103..	TPMT1103..	TPMT1103..	TPGB1103..

Applications	Non-ferrous Metals	Hard Materials
See Page	C26 ~ C28	C16
Insert / Toolholder Description	PCD	CBN
STGPR/L...-08	TPMH0802.. TPGB0802..	TPGB0802..
STGPR/L...-11	TPMH1103.. TPGB1103..	TPGB1103..

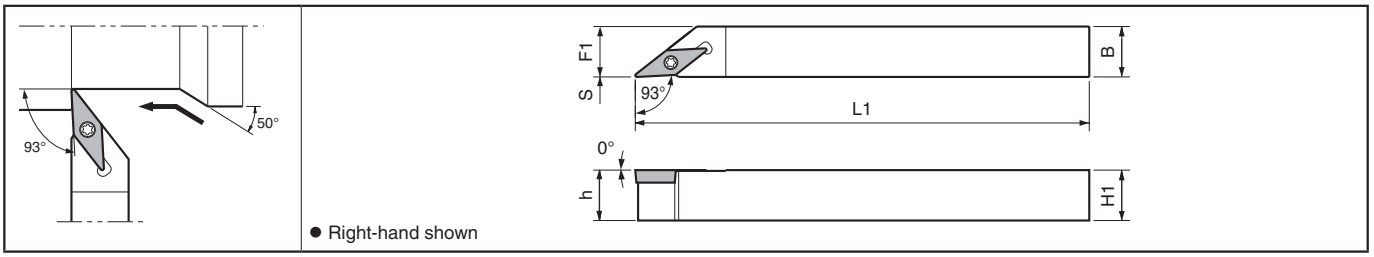
Recommended Cutting Conditions E44

● : Std. Item

AVJB-FF (Without Offset) (External / Copying)



SVJB-FF (Without Offset) (External / Copying)

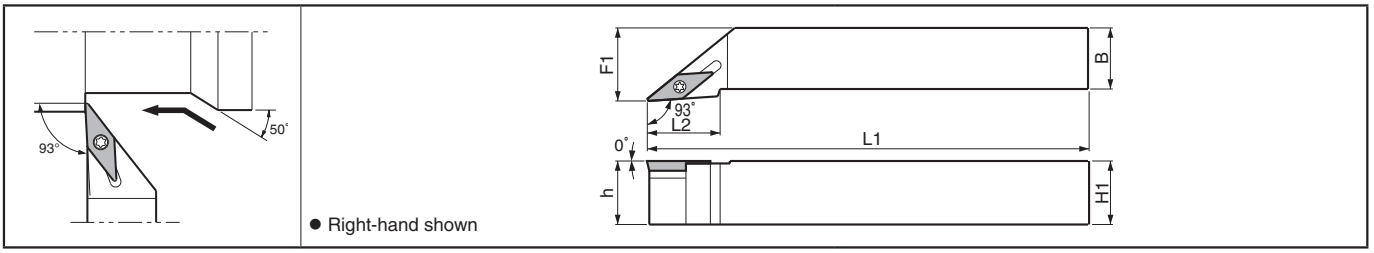


● Toolholder Dimensions

Description		Std. R	Std. L	Dimension (mm) H1=h	B	L1	L2	F1	S		Standard Corner-R(rε)	Spare Parts: Anchor Pin	Lock Screw	Clamp Screw	Wrench
AVJB R/L	1010JX-11FF	●	●	10	10	120	-	10	0		0.4	LPF-11	HSB4X8 R/L	-	FH-2
	1212JX-11FF	●	●	12	12			12				LPF-1113			
	1616JX-11FF	●	●	16	16			16				LPF-1117			
SVJB R/L	1010JX-11FF	●	●	10	10	120	-	10	0		0.4	-	-	SB-2570TR	FT-8
	1212JX-11FF	●	●	12	12			12							
	1616JX-11FF	●	●	16	16			16							
	2020JX-11FF	●	●	20	20			20							

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

SVJB (External / Copying)



● Toolholder Dimensions

Description		Std. R	Std. L	Dimension (mm) H1=h	B	L1	L2	F1			Standard Corner-R(rε)	Spare Parts: Clamp Screw	Wrench	Shim	Shim Screw	Wrench
SVJB R/L	2020K-11	●	●	20	20	125	30	25			0.4	SB-2570TR	FT-8	-	-	-
	2525M-11	●	●	25	25	150	35	32								
SVJB R/L	2020K-16N	●	●	20	20	125	30	25			0.8	SB-40125TRN	FT-15	SVN-32N *(SVN-32S)	SS-4N	LW-4
	2525M-16N	●	●	25	25	150		32								

·For insert with corner-R(rε) 0.2 or 0.4, shim of marked * is recommended (sold separately).

● Applicable Inserts (AVJB-FF / SVJB-FF / SVJB)

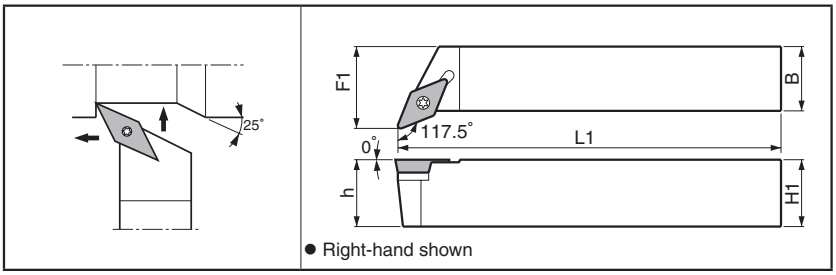
Applications	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Finishing-Medium	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials
See Page	B87	B87	B87	B88	B87	B89	B90	B90	C28	C17
Insert / Toolholder Description	GP	VF	HQ	R/L-F	R/L-FSF	R/L-Y	AH	R/L-A3	PCD	CBN
□ VJB R/L ...-11FF/-11	VBMT1103..	VBMT1103..	VBMT1103..	VBGT1103..	VBET1103..	VBGT1103..	-	-	VBMT1103..	VBGW1103..
SVJB R/L ...-16N	VBMT1604..	VBMT1604..	VBMT1604..	-	-	VBGT1604..	VCGT1604..	VCGT1604..	VBMT1604..	VBGW1604..

Recommended Cutting Conditions E44

● : Std. Item

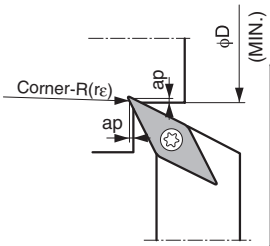
External Toolholders [VB□□ / VC□□ Insert]

SVPB (External / Facing / Copying / Undercutting)



● Right-hand shown

● Undercutting diameter of SVPB



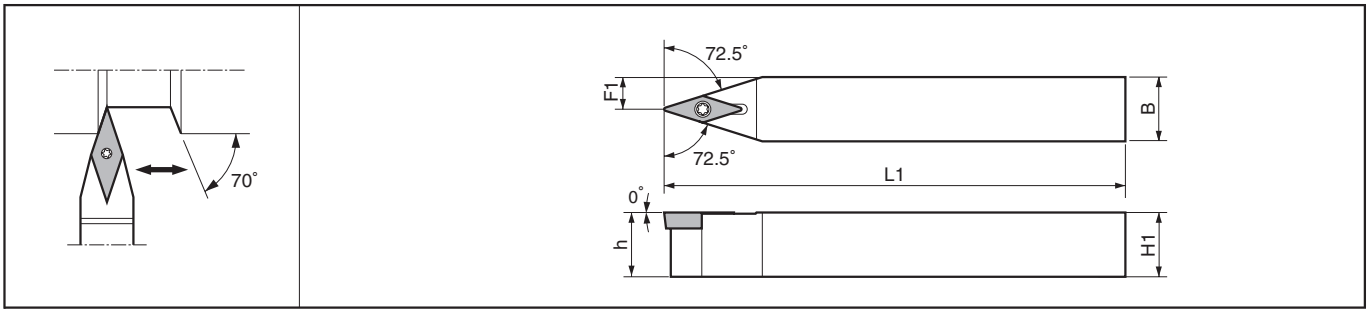
Corner-R (rε)	ap	φD (MIN.)
0.4	0.5	φ25
	1	φ30
0.8	0.5	φ45
	1	φ55

● Toolholder Dimensions

Description		Std. R	Std. L	Dimension (mm) H1=h	B	L1	L2	F1	Standard Corner-R(rε)	Spare Parts: Clamp Screw	Wrench	Shim	Shim Screw	Wrench
SVPB R/L	1010JX-11	●	●	10	10	120	-	14.5	0.4	SB-2570TR	FT-8	-	-	-
	1212JX-11	●	●	12	12			16.5						
	1616JX-11	●	●	16	16			20.5						
SVPB R/L	2020K-11	●	●	20	20	125	-	25	0.4	SB-2570TR	FT-8	-	-	-
	2525M-11	●	●	25	25	150		32						
SVPB R/L	2020K-16N	●	●	20	20	125	-	25	0.8	SB-40125TRN	FT-15	SVN-32N *(SVN-32S)	SS-4N	LW-4
	2525M-16N	●	●	25	25	150		32						

・For insert with corner-R(rε) 0.2 or 0.4, shim of marked * is recommended (sold separately).

SVVB (External / Copying)



● Toolholder Dimensions

Description		Std.	Dimension (mm) H1=h	B	L1	F1	Standard Corner-R(rε)	Spare Parts: Clamp Screw	Wrench	Shim	Shim Screw	Wrench
SVVBN	1212F-11	●	12	12	85	6	0.4	SB-2570TR	FT-8	-	-	-
SVVBN	1010JX-11	●	10	10	120	5						
	1212JX-11	●	12	12		6						
	1616JX-11	●	16	16		8						
SVVBN	1010F-11	●	10	10	80	5	0.4	SB-2570TR	FT-8	-	-	-
	1616H-11	●	16	16	100	8						
	2020K-11	●	20	20	125	10						
	2525M-11	●	25	25	150	12.5						
SVVBN	2020K-16N	●	20	20	125	10	0.8	SB-40125TRN	FT-15	SVN-32N *(SVN-32S)	SS-4N	LW-4
	2525M-16N	●	25	25	150	12.5						

・For insert with corner-R(rε) 0.2 or 0.4, shim of marked * is recommended (sold separately).

