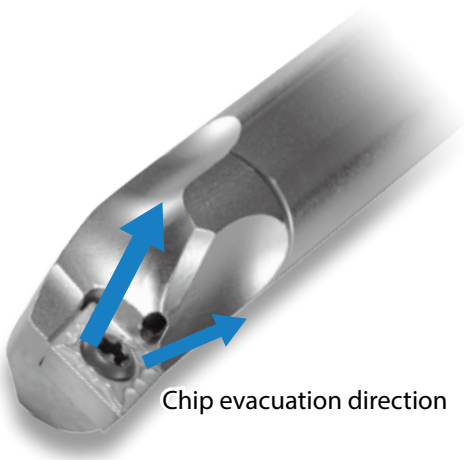


Introduction		F2
Solid tip bars for micro boring		F16
EZ Bars		F16
EZ Bar PLUS		F31
System Tip-Bars		F44
Twin-Bars		F56
Dynamic-Bars		F60
CC insert		F60
CP insert		F64
DC insert		F66
JC insert		F78
TB / TP insert		F80
TC insert		F88
VB / VC / VP insert		F90
WB / WP insert		F100
ZB insert		F106
Borings bars		F111
SP insert	S-SSKP / S-CSKP	F111
TP insert	S-CTUP	F113
Bearing machining		F114
RPMT insert	SRCP-B	F114
SNMF insert	CBSN-B	F115
KAV		F116
CN insert	KAVH-PCLN	F118
DN insert	KAVH-PDUN	F120
TN insert	KAVH-PTFN	F122
CC insert	KAVH-SCLC	F124
DC insert	KAVH-SDUC	F125
TP insert	KAVH-STLP	F126
VB insert	KAVH-SVUB	F127
Shank for KAV		F128
Boring bars for negative type inserts		F131
CN insert		F131
DN insert		F134
SN insert		F142
TN insert		F143
WN insert		F146
Boring bars for ceramic inserts		F151
EN insert	S- CELN	F151
Boring bars for CBN inserts		F152
TN insert	S-CTUN-A	F152
Sleeves / Coolant joint		F153
Recommended cutting conditions		F158

Dynamic-Bars

The Dynamic-Bars achieves superior chip evacuation

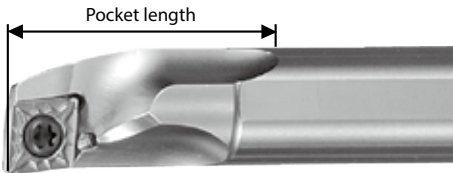


Superior chip evacuation (External coolant)

	Dynamic Bar	Competitor A	Competitor B
Inside the workpiece			

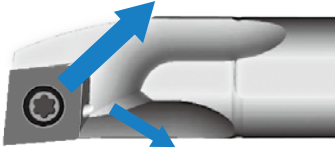
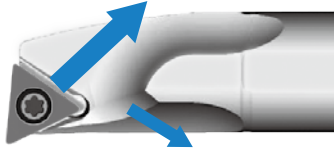
In the products of competitor A and B chips remain inside the workpiece, but chips from the Dynamic-Bars are all evacuated from the workpiece.

Comparison of pocket length



Description	Pocket length (mm)	
	Dynamic-Bars	Competitor A
A16-SCLPR09-18 type	37	29
A20-SCLCR09-22 type	48	32

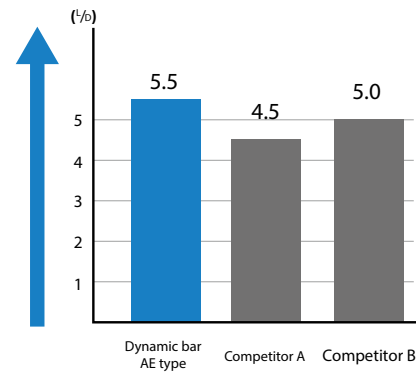
Chip evacuation direction

SCLC(P) type	STLB(P) type
	

Better evacuation by backward chip flow

High rigidity and chattering resistance are ensured by using a special alloy and with help of stress analysis technology.

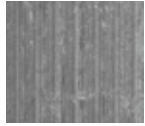
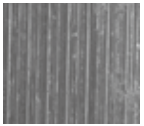
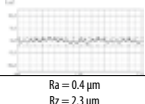
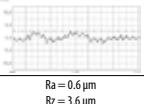
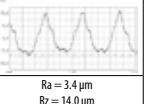
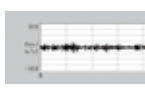
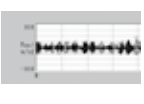
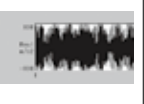
Comparison of vibration tendency



Cutting conditions	
SCM415	f = 0.1 mm/rev
Vc = 150 m/min	S16-SCLPR09 type
ap = 0.5 mm	CPMH090304L-Y

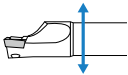
Comparison of surface finish

Vibration of the Dynamic Bar was minimal even at high cutting speeds, enabling stable machining.

	Dynamic Bar	Competitor A	Competitor B
Surface wall			
Surface roughness	 Ra = 0.4 μ m Rz = 2.3 μ m	 Ra = 0.6 μ m Rz = 3.6 μ m	 Ra = 3.4 μ m Rz = 14.0 μ m
Oscillatory waveform			

Cutting conditions	
SCM415	Vc=210m/min
ap=0.5mm	f=0.1mm/rev
A16Q-SCLPR09-18 type	CPMT090304XP(PV7020)
L/D=4	External coolant

Direction of vibration measurement



Interchangeable head boring bars with anti-vibration dampener system, KAV series

"Max L/D = 10" Solves deep-boring challenges

Excellent anti-chatter performance due to unique anti-vibration design and available for a wide range of machining operations

Unique anti-vibration mechanism provides superior chatter resistance

Built-in damper technology

Absorbs vibrational energy with braking effect

High rigidity

Using heavy and short dampers
The cavity diameter is also reduced to ensure rigidity.

Interchangeable heads for a variety of machining applications Strong fastening with serrated joint structure

Serrated structure

Securely fastens head and shank

Shank lineup

Shank diameters, from 16mm to 40mm with L/D = 7 and 10, are available
Carbide reinforced style also available

Shank diameter	Available overhang length range	Type
ø16 ø20	L/D = 4 ~ 7	Steel
	L/D = 7 ~ 10	Carbide reinforcement
ø25 ø32 ø40	L/D = 4 ~ 7	Steel
	L/D = 7 ~ 10	Steel

Head lineup

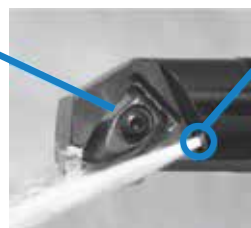
Shank diameter	Positive type (Screw clamp)				Negative type (Lever lock)		
	SCLC	SDUC	STLP	SVUB	PCLN	PDUN	PTFN
ø16	●	●	●				
ø20	●	●	●	●			
ø25	●	●	●	●			
ø32	●	●	●	●	●	●	●
ø40	●	●	●	●	●	●	●

Double clamp boring bars for negative inserts

Stable machining is realized in double clamp and direction adjustment mechanism coolant hole.

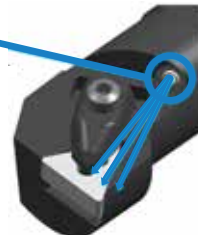
Improved clamping rigidity

Firmly clamp the insert in two directions with one action. Along with improving the accuracy of the insert position, long tool life can be achieved.



Direction adjustment mechanism coolant hole

Discharge direction of coolant is adjustment flexible focusing on coolant to edge reliably builds up
Not applicable to high-pressure coolant



Nozzle setting

Wrench etc. that enters 2.5 or less holes are used, and adjust.



Small internal machining

EZ Bar series

Selecting the proper tool in a simple step. Easy adjustment and high precision
Four chipbreakers for a wide range of machining applications

1 Large tooling lineup. Select the proper tool in a simple step

F

Boring

Internal turning

Supports wide range of internal machining applications

Boring

EZB

Chipbreakers

H

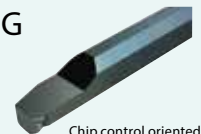


Tough edge
(General purpose)

1st Recommendation /
General purpose
Extended reach
type available

PR1725

G



Chip control oriented

Excellent chip control
performance

PR1725

F



Low cutting force

Finishing /
Sharpness oriented

PR1725

NB

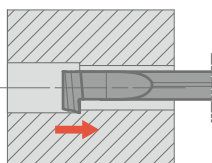


Without chipbreaker

GW05 insert grade for
aluminum machining
available

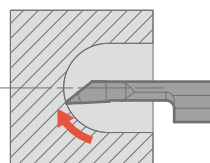
EZBT

Back boring



Internal facing • Internal profiling

EZVB



45 degree chamfering

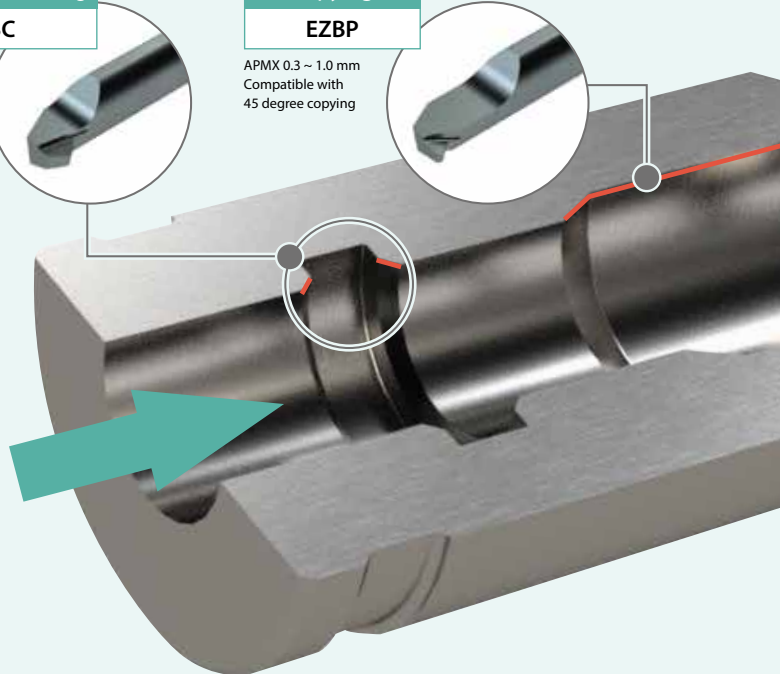
EZBC



Copying

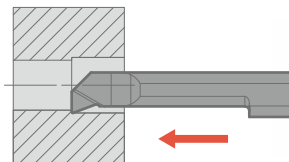
EZBP

APMX 0.3 ~ 1.0 mm
Compatible with
45 degree copying



90 degree lead angle

EZBF



2 Easy adjustment and high precision

For CT sleeves with coolant holes and HP sleeves with positioning function, the overhang length can be set by moving adjustment pins

Check

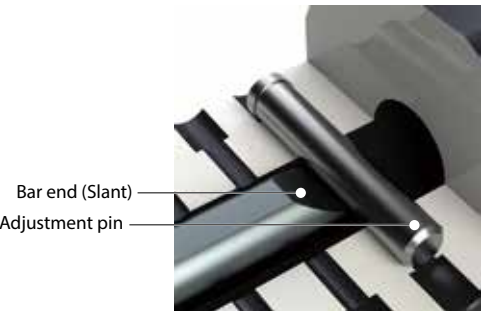
Smooth coolant flow due to special head design



Coolant-through : EZH-CT

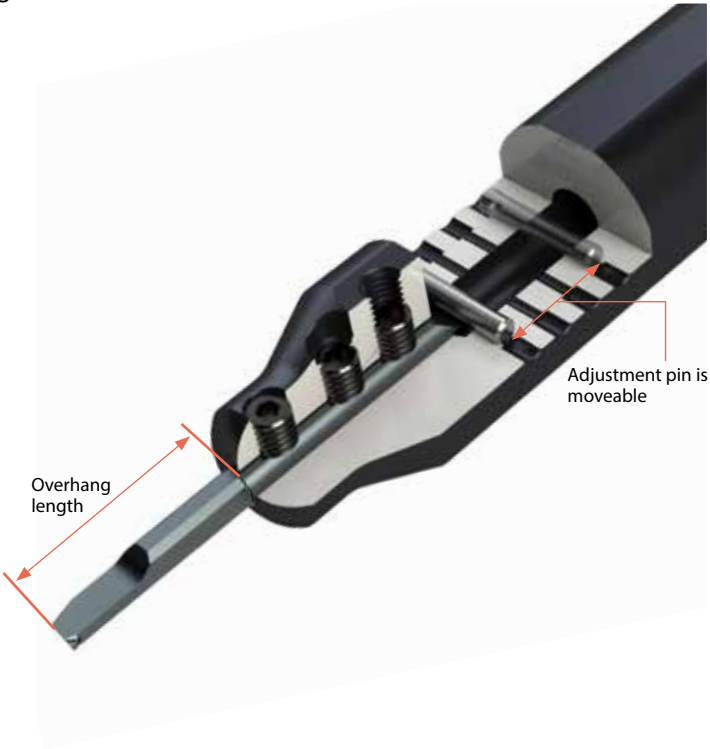
Check

High precision design by contacting the bar end (Slant) with the adjustment pin



Bar end (Slant)
Adjustment pin

With EZ Adjust Structure : EZH-CT, EZH-HP

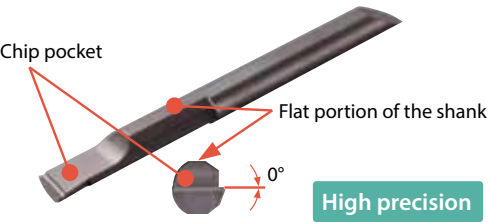


Overhang length

Adjustment pin is moveable

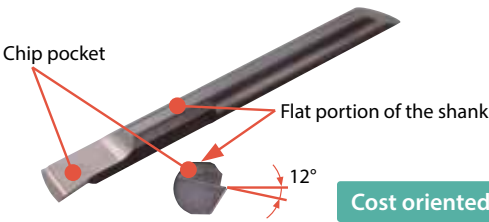
3 Select the HP bar for high precision and the ST bar for cost reduction for boring (tolerances are different)

HP (EZB-HP)



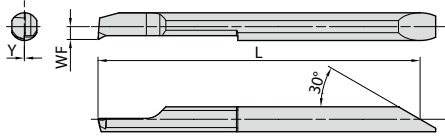
High precision

ST (EZB-ST)



Cost oriented

Bar tolerance

	Bar tolerance	Offset (WF)	Longitudinal direction (L)	Cutting edge height (Y)	Min. bore dia.
	HP	± 0.025 mm	± 0.05 mm	+ 0.05 mm / 0 mm	Same as shank dia.
	ST	± 0.06 mm	± 0.1 mm	+ 0.06 mm / 0 mm	Different from shank dia.

4 chipbreakers and new PVD coating PR 1725 for a wide range of machining processes

H chipbreaker (without lead angle)
1st recommendation / General purpose



F chipbreaker (with lead angle)
Finishing / Sharpness oriented



NB chipbreaker (without chipbreaker)
Non-ferrous metal machining



F

PR1725 Available

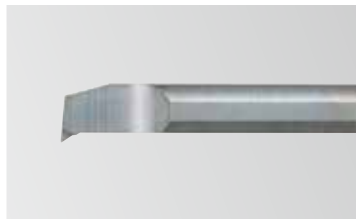
GW05 insert grade for aluminum machining available

Left-hand available (HP type)

PR1725 Available

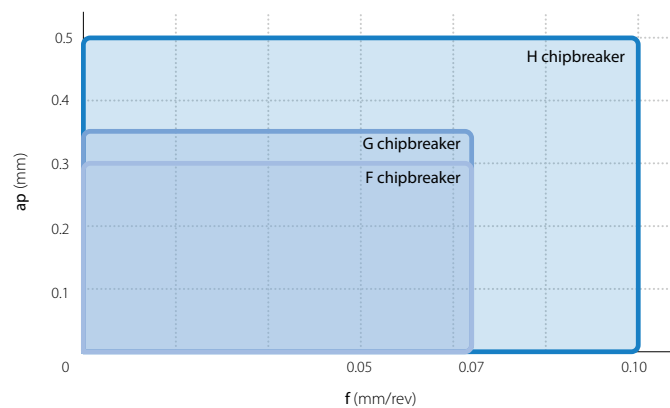
PCD.CBN inserts available
GW05 insert grade for aluminum machining available

G chipbreaker (with lead angle)
Chip control oriented



PR1725 Available

Applicable chipbreaker range

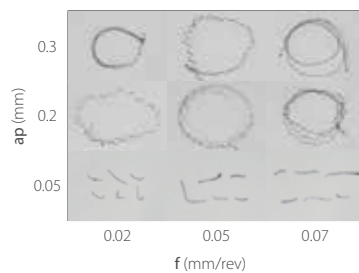


Check Cutting performance comparison

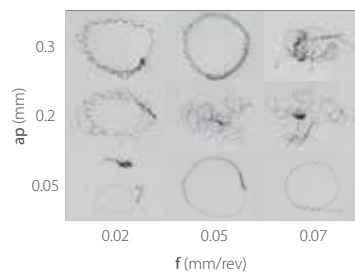
Chip control comparison

Stable chip curls and good chip breaking

G chipbreaker



Competitor (with lead angle)

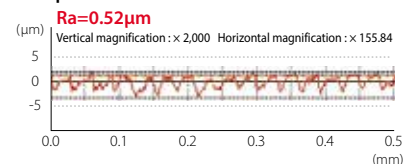


Cutting conditions: Vc = 80 m/min, Wet Workpiece material: S45C (Internal evaluation)

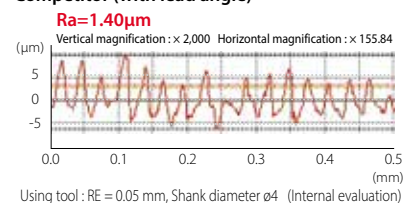
Surface finish comparison

Excellent surface finish

G chipbreaker



Competitor (with lead angle)



Sleeve

Point Large tooling lineup that can be customized for your machining demands

How to select sleeves

Select between three types of sleeves

EZH-CT

With EZ adjust structure
Coolant-through



EZH-HP

With EZ adjust structure



EZH-ST

Without EZ adjust structure

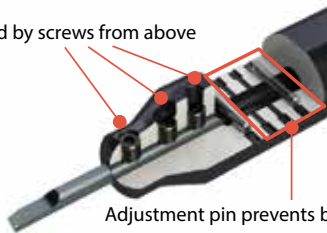


Point The EZ Bar prevents deviation with high-rigidity clamping

The adjustment pin prevents the bar from rotating during machining

EZ Bar

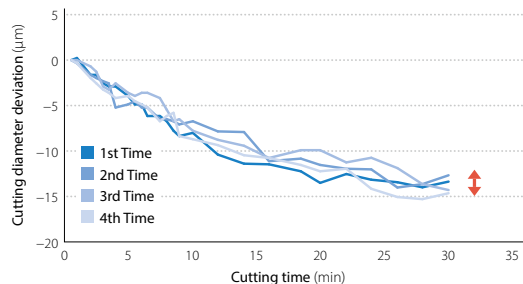
Fixed by screws from above



Adjustment pin prevents bar rotation

Cutting diameter deviation comparison (Internal evaluation)

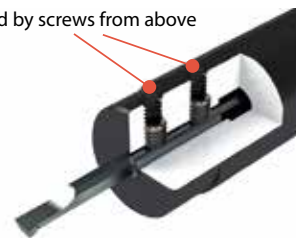
EZ Bar



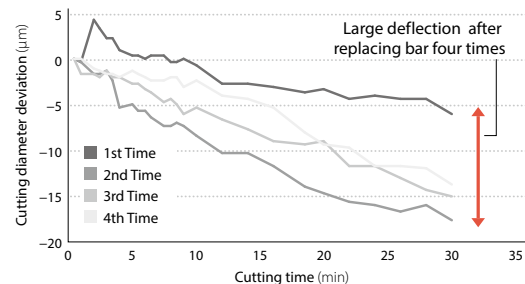
Cutting conditions : $V_c = 66$ m/min, $a_p = 0.1$ mm, $f = 0.02$ mm/rev, Wet (Oil-based) Workpiece material : SK4

Competitor

Fixed by screws from above



Competitor A



Large deflection after replacing bar four times

EZ Bar PLUS

High precision solid bar with convenience of indexable inserts reduce machining costs



Indexable EZ Bar

Minimum bore diameter 5 mm

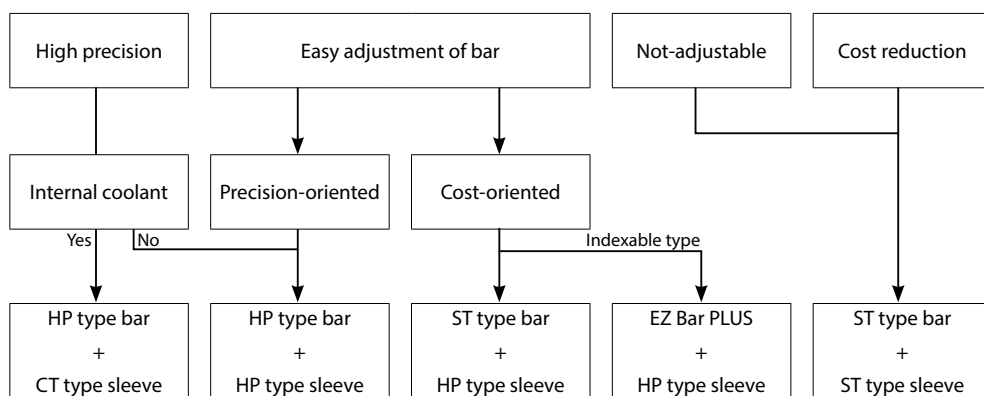
Point Minimum bore diameter 5 mm

Carbide or steel bars can be selected depending on the machining purpose

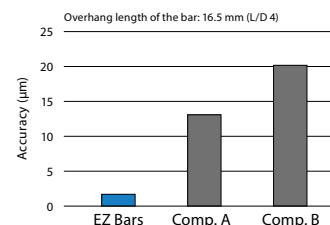
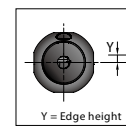
Point Reduces installing times by 1/3

The EZ adjust structure features much lower mounting times compared to conventional boring bars

How to select bars and sleeves for each application



Excellent repeat accuracy by the combination of HP bar + CT / HP sleeve



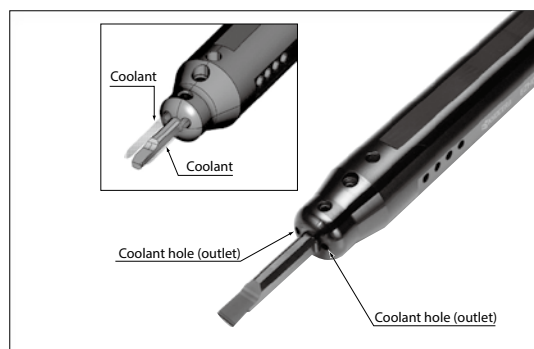
F

Boring

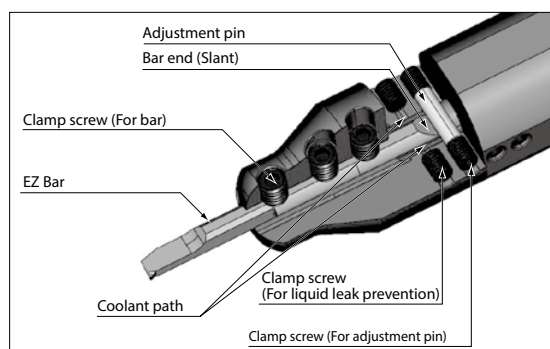
EZH-CT type sleeve (high precision / with coolant hole)

Kyocera's unique EZ adjust structure and internal coolant system improve dimensional accuracy and surface

Coolant discharge system of EZH-CT



Structure of EZH-CT



How to mount EZ Bars (EZH-CT sleeve)

How to use adjustment pin and prevent liquid leak (Fig. 1)

- Put the adjustment pin into the hole according to the overhang length. Push it into the sleeve, using the wrench (LW-1.5).
- Tighten the clamp screw for the adjustment pin "HS3x3P" or "HS3x4P" using the wrench "LW-1.5" from the both sides of the sleeve.
- Put the clamp screws "HS3x3P" or "HS3x4P" into the holes for liquid leak prevention, using the wrench "LW-1.5" and fix them from the both sides of the sleeve.

How to fix bar (Fig. 2)

- With the chip pocket upward, set the bar into the sleeve. Press the slant of the end of the bar with the adjustment pin. Make sure that the bar does not move (Fig. 3)
- Tighten the clamp screw with wrench (LW-2) and fix the bar. Use LW-1.5 if shank dia. is 3 mm or less

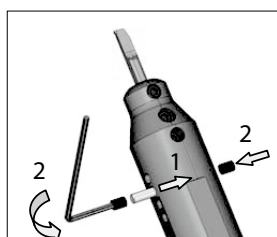


Fig. 1: How to use adjustment pin

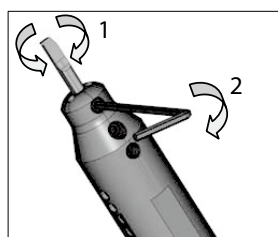


Fig. 2: How to fix bar

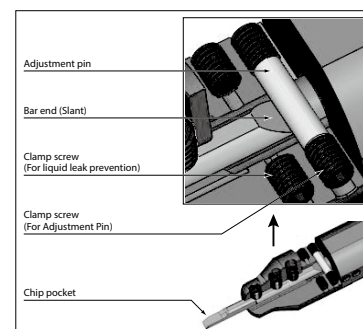
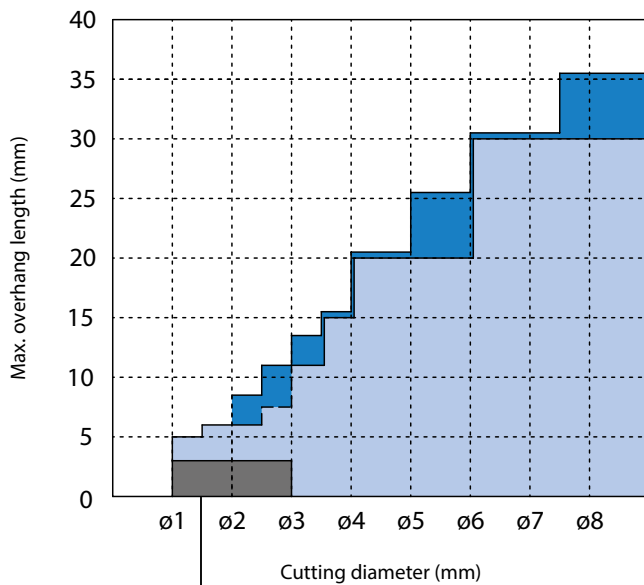


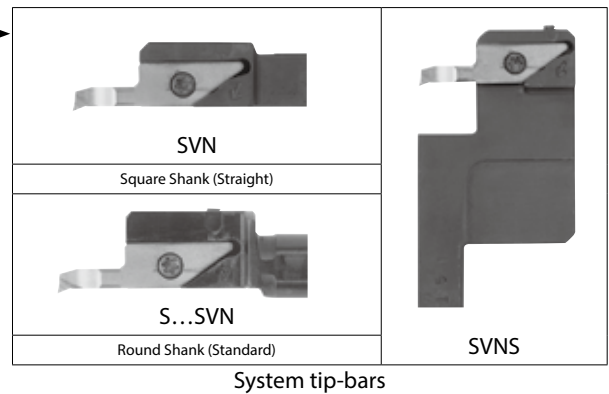
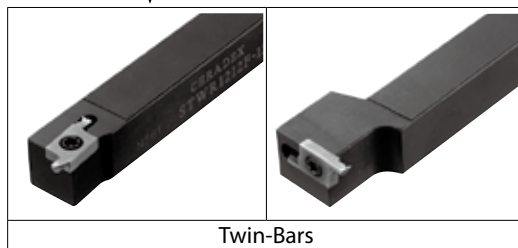
Fig. 3: Fixed bar

Guide for usage (Adjustable overhang type)

Solid tip-bars type: Min. bore diameter $\phi 1$ ~

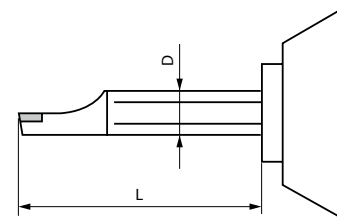


Easy adjustment and high precision - EZ Bars



Guide line for overhang length of boring bar - Workpiece material: S45C

Overhang Length (L / D)	Shank Material
3	Steel
4	Steel (Dynamic Bar)
5	Excellent
5.5	Excellent (Dynamic Bar)
7	Carbide
7~10	KAV (with anti-vibration dampener system)



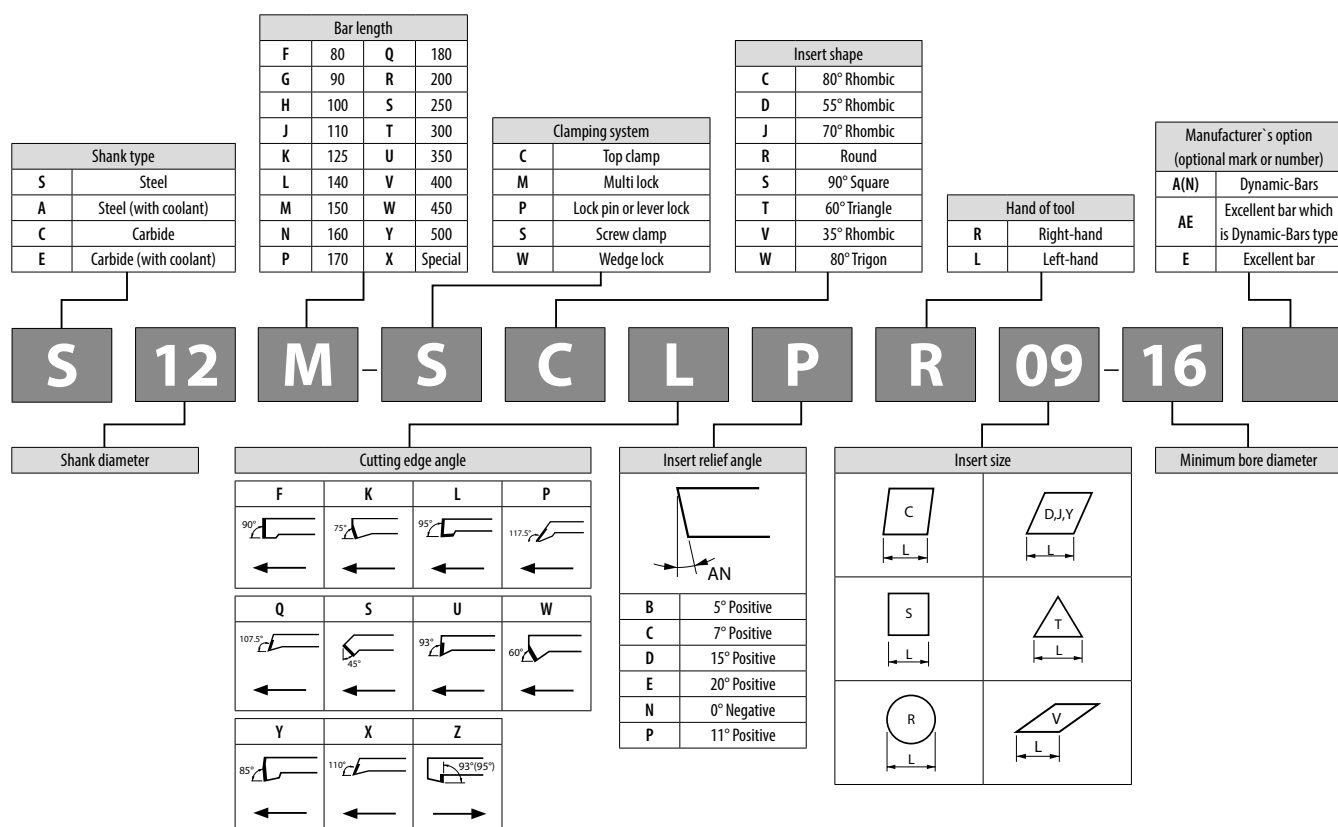
Carbide shank boring bar

Short shank series

Short shank types with length of 1/2 and 2/3 of standard type are available. (-1/2 or -2/3 is shown at the end of the description). When installing on machines, no additional machining (to change toolholder length) is required.



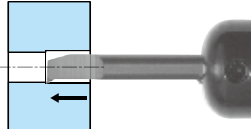
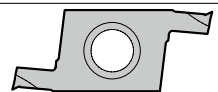
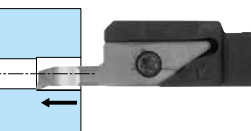
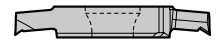
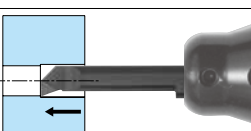
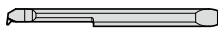
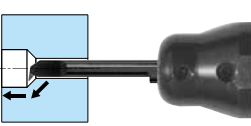
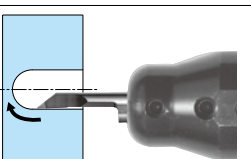
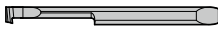
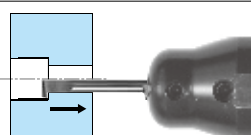
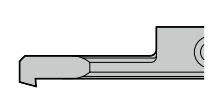
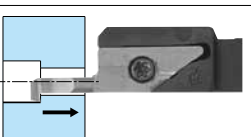
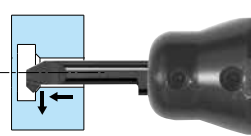
Boring bar identification system (round shank)



F

Boring

Solid Tip-Bars for Micro Boring

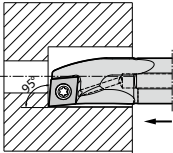
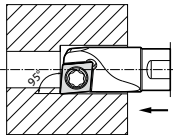
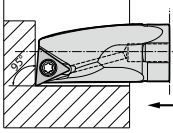
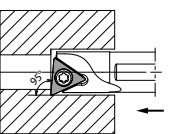
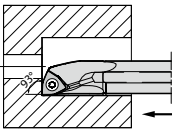
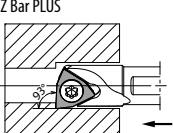
Applications	Solid Tip-Bars type	Shape	Shank type Max. Overhang Length (L/D)	Min. Bore Dia. DMIN																See Page for Toolholders	Summary
				1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8			
Boring	EZB-HP EZ Bars Ⓢ F16~F19		Solid L/D≈5			●	●	●	●	●	●	●		●		●		F38~F43			
	EZB-HP-LT EZ Bars (Long Type) Ⓢ F17		Solid			●	●	●	●	●	●	●		●							
	EZB-ST EZ Bars Ⓢ F20, F21		Solid L/D≈5			●	●	●	●	●	●	●		●		●					
	EZB-NB EZ Bars (PR1225 / GW05) Ⓢ F22		Solid L/D≈5			●	●	●	●	●	●	●		●		●					
	EZB-NB EZ Bars CBN PCD Ⓢ F22		Solid					●		●		●		●				F38~F43			
			Solid L/D≈5							●		●		●							
	TWB Twin-Bars Ⓢ F56		Solid	●	●	●	●	●										F56, F57			
	TWBT Twin-Bars Ⓢ F58		Solid	●	●	●	●	●										F59			
	VNB-S System Tip-Bars Ⓢ F44		Solid	●	●	●	●	●	●									F48~F51			
	VNB System Tip-Bars Ⓢ F45, F46		Solid			●		●		●		●		●		●		F48~F51			
VNBX-S System Tip-Bars Ⓢ F52		Solid	●	●	●		●	●	●								F53~F55				
90° Lead Angle	EZBF EZ Bars Ⓢ F24		Solid					●		●		●		●			F38~F43				
Copying	EZBP EZ Bars Ⓢ F26		Solid			●		●		●		●		●				F38~F43			
	EZVB EZ Bars Ⓢ F28		Solid					●		●		●		●				F38~F43			
Back Boring	EZBT EZ Bars Ⓢ F30		Solid							●		●						F39 F41 F43			
	VNBT System Tip-Bars Ⓢ F47		Solid							●		●						F48~F51			
45° Chamfering	EZBC EZ Bars Ⓢ F27		Solid									●		●		●		F39 F41 F43			

F



Boring

Dynamic-Bars / EZ Bar PLUS

Applications	Shape	Boring bar type	Shank type Max. Overhang Length (L/D)	Coolant hole		Min. Bore Dia. DMIN																						See Page for Toolholders
				Yes	No	5	6	7	8	10	12	13	14	16	18	20	22	23	25	26	27	30	31	32	34	40	50	
Boring / Internal Facing		A...SCLC-AE	Excellent L/D=~-5.5	●						●	●		●		●		●				●							F60 F61 F62
		S...SCLC-AE	Excellent L/D=~-5.5	○	●	●	●	●																				
		S...SCLC-A	Steel L/D=~-4	○						●	●		●		●		●				●							
		C...SCLC-AN	Carbide L/D=~-7	○	●	●	●	●																				
		E...SCLC-A(N)	Carbide L/D=~-7	●						●	●		●		●		●				●							
		A...SCLP-AE	Excellent L/D=~-5.5	●							●		●	●	●		●				●							
		S...SCLP-A	Steel L/D=~-4	○							●		●	●	●		●				●							
		E...SCLP-A(N)	Carbide L/D=~-7	●							●		●	●	●		●				●							
		S...SCLC-EZP	Steel L/D=~-3	○	●	●	●	●	●																			F31 F32
		C...SCLC-EZP	Carbide L/D=~-5	○	●	●	●	●	●																			
			A...STLP-AE	Excellent L/D=~-5.5	●						●	●		●	●	●		●		●								F80 F81 F82
			S...STLB-AE	Steel L/D=~-4	○					●																		
			S...STLB(P)-A	Steel L/D=~-4	○					●	●	●		●	●	●		●			●							
			E...STLP-A(N)	Carbide L/D=~-7	●						●	●		●	●	●		●		●								
			C...STLB-AN	Steel L/D=~-7	○					●																		
			A...STLC-AE	Excellent L/D=~-5.5	●						●	●		●		●		●										F88 F89
	S...STLC-A		Steel L/D=~-4	○						●	●		●		●		●											
			S...STLB(P)-EZP	Steel L/D=~-3	○					●	●																	F33 F34
		C...STLB(P)-EZP	Carbide L/D=~-5	○					●	●																		
			S...SWUB-AE	Excellent L/D=~-5.5	○		●	●	●																			F100 F101 F102
			A...SWUB(P)-AE	Excellent L/D=~-5.5	●						●	●		●		●		●										
	S...SWUB(P)-A		Steel L/D=~-4	○		●	●	●	●	●	●		●		●		●											
	C...SWUB-AN		Carbide L/D=~-7	○		●	●	●																				
	E...SWUB(P)-A(N)		Carbide L/D=~-7	●						●	●		●		●		●											
			S...SWUB-EZP	Steel L/D=~-3	○		●	●	●																			F36
			C...SWUB-EZP	Carbide L/D=~-5	○		●	●	●																			

Dynamic-Bars

Applications	Shape	Boring bar type	Shank type Max. Overhang Length (L/D)	Coolant hole		Min. Bore Dia. DMIN																						See Page for Toolholders
				Yes	No	5	6	7	8	10	12	13	14	16	18	20	22	23	25	26	27	30	31	32	34	40	50	
Copying		A...SDUC-AE	Excellent L/D~5.5	●										●	●		●		●			●			●			F66 F67 F68
		S...SDUC-A	Steel L/D~4	○										●	●		●		●			●			●			
		E...SDUC-A	Carbide L/D~7	●										●	●		●		●			●			●			
		A...SZLB-AE	Excellent L/D~5.5	●																		●			●	●		F109
		A...SDQC-AE	Excellent L/D~5.5	●										●	●		●		●			●						F70 F71 F72
		S...SDQC-A	Steel L/D~4	○										●	●		●		●			●						
		E...SDQC-A	Carbide L/D~7	●										●	●		●		●			●						
		A...SVJB(C)-AE	Excellent L/D~5.5	●											●		●		●			●				●	●	F90 F91
		A...SVJP-AE	Steel L/D~4	○											●		●		●			●				●	●	
		S...SVJB(C)-A	Steel L/D~4	○											●		●		●			●				●	●	
		A...SZJB-AE	Excellent L/D~5.5	●																		●	●			●		F106
		A...SZXB-AE	Excellent L/D~5.5	●																		●		●			●	F107
		A...SZQB-AE	Excellent L/D~5.5	●																		●		●			●	F108
		A...SVPC(B)-AE	Excellent L/D~5.5	●											●	●		●		●			●			●		F94 F95
		S...SVPC(B)-A	Steel L/D~4	○											●	●		●		●			●			●		
		E...SVPC(B)-A	Carbide L/D~7	●											●	●		●		●			●			●		
		A...SVUB(C)-AE	Excellent L/D~5.5	●											●	●		●		●					●	●		F96 F97
		S...SVUB(C)-A	Steel L/D~4	○											●	●		●		●					●	●		
		E...SVUB(C)-A	Carbide L/D~7	●											●	●		●		●			●		●			
Back copying		A...SDZC-AE	Excellent L/D~5.5	●											●	●		●		●			●			●		F74 F75 F76
		S...SDZC-A	Steel L/D~4	○											●	●		●		●			●			●		
		E...SDZC-A	Carbide L/D~7	●											●	●		●		●			●					
		A...SVZB(C)-AE	Excellent L/D~5.5	●											●	●		●		●					●	●		F98 F99
		S...SVZB(C)-A	Steel L/D~4	○											●	●		●		●					●	●		
		A...SZZB-AE	Excellent L/D~5.5	●																		●			●	●		F110

For Min. Bore Dia. DMIN, the figure under ● may be applied depending on the toolholder type.

F



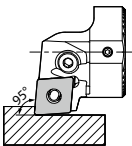
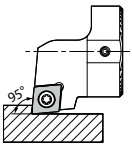
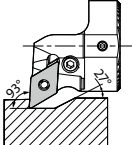
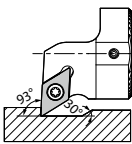
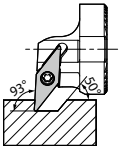
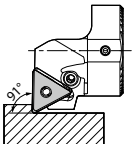
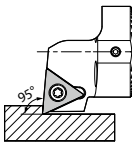
Boring

Boring bars

Applications	Boring bar type	Shape	Shank type Max. Overhang Length (L/D)	Coolant hole		Insert type	Min. Bore Dia. DMIN																	See Page for Toolholders
				Yes	No		5	6	7	8	10	12	14	16	18	20	25	30	32	40	50	63		
Boring / Internal Facing	A...DCLN12		Steel L/D≈3	●		Negative													●	●	●		F131	
	S...PCLN○○		Steel L/D≈3		○	Negative											●	● 27		●	●	●	F132	
	A...PCLN09		Steel L/D≈3	●		Negative											●	● 27		●				
	A...DWLN08		Steel L/D≈3	●		Negative														●	●	●	F148	
	S...PWLN○○		Steel L/D≈3		○	Negative												●	● 27		●	●	●	F146
	A...PWLN06		Steel L/D≈3	●		Negative												●	● 27		●			F146
	S...WWLN08-E		Excellent L/D≈5		○	Negative												●		●	●			F149
	C...STXP(B)		Carbide L/D≈7		○	Positive				● 7.5	● 9	● 11												F86
	C...SJLC		Carbide L/D≈7		○	Positive	● 5.5																	F78
Copying	S...STWP-E		Excellent L/D≈5		○	Positive					●		●		●	●		●					F84 F85	
	S...STWP		Steel L/D≈3		○	Positive					●		●		●	●								
	A...DDUN15		Steel L/D≈3	●		Negative															●	●	●	F136
	S...PDUN11		Steel L/D≈3		○	Negative												●		●	●			F134
	A...PDUN11		Steel L/D≈3	●		Negative												●		●	●			
	S...PDUN15		Steel L/D≈3		○	Negative														●	●	●		F138
	S...PDQN15		Steel L/D≈3		○	Negative															●	●	●	F139
Back copying	C...STZB		Carbide L/D≈7		○	Positive				● 8.5													F87	
	C...SJZC		Carbide L/D≈7		○	Positive	● 6.5																F79	
	S...PDZN15		Steel L/D≈3		○	Negative															●	● 44	● 54	F140
Boring	S...CTUP		Steel L/D≈3		○	Positive							●		●	● 27		●	● 34	● 43	●		F113	
	A...DTFN○○		Steel L/D≈3	●		Negative														●	●	●	F143	
	S...PTUN○○		Steel L/D≈3		○	Negative												●	●	●	●	●		F144
	A...PTUN11		Steel L/D≈3	●		Negative												●	●		●			
	A...DSKN12		Steel L/D≈3	●		Negative															●	●	●	F142
	S...SSKP		Steel L/D≈3		○	Positive													●					F111 F112
	S...CSKP		Steel L/D≈3		○	Positive													●	● 27		● 34		

For Min. Bore Dia. DMIN, the figure under ● may be applied depending on the toolholder type.

KAV series Interchangeable head boring bars with anti-vibration dampener system

Applications	Boring bar type	Shape	Shank type Max. Overhang Length (L/D)	Coolant hole		Insert type	Min. Bore Dia. DMIN																See Page for Toolholders
				Yes	No		7	8	10	12	14	16	18	20	25	30	32	40	43	50	63		
Boring / Internal facing	KAVH-PCLN		Anti-vibration Dampener System L/D= ~ 10	●		Negative														●	●	F118	
	KAVH-SCLC		Anti-vibration Dampener System L/D= ~ 10	●		Positive										●	●		●	●	●	F124	
Copying	KAVH-PDUN		Anti-vibration Dampener System L/D= ~ 10	●		Negative													●		●	F120	
	KAVH-SDUC		Anti-vibration Dampener System L/D= ~ 10	●		Positive										●	●		●	●	●	F125	
	KAVH-SVUB		Anti-vibration Dampener System L/D= ~ 10	●		Positive											●		●	●	●	F127	
Boring	KAVH-PTFN		Anti-vibration Dampener System L/D= ~ 10	●		Negative													●		●	F122	
	KAVH-STLP		Anti-vibration Dampener System L/D= ~ 10	●		Positive										●	●		●	●	●	F126	

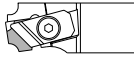
F



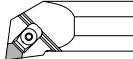
Boring

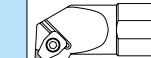
Boring Toolholders for Bearing Machining (Square shank)

Applications	Boring bar type	Shape	Min. Bore Dia. DMIN						See Page for Toolholders
			20	25	30	32	40	50	
Boring	SRCP-B		●			●			F114

Applications	Boring bar type	Shape	Min. Bore Dia. DMIN						See Page for Toolholders
			20	25	30	32	40	50	
Round-Chamfering	CBSN-B		●						F115

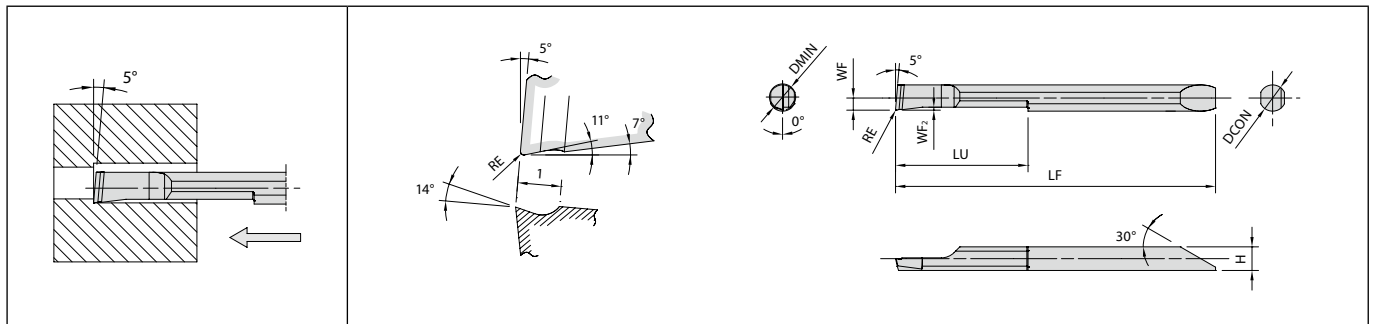
Boring Bars for Ceramic / Solid CBN Tools (L/D ~ 3)

Applications	Boring bar type	Shape	Min. Bore Dia. DMIN								See Page for Toolholders
			16	18	20	25	30	32	40	50	
Boring / Internal facing	S-CELN									●	F151
Boring	S-CTUP		●		●	●	●	●	●	●	F113
	S-CSKP				●	●	●	●	●	●	F112

Applications	Boring bar type	Shape	Min. Bore Dia. DMIN						See Page for Toolholders
			20	25	30	32	40	50	
Boring	S-CTUN-A				●				F152

For Min. Bore Dia. ϕA , the figure under ● may be applied depending on the toolholder type.

EZB-HP (H chipbreaker) (Boring)



Right-hand shown | Without lead angle | Tough edge (General purpose)

F

Dimensions

Description		No. of edges	Dimension (mm)								Tolerance (mm)			Carbide				Applicable sleeve 🔩 F38~F43
			DMIN	DCON	H	LF	LU	WF	WF ₂	RE	RE min.	RE max.	PVD		-			
													PR1225		PR1725	GW05		
													R	L	R	R		
EZB [®] /L	020020HP-008H	1	2	2	1.8	32	8	0.85	0.25	0.08	-0.015	+0.015	●	●	●	●	EZH020...	
EZB [®] /L	025025HP-008H	1	2.5	2.5	2.3	35	10.5	1.1	0.25	0.08	-0.015	+0.015	●	●	●	●	EZH025...	
	025025HP-015H									0.15	-0.02	+0.02	●		●			
EZB [®] /L	030030HP-008H	1	3	3	2.7	38.9	13	1.35	0.3	0.08	-0.015	+0.015	●	●	●	●	EZH030...	
	030030HP-015H									0.15	-0.02	+0.02	●		●			
EZB [®] /L	035035HP-008H	1	3.5	3.5	3.2	41.9	15	1.6	0.4	0.08	-0.015	+0.015	●	●	●	●	EZH035...	
	035035HP-015H									0.15	-0.02	+0.02	●		●			
EZB [®] /L	040040HP-008H	1	4	4	3.6	48.8	20	1.85	0.4	0.08	-0.015	+0.015	●	●	●	●	EZH040...	
	040040HP-015H									0.15	-0.02	+0.02	●		●			
EZB [®] /L	045045HP-008H	1	4.5	4.5	4.1	51.1	22.5	2.1	0.5	0.08	-0.015	+0.015	●	●	●	●	EZH045...	
	045045HP-015H									0.15	-0.02	+0.02	●		●			
EZB [®] /L	050050HP-008H	1	5	5	4.6	58.1	25	2.35	0.5	0.08	-0.015	+0.015	●	●	●	●	EZH050...	
	050050HP-015H									0.15	-0.02	+0.02	●		●			
EZB [®] /L	060060HP-008H	1	6	6	5.6	66.1	30	2.85	0.6	0.08	-0.015	+0.015	●	●	●	●	EZH060...	
	060060HP-015H									0.15	-0.02	+0.02	●		●			
EZB [®] /L	070070HP-008H	1	7	7	6.3	73.8	35	3.3	0.7	0.08	-0.015	+0.015	●	●	●	●	EZH070...	
	070070HP-015H									0.15	-0.02	+0.02	●		●			
EZB [®] /L	080080HP-008H	1	8	8	7.2	84.8	40	3.75	0.8	0.08	-0.015	+0.015	●	●	●	●	EZH080...	
	080080HP-015H									0.15	-0.02	+0.02	●		●			

Tolerance : Offset ± 0.025 mm (of the reference pin), overall length ± 0.05 mm, edge height $+0.05/0$ mm

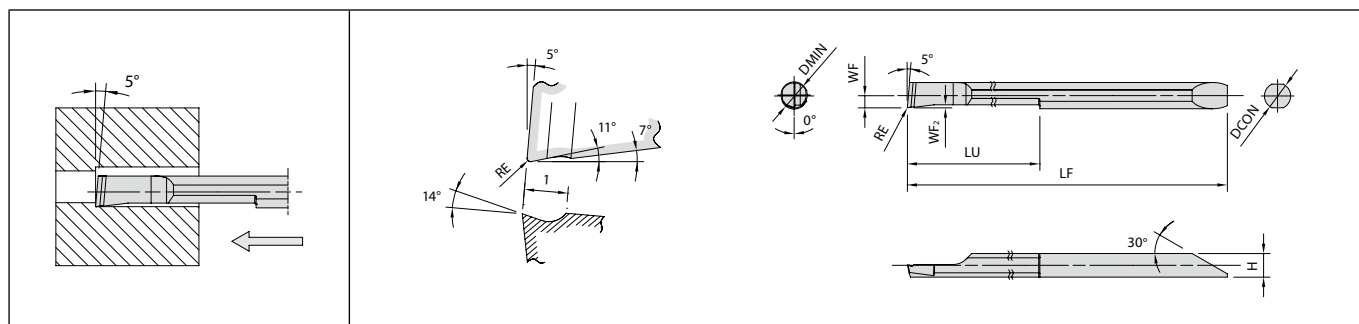
Recommended cutting conditions F23

EZ Bars Identification System

EZ	B	R	020	020	HP	-	008	H
Symbol of EZ Bars	Applications	Insert Hand	Min. Bore Dia.	Shank Dia.	Symbol of Precision		Corner-R(RE)	Name of Chipbreaker
	B : Boring Bars	R : Right-hand	020 : 2mm	020 : 2mm	HP : High Precision		008 : 0.08mm	H : Without lead angle
		L : Left-hand	025 : 2.5mm	025 : 2.5mm	ST : Standard		015 : 0.15mm	G : With lead angle
			⋮	⋮			⋮	F : With lead angle
								NB : Without chipbreaker

● : Standard item

EZ bars are
sold in 1 piece boxes

EZB-HP-LT (H chipbreaker) (Boring)

Right-hand shown | Without lead angle | Tough edge (General purpose)

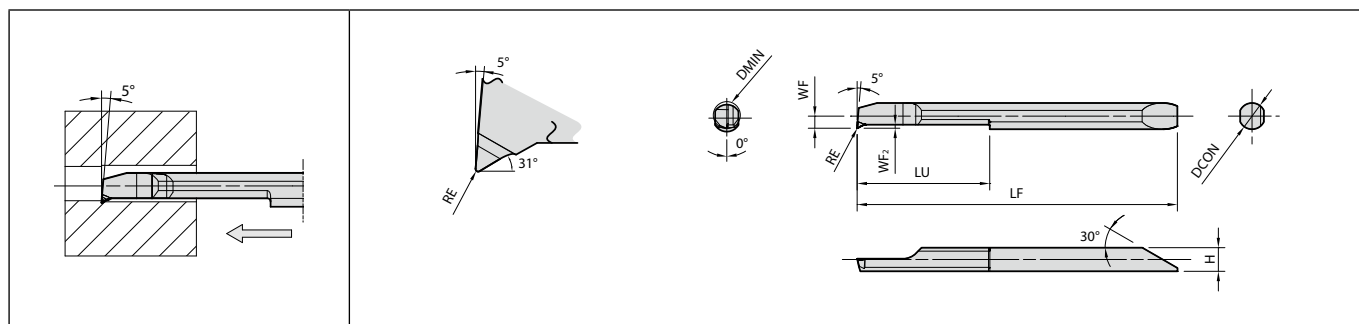
Dimensions

Description	No. of edges	Dimension (mm)								Overhang length (mm)				Tolerance (mm)		Carbide	Applicable sleeve F38~F43
		DMIN	DCON	H	LF	LU	WF	WF ₂	RE	#1	#2	#3	#4	RE min.	RE max.	PVD	
																PR1225	
																R	
EZBR 020020HP-008H-LT 025025HP-008H-LT 030030HP-008H-LT 035035HP-008H-LT 040040HP-008H-LT 050050HP-008H-LT 060060HP-008H-LT	1	2	2	1.8	36	12	0.85	0.25	0.08	12.5	8.5	-	-	-0.015	+0.015	●	EZH020...
	1	2.5	2.5	2.3	39.5	15	1.1			15.5	11.5	-	-			●	EZH025...
	1	3	3	2.7	47.9	18	1.35	0.3		22.5	18.5	14.5	-			●	EZH030...
	1	3.5	3.5	3.2	51.9	21	1.6	0.4		25.5	21.5	17.5	-			●	EZH035...
	1	4	4	3.6	60.8	28	1.85			32.5	28.5	24.5	20.5			●	EZH040...
	1	5	5	4.6	73.1	35	2.35	0.5		40.5	35.5	30.5	25.5			●	EZH050...
	1	6	6	5.6	83.1	42	2.85	0.6		47.5	42.5	37.5	32.5			●	EZH060...

Tolerance : Offset ± 0.025 mm (of the reference pin), overall length ± 0.05 mm, edge height $+0.05/0$ mm
 EZBR..H-LT : Inserts need to be modified for overhang length #1 in italics (DCON = 3 - 6 mm).

