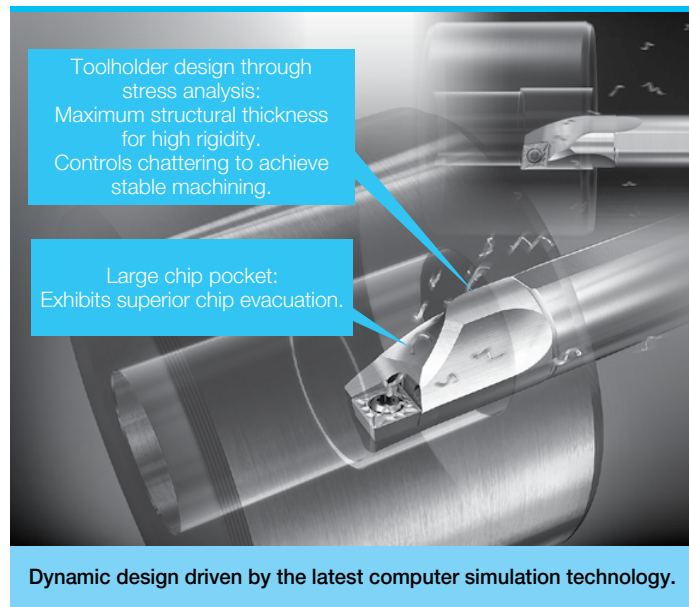


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SHA	F108
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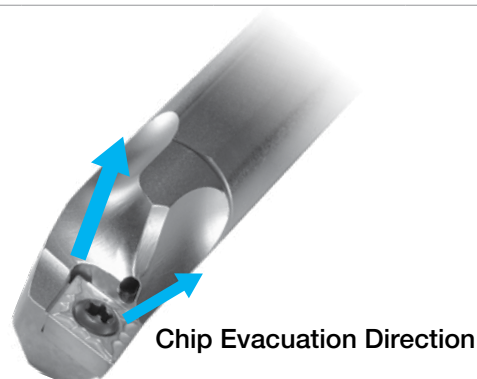
New Dynamic Bar



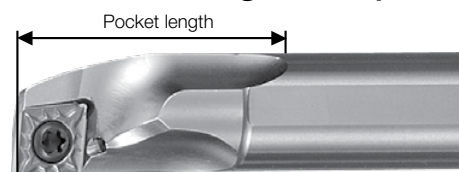
Superior Chip Evacuation (External Coolant)

	Dynamic Bar	Competitor A	Competitor B
Inside the Workpiece			

In Competitor A and B's products chips remain inside the workpiece, but chips from Dynamic Bar are all evacuated from the workpiece.



Pocket Length Comparison



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

Chip Evacuation Direction

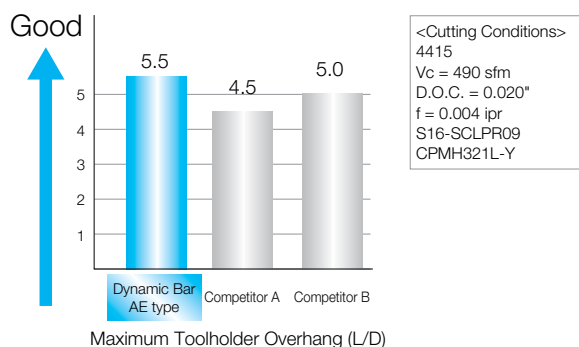
SCLC(P)	STLB(P)

Better Evacuation with Dual Chip Flow

Dynamic Bar with Superior Chip Evacuation

High rigidity and chattering resistance is achieved by using a special alloy designed with stress analysis technology. Achieve previously unobtained surface finish and dimensional accuracy.

Anti-chatter Vibration Performance



Surface Finish Comparison

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

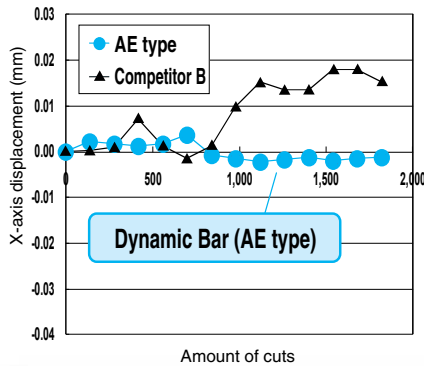
	Dynamic Bar	Competitor A	Competitor B
Surface Wall			
Surface Roughness	 Ra=0.4μm Rz=2.3μm	 Ra=0.6μm Rz=3.6μm	 Ra=3.4μm Rz=14.0μm
Oscillatory Waveform			

<Cutting Conditions>
4415
Vc = 690 sfm
D.O.C. = 0.020"
f = 0.004 ipr
A16Q-SCLPR09-18
CPMH321XP(PV7020)
L/D = 4
External Coolant

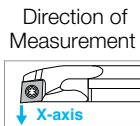
Direction of Vibration Measurement

Cutting Point Precision

The AE Dynamic Bar resists deflection to maintain precise cutting edge positional accuracy through the use of a special alloy, thereby achieving high precision machining.



<Cutting Conditions>
SCM435
Vc = 590 sfm
D.O.C. = 0.079"
f = 0.008 ipr
S/A16Q-SCLPR09-18 type
CPMH090308(CA5525)
L/D = 4
External Coolant



Toolholder Lineup

Excellent Bar (AE Type)

Excellent Bar with coolant hole (internal coolant) (A...AE) enables better chip evacuation.



Steel Bar

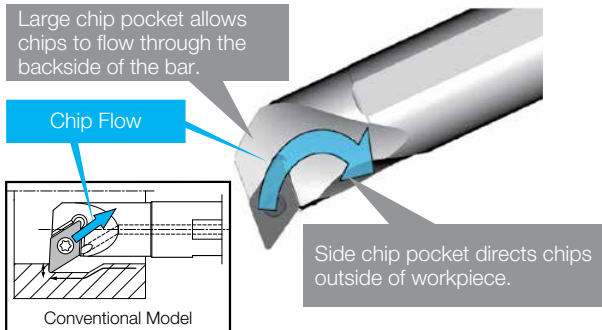
The steel shank bar (without coolant hole) provides superior cost performance



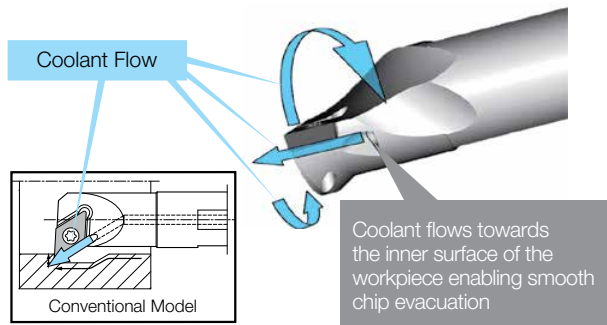
Advantages of Dynamic Bar SDUC

New Design Focusing on Chip Evacuation

Streamlined pocket enables effective chip evacuation.



Coolant flows toward the workpiece's inner surface.



AD Bars Interchangeable Head Boring Bars with Anti-vibration Dampener System

- The AD (Advanced Dampener) system enables a maximum overhang of 6 times L/D.
- Highly efficient machining: The anti-vibration dampener enables large cutting-depths and high feed rates.
- Applicable for a variety of machining conditions due to the interchangeable head design.



Double Clamp Boring Bars for Negative Inserts

Stable machining with Double Clamp and Direction Adjustment Coolant Hole.

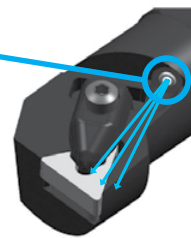
Improved Clamping Rigidity

Firmly clamp the insert in two directions with one action. Ensure quick, accurate, and repeatable insert position.



Direction Adjustment Mechanism Coolant Hole

Discharge direction of coolant is adjustable to focus directly on cutting edge.
*Not applicable to high-pressure coolant



Nozzle Setting

Use wrench to adjust coolant hole direction.



EZ Bar

Kyocera's Original EZ Adjust Structure

- Easy adjustment and high precision
- EZ Bar minimizes deviation with high rigidity clamping

MEGACOAT PR1225 for Stable Cutting and Extended Tool Life

Kyocera's Original EZ Adjust Structure

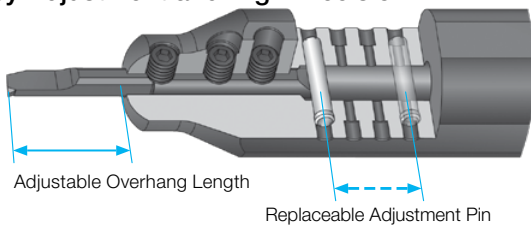
Adjustable Overhang Length

Replaceable Adjustment Pin

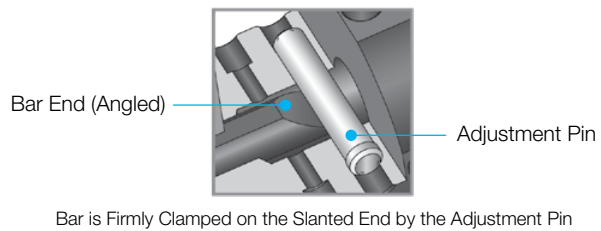
EZ Adjust Structure

Bar overhang is adjustable by replacing adjustment pin.
Internal coolant sleeve (EZH-CT) is available.

1 Easy Adjustment and High Precision



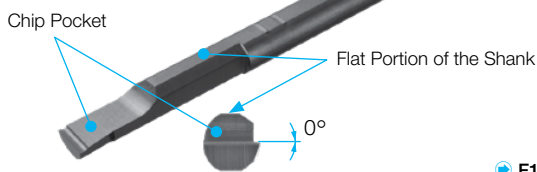
Excellent Clamping Force



2 Bar Types

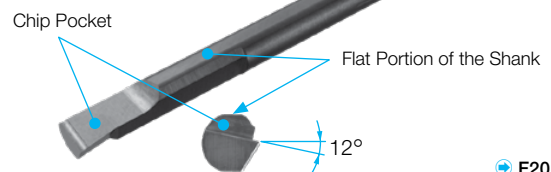
Precision Oriented

HP (High Precision)



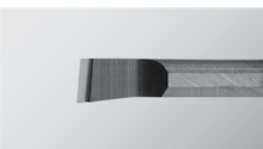
Cost Oriented

ST (Standard)



3 Chipbreakers for Various Applications

H Chipbreaker (Without Lead Angle)



Tough Edge (General Purpose)

F Chipbreaker (With Lead Angle)



Sharp Cutting (For Finishing)

NB Chipbreaker (Without Chipbreaker)



Non-ferrous Metals

2 Types of Corner-R (RE) for Each Chipbreaker

H Chipbreaker: 0.003", 0.006" (0.08mm, 0.15mm)

F Chipbreaker: 0.002", 0.006" (0.05mm, 0.15mm)

NB (No Chipbreaker): 0.002" (0.05mm) - PR1225
0.0014" (0.035mm) - PCD / CBN

* Lineup Depends on Description

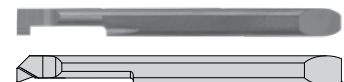
EZVB for Boring, Internal Profiling and Copying

EZ Bar PLUS Indexable Type

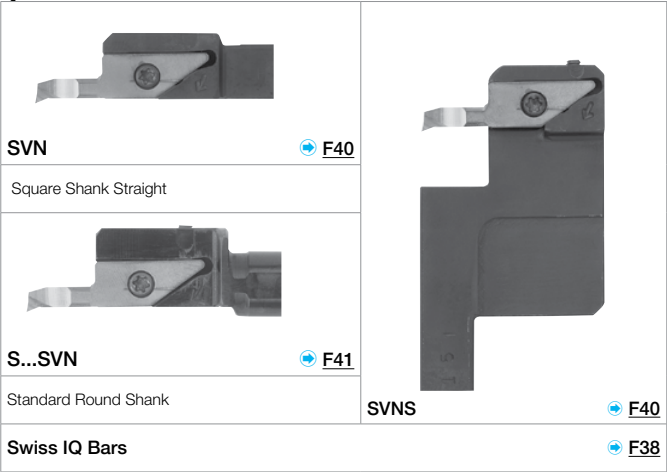
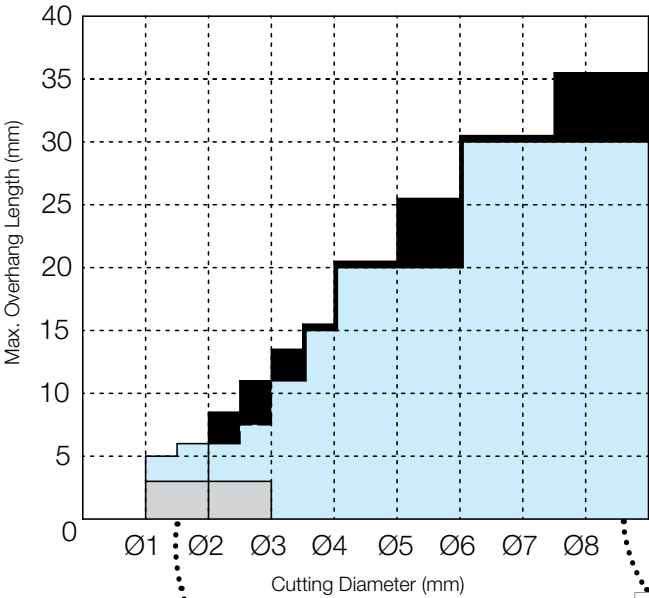


EZBT for Back Boring

EZBF 90° Lead Type



● Usage Classification (Solid Bar type: Minimum Cutting Dia. 1mm)



INSERT GRADES	A
TURNING INSERTS	B
GEN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

Boring Bar Identification System (Round Shank)

	ANSI (in)	ISO (mm)	ANSI (in)	ISO (mm)
S Steel	F : 3.00	80	Q : 7.00	180
A Steel (with Coolant Hole)	G : 3.50	90	R : 8.00	200
C Carbide	H : 4.00	100	S : 10.00	250
E Carbide (with Coolant Hole)	J : 4.50	110	T : 12.00	300
	K : 5.00	125	U : 14.00	350
	L : 5.50	140	V : 16.00	400
	M : 6.00	150	W : 18.00	450
	N : 6.50	160	Y : 20.00	500
	P : 6.75	170	X	Special

Shank	Toolholder Length	Clamping System	Insert Shape	Hand of Tool	Others
S	08	M	S	C	L
S	12	M	S	C	L

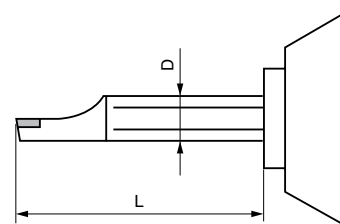
ANSI (inch)	ISO (metric)
S	S
08	12
M	M
S	S
C	C
L	L
P	P
R	R
3	09
AE	16
	A

Shank Diameter	Cutting Edge Angle	Insert Relief Angle	Insert Size	Min. Bore Dia.
ANSI A two-digit number that indicates the shank diameter in 1/16" increments.	F : 90° K : 75° L : 95° P : 117.5°	B : 5° Positive C : 7° Positive D : 15° Positive E : 20° Positive N : 0° Negative P : 11° Positive	ANSI Number of 1/8 increments of I.C.	
ISO Shank diameter in mm	Q : 107.5° S : 45° U : 93° W : 60° Y : 85° X : 110° Z : 93°(95°)		ISO	

- Anti-vibration interchangeable head mechanism Boring Bar "AD Bar"
For the identification system for boring bars with interchangeable head, Ref. to page **F87**

Guidelines for Overhang Length of Boring Bar (Workpiece Material 1045)

Overhang Length (L / D)	Shank Material
3	Steel
4	Steel (Dynamic Bar)
5	Excellent
5.5	Excellent (Dynamic Bar)
6	AD Bars (with Anti-vibration Dampener System)
7	Carbide




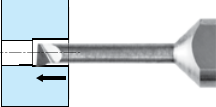

Carbide Shank Boring Bar


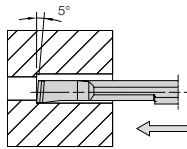

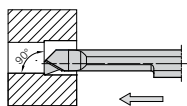

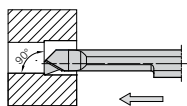




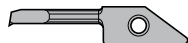

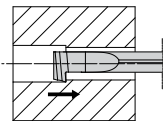
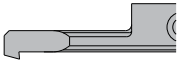

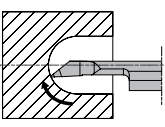

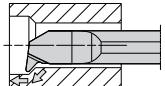

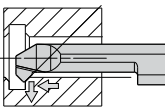
Short Shank Series

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.

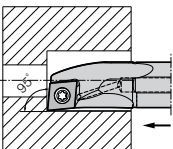
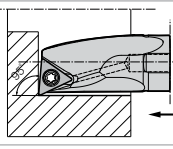
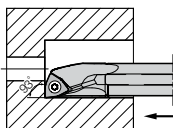
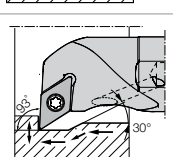
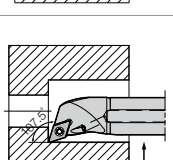
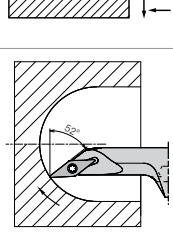
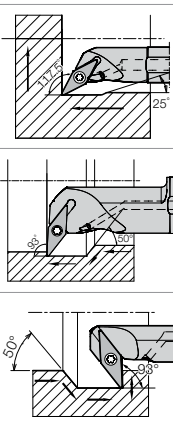


Solid Micro Bars

Application	Solid Micro Bars	Shape	Application
Boring / Profiling	MBS Standard Length ➔ F14		
	MBE Extended Reach ➔ F15		

Application	Solid Micro Bars	Shape	Shank Type Max. Overhang Length L/D	Min. Bore Dia. DMIN (mm)																Toolholder / Sleeve Ref. Page	Application
				1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0			
Boring	EZB-HP EZ Bar ➔ F18		Solid L/D = ~5			●	●	●	●	●	●	●	●	●				●	➔ F32~ ➔ F37		
	EZB-HP-LT EZ Bar (Long Type) ➔ F19		Solid			●	●	●	●	●	●	●	●	●							
	EZB-ST EZ Bar ➔ F20		Solid L/D = ~5			●	●	●	●	●	●	●	●	●	●						
	EZB-NB EZ Bar (MEGACOAT) ➔ F21		Solid L/D = ~5			●	●	●	●	●	●	●	●	●	●						
	EZB-NB EZ Bar ➔ F21		Solid L/D = ~5					●		●		●		●				➔ F32~ ➔ F37			
	EZB-NB EZ Bar ➔ F21		Solid L/D = ~5							●		●		●		●					
	EZB-NB EZ Bar ➔ F21		Solid L/D = ~5							●		●		●		●					
	EZBF EZ Bar (90° Lead Type) NEW ➔ F22		Solid					●		●		●		●					➔ F44 ➔ F45 ➔ F40 ➔ F41 ➔ F43		
	TWB Twin Bars ➔ F44		Solid	●	●	●	●	●													
	TWBT Twin Bars ➔ F45		Solid	●	●	●	●	●													
	VNB-S Swiss IQ Bars ➔ F38		Solid	●	●	●	●	●	●	●											
	VNB Swiss IQ Bars ➔ F38		Solid			●		●		●		●		●		●					
	VNBX-S Swiss IQ Bars ➔ F42		Solid	●	●	●		●	●	●											
Back Boring	EZBT EZ Bar NEW ➔ F23		Solid							●		●						➔ F32~ ➔ F37			
	VNBT Swiss IQ Bars ➔ F39		Solid							●		●									
Internal Facing/ Profiling	EZVB EZ Bar ➔ F23		Solid							●		●		●		●		➔ F32~ ➔ F37			
Copying	EZBP EZ Bar NEW ➔ F25		Solid			●		●		●		●		●				➔ F32~ ➔ F37			
Chamfering	EZBC EZ Bar (45° Chamfering) NEW ➔ F26		Solid									●		●		●		➔ F32~ ➔ F37			

Dynamic Bars (inch)

Application	Shape	Boring Bar Type	Shank Type Max. Overhang Length L/D	Coolant Hole		Min. Bore Dia. DMIN (in)																		Toolholder / Sleeve Ref. Page				
				Yes	No	0.240	0.312	0.392	0.413	0.450	0.480	0.512	0.551	0.580	0.630	0.700	0.770	0.787	0.790	0.825	0.930	0.980	1.180		1.200	1.240	1.300	1.340
Boring / Internal Facing		A...SCLC-AE	Excellent L/D = ~5.5	●							●			● (0.600)		●				●			●					● F46
		E...SCLC-A	Carbide L/D = ~7.0	●							●			● (0.600)		●												
		A...SCLP-AE	Excellent L/D = ~5.5	●					●		●			●		●				●				●				● F50
		A...STLB(P)-AE	Excellent L/D = ~5.5	●				●		●			●		●				●					● (1.280)				● F62
		S...STLB-AE	Excellent L/D = ~5.5		○		●																					
Boring		A...SWUB(P)-AE	Excellent L/D = ~5.5	●							● (0.472)			●		●				●			●					● F76
		S...SWUB-AE	Excellent L/D = ~5.5		○	●	●																					
Copying		A...SDUC-AE	Excellent L/D = ~5.5	●									●	●			●				● (1.063)				●			● F54
		E...SDUC-A	Carbide L/D = ~7.0	●										●	●			●										
		A...SDQC-AE	Excellent L/D = ~5.5	●									●	●			●				●							● F56
		E...SDQC-A	Carbide L/D = ~7.0	●										●	●			●										
		A...SVJB-AE	Excellent L/D = ~5.5	●																	● (0.984)	●						● F68
		A...SVPC(B)-AE	Excellent L/D = ~5.5	●											●				●			●	●	●				● F70
		A...SVUC(B)-AE	Excellent L/D = ~5.5	●											●				●			●				●		● F72
	Back Boring		A...SVZC(B)-AE	Excellent L/D = ~5.5	●											●				●						●		

Min. Bore Dia. DMIN is indicated by the figure under ● depending on the boring bar size.

A	INSERT GRADES
B	TURNING INSERTS
C	CBN/PCD INSERTS
D	TURNING HOLDERS
E	SMALL TOOLS
F	BORING
G	GROOVING
H	CUT-OFF
J	THREADING
K	DRILLING
M	MILLING
N	QUICK CHANGE TOOLING
P	SPARE PARTS
R	TECHNICAL
T	INDEX

Dynamic Bars (metric)

Application	Shape	Boring Bar Type	Shank Type Max. Overhang Length L/D	Max. Overhang Length L/D	Coolant Hole		Min. Bore Dia. DMIN (mm)																						Toolholder / Sleeve Ref. Page
					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	~5.5	●									●	●		●	●	●		●			●				F54	
		S...SDUC-A	Steel	~4.0	○										●	●		●	●	●		●			●				
		E...SDUC-A	Carbide	~7.0	●										●	●		●	●	●		●			●				
		A...SDQC-AE	Excellent	~5.5	●									●	●	●		●		●		●							F56
		S...SDQC-A	Steel	~4.0	○										●	●	●		●		●			●					
		E...SDQC-A	Carbide	~7.0	●										●	●	●		●		●			●					
		A...SVJB(C)-AE	Excellent	~5.5	●										●	●	●		●		●					●	●		F68
		A...SVJP-AE			●										●														
		S...SVJB(C)-A	Steel	~4.0	○										●	●	●		●		●					●	●		
		S...SVJP-A			○										●														
		A...SVPC(B)-AE	Excellent	~5.5	●										●	●	●		●		●			●		●			F70
		S...SVPC(B)-A	Steel	~4.0	○										●	●	●		●		●			●		●			
		E...SVPC(B)-A	Carbide	~7.0	●										●	●	●		●		●			●					
		A...SVUB(C)-AE	Excellent	~5.5	●										●	●	●		●		●				●	●			F72
		S...SVUB(C)-A	Steel	~4.0	○										●	●	●		●		●				●	●			
		E...SVUB(C)-A	Carbide	~7.0	●											●				●		●			29		●		
		A...SZJB-AE	Excellent		●																			28		●			F80
		A...SZXB-AE	Excellent	~5.5	●																●			●			●		
		A...SZQB-AE	Excellent		●																		●		●		●		F80
	A...SZLB-AE	Excellent		●																			●		●	●		F80	
Back Boring		A...SDZC-AE	Excellent	~5.5	●									●	●	●		●	●	●		●			●			F57	
		S...SDZC-A	Steel	~4.0	○										●	●	●		●	●	●		●			●			
		E...SDZC-A	Carbide	~7.0	●										●	●	●		●	●	●		●						
		A...SVZB(C)-AE	Excellent	~5.5	●										●	●	●		●		●				●	●		F72	
		S...SVZB(C)-A	Steel	~4.0	○											●	●	●		●		●				●	●		
	A...SZZB-AE	Excellent	~5.5	●																				●		●	●	F80	

Min. Bore Dia. DMIN is indicated by the figure under ● depending on the boring bar size.

Boring Bars (inch)

Application	Boring Bar Type	Shape	Shank Type Max. Overhang Length L/D	Coolant Hole		Insert Type	Min. Bore Dia. DMIN (in)																	Toolholder / Sleeve Ref. Page							
				Yes	No		0.240	0.312	0.394	0.415	0.472	0.480	0.550	0.600	0.630	0.709	0.770	0.787	0.790	0.912	0.984	1.180	1.250		1.260	1.340	1.500	1.570	1.750	2.020	
Boring / Internal Facing	A...SCLC-E		Excellent L/D = ~5.0	●		Positive			●		●				● (0.632)	●			●												● F48
	S...SCLC-E		Excellent L/D = ~5.0		○	Positive	● (0.197)																								
	A...SCLC		Steel L/D = ~3.0	●		Positive				●		●			●																
	S...SCLC		Steel L/D = ~3.0		○	Positive			●		●				●				● (0.788)					● (1.338)							
	C...SCLC		Carbide L/D = ~7.0		○	Positive	● (0.197)			●	●				●				● (0.788)			●									
	A...DCLN		Steel L/D = ~3.0	●		Negative																●			●		●				● F91
	S...PCLN		Steel L/D = ~3.0		○	Negative																			● (1.550)			●			● F92
	A...PCLN		Steel L/D = ~3.0	●		Negative											●				● (1.060)		●								
	A...DWLN		Steel L/D = ~3.0	●		Negative																	●			●		●			● F101
Boring	S...STUP(B)		Steel L/D = ~3.0		○	Positive		●	● (0.392)		●				●		●		●												● F65
	S...SWUB		Steel L/D = ~3.0		○	Negative	●	●																							● F78
	C...SWUB		Carbide L/D = ~7.0		○	Positive	●	●																							● F79
	S...CTUP		Steel L/D = ~3.0		○	Positive									● (0.625)						● (1.060)			● (1.350)							● F85
Copying	S...SDUC		Steel L/D = ~3.0		○	Positive							● (0.564)				● (0.750)			● (0.980)	● (1.060)										● F58
	S...STWP		Steel L/D = ~3.0		○	Positive				● (0.476)					●			● (0.786)		● (0.970)	● (1.060)	● (1.240)									● F66
	S...SVJB-E		Excellent L/D = ~5.0		○	Positive																●					●				● F74
	S...SVJB		Steel L/D = ~3.0		○	Positive									●			● (0.780)		●											
	S...SVUC(B)-E		Excellent L/D = ~5.0		○	Positive									●					● (0.980)	● (0.980)			●		●					● F75
	A...PDUN		Steel L/D = ~3.0	●		Negative														● (1.060)	● (1.060)		●				●				● F93
	A...DDUN		Steel L/D = ~3.0	●		Negative																				●		●			● F94
Back Boring	S...SDZC		Steel L/D = ~3.0		○	Positive							●		●			●		●											● F59
	S...SVZC(B)-E		Excellent L/D = ~5.0		○	Positive									●				●		● (0.980)				●		●				● F75

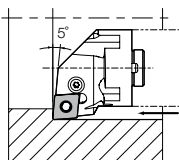
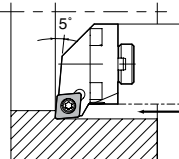
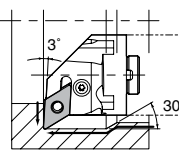
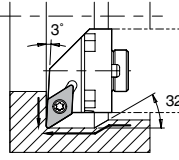
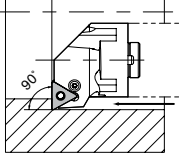
Min. Bore Dia. DMIN is indicated by the figure under ● depending on the boring bar size.

Boring Bars (metric)

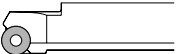

Application	Boring Bar Type	Overview Shape	Shank Type Max. Overhang Length L/D	Coolant Hole		Insert Type	Min. Bore Dia. DMIN (mm)																	Toolholder/ Sleeve Ref. Page
				Yes	No		5	6	7	8	10	12	14	16	18	20	25	30	32	40	50	63		
Boring / Internal Facing	A...DCLN12		Steel L/D = ~3.0	●		Negative													●	●	●		➔ F91	
	S...PCLN○○		Steel L/D = ~3.0		○	Negative												●	27	●	●	●	➔ F92	
	A...PCLN09		Steel L/D = ~3.0	●		Negative												●	27	●				
	A...DWLN08		Steel L/D = ~3.0	●		Negative														●	●	●	➔ F101	
	S...PWLN○○		Steel L/D = ~3.0		○	Negative												●	27	●	●	●	➔ F100 ➔ F102	
	A...PWLN06		Steel L/D = ~3.0	●		Negative												●	27	●			➔ F100	
	S...WWLN08-E		Excellent L/D = ~5.0		○	Negative												●	28	●	34	●	➔ F102	
	C...STXP(B)		Carbide L/D = ~7.0		○	Positive			●	7.5	●	9	●	11										➔ F67
	C...SJLC		Carbide L/D = ~7.0		○	Positive	●	5.5																➔ F60
Copying	S...STWP-E		Excellent L/D = ~5.0		○	Positive					●			●			●	●		●			➔ F66	
	S...STWP		Steel L/D = ~3.0		○	Positive					●			●			●	●						
	A...DDUN15		Steel L/D = ~3.0	●		Negative															●	●	●	➔ F94
	S...PDUN11		Steel L/D = ~3.0		○	Negative												●	27		●	●		➔ F93
	A...PDUN11		Steel L/D = ~3.0	●		Negative												●	27		●	●		
	S...PDUN15		Steel L/D = ~3.0		○	Negative														●	44	54	●	➔ F95
	S...PDQN15		Steel L/D = ~3.0		○	Negative														●	44	54	●	➔ F95
Back Boring	C...STZB		Carbide L/D = ~7.0		○	Positive				●	8.5													➔ F67
	C...SJZC		Carbide L/D = ~7.0		○	Positive	●	6.5																➔ F60
	S...PDZN15		Steel L/D = ~3.0		○	Negative														●	44	54	●	➔ F95
Boring	S...CTUP		Steel L/D = ~3.0		○	Positive							●			●	27		●	34	43	●	➔ F85	
	A...DTFN○○		Steel L/D = ~3.0	●		Negative														●	●	●		➔ F98
	S...PTUN○○		Steel L/D = ~3.0		○	Negative											●	●	●	●	●	●		➔ F99
	A...PTUN11		Steel L/D = ~3.0	●		Negative											●	●		●				
	A...DSKN12		Steel L/D = ~3.0	●		Negative														●	●	●		➔ F97
	S...SSKP		Steel L/D = ~3.0		○	Positive												●	●					➔ F84
	S...CSKP		Steel L/D = ~3.0		○	Positive												●	27		●	34	43	

Min. Bore Dia. DMIN is indicated by the figure under ● depending on the boring size.

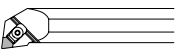
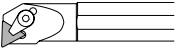
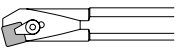
AD Bars Interchangeable Head Boring Bars with Anti-vibration Dampener System

Application	Boring Bar Type	Shape	Shank Type Max. Overhang Length L/D	Coolant Hole		Insert Type	Min. Bore Dia. DMIN (mm)																Toolholder / Sleeve Ref. Page
				Yes	No		7	8	10	12	14	16	18	20	25	30	32	40	43	50	63		
Boring / Internal Facing	HA...PCLN12		Anti-Vibration Dampener L/D = ~5.5	●		Negative													●		●	●	➔ F87
	HA...SCLC09		Anti-Vibration Dampener L/D = ~6.0	●		Positive													●				➔ F89
Copying	HA...PDUN15		Anti-Vibration Dampener L/D = ~6.0	●		Negative														●	●	●	➔ F88
	HA...SDUC11		Anti-Vibration Dampener L/D = ~6.0	●		Positive													●				➔ F89
Boring	HA...PTFN16		Anti-Vibration Dampener L/D = ~6.0	●		Negative													●		●	●	➔ F88

Toolholders for Bearing Machining (Square Shank)

Application	Boring Bar Type	Shape	Min. Bore Dia. DMIN (mm)						Toolholder / Sleeve Ref. Page
			20	25	30	32	40	50	
Boring	SRCP-B		●			●			➔ F86
Round-Chamfering	CBSN-B		●						➔ F86

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

Application	Boring Bar Type	Shape	Min. Bore Dia. DMIN (mm)								Toolholder / Sleeve Ref. Page
			16	18	20	25	30	32	40	50	
Boring / Internal Facing	S...CELN									●	➔ F103
Boring	S...CTUP		●		●	27		●	●	●	➔ F85
	S...CSKP				●	27		●	●		➔ F84

Min. Bore Dia. DMIN is indicated by the figure under ● depending on the boring size.

MBS (Micro Internal Diameter Profile Boring)



• MBS Bars are Right-hand

MBS Standard Length (Inch)

Uncoated		AlTiN Coating		Dimensions (in)			
Part Number	Stock	Part Number	Stock	DC ^{+0.0000} _{-0.0025}	DCON	LF	CDX
MBS-0150.030	●	MBS-0150L030	●	0.0150	1/8	1 1/2	0.030
MBS-0200.030	●	MBS-0200L030	●	0.0200	1/8	1 1/2	0.030
MBS-0250.050	●	MBS-0250L050	●	0.0250	1/8	1 1/2	0.050
MBS-0300.050	●	MBS-0300L050	●	0.0300	1/8	1 1/2	0.050
MBS-0350.050	●	MBS-0350L050	●	0.0350	1/8	1 1/2	0.050
MBS-0400.050	●	MBS-0400L050	●	0.0400	1/8	1 1/2	0.050
MBS-0450.100	●	MBS-0450L100	●	0.0450	1/8	1 1/2	0.100
MBS-0500.100	●	MBS-0500L100	●	0.0500	1/8	1 1/2	0.100
MBS-0550.100	●	MBS-0550L100	●	0.0550	1/8	1 1/2	0.100
MBS-0600.100	●	MBS-0600L100	●	0.0600	1/8	1 1/2	0.100
MBS-0800.250	●	MBS-0800L250	●	0.0800	1/8	1 1/2	0.250
MBS-1000.375	●	MBS-1000L375	●	0.1000	1/8	1 1/2	0.375
MBS-1100.500	●	MBS-1100L500	●	0.1100	1/8	1 1/2	0.500
MBS-1200.600	●	MBS-1200L600	●	0.1200	3/16	2	0.600
MBS-1400.700	●	MBS-1400L700	●	0.1400	3/16	2	0.700
MBS-1600.800	●	MBS-1600L800	●	0.1600	3/16	2 1/2	0.800
MBS-1800.900	●	MBS-1800L900	●	0.1800	1/4	2 1/2	0.900
MBS-2000.1000	●	MBS-2000L1000	●	0.2000	1/4	3	1.000
MBS-2200.1250	●	MBS-2200L1250	●	0.2200	1/4	3	1.250
MBS-2400.1500	●	MBS-2400L1500	●	0.2400	1/4	3	1.500

MBS Standard Length (Metric)

Uncoated		AlTiN Coating		Dimensions (mm)			
Part Number	Stock	Part Number	Stock	DC ^{+0.00} _{-0.06}	DCON	LF	CDX
MBS-0157.039	●	MBS-0157L039	●	0.40	3.00	38.00	1.00
MBS-0197.039	●	MBS-0197L039	●	0.50	3.00	38.00	1.00
MBS-0236.051	●	MBS-0236L051	●	0.60	3.00	38.00	1.30
MBS-0276.051	●	MBS-0276L051	●	0.70	3.00	38.00	1.30
MBS-0315.051	●	MBS-0315L051	●	0.80	3.00	38.00	1.30
MBS-0354.051	●	MBS-0354L051	●	0.90	3.00	38.00	1.30
MBS-0394.098	●	MBS-0394L098	●	1.00	3.00	38.00	2.50
MBS-0433.098	●	MBS-0433L098	●	1.10	3.00	38.00	2.50
MBS-0472.098	●	MBS-0472L098	●	1.20	3.00	38.00	2.50
MBS-0512.098	●	MBS-0512L098	●	1.30	3.00	38.00	2.50
MBS-0591.236	●	MBS-0591L236	●	1.50	3.00	38.00	6.00
MBS-0669.276	●	MBS-0669L276	●	1.70	3.00	38.00	7.00
MBS-0787.315	●	MBS-0787L315	●	2.00	3.00	38.00	8.00
MBS-1181.591	●	MBS-1181L591	●	3.00	5.00	50.00	15.00
MBS-1378.787	●	MBS-1378L787	●	3.50	5.00	50.00	20.00
MBS-1575.866	●	MBS-1575L866	●	4.00	5.00	50.00	22.00
MBS-1772.906	●	MBS-1772L906	●	4.50	8.00	65.00	23.00
MBS-1969.984	●	MBS-1969L984	●	5.00	8.00	65.00	25.00
MBS-2165.1063	●	MBS-2165L1063	●	5.50	8.00	65.00	27.00
MBS-2362.1142	●	MBS-2362L1142	●	6.00	8.00	65.00	29.00

Series MBS Workpiece Materials

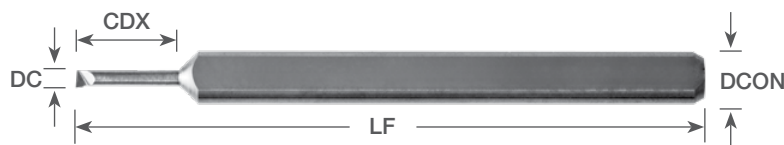
Coating	<div>P</div> <div>Steel</div> <div>~30HRC</div>	<div>P</div> <div>Steel</div> <div>30~40HRC</div>	<div>H</div> <div>Hardened Steel</div> <div>~55HRC</div>	<div>H</div> <div>Hardened Steel</div> <div>~68HRC</div>	<div>M</div> <div>Stainless Steel</div>	<div>K</div> <div>Cast Iron</div>	<div>N</div> <div>Aluminum</div>	<div>N</div> <div>Graphite</div>	<div>N</div> <div>Copper Alloy</div>	<div>N</div> <div>Brass</div>	<div>N</div> <div>CFRP</div>	<div>N</div> <div>Plastic</div>	<div>N</div> <div>Thermoset Plastic</div>	<div>N</div> <div>High Density Plastic</div>	<div>S</div> <div>Nickel / Cobalt</div>	<div>S</div> <div>Titanium Alloy</div>
AlTiN	★	★	★	☆	☆	☆			☆						☆	☆
Uncoated	★	★	★	☆	☆		☆		☆	☆				☆		

★ : Priority ☆ : Applicable Materials

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MBE (Micro Internal Diameter Profile Boring)



• MBE Bars are Right-hand

MBE Extended Reach (Inch)

Uncoated		AlTiN Coating		Dimensions (in)			
Part Number	Stock	Part Number	Stock	DC $^{+0.0000}_{-0.0025}$	DCON	LF	CDX
MBE-0150.075	●	MBE-0150L075	●	0.0150	1/8	1 1/2	0.075
MBE-0200.075	●	MBE-0200L075	●	0.0200	1/8	1 1/2	0.075
MBE-0250.125	●	MBE-0250L125	●	0.0250	1/8	1 1/2	0.125
MBE-0300.125	●	MBE-0300L125	●	0.0300	1/8	1 1/2	0.125
MBE-0350.125	●	MBE-0350L125	●	0.0350	1/8	1 1/2	0.125
MBE-0400.125	●	MBE-0400L125	●	0.0400	1/8	1 1/2	0.125
MBE-0450.250	●	MBE-0450L250	●	0.0450	1/8	1 1/2	0.250
MBE-0500.250	●	MBE-0500L250	●	0.0500	1/8	1 1/2	0.250
MBE-0550.250	●	MBE-0550L250	●	0.0550	1/8	1 1/2	0.250
MBE-0600.250	●	MBE-0600L250	●	0.0600	1/8	1 1/2	0.250
MBE-0800.500	●	MBE-0800L500	●	0.0800	1/8	1 1/2	0.500
MBE-1000.600	●	MBE-1000L600	●	0.1000	1/8	1 1/2	0.600
MBE-1100.700	●	MBE-1100L700	●	0.1100	1/8	1 1/2	0.700
MBE-1200.850	●	MBE-1200L850	●	0.1200	3/16	2	0.850
MBE-1400.900	●	MBE-1400L900	●	0.1400	3/16	2	0.900
MBE-1600.1100	●	MBE-1600L1100	●	0.1600	3/16	2 1/2	1.100
MBE-1800.1250	●	MBE-1800L1250	●	0.1800	1/4	2 1/2	1.250
MBE-2000.1400	●	MBE-2000L1400	●	0.2000	1/4	3	1.400
MBE-2200.1500	●	MBE-2200L1500	●	0.2200	1/4	3	1.500
MBE-2400.1750	●	MBE-2400L1750	●	0.2400	1/4	3	1.750

MBE Standard Reach (Metric)

Uncoated		AlTiN Coating		Dimensions (mm)			
Part Number	Stock	Part Number	Stock	DC $^{+0.00}_{-0.06}$	DCON	LF	CDX
MBE-0157.079	●	MBE-0157L079	●	0.40	3.00	38.00	2.00
MBE-0197.079	●	MBE-0197L079	●	0.50	3.00	38.00	2.00
MBE-0236.118	●	MBE-0236L118	●	0.60	3.00	38.00	3.00
MBE-0276.118	●	MBE-0276L118	●	0.70	3.00	38.00	3.00
MBE-0315.118	●	MBE-0315L118	●	0.80	3.00	38.00	3.00
MBE-0354.118	●	MBE-0354L118	●	0.90	3.00	38.00	3.00
MBE-0394.197	●	MBE-0394L197	●	1.00	3.00	38.00	5.00
MBE-0433.197	●	MBE-0433L197	●	1.10	3.00	38.00	5.00
MBE-0472.197	●	MBE-0472L197	●	1.20	3.00	38.00	5.00
MBE-0512.197	●	MBE-0512L197	●	1.30	3.00	38.00	5.00
MBE-0591.394	●	MBE-0591L394	●	1.50	3.00	38.00	10.00
MBE-0669.394	●	MBE-0669L394	●	1.70	3.00	38.00	10.00
MBE-0787.394	●	MBE-0787L394	●	2.00	3.00	38.00	10.00
MBE-1181.787	●	MBE-1181L787	●	3.00	5.00	50.00	20.00
MBE-1378.984	●	MBE-1378L984	●	3.50	5.00	50.00	25.00
MBE-1575.1063	●	MBE-1575L1063	●	4.00	5.00	50.00	27.00
MBE-1772.1260	●	MBE-1772L1260	●	4.50	8.00	65.00	32.00
MBE-1969.1260	●	MBE-1969L1260	●	5.00	8.00	65.00	32.00
MBE-2165.1260	●	MBE-2165L1260	●	5.50	8.00	65.00	32.00
MBE-2362.1378	●	MBE-2362L1378	●	6.00	8.00	65.00	35.00

Series MBE Workpiece Materials

Coating	<div>P</div> <div>Steel ~30HRC</div>	<div>P</div> <div>Steel 30~40HRC</div>	<div>H</div> <div>Hardened Steel ~55HRC</div>	<div>H</div> <div>Hardened Steel ~68HRC</div>	<div>M</div> <div>Stainless Steel</div>	<div>K</div> <div>Cast Iron</div>	<div>N</div> <div>Aluminum</div>	<div>N</div> <div>Graphite</div>	<div>N</div> <div>Copper Alloy</div>	<div>N</div> <div>Brass</div>	<div>N</div> <div>CFRP</div>	<div>N</div> <div>Plastic</div>	<div>N</div> <div>Thermoset Plastic</div>	<div>N</div> <div>High Density Plastic</div>	<div>S</div> <div>Nickel / Cobalt</div>	<div>S</div> <div>Titanium Alloy</div>
AlTiN	★	★	★	☆	☆	☆			☆						☆	☆
Uncoated	★	★	★	☆	☆		☆		☆	☆				☆		

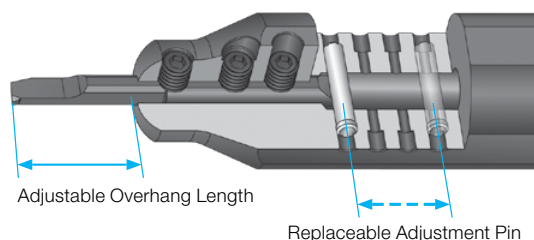
★ : Priority ☆ : Applicable Materials

● : Standard Item △ : Phaseout Item (will be removed from next catalog)

Contact your local Kyocera sales engineer to upgrade old products to new technology

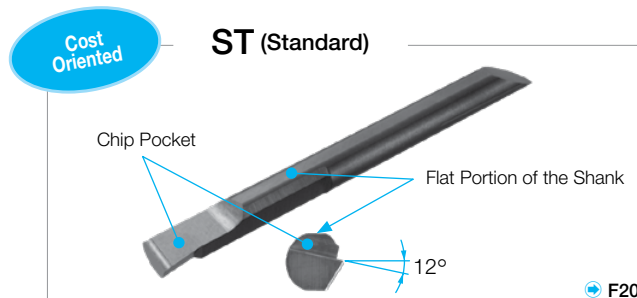
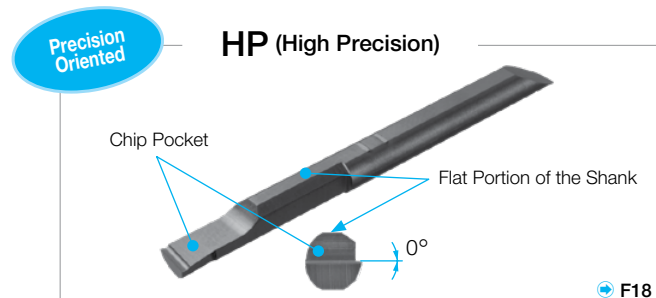
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(Technical Support) 800.823.7284 - Option 2
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Kyocera's Original EZ Adjust Structure



- Easy Adjustment and High Precision
- EZ Bar Minimizes Deviation with High Rigidity Clamping Force
- Wide of Tooling for Various Applications

2 Types of Bars



Insert Setting Image		Insert Tolerance	Offset (F)	Overall length (Z)	Edge Height (Y)	Min. Bore Dia.
		Precision-oriented HP Type (High Precision)	±0.025mm	±0.05mm	+0.05/0mm	Same as Shank Dia.
		Cost-oriented ST Type (Standard)	±0.060mm	±0.10mm	+0.06/0mm	Not same as Shank Dia.

* See "Dimensions" page for details.

"EZ Bar PLUS" Indexable EZ Bar Lineup Expansion



3 Types of Sleeves

EZH-CT



High Precision, with Coolant Hole (Adjustable)

EZH-HP



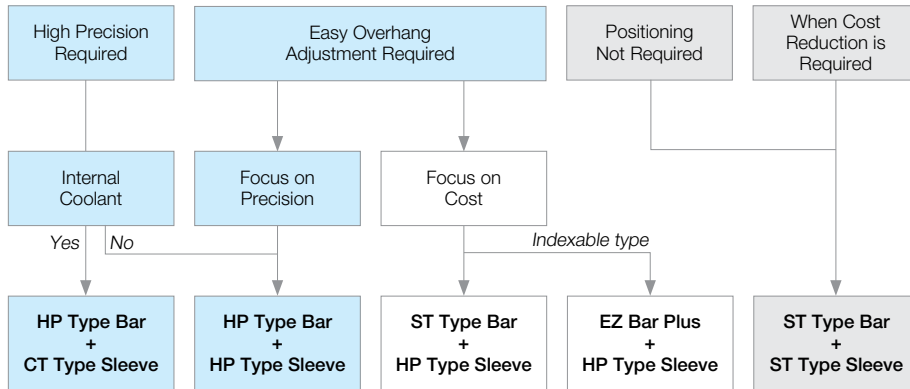
Overhang Length is Adjustable (Adjustable)

EZH-ST



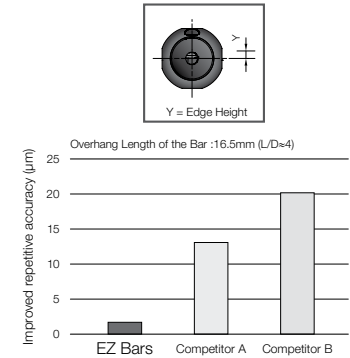
Not-Adjustable

How to Select Bars and Sleeves for Each Application



HP Type Bar + CT/HP Type Sleeve

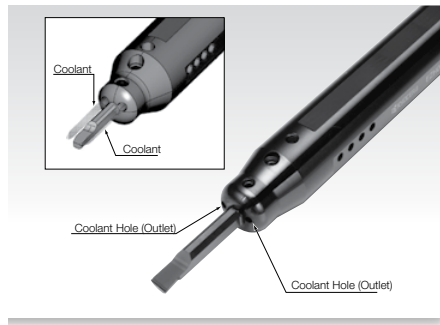
Excellent repeatability and drastic tool change time reduction



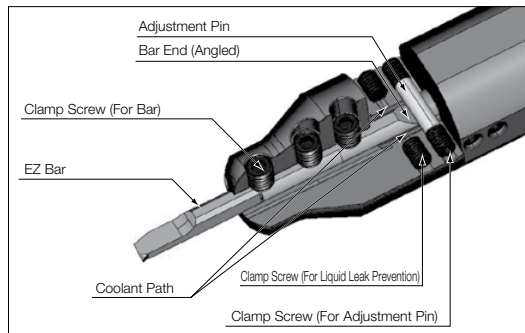
EZH-CT (high precision / with coolant hole) is added to the EZH sleeve lineup

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

EZH-CT Coolant System



EZH-CT Internal Structure



How to Set Bar in Sleeve

How to use adjustment pin and prevent coolant leakage (Fig.1)

- Put the adjustment pin into the hole according to the overhang length and push it into the sleeve using the wrench "LW-1.5".
- Tighten the clamp screw for the adjustment pin "HS3X4P" using the wrench "LW-1.5" from both sides of the sleeve.
- Put the additional clamp screws "HS3X4P" into the un-used adjustment pin holes to prevent coolant leakage using the wrench "LW-1.5" and fix them from both sides of the sleeve.

How to secure the bar (Fig.2)

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

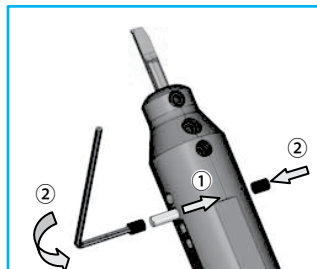


Fig.1 How to use the adjustment pin

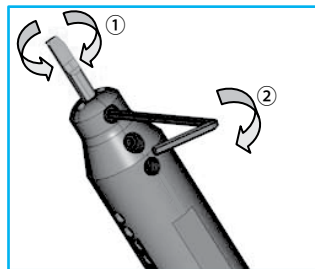


Fig.2 How to secure the bar

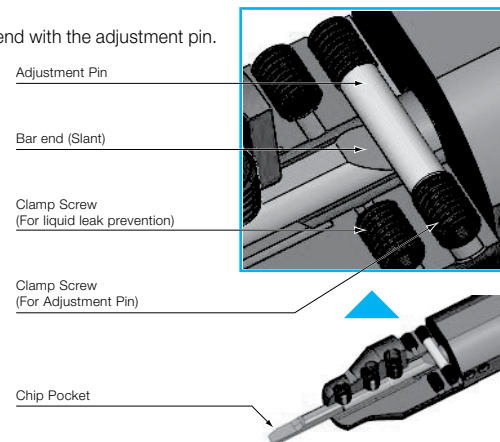
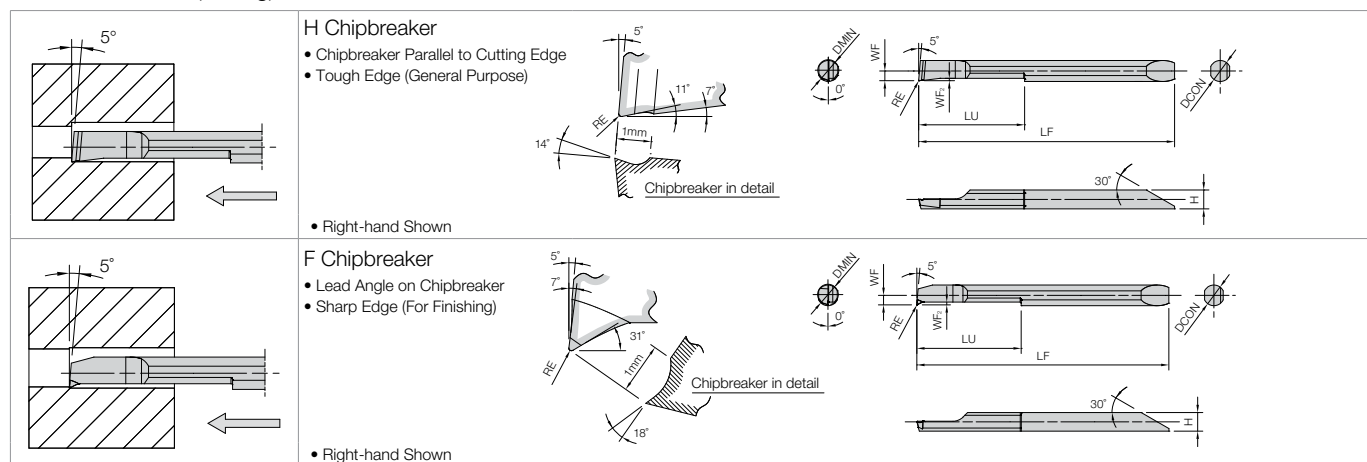


Fig.3 Clamped bar

■ **EZB-HP** (Boring)



- **EZ Bar Dimensions (metric)**

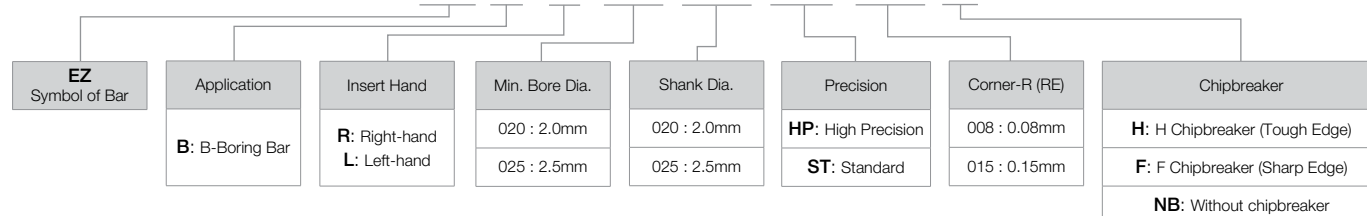
Part Number		Min. Bore Dia.	Dimensions (mm)							Grade						Applicable Sleeve F32~F37
										MEGACOAT NANO PLUS		MEGACOAT		Carbide		
										PR1725		PR1225		GW05		
		DMIN	DCON	H	LF	LU	WF	WF ₂	RE	R	L	R	L	R	L	
EZB%	020020HP-008H	2	2	1.8	32	8	0.85	0.25	0.08 ^{+0.015}	●		●	●	●		EZH020...
	025025HP-008H	2.5	2.5	2.3	35	10.5	1.1	0.25	0.08 ^{+0.015}	●		●	●	●		EZH025...
	025025HP-015H								0.15 ^{±0.020}	●		●				
	030030HP-008H	3	3	2.7	38.9	13	1.35	0.3	0.08 ^{+0.015}	●		●	●	●		EZH030...
	030030HP-015H								0.15 ^{±0.020}	●		●				
	035035HP-008H	3.5	3.5	3.2	41.9	15	1.6	0.4	0.08 ^{+0.015}	●		●	●	●		EZH035...
	035035HP-015H								0.15 ^{±0.020}	●		●				
	040040HP-008H	4	4	3.6	48.8	20	1.85	0.4	0.08 ^{+0.015}	●		●	●	●		EZH040...
	040040HP-015H								0.15 ^{±0.020}	●		●				
	045045HP-008H	4.5	4.5	4.1	51.1	22.5	2.1	0.5	0.08 ^{+0.015}	●		●	●	●		EZH045...
	045045HP-015H								0.15 ^{±0.020}	●		●				
	050050HP-008H	5	5	4.6	58.1	25	2.35	0.5	0.08 ^{+0.015}	●		●	●	●		EZH050...
	050050HP-015H								0.15 ^{±0.020}	●		●				
	060060HP-008H	6	6	5.6	66.1	30	2.85	0.6	0.08 ^{+0.015}	●		●	●	●		EZH060...
	060060HP-015H								0.15 ^{±0.020}	●		●				
	070070HP-008H	7	7	6.3	73.8	35	3.3	0.7	0.08 ^{+0.015}	●		●	●	●		EZH070...
	070070HP-015H								0.15 ^{±0.020}	●		●				
	080080HP-008H	8	8	7.2	84.8	40	3.75	0.8	0.08 ^{+0.015}	●		●	●	●		EZH080...
080080HP-015H	0.15 ^{±0.020}								●		●					
EZBR	020020HP-005F	2	2	1.8	32	8	0.85	0.25	0.05 ^{+0.010}	●		●				EZH020...
	025025HP-005F	2.5	2.5	2.3	35	10.5	1.1	0.3	0.05 ^{+0.010}	●		●				EZH025...
	025025HP-015F								0.15 ^{±0.020}	●						
	030030HP-005F	3	3	2.7	38.9	13	1.35	0.4	0.05 ^{+0.010}	●		●			EZH030...	
	030030HP-015F								0.15 ^{±0.020}	●						
	035035HP-005F	3.5	3.5	3.2	41.9	15	1.6	0.5	0.05 ^{+0.010}	●		●			EZH035...	
	035035HP-015F								0.15 ^{±0.020}	●						
	040040HP-005F	4	4	3.6	48.8	20	1.85	0.5	0.05 ^{+0.010}	●		●			EZH040...	
	040040HP-015F								0.15 ^{±0.020}	●						
	045045HP-005F	4.5	4.5	4.1	51.1	22.5	2.1	0.7	0.05 ^{+0.010}	●		●			EZH045...	
	045045HP-015F								0.15 ^{±0.020}	●						
	050050HP-005F	5	5	4.6	58.1	25	2.35	0.7	0.05 ^{+0.010}	●		●			EZH050...	
	050050HP-015F								0.15 ^{±0.020}	●						
	060060HP-005F	6	6	5.6	66.1	30	2.85	0.9	0.05 ^{+0.010}	●		●			EZH060...	
	060060HP-015F								0.15 ^{±0.020}	●						
	070070HP-005F	7	7	6.3	73.8	35	3.3	1	0.05 ^{+0.010}	●		●			EZH070...	
	070070HP-015F								0.15 ^{±0.020}	●						
	080080HP-005F	8	8	7.2	84.8	40	3.75	1	0.05 ^{+0.010}	●		●			EZH080...	
080080HP-015F	0.15 ^{±0.020}								●							

Tolerance: Offset $\pm 0.025\text{mm}$ (of the reference pin), overall length $\pm 0.05\text{mm}$, edge height $+0.05/0\text{mm}$

Recommended Cutting Conditions ➡ F27-F28

■ EZ Bar Identification System

EZ B R 020 020 HP - 008 H

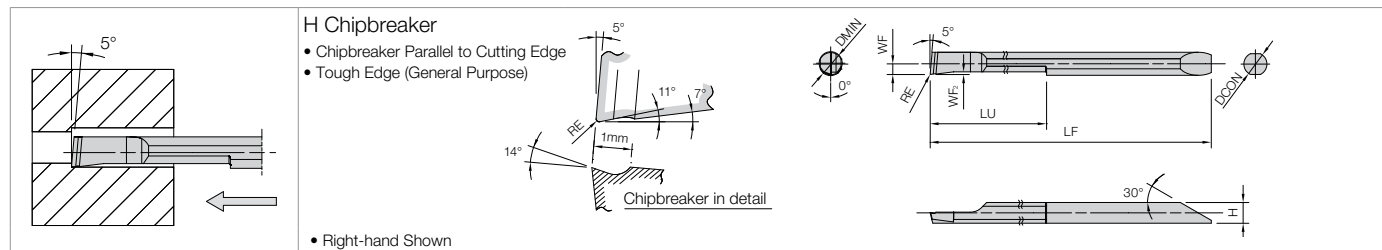


EZ Bars are sold in 1 piece boxes.

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● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

EZB-HP (Boring, Long Type)



EZ Bar Dimensions (metric)

Part Number		Min. Bore Dia.	Dimensions (mm)										Grade	Applicable Sleeve F32-F37	
													MEGACOAT		
			DMIN	DCON	H	LF	LU	*Overhang Length				WF	WF ₂		RE
No.1	No.2	No.3						No.4							
EZBR	020020HP-008H-LT	2	2	1.8	36	12	12.5	8.5	-	-	0.85	0.25	0.08 ±0.015	●	EZH020...
	025025HP-008H-LT	2.5	2.5	2.3	39.5	15	15.5	11.5	-	-	1.1			●	EZH025...
	030030HP-008H-LT	3	3	2.7	47.9	18	22.5	18.5	14.5	-	1.35	0.3		●	EZH030...
	035035HP-008H-LT	3.5	3.5	3.2	51.9	21	*25.5	21.5	17.5	-	1.6	0.4		●	EZH035...
	040040HP-008H-LT	4	4	3.6	60.8	28	*32.5	28.5	24.5	20.5	1.85			●	EZH040...
	050050HP-008H-LT	5	5	4.6	73.1	35	*40.5	35.5	30.5	25.5	2.35	0.5		●	EZH050...
	060060HP-008H-LT	6	6	5.6	83.1	42	*47.5	42.5	37.5	32.5	2.85	0.6		●	EZH060...

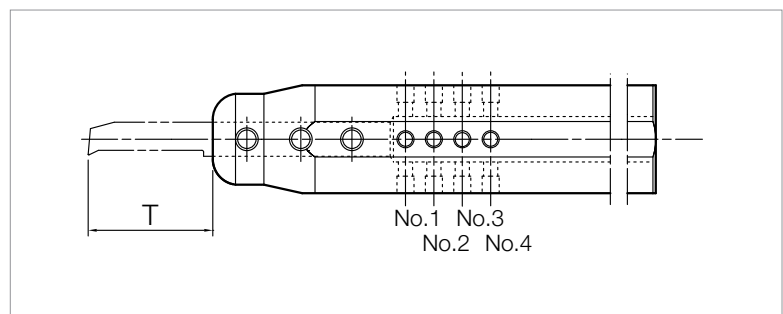
Tolerance: Offset ±0.025mm (of the reference pin), overall length ±0.05mm, edge height +0.05/0mm

Recommended Cutting Conditions ➡ **F27-F28**

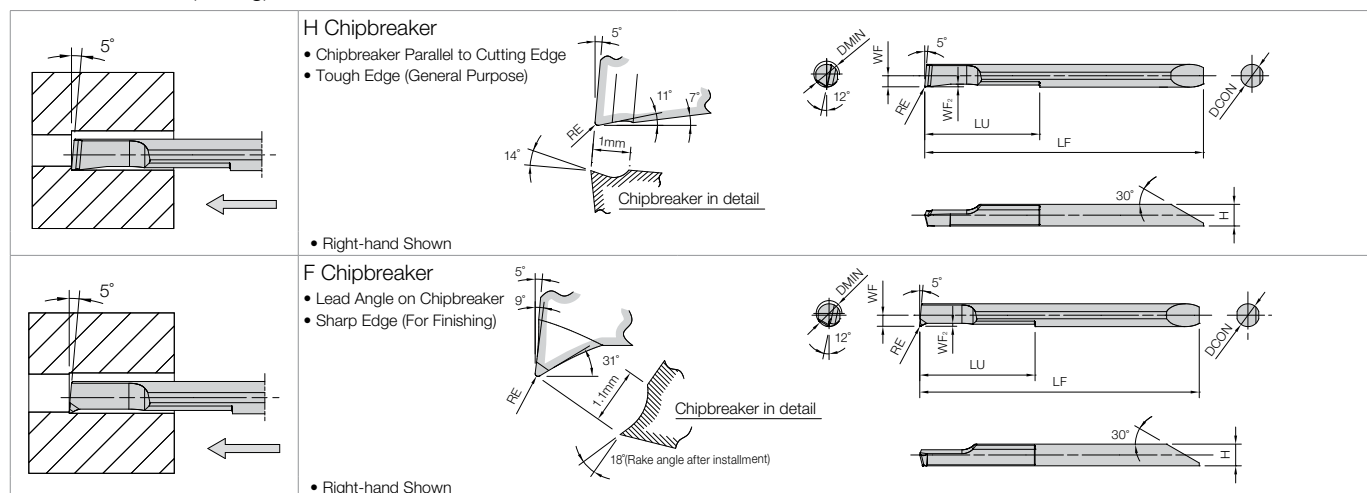
Long Type Overhang Amount T (mm)

Part Number	*Overhang Length (mm)			
	No.1	No.2	No.3	No.4
EZBR 020020HP-008H-LT	12.5	8.5	-	-
025025HP-008H-LT	15.5	11.5	-	-
030030HP-008H-LT	22.5	18.5	14.5	-
035035HP-008H-LT	*25.5	21.5	17.5	-
040040HP-008H-LT	*32.5	28.5	24.5	20.5
050050HP-008H-LT	*40.5	35.5	30.5	25.5
060060HP-008H-LT	*47.5	42.5	37.5	32.5

*To use full overhang, inserts with modified LU dimension are required.