● Applicable Inserts (SVPB / SVVB)

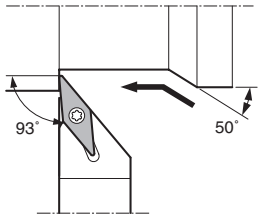
Applications	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Finishing-Medium	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials
See Page	B87	B87	B87	B88	B87	B89	B90	B90	C28	C17
Insert / Toolholder Description	GP	VF	HQ	R/L-F	R/L-FSF	R/L-Y	AH	R/L-A3	PCD	CBN
SVPB R/L ...-11	VBMT1103..	VBMT1103..	VBMT1103..	VBGT1103..	VBET1103..	VBGT1103..	-	-	VBMT1103..	VBGW1103..
SVVBN...-11										
SVPB R/L ...-16N	VBMT1604..	VBMT1604..	VBMT1604..	-	-	VBGT1604..	VCGT1604..	VCGT1604..	VBMT1604..	VBGW1604..
SVVBN...-16N										

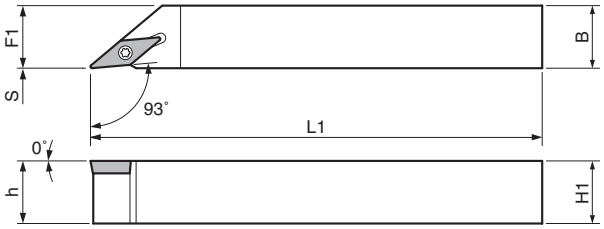
Recommended Cutting Conditions E44

● : Std. Item

External Toolholders [VP□□ Insert]

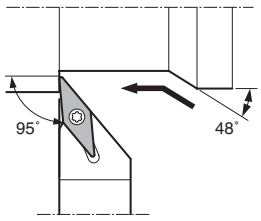
SVJP-FF (Without Offset) (External / Copying)

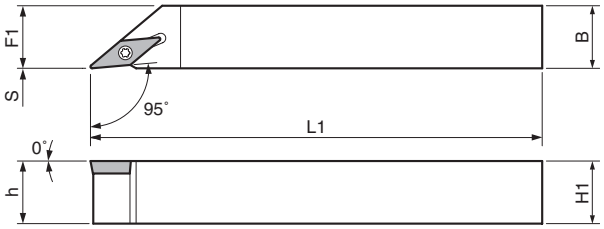




● Right-hand shown

SVLP-FF (Without Offset) (External / Copying)





● Right-hand shown

● Toolholder Dimensions

Description		Std. R	Std. L	Dimension (mm) H1=h	B	L1	L2	L3	F1	S	Standard Corner-R(rε)	Spare Parts: Clamp Screw	Spare Parts: Wrench
SVJP R/L	1212F -11FF	●	●	12	12	85	-	-	12	0	0.2	SB-2570TR	FT-8
	1212JX -11FF	●	●	12	12	120			12				
	1616JX -11FF	●	●	16	16				16				
	2020JX -11FF	●	●	20	20				20				
SVLP R/L	1010JX -08FF	●	●	10	10	120	-	-	10	0	0.1	SB-2050TR	FT-6
	1212JX -08FF	●	●	12	12				12				
	1616JX -08FF	●	●	16	16				16				
SVLP R/L	1212JX -11FF	●	●	12	12	120	-	-	12	0	0.2	SB-2570TR	FT-8
	1616JX -11FF	●	●	16	16				16				
SVLP R/L	1212F -08FF	●	●	12	12	85	-	-	12	0	0.1	SB-2050TR	FT-6
	1212F -11FF	●	●	12	12	85	-	-	12	0	0.2	SB-2570TR	FT-8

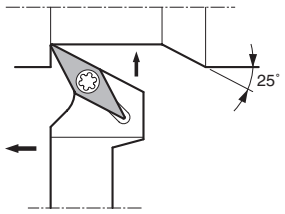
● Applicable Inserts

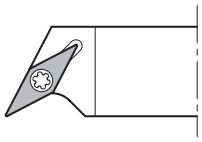
Applications	Minute ap	Finishing	Finishing	Finishing / Precision	Low Feed	Low Feed / Precision
See Page	B91	B91	B91	B92	B93	B93
Insert / Toolholder Description	CF	CK	GF	R/L-FSF	FR/L-U	FR/L-USF
SVLP R/L...-08FF	-	VPGT0802..	-	VPET0802..	-	VPET0802..
SV□P R/L...-11FF	VPGT1103..	VPGT1103..	VPGT1103..	VPET1103..	VPET1103..	VPET1103..

Recommended Cutting Conditions E44

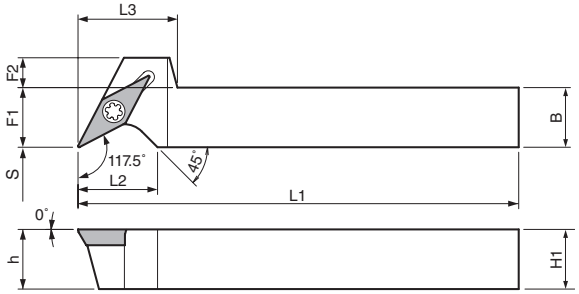
● : Std. Item

SVPP-FF (Without Offset) (External / Facing / Copying / Undercutting)





SVPPR1616..-08FF
shows above figure



● Right-hand shown

● Toolholder Dimensions

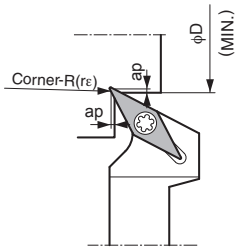
Description		Std.	Dimension (mm)								Standard Corner-R(rε)	Spare Parts				
			H1=h	B	L1	L2	L3	F1	F2	S		Clamp Screw	Wrench			
SVPPR	1010JX-08FF	●	10	10	120	12	16	10	4	0	0.1	SB-2050TR	FT-6			
	1212JX-08FF	●	12	12				12	2							
	1616JX-08FF	●	16	16			-	16	-							
SVPPR	1010JX-11FF	●	10	10	120	16	20	10	8	0	0.2	SB-2570TR	FT-8			
	1212JX-11FF	●	12	12				12	6							
	1616JX-11FF	●	16	16				16	2							
SVPPR	1212F -08FF	●	12	12	85	12	16	12	2	0	0.1	SB-2050TR	FT-6			
	1212F -11FF	●	12	12	85	16	20	12	6	0	0.2	SB-2570TR	FT-8			

● Applicable Inserts

Applications	Minute ap	Finishing	Finishing	Finishing / Precision	Low Feed	Low Feed / Precision
See Page	B91	B91	B91	B92	B93	B93
Insert / Toolholder Description	CF	CK	GF	F-FSF	F-U	F-USF
SVPPR...-08FF	-	VPGT0802..	-	VPET0802..	-	VPET0802..
SVPPR...-11FF	VPGT1103..	VPGT1103..	VPGT1103..	VPET1103..	VPET1103..	VPET1103..

Recommended Cutting Conditions E44

● Undercutting diameter of SVPP-FF

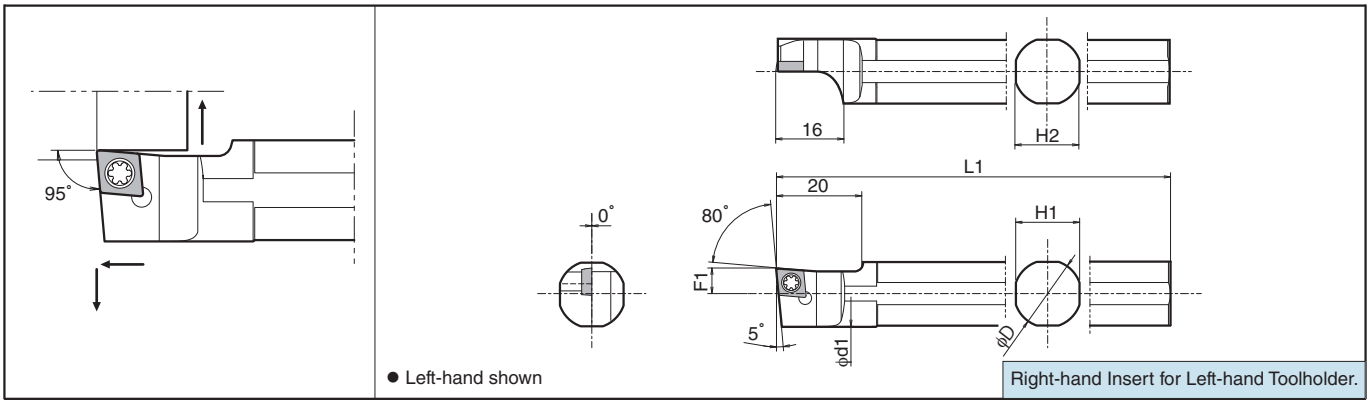


Corner-R (rε)	ap	ϕD (MIN.)
0.2	0.5	ϕ20
	1	ϕ25

● : Std. Item

External Sleeve Holders [CC□□ Insert]

S-SCLC (External / Facing)



● Left-hand shown

Right-hand Insert for Left-hand Toolholder.