Recommended cutting conditions **F23**

EZB-HP (G chipbreaker) (Boring)



Right-hand shown | With lead angle | Chip control oriented

F

Dimensions

Description	No. of edges	Dimension (mm)								Tolerance (mm)			Carbide	Applicable sleeve 🔌 F38~F43
		DMIN	DCON	H	LF	LU	WF	WF ₂	RE	RE min.	RE max.	PVD		
												PR1725		
												R		
EZBR 020020HP-005G	1	2	2	1.65	31.8	8	0.55	0.25	0.05	-0.01	+0.01	●	EZH020...	
EZBR 025025HP-005G	1	2.5	2.5	2.15	34.8	10.5	0.8	0.3	0.05	-0.01	+0.01	●	EZH025...	
025025HP-015G									0.15	-0.02	+0.02	●		
EZBR 030030HP-005G	1	3	3	2.5	38.7	13	1.05	0.4	0.05	-0.01	+0.01	●	EZH030...	
030030HP-015G									0.15	-0.02	+0.02	●		
EZBR 035035HP-005G	1	3.5	3.5	3	41.7	15	1.3	0.5	0.05	-0.01	+0.01	●	EZH035...	
035035HP-015G									0.15	-0.02	+0.02	●		
EZBR 040040HP-005G	1	4	4	3.45	48.7	20	1.55	0.5	0.05	-0.01	+0.01	●	EZH040...	
040040HP-015G									0.15	-0.02	+0.02	●		
EZBR 045045HP-005G	1	4.5	4.5	3.95	50.9	22.5	1.8	0.7	0.05	-0.01	+0.01	●	EZH045...	
045045HP-015G									0.15	-0.02	+0.02	●		
EZBR 050050HP-005G	1	5	5	4.3	57.8	25	2.05	0.7	0.05	-0.01	+0.01	●	EZH050...	
050050HP-015G									0.15	-0.02	+0.02	●		
EZBR 060060HP-005G	1	6	6	5.15	65.7	30	2.55	0.9	0.05	-0.01	+0.01	●	EZH060...	
060060HP-015G									0.15	-0.02	+0.02	●		
EZBR 070070HP-005G	1	7	7	6.15	73.7	35	3.05	1	0.05	-0.01	+0.01	●	EZH070...	
070070HP-015G									0.15	-0.02	+0.02	●		
EZBR 080080HP-005G	1	8	8	7.1	84.8	40	3.55	1	0.05	-0.01	+0.01	●	EZH080...	
080080HP-015G									0.15	-0.02	+0.02	●		

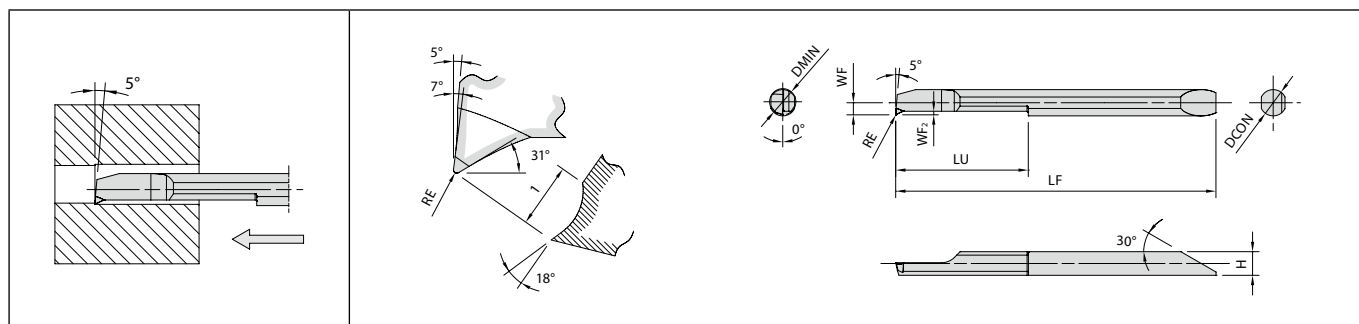
Tolerance : Offset ± 0.025 mm (of the reference pin), overall length ± 0.05 mm, edge height $+0.05/0$ mm

Recommended cutting conditions F23

● : Standard item

EZ bars are
sold in 1 piece boxes

EZB-HP (F chipbreaker) (Boring)



Right-hand shown | With lead angle | Sharp cutting (For finishing)

Dimensions

Description	No. of edges	Dimension (mm)								Tolerance (mm)		Carbide		Applicable sleeve 🌀 F38~F43
		DMIN	DCON	H	LF	LU	WF	WF ₂	RE	RE min.	RE max.	PVD		
												PR1225	PR1725	
EZBR 020020HP-005F	1	2	2	1.8	32	8	0.85	0.25	0.05	-0.01	+0.01	●	●	EZH020...
EZBR 025025HP-005F 025025HP-015F	1	2.5	2.5	2.3	35	10.5	1.1	0.3	0.05	-0.01	+0.01	●	●	EZH025...
									0.15	-0.02	+0.02	●	●	
EZBR 030030HP-005F 030030HP-015F	1	3	3	2.7	38.9	13	1.35	0.4	0.05	-0.01	+0.01	●	●	EZH030...
									0.15	-0.02	+0.02	●	●	
EZBR 035035HP-005F 035035HP-015F	1	3.5	3.5	3.2	41.9	15	1.6	0.5	0.05	-0.01	+0.01	●	●	EZH035...
									0.15	-0.02	+0.02	●	●	
EZBR 040040HP-005F 040040HP-015F	1	4	4	3.6	48.8	20	1.85	0.5	0.05	-0.01	+0.01	●	●	EZH040...
									0.15	-0.02	+0.02	●	●	
EZBR 045045HP-005F 045045HP-015F	1	4.5	4.5	4.1	51.1	22.5	2.1	0.7	0.05	-0.01	+0.01	●	●	EZH045...
									0.15	-0.02	+0.02	●	●	
EZBR 050050HP-005F 050050HP-015F	1	5	5	4.6	58.1	25	2.35	0.7	0.05	-0.01	+0.01	●	●	EZH050...
									0.15	-0.02	+0.02	●	●	
EZBR 060060HP-005F 060060HP-015F	1	6	6	5.6	66.1	30	2.85	0.9	0.05	-0.01	+0.01	●	●	EZH060...
									0.15	-0.02	+0.02	●	●	
EZBR 070070HP-005F 070070HP-015F	1	7	7	6.3	73.8	35	3.3	1	0.05	-0.01	+0.01	●	●	EZH070...
									0.15	-0.02	+0.02	●	●	
EZBR 080080HP-005F 080080HP-015F	1	8	8	7.2	84.8	40	3.75	1	0.05	-0.01	+0.01	●	●	EZH080...
									0.15	-0.02	+0.02	●	●	

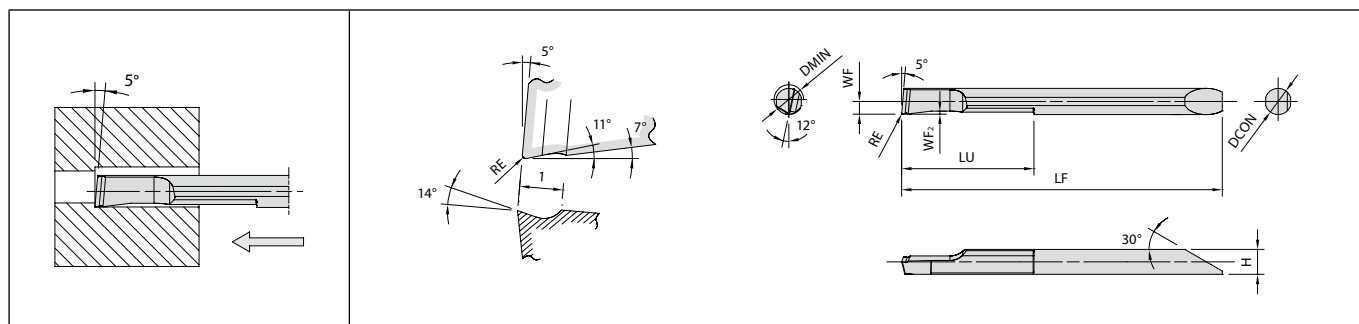
Tolerance : Offset ± 0.025 mm (of the reference pin), overall length ± 0.05 mm, edge height $+0.05/0$ mm

Recommended cutting conditions F23

● : Standard item

EZ bars are
sold in 1 piece boxes

EZB-ST (H chipbreaker) (Boring)



Right-hand shown | Without lead angle | Tough edge (General purpose)

F

Dimensions

Description	No. of edges	Dimension (mm)								Tolerance (mm)			Carbide		Applicable sleeve 🌀 F38~F43
		DMIN	DCON	H	LF	LU	WF	WF ₂	RE	RE min.	RE max.	PVD			
												PR1225	PR1725		
												R	R		
EZBR 020017ST-008H	1	2	1.7	1.5	27.3	7	0.79	0.19	0.08	-0.015	+0.015	●	●	EZH017...	
EZBR 025020ST-008H 025020ST-015H	1	2.5	2	1.82	32	8	0.94	0.16	0.08	-0.015	+0.015	●	●	EZH020...	
									0.15	-0.02	+0.02	●	●		
EZBR 030025ST-008H 030025ST-015H	1	3	2.5	2.3	35	10.5	1.19	0.15	0.08	-0.015	+0.015	●	●	EZH025...	
									0.15	-0.02	+0.02	●	●		
EZBR 035030ST-008H 035030ST-015H	1	3.5	3	2.8	39	13	1.44	0.18	0.08	-0.015	+0.015	●	●	EZH030...	
									0.15	-0.02	+0.02	●	●		
EZBR 040035ST-008H 040035ST-015H	1	4	3.5	3.3	42	15	1.69	0.24	0.08	-0.015	+0.015	●	●	EZH035...	
									0.15	-0.02	+0.02	●	●		
EZBR 045040ST-008H 045040ST-015H	1	4.5	4	3.8	49	20	1.94	0.27	0.08	-0.015	+0.015	●	●	EZH040...	
									0.15	-0.02	+0.02	●	●		
EZBR 055050ST-008H 055050ST-015H	1	5.5	5	4.8	58.2	25	2.44	0.33	0.08	-0.015	+0.015	●	●	EZH050...	
									0.15	-0.02	+0.02	●	●		
EZBR 065060ST-008H 065060ST-015H	1	6.5	6	5.8	66.2	30	2.94	0.38	0.08	-0.015	+0.015	●	●	EZH060...	
									0.15	-0.02	+0.02	●	●		
EZBR 075070ST-008H 075070ST-015H	1	7.5	7	6.8	74.2	35	3.44	0.44	0.08	-0.015	+0.015	●	●	EZH070...	
									0.15	-0.02	+0.02	●	●		

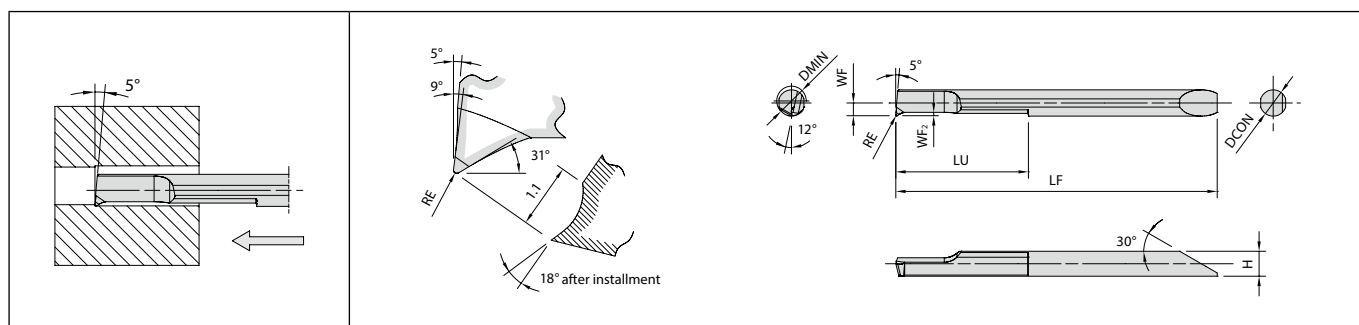
Tolerance : Offset ± 0.06 mm , overall length ± 0.1 mm, edge height $+0.06/0$ mm

Recommended cutting conditions F23

● : Standard item

EZ bars are
sold in 1 piece boxes

EZB-ST (F chipbreaker) (Boring)



Right-hand shown | With lead angle | Sharp cutting (For finishing)

Dimensions

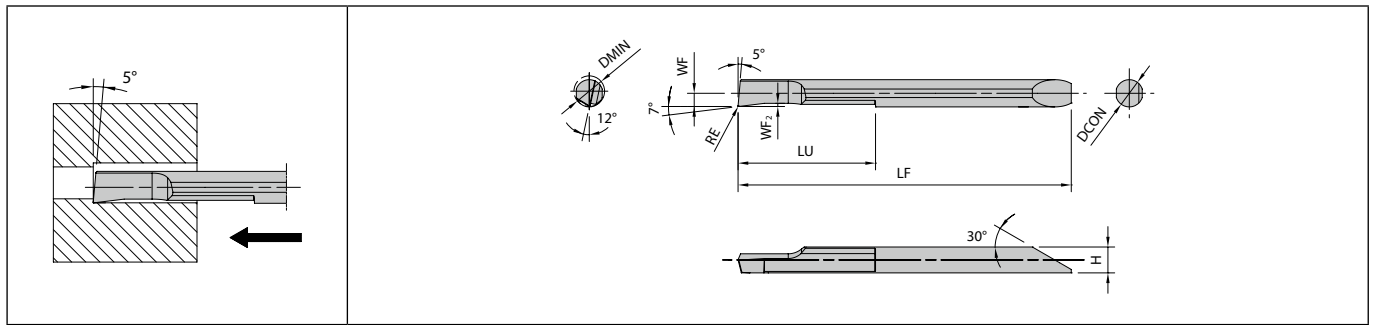
Description	No. of edges	Dimension (mm)									Tolerance (mm)			Carbide		Applicable sleeve 🔩 F38~F43
		DMIN	DCON	H	LF	LU	WF	WF ₂	RE	RE min.	RE max.	PVD				
												PR1225	PR1725			
												R	R			
EZBR 020017ST-005F	1	2	1.7	1.5	27.3	7	0.79	0.2	0.05	-0.01	+0.01	●	●	EZH017...		
EZBR 025020ST-005F 025020ST-015F	1	2.5	2	1.82	32	8	0.94	0.16	0.05 0.15	-0.01 -0.02	+0.01 +0.02	● ●	● ●	EZH020...		
EZBR 030025ST-005F 030025ST-015F	1	3	2.5	2.3	35	10.5	1.19	0.2	0.05 0.15	-0.01 -0.02	+0.01 +0.02	● ●	● ●	EZH025...		
EZBR 035030ST-005F 035030ST-015F	1	3.5	3	2.8	39	13	1.44	0.26	0.05 0.15	-0.01 -0.02	+0.01 +0.02	● ●	● ●	EZH030...		
EZBR 040035ST-005F 040035ST-015F	1	4	3.5	3.3	42	15	1.69	0.33	0.05 0.15	-0.01 -0.02	+0.01 +0.02	● ●	● ●	EZH035...		
EZBR 045040ST-005F 045040ST-015F	1	4.5	4	3.8	49	20	1.94	0.31	0.05 0.15	-0.01 -0.02	+0.01 +0.02	● ●	● ●	EZH040...		
EZBR 055050ST-005F 055050ST-015F	1	5.5	5	4.8	58.2	25	2.44	0.45	0.05 0.15	-0.01 -0.02	+0.01 +0.02	● ●	● ●	EZH050...		
EZBR 065060ST-005F 065060ST-015F	1	6.5	6	5.8	66.2	30	2.94	0.59	0.05 0.15	-0.01 -0.02	+0.01 +0.02	● ●	● ●	EZH060...		
EZBR 075070ST-005F 075070ST-015F	1	7.5	7	6.8	74.2	35	3.44	0.65	0.05 0.15	-0.01 -0.02	+0.01 +0.02	● ●	● ●	EZH070...		

Tolerance : Offset ± 0.06 mm , overall length ± 0.1 mm, edge height $+0.06/0$ mm

Recommended cutting conditions F23

● : Standard item

EZ bars are
sold in 1 piece boxes

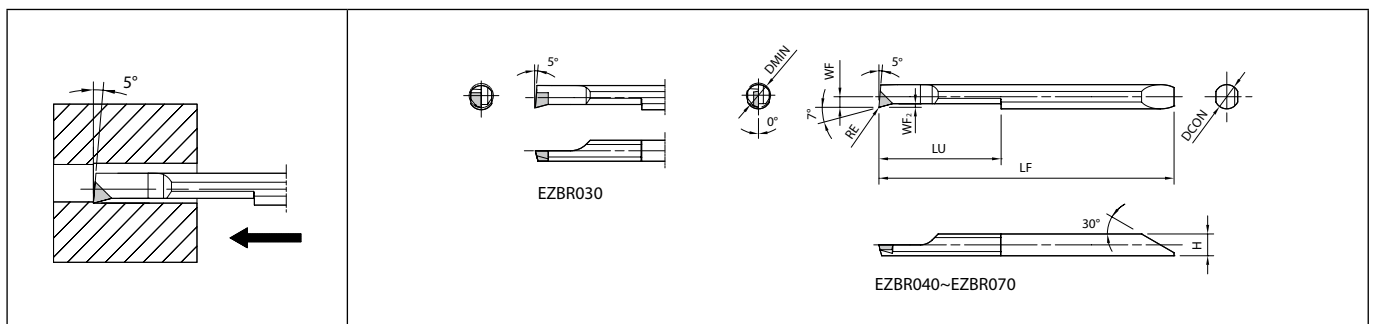
EZB-NB (Boring)

Right-hand shown

F**Dimensions**

Description	No. of edges	Dimension (mm)									Tolerance (mm)		Carbide		Applicable sleeve F38~F43
		DMIN	DCON	H	LF	LU	WF	WF ₂	RE	RE min.	RE max.		PVD	-	
													PR1225	GW05	
													R	R	
EZBR 020017-005NB	1	2	1.7	1.5	27.3	7	0.79	0.2	0.05	-0.015	+0.015	●	●	●	EZH017...
EZBR 025020-005NB	1	2.5	2	1.82	32	8	0.94	0.16	0.05	-0.015	+0.015	●	●	●	EZH020...
EZBR 030025-005NB	1	3	2.5	2.3	35	10.5	1.19	0.16	0.05	-0.015	+0.015	●	●	●	EZH025...
EZBR 035030-005NB	1	3.5	3	2.8	39	13	1.44	0.19	0.05	-0.015	+0.015	●	●	●	EZH030...
EZBR 040035-005NB	1	4	3.5	3.3	42	15	1.69	0.25	0.05	-0.015	+0.015	●	●	●	EZH035...
EZBR 045040-005NB	1	4.5	4	3.8	49	20	1.94	0.28	0.05	-0.015	+0.015	●	●	●	EZH040...
EZBR 055050-005NB	1	5.5	5	4.8	58.2	25	2.44	0.33	0.05	-0.015	+0.015	●	●	●	EZH050...
EZBR 065060-005NB	1	6.5	6	5.8	66.2	30	2.94	0.39	0.05	-0.015	+0.015	●	●	●	EZH060...
EZBR 075070-005NB	1	7.5	7	6.8	74.2	35	3.44	0.45	0.05	-0.015	+0.015	●	●	●	EZH070...

Recommended cutting conditions F23

EZB-NB (Boring)

Right-hand shown

Dimensions

Description	No. of edges	Dimension (mm)									Tolerance (mm)		CBN	PCD	Applicable sleeve F38~F43
		DMIN	DCON	H	LF	LU	WF	WF ₂	RE	RE min.	RE max.		PVD	-	
													KBN05M	KPD001	
													R	R	
EZBR 030030-003NB	1	3	3	2.6	38.8	13	1.25	0.3	0.035	-0.015	+0.015	●	●	●	EZH030...
EZBR 040040-003NB	1	4	4	3.6	48.8	20	1.75	0.5	0.035	-0.015	+0.015	●	●	●	EZH040...
EZBR 050050-003NB	1	5	5	4.6	58.1	25	2.25	0.5	0.035	-0.015	+0.015	●	●	●	EZH050...
EZBR 060060-003NB	1	6	6	5.6	66.1	30	2.75	0.5	0.035	-0.015	+0.015	●	●	●	EZH060...
EZBR 070070-003NB	1	7	7	6.6	74.1	35	3.25	0.5	0.035	-0.015	+0.015	●	●	●	EZH070...

KBN05M edge preparation : T00815 (0.08mm x 15° Chamfered cutting edge)

KPD001 edge preparation : F (Sharp edge)

Recommended cutting conditions F23

● : Standard item

EZ bars are
sold in 1 piece boxes

Recommended cutting conditions

H chipbreaker (EZB-HP-H type / EZB-ST-H type)

Workpiece material	Insert grades Vc: m/min			EZB020/025		EZB030/035		EZB040/045		EZB050/055/ 060/065/070/075/080		Remarks
	MEGACOAT NANO PLUS	MEGACOAT	Carbide	ap (mm), f (mm/rev)								
	PR1725	PR1225	GW05	ap	f	ap	f	ap	f	ap	f	
Carbon steel / Alloy steel	30~120	30~100	-	~0.3	~0.03	~0.4	~0.04	~0.45	~0.07	~0.5	~0.1	Coolant
Stainless steel	30~100	30~80	-	~0.2	~0.02	~0.3	~0.03	~0.35	~0.05	~0.4	~0.07	
Non-ferrous metals	-	-	~100	~0.3	~0.05	~0.4	~0.06	~0.45	~0.1	~0.5	~0.15	

H chipbreaker (EZB-HP-H-LT type (Long type))

Workpiece material	Insert grades Vc: m/min	EZB020/025/030/035		EZB040/050/060		Remarks
	MEGACOAT	ap (mm), f (mm/rev)				
	PR1225	ap	f	ap	f	
Carbon steel / Alloy steel	30~60	~0.3	~0.05	~0.4	~0.1	Coolant
Stainless steel	20~40	~0.25	~0.05	~0.3	~0.07	

G chipbreaker

Workpiece material	Insert grades Vc: m/min	EZB020/025		EZB030/035		EZB040/045/050/060/070/080		Remarks
	MEGACOAT NANO PLUS	ap (mm), f (mm/rev)						
	PR1725	ap	f	ap	f	ap	f	
Carbon steel / Alloy steel	30~120	~0.25	~0.03	~0.3	~0.05	~0.35	~0.07	Coolant
Stainless steel	30~100	~0.2	~0.02	~0.25	~0.03	~0.3	~0.05	

F chipbreaker (EZB-HP-F type / EZB-ST-F type)

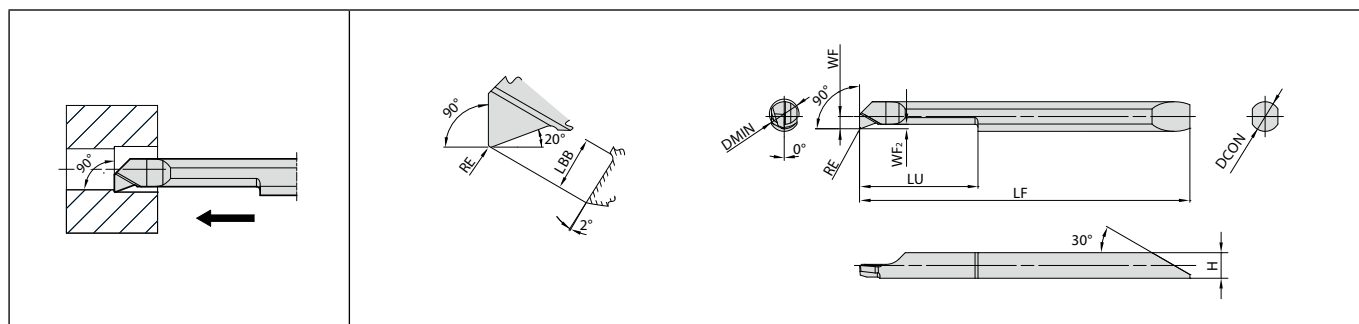
Workpiece material	Insert grades Vc: m/min		EZB020/025		EZB030/035		EZB040/045		EZB050/055/060/ 065/070/075/080		Remarks
	MEGACOAT NANO PLUS	MEGACOAT	ap (mm), f (mm/rev)								
	PR1725	PR1225	ap	f	ap	f	ap	f	ap	f	
Carbon steel / Alloy steel	30~120	30~100	~0.2	~0.03	~0.2	~0.05	~0.3	~0.07	~0.3	~0.07	Coolant
Stainless steel	30~100	30~80	~0.2	~0.02	~0.2	~0.03	~0.25	~0.05	~0.25	~0.05	

NB (Without chipbreaker)

Workpiece material	Insert grades Vc: m/min		EZB020/025		EZB030/035		EZB040/045		EZB055/ 065/075		Remarks
	MEGACOAT	Carbide	ap (mm), f (mm/rev)								
	PR1225	GW05	ap	f	ap	f	ap	f	ap	f	
Carbon steel / Alloy steel	30~100	-	~0.3	~0.03	~0.4	~0.04	~0.45	~0.07	~0.5	~0.1	Coolant
Stainless steel	30~80	-	~0.2	~0.02	~0.3	~0.03	~0.35	~0.05	~0.4	~0.07	
Non-ferrous metals	-	~100	~0.3	~0.05	~0.4	~0.06	~0.45	~0.07	~0.5	~0.1	

Workpiece material	Insert grades Vc: m/min		EZB030		EZB040/045		EZB050/060/070		Remarks
	MEGACOAT CBN	PCD	ap (mm), f (mm/rev)						
	KBN05M	KPD001	ap	f	ap	f	ap	f	
Non-ferrous metals	-	~300	-	-	~0.45	~0.1	~0.5	~0.15	Coolant
Hard materials	~100	-	~0.07	~0.03	~0.10	~0.05	~0.15	~0.07	



EZBF (Boring, 90° Lead angle)

Right-hand shown

Dimensions

Description	No. of edges	Dimension (mm)										Tolerance (mm)		Carbide	Applicable sleeve ➡ F38~F43
		DMIN	DCON	H	LBB	LF	LU	WF	WF ₂	RE	RE min.	RE max.		PVD	
														PR1225	
														R	
EZBFR 030030-008	1	3	3	2.5	1.5	37.7	12	1.2	0.45	0.08	-0.015	+0.015	●		EZH030...
EZBFR 040040-008	1	4	4	3.45	2	44.6	16	1.65	0.55	0.08	-0.015	+0.015	●		EZH040...
EZBFR 050050-015	1	5	5	4.3	2.4	52.7	20	2.15	0.7	0.15	-0.02	+0.02	●		EZH050...
EZBFR 060060-015	1	6	6	5.15	2.8	59.6	24	2.55	0.85	0.15	-0.02	+0.02	●		EZH060...

Recommended cutting conditions

Workpiece material	Insert grades (Cutting Speed Vc : m/min)	EZBFR030030-008		EZBFR040040-008		EZBFR050050/ 060060-015		Remarks
	MEGACOAT	ap (mm), f (mm/rev)						
	PR1225	ap	f	ap	f	ap	f	
Carbon steel / Alloy steel	30~100	~0.2	~0.05	~0.3	~0.05	~0.5	~0.05	Coolant
Stainless steel	30~80	~0.2	~0.05	~0.3	~0.05	~0.5	~0.05	

● : Standard item

EZ bars are
sold in 1 piece boxes

Precautions

✓ Recommended ✗ Not Recommended

1. Machining in blind hole is not recommended



2. If front cutting edge exceeds beyond workpiece center line, fracturing may occur

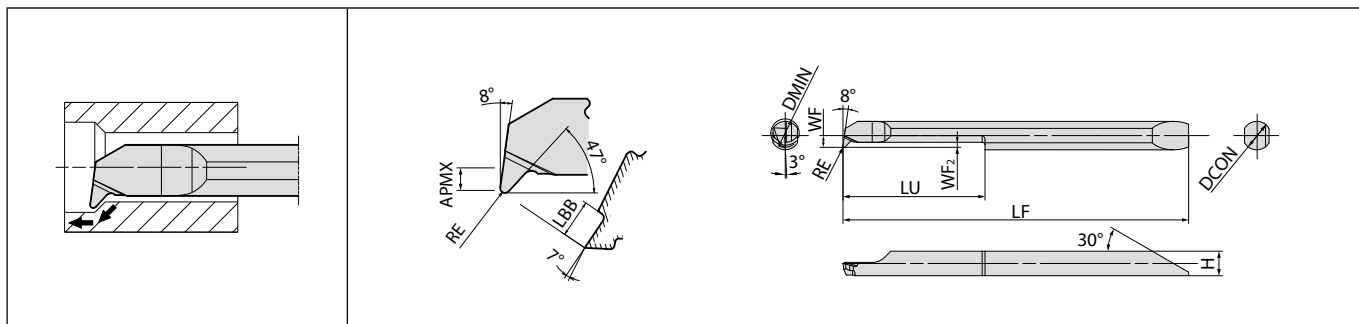


Min boring diameter of $\varnothing 4$: 1.9 mm front cutting edge length

Off-center Boring

3. Up facing is not recommended



EZBP (Internal copying)

Right-hand shown

F**Dimensions**

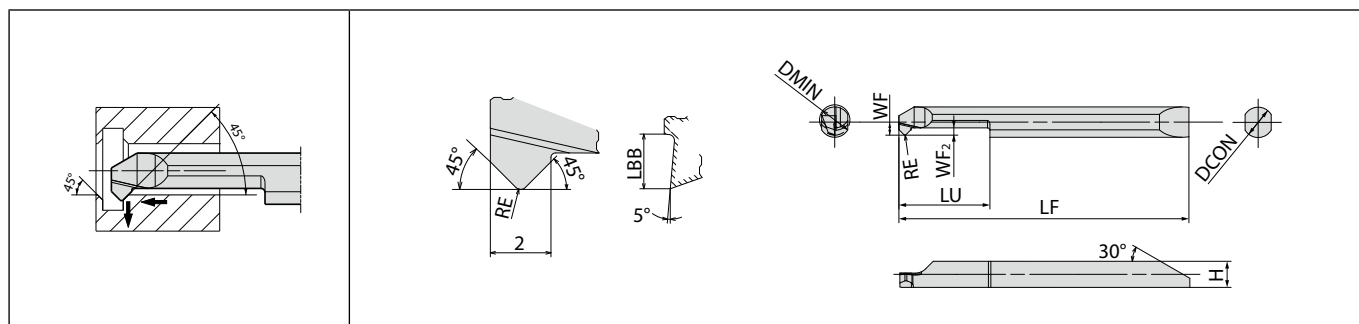
Description	No. of edges	Dimension (mm)										Tolerance (mm)		Carbide	Applicable sleeve ➡ F38~F43
		DMIN	DCON	H	LBB	LF	LU	WF	WF ₂	APMX	RE	RE min.	RE max.	PVD	
														PR1225	
														R	
EZBPR 020020-005-08 020020-005-10 020020-005-12	1	2	2	1.65	1	31.8 33.8 35.8	8 10 12	0.55	0.35	0.3	0.05	-0.01	+0.01	● ● ●	EZH020...
EZBPR 030030-005-12 030030-005-15	1	3	3	2.5	1.2	37.7 40.7	12 15	1.05	0.45	0.4	0.05	-0.01	+0.01	● ●	EZH030...
EZBPR 040040-015	1	4	4	3.45	1.5	48.7	20	1.65	0.65	0.6	0.15	-0.02	+0.02	●	EZH040...
EZBPR 050050-015	1	5	5	4.3	2.2	57.8	25	2	1.1	0.8	0.15	-0.02	+0.02	●	EZH050...
EZBPR 060060-015	1	6	6	5.15	2.5	65.7	30	2.45	1.35	1	0.15	-0.02	+0.02	●	EZH060...

Recommended cutting conditions

Workpiece material	Insert grades (Cutting Speed Vc : m/min)	EZBPR020		EZBPR030		EZBPR040		EZBPR050		EZBPR060		Remarks
	MEGACOAT	ap (mm), f (mm/rev)										
	PR1225	ap	f	ap	f	ap	f	ap	f	ap	f	
Carbon steel / Alloy steel	30~100	~0.3	~0.05	~0.4	~0.05	~0.6	~0.05	~0.8	~0.05	~1.0	~0.05	Coolant
Stainless steel	30~80	~0.3	~0.05	~0.4	~0.05	~0.6	~0.05	~0.8	~0.05	~1.0	~0.05	

● : Standard item

EZ bars are
sold in 1 piece boxes

EZBC (Internal chamfering)

Right-hand shown

Dimensions

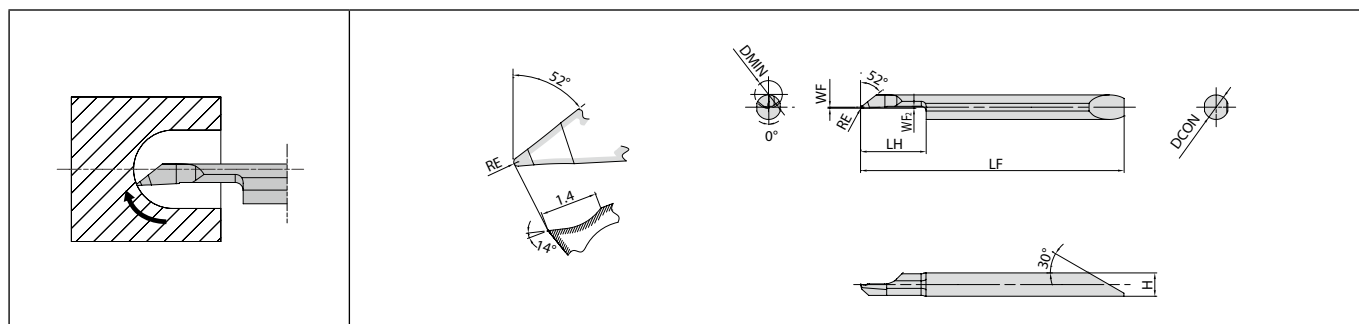
Description	No. of edges	Dimension (mm)										Tolerance (mm)		Carbide	Applicable sleeve F39 F41 F43
		DMIN	DCON	H	LBB	LF	LU	WF	WF ₂	RE	RE min.	RE max.		PVD	
														PR1225	
														R	
EZBCR 050050-020-15 050050-020-20	1	5	5	4.3	1.8	47.8 52.8	15 20	2.15	1.2	0.2	-0.02	+0.02	●		EZH050...
EZBCR 060060-020-18 060060-020-24	1	6	6	5.15	2.5	53.7 59.7	18 24	2.65	1.9	0.2	-0.02	+0.02	●		EZH060...
EZBCR 070070-020-21 070070-020-42	1	7	7	6.2	3.1	59.7 80.7	21 42	3	2.5	0.2	-0.02	+0.02	●		EZH070...

Recommended cutting conditions

Workpiece material	Insert grades (Cutting Speed Vc : m/min)	EZBCR050		EZBCR060		EZBCR070		Remarks
	MEGACOAT	ap (mm), f (mm/rev)						
	PR1225	ap	f	ap	f	ap	f	
Carbon steel / Alloy steel	30~100	~0.7	~0.06	~0.7	~0.06	~0.7	~0.06	Coolant
Stainless steel	30~80	~0.7	~0.06	~0.7	~0.06	~0.7	~0.06	

● : Standard item

EZ bars are
sold in 1 piece boxes

EZVB (Boring / Internal facing / Internal copying)

Right-hand shown

F**Dimensions**

Description	No. of edges	Dimension (mm)										Tolerance (mm)		Carbide	Applicable sleeve F38~F43
		DMIN	DCON	H	LH	H	LF	WF	WF ₂	RE	RE min.	RE max.		PVD	
														PR1225	
														R	
EZVBR 035030-010	1	3.5	3	2.8	8	2.8	38	0.17	0.22	0.1	-0.015	+0.015	●	EZH030...	
EZVBR 045040-010	1	4.5	4	3.8	10	3.8	43		0.26				●	EZH040...	
EZVBR 055050-010	1	5.5	5	4.8	12	4.8	50.2		0.29				●	EZH050...	
EZVBR 065060-010	1	6.5	6	5.8	14	5.8	55.2		0.32				●	EZH060...	

Recommended cutting conditions

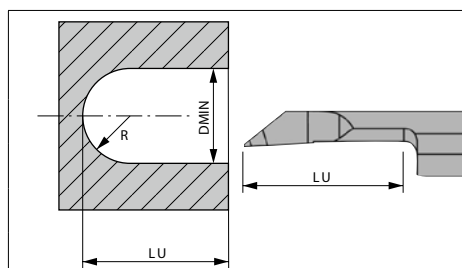
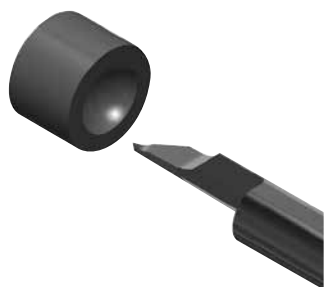
Workpiece material	Insert grades Vc: m/min	EZVBR035		EZVBR045		EZVBR055/065		Remarks
	MEGACOAT	ap (mm), f (mm/rev)						
	PR1225	ap	f	ap	f	ap	f	
Carbon steel / Alloy steel	30~100	~0.05	~0.04	~0.07	~0.07	~0.1	~0.07	Coolant
Stainless steel	30~80	~0.03	~0.03	~0.05	~0.05	~0.07	~0.05	

● : Standard item

EZ bars are
sold in 1 piece boxes

Application of EZVB

1. Application range

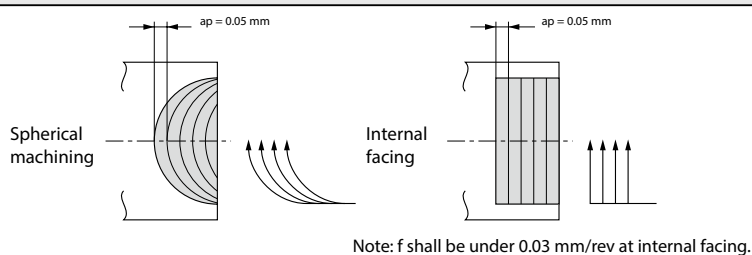


(mm)

Description	DMIN	R	LU
EZVBR 035030-010	3.5	1.75	8
EZVBR 045040-010	4.5	2.25	10
EZVBR 055050-010	5.5	2.75	12
EZVBR 065060-010	6.5	3.25	14

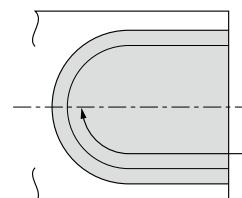
2. Application

Case with no existing hole

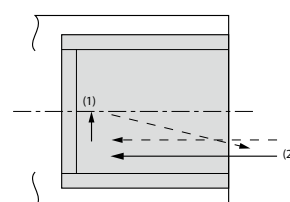


Finishing

Spherical machining

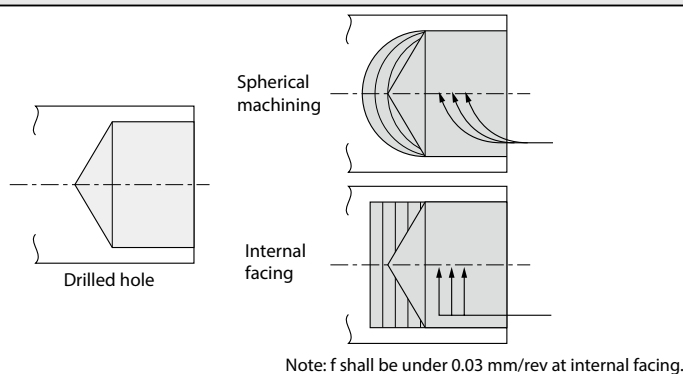


Internal facing

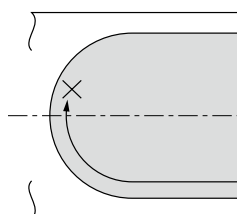


Machining process
1. Finish the internal face first.
2. Next, finish the internal diameter.

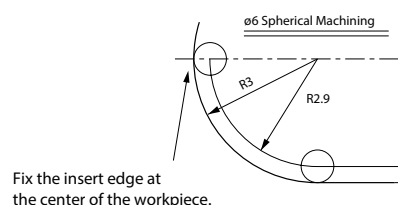
Case with drilled hole



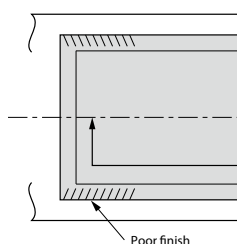
3. Caution



When machining past the center of the workpiece, insert may break.

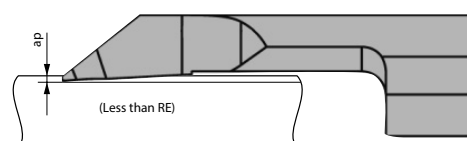


Adjust the machining program to radius minus the value of RE.



This type of machining is possible, but the chips might scratch the surface.

For internal profiling, ap should be less than the value of RE.

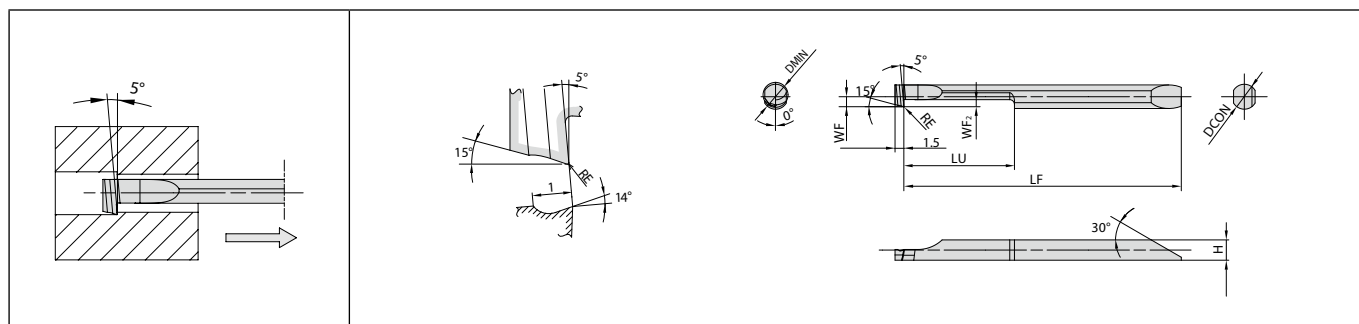


(Burs may occur, if ap is bigger than RE)

F



Boring

EZBT (Back boring)

Right-hand shown

F**Dimensions**

Description	No. of edges	Dimension (mm)								Tolerance (mm)		Carbide		Applicable sleeve ➔ F39 F41 F43
		DMIN	DCON	H	LF	LU	WF	WF ₂	RE	RE min.	RE max.	PVD	-	
												PR1225	GW05	
												R	R	
EZBTR 040040-005	1	4	4	3.45	47.2	18.5	1.7	1.2	0.05	-0.02	0	●	●	EZH040...
EZBTR 050050-005	1	5	5	4.3	57.2	23.5	2.15	1.5	0.05	-0.02	0	●	●	EZH050...

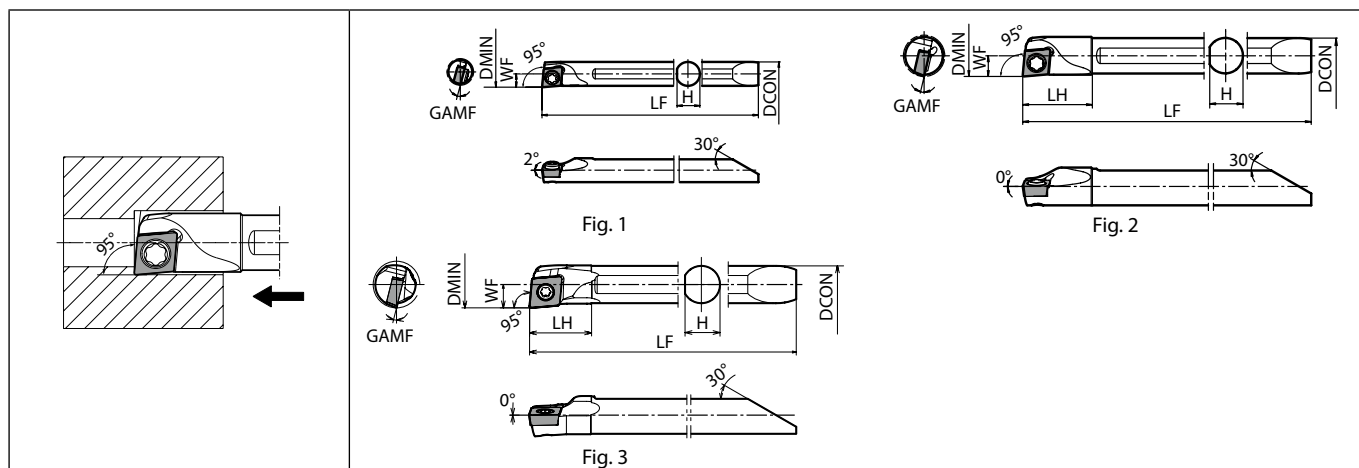
Recommended cutting conditions

Workpiece material	Insert grades (Cutting Speed Vc: m/min)		EZBTR040040-005		EZBTR050050-005		Remarks
	MEGACOAT	Carbide	ap (mm), f (mm/rev)				
	PR1225	GW05	ap	f	ap	f	
Carbon steel / Alloy steel	★ 30-100	—	~0.45	~0.07	~0.5	~0.1	Coolant
Stainless steel	★ 30-80	—	~0.45	~0.05	~0.5	~0.07	
Non-Ferrous metals	—	★ 30-100	~0.45	~0.1	~0.5	~0.15	

★ : 1st Recommendation

● : Standard item

EZ bars are
sold in 1 piece boxes**F30**

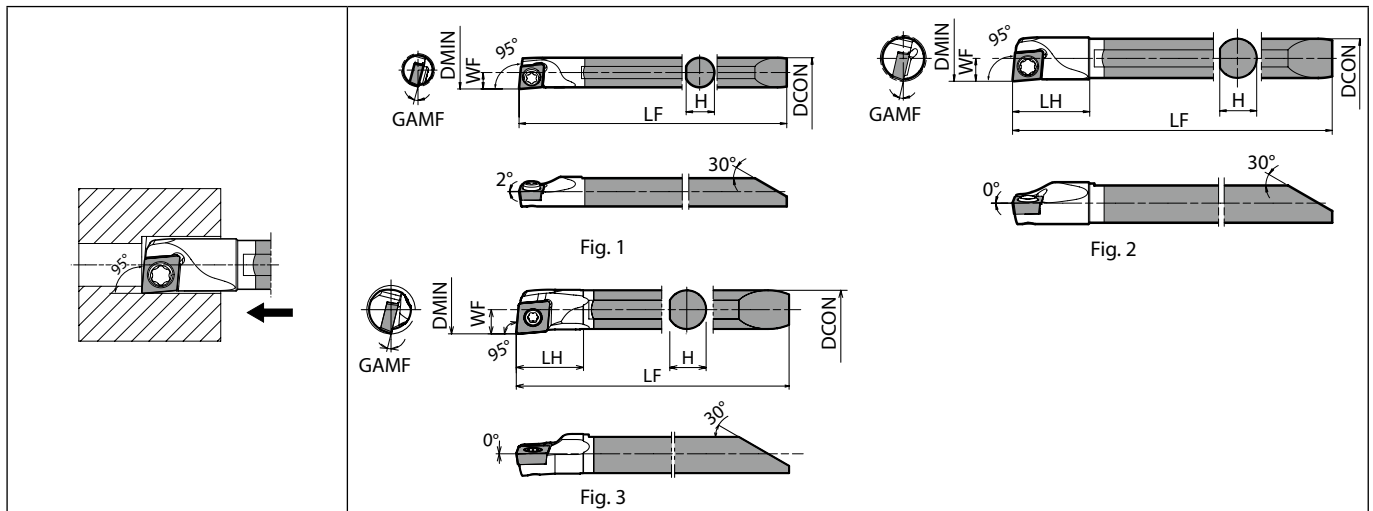
S-SCLC-EZP Steel shank bar (Boring)

Right-hand shown | Left-hand Insert for Right-hand Toolholder. | Max. Overhang Length L/D=~3

Toolholder dimensions

Description		Availability	Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts		Applicable inserts	Applicable sleeves F39 F41 F43
														Screw	Wrench		
			R	DMIN	DCON	H	LH	LF	WF								
S045X-	SCLCR03-050EZP	●	5	4.5	4.3	-	42.4	2.5	15	0.2	No	1	SB-1635TR	FT-6	CC□T0301... CC□W0301...	EZH045...	
S050X-	SCLCR03-060EZP	●	6	5	4.7	9	48.4	3	13	0.2	No	2	SB-1635TR	FT-6	CC□T0301... CC□W0301...	EZH050...	
S060X-	SCLCR04-070EZP	●	7	6	5.7	10	54.4	3.5	13	0.2	No	2	SB-2035TR	FT-6	CC□T0401... CC□W0401...	EZH060...	
S070X-	SCLCR04-080EZP	●	8	7	6.7	10.3	60.4	4	11	0.2	No	2	SB-2035TR	FT-6	CC□T0401... CC□W0401...	EZH070...	
S080X-	SCLCR06-100EZP	●	10	8	7.5	13.3	69.5	5	14	0.4	No	3	SB-2545TR	FT-8	CC□T0602... CC□W0602...	EZH080...	

● : Standard item

C-SCLC-EZP Carbide shank bar (Boring)

Right-hand shown | Left-hand Insert for Right-hand Toolholder. | Max. Overhang Length L/D≈5

Toolholder dimensions

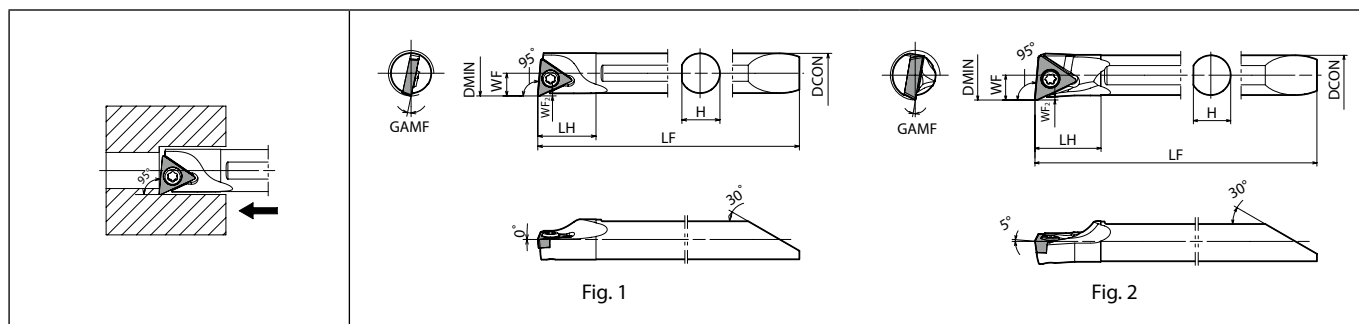
Description		Availability	Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts		Applicable inserts	Applicable sleeves ➡ F39 F41 F43
														Screw	Wrench		
			R	DMIN	DCON	H	LH	LF	WF								
C045X- SCLCR03-050EZP	●	5	4.5	4.3	-	51.4	2.5	15	0.2	No	1	SB-1635TR	FT-6	CC□T0301... CC□W0301...	EZH045...		
C050X SCLCR03-060EZP	●	6	5	4.7	9	58.4	3	13			2				EZH050...		
C060X- SCLCR04-070EZP	●	7	6	5.7	10	66.4	3.5	13	0.2	No	2	SB-2035TR	FT-6	CC□T0401... CC□W0401...	EZH060...		
C070X SCLCR04-080EZP	●	8	7	6.7	10.3	74.4	4	11			EZH070...						
C080X- SCLCR06-100EZP	●	10	8	7.5	13.3	85.5	5	14	0.4	No	3	SB-2545TR	FT-8	CC□T0602... CC□W0602...	EZH080...		

Applicable inserts (S-SCLC-EZP / C- SCLC-EZP)

Applications	Minute ap	Finishing	Finishing	Finishing	Finishing	Finishing	Finishing - Medium	Finishing
Insert								
Chipbreaker type	CF	PF	GF	SKS	SK	CK	GQ	WP
Page	B58	B58	B58	B59	B59	B59	B59	B60
Applications	Finishing	Finishing - Medium	Finishing - Medium	Medium	Medium	Finishing	Finishing	Low feed
Insert								
Chipbreaker type	PP	GK	HQ	STD	MF	L-F	L-FSF	L-U
Page	B60	B60	B60	B60	B61	B62	B61	B63~B65
Applications	Low feed	Low feed	Cast iron	Non-Ferrous metals	Non-Ferrous metals	Hard materials		
Insert								
Chipbreaker type	L-USF	L-J	No CB	AP	PCD	CBN		
Page	B63	B65	B66	B66	C39	C20		

Recommended cutting conditions F158, F159

● : Standard item

S-STLB(P)-EZP Steel shank bar (Boring)

Right-hand shown | Left-hand Insert for Right-hand Toolholder. | Max. Overhang Length L/D≈~3

Toolholder dimensions

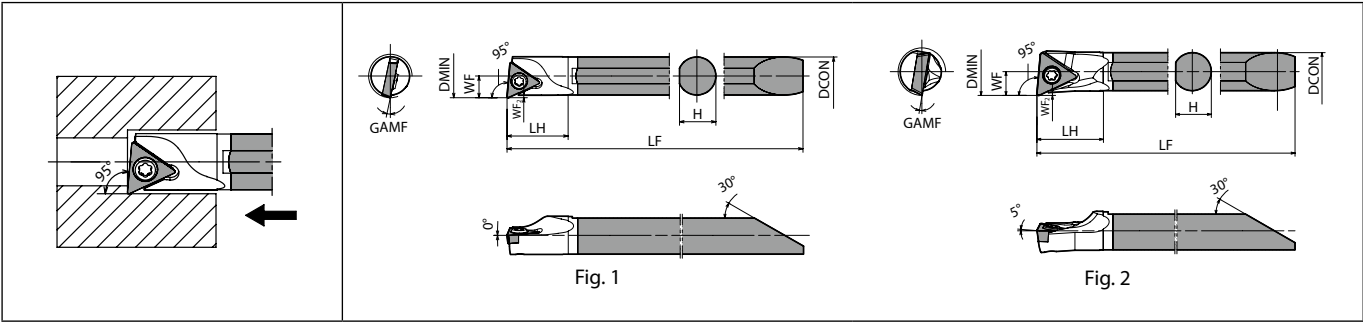
Description	Availability	Dimension (mm)								GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts		Applicable inserts	Applicable sleeves ➡ F39 F41 F43
														Screw	Wrench		
		R	DMIN	DCON	H	LH	LF	WF	WF ₂								
S070X- STLBR06-080EZP	●	8	7	6.7	10.3	60.4	4	0.4	12	0.2	No	1	SB-2035TR	FT-6	TB□T0601... TB□W0601...	EZH070...	
S080X- STLPR09-100EZP	●	10	8	7.5	13.3	69.5	5	0.5	10	0.4	No	2	SB-2545TR	FT-8	TP□B0902... TP□H0902... TP□T0902... TP□X0902...	EZH080...	

TB□□060108.. type inserts can not be used.

Use Right-handed P chipbreaker

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

C-STLB(P)-EZP Carbide shank bar (Boring)



Right-hand shown | Left-hand Insert for Right-hand Toolholder. | Max. Overhang Length L/D≈5

F

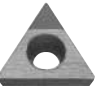
Toolholder dimensions

Description	Availability	Dimension (mm)								GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts		Applicable inserts	Applicable sleeves ➡ F39 F41 F43
														Screw	Wrench		
		R	DMIN	DCON	H	LH	LF	WF	WF ₂								
C070X- STLBR06-080EZP	●	8	7	6.7	11	74.4	4	0.4	12	0.2	No	1	SB-2035TR	FT-6	TB□T0601... TB□W0601...	EZH070...	
C080X- STLPR09-100EZP	●	10	8	7.5	14	85.5	5	0.5	10	0.4	No	2	SB-2545TR	FT-8	TP□B0902... TP□H0902... TP□T0902... TP□X0902...	EZH080...	

TB□□060108.. type inserts can not be used.
Use Right-handed P chipbreaker
For WP chipbreaker, cutting edge offsets or program corrections are required on R36 and R37.

● : Standard item

Applicable inserts (S-STLB(P)-EZP / C-STLB(P)-EZP)

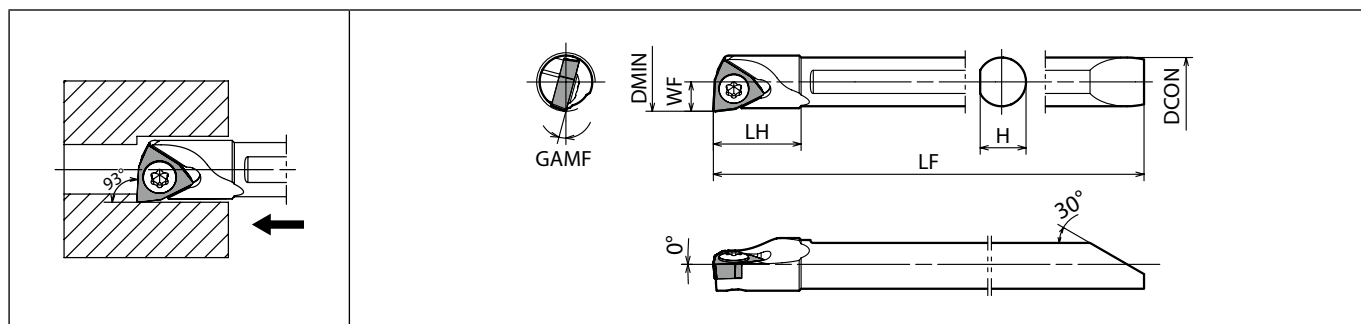
Applications	Minute ap	Finishing	Finishing	Finishing	Finishing	Finishing	Finishing	Finishing - Medium
Insert								
Chipbreaker type	CF	PF	WP	PP	R-P	GP	DP	HQ
Page	B84, B88	B84, B88	B88	B88	B92	B89	B84	B89
Applications	Finishing	Medium	Low carbon steel	Cast iron	Non-Ferrous metals	Non-Ferrous metals	Hard materials	
Insert								
Chipbreaker type	L	L-H	XP	No CB	AP	PCD	CBN	
Page	B84, B90, B91	B93	B89	B84, B94	B94	C44, C46, C47	C23	

Recommended cutting conditions ➡ F158, F159

F



Boring

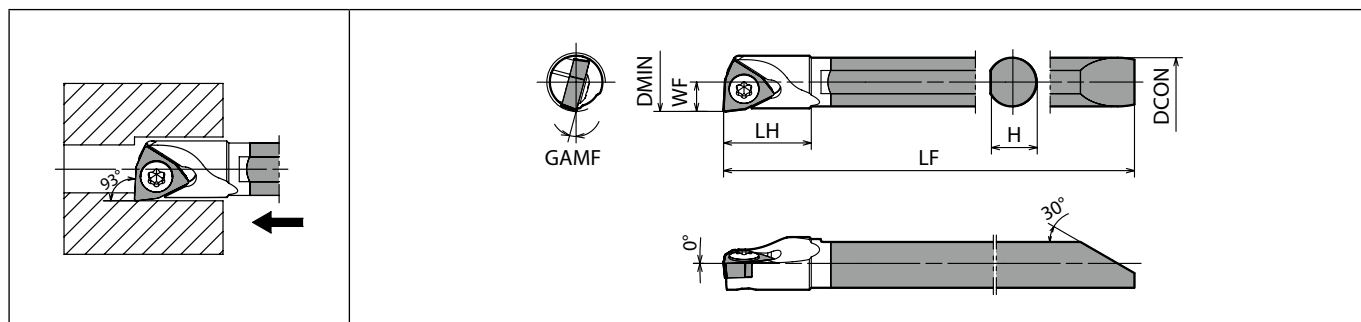
S-SWUB-EZP Steel shank bar (Boring)

Right-hand shown | Left-hand Insert for Right-hand Toolholder. | Max. Overhang Length L/D≈3

F

Toolholder dimensions

Description	Availability	Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts		Applicable inserts	Applicable sleeves 🔌 F39 F41 F43
												Screw	Wrench		
		R	DMIN	DCON	H	LH	LF	WF							
S050X- SWUBR06-060EZP	●	6	5	4.7	9	48.4	3	15	0.2	No	SB-2035TR	FT-6	WB□T0601...	EZH050...	
S060X- SWUBR06-070EZP	●	7	6	5.7	10	54.4	3.5	13					WB□W0601...	EZH060...	
S070X- SWUBR08-080EZP	●	8	7	6.7	10.3	60.4	4	15					WB□T0802... WB□W0802...	EZH070...	

C-SWUB-EZP Carbide shank bar (Boring)

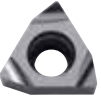
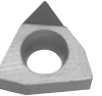
Right-hand shown | Left-hand Insert for Right-hand Toolholder. | Max. Overhang Length L/D≈5

Toolholder dimensions

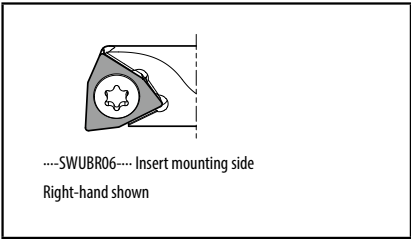
Description	Availability	Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts		Applicable inserts	Applicable sleeves 🔧 F39 F41 F43	
		R	DMIN	DCON	H	LH	LF	WF				Screw	Wrench			
C050X- SWUBR06-060EZP	●	6	5	4.7	9	58.4	3	15	0.2	No		SB-2035TR	FT-6	WB□T0601...	EZH050...	
C060X- SWUBR06-070EZP	●	7	6	5.7	10	66.4	3.5	13						WB□W0601...		EZH060...
C070X- SWUBR08-080EZP	●	8	7	6.7	11	74.4	4	15						WB□T0802... WB□W0802...		EZH070...

● : Standard item

Applicable inserts (S-SWUB-EZP / C-SWUB-EZP)

Applications	Minute ap	Finishing	Finishing	Finishing	Finishing	Cast iron	Non-Ferrous metals	Hard materials
Insert								
Chipbreaker type	L-CF	L-PF	L-DP	L-P	L-F	No CB	PCD	CBN
Page	B105	B105	B105	B106	B106	B106	C51	C28

Recommended cutting conditions  F158, F159



How to mount EZ Bars

How to use adjustment pin (Fig. 1)

1. Put the adjustment pin into the hole.
2. Push it into the sleeve, using the wrench (LW-1.5).
3. Tightening the clamp screw (HS3X4P) with wrench (LW-1.5) to fix the adjustment pin.

How to fix bar (Fig. 2)

1. With the chip pocket upward, set the bar into the sleeve. Press the slant of the end of the bar with the adjustment pin. Make sure that the bar does not move (Fig. 3)
2. Tighten the clamp screw with wrench (LW-2) and fix the bar. Use LW-1.5 if shank dia.is 3 mm or less.

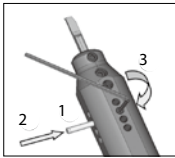


Fig. 1
How to use adjustment pin

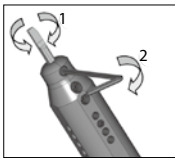


Fig. 2
How to fix bar

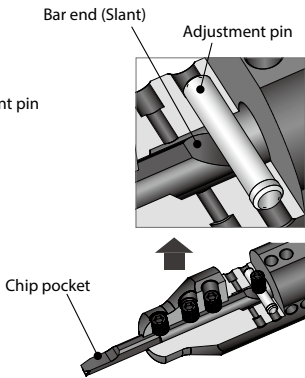


Fig. 3: Fixed bar

[illegible]

Description		Availability	Dimension (mm)											Fig.	Applicable EZ bars ➡ F16~F26, F28 ➡ G70 ➡ J40			
			DCB	DCB2	DCON	H	HDD	LF	L1	L2	L3	L4	LPR					
													No.1			No.2	No.3	
EZH	01719CT-120	●	1.7	6	19.05	18	13	120	16	8	16	30.5	7.5	3.5	-	1	EZBR...017...	
	01720CT-120	●			20	19												
	01722CT-135	●			22	21												135
	01725.0CT-135	●			25	24												
	01725.4CT-120	●			25.4	24.4												
EZH	02019CT-120	●	2	6	19.05	18	13	120	16	8	20	30.5	8.5	4.5	-	1	EZB%/...020... EZBPR...020...	
	02020CT-120	●			20	19												
	02022CT-135	●			22	21												135
	02025.0CT-135	●			25	24												
	02025.4CT-120	●			25.4	24.4												
EZH	02519CT-120	●	2.5	6	19.05	18	13	120	16	8	20	30.5	11	7	-	1	EZB%/L...025... EZTR...025...	
	02520CT-120	●			20	19												
	02522CT-135	●			22	21												135
	02525.0CT-135	●			25	24												
	02525.4CT-120	●			25.4	24.4												
EZH	03019CT-120	●	3	6	19.05	18	13	120	16	8	21	30.5	13.5	9.5	5.5	2	EZB%/...030... EZBFR...030... EZBPR...030... EZVBR...030... EZGR...030... EZTR...030...	
	03020CT-120	●			20	19												
	03022CT-135	●			22	21												135
	03025.0CT-135	●			25	24												
	03025.4CT-120	●			25.4	24.4												
EZH	03519CT-120	●	3.5	6	19.05	18	13	120	16	8	21	31.1	15.5	11.5	7.5	2	EZB%/...035... EZTR...035...	
	03520CT-120	●			20	19												
	03522CT-135	●			22	21												135
	03525.0CT-135	●			25	24												
	03525.4CT-120	●			25.4	24.4												

For how to fix EZ Bars (EZH-CT sleeve), please refer to **F8**.

F38

Sleeve dimensions

Description		Availability	Dimension (mm)												Fig.	Applicable EZ bars ● F16~F36 ● G70, G102 ● J40			
			DCB	DCB2	DCON	H	HDD	LF	L1	L2	L3	L4	LPR						
													No.1	No.2			No.3	No.4	
EZH	04019CT-120	●	4	6	19.05	18	13	120	16	8	22	32.7	20.5	16.5	12.5	8.5	3	EZB%/...040..., EZBFR...040... EZBPR...040..., EZVBR...040... EZBTR...040..., EZG%/...040... EZFG%/...040..., EZTR...040...	
	04020CT-120	●			20	19		135				41.5							32.7
	04022CT-135	●			22	21		135				41.5							32.7
	04025.0CT-135	●			25	24		135				41.5							32.7
	04025.4CT-120	●			25.4	24.4		120				32.7							32.7
EZH	04519CT-120	●	4.5	6	19.05	18	16	120	18	9	23	30	23 (14)	18.5 (9.5)	14 (-)	9.5 (-)	3	EZB%/...045... _045X...-050EZP	
	04520CT-120	●			20	19		135				44							30
	04522CT-135	●			22	21		135				44							30
	04525.0CT-135	●			25	24		135				44							30
	04525.4CT-120	●			25.4	24.4		120				44							30
EZH	05019CT-120	●	5	6	19.05	18	16	120	18	9	26	30	25.5 (15.5)	20.5 (10.5)	15.5 (-)	10.5 (-)	3	EZB%/...050..., EZBFR...050... EZBPR...050..., EZBCR...050... EZVBR...050..., EZBTR...050... _050X...-060EZP, EZG%/...050... EZFG%/...050..., EZTR...050...	
	05020CT-120	●			20	19		135				44							30
	05022CT-135	●			22	21		135				44							30
	05025.0CT-135	●			25	24		135				44							30
	05025.4CT-120	●			25.4	24.4		120				44							30
EZH	06019CT-120	●	6	7.4	19.05	18	16	120	18	9	28	30	30.5 (18.5)	25.5 (13.5)	20.5 (-)	15.5 (-)	3	EZB%/...060..., EZBFR...060... EZBPR...060..., EZBCR...060... EZVBR...060..., _060X...-070EZ EZG%/...060..., EZTR...060...	
	06020CT-120	●			20	19		135				41.5							30
	06022CT-135	●			22	21		135				41.5							30
	06025.0CT-135	●			25	24		135				41.5							30
	06025.4CT-120	●			25.4	24.4		120				41.5							30
EZH	07019CT-120	●	7	7.4	19.05	18	16	120	18	9	29	30	35.5 (21.5)	30.5 (16.5)	25.5 (11.5)	20.5 (-)	3	EZB%/...070..., EZBCR...070... _070X...-080EZP, EZG%/...070... EZFG%/...070..., EZTR...070...	
	07020CT-120	●			20	19		135				44							30
	07022CT-135	●			22	21		135				44							30
	07025.0CT-135	●			25	24		135				44							30
	07025.4CT-120	●			25.4	24.4		120				44							30
EZH	08019CT-120	●	8	8.6	19.05	18	16	120	18	9	33	34	40.5 (24.5)	35.5 (19.5)	30.5 (14.5)	25.5 (-)	3	EZB%/...080... _080X...-100EZP	
	08020CT-120	●			20	19		135				44							34
	08022CT-135	●			22	21		135				44							34
	08025.0CT-135	●			25	24		135				44							34
	08025.4CT-120	●			25.4	24.4		120				44							34

L3 shows DCB length.

LPR shows overhang length of the EZB Bar when attached to sleeve. () value indicates the overhang length when installed the steel boring bar (EZ Bar PLUS).

Choose sleeves (DCB) to meet with DCON dimension of bar.

A hole on the rear end of sleeve is prepared hole for Rc1/8 threading. Please modify by additional processing if necessary. The body hardness is 42HRC.

For how to fix EZ Bars (EZH-CT sleeve), please refer to F8.

Spare parts description (for EZH-CT Sleeves)

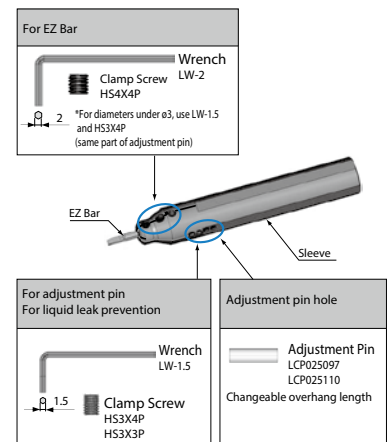
Description	Spare parts				
	Adjustment pin	Clamp screw (for adjustment pin)	Wrench	Clamp screw (for bar)	Wrench
EZH 017...CT-...	LCP025097	HS3X4P (for adjustment pin and liquid leak prevention)	LW-1.5 Tightening torque 1N·m	HS3X4P	LW-1.5 Tightening torque 1N·m
020...CT-...					
025...CT-...					
030...CT-...					
EZH 035...CT-...	LCP025097	HS3X4P (for adjustment pin and liquid leak prevention)	LW-1.5 Tightening torque 1N·m	HS4X4P (for bar)	LW-2 Tightening torque 2N·m
040...CT-...					
045...CT-...					
050...CT-...					
060...CT-...					
EZH 070...CT-...	LCP025110	HS3X3P (for adjustment pin and liquid leak prevention)			
080...CT-...					