■ **EZB-ST** (Boring)



● EZ Bar Dimensions (metric)

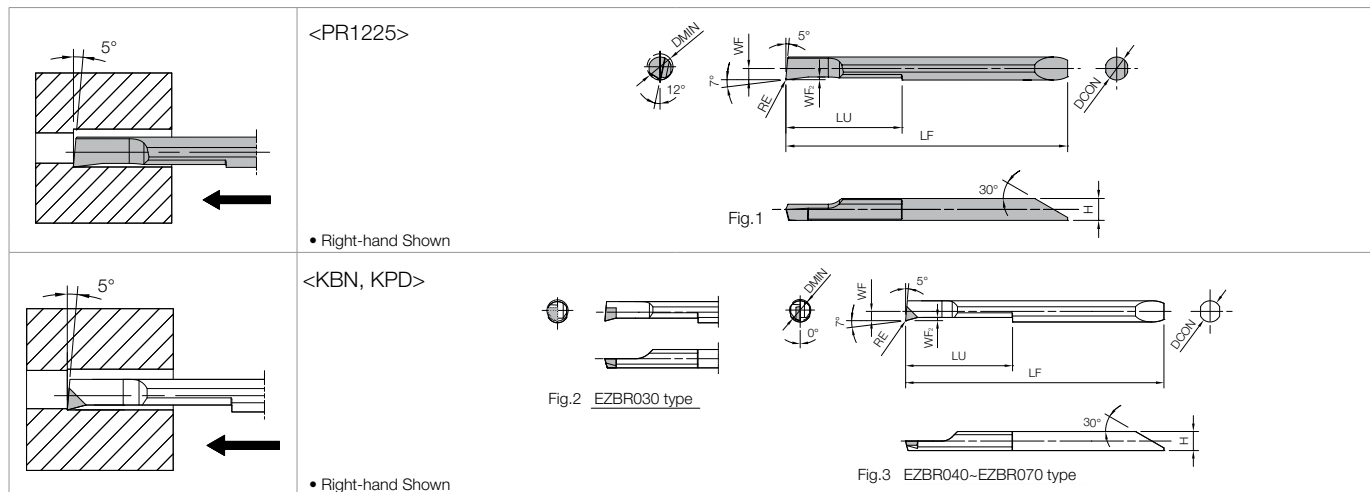
Part Number		Min. Bore Dia.	Dimensions (mm)							NEW Grade		Applicable Sleeve F32~F37
			MEGACOAT NANO PLUS	MEGACOAT								
		DMIN	DCON	H	LF	LU	WF	WF ₂	RE	PR1725	PR1225	
EZBR	020017ST-008H	2.0	1.7	1.5	27.3	7.0	0.79	0.19	0.08 ±0.015	●	●	EZH017...
	025020ST-008H	2.5	2.0	1.82	32.0	8.0	0.94	0.16	0.08 ±0.015	●	●	EZH020...
	025020ST-015H								0.15 ±0.020	●	●	
	030025ST-008H	3.0	2.5	2.3	35.0	10.5	1.19	0.15	0.08 ±0.015	●	●	EZH025...
	030025ST-015H								0.15 ±0.020	●	●	
	035030ST-008H	3.5	3.0	2.8	39.0	13.0	1.44	0.18	0.08 ±0.015	●	●	EZH030...
	035030ST-015H								0.15 ±0.020	●	●	
	040035ST-008H	4.0	3.5	3.3	42.0	15.0	1.69	0.24	0.08 ±0.015	●	●	EZH035...
	040035ST-015H								0.15 ±0.020	●	●	
	045040ST-008H	4.5	4.0	3.8	49.0	20.0	1.94	0.27	0.08 ±0.015	●	●	EZH040...
	045040ST-015H								0.15 ±0.020	●	●	
	055050ST-008H	5.5	5.0	4.8	58.2	25.0	2.44	0.33	0.08 ±0.015	●	●	EZH050...
	055050ST-015H								0.15 ±0.020	●	●	
	065060ST-008H	6.5	6.0	5.8	66.2	30.0	2.94	0.38	0.08 ±0.015	●	●	EZH060...
	065060ST-015H								0.15 ±0.020	●	●	
	075070ST-008H	7.5	7.0	6.8	74.2	35.0	3.44	0.44	0.08 ±0.015	●	●	EZH070...
	075070ST-015H								0.15 ±0.020	●	●	
EZBR	020017ST-005F	2.0	1.7	1.5	27.3	7.0	0.79	0.20	0.05 ±0.010	●	●	EZH017...
	025020ST-005F	2.5	2.0	1.82	32.0	8.0	0.94	0.16	0.05 ±0.010	●	●	EZH020...
	025020ST-015F								0.15 ±0.020	●	●	
	030025ST-005F	3.0	2.5	2.3	35.0	10.5	1.19	0.20	0.05 ±0.010	●	●	EZH025...
	030025ST-015F								0.15 ±0.020	●	●	
	035030ST-005F	3.5	3.0	2.8	39.0	13.0	1.44	0.26	0.05 ±0.010	●	●	EZH030...
	035030ST-015F								0.15 ±0.020	●	●	
	040035ST-005F	4.0	3.5	3.3	42.0	15.0	1.69	0.33	0.05 ±0.010	●	●	EZH035...
	040035ST-015F								0.15 ±0.020	●	●	
	045040ST-005F	4.5	4.0	3.8	49.0	20.0	1.94	0.31	0.05 ±0.010	●	●	EZH040...
	045040ST-015F								0.15 ±0.020	●	●	
	055050ST-005F	5.5	5.0	4.8	58.2	25.0	2.44	0.45	0.05 ±0.010	●	●	EZH050...
	055050ST-015F								0.15 ±0.020	●	●	
	065060ST-005F	6.5	6.0	5.8	66.2	30.0	2.94	0.59	0.05 ±0.010	●	●	EZH060...
	065060ST-015F								0.15 ±0.020	●	●	
	075070ST-005F	7.5	7.0	6.8	74.2	35.0	3.44	0.65	0.05 ±0.010	●	●	EZH070...
	075070ST-015F								0.15 ±0.020	●	●	

Tolerance: Offset $\pm 0.06\text{mm}$ (of the reference pin), overall length $\pm 0.1\text{mm}$, edge height $+0.06/0\text{mm}$

Recommended Cutting Conditions ➡ F27-F28

EZ Bars are sold in 1 piece boxes.

EZB-NB (Boring)



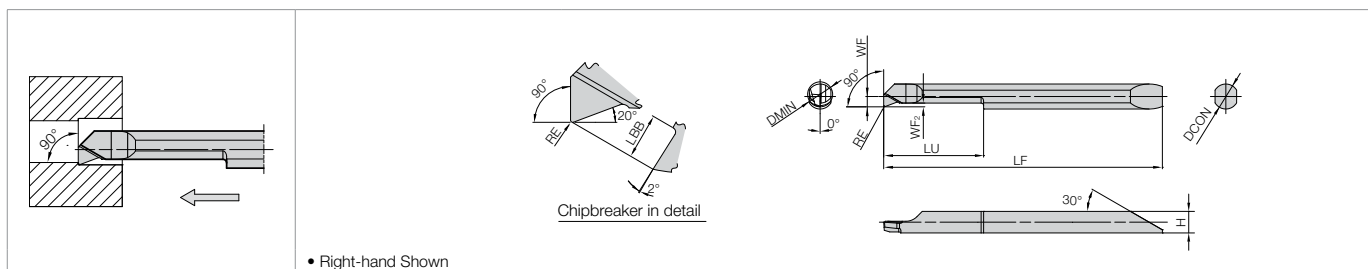
EZ Bar Dimensions (metric)

Part Number	Min. Bore Dia.	Dimensions (mm)							Drawing	Grade				Applicable Sleeve ➡ F32-F37
		DMIN	DCON	H	LF	LU	WF	WF ₂		RE	MEGA COAT	Carbide	CBN	
	PR1225										GW05	KBN05M	KPD001	
EZBR 020017-005NB 025020-005NB 030025-005NB 035030-005NB 040035-005NB 045040-005NB 055050-005NB 065060-005NB 075070-005NB	2.0	1.7	1.50	27.3	7.0	0.79	0.20	±0.015 0.050	Fig.1	●	●			EZH017...
	2.5	2.0	1.82	32.0	8.0	0.94	0.16			●	●			EZH020...
	3.0	2.5	2.30	35.0	10.5	1.19	0.16			●	●			EZH025...
	3.5	3.0	2.80	39.0	13.0	1.44	0.19			●	●			EZH030...
	4.0	3.5	3.30	42.0	15.0	1.69	0.25			●	●			EZH035...
	4.5	4.0	3.80	49.0	20.0	1.94	0.28			●	●			EZH040...
	5.5	5.0	4.80	58.2	25.0	2.44	0.33			●	●			EZH050...
	6.5	6.0	5.80	66.2	30.0	2.94	0.39			●	●			EZH060...
	7.5	7.0	6.80	74.2	35.0	3.44	0.45			●	●			EZH070...
EZBR 030030-003NB 040040-003NB 050050-003NB 060060-003NB 070070-003NB	3.0	3.0	2.60	38.8	13.0	1.25	0.30	±0.015 0.035	Fig.2			●		EZH030...
	4.0	4.0	3.60	48.8	20.0	1.75	0.50		Fig.3			●		EZH040...
	5.0	5.0	4.60	58.1	25.0	2.25	0.50					●		EZH050...
	6.0	6.0	5.60	66.1	30.0	2.75	0.50					●		EZH060...
	7.0	7.0	6.60	74.1	35.0	3.25	0.50					●		EZH070...
EZBR 040040-003NB 050050-003NB 060060-003NB 070070-003NB	4.0	4.0	3.60	48.8	20.0	1.75	0.50	±0.015 0.035	Fig.3				●	EZH040...
	5.0	5.0	4.60	58.1	25.0	2.25	0.50						●	EZH050...
	6.0	6.0	5.60	66.1	30.0	2.75	0.50						●	EZH060...
	7.0	7.0	6.60	74.1	35.0	3.25	0.50						●	EZH070...

Edge Preparation

Grade	Edge Preparation	Notes
PR1225	Sharp Edge	-
KBN05M	T00315	0.003" × 15° Chamfered Cutting Edge
KPD001	Sharp Edge	-

Recommended Cutting Conditions F27-F28

EZBF (90° Lead Boring) **NEW**

EZ Bar Dimensions (metric)

Part Number	Min. Bore Dia.	Dimensions (mm)								Grade	Applicable Sleeve F32-F37
		DMIN	DCON	H	LF	LU	WF	WF2	LBB	RE	
EZBFR 030030-008	3	3	2.5	37.7	12	1.2	0.45	1.5	0.08 \pm 0.015	●	EZH030...
040040-008	4	4	3.45	44.6	16	1.65	0.55	2.0	0.08 \pm 0.015	●	EZH040...
050050-015	5	5	4.3	52.7	20	2.15	0.7	2.4	0.15 \pm 0.02	●	EZH050...
060060-015	6	6	5.15	59.6	24	2.55	0.85	2.8	0.15 \pm 0.02	●	EZH060...

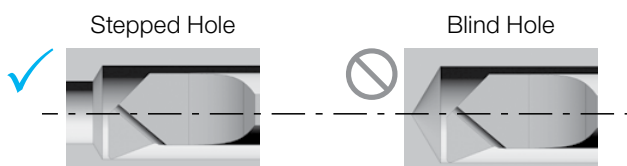
Tolerance: Offset \pm 0.05mm (of the reference pin), overall length \pm 0.05mm, edge height \pm 0.05/0mm

Recommended Cutting Conditions

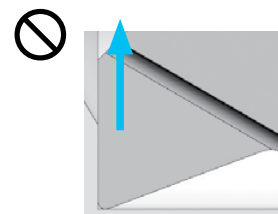
Workpiece Material	Insert Grade (Vc : sfm)	EZBFR030		EZBFR040		EZBFR050/060		Notes
	MEGACOAT	Depth of Cut: D.O.C. (inch), Feed: f (ipr)						
	PR1225	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	100~330	~0.0079	~0.0020	~0.0118	~0.0020	~0.0197	~0.0020	Wet
Stainless Steel	100~260	~0.0079	~0.0020	~0.0118	~0.0020	~0.0197	~0.0020	

EZBF Machining Notes

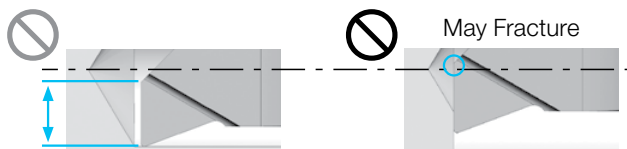
1. Machining into blind holes is not recommended



3. Up facing is not recommended



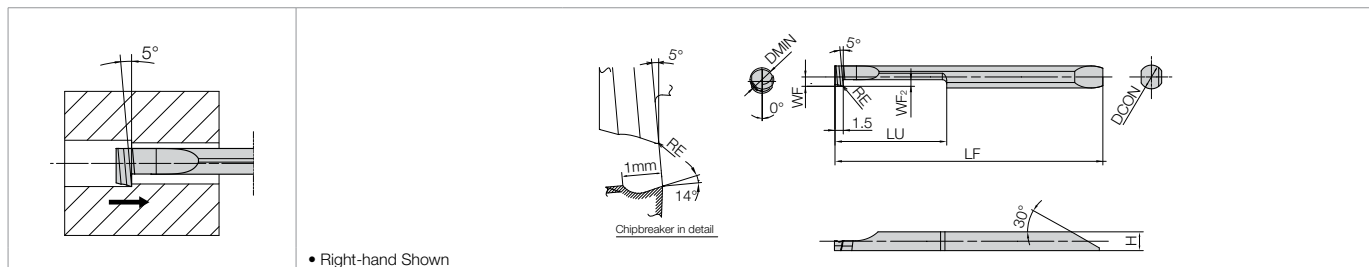
2. If front cutting edge exceeds beyond workpiece center line, fracturing may occur



For Min Bore Diameter: \varnothing 4mm, Front cutting edge length: 1.9mm

EZ Bars are sold in 1 piece boxes.

EZBT (Back Boring) NEW



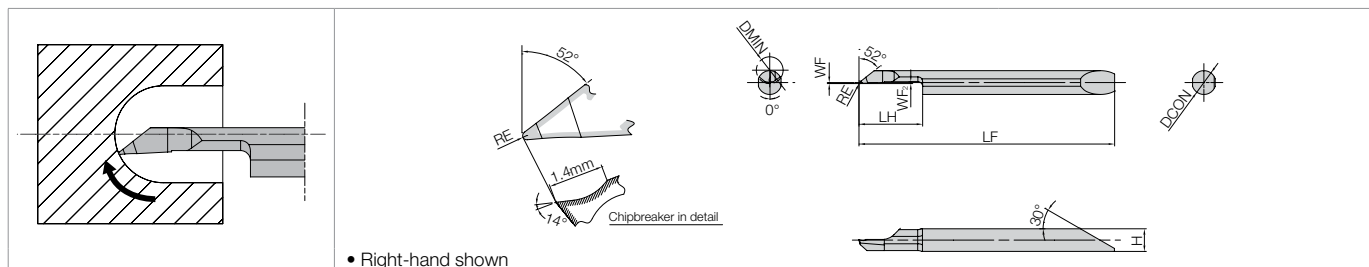
EZ Bar Dimensions (metric)

Part Number	Min. Bore Dia.	Dimensions (mm)							Grade		Applicable Sleeve F32~F37
									MEGACOAT	Carbide	
		DMIN	DCON	H	LF	LU	WF	WF2	RE	PR1225	GW05
EZBTR 040040-005	4	4	3.45	48.7	20	1.7	1.2	0.05±0.02	●	●	EZH040...
050050-005	5	5	4.3	58.7	25	2.15	1.5		●	●	EZH050...

Recommended Cutting Conditions

Workpiece Material	Insert Grade (Vc : sfm)		EZBTR040		EZBTR050		Notes
	MEGACOAT	Carbide	Depth of Cut: D.O.C. (inch), Feed: f (ipr)				
	PR1225	GW05	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	100~330	-	~0.018	~0.003	~0.020	~0.004	Wet
Stainless Steel	100~260	-	~0.018	~0.002	~0.020	~0.003	
Non-ferrous Material	-	100~330	~0.018	~0.004	~0.020	~0.006	

EZVB (Boring / Internal Facing / Internal Profiling)



Toolholder Dimensions

Part Number	Min. Bore Dia.	Dimensions (mm)							Grade		Applicable Sleeve F32~F37
									MEGACOAT	Carbide	
		DMIN	DCON	H	LF	LH	WF	WF2	RE	PR1225	
EZVBR 035030-010	3.5	3.0	2.8	38.0	8.0	0.17	0.22	0.1 ±0.015	●	●	EZH030...
045040-010	4.5	4.0	3.8	43.0	10.0	0.17	0.26	0.1 ±0.015	●	●	EZH040...
055050-010	5.5	5.0	4.8	50.2	12.0	0.17	0.29	0.1 ±0.015	●	●	EZH050...
065060-010	6.5	6.0	5.8	55.2	14.0	0.17	0.32	0.1 ±0.015	●	●	EZH060...

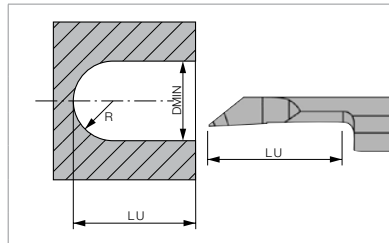
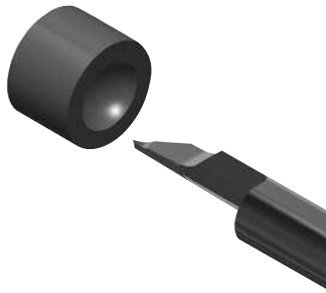
Recommended Cutting Conditions

Workpiece Material	Insert Grade (Vc : sfm)	EZVBR035		EZVBR045		EZVBR055/065		Notes
	MEGACOAT	Depth of Cut: D.O.C. (inch), Feed: f (ipr)						
	PR1225	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	100~330	~0.0020	~0.0016	~0.0028	~0.0028	~0.0039	~0.0028	Wet
Stainless Steel	100~260	~0.0012	~0.0012	~0.0020	~0.0020	~0.0028	~0.0020	

EZ Bars are sold in 1 piece boxes.

EZVB Application (Internal Spherical Machining, Internal Facing, Internal Profiling)

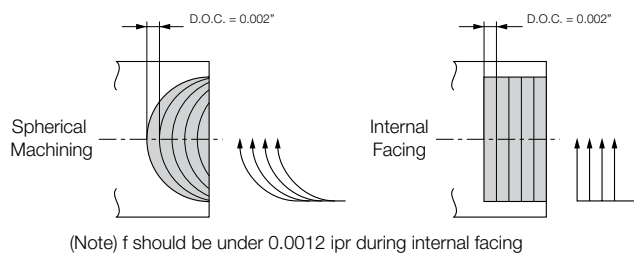
1. Application Range



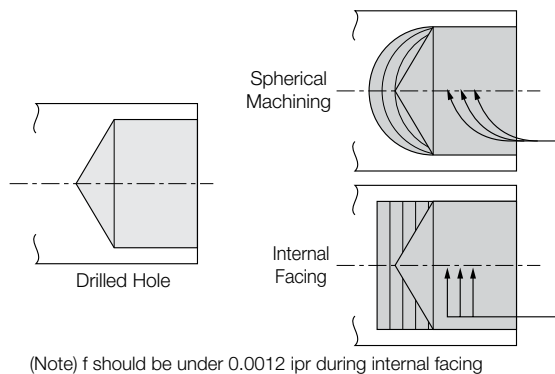
Part Number	Min. Bore Dia.	R	LU
	DMIN	mm	mm
EZVBR 035030-010	3.5	1.75	8.0
045040-010	4.5	2.25	10.0
055050-010	5.5	2.75	12.0
065060-010	6.5	3.25	14.0

2. Application

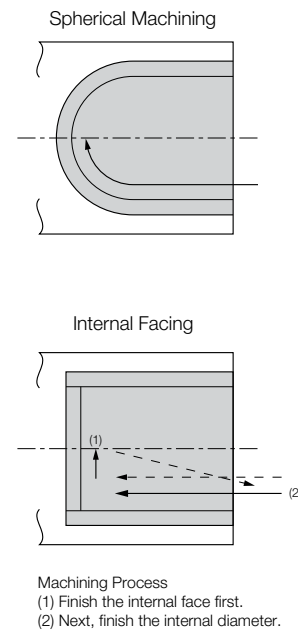
Without Existing Hole



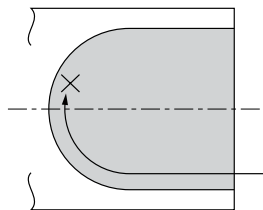
With Pre-Drilled Hole



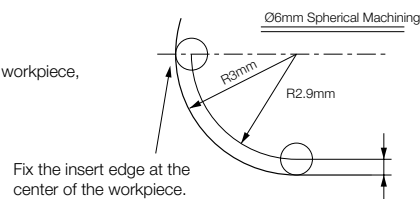
Finishing



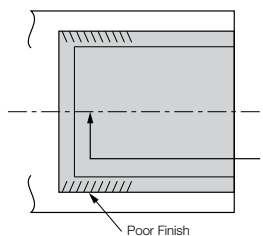
3. Caution



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

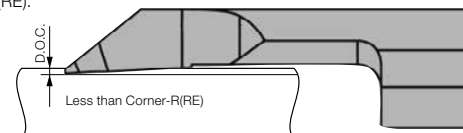


Adjust the machining program to radius minus the value of Corner-R(RE).

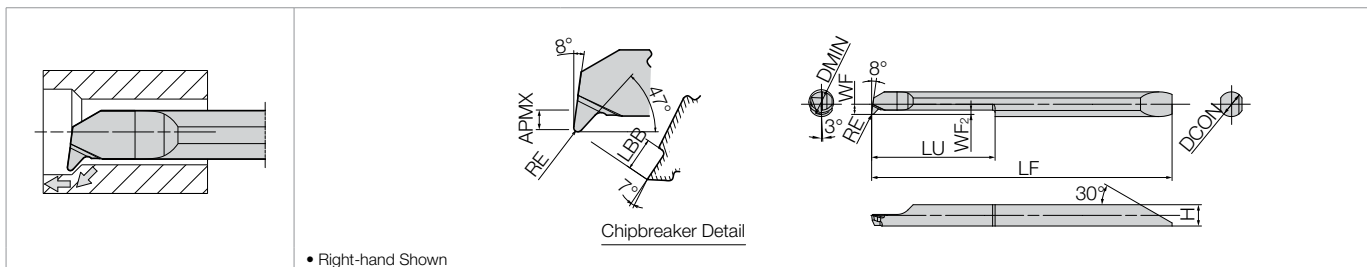


This type of machining is possible, but the chips might scratch the surface.

For internal profiling, ap should be less than the value of Corner-R(RE).



[Burs may occur, if D.O.C. is bigger than Corner-R(RE)]

EZBP (Internal Profiling) **NEW**

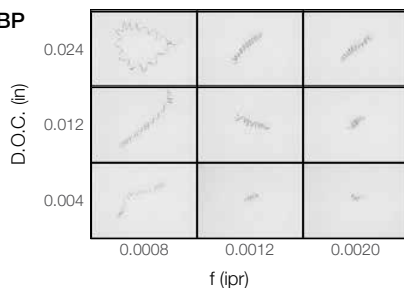
EZ Bar Dimensions (metric)

Part Number	Min. Bore Dia.	Dimensions (mm)									Grade	Applicable Sleeve 🔵 F32~F37
											MEGACOAT	
		DMIN	DCON	H	LF	LU	WF	WF ₂	LBB	RE	APMX	
EZBPR 020020-005-08	2	2	1.65	31.8	8	0.55	0.35	1.0	0.05 ±0.01	0.3	●	EZH020...
020020-005-10				33.8	10						●	
020020-005-12				35.8	12						●	
030030-005-12	3	3	2.5	37.7	12	1.05	0.45	1.2	0.05 ±0.01	0.4	●	EZH030...
030030-005-15				40.7	15						●	
040040-015	4	4	3.45	48.7	20	1.65	0.65	1.5	0.15 ±0.02	0.6	●	EZH040...
050050-015	5	5	4.3	57.8	25	2	1.1	2.2	0.15 ±0.02	0.8	●	EZH050...
060060-015	6	6	5.15	65.7	30	2.45	1.35	2.5	0.15 ±0.02	1	●	EZH060...

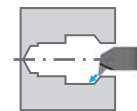
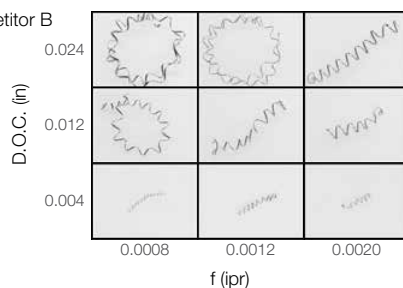
Chip Control Comparison (Internal Evaluation)

Copying

EZBP



Competitor B

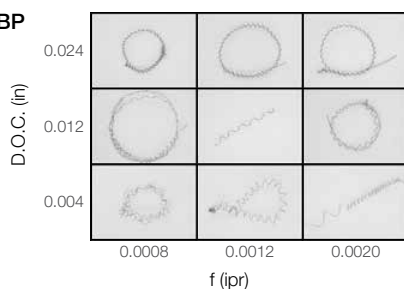


Cutting Conditions : Vc = 260 sfm, Wet
Workpiece : 1045 (Ø14mm)
EZBPR040040-015 PR1225

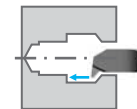
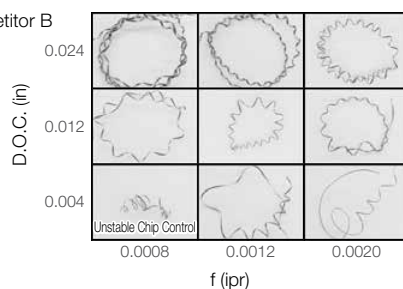
EZBP showed better chip breaking in a wide range of machining applications compared to competitor B

Boring

EZBP



Competitor B



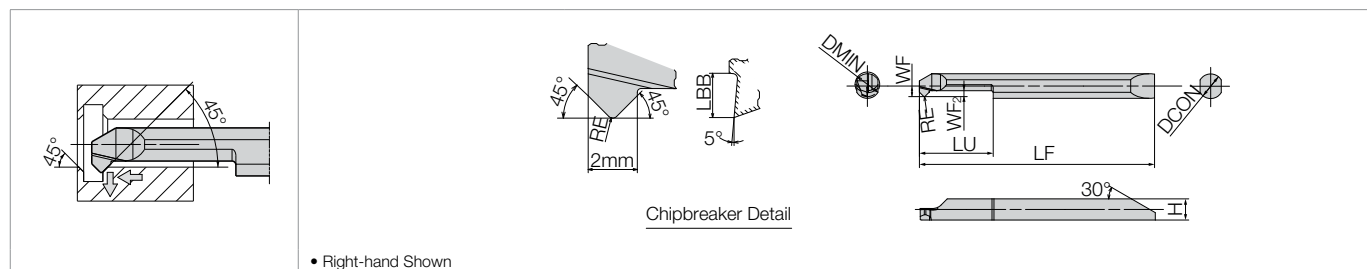
Cutting Conditions : Vc = 260 sfm, Wet
Workpiece : 1045 (Ø14mm)
EZBPR040040-015 PR1225

EZBP showed better chip control than competitor B

Recommended Cutting Conditions

Workpiece Material	Insert Grade (Vc : sfm)	EZBPR020020-005-08/10/12		EZBPR030030-005-12/15		EZBPR040040-015		EZBPR050050-015		EZBPR060060-015		Notes
	MEGACOAT	Depth of Cut: D.O.C. (inch), Feed: f (ipr)										
	PR1225	D.O.C.	f	D.O.C.	f	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	100-330	~0.0118	~0.0020	~0.0157	~0.0020	~0.0236	~0.0020	~0.0315	~0.0020	~0.0394	~0.0020	Wet
Stainless Steel	100-260	~0.0118	~0.0020	~0.0157	~0.0020	~0.0236	~0.0020	~0.0315	~0.0020	~0.0394	~0.0020	

EZ Bars are sold in 1 piece boxes.

EZBC (45° Chamfering) **NEW**

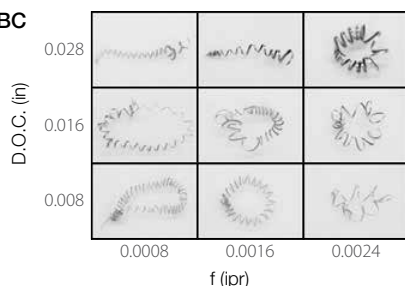
EZ Bar Dimensions (metric)

Part Number	Min. Bore Dia.	Dimensions (mm)								Grade	Applicable Sleeve F32-F37	
										MEGACOAT		
	DMIN	DCON	H	LF	LU	WF	WF ₂	LBB	RE	PR1225		
EZBCR	050050-020-15	5	5	4.3	47.8	15	2.15	1.2	1.8	0.02 ±0.02	●	EZH050...
	050050-020-20				52.8	20					●	
	060060-020-18	6	6	5.15	53.7	18	2.65	1.9	2.5		●	EZH060...
	060060-020-24				59.7	24					●	
	070070-020-21	7	7	6.2	59.7	21	3	2.5	3.1		●	EZH070...
	070070-020-42				80.7	28					●	

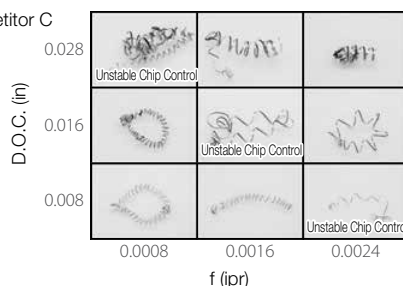
Chip Control Comparison (Internal Evaluation)

Boring

EZBC



Competitor C

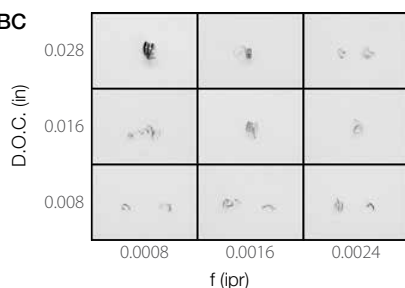


Cutting Conditions : Vc = 260 sfm, Wet
Workpiece : 304 (Ø14mm)
EZBCR050050-020-15 PR1225

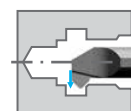
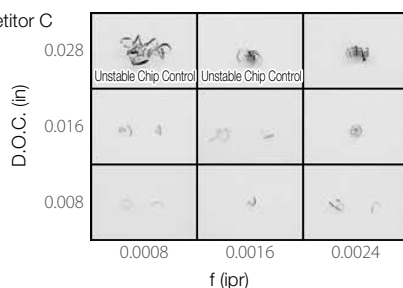
EZBC reduced chip clogging and showed stable chip control

Chamfering

EZBC



Competitor C



Cutting Conditions : Vc = 260 sfm, Wet
Workpiece : 304 (Ø14mm)
EZBCR050050-020-15 PR1225

EZBC showed improved chip evacuation and better chip control at large D.O.C. compared to competitor C

Recommended Cutting Conditions

Workpiece Material	Insert Grade (Vc : sfm)	EZBC050050-020-15/20		EZBC060060-020-18/24		EZBC070070-020-21/42		Notes
	MEGACOAT	Depth of Cut: D.O.C. (inch), Feed: f (ipr)						
	PR1225	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	100-330	~0.0276	~0.0024	~0.0276	~0.0024	~0.0276	~0.0024	Wet
Stainless Steel	100-260	~0.0276	~0.0024	~0.0276	~0.0024	~0.0276	~0.0024	

EZ Bars are sold in 1 piece boxes.

◆ Recommended Cutting Conditions

● H Chipbreaker (EZB-HP...H Type / EZB-ST...H Type)

Workpiece Material	Insert Grade (Vc : sfm)			EZB%020/025		EZB%030/035		EZB%040/045		EZB%050/055/060/065/070/075/080		Notes
	MEGACOAT NANO PLUS	MEGACOAT	Carbide	Depth of Cut: D.O.C. (inch), Feed: f (ipr)								
	PR1725	PR1225	GW05	D.O.C.	f	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	100~330	100~330	-	~0.0118	~0.0012	~0.0157	~0.0016	~0.0177	~0.0028	~0.0197	~0.0039	Wet
Stainless Steel	100~260	100~260	-	~0.0079	~0.0008	~0.0118	~0.0012	~0.0138	~0.0020	~0.0157	~0.0028	
Non-ferrous Material	-	-	~330	~0.0118	~0.0020	~0.0157	~0.0024	~0.0177	~0.0039	~0.0197	~0.0059	

● H Chipbreaker (EZB-HP...H-LT Long Type)

Workpiece Material	Insert Grade (Vc : sfm)	EZBR020/025/030/035		EZBR040/050/060		Notes
	MEGACOAT	Depth of Cut: D.O.C. (inch), Feed: f (ipr)				
	PR1225	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	100~200	~0.0118	~0.0020	~0.0157	~0.0039	Wet
Stainless Steel	70~130	~0.0098	~0.0020	~0.0118	~0.0028	

● F Chipbreaker (EZB-HP...F Type / EZB-ST...F Type)

Workpiece Material	Insert Grade (Vc : sfm)	EZBR020/025		EZBR030/035		EZBR040/045		EZBR050/055/060/ 065/070/075/080		Notes
	MEGACOAT	Depth of Cut: D.O.C. (inch), Feed: f (ipr)								
	PR1225	D.O.C.	f	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	100~330	~0.0079	~0.0012	~0.0079	~0.0020	~0.0118	~0.0028	~0.0118	~0.0028	Wet
Stainless Steel	100~260	~0.0079	~0.0008	~0.0079	~0.0012	~0.0098	~0.0020	~0.0098	~0.0020	

● NB (Without Chipbreaker)

Workpiece Material	Insert Grade (Vc : sfm)		EZBR020/025		EZBR030/035		EZBR040/045		EZBR050/055/060/065/075		Notes	
	MEGACOAT	Carbide	Depth of Cut: D.O.C. (inch), Feed: f (ipr)									
	PR1225	GW05	D.O.C.	f	D.O.C.	f	D.O.C.	f	D.O.C.	f		
Carbon Steel / Alloy Steel	100~330	-	~0.0118	~0.0012	~0.0157	~0.0016	~0.0177	~0.0028	~0.0197	~0.0039	Wet	
Stainless Steel	100~260	-	~0.0079	~0.0008	~0.0118	~0.0012	~0.0138	~0.0020	~0.0157	~0.0028		
Non-ferrous Material	-	~330	~0.0118	~0.0020	~0.0157	~0.0024	~0.0177	~0.0028	~0.0197	~0.0039		

Workpiece Material	Insert Grade (Vc : sfm)		EZBR030		EZBR040/045		EZBR050/060/070		Notes
	MEGACOAT CBN	PCD	Depth of Cut: D.O.C. (inch), Feed: f (ipr)						
	KBN05M	KPD001	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Non-ferrous Material	-	~980	-	-	~0.0177	~0.0039	~0.0197	~0.0059	Wet
Hardened Materials (Heat-Treated Steel)	~330	-	~0.0028	~0.0012	~0.0039	~0.0020	~0.0059	~0.0028	

■ EZ Bar Compatibility

EZ Bar is compatible with conventional Micro-Bars

Sleeve \ Bar	EZB...HP	EZB...ST/NB	HPB...(Conventional)
EZH...CT/HP	✓	✓	※1 ※2 ✓ (Compatible)
EZH...ST	✓	✓	※1 ✓ (Compatible)
PSH...(Discontinued Sleeve)	※1 ✓ (Compatible)	※1 ✓ (Compatible)	✓

※1 Some diameters of conventional Micro-Bars are incompatible

※2 Use them without Adjustment Pins. Overhang length of bar is not adjustable.

◆ Recommended Cutting Conditions

● EZBF (90° Lead Boring)

Workpiece Material	Insert Grade (Vc : sfm)	EZBFR030		EZBFR040		EZBFR050/060		Notes
	MEGACOAT	Depth of Cut: D.O.C. (inch), Feed: f (ipr)						
	PR1225	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	100~330	~0.0079	~0.0020	~0.0118	~0.0020	~0.0197	~0.0020	Wet
Stainless Steel	100~260	~0.0079	~0.0020	~0.0118	~0.0020	~0.0197	~0.0020	

● EZBT (Back Boring)

Workpiece Material	Insert Grade (Vc : sfm)		EZBTR040		EZBTR050		Notes
	MEGACOAT	Carbide	Depth of Cut: D.O.C. (inch), Feed: f (ipr)				
	PR1225	GW05	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	100~330	-	~0.018	~0.003	~0.020	~0.004	Wet
Stainless Steel	100~260	-	~0.018	~0.002	~0.020	~0.003	
Non-ferrous Material	-	100~330	~0.018	~0.004	~0.020	~0.006	

● EZVB (Boring / Internal Facing / Internal Profiling)

Workpiece Material	Insert Grade (Vc : sfm)	EZVBR035		EZVBR045		EZVBR055/065		Notes
	MEGACOAT	Depth of Cut: D.O.C. (inch), Feed: f (ipr)						
	PR1225	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	100~330	~0.0020	~0.0016	~0.0028	~0.0028	~0.0039	~0.0028	Wet
Stainless Steel	100~260	~0.0012	~0.0012	~0.0020	~0.0020	~0.0028	~0.0020	

● EZBP (Copying)

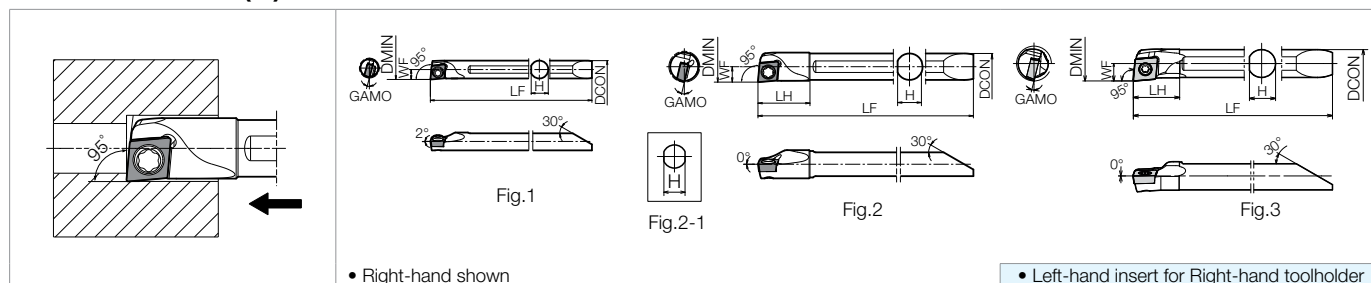
Workpiece Material	Insert Grade (Vc : sfm)	EZBPR020020-005-08/10/12		EZBPR030030-005-12/15		EZBPR040040-015		EZBPR050050-015		EZBPR060060-015		Notes
	MEGACOAT	Depth of Cut: D.O.C. (inch), Feed: f (ipr)										
	PR1225	D.O.C.	f	D.O.C.	f	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	100-330	~0.0118	~0.0020	~0.0157	~0.0020	~0.0236	~0.0020	~0.0315	~0.0020	~0.0394	~0.0020	Wet
Stainless Steel	100-260	~0.0118	~0.0020	~0.0157	~0.0020	~0.0236	~0.0020	~0.0315	~0.0020	~0.0394	~0.0020	

● EZBC (45° Chamfering)

Workpiece Material	Insert Grade (Vc : sfm)	EZBC050050-020-15/20		EZBC060060-020-18/24		EZBC070070-020-21/42		Notes
	MEGACOAT	Depth of Cut: D.O.C. (inch), Feed: f (ipr)						
	PR1225	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	100-330	~0.0276	~0.0024	~0.0276	~0.0024	~0.0276	~0.0024	Wet
Stainless Steel	100-260	~0.0276	~0.0024	~0.0276	~0.0024	~0.0276	~0.0024	

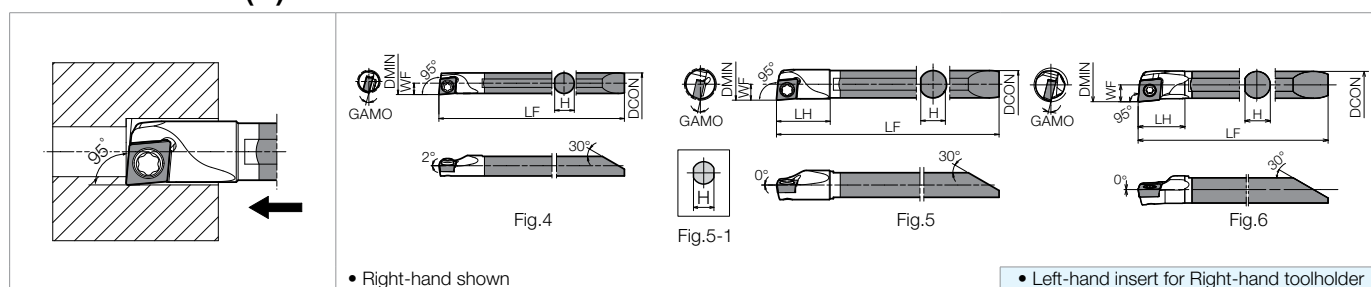
S-SCLC-EZ(P)

Maximum overhang length - L/D = ~3





C-SCLC-EZ(P)

Maximum overhang length - L/D = ~5



Toolholder Dimensions

Toolholder Dimensions			Stock (R)	Min. Bore Dia.	Dimensions (mm)				GAMO	Standard Corner-R (R)	Coolant Hole	Drawing	Spare Parts		Applicable Sleeve F32-F37	
Part Number		DMIN			DCON	H	LF	LH					WF			
Steel	S045X-SCLCR03-050EZP	●	5.0	4.5	4.3	42.4	-	2.5	15°	0.2	No	Fig.1	SB-1635TR	FT-6	EZH045...	
	S050X-SCLCR03-060EZP	●	6.0	5.0	4.7	48.4	9.0	3.0	13°	0.2		Fig.2	SB-1635TR		EZH050...	
	S060X-SCLCR04-070EZP	●	7.0	6.0	5.7	54.4	10.0	3.5	13°	0.2		Fig.2	SB-2035TR		EZH060...	
	S070X-SCLCR04-080EZP	●	8.0	7.0	6.7	60.4	10.3	4.0	11°	0.2		Fig.2	SB-2035TR		EZH070...	
	S080X-SCLCR06-100EZP	●	10.0	8.0	7.5	69.5	13.3	5.0	14°	0.4		Fig.3	SB-2545TR	FT-8	EZH080...	
Carbide	C045X-SCLCR03-050EZP	●	5.0	4.5	4.3	51.4	-	2.5	15°	0.2	No	Fig.4	SB-1635TR	FT-6	EZH045...	
	C050X-SCLCR03-060EZP	●	6.0	5.0	4.7	58.4	9.0	3.0	13°	0.2		Fig.5	SB-1635TR		EZH050...	
	C060X-SCLCR04-070EZP	●	7.0	6.0	5.7	66.4	10.0	3.5	13°	0.2		Fig.5	SB-2035TR		EZH060...	
	C070X-SCLCR04-080EZP	●	8.0	7.0	6.7	74.4	11.0	4.0	11°	0.2		Fig.5	SB-2035TR		EZH070...	
	C080X-SCLCR06-100EZP	●	10.0	8.0	7.5	85.5	14.0	5.0	14°	0.4		Fig.6	SB-2545TR	FT-8	EZH080...	

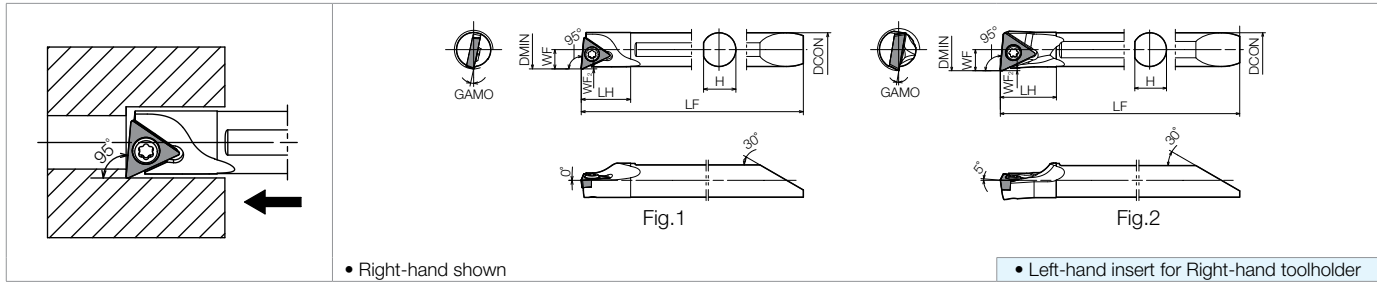
Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Medium
Ref. Page	B53	B53	B53	B53	B53	B54	B54	B54	B54	B54, B55
Insert	CF	PF	GF	SKS	SK	WP (Wiper)	PP	GK	HQ	Standard
Toolholder	CCGT1109..	CCGT1109..	-	-	-	-	-	-	-	-
...SCLCR03-...	CCGT1109..	CCGT1109..	-	-	-	-	-	-	-	-
...SCLCR04-...	CCGT1411..	CCGT1411..	-	-	-	-	-	-	-	-
...SCLCR06-...	-	CCGT215..	CCGT215..	CCGT215..	CCGT215..	CCMT215..	CCMT215..	CCMT215..	CCMT215..	CCGT215..
Application	Finishing-Medium	Finishing	Finishing / Precision	Low Feed	Finishing / Precision	Cast Iron	Non-ferrous Metals	Hard Material		
Ref. Page	B53	B56	B55	B58, B59	B57	B60	C24	C14		
Insert	GQ	L-F	L-FSF	(E/F)L-U	FL-USF	Without Chipbreaker	PCD	CBN		
Toolholder	-	CCGT1109..	CCGT1109..	-	-	-	-	CCMW1109..		
...SCLCR03-...	-	CCGT1109..	CCGT1109..	-	-	-	-	CCMW1109..		
...SCLCR04-...	-	CCGT1411..	CCGT1411..	-	-	-	-	CCMW1411..		
...SCLCR06-...	CCGT215..	-	-	CCGT215..	CCGT215..	CCGW215..	CCMT215.. CCGW215..	CCMW215..		

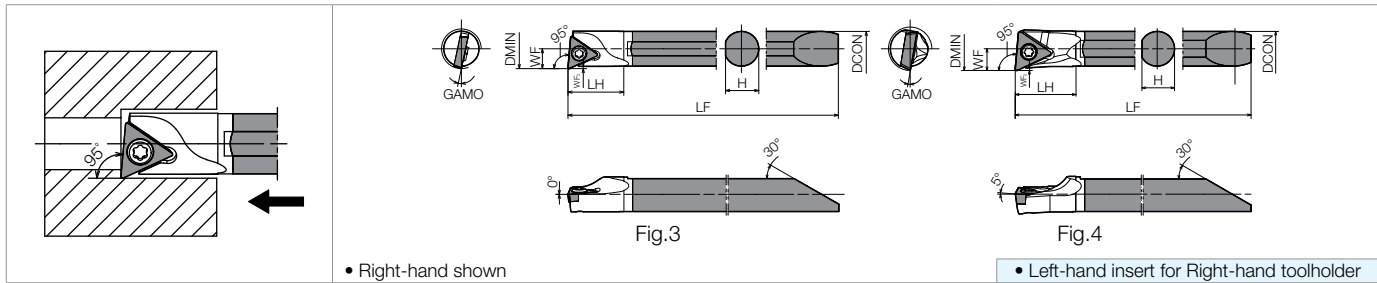
Recommended Cutting Conditions F116-F117

Other Applicable Sleeves F106-F110

S-STLB(P)-EZP

Maximum overhang length - $L/D = \sim 3$ 

C-STLB(P)-EZP

Maximum overhang length - $L/D = \sim 5$ 

Toolholder Dimensions

Part Number	Stock (R)	Min. Bore Dia.	Dimensions (mm)							GAMO	Standard Corner-R (RE)	Coolant Hole	Drawing	Spare Parts		Applicable Sleeve ● F32~F37
			DMIN	DCON	H	LF	LH	WF	WF ₂					Clamp Screw	Wrench	
Steel																
S070X-STLBR06-080EZP*	●	8	7	6.7	60.4	10.3	4	0.4	12°	0.2			Fig.1	SB-2035TR	FT-6	EZH070...
S080X-STLPR09-100EZP	●	10	8	7.5	69.5	13.3	5	0.5	10°	0.4			Fig.2	SB-2545TR	FT-8	EZH080...
Carbide																
C070X-STLBR06-080EZP*	●	8	7	6.7	74.4	11	4	0.4	12°	0.2			Fig.3	SB-2035TR	FT-6	EZH070...
C080X-STLPR09-100EZP	●	10	8	7.5	85.5	14	5	0.5	10°	0.4			Fig.4	SB-2545TR	FT-8	EZH080...

* TB□□1212... type insert cannot be used.

Applicable Inserts

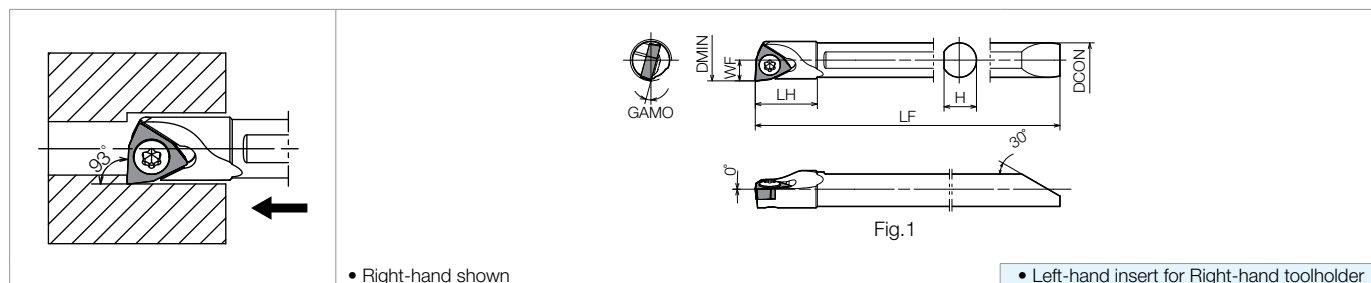
Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing	Medium
Ref. Page	● B76, B80	● B76, B80	● B80	● B80	● B85	● B81	● B76	● B81	● B76, B82, B83	● B84
Insert	CF	PF	*WP (Wiper)	PP	R-P	GP	DP	HQ	L	L-H
Toolholder										
...STLBR06-...	TBGT121..	TBGT121..	-	-	-	-	TBMT121..	-	TBGT121..	-
...STLPR09-...	TPGT1815..	TPMT1815..	TPMX1815..	TPMT1815..	TPEH1815..	TPMT1815..	-	TPMT1815..	TPGH1815..	TPGH1815..
Application	Soft Steel / Finishing	Cast Iron	Non-ferrous Metals	Hard Material						
Ref. Page	● B81	● B76, B86	● C26, C27	● C16						
Insert	XP	Without Chipbreaker	PCD	CBN						
Toolholder										
...STLBR06-...	-	TBGW121..	TBMT121.. TBGW121..	-						
...STLPR09-...	TPMT1815..	TPGB1815..	TPMH1815.. TPGB1815..	TPGB1815..						

Recommended Cutting Conditions ● F116-F117

Other Applicable Sleeves ● F106-F110

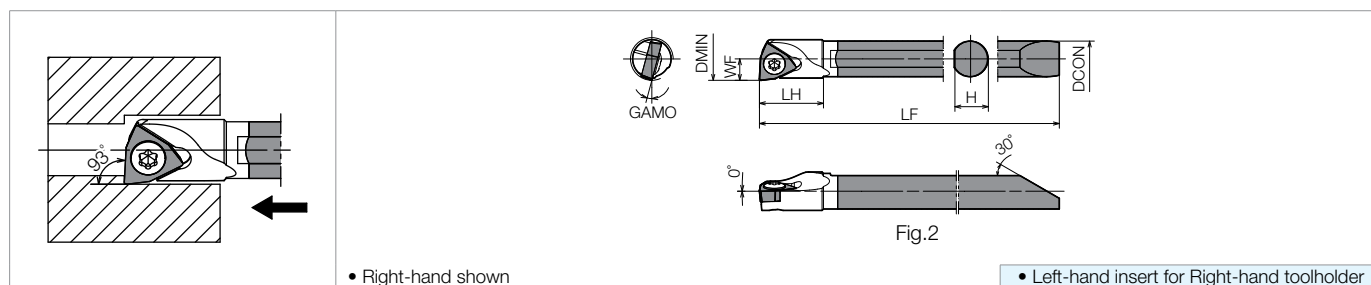
■ S-SWUB-EZP

Maximum overhang length - L/D = ~3





■ C-SWUB-EZP

Maximum overhang length - L/D = ~5



● Toolholder Dimensions

Part Number		Stock (R)	Min. Bore Dia.	Dimensions (mm)						GAMO	Standard Corner-R (R)	Coolant Hole	Drawing	Spare Parts		Applicable Sleeve F32~F37
				DMIN	DCON	H	LF	LH	WF					Clamp Screw	Wrench	
																
Steel	S050X-SWUBR06-060EZP	●	6.0	5.0	4.7	48.4	9.0	3.0	15°	0.2	No	Fig.1	SB-2035TR	FT-6	EZH050...	
	S060X-SWUBR06-070EZP	●	7.0	6.0	5.7	54.4	10.0	3.5	13°						EZH060...	
	S070X-SWUBR08-080EZP	●	8.0	7.0	6.7	60.4	10.3	4.0	15°						EZH070...	
Carbide	C050X-SWUBR06-060EZP	●	6.0	5.0	4.7	58.4	9.0	3.0	15°	0.2	No	Fig.2	SB-2035TR	FT-6	EZH050...	
	C060X-SWUBR06-070EZP	●	7.0	6.0	5.7	66.4	10.0	3.5	13°						EZH060...	
	C070X-SWUBR08-080EZP	●	8.0	7.0	6.7	74.4	11.0	4.0	15°						EZH070...	

● Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing	Cast Iron	Non-ferrous Metals	Hard Material
Ref. Page	● B97	● B97	● B97	● B98	● B98	● B98	● C29	● C18
Insert	L-CF	L-PF	L-DP	L-P	L-F	Without Chipbreaker	PCD	CBN
Toolholder								
...SWUBR06-...	WBG121..	WBG121..	WBMT121..	-	WBG121..	WBGW121..	WBMT121..	WBGW121..
...SWUBR08-...	-	WBG1215..	WBMT1215..	WBET1215..	WBG1215..	WBGW1215..	WBMT1215..	WBGW1215..

Recommended Cutting Conditions ● F116-F117

Other Applicable Sleeves ● F106-F110

EZH-CT (Sleeve)

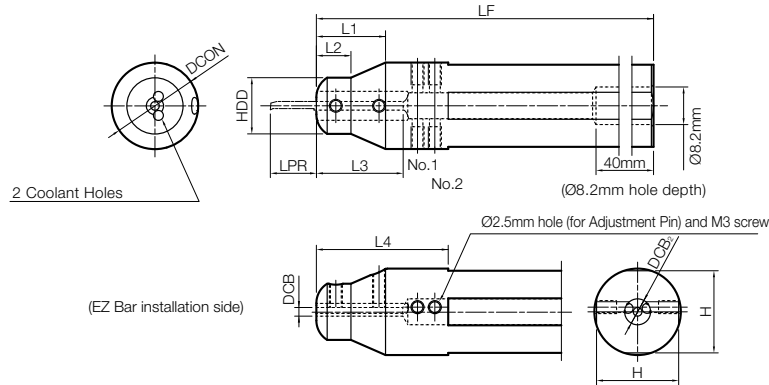
With Coolant Hole and
EZ Adjust Structure

Fig. 1

Part Number		Stock	Dimensions (mm)									LPR (mm) Overhang Length of Bar ^{*2}				Drawing	Applicable EZ Bar ● F18~F21, F25 ● J32	
			DCB	DCON	HDD	DCB ₂	H	LF	L1	L2	L3	L4	Adjustment Pin Setting Position					
													No.1	No.2	No.3			No.4
EZH 01719CT-120	●	1.7	0.75"	13	6	18.0	120	16	8	16	30.5	7.5	3.5	-	-	Fig.1	EZBR...017...	
	●		20			19.0	120				30.5							
	●		22			21.0	135				41.5							
	●		25			24.0	135				30.5							
	●		1.00"			24.4	120				30.5							
EZH 02019CT-120	●	2.0	0.75"	13	6	18.0	120	16	8	20	30.5	8.5	4.5	-	-	Fig.1	EZB%...020... EZBPR...020...	
	●		20			19.0	120				30.5							
	●		22			21.0	135				41.5							
	●		25			24.0	135				30.5							
	●		1.00"			24.4	120				30.5							
EZH 02519CT-120	●	2.5	0.75"	13	6	18.0	120	16	8	20	30.5	11.0	7.0	-	-	Fig.1	EZB%...025... EZTR...025...	
	●		20			19.0	120				30.5							
	●		22			21.0	135				41.5							
	●		25			24.0	135				30.5							
	●		1.00"			24.4	120				30.5							

^{*1} L3 shows DCB length^{*2} Dimension LPR shows overhang length of the EZB Bar when attached to sleeve.

● Choose sleeves (DCB) to match DCON dimension of bar.

● Spare Parts (for EZH-CT Sleeves)

Part Number	Spare Parts				
	Adjustment Pin	Clamp Screw	Wrench	Clamp Screw	Wrench
EZH 017...CT-...	LCP025097	HS3X4P (for adjustment pin, coolant leak prevention)	LW-1.5 Tightening Torque 1N • m	HS3X4P (for bar)	LW-1.5 Tightening Torque 1N • m
020...CT-...					
025...CT-...					
030...CT-...					
EZH 035...CT-...	LCP025097	HS3X4P (for adjustment pin, coolant 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-...					
070...CT-...					
080...CT	LCP025110	HS3X3P (for adjustment pin, coolant leak prevention)			

1) If EZ Bar shank dia. is Ø2.5mm or less, use 6 clamp screws (HS3X4P), distributed as follows:

For adjustment pin.....2 pcs

For coolant leak prevention.....2 pcs

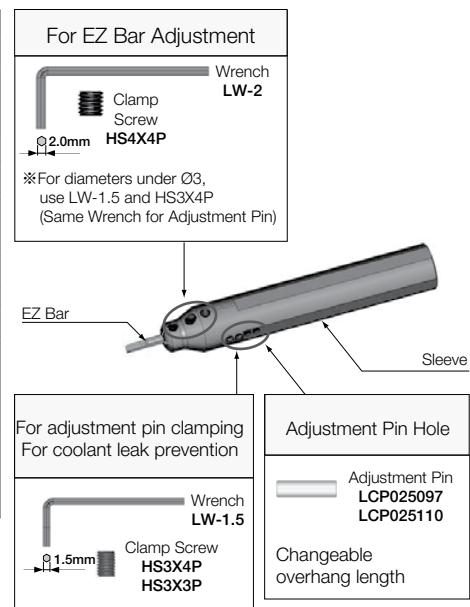
For bar.....2 pcs

2) If EZ Bar shank dia. is Ø3.0mm, use 9 clamp screws (HS3X4P), distributed as follows:

For adjustment pin.....2 pcs

For coolant leak prevention.....4 pcs

For bar.....3 pcs



EZH-CT (Sleeve)

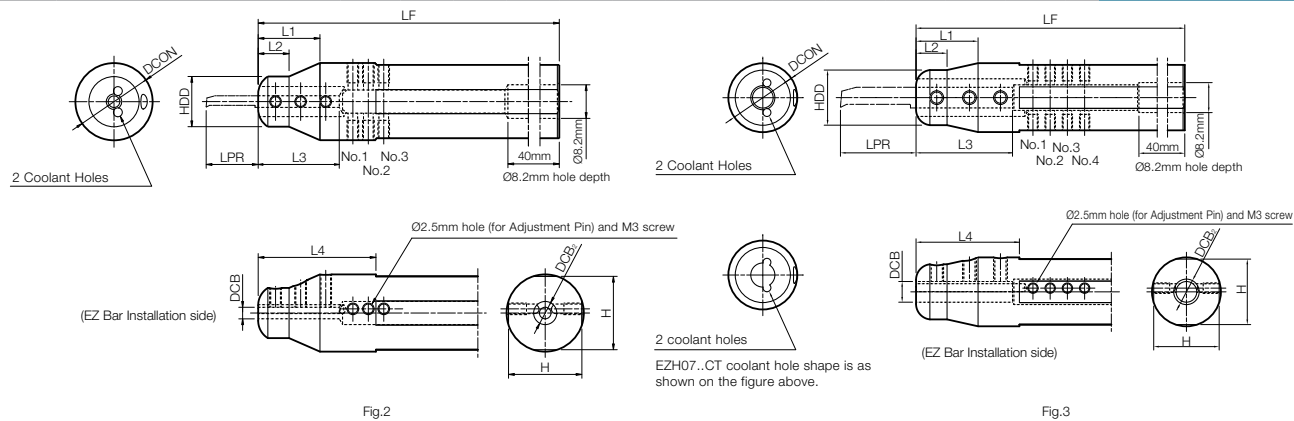
With Coolant Hole and
EZ Adjust Structure

Fig.2

Fig.3

Part Number		Stock	Dimensions (mm)									LPR (mm) Overhang Length of Bar ^{*2}				Drawing	Applicable EZ Bar or EZ Bar PLUS ● F18~F31 ● G63, G96 ● J32		
			DCB	DCON	HDD	DCB ₂	H	LF	L1	L2	L3	L4	Adjustment Pin Setting Position						
													No.1	No.2	No.3			No.4	
EZH	03019CT-120	●	3.0	0.75"	13	6.0	18.0	120	16	8	21	30.5	13.5	9.5	5.5	-	Fig.2	EZB%...030... EZBFR...030... EZVBR...030... EZBPR...030... EZGR...030... EZTR...030...	
	03020CT-120	●		20			19.0	120											
	03022CT-135	●		22			21.0	135				41.5							
	03025.0CT-135	●		25			24.0	135				30.5							
	03025.4CT-120	●		1.00"			24.4	120											
EZH	03519CT-120	●	3.5	0.75"	13	6.0	18.0	120	16	8	21	31.1	15.5	11.5	7.5	-	Fig.2	EZB%...035... EZTR...035...	
	03520CT-120	●		20			19.0	120											
	03522CT-135	●		22			21.0	135				41.5							
	03525.0CT-135	●		25			24.0	135				31.1							
	03525.4CT-120	●		1.00"			24.4	120											
EZH	04019CT-120	●	4.0	0.75"	13	6.0	18.0	120	16	8	22	32.7	20.5	16.5	12.5	8.5	Fig.3	EZB%...040... EZBFR...040... EZBTR...040... EZVBR...040... EZBPR...040... EZG%...040... EZFG%...040... EZTR...040...	
	04020CT-120	●		20			19.0	120											
	04022CT-135	●		22			21.0	135				41.5							
	04025.0CT-135	●		25			24.0	135				32.7							
	04025.4CT-120	●		1.00"			24.4	120											
EZH	04519CT-120	●	4.5	0.75"	16	6	18	120	18	9	23	30.0	23 (14)	18.5 (9.5)	14 (-)	9.5 (-)	Fig.3	EZB%...045... _045X...050EZP	
	04520CT-120	●		20			19	120				44.0							
	04522CT-135	●		22			21	135				30.0							
	04525.0CT-135	●		25			24	135											
	04525.4CT-120	●		1.00"			24.4	120											
EZH	05019CT-120	●	5.0	0.75"	16	6.0	18.0	120	18	9	26	30.0	25.5 (15.5)	20.5 (10.5)	15.5 (-)	10.5 (-)	Fig.3	EZB%...050... EZBFR...050... EZBTR...050... EZVBR...050... EZBPR...050... EZBCR...050... EZG%...050... EZFG%...050... EZTR...050... _050X...060EZP	
	05020CT-120	●		20			19.0	120											
	05022CT-135	●		22			21.0	135				44.0							
	05025.0CT-135	●		25			24.0	135				30.0							
	05025.4CT-120	●		1.00"			24.4	120											
EZH	06019CT-120	●	6.0	0.75"	16	7.4	18.0	120	18	9	28	30.0	30.5 (18.5)	25.5 (13.5)	20.5 (-)	15.5 (-)	Fig.3	EZB%...060... EZBFR...060... EZVBR...060... EZBPR...060... EZBCR...060... EZG%...060... EZTR...060... _060X...070EZP	
	06020CT-120	●		20			19.0	120											
	06022CT-135	●		22			21.0	135				41.5							
	06025.0CT-135	●		25			24.0	135				30.0							
	06025.4CT-120	●		1.00"			24.4	120											
EZH	07019CT-120	●	7.0	0.75"	16	7.4	18.0	120	18	9	29	30.0	35.5 (21.5)	30.5 (16.5)	25.5 (11.5)	20.5 (-)	Fig.3	EZB%...070... EZBCR...070... EZG%...070... EZFG%...070... EZTR...070... _070X...080EZP	
	07020CT-120	●		20			19.0	120											
	07022CT-135	●		22			21.0	135				44.0							
	07025.0CT-135	●		25			24.0	135				30.0							
	07025.4CT-120	●		1.00"			24.4	120											
EZH	08019CT-120	●	8.0	0.75"	16	8.6	18	120	18	9	33	34.0	40.5 (24.5)	35.5 (19.5)	30.5 (14.5)	25.5 (-)	Fig.3	EZB%...080... _080X...100EZP	
	08020CT-120	●		20			19	120											
	08022CT-135	●		22			21	135				44.0							
	08025.0CT-135	●		25			24	135				34.0							
	08025.4CT-120	●		1.00"			24.4	120											

*1 L3 shows DCB length

*2 Dimension LPR shows overhang length of the EZB Bar when attached to sleeve. Dimensions in () show overhang length of EZ Bar PLUS.

• Choose sleeves (DCB) to match DCON dimension of bar.

EZ Bar Mounting Procedure (EZH-CT Sleeve) F17

● : Standard Item △ : Phaseout Item (will be removed from next catalog)

Contact your local Kyocera sales engineer to upgrade old products to new technology

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

EZH-HP (Sleeve)

Adjustable

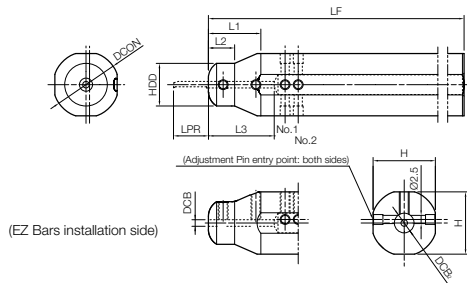


Fig.1

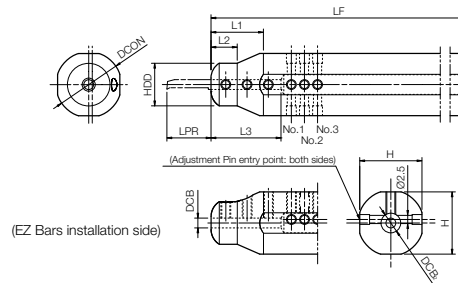


Fig.2

Part Number	Stock	Dimensions (mm)									LPR (mm) Overhang Length of Bar ²				Drawing	Applicable EZ Bar or EZ Bar PLUS ● F18~F31 ● G63, G96 ● J32
		DCB	DCON	HDD	DCB ₂	H	LF	L1	L2	L3	Adjustment Pin Setting Position					
											No.1	No.2	No.3	No.4		
EZH 01716HP-100	●	1.7	16	13	6	15.0	100	16	8	16	7.5	3.5	-	-	Fig.1	EZBR...017...
01719HP-120	●		0.75"			18.0	120									
01720HP-120	●		20			19.0	120									
01722HP-135	●		22			21.0	135									
01725.0HP-135	●		25			24.0	135									
01725.4HP-120	●		1.00"			24.4	120									
EZH 02016HP-100	●	2.0	16	13	6	15.0	100	16	8	20	8.5	4.5	-	-	Fig.1	EZB%...020...
02019HP-120	●		0.75"			18.0	120									
02020HP-120	●		20			19.0	120									
02022HP-135	●		22			21.0	135									
02025.0HP-135	●		25			24.0	135									
02025.4HP-120	●		1.00"			24.4	120									
EZH 02516HP-100	●	2.5	16	13	6	15.0	100	16	8	20	11.0	7.0	-	-	Fig.1	EZB%...025... EZTR...025...
02519HP-120	●		0.75"			18.0	120									
02520HP-120	●		20			19.0	120									
02522HP-135	●		22			21.0	135									
02525.0HP-135	●		25			24.0	135									
02525.4HP-120	●		1.00"			24.4	120									
EZH 03016HP-100	●	3.0	16	13	6	15.0	100	16	8	21	13.5	9.5	5.5	-	Fig.2	EZB%...030... EZBFR...030... EZVBR...030... EZBPR...030... EZGR...030... EZTR...030...
03019HP-120	●		0.75"			18.0	120									
03020HP-120	●		20			19.0	120									
03022HP-135	●		22			21.0	135									
03025.0HP-135	●		25			24.0	135									
03025.4HP-120	●		1.00"			24.4	120									
EZH 03516HP-100	●	3.5	16	13	6	15.0	100	16	8	22	15.5	11.5	7.5	-	Fig.2	EZB%...035... EZTR...035...
03519HP-120	●		0.75"			18.0	120									
03520HP-120	●		20			19.0	120									
03522HP-135	●		22			21.0	135									
03525.0HP-135	●		25			24.0	135									
03525.4HP-120	●		1.00"			24.4	120									
EZH 04016HP-100	●	4.0	16	13	6	15	100	16	8	24	20.5	16.5	12.5	8.5	Fig.4 (F23)	EZB%...040... EZBFR...040... EZBTR...040... EZVBR...040... EZBPR...040... EZG%...040... EZFG%...040... EZTR...040...
04019HP-120	●		19.05			18	120									
04020HP-120	●		20			19	120									
04022HP-135	●		22			21	135									
04025.0HP-135	●		25			24	135									
04025.4HP-120	●		25.4			24.4	120									

*1 L3 shows DCB length

*2 Dimension LPR shows overhang length of the EZB Bar when attached to sleeve.

● Choose sleeves (DCB) to match DCON dimension of bar.