● Toolholder Dimensions

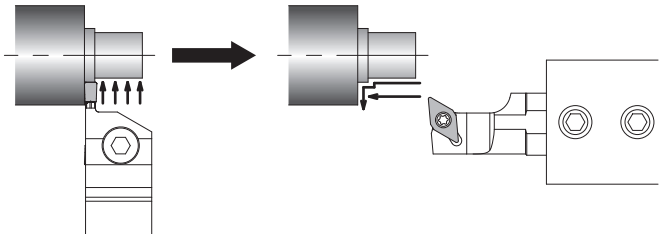
Description	Std.	Dimension (mm) φD	L1	F1	φd1	H1=H2		Standard Corner-R(rε)	Spare Parts Clamp Screw	Wrench		
S12F -SCLCL06	●	12	80	6	13.4	11		0.4	SB-2560TR	FT-8		
S14H -SCLCL06	●	14	100			13						
S15F -SCLCL06	●	15.875	85		15.4	15			SB-2570TR			
S16F -SCLCL06	●	16										
S19G -SCLCL06	●	19.05	90		18.4	17						
S19K -SCLCL06	●		120									
S20G -SCLCL06	●	20	90		19.4	18						
S20K -SCLCL06	●		120									
S19G -SCLCL09	●	19.05	90	10	18.4	17		0.4	SB-4065TR	FT-15		
S19K -SCLCL09	●		120									
S20G -SCLCL09	●	20	90		19.4	18						
S20K -SCLCL09	●		120									
S25.0H-SCLCL09	●	25	100		24.4	23						
S25K -SCLCL09	●	25.4	120		24.8							

● Applicable Inserts

Applications	Finishing	Finishing-Medium	Finishing-Medium	Low Feed	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials
See Page	B53	B54	B53,B54	B57,B58	B55	B59	B59	B59	C24	C14
Insert / Toolholder Description	GF	GK	GQ	(E/F)R-U	MQ	Without Chipbreaker	AH	R-A3	PCD	CBN
S...SCLCL06	CCGT0602..	CCMT0602..	CCGT0602..	CCGT0602..	-	CCGW0602..	-	-	CCMT0602.. CCGW0602..	CCMW0602..
S...SCLCL09	CCGT09T3..	CCMT09T3..	CCGT09T3..	CCGT09T3..	CCMT09T3..	CCGW09T3..	CCGT09T3..	CCGT09T3..	CCMT09T3.. CCGW09T3..	CCMW09T3..

Recommended Cutting Conditions E44

● Finishing by Sleeve Holder

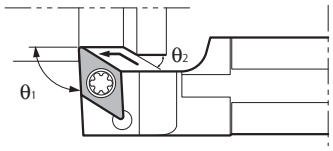


1) Roughing by grooving toolholder
2) Finishing by Sleeve Holder improves chip control and reduces cutting time

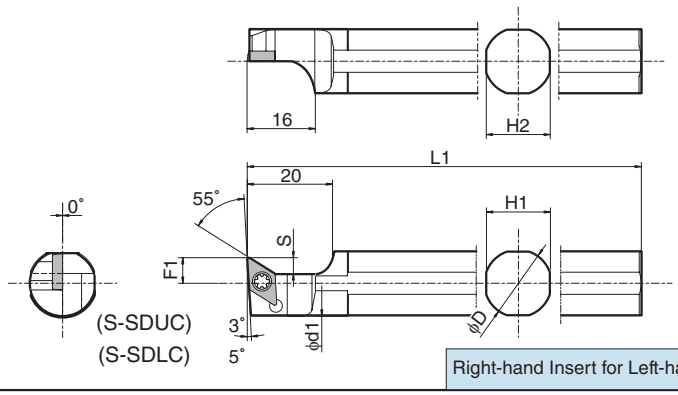
● : Std. Item

External Sleeve Holder [DC□□ Insert]

S-SDUC (External / Copying) / S-SDLC (External / Copying)



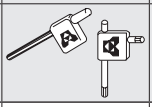
θ1=93°(S-SDUC)
θ1=95°(S-SDLC)
θ2=30°(S-SDUC)
θ2=28°(S-SDLC)



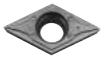
● Left-hand shown

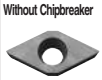
Right-hand Insert for Left-hand Toolholder.

Toolholder Dimensions

Description	Std.	Dimension (mm)						Standard Corner-R(rε)	Spare Parts			
									Clamp Screw	Wrench		
		φD	L1	F1	φd1	H1=H2	S					
S14H -SDUCL07	●	14	100	6	13.4	13	3.8	0.4	SB-2560TR	FT-8		
S15F -SDUCL07	●	15.875	85		15.4	15						
S19G -SDUCL07	●	19.05	90		18.4	17						
S19K -SDUCL07	●		120									
S20G -SDUCL07	●	20	90		19.4	18						
S20K -SDUCL07	●		120									
S19G -SDUCL11	●	19.05	90	10	18.4	17	5.8	0.4	SB-4085TR	FT-15		
S19K -SDUCL11	●		120									
S20G -SDUCL11	●	20	90		19.4	18						
S20K -SDUCL11	●		120									
S22K -SDUCL11	●	22	120		21.4	20						
S25.0H-SDUCL11	●	25	100		24.4	23						
S25K -SDUCL11	●	25.4	120		24.8							
S12F -SDLCL07	●	12	80	6	13.4	11	3.8	0.4	SB-2560TR	FT-8		
S14H -SDLCL07	●	14	100			13						
S15F -SDLCL07	●	15.875	85		15.4	15						
S16F -SDLCL07	●	16										
S19G -SDLCL07	●	19.05	90		18.4	17						
S19K -SDLCL07	●		120									
S20G -SDLCL07	●	20	90		19.4	18						
S20K -SDLCL07	●		120									
S19G -SDLCL11	●	19.05	90	10	18.4	17	5.8	0.4	SB-4085TR	FT-15		
S19K -SDLCL11	●		120									
S20G -SDLCL11	●	20	90		19.4	18						
S20K -SDLCL11	●		120									
S22K -SDLCL11	●	22	120		21.4	20						
S25.0H-SDLCL11	●	25	100		24.4	23						
S25K -SDLCL11	●	25.4	120		24.8							

Applicable Inserts

Applications	Minute ap	Finishing	Finishing	*Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing	Finishing / Precision	Low Feed
See Page	B61	B61	B61,B62	B62	B62	B63	B62	B66	B65	B67,B68
Insert / Toolholder Description	CF	GF	CK	WP(Wiper)	PP	GK	GQ	R-F	R-FSF	(E/F) R-U
										
S...SD□CL07	DCGT0702..	DCGT0702..	DCGT0702..	DCMX0702..	DCMT0702..	DCMT0702..	DCGT0702..	DCGT0702..	DCET0702..	DCGT0702..
S...SD□CL11	DCGT11T3..	DCGT11T3..	DCGT11T3..	DCMX11T3..	DCMT11T3..	DCMT11T3..	DCGT11T3..	DCGT11T3..	DCET11T3..	DCGT11T3..

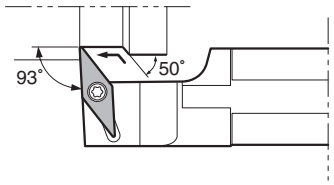
Applications	Low Feed / Precision	Low Feed	Soft Steel / Finishing	Soft Steel / Finishing-Medium	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials
See Page	B67	B69,B70	B64	B64	B64	B70	B70	B70	C25	C15
Insert / Toolholder Description	FR-USF	(E/F) R-J	XP	XQ	MQ	Without Chipbreaker	AH	R-A3	PCD	CBN
										
S...SD□CL07	DCET0702..	DCET0702..	DCMT0702..	-	DCMT0702..	DCGW0702..	-	-	DCMT0702..	DCMW0702..
S...SD□CL11	DCET11T3..	DC_T11T3..	DCMT11T3..	DCMT11T3..	DCMT11T3..	DCGW11T3..	DCGT11T3..	DCGT11T3..	DCMT11T3..	DCMW11T3..

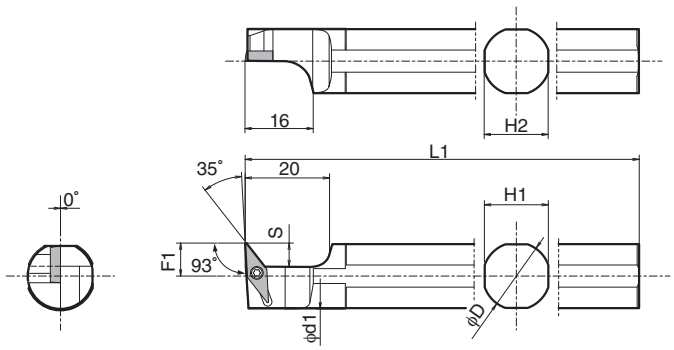
* For WP chipbreaker, cutting edge offsets or program corrections are required. (S-SDLC type can not be used) F94

● : Std. Item

Recommended Cutting Conditions E44

S-SVUB(C) (External / Copying)





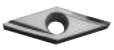
● Left-hand shown

Right-hand Insert for Left-hand Toolholder.

● Toolholder Dimensions

Description	Std.	Dimension (mm) φD	L1	F1	φd1	H1=H2	S		Standard Corner-R(rε)	Spare Parts Clamp Screw	Wrench
S12F -SVUCL08	●	12	80	7.5	13.4	11	5.5		0.4	SB-2050TR	FT-6
S14H -SVUCL08	●	14	100			13					
S15F -SVUCL08	●	15.875	85	8	15.4	15					
S16F -SVUCL08	●	16									
S19G -SVUBL11	●	19.05	90	10.5	18.4	17	8		0.4	SB-2570TR	FT-8
S19K -SVUBL11	●		120								
S20G -SVUBL11	●	20	90		19.4	18					
S20K -SVUBL11	●		120								
S25.0H-SVUBL11	●	25	100		24.4	23					
S25K -SVUBL11	●	25.4	120		24.8						

● Applicable Inserts

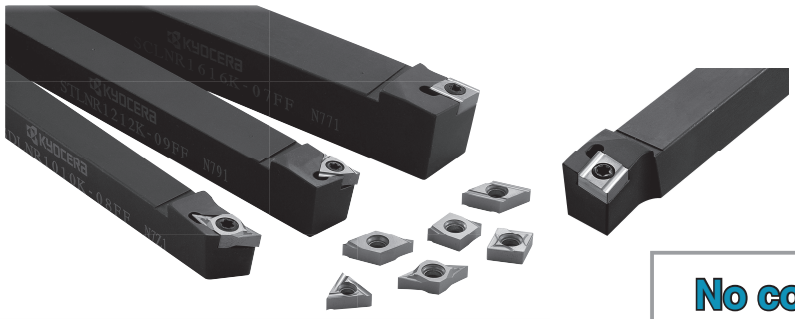
Applications	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Finishing-Medium	Non-ferrous Metals	Hard Materials	
See Page	B87	B87,B90	B87,B90	B88	B87	B89	C28	C17	
Insert / Toolholder Description	GP	VF	HQ	R-F	R-FSF	R-Y	PCD	CBN	
									
S...SVUCL08	–	VCMT0802..	VCMT0802..	-	-	-	VCMT0802..	VCGW0802..	
S...SVUBL11	VBMT1103..	VBMT1103..	VBMT1103..	VBGT1103..	VBET1103..	VBGT1103..	VBMT1103..	VBGW1103..	