1) If shank dia. is ø2.5mm or less, use clamp screw (HS3X4P)

For adjustment pin 2 pcs
For liquid leak prevention 2 pcs
For EZ Bar 2 pcs

2) If shank dia. is ø3mm, use clamp screw (HS3X4P)

For adjustment pin 2 pcs
For liquid leak prevention 4 pcs
For EZ Bar 3 pcs



● : Standard item

F



Boring



Solid
Positive
KAV
Negative

Description		Availability	Dimension (mm)												Fig.	Applicable EZ bars ➡ F16~F26, F28 ➡ G70 ➡ J40	
			DCB	DCB2	DCON	H	HDD	LF	L1	L2	L3	LPR					
												No.1	No.2	No.3			No.4
EZH	01716HP-100	●	1.7	6	16	15	13	100	16	8	16	7.5	3.5	-	-	1	EZBR...017...
	01719HP-120	●			19.05	18		120									
	01720HP-120	●			20	19		135									
	01722HP-135	●			22	21											
	01725.0HP-135	●			25	24											
	01725.4HP-120	●			25.4	24.4											
EZH	02016HP-100	●	2	6	16	15	13	100	16	8	20	8.5	4.5	-	-	1	EZB%/...020... EZBPR...020...
	02019HP-120	●			19.05	18		120									
	02020HP-120	●			20	19		135									
	02022HP-135	●			22	21											
	02025.0HP-135	●			25	24											
	02025.4HP-120	●			25.4	24.4											
EZH	02516HP-100	●	2.5	6	16	15	13	100	16	8	20	11	7	-	-	1	EZB%/...025... EZTR...025...
	02519HP-120	●			19.05	18		120									
	02520HP-120	●			20	19		135									
	02522HP-135	●			22	21											
	02525.0HP-135	●			25	24											
	02525.4HP-120	●			25.4	24.4											
EZH	03016HP-100	●	3	6	16	15	13	100	16	8	21	13.5	9.5	5.5	-	2	EZB%/...030... EZBFR...030... EZBPR...030... EZVBR...030... EZGR...030... EZTR...030...
	03019HP-120	●			19.05	18		120									
	03020HP-120	●			20	19		135									
	03022HP-135	●			22	21											
	03025.0HP-135	●			25	24											
	03025.4HP-120	●			25.4	24.4											
EZH	03516HP-100	●	3.5	6	16	15	13	100	16	8	22	15.5	11.5	7.5	-	2	EZB%/...035... EZTR...035...
	03519HP-120	●			19.05	18		120									
	03520HP-120	●			20	19		135									
	03522HP-135	●			22	21											
	03525.0HP-135	●			25	24											
	03525.4HP-120	●			25.4	24.4											

For how to fix EZ Bars (EZH-HP sleeve), please refer to **F37**.

● : Standard item

Sleeve dimensions

Description		Availability	Dimension (mm)												Fig.	Applicable EZ bars ● F16~F36 ● G70, G102 ● J40	
			DCB	DCB2	DCON	H	HDD	LF	L1	L2	L3	LPR					
												No.1	No.2	No.3			No.4
EZH	04016HP-100	●	4	6	16	15	13	100	16	8	24	20.5	16.5	12.5	8.5	4	EZB%/...040..., EZBFR...040... EZBPR...040..., EZVBR...040... EZBTR...040..., EZG%/...040... EZFG%/...040..., EZTR...040...
	04019HP-120	●			19.05	18		120									
	04020HP-120	●			20	19		135									
	04022HP-135	●			22	21											
	04025.0HP-135	●			25	24											
	04025.4HP-120	●			25.4	24.4											
EZH	04516HP-100	●	4.5	6	16	15	16	100	4	-	25.3	23 (14)	18.5 (9.5)	14 (-)	9.5 (-)	3	EZB%/...045... _045X...-050EZP
	04519HP-120	●			19.05	18		120	18	9							
	04520HP-120	●			20	19		135									
	04522HP-135	●			22	21											
	04525.0HP-135	●			25	24											
	04525.4HP-120	●			25.4	24.4										120	
EZH	05016HP-100	●	5	6	16	15	16	100	4	-	29	25.5 (15.5)	20.5 (10.5)	15.5 (-)	10.5 (-)	3	EZB%/...050..., EZBFR...050... EZBPR...050..., EZBCR...050... EZVBR...050..., EZBTR...050... _050X...-060EZP, EZG%/...050... EZFG%/...050..., EZTR...050...
	05019HP-120	●			19.05	18		120	18	9							
	05020HP-120	●			20	19		135									
	05022HP-135	●			22	21											
	05025.0HP-135	●			25	24											
	05025.4HP-120	●			25.4	24.4										120	
EZH	06016HP-100	●	6	8	16	15	16	100	4	-	31	30.5 (18.5)	25.5 (13.5)	20.5 (-)	15.5 (-)	3	EZB%/...060..., EZBFR...060... EZBPR...060..., EZBCR...060... EZVBR...060..., _060X...-070EZP EZG%/...060..., EZTR...060...
	06019HP-120	●			19.05	18		120	18	9							
	06020HP-120	●			20	19		135									
	06022HP-135	●			22	21											
	06025.0HP-135	●			25	24											
	06025.4HP-120	●			25.4	24.4										120	
EZH	07016HP-100	●	7	8	16	15	16	100	4	-	33	35.5 (21.5)	30.5 (16.5)	25.5 (11.5)	20.5 (-)	3	EZB%/...070..., EZBCR...070... _070X...-080EZP, EZG%/...070... EZFG%/...070..., EZTR...070...
	07019HP-120	●			19.05	18		120	18	9							
	07020HP-120	●			20	19		135									
	07022HP-135	●			22	21											
	07025.0HP-135	●			25	24											
	07025.4HP-120	●			25.4	24.4										120	
EZH	08019HP-120	●	8	8.4	19.05	18	16	120	18	9	37	40.5 (24.5)	35.5 (19.5)	30.5 (14.5)	25.5 (-)	4	EZB%/...080... _080X...-100EZP
	08020HP-120	●			20	19		135									
	08022HP-135	●			22	21											
	08025.0HP-135	●			25	24											
	08025.4HP-120	●			25.4	24.4											

L3 shows DCB length.

LPR shows overhang length of the EZB Bar when attached to sleeve. () value indicates the overhang length when installed the steel boring bar (EZ Bar PLUS).

Choose sleeves (DCB) to meet with DCON dimension of bar.

For how to fix EZ Bars (EZH-HP sleeve), please refer to F37.

Spare parts description (for EZH-HP Sleeves)

Description	Spare parts					Applicable EZ Bars EZ Bar PLUS
	Adjustment pin	Clamp screw (for adjustment pin)	Wrench	Clamp screw (for bar)	Wrench	
						
EZH 017...HP-.. 020...HP-.. 025...HP-.. 030...HP-..	LCP025140	HS3X4P (for both adjustment pin and bar)	LW-1.5 Tightening torque 1N·m	HS3X4P	LW-1.5 Tightening torque 1N·m	EZBR...017... EZB [®] /...020... EZ_R...020-... EZB [®] /...025... EZ_R...025-... EZB [®] /...030... EZ_R...030-...
EZH 035...HP-.. 040...HP-.. 045...HP-.. 050...HP-.. 060...HP-.. 070...HP-.. 080...HP-..						EZB [®] /...035... EZ_R...035-... EZB [®] /...040... EZ [®] /...040-... EZB [®] /...045... _045X...-050EZP EZB [®] /...050... EZ [®] /...050-... _050X...-060EZP EZB [®] /...060... EZ [®] /...060-... _060X...-070EZP EZB [®] /...070... EZ [®] /...070-... _070X...-080EZP EZB [®] /...080... _080X...-100EZP

● : Standard item



Fig. 1

Fig. 2

Fig. 3

Fig. 4

Description		Availability	Dimension (mm)										Fig.	Applicable EZ bars F16~F26, F28 G70 J40				
			DCB	DCB2	DCON	H	HDD	HDD2	LF	L1	L2	L3			L4			
EZH	01712ST-80	●	1.7	6	12	11	13	16	80	20	16	-	8	-	16	1	2	EZBR...017...
	01716ST-100	●			16	15		100										
	01719ST-120	●			19.05	18		120										
	01720ST-120	●			20	19		135										
	01722ST-135	●			22	21		120										
	01725.0ST-135	●			25	24		100										
	01725.4ST-120	●			25.4	24.4		120										
EZH	02012ST-80	●	2	6	12	11	13	16	80	20	16	-	8	-	20	1	2	EZB%/...020... EZBPR...020...
	02016ST-100	●			16	15		100										
	02019ST-120	●			19.05	18		120										
	02020ST-120	●			20	19		135										
	02022ST-135	●			22	21		120										
	02025.0ST-135	●			25	24		100										
	02025.4ST-120	●			25.4	24.4		120										
EZH	02512ST-80	●	2.5	6	12	11	13	16	80	20	16	-	8	-	20	1	2	EZB%/...025... EZTR...025...
	02516ST-100	●			16	15		100										
	02519ST-120	●			19.05	18		120										
	02520ST-120	●			20	19		135										
	02522ST-135	●			22	21		120										
	02525.0ST-135	●			25	24		100										
	02525.4ST-120	●			25.4	24.4		120										
EZH	03012ST-80	●	3	6	12	11	13	16	80	20	16	-	8	-	21	1	2	EZB%/...030... EZBFR...030... EZBPR...030... EZVBR...030... EZGR...030... EZTR...030...
	03016ST-100	●			16	15		100										
	03019ST-120	●			19.05	18		120										
	03020ST-120	●			20	19		135										
	03022ST-135	●			22	21		120										
	03025.0ST-135	●			25	24		100										
	03025.4ST-120	●			25.4	24.4		120										

Adjustment pin cannot be installed to EZH-ST sleeves. To adjust overhang of the bar, please use EZH-CT / HP sleeves.

F42

Sleeve dimensions

Description	Availability	Dimension (mm)											Fig.	Applicable EZ bars ● F16~F36 ● G70, G102 ● J40
		DCB	DCB2	DON	H	HDD	HDD2	LF	L1	L2	L3	L4		
EZH	03512ST-80	●	3.5	6	12	11	13	16	80	20	16	22	1	EZB%/...035... EZTR...035...
	03516ST-100	●			16	15		100						
	03519ST-120	●			19.05	18		120						
	03520ST-120	●			20	19		16	8	-				
	03522ST-135	●			22	21		135						
	03525.0ST-135	●			25	24		120						
	03525.4ST-120	●	25.4	24.4	120									
EZH	04012ST-80	●	4	6	12	11	13	16	80	20	16	24	1	EZB%/...040..., EZBFR...040... EZBPR...040..., EZVBR...040... EZBTR...040..., EZG%/...040... EZFG%/...040..., EZTR...040...
	04016ST-100	●			16	15		100						
	04019ST-120	●			19.05	18		120						
	04020ST-120	●			20	19		16	8	-				
	04022ST-135	●			22	21		135						
	04025.0ST-135	●			25	24		120						
	04025.4ST-120	●	25.4	24.4	120									
EZH	05012ST-80	●	5	6	12	11	16	80	20	-	29	3	EZB%/...050..., EZBFR...050... EZBPR...050..., EZBTR...050... EZVBR...050..., EZG%/...050... _050X...-060EZP, EZG%/...050... EZFG%/...050..., EZTR...050...	
	05016ST-100	●			16	15		100	-			4		
	05019ST-120	●			19.05	18		120	18			9		2
	05020ST-120	●			20	19								
	05022ST-135	●			22	21								
	05025.0ST-135	●			25	24								
	05025.4ST-120	●	25.4	24.4	120									
EZH	06012ST-80	●	6	8	12	11	16	80	20	-	31	3	EZB%/...060..., EZBFR...060... EZBPR...060..., EZBTR...060... EZVBR...060..., _060X...-070EZP EZG%/...060..., EZTR...060...	
	06016ST-100	●			16	15		100	-			4		
	06019ST-120	●			19.05	18		120	18			9		2
	06020ST-120	●			20	19								
	06022ST-135	●			22	21								
	06025.0ST-135	●			25	24								
	06025.4ST-120	●	25.4	24.4	120									
EZH	07012ST-80	●	7	8	12	11	16	80	20	-	33	3	EZB%/...070..., EZBTR...070... _070X...-080EZP, EZG%/...070... EZFG%/...070..., EZTR...070...	
	07016ST-100	●			16	15		100	-			4		
	07019ST-120	●			19.05	18		120	18			9		2
	07020ST-120	●			20	19								
	07022ST-135	●			22	21								
	07025.0ST-135	●			25	24								
	07025.4ST-120	●	25.4	24.4	120									
EZH	08016ST-100	●	8	8.4	16	15	16	100	-	-	37	4	EZB%/...080... _080X...-100EZP	
	08019ST-120	●			19.05	18		120	18	9		2		
	08020ST-120	●			20	19								
	08022ST-135	●			22	21								
	08025.0ST-135	●			25	24								
	08025.4ST-120	●			25.4	24.4		120						

L4 shows DCB length.

Choose sleeves (DCB) to meet with DCON dimension of bar.

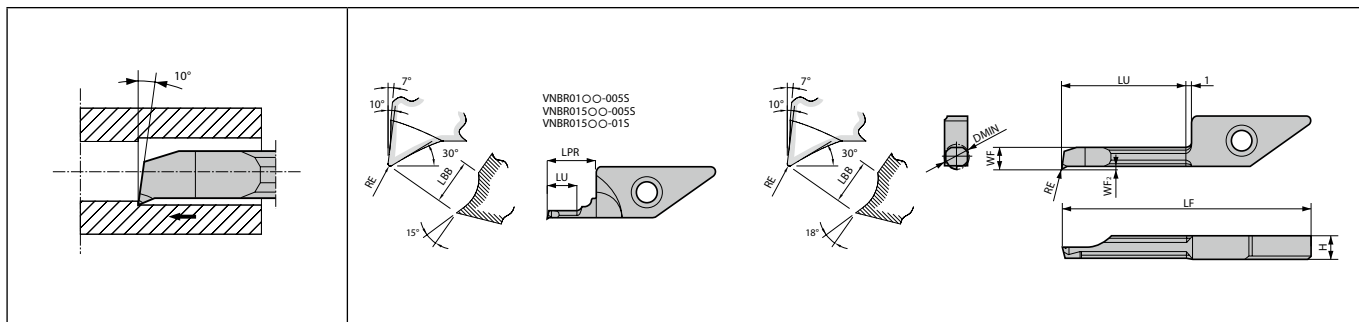
Adjustment pin cannot be installed to EZH-ST sleeves. To adjust overhang of the bar, please use EZH-CT / HP sleeves.

Spare parts description (for EZH-ST Sleeves)

Description	Spare parts		Applicable EZ Bars		EZ Bar PLUS
	Clamp screw	Wrench	EZB-HP EZB-HP-LT EZB-ST EZB-NB	EZBT / EZBF EZBP / EZBC EZVB / EZG EZFG / EZT	
EZH 017...ST-...	HS3X4P	LW-1.5 Tightening torque 1N·m	EZBR...017...	-	-
020...ST-...			EZB [®] /L...020...	EZ_R...020-...	-
025...ST-...			EZB [®] /L...025...	EZTR...025-...	-
030...ST-...			EZB [®] /L...030...	EZ_R...030-...	-
EZH 035...ST-...	HS4X4P	LW-2 Tightening torque 2N·m	EZB [®] /L...035...	EZTR...035-...	-
040...ST-...			EZB [®] /L...040...	EZ_R...040-...	-
050...ST-...			EZB [®] /L...050...	EZ_R...050-...	_050X...-060EZP
060...ST-...			EZB [®] /L...060...	EZ_R...060-...	_060X...-070EZP
070...ST-...			EZB [®] /L...070...	EZ_R...070-...	_070X...-080EZP
080...ST-...			EZB [®] /L...080...	-	_080X...-100EZP

● : Standard item

VNB-S (Boring)



Right-hand shown

F

Dimensions

Description	No. of edges	Dimension (mm)										Tolerance (mm)		Carbide		Applicable toolholder 🔗 F48~F51
		DMIN	H	LPR	LBB	LF	LU	WF	WF ₂	RE	RE min.	RE max.	PVD			
													PR1225	PR930		
VNBR 0103-005S	1	1	3.9	7	0.7	26.5	3	0.85	0.2	0.05	-0.02	0	●	●	SVNR...-12N S...-SVNR12N S...-SVNR12SN	
VNBR 0105-005S	1	1	3.9	7	0.7	26.5	5	0.85	0.2	0.05	-0.02	0	●	●		
VNBR 01503-005S 01503-01S 01505-005S 01505-01S	1	1.5	3.9	7	0.7	26.5	3 3 5 5	1.3	0.2	0.05 0.1 0.05 0.1	-0.02 -0.03 -0.02 -0.03	0	● ● ● ●	● ● ● ●		
VNBR 0206-005S 0206-01S	1	2	3.9	-	0.8	26.5	6	1.8	0.25	0.05 0.1	-0.02 -0.03	0	● ●	● ●		SVNR...-12N, SVNSR-12-06N S...-SVNR12N, S...-SVNR12SN
VNBR 025075-005S 025075-01S	1	2.5	3.9	-	0.8	28.1	7.5	2.1	0.4	0.05 0.1	-0.02 -0.03	0	● ●	● ●		SVNR...-12NS..., -SVNR12N S...-SVNR12SN
VNBR 0311-005S 0311-01S	1	3	3.9	-	0.8	30.8	11	2.6	0.4	0.05 0.1	-0.02 -0.03	0	● ●	● ●	SVNR...-12N, SVNSR-12-11N S...-SVNR12N, S...-SVNR12SN	
VNBR 03515-005S 03515-01S	1	3.5	3.9	-	0.8	34.8	15	3	0.5	0.05 0.1	-0.02 -0.03	0	● ●	● ●	SVNR...-12NS..., -SVNR12N S...-SVNR12SN	
VNBR 0411-005S 0411-01S 0411-02S	1	4	3.66	-	0.8	30.8	11	3.5	0.5	0.05 0.1 0.2	-0.02 -0.03 -0.04	0	● ● ●	● ● ●	SVNR...-12N, SVNSR-12-11N S...-SVNR12N, S...-SVNR12SN	
VNBR 0420-005S 0420-01S 0420-02S	1	4	3.66	-	0.8	39.8	20	3.5	0.5	0.05 0.1 0.2	-0.02 -0.03 -0.04	0	● ● ●	● ● ●	SVNR...-12N, SVNSR-12-20N S...-SVNR12N, S...-SVNR12SN	

Recommended cutting conditions (VNB-S)

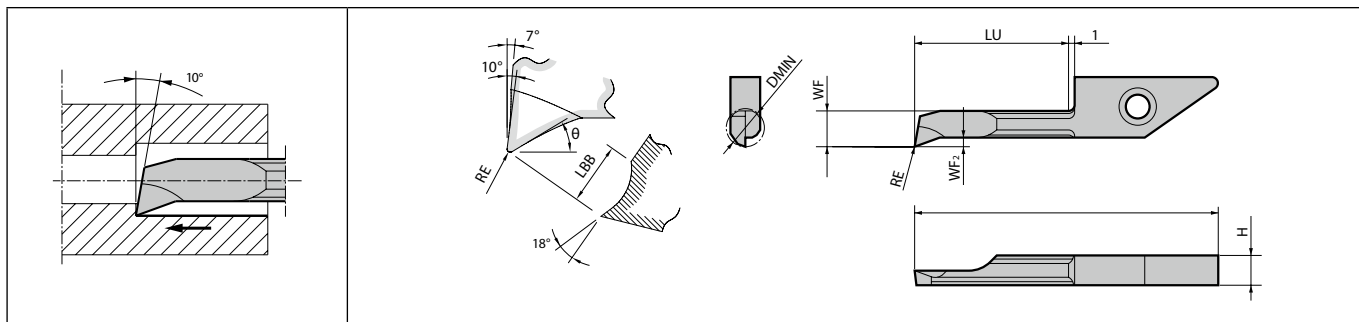
Workpiece material	Insert grades (Vc: m/min)		VNB01-S VNB015-S		VNB02-S VNB04-S		Remarks
	MEGACOAT	PVD coated carbide					
	PR1225	PR930	ap (mm), f (mm/rev)				
			ap	f	ap	f	
Carbon steel / Alloy steel	★ 30~120	☆ 30~100	~0.1	~0.01	~0.2	~0.03	Coolant
Stainless steel	★ 30~100	☆ 30~80	~0.1	~0.01	~0.2	~0.02	

★1st recommendation ☆2nd recommendation

● : Standard item

System tip-bars are
5 piece boxes

VNB (Boring)



Right-hand shown

Dimensions

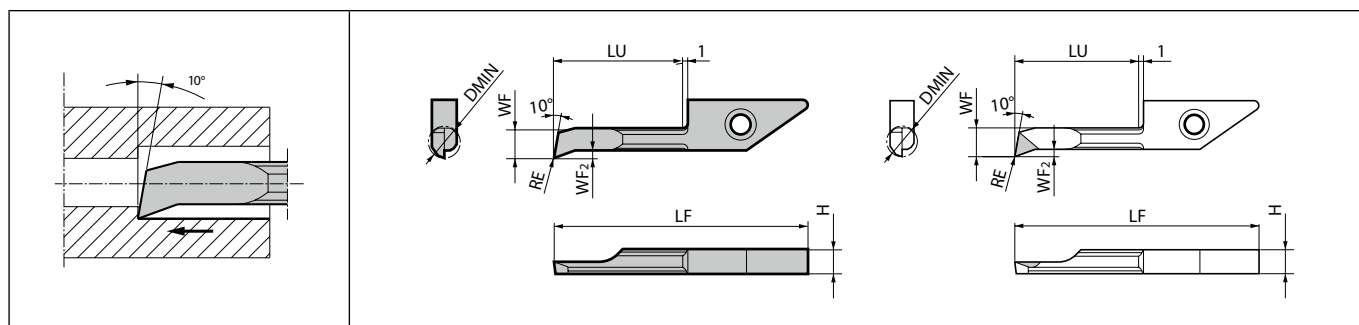
Description	No. of edges	Dimension (mm)								Angle θ (°)	Carbide			Applicable toolholder ➡ F48~F51
		DMIN	H	LBB	LF	LU	WF	WF ₂	RE		PVD		-	
											PR1225	PR830		
VNBR 0206-003 0206-01 0206-02	1	2	3.9	1.2	26.5	6	1.8	0.25	0.03 0.1 0.2	24	● ● ●	● ● ●	● ● ●	SVNR....-12N, SVNSR-12-06N S...-SVNR12N, S...-SVNR12SN
VNBR 0311-003 0311-01 0311-02	1	3	3.9	1.8	30.8	11	2.6	0.4	0.03 0.1 0.2	24	● ● ●	● ● ●	● ● ●	SVNR....-12N, SVNSR-12-11N S...-SVNR12N, S...-SVNR12SN
VNBR 0411-003 0411-01 0411-02	1	4	3.66	2.7	30.8	11	3.5	0.5	0.03 0.1 0.2	23	● ● ●	● ● ●	● ● ●	SVNR....-12N, SVNSR-12-11N S...-SVNR12N, S...-SVNR12SN
VNBR 0420-003 0420-01 0420-02	1	4	3.66	2.7	39.8	20	3.5	0.5	0.03 0.1 0.2	23	● ● ●	● ● ●	● ● ●	SVNR....-12N, SVNSR-12-20N S...-SVNR12N, S...-SVNR12SN
VNBR 0511-003 0511-01 0511-02	1	5	3.9	3	30.8	11	4.5	0.7	0.03 0.1 0.2	23	● ● ●	● ● ●	● ● ●	SVNR....-12N, SVNSR-12-11N S...-SVNR12N, S...-SVNR12SN
VNBR 0520-003 0520-01 0520-02	1	5	3.9	3	39.8	20	4.5	0.7	0.03 0.1 0.2	23	● ● ●	● ● ●	● ● ●	SVNR....-12N, SVNSR-12-20N S...-SVNR12N, S...-SVNR12SN
VNBR 0620-003 0620-01 0620-02	1	6	3.9	3	39.8	20	5.3	1	0.03 0.1 0.2	24	● ● ●	● ● ●	● ● ●	SVNR....-12N, SVNSR-12-20N S...-SVNR12N, S...-SVNR12SN
VNBR 0630-003 0630-01 0630-02	1	6	3.9	3	49.8	30	5.3	1	0.03 0.1 0.2	24	● ● ●	● ● ●	●	SVNR....-12N S...-SVNR12N S...-SVNR12SN
VNBR 0720-003 0720-01 0720-02	1	7	3.9	3	39.8	20	6.2	1	0.03 0.1 0.2	24	●	● ● ●	● ● ●	SVNR....-12N, SVNSR-12-20N S...-SVNR12N, S...-SVNR12SN
VNBR 0730-003 0730-01 0730-02	1	7	3.9	3	49.8	30	6.2	1	0.03 0.1 0.2	24	●	● ● ●	●	SVNR....-12N S...-SVNR12N S...-SVNR12SN

Recommended cutting conditions F47

● : Standard item

System tip-bars are
sold in 5 piece boxes

VNB-NB (Boring)



Right-hand shown

F

Dimensions

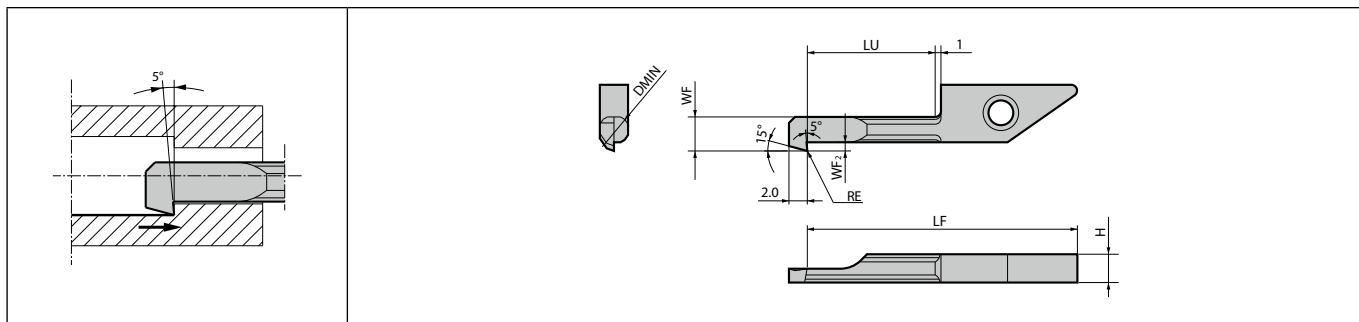
Description	No. of edges	Dimension (mm)							Angle	Carbide			PCD	Applicable toolholder ➡ F48~F51
		DMIN	H	LF	LU	WF	WF ₂	RE	θ (°)	PVD	-	-		
										PR930	KW10	KPD001		
VNBR 0206-003NB 0206-02NB	1	2	3.9	26.5	6	1.8	0.25	0.03 0.2	15	●	●	●	SVNR...-12N, SVNSR-12-06N S...-SVNR12N, S...-SVNR12SN	
VNBR 0311-003NB 0311-02NB	1	3	3.9	30.8	11	2.6	0.4	0.03 0.2	15	●	●	●	SVNR...-12N, SVNSR-12-11N S...-SVNR12N, S...-SVNR12SN	
VNBR 0411-003NB 0411-02NB	1	4	3.66	30.8	11	3.5	0.5	0.03 0.2	15	●	●	●	SVNR...-12N, SVNSR-12-11N S...-SVNR12N, S...-SVNR12SN	
VNBR 0420-003NB 0420-02NB	1	4	3.66	39.8	20	3.5	0.5	0.03 0.2	15	●	●	●	SVNR...-12N, SVNSR-12-20N S...-SVNR12N, S...-SVNR12SN	
VNBR 0511-003NB 0511-02NB	1	5	3.9	30.8	11	4.5	0.7	0.03 0.2	15	●	●	●	SVNR...-12N, SVNSR-12-11N S...-SVNR12N, S...-SVNR12SN	
VNBR 0520-003NB 0520-02NB	1	5	3.9	39.8	20	4.5	0.7	0.03 0.2	15	●	●	●	SVNR...-12N, SVNSR-12-20N S...-SVNR12N, S...-SVNR12SN	
VNBR 0620-003NB 0620-02NB	1	6	3.9	39.8	20	5.3	1	0.03 0.2	15	●	●	●	SVNR...-12N, SVNSR-12-20N S...-SVNR12N, S...-SVNR12SN	
VNBR 0630-003NB 0630-02NB	1	6	3.9	49.8	30	5.3	1	0.03 0.2	15	●	●	●	SVNR...-12N, S...-SVNR12N S...-SVNR12SN	
VNBR 0720-003NB 0720-02NB	1	7	3.9	39.8	20	6.2	1	0.03 0.2	15	●	●	●	SVNR...-12N, SVNSR-12-20N S...-SVNR12N, S...-SVNR12SN	
VNBR 0730-003NB 0730-02NB	1	7	3.9	49.8	30	6.2	1	0.03 0.2	15	●	●	●	SVNR...-12N, S...-SVNR12N S...-SVNR12SN	

Recommended cutting conditions F47

● : Standard item

F46

System tip-bars are
sold in 5 piece boxesCBN & PCD Inserts are
sold in 1 piece boxes

VNBT (Back boring)

Right-hand shown

Dimensions

Description	No. of edges	Dimension (mm)								Carbide			Applicable toolholder 🔵 F48~F51
		DMIN	H	LF	LU	WF	WF ₂	RE	PVD		-		
									PR1225	PR930		KW10	
VNBTR 0411-003 0411-01	1	4	3.66	28.8	9	3.6	1	0.03 0.1	●	●	●	SVNR....-12N, SVNSR-12-11N S...-SVNR12N, S...-SVNR12SN	
VNBTR 0420-003 0420-01	1	4	3.66	37.8	18	3.6	1	0.03 0.1	●	●		SVNR....-12N, SVNSR-12-20N S...-SVNR12N, S...-SVNR12SN	
VNBTR 0511-003 0511-01	1	5	3.9	28.8	9	4.6	1.3	0.03 0.1	●	●	●	SVNR....-12N, SVNSR-12-11N S...-SVNR12N, S...-SVNR12SN	
VNBTR 0520-003 0520-01	1	5	3.9	37.8	18	4.6	1.3	0.03 0.1	●	●		SVNR....-12N, SVNSR-12-20N S...-SVNR12N, S...-SVNR12SN	

Recommended cutting conditions F47

Recommended cutting conditions (VNB / VNB-NB / VNBT)

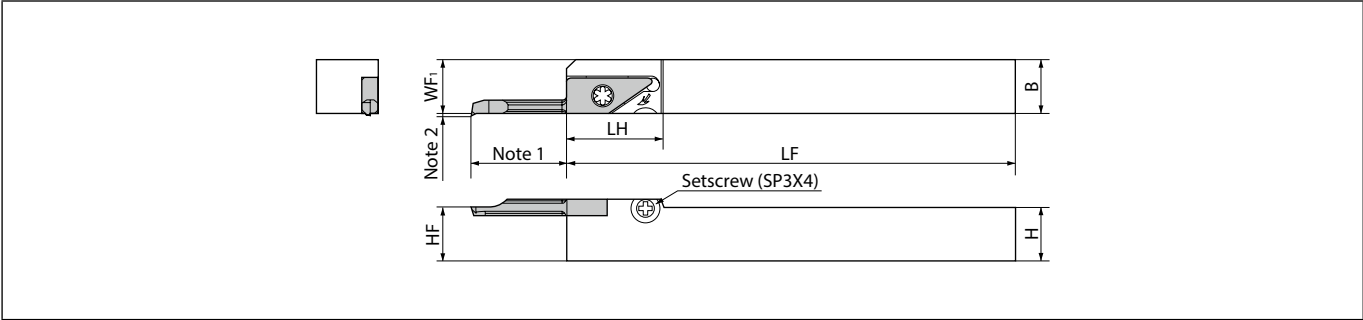
Workpiece material	Insert grades (Vc: m/min)					VNB02		VNB03		VNB04 VNB04		VNB05 VNB06 VNB07 VNB05		Remarks	
	MEGACOAT	PVD coated carbide	Carbide	PCD											
	PR1225	PR930	KW10	KPD001	KPD010										
	ap (mm), f (mm/rev)														
	ap	f	ap	f	ap	f	ap	f							
Carbon steel / Alloy steel	★ 30~120	☆ 30~100				~0.3	~0.03	~0.4	~0.04	~0.45	~0.07	~0.5	~0.1	Coolant	
Stainless steel	★ 30~100	☆ 30~80				~0.3	~0.02	~0.4	~0.03	~0.45	~0.05	~0.5	~0.07		
Non-Ferrous metals			☆ ~100	★ ~300	☆ ~300	~0.3	~0.05	~0.4	~0.06	~0.45	~0.1	~0.5	~0.15		

★ 1st recommendation ☆ 2nd recommendation

● : Standard item

System tip-bars are
sold in 5 piece boxes

SVN-N (without side stopper)



Right-hand shown | Right-hand Insert for Right-hand Toolholder.
Note 1 & Note 2 (WF2) : For insert dimensions, see page (F44~F47)

F

Toolholder dimensions

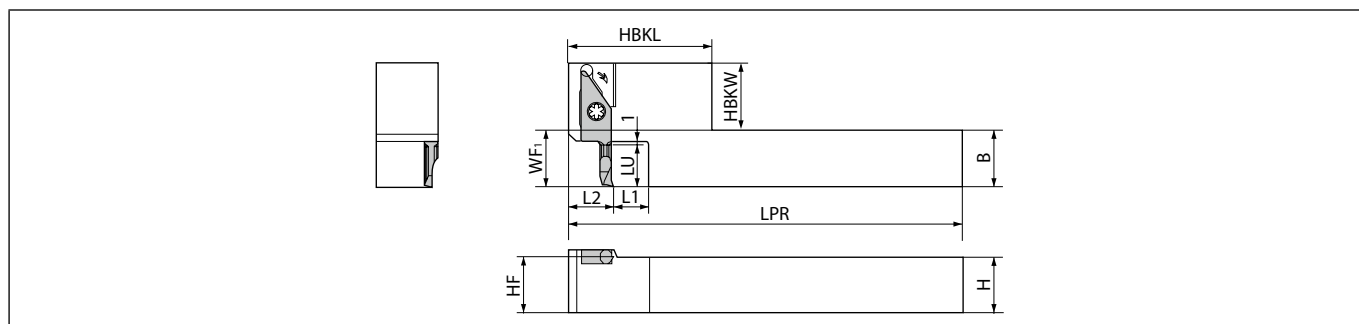
Description		Availability	Dimension (mm)							Spare parts			Applicable inserts ➡ F44~F47 G72, G73 G104 J44
										Screw	Set screw	Wrench	
			R	H	B	LH	HF	LF	WF1				
SVNR	1010H-12N	●	10	10		10	100	10		SB-3080TR	SP3X4	FT-10	VNBR...-... VNBTR...-... VNGR...-... VNFRGR...-... VNTR...-...
	1212K-12N	●	12	12		12		12					
	1616K-12N	●	16	16	22	16	125	16					
	2020K-12N	●	20	20		20		20					
	2525M-12N	●	25	25		25	150	25					

SVN-N (without side stopper) retains high index accuracy by easy restraint.
SVN-N (without side stopper) has a setscrew SP3X4. Changing the setscrew SP3X4 to a screw HS3X4 (sold separately) enables the toolholder to be used as a binding effect toolholder similar to the side stopper toolholder.

Spare parts (Optional)

Screw (Side stopper)	Wrench
	
HS3X4	LW-1.5

● : Standard item

SVNS-N (without side stopper / without setscrew)

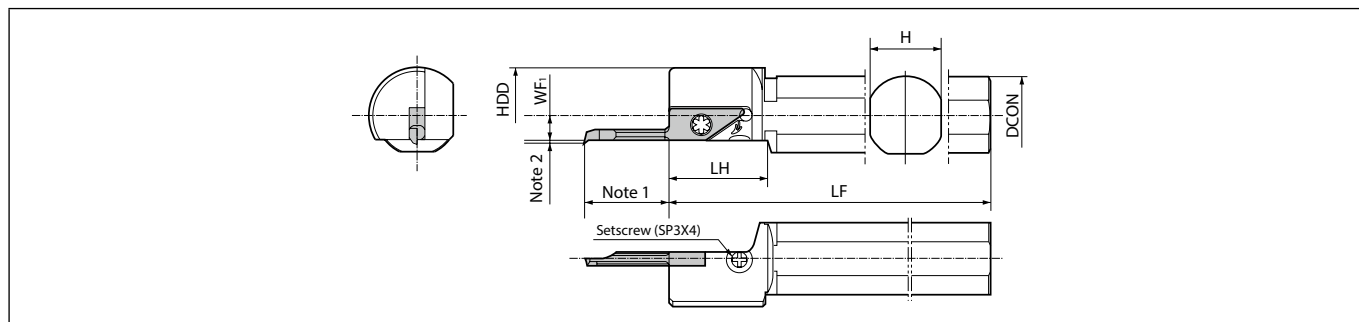
Right-hand shown | Right-hand Insert for Right-hand Toolholder.

Toolholder dimensions

Description		Availability	Dimension (mm)											Spare parts		Applicable inserts ● F44~F47 G72, G73 J44
														Screw	Wrench	
			R	H	B	LPR	HF	HBKW	HBKL	LU	WF1	L1	L2			
SVNSR 1010K-12-06N	1212M-12-06N	1616M-12-06N	●	10	10	125	10	19			10			SB-3080TR	LTW-10S	VNBR..06...
			●	12	12		12	17	45	6	12	10	12			
			●	16	16	150	16	13			16	16	16			
SVNSR 1010K-12-11N	1212M-12-11N	1616M-12-11N	●	10	10	125	10	23			10			SB-3080TR	LTW-10S	VNBR..11-..., VNBTR..11-... VNGR...-11, VNTR...-11
			●	12	12		12	21	45	11	12	10	12			
			●	16	16	150	16	17			16	16	16			
SVNSR 1212M-12-20N	1616M-12-20N		●	12	12		12	30			12	10		SB-3080TR	LTW-10S	VNBR..20-..., VNBTR20-... VNGR...-20
			●	16	16	150	16	26	45	20	16	16	13			

All system Tip-Bars Inserts are used with a SVNSR-N Toolholders. However, when setting the cutting edge at the face level of the toolholder as shown in the figure, use the applicable inserts described above.

In these cases, the LU dimension of the toolholders corresponds to the LU dimension of the insert.

S-SVN-N (Round shank / Standard / without side stopper)

Right-hand shown | Right-hand Insert for Right-hand Toolholder.
Note 1 & Note 2 (WF₂) : For insert dimensions, see page (F44~F47)

F

Toolholder dimensions

Description	Availability	Dimension (mm)							Spare parts			Applicable inserts F44~F47 G72, G73 G104 J44
									Screw	Set screw	Wrench	
		R	DCON	H	LH	HDD	LF	WF ₁				
S12F- SVN12N	●	12	11			20	80	4	SB-3080TR	SP3X4	FT-10	VNBR...-... VNBTR...-... VNGR...-... VNFR...-... VNTR...-...
S14G- SVN12N	●	14	13	23			90					
S16H- SVN12N	●	16	15				100					
S19H- SVN12N	●						160					
S19N- SVN12N	●	19.05	17			24	100	6				
S20H- SVN12N	●	20	18				100					
S25H- SVN12N	●	25.4	23			30	180					
S25Q- SVN12N	●											

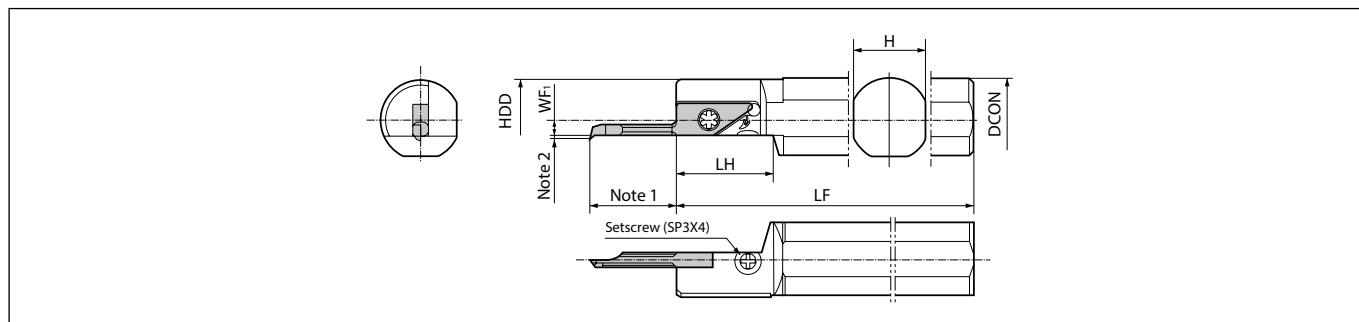
S-SVN-N (without side stopper) retains high index accuracy by easy restraint.

S-SVN-N (without side stopper) has a setscrew SP3X4. Changing the setscrew SP3X4 to a screw HS3X4 (sold separately) enables the toolholder to be used as a binding effect toolholder similar to the side stopper toolholder.

Spare parts (Optional)

Screw (Side stopper)	Wrench
	
HS3X4	LW-1.5

● : Standard item

S-SVN-SN (Round shank / Straight / without side stopper)

Right-hand shown | Right-hand Insert for Right-hand Toolholder.
Note 1 & Note 2 (WF₂) : For insert dimensions, see page (F44~F47)

Toolholder dimensions

Description	Availability	Dimension (mm)						Spare parts			Applicable inserts F44~F47 G72, G73 G104 J44
								Screw	Set screw	Wrench	
		R	DCON	H	LH	HDD	LF	WF ₁			
S19H- SVN12SN	●	19.05	17	23	18.5	100	4	SB-3080TR	SP3X4	FT-10	VNBR...-..., VNBTR...-... VNGR...-..., VNFG...-... VNTR...-...
S20H- SVN12SN	●	20	18		19.5						
S22K- SVN12SN	●	22	20		21.5	125					
S25.0G- SVN12SN	●	25	23		24.5	90					

S-SVN-SN (without side stopper) retains high index accuracy by easy restraint.

S-SVN-SN (without side stopper) has a setscrew SP3X4. Changing the setscrew SP3X4 to a screw HS3X4 (sold separately) enables the toolholder to be used as a binding effect toolholder similar to the side stopper toolholder.

Spare parts (Optional)

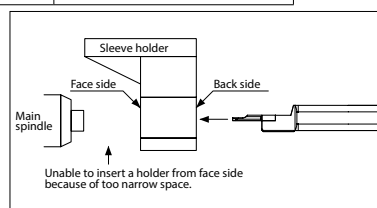
Screw (Side stopper)	Wrench
HS3X4	LW-1.5

Selection of system tip-bars

Gang-Type (Horizontal)	Gang-Type	Gang-Type Front loading sleeve type	Gang-Type Back loading sleeve type
Square shank (Straight)	Square shank (L-shape)	Square shank	Square shank
Round shank (Standard)		Round shank (Standard)	Round shank (Standard)
Round shank (Straight)		Round shank (Straight)	Round shank (Straight)

Q: There are standard types (head dia. is larger than shank) and straight types for round shanks. What is each one used for?

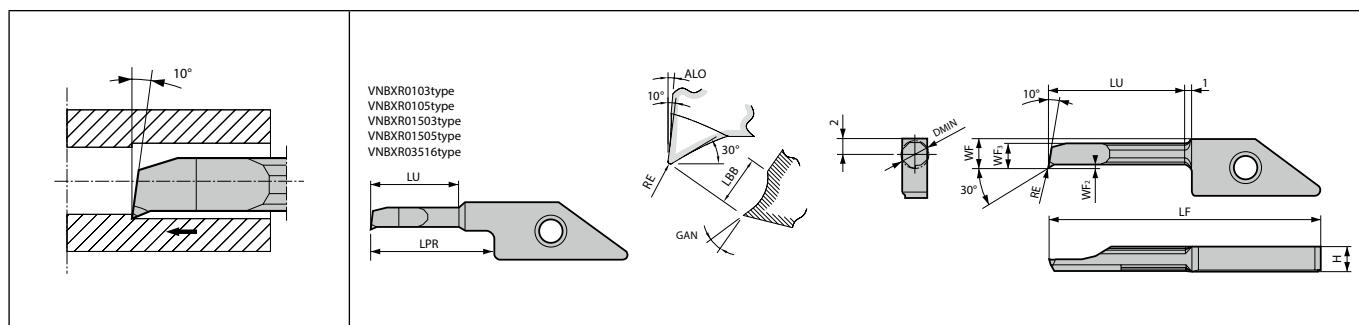
A: The straight type is used when it cannot be inserted from the face side of the sleeve holder and can be inserted only from the back side due to space limitation (Refer to fig. on the right). On the other hand, the standard type should be installed when it can be inserted from the face side, and the head end is used for positioning as stopper.



● : Standard item



VNBX-S (Boring)



Right-hand shown

F

Dimensions

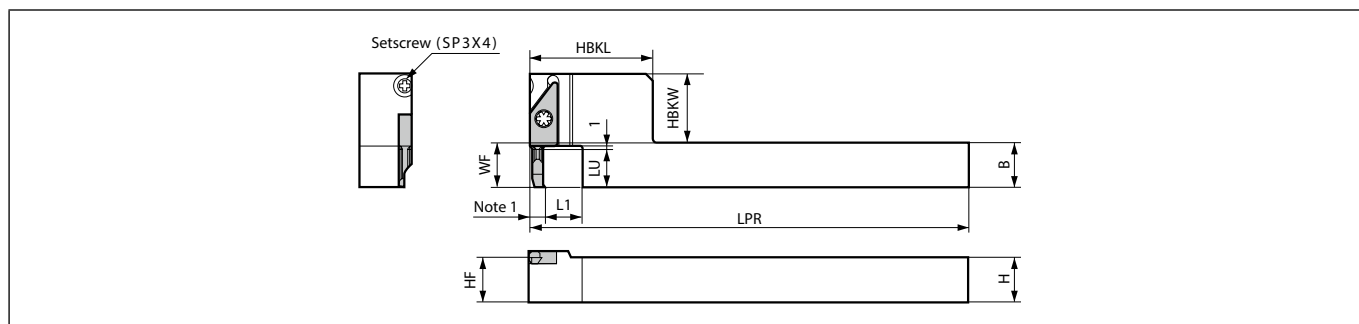
Description	No. of edges	Dimension (mm)										Angle (°)		Tolerance (mm)		Carbide	Applicable toolholder F53~F55
		DMIN	H	LPR	LBB	LF	LU	WF	WF ₂	WF ₃	RE	ALO	GAN	RE min.	RE max.	PVD	
																PR930	
VNBXR 0103-005S	1	1	3.9	7	0.7	26.5	3	2.95	0.2	0.85	0.05	7	15	-0.02	0	●	S...SVNR12XN S...SVNR12SXN
VNBXR 0105-005S	1	1	3.9	7	0.7	26.5	5	2.95	0.2	0.85	0.05	7	15	-0.02	0	●	S...SVNR12XN S...SVNR12SXN
VNBXR 01503-005S 01503-01S 01505-005S 01505-01S	1	1.5	3.9	7	0.7	26.5	3 3 5 5	2.95	0.2	1.3	0.05 0.1 0.05 0.1	7	15	-0.02 -0.03 -0.02 -0.03	0	● ● ● ●	S...SVNR12XN S...SVNR12SXN
VNBXR 0206-005S 0206-01S	1	2	3.9	-	0.8	26.5	6	3	0.25	1.8	0.05 0.1	8	18	-0.02 -0.03	0	● ●	SVNSR...-12-06XN S...SVNR12XN S...SVNR12SXN
VNBXR 0311-005S 0311-01S	1	3	3.9	-	0.8	30.8	11	3.5	0.4	2.6	0.05 0.1	8	18	-0.02 -0.03	0	● ●	SVNSR...-12-11XN S...SVNR12XN S...SVNR12SXN
VNBXR 03511-005S 03511-01S 03516-005S 03516-01S	1	3.5	3.9	- - 21 21	0.8	30.8 30.8 39.8 39.8	11 11 16 16	3.75	0.45	3.1	0.05 0.1 0.05 0.1	8	18	-0.02 -0.03 -0.02 -0.03	0	● ● ● ●	SVNSR...-12-11XN, S...SVNR12XN S...SVNR12SXN S...SVNR12XN S...SVNR12SXN
VNBXR 0411-005S 0411-01S 0411-02S	1	4	3.66	-	0.8	30.8	11	4	0.5	3.5	0.05 0.1 0.2	8	18	-0.02 -0.03 -0.04	0	● ● ●	SVNSR...-12-11XN S...SVNR12XN S...SVNR12SXN
VNBXR 0420-005S 0420-01S 0420-02S	1	4	3.66	-	0.8	39.8	20	4	0.5	3.5	0.05 0.1 0.2	8	18	-0.02 -0.03 -0.04	0	● ● ●	SVNSR...-12-20XN S...SVNR12XN S...SVNR12SXN

Recommended cutting conditions ● F55

● : Standard item

F52

System tip-bars are
sold in 5 piece boxes

SVNS-XN (without side stopper)

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

Note 1 : The dimension of Note 1 is same size as the applicable insert (VNBX) WF dimension.

Toolholder dimensions

Description	Availability	Dimension (mm)										Spare parts			Applicable inserts 🔗 F52	
												Screw	Set screw	Wrench		
		R	H	B	LPR	L1	HF	HBKW	HBKL	LU	WF					
SVNSR 1010K-12-06XN 1212M-12-06XN 1616M-12-06XN	●	10	10	125	10	10	19	45	6	10	12	SB-3080TR	SP3X4	LTW-10S	VNBXR0206-...	
	●	12	12	150		12	17									16
	●	16	16			16	13									
SVNSR 1010K-12-11XN 1212M-12-11XN 1616M-12-11XN	●	10	10	125	10	10	23	45	11	10	12	SB-3080TR	SP3X4	LTW-10S	VNBXR...11-...	
	●	12	12	150		12	21									16
	●	16	16			16	17									
SVNSR 1212M-12-20XN 1616M-12-20XN	●	12	12	150	10	12	30	45	20	12	16	SB-3080TR	SP3X4	LTW-10S	VNBXR0420-...	
	●	16	16			16	26									

All VNBXR system Tip-Bars Inserts are used with a SVNS-XN Toolholder. However, when setting the cutting edge at the face level of the toolholder as shown in figure, use the applicable inserts described above.

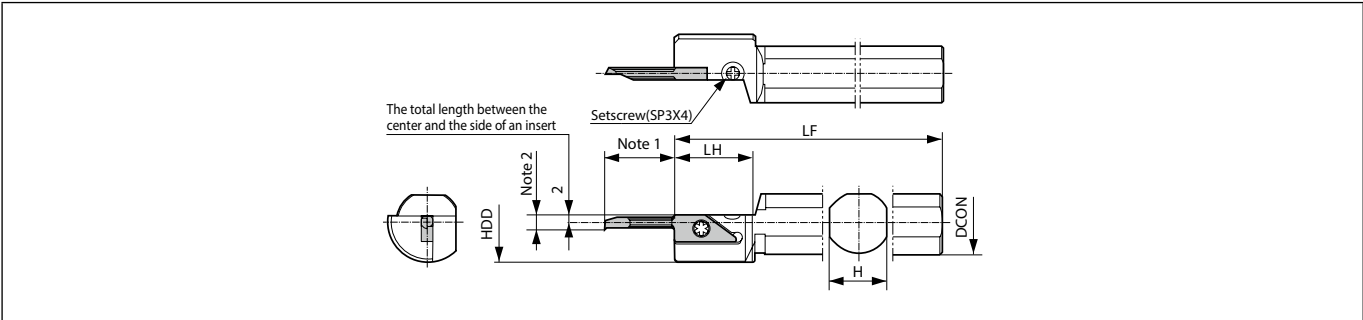
SVNS-XN (without side stopper) retains high index accuracy by easy restraint.

SVNS-XN (without side stopper) has a setscrew SP3X4. Changing the setscrew SP3X4 to a screw HS3X4 (sold separately) enables the toolholder to be used as a binding effect toolholder similar to the side stopper toolholder.

Spare parts (Optional)

Screw (Side stopper)	Wrench
	
HS3X4	LW-1.5

S-SVN-XN (Round shank / Standard / without side stopper)



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

Note 1 : The dimension of Note 1 shows the applicable insert (VNBX) LU +1 mm.

Note 2 : The dimension of Note 2 is same size as the applicable insert (VNBX) WF dimension.

F

Toolholder dimensions

Description	Availability	Dimension (mm)						Spare parts			Applicable inserts ➡ F52
								Screw	Set screw	Wrench	
		R	DCON	H	LH	HDD	LF				
S12F- SVNR12XN	●	12	11			20	80	SB-3080TR	SP3X4	FT-10	VNBXR...
S14G- SVNR12XN	●	14	13	23			90				
S16H- SVNR12XN	●	16	15				100				
S19H- SVNR12XN	●						160				
S19N- SVNR12XN	●	19.05	17			24					
S20H- SVNR12XN	●	20	18				100				
S25H- SVNR12XN	●										
S25Q- SVNR12XN	●	25.4	23			30	180				

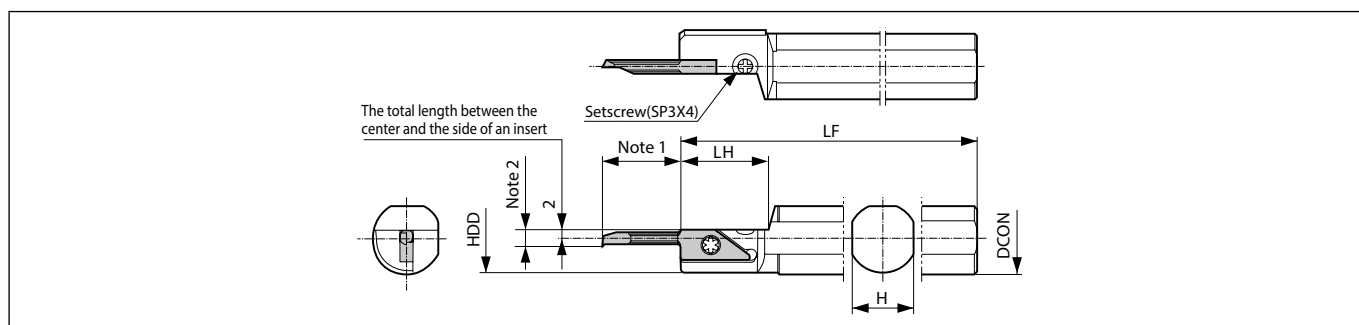
S-SVN-XN (without side stopper) retains high index accuracy by easy restraint.

S-SVN-XN (without side stopper) has a setscrew SP3X4. Changing the setscrew SP3X4 to a screw HS3X4 (sold separately) enables the toolholder to be used as a binding effect toolholder similar to the side stopper toolholder.

Spare parts (Optional)

Screw (Side stopper)	Wrench
	
HS3X4	LW-1.5

● : Standard item

S-SVN-SXN (Round shank / Straight / without side stopper)

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

Note 1 : The dimension of Note 1 shows the applicable insert (VNBX) LU +1 mm.

Note 2 : The dimension of Note 2 is same size as the applicable insert (VNBX) WF dimension.

Toolholder dimensions

Description	Availability	Dimension (mm)						Spare parts			Applicable inserts ➡ F52
								Screw	Set screw	Wrench	
		R	DCON	H	LH	HDD	LF				
S19H- SVN12SXN	●	19.05	17	23	18.5	100	SB-3080TR	SP3X4	FT-10	VNBXR...	
S20H- SVN12SXN	●	20	18		19.5						
S22K- SVN12SXN	●	22	20		21.5						
S25.0G- SVN12SXN	●	25	23		24.5						

S-SVN-SXN (without side stopper) retains high index accuracy by easy restraint.

S-SVN-SXN (without side stopper) has a setscrew SP3X4. Changing the setscrew SP3X4 to a screw HS3X4 (sold separately) enables the toolholder to be used as a binding effect toolholder similar to the side stopper toolholder.

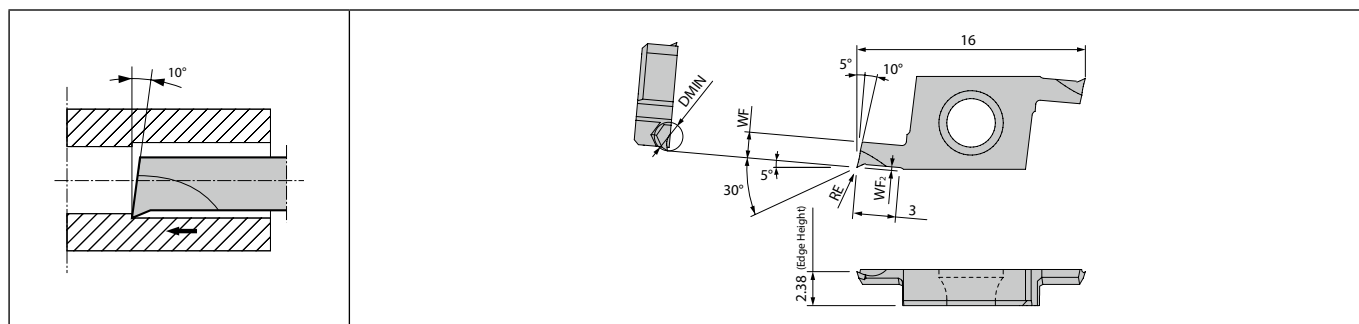
Spare parts (Optional)

Screw (Side stopper)	Wrench
HS3X4	LW-1.5

Recommended cutting conditions (VNBX-S)

Workpiece material	Insert grades (Vc: m/min)	VNBX01-S type VNBX015-S type		VNBX02-S type VNBX04-S type		Remarks
	PVD coated carbide					
	PR930	ap (mm), f (mm/rev)				
		ap	f	ap	f	
Carbon steel / Alloy steel	★ 30~100	~0.1	~0.01	~0.2	~0.03	Coolant
Stainless steel	★ 30~80	~0.1	~0.01	~0.2	~0.02	

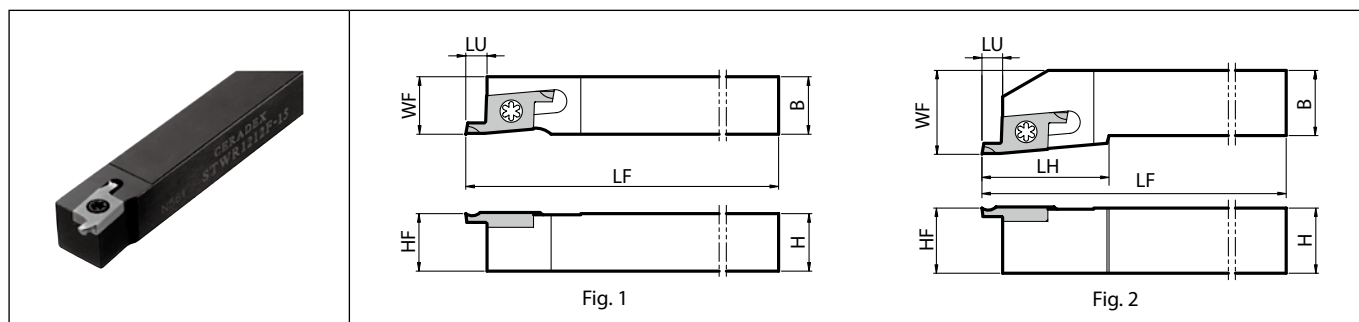
★ 1st recommendation

TWB (Micro boring, Horizontal type)

Right-hand shown

F**Dimensions**

Description		No. of edges	Dimension (mm)				Tolerance (mm)		Carbide		Applicable toolholder 🔄 F56, F57
			DMIN	WF	WF ₂	RE	RE min.	RE max.	PVD		
									PR1025	PR1535	
TWBR	01003-005	2	1	0.85	0.2	0.05	-0.02	0	●	●	STWR...-15 S.-STWR15
TWBR	01503-005 01503-010	2	1.5	1.3	0.2	0.05 0.1	-0.02 -0.03	0	● ●	● ●	
TWBR	02003-005 02003-010	2	2	1.75	0.25	0.05 0.1	-0.02 -0.03	0	● ●	● ●	
TWBR	02503-005 02503-010	2	2.5	2.1	0.3	0.05 0.1	-0.02 -0.03	0	●	●	
TWBR	03003-005 03003-010	2	3	2.4	0.4	0.05 0.1	-0.02 -0.03	0	● ●	● ●	

Recommended cutting conditions ➔ **F59****STW** (Micro boring, Square shank for horizontal type insert)Right-hand shown | Right-hand Insert for Right-hand Toolholder.
(For Left-hand toolholders for grooving, please see page **G106**.)**Toolholder dimensions**

Description		Availability	Dimension (mm)							Coolant hole	Fig.	Spare parts		Applicable inserts ➡ F56
												Screw	Wrench	
			R	H	B	LH	HF	LF	LU			WF		
STWR	1212F-15	●	12	12	-	12	85	3	12	No	1	SB-3080TR	LTW-10S	TWBR...
	1212K-15	●												
	1616K-15	●	16	16		16	125	16	1					
	2020K-15	●	20	20	25			25	2					
	2525M-15	●	25	25			25	150	32		2			

● : Standard item

Twin-bars are
sold in 5 piece boxes**F56**

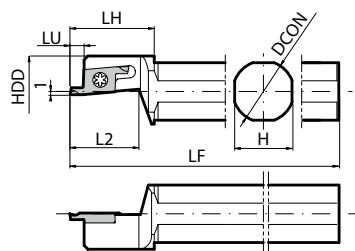
S-STW (Micro boring, Round shank for horizontal type insert)

Fig. 1

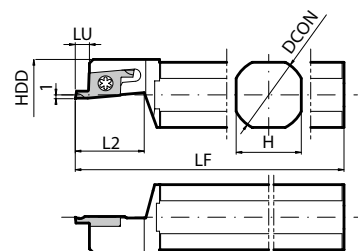


Fig. 2

Right-hand shown | Right-hand Insert for Right-hand Toolholder.
(For Left-hand toolholders for grooving, please see page G107.)