● Spare Parts (for EZH-HP Sleeves)

Part Number	Spare Parts					Applicable EZB Bar and EZ Bar PLUS
	Adjustment Pin	Clamp Screw	Wrench	Clamp Screw	Wrench	
EZH 017...HP-... 020...HP-... 025...HP-... 030...HP-...	LCP025140	HS3X4P (for adjustment pin and bar)	LW-1.5 Tightening Torque 1N·m	HS3X4P (for bar)	LW-1.5 Tightening Torque 1N·m	EZBR...017...
						EZB%...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-...	LCP025140	HS3X4P (only for adjustment pin)	LW-1.5 Tightening Torque 1N·m	HS4X4P (for bar)	LW-2 Tightening Torque 2N·m	EZB%...035... EZ_R...035-...
						EZB%...040... EZ_R...040-...
						_045X-...-050EZP
						EZB%...050... EZ_R...050-...
						_050X-...-060EZP
						EZB%...060... EZ_R...060-...
						_060X-...-070EZP
						EZB%...070... EZ_R...070-...
						_070X-...-080EZP
						_080X-...-100EZP

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● : Standard Item △ : Phaseout Item (will be removed from next catalog)

Contact your local Kyocera sales engineer to upgrade old products to new technology

EZH-HP (Sleeve)

Adjustable

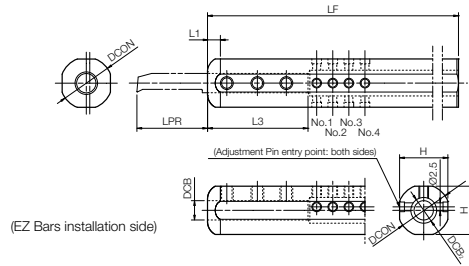


Fig.3

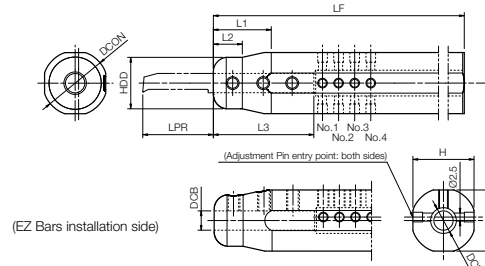


Fig.4

Part Number		Stock	Dimensions (mm)									LPR (mm) Overhang Length of Bar ²				Drawing	Applicable EZ Bar or EZ Bar PLUS ⚙️ F18-F31 ⚙️ G63, G96 ⚙️ J32
			DCB	DCON	HDD	DCB ₂	H	LF	L1	L2	L3	Adjustment Pin Setting Position					
												No.1	No.2	No.3	No.4		
EZH	04516HP-100	●	4.5	16	16	6	15.0	100	4	-	25.3	23.0 (14)	18.5 (9.5)	14.0 (-)	9.5 (-)	Fig.3	EZB%...045... _045X...-050EZP
	04519HP-120	●		0.75"			18.0	120	18	9							
	04520HP-120	●		20			19.0	120									
	04522HP-135	●		22			21.0	135									
	04525.0HP-135	●		25			24.0	135									
	04525.4HP-120	●		1.00"			24.4	120									
EZH	05016HP-100	●	5.0	16	16	6	15.0	100	4	-	29	25.5	20.5	15.5	10.5	Fig.3	EZB%...050... EZBFR...050... EZBTR...050... EZVBR...050... EZBPR...050... EZBCR...050... EZG%...050... EZFG%...050... EZTR...050... _050X...-060EZP
	05019HP-120	●		0.75"			18.0	120	18	9							
	05020HP-120	●		20			19.0	120									
	05022HP-135	●		22			21.0	135									
	05025.0HP-135	●		25			24.0	135									
	05025.4HP-120	●		1.00"			24.4	120									
EZH	06016HP-100	●	6.0	16	16	8	15.0	100	4	-	31	30.5 (18.5)	25.5 (13.5)	20.5 (-)	15.5 (-)	Fig.3	EZB%...060... EZBFR...060... EZVBR...060... EZBPR...060... EZBCR...060... EZG%...060... EZTR...060... _060X...-070EZP
	06019HP-120	●		0.75"			18.0	120	18	9							
	06020HP-120	●		20			19.0	120									
	06022HP-135	●		22			21.0	135									
	06025.0HP-135	●		25			24.0	135									
	06025.4HP-120	●		1.00"			24.4	120									
EZH	07016HP-100	●	7.0	16	16	8	15.0	100	4	-	33	35.5	30.5	25.5	20.5	Fig.3	EZB%...070... EZBCR...070... EZG%...070... EZFG%...070... EZTR...070... _070X...-080EZP
	07019HP-120	●		0.75"			18.0	120	18	9							
	07020HP-120	●		20			19.0	120									
	07022HP-135	●		22			21.0	135									
	07025.0HP-135	●		25			24.0	135									
	07025.4HP-120	●		1.00"			24.4	120									
EZH	08019HP-120	●	8.0	0.75"	16	8.4	18.0	120	18	9	37	40.5 (24.5)	35.5 (19.5)	30.5 (14.5)	25.5 (-)	Fig.4	EZB%...080... _080X...-100EZP
	08020HP-120	●		20			19.0	120									
	08022HP-135	●		22			21.0	135									
	08025.0HP-135	●		25			24.0	135									
	08025.4HP-120	●		1.00"			24.4	120									

*1 L3 shows DCB length

*2 Dimension LPR shows overhang length of the EZB Bar when attached to sleeve. Dimensions in () show overhang length of EZ Bar PLUS.

● Choose sleeves (DCB) to match DCON dimension of bar.

EZ Bar Identification System

EZ H 017 16 HP - 100

EZ Symbol of Bar	Application	Shank Dia. of EZB Bar	Sleeve Shank Dia.	Precision	Overall Length of Sleeve
	H-Sleeve	017 : 1.7mm 025 : 2.5mm	16 : 16.00mm 25.4 : 25.40mm	CT: High Precision with Coolant Hole HP: Precision ST: Standard	100 : 100mm 120 : 120mm

EZ Bar Mounting Procedure

● How to use adjustment pin (Fig.1)

- Put the adjustment pin into the hole.
- Push it into the sleeve, using the wrench "LW-1.5".
- Tighten the clamp screw "HS3X4P" with wrench "LW-1.5" to fix the adjustment screw.

● How to secure bar (Fig.2)

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

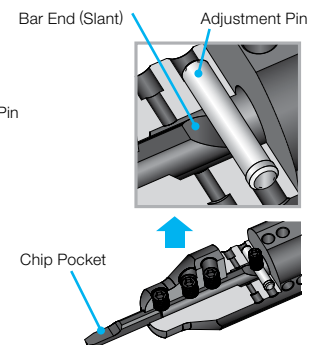
Fig. 1:
How to Use Adjustment PinFig. 2:
How to Secure Bar

Fig. 3: Clamped Bar

● : Standard Item △ : Phaseout Item (will be removed from next catalog)

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EZH-ST (Sleeve)

NOT Adjustable

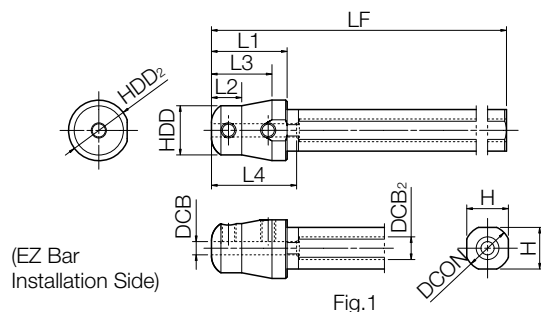


Fig.1

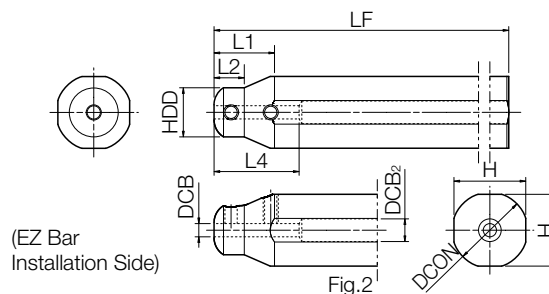


Fig.2

Part Number		Stock	Dimensions (mm)										Drawing	Applicable EZ Bar or EZ Bar PLUS ● F18~F31 ● G63, G96 ● J32	
			DCB	DCON	HDD	HDD2	DCB2	H	LF	L1	L2	L3			*L4
EZH	01712ST-80	●	1.7	12	13	16	6	11	80	20	8	16	16	Fig.1	EZBR...017...
	01716ST-100	●		16		15		100							
	01719ST-120	●		0.750"		18		120							
	01720ST-120	●		20		19		120							
	01722ST-135	●		22		21		135							
	01725.0ST-135	●		25		24		135							
	01725.4ST-120	●		1.000"		24.4		120							
EZH	02012ST-80	●	2	12	13	16	6	11	80	20	8	16	20	Fig.1	EZB%...020... EZBPR...020...
	02016ST-100	●		16		15		100							
	02019ST-120	●		0.750"		18		120							
	02020ST-120	●		20		19		120							
	02022ST-135	●		22		21		135							
	02025.0ST-135	●		25		24		135							
	02025.4ST-120	●		1.000"		24.4		120							
EZH	02512ST-80	●	2.5	12	13	16	6	11	80	20	8	16	20	Fig.1	EZB%...025... EZTR...025...
	02516ST-100	●		16		15		100							
	02519ST-120	●		0.750"		18		120							
	02520ST-120	●		20		19		120							
	02522ST-135	●		22		21		135							
	02525.0ST-135	●		25		24		135							
	02525.4ST-120	●		1.000"		24.4		120							
EZH	03012ST-80	●	3	12	13	16	6	11	80	20	8	16	21	Fig.1	EZB%...030... EZBFR...030... EZVBR...030... EZBPR...030... EZGR...030... EZTR...030...
	03016ST-100	●		16		15		100							
	03019ST-120	●		0.750"		18		120							
	03020ST-120	●		20		19		120							
	03022ST-135	●		22		21		135							
	03025.0ST-135	●		25		24		135							
	03025.4ST-120	●		1.000"		24.4		120							
EZH	03512ST-80	●	3.5	12	13	16	6	11	80	20	8	16	22	Fig.1	EZB%...035... EZTR...035...
	03516ST-100	●		16		15		100							
	03519ST-120	●		0.750"		18		120							
	03520ST-120	●		20		19		120							
	03522ST-135	●		22		21		135							
	03525.0ST-135	●		25		24		135							
	03525.4ST-120	●		1.000"		24.4		120							
EZH	04012ST-80	●	4	12	13	16	6	11	80	20	8	16	24	Fig.1	EZB%...040... EZBFR...040... EZBTR...040... EZVBR...040... EZBPR...040... EZG%...040... EZFG%...040... EZTR...040...
	04016ST-100	●		16		15		100							
	04019ST-120	●		0.750"		18		120							
	04020ST-120	●		20		19		120							
	04022ST-135	●		22		21		135							
	04025.0ST-135	●		25		24		135							
	04025.4ST-120	●		1.000"		24.4		120							

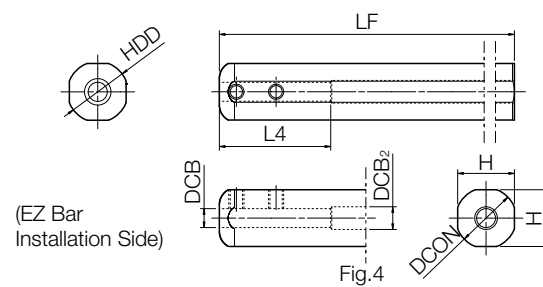
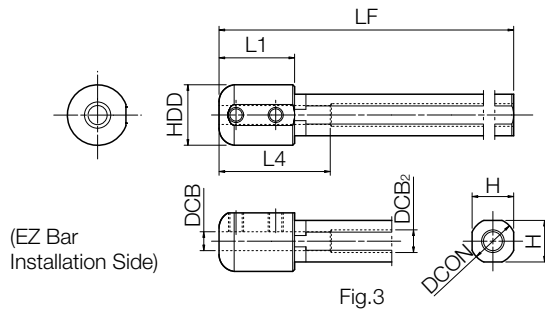
* L4 shows DCB length

● Choose sleeves (DCB) to match DCON dimension of bar.

● Adjustment pin cannot be installed in EZH-ST sleeves. To adjust overhang of EZB insert, please use EZH-CT or EZH-HP sleeves.

EZH-ST (Sleeve)

NOT Adjustable



Part Number	Stock	Dimensions (mm)											Drawing	Applicable EZ Bar or EZ Bar PLUS ⬢ F18~F31 ⬢ G63, G96 ⬢ J32
		DCB	DCON	HDD	HDD2	DCB2	H	LF	L1	L2	L3	*L4		
EZH 05012ST-80 05016ST-100 05019ST-120 05020ST-120 05022ST-135 05025.0ST-135 05025.4ST-120	●	5	12	16	-	6	11	80	20	-	-	29	Fig.3	EZB%...050... EZBFR...050... EZBTR...050... EZVBR...050... EZBPR...050... EZBCR...050... EZG%...050... EZFG%...050... EZTR...050... _050X-...-060EZP
	●		16				15	100	-				Fig.4	
	●		0.750"				18	120	18				9	
	●		20				19	120						
	●		22				21	135						
	●		25				24	135						
	●		1.000"				24.4	120						
EZH 06012ST-80 06016ST-100 06019ST-120 06020ST-120 06022ST-135 06025.0ST-135 06025.4ST-120	●	6	12	16	-	8	11	80	20	-	-	31	Fig.3	EZB%...060... EZBFR...060... EZVBR...060... EZBPR...060... EZBCR...060... EZG%...060... EZTR...060... _060X-...-070EZP
	●		16				15	100	-				Fig.4	
	●		0.750"				18	120	18				9	
	●		20				19	120						
	●		22				21	135						
	●		25				24	135						
	●		1.000"				24.4	120						
EZH 07012ST-80 07016ST-100 07019ST-120 07020ST-120 07022ST-135 07025.0ST-135 07025.4ST-120	●	7	12	16	-	8	11	80	20	-	-	33	Fig.3	EZB%...070... EZBCR...070... EZG%...070... EZFG%...070... EZTR...060... _070X-...-080EZP
	●		16				15	100	-				Fig.4	
	●		0.750"				18	120	18				9	
	●		20				19	120						
	●		22				21	135						
	●		25				24	135						
	●		1.000"				24.4	120						
EZH 08016ST-100 08019ST-120 08020ST-120 08022ST-135 08025.0ST-135 08025.4ST-120	●	8	16	16	-	8.4	15	100	-	-	-	37	Fig.4	EZB%...080... _080X-...-100EZP
	●		0.750"				18	120	18	9			Fig.2	
	●		20				19	120						
	●		22				21	135						
	●		25				24	135						
	●		1.000"				24.4	120						

* L4 shows DCB length

● Choose sleeves (DCB) to match DCON dimension of bar.

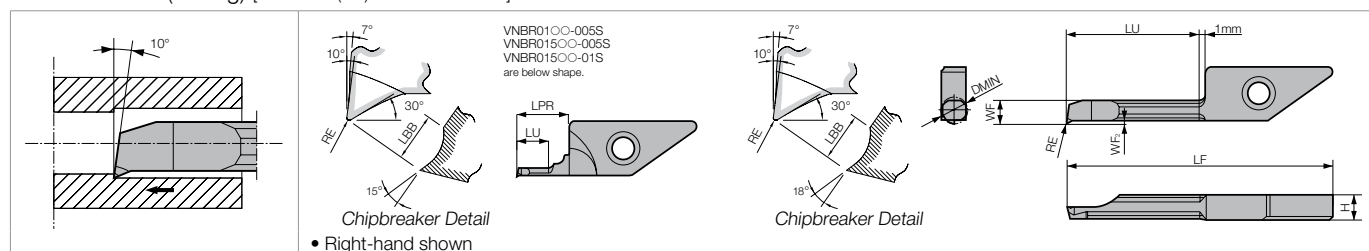
● Adjustment pin cannot be installed in EZH-ST sleeves. To adjust overhang of EZB insert, please use EZH-CT or EZH-HP sleeves.

● Spare Parts (for EZH-ST Sleeves)

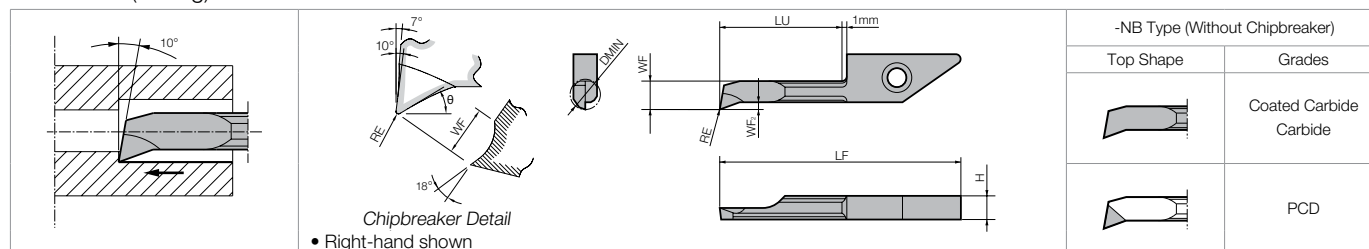
Part Number	Spare Parts		Applicable EZ Bar			Applicable EZ Bar PLUS
	Clamp Screw	Wrench	EZB-HP EZB-HP-LT EZB-ST EZB-NB	EZBF EZBT EZVB	EZG EZFG EZT	
EZH 017...ST-...	HS3X4P	LW-1.5 Tightening Torque 1 Nm	EZBR...017...	-	-	-
020...ST-...			EZB%...020...	EZBPR...020...	-	-
025...ST-...			EZB%...025...	EZTR...025...	-	-
030...ST-...			EZB%...030...	EZ_R...030...	-	-
EZH 035...ST-...	HS4X4P	LW-2 Tightening Torque 1 Nm	EZB%...035...	EZTR...035...	-	-
040...ST-...			EZB%...040...	EZ_R...040...	-	-
050...ST-...			EZB%...050...	EZ_R...050...	-	_050X-...-060EZP
060...ST-...			EZB%...060...	EZ_R...060...	-	_060X-...-070EZP
070...ST-...			EZB%...070...	EZ_R...070...	-	_070X-...-080EZP
080...ST-...			EZB%...080...	-	-	_080X-...-100EZP

SWISS IQ BAR FOR MICRO BORING

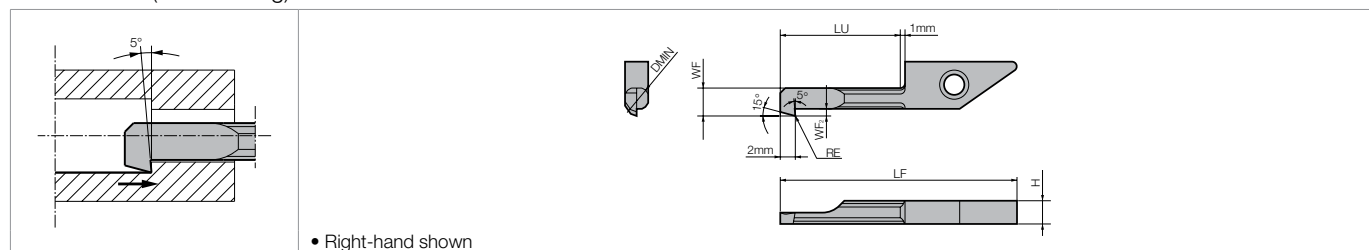
VNB-S (Boring) [Corner-R (RE) Minus Tolerance]



VNB (Boring)



VNBT (Back Boring)



Insert Dimensions (VNB-S)

Part Number	Min. Bore Dia.	Dimensions (mm)								Grade				
		DMIN	H	LF	LU	LPR	WF	WF ₂	RE	LBB	MEGA COAT	PVD Coated Carbide	Carbide	PCD
											PR1225	PR930	KW10	KPD001 KPD010
VNBR 0103-005S	1.0		3.9	26.5	3.0	7	0.85	0.20	+0 -0.02 0.05	0.7	●	●		
0105-005S				26.5	5.0		0.85	0.20			●	●		
01503-005S	1.5			26.5	3.0		1.3	0.20			●	●		
01505-005S				26.5	5.0		1.3	0.20			●	●		
0206-005S	2.0			26.5	6.0	-	1.8	0.25	+0 -0.02 0.05	0.8	●	●		
025075-005S	2.5			28.1	7.5		2.1	0.40			●	●		
0311-005S	3.0			30.8	11.0		2.6	0.40			●	●		
03515-005S	3.5			34.8	15.0		3.0	0.50			●	●		
0411-005S	4.0			30.8	11.0		3.5	0.50			●	●		
0420-005S				39.8	20.0		3.5	0.50			●	●		
VNBR 01503-01S	1.5		3.9	26.5	3.0	7	1.3	0.20	+0 -0.03 0.10	0.7	●	●		
01505-01S				26.5	5.0		1.3	0.20			●	●		
0206-01S	2.0			26.5	6.0		1.8	0.25			●	●		
025075-01S	2.5			28.1	7.5		2.1	0.40			●	●		
0311-01S	3.0			30.8	11.0	-	2.6	0.40	+0 -0.03 0.10	0.8	●	●		
03515-01S	3.5			34.8	15.0		3.0	0.50			●	●		
0411-01S	4.0			30.8	11.0		3.5	0.50			●	●		
0420-01S				39.8	20.0		3.5	0.50			●	●		
VNBR 0411-02S	4.0			30.8	11.0	-	3.5	0.50	+0 -0.04 0.20	0.8	●	●		
0420-02S				39.8	20.0						●	●		

Recommended Cutting Conditions **F105**

Swiss IQ Bars are sold in 5 piece boxes.

SWISS IQ BAR FOR MICRO BORING

● Insert Dimensions (VNB / VNB-NB / VNBTR)

Part Number	Min. Bore Dia.	Dimensions (mm)								Grade						
										MEGA COAT	PVD Coated Carbide	Carbide	PCD			
	DMIN	H	LF	LU	WF	WF ₂	RE	LBB	θ	PR1225	PR930	KW10	KPD001	KPD010		
VNBR 0206-003	2	3.9	26.5	6	1.8	0.25	0.03	1.2	24°	●	●	●				
	0311-003		3	30.8	11	2.6	0.40	0.03	1.8	24°	●	●	●			
	0411-003		4	30.8	11	3.5	0.50	0.03	2.7	23°	●	●	●			
	0420-003			39.8	20	3.5	0.50				●	●	●			
	0511-003		5	30.8	11	4.5	0.70	0.03	3.0	23°	●	●	●			
	0520-003			39.8	20	4.5	0.70				●	●	●			
	0620-003		6	39.8	20	5.3	1.00	0.03	3.0	24°	●	●	●			
	0630-003			49.8	30	5.3	1.00				●	●	●			
	0720-003		7	39.8	20	6.2	1.00					●	●			
	0730-003			49.8	30	6.2	1.00					●	●			
VNBR 0206-01	2	3.9	26.5	6	1.8	0.25	0.10	1.2	24°	●	●	●				
	0311-01		3	30.8	11	2.6	0.40	0.10	1.8	24°	●	●	●			
	0411-01		4	30.8	11	3.5	0.50	0.10	2.7	23°	●	●	●			
	0420-01			39.8	20	3.5	0.50				●	●	●			
	0511-01		5	30.8	11	4.5	0.70	0.10	3.0	23°	●	●	●			
	0520-01			39.8	20	4.5	0.70				●	●	●			
	0620-01		6	39.8	20	5.3	1.00	0.10	3.0	24°	●	●	●			
	0630-01			49.8	30	5.3	1.00				●	●				
	0720-01		7	39.8	20	6.2	1.00						●			
	0730-01			49.8	30	6.2	1.00					●				
VNBR 0206-02	2	3.9	26.5	6	1.8	0.25	0.20	1.2	24°	●	●	●				
	0311-02		3	30.8	11	2.6	0.40	0.20	1.8	24°	●	●	●			
	0411-02		4	30.8	11	3.5	0.50	0.20	2.7	23°	●	●	●			
	0420-02			39.8	20	3.5	0.50				●	●	●			
	0511-02		5	30.8	11	4.5	0.70	0.20	3.0	23°	●	●	●			
	0520-02			39.8	20	4.5	0.70				●	●	●			
	0620-02		6	39.8	20	5.3	1.00	0.20	3.0	24°	●	●	●			
	0630-02			49.8	30	5.3	1.00				●	●	●			
	0720-02		7	39.8	20	6.2	1.00					●	●			
	0730-02			49.8	30	6.2	1.00					●	●			
VNBR 0206-003NB	2	3.9	26.5	6	1.8	0.25	0.03	-	15°		●	●				
	0311-003NB		3	30.8	11	2.6				0.40		●	●			
	0411-003NB		4	30.8	11	3.5				0.50		●	●			
	0420-003NB			39.8	20	3.5				0.50		●	●			
	0511-003NB		5	30.8	11	4.5				0.70		●	●			
	0520-003NB			39.8	20	4.5				0.70		●	●			
	0620-003NB		6	39.8	20	5.3				1.00		●	●			
	0630-003NB			49.8	30	5.3				1.00		●	●			
	0720-003NB		7	39.8	20	6.2				1.00		●	●			
	0730-003NB			49.8	30	6.2				1.00		●	●			
VNBR 0206-02NB	2	3.9	26.5	6	1.8	0.25	0.20	-	15°			●				
	0311-02NB		3	30.8	11	2.6				0.40			●			
	0411-02NB		4	30.8	11	3.5				0.50			●	●	△	
	0420-02NB			39.8	20	3.5				0.50			●	●	△	
	0511-02NB		5	30.8	11	4.5				0.70			●	●	△	
	0520-02NB			39.8	20	4.5				0.70			●	●	△	
	0620-02NB		6	39.8	20	5.3				1.00			●	●	△	
	0630-02NB			49.8	30	5.3				1.00			●	●	△	
	0720-02NB		7	39.8	20	6.2				1.00			●	●	△	
	0730-02NB			49.8	30	6.2				1.00			●	●	△	
VNBTR 0411-003	4	3.9	30.8	11	3.6	1.00	0.03	-	-		●	●				
			0420-003	39.8	20	3.6				1.00		●				
	5		0511-003	30.8	11	4.6				1.30		●	●			
			0520-003	39.8	20	4.6				1.30		●				
VNBTR 0411-01	4	3.9	30.8	11	3.6	1.00	0.10	-	-	●	●	●				
			0420-01	39.8	20	3.6				1.00	●	●				
	5		0511-01	30.8	11	4.6				1.30		●	●	●		
			0520-01	39.8	20	4.6				1.30		●				

Recommended Cutting Conditions ● F105

Swiss IQ Bars are sold in 5 piece boxes.

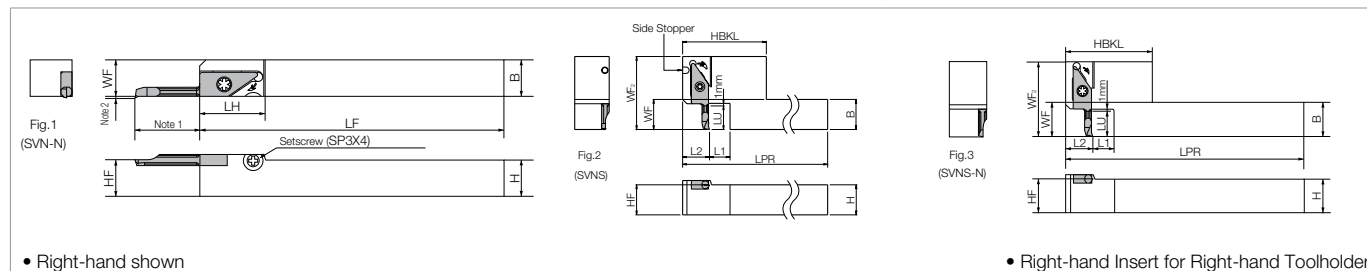
PCD Inserts are sold in 1 piece boxes.

INSERT GRADES	A
TURNING INSERTS	B
GEN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

SVN-N (Without Side Stopper)






SVNS (With Side Stopper)

SVNS-N (Without Side Stopper / Without Setscrew)



Toolholder Dimensions

Note 1 & Note 2 : See Insert Dimension Table. (F38-F39)



Part Number	Stock	Unit	Dimensions									Drawing	Spare Parts					Applicable Inserts ⬡ F38~F39 ⬡ G65 ⬡ G98 ⬡ J36
			H=HF	B	LF LPR	LH HBKL	L1	L2	WF	WF2	LU		Clamp Screw 	Wrench FT  LTW	Side Stopper 	Wrench 	Set Screw 	
SVNR 1010H-12N	●	mm	10	10	100	22	-	-	10	-	-	Fig.1	SB-3080TR	FT-10	-	-	SP3X4	VNBR.....-... VNBTR.....-... VNGR.....-... VNFR.....-... VNTR.....-...
1212K-12N	●		12	12	125	22	-	-	12	-	-							
1616K-12N	●		16	16	125	22	-	-	16	-	-							
2020K-12N	●		20	20	125	22	-	-	20	-	-							
2525M-12N	●		25	25	150	22	-	-	25	-	-							
SVNSR 8-12-11	●	inch	0.500	0.500	6.0	1.772	0.394	0.472	0.500	1.299	0.433	Fig.2	SB-3080TR	LTW-10S	HS3X4	LW-1.5	-	(VNBR..11-...)* (VNBTR..11-...)* (VNGR.....-11)* (VNTR...-11)*
8-12-20	●		0.500	0.500	6.0	1.772	0.394	0.492	0.500	1.654	0.787							
12-12-11	●		0.750	0.750	8.0	1.772	0.630	0.472	0.750	1.299	0.433							
12-12-20	●		0.750	0.750	8.0	1.772	0.630	0.492	0.750	1.654	0.787							
SVNSR 1010K-12-06N	●	mm	10	10	125	45	10	12	10	29	6	Fig.3	SB-3080TR	LTW-10S	-	-	-	(VNBR..06-...)
1010K-12-11N	●		10	10	125	45	10	12	10	33	11	Fig.3	SB-3080TR	LTW-10S	-	-	-	(VNBR..11-...)* (VNBTR..11-...)* (VNGR.....-11)* (VNTR....-11)*
1212M-12-06N	●		12	12	150	45	10	12	12	29	6	Fig.3	SB-3080TR	LTW-10S	-	-	-	(VNBR..06-...)
1212M-12-11N	●		12	12	150	45	10	12	12	33	11	Fig.3	SB-3080TR	LTW-10S	-	-	-	(VNBR..11-...)* (VNBTR..11-...)* (VNGR.....-11)* (VNTR....-11)*
1212M-12-20N	●		12	12	150	45	10	13	12	42	20	Fig.3	SB-3080TR	LTW-10S	-	-	-	(VNBR..20-...)* (VNBTR..20-...)* (VNGR.....-20)*
1616M-12-06N	●		16	16	150	45	16	12	16	29	6	Fig.3	SB-3080TR	LTW-10S	-	-	-	(VNBR..06-...)
1616M-12-11N	●		16	16	150	45	16	12	16	33	11	Fig.3	SB-3080TR	LTW-10S	-	-	-	(VNBR..11-...)* (VNBTR..11-...)* (VNGR.....-11)* (VNTR....-11)*
1616M-12-20N	●		16	16	150	45	16	13	16	42	20	Fig.3	SB-3080TR	LTW-10S	-	-	-	(VNBR..20-...)* (VNBTR..20-...)* (VNGR.....-20)*

※ All Swiss IQ Bar Inserts are used with SVNSR Toolholder, but when setting the cutting edge at the toolholder face level as shown in Fig. 2, use the Insert shown in (). In that case, the toolholder dimension LU becomes the same as HBKL of Insert Dimension.

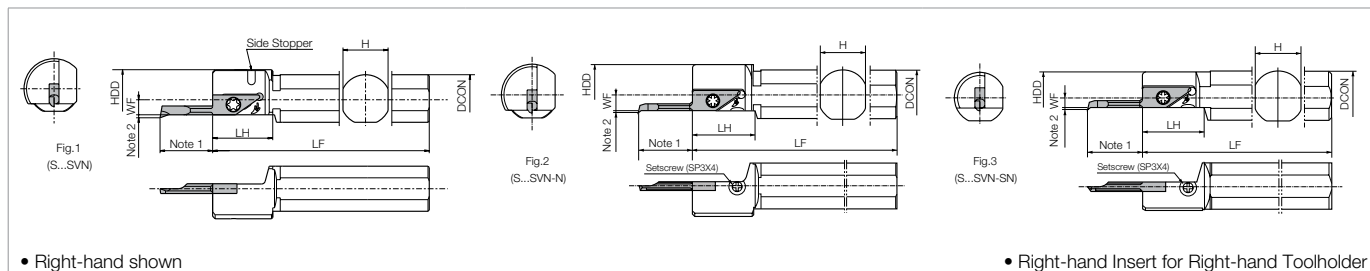
1) SVN-N / S...SVN-N / S-SVN-SN Toolholders (without side stopper) retain high index accuracy by easy restraint.

2) For high-rigidity clamping, (e.g. when varying load direction of undercutting, internal and external, or face cutting by one tool), changing the SP3X4 screw to a HS3X4 screw (sold separately) enables the toolholder's rigid clamping equivalent to the side stopper holders.

Spare Parts (Optional)

Screw (Side Stopper)	Wrench
	
HS3X4	LW-1.5

■ **S...SVN** (With Side Stopper : Standard) ■ **S...SVN-N** (Without Side Stopper : Standard) ■ **S...SVN-SN** (Without Side Stopper : Straight)



Note 1 & Note 2 : See Insert Dimension Table. (F38-F39)

Toolholder Dimensions

Part Number	Stock	Unit	Dimensions						Drawing	Spare Parts					Applicable Inserts F38-F39 G65 G98 J36
			DCON	HDD	H	LF	LH	WF		Clamp Screw	Wrench	Side Stopper	Wrench	Set Screw	
S08-SVNR12	●	inch	0.500	0.787	0.480	3.500	0.906	0.157	Fig.1	SB-3080TR	FT-10	HS3X4	LW-1.5	-	VNBR..... VNBTR..... VNGR..... VNFGR..... VNTR.....
S12F-SVNR12N	●	mm	12	20.0	11	80	23	4	Fig.2	SB-3080TR	FT-10	-	-	SP3X4	VNBR..... VNBTR..... VNGR..... VNFGR..... VNTR.....
S14G-SVNR12N	●		14	20.0	13	90	23	4							
S16H-SVNR12N	●		16	24.0	15	100	23	6							
S19H-SVNR12N	●	inch	0.750	0.945	0.669	3.937	0.945	0.236							
S19N-SVNR12N	●		0.750	0.945	0.669	6.299	0.945	0.236							
S20H-SVNR12N	●	mm	20	24.0	18	100	24	6	Fig.3	SB-3080TR	FT-10	-	-	SP3X4	VNBR..... VNBTR..... VNGR..... VNFGR..... VNTR.....
S25H-SVNR12N	●	inch	1.000	1.181	0.905	3.937	0.945	0.236							
S25Q-SVNR12N	●		1.000	1.181	0.905	7.086	0.945	0.236							
S20H-SVNR12SN	●	mm	20	19.5	18	100	23	4							
S22K-SVNR12SN	●		22	21.5	20	125	23	4							
S25.0G-SVNR12SN	●		25	24.5	23	90	23	4							

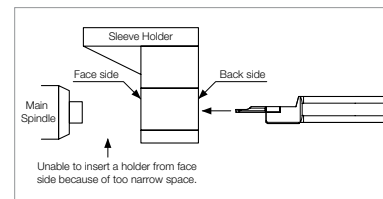
Swiss IQ Bar Selection

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)

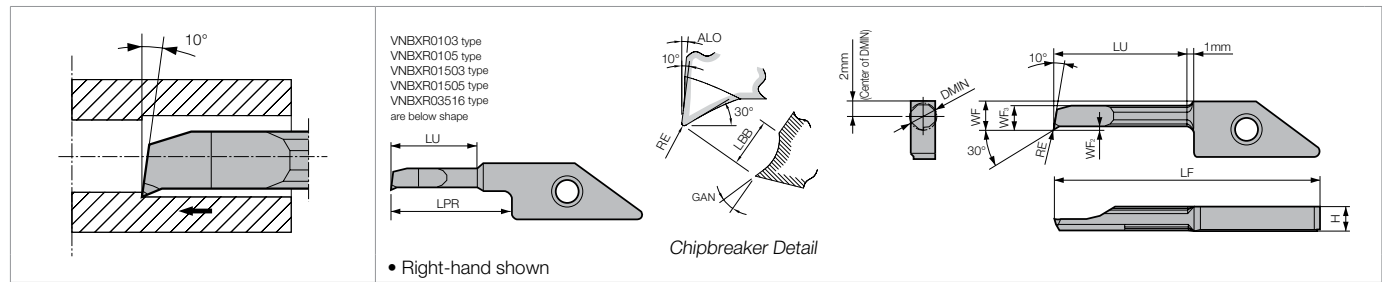
Recommended toolholder may change according to machines used and actual position.
Automatic lathes have various toolpost types other than those above.

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. below).
On the other hand, the standard type should be installed when it can be inserted from the face side.
The head end is used for positioning as stopper.



VNBX-S (Boring) [Corner-R(RE) Minus Tolerance]



Insert Dimensions (VNBX-S)

Part Number	Min. Bore Dia.	Dimensions (mm)											Grade
													PVD Coated Carbide
	DMIN	H	LF	LU	LPR	WF	WF ₂	WF ₃	RE	LBB	ALO	GAN	PR930
VNBXR 0103-005S	1.0	3.9	26.5	3	7	2.95	0.20	0.85	⁺⁰ _{-0.02} 0.05	0.7	7°	15°	●
0105-005S	1.0	3.9	26.5	5	7	2.95	0.20	0.85					●
01503-005S	1.5	3.9	26.5	3	7	2.95	0.20	1.30					●
01505-005S	1.5	3.9	26.5	5	7	2.95	0.20	1.30					●
0206-005S	2.0	3.9	26.5	6	-	3.00	0.25	1.80	⁺⁰ _{-0.02} 0.05	0.8	8°	18°	●
0311-005S	3.0	3.9	30.8	11	-	3.50	0.40	2.60					●
03511-005S	3.5	3.9	30.8	11	-	3.75	0.45	3.10					●
03516-005S	3.5	3.9	39.8	16	21	3.75	0.45	3.10					●
0411-005S	4.0	3.9	30.8	11	-	4.00	0.50	3.50					●
0420-005S	4.0	3.9	39.8	20	-	4.00	0.50	3.50					●
VNBXR 01503-01S	1.5	3.9	26.5	3	7	2.95	0.20	1.30	⁺⁰ _{-0.03} 0.10	0.7	7°	15°	●
01505-01S	1.5	3.9	26.5	5	7	2.95	0.20	1.30					●
0206-01S	2.0	3.9	26.5	6	-	3.00	0.25	1.80	⁺⁰ _{-0.03} 0.10	0.8	8°	18°	●
0311-01S	3.0	3.9	30.8	11	-	3.50	0.40	2.60					●
03511-01S	3.5	3.9	30.8	11	-	3.75	0.45	3.10					●
03516-01S	3.5	3.9	39.8	16	21	3.75	0.45	3.10					●
0411-01S	4.0	3.9	30.8	11	-	4.00	0.50	3.50					●
0420-01S	4.0	3.9	39.8	20	-	4.00	0.50	3.50					●
VNBXR 0411-02S	4.0	3.9	30.8	11	-	4.00	0.50	3.50	⁺⁰ _{-0.04} 0.20	0.8	8°	18°	●
0420-02S	4.0	3.9	39.8	20	-	4.00	0.50	3.50					●

Recommended Cutting Conditions ➡ F105

VNBX-S Attachment holder for VNBX-S Swiss IQ Bar

1. VNBX-S Attachment holder for VNBX-S Swiss IQ Bar is below (See page ➡ F43).

- ① SVNS-XN (Without Side Stopper)
- ② S...SVN-XN (Without Side Stopper)
- ③ S...SVN-SXN (Without Side Stopper)

2. Above holder assures high index accuracy by easy restraint.

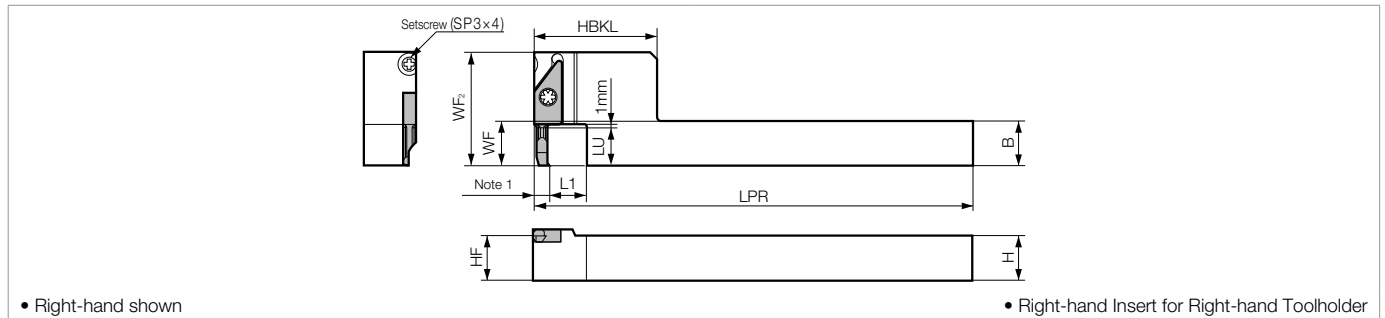
3. A holder which attaches setscrews (without side stopper) can be used as binding effect holder as with side stopper holder, once taking off the setscrew, and insert a screw (HS3X4: sold separately) with wrench (LW-1.5: sold separately).

Spare Parts (Optional)

Screw (Side Stopper)	Wrench
HS3X4	LW-1.5

Swiss IQ Bars are sold in 5 piece boxes.

SVNS-XN (Square Shank: L-shape)



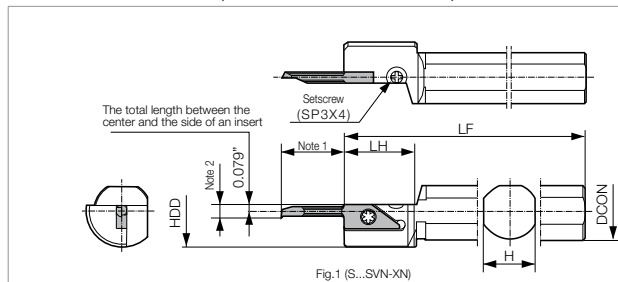
Note 1 dimension is same size as applicable insert (VNBX) WF dimension

Toolholder Dimensions

Part Number	Stock	Dimensions (mm)									Spare Parts			Applicable Inserts F42
		H	HF	B	LPR	HBKL	L1	WF	WF2	LU	Clamp Screw	Wrench	Setscrew	
SVNSR 1010K-12-06XN	●	10	10	10	125	45	10	10	29	6	SB-3080TR	LTW-10S	SP3X4	(VNBXR02..)
1010K-12-11XN	●	10	10	10	125	45	10	10	33	11				(VNBXR..11..)
1212M-12-06XN	●	12	12	12	150	45	10	12	29	6				(VNBXR02..)
1212M-12-11XN	●	12	12	12	150	45	10	12	33	11				(VNBXR..11..)
1212M-12-20XN	●	12	12	12	150	45	10	12	42	20				(VNBXR0420..)
1616M-12-06XN	●	16	16	16	150	45	16	16	29	6				(VNBXR02..)
1616M-12-11XN	●	16	16	16	150	45	16	16	33	11				(VNBXR..11..)
1616M-12-20XN	●	16	16	16	150	45	16	16	42	20				(VNBXR0420..)

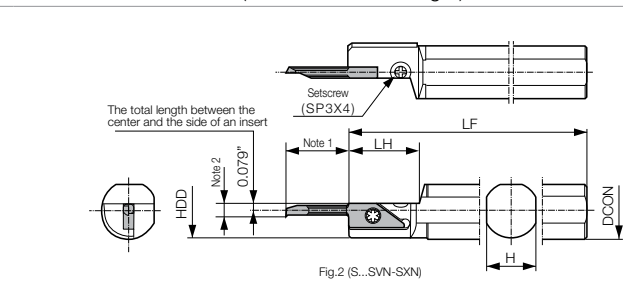
※ All Swiss IQ Bar Inserts are used with an SVNS-XN Toolholder, however, when setting the cutting edge at the face level of the toolholder as shown in Fig., use the insert shown in ().

S...SVN-XN (Round Shank: Standard)



• Right-hand shown

S...SVN-SXN (Round Shank: Straight)



• Right-hand Insert for Right-hand Toolholder

- Note 1 dimension shows the applicable insert (VNBX) LU dimension +1 mm.
- Note 2 dimension is same size as applicable insert (VNBX) WF dimension

Toolholder Dimensions (Holder center axis core and insert center are coaxial type)

Part Number	Stock	Unit	Dimensions					Drawing	Spare Parts			Applicable Inserts F42
			DCON	HDD	H	LF	LH		Clamp Screw	Wrench	Setscrew	
S12F-SVNR12XN	●	mm	12	20.0	11	80	23	Fig.1	SB-3080TR	FT-10	SP3X4	VNBXR...
S14G-SVNR12XN	●		14	20.0	13	90	23					
S16H-SVNR12XN	●		16	24.0	15	100	23					
S19H-SVNR12XN	●	inch	0.750	0.945	0.669	3.937	0.945					
S19N-SVNR12XN	●		0.750	0.945	0.669	6.299	0.945					
S20H-SVNR12XN	●	mm	20	24.0	18	100	24					
S25H-SVNR12XN	●	inch	1.000	1.181	0.905	3.937	0.945					
S25Q-SVNR12XN	●		1.000	1.181	0.905	7.086	0.945					
S19H-SVNR12SXN	●	mm	0.750	0.728	0.669	3.397	0.905	Fig.2	SB-3080TR	FT-10	SP3X4	VNBXR...
S20H-SVNR12SXN	●		20	19.5	18	100	23					
S22K-SVNR12SXN	●		22	21.5	20	125	23					
S25.0G-SVNR12SXN	●		25	24.5	23	90	23					

TWIN BAR FOR MICRO BORING


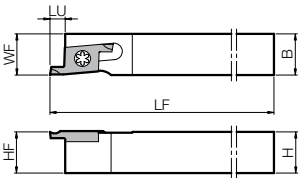
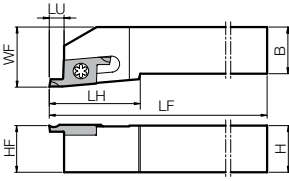
TWB (Micro Boring: Horizontal Type) [Corner-R(RE) Tolerance: +0/-0.02mm, +0/-0.03mm]

Part Number	Min.Bore Dia.	Dimensions (mm)				Insert Grade	
	DMIN	WF	WF ₂	RE		PVD Coated Carbide	
TWBR 01003-005	1.0	0.85	0.20	+0 -0.02 0.05	NEW	PR1535	PR1025
	1.5	1.30	0.20			●	△
	2.0	1.75	0.25			●	△
	2.5	2.10	0.30			●	△
	3.0	2.40	0.40			●	△
TWBR 01503-010	1.5	1.30	0.20	+0 -0.03 0.10		●	△
	2.0	1.75	0.25			●	△
	2.5	2.10	0.30			●	△
	3.0	2.40	0.40			●	△
	3.0	2.40	0.40			●	△



• Right-hand shown

STW (Square Shank for Horizontal Type Inserts)

(For Left-hand toolholder for grooving, please see [G100](#))


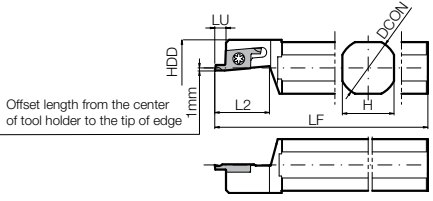

				
	<p>• Right-hand shown</p>		<p>• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder</p>	

Toolholder Dimensions

Part Number	Stock	Dimensions (mm)								Drawing	Spare Parts		Applicable Inserts Above
		H	HF	B	LF	LH	WF	LU	Clamp Screw		Wrench		
													
STWR 1212F-15	●	12	12	12	85	-	12	3	Fig.1	SB-3080TR	LTW-10S	TWBR○○○○○-○○○	

S...-STW (Round Shank for Horizontal Type Inserts)

(For Left-hand toolholder for grooving, please see [G100](#))

				
	<p>• Right-hand shown</p>		<p>• Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder</p>	

Toolholder Dimensions

Part Number		Stock	Dimensions (mm)							Drawing	Spare Parts		Applicable Inserts Above
			DCON	HDD	H	LF	L2	LH	LU		Clamp Screw	Wrench	
													
S20G-	STWR15	●	20.000	19.5	18	90	18	-	3	Fig.2	SB-3080TR	LTW-10S	TWBR○○○○○-○○○
S25.0J-	STWR15	●	25.000	24.5	23	110	22	-	3				


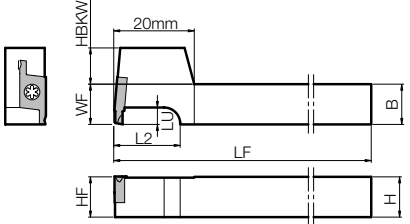
TWIN BAR FOR MICRO BORING

NEW
ITEMS!





TWBT (Micro Boring: Vertical Type) [Corner-R(RE) Tolerance: +0/-0.02mm, +0/-0.03mm]

Part Number	Min. Bore Dia.	Dimensions (mm)				Insert Grade	
		DMIN	WF	WF ₂	RE	PR1535	PR1025
TWBT 01003-005	1.0	0.85	0.20	+0 -0.02 0.05	NEW	●	△
01503-005	1.5	1.30	0.20			●	△
02003-005	2.0	1.75	0.25			●	△
02503-005	2.5	2.10	0.30			●	△
03003-005	3.0	2.30	0.40			●	△
TWBT 01503-010	1.5	1.30	0.20	+0 -0.03 0.1		●	△
02003-010	2.0	1.75	0.25			●	△
02503-010	2.5	2.10	0.30			●	△
03003-010	3.0	2.30	0.40			●	△

STWS (Square Shank for Vertical Type: L-shape)

	
• Right-hand shown	

Toolholder Dimensions

Part Number		Stock	Dimensions (mm)									Drawing	Spare Parts		Applicable Inserts  F45  G101
			H	HF	B	LF	L2	WF	HBKW	LU	Clamp Screw		Wrench		
															
STWSR	1212JX-15T	●	12	12	12	120	16	12	7	3	-	SB-3080TR	LTW-10S	TWBTR○○○○○-○○○ TWFGTR○○○	
	1616JX-15T	●	16	16	16	120	20	16	3	3	-				
STWSR	1010F-15T	●	10	10	10	85	16	10	9	3	-	SB-3080TR	LTW-10S	TWBTR○○○○○-○○○ TWFGTR○○○	
	1212F-15T	●	12	12	12	85	16	12	7	3	-				

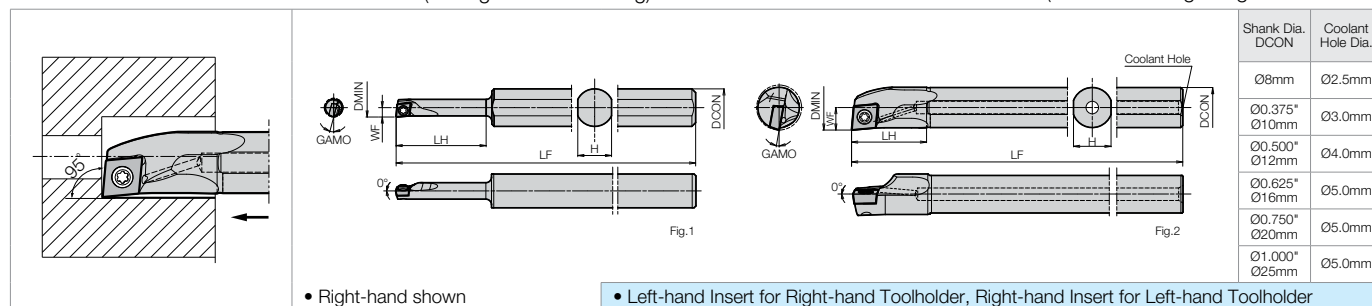
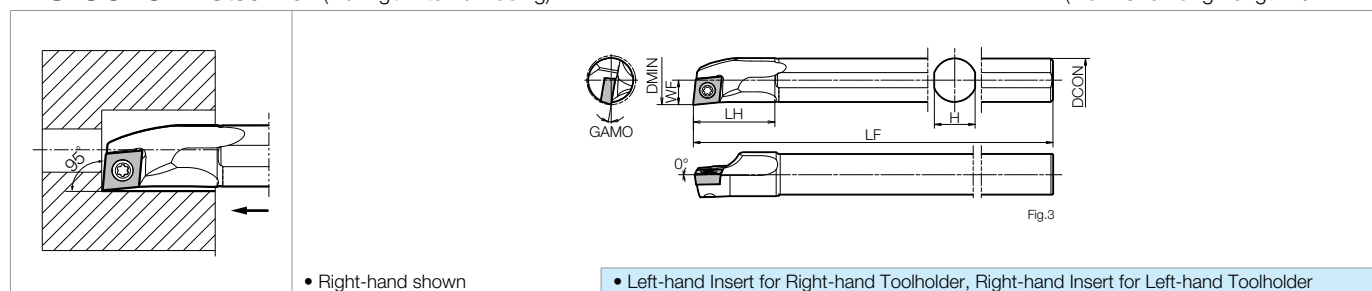
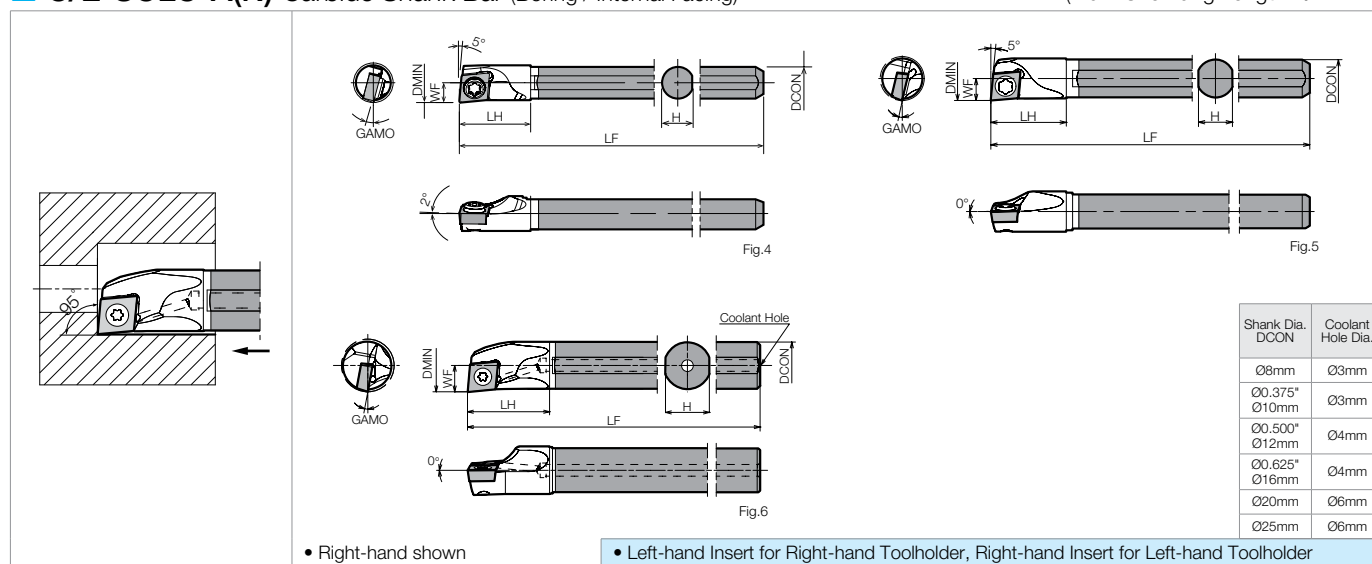
Recommended Cutting Conditions (TWB / TWBT)

Workpiece Material	Recommended Grade (Vc sfm)		TWBR01003 TWBR01503 TWBTR01003 TWBTR01503		TWBR02003 TWBR02503 TWBR03003 TWBTR02003 TWBTR02503 TWBTR03003		Notes
	PVD Coated Carbide						
	PR1535	PR1025	Depth of Cut: D.O.C. (inch), Feed: f (ipr)				
			D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	★ 100~330	☆ 100~330	~0.0039	~0.0004	~0.0079	~0.0012	Wet
Stainless Steel	★ 100~260	☆ 100~260	~0.0039	~0.0004	~0.0079	~0.0008	



★ : 1st Recommendation ☆ : 2nd Recommendation

INSERT GRADES
TURNING INSERTS
GEN/PCD INSERTS
TURNING HOLDERS
SMALL TOOLS
BORING
GROOVING
CUT-OFF
THREADING
DRILLING
MILLING
QUICK CHANGE TOOLING
SPARE PARTS
TECHNICAL
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A/S-SCLC-AE Excellent Bar (Boring / Internal Facing)(Max. Overhang Length $L/D = \sim 5.5$)**S-SCLC-A** Steel Bar (Boring / Internal Facing)(Max. Overhang Length $L/D = \sim 4$)**C/E-SCLC-A(N)** Carbide Shank Bar (Boring / Internal Facing)(Max. Overhang Length $L/D = \sim 7$)

● Toolholder Dimensions

Part Number		Stock		Unit	Min. Bore Dia.	Dimensions					GAMO	Standard Corner-R (RE)	Coolant Hole	Drawing	Spare Parts		
		R	L			DMIN	DCON	H	LF	LH					WF		
Excellent Bar	A06M-SCLC% 2AE	●	●	inch	0.480	0.375	0.336	6.000	0.787	0.236	12°	1/64	Yes	Fig.2	SB-2545TR	FT-8	
	A08M-SCLC% 2AE	●	●		0.600	0.500	0.461	6.000	0.945	0.276	10°						
	A10R-SCLC% 3AE	●	●		0.770	0.625	0.586	8.000	1.181	0.354	10°						
	A12S-SCLC% 3AE	●	●		0.930	0.750	0.711	10.000	1.417	0.413	8°						
	A16T-SCLC% 3AE	●	●		1.200	1.000	0.961	12.000	1.811	0.531	6°						
	S10H-SCLC% 03-05AE	●	●	mm	5	10	9.0	100	24	2.5	15°	0.2	No	Fig.1	SB-1635TR	FT-6	
	S10H-SCLC% 03-06AE	●	●		6	10	9.0	100	28	3.0	13°						
	S10H-SCLC% 04-07AE	●	●		7	10	9.0	100	32	3.5	13°						
	S10H-SCLC% 04-08AE	●	●		8	10	9.0	100	37	4.0	11°						
	A08X-SCLC% 06-10AE	●	●		10	8	7.0	120	16	5.0	14°						
	A10L-SCLC% 06-12AE	●	●		12	10	9.0	140	20	6.0	12°	0.4	Yes	Fig.2	SB-2545TR	FT-8	
	A12M-SCLC% 06-14AE	●	●		14	12	11.0	150	24	7.0	10°						
	A16Q-SCLC% 09-18AE	●	●		18	16	15.0	180	30	9.0	10°						
	A20R-SCLC% 09-22AE	●	●		22	20	19.0	200	36	11.0	8°						
	A25S-SCLC% 09-27AE	●	●		27	25	24.0	250	46	13.5	6°						
S08X-SCLC% 06-10A	●	●	10	8	7.0	120	16	5.0	14°	0.4	No						Fig.3
S10L-SCLC% 06-12A	●	●	12	10	9.0	140	20	6.0	12°								
S12M-SCLC% 06-14A	●	●	14	12	11.0	150	24	7.0	10°								
S16Q-SCLC% 09-18A	●	●	18	16	15.0	180	30	9.0	10°								
S20R-SCLC% 09-22A	●	●	22	20	19.0	200	36	11.0	8°								
S25S-SCLC% 09-27A	●	●	27	25	24.0	250	46	13.5	6°								
Steel	E06N-SCLC% 2A	●	●	inch	0.480	0.375	0.336	6.300	0.787	0.236	12°	1/64	Yes	Fig.6	SB-2545TR	FT-8	
	E06N-SCLC% 2A-2/3	□	□		0.480	0.375	0.336	4.200	0.787	0.236	12°						
	E08Q-SCLC% 2A	●	●		0.600	0.500	0.461	7.100	0.906	0.276	10°						
	E08Q-SCLC% 2A-2/3	□	□		0.600	0.500	0.461	4.800	0.906	0.276	10°						
	E10X-SCLC% 3A	●	●		0.770	0.625	0.586	8.700	1.102	0.354	10°				SB-4065TR	FT-15	
	E10X-SCLC% 3A-2/3	●	□		0.770	0.625	0.586	5.800	1.102	0.354	10°						
Carbide	C04G-SCLC% 03-05AN	●	●	mm	5	4	3.8	90	7	2.5	15°	0.2	No	Fig.4	SB-1635TR	FT-6	
	C05H-SCLC% 03-06AN	●	●		6	5	4.4	100	9	3.0	13°	0.2	No	Fig.5	SB-1635TR	FT-6	
	C06J-SCLC% 04-07AN	●	●		7	6	5.4	110	10	3.5	13°	0.2	No	Fig.5	SB-2035TR	FT-6	
	C07K-SCLC% 04-08AN	●	●		8	7	6.4	125	11	4.0	11°						
	E08L-SCLC% 06-10AN	●	●		10	8	7.0	140	14	5.0	14°						
	E08L-SCLC% 06-10AN-2/3	●	●		10	8	7.0	90	14	5.0	14°						
	E10N-SCLC% 06-12AN	●	●		12	10	9.0	160	18	6.0	12°	0.4	Yes	Fig.6	SB-2545TR	FT-8	
	E10N-SCLC% 06-12AN-2/3	●	●		12	10	9.0	105	18	6.0	12°						
	E12Q-SCLC% 06-14A	●	●		14	12	11.0	180	23	7.0	10°						
	E12Q-SCLC% 06-14A-2/3	●	●		14	12	11.0	120	23	7.0	10°						
	E16X-SCLC% 09-18A	●	●		18	16	15.0	220	28	9.0	10°						
	E16X-SCLC% 09-18A-2/3	●	●		18	16	15.0	145	28	9.0	10°						
	E20S-SCLC% 09-22A	●	●		22	20	19.0	250	32	11.0	8°	0.4	Yes	Fig.6	SB-4065TR	FT-15	
	E20S-SCLC% 09-22A-2/3	●	●		22	20	19.0	165	32	11.0	8°						
	E25T-SCLC% 09-27A	●	●		27	25	24.0	300	38	13.5	6°						
	E25T-SCLC% 09-27A-2/3	●	●		27	25	24.0	200	38	13.5	6°						

● Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Medium	Finishing-Medium	Finishing / Precision
Ref. Page	● B53	● B53	● B53	● B54	● B54	● B54	● B54	● B54, B55	● B53	● B55, B56
Insert	CF	PF	SKS	WP (Wiper)	PP	GK	HQ	Standard	GQ	%-F / FSF
Toolholder										
...SCLC% 03-...	CCGT1109..	CCGT1109..	-	-	-	-	-	-	-	CCCT1109..
...SCLC% 04-...	CCGT1411..	CCGT1411..	-	-	-	-	-	-	-	CCCT1411..
...SCLC% 2-...	-	CCGT215..	CCGT215..	CCMT215..	CCMT215..	CCMT215..	CCMT215..	CCGT215..	CCGT215..	-
...SCLC% 06-...	-	-	CCGT325..	CCMT325	CCMT325	CCMT325	CCMT325..	CCGT325..	CCGT325..	-
Application	※Finishing	Low Feed	Low Feed / Precision	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	● B57	● B58, B59	● B57	● B55	● B60	● B60	● B60	● B60	● C24	● C14
Insert	%-P	(E/F)%-U	F%-USF	MQ	Without Chipbreaker	AP	A3	AH	PCD	CBN
Toolholder										
...SCLC% 03-...	-	-	-	-	-	-	-	-	-	CCMW1109..
...SCLC% 04-...	-	-	-	-	-	-	-	-	CCGW1411..	CCMW1411..
...SCLC% 2-...	-	CCGT215..	CCET215..	-	CCGW215..	CCGT215..	-	-	CCMT215..	CCMW215..
...SCLC% 06-...	-	-	-	-	-	-	-	-	CCGW215..	-
...SCLC% 3-...	CCET325..	CCGT325..	CCET325..	CCMT325..	CCGW325..	CCGT325..	CCGT325..	CCGT325..	CCMT325..	CCMW325..
...SCLC% 09-...	-	-	-	-	-	-	-	-	-	-

※For P chipbreaker inserts, Left-hand Insert for Left-hand Toolholder, Right-hand Insert for Right-hand Toolholder

Recommended Cutting Conditions ● F116-F117

(Customer Service) 800.823.7284 - Option 1

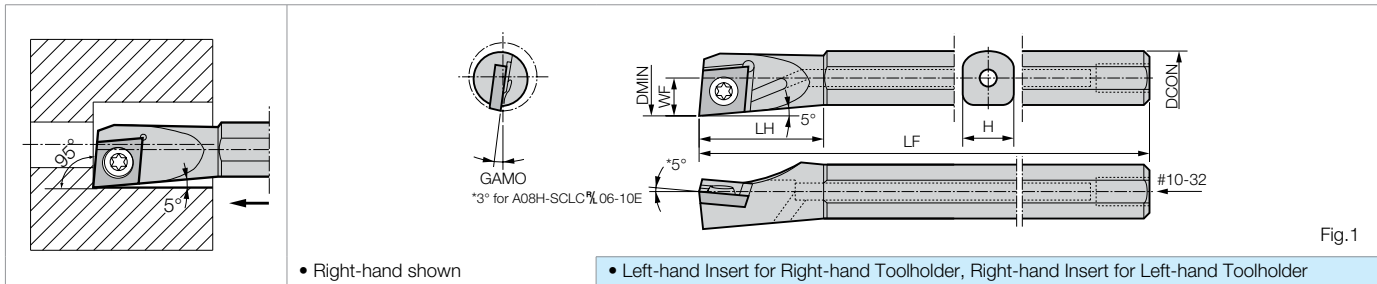
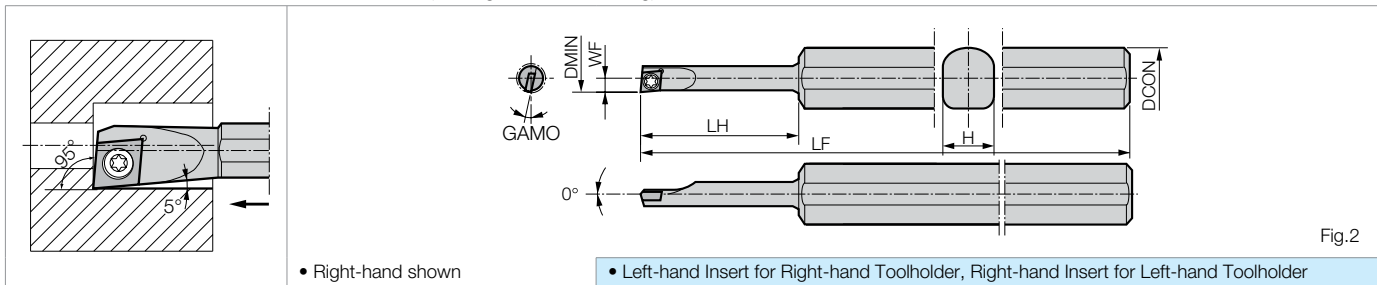
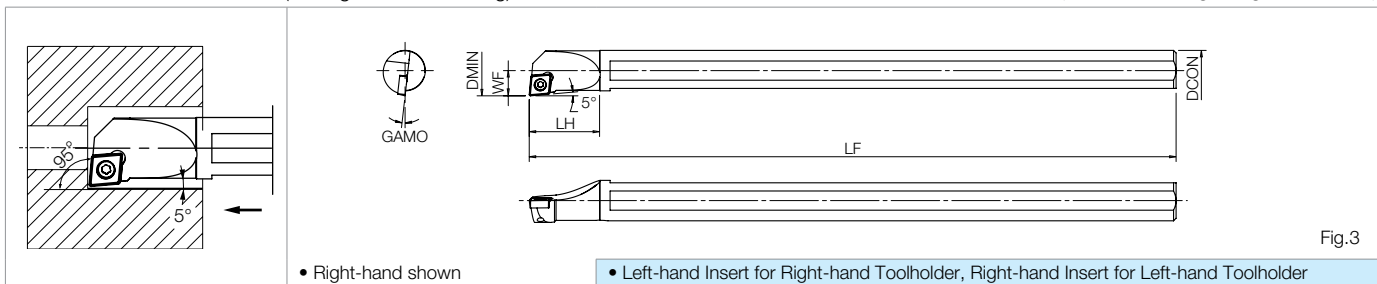
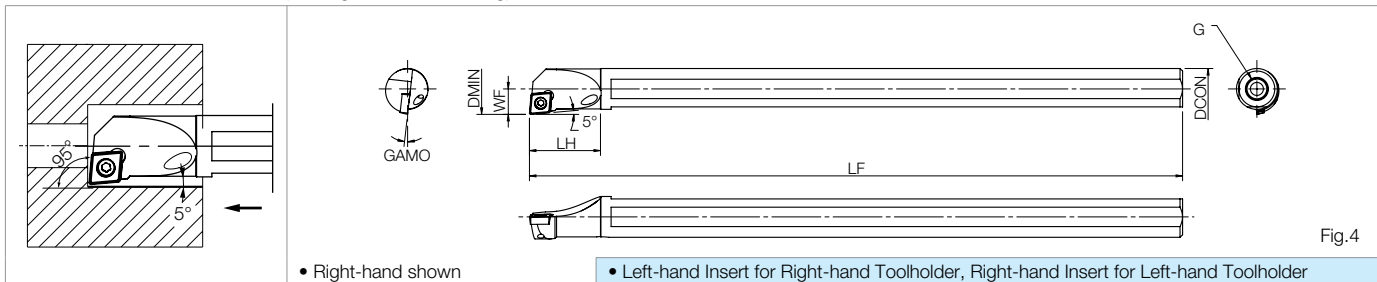
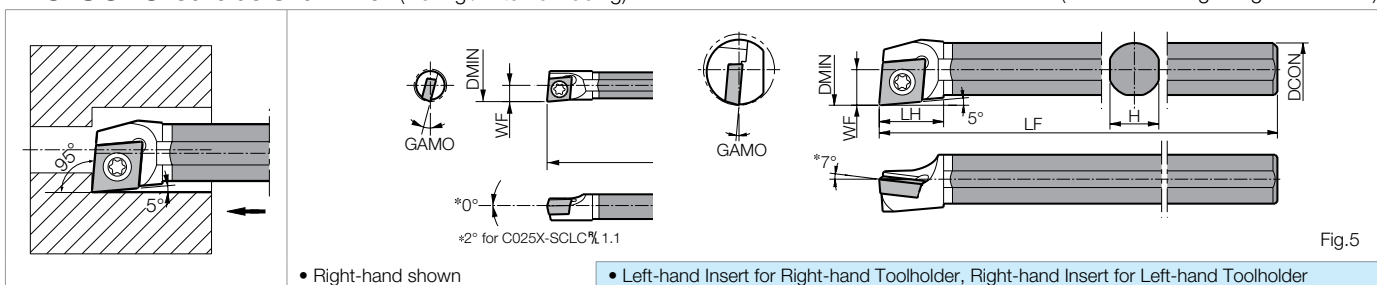
Applicable Sleeve ● F107-F110