Recommended Cutting Conditions E44

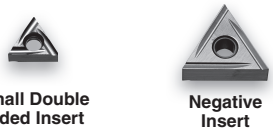
● : Std. Item

Toolholders for Small Double Sided Tooling
(Screw Clamp, Without Offset)

Specially designed negative inserts (double-sided) for small workpieces enables sharp cutting equivalent to positive inserts, achieving high productivity due to economical doubled insert edge numbers.



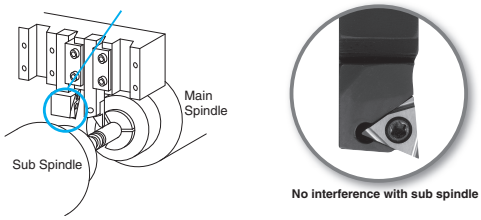
Designed small negative insert



No constraint of tool position

against tool post into the newly designed small negative insert.

The conventional toolholders for negative insert possibly interferes with sub spindle.

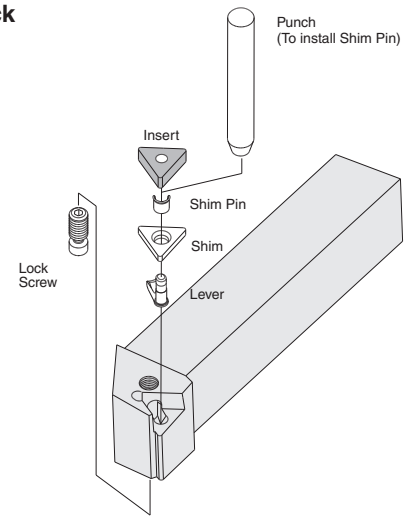


Toolholder for Double Sided Tooling for Automatic Lathe
(Without Offset, Lever Lock)

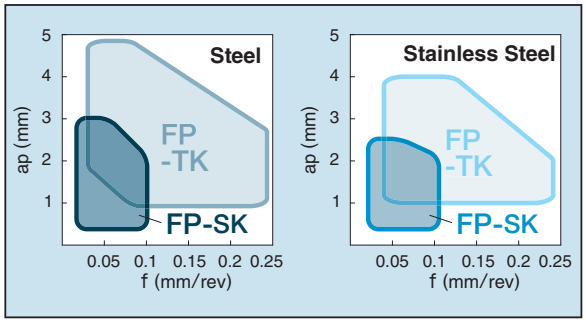
For medium to large ap in automatic lathes (When machining workpieces of medium to large dia.)

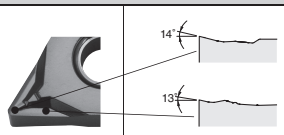
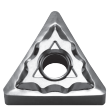
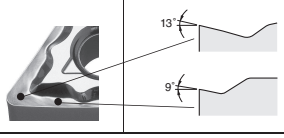
Sharp cutting oriented FP-SK/TK Chipbreaker with polished and sharp edge preparation.

● **Lever Lock**

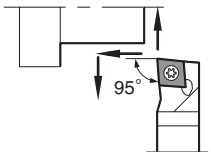


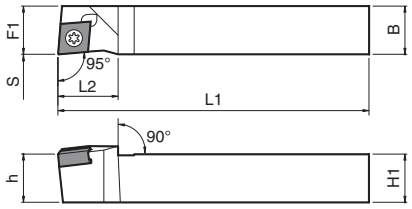
● **Applicable Chipbreaker Range**



Design			Advantages
FP-SK			2-step dot design provides reliable chip control at various ap.
FP-TK			Polished chipbreaker. Smooth chip control and less adhesion.

SCLN (Without Offset) (External / Facing)





Side Rake Angle: -6°
Angle of Inclination: -6°

• Right-hand shown

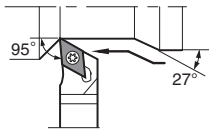
Toolholder Dimensions

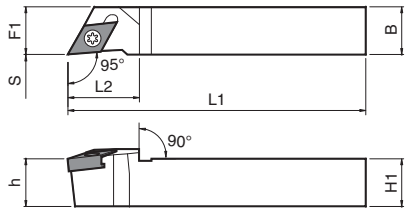
Description		Std.	Dimension (mm)							Standard Corner-R(rε)	Spare Parts		Applicable Inserts
			H1=h	B	L1	L2	F1	S			Clamp Screw	Wrench	
SCLNR	1010K-07FF	●	10	10	120	15	10	0		0.2	SB-3080TR	LTW-10SS	CNGU0703.. CNMU0703..
	1212F-07FF	●	12	12	85		12						
	1212K-07FF	●			120								
	1616K-07FF	●	16	16			16						

Applicable Inserts

Applications	Finishing-Medium	Medium-Roughing	Finishing	Low Feed
See Page	B50	B50	B50	B50
Insert / Toolholder Description	SK	GK	FR-F	(F/E)R-U
SCLNR...-07FF	CNGU0703..	CNMU0703..	CNGU0703..	CNGU0703..

SDLN (Without Offset) (External / Copying)





Side Rake Angle: -6°
Angle of Inclination: -7°

• Right-hand shown

Toolholder Dimensions

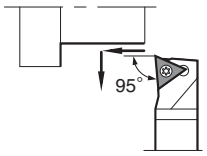
Description		Std.	Dimension (mm)							Standard Corner-R(rε)	Spare Parts		Applicable Inserts
			H1=h	B	L1	L2	F1	S			Clamp Screw	Wrench	
SDLNR	1010K-08FF	●	10	10	120	18	10	0		0.2	SB-3080TR	LTW-10SS	DNGU0803.. DNMU0803..
	1212F-08FF	●	12	12	85		12						
	1212K-08FF	●			120								
	1616K-08FF	●	16	16			16						

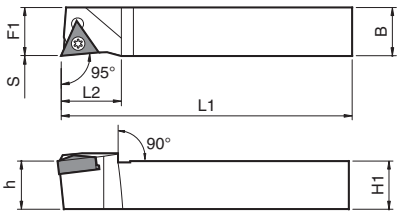
Applicable Inserts

Applications	Finishing-Medium	Medium-Roughing	Finishing	Low Feed
See Page	B51	B51	B51	B51
Insert / Toolholder Description	SK	GK	FR-F	(F/E)R-U
SDLNR...-08FF	DNGU0803..	DNMU0803..	DNGU0803..	DNGU0803..

● : Std. Item

STLN (Without Offset) (External / Up Facing)





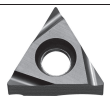
Side Rake Angle: -6°
Angle of Inclination: -7°

• Right-hand shown

Toolholder Dimensions

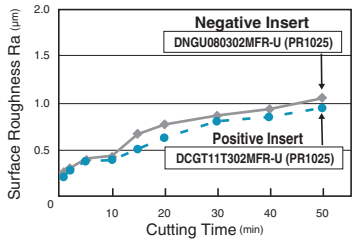
Description		Std.	Dimension (mm)							Standard Corner-R(rε)	Spare Parts		Applicable Inserts
			H1=h	B	L1	L2	F1	S			Clamp Screw	Wrench	
STLNR	1010K-09FF	●	10	10	120	15	10	0		0.2	SB-2570TR	LTW-8SS	TNGU0903..
	1212F-09FF	●	12	12	85		12						
	1212K-09FF	●			120								
	1616K-09FF	●	16	16			16						

Applicable Inserts

Applications	Finishing	Low Feed
See Page	B52	B52
Insert / Toolholder Description	FR-F 	(E/F)R-U
STLNR...-09FF	TNGU0903..	TNGU0903..

Double-sided design allows all edges to be used. Compared to the positive type, the double-sided design offers less cost per insert and more stability.

Comparison of surface roughness (Sharp edge)



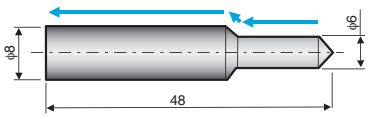
<Cutting Conditions>
Workpiece Material: S45C Vc=100m/min, ap=1.5mm, f=0.03mm/rev, Wet

(Internal evaluation)

Case Studies

SUS303

- Spool
<Dia. 6mm portion>
- Vc=66m/min
- ap=1.25mm
- f=0.025mm/rev
- Wet
<Dia. 8mm portion>
- Vc=130m/min
- ap=0.25mm
- f=0.025mm/rev
- Wet



Required Surface Roughness 0.8μmRa

DNGU080302MF-SK (PR1025)	60,000pcs/insert (4 edges)
Competitor C (DCGT type)	20,000 pcs/insert (2 edges)

Competitor C (DCGT type) machined 10,000 pcs/edge. PR1025 machined 15,000 pcs./edge resulting in 3 times longer tool life per insert.