Toolholder dimensions

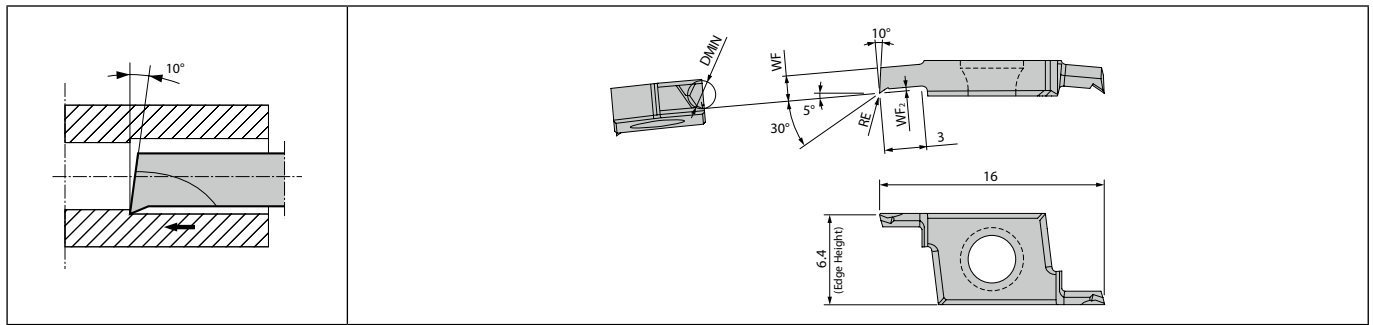
Description	Availability	Dimension (mm)								Coolant hole	Fig.	Spare parts		Applicable inserts ➡ F56
		R	DCON	H	LH	HDD	L2	LF	LU					
S12F- STWR15	●	12	11	22	20	18	80	3	No	1	SB-3080TR	LTW-10S	TWBR...	
S14H- STWR15	●	14	13				100			1				
S15F- STWR15	●	15.875	15				85			1				
S16F- STWR15	●	16					1							
S19G- STWR15	●	19.05	17	18.5	19	90	2							
S19K- STWR15	●					120	2							
S20G- STWR15	●					90	2							
S20K- STWR15	●	20	18	19.5	22	120	2							
S22K- STWR15	●	22	20			125	2							
S25.0J- STWR15	●	25	23			110	2							
S25K- STWR15	●	25.4		120	2									

● : Standard item

F



Boring

TWBT (Micro boring, Vertical type)

Right-hand shown

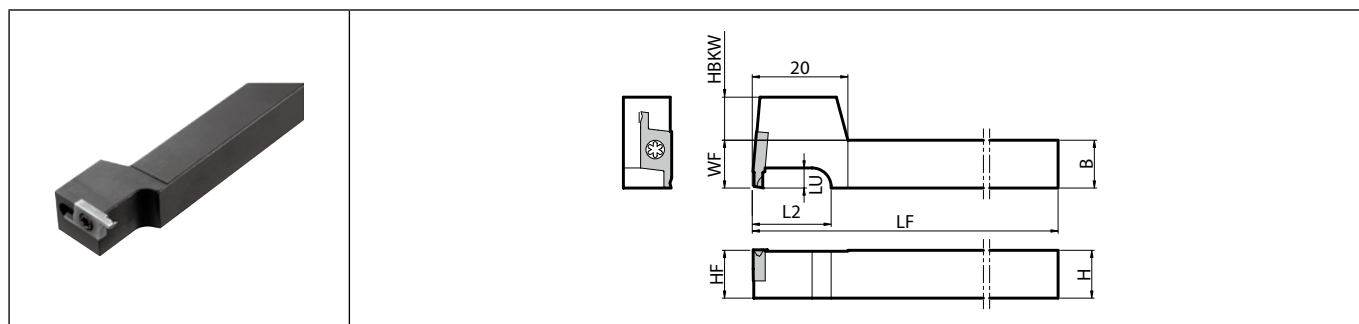
F**Dimensions**

Description	No. of edges	Dimension (mm)				Tolerance (mm)		Carbide		Applicable toolholder  F59
		DMIN	WF	WF ₂	RE	RE min.	RE max.	PVD		
								PR1025	PR1535	
TWBTR 01003-005	2	1	0.85	0.2	0.05	-0.02	0	●	●	STWSR...-15T
TWBTR 01503-005 01503-010	2	1.5	1.3	0.2	0.05 0.1	-0.02 -0.03	0	● ●	● ●	
TWBTR 02003-005 02003-010	2	2	1.75	0.25	0.05 0.1	-0.02 -0.03	0	●	●	
TWBTR 02503-005 02503-010	2	2.5	2.1	0.3	0.05 0.1	-0.02 -0.03	0	● ●	● ●	
TWBTR 03003-005 03003-010	2	3	2.3	0.4	0.05 0.1	-0.02 -0.03	0	● ●	● ●	

Recommended cutting conditions F59

● : Standard item

Twin-bars are
sold in 5 piece boxes

STWS (Micro boring, Square shank for vertical type insert)

Right-hand shown

Toolholder dimensions

Description	Availability	Dimension (mm)									Spare parts		Applicable inserts ➡ F58
											Screw	Wrench	
		R	H	B	L2	HF	HBKW	LF	LU	WF			
STWSR 1010F-15T 1010JX-15T 1212F-15T 1212JX-15T 1616JX-15T	●	10	10	16	10	9	85	3	10	SB-3080TR	LTW-10S		TWBTR...
	●						120						
	●	12	12		12	7	85		12				
	●						120						
	●	16	16	20	16	3			16				

Recommended cutting conditions (TWB / TWBT)

Workpiece material	Insert grades Vc: m/min		TWBR01003 TWBR01503 TWBTR01003 TWBTR01503		TWBR02003 TWBR02503 TWBR03003 TWBTR02003 TWBTR02503 TWBTR03003		Remarks
	MEGACOAT NANO	PVD coated carbide					
	PR1535	PR1025					
	ap (mm), f (mm/rev)						
	ap	f	ap	f			
Carbon steel / Alloy steel	★ 30~100	☆ 30~100	~0.1	~0.01	~0.2	~0.03	Coolant
Stainless steel	★ 30~80	☆ 30~80	~0.1	~0.01	~0.2	~0.02	

★ 1st recommendation ☆ 2nd recommendation

A/S-SCLC-AE Excellent bar (Boring / Internal facing)

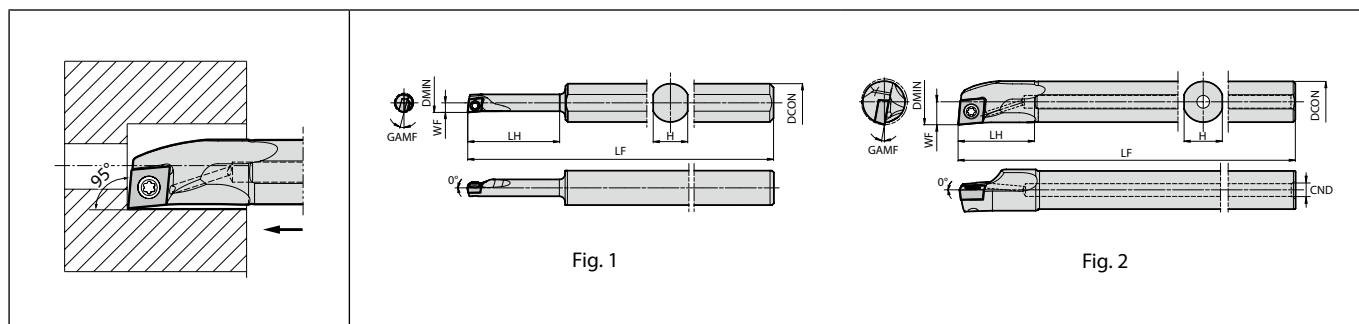


Fig. 1

Fig. 2

Max. Overhang Length $L/D \approx 5.5$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F

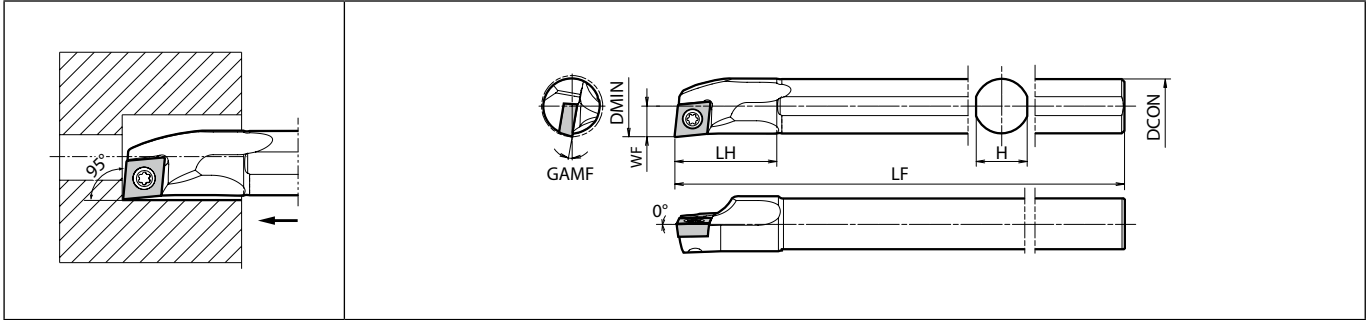
Toolholder dimensions

Description		Availability		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts			Applicable inserts
															Screw	Wrench	Wrench	
		R	L	DMIN	DCON	CND	H	LH	LF	WF								
S10H- SCLC%03-05AE SCLC%03-06AE	●	●	5	10	-	9	24	100	2.5	15	0.2	No	1	SB-1635TR	-	FT-6	CC□T0301... CC□W0301...	
	●	●	6				28		3	13								
S10H- SCLC%04-07AE SCLC%04-08AE	●	●	7	10	-	9	32	100	3.5	13	0.2	No	1	SB-2035TR	-	FT-6	CC□T0401... CC□W0401...	
	●	●	8				37		4	11								
A08X- SCLC%06-10AE	●	●	10	8	2.5	7	16	120	5	14	0.4	Yes	2	SB-2545TR	-	FT-8	CC□T0602... CC□W0602...	
A10L- SCLC%06-12AE	●	●	12	10	3	9	20	140	6	12								
A12M- SCLC%06-14AE	●	●	14	12	4	11	24	150	7	10								
A16Q- SCLC%09-18AE	●	●	18	16			15	30	180	9	10	0.4	Yes	2	SB-4065TR	FT-15	-	CC□T09T3... CC□W09T3...
A20R- SCLC%09-22AE	●	●	22	20	5	19	36	200	11	8								
A25S- SCLC%09-27AE	●	●	27	25		24	46	250	13.5	6								

When using P chipbreaker : Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

● : Standard item

S-SCLC-A Steel shank bar (Boring / Internal facing)



Max. Overhang Length L/D≈4 | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

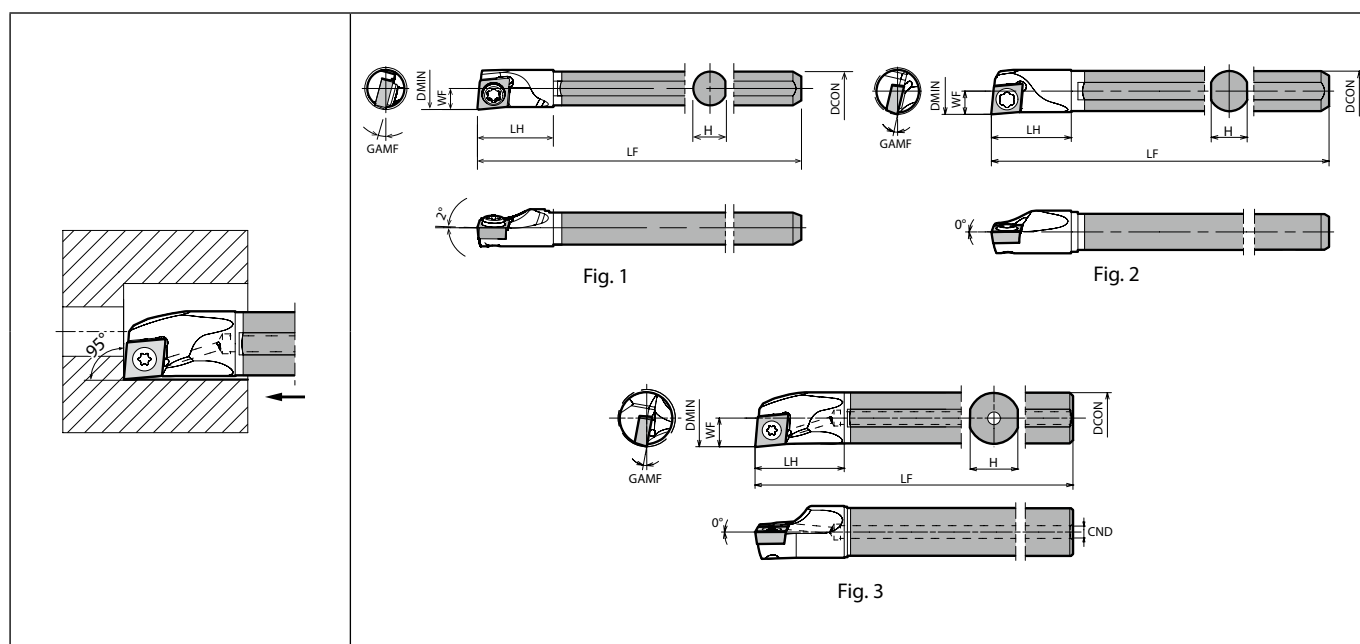
Toolholder dimensions

Description	Availabi- lity		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts			Applicable inserts
													Screw	Wrench	Wrench	
	R	L	DMIN	DCON	H	LH	LF	WF								
S08X- SCLC%L06-10A	●	●	10	8	7	16	120	5	14	0.4	No	SB-2545TR	-	FT-8	CC□T0602... CC□W0602...	
S10L- SCLC%L06-12A	●	●	12	10	9	20	140	6	12							
S12M- SCLC%L06-14A	●	●	14	12	11	24	150	7	10							
S16Q- SCLC%L09-18A	●	●	18	16	15	30	180	9	10	0.4	No	SB-4065TR	FT-15	-	CC□T09T3... CC□W09T3...	
S20R- SCLC%L09-22A	●	●	22	20	19	36	200	11	8							
S25S- SCLC%L09-27A	●	●	27	25	24	46	250	13.5	6							

When using P chipbreaker : Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

● : Standard item

C/E-SCLC-A(N) Carbide shank bar (Boring / Internal facing)



Max. Overhang Length $L/D \approx 7$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

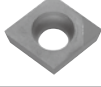
Toolholder dimensions

Description	Availability		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts			Applicable inserts
														Screw	Wrench	Wrench	
	R	L	DMIN	DCON	CND	H	LH	LF	WF								
C04G- SCLC%03-05AN	●	●	5	4	-	3.8	7	90	2.5	15	0.2	No	1	SB-1635TR	-	FT-6	CC□T0301... CC□W0301...
C05H- SCLC%03-06AN	●	●	6	5	-	4.4	9	100	3	13	0.2	No	2	SB-1635TR	-	FT-6	CC□T0301... CC□W0301...
C06J- SCLC%04-07AN	●	●	7	6	-	5.4	10	110	3.5	13	0.2	No	2	SB-2035TR	-	FT-6	CC□T0401... CC□W0401...
C07K- SCLC%04-08AN	●	●	8	7	-	6.4	11	125	4	11	0.2	No	2	SB-2035TR	-	FT-6	CC□T0401... CC□W0401...
E08L- SCLC%06-10AN	●	●	10	8	3	7	14	140	5	14	0.4	Yes	3	SB-2545TR	-	FT-8	CC□T0602... CC□W0602...
E10N- SCLC%06-12AN	●	●	12	10		9	18	160	6	12							
E12Q- SCLC%06-14A	●	●	14	12		11	23	180	7	10							
E16X- SCLC%09-18A	●	●	18	16	4	15	28	220	9	10	0.4	Yes	3	SB-4065TR	FT-15	-	CC□T09T3... CC□W09T3...
E20S- SCLC%09-22A	●	●	22	20	6	19	32	250	11	8							
E25T- SCLC%09-27A	●	●	27	25		24	38	300	13.5	6							

When using P chipbreaker : Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

● : Standard item

Applicable inserts (A/S-SCLC-AE / S-SCLC-A / C/E-SCLC-A(N))

Applications	Minute ap	Finishing	Finishing	Finishing	Finishing	Finishing	Finishing - Medium	Finishing
Insert								
Chipbreaker type	CF	PF	GF	SKS	SK	CK	GQ	WP
Page	B58	B58	B58	B59	B59	B59	B59	B60
Applications	Finishing	Finishing - Medium	Finishing - Medium	Medium	Medium	Finishing	Finishing	Finishing
Insert								
Chipbreaker type	PP	GK	HQ	STD	MF	$\frac{P}{L}$ -F	$\frac{P}{L}$ -FSF	$\frac{P}{L}$ -P
Page	B60	B60	B60	B60	B61	B62	B61	B63
Applications	Low feed	Low feed	Low feed	Stainless steel / Heat-resistant alloys	Cast iron	Non-Ferrous metals	Non-Ferrous metals	Non-Ferrous metals
Insert								
Chipbreaker type	$\frac{P}{L}$ -U	$\frac{P}{L}$ -USF	$\frac{P}{L}$ -J	MQ	No CB	AP	$\frac{P}{L}$ -A3	AH
Page	B63~B65	B63	B65	B61	B66	B66	B66	B66
Applications	Non-Ferrous metals	Non-Ferrous metals	Hard materials					
Insert								
Chipbreaker type	PCD	APD	CBN					
Page	C39	C40	C20					

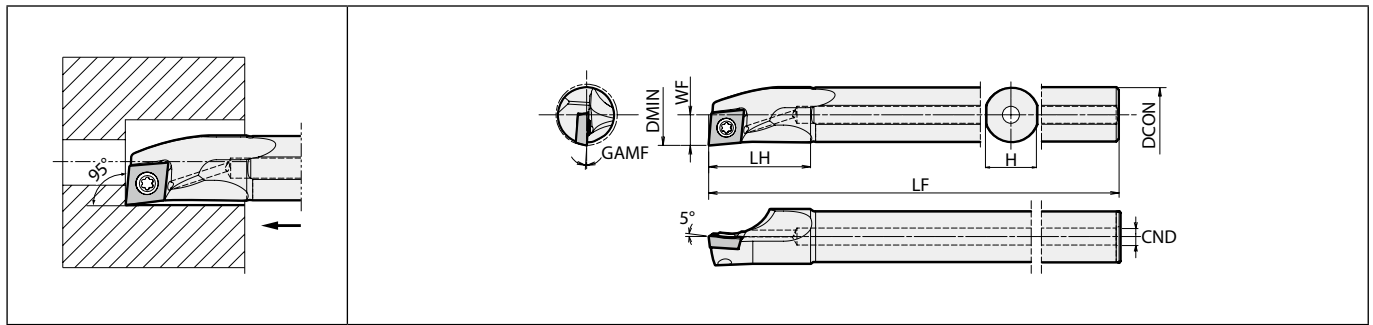
Recommended cutting conditions ➡ F158, F159

Applicable sleeves ➡ F154~F157

F



Boring

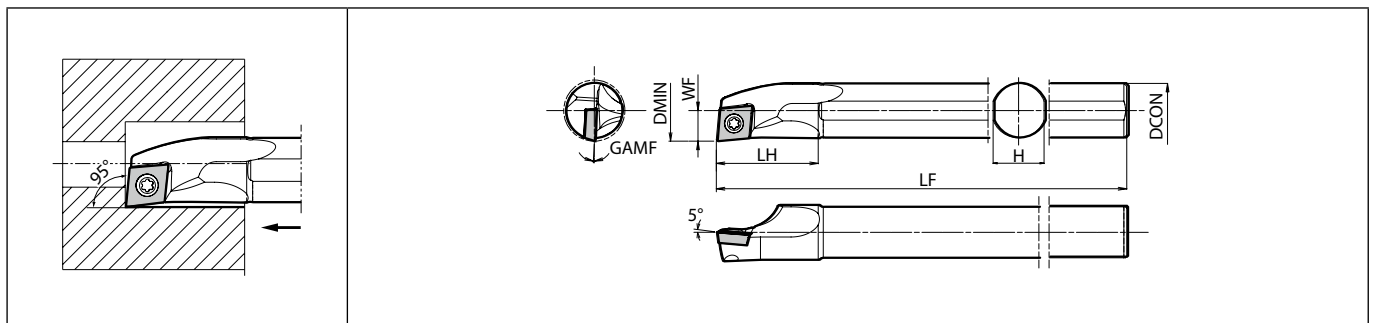
A-SCLP-AE Excellent bar (Boring / Internal facing)Max. Overhang Length $L/D \approx 5.5$ | Right-hand shown

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

F

Toolholder dimensions

Description		Availability		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts			Applicable inserts
														Screw	Wrench	Wrench	
		R	L	DMIN	DCON	CND	H	LH	LF	WF							
A10L- SCLP [®] /08-12AE	●	●	12	10	3	9	20	140	6	5	0.4	Yes	SB-3060TR	-	FT-10	CP□B0802... CP□H0802... CP□T0802...	
A12M- SCLP [®] /08-14AE	●	●	14	12	4	11	24	150	7	4							
A12M- SCLP [®] /09-16AE	●	●	16	12	4	11	24	150	8	4	0.4	Yes	SB-4065TR	FT-15	-	CP□B0903... CP□H0903... CP□T0903...	
A16Q- SCLP [®] /09-18AE	●	●	18	16	5	15	30	180	9	3.5							
A20R- SCLP [®] /09-22AE	●	●	22	20		19	36	200	11	2							
A25S- SCLP [®] /09-27AE	●	●	27	25		24	46	250	13.5	0							

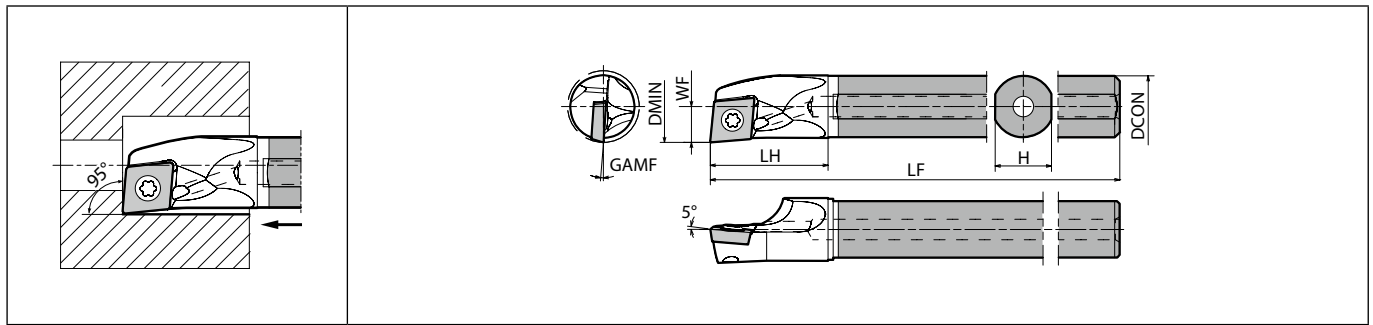
S-SCLP-A Steel shank bar (Boring / Internal facing)Max. Overhang Length $L/D \approx 4$ | Right-hand shown

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

Toolholder dimensions

Description	Availability		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts			Applicable inserts
													Screw	Wrench	Wrench	
	R	L	DMIN	DCON	H	LH	LF	WF								
S10L- SCLP%/08-12A	●	●	12	10	9	20	140	6	5	0.4	No	SB-3060TR	-	FT-10	CP□B0802... CP□H0802... CP□T0802...	
S12M- SCLP%/08-14A	●	●	14	12	11	24	150	7	4							
S12M- SCLP%/09-16A	●	●	16	12	11	24	150	8	4	0.4	No	SB-4065TR	FT-15	-	CP□B0903... CP□H0903... CP□T0903...	
S16Q- SCLP%/09-18A	●	●	18	16	15	30	180	9	3.5							
S20R- SCLP%/09-22A	●	●	22	20	19	36	200	11	2							
S25S- SCLP%/09-27A	●	●	27	25	24	46	250	13.5	0							

● : Standard item

E-SCLP-A(N) Carbide shank bar (Boring / Internal facing)

Max. Overhang Length $L/D \approx 7$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder dimensions

Description		Availability		Dimension (mm)							GAMF (°)	Standard corner R(RE)	Coolant hole	Spare parts			Applicable inserts
														Screw	Wrench	Wrench	
		R	L	DMIN	DCON	CND	H	LH	LF	WF							
E10N- SCLP [®] /08-12AN SCLPR08-12AN2/3 SCLPR08-12AN1/2	●	●	12	10	3	9	18	160	6	5	0.4	Yes	SB-3060TR	-	FT-10	CP□B0802... CP□H0802... CP□T0802...	
	●							105									
	●							80									
E12Q- SCLP [®] /08-14A SCLPR08-14A-2/3 SCLPR08-14A-1/2	●	●	14	12	4	11	23	180	7	4	0.4	Yes	SB-3060TR	-	FT-10	CP□B0802... CP□H0802... CP□T0802...	
	●							120									
	●							90									
E12Q- SCLP [®] /09-16A SCLPR09-16A-2/3 SCLPR09-16A-1/2	●	●	16	12	4	11	23	180	8	5	0.4	Yes	SB-4065TR	FT-15	-	CP□B0903... CP□H0903... CP□T0903...	
	●							120									
	●							90									
E16X- SCLP [®] /09-18A SCLPR09-18A-2/3 SCLPR09-18A-1/2	●	●	18	16	4	15	28	220	9	3.5	0.4	Yes	SB-4065TR	FT-15	-	CP□B0903... CP□H0903... CP□T0903...	
	●							145									
	●							110									
E20S- SCLP [®] /09-22A SCLPR09-22A-2/3 SCLPR09-22A-1/2	●	●	22	20	6	19	32	250	11	2	0.4	Yes	SB-4065TR	FT-15	-	CP□B0903... CP□H0903... CP□T0903...	
	●							165									
	●							125									
E25T- SCLP [®] /09-27A SCLPR09-27A-2/3	●	●	27	25	6	24	38	300	13.5	0	0.4	Yes	SB-4065TR	FT-15	-	CP□B0903... CP□H0903... CP□T0903...	
	●							200									

Applicable inserts (A-SCLP-AE / S-SCLP-A / E-SCLP-A(N))

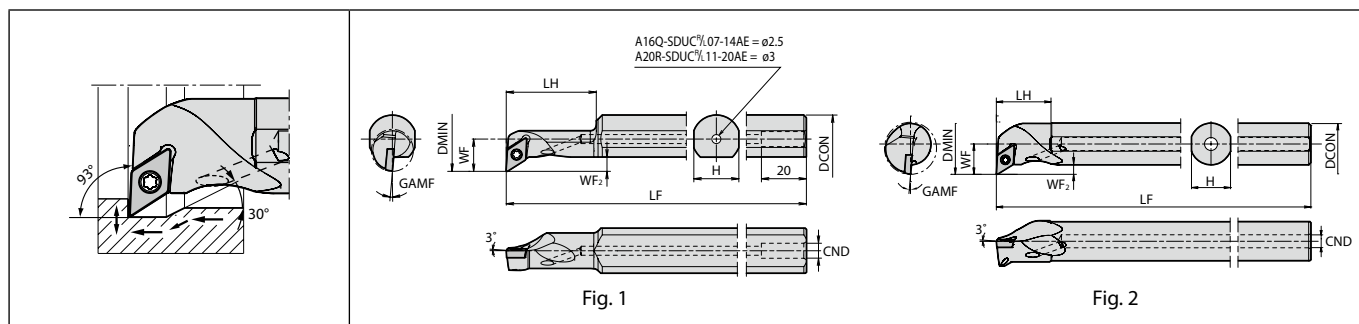
Applications	Finishing	Finishing	Finishing - Medium	Medium	Low carbon steel	Low carbon steel	Finishing - Medium	Cast iron
Insert								
Chipbreaker type	PP	GP	HQ	STD	XP	XQ	Y/-Y	No CB
Page	B67	B67	B67	B67	B67	B67	B67	B67
Applications	Non-Ferrous metals	Hard materials						
Insert								
Chipbreaker type	PCD	CBN						
Page	C41	C21						

Recommended cutting conditions ➡ F159

Applicable sleeves ➡ F155~F157

● : Standard item

A-SDUC-AE Excellent bar (Internal copying)



Max. Overhang Length L/D≈5.5 | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F

Toolholder dimensions

Description	Availability		Dimension (mm)								GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts			Applicable inserts
															Screw	Wrench	Wrench	
	R	L	DMIN	DCON	CND	H	LH	LF	WF	WF2								
A10L- SDUC% 07-14AE	●	●	14	10	3	9	19	140	8.7	3.3	5	0.4	Yes	2	SB-2560TR	-	FT-8	DC□T0702... DC□W0702... DC□X0702...
A12M- SDUC% 07-16AE	●	●	16	12	4	11	21	150	9.7					2				
A16Q- SDUC% 07-14AE	●	●	14	16	5	15	28	180	10.8	4.4				1				
SDUC% 07-20AE	●	●	20						11.7	3.3	2							
A16Q- SDUC% 11-23AE	●	●	23	16	5	19	48	200	14.5	6.1	5	0.4	Yes	2	SB-4065TR	FT-15	-	DC□T11T3... DC□W11T3... DC□X11T3...
A20R- SDUC% 11-20AE	●	●	20	20					15.6					1				
SDUC% 11-27AE	●	●	27						16.5					2				
A25S- SDUC% 11-32AE	●	●	32	25		24	24	250	19					2				

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

● : Standard item

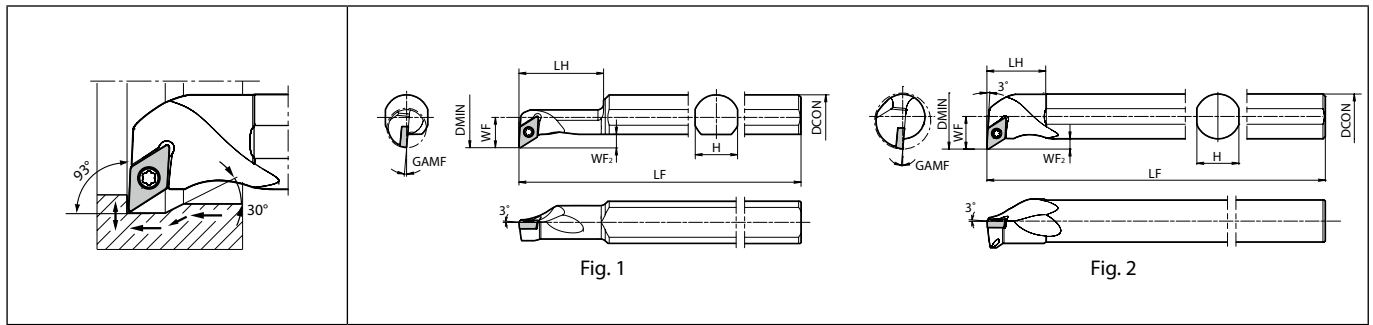
S-SDUC-A Steel shank bar (Internal copying)

Fig. 1

Fig. 2

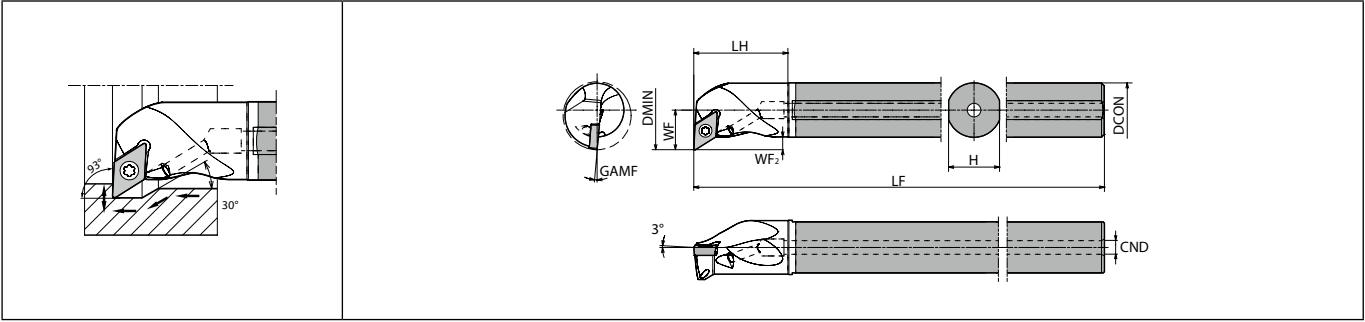
Max. Overhang Length $L/D \approx 4$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder dimensions

Description		Availability		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts			Applicable inserts
															Screw	Wrench	Wrench	
		R	L	DMIN	DCON	H	LH	LF	WF	WF ₂								
S10L- SDUC®.07-14A	●	●	14	10	9	19	140	8.7	3.3	5	0.4	No	2	SB-2560TR	-	FT-8	DC□T0702... DC□W0702... DC□X0702...	
S12M- SDUC®.07-16A	●	●	16	12	11	21	150	9.7	2									
S16Q- SDUC®.07-14A SDUC®.07-20A	●	●	14	16	15	28	180	10.8	4.4				1					
	●	●	20			21		11.7	3.3				2					
S16Q- SDUC®.11-23A	●	●	23	16	15	21	180	14.5		6.1	5	0.4	No	2	SB-4065TR	FT-15	-	DC□T11T3... DC□W11T3... DC□X11T3...
S20R- SDUC®.11-20A SDUC®.11-27A	●	●	20	20	19	48	200	15.6	1									
	●	●	27			23		16.5	2									
S25S- SDUC®.11-32A	●	●	32	25	24	24	250	19										

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

E-SDUC-A Carbide shank bar (Internal copying)



Max. Overhang Length L/D≈7 | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F

Toolholder dimensions

Description		Availability		Dimension (mm)								GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts			Applicable inserts
															Screw	Wrench	Wrench	
		R	L	DMIN	DCON	CND	H	LH	LF	WF	WF ₂							
E10N- SDUC [®] /07-14A SDUCR07-14A-2/3	● ●	● —	14	10	3	9	20	160 105	8.7	3.3	5	0.4	Yes	SB-2560TR	-	FT-8	DC□T0702... DC□W0702... DC□X0702...	
E12Q- SDUC [®] /07-16A SDUCR07-16A-2/3	● ●	● —	16	12	4	11	23	180 120	9.7									
E16X- SDUC [®] /07-20A SDUCR07-20A-2/3	● ●	● —	20	16		15	28	220 145	11.7									
E16X- SDUC [®] /11-23A SDUCR11-23A-2/3	● ●	● —	23	16	4	15	28	220 145	14.5	6.1	5	0.4	Yes	SB-4065TR	FT-15	-	DC□T11T3... DC□W11T3... DC□X11T3...	
E20S- SDUC [®] /11-27A SDUCR11-27A-2/3	● ●	● —	27	20	6	19	32	250 165	16.5									
E25T- SDUC [®] /11-32A SDUCR11-32A-2/3	● ●	● —	32	25		24	38	300 200	19									

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

● : Standard item

Applicable inserts (A-SDUC-AE / S-SDUC-A / E-SDUC-A)

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

Recommended cutting conditions ➡ F159

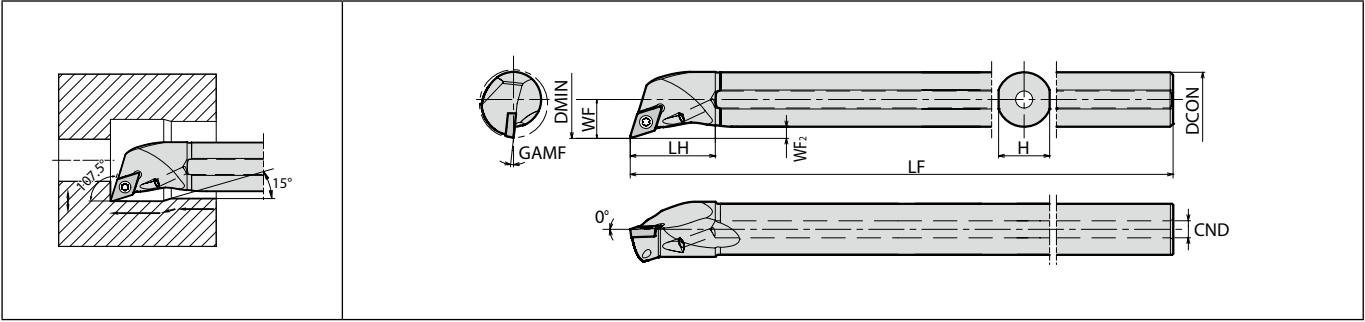
Applicable sleeves ➡ F155~F157

F



Boring

A-SDQC-AE Excellent bar (Internal copying)



Max. Overhang Length L/D≈~5.5 | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

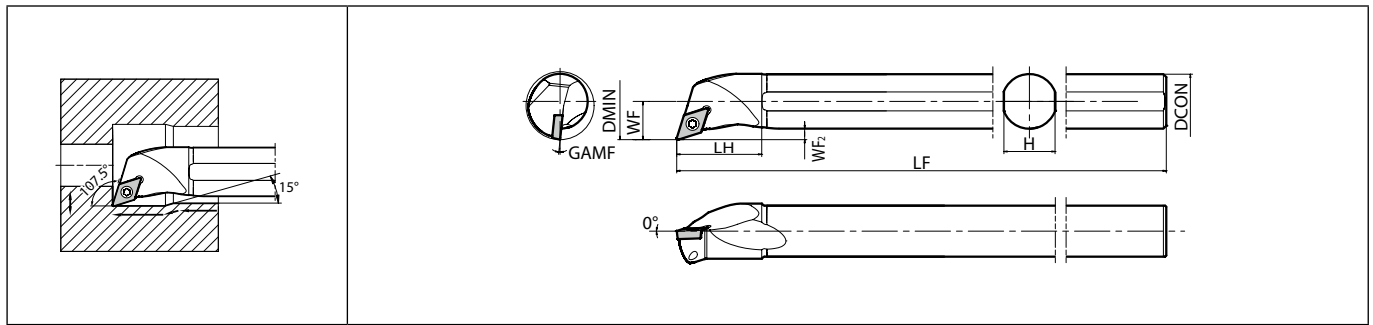
F

Toolholder dimensions

Description	Availability		Dimension (mm)									GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts			Applicable inserts
															Screw	Wrench	Wrench	
	R	L	DMIN	DCON	CND	H	LH	LF	WF	WF ₂								
A10L- SDQC [®] /07-13AE	●	●	13	10	3	9	19	140	7.5	2.1	10	0.4	Yes	SB-2560TR	-	FT-8	DC□T0702... DC□W0702...	
A12M- SDQC [®] /07-16AE	●	●	16	12	4	11	22	150	9.25	2.6	8							
A16Q- SDQC [®] /07-20AE	●	●	20	16	5	15	25	180	11.3			6	0.4	Yes	SB-4065TR	FT-15	-	DC□T11T3... DC□W11T3...
A20R- SDQC [®] /11-25AE	●	●	25	20	5	19	31	200	14.4	3.7	5							
A25S- SDQC [®] /11-30AE	●	●	30	25		24	38	250	16.9			4						

WP chipbreaker (DCMX-WP : Wiper insert) is not applicable to A-SDQC-AE Toolholders.

● : Standard item

S-SDQC-A Steel shank bar (Internal copying)

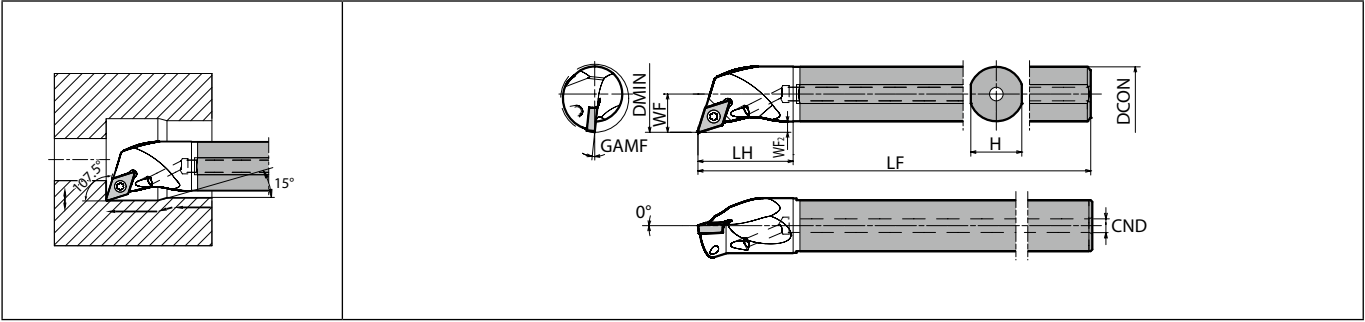
Max. Overhang Length $L/D \approx 4$ | Right-hand shown
 Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder dimensions

Description		Availability		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts			Applicable inserts
														Screw	Wrench	Wrench	
		R	L	DMIN	DCON	H	LH	LF	WF	WF ₂							
S10L- SDQC [®] /07-13A	●	●	13	10	9	19	140	7.5	2.1	10	0.4	No	SB-2560TR	-	FT-8	DC□T0702... DC□W0702...	
S12M- SDQC [®] /07-16A	●	●	16	12	11	22	150	9.25	2.6	8							
S16Q- SDQC [®] /07-20A	●	●	20	16	15	25	180	11.3	3.7	6							
S20R- SDQC [®] /11-25A	●	●	25	20	19	31	200	14.4	3.7	5	0.4	No	SB-4065TR	FT-15	-	DC□T11T3... DC□W11T3...	
S25S- SDQC [®] /11-30A	●	●	30	25	24	38	250	16.9	4	4							

WP chipbreaker (DCMX-WP : Wiper insert) is not applicable to S-SDQC-A Toolholders.

E-SDQC-A Carbide shank bar (Internal copying)



Max. Overhang Length L/D≈7 | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F

Toolholder dimensions

Description		Availability		Dimension (mm)								GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts			Applicable inserts
															Screw	Wrench	Wrench	
		R	L	DMIN	DCON	CND	H	LH	LF	WF	WF2							
E10N- SDQC ⁹ /07-13A SDQCR07-13A-2/3	●	●	13	10	3	9	20	160	7.5	2.1	10	0.4	Yes	SB-2560TR	-	FT-8	DC□T0702... DC□W0702...	
	●							105										
E12Q- SDQC ⁹ /07-16A SDQCR07-16A-2/3	●	●	16	12	4	11	23	180	9.25	2.6	8							
	●							120										
E16X- SDQC ⁹ /07-20A SDQCR07-20A-2/3	●	●	20	16		15	28	220	11.3	6								
	●							145										
E20S- SDQC ⁹ /11-25A SDQCR11-25A-2/3	●	●	25	20		6	19	32	250	14.4	3.7	5	0.4	Yes	SB-4065TR	FT-15	-	DC□T11T3... DC□W11T3...
	●				165													
E25T- SDQC ⁹ /11-30A SDQCR11-30A-2/3	●	●	30	25	24		38	300	16.9	4								
	●							200										

WP chipbreaker (DCMX-WP : Wiper insert) is not applicable to E-SDQC-A Toolholders.

● : Standard item

Applicable inserts (A-SDQC-AE / S-SDQC-A / E-SDQC-A)

Applications	Minute ap	Finishing	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing
Insert								
Chipbreaker type	CF	GF	SKS	SK	CK	GQ	PP	GP
Page	B68	B68	B68	B68	B68	B69	B69	B69
Applications	Finishing - Medium	Finishing - Medium	Medium	Medium	Finishing	Finishing	Low feed	Low feed
Insert								
Chipbreaker type	GK	HQ	STD	MF	$\frac{1}{2}$ -F	$\frac{1}{2}$ -FSF	$\frac{1}{2}$ -U	$\frac{1}{2}$ -USF
Page	B70	B70	B70	B70	B72, B73	B72	B74~B76	B74
Applications	Low feed	Low feed	Low carbon steel	Low carbon steel	Stainless steel / Heat-resistant alloys	Cast iron	Non-Ferrous metals	Non-Ferrous metals
Insert								
Chipbreaker type	$\frac{1}{2}$ -J	$\frac{1}{2}$ -JSF	XP	XQ	MQ	No CB	AP	$\frac{1}{2}$ -A3
Page	B77	B76	B71	B71	B71	B78	B78	B78
Applications	Non-Ferrous metals	Non-Ferrous metals	Non-Ferrous metals	Hard materials				
Insert								
Chipbreaker type	AH	PCD	APD	CBN				
Page	B78	C42	C42	C22				

Recommended cutting conditions ➡ F159

Applicable sleeves ➡ F155~F157

F



Boring

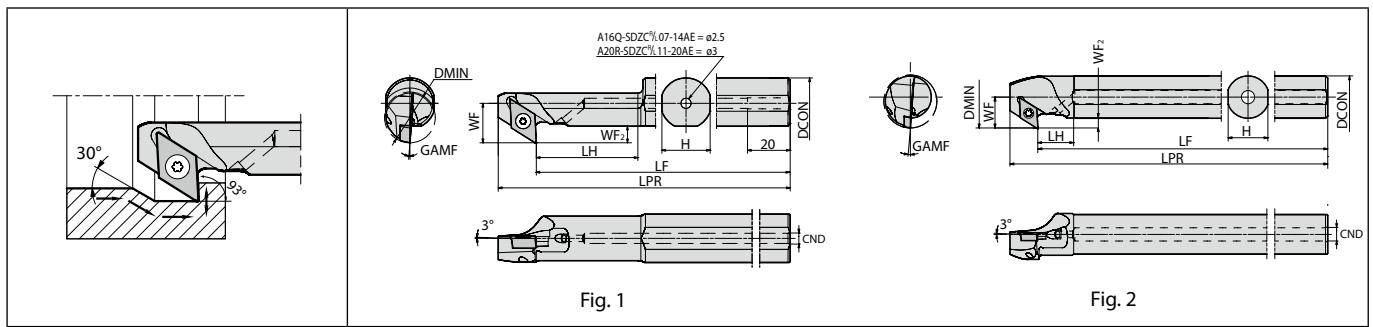
A-SDZC-AE Excellent bar (Back boring)

Fig. 1

Fig. 2

Max. Overhang Length L/D≈~5.5 | Right-hand shown
Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

F

Toolholder dimensions

Description	Availability		Dimension (mm)										GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts			Applicable inserts
																	Screw	Wrench	Wrench	
	R	L	DMIN	DCON	CND	H	LH	LPR	LF	WF	WF2									
A10L- SDZC%/07-14AE	●	●	14	10	3	9	14	140	130.5	8.7	3.3	5	0.4	Yes	2	SB-2545TR	-	FT-8	DC T0702... DC W0702... DC X0702...	
A12M- SDZC%/07-16AE	●	●	16	12	4	11		150	139.5	9.7					2	SB-2560TR				
A16Q- SDZC%/07-14AE SDZC%/07-20AE	●	●	14	16	5	15	30	180	170	10.8	4.4				1	SB-2545TR				
	●	●	20				14		169.5	11.7	3.3				2	SB-2560TR				
A16Q- SDZC%/11-23AE	●	●	23	16	5	15	15	180	165	14.5	6.1	5	0.4	Yes	2	SB-4065TR	FT-15	-	DC T11T3... DC W11T3... DC X11T3...	
A20R- SDZC%/11-20AE SDZC%/11-27AE	●	●	20	20		19	40	200	185	15.6					1					
	●	●	27				15	200	185	16.5					2					
A25S- SDZC%/11-32AE	●	●	32	25		24	15	250	235	19					2					

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

● : Standard item

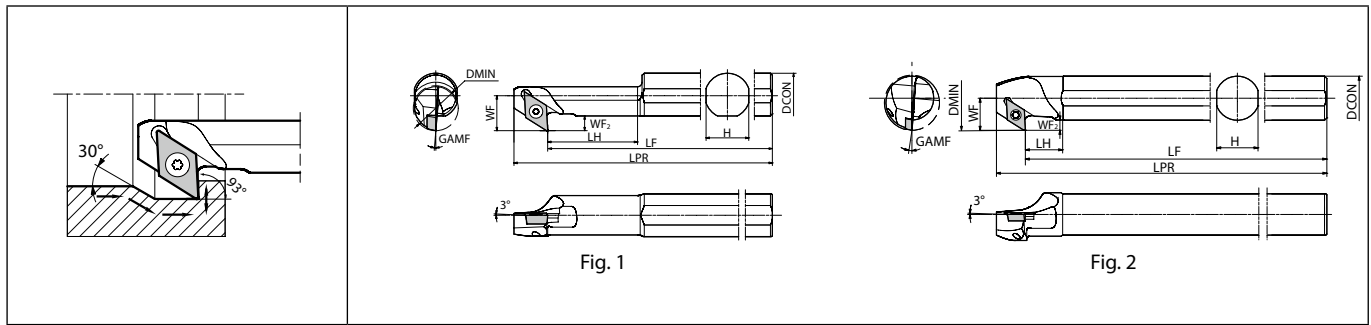
S-SDZC-A Steel shank bar (Back boring)

Fig. 1

Fig. 2

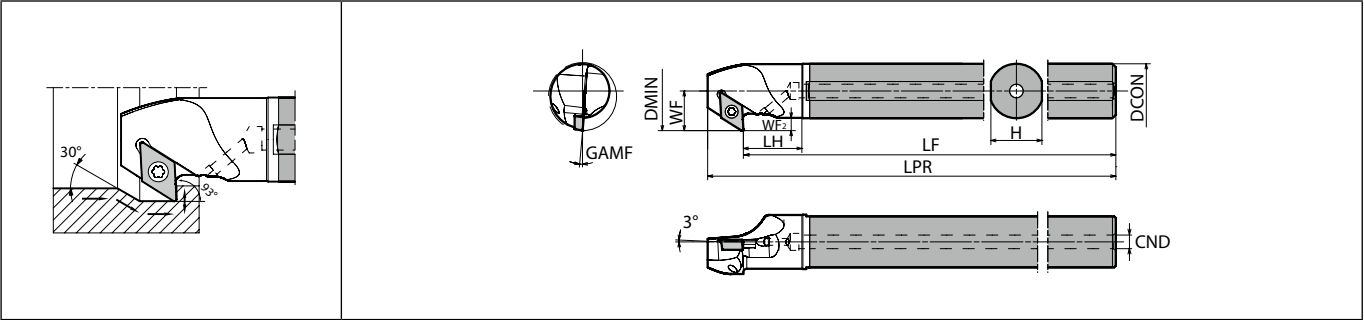
Max. Overhang Length $L/D \approx 4$ | Right-hand shown
Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

Toolholder dimensions

Description		Availability		Dimension (mm)								GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts			Applicable inserts	
																Screw	Wrench	Wrench		
		R	L	DMIN	DCON	H	LH	LPR	LF	WF	WF ₂									
S10L- SDZC [®] /07-14A	●	●	14	10	9	14	140	130.5	8.7	3.3	5	0.4	No	2	SB-2545TR	-	FT-8	DC□T0702... DC□W0702... DC□X0702...		
S12M- SDZC [®] /07-16A	●	●	16	12	11	14	150	139.5	9.7	3.3				2	SB-2560TR					
S16Q- SDZC [®] /07-14A SDZC [®] /07-20A	●	●	14	16	15	30	170	10.8	4.4	4.4				1	SB-2545TR					
	●	●	20	16	15	14	180	169.5	11.7	3.3				2	SB-2560TR					
S16Q- SDZC [®] /11-23A	●	●	23	16	15	15	180	165	14.5	6.1	5	0.4	No	2	SB-4065TR	FT-15	-	DC□T11T3... DC□W11T3... DC□X11T3...		
S20R- SDZC [®] /11-20A SDZC [®] /11-27A	●	●	20	20	19	40	200	185	15.6					16.5					1	2
	●	●	27	20	19	15	250	235	19					2						
S25S- SDZC [®] /11-32A	●	●	32	25	24	15	250	235	19											

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

E-SDZC-A Carbide shank bar (Back boring)



Max. Overhang Length L/D≈7 | Right-hand shown
Right-hand Insert for Right-hand Toolholder.

F

Toolholder dimensions

Description	Availability	Dimension (mm)									GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts			Applicable inserts	
		R	DMIN	DCON	CND	H	LH	LPR	LF	WF				WF ₂	Screw	Wrench		Wrench
																		
E10N- SDZCR07-14A	●	14	10	3	9	10.5	160	150.5	8.7	3.3	5	0.4	Yes	SB-2545TR	-	FT-8	DC□T0702... DC□W0702... DC□X0702...	
E12Q- SDZCR07-16A	●	16	12	4	11	12.5	180	169.5	9.7					SB-2560TR				
E16X- SDZCR07-20A	●	20	16	15	17.5	220	209.5	11.7										
E16X- SDZCR11-23A	●	23	16	4	15	13	220	205	14.5	6.1	5	0.4	Yes	SB-4065TR	FT-15	-	DC□T11T3... DC□W11T3... DC□X11T3...	
E20S- SDZCR11-27A	●	27	20	6	19	17	250	235	16.5									

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

● : Standard item

Applicable inserts (A-SDZC-AE / S-SDZC-A / E-SDZC-A)

Applications	Minute ap	Finishing	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing
Insert								
Chipbreaker type	CF	GF	SKS	SK	CK	GQ	WP	$\frac{1}{2}$ -WP
Page	B68	B68	B68	B68	B68	B69	B69	B69
Applications	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Medium	Medium	Finishing	Finishing
Insert								
Chipbreaker type	PP	GP	GK	HQ	STD	MF	$\frac{1}{2}$ -F	$\frac{1}{2}$ -FSF
Page	B69	B69	B70	B70	B70	B70	B72, B73	B72
Applications	Low feed	Low feed	Low feed	Low feed	Low carbon steel	Low carbon steel	Stainless steel / Heat-resistant alloys	Cast iron
Insert								
Chipbreaker type	$\frac{1}{2}$ -U	$\frac{1}{2}$ -USF	$\frac{1}{2}$ -J	$\frac{1}{2}$ -JSF	XP	XQ	MQ	No CB
Page	B74~B76	B74	B77	B76	B71	B71	B71	B78
Applications	Non-Ferrous metals	Non-Ferrous metals	Non-Ferrous metals	Non-Ferrous metals	Non-Ferrous metals	Hard materials		
Insert								
Chipbreaker type	AP	$\frac{1}{2}$ -A3	AH	PCD	APD	CBN		
Page	B78	B78	B78	C42	C42	C22		

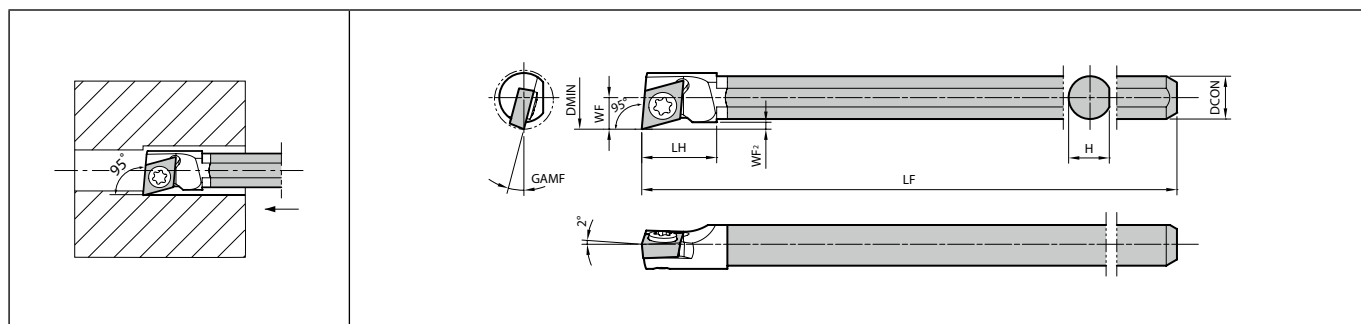
Recommended cutting conditions ➡ F159

Applicable sleeves ➡ F155~F157

F



Boring

C-SJLC Carbide shank bar (Boring / Internal facing)

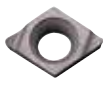
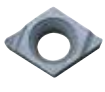
Max. Overhang Length $L/D \approx 7$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F

Toolholder dimensions

Description	Availability		Dimension (mm)								GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts		Applicable inserts
														Screw	Wrench	
	R	L	DMIN	DCON	H	LH	LF	WF	WF ₂							
C04X- SJLC [®] /03-055	●	●	5.5	4	3.8	7	91	2.95	0.65	15	0.03	No	SB-1635TR	FT-6	JC T0301...	

Applicable inserts

Applications	Finishing	Finishing
Insert		
Chipbreaker type	^R / _L -F	^R / _L -FSF
Page	B80	B80

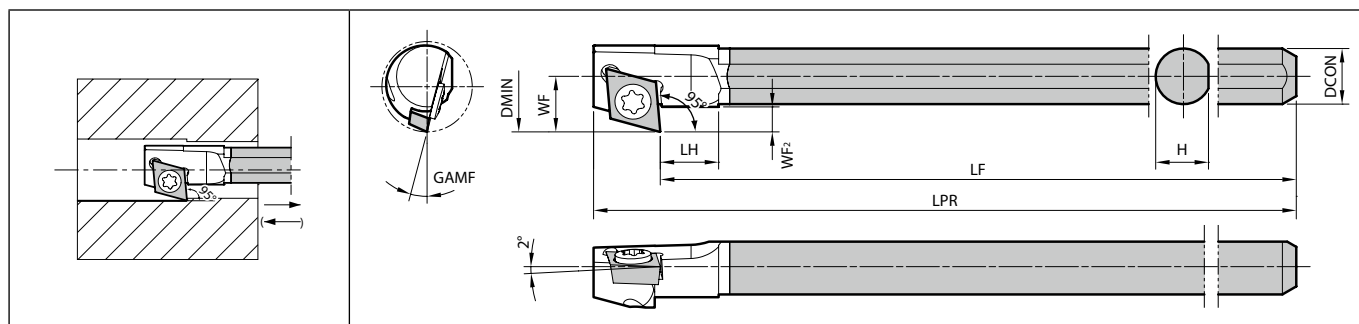
Recommended cutting conditions ➡ **F158, F159**

Applicable sleeves ➡ **F154, F156, F157**

• Features of C-SJLC

1. Specially designed for minimized bore dia.
2. A relief angle of 15° ensures high flexibility of the tool pass during necking.
3. Retaining front relief angle 5° and good surface roughness during internal facing.

● : Standard item

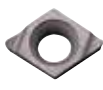
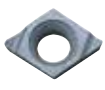
C-SJZC Carbide shank bar (Back boring)

Max. Overhang Length $L/D \approx 7$ | Right-hand shown
 Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.
 When using Right-hand Toolholder, use Right-hand insert if machining from back to front in this direction ($\rightarrow$).
 Use Left-hand insert if machining from front to back in this direction ($\leftarrow$).

Toolholder dimensions

Description	Availability		Dimension (mm)									GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts		Applicable inserts
															Screw	Wrench	
	R	L	DMIN	DCON	H	LH	LPR	LF	WF	WF ₂							
C04X-SJZC®/03-065	●	●	6.5	4	3.8	4	93	88.1	4	1.8	15	0.03	No	SB-1635TR	FT-6	JC-T0301...	

Applicable inserts

Applications	Finishing	Finishing
Insert		
Chipbreaker type	R/L-F	R/L-FSF
Page	B80	B80

Recommended cutting conditions ➡ F158, F159

Applicable sleeves ➡ F154, F156, F157

• Features of C-SJZC

1. Back boring bars for workpiece that require high concentric circle accuracy and when a change of chuck is not possible.
2. Available for back boring and necking.
3. Despite the small size of minimum boring dia. as $\phi 6.5$, the edge gap is retained as large as 1.8 mm.

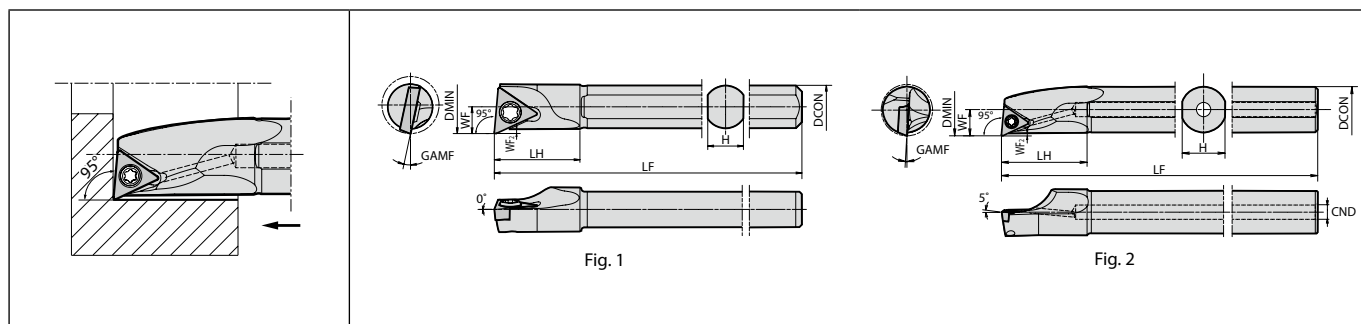
A/S-STLB(P)-AE Excellent bar (Boring / Internal facing)

Fig. 1

Fig. 2

Max. Overhang Length L/D≈5.5 | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F

Toolholder dimensions

Description	Availability		Dimension (mm)									GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts			Applicable inserts
																Screw	Wrench	Wrench	
	R	L	DMIN	DCON	CND	H	LH	LF	WF	WF2									
S06H- STLB [®] .06-08AE	●	●	8	6	-	5	12	100	3.8	0.5	12	0.2	No	1	SB-2035TR		FT-6	TB□T0601... TB□W0601...	
A08X- STLP [®] .08-10AE	●	●	10	8	2.5	7	16	120	5	0.5	10	0.4	Yes	2	SB-1TR	-	FT-6	TP□B0802... TP□H0802... TP□T0802...	
A08X- STLP [®] .09-10AE	●	●	10	8	2.5	7	16	120	5	0.5	10	0.4	Yes	2	SB-2545TR	-	FT-8	TP□B0902... TP□H0902... TP□T0902... TP□X0902...	
A10L- STLP [®] .09-12AE	●	●	12	10	3	9	20	140	6.2	0.9	8								
A12M- STLP [®] .09-16AE	●	●	16	12	4	11	24	150	8	0.6	5								
A10L- STLP [®] .11-12AE	●	●	12	10	3	9	20	140	6	0.7	10	0.4	Yes	2	SB-3060TR	-	FT-10	TP□B1103... TP□H1103... TP□T1103... TP□X1103...	
A12M- STLP [®] .11-14AE	●	●	14	12	4	11	24	150	7.2	0.8	7								
A16Q- STLP [®] .11-18AE	●	●	18	16	5	15	30	180	9.2	0.7	3.5								
A20R- STLP [®] .11-22AE	●	●	22	20		19	36	200	11.2		2								
A20R- STLP [®] .16-25AE	●	●	25	20	5	19	36	200	13	0.7	0	0.4	Yes	2	SB-4065TR	FT-15	-	TP□B1603... TP□H1603... TP□T1603...	
A25S- STLP [®] .16-27AE	●	●	27	25		24	46	250	13.7										

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

When using P chipbreaker : Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

● : Standard item

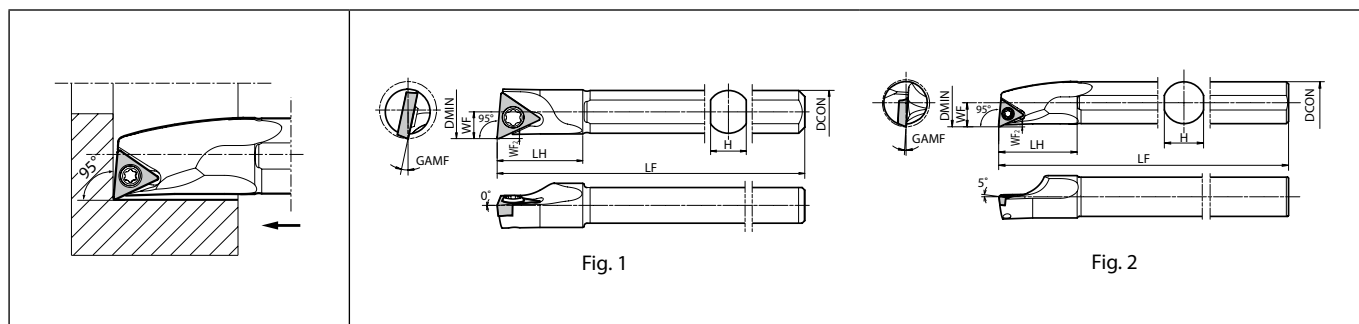
S-STLB(P)-A Steel shank bar (Boring / Internal facing)

Fig. 1

Fig. 2

Max. Overhang Length $L/D \approx 4$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder dimensions

Description		Availability		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts			Applicable inserts
															Screw	Wrench	Wrench	
		R	L	DMIN	DCON	H	LH	LF	WF	WF ₂								
S06H-	STLB®/L 06-08A	●	●	8	6	5	12	100	3.8	0.5	12	0.2	No	1	SB-2035TR		FT-6	TB□T0601... TB□W0601...
S08X-	STLP®/L 08-10A	●	●	10	8	7	16	120	5	0.5	10	0.4	No	2	SB-1TR	-	FT-6	TP□B0802... TP□H0802... TP□T0802...
S08X-	STLP®/L 09-10A	●	●	10	8	7	16	120	5	0.5	10	0.4	No	2	SB-2545TR	-	FT-8	TP□B0902... TP□H0902... TP□T0902... TP□X0902...
S10L-	STLP®/L 09-12A	●	●	12	10	9	20	140	6.2	0.9	8							
S12M-	STLP®/L 09-16A	●	●	16	12	11	24	150	8	0.6	5							
S10L-	STLP®/L 11-12A	●	●	12	10	9	20	140	6	0.7	10	0.4	No	2	SB-3060TR	-	FT-10	TP□B1103... TP□H1103... TP□T1103... TP□X1103...
S12M-	STLP®/L 11-14A	●	●	14	12	11	24	150	7.2	0.8	7							
S16Q-	STLP®/L 11-18A	●	●	18	16	15	30	180	9.2	0.7	3.5							
S20R-	STLP®/L 11-22A	●	●	22	20	19	36	200	11.2		2							
S25S-	STLP®/L 16-27A	●	●	27	25	24	46	250	13.7	0.7	0	0.4	No	2	SB-4065TR	FT-15	-	TP□B1603... TP□H1603... TP□T1603...

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

When using P chipbreaker : Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.