(Technical Support) 800.823.7284 - Option 2



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A-SCLC-E Excellent Twin Hole Bar (Boring / Internal Facing)(Max. Overhang Length $L/D \sim 5$)**S-SCLC-E** Excellent Steel Bar (Boring / Internal Facing)(Max. Overhang Length $L/D \sim 5$)**S-SCLC** Steel Bar (Boring / Internal Facing)(Max. Overhang Length $L/D \sim 3$)**A-SCLC** Steel Bar (Boring / Internal Facing)(Max. Overhang Length $L/D \sim 3$)**C-SCLC** Carbide Shank Bar (Boring / Internal Facing)(Max. Overhang Length $L/D \sim 7$)

● Toolholder Dimensions

Part Number		Stock		Unit	Min. Bore Dia.	Dimensions					GAMO	G	Standard Corner-R (RE)	Coolant Hole	Drawing	Spare Parts		
		R	L			DMIN	DCON	H	LF	LH						WF		
Excellent Bar	S06H-SCLCR1.1E **	●		inch	0.197	0.375	0.335	4.000	0.900	0.098	15°	-	1/64	No	Fig.2	SB-1635TR	FT-6	
	A05H-SCLC ^{1/2} E	●	□		0.394	0.312	0.281	4.000	0.650	0.197	12°	-		Yes	Fig.1	SB-2545TR	FT-8	
Steel	S05K-SCLC ^{1/2}	●	●		0.394	0.312	-	5.000	0.625	0.197	12°	-	0.004	No	Fig.3	SB-2545TR	FT-8	
	A05K-SCLCR2	●			0.415	0.313	-	5.000	0.870	0.218	11°	-	1/64	Yes	Fig.4	SB-2545TR	FT-8	
	A08R-SCLCR2	●			0.600	0.500	-	8.000	0.870	0.312	6°	-	1/64	Yes				
	A10S-SCLCR2	●			0.770	0.625	-	10.000	0.870	0.406	4°	1/8 NPT	1/64	Yes				
Carbide	C05K-SCLCR2	●			0.394	0.312	0.282	5.000	0.625	0.197	12°	-	0.004	No	Fig.5	SB-2545TR	FT-8	

** Optional sleeve SL2.5-10 (0.625" dia.) is available. (Sleeve screw: SLS-2, sleeve wrench: LW-2)

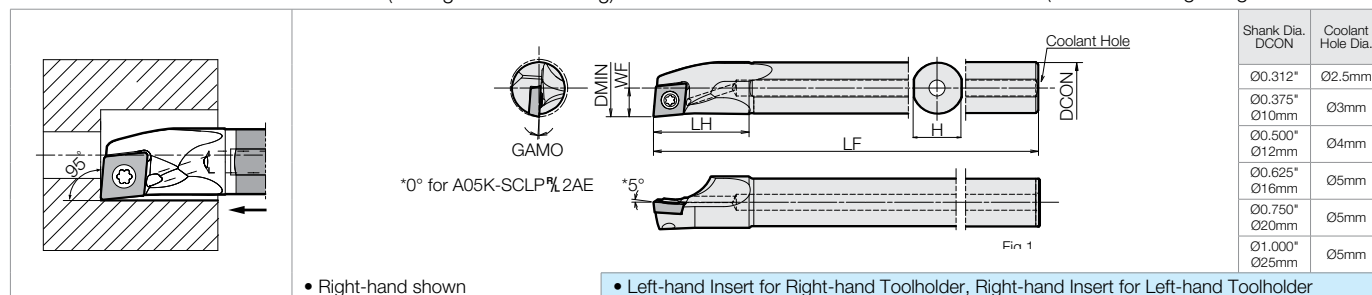
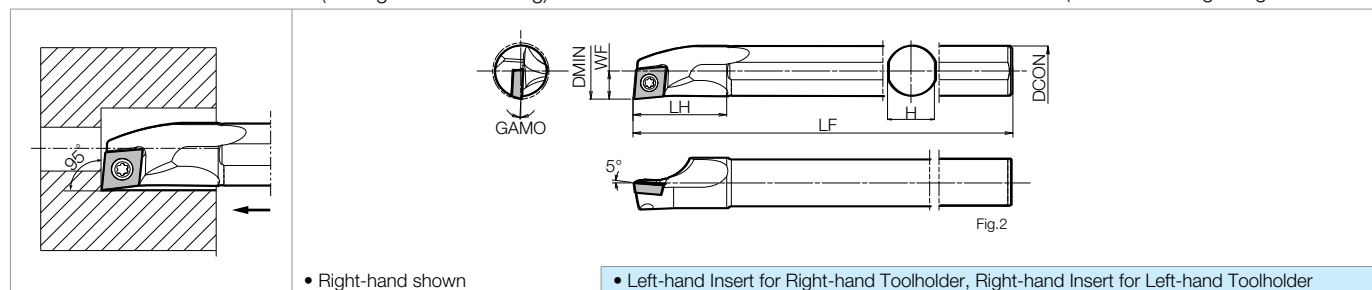
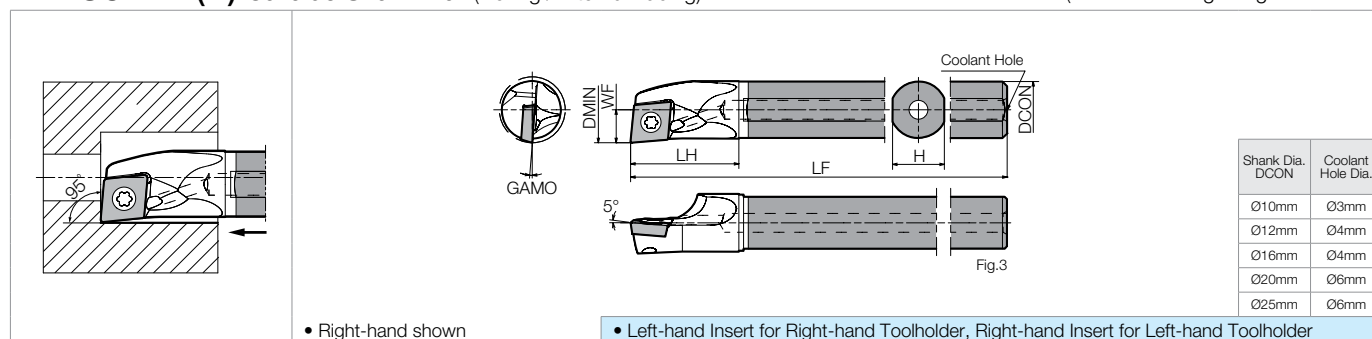
● Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Medium	Finishing-Medium	Finishing / Precision
Ref. Page	● B53	● B53	● B53	● B54	● B54	● B54	● B54	● B54, B55	● B53	● B55, B56
Toolholder	CF	PF	SKS	WP (Wiper)	PP	GK	HQ	Standard	GQ	¾-F / FSF
...SCLC% 1.1	CCGT1109..	CCGT1109..	-	-	-	-	-	-	-	CCJT1109..
...SCLC% 1.1E	-	CCGT215..	CCGT215..	CCMT215..	CCMT215..	CCMT215..	CCMT215..	CCGT215..	CCGT215..	-
...SCLC% 2	-	CCGT215..	CCGT215..	CCMT215..	CCMT215..	CCMT215..	CCMT215..	CCGT215..	CCGT215..	-
...SCLC% 2E	-	CCGT215..	CCGT215..	CCMT215..	CCMT215..	CCMT215..	CCMT215..	CCGT215..	CCGT215..	-
Application	※Finishing	Low Feed	Low Feed / Precision	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	● B57	● B58, B59	● B57	● B55	● B60	● B60	● B60	● B60	● C24	● C14
Toolholder	¾-P	(E/F)¾-U	F¾-USF	MQ	Without Chipbreaker	AP	A3	AH	PCD	CBN
...SCLC% 1.1	-	-	-	-	-	-	-	-	-	CCMW1109..
...SCLC% 1.1E	-	-	-	-	-	-	-	-	-	CCMW1109..
...SCLC% 2	-	CCGT215..	CCGT215..	-	CCGW215..	CCGT215..	-	-	CCMT215.. CCGW215..	CCMW215..
...SCLC% 2E	-	CCGT215..	CCGT215..	-	CCGW215..	CCGT215..	-	-	CCMT215.. CCGW215..	CCMW215..


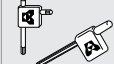
※For P chipbreaker inserts, Left-hand Insert for Left-hand Toolholder, Right-hand Insert for Right-hand Toolholder

Recommended Cutting Conditions ● F116-F117











Applicable Sleeve ● F107-F110

A-SCLP-AE Excellent Bar (Boring / Internal Facing)(Max. Overhang Length $L/D = \sim 5.5$)**S-SCLP-A** Steel Bar (Boring / Internal Facing)(Max. Overhang Length $L/D = \sim 4$)**E-SCLP-A(N)** Carbide Shank Bar (Boring / Internal Facing)(Max. Overhang Length $L/D = \sim 7$)

● Toolholder Dimensions

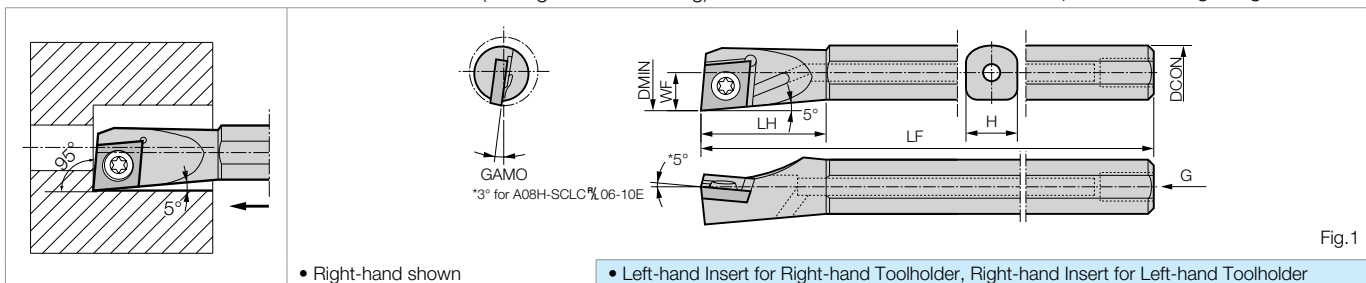
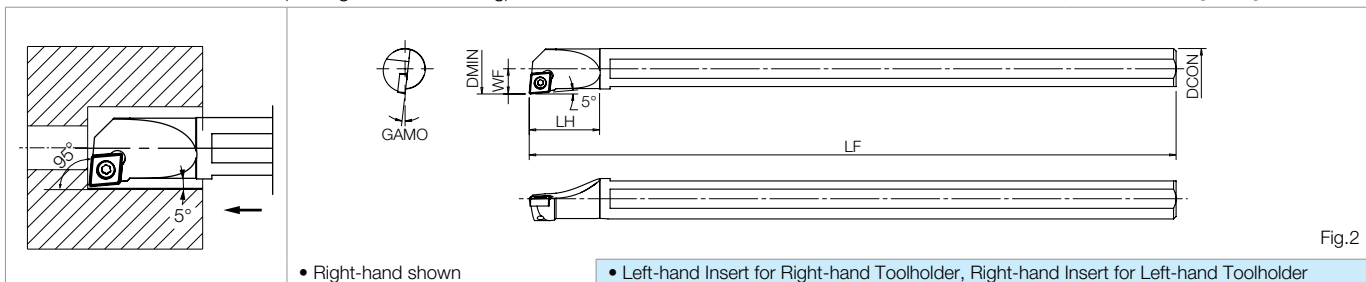
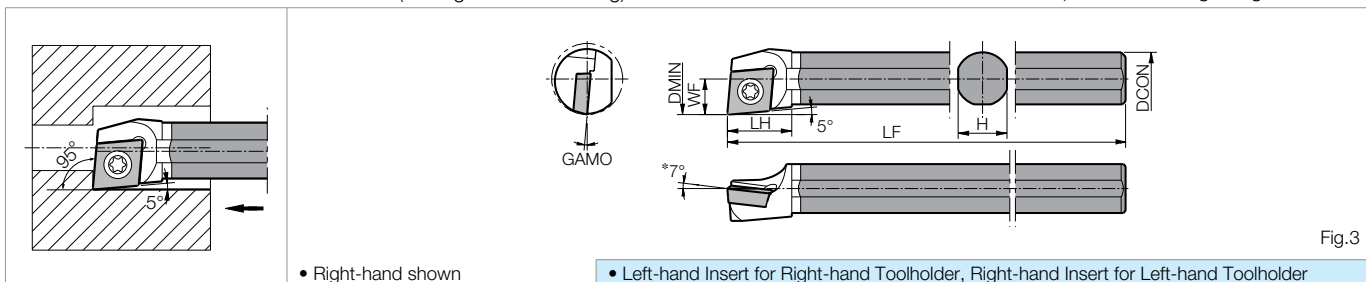
Part Number		Stock		Unit	Min. Bore Dia.	Dimensions					GAMO	Standard Corner-R (RE)	Coolant Hole	Drawing	Spare Parts		
		R	L			DMIN	DCON	H	LF	LH					WF		
Excellent Bar	A05K-SCLP% 2AE	●	●	inch	0.413	0.312	0.273	5	0.630	0.197	10.0°	1/64	Yes	Fig.1	SB-2545TR	FT-8	
	A06M-SCLP% 2.5AE	●	●		0.480	0.375	0.336	6	0.787	0.236	5.0°	1/64	Yes	Fig.1	SB-3060TR	FT-10	
	A08M-SCLP% 2.5AE	●	●		0.580	0.500	0.461	6	0.945	0.276	4.0°	1/64	Yes	Fig.1	SB-3060TR	FT-10	
	A10R-SCLP% 3AE	●	●		0.700	0.625	0.586	8	1.181	0.354	3.5°	1/64	Yes	Fig.1	SB-4065TR	FT-15	
	A12S-SCLP% 3AE	●	●		0.825	0.750	0.711	10	1.417	0.413	2.0°	1/64	Yes	Fig.1	SB-4065TR	FT-15	
	A16T-SCLP% 3AE	●	●		1.200	1.000	0.961	12	1.811	0.531	0.0°	1/64	Yes	Fig.1	SB-4065TR	FT-15	
		A10L-SCLP% 08-12AE	●	●	mm	12	10	9	140	20	6	5.0°	0.4	Yes	Fig.1	SB-3060TR	FT-10
		A12M-SCLP% 08-14AE	●	●		14	12	11	150	24	7	4.0°	0.4	Yes	Fig.1	SB-3060TR	FT-10
		A12M-SCLP% 09-16AE	●	●		16	12	11	150	24	8	4.0°	0.4	Yes	Fig.1	SB-4065TR	FT-15
		A16Q-SCLP% 09-18AE	●	●		18	16	15	180	30	9	3.5°	0.4	Yes	Fig.1	SB-4065TR	FT-15
		A20R-SCLP% 09-22AE	●	●		22	20	19	200	36	11	2.0°	0.4	Yes	Fig.1	SB-4065TR	FT-15
		A25S-SCLP% 09-27AE	●	●		27	25	24	250	46	13.5	0.0°	0.4	Yes	Fig.1	SB-4065TR	FT-15
Steel	S10L-SCLP% 08-12A	●	●	mm	12	10	9	140	20	6	5.0°	0.4	No	Fig.2	SB-3060TR	FT-10	
	S12M-SCLP% 08-14A	●	●		14	12	11	150	24	7	4.0°	0.4	No	Fig.2	SB-3060TR	FT-10	
	S12M-SCLP% 09-16A	●	●		16	12	11	150	24	8	4.0°	0.4	No	Fig.2	SB-4065TR	FT-15	
	S16Q-SCLP% 09-18A	●	●		18	16	15	180	30	9	3.5°	0.4	No	Fig.2	SB-4065TR	FT-15	
	S20R-SCLP% 09-22A	●	●		22	20	19	200	36	11	2.0°	0.4	No	Fig.2	SB-4065TR	FT-15	
	S25S-SCLP% 09-27A	●	●		27	25	24	250	46	13.5	0.0°	0.4	No	Fig.2	SB-4065TR	FT-15	
Carbide	E10N-SCLP% 08-12AN	●	●	mm	12	10	9	160	18	6	5°	0.4	Yes	Fig.3	SB-3060TR	FT-10	
	E10N-SCLP% 08-12AN-2/3	●			12	10	9	105	18	6	5°	0.4	Yes	Fig.3	SB-3060TR	FT-10	
	E10N-SCLP% 08-12AN-1/2	●			12	10	9	80	18	6	5°	0.4	Yes	Fig.3	SB-3060TR	FT-10	
	E12Q-SCLP% 08-14A	●	●		14	12	11	180	23	7	4°	0.4	Yes	Fig.3	SB-3060TR	FT-10	
	E12Q-SCLP% 08-14A-2/3	●			14	12	11	120	23	7	4°	0.4	Yes	Fig.3	SB-3060TR	FT-10	
	E12Q-SCLP% 08-14A-1/2	●			14	12	11	90	23	7	4°	0.4	Yes	Fig.3	SB-3060TR	FT-10	
	E12Q-SCLP% 09-16A	●	●		16	12	11	180	23	8	5°	0.4	Yes	Fig.3	SB-4065TR	FT-15	
	E12Q-SCLP% 09-16A-2/3	●			16	12	11	120	23	8	5°	0.4	Yes	Fig.3	SB-4065TR	FT-15	
	E12Q-SCLP% 09-16A-1/2	●			16	12	11	90	23	8	5°	0.4	Yes	Fig.3	SB-4065TR	FT-15	
	E16X-SCLP% 09-18A	●	●		18	16	15	220	28	9	3.5°	0.4	Yes	Fig.3	SB-4065TR	FT-15	
	E16X-SCLP% 09-18A-2/3	●			18	16	15	145	28	9	3.5°	0.4	Yes	Fig.3	SB-4065TR	FT-15	
	E16X-SCLP% 09-18A-1/2	●			18	16	15	110	28	9	3.5°	0.4	Yes	Fig.3	SB-4065TR	FT-15	
	E20S-SCLP% 09-22A	●	●		22	20	19	250	32	11	2°	0.4	Yes	Fig.3	SB-4065TR	FT-15	
	E20S-SCLP% 09-22A-2/3	●			22	20	19	165	32	11	2°	0.4	Yes	Fig.3	SB-4065TR	FT-15	
	E20S-SCLP% 09-22A-1/2	●			22	20	19	125	32	11	2°	0.4	Yes	Fig.3	SB-4065TR	FT-15	
	E25T-SCLP% 09-27A	●	●		27	25	24	300	38	13.5	0°	0.4	Yes	Fig.3	SB-4065TR	FT-15	
	E25T-SCLP% 09-27A-2/3	●			27	25	24	200	38	13.5	0°	0.4	Yes	Fig.3	SB-4065TR	FT-15	

● Applicable Inserts

Application	Finishing	Finishing	Finishing-Medium	Medium	Finishing-Medium	Low Carbon Steel/Finishing	Low Carbon Steel/Finishing-Medium	Cast Iron	Non-ferrous Metals	Hardened Materials
Ref. Page	● B61	● B61	● B61	● B61	● B61	● B61	● B61	● B61	● C25	● C14
Insert										
Toolholder	PP	GP	HQ	Standard	%-Y	XP	XQ	Without Chipbreaker	PCD	CBN
...SCLP% 2AE...	-	-	-	CPGT215..	-	-	-	-	-	-
...SCLP% 2.5AE...	CPMT2515..	CPMT2515..	CPMH2515..	CPMH2515..	CPMH2515..	CPMT2515..	-	CPMB2515..	CPMH2515..	CPGB2515..
...SCLP% 08-...	CPMT2515..	CPMT2515..	CPMH2515..	CPMH2515..	CPMH2515..	CPMT2515..	-	CPMB2515..	CPMH2515..	CPGB2515..
...SCLP% 3AE...	CPMT32..	CPMT32..	CPMH32..	CPMH32..	CPMH32..	CPMT32..	CPMT32..	CPMB32..	CPMH32..	CPGB32..
...SCLP% 09-...	CPMT32..	CPMT32..	CPMH32..	CPMH32..	CPMH32..	CPMT32..	CPMT32..	CPMB32..	CPMH32..	CPGB32..

Recommended Cutting Conditions ● F116-F117











Applicable Sleeve ● F108-F110

A-SCLP-E Excellent Twin Hole Bar (Boring / Internal Facing)(Max. Overhang Length $L/D \approx 5$)**S-SCLP** Steel Bar (Boring / Internal Facing)(Max. Overhang Length $L/D \approx 3$)**C-SCLP** Carbide Shank Bar (Boring / Internal Facing)(Max. Overhang Length $L/D \approx 7$)

● Toolholder Dimensions

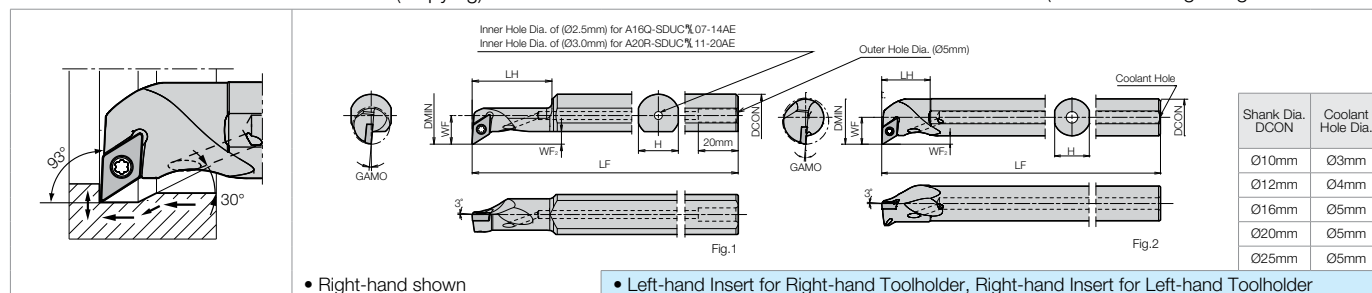
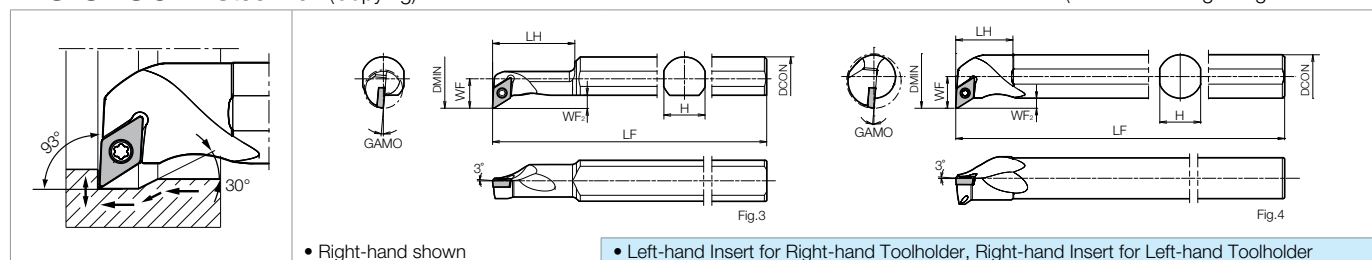
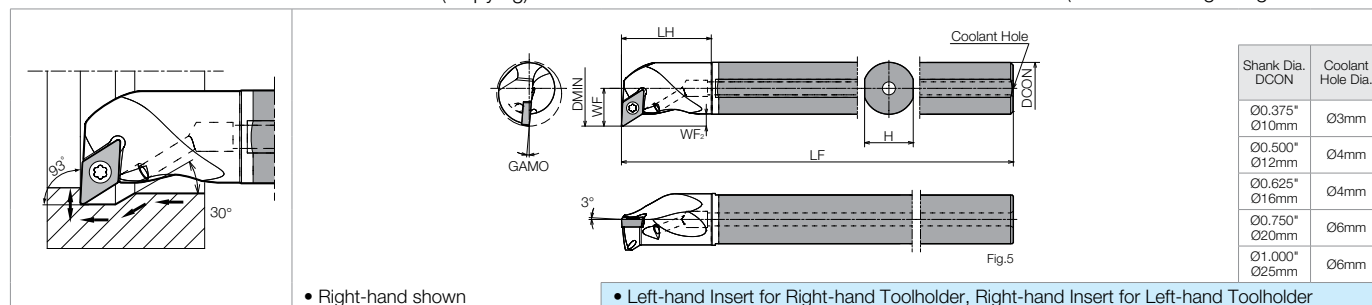
Part Number			Stock		Unit	Min. Bore Dia.	Dimensions						GAMO	Standard Corner-R (RE)	Coolant Hole	Drawing	Spare Parts		
			R	L			DMIN	DCON	H	LF	LH	WF					G	Clamp Screw	Wrench
Excellent Bar	A06X-SCLP $\frac{R}{L}$ 2.5E	●		inch	0.472	0.375	0.336	4.75	0.900	0.236	#10-32	5°	1/64	Yes	Fig.1	SB-3STR	FT-8		
	A08X-SCLP $\frac{R}{L}$ 3E	●			0.632	0.500	0.461	4.75	1.140	0.315	1/4-28	4°		Yes		SB-4TR	FT-15		
	A10M-SCLP $\frac{R}{L}$ 3E	●			0.709	0.625	0.586	6.00	1.220	0.354	5/16-24	3°		Yes					
Steel	S06M-SCLP $\frac{R}{L}$ 2.5	●	●		0.472	0.375	-	6.00	1.000	0.236	-	5°	1/64	No	Fig.2	SB-3STR	FT-10		
	S08M-SCLP $\frac{R}{L}$ 3	●	●		0.630	0.500	-	6.00	1.180	0.315	-	4°	1/64	No		SB-4TR	FT-15		
	S10X-SCLP $\frac{R}{L}$ 3	●			0.788	0.625	-	7.00	1.380	0.394	-	3°	1/64	No					
	S12R-SCLP $\frac{R}{L}$ 3	●	●		0.984	0.750	-	8.00	1.560	0.492	-	0°	1/64	No					
	S16T-SCLP $\frac{R}{L}$ 3	●	●		1.338	1.000	-	12.00	1.750	0.669	-	0°	1/64	No					
Carbide	C06M-SCLP $\frac{R}{L}$ 2.5	●			0.472	0.375	0.334	6.00	1.000	0.236	-	5°	1/64	No	Fig.3	SB-3STR	FT-10		
	C08R-SCLP $\frac{R}{L}$ 3	●			0.630	0.500	0.480	8.00	1.180	0.315	-	4°	1/64	No		SB-4TR	FT-15		
	C10S-SCLP $\frac{R}{L}$ 3	●			0.788	0.625	0.584	10.00	1.380	0.394	-	3°	1/64	No					
	C12S-SCLP $\frac{R}{L}$ 3	●			0.984	0.750	0.710	10.00	1.560	0.492	-	0°	1/64	No					

● Applicable Inserts

Application	Finishing	Finishing	Finishing-Medium	Medium	Finishing-Medium	Low Carbon Steel/Finishing	Low Carbon Steel/Finishing-Medium	Cast Iron	Non-ferrous Metals	Hardened Materials
Ref. Page	● B61	● B61	● B61	● B61	● B61	● B61	● B61	● B61	● C25	● C14
Toolholder	PP 	GP 	HQ 	Standard 	Y-Y 	XP 	XQ 	Without Chipbreaker 	PCD 	CBN 
...SCLP% 2.5 ...SCLP% 2.5E	CPMT2515..	CPMT2515..	CPMH2515..	CPMH2515..	CPMH2515..	CPMT2515..	-	CPMB2515..	CPMH2515..	CPGB2515..
...SCLP% 3 ...SCLP% 3E	CPMT32..	CPMT32..	CPMH32..	CPMH32..	CPMH32..	CPMT32..	CPMT32..	CPMB32..	CPMH32..	CPGB32..

Recommended Cutting Conditions ● F116-F117

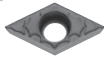




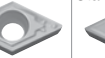














Applicable Sleeve ● F108-F110

A-SDUC-AE Excellent Bar (Copying)(Max. Overhang Length $L/D = \sim 5.5$)**S-SDUC-A** Steel Bar (Copying)(Max. Overhang Length $L/D = \sim 4$)**E-SDUC-A** Carbide Shank Bar (Copying)(Max. Overhang Length $L/D = \sim 7$)

● Toolholder Dimensions

Part Number		Stock		Unit	Min. Bore Dia.	Dimensions						GAMO	Standard Corner-R (RE)	Coolant Hole	Drawing	Spare Parts		
		R	L			DMIN	DCON	H	LF	LH	WF					WF ₂	Clamp Screw	Wrench
Excellent Bar	A06M-SDUC% 2AE	●	●	inch	0.551	0.375	0.336	6.000	0.748	0.341	0.130	5°	1/64	Yes	Fig.1	SB-2560TR	FT-8	
	A08M-SDUC% 2AE	●	●		0.630	0.500	0.461	6.000	0.827	0.360	0.130	5°						
	A10R-SDUC% 2AE	●	●		0.787	0.625	0.586	8.000	0.827	0.459	0.130	5°						
	A12S-SDUC% 3AE	●	●		1.063	0.750	0.711	10.000	0.866	0.650	0.240	5°						
	A16T-SDUC% 3AE	●	●	mm	1.300	1.000	0.961	12.000	0.945	0.748	0.240	5°	1/64	Yes	Fig.1	SB-4065TR	FT-15	
	A10L-SDUC% 07-14AE	●	●		14	10	9	140	19	8.7	3.3	5°						
	A16Q-SDUC% 07-14AE	●	●		14	16	15	180	28	10.8	4.4	5°	0.4	Yes	Fig.1	SB-2560TR	FT-8	
	A12M-SDUC% 07-16AE	●	●		16	12	11	150	21	9.7	3.3	5°						
	A16Q-SDUC% 07-20AE	●	●		20	16	15	180	21	11.7	3.3	5°	0.4	Yes	Fig.2	SB-2560TR	FT-8	
	A20R-SDUC% 11-20AE	●	●		20	20	19	200	48	15.6	6.1	5°						
	A16Q-SDUC% 11-23AE	●	●		23	16	15	180	21	14.5	6.1	5°	0.4	Yes	Fig.2	SB-4065TR	FT-15	
	A20R-SDUC% 11-27AE	●	●		27	20	19	200	23	16.5	6.1	5°						
A25S-SDUC% 11-32AE	●	●	32	25	24	250	24	19.0	6.1	5°								
Steel	S10L-SDUC% 07-14A	●	●	mm	14	10	9	140	19	8.7	3.3	5°	0.4	No	Fig.4	SB-2560TR	FT-8	
	S16Q-SDUC% 07-14A	●	●		14	16	15	180	28	10.8	4.4	5°						
	S12M-SDUC% 07-16A	●	●		16	12	11	150	21	9.7	3.3	5°	0.4	No	Fig.4	SB-2560TR	FT-8	
	S16Q-SDUC% 07-20A	●	●		20	16	15	180	21	11.7	3.3	5°						
	S20R-SDUC% 11-20A	●	●		20	20	19	200	48	15.6	6.1	5°	0.4	No	Fig.3	SB-4065TR	FT-15	
	S16Q-SDUC% 11-23A	●	●		23	16	15	180	21	14.5	6.1	5°						
	S20R-SDUC% 11-27A	●	●		27	20	19	200	23	16.5	6.1	5°						
	S25S-SDUC% 11-32A	●	●		32	25	24	250	24	19.0	6.1	5°						
Carbide	E06N-SDUC% 2A	●	□	inch	0.551	0.375	0.336	6.300	0.776	0.341	0.130	5°	1/64	Yes	Fig.5	SB-2560TR	FT-8	
	E06N-SDUC% 2A-2/3	□	□		0.551	0.375	0.336	4.200	0.776	0.341	0.130	5°						
	E08Q-SDUC% 2A	●	□		0.630	0.500	0.461	7.100	0.894	0.360	0.098	5°						
	E08Q-SDUC% 2A-2/3	□	□		0.630	0.500	0.461	4.800	0.894	0.360	0.098	5°						
	E10X-SDUC% 2A	●	□		0.787	0.625	0.586	8.700	1.091	0.459	0.130	5°						
	E10X-SDUC% 2A-2/3	□	□		0.787	0.625	0.586	5.800	1.091	0.459	0.130	5°						
	E10N-SDUC% 07-14A	●	●	mm	14	10	9	160	20	8.7	3.3	5°	0.4	Yes	Fig.5	SB-2560TR	FT-8	
	E10N-SDUC% 07-14A-2/3	●	●		14	10	9	105	20	8.7	3.3	5°						
	E12Q-SDUC% 07-16A	●	●		16	12	11	180	23	9.7	3.3	5°						
	E12Q-SDUC% 07-16A-2/3	●	●		16	12	11	120	23	9.7	3.3	5°						
	E16X-SDUC% 07-20A	●	●		20	16	15	220	28	11.7	3.3	5°						
	E16X-SDUC% 07-20A-2/3	●	●		20	16	15	145	28	11.7	3.3	5°						
	E16X-SDUC% 11-23A	●	●		23	16	15	220	28	14.5	6.1	5°	0.4	Yes	Fig.5	SB-4065TR	FT-15	
	E16X-SDUC% 11-23A-2/3	●	●		23	16	15	145	28	14.5	6.1	5°						
	E20S-SDUC% 11-27A	●	●		27	20	19	250	32	16.5	6.1	5°						
	E20S-SDUC% 11-27A-2/3	●	●		27	20	19	165	32	16.5	6.1	5°						
	E25T-SDUC% 11-32A	●	●		32	25	24	300	32	19.0	6.1	5°						
	E25T-SDUC% 11-32A-2/3	●	●		32	25	24	200	38	19.0	6.1	5°						

● Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Roughing	Finishing / Precision	Low Feed	Low Feed / Precision
Ref. Page	● B62	● B62	● B63	● B63	● B64	● B64	● B64	● B66, B67	● B68, B69	● B68
Insert	CF	SKS	WP (Wiper)	PP	GK	HQ	Standard	%-F / -FSF	(E/F)%-U	F%-USF
Toolholder										
...-SDUC% 2AE...	DCGT215..	DCGT215..	DCMX215..	DCMT215..	DCMT215..	DCMT215..	DCGT215..	DC□T215..	DCGT215..	DCET215..
...-SDUC% 07-...										
...-SDQC% 2AE...										
...-SDQC% 07-...										
...-SDZC% 07-...										
...-SDUC% 11-...	DCGT325..	DCGT325..	DCMX325..	DCMT325..	DCMT325..	DCMT325..	DCMT325.. DCGT325..	DC□T325..	DCGT325..	DCET325..
...-SDQC% 11-...										
...-SDZC% 11-...										
Application	Low Feed	Low Carbon Steel / Finishing	Low Carbon Steel / Finishing-Medium	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	● B70, B71	● B65	● B65	● B65	● B71	● B71	● B71	● B71	● C25	● C15
Insert	(E/F)%-J	XP	XQ	MQ	Without Chipbreaker	AP	%-A3	AH	PCD	CBN
Toolholder										
...-SDUC% 2AE...	DCET215..	DCMT215..	-	DCMT215..	DCGW215..	DCGT215..	-	-	DCMT215..	DCMW215..
...-SDUC% 07-...										
...-SDQC% 2AE...										
...-SDQC% 07-...										
...-SDZC% 07-...										
...-SDUC% 11-...	DC_T325..	DCMT325..	DCMT325..	DCMT325..	DCGW325..	DCGT325..	DCGT325..	DCGT325..	DCMT325..	DCMW325..
...-SDQC% 11-...										
...-SDZC% 11-...										

When using WP chipbreaker, program corrections are required. ● R51

※ TPMX-WP insert will not fit in A-SDQC-AE, S-SDQC-A, and E-SDQC-A type holders.

Recommended Cutting Conditions ● F116-F117

Applicable Sleeve ● F108-F110

● : Standard Item □ : Made to Order △ : Phaseout Item (will be removed from next catalog)

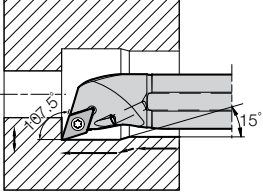
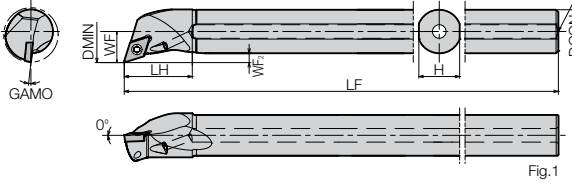

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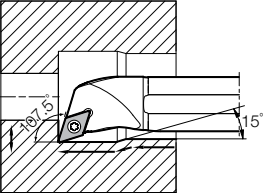
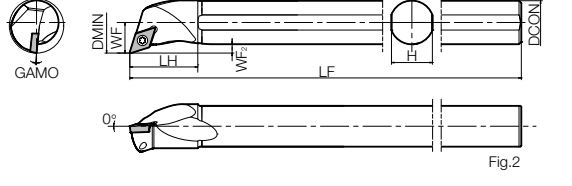
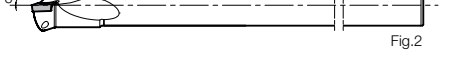
A-SDQC-AE Excellent Bar (Copying)(Max. Overhang Length $L/D = \sim 5.5$)

			Shank Dia. DCON	Coolant Hole Dia.
			Ø0.375" Ø10mm	Ø3mm
			Ø0.500" Ø12mm	Ø4mm
			Ø0.625" Ø16mm	Ø5mm
			Ø0.750" Ø20mm	Ø5mm

• Right-hand shown

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

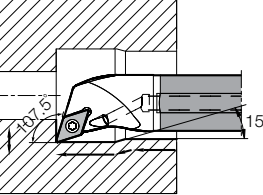
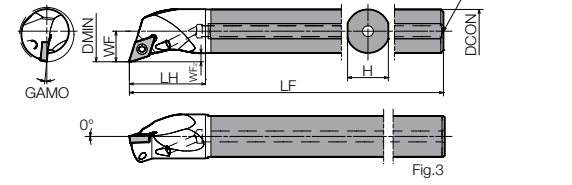

S-SDQC-A Steel Bar (Copying)(Max. Overhang Length $L/D = \sim 4$)

			Shank Dia. DCON	Coolant Hole Dia.
			Ø0.375" Ø10mm	Ø3mm

• Right-hand shown

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

E-SDQC-A Carbide Shank Bar (Copying)(Max. Overhang Length $L/D = \sim 7$)

			Shank Dia. DCON	Coolant Hole Dia.
			Ø0.375" Ø10mm	Ø3mm
			Ø0.500" Ø12mm	Ø4mm
			Ø0.625" Ø16mm	Ø4mm
			Ø20mm	Ø6mm

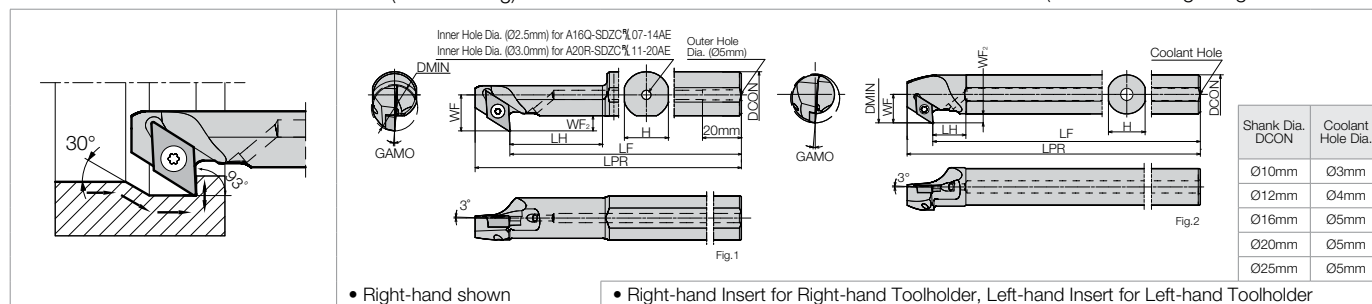
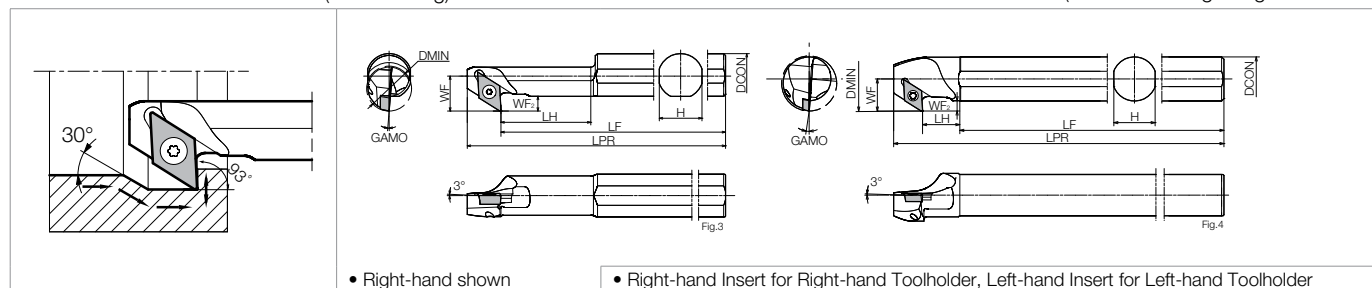
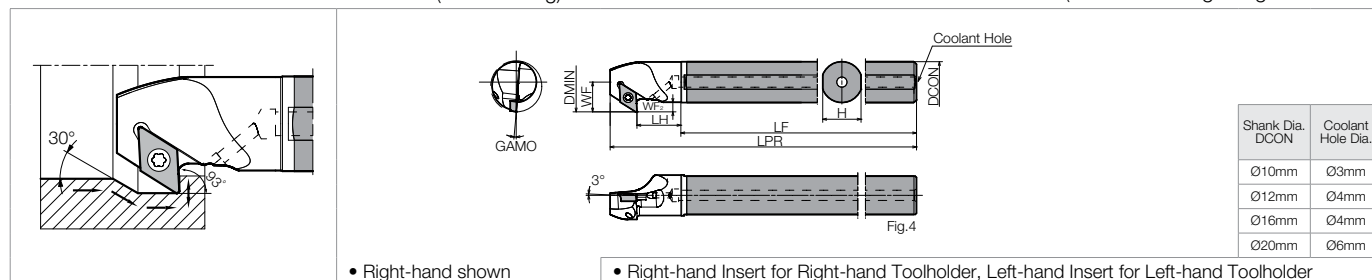
• Right-hand shown



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

● Toolholder Dimensions

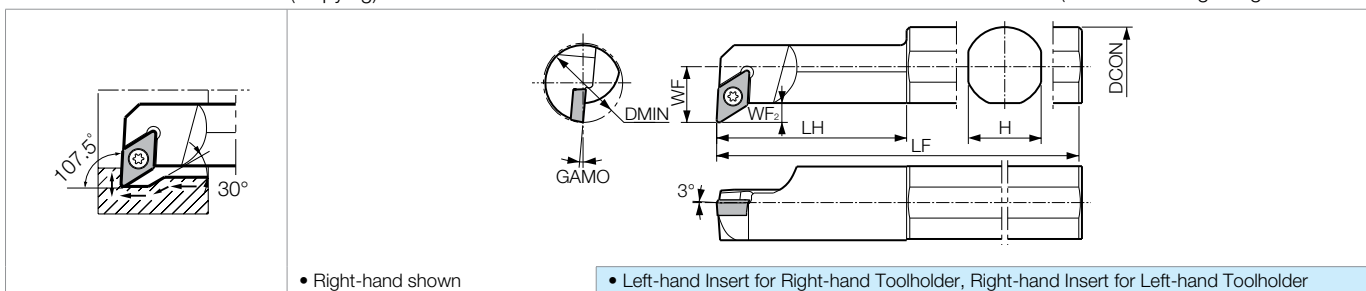
Part Number		Stock		Unit	Min. Bore Dia.	Dimensions						GAMO	Standard Corner-R (RE)	Coolant Hole	Drawing	Spare Parts		
						DMIN	DCON	H	LF	LH	WF					WF ₂	Clamp Screw	Wrench
Excellent Bar	A06M-SDQC $\frac{1}{2}$ 2AE	●	●	inch	0.512	0.375	0.336	6.0	0.736	0.295	0.083	10°	1/64	Yes	Fig.1	SB-2560TR	FT-8	
	A08M-SDQC $\frac{1}{2}$ 2AE	●	●		0.630	0.500	0.461	6.0	0.866	0.364	0.102	8°						
	A10R-SDQC $\frac{1}{2}$ 2AE	●	●		0.787	0.625	0.586	8.0	0.984	0.443	0.102	6°						
	A12S-SDQC $\frac{3}{4}$ 3AE	●	●		0.980	0.750	0.711	10.0	1.220	0.565	0.146	5°						
	A10L-SDQC $\frac{1}{2}$ 07-13AE	●	●	mm	13	10	9	140	19	7.50	2.1	10°	0.4	Yes	Fig.1	SB-2560TR	FT-8	
	A12M-SDQC $\frac{1}{2}$ 07-16AE	●	●		16	12	11	150	22	9.25	2.6	8°						
	A16Q-SDQC $\frac{1}{2}$ 07-20AE	●	●		20	16	15	180	25	11.30	2.6	6°						
	A20R-SDQC $\frac{1}{2}$ 11-25AE	●	●		25	20	19	200	31	14.40	3.7	5°						
A25S-SDQC $\frac{1}{2}$ 11-30AE	●	●	30	25	24	250	38	16.90	3.7	4°	0.4	Yes	Fig.1	SB-4065TR	FT-15			
Steel	S10L-SDQC $\frac{1}{2}$ 07-13A	●	●	mm	13	10	9	140	19	7.50	2.1	10°	0.4	No	Fig.2	SB-2560TR	FT-8	
	S12M-SDQC $\frac{1}{2}$ 07-16A	●	●		16	12	11	150	22	9.25	2.6	8°						
	S16Q-SDQC $\frac{1}{2}$ 07-20A	●	●		20	16	15	180	25	11.30	2.6	6°						
	S20R-SDQC $\frac{1}{2}$ 11-25A	●	●		25	20	19	200	31	14.40	3.7	5°						
	S25S-SDQC $\frac{1}{2}$ 11-30A	●	●		30	25	24	250	38	16.90	3.7	4°						
Carbide	E06N-SDQC $\frac{1}{2}$ 2A	□	□	inch	0.512	0.375	0.336	6.3	0.787	0.295	0.079	10°	1/64	Yes	Fig.3	SB-2560TR	FT-8	
	E06N-SDQC $\frac{1}{2}$ 2A-2/3	□	□		0.512	0.375	0.336	4.2	0.787	0.295	0.079	10°						
	E08Q-SDQC $\frac{1}{2}$ 2A	□	●		0.630	0.500	0.461	7.1	0.906	0.364	0.102	8°						
	E08Q-SDQC $\frac{1}{2}$ 2A-2/3	□	□		0.630	0.500	0.461	4.8	0.906	0.364	0.102	8°						
	E10X-SDQC $\frac{1}{2}$ 2A	□	□		0.787	0.625	0.586	8.7	1.102	0.443	0.102	6°						
	E10X-SDQC $\frac{1}{2}$ 2A-2/3	□	□		0.787	0.625	0.586	5.8	1.102	0.443	0.102	6°						
	E10N-SDQC $\frac{1}{2}$ 07-13A	●	●	mm	13	10	9	160	20	7.50	2.1	10°	0.4	Yes	Fig.3	SB-2560TR	FT-8	
	E10N-SDQC $\frac{1}{2}$ 07-13A-2/3	●			13	10	9	105	20	7.50	2.1	10°						
	E12Q-SDQC $\frac{1}{2}$ 07-16A	●	●		16	12	11	180	23	9.25	2.6	8°						
	E12Q-SDQC $\frac{1}{2}$ 07-16A-2/3	●			16	12	11	120	23	9.25	2.6	8°						
	E16X-SDQC $\frac{1}{2}$ 07-20A	●	●		20	16	15	220	28	11.30	2.6	6°						
	E16X-SDQC $\frac{1}{2}$ 07-20A-2/3	●			20	16	15	145	28	11.30	2.6	6°						
	E20S-SDQC $\frac{1}{2}$ 11-25A	●	●		25	20	19	250	32	14.40	3.7	5°						
	E20S-SDQC $\frac{1}{2}$ 11-25A-2/3	●			25	20	19	165	32	14.40	3.7	5°						
	E25T-SDQC $\frac{1}{2}$ 11-30A	●	●		30	25	24	300	38	16.90	3.7	4°						
	E25T-SDQC $\frac{1}{2}$ 11-30A-2/3	●			30	25	24	200	38	16.90	3.7	4°						

Applicable Inserts ● F55

■ **A-SDZC-AE** Excellent Bar (Back Boring)(Max. Overhang Length $L/D = \sim 5.5$)■ **S-SDZC-A** Steel Bar (Back Boring)(Max. Overhang Length $L/D = \sim 4$)■ **E-SDZC-A** Carbide Shank Bar (Back Boring)(Max. Overhang Length $L/D = \sim 7$)● **Toolholder Dimensions**

Part Number		Stock		Min. Bore Dia.	Dimensions (mm)							GAMO	Standard Corner-R (RE)	Coolant Hole	Drawing	Spare Parts	
					Clamp Screw		Wrench										
		R	L	DMIN	DCON	H	LPR	LF	LH	WF	WF ₂						
Excellent Bar	A10L-SDZC% 07-14AE	●	●	14	10	9	140	130.5	14.0	8.7	3.3	5°	0.4	Yes	Fig.2	SB-2545TR	FT-8
	A16Q-SDZC% 07-14AE	●	●	14	16	15	180	170.0	30.0	10.8	4.4	5°	0.4	Yes	Fig.1	SB-2545TR	FT-8
	A12M-SDZC% 07-16AE	●	●	16	12	11	150	139.5	14.0	9.7	3.3	5°	0.4	Yes	Fig.2	SB-2560TR	FT-8
	A16Q-SDZC% 07-20AE	●	●	20	16	15	180	169.5	14.0	11.7	3.3	5°					
	A20R-SDZC% 11-20AE	●	●	20	20	19	200	185.0	40.0	15.6	6.1	5°	0.4	Yes	Fig.1	SB-4065TR	FT-15
	A16Q-SDZC% 11-23AE	●	●	23	16	15	180	165.0	15.0	14.5	6.1	5°	0.4	Yes	Fig.2	SB-4065TR	FT-15
	A20R-SDZC% 11-27AE	●	●	27	20	19	200	185.0	15.0	16.5	6.1	5°					
	A25S-SDZC% 11-32AE	●	●	32	25	24	250	235.0	15.0	19.0	6.1	5°					
Steel	S10L-SDZC% 07-14A	●	●	14	10	9	140	130.5	14.0	8.7	3.3	5°	0.4	No	Fig.4	SB-2545TR	FT-8
	S16Q-SDZC% 07-14A	●	●	14	16	15	180	170.0	30.0	10.8	4.4	5°	0.4	No	Fig.3	SB-2545TR	FT-8
	S12M-SDZC% 07-16A	●	●	16	12	11	150	139.5	14.0	9.7	3.3	5°	0.4	No	Fig.4	SB-2560TR	FT-8
	S16Q-SDZC% 07-20A	●	●	20	16	15	180	169.5	14.0	11.7	3.3	5°					
	S20R-SDZC% 11-20A	●	●	20	20	19	200	185.0	40.0	15.6	6.1	5°	0.4	No	Fig.3	SB-4065TR	FT-15
	S16Q-SDZC% 11-23A	●	●	23	16	15	180	165.0	15.0	14.5	6.1	5°	0.4	No	Fig.4	SB-4065TR	FT-15
	S20R-SDZC% 11-27A	●	●	27	20	19	200	185.0	15.0	16.5	6.1	5°					
	S25S-SDZC% 11-32A	●	●	32	25	24	250	235.0	15.0	19.0	6.1	5°					
Carbide	E10N-SDZC% 07-14A	●		14	10	9	160	150.5	10.5	8.7	3.3	5°	0.4	Yes	Fig.5	SB-2545TR	FT-8
	E12Q-SDZC% 07-16A	●		16	12	11	180	169.5	12.5	9.7	3.3	5°	0.4	Yes	Fig.5	SB-2560TR	FT-8
	E16X-SDZC% 07-20A	●		20	16	15	220	209.5	17.5	11.7	3.3	5°					
	E16X-SDZC% 11-23A	●		23	16	15	220	205.0	13.0	14.5	6.1	5°	0.4	Yes	Fig.5	SB-4065TR	FT-15
	E20S-SDZC% 11-27A	●		27	20	19	250	235.0	17.0	16.5	6.1	5°					

Applicable Inserts ● F55

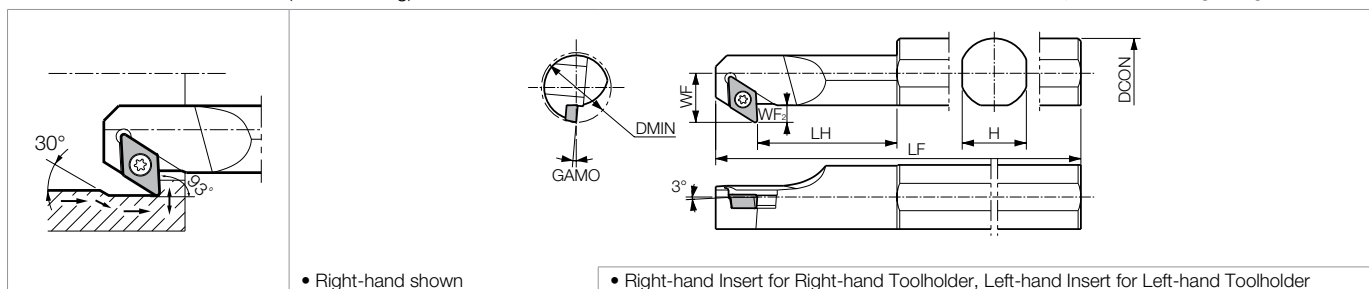
■ **S-SDUC** Steel Bar (Copying)(Max. Overhang Length $L/D = \sim 3$)● **Toolholder Dimensions**

Part Number		Stock		Unit	Min. Bore Dia.	Dimensions					GAMO	Standard Corner-R (RE)	Coolant Hole	Spare Parts	
														Clamp Screw	Wrench
		R	L			DMIN	DCON	H	LF	LH				WF	WF ₂
Steel	S08M-SDUC%2	●		inch	0.564	0.500	0.480	6.00	1.125	0.346	0.145	5°	No	SB-2560TR	FT-8
	S10X-SDUC%2	●	●		0.564	0.625	0.584	7.00	1.125	0.346	0.145	5°			
	S12R-SDUC%3	●	●		0.750	0.750	0.710	8.00	1.500	0.476	0.224	5°			
	S16X-SDUC%3	●			0.980	1.000	0.945	9.00	2.360	0.693	0.240	5°			

● **Applicable Inserts**

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Roughing	Finishing / Precision	Low Feed	Low Feed / Precision
Ref. Page	● B62	● B62	● B63	● B63	● B64	● B64	● B64	● B66, B67	● B68, B69	● B68
Insert	CF	SKS	WP (Wiper)	PP	GK	HQ	Standard	%-F / -FSF	(E/F)%-U	F%-USF
Toolholder										
...-SDUC%2	DCGT215..	DCGT215..	DCMX215..	DCMT215..	DCMT215..	DCMT215..	DCGT215..	DC□T215..	DCGT215..	DCET215..
...-SDUC%3	DCGT325..	DCGT325..	DCMX325..	DCMT325..	DCMT325..	DCMT325..	DCMT325.. DCGT325..	DC□T325..	DCGT325..	DCET325..
Application	Low Feed	Low Carbon Steel / Finishing	Low Carbon Steel / Finishing-Medium	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	● B70, B71	● B65	● B65	● B65	● B71	● B71	● B71	● B71	● C25	● C15
Insert	(E/F)%-J	XP	XQ	MQ	Without Chipbreaker	AP	%-A3	AH	PCD	CBN
Toolholder										
...-SDUC%2	DCET215..	DCMT215..	-	DCMT215..	DCGW215..	DCGT215..	-	-	DCMT215..	DCMW215..
...-SDUC%3	DC_T325..	DCMT325..	DCMT325..	DCMT325..	DCGW325..	DCGT325..	DCGT325..	DCGT325..	DCMT325..	DCMW325..

When using **WP** chipbreaker, program corrections are required. ● **R51**Recommended Cutting Conditions ● **F116-F117**Applicable Sleeve ● **F108-F110**

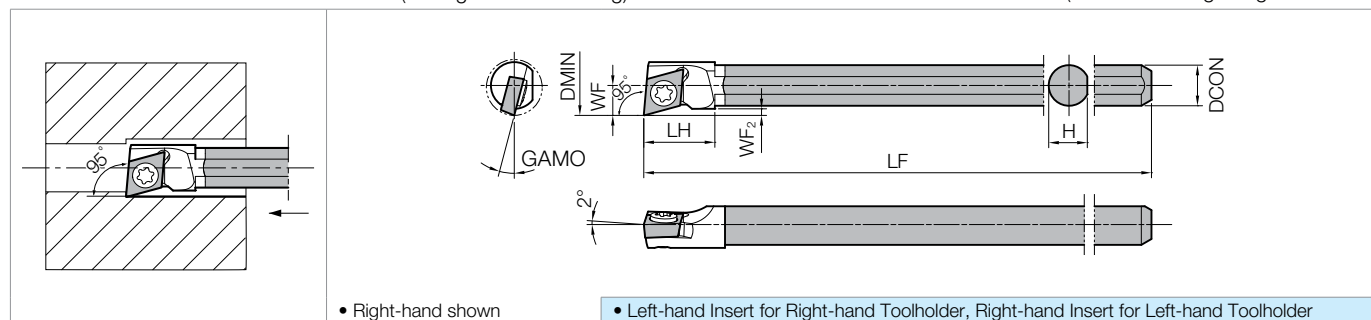
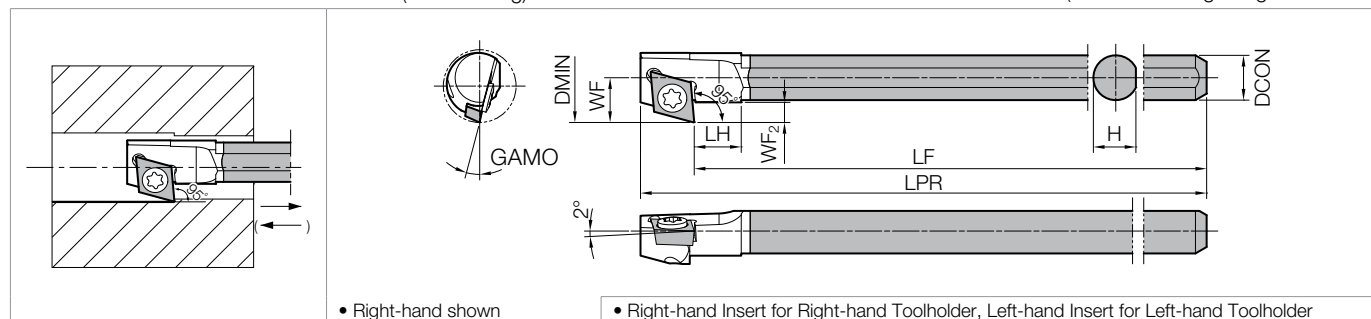
S-SDZC Steel Bar (Back Boring)(Max. Overhang Length $L/D = \sim 3$)**Toolholder Dimensions**

Part Number		Stock		Unit	Min. Bore Dia.	Dimensions						GAMO	Standard Corner-R (RE)	Coolant Hole	Spare Parts		
		R	L			DMIN	DCON	H	LF	LH	WF				WF ₂	Clamp Screw	Wrench
Steel	S10Q-SDZC ¹ / ₂	●		inch	0.550	0.625	0.596	7.00	1.18	0.410	0.173	5°	1/64	No	SB-2560TR	FT-8	
	S10X-SDZC ¹ / ₂	●	●		0.630	0.625	0.596	7.00	1.52	0.449	0.173	5°					
	S12R-SDZC ¹ / ₃	●			0.787	0.750	0.710	8.00	1.60	0.595	0.240	5°	1/32	No	SB-4085TR	FT-15	
	S16X-SDZC ¹ / ₃	●			0.984	1.000	0.960	9.00	2.09	0.693	0.240	5°					

Applicable Inserts



Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Roughing	Finishing / Precision	Low Feed	Low Feed / Precision
Ref. Page	● B62	● B62	● B63	● B63	● B64	● B64	● B64	● B66, B67	● B68, B69	● B68
Insert	CF	SKS	WP (Wiper)	PP	GK	HQ	Standard	%-F / -FSF	(E/F)%-U	F%-USF
Toolholder										
...-SDZC%2	DCGT215..	DCGT215..	DCMX215..	DCMT215..	DCMT215..	DCMT215..	DCGT215..	DC□T215..	DCGT215..	DCET215..
...-SDZC%3	DCGT325..	DCGT325..	DCMX325..	DCMT325..	DCMT325..	DCMT325..	DCMT325..	DC□T325..	DCGT325..	DCET325..
Application	Low Feed	Low Carbon Steel / Finishing	Low Carbon Steel / Finishing-Medium	Stainless Steel	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	● B70, B71	● B65	● B65	● B65	● B71	● B71	● B71	● B71	● C25	● C15
Insert	(E/F)%-J	XP	XQ	MQ	Without Chipbreaker	AP	%-A3	AH	PCD	CBN
Toolholder										
...-SDZC%2	DCET215..	DCMT215..	-	DCMT215..	DCGW215..	DCGT215..	-	-	DCMT215..	DCMW215..
...-SDZC%3	DC_T325..	DCMT325..	DCMT325..	DCMT325..	DCGW325..	DCGT325..	DCGT325..	DCGT325..	DCMT325..	DCMW325..

When using **WP** chipbreaker, program corrections are required. ● **R51**Recommended Cutting Conditions ● **F116-F117**Applicable Sleeve ● **F108-F110**



C-SJLC Carbide Shank Bar (Boring / Internal Facing)(Max. Overhang Length $L/D = \sim 7$)**C-SJZC** Carbide Shank Bar (Back Boring)(Max. Overhang Length $L/D = \sim 7$)

※ When using R-hand Toolholder, Use R-hand insert for machining in this direction (→)
Use L-hand insert for machining in this direction (←)

Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)							GAMO	Standard Corner-R (RE)	Spare Parts	
	R	L		DCON	H	LPR	LF	LH	WF	WF ₂			Clamp Screw	Wrench
C04X-SJLC $\frac{R}{L}$ 03-055	●	●	5.5	4	3.8	-	91	7	2.95	0.65	15°	0.03		
C04X-SJZC $\frac{R}{L}$ 03-065	●	●	6.5	4	3.8	93	88.1	4	4.00	1.80	15°	0.03		

Applicable Inserts

Application	Finishing	Finishing / Precision
Ref. Page	● B73	● B73
Insert	$\frac{R}{L}$ -F	$\frac{R}{L}$ -FSF
Toolholder		
...-SJLC $\frac{R}{L}$ 03-...	JCGT1109..	JCET1109..
...-SJZC $\frac{R}{L}$ 03-...	JCGT1109..	JCET1109..

Recommended Cutting Conditions ● F116-F117

Applicable Sleeve ● F107, F109, F110

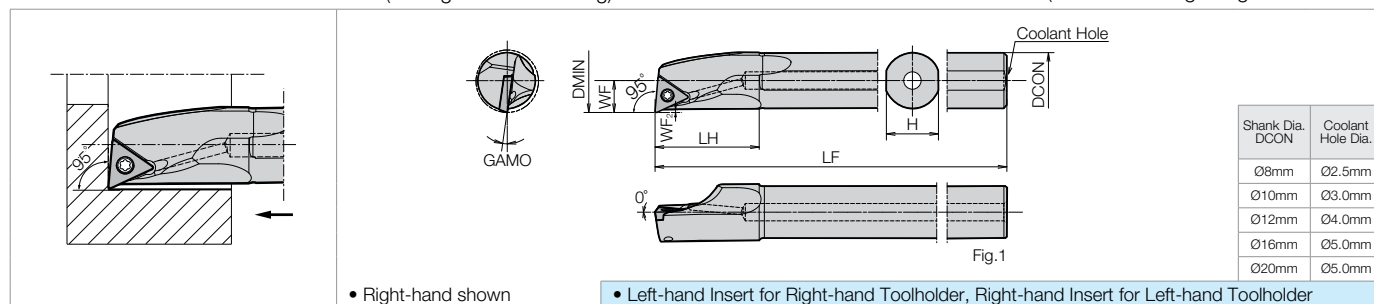
Features of C-SJLC

1. Well balanced design minimizing bore diameter yet maintaining a smaller insert radius.
2. High flexibility of tool pass during pecking.
3. Good surface finish at internal facing.

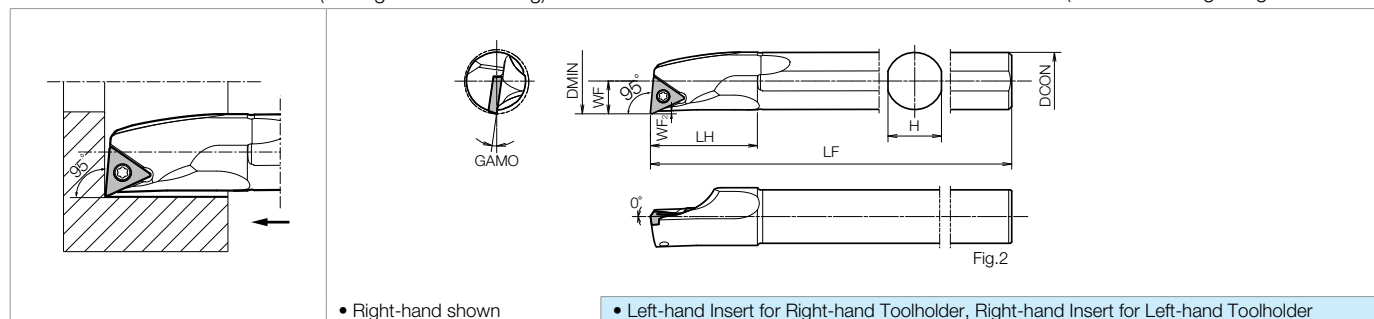
Features of C-SJZC

1. Back boring bars for workpieces which require high concentric circle accuracy and are unavailable for chuck change.
2. Available for back boring and pecking.
3. Large clearance between cutting edge and holder (1.8mm).