(Evaluation by the user)

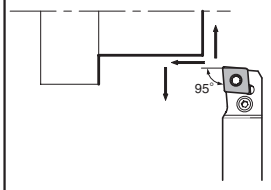
Recommended Cutting Conditions

Workpiece Material	Insert Grades			
	PR1005	PR1025	PR1225	PR1425
Free-cutting steel	● Vc=100m/min (60~150)	-	-	-
Carbon steel / Alloy steel	◔ Vc=100m/min (60~150)	◔ Vc=100m/min (60~150)	◔ Vc=100m/min (60~150)	● Vc=120m/min (60~200)
Stainless Steel	-	◔ Vc=100m/min (60~150)	● Vc=80m/min (50~150)	◔ Vc=100m/min (80~150)

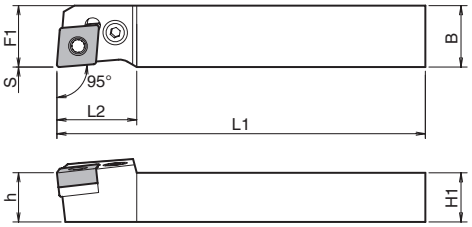
●: Continuous to Light interruption / 1st Recommendation
◔: Continuous to Light interruption / 2nd Recommendation

● : Std. Item

PCLN-FF (Without Offset) (External / Facing)



Side Rake Angle: -6°
Angle of Inclination: -6°



●Right-hand shown

Toolholder Dimensions

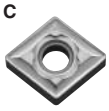
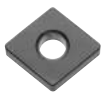
Description		Std.	Dimension (mm)						Standard Corner-R(rε)	Spare Parts					
			H1=h	B	L1	L2	F1	S		Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PCLNR	1620JX-12FF	●	16	20	120	26	20	0	0.8	LL-2N	LS-2N	LC-42N	LSP-2	PC-2	LW-3
	2020JX-12FF	●	20												

Applicable Inserts (1st Choice)

Applications	Finishing-Medium	Medium-Roughing
See Page	B19	B19
Insert / Toolholder Description	FP-SK	FP-TK
PCLNR...-12FF	CNGG1204..FP-SK	CNGG1204..FP-TK

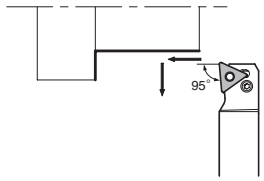
Recommended Cutting Conditions E39

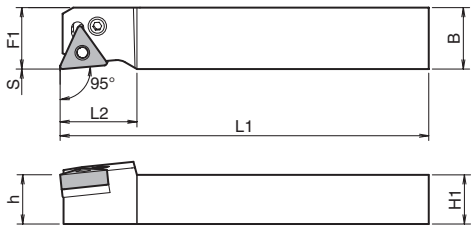
Applicable Inserts (Optional)

Applications	Finishing	Finishing-Medium	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing
Insert	WF(Wiper)	WE(Wiper)	PP	PQ	CQ	CJ	GS	PG	PS
Size	12	12	12	12	12	12	12	12	12
Page	B16	B16	B16	B16	B17	B17	B17	B17	B17
Applications	Medium-Roughing / High Feed Rate	Roughing	Roughing	Single Sided / Roughing / High Feed Rate	Finishing	Medium	Soft Steel / Small ap	Soft Steel / Finishing	Soft Steel / Medium
Insert	PT	Standard	PH	PX	R/L-S	R/L	XF	XP	XQ
Size	12	12	12	12	-	12	12	12	12
Page	B18	B18	B18	B19	-	B22	B19	B19	B19
Applications	Soft Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Insert	XS	MQ	MS	MU	KQ	KG	KH	C 	ZS
Size	12	12	12	12	12	12	12	12	12
Page	B19	B20	B20	B20	B21	B21	B21	B21	B21
Applications	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Heat-resistant Alloys	Heat-resistant Alloys	Hard Materials
Insert	GC	Without Chipbreaker	Ceramic 	AH	A3	PCD	SQ	R/L-SX	CBN
Size	12	12	12	12	12	12	12	12	12
Page	B21	B21	B103	B22	B22	C23	B20	B20	C6, C7

● : Std. Item

PTLN-FF (Without Offset) (External / Up Facing)





Side Rake Angle: -6°
Angle of Inclination: -6°

• Right-hand shown

Toolholder Dimensions

Description		Std.	Dimension (mm)						Standard Corner-R(rε)	Spare Parts					
			H1=h	B	L1	L2	F1	S		Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PTLNR	1620JX-16FF	●	16	20	120	24	20	0	0.8	LL-1N	LS-1N	LT-32N *LT-32N-20	LSP-1	PC-1	FH-2.5
	2020JX-16FF	●	20												

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

Applicable Inserts (1st Choice)

Applications	Finishing-Medium	Medium-Roughing	Large ap
See Page	B38	B39	B38
Insert / Toolholder Description	FP-SK	FP-TK	R-LD
PTLNR...-16FF	TNGG1604..FP-SK	TNGG1604..FP-TK	TNMG1604..R-LD

Recommended Cutting Conditions E39

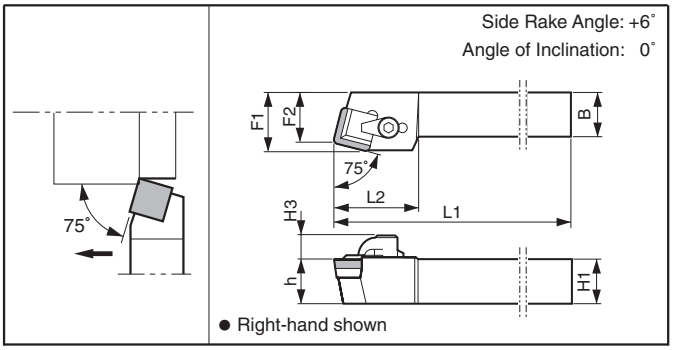
Applicable Inserts (Optional)

Applications	Finishing	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate	Medium-Roughing / High Feed Rate	Roughing
Insert	PP	PQ	CQ	GS	PG	PS	PT	GT	PH
Size	16	16	16	16	16	16	16	16	16
Page	B36	B36	B36	B36	B36	B37	B37	B37	B37
Applications	Single Sided / Roughing / High Feed Rate	Roughing	Finishing	Finishing-Roughing	Medium-Roughing / Low Cutting Force	Soft Steel / Small ap	Soft Steel / Finishing	Soft Steel / Medium	Soft Steel / Roughing
Insert	PX	Standard	R-S	R-□	R-25R	XF	XP	XQ	XS
Size	16	16	16	16	16	16	16	16	16
Page	B38	B37	B42	B42,B43	B43	B38	B38	B38	B38
Applications	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Insert	MQ	MS	MU	KQ	KG	KH	C	ZS	GC
Size	16	16	16	16	16	16	16	16	16
Page	B39	B39	B39	B40	B40	B40	B40	B40	B40
Applications	Cast Iron	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hard Materials			
Insert	Without Chipbreaker	Ceramic	AH	R-A3	PCD	CBN			
Size	16	16	16	16	16	16			
Page	B40	B108	B41	B41	C23	C10,C11			

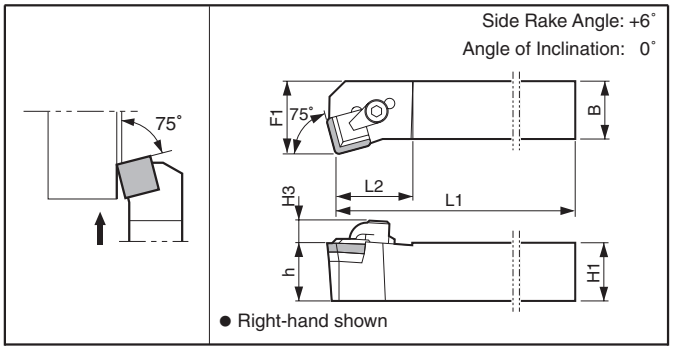
● : Std. Item

External Toolholders [SP□R / SP□N Insert]

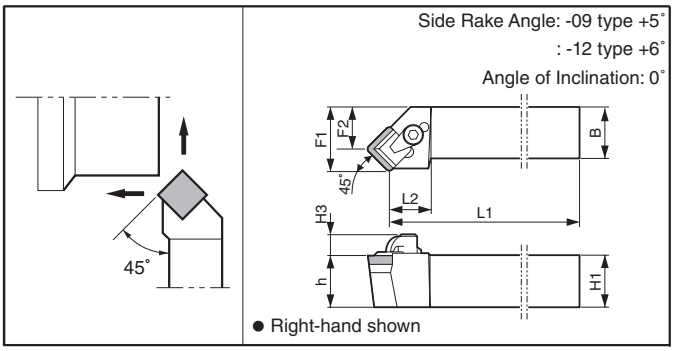
CSBP (External)



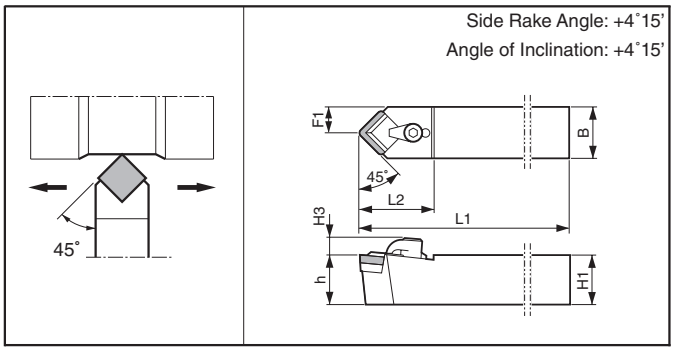
CSKP (Facing)



CSSP (External / Facing / Chamfering)



CSDP (External / Chamfering)



● Toolholder Dimensions

Description		Std.			Dimension (mm)							Standard Corner-R(rε)	Spare Parts				
		R	N	L	H1=h	H3	B	L1	L2	F1	F2		Clamp Set	Wrench	Shim	Shim Screw	*Chipbreaker
CSBPR	1212F -09N	●			12	7.5	12	80	23	15.7	13	0.4	CPS-2P	LW-2.5	-	-	CB-S3220
CSKPR	1616H -09N	●			16	7.5	16	100	21	20	-	0.4	CPS-2P	LW-2.5	-	-	CB-S3220
CSKPR	2020K -12N	●			20	8.5	20	125	28	25	-	0.8	CPS-3	LW-3	KPS-42	SP3X8	CB-S4220
	2525M -12N	●			25		25	150		32							
CSSP$^{R/L}$	1212F -09N	●		●	12	7.5	12	80	15	16	9	0.4	CPS-2P	LW-2.5	-	-	CB-S3220
	1616H -09N	●		●	16		16	100	16	20	13						
CSSP$^{R/L}$	2020K -12N	●		●	20	8.5	20	125	19	25	16	0.8	CPS-3	LW-3	KPS-42	SP3X8	CB-S4220
	2525M -12N	●		●	25		25	150		32	23						
CSDPN	2020K -12N		●		20	8.5	20	125	32	10	-	0.8	CPS-3	LW-3	KPS-42	SP3X8	CB-S4220
	2525M -12N		●		25		25	150		12.5							

* Chipbreaker is not included. Purchase separately.