C/E-STLB(P)-A(N) Carbide shank bar (Boring / Internal facing)

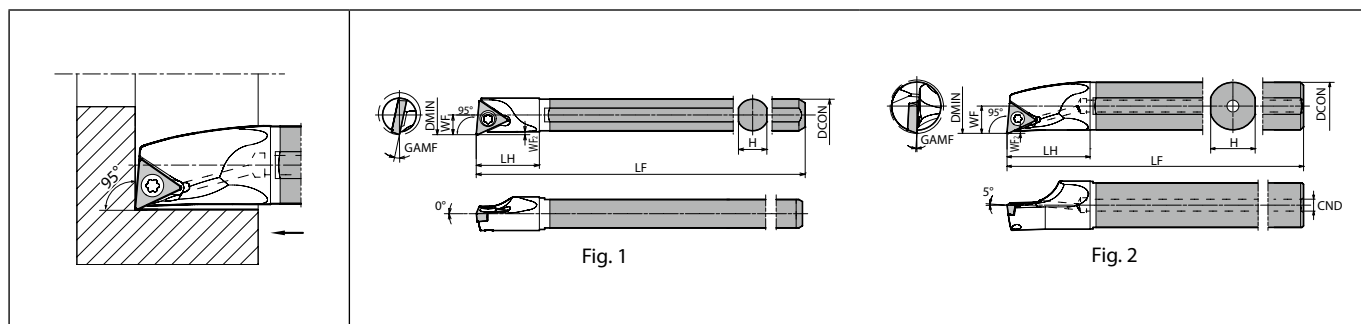


Fig. 1

Fig. 2

Max. Overhang Length $L/D \approx 7$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F

Toolholder dimensions

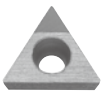
Description		Availability		Dimension (mm)								GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts			Applicable inserts
																Screw	Wrench	Wrench	
		R	L	DMIN	DCON	CND	H	LH	LF	WF	WF2								
C06J-	STLB%L06-08AN	●	●	8	6	-	5.4	10	110	3.8	0.5	12	0.2	No	1	SB-2035TR	-	FT-6	TB□T0601... TB□W0601...
E08L-	STLP%L08-10AN	●	●	10	8	3	7	14	140	5	0.5	10	0.4	Yes	2	SB-1TR	-	FT-6	TP□B0802... TP□H0802... TP□T0802...
E08L-	STLP%L09-10AN	●	●	10	8	3	7	14	140	5	0.5	10	0.4	Yes	2	SB-2545TR	-	FT-8	TP□B0902... TP□H0902... TP□T0902... TP□X0902...
E10N-	STLP%L09-12AN	●	●	12	10		9	18	160	6.2	0.9	8							
	STLPR09-12AN2/3	●					105												
	STLPR09-12AN1/2	●				80													
E12Q-	STLP%L09-16A	●	●	16	12	4	11	23	180	8	0.6	5	0.4	Yes	2	SB-3060TR	-	FT-10	TP□B1103... TP□H1103... TP□T1103... TP□X1103...
	STLPR09-16A-2/3	●						120											
	STLPR09-16A-1/2	●						90											
E10N-	STLP%L11-12AN	●	●	12	10	3	9	18	160	6	0.7	10	0.4	Yes	2	SB-4065TR	FT-15	-	TP□B1603... TP□H1603... TP□T1603...
	STLPR11-12AN2/3	●						105											
	STLPR11-12AN1/2	●						80											
E12Q-	STLP%L11-14A	●	●	14	12	4	11	23	180	7.2	0.8	7	0.4	Yes	2	SB-4065TR	FT-15	-	TP□B1603... TP□H1603... TP□T1603...
	STLPR11-14A-2/3	●						120											
	STLPR11-14A-1/2	●						90											
E16X-	STLP%L11-18A	●	●	18	16	15	28	220	9.2	3.5	0.7	2	0.4	Yes	2	SB-4065TR	FT-15	-	TP□B1603... TP□H1603... TP□T1603...
	STLPR11-18A-2/3	●						145											
	STLPR11-18A-1/2	●						110											
E20S-	STLP%L11-22A	●	●	22	20	6	19	32	250	11.2	2	0	0.4	Yes	2	SB-4065TR	FT-15	-	TP□B1603... TP□H1603... TP□T1603...
	STLPR11-22A-2/3	●						165											
	STLPR11-22A-1/2	●						125											
E20S-	STLP%L16-25A	●	●	25	20	6	19	32	250	13	0.7	0	0.4	Yes	2	SB-4065TR	FT-15	-	TP□B1603... TP□H1603... TP□T1603...
	STLPR16-25A-2/3	●						165											
	STLPR16-25A-1/2	●						125											
E25T-	STLP%L16-27A	●	●	27	25	24	38	300	13.7	0.7	0	0.4	Yes	2	SB-4065TR	FT-15	-	TP□B1603... TP□H1603... TP□T1603...	
	STLPR16-27A-2/3	●						200											

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

When using P chipbreaker : Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

● : Standard item

Applicable inserts (A/S-STLB(P)-AE / S-STLB(P)-A / C/E-STLB(P)-A(N))

Applications	Minute ap	Finishing	Finishing	Finishing	Finishing	Finishing	Finishing	Finishing - Medium
Insert								
Chipbreaker type	CF	PF	WP	$\frac{P}{L}$ -WP	PP	GP	DP	HQ
Page	B84, B88	B84, B88	B88	B88	B88	B89	B84	B89
Applications	Finishing	Finishing	Finishing	Medium	Low feed	Low carbon steel	Low carbon steel	Cast iron
Insert								
Chipbreaker type	R/L	$\frac{P}{L}$ -FSF	$\frac{P}{L}$ -P	$\frac{P}{L}$ -H	$\frac{P}{L}$ -USF	XP	XQ	No CB
Page	B84, B90, B91	B92	B92	B93	B94	B89	B89	B84, B94
Applications	Non-Ferrous metals	Non-Ferrous metals	Non-Ferrous metals	Hard materials				
Insert								
Chipbreaker type	AP	PCD	APD	CBN				
Page	B94	C44, C46, C47	C47	C23				

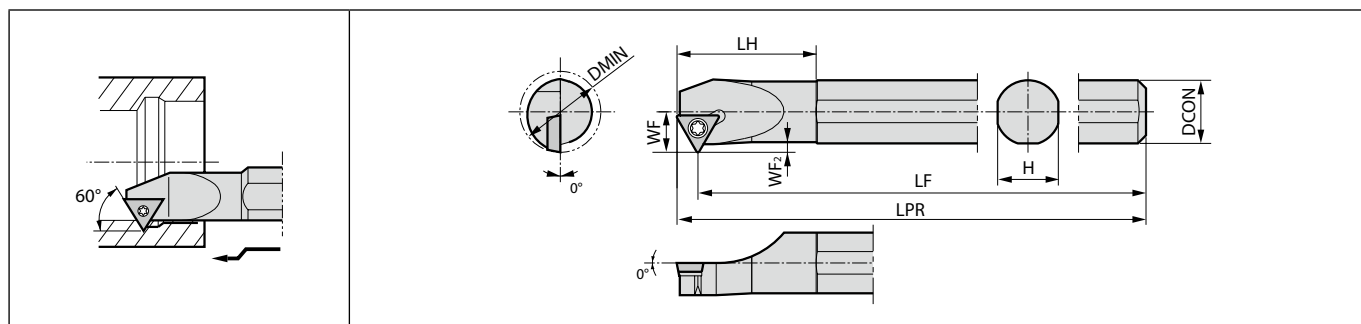
Recommended cutting conditions ➡ F158, F159

Applicable sleeves ➡ F154~F157

F



Boring

S-STWP-E Excellent bar (Internal copying)

Max. Overhang Length $L/D \approx 5$ | This toolholder is also available for threading. | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

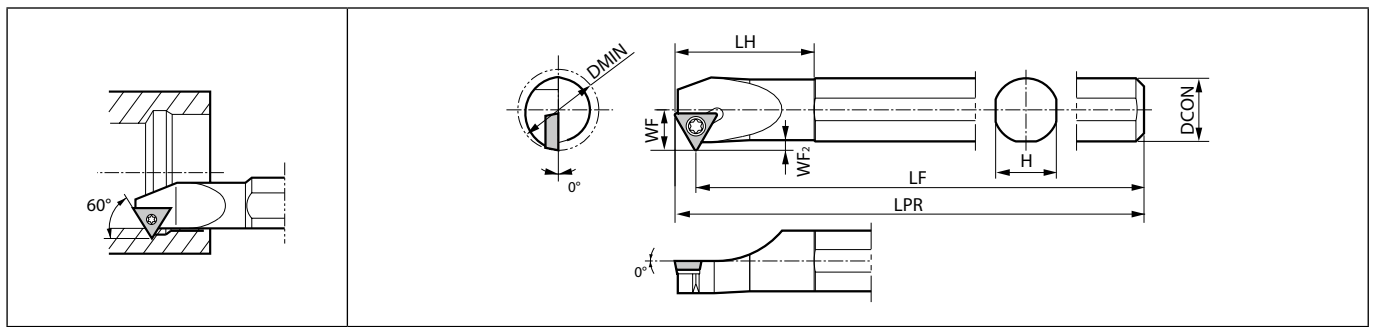
F

Toolholder dimensions

Description	Availability		Dimension (mm)									GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts			Applicable inserts
															Screw	Wrench	Wrench	
	R	L	DMIN	DCON	H	LH	LPR	LF	WF	WF ₂								
S10M- STWP [®] /L 11-12E	●	●	12	10	9.2	23	150	144.5	6	1	0	0.1	No	SB-3STR	-	FT-10	TP□B1102... TP□H1102...	
S12M- STWP [®] /L 11-16E	●	●	16	12	11	30			8	1.5				TP□B1103... TP□H1103...				
S16R- STWP [®] /L 11-20E	●	●	20	16	15	35	200	194.5	10	2				TP□T1103...				
S20X- STWP [®] /L 11-25E	●	●	25	20	19	40	220	214.5	12.5	2.5	4	0	0.8	No	SB-4TR	FT-15	-	TP□B1603... TP□H1603... TP□T1603...
S20X- STWP [®] /L 16-25E	●	●	25	20	19	40	220	212.3	14									
S25X- STWP [®] /L 16-32E	●	●	32	25	24	42	270	262.3	16.5									

WP chipbreaker (TPMX-WP : Wiper insert) is not applicable to S-STWP-E Toolholders.

● : Standard item

S-STWP Steel shank bar (Internal copying)

Max. Overhang Length $L/D \approx 3$ | This toolholder is also available for threading. | Right-hand shown
Left-hand Insert for Right-hand Toolholder.

Toolholder dimensions

Description	Availability	Dimension (mm)									GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts		Applicable inserts
		R	DMIN	DCON	H	LH	LPR	LF	WF	WF2				Screw	Wrench	
																
S10M- STWPR11-12	●	12	10	9.2	23	150	144.5	6	1	0	0.1	No	SB-3STR	FT-10	TP□B1102... TP□H1102...	
S12M- STWPR11-16	●	16	12	11	30			8	1.5				TP□B1103... TP□H1103...			
S16Q- STWPR11-20	●	20	16	15	35	180	174.5	10	2				TP□B1103... TP□H1103...			
S20R- STWPR11-25	●	25	20	19	40	200	194.5	12.5	2.5				TP□T1103...			

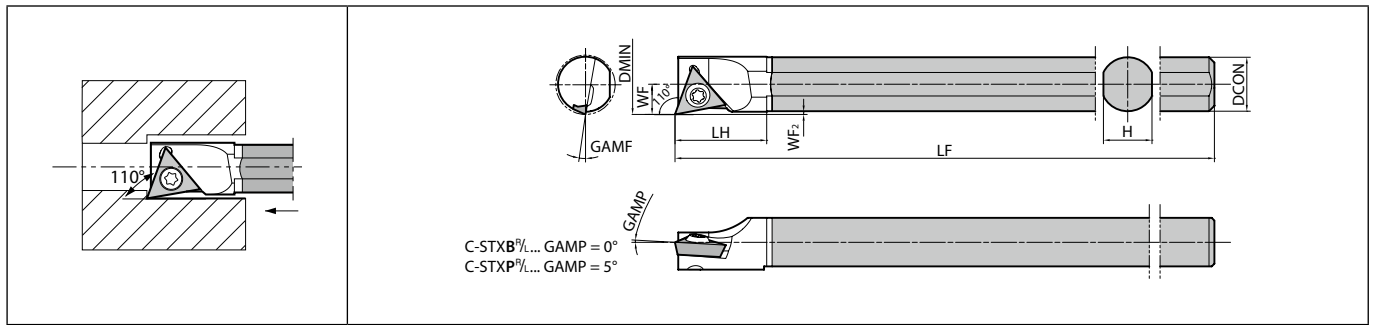
WP chipbreaker (TPMX-WP : Wiper insert) is not applicable to S-STWP Toolholders.

Applicable inserts (S-STWP-E / S-STWP)

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

Recommended cutting conditions ➡ F159

Applicable sleeves ➡ F155~F157

C-STXB(P) Carbide shank bar (Boring / Internal facing)

Max. Overhang Length L/D≈7 | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F**Toolholder dimensions**

Description		Availability		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts		Applicable inserts
														Screw	Wrench	
		R	L	DMIN	DCON	H	LH	LF	WF	WF ₂						
C06J-	STXB [°] /L06-075	●	●	7.5	6	5.4	11	110	3.75	0.5	10	0.03	No	SB-1STR	FT-6	TB□T0601... TB□W0601...
C08X-	STXP [°] /L08-09	●	●	9	8	7	14	143	4.6	0.5	10	0.03	No	SB-1TR	FT-6	TP□B0802... TP□H0802... TP□T0802...
C10X-	STXP [°] /L09-11	●	●	11	10	9	17	164	5.6	0.5	10	0.03	No	SB-2TR	FT-8	TP□B0902... TP□H0902... TP□T0902...

WP chipbreaker (TPMX-WP : Wiper insert) is not applicable to C-STXP Toolholders.

Applicable inserts

Applications	Minute ap	Finishing	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing
Insert								
Chipbreaker type	CF	PF	PP	GP	DP	HQ	R/L	[°] /L-FSF
Page	B84, B88	B84, B88	B88	B89	B84	B89	B84, B90, B91	B92
Applications	Medium	Low feed	Low carbon steel	Cast iron	Non-Ferrous metals	Non-Ferrous metals	Hard materials	
Insert								
Chipbreaker type	[°] /L-H	[°] /L-USF	XP	No CB	AP	PCD	CBN	
Page	B93	B94	B89	B84, B94	B94	C44, C46, C47	C23	

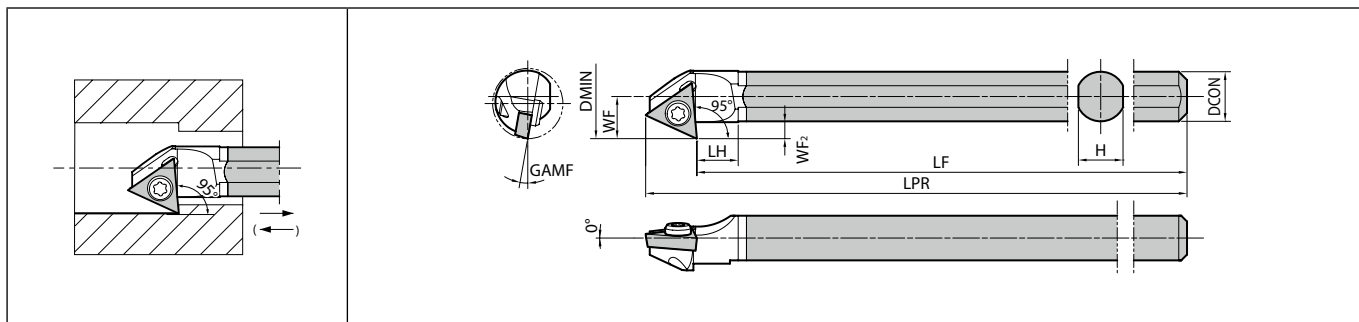
Recommended cutting conditions ➡ F158, F159

Applicable sleeves ➡ F154, F155, F157

C-STXP(B) Boring bar cutting conditions (Workpiece material : SCM435)

Toolholder description	Insert description (Grades)	Vc (m/min)	ap (mm)	f (mm/rev)	Coolant
C06J-STXB [°] /L06-075	TBGT0601003 ¹ / ₁₆ (PR930)	30~100	0.02~0.1	0.02~0.04	Yes
C08X-STXP [°] /L08-09	TPGH080201 ¹ / ₁₆ (PR930)	30~100	0.05~0.15	0.03~0.08	Yes
C10X-STXP [°] /L09-11	TPGH090201 ¹ / ₁₆ (PR930)	30~100	0.05~0.15	0.03~0.08	Yes

● : Standard item

C-STZB Carbide shank bar (Back boring)

Max. Overhang Length $L/D \approx 7$ | Right-hand shown
 Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.
 When using Right-hand Toolholder, use Right-hand insert if machining from back to front in this direction (→).
 Use Left-hand insert if machining from front to back in this direction (←).

Toolholder dimensions

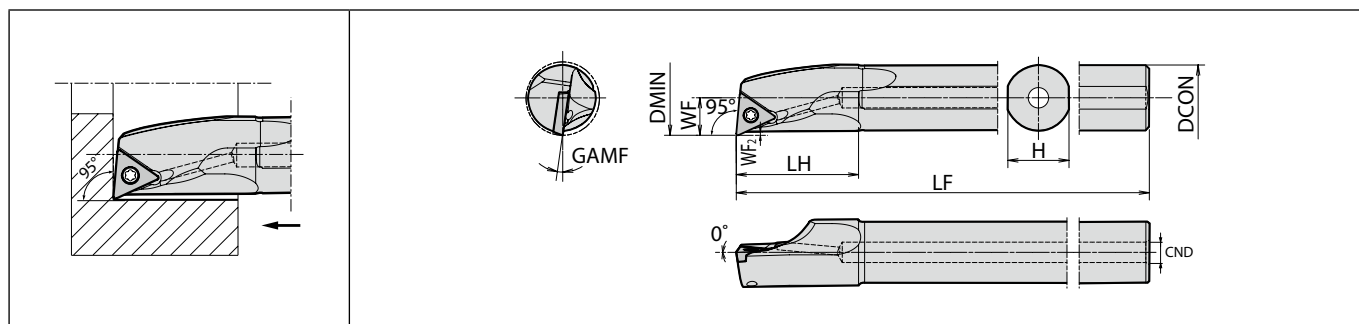
Description	Availability		Dimension (mm)								GAME (°)	Standard corner-R(RE)	Coolant hole	Spare parts		Applicable inserts
														Screw	Wrench	
	R	L	DMIN	DCON	H	LH	LPR	LF	WF	WF ₂						
C06J- STZB%06-085	●	●	8.5	6	5.4	5	110	104.3	5.1	1.8	10	0.03	No	SB-1STR	FT-6	TB□T0601... TB□W0601...

Applicable inserts

Applications	Minute ap	Finishing	Finishing	Finishing	Cast iron	Non-Ferrous metals
Insert						
Chipbreaker type	CF	PF	DP	R/L	No CB	PCD
Page	B84	B84	B84	B84	B84	C44

Recommended cutting conditions F158, F159

Applicable sleeves F154, F157

A-STLC-AE Excellent bar (Boring / Internal facing)

Max. Overhang Length $L/D \approx 5.5$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F

Toolholder dimensions

Description	Availability		Dimension (mm)									GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts		Applicable inserts
															Screw	Wrench	
	R	L	DMIN	DCON	CND	H	LH	LF	WF	WF ₂							
A08X- STLC%L09-10AE	●	●	10	8	2.5	7	16	120	5	0.5	14	0.4	Yes	SB-2250TR	FT-7	TCMT0902... TCMX0902...	
A10L- STLC%L09-12AE	●	●	12	10	3	9	20	140	6.2	0.9	12						
A10L- STLC%L11-12AE	●	●	12	10	3	9	20	140	6.2	0.9	12						
A12M- STLC%L11-14AE	●	●	14	12	4	11	24	150	7.2		10	0.4	Yes	SB-2560TR	FT-8	TCMT1102... TCMX1102...	
A16Q- STLC%L11-18AE	●	●	18	16	5	15	30	180	9.2	0.7	8						
A20R- STLC%L11-22AE	●	●	22	20		19	36	200	11.2		6						

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

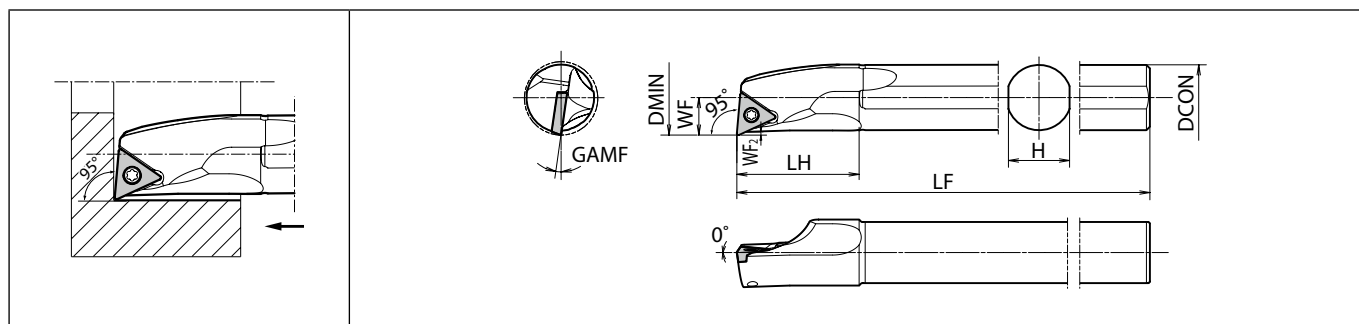
Applicable inserts

Applications	Finishing	Finishing - Medium
Insert		
Chipbreaker type	WP	HQ
Page	B85	B85

Recommended cutting conditions ➡ **F158, F159**

Applicable sleeves ➡ **F154~F157**

● : Standard item

S-STLC-A Steel shank bar (Boring / Internal facing)

Max. Overhang Length $L/D \approx 4$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder dimensions

Description	Availability		Dimension (mm)								GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts		Applicable inserts
														Screw	Wrench	
	R	L	DMIN	DCON	H	LH	LF	WF	WF ₂							
S08X- STLC®/09-10A	●	●	10	8	7	16	120	5	0.5	14	0.4	No	SB-2250TR	FT-7	TCMT0902... TCMX0902...	
S10L- STLC®/09-12A	●	●	12	10	9	20	140	6.2	0.9	12						
S10L- STLC®/11-12A	●	●	12	10	9	20	140	6.2	0.9	12						
S12M- STLC®/11-14A	●	●	14	12	11	24	150	7.2		10	0.4	No	SB-2560TR	FT-8	TCMT1102... TCMX1102...	
S16Q- STLC®/11-18A	●	●	18	16	15	30	180	9.2	0.7	8						
S20R- STLC®/11-22A	●	●	22	20	19	36	200	11.2		6						

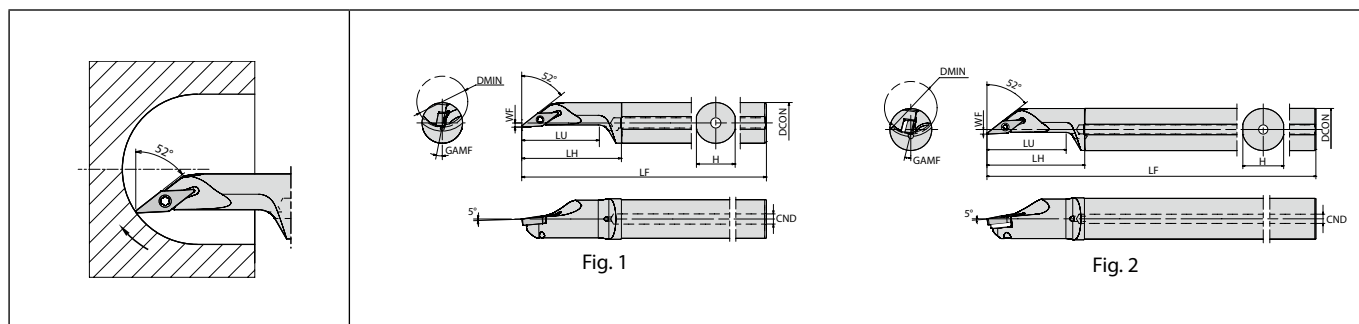
For WP chipbreaker, cutting edge offsets or program corrections are required on **R36** and **R37**.

Applicable inserts

Applications	Finishing	Finishing - Medium
Insert		
Chipbreaker type	WP	HQ
Page	B85	B85

Recommended cutting conditions ➡ **F158, F159**

Applicable sleeves ➡ **F154~F157**

A-SVJP(C)(B)-AE Excellent bar (Spherical machining / Internal facing / Internal copying)

Max. Overhang Length L/D≈5.5 | Right-hand shown

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

F

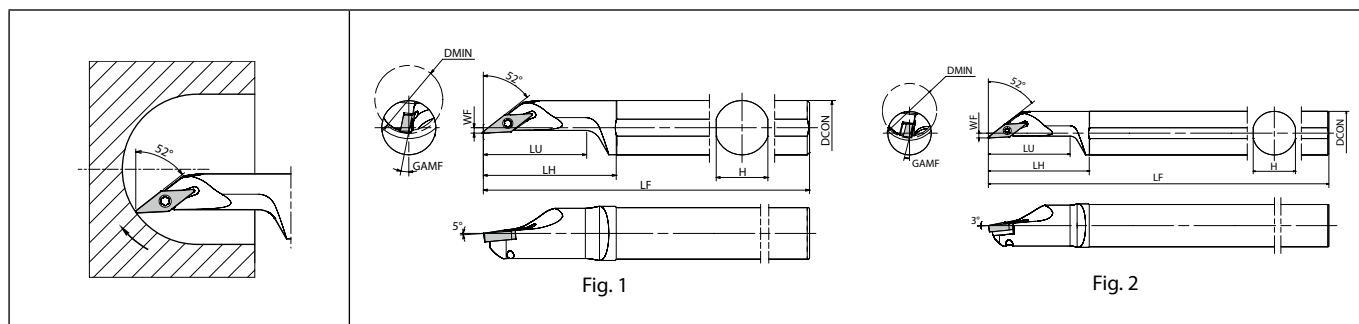
Toolholder dimensions

Description	Availability		Dimension (mm)									GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts						Applicable inserts
																Screw	Wrench	Wrench	Shim	Shim screw	Wrench	
	R	L	DMIN	DCON	CND	H	LH	LF	LU	WF												
A12M- SVJP%08-16AE	●	●	16	12	4	11	33	150	26	2	5	0.2	Yes	1	SB-2050TR	-	FT-6	-	-	-	VP□T0802...	
A12M- SVJC%08-16AE	●	●	16	12	4	11	33	150	26	2	5	0.4	Yes	1	SB-2050TR	-	FT-6	-	-	-	VC□T0802... VC□W0802...	
A16Q- SVJC%08-20AE	●	●	20	16		15	43	180	36													
A20R- SVJB%11-25AE	●	●	25	20	5	19	48	200	37.5	2	5	0.4	Yes	1	SB-2570TR	-	FT-8	-	-	-	VB□T1103... VB□W1103...	
A25S- SVJB%11-30AE	●	●	30	25	7	24	58	250	45	3.5												
A32S- SVJB%16-40AE	●	●	40	32	7	31	74	250	60	3.5	8	0.4	Yes	2	SB-4012STRN	FT-15	-	SVN-32N (SVN-32S*)	SS-4N	LW-4	VB□T1604... VB□W1604... VC□T1604...	
A40T- SVJB%16-50AE	●	●	50	40	9	39	91	300	75	4.5	7											

Use of VB□T1103...-Y / VB□T1604...-Y with A-SVJB-AE is not recommended.

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

● : Standard item

S-SVJP(C)(B)-A Steel shank bar (Spherical machining / Internal facing / Internal copying)


Max. Overhang Length $L/D \approx 4$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder dimensions

Description	Availability		Dimension (mm)								GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts						Applicable inserts
															Screw	Wrench	Wrench	Shim	Shim screw	Wrench	
	R	L	DMIN	DCON	H	LH	LF	LU	WF												
S12M- SVJP%L08-16A	●	●	16	12	11	33	150	26	2	5	0.2	No	1	SB-2050TR	-	FT-6	-	-	-	VP□T0802...	
S12M- SVJC%L08-16A	●	●	16	12	11	33	150	26	2	5	0.4	No	1	SB-2050TR	-	FT-6	-	-	-	VC□T0802... VC□W0802...	
S16Q- SVJC%L08-20A	●	●	20	16	15	43	180	36	2	5	0.4	No	1	SB-2050TR	-	FT-6	-	-	-	VC□W0802...	
S20R- SVJB%L11-25A	●	●	25	20	19	48	200	37.5	2	5	0.4	No	1	SB-2570TR	-	FT-8	-	-	-	VB□T1103... VB□W1103...	
S25S- SVJB%L11-30A	●	●	30	25	24	58	250	45	3.5	8	0.4	No	2	SB-40125TRN	FT-15	-	SVN-32N (SVN-32S*)	SS-4N	LW-4	VB□T1604... VB□W1604... VC□T1604...	
S32S- SVJB%L16-40A	●	●	40	32	31	74	250	60	3.5	8	0.4	No	2	SB-40125TRN	FT-15	-	SVN-32N (SVN-32S*)	SS-4N	LW-4	VB□T1604... VB□W1604... VC□T1604...	
S40T- SVJB%L16-50A	●	●	50	40	39	91	300	75	4.5	7	0.4	No	2	SB-40125TRN	FT-15	-	SVN-32N (SVN-32S*)	SS-4N	LW-4	VB□T1604... VB□W1604... VC□T1604...	

Use of VB□T1103...-Y / VB□T1604...-Y with S-SVJB-A is not recommended.

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

Applicable inserts (A-SVJP(C)(B)-AE / S-SVJP(C)(B)-A)

Applications	Finishing	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing	Low feed
Insert								
Chipbreaker type	CK	VF	PP	GP	HQ	$\frac{R}{L}$ -F	$\frac{R}{L}$ -FSF	$\frac{R}{L}$ -U
Page	B102	B97, B100	B97, B100	B97	B97, B100	B98, B103	B98, B103	B104
Applications	Low feed	Finishing - Medium	Non-Ferrous metals	Hard materials				
Insert								
Chipbreaker type	$\frac{R}{L}$ -USF	$\frac{R}{L}$ -Y	PCD	CBN				
Page	B104	B99	C49, C50	C26, C27				

Recommended cutting conditions ➡ F159

Applicable sleeves ➡ F155~F157

F



Boring

Solid

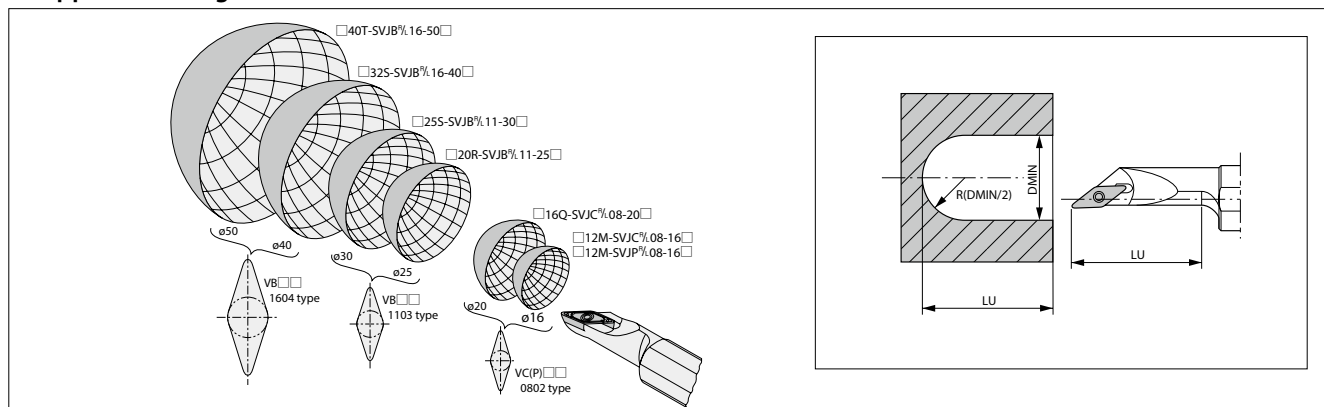
Positive

KAV

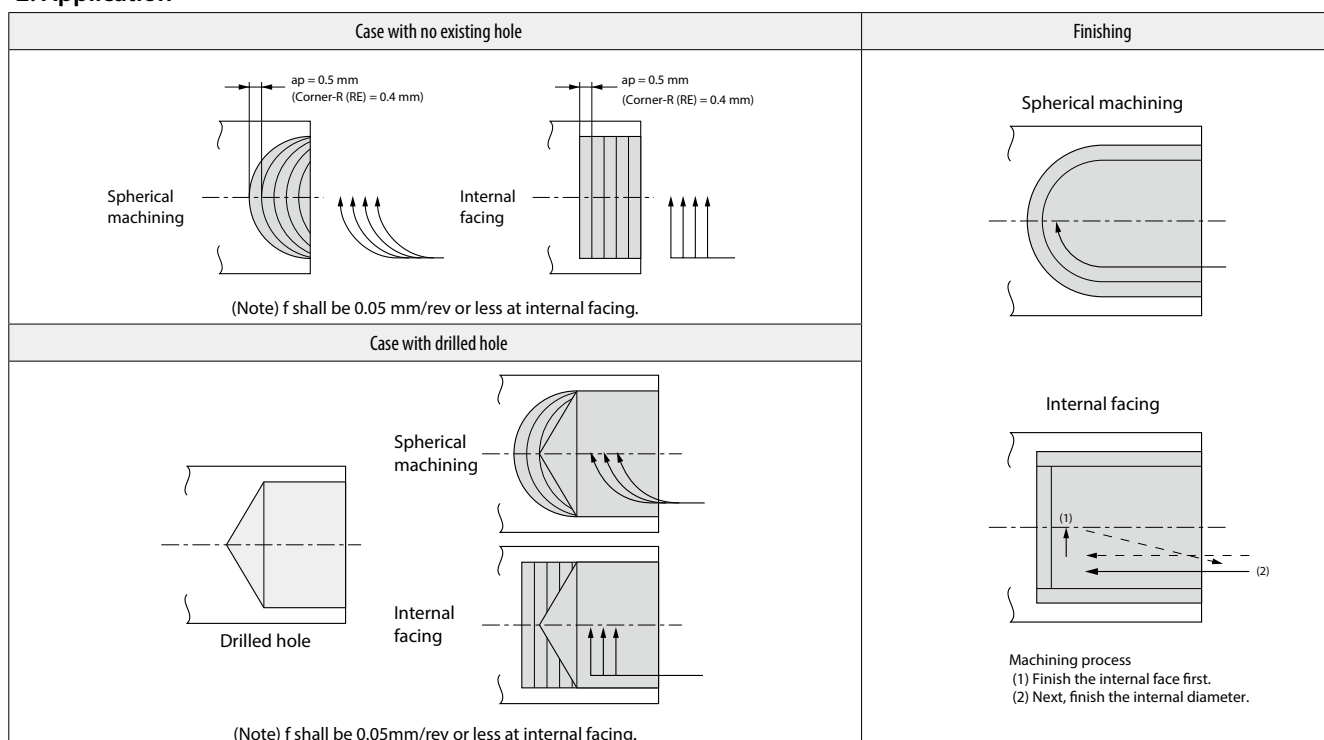
Negative

Application of □-SVJP(C)(B)-□ / A-SZJB-AE

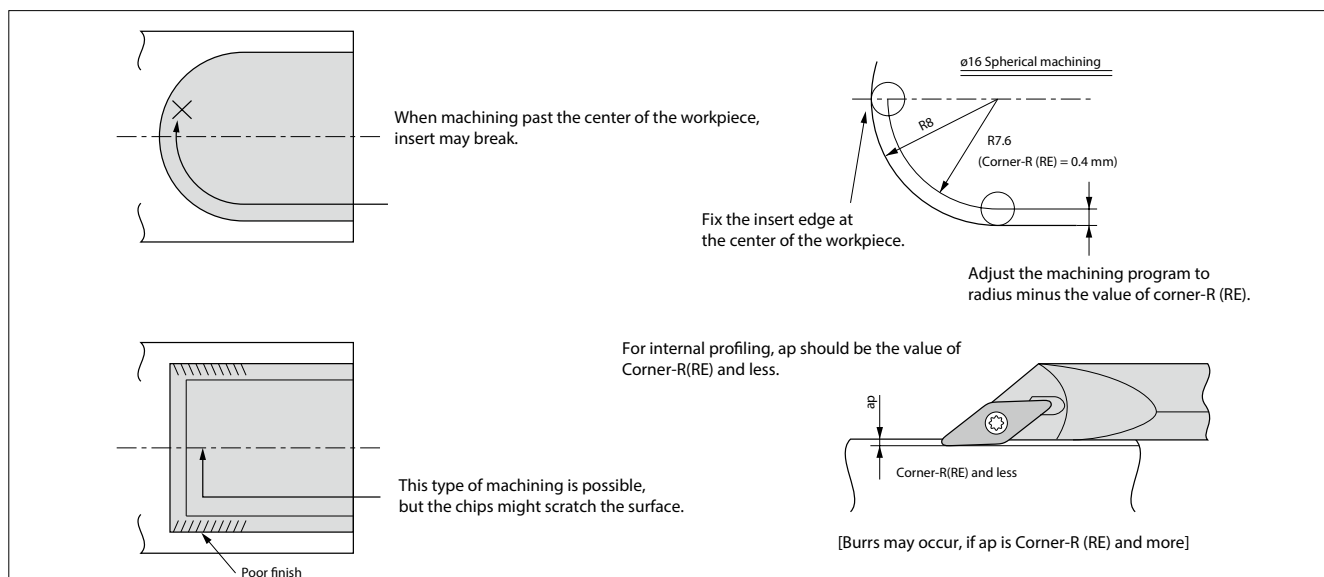
1. Application range



2. Application



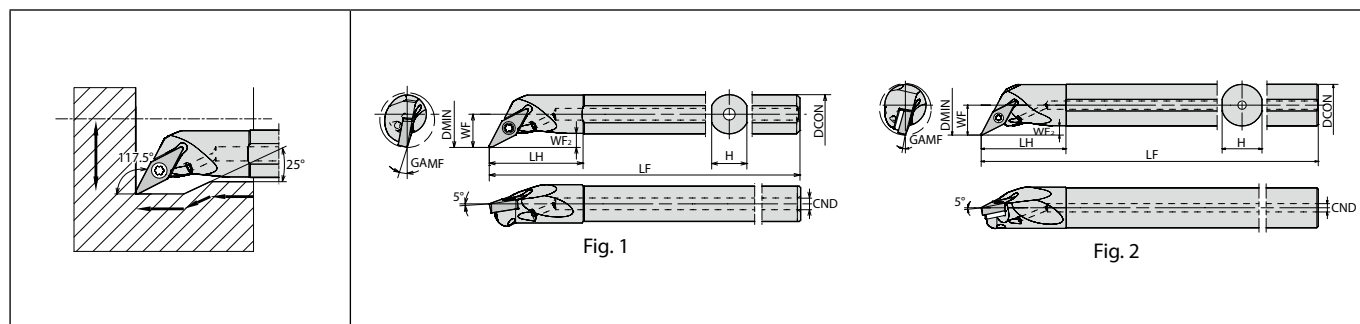
3. Caution



F



Boring

A-SVPC(B)-AE Excellent bar (Internal copying / Undercutting)Max. Overhang Length $L/D \approx 5.5$ | Right-hand shown

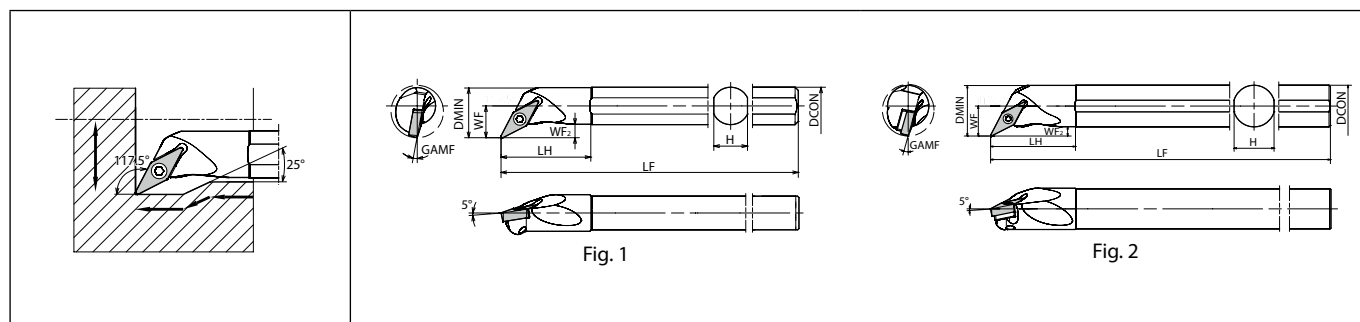
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F

Toolholder dimensions

Description	Availability		Dimension (mm)										GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts						Applicable inserts
																	Screw	Wrench	Wrench	Shim	Shim screw	Wrench	
	R	L	DMIN	DCON	CND	H	LH	LF	WF	WF ₂													
A10L- SVPC%08-14AE	●	●	14	10	3	9	24	140	8.5	3	8	0.4	Yes	1	SB-2050TR	-	FT-6	-	-	-	VC□T0802... VC□W0802...		
A12M- SVPB%11-18AE	●	●	18	12	4	11	29	150	11	4.5	8	0.4	Yes	1	SB-2570TR	-	FT-8	-	-	-	VB□T1103... VB□W1103...		
A16Q- SVPB%11-22AE	●	●	22	16	5	15	35	180	13.5	5	5												
A20R- SVPB%11-26AE	●	●	26	20		19	41	200	15.5														
A25S- SVPB%16-31AE	●	●	31	25	5	24	51	250	18	5	13	0.4	Yes	2	SB-40125TRN	FT-15	-	SVN-32N (SVN-32S*)	SS-4N	LW-4	VB□T1604... VB□W1604... VC□T1604...		
A32S- SVPB%16-40AE	●	●	40	32		31	54		23	6.5	9												

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

S-SVPC(B)-A Steel shank bar (Internal copying / Undercutting)Max. Overhang Length $L/D \approx 4$ | Right-hand shown

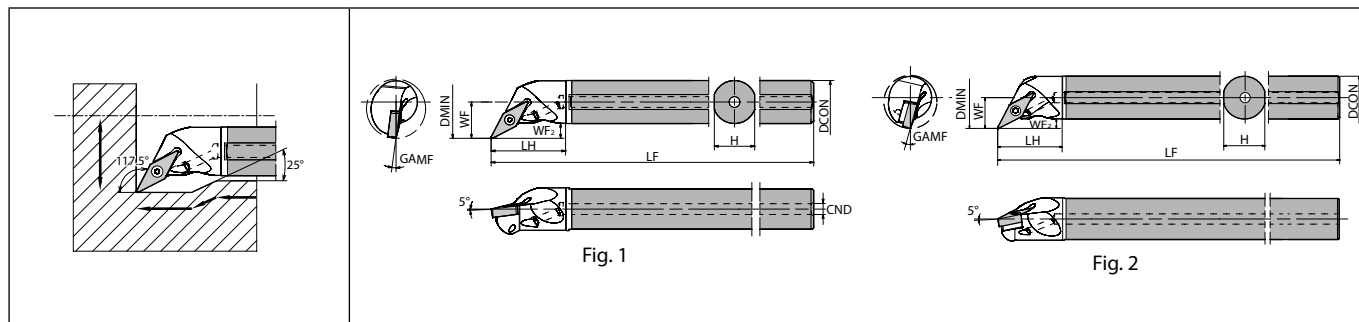
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder dimensions

Description	Availability		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole		Spare parts						Applicable inserts
														Screw	Wrench	Wrench	Shim	Shim screw	Wrench	
	R	L	DMIN	DCON	H	LH	LF	WF	WF ₂											
S10L- SVPC%08-14A	●	●	14	10	9	24	140	8.5	3	8	0.4	No	1	SB-2050TR	-	FT-6	-	-	-	VC□T0802... VC□W0802...
S12M- SVPB%11-18A	●	●	18	12	11	29	150	11	4.5	8	0.4	No	1	SB-2570TR	-	FT-8	-	-	-	VB□T1103... VB□W1103...
S16Q- SVPB%11-22A	●	●	22	16	15	35	180	13.5	5	5										
S20R- SVPB%11-26A	●	●	26	20	19	41	200	15.5	5	5										
S25S- SVPB%16-31A	●	●	31	25	24	51	250	18	5	13	0.4	No	2	SB-40125TRN	FT-15	-	SVN-32N (SVN-32S*)	SS-4N	LW-4	VB□T1604... VB□W1604... VC□T1604...
S32S- SVPB%16-40A	●	●	40	32	31	54		23	6.5	9										

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

● : Standard item

E-SVPC(B)-A Carbide shank bar (Internal copying / Undercutting)Max. Overhang Length $L/D \approx 7$ | Right-hand shown | Left-hand Insert for Right-hand Toolholder.

Toolholder dimensions

Description	Availability	Dimension (mm)									GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts						Applicable inserts
		R	DMIN	DCON	CND	H	LH	LF	WF	WF ₂					Screw	Wrench	Wrench	Shim	Shim screw	Wrench	
																					
E10N- SVPCR08-14A	●	14	10	3	9	20	160	8.5	3	8	0.4	Yes	1	SB-2050TR	-	FT-6	-	-	-	VC□T0802... VC□W0802...	
E12Q- SVPBR11-18A	●	18	12	4	11	23	180	11	4.5	8	0.4	Yes	1	SB-2570TR	-	FT-8	-	-	-	VB□T1103... VB□W1103...	
E16X- SVPBR11-22A	●	22	16		15	28	220	13.5	5	5											
E20S- SVPBR11-26A	●	26	20	6	19	32	250	15.5													
E25T- SVPBR16-31A	●	31	25	6	24	38	300	18	5	13	0.4	Yes	2	SB-40125TRN	FT-15	-	SVN-32N (SVN-32S*)	SS-4N	LW-4	VB□T1604... VB□W1604... VC□T1604...	

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

Applicable inserts (A-SVPC(B)-AE / S-SVPC(B)-A / E-SVPC(B)-A)

Applications	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing	Finishing - Medium	Non-Ferrous metals
Insert								
Chipbreaker type	VF	PP	GP	HQ	9/L-F	9/L-FSF	9/L-Y	PCD
Page	B97, B100	B97, B100	B97	B97, B100	B98	B98	B99	C49, C50
Applications	Hard materials							
Insert								
Chipbreaker type	CBN							
Page	C26, C27							

Recommended cutting conditions ● F159

Applicable sleeves ● F155~F157

A-SVUC(B)-AE Excellent bar (Internal copying)

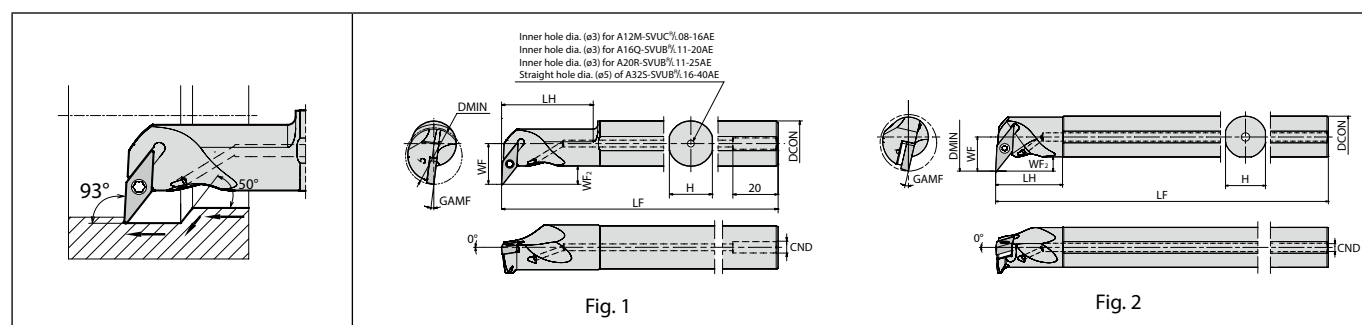


Fig. 1

Fig. 2

Max. Overhang Length L/D≈5.5 | Right-hand shown

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

F

Toolholder dimensions

Description	Availability		Dimension (mm)									GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts						Applicable inserts
																Screw	Wrench	Wrench	Shim	Shim screw	Wrench	
	R	L	DMIN	DCON	CND	H	LH	LF	WF	WF ₂												
A12M- SVUC% 08-16AE	●	●	16	12	4	11	25.5	150	11.5	5.5	8	0.4	Yes	1	SB-2050TR			FT-6			VC□T0802... VC□W0802...	
A16Q- SVUB% 11-20AE	●	●	20	16	5	15	32.5	180	16	8	8	0.4	Yes	1	SB-2570TR	-		FT-8	-	-	VB□T1103... VB□W1103...	
A20R- SVUB% 11-25AE	●	●	25	20		19	40.5	200	18		7											
A25S- SVUB% 16-34AE	●	●	34	25	5	24	40	250	20.5	8.5	13	0.4	Yes	2	SB-40125TRN	FT-15	-	SVN-32N (SVN-32S*)	SS-4N	LW-4	VB□T1604... VB□W1604... VC□T1604...	
A32S- SVUB% 16-40AE	●	●	40	32	5	31	84	250	28	12	9	0.4	Yes	1								

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

S-SVUC(B)-A Steel shank bar (Internal copying)

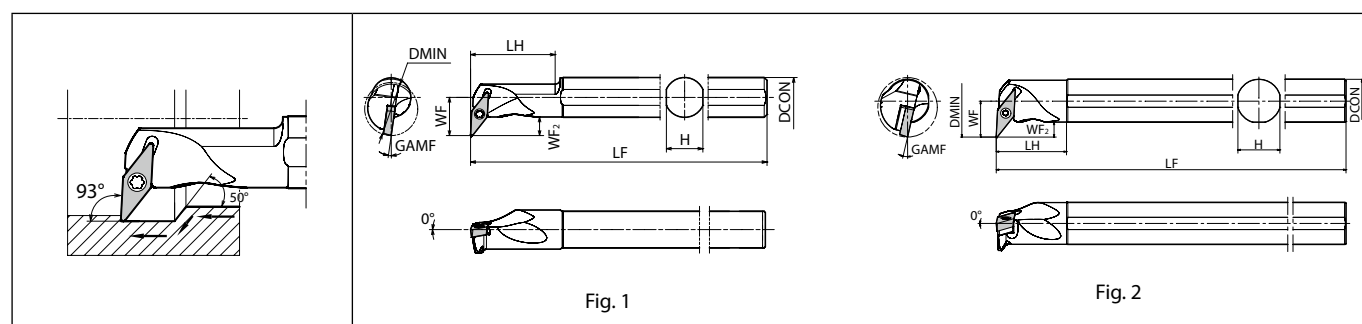


Fig. 1

Fig. 2

Max. Overhang Length L/D≈4 | Right-hand shown

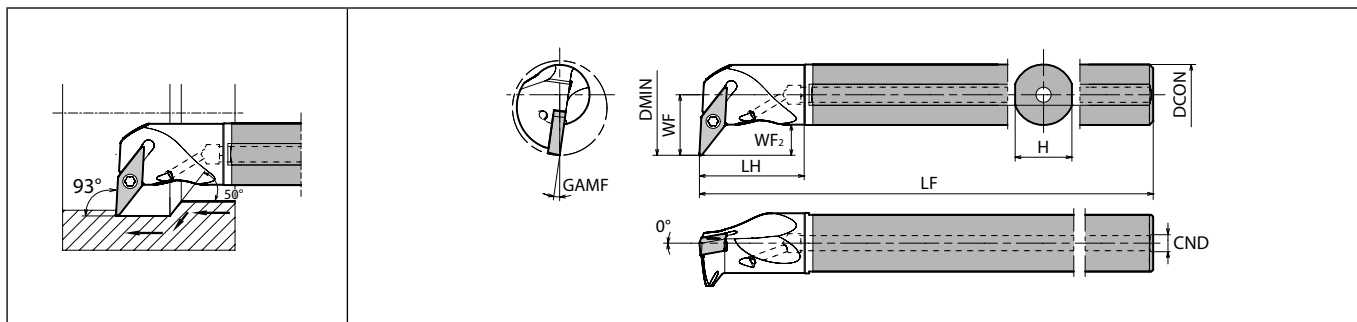
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder dimensions

Description	Availability		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts						Applicable inserts
														Screw	Wrench	Wrench	Shim	Shim screw	Wrench	
	R	L	DMIN	DCON	H	LH	LF	WF	WF ₂											
S12M- SVUC ⁹ /08-16A	●	●	16	12	11	25.5	150	11.5	5.5	8	0.4	No	1	SB-2050TR	-	FT-6	-	-	-	VC□T0802... VC□W0802...
S16Q- SVUB ⁹ /11-20A	●	●	20	16	15	32.5	180	16	8	8	0.4	No	1	SB-2570TR	-	FT-8	-	-	-	VB□T1103... VB□W1103...
S20R- SVUB ⁹ /11-25A	●	●	25	20	19	40.5	200	18						7	SB-2570TR	-	FT-8	-	-	-
S25S- SVUB ⁹ /16-34A	●	●	34	25	24	40	250	20.5	8.5	13	0.4	No	2	SB-40125TRN	FT-15	-	SVN-32N (SVN-32S*)	SS-4N	LW-4	VB□T1604... VB□W1604... VC□T1604...
S32S- SVUB ⁹ /16-40A	●	●	40	32	31	84	250	28	12	9	0.4	No	1							

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

● : Standard item

E-SVUC(B)-A Carbide shank bar (Internal copying)

Max. Overhang Length $L/D \approx 7$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder.

Toolholder dimensions

Description	Availability	Dimension (mm)										GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts						Applicable inserts
															Screw	Wrench	Wrench	Shim	Shim screw	Wrench	
		R	DMIN	DCON	CND	H	LH	LF	WF	WF ₂											
E12Q- SVUCR08-18A	●	18	12	4	11	23	180	11.5	5.5	8	0.4	Yes	SB-2050TR	-	FT-6	-	-	-	-	-	VC□T0802... VC□W0802...
E16X- SVUBR11-25A	●	25	16	4	15	28	220	16	8	8	0.4	Yes	SB-2570TR	-	FT-8	-	-	-	-	-	VB□T1103... VB□W1103...
E20S- SVUBR11-29A	●	29	20	6	19	32	250	18	8	7	0.4	Yes	SB-2570TR	-	FT-8	-	-	-	-	-	VB□T1103... VB□W1103...
E25T- SVUBR16-34A	●	34	25	6	24	38	300	21	8.5	13	0.4	Yes	SB-40125TRN	FT-15	-	-	SVN-32N (SVN-32S*)	SS-4N	LW-4	-	VB□T1604... VB□W1604... VC□T1604...

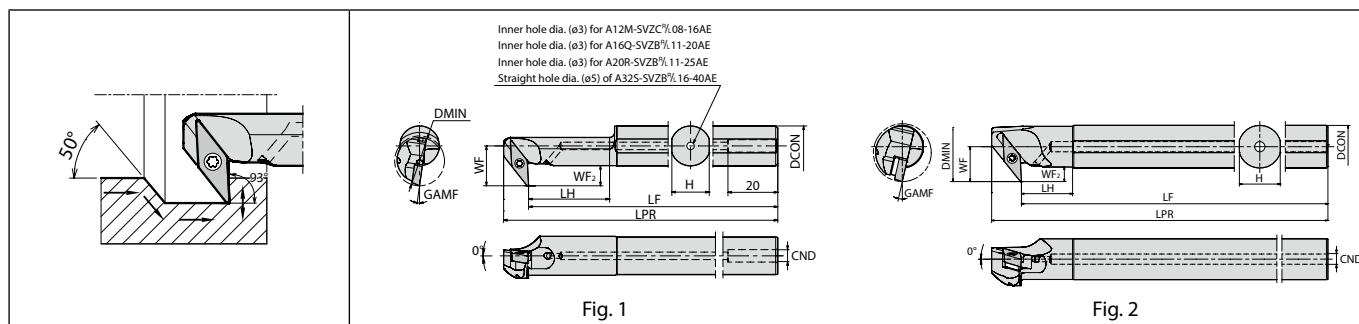
When using inserts whose corner-R(RE) is 0.2 or 0.4mm, shim (SVN-32S) is recommended (sold separately).

Applicable inserts (A-SVUC(B)-AE / S-SVUC(B)-A / E-SVUC(B)-A)

Applications	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing	Finishing - Medium	Non-Ferrous metals
Insert								
Chipbreaker type	VF	PP	GP	HQ	9/L-F	9/L-FSF	9/L-Y	PCD
Page	B97, B100	B97, B100	B97	B97, B100	B98	B98	B99	C49, C50
Applications	Hard materials							
Insert								
Chipbreaker type	CBN							
Page	C26, C27							

Recommended cutting conditions ➡ F159

Applicable sleeves ➡ F155~F157

A-SVZC(B)-AE Excellent bar (Back boring)

Max. Overhang Length L/D≈5.5 | Right-hand shown
 Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

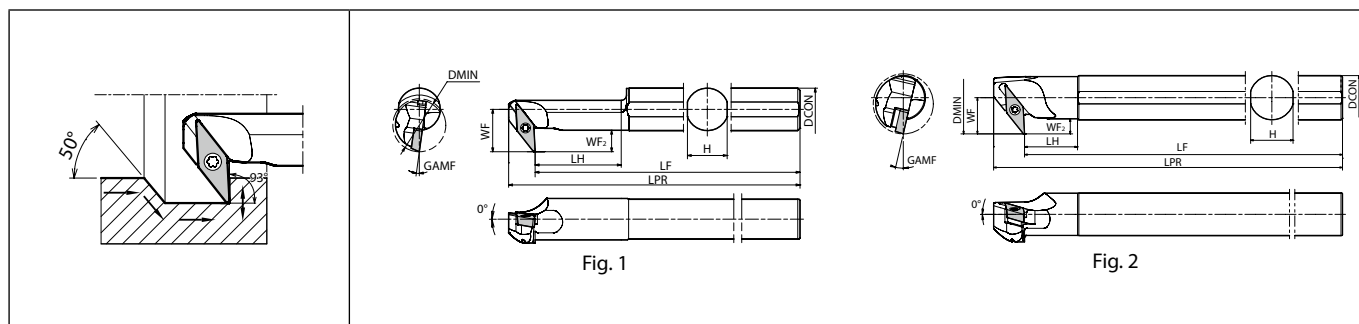
F

Toolholder dimensions

Description	Availability		Dimension (mm)										GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts						Applicable inserts
																	Screw	Wrench	Wrench	Shim	Shim screw	Wrench	
	R	L	DMIN	DCON	CND	H	LH	LPR	LF	WF	WF ₂												
A12M- SVZC%08-16AE	●	●	16	12	4	11	25.5	150	142.5	11.5	5.5	8	0.4	Yes	1	SB-2050TR	-	FT-6	-	-	-	VC□T0802... VC□W0802...	
A16Q- SVZB%11-20AE	●	●	20	16	5	15	32.5	180	170	16	8	8	0.4	Yes	1	SB-2570TR	-	FT-8	-	-	-	VB□T1103... VB□W1103...	
A20R- SVZB%11-25AE	●	●	25	20	5	19	40.5	200	190	18	8	7	0.4	Yes	1	SB-2570TR	-	FT-8	-	-	-	VB□T1103... VB□W1103...	
A25S- SVZB%16-34AE	●	●	34	25	5	24	30	250	232.5	20.5	8.5	13	0.4	Yes	2	SB-4012STRN	FT-15	-	SVN-32N (SVN-32S*)	SS-4N	LW-4	VB□T1604... VB□W1604... VC□T1604...	
A32S- SVZB%16-40AE	●	●	40	32	5	31	72.5	250	232.5	28	12	9	0.4	Yes	1								

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

● : Standard item

S-SVZC(B)-A Steel shank bar (Back boring)

Max. Overhang Length $L/D \approx 4$ | Right-hand shown
Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

Toolholder dimensions

Description	Availability		Dimension (mm)									GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts						Applicable inserts
																Screw	Wrench	Wrench	Shim	Shim screw	Wrench	
	R	L	DMIN	DCON	H	LH	LPR	LF	WF	WF ₂												
S12M- SVZC%08-16A	●	●	16	12	11	25.5	150	142.5	11.5	5.5	8	0.4	No	1	SB-2050TR	-	FT-6	-	-	-	VC-T0802... VC-W0802...	
S16Q- SVZB%11-20A	●	●	20	16	15	32.5	180	170	16	8	8	0.4	No	1	SB-2570TR	-	FT-8	-	-	-	VB-T1103... VB-W1103...	
S20R- SVZB%11-25A	●	●	25	20	19	40.5	200	190	18	8	7	0.4	No	2	SB-40125TRN	FT-15	-	SVN-32N (SVN-32S*)	SS-4N	LW-4	VB-T1604... VB-W1604... VC-T1604...	
S25S- SVZB%16-34A	●	●	34	25	24	30	250	232.5	20.5	8.5	13	0.4	No	2	SB-40125TRN	FT-15	-	SVN-32N (SVN-32S*)	SS-4N	LW-4	VB-T1604... VB-W1604... VC-T1604...	
S32S- SVZB%16-40A	●	●	40	32	31	72.5	250	232.5	28	12	9	0.4	No	1	SB-40125TRN	FT-15	-	SVN-32N (SVN-32S*)	SS-4N	LW-4	VB-T1604... VB-W1604... VC-T1604...	

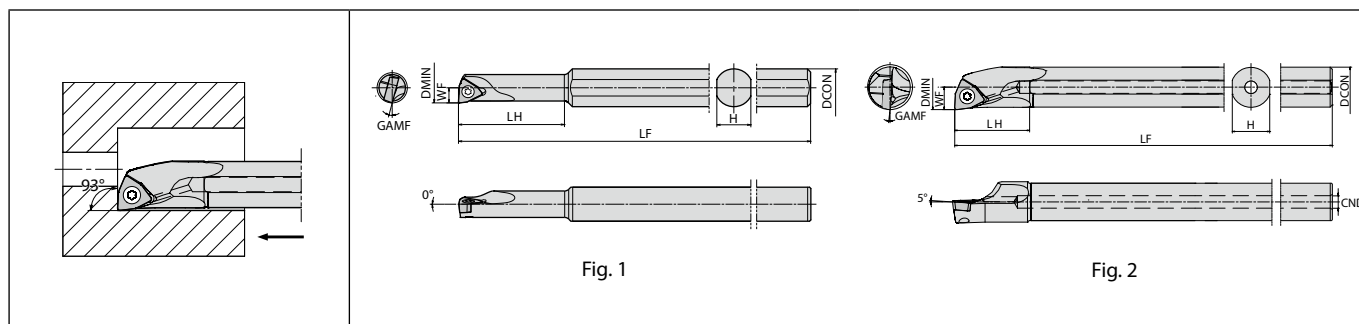
When using inserts whose corner-R(RE) is 0.2 or 0.4mm, shim (SVN-32S) is recommended (sold separately).