A-STLC-AE Excellent Bar (Boring / Internal Facing)

(Max. Overhang Length $L/D = \sim 5.5$)



S-STLC-A Steel Bar (Boring / Internal Facing)

(Max. Overhang Length $L/D = \sim 4$)

Toolholder Dimensions

Part Number		Stock		Min. Bore Dia.	Dimensions (mm)						GAMO	Standard Corner-R (RE)	Coolant Hole	Drawing	Spare Parts	
					Clamp Screw		Wrench									
		R	L	DMIN	DCON	H	LF	LH	WF	WF ₂						
Excellent Bar	A08X-STLC% 09-10AE	●	●	10	8	7	120	16	5.0	0.5	14°	0.4	Yes	Fig.1	SB-2250TR	FT-7
	A10L-STLC% 09-12AE	●	●	12	10	9	140	20	6.2	0.9	12°					
	A10L-STLC% 11-12AE	●	●	12	10	9	140	20	6.2	0.9	12°					
	A12M-STLC% 11-14AE	●	●	14	12	11	150	24	7.2	0.7	10°	0.4	Yes	Fig.1	SB-2560TR	FT-8
	A16Q-STLC% 11-18AE	●	●	18	16	15	180	30	9.2	0.7	8°					
	A20R-STLC% 11-22AE	●	●	22	20	19	200	36	11.2	0.7	6°					
Steel	S08X-STLC% 09-10A	●	●	10	8	7	120	16	5.0	0.5	14°	0.4	No	Fig.2	SB-2250TR	FT-7
	S10L-STLC% 09-12A	●	●	12	10	9	140	20	6.2	0.9	12°					
	S10L-STLC% 11-12A	●	●	12	10	9	140	20	6.2	0.9	12°					
	S12M-STLC% 11-14A	●	●	14	12	11	150	24	7.2	0.7	10°	0.4	No	Fig.2	SB-2560TR	FT-8
	S16Q-STLC% 11-18A	●	●	18	16	15	180	30	9.2	0.7	8°					
	S20R-STLC% 11-22A	●	●	22	20	19	200	36	11.2	0.7	6°					

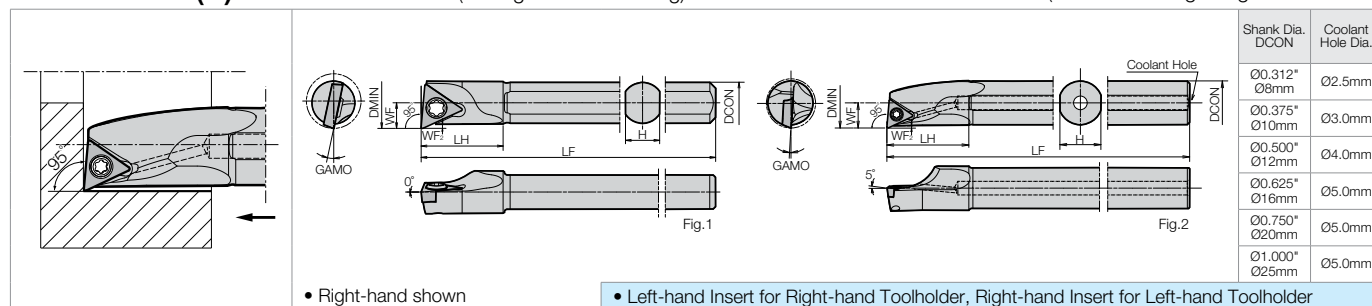
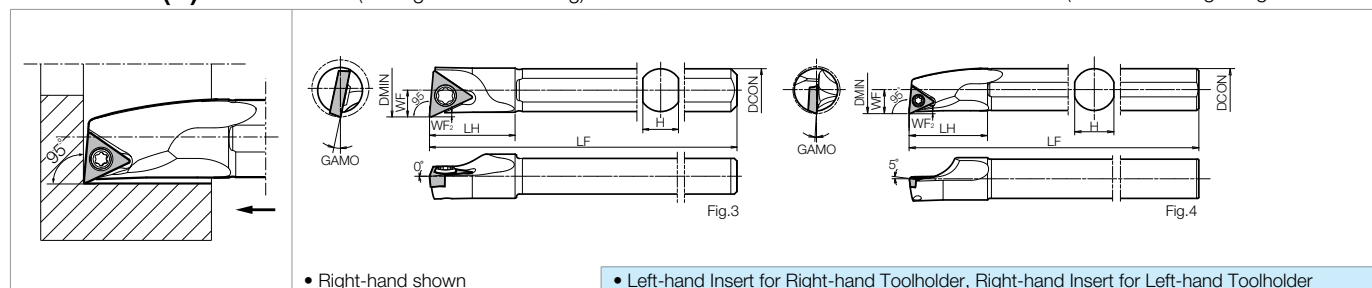
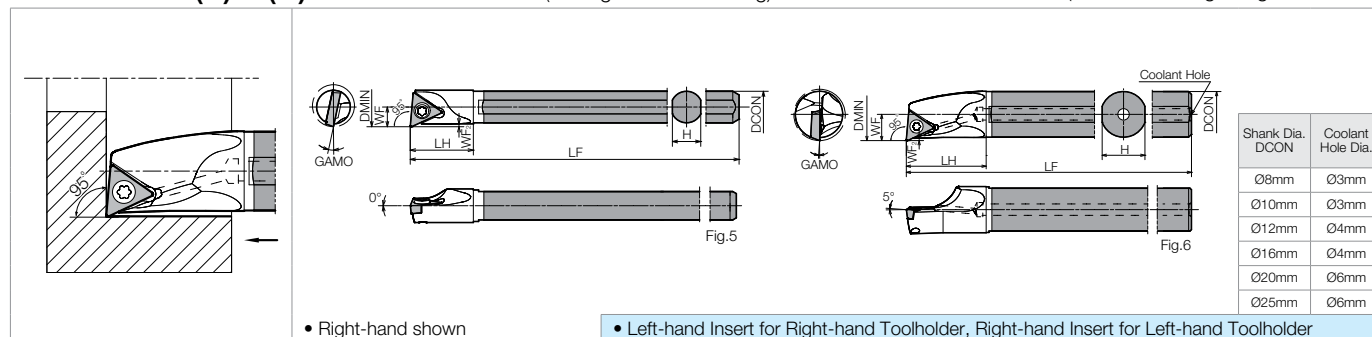
Applicable Insert

Application	Finishing	Finishing-Medium
Ref. Page	➡ B77	➡ B77
Insert	WP (Wiper)	HQ
Toolholder		
...-STLC% 09-...	TCMX1815..	TCMT1815..
...-STLC% 11-...	TCMX215..	TCMT215..

When using WP chipbreaker, program corrections are required. ➡ R51

Recommended Cutting Conditions ➡ F116-F117

Applicable Sleeve ➡ F107-F110





















A/S-STLB(P)-AE Excellent Bar (Boring / Internal Facing)(Max. Overhang Length $L/D = \sim 5.5$)**S-STLB(P)-A** Steel Bar (Boring / Internal Facing)(Max. Overhang Length $L/D = \sim 4$)**C/E-STLB(P)-A(N)** Carbide Shank Bar (Boring / Internal Facing)(Max. Overhang Length $L/D = \sim 7$)

● Toolholder Dimensions

Part Number		Stock		Unit	Min. Bore Dia.	Dimensions						GAMO	Standard Corner-R (RE)	Coolant Hole	Drawing	Spare Parts		
		R	L			DMIN	DCON	H	LF	LH	WF					WF ₂	Clamp Screw	Wrench
Excellent Bar	S04H-STLB $\frac{1}{2}$ 1.2AE	●	●	inch	0.312	0.250	0.211	4	0.472	0.150	0.025	12.0°	0.008	No	Fig.1	SB-2035TR	FT-6	
	A05K-STLB $\frac{1}{2}$ 1.2AE	●	●		0.392	0.312	0.273	5	0.630	0.201	0.031	12.0°	0.008	Yes	Fig.2			
	A05K-STLP $\frac{1}{2}$ 1.8AE	●	●		0.392	0.312	0.273	5	0.630	0.197	0.022	10.0°	1/64	Yes	Fig.2			SB-2545TR
	A06M-STLP $\frac{1}{2}$ 1.8AE	●	●		0.480	0.375	0.336	6	0.787	0.244	0.036	8.0°						
	A06M-STLP $\frac{1}{2}$ 2AE	●	●		0.480	0.375	0.336	6	0.787	0.236	0.030	10.0°						
	A08M-STLP $\frac{1}{2}$ 2AE	●	●		0.580	0.500	0.461	6	0.945	0.283	0.032	7.0°	1/64	Yes	Fig.2	SB-3060TR	FT-10	
	A10R-STLP $\frac{1}{2}$ 2AE	●	●		0.700	0.625	0.586	8	1.181	0.362	0.036	3.5°						
	A12S-STLP $\frac{1}{2}$ 2AE	●	●		0.825	0.750	0.711	10	1.417	0.421	0.031	2°						
	A16T-STLP $\frac{1}{2}$ 3AE	●	●		1.280	1.000	0.961	12	1.811	0.539	0.031	0°	1/64	Yes	Fig.2	SB-4065TR	FT-15	
	S06H-STLB $\frac{1}{2}$ 06-08AE	●	●		8	6	5.0	100	12	3.8	0.5	12°	0.2	No	Fig.1	SB-2035TR	FT-6	
	A08X-STLP $\frac{1}{2}$ 08-10AE	●	●	10	8	7.0	120	16	5.0	0.5	10°	0.4	Yes	Fig.2	SB-1TR	FT-6		
	A08X-STLP $\frac{1}{2}$ 09-10AE	●	●	10	8	7.0	120	16	5.0	0.5	10°	0.4	Yes	Fig.2	SB-2545TR	FT-8		
	A10L-STLP $\frac{1}{2}$ 09-12AE	●	●	12	10	9.0	140	20	6.2	0.9	8°							
	A10L-STLP $\frac{1}{2}$ 11-12AE	●	●	12	10	9.0	140	20	6.0	0.7	10°						0.4	Yes
	A12M-STLP $\frac{1}{2}$ 11-14AE	●	●	14	12	11.0	150	24	7.2	0.8	7°							
	A12M-STLP $\frac{1}{2}$ 09-16AE	●	●	16	12	11.0	150	24	8.0	0.6	5°	0.4	Yes	Fig.2	SB-2545TR	FT-8		
	A16Q-STLP $\frac{1}{2}$ 11-18AE	●	●	18	16	15.0	180	30	9.2	0.7	3.5°	0.4	Yes	Fig.2	SB-3060TR	FT-10		
	A20R-STLP $\frac{1}{2}$ 11-22AE	●	●	22	20	19.0	200	36	11.2	0.7	2°							
	A20R-STLP $\frac{1}{2}$ 16-25AE	●	●	25	20	19.0	200	36	13.0	0.7	0°						0.4	Yes
	A25S-STLP $\frac{1}{2}$ 16-27AE	●	●	27	25	24.0	250	46	13.7	0.7	0°							
Steel	S06H-STLB $\frac{1}{2}$ 06-08A	●	●	mm	8	6	5.0	100	12	3.8	0.5	12°	0.2	No	Fig.3	SB-2035TR	FT-6	
	S08X-STLP $\frac{1}{2}$ 08-10A	●	●		10	8	7.0	120	16	5.0	0.5	10°	0.4	No	Fig.4	SB-1TR	FT-6	
	S08X-STLP $\frac{1}{2}$ 09-10A	●	●		10	8	7.0	120	16	5.0	0.5	10°	0.4	No	Fig.4	SB-2545TR	FT-8	
	S10L-STLP $\frac{1}{2}$ 09-12A	●	●		12	10	9.0	140	20	6.2	0.9	8°						
	S10L-STLP $\frac{1}{2}$ 11-12A	●	●		12	10	9.0	140	20	6.0	0.7	10°						0.4
	S12M-STLP $\frac{1}{2}$ 11-14A	●	●		14	12	11.0	150	24	7.2	0.8	7°						
	S12M-STLP $\frac{1}{2}$ 09-16A	●	●		16	12	11.0	150	24	8.0	0.6	5°	0.4	No	Fig.4	SB-2545TR	FT-8	
	S16Q-STLP $\frac{1}{2}$ 11-18A	●	●		18	16	15.0	180	30	9.2	0.7	3.5°	0.4	No	Fig.4	SB-3060TR	FT-10	
	S20R-STLP $\frac{1}{2}$ 11-22A	●	●		22	20	19.0	200	36	11.2	0.7	2°						
	S25S-STLP $\frac{1}{2}$ 16-27A	●	●		27	25	24.0	250	46	13.7	0.7	0°						0.4
Carbide	C06J-STLB $\frac{1}{2}$ 06-08AN	●	●	mm	8	6	5.4	110	10	3.8	0.5	12°	0.2	No	Fig.5	SB-2035TR	FT-6	
	E08L-STLP $\frac{1}{2}$ 08-10AN	●	●		10	8	7.0	140	14	5.0	0.5	10°	0.4	Yes	Fig.6	SB-2545TR	FT-8	
	E08L-STLP $\frac{1}{2}$ 09-10AN	●	●		10	8	7.0	140	14	5.0	0.5	10°						
	E10N-STLP $\frac{1}{2}$ 09-12AN	●	●		12	10	9.0	160	18	6.2	0.9	8°						
	E10N-STLP $\frac{1}{2}$ 09-12AN-2/3	●	●		12	10	9.0	105	18	6.2	0.9	8°						
	E10N-STLP $\frac{1}{2}$ 09-12AN-1/2	●	●		12	10	9.0	80	18	6.2	0.9	8°	0.4	Yes	Fig.6	SB-3060TR	FT-10	
	E10N-STLP $\frac{1}{2}$ 11-12AN	●	●		12	10	9.0	160	18	6.0	0.7	10°						
	E10N-STLP $\frac{1}{2}$ 11-12AN-2/3	●	●		12	10	9.0	105	18	6.0	0.7	10°						
	E10N-STLP $\frac{1}{2}$ 11-12AN-1/2	●	●		12	10	9.0	80	18	6.0	0.7	10°						
	E12Q-STLP $\frac{1}{2}$ 11-14A	●	●		14	12	11.0	180	23	7.2	0.8	7°						
	E12Q-STLP $\frac{1}{2}$ 11-14A-2/3	●	●		14	12	11.0	120	23	7.2	0.8	7°						
	E12Q-STLP $\frac{1}{2}$ 11-14A-1/2	●	●		14	12	11.0	90	23	7.2	0.8	7°	0.4	Yes	Fig.6	SB-2545TR	FT-8	
	E12Q-STLP $\frac{1}{2}$ 09-16A	●	●		16	12	11.0	180	23	8.0	0.6	5°						
	E12Q-STLP $\frac{1}{2}$ 09-16A-2/3	●	●		16	12	11.0	120	23	8.0	0.6	5°						
	E12Q-STLP $\frac{1}{2}$ 09-16A-1/2	●	●		16	12	11.0	90	23	8.0	0.6	5°						
	E16X-STLP $\frac{1}{2}$ 11-18A	●	●		18	16	15.0	220	28	9.2	0.7	3.5°	0.4	Yes	Fig.6	SB-3060TR	FT-10	
	E16X-STLP $\frac{1}{2}$ 11-18A-2/3	●	●		18	16	15.0	145	28	9.2	0.7	3.5°						
	E16X-STLP $\frac{1}{2}$ 11-18A-1/2	●	●		18	16	15.0	110	28	9.2	0.7	3.5°						
	E20S-STLP $\frac{1}{2}$ 11-22A	●	●		22	20	19.0	250	32	11.2	0.7	2°	0.4	Yes	Fig.6	SB-4065TR	FT-15	
	E20S-STLP $\frac{1}{2}$ 11-22A-2/3	●	●		22	20	19.0	165	32	11.2	0.7	2°						
	E20S-STLP $\frac{1}{2}$ 11-22A-1/2	●	●		22	20	19.0	125	32	11.2	0.7	2°						
	E20S-STLP $\frac{1}{2}$ 16-25A	●	●		25	20	19.0	250	32	13.0	0.7	0°						
	E20S-STLP $\frac{1}{2}$ 16-25A-2/3	●	●		25	20	19.0	165	32	13.0	0.7	0°	0.4	Yes	Fig.6	SB-4065TR	FT-15	
	E20S-STLP $\frac{1}{2}$ 16-25A-1/2	●	●		25	20	19.0	125	32	13.0	0.7	0°						
	E25T-STLP $\frac{1}{2}$ 16-27A	●	●		27	25	24.0	300	38	13.7	0.7	0°						
	E25T-STLP $\frac{1}{2}$ 16-27A-2/3	●	●		27	25	24.0	200	38	13.7	0.7	0°						

Applicable Inserts ● F64

● Applicable Inserts

Application	Minute D.O.C.	Finishing	※Finishing	※Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision
Ref. Page	● B76, B80	● B76, B80	● B80	● B80	● B80	● B81	● B76	● B81	● B76, B82, B83	● B85
Insert	CF	PF	WP (Wiper)	¾-WP (Wiper)	PP	GP	DP	HQ	¾	¾-FSF
Toolholder										
...-STLB%1.2...	TBGT121..	TBGT121..	-	-	-	-	TBMT121..	-	TBGT121..	-
...-STLB%06...	TPGT1515..	-	-	-	-	-	-	-	TPGH1515..	TPET1515..
...-STLP%1.8...	TPGT1815..	TPGT1815..	TPMX1815..	-	TPMT1815..	TPMT1815..	-	TPMT1815..	TPGH1815..	-
...-STLP%09...	-	-	TPMX22..	TPMX22..	TPMT22..	TPMT22..	-	TPMT22..	TPGH22..	TPET22..
...-STLP%2...	-	-	-	-	-	TPMT32..	-	TPMT32..	TPGH32..	-
...-STLP%11...	-	-	-	-	-	-	-	-	-	-
...-STLP%16...	-	-	-	-	-	-	-	-	-	-
Application	※Finishing	Medium	Low Feed / Precision	Low Carbon Steel / Finishing	Low Carbon Steel / Finishing-Medium	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	● B85	● B84	● B86	● B81	● B81	● B76, B86	● B86	● C26-C28	● C28	● C16
Insert	¾-P	¾-H	F¾-USF	XP	XQ	Without Chipbreaker	AP	PCD	APD	CBN
Toolholder										
...-STLB%1.2...	-	-	-	-	-	TBGW121..	-	TBMT121..	-	-
...-STLB%06...	-	-	-	-	-	-	-	TBGW121..	-	-
...-STLP%08...	TPEH1515..	-	TPET1515..	-	-	TPGB1515..	-	TPMH1515..	-	TPGB1515..
...-STLP%1.8...	TPEH1815..	TPGH1815..	-	TPMT1815..	-	TPGB1815..	-	TPMH1815..	-	TPGB1815..
...-STLP%09...	-	-	-	-	-	-	-	TPGB1815..	-	-
...-STLP%2...	TPEH22..	TPGH22..	TPET22..	TPMT22..	TPMT22..	TPGB22..	TPGT22..	TPMH22..	TPMT22..	TPGB22..
...-STLP%11...	-	TPGH32..	-	TPMT32..	TPMT32..	TPGB32..	-	TPMH32..	-	TPGB32..
...-STLP%16...	-	-	-	-	-	-	-	-	-	-

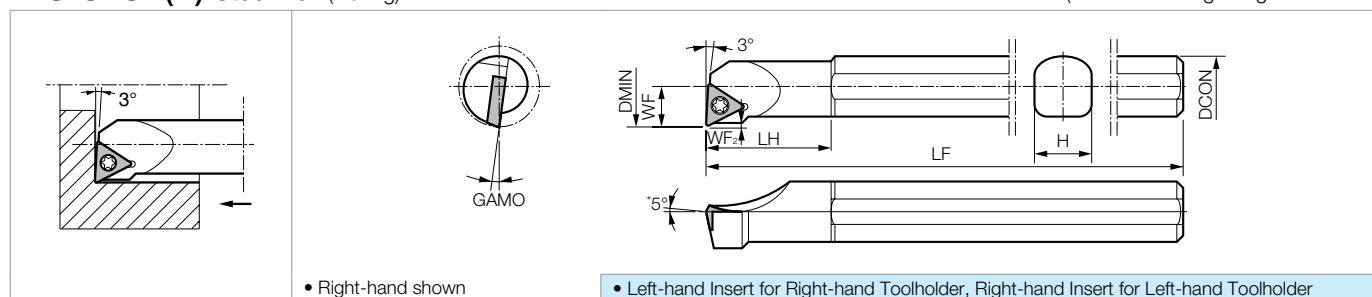
※For P chipbreaker inserts, **Left-hand** Insert for **Left-hand** Toolholder, **Right-hand** Insert for **Right-hand** Toolholder※When using **WP** chipbreaker, program corrections are required. ● B51

Recommended Cutting Conditions ● F116-F117



Applicable Toolholders ● F63

Applicable Sleeve ● F107-F110

■ S-STUP(B) Steel Bar (Boring)

(Max. Overhang Length $L/D \approx 3$)

● Toolholder Dimensions

Part Number		Stock		Unit	Min. Bore Dia.	Dimensions					GAMO	Standard Corner-R (RE)	Coolant Hole	Spare Parts			
		R	L			DMIN	DCON	H	LF	LH				WF	WF ₂	Clamp Screw	Wrench
																	
Steel	S04H-STUB ¹ / ₄ 1.2	●	□	inch	0.312	0.250	0.224	4.00	0.50	0.148	0.023	12°	1/64	No	SB-1STR	FT-6	
	S05K-STUP ¹ / ₄ 1.5	●	□		0.392	0.313	0.270	5.00	0.75	0.196	0.020	13°	1/64	No	SB-1TR	FT-6	
	S06M-STUP ¹ / ₄ 1.8	●	●		0.472	0.375	0.356	6.00	1.01	0.236	0.015	13°	1/64	No	SB-2TR	FT-8	
	S08M-STUP ¹ / ₄ 1.8	●	□		0.630	0.500	0.480	6.00	1.18	0.315	0.090	10°					
	S10X-STUP ¹ / ₄ 2	●	●		0.787	0.625	0.584	7.00	1.38	0.394	0.100	7°	1/64	No	SB-3TR	FT-10	
	S12R-STUP ¹ / ₄ 2	●	●		0.912	0.750	0.710	8.00	1.58	0.456	0.115	5°					

● Applicable Inserts

Application	Minute D.O.C.	Finishing	※Finishing	※Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision
Ref. Page	● B76, B80	● B76, B80	● B80	● B80	● B80	● B81	● B76	● B81	● B76, B82, B83	● B85
Insert	CF	PF	WP (Wiper)	W (Wiper)	PP	GP	DP	HQ	W	W-FSF
Toolholder										
...-STUB% 1.2...	TBGT121..	TBGT121..	-	-	-	-	TBMT121..	-	TBGT121..	-
...-STUP% 1.5...	TPGT1515..	-	-	-	-	-	-	-	TPGH1515..	TPET1515..
...-STUP% 1.8...	TPGT1815..	TPGT1815..	TPMX1815..	-	TPMT1815..	TPMT1815..	-	TPMT1815..	TPGH1815..	-
...-STUP% 2...	-	-	TPMX22..	TPMX22..	TPMT22..	TPMT22..	-	TPMT22..	TPGH22..	TPET22..
Application	※Finishing	Medium	Low Feed / Precision	Low Carbon Steel / Finishing	Low Carbon Steel / Finishing-Medium	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	● B85	● B84	● B86	● B81	● B81	● B76, B86	● B86	● C26-C28	● C28	● C16
Insert	W-P	W-H	F-W-USF	XP	XQ	Without Chipbreaker	AP	PCD	APD	CBN
Toolholder										
...-STUB% 1.2...	-	-	-	-	-	TBGW121..	-	TBMT121.. TBGW121..	-	-
...-STUP% 1.5...	-	-	TPET1515..	-	-	TPGB1515..	-	TPMH1515.. TPGB1515..	-	TPGB1515..
...-STUP% 1.8...	TPEH1815..	TPGH1815..	-	TPMT1815..	-	TPGB1815..	-	TPMH1815.. TPGB1815..	-	TPGB1815..
...-STUP% 2...	TPEH22..	TPGH22..	TPET22..	TPMT22..	TPMT22..	TPGB22..	TPGT22..	TPMH22.. TPGB22..	TPMT22..	TPGB22..

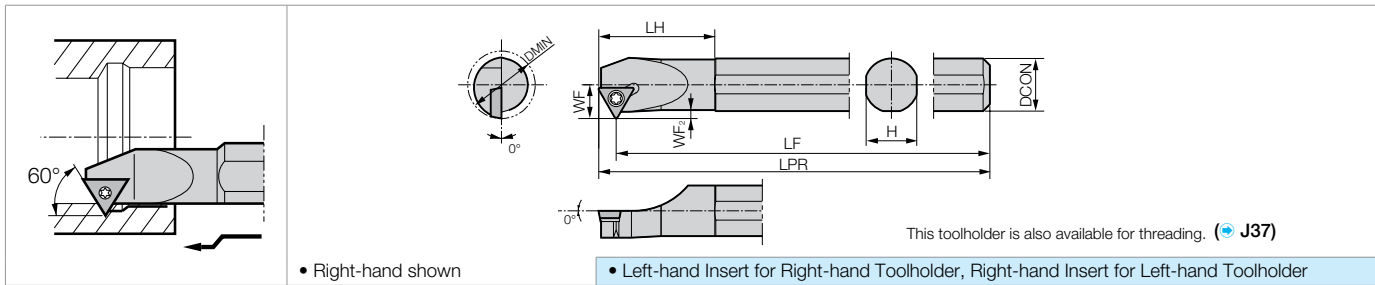
※For P chipbreaker inserts, Left-hand Insert for Left-hand Toolholder, Right-hand Insert for Right-hand Toolholder

Recommended Cutting Conditions ● F116-F117

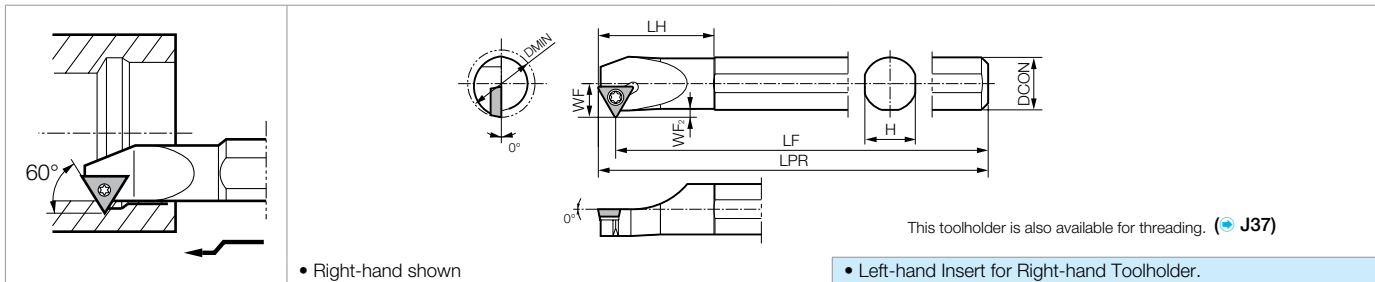
※When using WP chipbreaker, program corrections are required. ● R51

Applicable Sleeve ● F107-F110


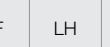
■ S-STWP-E Excellent Bar (Copying)

(Max. Overhang Length $L/D = \sim 5$)

■ S-STWP Steel Bar (Copying)

(Max. Overhang Length $L/D = \sim 3$)

● Toolholder Dimensions

Part Number	Stock		Unit	Min. Bore Dia.	Dimensions						GAMO	Standard Corner-R (RE)	Spare Parts			
	R	L			DMIN	DCON	H	LPR	LF	LH			WF	WF ₂	Clamp Screw	Wrench
																
S06M-STWP $\frac{1}{2}$	●		inch	0.476	0.375	0.350	6.00	5.795	0.91	0.238	0.056	0°	1/64	SB-3STR	FT-10	
S12R-STWP $\frac{1}{2}$	●			0.970	0.750	0.726	8.00	7.795	1.60	0.485	0.115	0°				
S10M-STWP $\frac{1}{4}$ 11-12E	●	●	mm	12	10	9.2	150	144.5	23	6.0	1.0	0°	0.1	SB-3STR	FT-10	
S12M-STWP $\frac{1}{4}$ 11-16E	●	●		16	12	11.0	150	144.5	30	8.0	1.5	0°				
S16R-STWP $\frac{1}{4}$ 11-20E	●	●		20	16	15.0	200	194.5	35	10.0	2.0	0°	0.1	SB-3TR	FT-10	
S20X-STWP $\frac{1}{4}$ 11-25E	●	●		25	20	19.0	220	214.5	40	12.5	2.5	0°				
S20X-STWP $\frac{1}{4}$ 16-25E	●	●		25	20	19.0	220	212.3	40	14.0	4.0	0°	0.8	SB-4TR	FT-15	
S25X-STWP $\frac{1}{4}$ 16-32E	●	●		32	25	23.0	270	262.3	42	16.5	4.0	0°				
S10M-STWP $\frac{1}{4}$ 11-12	●			12	10	9.2	150	144.5	23	6.0	1.0	0°	0.1	SB-3STR	FT-10	
S12M-STWP $\frac{1}{4}$ 11-16	●			16	12	11.0	150	144.5	30	8.0	1.5	0°				
S16Q-STWP $\frac{1}{4}$ 11-20	●			20	16	15.0	180	174.5	35	10.0	2.0	0°	0.1	SB-3TR	FT-10	
S20R-STWP $\frac{1}{4}$ 11-25	●		25	20	19.0	200	194.5	40	12.5	2.5	0°					

● Applicable Inserts

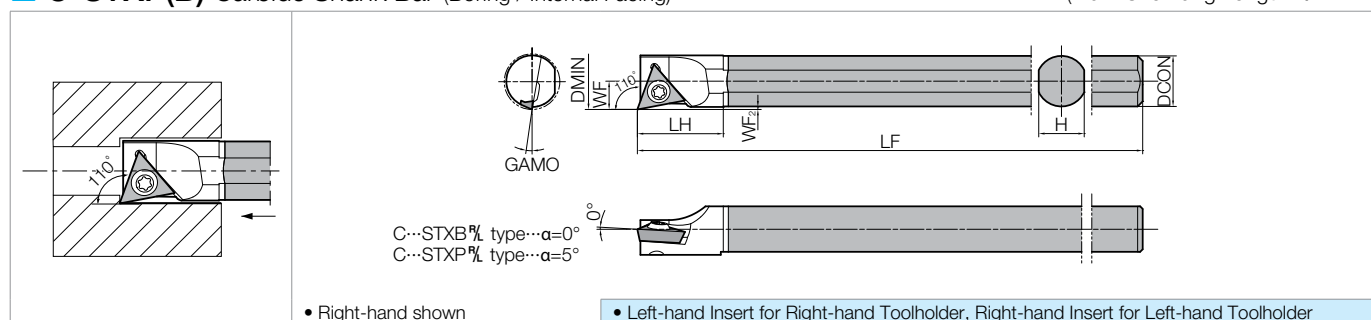
Application	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Medium	Low Feed / Precision	Low Carbon Steel / Finishing	Low Carbon Steel / Finishing-Medium
Ref. Page	● B80	● B81	● B81	● B82, B83	● B85	● B84	● B86	● B81	● B81
Insert	PP	GP	HQ	%	%-FSF	%-H	F%-USF	XP	XQ
Toolholder									
...-STWP% 2	-	-	-	TPGH215..	-	-	-	-	-
...-STWP% 11-12(E)	-	-	-	TPGH22..	TPET22..	TPGH22..	TPET22..	TPMT22..	TPMT22..
...-STWP% 11-16~25(E)	TPMT22..	TPMT22..	TPMT22..	TPGH22..	TPET22..	TPGH22..	TPET22..	TPMT22..	TPMT22..
...-STWP% 16-...	-	TPMT32..	TPMT32..	TPGH32..	-	TPGH32..	-	TPMT32..	TPMT32..
Application	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials	※ TPMX-WP insert will not fit in S-STWP-E and S-STWP type holders.			
Ref. Page	● B86	● B86	● C26-C28	● C28	● C16				
Insert	Without Chipbreaker	AP	PCD	APD	CBN				
Toolholder									
...-STWP% 2	TPGB215..	-	-	-	-				
...-STWP% 11-12(E)	TPGB215..	-	-	-	-				
...-STWP% 11-16~25(E)	TPGB22..	TPGT22..	TPMH22..	TPGB22..	TPGB22..				
...-STWP% 16-...	TPGB32..	-	TPMH32..	-	TPGB32..				

Recommended Cutting Conditions ● F116-117

Applicable Sleeve ● F108-F110

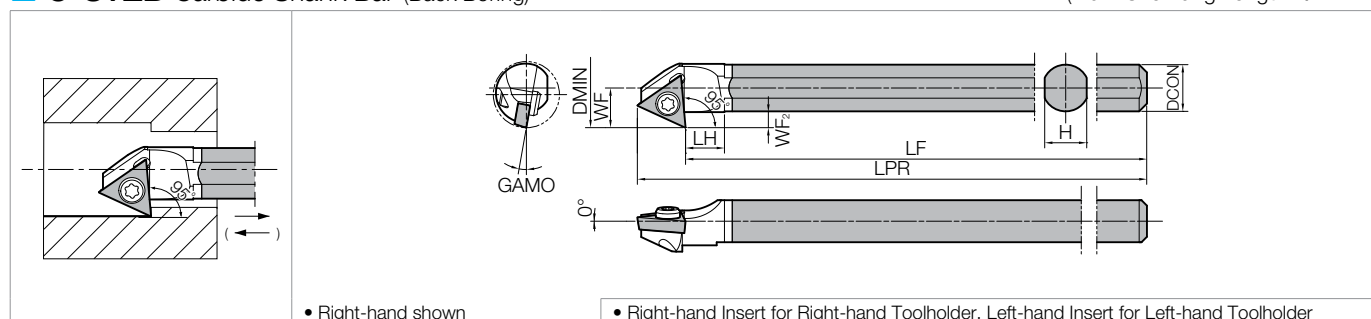
■ C-STXP(B) Carbide Shank Bar (Boring / Internal Facing)

(Max. Overhang Length L/D = ~7)



■ C-STZB Carbide Shank Bar (Back Boring)

(Max. Overhang Length L/D = ~7)



※ When using R-hand Toolholder, Use R-hand insert for machining in this direction (→)
Use L-hand insert for machining in this direction (←)

● Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)							GAMO	Standard Corner-R (RE)	Spare Parts	
	R	L		DMIN	DCON	H	LPR	LF	LH	WF	WF ₂		Clamp Screw	Wrench
C06J-STXB% 06-075	●	●	7.5	6	5.4	-	110	11	3.75	0.5	10°	0.03	SB-1STR	FT-6
C08X-STXP% 08-09	●	●	9.0	8	7.0	-	143	14	4.60	0.5	10°	0.03	SB-1TR	
C10X-STXP% 09-11	●	●	11.0	10	9.0	-	164	17	5.60	0.5	10°	0.03	SB-2TR	
C06J-STZB% 06-085	●		8.5	6	5.4	110	104.3	5	5.10	2.0	10°	0.03	SB-1STR	

● Applicable Inserts

Application	Minute ap	Finishing	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Low Feed / Precision	Low Carbon Steel / Finishing
Ref. Page	● B76, B80	● B80	● B81	● B76	● B81	● B76, B82, B83	● B85	● B86	● B81
Insert	CF	PP	GP	DP	HQ	%	%-FSF	F%-USF	XP
Toolholder									
...-STXB% 06-...	TBGT121..	-	-	TBMT121..	-	TBGT121..	-	-	-
...-STXP% 08-...	TPGT1515..	-	-	-	-	TPGH1515..	TPET1515..	TPET1515..	-
...-STXP% 09-...	TPGT1815..	TPMT1815..	TPMT1815..	-	TPMT1815..	TPGH1815..	-	-	TPMT1815..
...-STZB% 06-...	TBGT121..	-	-	TBMT121..	-	TBGT121..	-	-	-
Application	Cast Iron	Non-ferrous Metals	Hardened Materials						
Ref. Page	● B76, B86	● C26~C28	● C16						
Insert	Without Chipbreaker	PCD	CBN						
Toolholder									
...-STXB% 06-...	TBGW121..	TBMT121..	-						
...-STXP% 08-...	TPGB1515..	TPMH1515.. TPGB1515..	TPGB1515..						
...-STXP% 09-...	TPGB1815..	TPMH1815.. TPGB1815..	TPGB1815..						
...-STZB% 06-...	TBGW121..	TBMT121..	-						

※ TPMX-WP insert will not fit in C-STXP type holders.

Recommended Cutting Conditions ● F116-117

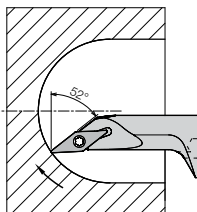
Applicable Sleeve ● F107-F110

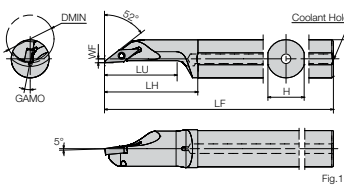
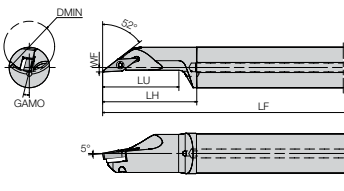
◆ C...STXP(B) Type Boring Bar Cutting Conditions

Toolholder Part Number	Insert Part Number (Grades)	Vc : sfm	D.O.C.	f (ipr)	Coolant
C06J-STXB% 06-075	TBGT0601003 L/R (PR930)	100~330	0.0008~0.0039	0.0008~0.0016	Yes
C08X-STXP% 08-09	TPGH080201 L/R (PR930)	100~330	0.0020~0.0059	0.0012~0.0031	Yes
C10X-STXP% 09-11	TPGH090201 L/R (PR930)	100~330	0.0020~0.0059	0.0012~0.0031	Yes

(Workpiece Material: Alloy Steel)

A-SVJP(C)(B)-AE Excellent Bar (Internal Spherical Machining / Internal Facing / Copying) (Max. Overhang Length $L/D = \sim 5.5$)



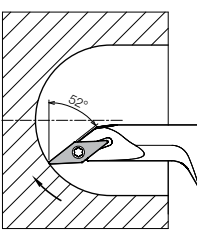



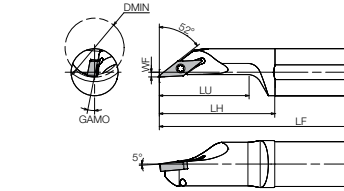
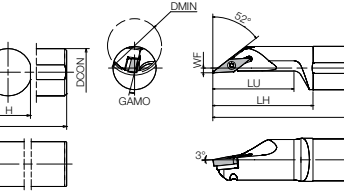
Shank Dia. DCON	Coolant Hole Dia.
Ø12mm	Ø4mm
Ø16mm	Ø4mm
Ø0.750"	Ø5mm
Ø20mm	Ø5mm
Ø1.000"	Ø5mm
Ø25mm	Ø5mm
Ø32mm	Ø7mm
Ø40mm	Ø9mm

Please see [F67](#) for Cutting Instructions • Right-hand shown • Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

* No shim for SVJP(C) %08 or SVJB %11.

S-SVJP(C)(B)-A Steel Bar (Internal Spherical Machining / Internal Facing / Copying) (Max. Overhang Length $L/D = \sim 4$)



Please see [F67](#) for Cutting Instructions • Right-hand shown • Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

* No shim for SVJP(C) %08 / SVJB %11.

Toolholder Dimensions

Part Number	Stock		Unit	Dimensions							GAMO	Standard Corner-R (RE)	Coolant Hole	Drawing	Spare Parts	
	R	L		DMIN	DCON	H	LF	LU	LH	WF					Clamp Screw	Wrench
Excellent Bar	●	●	inch	0.984	0.750	0.711	10	1.476	-	0.079	5°	1/64	Yes	Fig.1	SB-2050TR	FT-6
	●	●		1.180	1.000	0.961	12	1.772	-	0.138	5°					
	●	●	mm	16	12	11	150	26	33	2.0	5°	0.2	Yes	Fig.1	SB-2050TR	FT-6
	●	●		16	12	11	150	26	33	2.0	5°	0.4	Yes	Fig.1	SB-2050TR	FT-6
	●	●		20	16	15	180	36	43	2.0	5°	0.4	Yes	Fig.1	SB-2570TR	FT-8
	●	●		25	20	19	200	37.5	48	2.0	5°					
	●	●		30	25	24	250	45	58	3.5	5°					
	●	●		40	32	31	250	60	74	3.5	8°	0.4	Yes	Fig.2	SB-40125TRN	FT-15
Steel Bar	●	●	mm	16	12	11	150	26	33	2.0	5°	0.2	No	Fig.3	SB-2050TR	FT-6
	●	●		16	12	11	150	26	33	2.0	5°	0.4	No	Fig.3	SB-2050TR	FT-6
	●	●		20	16	15	180	36	43	2.0	5°	0.4	No	Fig.3	SB-2570TR	FT-8
	●	●		25	20	19	200	37.5	48	2.0	5°	0.4	No	Fig.3	SB-2570TR	FT-8
	●	●		30	25	24	250	45	58	3.5	5°					
	●	●		40	32	31	250	60	74	3.5	8°	0.4	No	Fig.4	SB-40125TRN	FT-15
	●	●		50	40	39	300	75	91	4.5	7°	0.4	No	Fig.4	SB-40125TRN	FT-15
	●	●		50	40	39	300	75	91	4.5	7°	0.4	No	Fig.4	SB-40125TRN	FT-15

Applicable Inserts

Application	Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Low Feed / Precision	Non-ferrous Metals	Non-ferrous Metals
Ref. Page	B94	B89, B92	B89, B92	B89	B89, B92	B90	B89, B95	B96	B93	B93
Insert	CK	VF	PP	GP	HQ	%-F	%-FSF	F%-USF	AP	%-A3
Toolholder										
...-SVJP%08-...	VPGT1515..	-	-	-	-	-	VPET1515..	VPET1515..	-	-
...-SVJC%08-...	-	VCMT1515..	VCMT1515..	-	VCMT1515..	-	-	-	-	-
...-SVJB%2AE	-	VBMT22..	VBMT22..	VBMT22..	VBMT22..	VBGT22..	VBET22..	-	-	-
...-SVJB%11-...	-	VBMT22..	VBMT22..	VBMT22..	VBMT22..	-	-	-	-	-
...-SVJB%16-...	-	VBMT33..	VBMT33..	VBMT33..	VBMT33..	-	-	-	VCGT33..	VCGT33..
Application	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials							
Ref. Page	B93	C28	C17							
Insert	AH	PCD	CBN							
Toolholder										
...-SVJP%08-...	-	-	-							
...-SVJC%08-...	-	VCMT1515..	VCGW1515..							
...-SVJB%2AE	-	VBMT22..	VBGW22..							
...-SVJB%11-...	-	VBMT22..	VBGW22..							
...-SVJB%16-...	VCGT33..	VBMT33..	VBGW33..							

* Use of VBGT1103..-Y / VBGT1604..-Y with A-SVJB-AE / S-SVJB-A is not recommended.

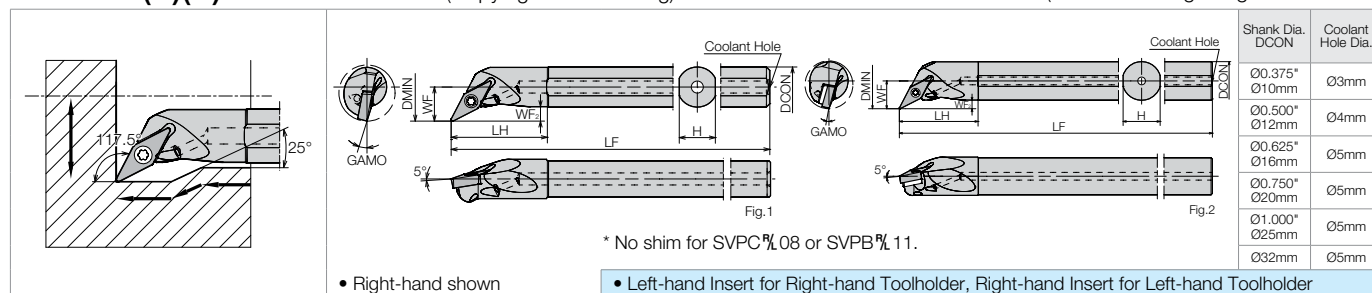
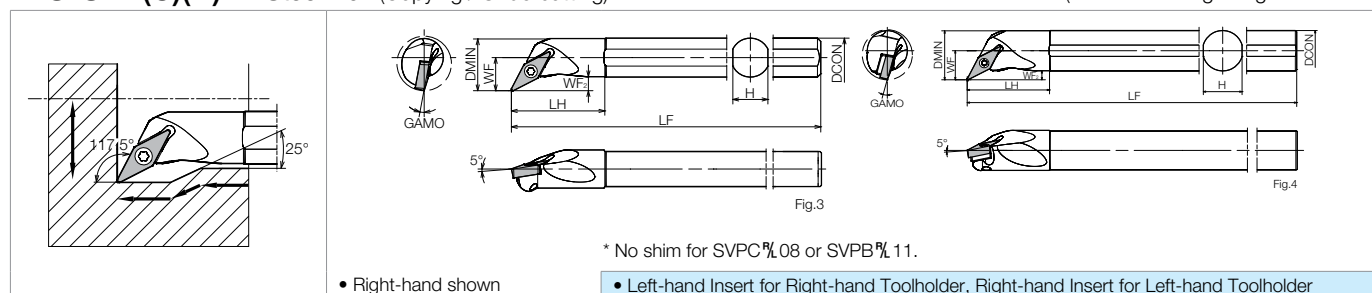
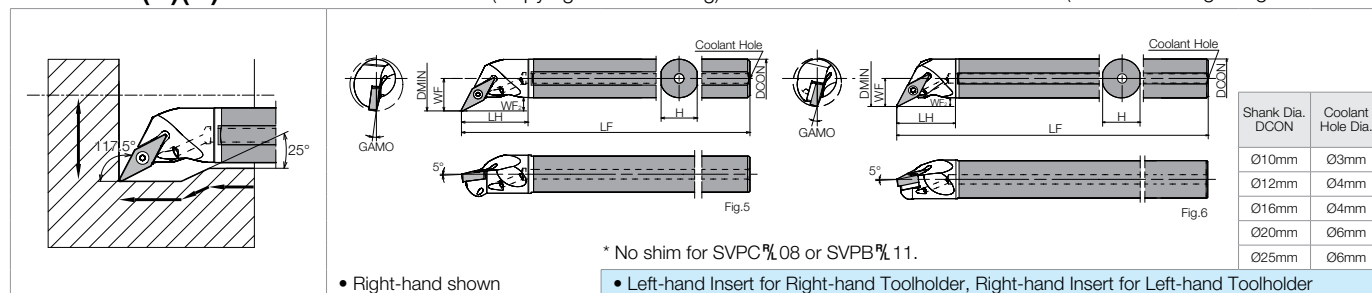
Spare Parts (See [P27](#) for spare parts of old products.)



Part Number	Spare Parts		
	Shim	Shim Screw	Wrench (for Shim Screw)
□32S-SVJB%16-40A□	SVN-32N *(SVN-32S)	SS-4N	LW-4
□40T-SVJB%16-50A□			

* Insert with Corner-R (RE) of 0.008" or 1/64", shim in parentheses () is recommended (sold separately)




Recommended Cutting Conditions [F116-F117](#)

Applicable Sleeve [F108-F110](#)

A-SVP(C)(B)-AE Excellent Bar (Copying / Undercutting)(Max. Overhang Length $L/D = \sim 5.5$)**S-SVP(C)(B)-A** Steel Bar (Copying / Undercutting)(Max. Overhang Length $L/D = \sim 4$)**E-SVP(C)(B)-A** Carbide Shank Bar (Copying / Undercutting)(Max. Overhang Length $L/D = \sim 7$)**Toolholder Dimensions**















Part Number			Stock		Unit	Min. Bore Dia.	Dimensions					GAMO	Standard Corner-R (RE)	Coolant Hole	Drawing	Spare Parts						
			R	L			DMIN	DCON	H	LF	LH					WF	WF ₂					
Excellent Bar	A06M-SVPC%1.5AE	●	●	inch	0.630	0.375	0.336	6	0.945	0.335	0.118	8°	1/64	Yes	Fig.1	SB-2570TR	FT-8					
	A08M-SVPB%2AE	●	●		0.790	0.500	0.461	6	1.142	0.433	0.177	8°										
	A10R-SVPB%2AE	●	●		0.980	0.625	0.586	8	1.378	0.531	0.197	5°										
	A12S-SVPB%2AE	●	●		1.180	0.750	0.711	10	1.575	0.610	0.197	5°										
	A16T-SVPB%3AE	●	●		1.240	1.000	0.961	12	2.008	0.709	0.197	13°										
	A10L-SVPC%08-14AE	●	●	mm	14	10	9	140	24	8.5	3.0	8°	0.4	Yes	Fig.1	SB-2050TR	FT-6					
	A12M-SVPB%11-18AE	●	●		18	12	11	150	29	11.0	4.5	8°										
	A16Q-SVPB%11-22AE	●	●		22	16	15	180	35	13.5	5.0	5°										
	A20R-SVPB%11-26AE	●	●		26	20	19	200	41	15.5	5.0	5°										
	A25S-SVPB%16-31AE	●	●		31	25	24	250	51	18.0	5.0	13°										
A32S-SVPB%16-40AE	●	●	40	32	31	250	54	23.0	6.5	9°	0.4	No	Fig.3	SB-2050TR	FT-6							
S10L-SVPC%08-14A	●	●	14	10	9	140	24	8.5	3.0	8°												
S12M-SVPB%11-18A	●	●	18	12	11	150	29	11.0	4.5	8°												
S16Q-SVPB%11-22A	●	●	22	16	15	180	35	13.5	5.0	5°												
S20R-SVPB%11-26A	●	●	26	20	19	200	41	15.5	5.0	5°												
S25S-SVPB%16-31A	●	●	31	25	24	250	51	18.0	5.0	13°	0.4	No	Fig.4	SB-40125TRN	FT-15							
S32S-SVPB%16-40A	●	●	40	32	31	250	54	23.0	6.5	9°												
Carbide	E10N-SVPC%08-14A	●		mm	14	10	9	160	20	8.5						3.0	8°	0.4	Yes	Fig.5	SB-2050TR	FT-6
	E12Q-SVPB%11-18A	●			18	12	11	180	23	11.0						4.5	8°					
	E16X-SVPB%11-22A	●			22	16	15	220	28	13.5						5.0	5°					
	E20S-SVPB%11-26A	●			26	20	19	250	32	15.5	5.0	5°										
	E25T-SVPB%16-31A	●			31	25	24	300	38	18.0	5.0	13°										

● **Spare Parts** (See ● **P27** for spare parts of old products.)

Part Number	Spare Parts		
	Shim	Shim Screw	Wrench (for Shim Screw)
			
□25□-SVPB%16-31A□	SVN-32N *(SVN-32S)	SS-4N	LW-4
□32S-SVPB%16-40A□			
A16T-SVPB%3AE			

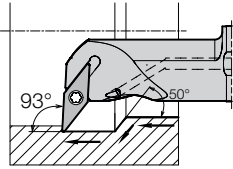
* Insert with Corner-R (RE) of 0.008" or 1/64", shim in parentheses () is recommended (sold separately)

● **Applicable Inserts**

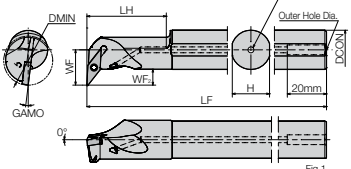
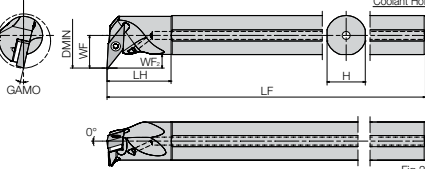
Application	Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Finishing-Medium	Low Feed / Precision	Non-ferrous Metals
Ref. Page	-	● B89, B92	● B89, B92	● B89	● B89, B92	● B90	● B89	● B90, B91	-	● B93
Insert	CK	VF	PP	GP	HQ	R _L -F	R _L -FSF	R _L -Y	F _R -USF	AP
Toolholder										
...-SVPC%1.5AE... ...-SVPC%08-...	-	VCMT1515..	VCMT1515..	-	VCMT1515..	-	-	-	-	-
...-SVPB%2AE... ...-SVPB%11-...	-	VBMT22..	VBMT22..	VBMT22..	VBMT22..	VBGT22..	VBET22..	VBGT22..	-	-
...-SVPB%3AE... ...-SVPB%16-...	-	VBMT33..	VBMT33..	VBMT33..	VBMT33..	-	-	VBGT33..	-	VCGT33..
Application	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials						
Ref. Page	● B93	● B93	● C28	● C17						
Insert	R _L -A3	AH	PCD	CBN						
Toolholder										
...-SVPC%1.5AE... ...-SVPC%08-...	-	-	VCMT1515..	VCGW1515..						
...-SVPB%2AE... ...-SVPB%11-...	-	-	VBMT22..	VBGW22..						
...-SVPB%3AE... ...-SVPB%16-...	VCGT33..	VCGT33..	VBMT33..	VBGW33..						

Recommended Cutting Conditions ● **F116-F117**

Applicable Sleeve ● **F108-F110**

A-SVUC(B)-AE Excellent Bar (Copying)(Max. Overhang Length $L/D = \sim 5.5$)


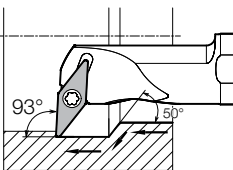
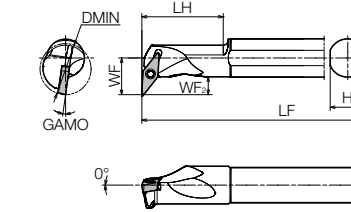
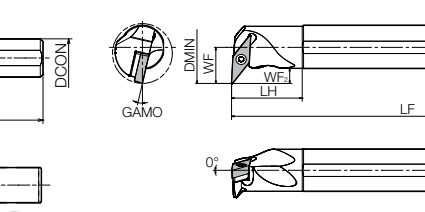
Inner Hole Dia. (Ø3mm) of A12M-SVUC% 08-16AE
 Inner Hole Dia. (Ø3mm) of A16Q-SVUB% 11-20AE
 Inner Hole Dia. (Ø3mm) for A20R-SVUB% 11-25AE
 Straight Hole Dia. (Ø5mm) of A32S-SVUB% 16-40AE

Shank Dia. DOON	Outer Hole Dia.	Coolant Hole Dia.
Ø0.500" Ø12mm	Ø4mm	-
Ø0.625" Ø16mm	Ø5mm	-
Ø0.750" Ø20mm	Ø5mm	-
Ø1.000" Ø25mm	-	Ø5mm
Ø32mm	-	Ø5mm

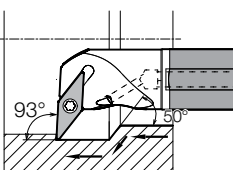
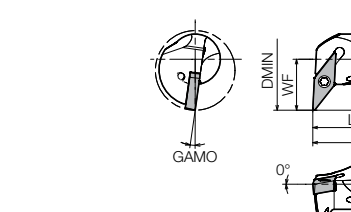
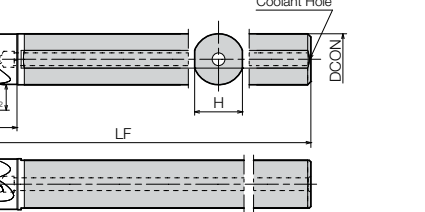
* No shim for SVUC% 08 / SVUB% 11.

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

S-SVUC(B)-A Steel Bar (Copying)(Max. Overhang Length $L/D = \sim 4$)




* No shim for SVUC% 08 / SVUB% 11.

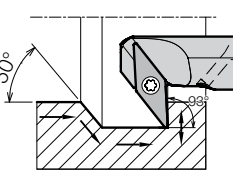
- Right-hand shown
- Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

E-SVUC(B)-A Carbide Shank Bar (Copying)(Max. Overhang Length $L/D = \sim 7$)




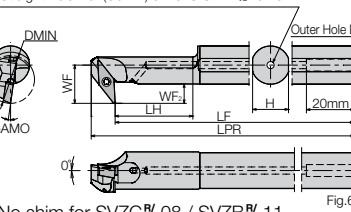
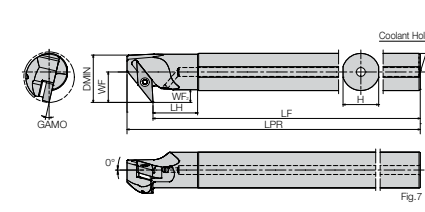
Shank Dia. DOON	Coolant Hole Dia.
Ø12mm	Ø4mm
Ø16mm	Ø4mm
Ø20mm	Ø6mm
Ø25mm	Ø6mm

* Shim is attached only for SVUBR16

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

A-SVZC(B)-AE Excellent Bar (Back Boring)(Max. Overhang Length $L/D = \sim 5.5$)


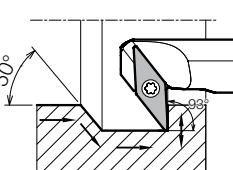
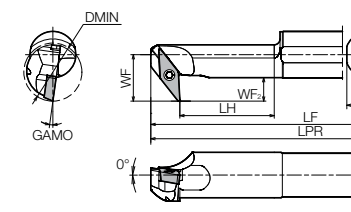
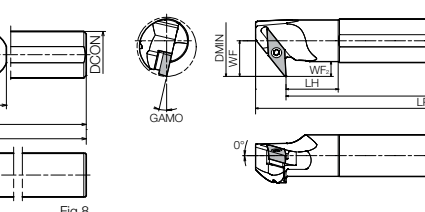
Inner Hole Dia. (Ø3mm) of A12M-SVZC% 08-16AE
 Inner Hole Dia. (Ø3mm) of A16Q-SVZB% 11-20AE
 Inner Hole Dia. (Ø3mm) for A20R-SVZB% 11-25AE
 Straight Hole Dia. (Ø5mm) of A32S-SVZB% 16-40AE

Shank Dia. DOON	Outer Hole Dia.	Coolant Hole Dia.
Ø12mm	Ø4mm	-
Ø16mm	Ø5mm	-
Ø20mm	Ø5mm	-
Ø25mm	-	Ø5mm
Ø32mm	-	Ø5mm

* No shim for SVZC% 08 / SVZB% 11

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

S-SVZC(B)-A Steel Bar (Back Boring)(Max. Overhang Length $L/D = \sim 4$)














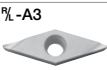

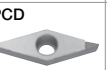

* No shim for SVZC% 08 / SVZB% 11

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




● Toolholder Dimensions

Part Number		Stock		Unit	Min. Bore Dia.	Dimensions						GAMO	Standard Corner-R (RE)	Coolant Hole	Drawing	Spare Parts			
		R	L			DMIN	DCON	H	LPR	LF	LH					WF	WF ₂	Clamp Screw	Wrench
Excellent Bar	A08M-SVUC $\frac{1}{16}$ 1.5AE	●	●	inch	0.630	0.500	0.461	-	6	1.004	0.453	0.217	8°	1/64	Yes	Fig.1	SB-2050TR	FT-6	
	A10R-SVUB $\frac{1}{16}$ 2AE	●	●		0.790	0.625	0.586	-	8	1.280	0.630	0.315	8°	1/64	Yes	Fig.1	SB-2570TR	FT-8	
	A12S-SVUB $\frac{1}{16}$ 2AE	●	●		0.980	0.750	0.711	-	10	1.595	0.709	0.315	7°	1/64	Yes	Fig.1	SB-40125TRN	FT-15	
	A16T-SVUB $\frac{1}{16}$ 3AE	●	●		1.340	1.000	0.961	-	12	1.583	0.807	0.335	13°	1/64	Yes	Fig.2	SB-2050TR	FT-6	
	A12M-SVUC $\frac{1}{16}$ 08-16AE	●	●	mm	16	12	11	-	150	25.5	11.5	5.5	8°	0.4	Yes	Fig.1	SB-2050TR	FT-6	
	A16Q-SVUB $\frac{1}{16}$ 11-20AE	●	●		20	16	15	-	180	32.5	16.0	8.0	8°	0.4	Yes	Fig.1	SB-2570TR	FT-8	
	A20R-SVUB $\frac{1}{16}$ 11-25AE	●	●		25	20	19	-	200	40.5	18.0	8.0	7°	0.4	Yes	Fig.1	SB-40125TRN	FT-15	
	A25S-SVUB $\frac{1}{16}$ 16-34AE	●	●		34	25	24	-	250	40.0	20.5	8.5	13°	0.4	Yes	Fig.2	SB-2050TR	FT-6	
Steel	A32S-SVUB $\frac{1}{16}$ 16-40AE	●	●	mm	40	32	31	-	250	84.0	28.0	12.0	9°	0.4	Yes	Fig.1	SB-40125TRN	FT-15	
	S12M-SVUC $\frac{1}{16}$ 08-16A	●	●		16	12	11	-	150	25.5	11.5	5.5	8°	0.4	No	Fig.3	SB-2570TR	FT-8	
	S16Q-SVUB $\frac{1}{16}$ 11-20A	●	●		20	16	15	-	180	32.5	16.0	8.0	7°	0.4	No	Fig.3	SB-40125TRN	FT-15	
	S20R-SVUB $\frac{1}{16}$ 11-25A	●	●		25	20	19	-	200	40.5	18.0	8.0	13°	0.4	No	Fig.4	SB-2050TR	FT-6	
	S25S-SVUB $\frac{1}{16}$ 16-34A	●	●	mm	34	25	24	-	250	40.0	20.5	8.5	9°	0.4	No	Fig.3	SB-2570TR	FT-8	
	S32S-SVUB $\frac{1}{16}$ 16-40A	●	●		40	32	31	-	250	84.0	28.0	12.0	9°	0.4	Yes	Fig.5	SB-40125TRN	FT-15	
	E12Q-SVUC $\frac{1}{16}$ 08-18A	●	●		18	12	11	-	180	23.0	11.5	5.5	8°	0.4	Yes	Fig.5	SB-2050TR	FT-6	
	E16X-SVUB $\frac{1}{16}$ 11-25A	●	●		25	16	15	-	220	28.0	16.0	8.0	8°	0.4	Yes	Fig.5	SB-2570TR	FT-8	
Excellent Bar	E20S-SVUB $\frac{1}{16}$ 11-29A	●	●	inch	29	20	19	-	250	32.0	18.0	8.0	7°	0.4	Yes	Fig.5	SB-40125TRN	FT-15	
	E25T-SVUB $\frac{1}{16}$ 16-34A	●	●		34	25	24	-	300	38.0	21.0	8.5	13°	0.4	Yes	Fig.6	SB-2050TR	FT-6	
	A08M-SVZC $\frac{1}{16}$ 1.5AE	●	●		0.630	0.500	0.461	-	6	1.004	0.453	0.217	8°	1/64	Yes	Fig.6	SB-2570TR	FT-8	
	A10R-SVZB $\frac{1}{16}$ 2AE	●	●		0.790	0.625	0.586	-	8	1.280	0.630	0.315	8°	1/64	Yes	Fig.6	SB-40125TRN	FT-15	
	A12S-SVZB $\frac{1}{16}$ 2AE	●	●	mm	0.980	0.750	0.711	-	10	1.595	0.709	0.315	7°	0.4	Yes	Fig.6	SB-2050TR	FT-6	
	A16T-SVZB $\frac{1}{16}$ 3AE	●	●		1.340	1.000	0.961	-	12	1.181	0.807	0.335	13°	0.4	Yes	Fig.7	SB-2570TR	FT-8	
	A12M-SVZC $\frac{1}{16}$ 08-16AE	●	●		16	12	11	150	142.5	25.5	11.5	5.5	8°	0.4	Yes	Fig.6	SB-40125TRN	FT-15	
	A16Q-SVZB $\frac{1}{16}$ 11-20AE	●	●		20	16	15	180	170	32.5	16.0	8.0	8°	0.4	Yes	Fig.6	SB-2050TR	FT-6	
Steel	A20R-SVZB $\frac{1}{16}$ 11-25AE	●	●	mm	25	20	19	200	190	40.5	18.0	8.0	7°	0.4	Yes	Fig.6	SB-2570TR	FT-8	
	A25S-SVZB $\frac{1}{16}$ 16-34AE	●	●		34	25	24	250	232.5	30.0	20.5	8.5	13°	0.4	Yes	Fig.7	SB-40125TRN	FT-15	
	A32S-SVZB $\frac{1}{16}$ 16-40AE	●	●		40	32	31	250	232.5	72.5	28.0	12.0	9°	0.4	Yes	Fig.6	SB-40125TRN	FT-15	
	S12M-SVZC $\frac{1}{16}$ 08-16A	●	●		16	12	11	150	142.5	25.5	11.5	5.5	8°	0.4	No	Fig.8	SB-2050TR	FT-6	
	S16Q-SVZB $\frac{1}{16}$ 11-20A	●	●	mm	20	16	15	180	170	32.5	16.0	8.0	8°	0.4	No	Fig.8	SB-2570TR	FT-8	
	S20R-SVZB $\frac{1}{16}$ 11-25A	●	●		25	20	19	200	190	40.5	18.0	8.0	7°	0.4	No	Fig.9	SB-40125TRN	FT-15	
	S25S-SVZB $\frac{1}{16}$ 16-34A	●	●		34	25	24	250	232.5	30.0	20.5	8.5	13°	0.4	No	Fig.8	SB-2050TR	FT-6	
	S32S-SVZB $\frac{1}{16}$ 16-40A	●	●		40	32	31	250	235	72.5	28.0	12.0	9°	0.4	No	Fig.8	SB-40125TRN	FT-15	

● Applicable Inserts

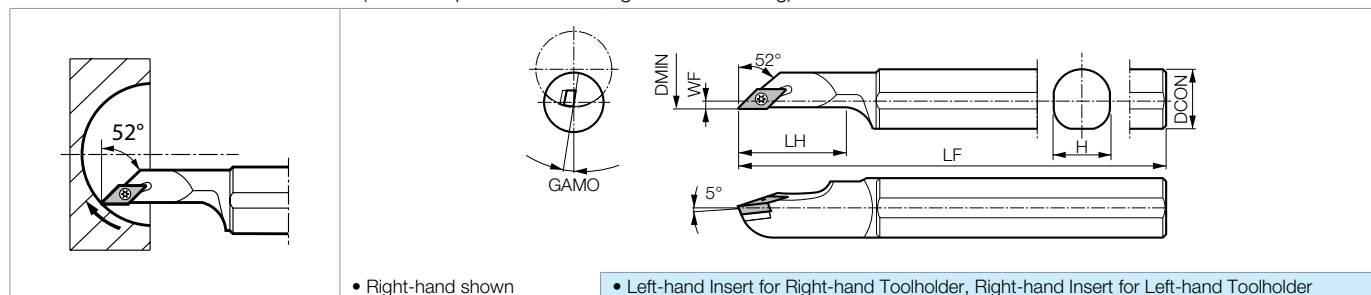
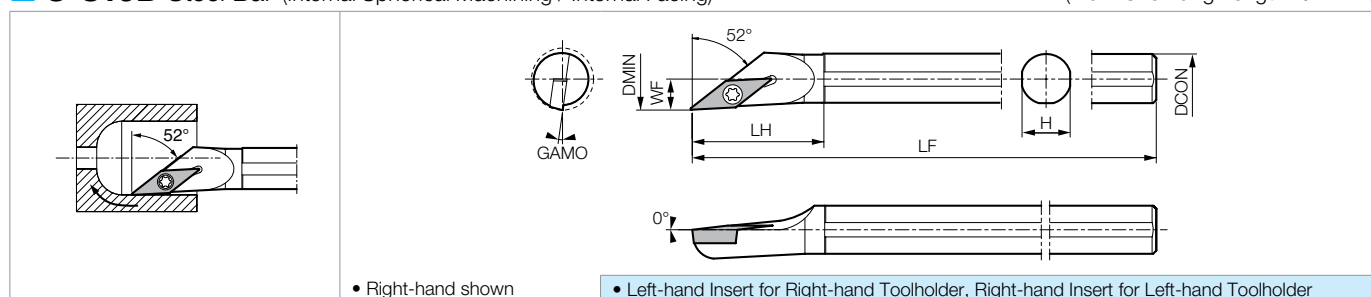
Application	Finishing	Finishing	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Finishing-Medium	Low Feed / Precision	Non-ferrous Metals
Ref. Page	-	B89, B92	B89, B92	B89	B89, B92	B90	B89	B90, B91	-	B93
Insert	CK	VF	PP	GP	HQ	$\frac{1}{16}$ -F	$\frac{1}{16}$ -FSF	$\frac{1}{16}$ -Y	F $\frac{1}{16}$ -USF	AP
Toolholder										
...-SVUC $\frac{1}{16}$ 1.5AE ...-SVUC $\frac{1}{16}$ 08-...	-	VCMT1515..	VCMT1515..	-	VCMT1515..	-	-	-	-	-
...-SVUB $\frac{1}{16}$ 2AE ...-SVUB $\frac{1}{16}$ 11-...	-	VBMT22..	VBMT22..	VBMT22..	VBMT22..	VBGT22..	VBET22..	VBGT22..	-	-
...-SVUB $\frac{1}{16}$ 3AE ...-SVUB $\frac{1}{16}$ 16-...	-	VBMT33..	VBMT33..	VBMT33..	VBMT33..	-	-	VBGT33..	-	VCGT33..
...-SVZC $\frac{1}{16}$ 1.5AE ...-SVZC $\frac{1}{16}$ 08-...	-	VCMT1515..	VCMT1515..	-	VCMT1515..	-	-	-	-	-
...-SVZC $\frac{1}{16}$ 2AE ...-SVZB $\frac{1}{16}$ 11-...	-	VBMT22..	VBMT22..	VBMT22..	VBMT22..	VBGT22..	VBET22..	VBGT22..	-	-
...-SVZC $\frac{1}{16}$ 3AE ...-SVZB $\frac{1}{16}$ 16-...	-	VBMT33..	VBMT33..	VBMT33..	VBMT33..	-	-	VBGT33..	-	VCGT33..
Application	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials						
Ref. Page	B93	B93	C28	C17						
Insert	$\frac{1}{16}$ -A3	AH	PCD	CBN						
Toolholder										
...-SVUC $\frac{1}{16}$ 1.5AE ...-SVUC $\frac{1}{16}$ 08-...	-	-	VCMT1515..	VCGW1515..						
...-SVUB $\frac{1}{16}$ 2AE ...-SVUB $\frac{1}{16}$ 11-...	-	-	VBMT22..	VBGW22..						
...-SVUB $\frac{1}{16}$ 3AE ...-SVUB $\frac{1}{16}$ 16-...	VCGT33..	VCGT33..	VBMT33..	VBGW33..						
...-SVZC $\frac{1}{16}$ 1.5AE ...-SVZC $\frac{1}{16}$ 08-...	-	-	VCMT1515..	VCGW1515..						
...-SVZC $\frac{1}{16}$ 2AE ...-SVZB $\frac{1}{16}$ 11-...	-	-	VBMT22..	VBGW22..						
...-SVZC $\frac{1}{16}$ 3AE ...-SVZB $\frac{1}{16}$ 16-...	VCGT33..	VCGT33..	VBMT33..	VBGW33..						