● Applicable Inserts

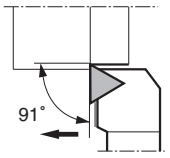
Applications	Medium	Medium	Finishing-Medium	Cast Iron	Cast Iron	Non-ferrous Metals				
See Page	B74	B74	B74	B74	B110	C29				
Insert / Toolholder Description	G	Standard	$^{R/L}$	Without Chipbreaker	Ceramic	PCD				
CSBPR...-09N	SPMR0903..	SPMR0903..	SPGR0903..	SPMN0903.. SPGN0903..	SPGN0903..	-				
CSKPR...-09N	SPMR0903..	SPMR0903..	SPGR0903..	SPMN0903.. SPGN0903..	SPGN0903..	-				
CSKPR...-12N	SPMR1203..	SPMR1203..	SPGR1203..	SPMN1203.. SPGN1203..	SPGN1203..	SPGN1203..				
CSSP$^{R/L}$...-09N	SPMR0903..	SPMR0903..	SPGR0903..	SPMN0903.. SPGN0903..	SPGN0903..	-				
CSSP$^{R/L}$...-12N	SPMR1203..	SPMR1203..	SPGR1203..	SPMN1203.. SPGN1203..	SPGN1203..	SPGN1203..				
CSDPN...-12N	SPMR1203..	SPMR1203..	SPGR1203..	SPMN1203.. SPGN1203..	SPGN1203..	SPGN1203..				

· CSKPR: Left-hand Insert for Right-hand Toolholder.
· CSSP$^{R/L}$: For External Turning, Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.
For Facing, Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

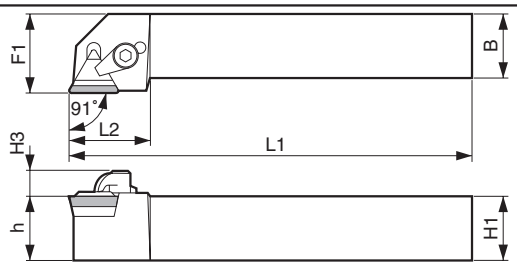
Recommended Cutting Conditions E44

● : Std. Item

CTGP (External)

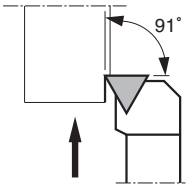


● Right-hand shown

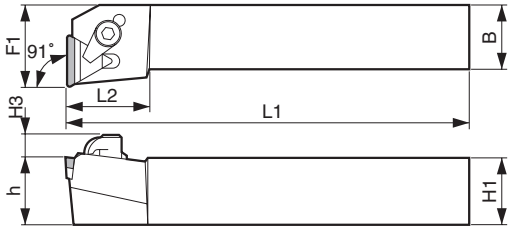


Side Rake Angle: +6°
Angle of Inclination: 0°

CTFP (Facing)

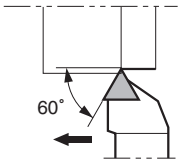


● Right-hand shown

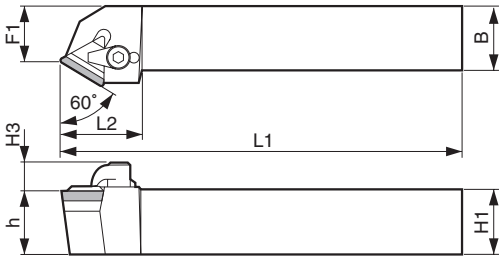


Side Rake Angle: +6°
Angle of Inclination: 0°

CTTP (External / Chamfering)



● Right-hand shown



Side Rake Angle: +6°
Angle of Inclination: 0°

● Toolholder Dimensions

Description		Std. R	Std. L	Dimension (mm) H1=h	H3	B	L1	L2	F1	Standard Corner-R(rε)	Spare Parts: Clamp Set	Wrench	Shim	Shim Screw	*Chipbreaker
CTGP R/L	1212F -11N	●	●	12	8	12	80	18	16	0.4	CPS-2P	LW-2.5	-	-	CB-T2212
	1616H -11N	●	●	16		16	100		20						
CTGP R/L	2020K -16N	●	●	20	8.5	20	125	26	25	0.8	CPS-3	LW-3	KPT-32	SP3X8	CB-T3220
	2525M -16N	●	●	25		25	150		32						
CTFP R/L	1212F -11N	●	●	12	8	12	80	18	16	0.4	CPS-2P	LW-2.5	-	-	CB-T2212
	1616H -11N	●	●	16		16	100		20						
CTFP R/L	2020K -16N	●	●	20	8.5	20	125	22	25	0.8	CPS-3	LW-3	KPT-32	SP3X8	CB-T3220
	2525M -16N	●	●	25		25	150		32						
CTTP R/L	1212F -11N	●	□	12	8	12	80	22.5	9	0.4	CPS-2P	LW-2.5	-	-	CB-T2212
	1616H -11N	●		16		16	100		13						
CTTP R/L	2020K -16N	●		20	8.5	20	125	28	17	0.8	CPS-3	LW-3	KPT-32	SP3X8	CB-T3220
	2525M -16N	●	●	25		25	150		22						

* Chipbreaker is not included. Purchase separately.

● Applicable Inserts

Applications	Finishing	Finishing	Finishing-Medium	Medium	Medium	Finishing-Medium	Cast Iron	Cast Iron	Non-ferrous Metals	Hard Materials
See Page	B85	B85	B85	B85	B85	B86	B86	B110	C29	C18
Insert / Toolholder Description	GP	DP	HQ	G	Standard	R/L-□	Without Chipbreaker	Ceramic	PCD	CBN
CTGP R/L...-11N	TPMR1103..	TPMR1103..	TPMR1103..	TPMR1103..	TPMR1103..	TPGR1103..	TPMN1103.. TPGN1103..	TPGN1103..	TPGN1103..	TPGN1103..
CTGP R/L...-16N	TPMR1603..	TPMR1603..	TPMR1603..	TPMR1603..	TPMR1603..	TPGR1603..	TPMN1603.. TPGN1603..	TPGN1603..	TPGN1603..	TPGN1603..
CTFP R/L...-11N	TPMR1103..	TPMR1103..	TPMR1103..	TPMR1103..	TPMR1103..	TPGR1103..	TPMN1103.. TPGN1103..	TPGN1103..	TPGN1103..	TPGN1103..
CTFP R/L...-16N	TPMR1603..	TPMR1603..	TPMR1603..	TPMR1603..	TPMR1603..	TPGR1603..	TPMN1603.. TPGN1603..	TPGN1603..	TPGN1603..	TPGN1603..
CTTP R/L...-11N	TPMR1103..	TPMR1103..	TPMR1103..	TPMR1103..	TPMR1103..	TPGR1103..	TPMN1103.. TPGN1103..	TPGN1103..	TPGN1103..	TPGN1103..
CTTP R/L...-16N	TPMR1603..	TPMR1603..	TPMR1603..	TPMR1603..	TPMR1603..	TPGR1603..	TPMN1603.. TPGN1603..	TPGN1603..	TPGN1603..	TPGN1603..

· CTFP R/L: Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Recommended Cutting Conditions E44

● : Std. Item
□ : Deleted from the next catalogue

Recommended Cutting Conditions - External Turning (Positive Insert)

[ap indicates radius]