Applicable inserts (A-SVZC(B)-AE / S-SVZC(B)-A)

Applications	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing	Finishing - Medium	Non-Ferrous metals
Insert								
Chipbreaker type	VF	PP	GP	HQ	%L-F	%L-FSF	%L-Y	PCD
Page	B97, B100	B97, B100	B97	B97, B100	B98	B98	B99	C49, C50
Applications	Hard materials							
Insert								
Chipbreaker type	CBN							
Page	C26, C27							

Recommended cutting conditions F159

Applicable sleeves F155~F157

A/S-SWUB(P)-AE Excellent bar (Boring)

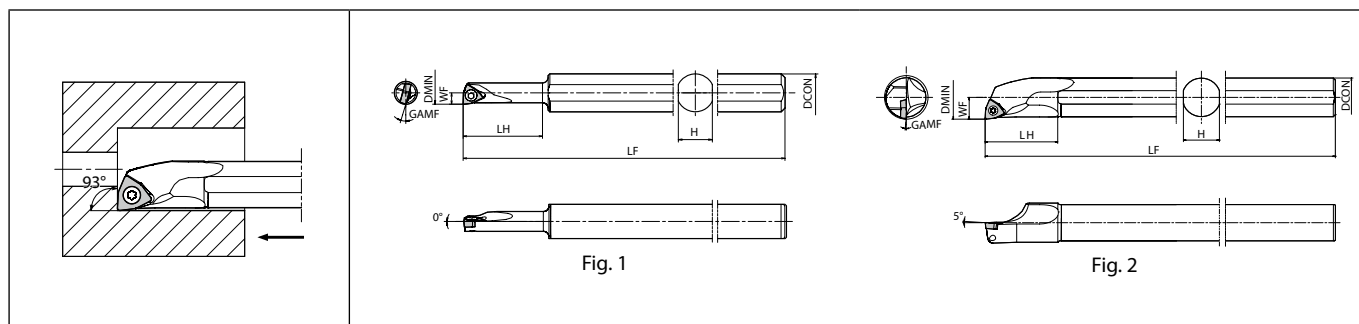
Max. Overhang Length $L/D \approx 5.5$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F

Toolholder dimensions

Description		Availability		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts			Applicable inserts
															Screw	Wrench	Wrench	
		R	L	DMIN	DCON	CND	H	LH	LF	WF								
S10H-	SWUB%L06-06AE	●	●	6	10	-	9	21	3	15	0.2	No	1	SB-2035TR	-	FT-6	WB□T0601... WB□W0601...	
	SWUB%L06-07AE	●	●	7				25	3.5	13								
S10H-	SWUB%L08-08AE	●	●	8	10	-	9	28	4	15	0.2	No	1	SB-2035TR	-	FT-6	WB□T0802... WB□W0802...	
A08X-	SWUB%L08-10AE	●	●	10	8	2.5	7	16	120	5	13	0.2	Yes	2	SB-2050TR	-		FT-6
A10L-	SWUB%L08-12AE	●	●	12	10	3	9	20	140	6	10							
A12M-	SWUP%L11-14AE	●	●	14	12	4	11	24	150	7	4	0.4	Yes	2	SB-2545TR	-	FT-8	WP□T1102... WP□W1102...
A16Q-	SWUP%L11-18AE	●	●	18	16	5	15	30	180	9	1							
A16Q-	SWUP%L16-18AE	●	●	18	16		15	30	180	9	3.5	0.8	Yes	2	SB-4065TR	FT-15	-	WP□T1603... WP□W1603...
A20R-	SWUP%L16-22AE	●	●	22	20	5	19	36	200	11	2							

● : Standard item

S-SWUB(P)-A Steel shank bar (Boring)

Max. Overhang Length $L/D \approx 4$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder dimensions

Description	Availability		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts			Applicable inserts
														Screw	Wrench	Wrench	
	R	L	DMIN	DCON	H	LH	LF	WF									
S10H- SWUB%L06-06A	●	●	6	10	9	21	100	3	15	0.2	No	1	SB-2035TR	-	FT-6	WB□T0601... WB□W0601...	
S10H- SWUB%L06-07A	●	●	7			25		3.5	13								
S10H- SWUB%L08-08A	●	●	8	10	9	28	100	4	15	0.2	No	1	SB-2035TR	-	FT-6	WB□T0802... WB□W0802...	
S08X- SWUB%L08-10A	●	●	10	8	7	16	120	5	13								
S10L- SWUB%L08-12A	●	●	12	10	9	20	140	6	10	0.4	No	2	SB-2050TR	-	FT-6	WB□T0802... WB□W0802...	
S12M- SWUP%L11-14A	●	●	14	12	11	24	150	7	4								
S16Q- SWUP%L11-18A	●	●	18	16	15	30	180	9	1	0.4	No	2	SB-2545TR	-	FT-8	WP□T1102... WP□W1102...	
S16Q- SWUP%L16-18A	●	●	18	16	15	30	180	9	3.5								
S20R- SWUP%L16-22A	●	●	22	20	19	36	200	11	2	0.8	No	2	SB-4065TR	FT-15	-	WP□T1603... WP□W1603...	

● : Standard item

F



Boring

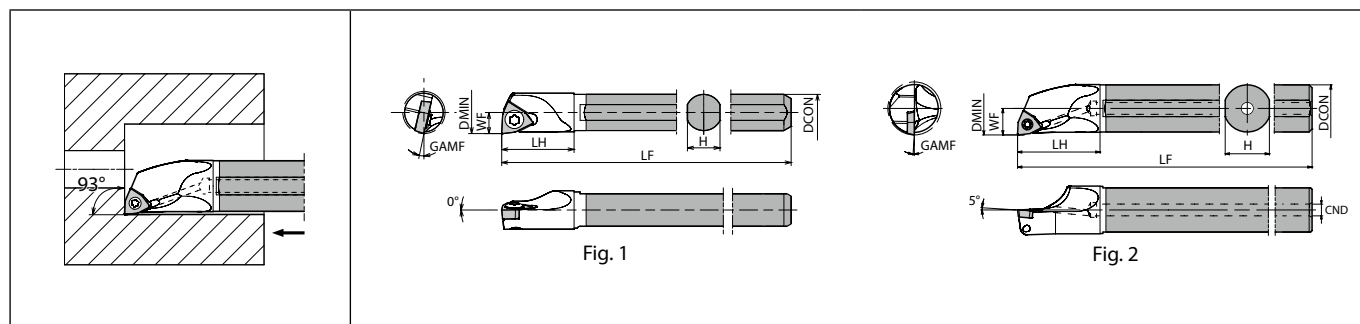
C/E-SWUB(P)-A(N) Carbide shank bar (Boring)

Fig. 1

Fig. 2

Max. Overhang Length $L/D \approx 7$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

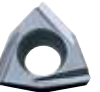
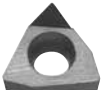
F

Toolholder dimensions

Description	Availability		Dimension (mm)								GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Spare parts			Applicable inserts
															Screw	Wrench	Wrench	
	R	L	DMIN	DCON	CND	H	LH	LF	WF									
C05H- SWUB%L06-06AN	●	●	6	5	-	4.4	9	100	3	15	0.2	No	1	SB-2035TR	-	FT-6	WB□T0601... WB□W0601...	
C06J- SWUB%L06-07AN	●	●	7	6	-	5.4	10	110	3.5	13	0.2	No	1	SB-2035TR	-	FT-6	WB□T0802... WB□W0802...	
C07K- SWUB%L08-08AN	●	●	8	7	-	6.4	11	125	4	15	0.2	No	1	SB-2035TR				
E08L- SWUB%L08-10AN	●	●	10	8	3	7	14	140	5	13	0.2	Yes	2	SB-2050TR				
E10N- SWUB%L08-12AN	●	●	12	10		9	18	160	6	10	0.4	Yes	2	SB-2545TR	-	FT-8	WP□T1102... WP□W1102...	
SWUBR08-12AN2/3	●							105	80									
SWUBR08-12AN1/2	●																	
E12Q- SWUP%L11-14A	●	●	14	12	4	11	23	180	7	4	0.8	Yes	2	SB-4065TR	FT-15	-	WP□T1603... WP□W1603...	
SWUPR11-14A-2/3	●							120	90									
SWUPR11-14A-1/2	●																	
E16X- SWUP%L11-18A	●	●	18	16	4	15	28	220	9	1	0.8	Yes	2	SB-4065TR	FT-15	-	WP□T1603... WP□W1603...	
SWUPR11-18A-2/3	●							145										
SWUPR11-18A-1/2	●							110										
E16X- SWUP%L16-18A	●	●	18	16	4	15	28	220	9	3.5	0.8	Yes	2	SB-4065TR	FT-15	-	WP□T1603... WP□W1603...	
SWUPR16-18A-2/3	●							145	110									
SWUPR16-18A-1/2	●																	
E20S- SWUP%L16-22A	●	●	22	20	6	19	32	250	11	2	0.8	Yes	2	SB-4065TR	FT-15	-	WP□T1603... WP□W1603...	
SWUPR16-22A-2/3	●							165	125									
SWUPR16-22A-1/2	●																	

● : Standard item

Applicable inserts

Applications	Minute ap	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing	Finishing - Medium
Insert								
Chipbreaker type	$\frac{R}{L}$ -CF	$\frac{R}{L}$ -PF	GP	$\frac{R}{L}$ -DP	HQ	$\frac{R}{L}$ -F	$\frac{R}{L}$ -P	$\frac{R}{L}$ -Y
Page	B105	B105	B107	B105	B107	B105, B106	B106	B107
Applications	Cast iron	Non-Ferrous metals	Hard materials					
Insert								
Chipbreaker type	No CB	PCD	CBN					
Page	B107	C51, C52	C28					

Recommended cutting conditions ➡ F158, F159

F



Boring

25° insert profiling tools

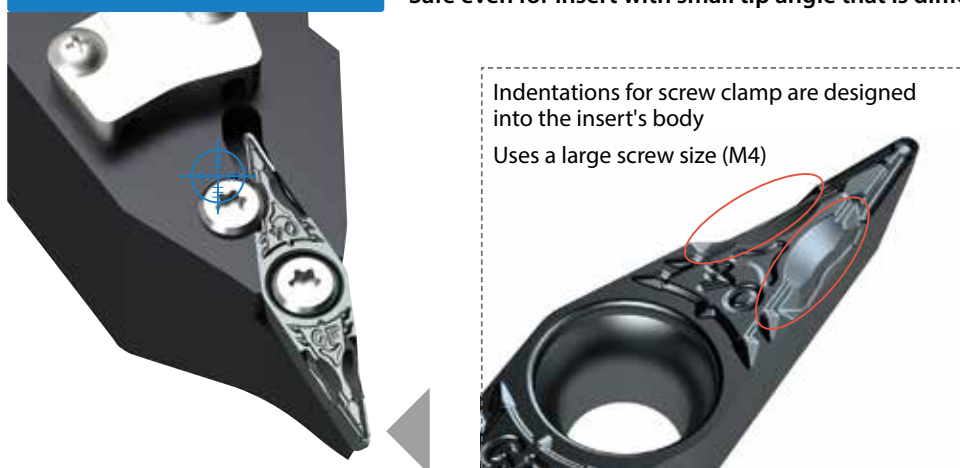
ZBMT series

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

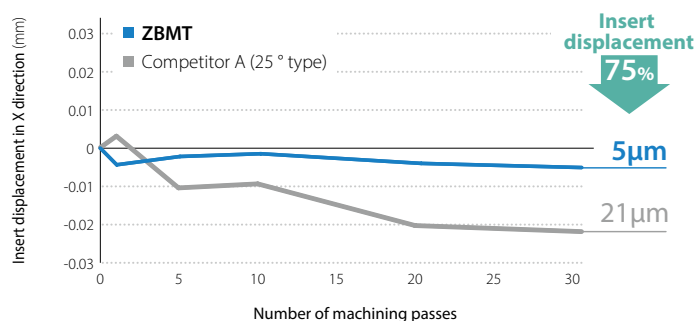
1 Newly developed unique-clamping mechanism achieves a higher rigidity

Side lock mechanism

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



Insert displacement during facing comparison (Internal evaluation)



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

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

Check

By controlling insert displacement,

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

Provides high quality and stable machining in various machining applications

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



Shaft copying



Internal undercutting



End face tapering

CG images

2 Unique holder design to meet customers' needs

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

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

Unique double coolant hole design

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

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

*Pressure resistance: ~ 3 MPa

Fine tuned and adjustable
± 4 ° Adjustable oscillation

Easy to use for Facing

Insert corner :
2-step positive type (20°)

Effective for facing applications

Holder: Tapered shape

Inserts and toolholders have a unique end shape

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

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

GF chipbreaker

Solving chip control issues leads to high-quality surface finishes

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

Two-step dot

Responds to chip fluctuation

Sloped cutting edge

Improved chip control at small D.O.C.

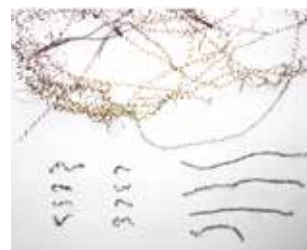
Mortar-shaped chipbreaker

Low resistance and excellent chip control even in ductile workpieces

Chip control comparison
(Internal evaluation)



GF chipbreaker

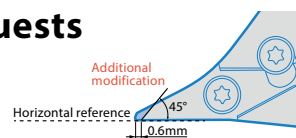


Competitor A (25 ° type)

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

15° Inserts are also available upon customer requests

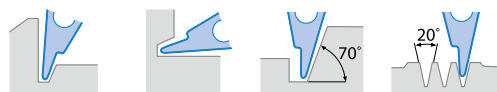
To avoid holder interference, additional modifications is required as shown in the figure on the right. Also, as shown in the figure below, special order for holders may be required depending on machining application.



Examples

When using the toolholder in reverse mounting position

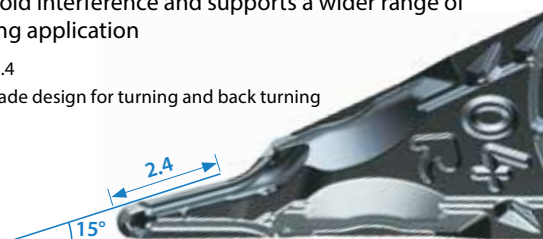
When using the toolholder in normal mounting position
* Holder: Special order specification

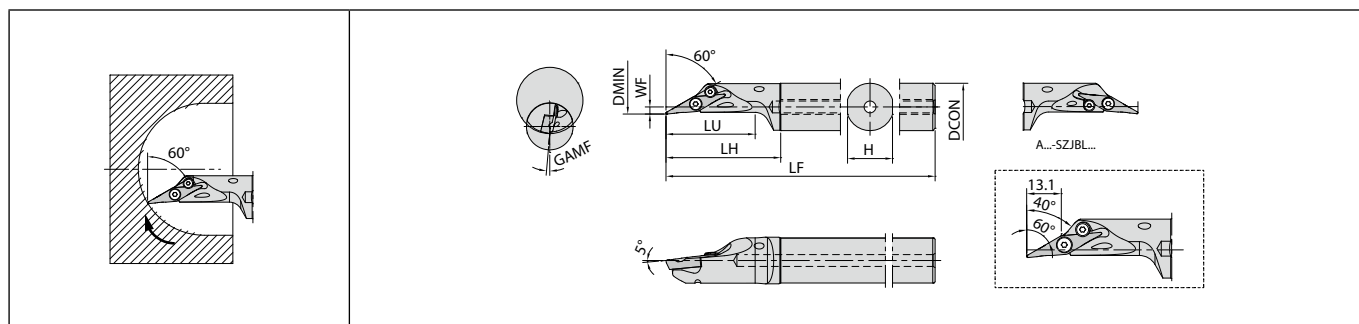


15 ° inserts are developed relative to 25 ° inserts
Helps avoid interference and supports a wider range of machining application

Corner-R 0.4

Double-blade design for turning and back turning



A-SZJB-AE Excellent bar (Spherical machining / Internal facing / Internal copying)

Max. Overhang Length $L/D \sim 5.5$ | Right-hand shown | ZBMT13T304R-GF-15D is applicable to Right-hand Toolholder.

F

Toolholder dimensions

Description	Availability		Dimension (mm)								GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts		Applicable inserts
														Screw	Wrench	
	R	L	DMIN	DCON	CND	H	LH	LF	LU	WF						
A20R- SZJB%13-28AE	●	●	28	20		19	48	200	37.5	3	5	0.4	Yes	SB-3079TR	FT-8	ZBMT13T3...
A25S- SZJB%13-30AE	●	●	30	25	5	24	58	250	47	3.5						
A32S- SZJB%13-40AE	●	●	40	32		31	72		61.5							

For application of A-SZJB-AE, please refer to **F93**.

Applicable inserts

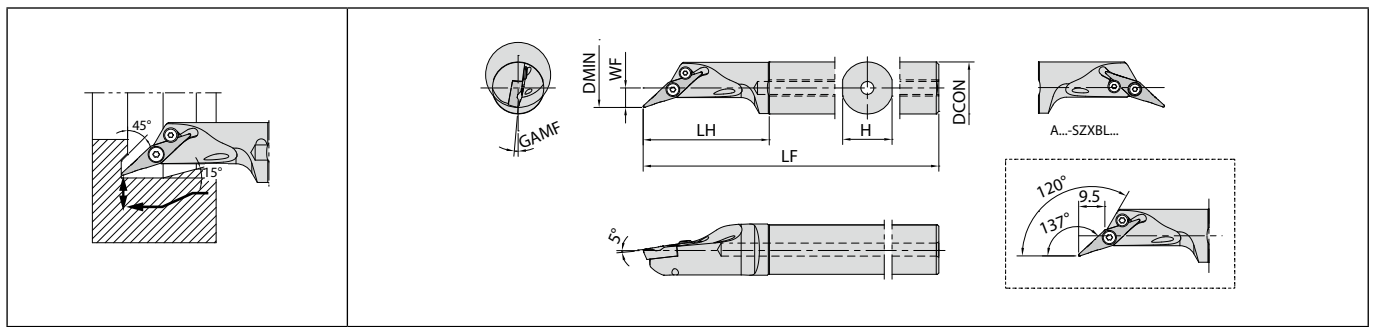
Applications	Finishing	Finishing	Non-ferrous metals
Insert			
Chipbreaker type	GF	R-GF-15D	NE
Page	B108	B108	C53

R-GF-15D inserts are only for the right-hand toolholders of A-SZJB-AE.

Recommended cutting conditions **F159**

Applicable sleeves **F156**

● : Standard item

A-SZXB-AE Excellent bar (Internal facing / Internal copying / Undercutting)

Max. Overhang Length L/D≈5.5 | Right-hand shown

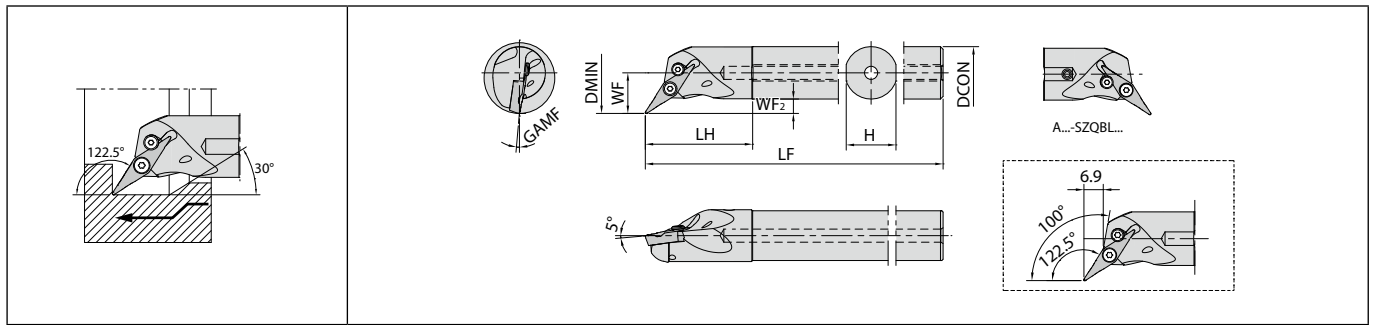
Toolholder dimensions

Description	Availability		Dimension (mm)								GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts		Applicable inserts
	R	L	DMIN	DCON	CND	H	LH	LF	LU	WF				Screw	Wrench	
A20R- SZXB% 13-25AE	●	●	25	20		19	48	200	37.5	7.5	5	0.4	Yes	SB-3079TR	FT-8	ZBMT13T3...
A25S- SZXB% 13-30AE	●	●	30	25	5	24	58	250	45.2	7						
A32S- SZXB% 13-40AE	●	●	40	32		31	74		60.2							

Applicable inserts

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

Recommended cutting conditions ➡ **F159**Applicable sleeves ➡ **F156**

A-SZQB-AE Excellent bar (Internal copying / Undercutting)

Max. Overhang Length L/D≈5.5 | Right-hand shown

F

Toolholder dimensions

Description	Availability		Dimension (mm)									GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts		Applicable inserts
															Screw	Wrench	
	R	L	DMIN	DCON	CND	H	LH	LF	WF	WF ₂							
A20R- SZQB% 13-27AE	●	●	27	20	5	19	41	200	15.5	5.5	5	0.4	Yes	SB-3079TR	FT-8	ZBMT13T3...	
A25S- SZQB% 13-32AE	●	●	32	25		24	51	250	18								
A32S- SZQB% 13-40AE	●	●	40	32		31	54		22.5	6.5							

Applicable inserts

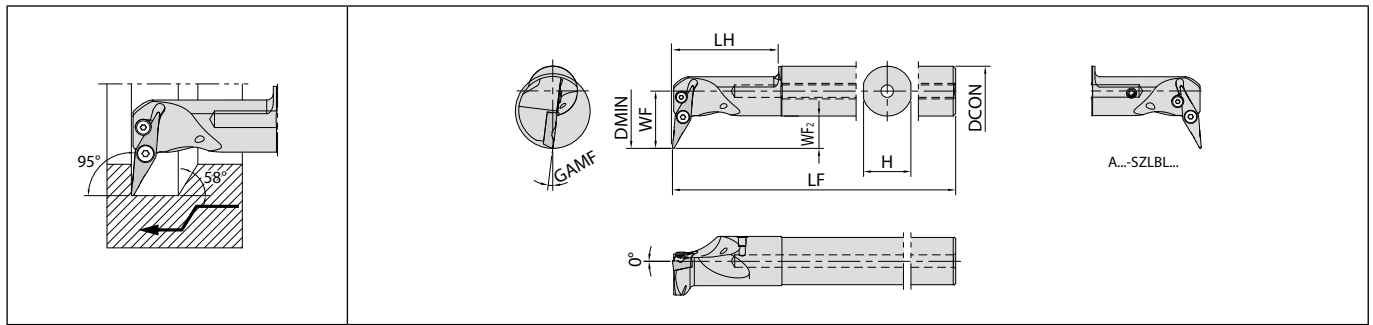
Applications	Finishing	Non-ferrous metals
Insert		
Chipbreaker type	GF	NE
Page	B108	C53

Recommended cutting conditions ➡ **F159**Applicable sleeves ➡ **F156**

● : Standard item

Boring

Solid
Positive
KAV
Negative

A-SZLB-AE Excellent bar (Internal copying)

Max. Overhang Length $L/D \sim 5.5$ | Right-hand shown | ZBMT13T304R-GF-15D is applicable to Left-hand Toolholder.

Toolholder dimensions

Description	Availability		Dimension (mm)									GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts		Applicable inserts
															Screw	Wrench	
	R	L	DMIN	DCON	CND	H	LH	LF	WF	WF ₂							
A20R- SZLB%13-30AE	●	●	30	20	5	19	42	200	23	13	7	0.4	Yes	SB-3079TR	FT-8	ZBMT13T3...	
A25S- SZLB%13-34AE	●	●	34	25		24	64	250	25.5								
A32S- SZLB%13-40AE	●	●	40	32		31	86		29								

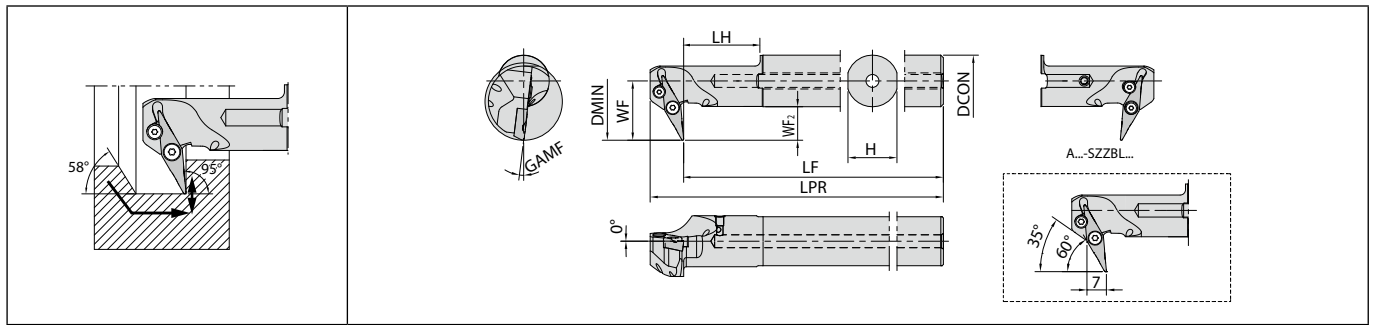
Applicable inserts

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

R-GF-15D inserts are only for the left-hand toolholders of A-SZLB-AE.

Recommended cutting conditions  **F159**

Applicable sleeves  **F156**

A-SZZB-AE Excellent bar (Back boring)

Max. Overhang Length $L/D \sim 5.5$ | Right-hand shown | ZBMT13T304R-GF-15D is applicable to Right-hand Toolholder.

F

Toolholder dimensions

Description	Availability		Dimension (mm)									GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts		Applicable inserts
															Screw	Wrench	
	R	L	DMIN	DCON	CND	H	LH	LPR	LF	WF	WF ₂						
A20R- SZZB% 13-30AE	●	●	30	20	5	19	42	200	187	23	13	7	0.4	Yes	SB-3079TR	FT-8	ZBMT13T3...
A25S- SZZB% 13-34AE	●	●	34	25		24	58	250	237	25.5							
A32S- SZZB% 13-40AE	●	●	40	32		31	74			29							

Applicable inserts

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

R-GF-15D inserts are only for the right-hand toolholders of A-SZZB-AE.

Recommended cutting conditions ➡ **F159**

Applicable sleeves ➡ **F156**

Instructions

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

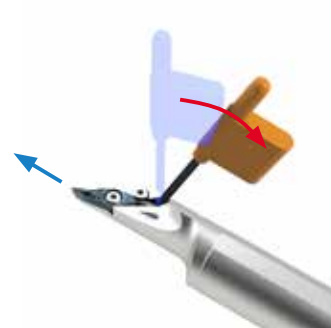


1. Tighten the main screw with the insert pressed against the contact surface with fingertips.



2. Tighten the side screw to complete the installation.

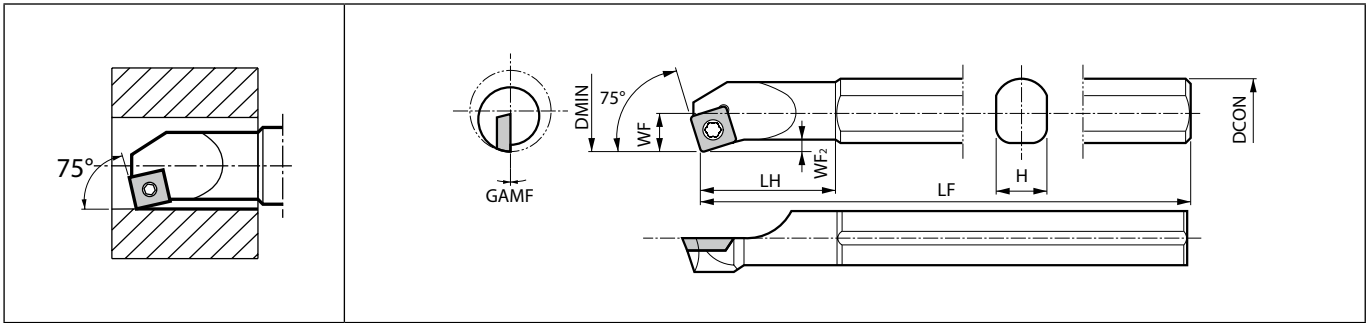
When removing the insert



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

● : Standard item

S-SSKP Steel shank bar (Boring)



Max. Overhang Length L/D≈~3 | Right-hand shown | Left-hand Insert for Right-hand Toolholder.

Toolholder dimensions

Description	Availability	Dimension (mm)								GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts		Applicable inserts
													Screw	Wrench	
		R	DMIN	DCON	H	LH	LF	WF	WF2						
S16Q-SSKPR09-20	●	20	16	14	30	180	10	2	-3	0.8	No	No	SB-4TR	FT-15	SPGH0903...

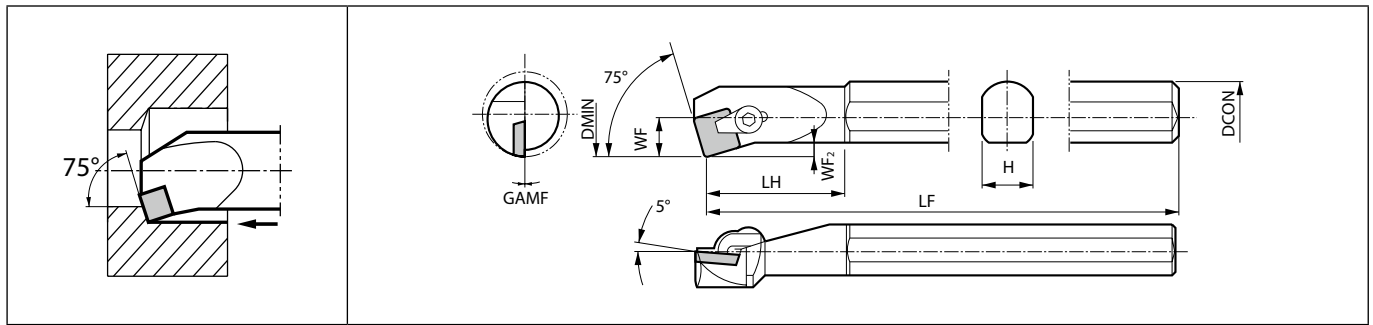
Applicable inserts

Applications	Finishing
Insert	
Chipbreaker type	L
Page	B82

Recommended cutting conditions  F159
Applicable sleeves  F156, F157

● : Standard item



S-CSKP Steel shank bar (Boring)Max. Overhang Length $L/D \approx 3$ | Right-hand shown | Left-hand Insert for Right-hand Toolholder.**F**

Toolholder dimensions

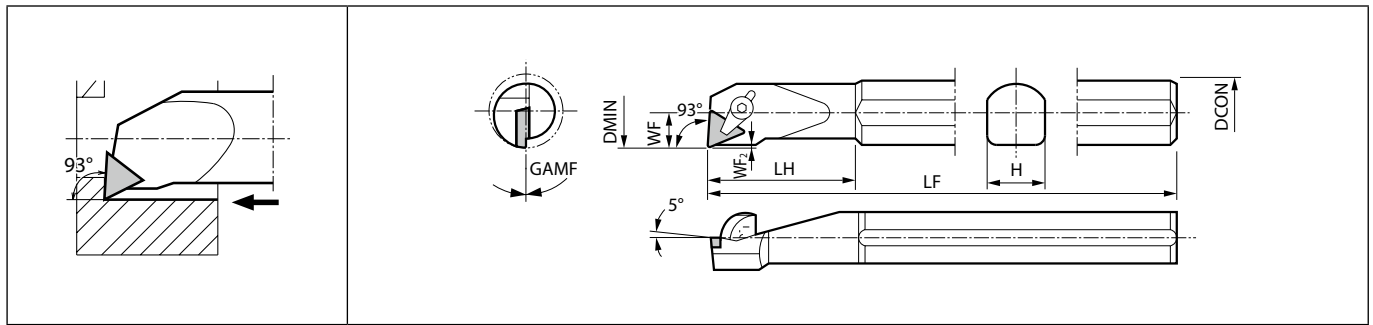
Description		Availability	Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts			Applicable inserts
													Clamp set	Wrench	Wrench	
			R	DMIN	DCON	H	LH	LF	WF				WF ₂			
S16N- CSKPR09-20	●	20	16	14	40	160	10	2	0	0.8	No	CPS-2	-	FH-2.5	SP□N0903... SP□R0903...	
S20Q- CSKPR09-27	●	27	20	18	45	180	13.5	3.5	0	0.8	No	CPS-2	-	FH-2.5	SP□N0903... SP□R0903...	
S25X- CSKPR12-34	●	34	25	23	60	220	17	4.5	0	0.8	No	CPS-3	LW-3	-	SP□N1203... SP□R1203...	

Applicable inserts

Applications	Medium	Medium	Finishing - Medium	Cast iron	Cast iron	Non-Ferrous metals
Insert						
Chipbreaker type	G	STD	L	No CB	Ceramic	PCD
Page	B83	B83	B83	B83	B121	C43

Recommended cutting conditions ➡ **F159**Applicable sleeves ➡ **F156, F157**

● : Standard item

S-CTUP Steel shank bar (Boring)

Max. Overhang Length L/D≈3 | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder dimensions

Description	Availability		Dimension (mm)								GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts						Applicable inserts		
														Clamp set	Clamp set	Shim screw	Shim	Wrench	Wrench			
	R	L	DMIN	DCON	H	LH	LF	WF	WF ₂													
S12L- CTUPR09-16	●		16	12	11	32	140	8	0.5	0	0.4	No	CPS-1	-	-	-	-	FH-2	TP□N0902... TP□R0902...			
S16N- CTUP ^{1/2} L11-20	●	●	20	16	15	30	160	10	0.5	0	0.4	No	-	CPS-2	-	-	-	FH-2.5	TP□N1103... TP□R1103...			
S20Q- CTUP ^{1/2} L11-27	●	●	27	20	18	40	180	13.5	1.3				-	-	-	-	-	-	-	-		
S25X- CTUP ^{1/2} L16-34	●	●	34	25	23	60	220	17	1	0	0.8	No	-	CPS-3	-	-	LW-3	-	TP□N1603... TP□R1603...			
S32S- CTUP ^{1/2} L16-43	●	●	43	32	30	70	250	21.5							-	-				-	-	-
S40X- CTUP ^{1/2} L16-50	●	●	50	40	37	80	315	25							-	-				-	-	-

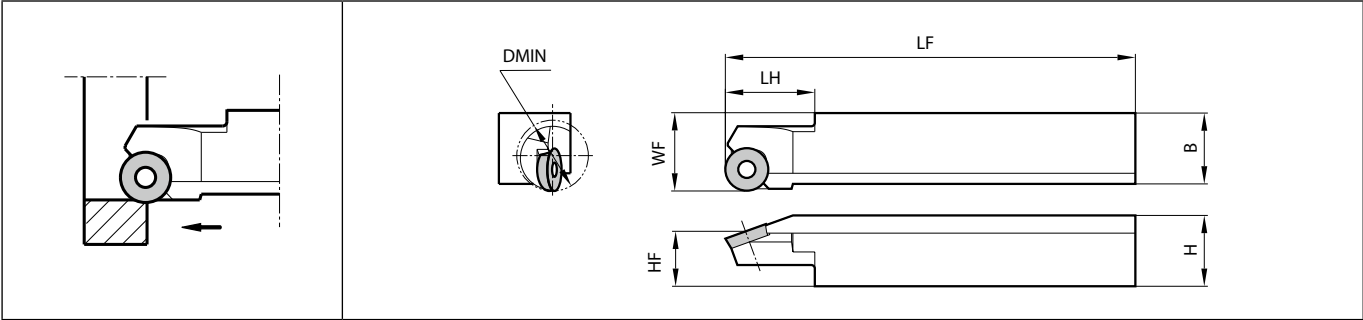
Applicable inserts

Applications	Finishing	Finishing	Finishing - Medium	Medium	Medium	Finishing	Finishing	Finishing - Medium
Insert								
Chipbreaker type	DP	GP	HQ	G	STD	^{1/2} L-F	^{1/2} L-A	^{1/2} L-B
Page	B95	B95	B95	B95	B95	B96	B96	B96
Applications	Medium	Cast iron	Cast iron	Non-Ferrous metals	Hard materials			
Insert								
Chipbreaker type	^{1/2} L-C	No CB	Ceramic	PCD	CBN			
Page	B96	B96	B122	C48	C25			

Recommended cutting conditions F159

Applicable sleeves F155~F157

SRCP-B (Boring)



Right-hand shown

F

Toolholder dimensions

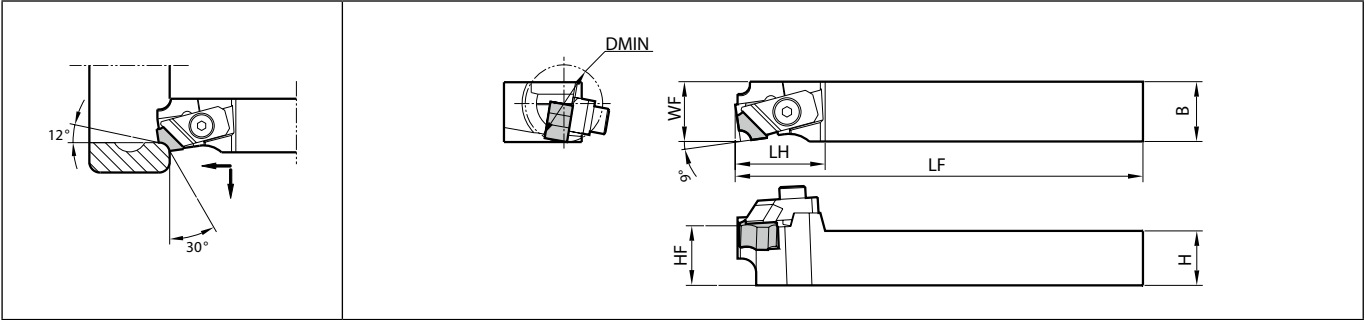
Description	Availability		Dimension (mm)									Spare parts			Applicable inserts
												Screw	Wrench	Wrench	
	R	L	DMIN	H	B	LH	HF	LF	WF						
SRCP ^{PL} 2020B-12-A20	●	●	20	20	20	25	15.5	125	22	SB-4TR	FT-15	-	RPMT1203M0-BB		
SRCPR 2525B-16-A32	●		32	25	25	31	20	150	27	SB-5090TR	-	LTW-20	RPMT1604M0-BB		

Applicable inserts

Applications	Bearing machining
Insert	
Chipbreaker type	BB
Page	B109

● : Standard item

CBSN-B (Internal round chamfering)



Right-hand shown

Toolholder dimensions

Description	Availability	Dimension (mm)								Spare parts		Applicable inserts
										Clamp set (R)	Wrench	
		R	DMIN	H	B	LH	HF	LF	WF			
CBSNR 2020B-12-A20 2525B-12-A20	●	20	20	20	32	21	125	20		CP-RCR	LW-5	SNMF1204...21
	●		25	25		26	150	25				

Applicable inserts

Applications	Bearing machining
Insert	
Chipbreaker type	21
Page	B109

● : Standard item

Interchangeable head boring bars with anti-vibration dampener system

KAV series

"Max L/D = 10" Solves deep-boring challenges

Excellent anti-chatter performance due to unique anti-vibration design and available for a wide range of machining operations

1 Unique anti-vibration mechanism provides superior chatter resistance

F

Unique vibration isolation mechanism that ensures rigidity with high dampening performance

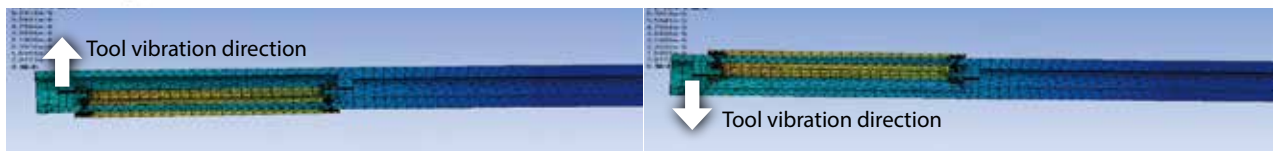
Built-in damper technology

Absorbs vibrational energy with braking effect

High rigidity

Using heavy and short dampers
The cavity diameter is also reduced to ensure rigidity

Principle of vibration suppression by anti-vibration mechanism (Image)



The damper vibrates late against the shank. Effective for vibration damping

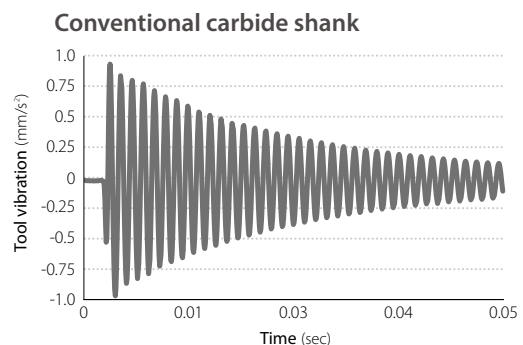
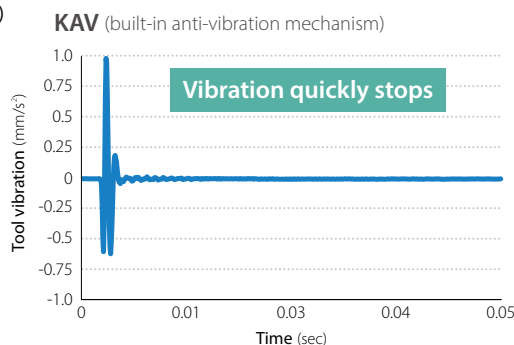
Available up to L/D = 10. Excellent anti-vibration performance over conventional carbide shanks

Hammering test (Internal evaluation)

Hammer impacts to the head
of the tool
($\phi 20$, Overhang length 10D)



Vibration measurement
direction



2 Interchangeable heads for a variety of machining applications Strong fastening with serrated joint structure

Serrated structure

Securely fastens head and shank



F

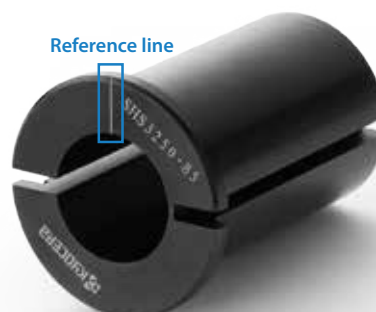


Boring

3 Easy cutting edge adjustment with E-Sleeve Smooth machining setup

E-Sleeve (Sold separately)

Separated structure with printed reference lines
Easy adjustment reduces setup time



Adjusting the cutting edge position

Exclusive Sleeve (E-Sleeve)

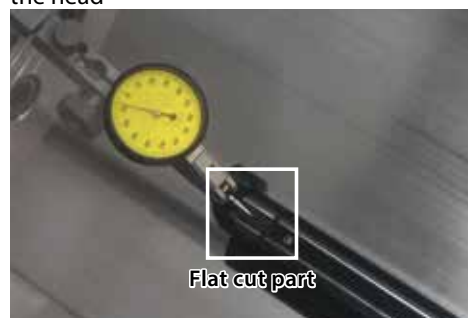
Adjusting the cutting edge position with a reference line



Adjusting the cutting edge position is easy by simply aligning the reference line between the shank and the sleeve.

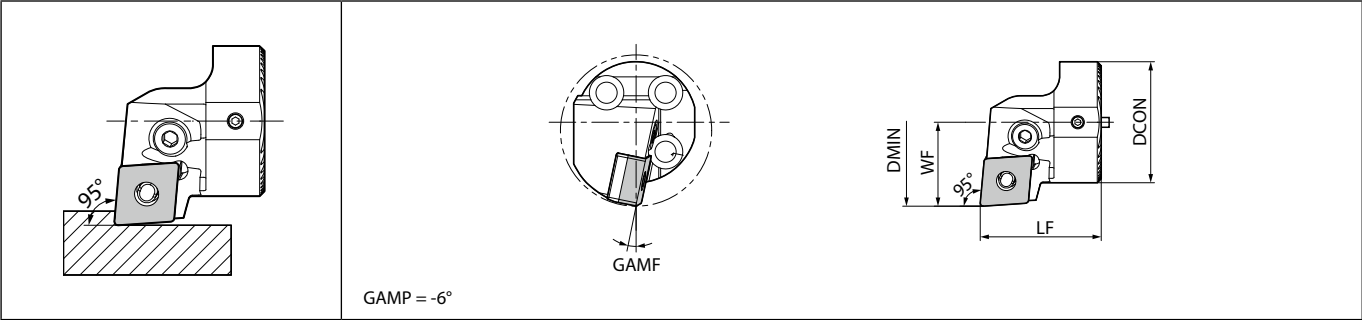
Conventional Sleeve

Adjusting the cutting edge position with the flat cut part of the head



Adjust the flat cut part of the head by moving the tool while applying a dial gauge, etc.

KAVH-PCLN



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

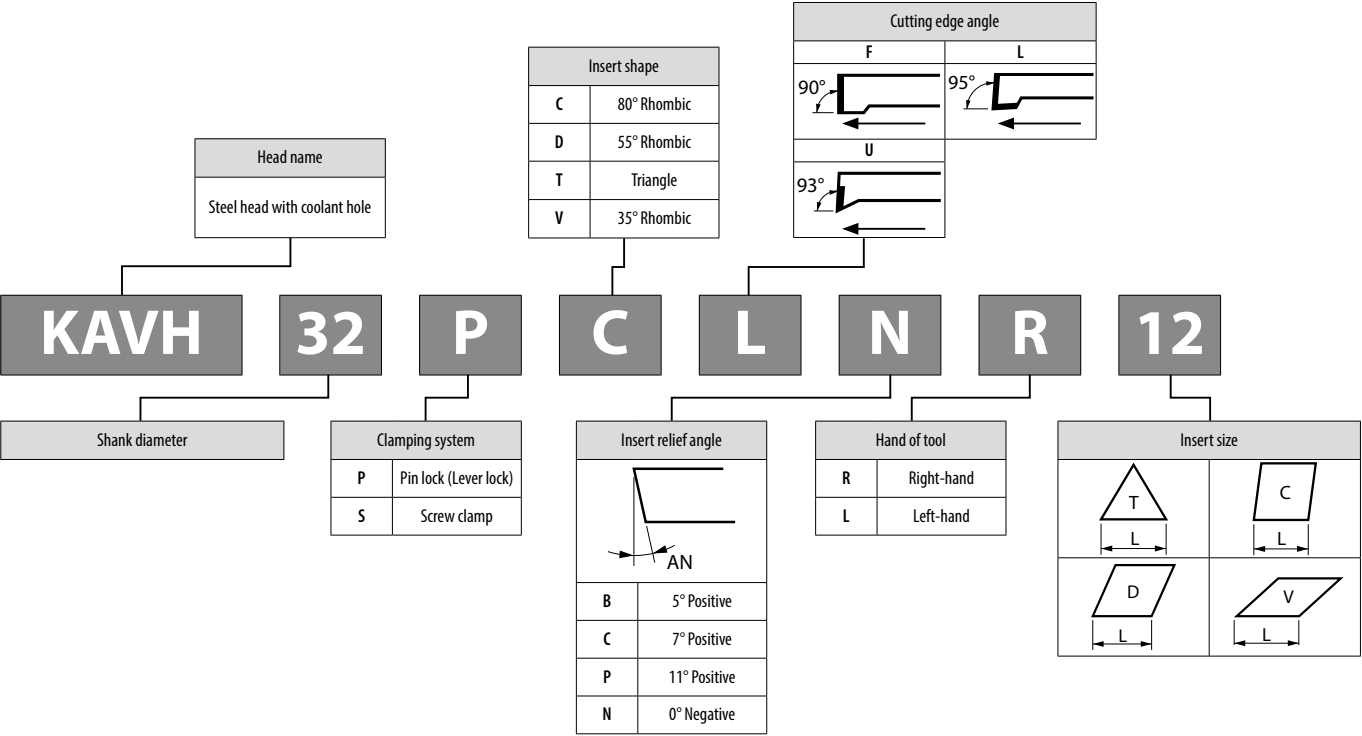
F

Toolholder dimensions

Description	Availability		Dimension (mm)				Standard corner-R(RE)	GAMP (°)	Spare parts						Applicable shank	Applicable inserts
									Lever	Lock screw	Punch	Shim pin	Shim	Wrench		
	R	L	DMIN	DCON	LF	WF										
KAVH 32-PCLN%12 40-PCLN%12	●	●	40	32	32	22.2	0.8	-11.5							KAV-D32..	CN□A1204... CN□G1204...
	●	●	50	40	32	27		-10							KAV-D40...	CN□M1204...

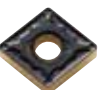
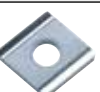
LC-42NR for Right-hand Toolholder, LC-42NL for Left-hand Toolholder.

KAV - Identification system for interchangeable heads



● : Standard item

Applicable inserts

Applications	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Finishing	Finishing	Finishing - Medium	Finishing - Medium
Insert								
Chipbreaker type	WF	WP	WE	WQ	PP	GP	PQ	HQ
Page	B16	B16	B16	B16	B16	B16	B16	B17
Applications	Finishing - Medium	Finishing - Medium	Medium	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing
Insert								
Chipbreaker type	CQ	CJ	TN-V	PMG	GS	PG	PS	PT
Page	B17	B17	B17	B17	B17	B18	B18	B18
Applications	Medium - Roughing	Roughing	Roughing	Roughing	Medium	Medium - Roughing	Medium - Roughing	Low carbon steel
Insert								
Chipbreaker type	GT	STD	PH	PX	R/L	P/L-25R	Z	XF
Page	B18	B18	B19	B19	B23	B23	B23	B19
Applications	Low carbon steel	Low carbon steel	Low carbon steel	Finishing - Medium	Medium - Roughing	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys
Insert								
Chipbreaker type	XP	XQ	XS	SK	FP-TK	TK	MQ	MS
Page	B19	B19	B20	B20	B20	B20	B20	B21
Applications	Stainless steel / Heat-resistant alloys	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron
Insert								
Chipbreaker type	MU	KQ	KG	KH	C	ZS	GC	No CB
Page	B21	B22	B22	B22	B22	B22	B22	B22
Applications	Cast iron / Hard materials	Non-Ferrous metals	Non-Ferrous metals	Non-Ferrous metals	Heat-resistant alloys	Heat-resistant alloys	Hard materials	Hard materials
Insert								
Chipbreaker type	Ceramic	P/L-A3	AH	PCD	SQ	SG	HH	HL
Page	B113	B23	B23	C34	B20	B21	C9	C9
Applications	Hard materials	Hard materials / Cast iron						
Insert								
Chipbreaker type	HD	CBN						
Page	C9	C8						

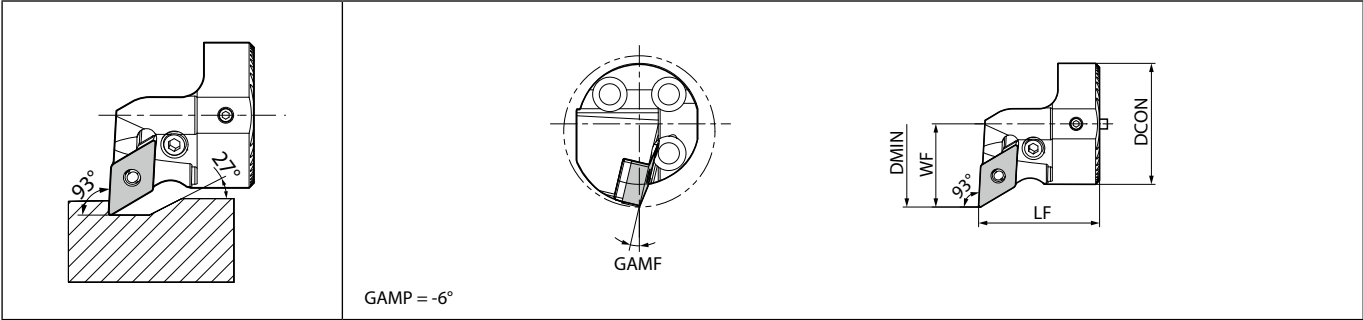
Recommended cutting conditions ➔ F159

F



Boring

KAVH-PDUN



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

F

Toolholder dimensions

Description	Availabi- lity		Dimension (mm)				Standard corner-R(RE)	GAMF (°)	Spare parts						Applicable shank	Applicable inserts
									Lever	Lock screw	Punch	Shim pin	Shim	Wrench		
	R	L	DMIN	DCON	LF	WF										
KAVH 32-PDUN%L11	●	●	40	32	32	22	0.4	-13	LL-1DN	LS-1SN	PC-1	LSP-1	LD-32N	FH-2.5	KAV-D32..	DN□G1104...

Description	Availabi- lity		Dimension (mm)				Standard corner-R(RE)	GAMF (°)	Lock pin	Screw	Shim	Wrench	Wrench	Applicable shank	Applicable inserts
	R	L	DMIN	DCON	LF	WF									
KAVH 32-PDUN%L15	●	●	40	32	32	22	0.8	-12.5	PP-4	SB-2050TR	PD-42	LW-3	FT-6	KAV-D32..	DN□A1504... DN□G1504...
40-PDUN%L15	●	●	50	40		27								KAV-D40...	DN□M1504... DN□X1504...

When using inserts whose corner-R(RE) is greater than 1.6 mm, additional modifications to the shim are necessary in order to prevent workpiece and shim from interfering each other.
For WF chipbreaker, cutting edge offsets or program corrections are required on **R34** and **R35**.

● : Standard item

Applicable inserts

Applications	Finishing	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Finishing - Medium	Finishing - Medium	Medium
Insert								
Chipbreaker type	WF	PP	GP	PQ	HQ	CQ	CJ	TN-V
Page	B24	B24	B24	B24	B25	B25	B25	B25
Applications	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Roughing	Roughing
Insert								
Chipbreaker type	PMG	GS	PG	PS	PT	GT	STD	PH
Page	B25	B25	B26	B26	B26	B26	B27	B27
Applications	Roughing	Medium	Low carbon steel	Low carbon steel	Low carbon steel	Low carbon steel	Finishing - Medium	Large ap
Insert								
Chipbreaker type	PX	R/L	XF	XP	XQ	XS	SK	R-LD
Page	B27	B31	B27	B27	B27	B27	B28	B28
Applications	Medium - Roughing	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Cast iron	Cast iron	Cast iron
Insert								
Chipbreaker type	FP-TK	TK	MQ	MS	MU	KQ	KG	KH
Page	B28	B28	B28	B29	B29	B30	B30	B30
Applications	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron / Hard materials	Non-Ferrous metals	Non-Ferrous metals	Non-Ferrous metals
Insert								
Chipbreaker type	C	ZS	GC	No CB	Ceramic	P/L-A3	AH	PCD
Page	B30	B30	B30	B31	B114	B31	B31	C35
Applications	Heat-resistant alloys	Heat-resistant alloys	Hard materials	Hard materials	Hard materials	Hard materials / Cast iron		
Insert								
Chipbreaker type	SQ	SG	HH	HL	HD	CBN		
Page	B29	B29	C11	C11	C11	C10		

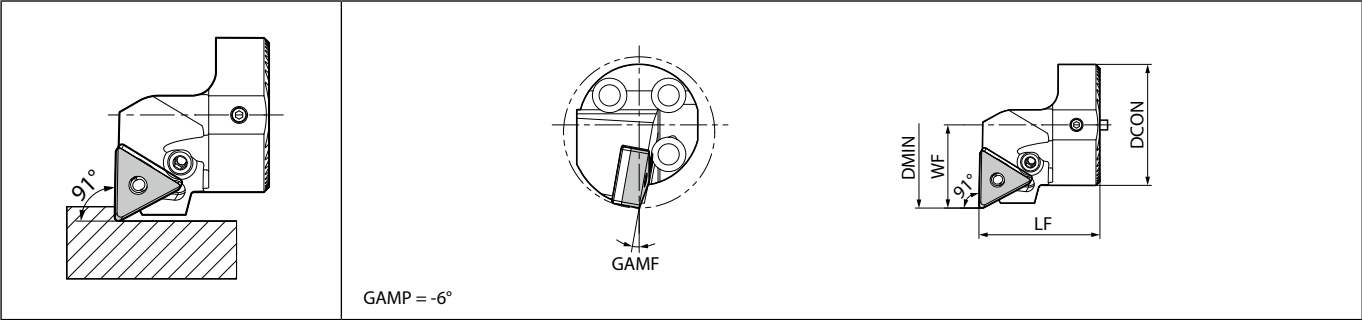
Recommended cutting conditions ➔ F159

F



Boring

KAVH-PTFN



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

F

Toolholder dimensions

Description	Availability		Dimension (mm)				Standard corner-R(RE)	GAMF (°)	Spare parts						Applicable shank	Applicable inserts	
									Lever	Lock screw	Punch	Shim pin	Shim	Wrench			
	R	L	DMIN	DCON	LF	WF											
KAVH	32-PTFN%16	●	●	40	32	32	22	0.8	-10	LL-1N	LS-1N	PC-1	LSP-1	LT-32N (LT-32N-20*)	FH-2.5	KAV-D32..	TN□A1604... TN□G1604...
	40-PTFN%16	●	●	50	40				27	-9							

When using inserts whose corner-R(RE) is greater than 1.2 mm, please purchase a shim* and use it in order to prevent workpiece and shim from interfering each other.
For WF chipbreaker, cutting edge offsets or program corrections are required on **R34** and **R35**.

● : Standard item

Applicable inserts

Applications	Finishing	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Finishing - Medium	Medium - Roughing	Medium - Roughing
Insert								
Chipbreaker type	WF	PP	GP	PQ	HQ	CQ	PMG	GS
Page	B38	B38	B38	B38	B38	B38	B39	B39
Applications	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Roughing	Roughing	Roughing	Finishing
Insert								
Chipbreaker type	PG	PS	PT	GT	STD	PH	PX	P/L-SSF
Page	B39	B39	B39	B39	B40	B40	B40	B44
Applications	Finishing - Medium	Medium - Roughing	Medium - Roughing	Low carbon steel	Low carbon steel	Low carbon steel	Low carbon steel	Finishing - Medium
Insert								
Chipbreaker type	P/L-B	P/L-C	P/L-25R	XF	XP	XQ	XS	SK
Page	B44	B45	B45	B40	B41	B41	B41	B41
Applications	Large ap	Medium - Roughing	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel	Cast iron
Insert								
Chipbreaker type	R-LD	FP-TK	TK	MQ	MS	MU	P/L-ST	KQ
Page	B41	B41	B41	B42	B42	B42	B42	B42
Applications	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron / Hard materials	Non-Ferrous metals
Insert								
Chipbreaker type	KG	KH	C	ZS	GC	No CB	Ceramic	P/L-A3
Page	B42	B42	B43	B43	B43	B43	B118	B43
Applications	Non-Ferrous metals	Non-Ferrous metals	Heat-resistant alloys	Hard materials / Cast iron				
Insert								
Chipbreaker type	AH	PCD	SG	CBN				
Page	B43	C36	B42	C13				

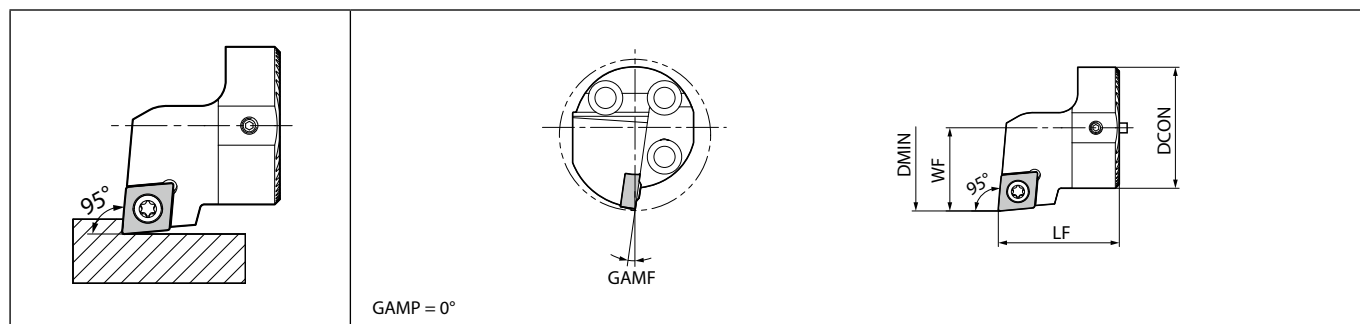
Recommended cutting conditions  F159

F



Boring

KAVH-SCLC



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

F

Toolholder dimensions

Description		Availabil- ity		Dimension (mm)			Standard corner-R(RE)	GAMP (°)	Spare parts			Applicable shank	Applicable inserts	
									Screw	Wrench	Wrench			
		R	L	DMIN	DCON	LF			WF					
KAVH	16-SCLC%06	●	●	20	16	20	11	0.4	-7	SB-2545TR	FT-8	-	KAV-D16.. / G16..	CC□T0602... CC□W0602...
KAVH	20-SCLC%09	●	●	25	20	20	13	0.4	-8	SB-4065TR	-	FT-15	KAV-D20.. / G20..	CC□T09T3... CC□W09T3...
	25-SCLC%09	●	●	32	25		17						KAV-D25..	
	32-SCLC%09	●	●	40	32	22	KAV-D32..							
	40-SCLC%09	●	●	50	40	27	KAV-D40...							

When using P chipbreaker : Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

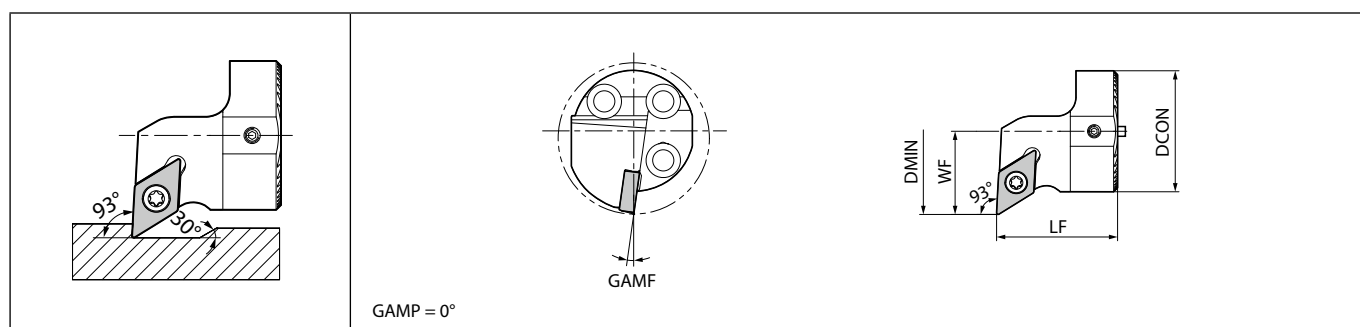
Applicable inserts

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

Recommended cutting conditions F159

● : Standard item

KAVH-SDUC



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

Toolholder dimensions

Description	Availability		Dimension (mm)						Standard corner-R(RE)	GAMP (°)	Spare parts			Applicable shank	Applicable inserts
											Screw	Wrench	Wrench		
	R	L	DMIN	DCON	LF	WF									
KAVH 16-SDUC%0.07	●	●	20	16	20	11	0.4	-7			SB-2545TR	FT-8	-	KAV-D16.. / G16..	DC□T0702... DC□W0702... DC□X0702...
KAVH 20-SDUC%0.11	●	●	25	20		13		-9						KAV-D20.. / G20..	
25-SDUC%0.11	●	●	32	25		17		-8						KAV-D25..	DC□T11T3...
32-SDUC%0.11	●	●	40	32		22		-7						KAV-D32..	DC□W11T3...
40-SDUC%0.11	●	●	50	40		27								KAV-D40...	DC□X11T3...

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

Applicable inserts

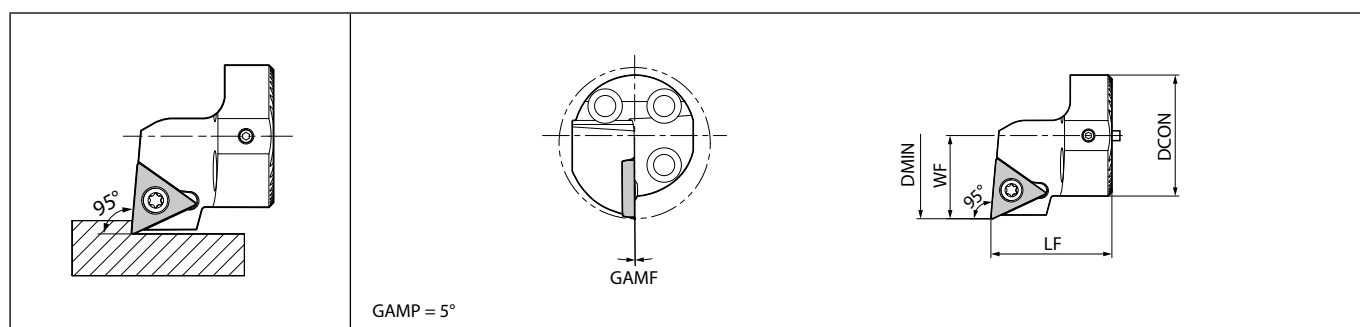
Applications	Minute ap	Finishing	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing
Insert								
Chipbreaker type	CF	GF	SKS	SK	CK	GQ	WP	¾-L-WP
Page	B68	B68	B68	B68	B68	B69	B69	B69
Applications	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Medium	Medium	Finishing	Finishing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

Recommended cutting conditions F159

● : Standard item



KAVH-STLP



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

F

Toolholder dimensions

Description	Availability		Dimension (mm)						Standard corner-R(RE)	GAMF (°)	Spare parts			Applicable shank	Applicable inserts
											Screw	Wrench	Wrench		
	R	L	DMIN	DCON	LF	WF									
KAVH 16-STLP ¹ /11	●	●	20	16		11		-3.5	SB-3060TR					KAV-D16.. / G16..	TP□B1103... TP□H1103... TP□T1103... TP□X1103...
	●	●	25	20	20	13	0.4	-2	SB-3080TR		FT-10		-	KAV-D20.. / G20..	
	●	●	32	25		17		0						KAV-D25..	
KAVH 32-STLP ¹ /16	●	●	40	32		22		0.4	0	SB-4065TR				KAV-D32..	TP□B1603... TP□H1603... TP□T1603...
	●	●	50	40	32	27						FT-15		KAV-D40...	