● **Spare Parts** (See [P27](#) for spare parts of old products.)

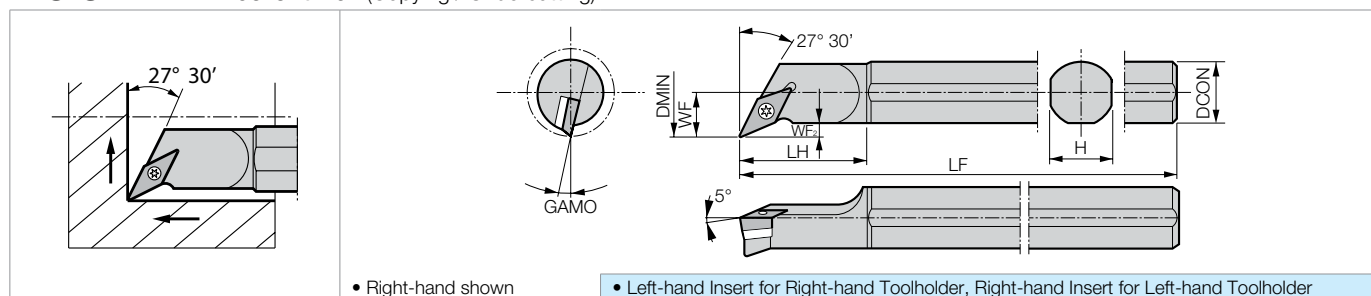
Part Number	Spare Parts		
	Shim	Shim Screw	Wrench (for Shim Screw)
			
<div><div><div><div><div><input type="checkbox"/>25<input type="checkbox"/>-SVUB$\frac{1}{16}$16-34A<input type="checkbox"/></div><div><input type="checkbox"/>32S-SVUB$\frac{1}{16}$16-40A<input type="checkbox"/></div><div><input type="checkbox"/>25S-SVZB$\frac{1}{16}$16-34A<input type="checkbox"/></div><div><input type="checkbox"/>32S-SVZB$\frac{1}{16}$16-40A<input type="checkbox"/></div><div>A16T-SVUB$\frac{1}{16}$3AE</div><div>A16T-SVZB$\frac{1}{16}$3AE</div></div></div></div></div>	SVN-32N *(SVN-32S)	SS-4N	LW-4

* Insert with Corner-R (RE) of 0.008" or 1/64", shim in parentheses () is recommended (sold separately)

Recommended Cutting Conditions [E116-E11](#)

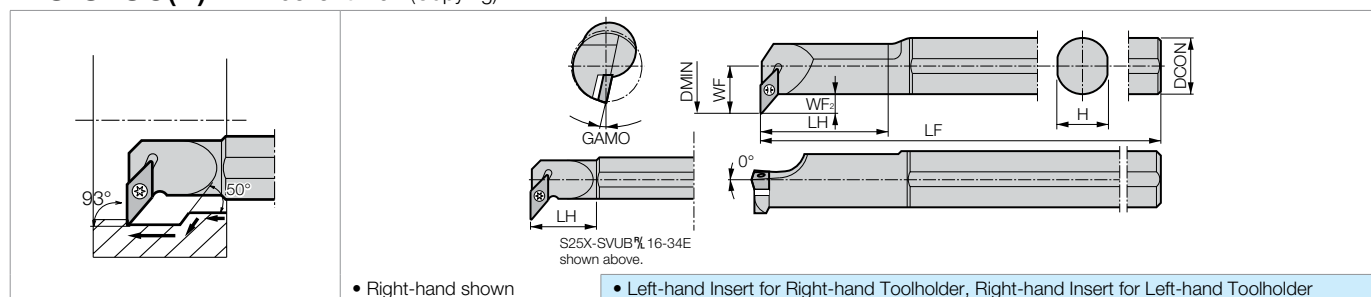
■ **S-SVJB-E** Excellent Bar (Internal Spherical Machining / Internal Facing)(Max. Overhang Length $L/D = \sim 5$)■ **S-SVJB** Steel Bar (Internal Spherical Machining / Internal Facing)(Max. Overhang Length $L/D = \sim 3$)● **Toolholder Dimensions**

Part Number	Stock		Unit	Dimensions						GAMO	Standard Corner-R (RE)	Coolant Hole	Spare Parts				
	R	L		DMIN	DCON	H	LF	LH	WF				Clamp Screw	Wrench	Shim	Shim Screw	Wrench
Excellent Bar																	
S16S-SVJB%2E	●	●	inch	1.18	1.00	0.97	10.00	2.92	-	5°	1/64	No	SB-2570TR	FT-8	-	-	-
S20S-SVJB%3E	●	●		1.57	1.25	1.18	10.0	2.92	-	8°	1/32	No	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
S08M-SVJB%2	●	●		0.620	0.500	0.480	6.00	1.25	0.310	8°	1/64	No	SB-2570TR	FT-8	-	-	-
S10X-SVJB%2	●	●		0.780	0.625	0.584	7.00	1.44	0.390	8°	1/64	No	SB-2570TR	FT-8	-	-	-
S12R-SVJB%3	●	●		0.984	0.750	0.710	8.00	1.86	0.492	8°	1/32	No	SB-4085TR	FT-15	-	-	-

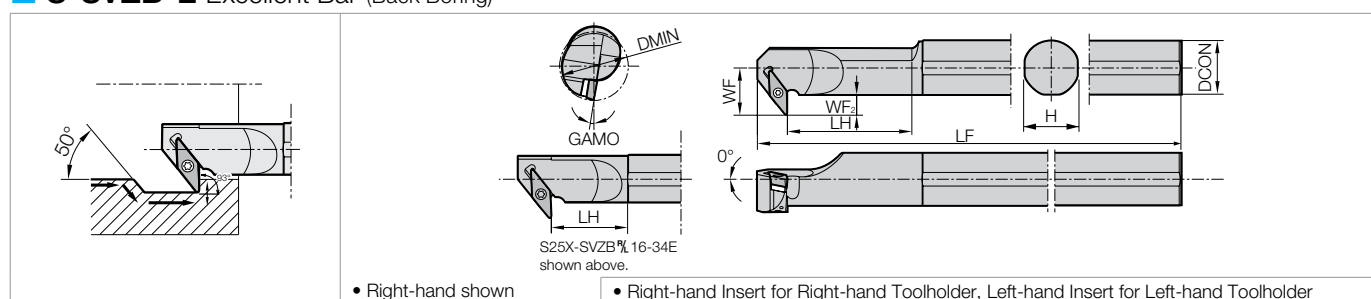
■ **S-SVPB-E** Excellent Bar (Copying / Undercutting)(Max. Overhang Length $L/D = \sim 5$)● **Toolholder Dimensions**

Part Number	Stock		Unit	Dimensions						GAMO	Standard Corner-R (RE)	Coolant Hole	Spare Parts				
	R	L		DMIN	DCON	H	LF	LH	WF	WF ₂			Clamp Screw	Wrench	Shim	Shim Screw	Wrench
Excellent Bar																	
S08M-SVPB%2E	●	●	inch	0.79	0.50	0.46	6.00	1.10	0.315	0.163	8°	1/64	No	SB-2570TR	-	-	-
S10Q-SVPB%2E	●	●		0.98	0.63	0.59	7.00	1.10	0.492	0.194	5°	1/64	No	SB-2570TR	-	-	-
S16X-SVPB%3E	●	●		1.34	1.00	0.97	9.00	2.26	0.807	0.335	13°	1/32	No	SB-40115TR	FT-15	SVN-32	SB-2050TR
S20S-SVPB%3E	●	●		1.57	1.25	1.18	10.0	2.17	0.866	0.256	9°	1/32	No	SB-40115TR	FT-15	SVN-32	SB-2050TR

■ S-SVUC(B)-E Excellent Bar (Copying)

(Max. Overhang Length $L/D = \sim 5$)

■ S-SVZB-E Excellent Bar (Back Boring)

(Max. Overhang Length $L/D = \sim 5$)

● Toolholder Dimensions

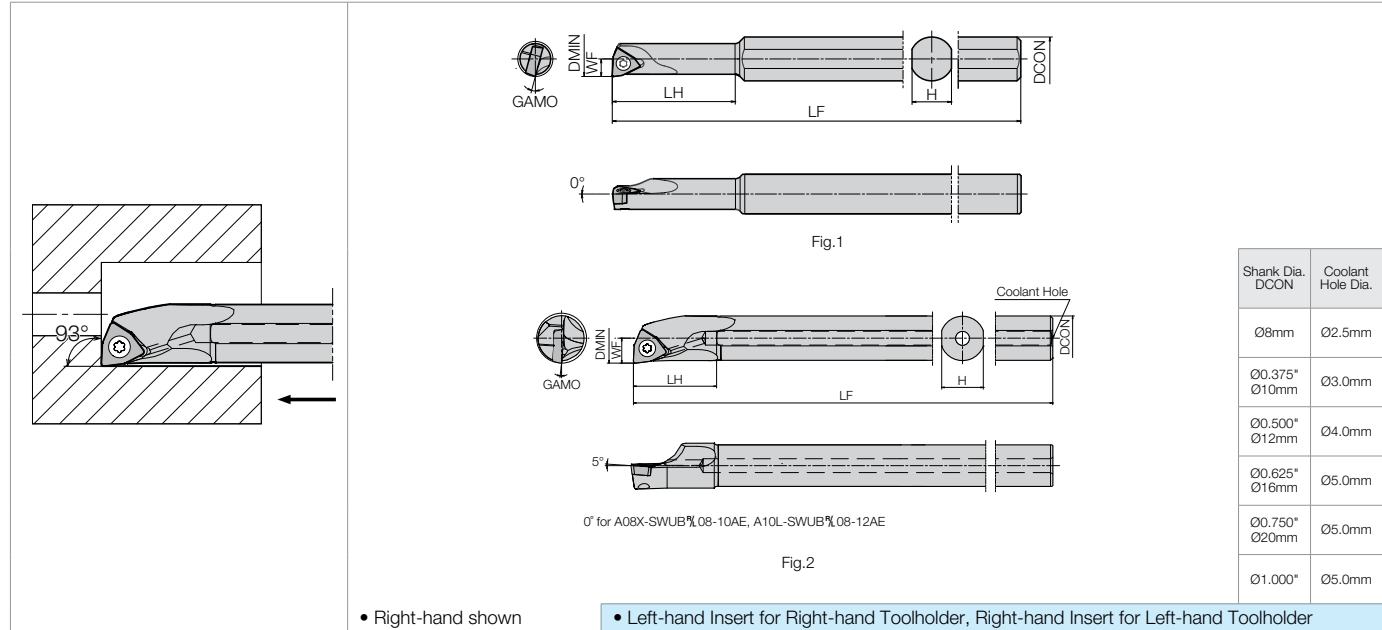
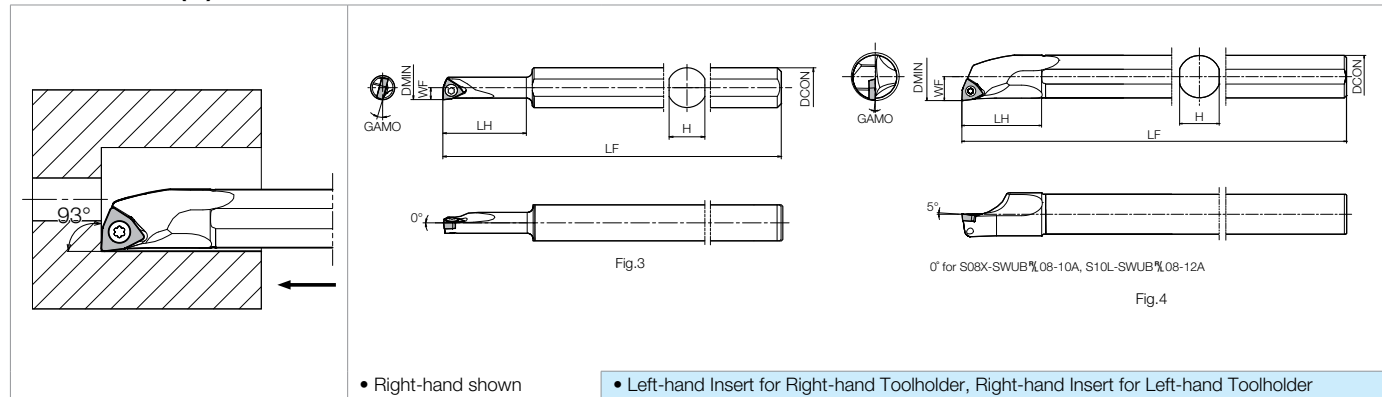
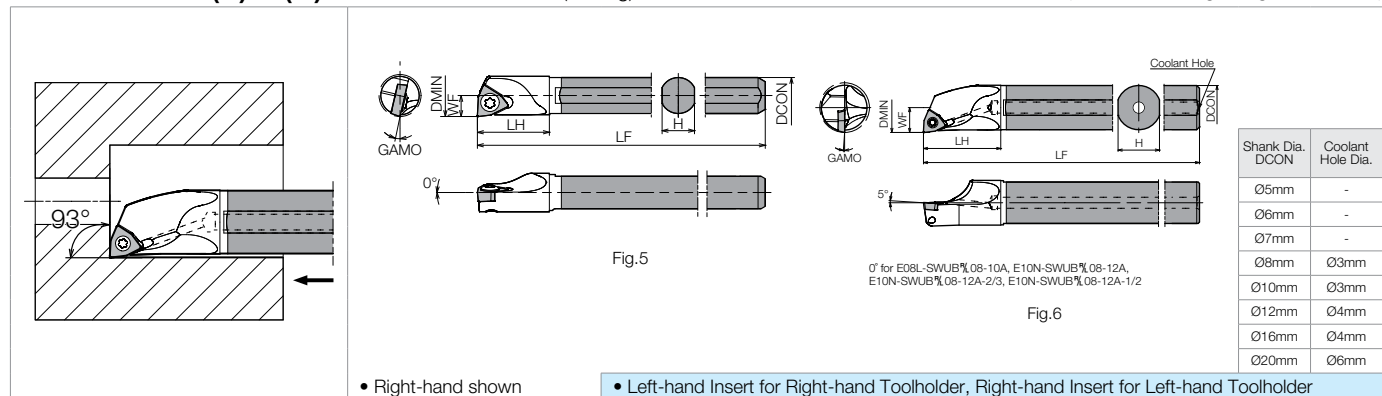
Part Number		Stock		Unit	Min. Bore Dia.	Dimensions					GAMO	Standard Corner-R (RE)	Coolant Hole	Spare Parts						
		R	L			DMIN	DCON	H	LF	LH				WF	WF ₂	Clamp Screw	Wrench	Shim	Shim Screw	Wrench
Excellent Bar	S08M-SVUC ^{1.5E}	●		inch	0.63	0.50	0.46	6.00	1.10	0.433	0.217	8°	1/64	No	SB-2050TR	FT-6	-	-	-	
	S10Q-SVUB ^{2E}	●	●		0.79	0.63	0.59	7.00	1.28	0.610	0.315	8°	1/64	No	SB-2570TR	FT-8	-	-	-	
	S12R-SVUB ^{2E}	●	●		0.98	0.75	0.71	8.00	1.59	0.689	0.355	7°	1/64	No	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6	
	S16X-SVUB ^{3E}	●			1.34	1.00	0.97	9.00	1.97	0.689	0.195	13°	1/32	No	SB-2570TR	FT-8	-	-	-	
	S20S-SVUB ^{3E}	●			1.57	1.25	1.18	10.00	3.31	1.080	0.472	9°	1/64	No	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6	
	S10Q-SVZB ^{2E}	●			0.79	0.63	0.59	7.00	1.50	0.610	0.315	8°	1/64	No	SB-2570TR	FT-8	-	-	-	
	S12R-SVZB ^{2E}	●			0.98	0.75	0.71	8.00	1.73	0.689	0.355	7°	1/64	No	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6	
	S20S-SVZB ^{3E}	●			1.57	1.25	1.18	10.0	2.85	1.08	0.472	9°	1/64	No	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6	

● Applicable Inserts



Application	Finishing	Finishing	Finishing	Finishing-Medium	Finishing	Finishing / Precision	Finishing-Medium	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Hardened Materials
Ref. Page	● B89, B92	● B89, B92	● B89	● B89, B92	● B90	● B89	● B90, B91	● B93	● B93	● C28	● C17
Insert	VF	PP	GP	HQ	%-F	%-FSF	%-Y	AH	%-A3	PCD	CBN
Toolholder											
...-SVUC% 1.5E	VCMT1515..	VCMT1515..	-	VCMT1515..	-	-	-	-	-	VCMT1515..	VCGW1515..
...-SVJB% 2 ...-SVJB% 2E ...-SVPB% 2E ...-SVUB% 2E ...-SVZB% 2E	VBMT22..	VBMT22..	VBMT22..	VBMT22..	VBGT22..	VBET22..	VBGT22..	-	-	VBMT22..	VBGW22..
...-SVJB% 3 ...-SVJB% 3E ...-SVPB% 3E ...-SVUB% 3E ...-SVZB% 3E	VBMT33..	VBMT33..	VBMT33..	VBMT33..	-	-	VBGT33..	VCGT33..	VCGT33..	VBMT33..	VBGW33..

Recommended Cutting Conditions ● F116-F117











Applicable Sleeve ● F106~ F108

S/A-SWUB(P)-AE Excellent Bar (Boring)(Max. Overhang Length $L/D = \sim 5.5$)**S-SWUB(P)-A** Steel Bar (Boring)(Max. Overhang Length $L/D = \sim 4$)**C/E-SWUB(P)-A(N)** Carbide Shank Bar (Boring)(Max. Overhang Length $L/D = \sim 7$)

● Toolholder Dimensions

Part Number		Stock		Unit	Min. Bore Dia.	Dimensions						GAMO	Standard Corner-R (RE)	Coolant Hole	Drawing	Spare Parts						
		R	L			DMIN	DCON	H	LF	LH	WF					WF ₂	Clamp Screw	Wrench				
																						
Excellent Bar	S06H-SWUB%1.2AE	●	●	inch	0.240	0.375	0.336	4	0.827	0.118	-	15.0°	0.01	No	Fig.1	SB-2035TR	FT-6					
	S06H-SWUB%1.5AE	●			0.312	0.375	0.336	4	1.102	0.157	-	15.0°										
	A06M-SWUB%1.5AE	●	●		0.472	0.375	0.336	6	0.787	0.236	-	10.0°										
	A08M-SWUP%2AE	●	●		0.630	0.500	0.461	6	0.945	0.276	-	4.0°										
	A10R-SWUP%3AE	●	●		0.770	0.625	0.586	8	1.181	0.354	-	3.5°										
	A12S-SWUP%3AE	●	●		0.930	0.750	0.711	10	1.417	0.413	-	2°										
	A16T-SWUP%3AE	●	●		1.200	1.000	0.961	12	1.811	0.531	-	0°	1/32	Yes	Fig.2	SB-4065TR	FT-15					
	S10H-SWUB%06-06AE	●	●	6	10	9	100	21	3.0	-	15.0°	0.2						No	Fig.1	SB-2035TR	FT-6	
	S10H-SWUB%06-07AE	●	●	7	10	9	100	25	3.5	-	13.0°											
	S10H-SWUB%08-08AE	●	●	8	10	9	100	28	4.0	-	15.0°											
	A08X-SWUB%08-10AE	●	●	10	8	7	120	16	5.0	-	13.0°	0.2	Yes	Fig.2	SB-2050TR	FT-6						
	A10L-SWUB%08-12AE	●	●	12	10	9	140	20	6.0	-	10.0°											
	A12M-SWUP%11-14AE	●	●	mm	14	12	11	150	24	7.0	-	4.0°	0.4	Yes	Fig.2	SB-2545TR	FT-8					
	A16Q-SWUP%11-18AE	●	●		18	16	15	180	30	9.0	-	1.0°										
	A16Q-SWUP%16-18AE	●	●		18	16	15	180	30	9.0	-	3.5°	0.8	Yes	Fig.2	SB-4065TR	FT-15					
	A20R-SWUP%16-22AE	●	●		22	20	19	200	36	11.0	-	2.0°										
Steel	S10H-SWUB%06-06A	●	●		mm	6	10	9	100	21	3.0	-	15.0°	0.2	No	Fig.3	SB-2035TR	FT-6				
	S10H-SWUB%06-07A	●	●			7	10	9	100	25	3.5	-	13.0°									
	S10H-SWUB%08-08A	●	●	8		10	9	100	28	4.0	-	15.0°										
	S08X-SWUB%08-10A	●	●	10		8	7	120	16	5.0	-	13.0°										
	S10L-SWUB%08-12A	●	●	12		10	9	140	20	6.0	-	10.0°										
	S12M-SWUP%11-14A	●	●	14		12	11	150	24	7.0	-	4.0°	0.4	No	Fig.4	SB-2545TR	FT-8					
	S16Q-SWUP%11-18A		●	18		16	15	180	30	9.0	-	1.0°										
	S16Q-SWUP%16-18A	●	●	18		16	15	180	30	9.0	-	3.5°	0.8	No	Fig.4	SB-4065TR	FT-15					
	S20R-SWUP%16-22A	●	●	22		20	19	200	36	11.0	-	2.0°										
	Carbide	C05H-SWUB%06-06AN	●	●		mm	6	5	4.4	100	9	3.0	-	15.0°	0.2	No	Fig.5	SB-2035TR	FT-6			
C06J-SWUB%06-07AN		●	●	7	6		5.4	110	10	3.5	-	13.0°										
C07K-SWUB%08-08AN		●	●	8	7		6.4	125	11	4.0	-	15.0°	0.2	Yes						Fig.6	SB-2050TR	FT-6
E08L-SWUB%08-10AN		●	●	10	8		7	140	14	5.0	-	13.0°										
E10N-SWUB%08-12AN		●	●	12	10		9	160	18	6.0	-	10.0°										
E10N-SWUB%08-12AN-2/3		●		12	10		9	105	18	6.0	-	10.0°										
E10N-SWUB%08-12AN-1/2		●		12	10		9	80	18	6.0	-	10.0°	0.4	Yes	Fig.6	SB-2545TR	FT-8					
E12Q-SWUP%11-14A		●	●	14	12		11	180	23	7.0	-	4.0°										
E12Q-SWUP%11-14A-2/3		●		14	12		11	120	23	7.0	-	4.0°										
E12Q-SWUP%11-14A-1/2		●		14	12		11	90	23	7.0	-	4.0°										
E16X-SWUP%11-18A		●	●	18	16		15	220	28	9.0	-	1.0°										
E16X-SWUP%11-18A-2/3		●		18	16		15	145	28	9.0	-	1.0°										
E16X-SWUP%11-18A-1/2		●		18	16		15	110	28	9.0	-	1.0°	0.8	Yes	Fig.6	SB-4065TR	FT-15					
E16X-SWUP%16-18A		●	●	18	16		15	220	28	9.0	-	3.5°										
E16X-SWUP%16-18A-2/3		●		18	16		15	145	28	9.0	-	3.5°										
E16X-SWUP%16-18A-1/2		●		18	16		15	110	28	9.0	-	3.5°										
E20S-SWUP%16-22A		●		22	20		19	250	32	11.0	-	2.0°										
E20S-SWUP%16-22A-2/3		●		22	20		19	165	32	11.0	-	2.0°										
E20S-SWUP%16-22A-1/2		●		22	20		19	125	32	11.0	-	2.0°										

● Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing-Medium	Finishing	Finishing	Cast Iron	Non-ferrous Metals	Hardened Materials
Ref. Page	● B97	● B97	● B99	● B97	● B99	● B97, B98	● B98	● B98, B99	● C29	● C18
Insert	CF	%-PF	GP	%-DP	HQ	%-F	%-P	Without Chipbreaker	PCD	CBN
Toolholder										
...-SWUB% 1.2AE...	WBG121..	WBG121..	-	WBMT121..	-	WB□121..	-	WBGW121..	WBMT121..	WBGW121..
...-SWUB% 1.5AE...	-	WBG1515..	-	WBMT1515..	-	WB□1515..	WBET1515..	WBGW1515..	WBMT1515..	WBGW1515..
...-SWUP% 2AE...	-	-	WPMT215..	-	WPMT215..	-	-	WPGW215..	WPMT215..	-
...-SWUP% 3AE...	-	-	WPMT32..	-	WPMT32..	-	-	WPGW32..	-	-

Recommended Cutting Conditions ● F116-F117

Applicable Sleeve ● F107-F110

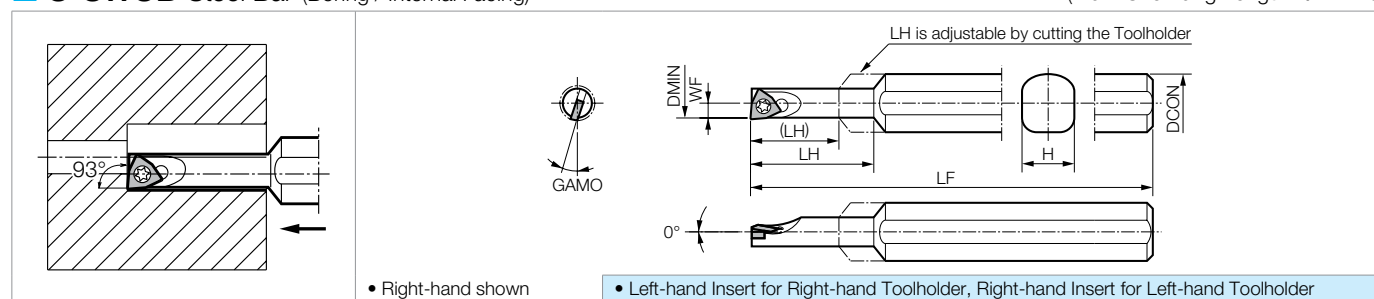
● : Standard Item △ : Phaseout Item (will be removed from next catalog)

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(Technical Support) 800.823.7284 - Option 2

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S-SWUB Steel Bar (Boring / Internal Facing)(Max. Overhang Length $L/D = \sim 3$)

● Toolholder Dimensions

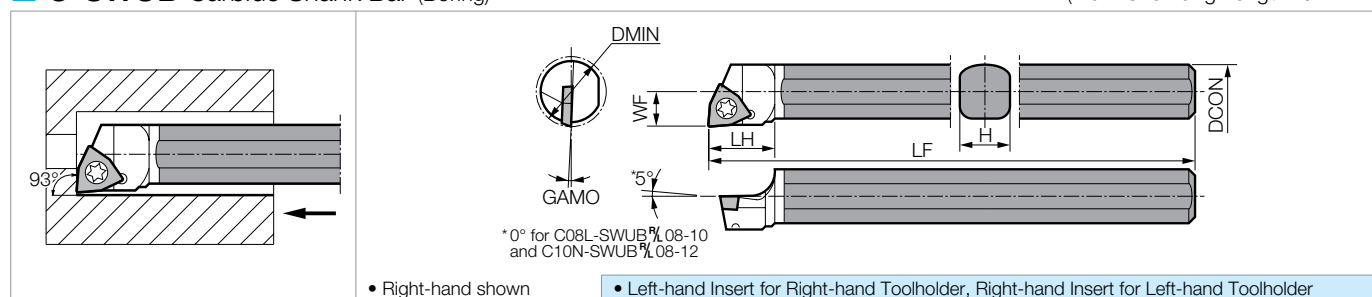
Part Number	Stock		Unit	Min. Bore Dia.	Dimensions					GAMO	Standard Corner-R (RE)	Coolant Hole	Spare Parts	
	R	L											Clamp Screw	Wrench
					DMIN	DCON	H	LF	LH	WF				
Steel														
S06H-SWUB$\frac{1}{16}$ 1.2	●	●	inch	0.240	0.375	0.356	4.00	0.825	0.115	15°	0.004	No	SB-2040TR	FT-6
S06X-SWUB$\frac{1}{16}$ 1.5	●			0.312	0.375	0.356	4.33	1.102	0.156	15°	1/64		SB-2050TR	FT-6

● Applicable Inserts

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing	Cast Iron	Non-ferrous Metals	Hardened Materials
Ref. Page	● B97	● B97	● B97	● B97, B98	● B98	● B98, B99	● C29	● C18
Insert	CF	$\frac{1}{8}$ -PF	$\frac{1}{8}$ -DP	$\frac{1}{8}$ -F	$\frac{1}{8}$ -P	Without Chipbreaker	PCD	CBN
Toolholder								
...-SWUB $\frac{1}{16}$ 1.2	WBG121..	WBG121..	WBMT121..	WBCT121..	-	WBGW121..	WBMT121..	WBGW121..
...-SWUB $\frac{1}{16}$ 1.5	-	WBG1515..	WBMT1515..	WBCT1515..	WBET1515..	WBGW1515..	WBMT1515..	WBGW1515..

Recommended Cutting Conditions ● F116-F117

Applicable Sleeve ● F107-F110

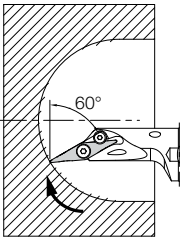
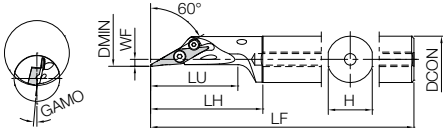
■ **C-SWUB** Carbide Shank Bar (Boring)(Max. Overhang Length $L/D = \sim 7$)● **Toolholder Dimensions**

Part Number	Stock		Unit	Min. Bore Dia.	Dimensions					GAMO	Standard Corner-R (RE)	Coolant Hole	Spare Parts	
	R	L		DMIN	DCON	H	LF	LH	WF				Clamp Screw	Wrench
Carbide														
C0325K-SWUB% 1.2	●	●	inch	0.240	0.203	0.180	5.00	0.50	0.118	15°	1/64	No	SB-2040TR	FT-6
C045K-SWUB% 1.5	●	●		0.312	0.281	0.252	5.00	0.55	0.157	15°	1/64	No	SB-2050TR	FT-6


● **Applicable Inserts**

Application	Minute D.O.C.	Finishing	Finishing	Finishing	Finishing	Cast Iron	Non-ferrous Metals	Hardened Materials
Ref. Page	➡ B97	➡ B97	➡ B97	➡ B97, B98	➡ B98	➡ B98, B99	➡ C29	➡ C18
Insert	CF	% -PF	% -DP	% -F	% -P	Without Chipbreaker	PCD	CBN
Toolholder								
...-SWUB% 1.2	WBGW121..	WBGW121..	WBMT121..	WBCT121..	-	WBGW121..	WBMT121..	WBGW121..
...-SWUB% 1.5	-	WBGW1515..	WBMT1515..	WBCT1515..	WBET1515..	WBGW1515..	WBMT1515..	WBGW1515..

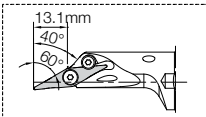
Recommended Cutting Conditions ➡ **F116-F117**Applicable Sleeve ➡ **F107-F110**

A-SZJB-AE Excellent Bar (Internal Spherical Machining / Internal Facing / Copying) **NEW**(Max. Overhang Length $L/D = \sim 5.5$)



For ZBMT13T304R-GF -15D, the right-hand holder (R) is applicable.

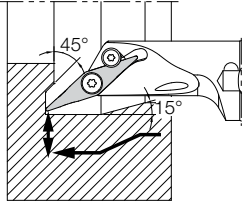
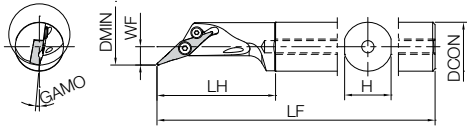
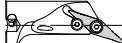


Left-hand (L) shown above

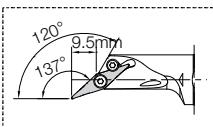


Shank Diameter	Coolant Hole Diameter
ø20mm	ø5mm
ø25mm	
ø32mm	

• Right-hand shown • When using ZBMT13T304R-GF-15D, use a Right-hand holder only

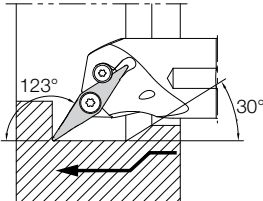
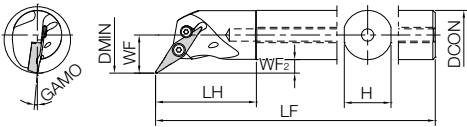

A-SZXB-AE Excellent Bar (Internal Facing / Copying / Undercutting) **NEW**(Max. Overhang Length $L/D = \sim 5.5$)




Left-hand (L) shown above

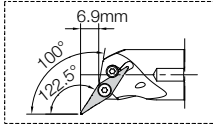


Shank Diameter	Coolant Hole Diameter
ø20mm	ø5mm
ø25mm	
ø32mm	

• Right-hand shown

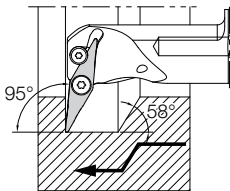
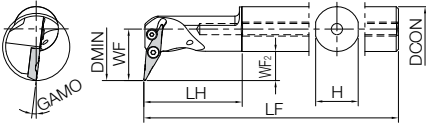
A-SZQB-AE Excellent Bar (Copying / Undercutting) **NEW**(Max. Overhang Length $L/D = \sim 5.5$)




Left-hand (L) shown above




Shank Diameter	Coolant Hole Diameter
ø20mm	ø5mm
ø25mm	
ø32mm	

• Right-hand shown

A-SZLB-AE Excellent Bar (Copying) **NEW**(Max. Overhang Length $L/D = \sim 5.5$)



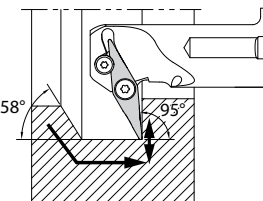
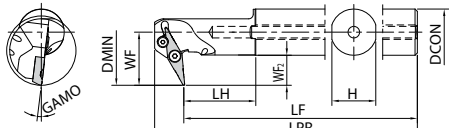
For ZBMT13T304R-GF -15D, the left hand holder (L) is applicable




Left-hand (L) shown above

Shank Diameter	Coolant Hole Diameter
ø20mm	ø5mm
ø25mm	
ø32mm	

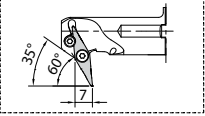
• Right-hand shown • When using ZBMT13T304R-GF-15D, use a Left-hand holder only

A-SZZB-AE Excellent Bar (Back Boring) **NEW**(Max. Overhang Length $L/D = \sim 5.5$)



For ZBMT13T304R-GF -15D, the right hand holder (R) is applicable.



Left-hand (L) is the above shape



Shank Diameter	Coolant Hole Diameter
ø20mm	ø5mm
ø25mm	
ø32mm	

• Right-hand shown • When using ZBMT13T304R-GF-15D, use a Right-hand holder only



● Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)								GAMO	Standard Corner-R (RE)	Coolant Hole	Spare Parts		
	R	L		DCON	H	LPR	LF	LU	LH	WF	WF ₂				Clamp Screw	Wrench	Plug
Excellent Bar	●	●	28	20	19	-	200	37.5	48	3.0	-	5°	0.4	Yes	SB-3079TR	FT-8	HS3X3
	●	●	30	25	24		250	47	58	3.5	-				Recommended tightening torque 1.2 Nm		HS4X4
	●	●	40	32	31		250	61.5	72	3.5	-						
	●	●	25	20	19	-	200	37.5	48	7.5	-	5°	0.4	Yes	SB-3079TR	FT-8	HS3X3
	●	●	30	25	24		250	45.2	58	7	-				Recommended tightening torque 1.2 Nm		HS4X4
	●	●	40	32	31		250	60.2	74	7	-						
	●	●	27	20	19	-	200	-	41	15.5	5.5	5°	0.4	Yes	SB-3079TR	FT-8	HS3X3
	●	●	32	25	24		250	-	51	18	5.5				Recommended tightening torque 1.2 Nm		HS4X4
	●	●	40	32	31		250	-	54	22.5	6.5						
	●	●	30	20	19	-	200	-	42	23	13	7°	0.4	Yes	SB-3079TR	FT-8	HS3X3
	●	●	34	25	24		250	-	64	25.5	13				Recommended tightening torque 1.2 Nm		HS4X4
	●	●	40	32	31		250	-	86	29	13						
	●	●	30	20	19	200	187	-	42	23	13	7°	0.4	Yes	SB-3079TR	FT-8	HS3X3
	●	●	34	25	24	250	237	-	58	25.5	13				Recommended tightening torque 1.2 Nm		HS4X4
	●	●	40	32	31	250	237	-	74	29	13						

Minimum bore dia. shown is when installing inserts with the standard corner-R (RE)

When machining with an insert other than the standard corner-R (RE), check for interference.

● Applicable Inserts

Application	25° Tip Angle	15° Tip Angle
Ref. Page	● B101	● B101
Insert	GF	GF-15D
Toolholder		
A...-SZJB%... A...-SZXB%... A...-SZQB%... A...-SZLB%... A...-SZZB%...	ZBMT13T3	ZBMT13T3

Recommended Cutting Conditions ● B101

When mounting the insert (Tightening torque: 1.2 Nm)

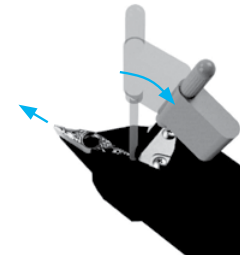


1. Tighten the main screw with the insert pressed against the contact surface with fingertips.



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.

Unique Cutting Angle A-SZXB-AE (Internal Facing/Copying/Undercutting)

Features

· Chatter-resistant shape

The insert is placed near the center of the shank to ensure the thickness of the lower jaw of the insert.

· User-friendly design

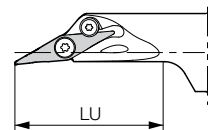
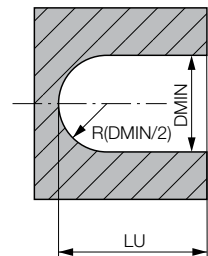
The holder width (WF + Neck radius) is small, and it is easy to apply to the narrow gap of the workpiece (Minimum cutting dia. DMIN: Determined by R near the holder edge).

137.5°



■ A...SZJB-AE

Application Range

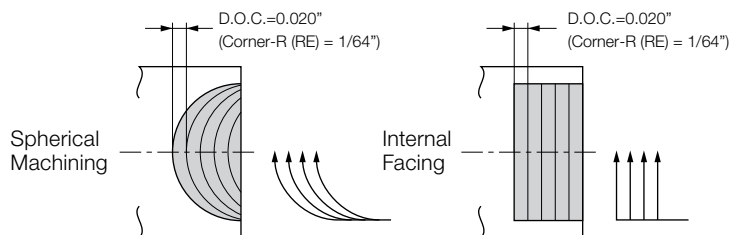


DMIN : Ø28mm - Ø40mm

F	BORING
MICRO BORING	
POSITIVE INSERTS	
AD BARS	
NEGATIVE INSERTS	

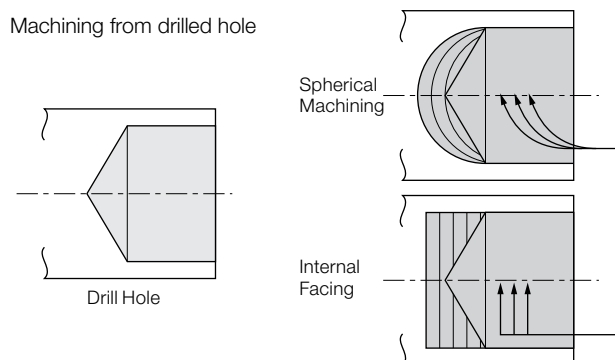
Applications

Without pre-drilled hole



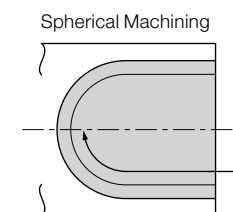
* f should be 0.002 ipr or less during internal facing.

Machining from drilled hole

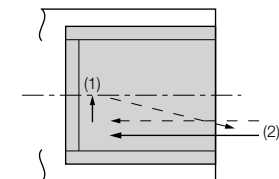


* f should be 0.002 ipr or less during internal facing.

Finishing



Internal Facing

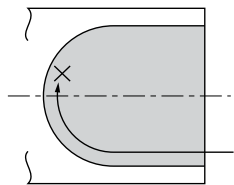


Machining Process

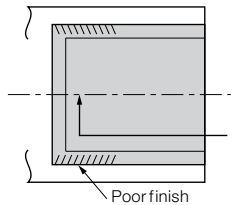
1. Finish the internal face first.
2. Next, finish the internal surface.

A...SZJB-AE

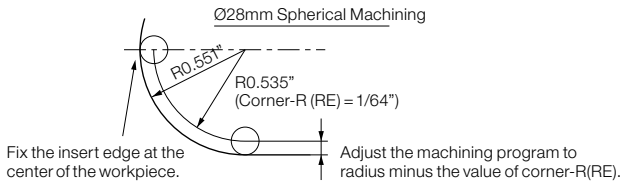
Caution



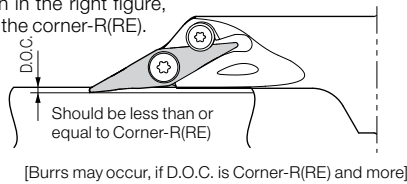
Internal spherical machining and internal facing
(Especially internal spherical machining)
When machining past the center of the workpiece,
insert may break.



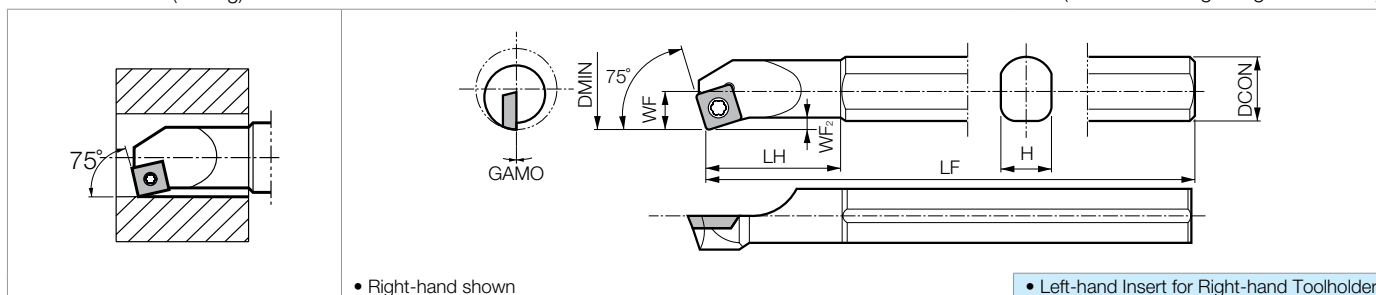
This type of machining is possible,
but the chips might scratch the surface.



When internal copying as shown in the right figure,
keep D.O.C. less than or equal to the corner-R(RE).



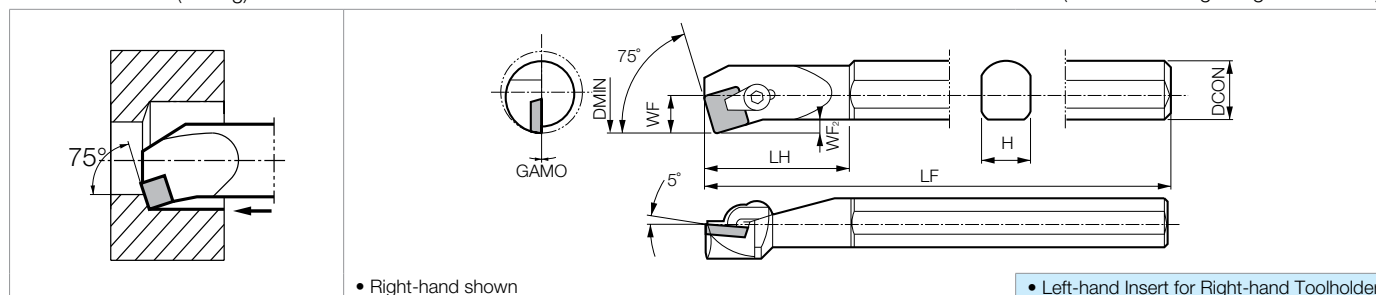
INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

S-SSKP (Boring)(Max. Overhang Length $L/D = \sim 3$)**Toolholder Dimensions**

Part Number	Stock	Unit	Min. Bore Dia.	Dimensions						GAMO	Standard Corner-R (RE)	Spare Parts	
			DMIN	DCON	H	LF	LH	WF	WF2			Clamp Screw	Wrench
S16Q-SSKPR09-20	●	mm	20	16	14	180	30	10.0	2.0	-3°	0.8	SB-4TR	FT-15

Applicable Inserts

Application	Finishing
Ref. Page	● B75
Insert	L
Toolholder	SPGH32..

S-CSKP (Boring)(Max. Overhang Length $L/D = \sim 3$)**Toolholder Dimensions**

Part Number	Stock	Unit	Min. Bore Dia.	Dimensions						GAMO	Standard Corner-R (RE)	Spare Parts		
			DMIN	DCON	H	LF	LH	WF	WF2			Clamp Set	Wrench	
S16N-CSKPR09-20	●	mm	20	16	14	160	40	10.0	2.0	0°	0.8	CPS-2	FH-2.5	-
S20Q-CSKPR09-27	●		27	20	18	180	45	13.5	3.5	0°	0.8	CPS-3	-	LW-3
S25X-CSKPR12-34	●		34	25	23	220	60	17.0	4.5	0°	0.8	CPS-3	-	LW-3

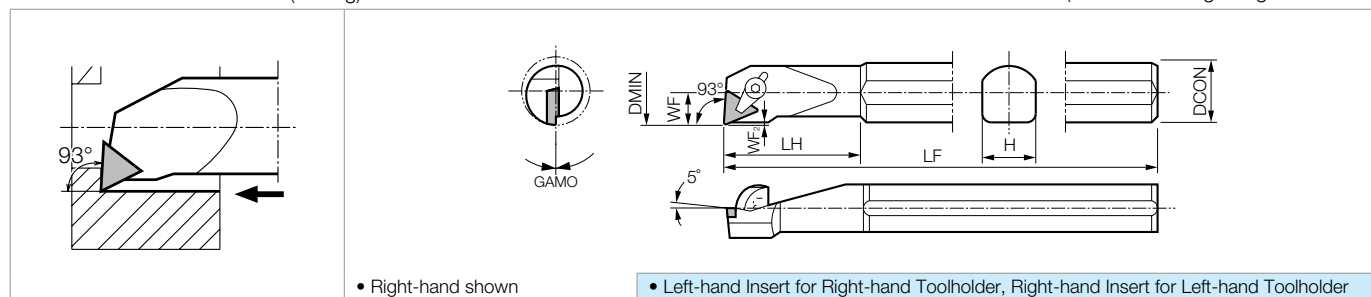
Applicable Inserts

Application	Medium	Medium	Finishing-Medium	Cast Iron	Cast Iron	Non-ferrous Metals
Ref. Page	● B75	● B75	● B75	● B75	● B115	● C29
Insert	G	Standard	%	Without Chipbreaker	Ceramic	PCD
Toolholder	SPMR32..	SPMR32..	SPGR32..	SPM32.. SPG32..	SPG32..	-
...-CSKPR09...	SPMR32..	SPMR32..	SPGR32..	SPM32.. SPG32..	SPG32..	-
...-CSKPR12...	SPMR42..	SPMR42..	SPGR42..	SPM42.. SPG42..	SPG42..	SPG42..







Recommended Cutting Conditions ● F116-F117

Applicable Sleeves ● F109-F110

S-CTUP Steel Bar (Boring)

(Max. Overhang Length $L/D = \sim 3$)

Toolholder Dimensions

Part Number	Stock		Unit	Min. Bore Dia.	Dimensions						GAMO	Standard Corner-R (RE)	Spare Parts					
	R	L			DMIN	DCON	H	LF	LH	WF			WF2	Clamp Set		Wrench		Shim
																		
S10X-CTUP $\frac{1}{2}$	●	□	inch	0.625	0.625	0.584	7.00	1.25	0.313	0.03	0°	1/64	-	CPS-2S	FT-15	-	-	
S12X-CTUP $\frac{1}{2}$	●	□		1.060	0.750	0.710	7.00	1.50	0.520	0.05	0°	1/64	-	CPS-2	-	LW-2.5	-	
S16R-CTUP $\frac{3}{4}$	●	□		1.350	1.000	0.910	8.00	2.10	0.669	0.04	0°	1/32	-	CPS-3	-	LW-3	-	
S12L-CTUP $\frac{1}{8}$ 09-16	●		mm	16	12	11	140	32	8.0	0.5	0°	0.4	CPS-1	-	FH-2	-	-	
S16N-CTUP $\frac{1}{8}$ 11-20	●	●		20	16	14	160	30	10.0	0.5	0°	0.4	-	CPS-2	FH-2.5	-	-	-
S20Q-CTUP $\frac{1}{8}$ 11-27	●	●		27	20	18	180	40	13.5	1.3	0°		-	CPS-2	FH-2.5	-	-	-
S25X-CTUP $\frac{1}{8}$ 16-34	●	●		34	25	23	220	60	17.0	1.0	0°	0.8	-	CPS-3	-	LW-3	-	-
S32S-CTUP $\frac{1}{8}$ 16-43	●	●		43	32	30	250	70	21.5	1.0	0°	0.8	-	CPS-3	-	LW-3	KPT-32	SP3X10
S40X-CTUP $\frac{1}{8}$ 16-50	●	●		50	40	37	315	80	25.0	1.0	0°		-	CPS-3	-	LW-3	KPT-32	SP3X10

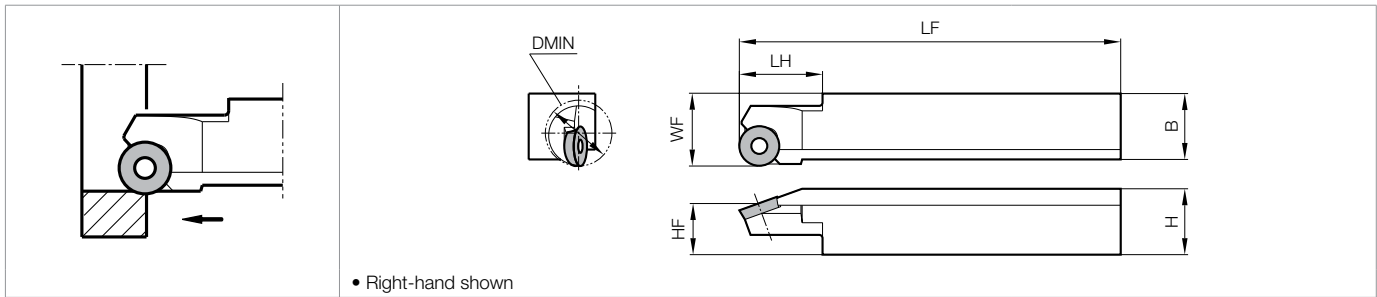
Applicable Inserts

Application	Finishing	Finishing-Medium	Medium	Medium	Finishing	Finishing-Medium	Cast Iron	Cast Iron	Non-ferrous Metals	Hardened Materials
Ref. Page	● B87	● B87	● B87	● B87	● B87	● B88	● B88	● B115	● C29	● C18
Insert	GP	HQ	G	Standard	$\frac{1}{8}$ -F	$\frac{1}{8}$ -□	Without Chipbreaker	Ceramic	PCD	CBN
Toolholder										
...-CTUPR09-...	-	-	TPMR1815..	-	TPGR1815..	-	TPG1815..	-	-	-
...-CTUP $\frac{1}{2}$	TPMR22..	TPMR22..	TPMR22..	TPMR22..	-	TPGR22..	TPM22..	TPG22..	TPG22..	TPG22..
...-CTUP $\frac{1}{2}$ 11-...	TPMR22..	TPMR22..	TPMR22..	TPMR22..	-	TPGR22..	TPM22..	TPG22..	TPG22..	TPG22..
...-CTUP $\frac{3}{4}$	TPMR32..	TPMR32..	TPMR32..	TPMR32..	-	TPGR32..	TPM32..	TPG32..	TPG32..	TPG32..
...-CTUP $\frac{1}{2}$ 16-...	TPMR32..	TPMR32..	TPMR32..	TPMR32..	-	TPGR32..	TPM32..	TPG32..	TPG32..	TPG32..

Recommended Cutting Conditions ● F116-F117

Applicable Sleeves ● F108-F110

SRCP-B (Boring)



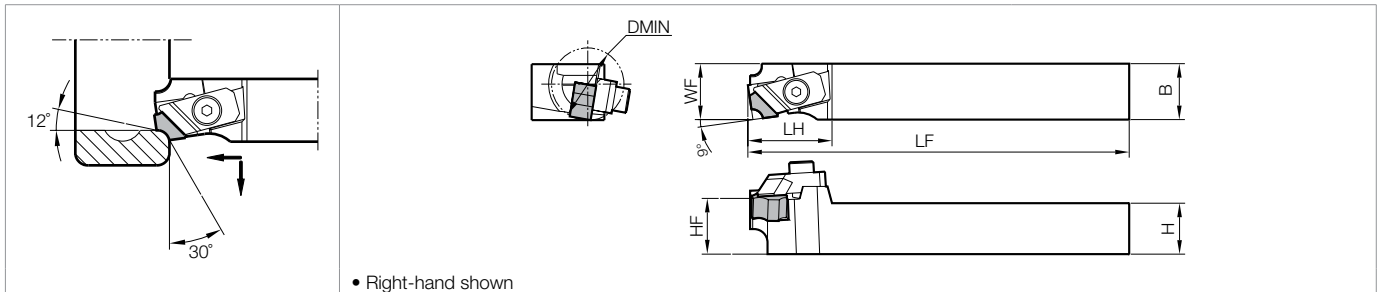
Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)						Spare Parts			Applicable Inserts • B105
	R	L		H	HF	B	LF	LH	WF	Clamp Screw	Wrench		
SRCP% 2020B-12-A20	●	●	20	20	15.5	20	125	25	22	SB-4TR	FT-15	-	RPMT42M0-BB
2525B-16-A32	●		32	25	20.0	25	150	31	27	SB-5090TR	-	LTW-20	RPMT1604M0-BB

Applicable Inserts

Insert	Part Number	Dimensions (mm)		
		IC	S	D1
	RPMT 1203M0-BB	12.0	3.18	4.4
	1604M0-BB	16.0	4.76	5.5

CBSN-B (Internal Corner Filleting)



Toolholder Dimensions

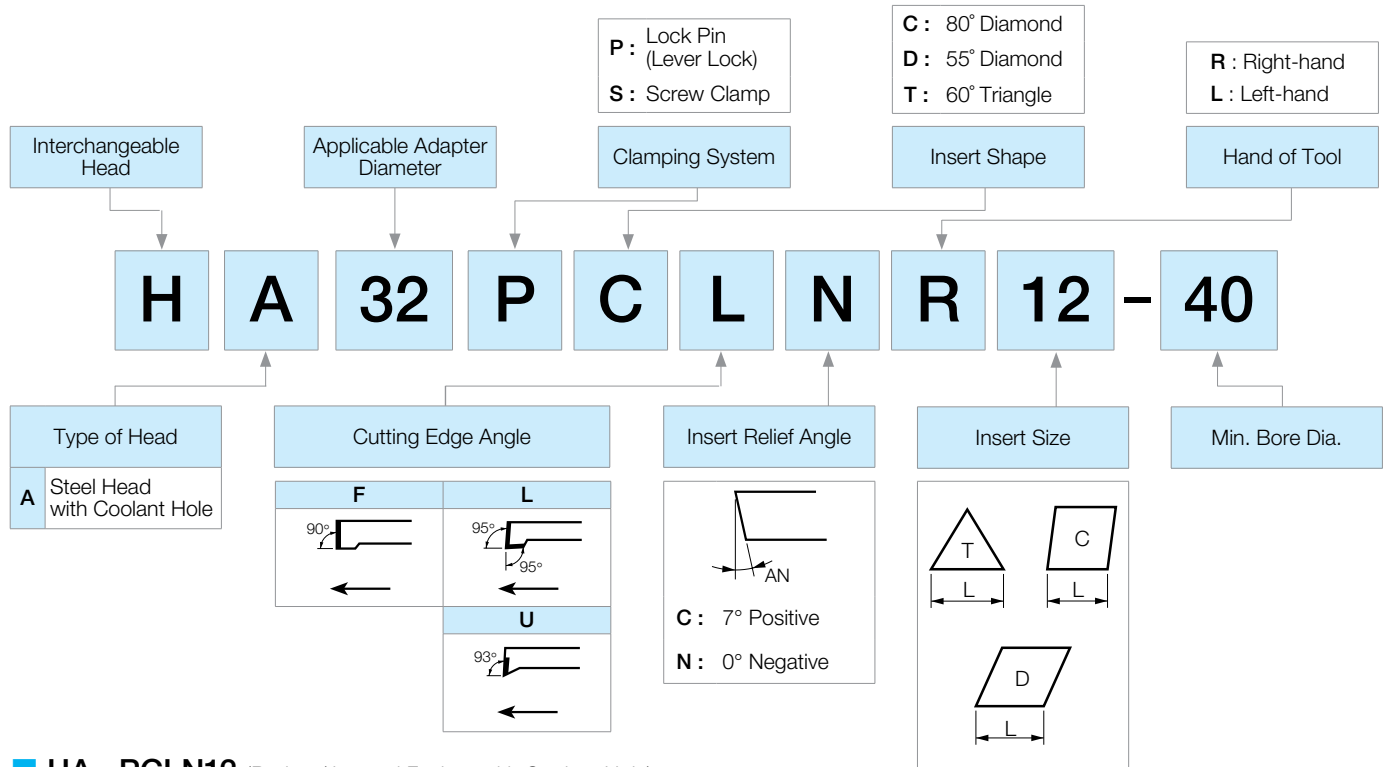
Part Number	Stock		Min. Bore Dia.	Dimensions (mm)						Spare Parts		Applicable Inserts • B105
	R	L		H	HF	B	LF	LH	WF	Clamp Set	Wrench	
CBSN% 2020B-12-A20	●		20	20	21	20	125	32	20	CP-RC%	LW-5	SNMF120400-21
2525B-12-A20	●		20	25	26	25	150	32	25			

• Clamp Set: CP-RCR for Right-hand Toolholder, and CP-RCL for Left-hand Toolholder.

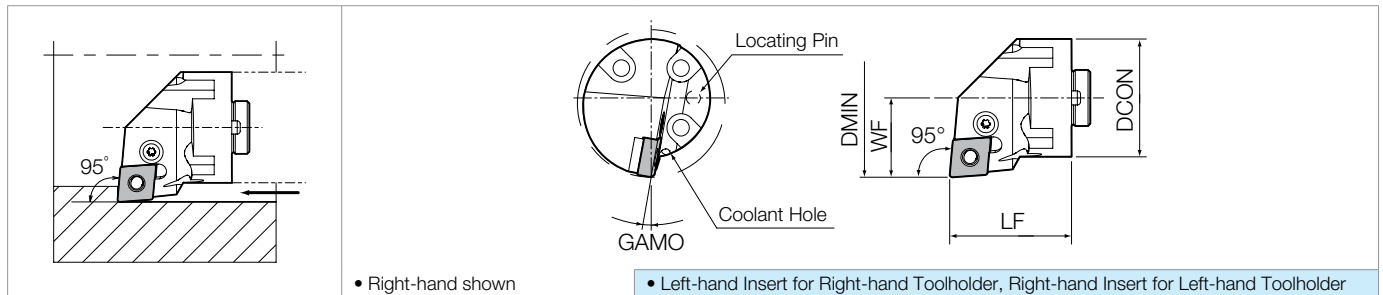
Applicable Inserts

Insert	Part Number	Dimensions (mm)			
		INSL	S	CDX	RE
	SNMF 120406-21	12.70	4.76	1.5	0.6
	120410-21			3.0	1.0
	120416-21			3.1	1.6
	120421-21			3.2	2.1
	120426-21			3.3	2.6

Identification System for Interchangeable Heads



HA...PCLN12 (Boring / Internal Facing, with Coolant Hole)



Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)				GAMO	Standard Corner-R(RE)	Spare Parts						Applicable Boring Adapter F90
	R	L		DMIN	DCON	LF	WF			Lever	Lock Screw	Shim	Shim Pin	*Punch	Wrench	
HA32PCLN% 12-40	●	●	40	32	41	22	10'	0.8		LL-2K	LS-2P	LC-4K	LSP-3K	*PC-2K	DTPM-15	AD32U
HA40PCLN% 12-50	●	●	50	40	41	27	10'									AD40V
HA50PCLN% 12-63	●	●	63	50	41	35	10'									AD50W

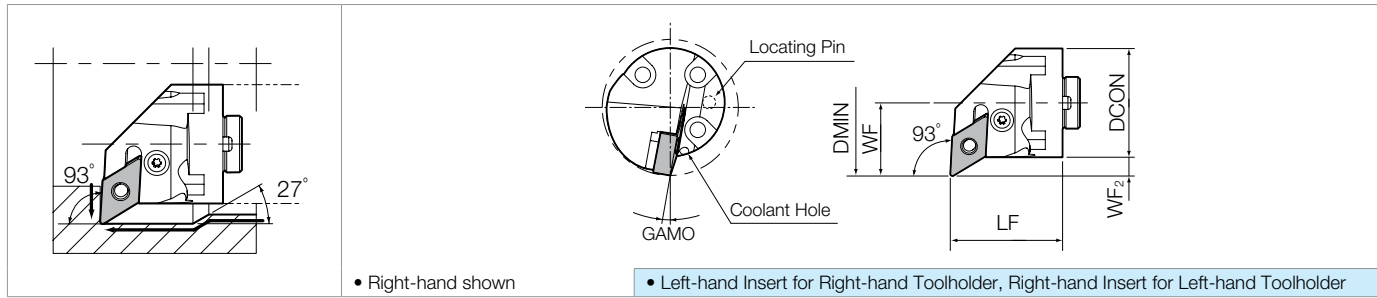
* Punch (*PC-2K): Not included. Purchase separately.

Applicable Inserts

Toolholder Part Number	Insert Part Number		Ref. to Page			
			Cermet / Coated Carbide / Carbide	Ceramic	PCD	CBN
HA32PCLN% 12-40	CN□A	43..	B16~B22	B108	C23	C6, C7
HA40PCLN% 12-50	CN□G					
HA50PCLN% 12-63	CN□M					

Recommended Cutting Conditions F116-F117

HA...PDUN15 (Copying, with Coolant Hole)



Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)				GAMO	Standard Corner-R (RE)	Spare Parts						Applicable Boring Adapter ➔ F90
	R	L		DMIN	DCON	LF	WF	WF ₂		Lever	Lock Screw	Shim	Shim Pin	*Punch	Wrench	
HA32PDUN% 15-43	●	●	43	32	41	25	9	12"	0.8							AD32U
HA40PDUN% 15-50	●	●	50	40	41	27	7	10"								AD40V
HA50PDUN% 15-63	●	●	63	50	41	35	10	10"								AD50W

* Punch (*PC-2K): Not included. Purchase separately.

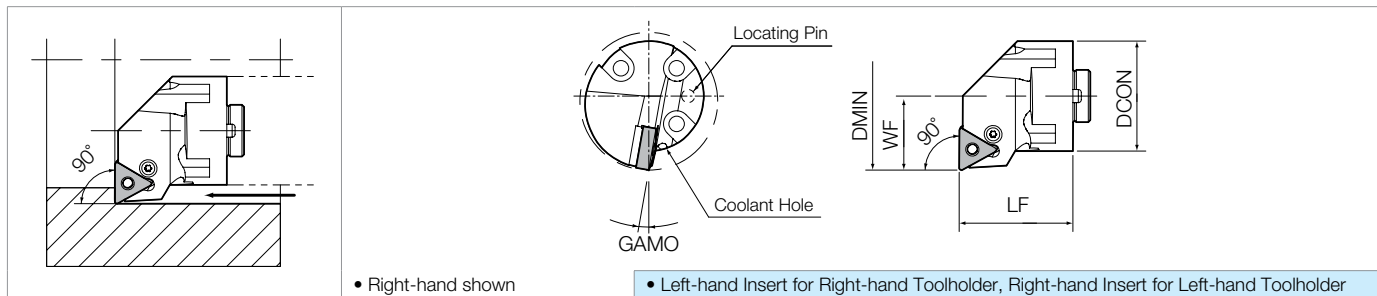
* Shim: LD-4K43 is attached to Toolholder. When using DN□□1506 Insert, purchase LD-4K separately.

Applicable Inserts

Toolholder Part Number	Insert Part Number				Ref. to Page			
	Shim: LD-4K43		Shim: LD-4K		Cermet / Coated Carbide / Carbide	Ceramic	PCD	CBN
HA32PDUN% 15-43	DN□A DN□G DN□M	43..	DN□A DN□G DN□M	44..	➔ B23~B30	➔ B109	➔ C23	➔ C8, C9
HA40PDUN% 15-50								
HA50PDUN% 15-63								

Recommended Cutting Conditions ➔ **F116-F117**

HA...PTFN16 (Internal, with Coolant Hole)



Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)				GAMO	Standard Corner-R (RE)	Spare Parts						Applicable Boring Adapter ➔ F90
	R	L		DMIN	DCON	LF	WF			Lever	Lock Screw	Shim	Shim Pin	*Punch	Wrench	
HA32PTFN% 16-40	●	●	40	32	41	22	10"	0.8								AD32U
HA40PTFN% 16-50	●	●	50	40	41	27	10"									AD40V
HA50PTFN% 16-63	●	●	63	50	41	35	8"									AD50W

* Punch (*PC-2K): Not included. Purchase separately.