ISO Classification	Workpiece Material	Hardness	Cutting Range	Applications	Recommended Chipbreaker	Recommended Insert Grade	Corner-R (rε)	Lower Limit - Recommendation - Upper Limit		
								Vc (m/min)	ap (mm)	f (mm/rev)
*P	Low Carbon Steel Low Carbon Alloy	HB ≤ 300	Precision Finishing	Continuous	F	PR1425	0.05	100 - 150 - 200	0.05 - 0.07 - 0.15	0.03 - 0.05 - 0.1
				Interruption		PR1425	0.2	80 - 120 - 160	0.05 - 0.1 - 0.2	0.03 - 0.1 - 0.15
			Precision Finishing (Molded Chipbreaker)	Continuous	CF	PR1425	0.2	100 - 150 - 200	0.02 - 0.05 - 0.1	0.02 - 0.05 - 0.12
			Finishing	Continuous	GF	PR1425	0.2	100 - 140 - 180	0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2
				Interruption		PR1425	0.4	80 - 120 - 160	0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2
			Finishing-Medium	Continuous	GQ	PR1425	0.2	80 - 120 - 160	0.8 - 3.0 - 5.0	0.03 - 0.05 - 0.1
				Interruption		PR1425	0.4	60 - 100 - 140	0.8 - 2.0 - 3.0	0.03 - 0.05 - 0.1
			Low Feed & Large ap	Continuous	J , U	PR1425	0.2	80 - 100 - 140	0.5 - 2.0 - 3.5	0.02 - 0.05 - 0.1
	Medium Carbon Steel Medium Carbon Alloy	HB ≤ 330	Precision Finishing	Continuous	F	PR1425	0.05	100 - 150 - 200	0.05 - 0.07 - 0.15	0.03 - 0.05 - 0.1
				Interruption		PR1425	0.2	80 - 120 - 160	0.05 - 0.1 - 0.2	0.03 - 0.1 - 0.15
			Precision Finishing (Molded Chipbreaker)	Continuous	CF	PR1425	0.2	100 - 150 - 200	0.02 - 0.05 - 0.1	0.02 - 0.05 - 0.12
			Finishing	Continuous	GF	PR1425	0.2	100 - 140 - 180	0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2
				Interruption		PR1425	0.4	80 - 120 - 160	0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2
			Finishing-Medium	Continuous	GQ	PR1425	0.2	80 - 120 - 160	0.8 - 3.0 - 5.0	0.03 - 0.05 - 0.1
				Interruption		PR1425	0.4	60 - 100 - 140	0.8 - 2.0 - 3.0	0.03 - 0.05 - 0.1
			Low Feed & Large ap	Continuous	J , U	PR1425	0.2	80 - 100 - 140	0.5 - 2.0 - 3.5	0.02 - 0.05 - 0.1
	High Carbon Alloy	HB ≤ 280	Precision Finishing	Continuous	F	PR1425	0.05	100 - 150 - 200	0.05 - 0.07 - 0.15	0.03 - 0.05 - 0.1
				Interruption		PR1425	0.2	80 - 120 - 160	0.05 - 0.1 - 0.2	0.03 - 0.1 - 0.15
			Precision Finishing (Molded Chipbreaker)	Continuous	CF	PR1425	0.2	100 - 150 - 200	0.02 - 0.05 - 0.1	0.02 - 0.05 - 0.12
			Finishing	Continuous	GF	PR1425	0.2	100 - 140 - 180	0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2
				Interruption		PR1425	0.4	80 - 120 - 160	0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2
			Finishing-Medium	Continuous	GQ	PR1425	0.2	80 - 120 - 160	0.3 - 1.5 - 3.0	0.03 - 0.05 - 0.1
				Interruption		PR1425	0.4	60 - 100 - 140	0.3 - 1.0 - 2.0	0.03 - 0.05 - 0.1
			Low Feed & Large ap	Continuous	J , U	PR1425	0.2	80 - 100 - 140	0.5 - 2.0 - 3.5	0.02 - 0.05 - 0.1
M	Stainless Steel (Austenitic related)	HB ≤ 220	Finishing	Continuous	GF	PR1225	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	GQ	PR1225	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 ≤ 300	Finishing	Continuous	GF	PR1225	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	GQ	PR1225	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
K	Gray Cast Iron	HB ≤ 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 ≤ 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
			Medium	Continuous	Standard	CA315	0.4	80 - 100 - 120	0.5 - 1.0 - 2.0	0.1 - 0.15 - 0.2
				Interruption		CA320	0.8	60 - 80 - 100	0.5 - 1.0 - 2.0	0.05 - 0.1 - 0.15
N	Non-ferrous Metals Copper Alloy Aluminum Aluminum Alloys (Si10% or less) etc.	HB ≤ 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
			Finishing (Long Tool Life)	Continuous	F , FSF	PDL025	0.2	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 , FSF	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 , USF	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 ≤ 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	FSF,USF	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 ≤ 350	Finishing	Continuous	F , U	KW10	0.4	10 - 30 - 50	0.1 - 0.3 - 0.5	0.03 - 0.05 - 0.1
				Interruption	Without Chipbreaker	KW10	0.8	10 - 30 - 50	0.2 - 0.5 - 0.7	0.03 - 0.05 - 0.1
			Finishing	Continuous	MQ	PR1535	0.4	40 - 60 - 80	0.1 - 0.3 - 0.5	0.03 - 0.05 - 0.1
				Interruption		PR1535	0.8	40 - 60 - 80	0.1 - 0.3 - 0.5	0.03 - 0.05 - 0.1
H	Hardened Steel Hard Materials	40 ~ 50 HRC	Finishing	Continuous	GK	PR1425	0.2	40 - 60 - 80	0.1 - 0.3 - 0.5	0.02 - 0.07 - 0.1
				Interruption		PR1425	0.4	40 - 60 - 80	0.1 - 0.3 - 0.5	0.02 - 0.07 - 0.1
		50 ~ 68 HRC	Finishing	Continuous	ME	KBN05M	0.2	80 - 120 - 150	0.1 - 0.3 - 0.5	0.02 - 0.07 - 0.1
				Interruption	MET	KBN05M	0.4	60 - 100 - 120	0.1 - 0.3 - 0.5	0.02 - 0.07 - 0.1

* For machining free-cutting steels, such as SUM, etc., use PR1005 at Vc=200m/min or less. For ap and f, refer to specs for low carbon steels.

Recommended Cutting Conditions - Back Turning

● **KTKF** E12

Workpiece Material		MEGACOAT NANO				MEGACOAT		Remarks
		PR1535		**PR1425**		**PR1225**		
		Grooving	Turning	Grooving	Turning	Grooving	Turning	
Carbon steel / Alloy steel	Vc (m/min)	☆ 60 ~ 150		★ 80 ~ 200		☆ 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 ~ 130		☆ 60 ~ 150		☆ 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		PVD Coated Carbide		Carbide		PCD		Remarks
		PR1025		**KW10**		**KPD001**		
		Grooving	Turning	Grooving	Turning	Grooving	Turning	
Carbon steel / Alloy steel	Vc (m/min)	☆ 60 ~ 150		-		-		Coolant
	f (mm/rev)	0.01 ~ 0.03	0.02 ~ 0.15	-		-		
Stainless Steel	Vc (m/min)	☆ 50 ~ 120		-		-		
	f (mm/rev)	0.01 ~ 0.02	0.02 ~ 0.1	-		-		
Cast Iron	Vc (m/min)	-		50 ~ 100		-		
	f (mm/rev)	-		0.01 ~ 0.02	0.02 ~ 0.15	-		
Aluminum Alloys	Vc (m/min)	-		200 ~ 450		200 ~ 500		
	f (mm/rev)	-		0.01 ~ 0.03	0.02 ~ 0.15	0.01 ~ 0.03	0.02 ~ 0.12	
Brass	Vc (m/min)	-		100 ~ 200		100 ~ 350		
	f (mm/rev)	-		0.01 ~ 0.05	0.02 ~ 0.2	0.01 ~ 0.05	0.02 ~ 0.15	

★: 1st Recommendation
☆: 2nd Recommendation

● **KTKF (GQ Chipbreaker)** E12

Workpiece Material		MEGACOAT NANO				MEGACOAT		Remarks
		PR1535		**PR1425**		**PR1225**		
		Grooving	Turning	Grooving	Turning	Grooving	Turning	
Carbon steel / Alloy steel	Vc (m/min)	☆ 60 ~ 150		★ 80 ~ 200		☆ 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 ~ 130		☆ 60 ~ 150		☆ 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	

★: 1st Recommendation
☆: 2nd Recommendation

● **ABS15, ABW15, ABW23** E17~E19

Workpiece Material		MEGACOAT NANO		MEGACOAT		PVD Coated Carbide		Remarks
		PR1425		**PR1225**		**PR1025 (PR930)**		
		Grooving	Turning	Grooving	Turning	Grooving	Turning	
Carbon steel / Alloy steel	Vc (m/min)	★ 80 ~ 180		☆ 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	
Stainless Steel	Vc (m/min)	☆ 40 ~ 130		★ 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	

★: 1st Recommendation
☆: 2nd Recommendation

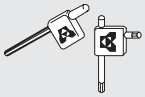
Workpiece Material		Carbide		Remarks
		KW10		
		Grooving	Turning	
Aluminum Alloys	Vc (m/min)	150 ~ 200		Coolant
	f (mm/rev)	0.02	0.02 ~ 0.10	
Brass	Vc (m/min)	100 ~ 160		
	f (mm/rev)	0.03	0.02 ~ 0.15	

Alternative Toolholder Reference Table for Small Tools (Back Clamp)

Insert Description	Conventional Toolholder					Alternative Toolholder			
	Description	Overall length (mm)	Spare Parts: Anchor Pin	Spare Parts: Lock Screw	Spare Parts: Wrench	Description	Overall length (mm)	Remarks	See Page
ABS..40	AABSR0810K-40F	125	LPA-11	HSB4X8R	FH-2	-	-	No Alternative	-
	AABSR1010K-40F	125				AABSR1010JX-40F	120		E17
	AABSR1212M-40F	150	LPA-13			AABSR1212JX-40F	120		
	AABSR1616M-40F	150	LPA-17			AABSR1616JX-40F	120		
ABW..40	AABWR0810K-40F	125	LPA-11	HSB4X8R	FH-2	-	-	No Alternative	-
	AABWR1010K-40F	125				AABWR1010JX-40F	120		E18
	AABWR1212M-40F	150	LPA-13			AABWR1212JX-40F	120		
	AABWR1616M-40F	150	LPA-17			AABWR1616JX-40F	120		
ABW..50	AABWR0810K-50F	125	LPA-11	HSB4X8R	FH-2	-	-	No Alternative	-
	AABWR1010K-50F	125				AABWR1010JX-50F	120		E19
	AABWR1212M-50F	150	LPA-13			AABWR1212JX-50F	120		
	AABWR1616M-50F	150	LPA-17			AABWR1616JX-50F	120		
CC..	ACLCR/L0810K-06F	125	LPF-11	HSB4X8R (Right-hand toolholder)	FH-2	SCLCR/L0808F-06FF	120	Clamping system is different.	E23
	ACLCR/L1010K-06F	125				ACLCR/L1010JX-06FF	120		E22
	ACLCR/L1010K-09F	125	LPF-13	HSB4X8L (Left-hand toolholder)		ACLCR/L1010JX-09FF	120		
	ACLCR/L1212M-09F	150				ACLCR/L1212JX-09FF	120		
	ACLCR/L1616M-09F	150	LPF-17			ACLCR/L1616JX-09FF	120		
DC..	ADJCR/L0810K-07F	125	LPF-11	HSB4X8R (Right-hand toolholder)	FH-2	SDJCR/L0808F-07FF	120	Clamping system is different.	E25
	ADJCR/L1010K-07F	125				ADJCR/L1010JX-07FF	120		E24
	ADJCR/L1010K-11F	125	LPF-13	HSB4X8L (Left-hand toolholder)		ADJCR/L1010JX-11FF	120		
	ADJCR/L1212M-11F	150				ADJCR/L1212JX-11FF	120		
	ADJCR/L1616M-11F	150	LPF-17			ADJCR/L1616JX-11FF	120		
	ADNCR0810K-07F	125	LPF-11	HSB4X8R	FH-2	-	-	No Alternative	-
	ADNCR1010K-07F	125				SDNCN1010JX-07	120	Clamping system is different. Neutral	E27
	ADNCR1010K-11F	125	LPF-13			SDNCN1010JX-11	120		
	ADNCR1212M-11F	150				SDNCN1212JX-11	120		
	ADNCR1616M-11F	150	LPF-17			SDNCN1616JX-11	120		
VB..	AVJBR/L1010K-11F	125	LPF-11	HSB4X8R (Right-hand toolholder)	FH-2	AVJBR/L1010JX-11FF	120		E30
	AVJBR/L1212M-11F	150	LPF-1113	HSB4X8L (Left-hand toolholder)		AVJBR/L1212JX-11FF	120		
	AVJBR/L1616M-11F	150	LPF-1117			AVJBR/L1616JX-11FF	120		
	AVVBR/L1010K-11F	125	LPF-11	HSB4X8R (Right-hand toolholder)	FH-2	SVVBN1010JX-11	120	Clamping system is different. Neutral	E31
	AVVBR/L1212M-11F	150	LPF-1113	HSB4X8L (Left-hand toolholder)		SVVBN1212JX-11	120		
	AVVBR/L1616M-11F	150	LPF-1117			SVVBN1616JX-11	120		

Note) The corresponding alternative toolholder may be different from the conventional toolholder in insert clamping system or insert size.
Make sure of their specifications by referring to the catalog or other documents.