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

When using P chipbreaker : Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

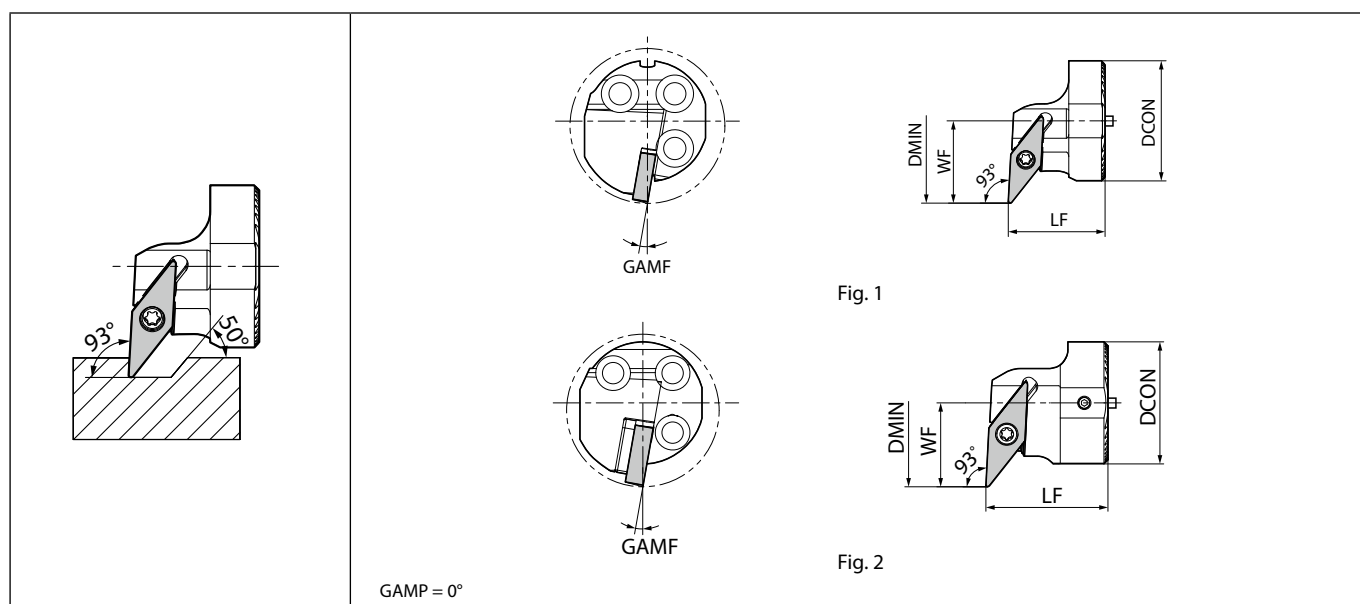
Applicable inserts

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

Recommended cutting conditions F159

● : Standard item

KAVH-SVUB



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

Toolholder dimensions

Description	Availability		Dimension (mm)				Standard corner-R(RE)	GAMF (°)	Fig.	Spare parts							Applicable shank	Applicable inserts
										Screw	Screw	Shim screw	Shim	Wrench	Wrench	Wrench		
	R	L	DMIN	DCON	LF	WF												
KAVH 20-SVUB $\frac{1}{16}$	●	●	25	20	20	13	0.4	-10	1	SB-2570TR	-	-	-	FT-8	-	-	KAV-D20.. / G20..	VB-T1103...
25-SVUB $\frac{1}{16}$	●	●	32	25	20	17	0.4	-10	1	-	-	-	-	-	-	-	KAV-D25..	VB-W1103...
KAVH 32-SVUB $\frac{1}{16}$	●	●	40	32	32	22	0.4	-10	2	-	SB-40125TRN	SS-4N	SVN-32N (SVN-32S*)	-	FT-15	LW-4	KAV-D32..	VB-T1604...
40-SVUB $\frac{1}{16}$	●	●	50	40	27	27	0.4	-9	2	-	-	-	-	-	-	-	KAV-D40...	VB-W1604... VC-T1604...

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

Applicable inserts

Applications	Finishing	Finishing	Finishing	Finishing - Medium	Finishing	Finishing	Finishing - Medium	Non-Ferrous metals
Insert								
Chipbreaker type	VF	PP	GP	HQ	$\frac{1}{4}$ -F	$\frac{1}{4}$ -FSF	$\frac{1}{4}$ -Y	PCD
Page	B97	B97	B97	B97	B98	B98	B99	C49
Applications	Hard materials							
Insert								
Chipbreaker type	CBN							
Page	C26							

Recommended cutting conditions F159

Shank for KAV

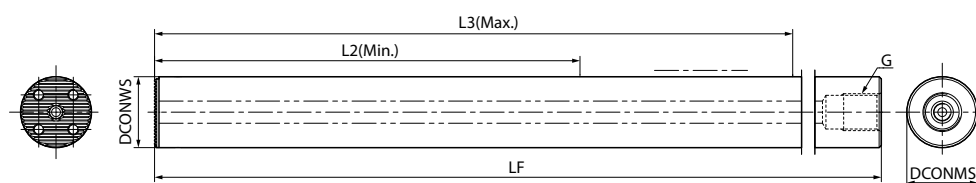


Fig. 1

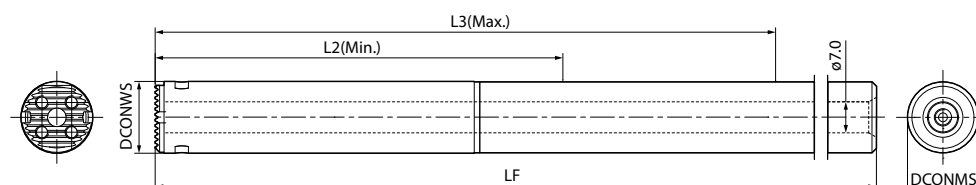


Fig. 2

F

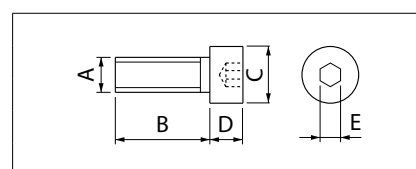
Boring

Toolholder dimensions

Description	Availability	Dimension (mm)						Spare parts		
		DCONWS	DCONMS	G	LF	L2 (Min.)	L3 (Max.)	Fig.	Head fastening bolts (3)	Wrench
Standard	KAV- D16-7D	● 16	16	G1/8	157.5	44	92	1	HH3X10S	LW-2.5
	D20-7D	● 20	20		201.5	60	120		HH3.5X10S	
	D25-7D	● 25	25	G1/4	256.5	80	155		HH4X12S	LW-3
	D25-10D	● 25	25		331.5	155	230		HH4X12S	
	D32-7D	● 32	32	G3/8	321.5	96	192		HH5X12	LW-4
	D32-10D	● 32	32		417.5	192	288		HH5X12	
	D40-7D	● 40	40	G1/2	409.5	128	248		HH6X12	LW-5
	D40-10D	● 40	40		529.5	248	368		HH6X12	
Carbide reinforced	KAV- G16-10D	● 16.2	16	-	205.5	92	140	2	HH3X10S	LW-2.5
	G20-10D	● 20.2	20	-	261.5	120	180		HH3.5X10S	

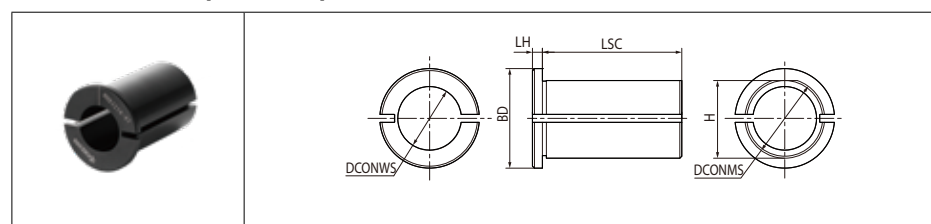
When cutting the back end, consider the length of the shank grip in addition to the amount of overhang length **F130**

Head fastening bolt



Description	Dimension (mm)					Tightening torque (N-m)
	A	B	C	D	E	
HH 3X10S	M3X0.5	10.0	5.0	3.0	2.5	2.2
HH 3.5X10S	M3.5X0.6	10.0	5.5	3.0	2.5	2.2
HH 4X12S	M4X0.7	12.0	7.0	4.0	3.0	3.0
HH 5X12	M5X0.8	12.0	8.5	5.0	4.0	5.0
HH 6X12	M6X1.0	12.0	10.0	6.0	5.0	8.5

Sleeve for KAV (E-Sleeve)



Sleeve dimensions

Description	Availability	Dimension (mm)						Applicable shank
		DCONWS	DCONMS	BD	LH	LSC	H	
SHS 1640-75	● 16							KAV-D16-7D, KAV-G16-10D
	● 20							KAV-D20-7D, KAV-G20-10D
	● 25	40	50	5	70	39		KAV-D25-7D/10D
	● 32							KAV-D32-7D/10D
SHS 2550-85	● 25							KAV-D25-7D/10D
	● 32	50	60	5	80	48.5		KAV-D32-7D/10D
	● 40							KAV-D40-7D/10D

Choose the sleeve DCONWS together with the shank DCONMS

● : Standard item

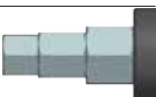
F128

Internal coolant: Piping connections

1 Screw standard for shank back end (pipe connection)

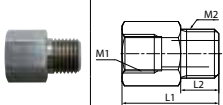
- The thread standard depends on the description. Please refer to the dimension chart "G" on page F128 when using commercially available piping parts.
- When using our piping components, they must be converted to "UNF3/8" or "G1/8."
- Check the table below and select the required joint parts (sold separately).

●Steel shank (Pressure ~ 7MPa)

Type	Thread standards and conversion joints
ø16-7D	G1/8 
ø20-7D ø25-7D/10D	G1/8 ⇐ G1/4 J-ST-G1/4-G1/8 
ø32-7D/10D	G1/8 ⇐ G1/4 ⇐ G3/8 J-ST-G3/8-G1/4 J-ST-G1/4-G1/8 
ø40-7D/10D	G1/8 ⇐ G1/4 ⇐ G3/8 ⇐ G1/2 J-ST-G1/2-G3/8 J-ST-G3/8-G1/4 J-ST-G1/4-G1/8 

If a leak occurs, use a commercially available washer.

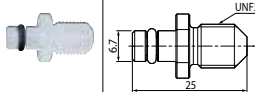
Joint

Shape	Description	Availability	M1	M2	L1	L2
	J-ST-G1/4-G1/8	●	G1/8	G1/4	27	12
	J-ST-G3/8-G1/4	●	G1/4	G3/8	33	13
	J-ST-G1/2-G3/8	●	G3/8	G1/2	37	17

●Carbide reinforced shank (Pressure ~ 1MPa)

Type	Thread standards and conversion joints
ø16-10D ø20-10D	 UNF3/8 ⇐ ø7 Straight hole *The shank side is not threaded.

Resin joint (with O-ring)

Shape	Description	Availability	Thread standard
	PR07-ST-UNF3/8	●	UNF3/8

You can order only the included O-ring (GR-004-2).

2 How to connect when using our plumbing parts

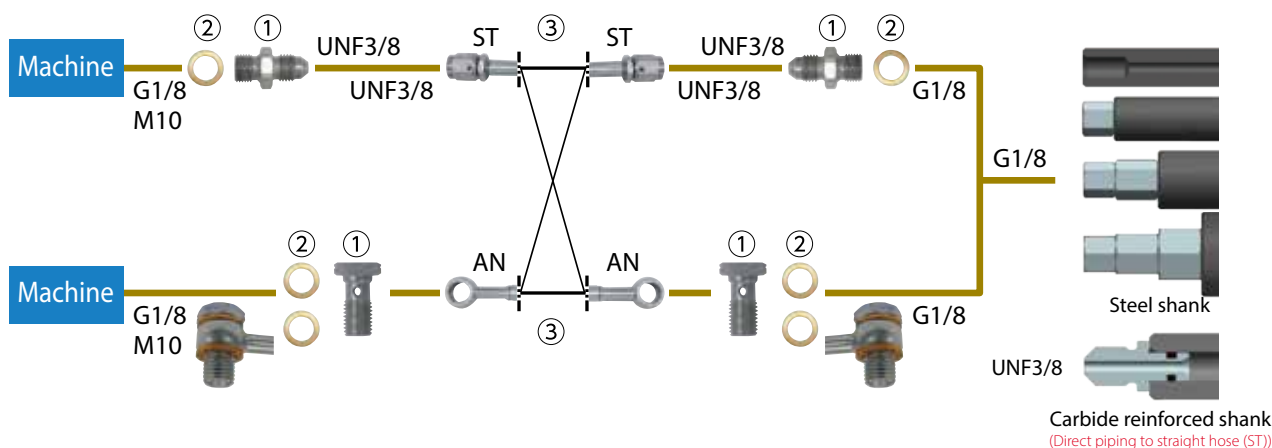
Easy to use with high pressure capable hoses and joints

- Can be used as internal coolant at normal pressure without a high-pressure pump unit
- Banjo bolts for angle hoses available. Supports a wide variety of machines

< Piping installation guide >

- ① Joint/Banjo bolt ③ Hose
② Washer

- ① Joint/Banjo bolt
② Washer



Optional piping parts available (Sold separately) ● D12

Precautions

About the dedicated E-Sleeve

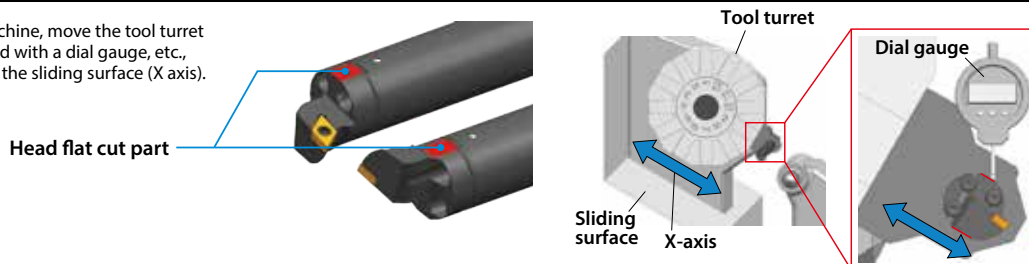
The shank does not have a flat cut. In order to ensure vibration-proof performance, we recommend using a special sleeve (SHS ****-.**) that is sold separately.



How to adjust cutting edge position

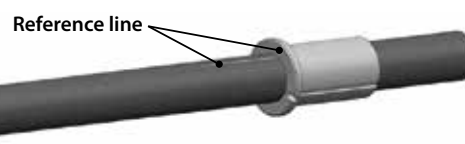
When using a head flat cut part

After attaching the tool to the machine, move the tool turret against the flat cut part of the head with a dial gauge, etc., and make sure that it is parallel to the sliding surface (X axis).



When using the reference lines of the shank/dedicated sleeve (E-Sleeve)

Align the reference lines printed on the shank and the dedicated sleeve (SHS ****-.**). It is possible to more easily adjust the cutting edge position than using the head flat cut part



Recommendations for internal coolant

Under high temperatures, the anti-vibration mechanism may deteriorate or be damaged. Please use with **internal coolant**.

The coolant pressure resistance of the shank is 7 MPa. However, when using coolant parts (PR07-ST-UNF 3/8) for internal coolant in the carbide reinforced shank (KAV-G ***), the coolant pressure is 1 MPa. Please be careful.

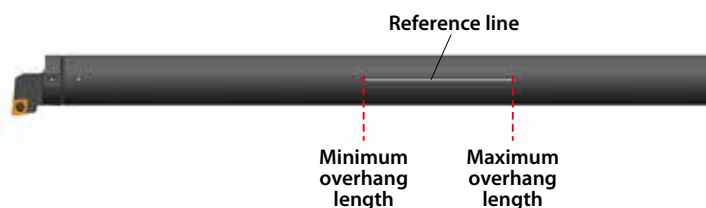


Available overhang length range

Available overhang length is set for this tool

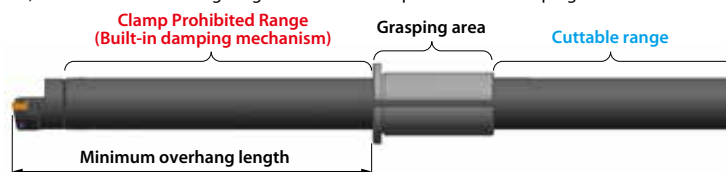
To adjust the overhang length, please use the reference line printed on the shank.

Available overhang length range		
Description	Minimum overhang length	Maximum overhang length
KAV-***-10D	Shank diameter × 7	Shank diameter × 10
KAV-***-7D	Shank diameter × 4	Shank diameter × 7



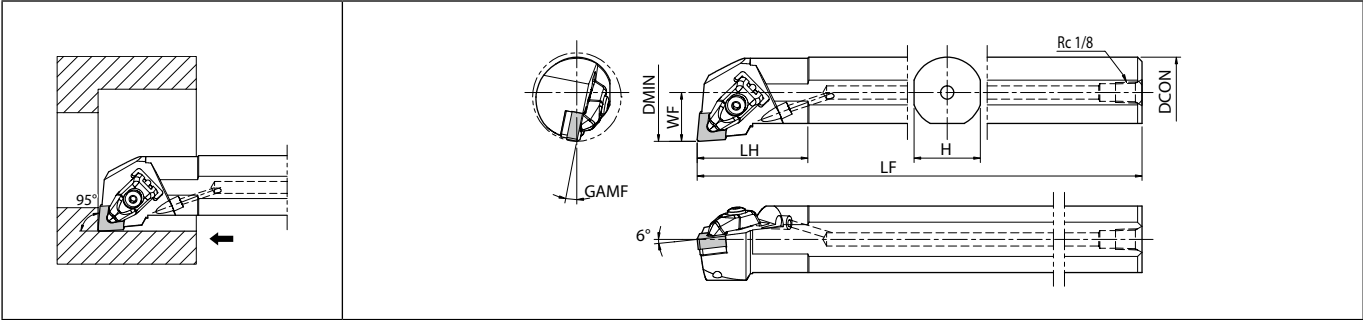
Shank cut

If the shank needs to be cut or modified, do so within the cutting range and do not clamp the built-in damping mechanism.



- Use the appropriate inserts and parts. Use of damaged parts may result in tool breakage and injury.
- Do not touch the cutting edge of the insert directly with your bare hands. There is a risk of injury.
- Make sure that there are no foreign materials such as chips in the insert seating area, serrated area, or shank grip area before mounting.
- Do not use the product under chattering conditions. This can lead to damage of the built-in damping mechanism.
- If tool falls or hits the part while machining, do not use it. The impact can cause tool damage and lead to large chattering.
- Avoid high humidity and store at room temperature (about 20°C).

A-DCLN (Boring / Internal facing)



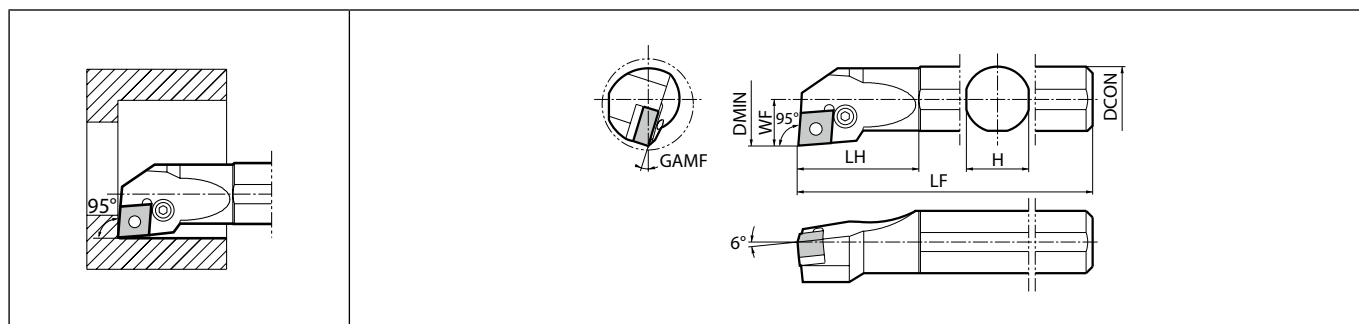
Max. Overhang Length L/D≈3 | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder dimensions

Description	Availability		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts							Applicable inserts
													Clamp	Screw (for clamp)	Spring	Wrench (for clamp)	Shim	Screw (for shim)	Wrench* (for shim)	
	R	L	DMIN	DCON	H	LH	LF	WF												
A25R- DCLN%L 12-32	●	●	32	25	23	42	200	17	11	0.8	Yes	CP-3D	CS-3D	SP-3D	LW-3	DC-42	SB-4085TR	FT-15	DN10	CN□A1204...
A32S- DCLN%L 12-40	●	●	40	32	30	50	250	22												CN□G1204...
A40T- DCLN%L 12-50	●	●	50	40	37	60	300	27	14										DN20	CN□M1204...

Not applicable to high-pressure coolant
Wrench (FT-15) is sold separately.

● : Standard item

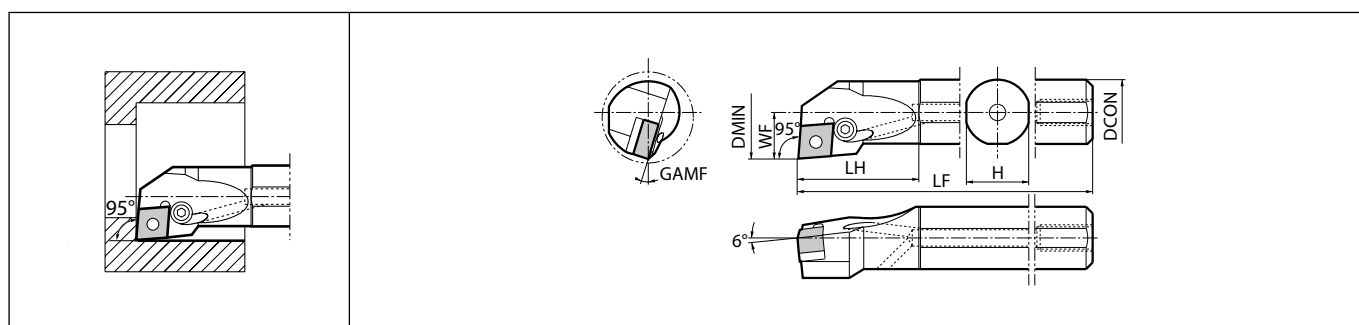
S-PCLN (Boring / Internal facing)

Max. Overhang Length $L/D \approx 3$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F**Toolholder dimensions**

Description	Availability		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts								Applicable inserts
													Lever	Lock screw	Punch	Shim pin	Shim pin	Shim	Wrench	Wrench	
	R	L	DMIN	DCON	H	LH	LF	WF													
S16M- PCLN%/09-20	●	●	20	16	15	34	150	11	16	0.8	No	LL-03SN	LS-03SN	-	-	P-03S	-	-	FH-2.5	CN□G0904...	
S20Q- PCLN%/09-27	●	●	27	20	19	37	180	14.2	17			LL-1N	LS-1SN	PC-1	LSP-1	-	LC-32N				
S25R- PCLN%/09-32	●	●	32	25	24	42	200	15.7	15			LL-1N	LS-1SN	PC-1	LSP-1	-	LC-32N	-	FH-2.5		
S25R- PCLN%/12-32	●	●	32	25	24	42	200	16.3	16	0.8	No	LL-2N	LS-2N	PC-2	LSP-2	-	LC-42N%/	LW-3	-	CN□A1204... CN□G1204... CN□M1204...	
S32S- PCLN%/12-40	●	●	40	32	30	50	250	21	10			LL-2N	LS-2N	PC-2	LSP-2	-	LC-42N%/	LW-3	-		
S40T- PCLN%/12-50	●	●	50	40	37	60	300	25	10			LL-2N	LS-2N	PC-2	LSP-2	-	LC-42N%/	LW-3	-		

LC-42NR for Right-hand Toolholder, LC-42NL for Left-hand Toolholder.

A-PCLN (Boring / Internal facing)

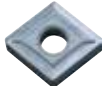
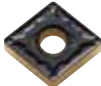
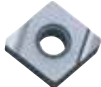
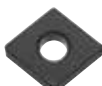
Max. Overhang Length $L/D \approx 3$ | Right-hand shown | Left-hand Insert for Right-hand Toolholder.

Toolholder dimensions

Description	Availability	Dimension (mm)						GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts							Applicable inserts
											Lever	Lock screw	Punch	Shim pin	Shim pin	Shim	Wrench	
	R	DMIN	DCON	H	LH	LF	WF											
A16M- PCLNR09-20	●	20	16	15	34	150	11	16	0.8	Yes	LL-03SN	LS-03SN	-	-	P-03S	-	FH-2.5	CNC□G0904...
A20Q- PCLNR09-27	●	27	20	19	37	180	14.2	17			LL-1N	LS-1SN	PC-1	LSP-1	-	LC-32N		
A25R- PCLNR09-32	●	32	25	24	42	200	15.7	15			LL-1N	LS-1SN	PC-1	LSP-1	-	LC-32N		

● : Standard item

Applicable inserts (A-DCLN / S-PCLN / A-PCLN)

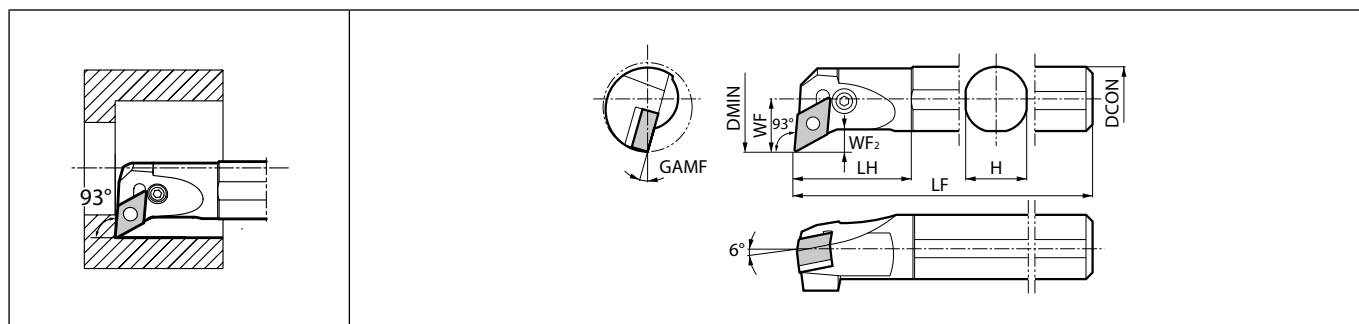
Applications	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Finishing	Finishing	Finishing - Medium	Finishing - Medium
Insert								
Chipbreaker type	WF	WP	WE	WQ	PP	GP	PQ	HQ
Page	B16	B16	B16	B16	B16	B16	B16	B17
Applications	Finishing - Medium	Finishing - Medium	Medium	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing
Insert								
Chipbreaker type	CQ	CJ	TN-V	PMG	GS	PG	PS	PT
Page	B17	B17	B17	B17	B17	B18	B18	B18
Applications	Medium - Roughing	Roughing	Roughing	Roughing	Finishing	Medium	Medium - Roughing	Medium - Roughing
Insert								
Chipbreaker type	GT	STD	PH	PX	P/L-S	R/L	P/L-25R	Z
Page	B18	B18	B19	B19	B23	B23	B23	B23
Applications	Low carbon steel	Low carbon steel	Low carbon steel	Low carbon steel	Finishing - Medium	Medium - Roughing	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys
Insert								
Chipbreaker type	XF	XP	XQ	XS	SK	FP-TK	TK	MQ
Page	B19	B19	B19	B20	B20	B20	B20	B20
Applications	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron
Insert								
Chipbreaker type	MS	MU	KQ	KG	KH	C	ZS	GC
Page	B21	B21	B22	B22	B22	B22	B22	B22
Applications	Cast iron	Cast iron / Hard materials	Non-Ferrous metals	Non-Ferrous metals	Non-Ferrous metals	Heat-resistant alloys	Heat-resistant alloys	Hard materials
Insert								
Chipbreaker type	No CB	Ceramic	P/L-A3	AH	PCD	SQ	SG	HH
Page	B22	B113	B23	B23	C34	B20	B21	C9
Applications	Hard materials	Hard materials	Hard materials / Cast iron					
Insert								
Chipbreaker type	HL	HD	CBN					
Page	C9	C9	C8					

Recommended cutting conditions  F159

Applicable Coolant Sleeve / Joint

Toolholder description	Applicable Coolant Sleeve	Applicable Coolant Joint
A16M -PCLN [®] /L09-20	SHC1640-70, SHC1650-95	SJS-8
A20Q -PCLN [®] /L09-27	SHC2040-70, SHC2050-95	
A25R -PCLN [®] /L09-32	SHC2540-70, SHC2550-95	

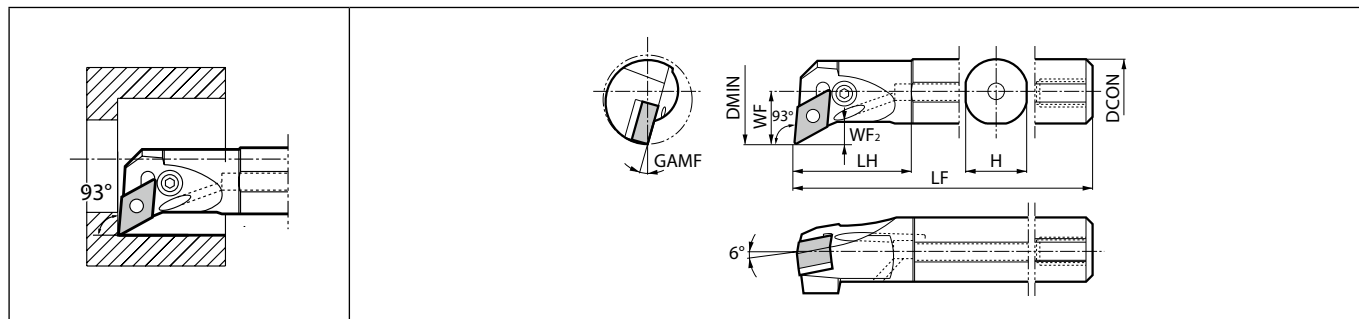
For Coolant Sleeve, Coolant Joint See Page  F156,  F157

S-PDUN11 (Boring / Internal facing)

Max. Overhang Length $L/D \approx 3$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F**Toolholder dimensions**

Description	Availability		Dimension (mm)								GAME (°)	Standard corner-R(RE)	Coolant hole	Spare parts						Applicable inserts
														Lever	Lock screw	Punch	Shim pin	Shim	Wrench	
	R	L	DMIN	DCON	H	LH	LF	WF	WF ₂											
S20Q- PDUN% 11-27	●	●	27	20	19	35	180	16	7.6	17	0.4	No							DN□G1104...	
S25R- PDUN% 11-32	●	●	32	25	24	40	200	17	15											
S32S- PDUN% 11-40	●	●	40	32	31	45	250	22	8.5	12										

A-PDUN11 (Boring / Internal facing)

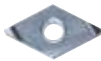
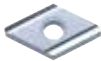
Max. Overhang Length $L/D \approx 3$ | Right-hand shown | Left-hand Insert for Right-hand Toolholder.

Toolholder dimensions

Description		Availability		Dimension (mm)						GAMF (°)		Standard corner-R(RE)		Coolant hole		Spare parts						Applicable inserts
																Lever	Lock screw	Punch	Shim pin	Shim	Wrench	
		R	DMIN	DCON	H	LH	LF	WF	WF ₂													
A20Q- PDUNR11-27	●	27	20	19	35	180	16	7.6	17	0.4	Yes	LL-1DN	LS-1SN	PC-1	LSP-1	LD-32N	FH-2.5	DN□G1104...				
A25R- PDUNR11-32	●	32	25	24	40	200	17	15														
A32S- PDUNR11-40	●	40	32	31	45	250	22	8.5	12													

● : Standard item

Applicable inserts (S-PDUN / A-PDUN)

Applications	Finishing	Finishing - Medium	Medium - Roughing	Finishing	Medium
Insert					
Chipbreaker type	GP	HQ	GS	R/L-S	R/L
Page	B24	B25	B25	B31	B31

Recommended cutting conditions  **F159**

Applicable Coolant Sleeve / Joint

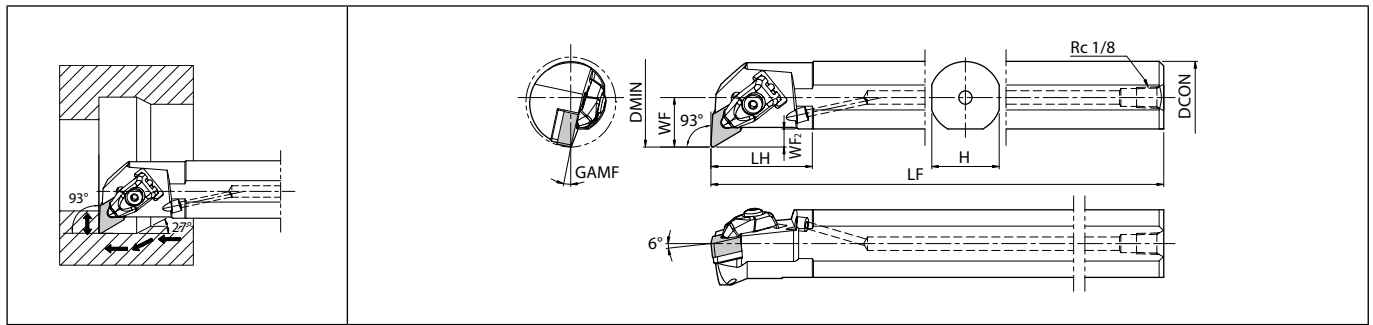
Toolholder description	Applicable coolant sleeve	Applicable coolant joint
A20Q-PDUNR11-27	SHC2040-70, SHC2050-95	SJS-8
A25R-PDUNR11-32	SHC2540-70, SHC2550-95	
A32S-PDUNR11-40	-	

For coolant sleeve, coolant joint See page  **F156, F157**

F



Boring

A-DDUN (Boring / Internal copying)

Max. Overhang Length $L/D \approx 3$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F**Toolholder dimensions**

Description	Availability		Dimension (mm)								GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts							Applicable inserts
														Clamp	Screw (for clamp)	Spring	Wrench (for clamp)	Shim	Screw (for shim)	Wrench* (for shim)	
	R	L	DMIN	DCON	H	LH	LF	WF	WF ₂												
A32S- DDUN® 15-40	●	●	40	32	30	45	250	22	8	12	0.8	Yes	CP-3D	CS-3D	SP-3D	LW-3	DD-42 (DD-42-16*)	SB-4085TR	FT-15	DN10	DN□A1504... DN□G1504... DN□M1504... DN□X1504...
A40T- DDUN® 15-50	●	●	50	40	37	55	300	27	8.5											DN20	
A50U- DDUN® 15-63	●	●	63	50	47	65	350	35	10.5											DN20	

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

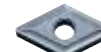
Not applicable to high-pressure coolant

When using the insert with WF chipbreaker, tool edge offset or program corrections are required on **R34** and **R35**.

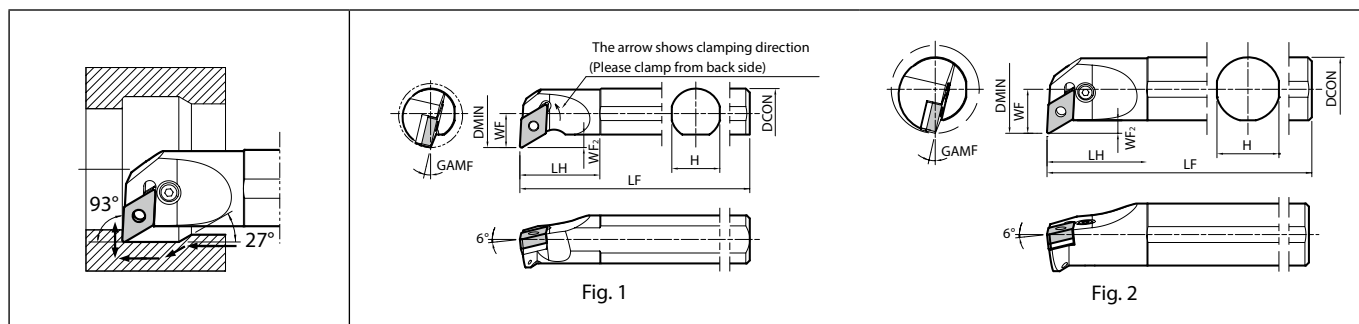
Wrench (FT-15) is sold separately.

● : Standard item

Applicable inserts

Applications	Finishing	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Finishing - Medium	Finishing - Medium	Medium
Insert								
Chipbreaker type	WF	PP	GP	PQ	HQ	CQ	CJ	TN-V
Page	B24	B24	B24	B24	B25	B25	B25	B25
Applications	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Roughing	Roughing
Insert								
Chipbreaker type	PMG	GS	PG	PS	PT	GT	STD	PH
Page	B25	B25	B26	B26	B26	B26	B27	B27
Applications	Roughing	Medium	Low carbon steel	Low carbon steel	Low carbon steel	Low carbon steel	Finishing - Medium	Large ap
Insert								
Chipbreaker type	PX	R/L	XF	XP	XQ	XS	SK	R-LD
Page	B27	B31	B27	B27	B27	B27	B28	B28
Applications	Medium - Roughing	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Cast iron	Cast iron	Cast iron
Insert								
Chipbreaker type	FP-TK	TK	MQ	MS	MU	KQ	KG	KH
Page	B28	B28	B28	B29	B29	B30	B30	B30
Applications	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron / Hard materials	Non-Ferrous metals	Non-Ferrous metals	Non-Ferrous metals
Insert								
Chipbreaker type	C	ZS	GC	No CB	Ceramic	P/L-A3	AH	PCD
Page	B30	B30	B30	B31	B114	B31	B31	C35
Applications	Heat-resistant alloys	Heat-resistant alloys	Hard materials	Hard materials	Hard materials	Hard materials / Cast iron		
Insert								
Chipbreaker type	SQ	SG	HH	HL	HD	CBN		
Page	B29	B29	C11	C11	C11	C10		

Recommended cutting conditions  F159

S-PDUN15 (Internal copying)

Max. Overhang Length $L/D \approx 3$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F**Toolholder dimensions**

Description	Availability		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Applicable inserts
	R	L	DMIN	DCON	H	LH	LF	WF	WF ₂					
S25R- PDUN% 15-32	●	●	32	25	24	40	200	17	6.5	13	0.8	No	1	DN□A1504... DN□G1504... DN□M1504... DN□X1504...
S32S- PDUN% 15-44	●	●	44	32	31	50	250	22					2	
S40T- PDUN% 15-54	●	●	54	40	39	65	300	27					7.5	

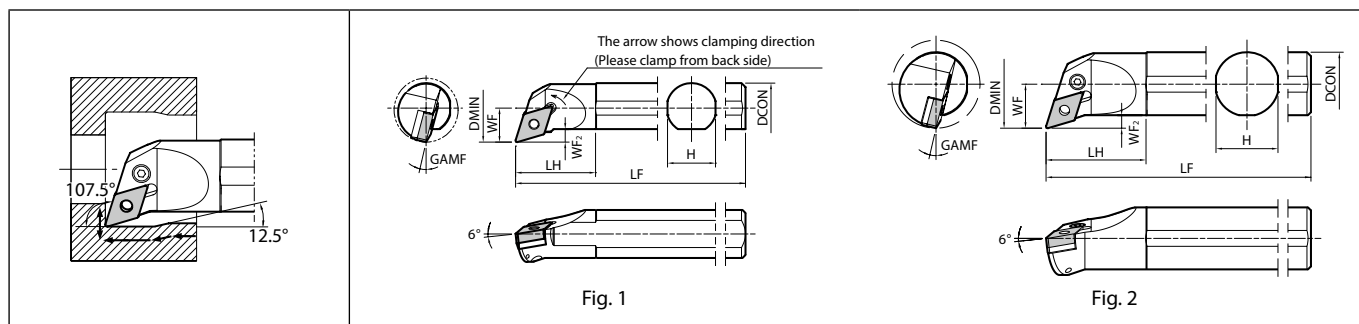
Description		Spare parts										
		Lever	Lock pin	Lock screw	Wrench	Shim	Shim	Screw	Wrench	Shim pin	Punch	
												
S25R-	PDUN%L 15-32	-	PP-4	-	LW-3	-	PD-42	SB-2050TR	FT-6	-	-	
S32S-	PDUN%L 15-44	LL-3N	-	LS-2N		LD-42	-	-	-	-	LSP-2	PC-2
S40T-	PDUN%L 15-54					(LD-42-20*)						

When using the insert with WF chipbreaker, tool edge offset or program corrections are required on **R34** and **R35**.

When using inserts whose corner-R(RE) is greater than 1.6 mm for S25R-PDUN[®]/15-32, use shim modified by additional processing in order to prevent workpiece and shim from interfering each other.

When using inserts whose corner-R(RE) is greater than 1.6 mm for S32S-PDUN[®]/15-44 and S40T-PDUN[®]/15-54, please purchase a shim with* mark and use it in order to prevent workpiece and shim from interfering each other.

● : Standard item

S-PDQN15 (Internal copying)

Max. Overhang Length $L/D \approx 3$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder dimensions

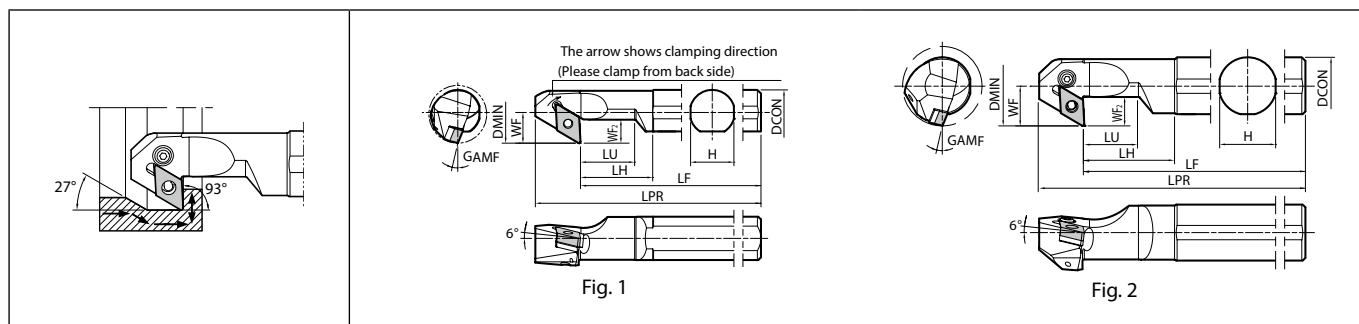
Description		Availability		Dimension (mm)						GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Applicable inserts
R	L	DMIN	DCON	H	LH	LF	WF	WF ₂						
S25R- PDQN% 15-32	●	●	32	25	24	40	200	17	6.5	13	0.8	No	1	DN□A1504... DN□G1504... DN□M1504...
S32S- PDQN% 15-44	●	●	44	32	31	50	250	22						
S40T- PDQN% 15-54	●	●	54	40	39	65	300	27						

Description		Spare parts									
		Lever	Lock pin	Lock screw	Wrench	Shim	Shim	Screw	Wrench	Shim pin	Punch
											
S25R-	PDQN%L 15-32	-	PP-4	-	LW-3	-	PD-42	SB-2050TR	FT-6	-	-
S32S-	PDQN%L 15-44	LL-3N	-	LS-2N		LD-42	-	-	-	LSP-2	PC-2
S40T-	PDQN%L 15-54					(LD-42-20*)					

When using inserts whose corner-R(RE) is greater than 1.6 mm for S25R-PDQN% 15-32, use shim modified by additional processing in order to prevent workpiece and shim from interfering each other.
When using inserts whose corner-R(RE) is greater than 1.6 mm for S32S-PDQN% 15-44 and S40T-PDQN% 15-54, please purchase a shim with* mark and use it in order to prevent workpiece and shim from interfering each other.

WF chipbreaker can not be used for S-PDQN15 toolholder.

S-PDZN15 (Back boring)



Max. Overhang Length L/D≈3 | Right-hand shown
Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder.

F

Toolholder dimensions

Description	Availability		Dimension (mm)										GAMF (°)	Standard corner-R(RE)	Coolant hole	Fig.	Applicable inserts
	R	L	DMIN	DCON	H	LH	LPR	LU	WF	WF ₂							
S25R- PDZN [®] /15-32	●	●	32	25	24	40	225	17	13	13		13	0.8	No	1		DN□A1504... DN□G1504...
S32S- PDZN [®] /15-44	●	●	44	32	31	50	275	22	16	12		12			2		DN□M1504... DN□X1504...
S40T- PDZN [®] /15-54	●	●	54	40	39	65	325	50	27								

Description	Spare parts									
	Lever	Lock pin	Lock screw	Wrench	Shim	Shim	Screw	Wrench	Shim pin	Punch
S25R- PDZN [®] /15-32	-	PP-4	-	-	-	PD-42	SB-2050TR	FT-6	-	-
S32S- PDZN [®] /15-44	-	-	-	-	LD-42	-	-	-	LSP-2	PC-2
S40T- PDZN [®] /15-54	LL-3N	-	LS-2N	LW-3	(LD-42-20*)	-	-	-	-	-

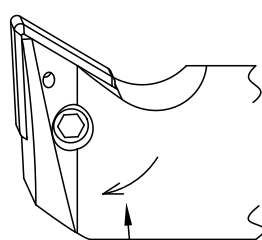
When using the insert with WF chipbreaker, tool edge offset or program corrections are required on **R34** and **R35**.

When using inserts whose corner-R(RE) is greater than 1.6 mm for S25R-PDZN[®]/15-32, use shim modified by additional processing in order to prevent workpiece and shim from interfering each other.

When using inserts whose corner-R(RE) is greater than 1.6 mm for S32S-PDZN[®]/15-44 and S40T-PDZN[®]/15-54, please purchase a shim with* mark and use it in order to prevent workpiece and shim from interfering each other.

How to change S25R-PD□N[®]/15-32 inserts

- Please replace S25R-PD□N[®]/15-32 insert from the back side



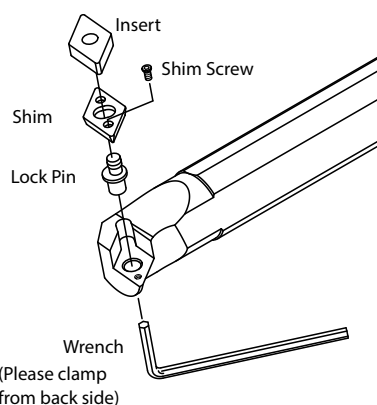
The arrow shows
clamping direction

Recommended torque for insert clamp
3.5N·m (for LW-3)

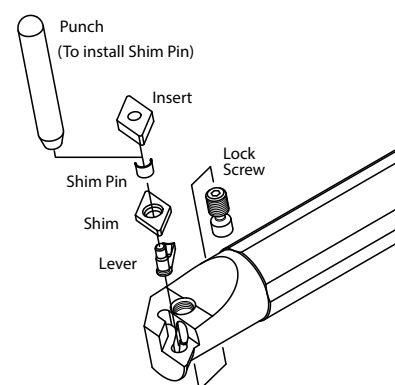
Back side of toolholder

How to assemble spare parts

- S25R-PD□N[®]/15-32 (Pin Lock)

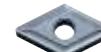


- S32S-PD□N[®]/15-44 (Lever Lock)
- S40T-PD□N[®]/15-54 (Lever Lock)



● : Standard item

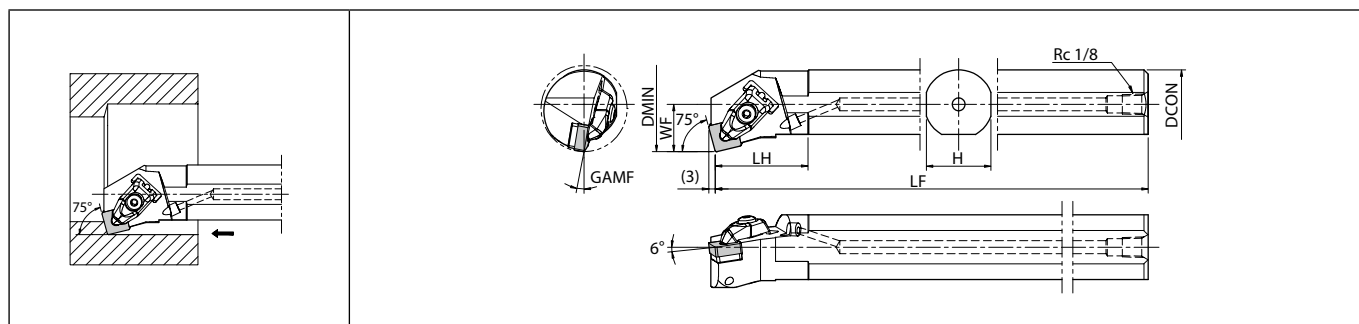
Applicable inserts (S-PDUN15 / S-PDQN15 / S-PDZN15)

Applications	Finishing	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Finishing - Medium	Finishing - Medium	Medium
Insert								
Chipbreaker type	WF*	PP	GP	PQ	HQ	CQ	CJ	TN-V
Page	B24	B24	B24	B24	B25	B25	B25	B25
Applications	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Roughing	Roughing
Insert								
Chipbreaker type	PMG	GS	PG	PS	PT	GT	STD	PH
Page	B25	B25	B26	B26	B26	B26	B27	B27
Applications	Roughing	Medium	Low carbon steel	Low carbon steel	Low carbon steel	Low carbon steel	Finishing - Medium	Large ap
Insert								
Chipbreaker type	PX	R/L	XF	XP	XQ	XS	SK	R-LD
Page	B27	B31	B27	B27	B27	B27	B28	B28
Applications	Medium - Roughing	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Cast iron	Cast iron	Cast iron
Insert								
Chipbreaker type	FP-TK	TK	MQ	M5	MU	KQ	KG	KH
Page	B28	B28	B28	B29	B29	B30	B30	B30
Applications	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron / Hard materials	Non-Ferrous metals	Non-Ferrous metals	Non-Ferrous metals
Insert								
Chipbreaker type	C	ZS	GC	No CB	Ceramic	P/L-A3	AH	PCD
Page	B30	B30	B30	B31	B114	B31	B31	C35
Applications	Heat-resistant alloys	Heat-resistant alloys	Hard materials	Hard materials	Hard materials	Hard materials / Cast iron		
Insert								
Chipbreaker type	SQ	SG	HH	HL	HD	CBN		
Page	B29	B29	C11	C11	C11	C10		

When using the insert with WF chipbreaker, tool edge offset or program corrections are required on R34 and R35.
The insert with WF chipbreaker is not applicable for S-PDQN15 type toolholder.

Recommended cutting conditions  F159

A-DSKN (Boring)



Max. Overhang Length $L/D \approx 3$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F

Toolholder dimensions

Description	Availability		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts							Applicable inserts	
													Clamp	Screw (for clamp)	Spring	Wrench (for clamp)	Shim	Screw (for shim)	Wrench* (for shim)		Nozzle
	R	L	DMIN	DCON	H	LH	LF	WF													
A25R- DSKN%12-32	●	●	32	25	23		200	17	11	0.8	Yes		CP-3D	CS-3D	SP-3D	LW-3	DS-42	SB-4085TR	FT-15	DN10	SN□A1204...
A32S- DSKN%12-40	●	●	40	32	30	43	250	22												DN20	SN□G1204...
A40T- DSKN%12-50	●	●	50	40	37	53	300	27													

Not applicable to high-pressure coolant

Wrench (FT-15) is sold separately.

Applicable inserts

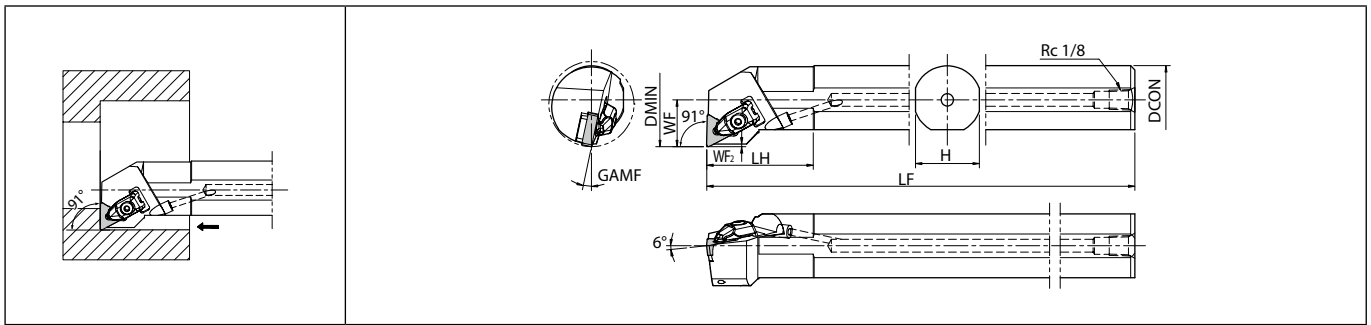
Applications	Finishing - Medium	Finishing - Medium	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Roughing	Roughing
Insert								
Chipbreaker type	PQ	HQ	PMG	PG	PS	PT	STD	PH
Page	B33	B33	B33	B33	B33	B33	B33	B34
Applications	Roughing	Medium - Roughing	Medium - Roughing	Low carbon steel	Low carbon steel	Low carbon steel	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys
Insert								
Chipbreaker type	PX	P/L-C	P/L-25R	XP	XQ	XS	MQ	MS
Page	B34	B36	B36	B34	B34	B34	B35	B35
Applications	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron / Hard materials	Heat-resistant alloys
Insert								
Chipbreaker type	KG	KH	C	ZS	GC	No CB	Ceramic	SG
Page	B35	B35	B35	B36	B36	B36	B117	B35
Applications	Hard materials / Cast iron							
Insert								
Chipbreaker type	CBN							
Page	C12							

Recommended cutting conditions F159

● : Standard item

F142

A-DTFN (Boring)



Max. Overhang Length $L/D \approx 3$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder dimensions

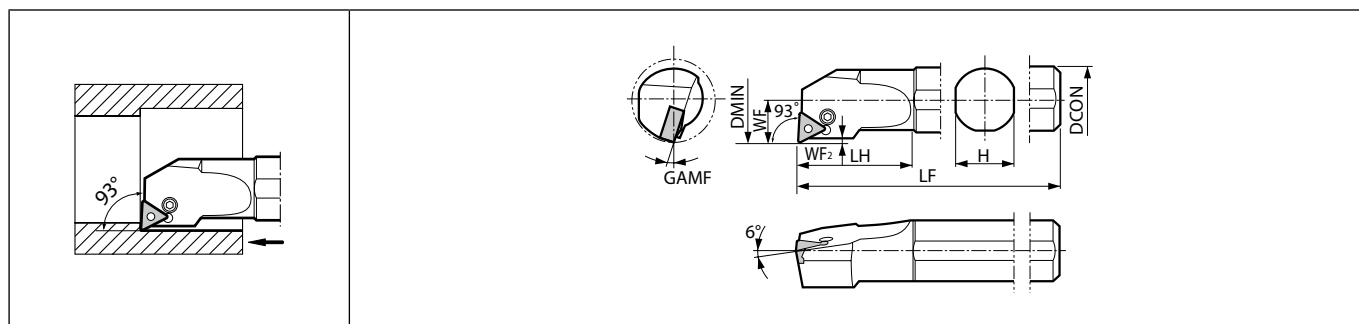
Description	Availability		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Applicable inserts
	R	L	DMIN	DCON	H	LH	LF	WF	WF ₂				
A25R- DTFN%L16-32	●	●	32	25	23	42	200	17	0.8	12	0.8	Yes	TN□A1604... TN□G1604...
A32S- DTFN%L16-40	●	●	40	32	30	50	250	22	1.2	12	0.8	Yes	TN□M1604... TN□X1604...
A40T- DTFN%L22-50	●	●	50	40	37	60	300	27	1.5	12	0.8	Yes	TN□G2204... TN□M2204...

Description	Spare parts								
	Clamp	Screw (for clamp)	Spring	Wrench (for clamp)	Shim	Screw (for shim)	Wrench* (for shim)	Wrench* (for shim)	Nozzle
A25R- DTFN [®] /L 16-32	CP-2D	CS-2D	SP-2D	LW-2.5	DT-32	SB-3080TR	FT-10	-	DN10
A32S- DTFN [®] /L 16-40	CP-2D	CS-2D	SP-2D	LW-2.5	DT-32	SB-3080TR	FT-10	-	DN10
A40T- DTFN [®] /L 22-50	CP-3D	CS-3D	SP-3D	LW-3	DT-42	SB-4085TR	-	FT-15	DN20

Not applicable to high-pressure coolant

When using the insert with WF chipbreaker, tool edge offset or program corrections are required on **R34** and **R35**.

Wrench (FT-10 or FT-15) is sold separately

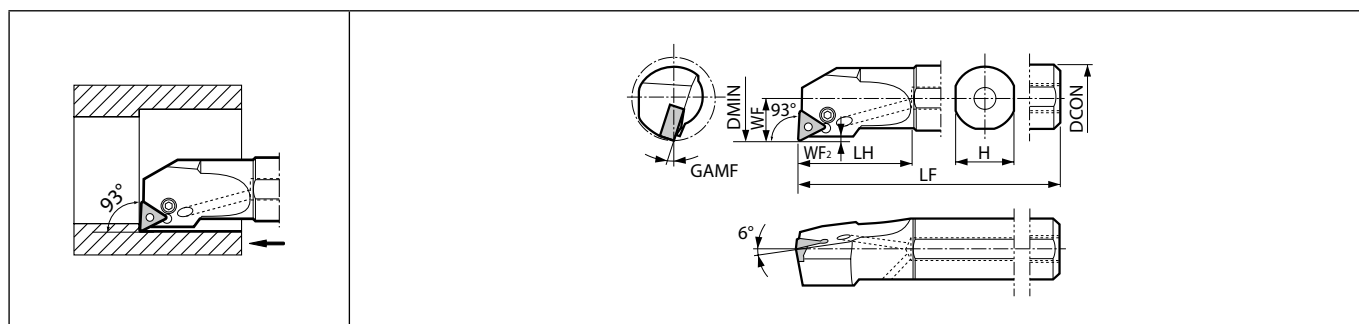
S-PTUN (Boring)

Max. Overhang Length $L/D \approx 3$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F**Toolholder dimensions**

Description	Availability		Dimension (mm)								GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts						Applicable inserts
														Lever	Lock screw	Punch	Shim	Shim pin	Shim pin	
	R	L	DMIN	DCON	H	LH	LF	WF	WF ₂											
S16M- PTUN%L 11-20	●	●	20	16	15	34	150	11	0.3	18	0.8	No	LL-03TN	LS-03SN	-	-	-	P-03S	FH-2.5	TN□G1104...
S20Q- PTUN%L 11-25	●	●	25	20	19	37	180	13.2	0.2	17			LL-03TN	LS-03SN	-	-	-	P-03S	FH-2.5	
S25R- PTUN%L 11-32	●	●	32	25	24	42	200	15.7	0.3	16			LL-03TN	LS-03SN	-	-	-	P-03S	FH-2.5	
S16M- PTUN%L 16-20	●	●	20	16	15	34	150	11		18	0.8	No	LL-03SN	LS-03SN	-	-	-	P-03S	FH-2.5	TN□A1604... TN□G1604... TN□M1604...
S20Q- PTUN%L 16-25	●	●	25	20	19	37	180	13.2	1.3	17										
S25R- PTUN%L 16-30	●	●	30	25	24	42	200	15.5		13										
S32S- PTUN%L 16-40	●	●	40	32	30	50	250	22	0.7											
S40T- PTUN%L 16-50	●	●	50	40	37	60	300	27	0.6	11			LL-1N	LS-1N	PC-1	LT-32N (LT-32N-20*)	LSP-1	-		

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

A-PTUN (Boring)

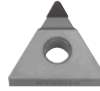
Max. Overhang Length $L/D \approx 3$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder.

Toolholder dimensions

Description	Availability	Dimension (mm)								GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts				Applicable inserts
													Lever	Lock screw	Shim pin	Wrench	
	R	DMIN	DCON	H	LH	LF	WF	WF ₂									
A16M- PTUNR11-20	●	20	16	15	34	150	11	0.3	18	0.8	Yes	LL-03TN	LS-03SN	P-03S	FH-2.5	TN□G1104...	
A20Q- PTUNR11-25	●	25	20	19	37	180	13.2	0.2	17								
A25R- PTUNR11-32	●	32	25	24	42	200	15.7	0.3	16								

● : Standard item

Applicable inserts (A-DTFN / S-PTUN / A-PTUN)

Applications	Finishing	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Finishing - Medium	Medium - Roughing	Medium - Roughing
Insert								
Chipbreaker type	WF*	PP	GP	PQ	HQ	CQ	PMG	GS
Page	B38	B38	B38	B38	B38	B38	B39	B39
Applications	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Roughing	Roughing	Roughing	Finishing
Insert								
Chipbreaker type	PG	PS	PT	GT	STD	PH	PX	P/L-SSF
Page	B39	B39	B39	B39	B40	B40	B40	B44
Applications	Finishing	Finishing - Medium	Medium - Roughing	Medium - Roughing	Medium - Roughing	Low carbon steel	Low carbon steel	Low carbon steel
Insert								
Chipbreaker type	P/L-S	P/L-B	P/L-C	R/L	P/L-25R	XF	XP	XQ
Page	B44	B44	B45	B45	B45	B40	B41	B41
Applications	Low carbon steel	Finishing - Medium	Large ap	Medium - Roughing	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys
Insert								
Chipbreaker type	XS	SK	R-LD	FP-TK	TK	MQ	MS	MU
Page	B41	B41	B41	B41	B41	B42	B42	B42
Applications	Stainless steel	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron
Insert								
Chipbreaker type	P/L-ST	KQ	KG	KH	C	ZS	GC	No CB
Page	B42	B42	B42	B42	B43	B43	B43	B43
Applications	Cast iron / Hard materials	Non-Ferrous metals	Non-Ferrous metals	Non-Ferrous metals	Heat-resistant alloys	Hard materials / Cast iron		
Insert								
Chipbreaker type	Ceramic	P/L-A3	AH	PCD	SG	CBN		
Page	B118	B43	B43	C36	B42	C13		

When using the insert with WF chipbreaker, tool edge offset or program corrections are required on R34 and R35.
The insert with WF chipbreaker is not applicable for S-PTUN type and A-PTUN type toolholder.