Applicable Inserts

Toolholder Part Number	Insert Part Number	Ref. to Page			
		Cermet / Coated Carbide / Carbide	Ceramic	PCD	CBN
HA32PTFN% 16-40	TN□A TN□G TN□M	➔ B36~B43	➔ B113	➔ C23	➔ C11
HA40PTFN% 16-50					
HA50PTFN% 16-63					

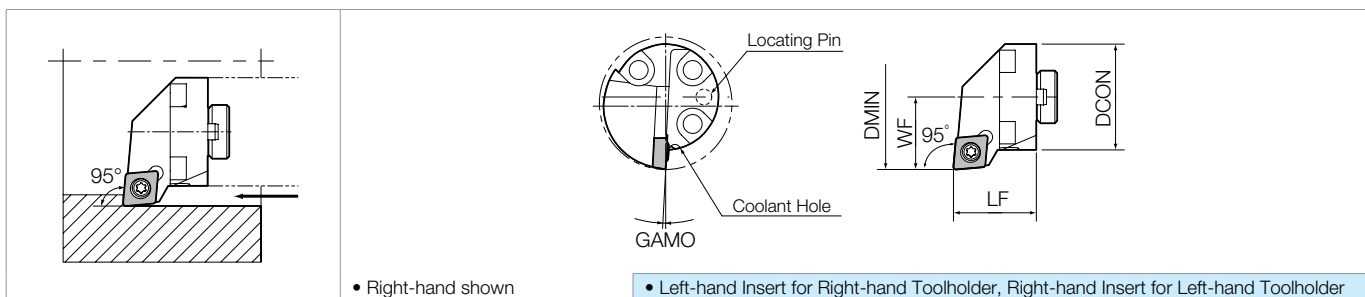
Reference

Wrenches (LTP-10, LTP-15) are Torx Plus.
The size of Torx Plus is engraved on the long shaft.

Wrench Part Number	LTP-10	LTP-15
Engraved Size	10IP	15IP

Recommended Cutting Conditions
➔ **F116-F117**

HA...SCLC09 (Boring / Internal Facing, with Coolant Hole)



Toolholder Dimensions

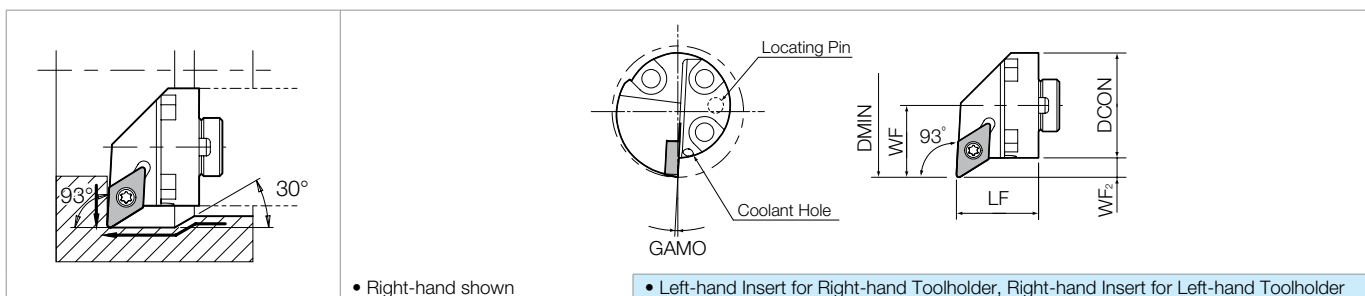
Part Number	Stock		Min. Bore Dia.	Dimensions (mm)				GAMO	Standard Corner-R (RE)	Spare Parts		Applicable Boring Adapter F90	Applicable Inserts
	R	L		DMIN	DCON	LF	WF			Clamp Screw	Wrench		
HA32SCLC% 09-40	●	●	40	32	25	22	3°	0.8		SB-3580TR	FT-15	AD32U	CC..325..

Applicable Inserts

Insert Part Number	Ref. to Page		
	Cermet / Coated Carbide / Carbide	PCD	CBN
CC..325..	B53~B55, B57~B60	C24	C14

Recommended Cutting Conditions F116-F117

HA...SDUC11 (Copying, with Coolant Hole)



Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)					GAMO	Standard Corner-R (RE)	Spare Parts		Applicable Boring Adapter F90	Applicable Inserts
	R	L		DMIN	DCON	LF	WF	WF ₂			Clamp Screw	Wrench		
HA32SDUC% 11-40	●	●	40	32	25	22	6	3°	0.8		SB-3580TR	FT-15	AD32U	DC..325..

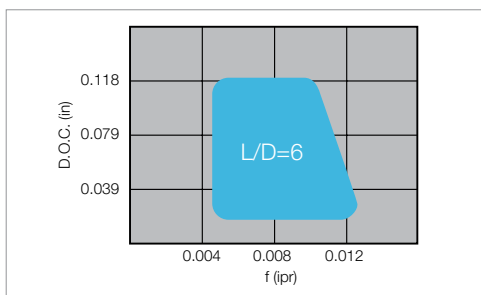
Applicable Inserts

Insert Part Number	Ref. to Page		
	Cermet / Coated Carbide / Carbide	PCD	CBN
DC..325..	B62~B71	C25	C15

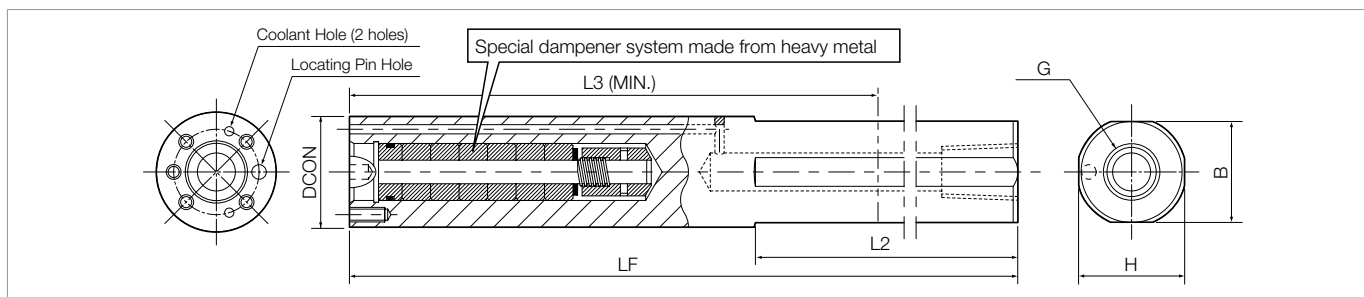
Recommended Cutting Conditions F116-F117

Possible Machining Area (Guide-Line for Overhang Length of AD Bars)

(4140 Vc = 500sfm D.O.C. = 0.020~0.118" f = 0.004 ~0.012ipr TNMG332)



Boring Adapter (with Coolant Hole / Anti-Vibration Dampener System)



Toolholder Dimensions

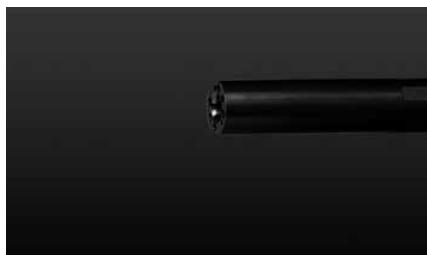
Part Number	Stock	Dimensions (mm)							Spare Parts	
		DC ON	H	B	LF	L2	L3 (MIN.)	G	Clamp Bolt	Wrench (Sold Separately)
AD 32U	●	32	31	29	310	200	200	Rp3/8	HH5X20 (3 pcs)	HH5X30 (1 pcs)
AD 40V	●	40	39	37	360	248	228	Rp3/8	HH5X20 (3 pcs)	HH5X30 (1 pcs)
AD 50W	●	50	47	47	410	280	276	Rp3/8	HH6X20 (3 pcs)	HH6X30 (1 pcs)

Note) L3 (MIN.) dimension indicates the minimum length in case of the back end of boring adapter is cut for use.
Do not shorten it to less than L3 (MIN.).

Combinations of Boring Adapter and Interchangeable Head

Interchangeable Head Part Number	Boring Adapter		
	Base Part Number	Clamp Bolt	Wrench
HA32 PCLN% 12-40 PDUN% 15-43 PTFN% 16-40 SCLC% 09-40 SDUC% 11-40	AD32U	HH5X20 HH5X30 HH5X20	LW-4
HA40 PCLN% 12-50 PDUN% 15-50 PTFN% 16-50	AD40V	HH5X20 HH5X30	
HA50 PCLN% 12-63 PDUN% 15-63 PTFN% 16-63	AD50W	HH6X20 HH6X30	LW-5

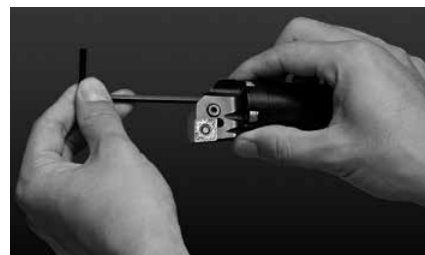
How to Exchange Heads



1. Remove the boring head.



2. Align the boring head with the installing position.



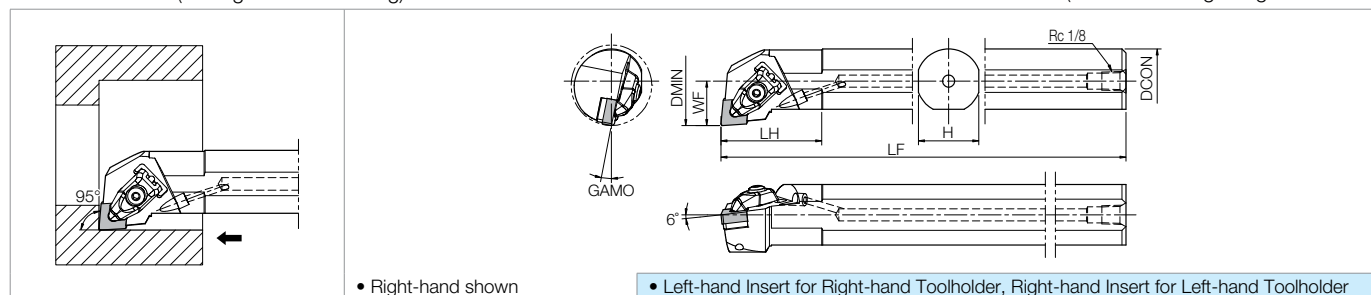
3. Tighten three screws to clamp the boring head.

For lever lock type Interchangeable head, use 2 short bolts for upper clamping hole and 1 long bolt for lower clamping hole.

HA32 SCLC% 09-40 and
HA32 SDUC% 11-40
use HH5 X 20 for all 3 bolts.

A-DCLN (Boring / Internal Facing)

(Max. Overhang Length L/D = ~3)



Toolholder Dimensions

Part Number	Stock		Unit	Dimensions						GAMO	Spare Parts							
	R	L		DMIN	DCON	H	LF	LH	WF		Clamp	Screw	Spring	Shim	Shim Screw	Nozzle	Wrench	Wrench (Sold Separately)
A16T-DCLNR4	●		inch	1.25	1.00	0.905	12.0	1.575	0.640	12°								
A20T-DCLNR4	●			1.50	1.25	1.181	12.0	1.614	0.765	11°	1/32	CP-3D	CS-3D	SP-3D	DC-42	SB-4085TR	DN10	FT-15
A24T-DCLNR4	●			1.75	1.50	1.374	12.0	2.362	0.905	13°								
A25R-DCLN% 12-32	●	●	mm	32	25	23	200	42	17	11°	0.8	CP-3D	CS-3D	SP-3D	DC-42	SB-4085TR	DN10	FT-15
A32S-DCLN% 12-40	●	●		40	32	30	250	50	22	11°								
A40T-DCLN% 12-50	●	●		50	40	37	300	60	27	11°	0.8	CP-3D	CS-3D	SP-3D	DC-42	SB-4085TR	DN20	FT-15

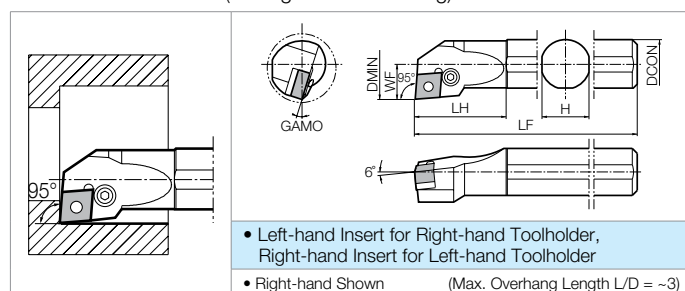
*When using inserts whose corner-R (RE) is greater than 1.60mm, it will be necessary additional modifications of the shim in order to prevent workpiece and shim from interfering each other.

*Not applicable to high-pressure coolant.

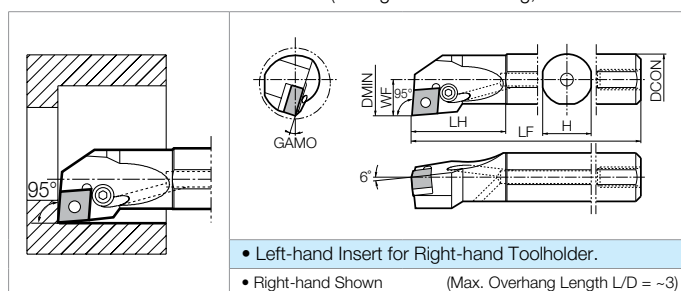
Applicable Inserts

Application	Finishing	Finishing-Medium	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing
Ref. Page	● B16	● B16	● B16	● B16	● B16	● B16	● B17	● B17	● B17	● B17
Insert	WF (Wiper)	WE (Wiper)	PP	GP	PQ	HQ	CQ	CJ	GS	PG
Toolholder										
Application	Medium-Roughing	Medium-Roughing / High Feed Rate	Roughing	Roughing	Single Sided / Roughing / High Feed	Medium	Low Carbon Steel / Small D.O.C.	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Roughing
Ref. Page	● B17	● B18	● B18	● B18	● B19	● B22	● B19	● B19	● B19	● B19
Insert	PS	PT	Standard	PH	PX	XL	XF	XP	XQ	XS
Toolholder										
Application	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Ref. Page	● B20	● B20	● B20	● B21	● B21	● B21	● B21	● B21	● B21	● B21
Insert	MQ	MS	MU	KQ	KG	KH	C	ZS	GC	Without Chipbreaker
Toolholder										
Application	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Heat-Resistant Alloys	Heat-Resistant Alloys	Hard Materials			
Ref. Page	● B108	● B22	● B22	● C23	● B20	● B20	● C6, C7			
Insert	Ceramic	% -A3	AH	PCD	SQ	SG	CBN			
Toolholder										
Application	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Heat-Resistant Alloys	Heat-Resistant Alloys	Hard Materials			
Ref. Page	● B108	● B22	● B22	● C23	● B20	● B20	● C6, C7			
Insert	Ceramic	% -A3	AH	PCD	SQ	SG	CBN			
Toolholder										

Recommended Cutting Conditions ● F116-F117

S-PCLN $\bigcirc\bigcirc$ (Boring / Internal Facing)

A-PCLN Twin-Hole Bar (Boring / Internal Facing, with Coolant Hole)



Toolholder Dimensions

Part Number	Stock		Unit	Dimensions						GAMO	Standard Corner-R (RE)	Spare Parts					
	R	L		DMIN	DCON	H	LF	LH	WF			Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
S16M-PCLN $\frac{1}{8}$ 09-20	●	●	mm	20	16	15	150	34	11.0	16°	0.8	LL-03SN	LS-03SN	-	P-03S	-	FH-2.5
S20Q-PCLN $\frac{1}{8}$ 09-27	●	●		27	20	19	180	37	14.2	17°	0.8	LL-1N	LS-1SN	LC-32N	LSP-1	PC-1	FH-2.5
S25R-PCLN $\frac{1}{8}$ 09-32	●	●		32	25	24	200	42	15.7	15°		LL-1N	LS-1SN	LC-32N	LSP-1	PC-1	FH-2.5
S20S-PCLN $\frac{1}{4}$	●		inch	1.55	1.25	1.17	10.00	2.00	0.75	10°	1/32	LL-2N	LS-2N	LC-42N $\frac{1}{8}$	LSP-2	PC-2	LW-3
S24T-PCLN $\frac{1}{4}$	●			2.02	1.50	1.42	12.00	2.50	1.00			LL-2N	LS-2N	LC-42N $\frac{1}{8}$	LSP-2	PC-2	LW-3
S25R-PCLN $\frac{1}{2}$ 12-32	●	●	mm	32	25	24	200	42	16.3	16°	0.8	LL-2N	LS-2N	LC-42N $\frac{1}{8}$	LSP-2	PC-2	LW-3
S32S-PCLN $\frac{1}{2}$ 12-40	●	●		40	32	30	250	50	21.0	10°		LL-2N	LS-2N	LC-42N $\frac{1}{8}$	LSP-2	PC-2	LW-3
S40T-PCLN $\frac{1}{2}$ 12-50	●	●		50	40	37	300	60	25.0	10°		LL-2N	LS-2N	LC-42N $\frac{1}{8}$	LSP-2	PC-2	LW-3
A10M-PCLN $\frac{1}{8}$ 3	●	●	inch	0.79	0.63	0.59	6.00	1.34	-	16°	1/32	LL-03SN	LS-03SN	-	P-03S	-	FH-2.5
A12Q-PCLN $\frac{1}{8}$ 3	●	●		1.06	0.75	0.71	7.00	1.46	-	17°	1/32	LL-1N	LS-1SN	LC-32N	LSP-1	PC-1	FH-2.5
A16Q-PCLN $\frac{1}{8}$ 3	●	●		1.26	1.00	0.97	7.00	1.65	-	15°		LL-1N	LS-1SN	LC-32N	LSP-1	PC-1	FH-2.5
A16M-PCLN $\frac{1}{8}$ 09-20	●		mm	20	16	15	150	34	11.0	16°	0.8	LL-03SN	LS-03SN	-	P-03S	-	FH-2.5
A20Q-PCLN $\frac{1}{8}$ 09-27	●			27	20	19	180	37	14.2	17°	0.8	LL-1N	LS-1SN	LC-32N	LSP-1	PC-1	FH-2.5
A25R-PCLN $\frac{1}{8}$ 09-32	●			32	25	24	200	42	15.7	15°		LL-1N	LS-1SN	LC-32N	LSP-1	PC-1	FH-2.5

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

Applicable Inserts

Application	Finishing	Finishing-Medium	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing
Ref. Page	● B16	● B16	● B16	● B16	● B16	● B16	● B16	● B17	● B17	● B17	● B17
Insert	WF (Wiper)	WE (Wiper)	PP	GP	PQ	HQ	CQ	CJ	GS	PG	
Toolholder											
...-PCLN $\frac{1}{8}$ 3	-	-	-	CNMG33..	-	CNMG33..	-	-	CNMG33..	-	-
...-PCLN $\frac{1}{8}$ 09-...	-	-	-	CNMG33..	-	CNMG33..	-	-	CNMG33..	-	-
...-PCLN $\frac{1}{4}$ 4-...	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..
...-PCLN $\frac{1}{2}$ 12-...	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..
Application	Medium-Roughing	Medium-Roughing / High Feed Rate	Roughing	Roughing	Single Sided / Roughing / High Feed	Finishing	Medium	Low Carbon Steel / Small D.O.C.	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Medium
Ref. Page	● B17	● B18	● B18	● B18	● B19	● B22	● B22	● B19	● B19	● B19	● B19
Insert	PS	PT	PH	Standard	PX	ℓ-S	ℓ	XF	XP	XQ	
Toolholder											
...-PCLN $\frac{1}{8}$ 3	-	-	-	-	-	CNMG33..	CNMG33..	-	-	-	-
...-PCLN $\frac{1}{8}$ 09-...	-	-	-	-	-	CNMG33..	CNMG33..	-	-	-	-
...-PCLN $\frac{1}{4}$ 4-...	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMM43..	-	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..
...-PCLN $\frac{1}{2}$ 12-...	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMM43..	-	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..
Application	Low Carbon Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Ref. Page	● B19	● B20	● B20	● B20	● B21	● B21	● B21	● B21	● B21	● B21	● B21
Insert	XS	MQ	MS	MU	KQ	KG	KH	C	ZS	GC	
Toolholder											
...-PCLN $\frac{1}{8}$ 3	-	-	-	-	-	-	-	-	-	-	-
...-PCLN $\frac{1}{8}$ 09-...	-	-	-	-	-	-	-	-	-	-	-
...-PCLN $\frac{1}{4}$ 4-...	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..
...-PCLN $\frac{1}{2}$ 12-...	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..	CNMG43..
Application	Cast Iron	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Heat-Resistant Alloys	Hard Materials				
Ref. Page	● B21	● B108	● B22	● B22	● C23	● B20	● C6, C7				
Insert	Without Chipbreaker	Ceramic	ℓ-A3	AH	PCD	SQ	CBN				
Toolholder											
...-PCLN $\frac{1}{8}$ 3	-	-	-	-	-	-	-				
...-PCLN $\frac{1}{8}$ 09-...	-	-	-	-	-	-	-				
...-PCLN $\frac{1}{4}$ 4-...	CNMA43..	CNMA43..	CNMG43..	CNMG43..	CNMM43..	CNMG43..	CNMA43..				
...-PCLN $\frac{1}{2}$ 12-...	CNMA43..	CNMA43..	CNMG43..	CNMG43..	CNMM43..	CNMG43..	CNMA43..				

Applicable Coolant Sleeve / Joint

Toolholder Part Number	Applicable Coolant Sleeve	Applicable Coolant Joint
A16M-PCLN $\frac{1}{8}$ 09-20	SHC1640-70, SHC1650-95	SJS-8
A20Q-PCLN $\frac{1}{8}$ 09-27	SHC2040-70, SHC2050-95	
A25R-PCLN $\frac{1}{8}$ 09-32	SHC2540-70, SHC2550-95	

Recommended Cutting Conditions ● F116-F117

(Customer Service) 800.823.7284 - Option 1
(Technical Support) 800.823.7284 - Option 2
Visit us online at KyoceraPrecisionTools.com

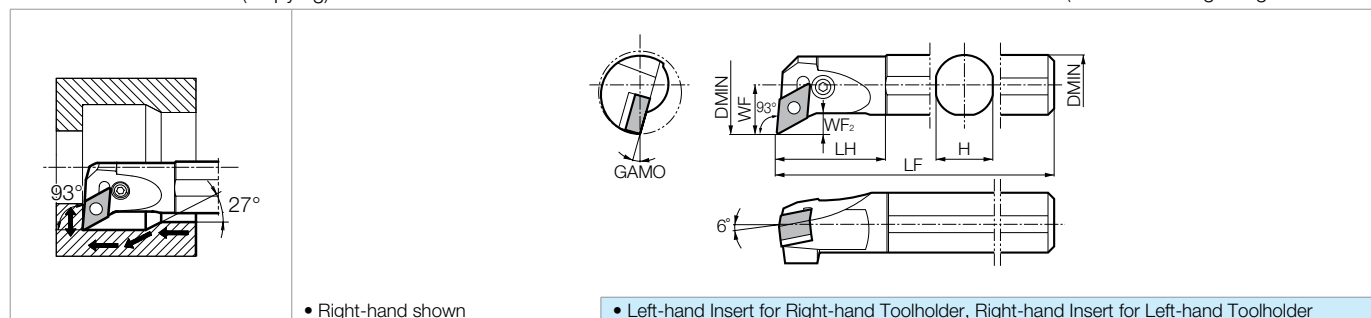
• For Coolant Sleeve, Coolant Joint, ref. to page ● F109-F110

● : Standard Item △ : Phaseout Item (will be removed from next catalog)

Contact your local Kyocera sales engineer to upgrade old products to new technology

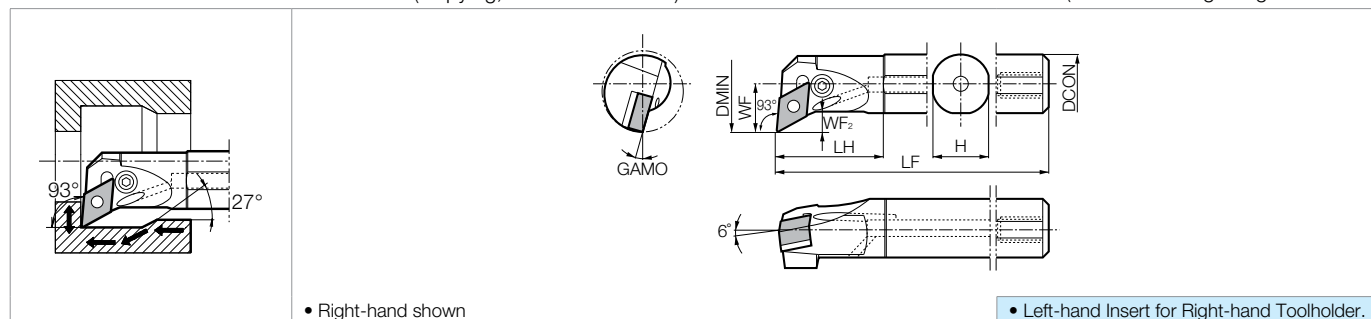
■ S-PDUN3/11 (Copying)

(Max. Overhang Length L/D = ~3)











■ A-PDUN3/11 Twin-Hole Bar (Copying, with Coolant Hole)

(Max. Overhang Length L/D = ~3)



※ When using R-hand Toolholder, Use R-hand insert for machining in this direction (→)
Use L-hand insert for machining in this direction (←)

● Toolholder Dimensions

Part Number	Stock		Unit	Min. Bore Dia.	Dimensions						GAMO	Standard Corner-R (RE)	Spare Parts						
	R	L		DMIN	DCON	H	LF	LH	WF	WF ₂			Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench	
																			
A12Q-PDUN%3	●	●	inch	1.06	0.75	0.71	7.00	1.37	-	-	17°	1/32		LL-1D	LS-1S	LD-32	LSP-1	PC-1	FH-2.5
A16R-PDUN%3	●	●		1.26	1.00	0.97	8.00	1.37	-	-	15°								
A20S-PDUN%3	●	●		1.57	1.25	1.18	10.00	1.37	-	-	12°								
S20Q-PDUN%11-27	●	●	mm	27	20	19	180	35	16	7.6	17°	0.4		LL-1DN	LS-1SN	LD-32N	LSP-1	PC-1	FH-2.5
S25R-PDUN%11-32	●	●		32	25	24	200	40	17	7.6	15°								
S32S-PDUN%11-40	●	●		40	32	31	250	45	22	8.5	12°								
A20Q-PDUN%11-27	●	●		27	20	19	180	35	16	7.6	17°								
A25R-PDUN%11-32	●	●		32	25	24	200	40	17	7.6	15°								
A32S-PDUN%11-40	●	●		40	32	31	250	45	22	8.5	12°								

● Applicable Inserts

Application	Finishing	Finishing-Medium	Medium-Roughing	Finishing	Medium
Ref. Page	● B23	● B24	● B24	● B30	● B30
Insert	GP	HQ	GS	%-S	%
Toolholder					
...-PDUN%3 ...-PDUN%11-...	DNMG33..	DNMG33..	DNMG33..	DNGG33..	DNGG33..

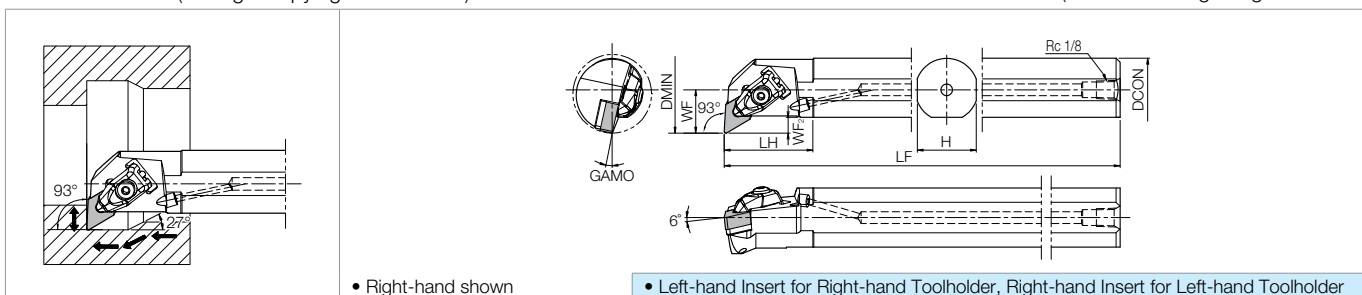
Recommended Cutting Conditions ● F116-F117

● Applicable Coolant Sleeve / Joint

Toolholder Part Number	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, ref. to page ● F109-F110

A-DDUN (Boring / Copying with Coolant)

(Max. Overhang Length $L/D = \sim 3$)

● Toolholder Dimensions

Part Number	Stock		Unit	Min. Bore Dia.	Dimensions							GAMO	Standard Corner-R (RE)	Spare Parts							
	R	L			DMIN	DCON	H	LF	LH	WF	WF ₂			Clamp	Screw	Spring	Shim	Shim Screw	Nozzle	Wrench	Wrench (sold separately)
A16T-DDUN%4	●		inch		1.500	1.000	0.905	12	1.575	0.750	0.297	15°	1/32	CP-3D	CS-3D	SP-3D	DD-42 *DD-42-16	SB-4085TR	DN10	LW-3	FT-15
A20T-DDUN%4	●		inch		1.750	1.250	1.181	12	1.772	0.905	0.299	13°									
A32S-DDUN%15-40	●	●	mm		40	32	30	250	45	22	8.0	12°	0.8	CP-3D	CS-3D	SP-3D	DD-42 *DD-42-16	SB-4085TR	DN10	LW-3	FT-15
A40T-DDUN%15-50	●	●			50	40	37	300	55	27	8.5	12°									
A50U-DDUN%15-63	●	●			63	50	47	350	65	35	10.5	12°	0.8	CP-3D	CS-3D	SP-3D	DD-42 *DD-42-16	SB-4085TR	DN20	LW-3	FT-15

When using inserts whose corner-R(RE) is greater than 1.60mm, please purchase a shim (DD-42-16) with * mark and use it in order to prevent workpiece and shim from interfering each other.

*Not applicable to high-pressure coolant.

● Applicable Inserts

Application	*Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate	Roughing
Ref. Page	● B23	● B23	● B23	● B24	● B24	● B24	● B25	● B25	● B25	● B26
Insert	WF (Wiper)	PP	PQ	CQ	CJ	GS	PG	PS	PT	Standard
Toolholder										
...-DDUN%4	DNMX43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..
...-DDUN%15-...										
...-PD□N%15-...										
Application	Roughing	Single Sided Roughing High Feed Rate	Medium	Soft Steel / Finishing	Soft Steel / Medium	Soft Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing
Ref. Page	● B26	● B26	● B30	● B26	● B26	● B26	● B27	● B28	● B28	● B27
Insert	PH	PX	PL	XP	XQ	XS	MQ	MS	MU	TK
Toolholder										
...-DDUN%4	DNMG43..	DNMM43..	DNGG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..
...-DDUN%15-...										
...-PD□N%15-...										
Application	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals
Ref. Page	● B29	● B29	● B29	● B29	● B29	● B29	● B109	● B30	● B30	● C23
Insert	KQ	KG	KH	C	ZS	GC	Ceramic	PL-A3	AH	PCD
Toolholder										
...-DDUN%4	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNMG43..	DNGA43..	DNMG43..	DNMG43..	DNMM43..
...-DDUN%15-...										
...-PD□N%15-...										
Application	Heat-resistant Alloys	Heat-resistant Alloys	Hard Materials							
Ref. Page	● B28	● B28	● C8, C9							
Insert	SQ	SG	CBN							
Toolholder										
...-DDUN%4	DNMG43..	DNMG43..	DNGA43..							
...-DDUN%15-...										
...-PD□N%15-...										

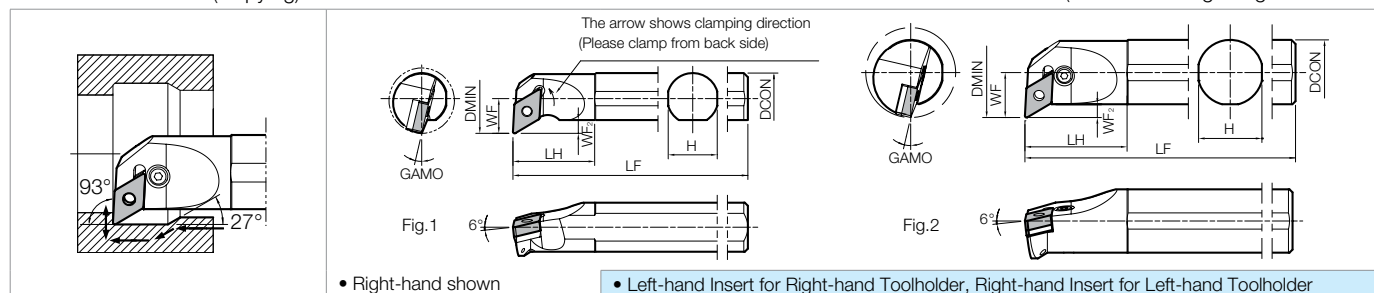
* When using WF chipbreaker (wiper insert), tool edge offset or program corrections are required. See ● R50

● WF chipbreaker cannot be used for S-PDQ15 type holders.

Recommended Cutting Conditions ● F116-F117

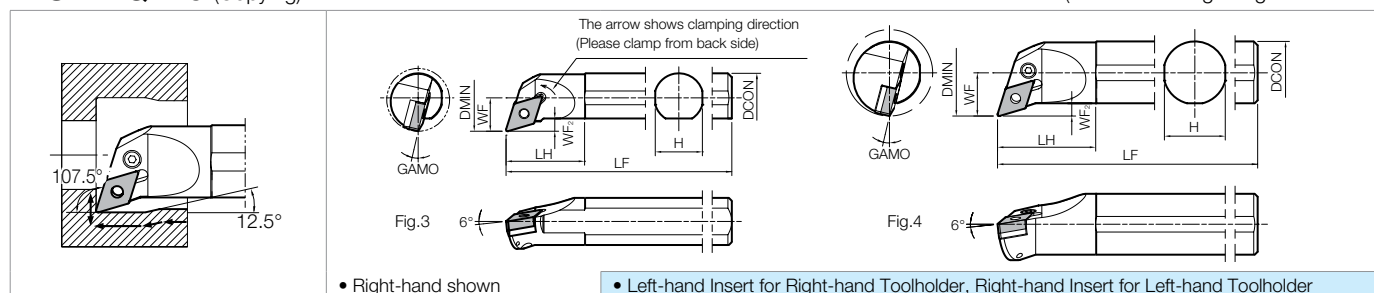
■ S-PDUN15 (Copying)

(Max. Overhang Length L/D = ~3)



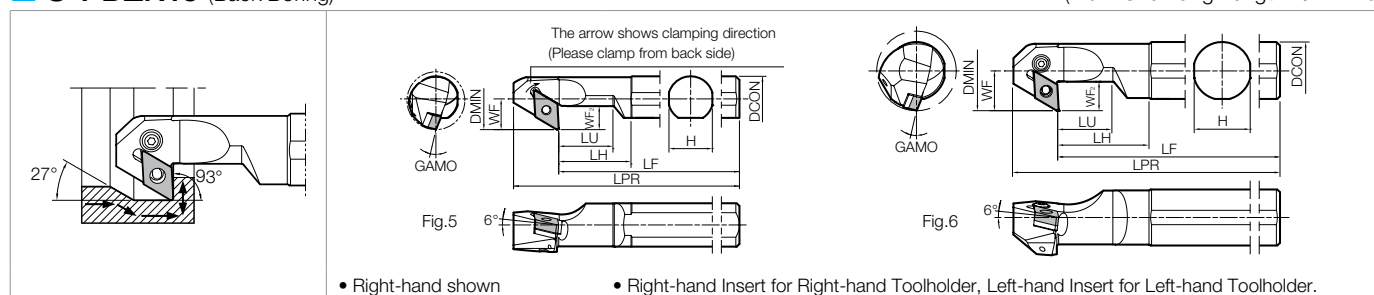
■ S-PDQN15 (Copying)

(Max. Overhang Length L/D = ~3)



■ S-PDZN15 (Back Boring)

(Max. Overhang Length L/D = ~3)



● Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)								GAMO	Standard Corner-R (RE)	Drawing	Applicable Inserts ● F94	
	R	L		DMIN	DCON	H	LPR	LF	LH	LU	WF	WF ₂				
S25R-PDUN% 15-32	●	●	32	25	24	-	200	40	-	17	6.5	13°	0.8	Fig.1	DN□A DN□G DN□M DNMX	43..
S32S-PDUN% 15-44	●	●	44	32	31	-	250	50	-	22	6.5	13°	0.8	Fig.2		
S40T-PDUN% 15-54	●	●	54	40	39	-	300	65	-	27	7.5	12°	0.8	Fig.3		
S25R-PDQN% 15-32	●	●	32	25	24	-	200	40	-	17	6.5	13°	0.8	Fig.4	DN□A DN□G DN□M	43..
S32S-PDQN% 15-44	●	●	44	32	31	-	250	50	-	22	6.5	13°	0.8			
S40T-PDQN% 15-54	●	●	54	40	39	-	300	65	-	27	7.5	12°	0.8			
S25R-PDZN% 15-32	●	●	32	25	24	225	200	40	30	17	13	13°	0.8	Fig.5	DN□A DN□G DN□M DNMX	43..
S32S-PDZN% 15-44	●	●	44	32	31	275	250	50	30	22	16	13°	0.8	Fig.6		
S40T-PDZN% 15-54	●	●	54	40	39	325	300	65	50	27	16	12°	0.8			

● Spare Parts

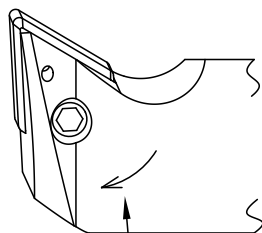
Toolholder Part Number	Spare Parts									
	Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench	Lock Pin	Shim	Shim Screw	Wrench (for Shim Screw)
S25R - PD□N% 15-32	-	-	-	-	-	LW-3	PP-4	PD-42	SB-2050TR	FT-6
S32S - PD□N% 15-44	LL-3N	LS-2N	LD-42 *LD-42-20	LSP-2	PC-2	LW-3	-	-	-	-
S40T - PD□N% 15-54										

● Shim When using inserts whose corner-R (RE) = 1.60mm or larger for S25R-PD□N% 15-32, use shim modified by additional processing to prevent interference between workpiece and shim.
When using inserts whose corner-R (RE) = 1.60mm or larger for S32S-PD□N% 15-44 and S40T-PD□N% 15-54, purchase and use shim with * mark separately to prevent interference between workpiece and shim.

● How to Change S25R-PD□N[®] 15-32 Inserts

● How to Assemble Spare Parts

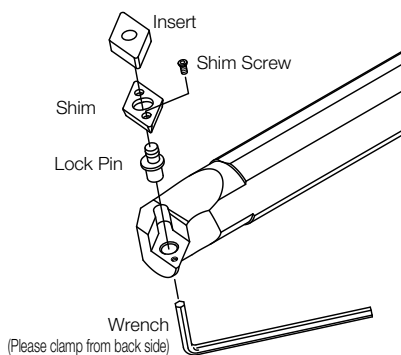
- Please replace S25R-PD□N[®] 15-32 insert from the back side



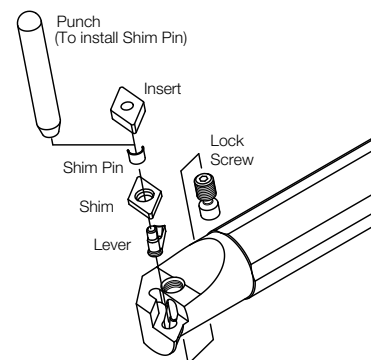
The arrow shows clamping direction
Recommended torque for insert clamp
3.5N·m (for LW-3)

Back side of toolholder

- S25R-PD□N[®] 15-32 (Pin Lock)

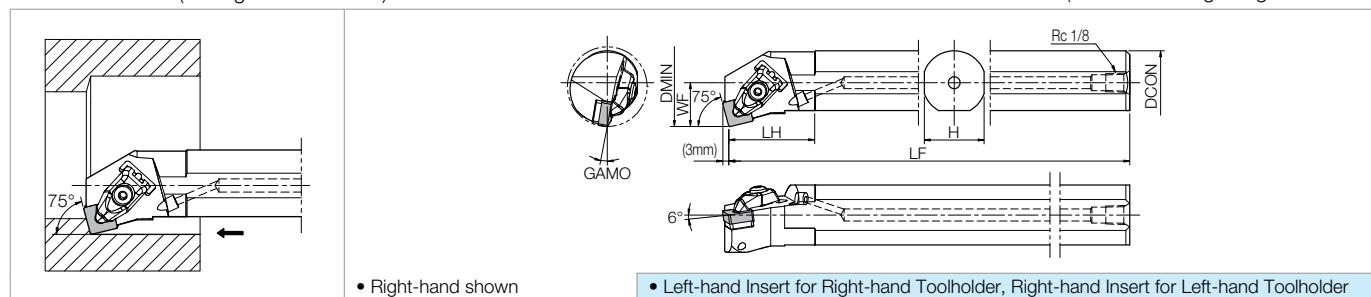


- S32S-PD□N[®] 15-44 (Lever Lock)
- S40T-PD□N[®] 15-54 (Lever Lock)



















A-DSKN (Boring / with Coolant)

(Max. Overhang Length L/D = ~3)



Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)					GAMO	Standard Corner-R (RE)	Spare Parts							
	R	L		DMIN	DCON	H	LF	LH			WF	Clamp	Screw	Spring	Shim	Shim Screw	Nozzle	Wrench
																	 For Clamp	 For Shim
A25R-DSKN% 12-32	●	●	32	25	23	200	43	17	11°	0.8							 For Clamp	 For Shim
A32S-DSKN% 12-40	●	●	40	32	30	250	43	22	11°		CP-3D	CS-3D	SP-3D	DS-42	SB-4085TR	DN10	LW-3	FT-15
A40T-DSKN% 12-50	●	●	50	40	37	300	53	27	11°		CP-3D	CS-3D	SP-3D	DS-42	SB-4085TR	DN20	LW-3	FT-15

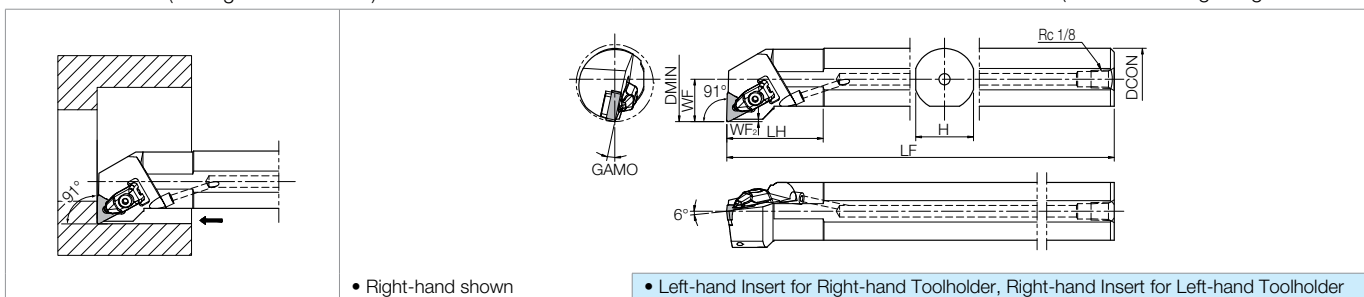
*Not applicable to high-pressure coolant.

Applicable Inserts

















Application	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate	Roughing	Roughing	Single Sided / Roughing / High Feed Rate
Ref. Page	● B32	● B32	● B32	● B32	● B32	● B32	● B33	● B33
Insert	PQ	PG	PS	HS	PT	Standard	PH	PX
Toolholder								
...DSKN% 12...	SNMG43..	SNMG43..	SNMG43..	SNMG43..	SNMG43..	SNMG43..	SNMG43..	SNMM43..
Application	Finishing-Roughing	Medium-Roughing / Low Cutting Force	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Cast Iron
Ref. Page	● B35	● B35	● B33	● B33	● B33	● B34	● B34	● B34
Insert	%-□	%-25R	XP	XQ	XS	MQ	MS	C
Toolholder								
...DSKN% 12...	SNGG43..	SNGG43..	SNMG43..	SNMG43..	SNMG43..	SNMG43..	SNMG43..	SNMG43..
Application	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Heat-resistant Alloys	Hardened Materials
Ref. Page	● B34	● B34	● B34	● B34	● B35	● B111	● B34	● C10
Insert	KH	KG	ZS	GC	Without Chipbreaker	Ceramic	SG	CBN
Toolholder								
...DSKN% 12...	SNMG43..	SNMG43..	SNMG43..	SNMG43..	SN□A43..	SN□A43..	SNMG43..	SNGA43..

Recommended Cutting Conditions ● F116-F117

A-DTFN (Boring / with Coolant)

(Max. Overhang Length $L/D = \sim 3$)

Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)						GAMO	Standard Corner-R (RE)	Spare Parts								
	R	L		DMIN	DCON	H	LF	LH	WF			WF ₂	Clamp	Screw	Spring	Shim	Shim Screw	Nozzle	Wrench	Wrench (sold separate)
																			 For Clamp	 For Shim
A25R-DTFN [®] 16-32	●	●	32	25	23	200	42	17	0.8	12°	0.8									
A32S-DTFN [®] 16-40	●	●	40	32	30	250	50	22	1.2	12°		CP-2D	CS-2D	SP-3D	DT-32	SB-3080TR	DN10	LW-2.5	FT-10	
A40T-DTFN [®] 22-50	●	●	50	40	37	300	60	27	1.5	12°		0.8	CP-3D	CS-3D	SP-3D	DT-42	SB-4085TR	DN20	LW-3	FT-15

*Not applicable to high-pressure coolant.

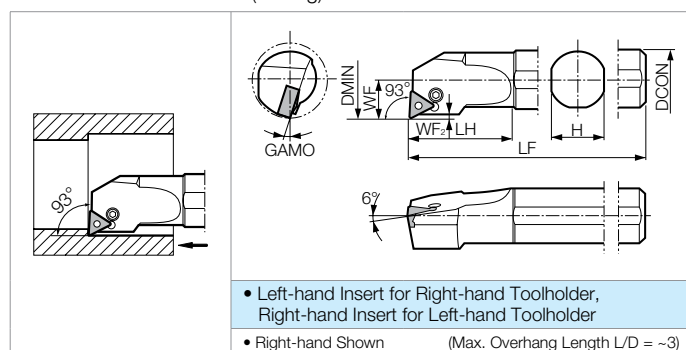
Applicable Inserts

Application	*Finishing	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing
Ref. Page	● B36	● B36	● B36	● B36	● B36	● B36	● B36	● B36	● B37	● B37
Insert	WF (Wiper)	PP	GP	PQ	HQ	CQ	GS	PG	PS	HS
Toolholder	TNMX33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..
...-DTFN 16-...	TNMX33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..
...-DTFN 22-...	-	-	-	-	-	TNMG43..	-	-	TNMG43..	TNMG43..
Application	Single Sided Roughing High Feed Rate	Single Sided Roughing High Feed Rate	Roughing	Finishing	Medium-Roughing	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing
Ref. Page	● B37	● B37	● B37	● B42	● B42, B43	● B38	● B38	● B38	● B39	● B39
Insert	PT	GT	Standard	1/4-S	1/4-□	XP	XQ	XS	MQ	MS
Toolholder	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..
...-DTFN 16-...	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..
...-DTFN 22-...	-	-	TNMG43..	-	TNMG43..	-	-	-	-	-
Application	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Ref. Page	● B39	● B39	● B40	● B40	● B40	● B40	● B40	● B40	● B40	● B113
Insert	MU	1/4-ST	KQ	KG	KH	C	ZS	GC	Without Chipbreaker	Ceramic
Toolholder	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..
...-DTFN 16-...	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..
...-DTFN 22-...	-	-	-	-	-	-	-	-	-	-
Application	Non-ferrous Metals	Non-ferrous Metals	Non-ferrous Metals	Heat-resistant Alloys	Hard Materials					
Ref. Page	● B41	● B41	● C23	● B39	● C11					
Insert	1/4-A3	AH	PCD	SG	CBN					
Toolholder	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..					
...-DTFN 16-...	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..					
...-DTFN 22-...	-	-	-	-	-					

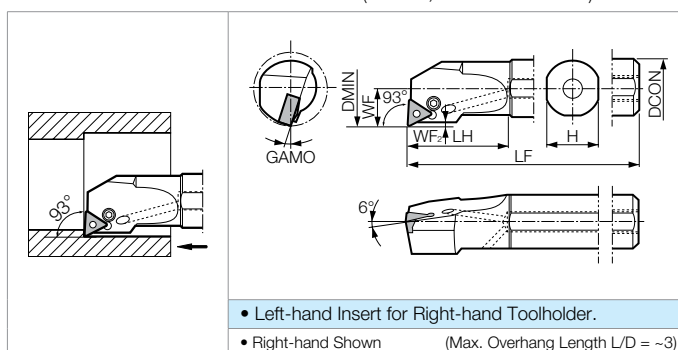
* When using WF chipbreaker (wiper insert), tool edge offset or program corrections are required. See ● R50

Recommended Cutting Conditions ● F116-F117

■ S-PTUN11/16 (Boring)



■ A-PTUN11 Twin-Hole Bar (Internal, with Coolant Hole)



● Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)						GAMO	Standard Corner-R (RE)	Spare Parts					
	R	L		DMIN	DCON	H	LF	LH	WF	WF ₂		Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
S16M-PTUN% 11-20	●	●	20	16	15	150	34	11.0	0.3	18°	0.8	LL-03TN	LS-03SN	-	P-03S	-	FH-2.5
S20Q-PTUN% 11-25	●	●	25	20	19	180	37	13.2	0.2	17°							
S25R-PTUN% 11-32	●	●	32	25	24	200	42	15.7	0.3	16°							
S16M-PTUN% 16-20	●	●	20	16	15	150	34	11.0	1.3	18°	0.8	LL-03SN	LS-03SN	-	P-03S	-	FH-2.5
S20Q-PTUN% 16-25	●	●	25	20	19	180	37	13.2	1.3	17°							
S25R-PTUN% 16-30	●	●	30	25	24	200	42	15.5	1.3	13°							
S32S-PTUN% 16-40	●	●	40	32	30	250	50	22.0	0.7	13°	0.8	LL-1N	LS-1N	LT-32N *LT-32N-20	LSP-1	PC-1	FH-2.5
S40T-PTUN% 16-50	●	●	50	40	37	300	60	27.0	0.6	11°							
A16M-PTUN% 11-20	●		20	16	15	150	34	11.0	0.3	18°							
A20Q-PTUN% 11-25	●		25	20	19	180	37	13.2	0.2	17°	0.8	LL-03TN	LS-03SN	-	P-03S	-	FH-2.5
A25R-PTUN% 11-32	●		32	25	24	200	42	15.7	0.3	16°							

• When using inserts whose corner-R(RE) is 1.6mm or larger, purchase and use shim with * mark separately to prevent interference between workpiece and shim.

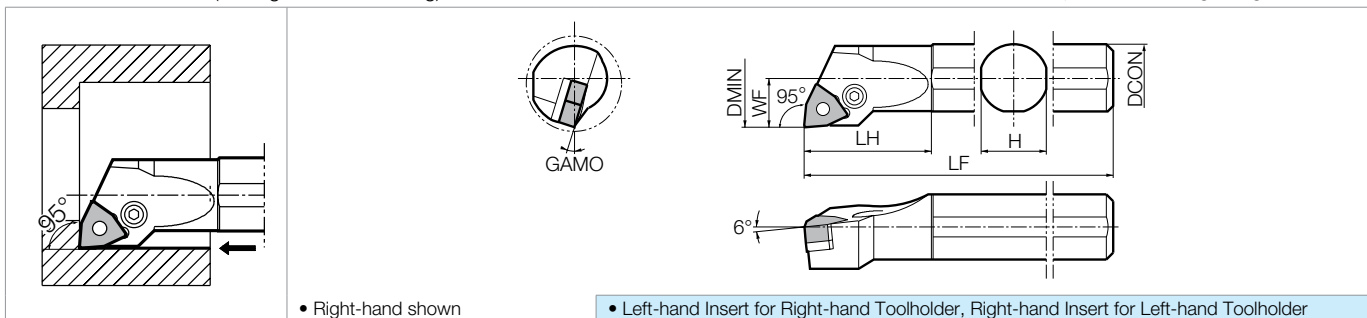
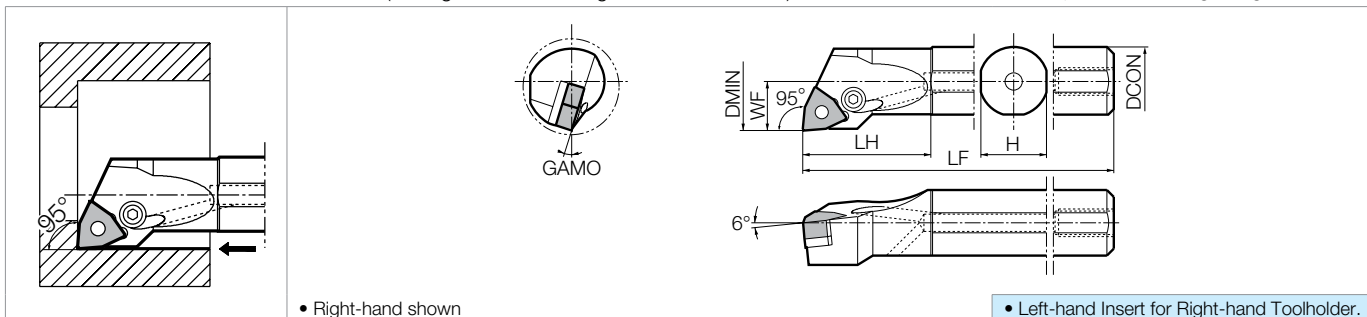
● Applicable Inserts

Application	Finishing	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing	Single Sided Roughing High Feed Rate
Ref. Page	● B36	● B36	● B36	● B36	● B36	● B36	● B36	● B36	● B37	● B37
Insert	PP	GP	PQ	HQ	CQ	GS	PG	PS	HS	PT
Toolholder	...	TNMG23..	-	TNMG23..	-	TNMG23..	-	-	-	-
...	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..
Application	Single Sided Roughing High Feed Rate	Roughing	Finishing	Medium-Roughing	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing
Ref. Page	● B37	● B37	● B42	● B42, B43	● B38	● B38	● B38	● B39	● B39	● B39
Insert	GT	Standard	%-S	%-□	XP	XQ	XS	MQ	MS	MU
Toolholder	...	-	TNGG23..	TNGG23..	-	-	-	-	-	-
...	TNMG33..	TNMG33..	TNGG33..	TNGG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..
Application	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Non-ferrous Metals
Ref. Page	● B39	● B40	● B40	● B40	● B40	● B40	● B40	● B40	● B113	● B41
Insert	%-ST	KQ	KG	KH	C	ZS	GC	Without Chipbreaker	Ceramic	AH
Toolholder	...	-	-	-	-	-	-	-	-	-
...	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33..	TNMG33.. TNGA33..	TNGA33..	TN_G33..
Application	Non-ferrous Metals	Non-ferrous Metals	Hard Materials	Recommended Cutting Conditions ● F116-F117						
Ref. Page	● B41	● C23	● C11							
Insert	%-A3	PCD	CBN							
Toolholder	...	-	-							
...	TNGG33..	TNMM33..	TNGA33..							







● Applicable Coolant Sleeve / Joint

Toolholder Part Number	Applicable Coolant Sleeve	Applicable Coolant Joint
A16M-PTUN% 11-20	SHC1640-70, SHC1650-95	SJS-8
A20Q-PTUN% 11-25	SHC2040-70, SHC2050-95	
A25R-PTUN% 11-32	SHC2540-70, SHC2550-95	

• For Coolant Sleeve, Coolant Joint, ref. to page ● F109-F110

S-PWLN06 (Boring / Internal Facing)(Max. Overhang Length $L/D = \sim 3$)**A-PWLN06** Twin-Hole Bar (Boring / Internal Facing, with Coolant Hole)(Max. Overhang Length $L/D = \sim 3$)

● Toolholder Dimensions

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)					GAMO	Standard Corner-R (RE)	Spare Parts					
											Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
	R	L		DMIN	DCON	H	LF	LH			WF				 LSP  P	
S16M-PWLN% 06-20	●	●	20	16	15	150	34	11.0	16°	0.8	LL-03SN	LS-03SN	-	P-03S	-	FH-2.5
S20Q-PWLN% 06-27	●	●	27	20	19	180	37	14.2	17°	0.8	LL-1N	LS-1SN	LW-32N	LSP-1	PC-1	FH-2.5
S25R-PWLN% 06-32	●	●	32	25	24	200	42	15.7	15°		LL-1N	LS-1SN	LW-32N	LSP-1	PC-1	FH-2.5
A16M-PWLN% 06-20	●		20	16	15	150	34	11.0	16°	0.8	LL-03SN	LS-03SN	-	P-03S	-	FH-2.5
A20Q-PWLN% 06-27	●	△	27	20	19	180	37	14.2	17°	0.8	LL-1N	LS-1SN	LW-32N	LSP-1	PC-1	FH-2.5
A25R-PWLN% 06-32	●	●	32	25	24	200	42	15.7	15°		LL-1N	LS-1SN	LW-32N	LSP-1	PC-1	FH-2.5

● Applicable Inserts

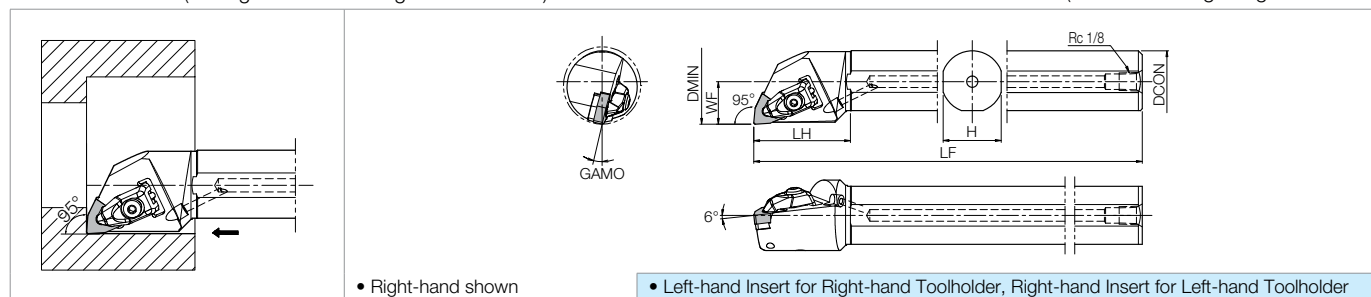
Application	Finishing	Finishing-Medium	Medium-Roughing	Finishing	Medium
Ref. Page	● B46	● B46	● B47	● B49	● B49
Insert	GP	HQ	GS	W-S	W
Toolholder					
...-PWLN 06-...	WNMG33..	WNMG33..	WNMG33..	WNGG33..	WNGG33..

























Recommended Cutting Conditions ● F116-F117

● Applicable Coolant Sleeve / Joint

Toolholder Part Number	Applicable Coolant Sleeve	Applicable Coolant Joint
A16M-PWLN 06-20	SHC1640-70, SHC1650-95	SJS-8
A20M-PWLN 06-27	SHC2040-70, SHC2050-95	
A25R-PWLN 06-32	SHC2540-70, SHC2550-95	

For Coolant Sleeve, Coolant Joint, ref. to page ● F109-F110

A-DWLN (Boring / Internal Facing / with Coolant)(Max. Overhang Length $L/D = \sim 3$)**Toolholder Dimensions**

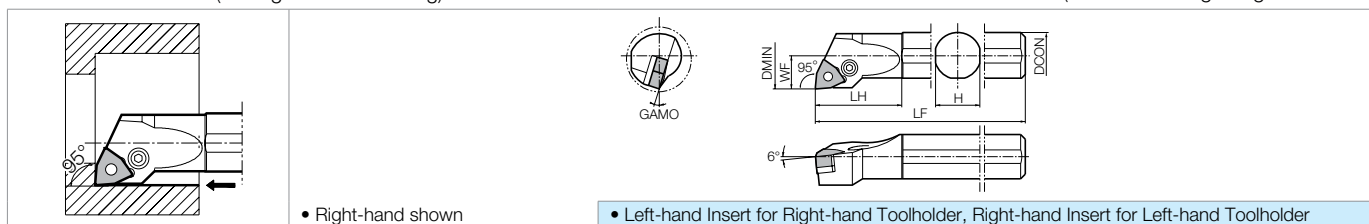
Part Number	Stock		Unit	Min. Bore Dia.	Dimensions							GAMO	Standard Corner-R (RE)	Spare Parts							
	R	L			DMIN	DCON	H	LF	LH	WF	WF2									 For Clamp	 For Shim
A16T-DWLN% 4	●		inch	1.250	1.000	0.905	12	1.575	0.64	-	12°	1/32							 For Clamp	 For Shim	
A20T-DWLN% 4	●			1.500	1.250	1.181	12	1.614	0.765	-	11°										
A24T-DWLN% 4	●			1.750	1.500	1.374	12	2.362	0.905	-	13°										
A25R-DWLN% 08-32	●	●	mm	32	25	23	200	50	17	-	13°	0.8							 For Clamp	 For Shim	
A32S-DWLN% 08-40	●	●		40	32	30	250	50	22	-	13°										
A40T-DWLN% 08-50	●	●		50	40	37	300	60	27	-	13°										













*Not applicable to high-pressure coolant.

Applicable Inserts

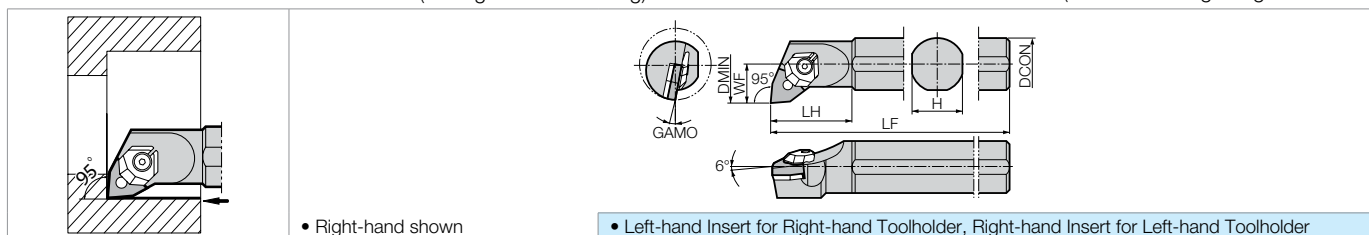
Application	Finishing	Finishing-Medium	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate	Roughing
Ref. Page	● B46	● B46	● B46	● B46	● B47	● B47	● B47	● B47	● B47	● B47	● B47
Insert	WF (Wiper)	WE (Wiper)	PP	PQ	CQ	CJ	GS	PG	PS	PT	Standard
Toolholder											
...	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..
...	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..
Application	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Ref. Page	● B48	● B48	● B48	● B48	● B48	● B48	● B49	● B49	● B49	● B49	● B49
Insert	XP	XQ	XS	MQ	MS	MU	C(GC)	KQ	KG	KH	ZS
Toolholder											
...	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..
...	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..	WNMG43..
Application	Non-ferrous Metals	Non-ferrous Metals	Heat-resistant Alloys	Hard Materials							
Ref. Page	● B49	● C23	● B48	● C13							
Insert	AH	PCD	SG	CBN							
Toolholder											
...	WNGG43..	WNMM43..	WNMG43..	WNGA43..							
...	WNGG43..	WNMM43..	WNMG43..	WNGA43..							










Recommended Cutting Conditions ● F116-F117

S-PWLN08 (Boring / Internal Facing)(Max. Overhang Length $L/D = \sim 3$)**Toolholder Dimensions**

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)					GAMO	Standard Corner-R (RE)	Spare Parts					
	R	L		DMIN	DCON	H	LF	LH			WF	Lever	Lock Screw	Shim	Shim Pin	Punch
																
S32S-PWLN% 08-40	●	●	40	32	30	250	50	22	10°	0.8						
S40T-PWLN% 08-50	●	●	50	40	37	300	60	27	10°		LL-2N	LS-2N	LW-42N%	LSP-2	PC-2	LW-3

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

S-WWLN08-E Excellent Bar (Boring / Internal Facing)(Max. Overhang Length $L/D = \sim 5$)**Toolholder Dimensions**

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)					GAMO	Standard Corner-R (RE)	Spare Parts				
	R	L		DMIN	DCON	H	LF	LH			WF	Clamp Set	Wrench	Shim	Shim Pin
															
S25S-WWLN% 08-28E	●	●	28	25	24	250	36	14	13°	1.2			WWP-42		
S25S-WWLN% 08-34E	●	●	34	25	24	250	40	17	11°		WCS-8	LW-3	*WWP	WP5X11	LW-2
S32S-WWLN% 08-40E	●	●	40	32	30	250	50	20	10°				-42-16		

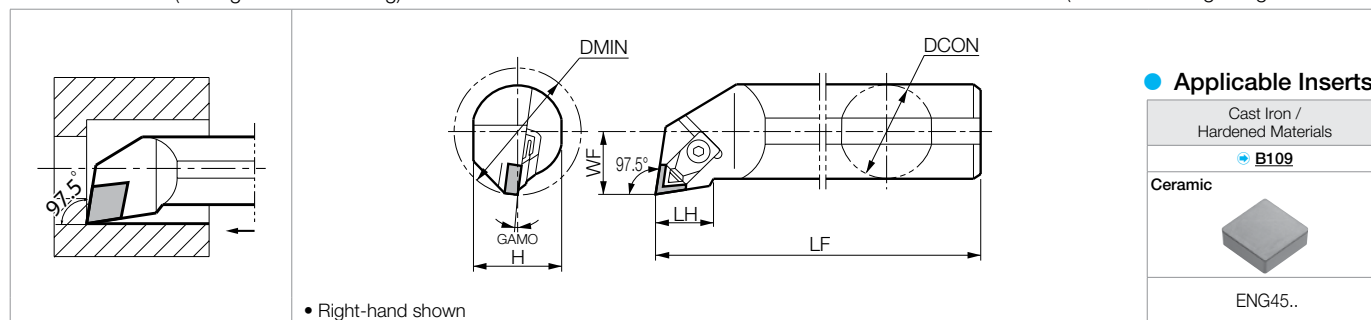
• When using inserts whose corner-R(RE) = 1.60mm or larger, purchase and use shim with * mark separately to prevent interference between workpiece and shim.






Applicable Inserts

Application	Finishing	Finishing-Medium	Finishing	Finishing-Medium	Finishing-Medium	Finishing-Medium	Medium-Roughing	Medium-Roughing	Medium-Roughing	Medium-Roughing / High Feed Rate	Roughing
Ref. Page	● B46	● B46	● B46	● B46	● B47	● B47	● B47	● B47	● B47	● B47	● B47
Insert	WF (Wiper)	WE (Wiper)	PP	PQ	CQ	CJ	GS	PG	PS	PT	Standard
Toolholder											
Application	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Ref. Page	● B48	● B48	● B48	● B48	● B48	● B48	● B49	● B49	● B49	● B49	● B49
Insert	XP	XQ	XS	MQ	MS	MU	C(GC)	KQ	KG	KH	ZS
Toolholder											
Application	Non-ferrous Metals	Non-ferrous Metals	Heat-resistant Alloys	Hard Materials							
Ref. Page	● B49	● C23	● B48	● C13							
Insert	AH	PCD	SG	CBN							
Toolholder											
Application	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Ref. Page	● B48	● B48	● B48	● B48	● B48	● B48	● B49	● B49	● B49	● B49	● B49
Insert	WF (Wiper)	WE (Wiper)	PP	PQ	CQ	CJ	GS	PG	PS	PT	Standard
Toolholder											
Application	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Ref. Page	● B48	● B48	● B48	● B48	● B48	● B48	● B49	● B49	● B49	● B49	● B49
Insert	WF (Wiper)	WE (Wiper)	PP	PQ	CQ	CJ	GS	PG	PS	PT	Standard
Toolholder											
Application	Low Carbon Steel / Finishing	Low Carbon Steel / Medium	Low Carbon Steel / Roughing	Stainless Steel / Finishing	Stainless Steel / Medium-Roughing	Stainless Steel / Medium-Roughing	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Ref. Page	● B48	● B48	● B48	● B48	● B48	● B48	● B49	● B49	● B49	● B49	● B49
Insert	WF (Wiper)	WE (Wiper)	PP	PQ	CQ	CJ	GS	PG	PS	PT	Standard
Toolholder											

• In wedge lock, use of ceramic insert other than silicon nitride insert is not recommended due to strong restraint force.