Alternative Toolholder Reference Table for Small Tools (Screw Clamp)

Insert Description	Conventional Toolholder				Alternative Toolholder			
	Description	Overall length (mm)	Spare Parts: Clamp Screw	Spare Parts: Wrench	Description	Overall length (mm)	Remarks	See Page
								
ABS.. 40	SABSR0810K-40F	125	SB-3080TR	FT-10	-	-	No Alternative	-
	SABSR1010K-40F	125			SABSR1010JX-40F	120		E17
	SABSR1212M-40F	150			SABSR1212JX-40F	120		
	SABSR1616M-40F	150			SABSR1616JX-40F	120		
ABW.. 40	SABWR0810K-40F	125	SB-3080TR	FT-10	-	-	No Alternative	-
	SABWR1010K-40F	125			SABWR1010JX-40F	120		E18
	SABWR1212M-40F	150			SABWR1212JX-40F	120		
	SABWR1616M-40F	150			SABWR1616JX-40F	120		
ABW.. 50	SABWR0810K-50F	125	SB-3080TR	FT-10	-	-	No Alternative	-
	SABWR1010K-50F	125			SABWR1010JX-50F	120		E19
	SABWR1212M-50F	150			SABWR1212JX-50F	120		
	SABWR1616M-50F	150			SABWR1616JX-50F	120		
CC..	SCACR/L0808K-06	125	SB-2570TR	FT-8	SCLCR/L0808F-06FF	85	Cutting edge angle is different.	E23
	SCACR/L1010K-06	125			SCLCR/L1010JX-06FF	120		
	SCACR/L1010K-09	125	SB-4085TR	FT-15	SCLCR/L1010JX-09FF	120		
	SCACR/L1212M-09	150			SCLCR/L1212JX-09FF	120		
	SCACR/L1616M-09	150			SCLCR/L1616JX-09FF	120		
	SCACR1212F-09FF	85	SB-4085TR	FT-15	SCLCR1212JX-09FF	120		
	SCLCR/L0808E-06	70	SB-2570TR	FT-8	SCLCR/L0808F-06FF	85		
DC..	SDJCR/L0808F-07F	80	SB-2570TR	FT-8	SDJCR/L0808F-07FF	85		E25
	SDJCR/L1010F-07F	80			SDJCR/L1010JX-07FF	120		
	SDJCR/L1010F-11F	80	SB-4085TR	FT-15	SDJCR/L1010JX-11FF	120		
	SDJCR/L1212H-11F	100			SDJCR/L1212JX-11FF	120		
	SDJCR/L1616H-11F	100			SDJCR/L1616JX-11FF	120		
	SDLCR/L1010F-07FF	80	SB-2570TR	FT-8	SDLCR/L1010JX-07FF	120		E26
	SDLCR/L1212H-07FF	100			SDLCR/L1212F-07FF	85	Short length type	
					SDLCR/L1212JX-07FF	120		
	SDLCR/L1616H-07FF	100			SDLCR/L1616JX-07FF	120		
	SDLCR/L1212H-11FF	100	SB-4085TR	FT-15	SDLCR/L1212JX-11FF	120		
	SDLCL1616H-11FF	100			SDLCL1616JX-11FF	120		
	SDNCR/L1010F-07F	80	SB-2570TR	FT-8	SDNCR/L1010JX-07F	120		E27
	SDNCR/L1010F-11F	80	SB-4085TR	FT-15	SDNCR/L1010JX-07F	120	Insert size is different.	
					SDNCN1010JX-11	120	Neutral	
	SDNCR/L1212H-11F	100	SB-4085TR	FT-15	SDNCN1212F-11	85	Neutral Short length type	
					SDNCN1212JX-11	120	Neutral	
	SDNCR/L1616H-11F	100	SB-4085TR	FT-15	SDNCN1616JX-11	120	Neutral	
	SDNCN0808E-07	70	SB-2570TR	FT-8	SDNCN0808F-07	85		
	SDNCN1010F-07	80			SDNCN1010JX-07	120		
	SDNCN1212H-07	100			SDNCN1212JX-07	120		
	SDNCN1212H-11	100	SB-4085TR	FT-15	SDNCN1212F-11	85	Short length type	
					SDNCN1212JX-11	120		
	SDXCR/L1010F-07	80	SB-2570TR	FT-8	SDXCR/L1010JX-07	120		E26
	SDXCR/L1010F-11	80	SB-4085TR	FT-15	SDXCR/L1010JX-11	120		
	SDXCR/L1212H-11	100			SDXCR/L1212JX-11	120		
	SDXCR/L1616H-11	100			SDXCR/L1616JX-11	120		
DP..	SDLPR/L0808F-07F	80	SB-2570TR	FT-8	SDLPR/L0808F-07FF	85		E28
	SDLPR/L1010F-07F	80			SDLPR/L1010JX-07FF	120		
	SDLPR/L1010F-11F	80	SB-4085TR	FT-15	SDLPR/L1010JX-11FF	120		
	SDLPR/L1212H-11F	100			SDLPR/L1212JX-11FF	120		
	SDLPR/L1616H-11F	100			SDLPR/L1616JX-11FF	120		
TC..	STGCR/L0808E-08	70	SB-2050TR	FT-6	-	-	No Alternative	-
TP..	STGPR/L1010F-08	80	SB-2050TR	FT-6	-	-	No Alternative	-

Note) The corresponding alternative toolholder may be different from the conventional toolholder in insert clamping system or insert size.
Make sure of their specifications by referring to the catalog or other documents.

Alternative Toolholder Reference Table for Small Tools (Screw Clamp)

Insert Description	Conventional Toolholder				Alternative Toolholder			
	Description	Overall length (mm)	Spare Parts: Clamp Screw	Spare Parts: Wrench	Description	Overall length (mm)	Remarks	See Page
VB..	SVJB$^{R/L}$1010F-11F	80	SB-2570TR	FT-8	SVJB$^{R/L}$1010JX-11FF	120		E30
	SVJB$^{R/L}$1212H-11F	100			SVJB$^{R/L}$1212JX-11FF	120		
	SVJB$^{R/L}$1616H-11F	100			SVJB$^{R/L}$1616JX-11FF	120		
	SVPB$^{R/L}$1010F-11	80	SB-2570TR	FT-8	SVPB$^{R/L}$1010JX-11	120		E31
	SVPB$^{R/L}$1212H-11	100			SVPB$^{R/L}$1212JX-11	120		
	SVPB$^{R/L}$1616H-11	100			SVPB$^{R/L}$1616JX-11	120		
	SVVBN1212H-11	100	SB-2570TR	FT-8	SVVBN1212JX-11	120		
VP..	SVLP$^{R/L}$1010F-08FF	80	SB-2050TR	FT-6	SVLP$^{R/L}$1010JX-08FF	120		E32
	SVLP$^{R/L}$1212H-08FF	100			SVLP$^{R/L}$1212F-08FF	85	Short length type	
					SVLP$^{R/L}$1212JX-08FF	120		
	SVLP$^{R/L}$1616H-08FF	100			SVLP$^{R/L}$1616JX-08FF	120		
	SVLP$^{R/L}$1010F-11F	80	SB-2570TR	FT-8	SVLP$^{R/L}$1010JX-08FF	120	Insert size is different.	
	SVLP$^{R/L}$1212H-11F	100			SVLP$^{R/L}$1212F-11FF	85	Short length type	
					SVLP$^{R/L}$1212JX-11FF	120		
	SVLP$^{R/L}$1616H-11F	100			SVLP$^{R/L}$1616JX-11FF	120		
	SVPPR1010F-11	80	SB-2570TR	FT-8	SVPBR1010JX-11	120	Insert relief angle is different.	E31
					SVPPR1010JX-11FF		Without Offset	E33
	SVPPR1212H-11	100			SVPBR1212JX-11	120	Insert relief angle is different.	E31
					SVPPR1212JX-11FF		Without Offset	E33
	SVPPR1616H-11	100			SVPBR1616JX-11	120	Insert relief angle is different.	E31
					SVPPR1616JX-11FF		Without Offset	E33
	SVPPL1616H-11	100	SB-2570TR	FT-8	SVPBL1616JX-11	120	Insert relief angle is different.	E31

Note) The corresponding alternative toolholder may be different from the conventional toolholder in insert clamping system or insert size.
Make sure of their specifications by referring to the catalog or other documents.

Alternative Toolholder Reference Table for Small Tools (Screw Clamp) Toolholders for Back Turning

Insert Description	Conventional Toolholder				Alternative Toolholder			
	Description	Overall length (mm)	Spare Parts: Clamp Screw	Spare Parts: Wrench	Description	Overall length (mm)	Remarks	See Page
TKFB..	KTKF$^{R/L}$1010K-12	125	SB-4590TRWN	LTW-10S	KTKF$^{R/L}$1010JX-12	120		E12
	KTKF$^{R/L}$1212M-12	150			KTKF$^{R/L}$1212JX-12	120		
	KTKF$^{R/L}$1616M-12	150			KTKF$^{R/L}$1616JX-12	120		
	KTKF$^{R/L}$1010K-16	125			KTKF$^{R/L}$1010JX-16	120		
	KTKF$^{R/L}$1212M-16	150			KTKF$^{R/L}$1212JX-16	120		
	KTKF$^{R/L}$1616M-16	150			KTKF$^{R/L}$1616JX-16	120		

Note) The corresponding alternative toolholder may be different from the conventional toolholder in insert clamping system or insert size.
Make sure of their specifications by referring to the catalog or other documents.