Recommended cutting conditions  F159

Applicable Coolant Sleeve / Joint

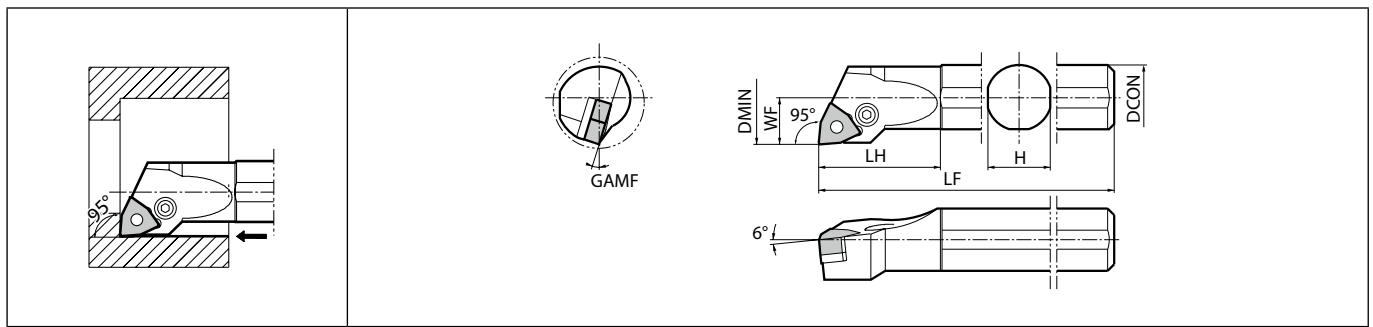
Toolholder description	Applicable coolant sleeve	Applicable coolant joint
A16M-PTUN ^{P/L} 11-20	SHC1640-70, SHC1650-95	SJS-8
A20Q-PTUN ^{P/L} 11-25	SHC2040-70, SHC2050-95	
A25R-PTUN ^{P/L} 11-32	SHC2540-70, SHC2550-95	

For coolant sleeve, coolant joint See page  F156, F157

F



Boring

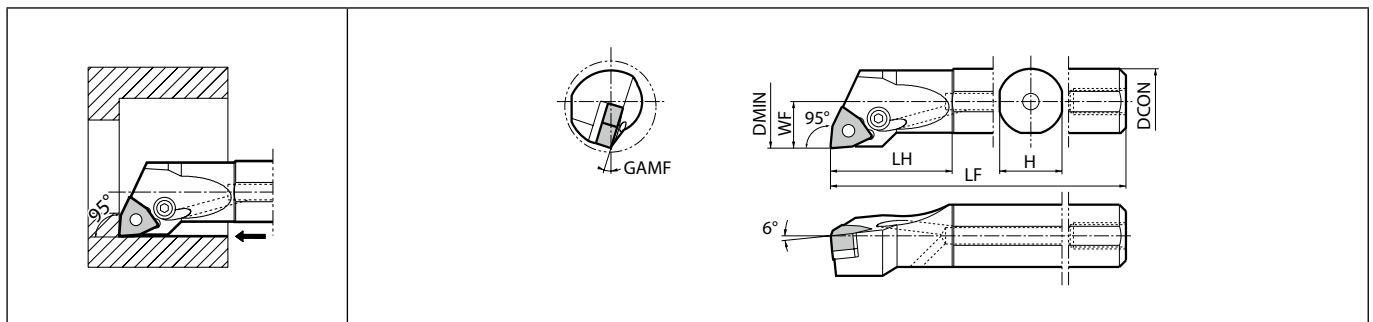
S-PWLN (Boring / Internal facing)

Max. Overhang Length $L/D \approx 3$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F**Toolholder dimensions**

Description	Availability		Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts							Applicable inserts
													Lever	Lock screw	Punch	Shim	Shim pin	Shim pin	Wrench	
	R	L	DMIN	DCON	H	LH	LF	WF												
S16M- P _{WLN} %L06-20	●	●	20	16	15	34	150	11	16	0.8	No	LL-03SN	LS-03SN	-	-	-	P-03S	-	FH-2.5	WN□G0604...
S20Q- P _{WLN} %L06-27	●	●	27	20	19	37	180	14.2	17			LL-1N	LS-1SN	PC-1	LW-32N	LSP-1	-			
S25R- P _{WLN} %L06-32	●	●	32	25	24	42	200	15.7	15			LL-1N	LS-1SN	PC-1	LW-32N	LSP-1	-			
S32S- P _{WLN} %L08-40	●	●	40	32	30	50	250	22	10	0.8	No	LL-2N	LS-2N	PC-2	LW-42N%	LSP-2	-	LW-3	-	WN□A0804... WN□G0804... WN□M0804...
S40T- P _{WLN} %L08-50	●	●	50	40	37	60	300	27				LL-2N	LS-2N	PC-2	LW-42N%	LSP-2	-	LW-3	-	

Shim : LW-42NR for Right-hand Toolholder, LW-42NL for Left-hand Toolholder.

A-PWLN (Boring / Internal facing)

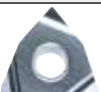
Max. Overhang Length $L/D \approx 3$ | Right-hand shown
Left-hand Insert for Right-hand Toolholder.

Toolholder dimensions

Description	Availability		Dimension (mm)						GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts							Applicable inserts
												Lever	Lock screw	Punch	Shim	Shim pin	Shim pin	Wrench	
	R	DMIN	DCON	H	LH	LF	WF												
A16M- PWWLNR06-20	●	20	16	15	34	150	11	16	0.8	Yes	LL-03SN	LS-03SN	-	-	-	P-03S	FH-2.5	WN□G0604...	
A20Q- PWWLNR06-27	●	27	20	19	37	180	14.2	17			LL-1N	LS-1SN	PC-1	LW-32N	LSP-1	-			
A25R- PWWLNR06-32	●	32	25	24	42	200	15.7	15			LL-1N	LS-1SN	PC-1	LW-32N	LSP-1	-			

● : Standard item

Applicable inserts (S-PWLN / A-PWLN)

Applications	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Finishing	Finishing	Finishing - Medium	Finishing - Medium
Insert								
Chipbreaker type	WF	WP	WE	WQ	PP	GP	PQ	HQ
Page	B49	B49	B49	B49	B49	B49	B49	B50
Applications	Finishing - Medium	Finishing - Medium	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing
Insert								
Chipbreaker type	CQ	CJ	PMG	GS	PG	PS	PT	GT
Page	B50	B50	B50	B50	B50	B50	B51	B51
Applications	Roughing	Roughing	Finishing	Medium	Low carbon steel	Low carbon steel	Low carbon steel	Stainless steel / Heat-resistant alloys
Insert								
Chipbreaker type	STD	PH	5/L-S	R/L	XP	XQ	XS	TK
Page	B51	B51	B53	B53	B51	B51	B51	B51
Applications	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron
Insert								
Chipbreaker type	MQ	MS	MU	KQ	KG	KH	C	ZS
Page	B52	B52	B52	B52	B52	B52	B53	B53
Applications	Cast iron	Cast iron	Non-Ferrous metals	Non-Ferrous metals	Heat-resistant alloys	Hard materials / Cast iron		
Insert								
Chipbreaker type	GC	No CB	AH	PCD	SG	CBN		
Page	B53	B53	B53	C38	B52	C15		

Recommended cutting conditions ➔ F159

Applicable Coolant Sleeve / Joint

Toolholder description	Applicable coolant sleeve	Applicable coolant joint
A16M-PWLN06-20	SHC1640-70, SHC1650-95	SJS-8
A20M-PWLN06-27	SHC2040-70, SHC2050-95	
A25R-PWLN06-32	SHC2540-70, SHC2550-95	

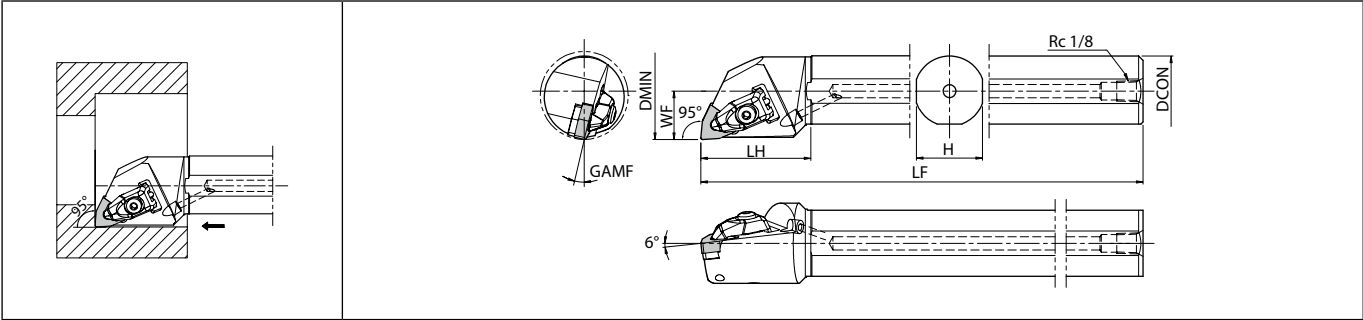
For coolant sleeve, coolant joint See page ➔ F156, F157

F



Boring

A-DWLN (Boring / Internal facing)



Max. Overhang Length L/D≈3 | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

F

Toolholder dimensions

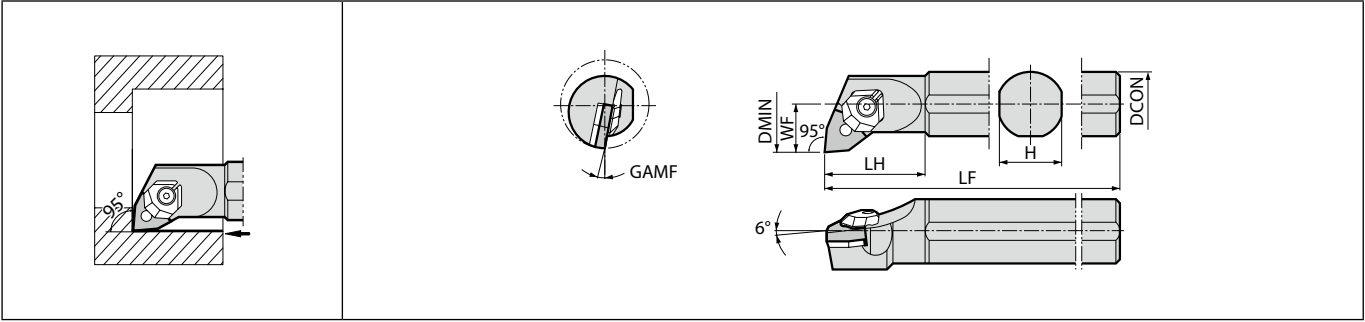
Description	Availabi- lity		Dimension (mm)						GAMF (°)	Standard corner-R(RE)	Coolant hole	Applicable inserts
	R	L	DMIN	DCON	H	LH	LF	WF				
A25R- DWLN%08-32	●	●	32	25	23	50	200	17	13	0.8	Yes	WN□A0804... WN□G0804... WN□M0804...
A32S- DWLN%08-40	●	●	40	32	30		250	22				
A40T- DWLN%08-50	●	●	50	40	37	60	300	27				

Description	Spare parts							
	Clamp	Screw (for clamp)	Spring	Wrench (for clamp)	Shim	Screw (for shim)	Wrench* (for shim)	Nozzle
A25R- DWLN%L 08-32	CP-3D	CS-3D	SP-3D	LW-3	DW-42	SB-4085TR	FT-15	DN10
A32S- DWLN%L 08-40								DN20
A40T- DWLN%L 08-50								

Not applicable to high-pressure coolant
Wrench (FT-15) is sold separately.

● : Standard item

S-WWLN-E Excellent bar (Boring / Internal facing)



Max. Overhang Length L/D≈5 | Right-hand shown
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder.

Toolholder dimensions

Description		Availability		Dimension (mm)						GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts					Applicable inserts
													Clamp set	Wrench	Shim	Shim pin	Wrench	
		R	L	DMIN	DCON	H	LH	LF	WF									
S25S-	WWLN [®] L08-28E	●	●	28	25	24	36	14	13	1.2	No		WCS-8	LW-3	WWP-42 (WWP-42-16*)	WP5X11	LW-2	WN□A0804... WN□G0804... WN□M0804...
	WWLN [®] L08-34E	●	●	34				40	250									
S32S-	WWLN [®] L08-40E	●	●	40	32	30	50	20	10									

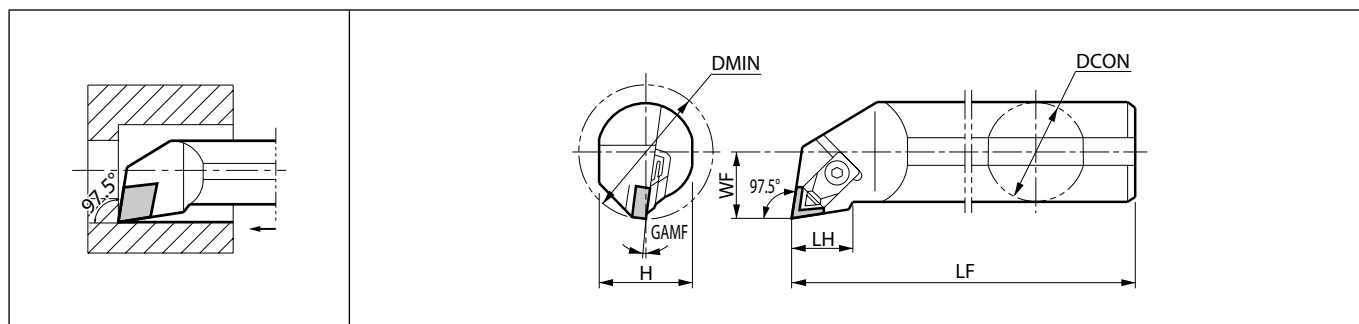
When using inserts whose corner-R(RE) is greater than 1.6 mm, please purchase a shim* and use it in order to prevent workpiece and shim from interfering each other.
In wedge lock, use of ceramic insert other than silicon nitride insert is not recommended due to strong restrain force.

● : Standard item

Applicable inserts (A-DWLN / S-WWLN-E)

Applications	Finishing	Finishing	Finishing - Medium	Finishing - Medium	Finishing	Finishing	Finishing - Medium	Finishing - Medium
Insert								
Chipbreaker type	WF	WP	WE	WQ	PP	GP	PQ	HQ
Page	B49	B49	B49	B49	B49	B49	B49	B50
Applications	Finishing - Medium	Finishing - Medium	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing	Medium - Roughing
Insert								
Chipbreaker type	CQ	CJ	PMG	GS	PG	PS	PT	GT
Page	B50	B50	B50	B50	B50	B50	B51	B51
Applications	Roughing	Roughing	Low carbon steel	Low carbon steel	Low carbon steel	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys	Stainless steel / Heat-resistant alloys
Insert								
Chipbreaker type	STD	PH	XP	XQ	XS	TK	MQ	MS
Page	B51	B51	B51	B51	B51	B51	B52	B52
Applications	Stainless steel / Heat-resistant alloys	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron
Insert								
Chipbreaker type	MU	KQ	KG	KH	C	ZS	GC	No CB
Page	B52	B52	B52	B52	B53	B53	B53	B53
Applications	Non-Ferrous metals	Non-Ferrous metals	Heat-resistant alloys	Hard materials / Cast iron				
Insert								
Chipbreaker type	AH	PCD	SG	CBN				
Page	B53	C38	B52	C15				

Recommended cutting conditions  F159

S-CELN (Boring / Internal facing)Max. Overhang Length $L/D \approx 3$ | Right-hand shown

Toolholder dimensions

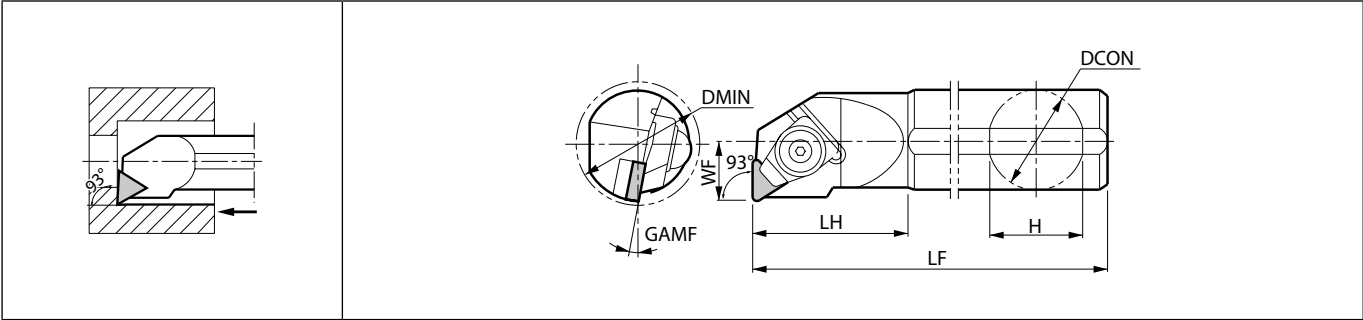
Description	Availability	Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Coolant hole	Spare parts					Applicable inserts
		R	DMIN	DCON	H	LH	LF	WF				Chipbreaker	Clamp set	Wrench	Shim	Shim screw	
S40T- CELNR13-50	●	50	40	37	32	300	27	12	0.8	No		CB-16	CE-010	LW-4	SP-341P	M3X8	ENG1307...

Applicable inserts

Applications	Cast iron / Hard materials
Insert	
Type	Ceramic
Page	B115

Recommended cutting conditions ➡ F159

S-CTUN-A (Boring)



Right-hand shown

F

Toolholder dimensions

Description	Availability	Dimension (mm)							GAMF (°)	Standard corner-R(RE)	Spare parts				Applicable inserts
											Clamp set	Shim screw	Shim	Wrench	
		R	DMIN	DCON	H	LH	LF	WF							
S25X- CTUNR11-30A	●	30	25	24	40	220	15	10	0.8		CE-360S	BH3X6	SP-210A	LW-4	TN□N1103...

Applicable inserts

Applications	Hard materials / Cast iron	Cast iron / Hard materials
Insert		
Type	CBN	Ceramic
Page	C19	B118

Recommended cutting conditions F159

● : Standard item

EZH sleeves

Sleeve description				Applicable inserts				Applicable machine manufacturer			
EZH-CT (Adjustable overhang length with coolant hole)	EZH-HP (Adjustable overhang length)	EZH-ST	Sleeve shank dia. DCON (mm)	EZB	EZBT/EZBF EZBP/EZBC EZVB/EZG EZFG/EZT	EZ Bar PLUS	Shank dia. DCON (mm)				
		EZH	01712ST-80	12	EZB _ ...017...	-		1.7	(General purpose)		
		02012ST-80	EZB _ ...020...		EZ _ ...020...		2				
		02512ST-80	EZB _ ...025...		EZ _ ...025...		2.5				
		03012ST-80	EZB _ ...030...		EZ _ ...030...		3				
		03512ST-80	EZB _ ...035...		EZ _ ...035...		3.5				
		04012ST-80	EZB _ ...040...		EZ _ ...040...		4				
		05012ST-80	EZB _ ...050...		EZ _ ...050...		5				
		06012ST-80	EZB _ ...060...		EZ _ ...060...		6				
		07012ST-80	EZB _ ...070...		EZ _ ...070...		7				
	EZH	01716HP-100	EZH	01716ST-100	16	EZB _ ...017...	-		1.7	(General purpose)	
	02016HP-100	02016ST-100	EZB _ ...020...	EZ _ ...020...			2				
	02516HP-100	02516ST-100	EZB _ ...025...	EZ _ ...025...			2.5				
	03016HP-100	03016ST-100	EZB _ ...030...	EZ _ ...030...			3				
	03516HP-100	03516ST-100	EZB _ ...035...	EZ _ ...035...			3.5				
	04016HP-100	04016ST-100	EZB _ ...040...	EZ _ ...040...			4				
	04516HP-100	-	EZB _ ...045...	-		_045X- ...-050EZP	4.5				
	05016HP-100	05016ST-100	EZB _ ...050...	EZ _ ...050...		_050X- ...-060EZP	5				
	06016HP-100	06016ST-100	EZB _ ...060...	EZ _ ...060...		_060X- ...-070EZP	6				
	07016HP-100	07016ST-100	EZB _ ...070...	EZ _ ...070...		_070X- ...-080EZP	7				
	-		08016ST-100	EZB _ ...080...	-	_080X- ...-100EZP	8				
EZH	01719CT-120	EZH	01719HP-120	EZH	01719ST-120	19.05	EZB _ ...017...	-		1.7	Citizen Machinery
02019CT-120	02019HP-120	02019ST-120	EZB _ ...020...	EZ _ ...020...			2				
02519CT-120	02519HP-120	02519ST-120	EZB _ ...025...	EZ _ ...025...			2.5				
03019CT-120	03019HP-120	03019ST-120	EZB _ ...030...	EZ _ ...030...			3				
03519CT-120	03519HP-120	03519ST-120	EZB _ ...035...	EZ _ ...035...			3.5				
04019CT-120	04019HP-120	04019ST-120	EZB _ ...040...	EZ _ ...040...			4				
04519CT-120	04519HP-120	-	EZB _ ...045...	-	_045X- ...-050EZP		4.5				
05019CT-120	05019HP-120	05019ST-120	EZB _ ...050...	EZ _ ...050...	_050X- ...-060EZP		5				
06019CT-120	06019HP-120	06019ST-120	EZB _ ...060...	EZ _ ...060...	_060X- ...-070EZP		6				
07019CT-120	07019HP-120	07019ST-120	EZB _ ...070...	EZ _ ...070...	_070X- ...-080EZP		7				
08019CT-120	08019HP-120	08019ST-120	EZB _ ...080...	-	_080X- ...-100EZP	8					
EZH	01720CT-120	EZH	01720HP-120	EZH	01720ST-120	20	EZB _ ...017...	-		1.7	Eguro Tsugami Citizen Machinery (General purpose)
02020CT-120	02020HP-120	02020ST-120	EZB _ ...020...	EZ _ ...020...			2				
02520CT-120	02520HP-120	02520ST-120	EZB _ ...025...	EZ _ ...025...			2.5				
03020CT-120	03020HP-120	03020ST-120	EZB _ ...030...	EZ _ ...030...			3				
03520CT-120	03520HP-120	03520ST-120	EZB _ ...035...	EZ _ ...035...			3.5				
04020CT-120	04020HP-120	04020ST-120	EZB _ ...040...	EZ _ ...040...			4				
04520CT-120	04520HP-120	-	EZB _ ...045...	-	_045X- ...-050EZP		4.5				
05020CT-120	05020HP-120	05020ST-120	EZB _ ...050...	EZ _ ...050...	_050X- ...-060EZP		5				
06020CT-120	06020HP-120	06020ST-120	EZB _ ...060...	EZ _ ...060...	_060X- ...-070EZP		6				
07020CT-120	07020HP-120	07020ST-120	EZB _ ...070...	EZ _ ...070...	_070X- ...-080EZP		7				
08020CT-120	08020HP-120	08020ST-120	EZB _ ...080...	-	_080X- ...-100EZP	8					
EZH	01722CT-135	EZH	01722HP-135	EZH	01722ST-135	22	EZB _ ...017...	-		1.7	Star Micronics Nomura DS Tsugami
02022CT-135	02022HP-135	02022ST-135	EZB _ ...020...	EZ _ ...020...			2				
02522CT-135	02522HP-135	02522ST-135	EZB _ ...025...	EZ _ ...025...			2.5				
03022CT-135	03022HP-135	03022ST-135	EZB _ ...030...	EZ _ ...030...			3				
03522CT-135	03522HP-135	03522ST-135	EZB _ ...035...	EZ _ ...035...			3.5				
04022CT-135	04022HP-135	04022ST-135	EZB _ ...040...	EZ _ ...040...			4				
04522CT-135	04522HP-135	-	EZB _ ...045...	-	_045X- ...-050EZP		4.5				
05022CT-135	05022HP-135	05022ST-135	EZB _ ...050...	EZ _ ...050...	_050X- ...-060EZP		5				
06022CT-135	06022HP-135	06022ST-135	EZB _ ...060...	EZ _ ...060...	_060X- ...-070EZP		6				
07022CT-135	07022HP-135	07022ST-135	EZB _ ...070...	EZ _ ...070...	_070X- ...-080EZP		7				
08022CT-135	08022HP-135	08022ST-135	EZB _ ...080...	-	_080X- ...-100EZP	8					
EZH	01725.0CT-135	EZH	01725.0HP-135	EZH	01725.0ST-135	25	EZB _ ...017...	-		1.7	Eguro Tsugami Citizen Machinery (General purpose)
02025.0CT-135	02025.0HP-135	02025.0ST-135	EZB _ ...020...	EZ _ ...020...			2				
02525.0CT-135	02525.0HP-135	02525.0ST-135	EZB _ ...025...	EZ _ ...025...			2.5				
03025.0CT-135	03025.0HP-135	03025.0ST-135	EZB _ ...030...	EZ _ ...030...			3				
03525.0CT-135	03525.0HP-135	03525.0ST-135	EZB _ ...035...	EZ _ ...035...			3.5				
04025.0CT-135	04025.0HP-135	04025.0ST-135	EZB _ ...040...	EZ _ ...040...			4				
04525.0CT-135	04525.0HP-135	-	EZB _ ...045...	-	_045X- ...-050EZP		4.5				
05025.0CT-135	05025.0HP-135	05025.0ST-135	EZB _ ...050...	EZ _ ...050...	_050X- ...-060EZP		5				
06025.0CT-135	06025.0HP-135	06025.0ST-135	EZB _ ...060...	EZ _ ...060...	_060X- ...-070EZP		6				
07025.0CT-135	07025.0HP-135	07025.0ST-135	EZB _ ...070...	EZ _ ...070...	_070X- ...-080EZP		7				
08025.0CT-135	08025.0HP-135	08025.0ST-135	EZB _ ...080...	-	_080X- ...-100EZP	8					
EZH	01725.4CT-120	EZH	01725.4HP-120	EZH	01725.4ST-120	25.4	EZB _ ...017...	-		1.7	Citizen Machinery
02025.4CT-120	02025.4HP-120	02025.4ST-120	EZB _ ...020...	EZ _ ...020...			2				
02525.4CT-120	02525.4HP-120	02525.4ST-120	EZB _ ...025...	EZ _ ...025...			2.5				
03025.4CT-120	03025.4HP-120	03025.4ST-120	EZB _ ...030...	EZ _ ...030...			3				
03525.4CT-120	03525.4HP-120	03525.4ST-120	EZB _ ...035...	EZ _ ...035...			3.5				
04025.4CT-120	04025.4HP-120	04025.4ST-120	EZB _ ...040...	EZ _ ...040...			4				
04525.4CT-120	04525.4HP-120	-	EZB _ ...045...	-	_045X- ...-050EZP		4.5				
05025.4CT-120	05025.4HP-120	05025.4ST-120	EZB _ ...050...	EZ _ ...050...	_050X- ...-060EZP		5				
06025.4CT-120	06025.4HP-120	06025.4ST-120	EZB _ ...060...	EZ _ ...060...	_060X- ...-070EZP		6				
07025.4CT-120	07025.4HP-120	07025.4ST-120	EZB _ ...070...	EZ _ ...070...	_070X- ...-080EZP		7				
08025.4CT-120	08025.4HP-120	08025.4ST-120	EZB _ ...080...	-	_080X- ...-100EZP	8					

EZH sleeves and applicable inserts / toolholders

Shank size (Hole dia.: mm)		017 (1.7mm)	020 (2mm)	025 (2.5mm)	03 (3mm)	035 (3.5mm)
EZH-CT sleeve (Internal coolant)	EZH-HP sleeve description (Adjustable overhang length)	EZH 01716HP-100	EZH 02016HP-100	EZH 02516HP-100	EZH 03016HP-100	EZH 03516HP-100
		01719CT/HP-120	02019CT/HP-120	02519CT/HP-120	03019CT/HP-120	03519CT/HP-120
		01720CT/HP-120	02020CT/HP-120	02520CT/HP-120	03020CT/HP-120	03520CT/HP-120
		01722CT/HP-135	02022CT/HP-135	02522CT/HP-135	03022CT/HP-135	03522CT/HP-135
		01725.0CT/HP-135	02025.0CT/HP-135	02525.0CT/HP-135	03025.0CT/HP-135	03525.0CT/HP-135
		01725.4CT/HP-120	02025.4CT/HP-120	02525.4CT/HP-120	03025.4CT/HP-120	03525.4CT/HP-120
EZH-ST sleeve description	EZH-HP sleeve description	EZH 01712ST-80	EZH 02012ST-80	EZH 02512ST-80	EZH 03012ST-80	EZH 03512ST-80
		01716ST-100	02016ST-100	02516ST-100	03016ST-100	03516ST-100
		01719ST-120	02019ST-120	02519ST-120	03019ST-120	03519ST-120
		01720ST-120	02020ST-120	02520ST-120	03020ST-120	03520ST-120
		01722ST-135	02022ST-135	02522ST-135	03022ST-135	03522ST-135
		01725.0ST-135	02025.0ST-135	02525.0ST-135	03025.0ST-135	03525.0ST-135
		01725.4ST-120	02025.4ST-120	02525.4ST-120	03025.4ST-120	03525.4ST-120
EZ Bars	Boring		EZB ⁹ /L 020020HP-	EZB ⁹ /L 025025HP-	EZB ⁹ /L 030030HP-	EZB ⁹ /L 035035HP-
		EZBR 020017ST-	EZBR 025020ST-	EZBR 030025ST-	EZBR 035030ST-	EZBR 040035ST-
		EZBR 020017-...NB	EZBR 025020-...NB	EZBR 030025-...NB	EZBR ...030-...NB	EZBR 040035-...NB
					EZBFR 030030-008	
	Internal grooving		EZBPR 020020-		EZBPR 030030-	
					EZVBR 035030-	
					EZGR 030030-	
EZ Bar PLUS	Internal threading			EZTR 030025-	EZTR 035030-	EZTR 040035-

Shank size (Hole dia.: mm)		04 (4mm)	045 (4.5mm)	05 (5mm)	06 (6mm)	07 (7mm)	08 (8mm)
EZH-CT sleeve (Internal coolant)	EZH-HP sleeve description (Adjustable overhang length)	EZH 04016HP-100	EZH 04516HP-100	EZH 05016HP-100	EZH 06016HP-100	EZH 07016HP-100	EZH 08016HP-100
		04019CT/HP-120	04519CT/HP-120	05019CT/HP-120	06019CT/HP-120	07019CT/HP-120	08019CT/HP-120
		04020CT/HP-120	04520CT/HP-120	05020CT/HP-120	06020CT/HP-120	07020CT/HP-120	08020CT/HP-120
		04022CT/HP-135	04522CT/HP-135	05022CT/HP-135	06022CT/HP-135	07022CT/HP-135	08022CT/HP-135
		04025.0CT/HP-135	04525.0CT/HP-135	05025.0CT/HP-135	06025.0CT/HP-135	07025.0CT/HP-135	08025.0CT/HP-135
		04025.4CT/HP-120	04525.4CT/HP-120	05025.4CT/HP-120	06025.4CT/HP-120	07025.4CT/HP-120	08025.4CT/HP-120
EZH-ST sleeve description	EZH-HP sleeve description	EZH 04012ST-80		EZH 05012ST-80	EZH 06012ST-80	EZH 07012ST-80	EZH 08012ST-80
		04016ST-100		05016ST-100	06016ST-100	07016ST-100	08016ST-100
		04019ST-120		05019ST-120	06019ST-120	07019ST-120	08019ST-120
		04020ST-120		05020ST-120	06020ST-120	07020ST-120	08020ST-120
		04022ST-135		05022ST-135	06022ST-135	07022ST-135	08022ST-135
		04025.0ST-135		05025.0ST-135	06025.0ST-135	07025.0ST-135	08025.0ST-135
		04025.4ST-120		05025.4ST-120	06025.4ST-120	07025.4ST-120	08025.4ST-120
EZ Bars	Boring	EZB ⁹ /L 040040HP-	EZB ⁹ /L 045045HP-	EZB ⁹ /L 050050HP-	EZB ⁹ /L 060060HP-	EZB ⁹ /L 070070HP-	EZB ⁹ /L 080080HP-
		EZBR 045040ST-		EZBR 055050ST-	EZBR 065060ST-	EZBR 075070ST-	
		EZBR ...040-...NB		EZBR ...050-...NB	EZBR ...060-...NB	EZBR ...070-...NB	
		EZBFR 040040-008		EZBFR 050050-015	EZBFR 060060-015		
	Internal grooving	EZBPR 040040-015		EZBPR 050050-015	EZBPR 060060-015		
				EZBCR 050050-	EZBCR 060060-	EZBCR 070070-	
		EZVBR 045040-		EZVBR 055050-	EZVBR 065060-		
		EZBTR 040040-		EZBTR 050050-			
EZ Bar PLUS	Internal threading	EZG ⁹ /L 040040-		EZG ⁹ /L 050050-	EZG ⁹ /L 060060-	EZG ⁹ /L ...070-...	
		EZFG ⁹ /L 050040-		EZFG ⁹ /L 060050-		EZFG ⁹ /L 080070-	
		EZTR 050040-		EZTR 060050-	EZTR 070060-	EZTR 080070-	
			S/C045X-SCLCR03-050EZP	S/C050X-SCLCR03-060EZP	S/C060X-SCLCR04-070EZP	S/C070X-SCLCR04-080EZP	S/C080X-SCLCR06-100EZP
Boring Bars	C04-....			S/C050X-SWUBR06-060EZP	S/C060X-SWUBR06-070EZP	S/C070X-SWUBR08-080EZP	S/C080X-STLPR09-100EZP

Note 1) When attaching boring bars to EZH-CT/HP sleeve (Adjustable overhang length), detach adjustable pin.
Overhang length of bar is not adjustable.

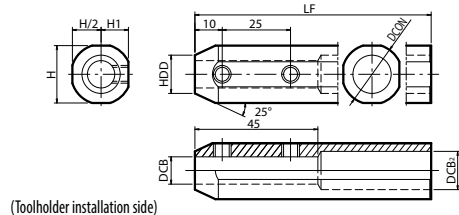
SHA sleeves (Applicable toolholders F157)

Fig. 1

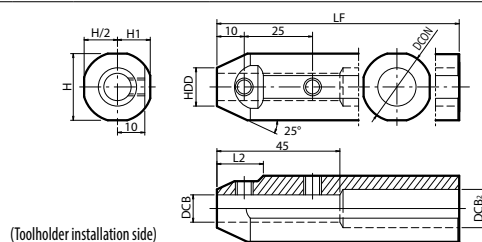


Fig. 2

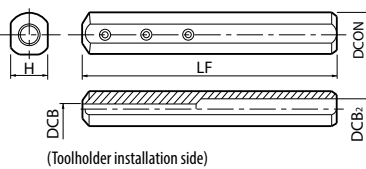
Description		Availability	Dimension (mm)								Drawing	Spare parts		Applicable machine manufacturer			
												Screw	Wrench				
			DCB	DCON	HDD	DCB ₂	H	H1	LF	L2							
SHA	0820-120	●	8	20	14	12	19	9.25	120	-	Fig. 1	HS6X4P	LW-3	Eguro Tsugami Citizen Machinery			
	1020-120	●	10														
SHA	0825.0-135	●	8	25	14	14	24	11.5	135	17	Fig. 2						
	1025.0-135	●	10														
	1225.0-135	●	12														
SHA	0819-120	●	8	19.05	14	12	18	8.75	120	-	Fig. 1	HS6X4P	LW-3	Citizen Machinery			
	1019-120	●	10														
SHA	0820-120	●	8	20	14	12	19	9.25	120	-	Fig. 1						
	1020-120	●	10														
SHA	0825.4-120	●	8	25.4	14	14	24.4	12	120	17	Fig. 2						
	1025.4-120	●	10														
	1225.4-120	●	12														
SHA	0822-125	●	8	22	14	14	21	10	125	-	Fig. 1	HS6X4P	LW-3	Star Micronics Nomura DS			
	1022-125	●	10														
	1222-125	●	12														
SHA	0823-120	●	8	23	14	14	22	10.5	120	16	Fig. 2	HS6X4P	LW-3	Nomura DS			
	1023-120	●	10														
	1223-120	●	12														

* Length of DCB: ~45mm (All of SHA sleeves)

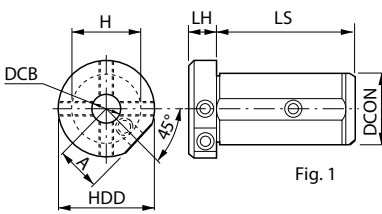
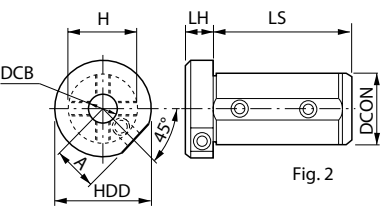
Choose sleeves (DCB) to meet with DCON dimension of toolholder.

Machine manufacturers in random order.

Sleeves for Boring bars

Shape	Description	Availability	Dimension (mm)					Spare parts		
								Screw	Wrench	
			DCON	DCB	DCB ₂	H	LF			
 (Toolholder installation side)	SH 0416-100	●	16	4	5	14	100	HS4X4	LW-2	
	0516-100	●		5	6					
	0616-100	●		6	7					
	0716-100	●		7	8					
	SH 0820-120	●	20	8	9	18	120	HS4X4	LW-2	
	1020-120	●		10	11					
	1225-150	●	25	12	13	23	150	HS5X5	LW-2.5	
	1632-180	●	32	16	18	30	180			
	2032-180	●		20	22					

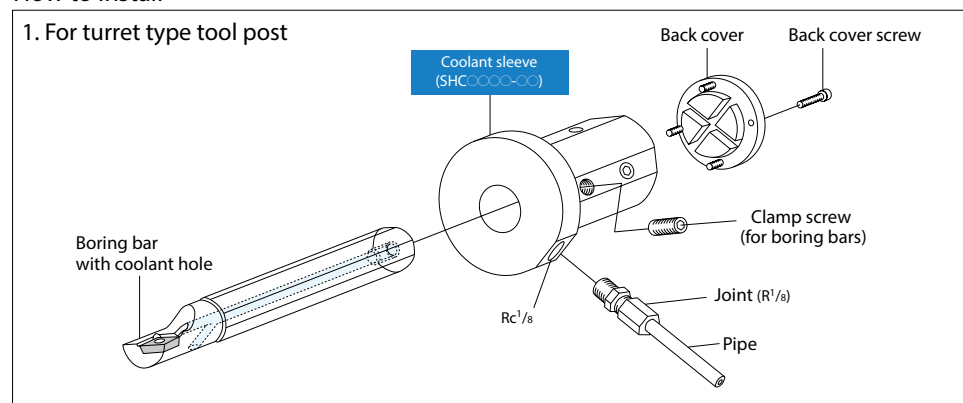
Coolant sleeve dimensions

 Fig. 1		 Fig. 2		Accessories Back cover / SHL-4...SHC○○○40-70 SHL-5...SHC○○○50-95 Back cover screw Shank clamp screw (Note) To stabilize the toolholder and to prevent coolant leaks, tighten all 4 screws of coolant sleeve securely.
---	--	---	--	---

Description		Availability	Dimension (mm)							Drawing	Spare parts						
			DCON	HDD	DCB	LS	LH	H	A		Front screw	Wrench	Back screw	Wrench	Back cover	Back cover screw	Wrench
																	
SHC	0840-70	●	40	56	8	70	16	38	27	Fig. 1	HS6X22	LW-3	HS6X14	LW-3	SHL-4	HH3X6	LW-2.5
	1040-70	●			10												
	1240-70	●			12												
	1640-70	●			16												
	2040-70	●			20												
	2540-70	●			25												
SHC	0850-95	●	50	65	8	95	16	47	30.5	Fig. 1	HS6X22	LW-3	HS6X14	LW-3	SHL-5	HH3X12	LW-2.5
	1050-95	●			10												
	1250-95	●			12												
	1650-95	●			16												
	2050-95	●			20												
	2550-95	●			25												
										Fig. 2	HS10X10	LW-5	HS10X10	LW-5			

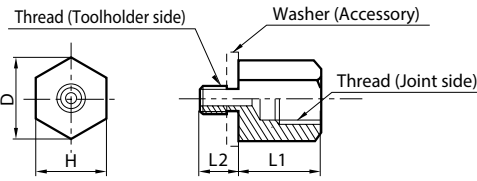
How to install

1. For turret type tool post

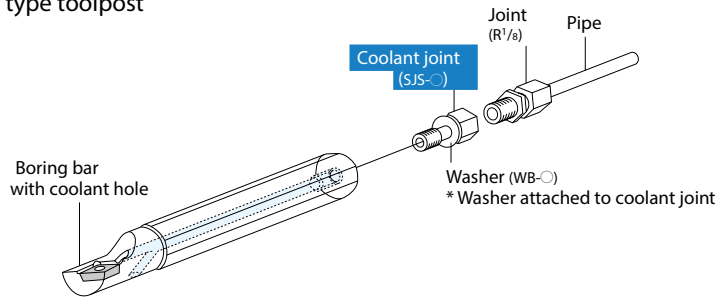


● : Standard item

Coolant joint dimensions *This Coolant joint is not applicable for Dynamic-Bars

	Description	Availability	Dimension (mm)				Thread (Toolholder side)	Thread (Joint side)	Spare parts	
			D	L1	L2	H			Washer	
	SJS-5	●	15	15	7	13	M5XP0.8	Rc1/8 (PT1/8)		WB-5
	SJS-6	●			9		M6XP1.0			WB-6
	SJS-8	●			13		M8XP1.25			WB-8

2. For gang type toolpost



List of toolholders and applicable joints

Toolholder description	Applicable coolant joint
A08-...-○○E	SJS-5
A10-...-○○E	
A12-...-○○E	SJS-6
A16-...-○○E	
A20-...-○○E	SJS-8
A25-...-○○E	
E08-...-○○	SJS-5
E10-...-○○	
E12-...-○○	SJS-6
E16-...-○○	
E20-...-○○	SJS-8

*This Coolant Joint is not applicable for Dynamic-Bars

SHA / SH / SHC sleeves and applicable toolholders

Shank size (Hole dia.: mm)	04 (4mm)	05 (5mm)	06 (6mm)	07 (7mm)	08 (8mm)	10 (10mm)	12 (12mm)	16 (16mm)	20 (20mm)	25 (25mm)
Sleeve description	SH0416-100	SH0516-100	SH0616-100	SH0716-100	SH0820-120	SH1020-120	SH1225-150	SH1632-180	SH2032-180	
					SHA0819-120	SHA1019-120				
					SHA0820-120	SHA1020-120				
					SHA0822-125	SHA1022-125	SHA1222-125			
					SHA0823-120	SHA1023-120	SHA1223-120			
					SHA0825.0-135	SHA1025.0-135	SHA1225.0-135			
					SHA0825.4-120	SHA1025.4-120	SHA1225.4-120			
					SHC0840-70	SHC1040-70	SHC1240-70	SHC1640-70	SHC2040-70	SHC2540-70
Boring Bar description					SHC0850-95	SHC1050-95	SHC1250-95	SHC1650-95	SHC2050-95	SHC2550-95
	C04-...	C05-...	C06-...	C07-...	A08-...	A10-...	A12-...	A16-...	A20-...	A25-...
					C08-...	C10-...	C12-...	C16-...	C20-...	C25-...
			S06-...		E08-...	E10-...	E12-...	E16-...	E20-...	E25-...
Internal grooving toolholder description			SIGC [®] /L0806-WH		S08-...	S10-...	S12-...	S16-...	S20-...	S25-...
					SIGC [®] /L1008-WH-L85	SIGCR1210-WH-L95	SIGC [®] /L0812-EH	SIGC [®] /L1016-EH		
					SIGCR1008-WH-L100	SIGC [®] /L1210-WH-L110		SIGC [®] /L1216-EH		
					SIGE [®] /L0808A-EH	SIGE [®] /L1010B-EH	SIGE [®] /L1412C-EH	SIGE [®] /L1616C-EH	SIGE [®] /L2020D-EH	SIGE [®] /L2525E-EH
						SIGE [®] /L1210B-EH	SIGE [®] /L1612C-EH			KIGBA [®] /L3525-16
					SIGE [®] /L0808A-WH	SIGE [®] /L1010B-WH	SIGE [®] /L1412C-WH	KGDI [®] /L...16B-	KGDI [®] /L2520B-	KGDI [®] /L3225B-
						SIGE [®] /L1210B-WH	SIGE [®] /L1612C-WH			
					SIGER1008B-WH-90	SIGER1210B-WH-90	SIGER1412C-WH-90			
							GIV [®] /L1412-1SE	GIV [®] /L1216-1SS	GIV [®] /L1420-1S	GIV [®] /L2025-1B
							GIV [®] /L1612-1AE	GIV [®] /L2016-1BE	GIV [®] /L1620-1A	GIV [®] /L2025-2B
								GIV [®] /L2016-2BE	GIV [®] /L2520-1CE	GIV [®] /L3225-1CE
								GIV [®] /L1616-1AW	GIV [®] /L2720-2CE	GIV [®] /L3225-2CE
Internal threading toolholder description									GIV [®] /L2020-1BW	GIV [®] /L2525-1CW
									GIV [®] /L2020-2BW	GIV [®] /L2525-2CW
							SINR0612S-06E	SINR0816S-08E	SIN [®] /L2420S-16	CIN [®] /L3025S-16
								SIN [®] /L1216S-11E	SINR2420S-22	CINR3025S-22
								SIN [®] /L1516S-11		
								SIN [®] /L1616S-16		
								SIN [®] /L2016S-16		

* For SHA sleeves, please see page F155. For SH / SHC sleeves, please see page F156.

● : Standard item

F



Boring

Boring: Positive insert (Cutting diameter under 10 mm)

ISO classification	Workpiece material	Hardness	Cutting range	Applications	Chipbreaker	Insert grades	Corner-R (RE)	Lower limit - Recommendation - Upper limit				
								Vc (m/min)	ap (mm)	f (mm/rev)		
P *	Low-carbon steel Low-carbon alloy	HB ≤ 300	Finishing Solid type	Continuous Interruption	EZB-F EZB-H	PR1725	0.05 0.15	30 - 70 - 110 30 - 60 - 90	0.05 - 0.1 - 0.2 0.05 - 0.1 - 0.2	0.01 - 0.04 - 0.07 0.03 - 0.07 - 0.1		
			Finishing	Continuous Interruption	F	PR1725	0.1 0.2	40 - 80 - 120 40 - 70 - 100	0.05 - 0.08 - 0.1 0.05 - 0.1 - 0.15	0.03 - 0.05 - 0.07 0.03 - 0.07 - 0.1		
			Finishing-Medium	Continuous Interruption	CF	PR1725	0.1 0.2	40 - 80 - 120 40 - 70 - 100	0.05 - 0.15 - 0.25 0.05 - 0.15 - 0.25	0.03 - 0.05 - 0.07 0.03 - 0.07 - 0.1		
		Medium-carbon steel Medium-carbon alloy	HB ≤ 300	Finishing Solid type	Continuous Interruption	EZB-F EZB-H	PR1725	0.05 0.15	30 - 70 - 110 30 - 60 - 90	0.05 - 0.1 - 0.2 0.05 - 0.1 - 0.2	0.01 - 0.04 - 0.07 0.03 - 0.07 - 0.1	
				Finishing	Continuous Interruption	F	PR1725	0.1 0.2	40 - 80 - 120 40 - 70 - 120	0.05 - 0.08 - 0.1 0.05 - 0.1 - 0.15	0.03 - 0.05 - 0.07 0.03 - 0.07 - 0.1	
				Finishing-Medium	Continuous Interruption	CF	PR1725	0.1 0.2	40 - 80 - 120 40 - 70 - 100	0.05 - 0.15 - 0.25 0.05 - 0.15 - 0.25	0.03 - 0.05 - 0.07 0.03 - 0.07 - 0.1	
	High-carbon alloy	HB ≤ 280	Finishing Solid type	Continuous Interruption	EZB-F EZB-H	PR1725	0.05 0.15	30 - 70 - 110 30 - 60 - 90	0.05 - 0.1 - 0.2 0.05 - 0.1 - 0.2	0.01 - 0.04 - 0.07 0.03 - 0.07 - 0.1		
			Finishing	Continuous Interruption	F	PR1725	0.1 0.2	40 - 80 - 120 40 - 70 - 100	0.05 - 0.08 - 0.1 0.05 - 0.1 - 0.15	0.03 - 0.05 - 0.07 0.03 - 0.07 - 0.1		
			Finishing-Medium	Continuous Interruption	CF	PR1725	0.1 0.2	40 - 80 - 120 40 - 70 - 100	0.05 - 0.15 - 0.25 0.05 - 0.15 - 0.25	0.03 - 0.05 - 0.07 0.03 - 0.07 - 0.1		
	M	Stainless steel	HB ≤ 220	Finishing Solid type	Continuous Interruption	EZB-F EZB-H	PR1725	0.05 0.15	30 - 60 - 80 30 - 60 - 80	0.05 - 0.1 - 0.2 0.05 - 0.1 - 0.2	0.01 - 0.03 - 0.05 0.02 - 0.05 - 0.07	
				Finishing	Continuous Interruption	F	PR1225 PR1535	0.1 0.2	30 - 60 - 80 30 - 60 - 80	0.05 - 0.08 - 0.1 0.05 - 0.1 - 0.15	0.03 - 0.05 - 0.07 0.03 - 0.07 - 0.1	
				Finishing-Medium	Continuous Interruption	CF	PR1225 PR1535	0.1 0.2	30 - 60 - 80 30 - 60 - 80	0.05 - 0.15 - 0.25 0.05 - 0.15 - 0.25	0.03 - 0.05 - 0.07 0.03 - 0.07 - 0.1	
Finishing Solid type					Continuous Interruption	EZB-F EZB-H	PR1725	0.05 0.15	30 - 60 - 80 30 - 60 - 80	0.05 - 0.1 - 0.2 0.05 - 0.1 - 0.2	0.01 - 0.03 - 0.05 0.02 - 0.05 - 0.07	
Stainless steel		HB ≤ 300	Finishing	Continuous Interruption	F	PR1225 PR1535	0.1 0.2	30 - 60 - 80 30 - 60 - 80	0.05 - 0.08 - 0.1 0.05 - 0.1 - 0.15	0.03 - 0.05 - 0.07 0.03 - 0.07 - 0.1		
			Finishing-Medium	Continuous Interruption	CF	PR1225 PR1535	0.1 0.2	30 - 60 - 80 30 - 60 - 80	0.05 - 0.15 - 0.25 0.05 - 0.15 - 0.25	0.03 - 0.05 - 0.07 0.03 - 0.07 - 0.1		
				Gray cast iron	HB ≤ 250	Finishing Solid type	Continuous Interruption	(VNB) (VNB-NB)	KW10	0.03 0.2	30 - 60 - 100 30 - 60 - 100	0.05 - 0.08 - 0.1 0.05 - 0.1 - 0.15
			Finishing			Continuous Interruption	F	KW10	0.1 0.2	30 - 60 - 100 30 - 60 - 80	0.05 - 0.08 - 0.1 0.05 - 0.1 - 0.15	0.03 - 0.05 - 0.07 0.03 - 0.07 - 0.1
Finishing-Medium	Continuous Interruption	Without chipbreaker	KW10			0.2 0.4	30 - 60 - 100 30 - 60 - 80	0.1 - 0.2 - 0.3 0.1 - 0.2 - 0.3	0.03 - 0.05 - 0.07 0.03 - 0.07 - 0.1			
Nodular cast iron	HB ≤ 270	Finishing Solid type	Continuous Interruption		(VNB) (VNB-NB)	KW10	0.03 0.2	30 - 60 - 80 30 - 60 - 80	0.05 - 0.08 - 0.1 0.05 - 0.1 - 0.15	0.03 - 0.05 - 0.07 0.03 - 0.07 - 0.1		
		Finishing	Continuous Interruption		F,U	KW10	0.1 0.2	30 - 60 - 80 30 - 60 - 80	0.05 - 0.08 - 0.1 0.05 - 0.1 - 0.15	0.03 - 0.05 - 0.07 0.03 - 0.07 - 0.1		
		Finishing-Medium	Continuous Interruption		Without chipbreaker	KW10	0.2 0.4	30 - 60 - 100 30 - 60 - 80	0.1 - 0.2 - 0.3 0.1 - 0.2 - 0.3	0.03 - 0.05 - 0.07 0.03 - 0.07 - 0.1		
N	Non-ferrous metals Copper alloy Aluminum Aluminum alloys	HB ≤ 100	High Speed Finishing Rainbow surface gloss	Continuous	Without chipbreaker	KPD001	0.05	150 - 200 - 300	0.05 - 0.1 - 0.3	0.05 - 0.1 - 0.15		
			Finishing Long tool life	Continuous Interruption	F, U	PDL025	0.1 0.2	100 - 150 - 200 100 - 150 - 200	0.05 - 0.3 - 0.5 0.05 - 0.3 - 0.5	0.03 - 0.1 - 0.2 0.03 - 0.1 - 0.2		
			Finishing	Continuous Interruption	F, U	KW10	0.1 0.2	100 - 150 - 200 100 - 150 - 200	0.05 - 0.3 - 0.5 0.05 - 0.3 - 0.5	0.03 - 0.1 - 0.2 0.03 - 0.1 - 0.2		
				Precision Finishing Rainbow surface gloss	Continuous Interruption	Without chipbreaker	KPD001	0.1 0.2	100 - 120 - 150 70 - 100 - 120	0.05 - 0.1 - 0.3 0.05 - 0.1 - 0.3	0.03 - 0.07 - 0.1 0.03 - 0.07 - 0.1	
S	Titanium alloys	HB ≤ 400	Finishing	Continuous Interruption	F, U	KW10	0.1 0.2	20 - 40 - 60 20 - 40 - 60	0.05 - 0.2 - 0.5 0.05 - 0.2 - 0.5	0.03 - 0.1 - 0.2 0.03 - 0.1 - 0.2		
			Finishing Solid type	Continuous Interruption	(VNB)	KW10	0.2 0.2	10 - 30 - 50 10 - 30 - 50	0.05 - 0.1 - 0.3 0.05 - 0.1 - 0.3	0.03 - 0.05 - 0.1 0.03 - 0.05 - 0.08		
	Heat-resistant alloys	HB ≤ 350	Finishing	Continuous Interruption	F,U	KW10	0.2 0.2	10 - 30 - 50 10 - 30 - 50	0.05 - 0.2 - 0.4 0.05 - 0.2 - 0.4	0.03 - 0.05 - 0.1 0.03 - 0.05 - 0.1		
			Hardened steel	40~50 HRC	Finishing	Continuous Interruption	(VNB)	PR930	0.2 0.2	30 - 50 - 70 30 - 50 - 70	0.05 - 0.1 - 0.4 0.05 - 0.1 - 0.2	0.01 - 0.02 - 0.05 0.01 - 0.02 - 0.03
H	Hard materials	45~68 HRC	Finishing		Continuous Interruption	ME MES	KBN010 KBN020	0.2 0.4	60 - 100 - 140 60 - 80 - 120	0.05 - 0.1 - 0.2 0.05 - 0.1 - 0.2	0.02 - 0.05 - 0.1 0.02 - 0.05 - 0.1	

* Please use it with PR1725 set to Vc = 150 m/min or below, for machining of free-cutting steel such as small size SUM. For ap and f, refer to specs for low carbon steels.

• ap indicates radius

Boring: Positive insert (Cutting diameter over 10 mm)

ISO classification	Workpiece material	Hardness	Cutting range	Applications	Chipbreaker	Insert grades	Corner-R (RE)	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 Interruption	F, U	TN620 PR1725	0.1 0.2	250 - 300 - 350 120 - 170 - 220	0.05 - 0.3 - 0.5 0.05 - 0.3 - 0.5	0.03 - 0.1 - 0.15 0.03 - 0.1 - 0.15
			Finishing	Continuous Interruption	XP	PV710 CA125P	0.4 0.4	200 - 250 - 300 150 - 200 - 250	0.2 - 0.5 - 1.0 0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2 0.05 - 0.1 - 0.2
			Finishing-Medium	Continuous Interruption	XQ	PV710 CA125P	0.4 0.4	150 - 200 - 250 100 - 150 - 200	0.5 - 1.0 - 2.0 0.5 - 1.0 - 1.5	0.1 - 0.15 - 0.25 0.1 - 0.15 - 0.2
			Medium	Continuous Interruption	Standard	PV720 CA125P	0.8 0.8	100 - 150 - 200 80 - 120 - 150	1.0 - 1.5 - 2.5 1.0 - 1.5 - 2.0	0.1 - 0.15 - 0.3 0.1 - 0.15 - 0.2
	Medium-carbon steel Medium-carbon alloy	HB ≤ 300	Precision finishing	Continuous Interruption	F, U	TN620 PR1725	0.2 0.4	150 - 200 - 250 120 - 140 - 170	0.05 - 0.3 - 0.5 0.05 - 0.3 - 0.5	0.03 - 0.1 - 0.15 0.03 - 0.1 - 0.15
			Finishing	Continuous Interruption	PP	PV710 CA125P	0.4 0.4	150 - 200 - 250 120 - 180 - 200	0.2 - 0.5 - 1.0 0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2 0.05 - 0.1 - 0.2
			Finishing-Medium	Continuous Interruption	HQ	PV710 CA125P	0.4 0.4	120 - 180 - 220 100 - 150 - 200	0.5 - 1.0 - 2.0 0.5 - 1.0 - 1.5	0.1 - 0.15 - 0.25 0.1 - 0.15 - 0.2
			Medium	Continuous Interruption	Standard	PV720 CA125P	0.8 0.8	100 - 150 - 200 80 - 120 - 150	1.0 - 1.5 - 2.5 1.0 - 1.5 - 2.0	0.1 - 0.15 - 0.3 0.1 - 0.15 - 0.2
	High-carbon alloy	HB ≤ 280	Precision finishing	Continuous Interruption	F, U	TN620 PR1725	0.2 0.4	120 - 150 - 180 110 - 130 - 160	0.05 - 0.3 - 0.5 0.05 - 0.3 - 0.5	0.03 - 0.1 - 0.15 0.03 - 0.1 - 0.15
			Finishing	Continuous Interruption	PP	PV710 CA125P	0.4 0.4	120 - 150 - 180 100 - 120 - 150	0.2 - 0.5 - 1.0 0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2 0.05 - 0.1 - 0.2
			Finishing-Medium	Continuous Interruption	HQ	PV710 CA125P	0.4 0.4	120 - 150 - 180 100 - 120 - 150	0.5 - 1.0 - 2.0 0.5 - 1.0 - 1.5	0.1 - 0.15 - 0.25 0.1 - 0.15 - 0.2
			Medium	Continuous Interruption	Standard	CA515 CA125P	0.8 0.8	100 - 120 - 150 80 - 100 - 120	1.0 - 1.5 - 2.5 1.0 - 1.5 - 2.0	0.1 - 0.15 - 0.3 0.1 - 0.15 - 0.2
M	Stainless steel	HB ≤ 220	Finishing	Continuous Interruption	MQ	CA6525 PR1535	0.4 0.8	120 - 150 - 180 100 - 120 - 150	0.2 - 0.5 - 0.8 0.2 - 0.5 - 0.8	0.05 - 0.08 - 0.1 0.05 - 0.08 - 0.1
			Medium	Continuous Interruption	Standard	CA6525 PR1535	0.4 0.8	120 - 150 - 180 100 - 120 - 150	0.5 - 1.0 - 1.5 0.5 - 1.0 - 1.5	0.05 - 0.1 - 0.2 0.05 - 0.1 - 0.2
	Stainless steel	HB ≤ 300	Finishing	Continuous Interruption	MQ	CA6525 PR1535	0.4 0.8	80 - 100 - 120 60 - 80 - 100	0.2 - 0.7 - 1.0 0.2 - 0.7 - 1.0	0.05 - 0.1 - 0.15 0.05 - 0.1 - 0.15
			Medium	Continuous Interruption	Standard	CA6525 PR1535	0.4 0.8	80 - 100 - 120 60 - 80 - 100	0.5 - 1.0 - 1.5 0.5 - 1.0 - 1.5	0.05 - 0.1 - 0.2 0.05 - 0.1 - 0.2
K	Gray cast iron	HB ≤ 250	High speed finishing	Continuous Interruption	Without chipbreaker	KBN475 PT600M	0.4 0.8	400 - 500 - 600 200 - 250 - 350	0.05 - 0.2 - 0.5 0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.15 0.05 - 0.1 - 0.15
			Finishing	Continuous Interruption	Standard	PV7005 TN620	0.8 0.8	200 - 250 - 300 120 - 180 - 230	0.2 - 0.5 - 1.0 0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2 0.05 - 0.1 - 0.2
			Finishing	Continuous Interruption	Standard	CA310 CA315	0.4 0.8	150 - 180 - 200 100 - 150 - 180	0.2 - 0.5 - 1.0 0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2 0.05 - 0.1 - 0.2
			Medium	Continuous Interruption	Standard Without chipbreaker	CA310 CA315	0.8 0.8	100 - 150 - 200 80 - 120 - 150	0.5 - 1.0 - 2.0 0.5 - 1.0 - 2.0	0.1 - 0.15 - 0.2 0.05 - 0.1 - 0.15
	Nodular cast iron	HB ≤ 270	High speed finishing	Continuous Interruption	Without chipbreaker	KBN60M PT600M	0.4 0.8	200 - 300 - 400 150 - 200 - 250	0.05 - 0.2 - 0.5 0.2 - 0.5 - 1.0	0.03 - 0.05 - 0.1 0.05 - 0.1 - 0.15
			Finishing	Continuous Interruption	Standard	PV7005 TN620	0.8 0.8	150 - 200 - 250 120 - 150 - 200	0.2 - 0.5 - 1.0 0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2 0.05 - 0.1 - 0.2
			Finishing	Continuous Interruption	Standard	CA310 CA315	0.4 0.8	120 - 150 - 180 100 - 120 - 150	0.2 - 0.5 - 1.0 0.2 - 0.5 - 1.0	0.05 - 0.1 - 0.2 0.05 - 0.1 - 0.2
			Medium	Continuous Interruption	Standard	CA315 CA320	0.8 0.8	100 - 120 - 150 80 - 100 - 120	0.5 - 1.0 - 2.0 0.5 - 1.0 - 2.0	0.05 - 0.1 - 0.2 0.05 - 0.1 - 0.15
N	Non-ferrous metals Copper alloy Aluminum Aluminum alloys	HB ≤ 100	High speed finishing Rainbow surface gloss	Continuous	Without chipbreaker	KPD001	0.2	200 - 400 - 1,000	0.05 - 0.1 - 0.3	0.05 - 0.1 - 0.15
			Finishing	Continuous Interruption	F, U	PDL025	0.4 0.4	100 - 200 - 400 100 - 200 - 400	0.05 - 0.5 - 1.0 0.05 - 0.5 - 1.0	0.03 - 0.1 - 0.2 0.03 - 0.1 - 0.2
			Long tool life	Continuous Interruption	F, U	KW10	0.4 0.4	100 - 200 - 400 100 - 200 - 400	0.05 - 0.5 - 1.0 0.05 - 0.5 - 1.0	0.03 - 0.1 - 0.2 0.03 - 0.1 - 0.2
			Finishing	Continuous Interruption	F, U	KW10	0.4 0.4	100 - 200 - 400 100 - 200 - 400	0.05 - 0.5 - 1.0 0.05 - 0.5 - 1.0	0.03 - 0.1 - 0.2 0.03 - 0.1 - 0.2
S	Titanium alloys	HB ≤ 400	Precision finishing Rainbow surface gloss	Continuous Interruption	Without chipbreaker	KPD001	0.2 0.4	100 - 120 - 150 70 - 100 - 120	0.05 - 0.1 - 0.3 0.05 - 0.1 - 0.3	0.03 - 0.07 - 0.1 0.03 - 0.07 - 0.1
			Finishing	Continuous Interruption	F, U	KW10	0.2 0.4	30 - 50 - 70 30 - 50 - 70	0.05 - 0.5 - 1.0 0.05 - 0.5 - 1.0	0.03 - 0.1 - 0.2 0.03 - 0.1 - 0.2
	Heat-resistant alloys	HB ≤ 350	Finishing	Continuous Interruption	F, U	KW10	0.4 0.4	10 - 30 - 50 10 - 30 - 50	0.05 - 0.5 - 1.0 0.05 - 0.5 - 1.0	0.03 - 0.1 - 0.2 0.03 - 0.1 - 0.2
			Finishing	Continuous Interruption	MQ	PR1155	0.4 0.8	40 - 60 - 80 40 - 60 - 80	0.1 - 0.3 - 0.5 0.1 - 0.3 - 0.5	0.03 - 0.05 - 0.1 0.03 - 0.05 - 0.1
H	Hardened steel Hard materials	40~50 HRC	Finishing	Continuous Interruption	HQ Standard	CA115P	0.8 0.8	60 - 80 - 100 30 - 50 - 70	0.05 - 0.3 - 0.5 0.05 - 0.3 - 0.5	0.05 - 0.08 - 0.1 0.05 - 0.08 - 0.1
		45~68 HRC	Finishing	Continuous Interruption	ME MET	KBN010 KBN020	0.4 0.8	100 - 140 - 180 90 - 120 - 160	0.1 - 0.2 - 0.3 0.1 - 0.2 - 0.3	0.02 - 0.07 - 0.1 0.02 - 0.07 - 0.1
			Medium	Continuous	Without chipbreaker Negative	KBN900	0.8	60 - 80 - 100	0.3 - 0.7 - 1.0	0.03 - 0.1 - 0.15

* When machining free-cutting steel such as SUM, please use PR1725 for Vc = 200 m/min or under or use PV720 / CA115P, etc.
 • ap indicates radius



Boring