Recommended Cutting Conditions ● F116-F117

S-CELN (Boring / Internal Facing)(Max. Overhang Length $L/D = \sim 3$)**Toolholder Dimensions**

Part Number	Stock		Min. Bore Dia.	Dimensions (mm)					GAMO	Standard Corner-R (RE)	Spare Parts				
	R	L		DMIN	DCON	H	LF	LH			WF	Chipbreaker	Clamp Set	Wrench	Shim
															
S40T-CELNR13-50	●		50	40	37	300	32	27	12°	0.8	CB-16	CE-010	LW-4	SP-341P	M3X8

Recommended Cutting Conditions • **F116-F117**





■ S-CTUN-A (Boring)

● **Applicable Inserts**

Hardened Materials / Cast Iron	Hardened Materials / Cast Iron
● C19	● B113
CBN (KBN900)	Ceramic
TNM22..	TNG22..

• Right-hand shown

● Toolholder Dimensions

Part Number	Stock		Unit	Min. Bore Dia.	Dimensions (mm)					GAMO	Standard Corner-R (RE)	Spare Parts				
	R	L			DMIN	DCON	H	LF	LH			WF	Clamp Set	Wrench	Shim	Shim Screw
																
S25X-CTUN [△] 11-30A	●		mm	30	25	24	220	40	15	10°	0.8	CE-360S	LW-4	SP-210A	BH3X6	

 Recommended Cutting Conditions ● **F116-F117**

SWISS IQ BAR RECOMMENDED CUTTING CONDITIONS

Recommended Cutting Conditions (VNB-S)

Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: sfm)						VNB01-S VNB015-S		VNB02-S ~ VNB04-S		Notes
	MEGA COAT	PVD	Carbide	CBN	PCD						
	PR1225	PR930	KW10	KBN510	KPD001	KPD010					
	D.O.C. (inch), f (ipr)						D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	★ 100~390	☆ 100~330					~0.0039	~0.0004	~0.0079	~0.0012	Wet
Stainless Steel	★ 100~300	☆ 100~260					~0.0039	~0.0004	~0.0079	~0.0008	

★ : 1st Recommendation
☆ : 2nd Recommendation

Recommended Cutting Conditions (VNB / VNB-NB / VNBT)

Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: sfm)						VNB02		VNB03		VNB004 VNBT04		VNB05 VNB06 VNB07 VNBT05		Notes
	MEGA COAT	PVD	Carbide	CBN	PCD										
	PR1225	PR930	KW10	KBN510	KPD001	KPD010									
	D.O.C. (inch), f (ipr)						D.O.C.	f	D.O.C.	f	D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel	★ 100~390	☆ 100~330					~0.0118	~0.0012	~0.0157	~0.0016	~0.0177	~0.0028	~0.0197	~0.0039	We
Stainless Steel	★ 100~330	☆ 100~260					~0.0118	~0.0008	~0.0157	~0.0012	~0.0177	~0.0020	~0.0197	~0.0028	
Non-ferrous Metals			☆ ~330		★ ~980	☆ ~980	~0.0118	~0.0020	~0.0157	~0.0024	~0.0177	~0.0039	~0.0197	~0.0059	

★ : 1st Recommendation
☆ : 2nd Recommendation

Recommended Cutting Conditions (VNBX-S)

Workpiece Material	Recommended Insert Grades (Cutting Speed Vc: sfm)							VNBX01-S VNBX015-S		VNBX02-S ~ VNBX04-S		Notes
	PVD Coated Carbide				Carbide	CBN	PCD					
	PR630	PR915	PR930	KW10	KBN510	KPD001	KPD010					
	D.O.C. (inch), f (ipr)							D.O.C.	f	D.O.C.	f	
Carbon Steel / Alloy Steel			★ 100~330					~0.0039	~0.0004	~0.0079	~0.0012	Wet
Stainless Steel			★ 100~260					~0.0039	~0.0004	~0.0079	~0.0008	

★ : 1st Recommendation

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

EZH Sleeves EZ Bar Sleeves (Listed by Sleeve Shank Dia.)

Sleeve Part Number				Applicable EZ Bar				Shank Dia. DCON (mm)	Applicable Machine Manufacturer
EZH-CT Adjustable Overhang Length with Coolant Hole	EZH-HP Adjustable Overhang Length	EZH-ST	Sleeve Shank Dia. DCON (mm)	EZB	EZBF / EZBT / EZVB EZBP / EZBC EZG / EZFG / EZT	EZ Bar PLUS			
		EZH 01712ST-80	12	EZBR ...017...	-		1.7	(General Purpose)	
		02012ST-80		EZB% ...020...	EZBPR ...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		EZBR ...070...	EZ_ ...070-...	7			
	EZH 01716HP-100	EZH 01716ST-100	16	EZBR ...017...	-		1.7	(General Purpose)	
	02016HP-100	02016ST-100		EZB% ...020...	EZBPR ...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		EZBR ...070...	EZ_ ...070-...	.070X- ...-080EZP	7		
	-	08016ST-100		EZB% ...080...	-	.080X- ...-100EZP	8		
	EZH 01719CT-120	EZH 01719HP-120		EZH 01719ST-120	0.750"	EZBR ...017...	-		
02019CT-120	02019HP-120	02019ST-120	EZB% ...020...	EZBPR ...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	EZBR ...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	EZBR ...017...		-		1.7	Amada Machine Tools Eguro Tsugami Citizen Machinery (General Purpose)
02020CT-120	02020HP-120	02020ST-120		EZB% ...020...	EZBPR ...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		EZBR ...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	EZBR ...017...	-		1.7	
02022CT-135	02022HP-135	02022ST-135	EZB% ...020...		EZBPR ...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	EZBR ...070...		EZ_ ...070-...	.070X- ...-080EZP	7		
08022CT-135	08022HP-135	08022ST-135	EZB% ...080...		-	.080X- ...-100EZP	8		
EZH 01725.OCT-135	EZH 01725.OHP-135	EZH 01725.OST-135	25		EZBR ...017...	-		1.7	Amada Machine Tools Eguro Tsugami Citizen Machinery (General Purpose)
02025.OCT-135	02025.OHP-135	02025.OST-135		EZB% ...020...	EZBPR ...020-...	2			
02525.OCT-135	02525.OHP-135	02525.OST-135		EZB% ...025...	EZ_ ...025-...	2.5			
03025.OCT-135	03025.OHP-135	03025.OST-135		EZB% ...030...	EZ_ ...030-...	3			
03525.OCT-135	03525.OHP-135	03525.OST-135		EZB% ...035...	EZ_ ...035-...	3.5			
04025.OCT-135	04025.OHP-135	04025.OST-135		EZB% ...040...	EZ_ ...040-...	4			
04525.OCT-135	04525.OHP-135	-		EZB% ...045...	-	.045X- ...-050EZP	4.5		
05025.OCT-135	05025.OHP-135	05025.OST-135		EZB% ...050...	EZ_ ...050-...	.050X- ...-060EZP	5		
06025.OCT-135	06025.OHP-135	06025.OST-135		EZB% ...060...	EZ_ ...060-...	.060X- ...-070EZP	6		
07025.OCT-135	07025.OHP-135	07025.OST-135		EZBR ...070...	EZ_ ...070-...	.070X- ...-080EZP	7		
08025.OCT-135	08025.OHP-135	08025.OST-135		EZB% ...080...	-	.080X- ...-100EZP	8		
EZH 01725.4CT-120	EZH 01725.4HP-120	EZH 01725.4ST-120		1.000"	EZBR ...017...	-		1.7	
02025.4CT-120	02025.4HP-120	02025.4ST-120	EZB% ...020...		EZBPR ...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	EZBR ...070...		EZ_ ...070-...	.070X- ...-080EZP	7		
08025.4CT-120	08025.4HP-120	08025.4ST-120	EZB% ...080...		-	.080X- ...-100EZP	8		

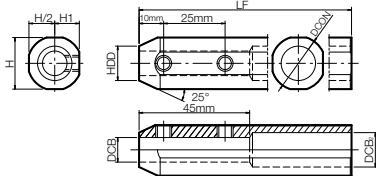
EZH Sleeves and Applicable Inserts / Toolholders (Listed by Sleeve Shank Dia.)

Shank Size (Hole Dia. : mm)		017 (1.7mm)		020 (2.0mm)		025 (2.5mm)		03 (3.0mm)		035 (3.5mm)	
EZH-CT Sleeve Part Number (Internal Coolant) EZH-HP Sleeve Part Number (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 Part Number		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 Bar	Boring Bar			EZB%	020020HP-	EZB%	025025HP-	EZB%	030030HP-	EZB%	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
								EZVBR	035030-		
	Internal Grooving						EZBFR	030030-			
	Face Grooving						EZGR	030030-			
	Internal Threading					EZTR	030025-	EZTR	035030-	EZTR	040035-
EZ Bar - Plus											

Shank Size (Hole Dia. : mm)		04 (4.0mm)		045 (4.5mm)		05 (5.0mm)		06 (6.0mm)		07 (7.0mm)		08 (8.0mm)	
EZH-CT Sleeve Part Number (Internal Coolant) EZH-HP Sleeve Part Number (Adjustable Overhang Length)		EZH	04016HP-100	EZH	04516HP-100	EZH	05016HP-100	EZH	06016HP-100	EZH	07016HP-100		
			04019CT/HP-120		04519CT/HP-120		05019CT/HP-120		06019CT/HP-120		07019CT/HP-120	EZH	08019CT/HP-120
			04020CT/HP-120		04520CT/HP-120		05020CT/HP-120		06020CT/HP-120		07020CT/HP-120		08020CT/HP120
			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 Part Number		EZH	04012ST-80			EZH	05012ST-80	EZH	06012ST-80	EZH	07012ST-80		
			04016ST-100				05016ST-100		06016ST-100		07016ST-100	EZH	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 Bar	Boring Bar	EZB%	040040HP-			EZB%	050050HP-	EZB%	060060HP-				
		EZBR	045040ST-			EZBR	055050ST-	EZBR	065060ST-	EZBR	075070ST-		
		EZBR	...040-...NB			EZBR	...050-...NB	EZBR	...060-...NB	EZBR	...070-...NB		
		EZVBR	045040-			EZVBR	055050-	EZVBR	065060-				
		EZBTR	040040-			EZBTR	050050-						
	EZBFR	040040-			EZBFR	050050-	EZBFR	060060-					
	Internal Grooving	EZG%	040040-			EZG%	050050-	EZG%	060060-	EZG%	...070-...		
Face Grooving	EZFG%	050040-			EZFG%	060050-			EZFG%	080070-			
Internal Threading	EZTR	050040-			EZTR	060050-	EZTR	070060-	EZTR	080070-			
EZ Bar - Plus				S/C045X-SCLCR03-050EZP		S/C050X-SWUBR03-060EZP		S/C060X-SCLCR04-070EZP		S/C070X-SCLCR04-080EZP		S/C080X-SCLCR06-100EZP	
						S/C050X-SWUBR06-060EZP		S/C060X-SWUBR06-070EZP		S/C070X-STLBR06-080EZP		S/C080X-STLBR09-100EZP	
Boring Bar			C04-...				C05-...		C06-...		C07-...		C/E08-...
									S06-...				A/S08-...

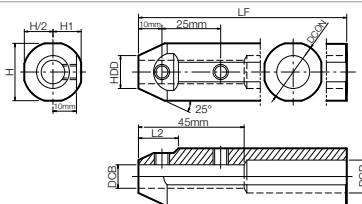
Note 1) When attaching Double-sided Micro Bars to EZH-CT/HP Sleeve (Adjustable overhang length), detach Adjustable Pin.
Overhang length of bar is not adjustable.

SHA Sleeves (Applicable Toolholders F104)





(Toolholder installation side)

Fig.1



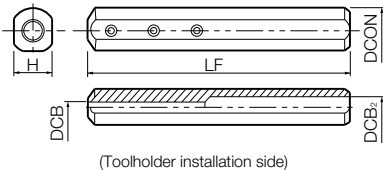
(Toolholder installation side)

Fig.2

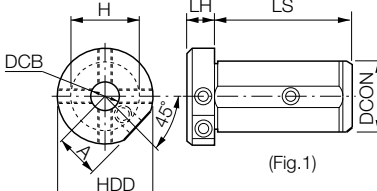
Part Number	Stock	Dimensions (mm)									Drawing	Spare Parts		Applicable Machine Manufacturer
		DCB	DCON	HDD	DCB ₂	H	H1	LF	L2	Screw		Wrench		
														
SHA 0820-120	□	8	20.00	14	12	19.0	9.25	120	-	Fig.1	HS6X4P	LW-3	Amada Machine Tools Eguro Tsugami Citizen Machinery	
1020-120	●	10	20.00	14	12	19.0	9.25	120	-	Fig.1				
SHA 0825.0-135	●	8	25.00	14	14	24.0	11.5	135	17	Fig.2				
1025.0-135	●	10	25.00	14	14	24.0	11.5	135	17	Fig.2				
1225.0-135	●	12	25.00	16	14	24.0	11.5	135	17	Fig.2	HS6X4P	LW-3	Citizen Machinery	
SHA 0819-120	□	8	19.05	14	12	18.0	8.75	120	-	Fig.1				
1019-120	□	10	19.05	14	12	18.0	8.75	120	-	Fig.1				
SHA 0820-120	□	8	20.00	14	12	19.0	9.25	120	-	Fig.1				
1020-120	●	10	20.00	14	12	19.0	9.25	120	-	Fig.1	HS6X4P	LW-3	Citizen Machinery	
SHA 0825.4-120	●	8	25.40	14	14	24.4	12.0	120	17	Fig.2				
1025.4-120	●	10	25.40	14	14	24.4	12.0	120	17	Fig.2				
1225.4-120	●	12	25.40	16	14	24.4	12.0	120	17	Fig.2				
SHA 0822-125	●	8	22.00	14	14	21.0	10.0	125	-	Fig.1	HS6X4P	LW-3	Star Micronics Nomura DS	
1022-125	●	10	22.00	14	14	21.0	10.0	125	-	Fig.1				
1222-125	□	12	22.00	16	14	21.0	10.0	125	-	Fig.1				
SHA 0823-120	□	8	23.00	14	14	22.0	10.5	120	16	Fig.2	HS6X4P	LW-3	Nomura DS	
1023-120	□	10	23.00	14	14	22.0	10.5	120	16	Fig.2				
1223-120	□	12	23.00	16	14	22.0	10.5	120	16	Fig.2				

※ : Length of DCB...45mm (All SHA sleeves) • Choose sleeves (DCB) to meet with DCON dimension of toolholder. • Machine manufacturers are in random order.

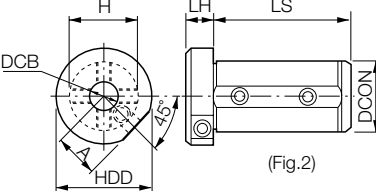
Sleeves for Boring Bars

Shape	Part Number	Stock	Unit	Dimensions					Spare Parts	
				DCON	DCB	DCB ₂	H	LF	Screw	Wrench
	SH 0416-100	●	mm	16	4	5	14	100	HS4X4	LW-2
	0516-100	●		16	5	6	14	100		
	0616-100	●		16	6	7	14	100		
	0716-100	●		16	7	8	14	100		
	SH 0820-120	●	mm	20	8	9	18	120	HS4X4	LW-2
	1020-120	●		20	10	11	18	120		
	1225-150	●		25	12	13	23	150	HS5X5	LW-2.5
	1632-180	●		32	16	18	30	180		
	2032-180	●	inch	32	20	22	30	180	SLS-1	LW-2
	SL -1	●		0.625	0.203	0.250	0.292	4.00		
	-2	●		0.625	0.281	0.312	0.292	4.00		
	-2.5-10	●		0.625	0.156	0.197	0.292	4.00		

Coolant Sleeve Dimensions



(Fig.1)













































(Fig.2)

Accessories

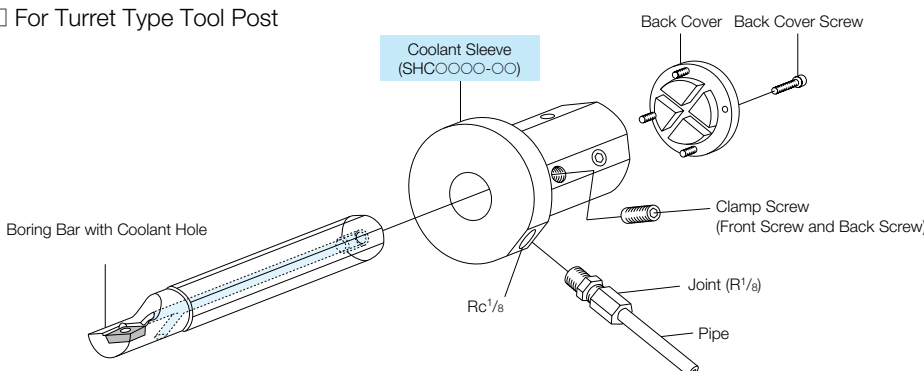
- Back Cover / SHL-4...SHC○○○40-70
SHL-5...SHC○○○50-95
- Back Cover Screw
- Shank Clamp Screw

(Note) To stabilize the Toolholder and to prevent coolant leaks, tighten all 4 screws of coolant sleeve securely.

Part Number	Stock	Dimensions (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 1040-70 1240-70 1640-70 2040-70 2540-70	●	40	56	8	70	16	38	27.0	Fig.1							
	●	40	56	10	70	16	38	27.0								
	●	40	56	12	70	16	38	27.0	Fig.2							
	●	40	56	16	70	16	38	27.0								
	●	40	56	20	70	16	38	27.0	Fig.1							
	●	40	56	25	70	16	38	27.0								
SHC 0850-95 1050-95 1250-95 1650-95 2050-95 2550-95	●	50	65	8	95	16	47	30.5	Fig.1							
	●	50	65	10	95	16	47	30.5								
	●	50	65	12	95	16	47	30.5	Fig.2							
	●	50	65	16	95	16	47	30.5								
	●	50	65	20	95	16	47	30.5								
	●	50	65	25	95	16	47	30.5								

How to Install



① For Turret Type Tool Post



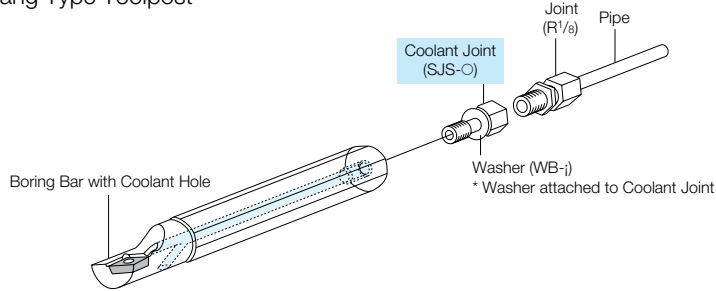
Labels in diagram:

- Boring Bar with Coolant Hole
- Coolant Sleeve (SHC○○○○○○○○)
- Back Cover
- Back Cover Screw
- Clamp Screw (Front Screw and Back Screw)
- Joint (R¹/₈)
- Pipe

Coolant Joint Dimensions *This Coolant Joint is not applicable for Dynamic Bar

												Spare Parts	
				Dimensions (mm)				Thread (Toolholder Side)		Thread (Joint Side)		Washer	
				D	L1	L2	H						
Part Number		Stock											
SJS-5		●		15	15	7	13	M5XP0.8		Rc1/8 (PT1/8)		WB-5	
SJS-6		●		15	15	9	13	M6XP1.0				WB-6	
SJS-8		●		15	15	13	13	M8XP1.25				WB-8	

② For Gang Type Toolpost



List of Toolholders and Applicable Joints

Toolholder Part Number	Applicable Coolant Joint
A08-----OOE	SJS-5
A10-----OOE	SJS-6
A12-----OOE	SJS-8
A16-----OOE	SJS-8
A20-----OOE	SJS-8
A25-----OOE	SJS-8
E08-----OO	SJS-5
E10-----OO	SJS-6
E12-----OO	SJS-8
E16-----OO	SJS-8
E20-----OO	SJS-8

* This Coolant Joint is not applicable for Dynamic Bar

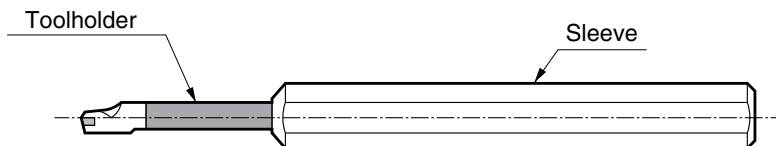
SHA / SH / SHC Sleeves and Applicable Toolholders (Listed by Shank Dia.)

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)
SHA / SH / SHC Sleeve Part Numbers	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 Bars Part Numbers					SHC0850-95	SHC1050-95	SHC1250-95	SHC1650-95	SHC2050-95	SHC2550-95
	C04-----	C05-----	C06-----	C07-----	A08-----	A10-----	A12-----	A16-----	A20-----	A25-----
					E08-----	E10-----	E12-----	E16-----	E20-----	E25-----
Internal Grooving Toolholder Part Numbers			S06-----		S08-----	S10-----	S12-----	S16-----	S20-----	S25-----
					SIGEX%0808A-EH	SIGEX%1010B-EH	SIGEX%1412C-EH	SIGEX%1616C-EH	SIGEX%2020D-EH	SIGEX%2525E-EH
						SIGEX%1210B-EH	SIGEX%1612C-EH			KIGBA%3525-16
					SIGEX%0808A-WH	SIGEX%1010B-WH	SIGEX%1412C-WH	KIGM%2016B-3V	KIGM%2520B-3V	KIGM%3225B-4V
						SIGEX%1210B-WH	SIGEX%1612C-WH			KITG%3525T-16
					SIGER1008B-WH-90	SIGER1210B-WH-90	SIGER1412C-WH-90			
							GIV%1412-1SE	GIV%1216-1SS	GIV%1420-1S	GIV%2025-1B
							GIV%1612-1AE	GIV%2016-1BE	GIV%1620-1A	GIV%2025-2B
Internal Threading Toolholder Part Numbers								GIV%2016-2BE	GIV%2520-1CE	GIV%3225-1CE
								GIV%1616-1AW	GIV%2720-2CE	GIV%3225-2CE
									GIV%2020-1BW	GIV%2525-1CW
									GIV%2020-2BW	GIV%2525-2CW
							SINR0612S-06E	SINR0816S-08E	SIN%2420S-16	CIN%3025S-16
								SIN%1216S-11E	SINR2420S-22	CINR3025S-22
								SIN%1516S-11		
								SIN%1616S-16		
								SIN%2016S-16		

* For SHA sleeves, please ref. to page **F108**

For SH / SL / SHC sleeves, please ref. to page **F109**

C...-AS (Assembly List)





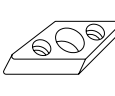

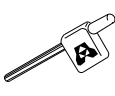
Assembly configuration

Assembly (Discontinued Part Number)	Toolholder (Discontinued Part Number)	Alternative Toolholder (Dynamic Bar)	Sleeve Part Number	Notes
C04G-SCLCR03-05-AS SCLCL03-05-AS	C04G-SCLCR03-05 SCLCL03-05	C04G-SCLCR03-05AN SCLCL03-05AN	SH0416-100	
C05H-SCLCR03-06-AS SCLCL03-06-AS	C05H-SCLCR03-06 SCLCL03-06	C05H-SCLCR03-06AN SCLCL03-06AN	SH0516-100	
C05H-SWUBR06-06-AS SWUBL06-06-AS	C05H-SWUBR06-06 SWUBL06-06	C05H-SWUBR06-06AN SWUBL06-06AN	SH0516-100	
C06J-SCLCR04-07-AS SCLCL04-07-AS	C06J-SCLCR04-07 SCLCL04-07	C06J-SCLCR04-07AN SCLCL04-07AN	SH0616-100	
C06J-SWUBR06-07-AS SWUBL06-07-AS	C06J-SWUBR06-07 SWUBL06-07	C06J-SWUBR06-07AN SWUBL06-07AN	SH0616-100	
C07K-SCLCR04-08-AS SCLCL04-08-AS	C07K-SCLCR04-08 SCLCL04-08	C07K-SCLCR04-08AN SCLCL04-08AN	SH0716-100	
C07K-SWUBR08-08-AS SWUBL08-08-AS	C07K-SWUBR08-08 SWUBL08-08	C07K-SWUBR08-08AN SWUBL08-08AN	SH0716-100	
C08L-STUPR08-10-AS	C08L-STUPR08-10	E08L-STLPR08-10AN	SH0820-120	
C10N-STUPR09-12-AS	C10N-STUPR09-12	E10N-STLPR09-12AN	SH1020-120	
C10N-STUPR11-12-AS	C10N-STUPR11-12	E10N-STLPR11-12AN	SH1020-120	
C12Q-STUPR09-16-AS	C12Q-STUPR09-16	E12Q-STLPR09-16A	SH1225-150	<p>Difference of Alternative Toolholder</p> <p>No Coolant Hole → With Coolant Hole</p> <p>Front Cutting Edge Angle 3° → 5°</p>
C12Q-STUPR11-14-AS	C12Q-STUPR11-14	E12Q-STLPR11-14A	SH1225-150	
C12Q-STUPR11-16-AS	C12Q-STUPR11-16	E12Q-STLPR11-16A	SH1225-150	
C16X-STUPR11-18-AS	C16X-STUPR11-18	E16X-STLPR11-18A	SH1632-180	
C16X-STUPR11-20-AS	C16X-STUPR11-20	E16X-STLPR11-20A	SH1632-180	
C20S-STUPR11-25-AS	C20S-STUPR11-25	E20S-STLPR11-22A	SH2032-180	
C20S-STUPR16-25-AS	C20S-STUPR16-25	E20S-STLPR16-25A	SH2032-180	

* "AS" indicates an assembly of toolholder and sleeve.

You can purchase the toolholder and sleeve and assemble them to make the corresponding assembly part.

Former Parts List (Boring Bar)

Part Number (Previous Part Number)	Spare Parts				
	Clamp Screw	Wrench	Shim	Shim Screw	Wrench
					
S32S-SVJB% 16-40E S40T-SVJB% 16-50E	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
S25X-SVPB% 16-34E					
S32S-SVPB% 16-40E					
S25X-SVUB% 16-34E					
S32S-SVUB% 16-40E					
S25X-SVZB% 16-34E S32S-SVZB% 16-40E					

• S32S-SVJB% 16-40E and S40T-SVJB% 16-50E have been replaced by A32S-SVJB% 16-40AE and A40T-SVJB% 16-50AE respectively. Ref. page [F68](#)

• S25X-SVPB% 16-34E and S32S-SVPB% 16-40E have been replaced by A25S-SVPB% 16-31AE and A32S-SVPB% 16-40AE respectively. Ref. page [F70](#)

• S25X-SVUB% 16-34E and S32S-SVUB% 16-40E have been replaced by A25S-SVUB% 16-34AE and A32S-SVUB% 16-40AE respectively. Ref. page [F73](#)

• S25X-SVZB% 16-34E and S32S-SVZB% 16-40E have been replaced by A25S-SVZB% 16-34AE and A32S-SVZB% 16-40AE respectively. Ref. page [F73](#)

ALTERNATIVE TOOLHOLDER REFERENCE TABLE

Alternative Toolholder Reference Table for Boring Bar

Boring Bar (Discontinued Part Number)				Alternative Toolholder				
Shank type	Insert Shape	Coolant Hole	Part Number	Dynamic Bar (1st Recommendation)			Dynamic Bar (2nd Recommendation)	
				Coolant Hole	Part Number	Ref. to Page	Coolant Hole	Part Number
Excellent Bar	CC..	No	S08X-SCLC% 06-10E	Yes	A08X-SCLC% 06-10AE	F47	No	S08X-SCLC% 06-10A
			S10H-SCLC% 03-05E	No	S10H-SCLC% 03-05AE		-	-
			S10H-SCLC% 03-06E		S10H-SCLC% 03-06AE			
			S10J-SCLC% 04-07E		S10H-SCLC% 04-07AE			
			S10J-SCLC% 04-08E		S10H-SCLC% 04-08AE			
		Yes	A08H-SCLC% 06-10E	Yes	A08X-SCLC% 06-10AE		No	S08X-SCLC% 06-10A
	CP..	No	S10M-SCLP% 08-12E	Yes	A10L-SCLP% 08-12AE	F51	No	S10L-SCLP% 08-12A
			S12M-SCLP% 08-14E		A12M-SCLP% 08-14AE			S12M-SCLP% 08-14A
			S12M-SCLP% 09-16E		A12M-SCLP% 09-16AE			S12M-SCLP% 09-16A
			S16Q-SCLP% 09-18E		A16Q-SCLP% 09-18AE			S16Q-SCLP% 09-18A
			S16R-SCLP% 09-20E					
			S20X-SCLP% 09-25E		A20R-SCLP% 09-22AE			S20R-SCLP% 09-22A
		Yes	A10X-SCLP% 08-12E	Yes	A10L-SCLP% 08-12AE	F51	No	S10L-SCLP% 08-12A
			A12X-SCLP% 08-14E		A12M-SCLP% 08-14AE			S12M-SCLP% 08-14A
			A12X-SCLP% 09-16E		A12M-SCLP% 09-16AE			S12M-SCLP% 09-16A
			A16M-SCLP% 09-18E		A16Q-SCLP% 09-18AE			S16Q-SCLP% 09-18A
			A16M-SCLP% 09-20E					
			A20Q-SCLP% 09-25E		A20R-SCLP% 09-22AE			S20R-SCLP% 09-22A
		No	S10M-SDUC% 07-14E	Yes	A10L-SDUC% 07-14AE	F55	No	S10L-SDUC% 07-14A
			S12M-SDUC% 07-16E		A12M-SDUC% 07-16AE			S12M-SDUC% 07-16A
			S16Q-SDUC% 07-20E		A16Q-SDUC% 07-20AE			S16Q-SDUC% 07-20A
			S16Q-SDUC% 11-25E		A16Q-SDUC% 11-23AE			S16Q-SDUC% 11-23A
			S20Q-SDUC% 11-32E		A20R-SDUC% 11-27AE			S20R-SDUC% 11-27A
		No	S10M-SDZC% 07-14E	Yes	A10L-SDZC% 07-14AE	F57	No	S10L-SDZC% 07-14A
			S12M-SDZC% 07-16E		A12M-SDZC% 07-16AE			S12M-SDZC% 07-16A
			S16Q-SDZC% 07-20E		A16Q-SDZC% 07-20AE			S16Q-SDZC% 07-20A
			S16Q-SDZC% 11-25E		A16Q-SDZC% 11-23AE			S16Q-SDZC% 11-23A
			S20Q-SDZC% 11-32E		A20R-SDZC% 11-27AE			S20R-SDZC% 11-27A
	TB..	No	S06H-STUB% 06-08E	No	S06H-STLB% 06-08AE	F63	No	S06H-STLB% 06-08A
	TP..	No	S08K-STUP% 08-10E	Yes	A08X-STLP% 08-10AE	F63	No	S08X-STLP% 08-10A
			S10M-STUP% 09-12E		A10L-STLP% 09-12AE			S10L-STLP% 09-12A
			S10M-STUP% 11-12E		A10L-STLP% 11-12AE			S10L-STLP% 11-12A
			S12M-STUP% 09-16E		A12M-STLP% 09-16AE			S12M-STLP% 09-16A
			S12M-STUP% 11-14E		A12M-STLP% 11-14AE			S12M-STLP% 11-14A
			S12M-STUP% 11-16E					
			S16R-STUP% 11-18E		A16Q-STLP% 11-18AE			S16Q-STLP% 11-18A
			S16R-STUP% 11-20E					
			S20X-STUP% 11-25E		A20R-STLP% 11-22AE			S20R-STLP% 11-22A
			S20X-STUP% 16-25E		A20R-STLP% 16-25AE			
			S25X-STUP% 16-32E		A25S-STLP% 16-27AE		-	-
							No	S25S-STLP% 16-27A
		Yes	A08H-STUP% 08-10E	Yes	A08X-STLP% 08-10AE	F63	No	S08X-STLP% 08-10A
			A10X-STUP% 09-12E		A10L-STLP% 09-12AE			S10L-STLP% 09-12A
			A10X-STUP% 11-12E		A10L-STLP% 11-12AE			S10L-STLP% 11-12A
			A12X-STUPR09-16E		A12M-STLPR09-16AE			S12M-STLPR09-16A
			A12X-STUP% 11-14E		A12M-STLP% 11-14AE			S12M-STLP% 11-14A
			A12X-STUPR11-16E		A12M-STLPR11-14AE			S12M-STLPR11-14A
			A16M-STUP% 11-18E					
			A16M-STUP% 11-20E		A16Q-STLP% 11-18AE			S16Q-STLP% 11-18A
			A20Q-STUP% 11-25E		A20R-STLP% 11-22AE			S20R-STLP% 11-22A
			A20Q-STUP% 16-25E		A20R-STLP% 16-25AE			
			A25R-STUP% 16-32E		A25S-STLP% 16-27AE		-	-
							No	S25S-STLP% 16-27A
	VB..	No	S20R-SVJB% 11-25E	Yes	A20R-SVJB% 11-25AE	F68	No	S20R-SVJB% 11-25A
			S25S-SVJB% 11-30E		A25S-SVJB% 11-30AE			S25S-SVJB% 11-30A
			S32S-SVJB% 16-40EN		A32S-SVJB% 16-40AE			S32S-SVJB% 16-40A
			S40T-SVJB% 16-50EN		A40T-SVJB% 16-50AE			S40T-SVJB% 16-50A

Note) The corresponding replacements may be different from the conventional parts in minimum machining diameter or applicable insert size.
Make sure of their specifications by referring to the catalog or other documents.

ALTERNATIVE TOOLHOLDER REFERENCE TABLE

Alternative Toolholder Reference Table for Boring Bar

Boring Bar (Discontinued Part Number)				Alternative Toolholder								
				Dynamic Bar (1st Recommendation)			Dynamic Bar (2nd Recommendation)					
Shank type	Insert Shape	Coolant Hole	Part Number	Coolant Hole	Part Number	Ref. to Page	Coolant Hole	Part Number	Ref. to Page			
Excellent Bar	VB..	No	S12M-SVPB% 11-20E	Yes	A12M-SVPB% 11-18AE	F70	No	S12M-SVPB% 11-18A	F70			
			S16Q-SVPB% 11-25E		A16Q-SVPB% 11-22AE			S16Q-SVPB% 11-22A				
			S25X-SVPB% 16-34EN		A25S-SVPB% 16-31AE			S25S-SVPB% 16-31A				
			S32S-SVPB% 16-40EN		A32S-SVPB% 16-40AE			S32S-SVPB% 16-40A				
		No	S16Q-SVUB% 11-20E	Yes	A16Q-SVUB% 11-20AE	F73	No	S16Q-SVUB% 11-20A	F73			
			S20R-SVUB% 11-25E		A20R-SVUB% 11-25AE			S20R-SVUB% 11-25A				
			S25X-SVUB% 16-34EN		A25S-SVUB% 16-34AE			S25S-SVUB% 16-34A				
			S32S-SVUB% 16-40EN		A32S-SVUB% 16-40AE			S32S-SVUB% 16-40A				
		No	S16Q-SVZB% 11-20E	Yes	A16Q-SVZB% 11-20AE	F73	No	S16Q-SVZB% 11-20A	F73			
			S20R-SVZB% 11-25E		A20R-SVZB% 11-25AE			S20R-SVZB% 11-25A				
			S25X-SVZB% 16-34EN		A25S-SVZB% 16-34AE			S25S-SVZB% 16-34A				
			S32S-SVZB% 16-40EN		A32S-SVZB% 16-40AE			S32S-SVZB% 16-40A				
	VC..	No	S12M-SVJC% 08-16E	Yes	A12M-SVJC% 08-16AE	F68	No	S12M-SVJC% 08-16A	F68			
			S16Q-SVJC% 08-20E		A16Q-SVJC% 08-20AE			S16Q-SVJC% 08-20A				
		No	S10M-SVPC% 08-16E	Yes	A10L-SVPC% 08-14AE	F70	No	S10L-SVPC% 08-14A	F70			
		No	S12M-SVUC% 08-16E	Yes	A12M-SVUC% 08-16AE	F73	No	S12M-SVUC% 08-16A	F73			
	VP..	No	S12M-SVZC% 08-16E	Yes	A12M-SVZC% 08-16AE	F73	No	S12M-SVZC% 08-16A	F73			
			S12M-SVJP% 08-16E		A12M-SVJP% 08-16AE			F68		No	S12M-SVJP% 08-16A	F68
	WB..	No	S08K-SWUB% 08-10E	Yes	A08X-SWUB% 08-10AE	F77	No	S08X-SWUB% 08-10A	F77			
			S10M-SWUB% 08-12E		A10L-SWUB% 08-12AE			S10L-SWUB% 08-12A				
			S10H-SWUB% 06-06E		S10H-SWUB% 06-06AE			S10H-SWUB% 06-06A				
			No	S10H-SWUB% 06-07E	S10H-SWUB% 06-07AE			S10H-SWUB% 06-07A				
				S10J-SWUB% 08-08E	S10H-SWUB% 08-08AE			S10H-SWUB% 08-08A				
				WP..	No			S12M-SWUP% 11-14E		Yes	A12M-SWUP% 11-14AE	F77
	S12M-SWUP% 11-16E	A16Q-SWUP% 11-18AE	S16Q-SWUP% 11-18A									
	S16N-SWUP% 11-18E	A16Q-SWUP% 16-18AE	S16Q-SWUP% 16-18A									
	S16Q-SWUP% 16-20E	A20R-SWUP% 16-22AE	S20R-SWUP% 16-22A									
	S20R-SWUP% 16-25E											
Steel Bar	CC..	No	S08X-SCLC% 06-10	No	S08X-SCLC% 06-10A	F47	-	-	-			
	CP..	No	S10M-SCLP% 08-12	No	S10L-SCLP% 08-12A	F51	-	-	-			
			S12M-SCLP% 08-14		S12M-SCLP% 08-14A							
			S12M-SCLP% 09-16		S12M-SCLP% 09-16A							
			S16N-SCLP% 09-18		S16Q-SCLP% 09-18A							
			S16Q-SCLP% 09-20		S20R-SCLP% 09-22A							
			S20R-SCLP% 09-25		S25S-SCLP% 09-27A							
			S25S-SCLP% 09-30									
	DC..	No	S16Q-SDUC% 07-14	No	S16Q-SDUC% 07-14A	F55	-	-	-			
			S16Q-SDUC% 07-16		S20R-SDUC% 11-20A							
			S20R-SDUC% 11-20		S16Q-SDUC% 11-23A		No	S25S-SDUC% 11-32A	F55			
			S25X-SDUC% 11-25									
		No	S16Q-SDZC% 07-14	No	S16Q-SDZC% 07-14A	F57				-	-	-
			S16Q-SDZC% 07-16		S20R-SDZC% 11-20A							
			S20R-SDZC% 11-20		S16Q-SDZC% 11-23A		No	S25S-SDZC% 11-32A	F57			
			S25X-SDZC% 11-25									
	TB..	No	S06H-STUB% 06-08	No	S06H-STLB% 06-08A	F63	-	-	-			
	TP..	No	S08K-STUP% 08-10	No	S08X-STLP% 08-10A	F63	-	-	-			
			S10M-STUP% 09-12		S10L-STLP% 09-12A							
			S12M-STUP% 09-16		S12M-STLP% 09-16A							
			S16Q-STUP% 11-20		S16Q-STLP% 11-18A							
			S20R-STUP% 11-25		S20R-STLP% 11-22A							
			S25X-STUP% 16-32		S25S-STLP% 16-27A							
	WB..	No	S10H-SWUB% 06-06	No	S10H-SWUB% 06-06A	F77	-	-	-			
			S10H-SWUB% 06-06-15		S10H-SWUB% 06-07A							
			S10H-SWUB% 06-07									
			S10J-SWUB% 08-08									
S10J-SWUB% 08-08-20												

(Note) The corresponding replacements may be different from the conventional parts in minimum machining diameter or applicable insert size.
Make sure of their specifications by referring to the catalog or other documents.

INSERT GRADES	A
TURNING INSERTS	B
GBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

ALTERNATIVE TOOLHOLDER REFERENCE TABLE

Alternative Toolholder Reference Table for Boring Bar

Boring Bar (Discontinued Part Number)				Alternative Toolholder				
Shank type	Insert Shape	Coolant Hole	Part Number	Dynamic Bar (1st Recommendation)			Dynamic Bar (2nd Recommendation)	
				Coolant Hole	Part Number	Ref. to Page	Coolant Hole	Part Number
F BORING	CC..	No	C04G-SCLC% 03-05 (A)	No	C04G-SCLC% 03-05AN	F47	-	-
			C05H-SCLC% 03-06 (A)		C05H-SCLC% 03-06AN			
			C06J-SCLC% 04-07 (A)		C06J-SCLC% 04-07AN			
			C07K-SCLC% 04-08 (A)		C07K-SCLC% 04-08AN			
			C08L-SCLC% 06-10		C08L-SCLC% 06-10AN			
		Yes	E08L-SCLC% 06-10 (A)	Yes	E08L-SCLC% 06-10AN	F47	-	-
			E08L-SCLCR06-10A-2/3		E08L-SCLCR06-10AN2/3			
			E10N-SCLC% 06-12A		E10N-SCLC% 06-12AN			
			E10N-SCLCR06-12A-2/3		E10N-SCLCR06-12AN2/3			
	CP..	No	C10N-SCLP% 08-12	Yes	E10N-SCLP% 08-12AN	F51	-	-
			C10N-SCLPR08-12-1/2		E10N-SCLPR08-12AN1/2			
			C10N-SCLPR08-12-2/3		E10N-SCLPR08-12AN2/3			
			C12Q-SCLP% 09-16		E12Q-SCLP% 09-16A			
			C12Q-SCLPR09-16-1/2		E12Q-SCLPR09-16A-1/2			
			C12Q-SCLPR09-16-2/3		E12Q-SCLPR09-16A-2/3			
			C16X-SCLP% 09-20		E16X-SCLP% 09-18A			
			C16X-SCLPR09-20-1/2		E16X-SCLPR09-18A-1/2			
			C16X-SCLPR09-20-2/3		E16X-SCLPR09-18A-2/3			
			C20S-SCLP% 09-25		E20S-SCLP% 09-22A			
			C20S-SCLPR09-25-1/2		E20S-SCLPR09-22A-1/2			
			C20S-SCLPR09-25-2/3		E20S-SCLPR09-22A-2/3			
		Yes	E10N-SCLP% 08-12 (A)	Yes	E10N-SCLP% 08-12AN	F51	-	-
			E10N-SCLPR08-12A-1/2		E10N-SCLPR08-12AN1/2			
			E10N-SCLPR08-12A-2/3		E10N-SCLPR08-12AN2/3			
			E12Q-SCLP% 09-16		E12Q-SCLP% 09-16A			
			E16X-SCLP% 09-20		E16X-SCLP% 09-18A			
			E20S-SCLP% 09-25		E20S-SCLP% 09-22A			
	DC..	No	C10N-SDUC% 07-14	Yes	E10N-SDUC% 07-14A	F55	-	-
			C12Q-SDUC% 07-16		E12Q-SDUC% 07-16A			
			C12Q-SDUC% 11-20		E16X-SDUC% 11-23A			
			C16X-SDUC% 11-25		E20S-SDUC% 11-27A			
			C20S-SDUC% 11-32					
	TB..	No	C06J-STLB% 06-08A	No	C06J-STLB% 06-08AN	F63	-	-
			C10L-STUB% 06-08		C06J-STLB% 06-08AN			
	TP..	Yes	E08L-STLP% 08-10A	Yes	E08L-STLP% 08-10AN	F63	-	-
			E08L-STLP% 09-10A		E08L-STLP% 09-10AN			
			E10N-STLP% 09-12A		E10N-STLP% 09-12AN			
			E10N-STLPR09-12A-1/2		E10N-STLPR09-12AN1/2			
			E10N-STLPR09-12A-2/3		E10N-STLPR09-12AN2/3			
			E10N-STLP% 11-12A		E10N-STLP% 11-12AN			
			E10N-STLPR11-12A-1/2		E10N-STLPR11-12AN1/2			
			E10N-STLPR11-12A-2/3		E10N-STLPR11-12AN2/3			
		No	C08L-STUP% 08-10	Yes	E08L-STLP% 08-10AN	F63	-	-
			C10N-STUP% 09-12		E10N-STLP% 09-12AN			
			C10N-STUPR09-12-1/2		E10N-STLPR09-12AN-1/2			
			C10N-STUPR09-12-2/3		E10N-STLPR09-12AN-2/3			
			C10N-STUP% 11-12		E10N-STLP% 11-12AN			
			C10N-STUPR11-12-1/2		E10N-STLPR11-12AN-1/2			
			C10N-STUPR11-12-2/3		E10N-STLPR11-12AN-2/3			
			C12Q-STUP% 09-16		E12Q-STLP% 09-16A			
			C12Q-STUPR09-16-1/2		E12Q-STLPR09-16A-1/2			
			C12Q-STUPR09-16-2/3		E12Q-STLPR09-16A-2/3			
			C12Q-STUP% 11-14		E12Q-STLP% 11-14A			
			C12Q-STUPR11-14-1/2		E12Q-STLPR11-14A-1/2			
			C12Q-STUPR11-14-2/3		E12Q-STLPR11-14A-2/3			
			C12Q-STUP% 11-16		E12Q-STLP% 11-14A			
			C12Q-STUPR11-16-1/2		E12Q-STLPR11-14A-1/2			
			C12Q-STUPR11-16-2/3		E12Q-STLPR11-14A-2/3			

Note) The corresponding replacements may be different from the conventional parts in minimum machining diameter or applicable insert size.
Make sure of their specifications by referring to the catalog or other documents.

ALTERNATIVE TOOLHOLDER REFERENCE TABLE

Alternative Toolholder Reference Table for Boring Bar

Boring Bar (Discontinued Part Number)				Alternative Toolholder				
Shank type	Insert Shape	Coolant Hole	Part Number	Dynamic Bar (1st Recommendation)			Dynamic Bar (2nd Recommendation)	
				Coolant Hole	Part Number	Ref. to Page	Coolant Hole	Part Number
Carbide Shank Boring Bar	TP..	No	C16X-STUP $\frac{1}{2}$ 11-18	Yes	E16X-STLP $\frac{1}{2}$ 11-18A	F63	-	-
			C16X-STUPR11-18-1/2		E16X-STLPR11-18A-1/2			
			C16X-STUPR11-18-2/3		E16X-STLPR11-18A-2/3			
			C16X-STUP $\frac{1}{2}$ 11-20		E16X-STLP $\frac{1}{2}$ 11-18A			
			C16X-STUPR11-20-1/2		E16X-STLPR11-18A-1/2			
			C16X-STUPR11-20-2/3		E16X-STLPR11-18A-2/3			
			C20S-STUP $\frac{1}{2}$ 11-25		E20S-STLP $\frac{1}{2}$ 11-22A			
			C20S-STUPR11-25-1/2		E20S-STLPR11-22A-1/2			
			C20S-STUPR11-25-2/3		E20S-STLPR11-22A-2/3			
			C20S-STUP $\frac{1}{2}$ 16-25		E20S-STLP $\frac{1}{2}$ 16-25A			
			C20S-STUPR16-25-1/2		E20S-STLPR16-25A-1/2			
			C20S-STUPR16-25-2/3		E20S-STLPR16-25A-2/3			
		Yes	E08L-STUP $\frac{1}{2}$ 08-10	Yes	E08L-STLP $\frac{1}{2}$ 08-10AN	F63	-	-
			E10N-STUP $\frac{1}{2}$ 09-12		E10N-STLP $\frac{1}{2}$ 09-12AN			
			E10N-STUP $\frac{1}{2}$ 11-12		E10N-STLP $\frac{1}{2}$ 11-12AN			
			E12Q-STUP $\frac{1}{2}$ 09-16		E12Q-STLP $\frac{1}{2}$ 09-16A			
			E12Q-STUP $\frac{1}{2}$ 11-14		E12Q-STLP $\frac{1}{2}$ 11-14A			
			E12Q-STUP $\frac{1}{2}$ 11-16					
			E16X-STUP $\frac{1}{2}$ 11-18		E16X-STLP $\frac{1}{2}$ 11-18A			
			E16X-STUP $\frac{1}{2}$ 11-20					
			E20S-STUPR11-25		E20S-STLPR11-22A			
			E20S-STUPR16-25		E20S-STLPR16-25A			
	WB..	No	C05H-SWUB $\frac{1}{2}$ 06-06	No	C05H-SWUB $\frac{1}{2}$ 06-06AN	F77	-	-
			C06J-SWUB $\frac{1}{2}$ 06-07		C06J-SWUB $\frac{1}{2}$ 06-07AN			
			C07K-SWUB $\frac{1}{2}$ 08-08		C07K-SWUB $\frac{1}{2}$ 08-08AN			
			C08L-SWUB $\frac{1}{2}$ 08-10		E08L-SWUB $\frac{1}{2}$ 08-10AN			
			C10N-SWUB $\frac{1}{2}$ 08-12		E10N-SWUB $\frac{1}{2}$ 08-12AN			
			C10N-SWUBR08-12-1/2		E10N-SWUBR08-12AN1/2			
		Yes	C10N-SWUBR08-12-2/3	Yes	E10N-SWUBR08-12AN2/3			
			E08L-SWUB $\frac{1}{2}$ 08-10A		E08L-SWUB $\frac{1}{2}$ 08-10AN			
			E10N-SWUB $\frac{1}{2}$ 08-12A		E10N-SWUB $\frac{1}{2}$ 08-12AN			
			E10N-SWUBR08-12A-1/2		E10N-SWUBR08-12AN1/2			
			E10N-SWUBR08-12A-2/3		E10N-SWUBR08-12AN2/3			
	WP..	No	C12Q-SWUP $\frac{1}{2}$ 11-14	Yes	E12Q-SWUP $\frac{1}{2}$ 11-14A	F77	-	-
			C12Q-SWUPR11-14-1/2		E12Q-SWUPR11-14A-1/2			
			C12Q-SWUPR11-14-2/3		E12Q-SWUPR11-14A-2/3			
			C12Q-SWUP $\frac{1}{2}$ 11-16		E12Q-SWUP $\frac{1}{2}$ 11-14A			
			C12Q-SWUPR11-16-1/2		E12Q-SWUPR11-14A-1/2			
			C12Q-SWUPR11-16-2/3		E12Q-SWUPR11-14A-2/3			
			C16X-SWUP $\frac{1}{2}$ 11-18		E16X-SWUP $\frac{1}{2}$ 11-18A			
			C16X-SWUPR11-18-1/2		E16X-SWUPR11-18A-1/2			
			C16X-SWUPR11-18-2/3		E16X-SWUPR11-18A-2/3			
			C16X-SWUP $\frac{1}{2}$ 16-20		E16X-SWUP $\frac{1}{2}$ 16-18A			
			C16X-SWUPR16-20-1/2		E16X-SWUPR16-18A-1/2			
			C16X-SWUPR16-20-2/3		E16X-SWUPR16-18A-2/3			
			C20S-SWUP $\frac{1}{2}$ 16-25		E20S-SWUP $\frac{1}{2}$ 16-22A			
			C20S-SWUPR16-25-1/2		E20S-SWUPR16-22A-1/2			
			C20S-SWUPR16-25-2/3		E20S-SWUPR16-22A-2/3			

Note) The corresponding replacements may be different from the conventional parts in minimum machining diameter or applicable insert size.
Make sure of their specifications by referring to the catalog or other documents.

INSERT GRADES	A
TURNING INSERTS	B
GBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

Recommended Cutting Conditions - Boring (Positive Insert)

[D.O.C. Indicates Radius]

ISO Classification	Workpiece Material	Hardness	Cutting Range	Application	Recommended Chipbreaker	Recommended Insert Grade	Corner-R (RE)	Lower Limit - Recommendation - Upper Limit		
								Vc (sfm)	D.O.C. (inch)	Feed Rate f (ipr)
P	Low-carbon Steel Low-carbon Alloy	HB \leq 300	Finishing (Solid Bar)	Continuous Interrupted	EZB-F EZB-H	PR1225	0.002 0.006	100 - 230 - 360 100 - 200 - 300	0.0020 - 0.0039 - 0.0079 0.0020 - 0.0039 - 0.0079	0.0004 - 0.0016 - 0.0028 0.0012 - 0.0028 - 0.0039
			Finishing	Continuous Interrupted	F	PR1725	0.004 0.008	130 - 260 - 390 130 - 230 - 330	0.0020 - 0.0031 - 0.0039 0.0020 - 0.0039 - 0.0059	0.0012 - 0.0020 - 0.0028 0.0012 - 0.0028 - 0.0039
			Finishing-Medium	Continuous Interrupted	CF	PR1725	0.004 0.008	130 - 260 - 390 130 - 230 - 330	0.0020 - 0.0059 - 0.0098 0.0020 - 0.0059 - 0.0098	0.0012 - 0.0020 - 0.0028 0.0012 - 0.0028 - 0.0039
	Medium-carbon Steel Medium-carbon Alloy	HB \leq 300	Finishing (Solid Bar)	Continuous Interrupted	EZB-F EZB-H	PR1225	0.002 0.006	100 - 230 - 360 100 - 200 - 300	0.0020 - 0.0039 - 0.0079 0.0020 - 0.0039 - 0.0079	0.0004 - 0.0016 - 0.0028 0.0012 - 0.0028 - 0.0039
			Finishing	Continuous Interrupted	F	PR1725	0.004 0.008	130 - 260 - 390 130 - 230 - 330	0.0020 - 0.0031 - 0.0039 0.0020 - 0.0039 - 0.0059	0.0012 - 0.0020 - 0.0028 0.0012 - 0.0028 - 0.0039
			Finishing-Medium	Continuous Interrupted	CF	PR1725	0.004 0.008	130 - 260 - 390 130 - 230 - 330	0.0020 - 0.0059 - 0.0098 0.0020 - 0.0059 - 0.0098	0.0012 - 0.0020 - 0.0028 0.0012 - 0.0028 - 0.0039
	High-carbon Alloy	HB \leq 280	Finishing (Solid Bar)	Continuous Interrupted	EZB-F EZB-H	PR1225	0.002 0.006	100 - 230 - 360 100 - 200 - 300	0.0020 - 0.0039 - 0.0079 0.0020 - 0.0039 - 0.0079	0.0004 - 0.0016 - 0.0028 0.0012 - 0.0028 - 0.0039
			Finishing	Continuous Interrupted	F	PR1725	0.004 0.008	130 - 260 - 390 130 - 230 - 330	0.0020 - 0.0031 - 0.0039 0.0020 - 0.0039 - 0.0059	0.0012 - 0.0020 - 0.0028 0.0012 - 0.0028 - 0.0039
			Finishing-Medium	Continuous Interrupted	CF	PR1725	0.004 0.008	130 - 260 - 390 130 - 230 - 330	0.0020 - 0.0059 - 0.0098 0.0020 - 0.0059 - 0.0098	0.0012 - 0.0020 - 0.0028 0.0012 - 0.0028 - 0.0039
M	Stainless Steel	HB \leq 220	Finishing (Solid Bar)	Continuous Interrupted	EZB-F EZB-H	PR1225	0.002 0.006	100 - 200 - 260 100 - 200 - 260	0.0020 - 0.0039 - 0.0079 0.0020 - 0.0039 - 0.0079	0.0004 - 0.0012 - 0.0020 0.0008 - 0.0020 - 0.0028
			Finishing	Continuous Interrupted	F	PR1225 PR1535	0.004 0.008	100 - 200 - 260 100 - 200 - 260	0.0020 - 0.0031 - 0.0039 0.0020 - 0.0039 - 0.0059	0.0012 - 0.0020 - 0.0028 0.0012 - 0.0028 - 0.0039
			Finishing-Medium	Continuous Interrupted	CF	PR1225 PR1535	0.004 0.008	100 - 200 - 260 100 - 200 - 260	0.0020 - 0.0059 - 0.0098 0.0020 - 0.0059 - 0.0098	0.0012 - 0.0020 - 0.0028 0.0012 - 0.0028 - 0.0039
	Stainless Steel	HB \leq 300	Finishing (Solid Bar)	Continuous Interrupted	EZB-F EZB-H	PR1225	0.002 0.006	100 - 200 - 260 100 - 200 - 260	0.0020 - 0.0039 - 0.0079 0.0020 - 0.0039 - 0.0079	0.0004 - 0.0012 - 0.0020 0.0008 - 0.0020 - 0.0028
			Finishing	Continuous Interrupted	F	PR1225 PR1535	0.004 0.008	100 - 200 - 260 100 - 200 - 260	0.0020 - 0.0031 - 0.0039 0.0020 - 0.0039 - 0.0059	0.0012 - 0.0020 - 0.0028 0.0012 - 0.0028 - 0.0039
			Finishing-Medium	Continuous Interrupted	CF	PR1225 PR1535	0.004 0.008	100 - 200 - 260 100 - 200 - 260	0.0020 - 0.0059 - 0.0098 0.0020 - 0.0059 - 0.0098	0.0012 - 0.0020 - 0.0028 0.0012 - 0.0028 - 0.0039
K	Gray Cast Iron	HB \leq 250	Finishing (Solid Bar)	Continuous Interrupted	(VNB) (VNB-NB)	KW10	0.001 0.008	100 - 200 - 330 100 - 200 - 330	0.0020 - 0.0031 - 0.0039 0.0020 - 0.0039 - 0.0059	0.0012 - 0.0020 - 0.0028 0.0012 - 0.0028 - 0.0039
			Finishing	Continuous Interrupted	F	KW10	0.004 0.008	100 - 200 - 330 100 - 200 - 260	0.0020 - 0.0031 - 0.0039 0.0020 - 0.0039 - 0.0059	0.0012 - 0.0020 - 0.0028 0.0012 - 0.0028 - 0.0039
			Finishing-Medium	Continuous Interrupted	Without Chipbreaker	KW10	0.008 1/64	100 - 200 - 330 100 - 200 - 260	0.0039 - 0.0079 - 0.0118 0.0039 - 0.0079 - 0.0118	0.0012 - 0.0020 - 0.0028 0.0012 - 0.0028 - 0.0039
	Nodular Cast Iron	HB \leq 270	Finishing (Solid Type)	Continuous Interrupted	(VNB) (VNB-NB)	KW10	0.001 0.008	100 - 200 - 260 100 - 200 - 260	0.0020 - 0.0031 - 0.0039 0.0020 - 0.0039 - 0.0059	0.0012 - 0.0020 - 0.0028 0.0012 - 0.0028 - 0.0039
			Finishing	Continuous Interrupted	F, U	KW10	0.004 0.008	100 - 200 - 260 100 - 200 - 260	0.0020 - 0.0031 - 0.0039 0.0020 - 0.0039 - 0.0059	0.0012 - 0.0020 - 0.0028 0.0012 - 0.0028 - 0.0039
			Finishing-Medium	Continuous Interrupted	Without Chipbreaker	KW10	0.008 1/64	100 - 200 - 330 100 - 200 - 260	0.0039 - 0.0079 - 0.0118 0.0039 - 0.0079 - 0.0118	0.0012 - 0.0020 - 0.0028 0.0012 - 0.0028 - 0.0039
N	Non-ferrous Metals Copper Alloy Aluminum Aluminum Alloy	HB \leq 100	High Speed Finishing (Surface Finish Oriented)	Continuous	Without Chipbreaker	KPD001	0.002	490 - 660 - 980	0.0020 - 0.0039 - 0.0118	0.0020 - 0.0039 - 0.0059
			Finishing (Long Tool Life)	Continuous Interrupted	F, U	PDL025	0.004 0.008	330 - 490 - 660 330 - 490 - 660	0.0020 - 0.0118 - 0.0197 0.0020 - 0.0118 - 0.0197	0.0012 - 0.0039 - 0.0079 0.0012 - 0.0039 - 0.0079
			Finishing	Continuous Interrupted	F, U	KW10	0.004 0.008	330 - 490 - 660 330 - 490 - 660	0.0020 - 0.0118 - 0.0197 0.0020 - 0.0118 - 0.0197	0.0012 - 0.0039 - 0.0079 0.0012 - 0.0039 - 0.0079
	Titanium Alloy	HB \leq 400	Precision Finishing (Surface Finish Oriented)	Continuous Interrupted	Without Chipbreaker	KPD001	0.004 0.008	330 - 390 - 490 230 - 330 - 390	0.0020 - 0.0039 - 0.0118 0.0020 - 0.0039 - 0.0118	0.0012 - 0.0028 - 0.0039 0.0012 - 0.0028 - 0.0039
			Finishing	Continuous Interrupted	F, U	KW10	0.004 0.008	70 - 130 - 200 70 - 130 - 200	0.0020 - 0.0079 - 0.0197 0.0020 - 0.0079 - 0.0197	0.0012 - 0.0039 - 0.0079 0.0012 - 0.0039 - 0.0079
			Finishing (Solid Bar)	Continuous Interrupted	(VNB)	KW10	0.008 0.008	30 - 100 - 160 30 - 100 - 160	0.0020 - 0.0039 - 0.0118 0.0020 - 0.0039 - 0.0118	0.0012 - 0.0020 - 0.0039 0.0012 - 0.0020 - 0.0031
S	Heat-resistant Alloys	HB \leq 350	Finishing	Continuous Interrupted	F, U	KW10	0.008 0.008	30 - 100 - 160 30 - 100 - 160	0.0020 - 0.0079 - 0.0157 0.0020 - 0.0079 - 0.0157	0.0012 - 0.0020 - 0.0039 0.0012 - 0.0020 - 0.0039
	Hardened Steel Hardened Materials	40 ~ 50 HRC	Finishing	Continuous Interrupted	(VNB)	PR930	0.008 0.008	100 - 160 - 230 100 - 160 - 230	0.0020 - 0.0039 - 0.0157 0.0020 - 0.0039 - 0.0079	0.0004 - 0.0008 - 0.0020 0.0004 - 0.0008 - 0.0012
		45 ~ 68 HRC	Finishing	Continuous Interrupted	ME MES	KBN05M	0.008 1/64	200 - 330 - 460 200 - 260 - 390	0.0020 - 0.0039 - 0.0079 0.0020 - 0.0039 - 0.0079	0.0008 - 0.0020 - 0.0039 0.0008 - 0.0020 - 0.0039

Recommended Cutting Conditions - Boring (Positive Insert)

[D.O.C. Indicates Radius]

ISO Classification	Workpiece Material	Hardness	Cutting Range	Application	Recommended Chipbreaker	Recommended Grade	Corner-R (RE)	Lower Limit - Recommendation - Upper Limit		
								Vc (sfm)	D.O.C. (inch)	Feed Rate f (ipr)
P	Low-carbon Steel Low-carbon Alloy	HB 1300	Precision Finishing	Continuous Interruption	F, U	TN620 PR1725	0.004 0.008	820 - 980 - 1150 390 - 560 - 720	0.002 - 0.012 - 0.020 0.002 - 0.012 - 0.020	0.001 - 0.004 - 0.006 0.001 - 0.004 - 0.006
			Finishing	Continuous Interruption	XP	PV710 CA525	1/64 1/64	660 - 820 - 980 490 - 660 - 820	0.008 - 0.020 - 0.039 0.008 - 0.020 - 0.039	0.002 - 0.004 - 0.008 0.002 - 0.004 - 0.008
			Finishing-Medium	Continuous Interruption	XQ	PV710 CA525	1/64 1/64	490 - 660 - 820 330 - 490 - 660	0.020 - 0.039 - 0.079 0.020 - 0.039 - 0.059	0.004 - 0.006 - 0.010 0.004 - 0.006 - 0.008
			Medium	Continuous Interruption	Standard	PV720 CA525	1/32 1/32	330 - 490 - 660 260 - 390 - 490	0.039 - 0.059 - 0.098 0.039 - 0.059 - 0.079	0.004 - 0.006 - 0.012 0.004 - 0.006 - 0.008
	Medium-carbon Steel Medium-carbon Alloy	HB 1300	Precision Finishing	Continuous Interruption	F, U	TN620 PR1725	0.008 1/64	490 - 660 - 820 390 - 460 - 560	0.002 - 0.012 - 0.020 0.002 - 0.012 - 0.020	0.001 - 0.004 - 0.006 0.001 - 0.004 - 0.006
			Finishing	Continuous Interruption	PP	PV710 CA525	1/64 1/64	490 - 660 - 820 390 - 590 - 660	0.008 - 0.020 - 0.039 0.008 - 0.020 - 0.039	0.002 - 0.004 - 0.008 0.002 - 0.004 - 0.008
			Finishing-Medium	Continuous Interruption	HQ	PV710 CA525	1/64 1/64	390 - 590 - 720 330 - 490 - 660	0.020 - 0.039 - 0.079 0.020 - 0.039 - 0.059	0.004 - 0.006 - 0.010 0.004 - 0.006 - 0.008
			Medium	Continuous Interruption	Standard	PV720 CA525	1/32 1/32	330 - 490 - 660 260 - 390 - 490	0.039 - 0.059 - 0.098 0.039 - 0.059 - 0.079	0.004 - 0.006 - 0.012 0.004 - 0.006 - 0.008
	High-carbon Alloy	HB 280	Precision Finishing	Continuous Interruption	F, U	TN620 PR1725	0.008 1/64	390 - 490 - 590 360 - 430 - 520	0.002 - 0.012 - 0.020 0.002 - 0.012 - 0.020	0.001 - 0.004 - 0.006 0.001 - 0.004 - 0.006
			Finishing	Continuous Interruption	PP	PV710 CA525	1/64 1/64	390 - 490 - 590 330 - 390 - 490	0.008 - 0.020 - 0.039 0.008 - 0.020 - 0.039	0.002 - 0.004 - 0.008 0.002 - 0.004 - 0.008
			Finishing-Medium	Continuous Interruption	HQ	PV710 CA525	1/64 1/64	390 - 490 - 590 330 - 390 - 490	0.020 - 0.039 - 0.079 0.020 - 0.039 - 0.059	0.004 - 0.006 - 0.010 0.004 - 0.006 - 0.008
			Medium	Continuous Interruption	Standard	CA515 CA525	1/32 1/32	330 - 390 - 490 260 - 330 - 390	0.039 - 0.059 - 0.098 0.039 - 0.059 - 0.079	0.004 - 0.006 - 0.012 0.004 - 0.006 - 0.008
M	Stainless Steel	HB 220	Finishing	Continuous Interruption	MQ	CA6525 PR1535	1/64 1/32	390 - 490 - 590 330 - 390 - 490	0.008 - 0.020 - 0.031 0.008 - 0.020 - 0.031	0.002 - 0.003 - 0.004 0.002 - 0.003 - 0.004
			Medium	Continuous Interruption	Standard	CA6525 PR1535	1/64 1/32	390 - 490 - 590 330 - 390 - 490	0.020 - 0.039 - 0.059 0.020 - 0.039 - 0.059	0.002 - 0.004 - 0.008 0.002 - 0.004 - 0.008
	Stainless Steel	HB 300	Finishing	Continuous Interruption	MQ	CA6525 PR1535	1/64 1/32	260 - 330 - 390 200 - 260 - 330	0.008 - 0.028 - 0.039 0.008 - 0.028 - 0.039	0.002 - 0.004 - 0.006 0.002 - 0.004 - 0.006
			Medium	Continuous Interruption	Standard	CA6525 PR1535	1/64 1/32	260 - 330 - 390 200 - 260 - 330	0.020 - 0.039 - 0.059 0.020 - 0.039 - 0.059	0.002 - 0.004 - 0.008 0.002 - 0.004 - 0.008
K	Gray Cast Iron	HB 250	High Speed Machining	Continuous Interruption	Without Chipbreaker	KBN475 PT600M	1/64 1/32	1310 - 1640 - 1970 660 - 820 - 1150	0.002 - 0.008 - 0.020 0.008 - 0.020 - 0.039	0.002 - 0.004 - 0.006 0.002 - 0.004 - 0.006
			Finishing (Gloss Oriented)	Continuous Interruption	Standard	PV7005 TN620	1/32 1/32	660 - 820 - 980 390 - 590 - 750	0.008 - 0.020 - 0.039 0.008 - 0.020 - 0.039	0.002 - 0.004 - 0.008 0.002 - 0.004 - 0.008
			Finishing	Continuous Interruption	Standard	CA310 CA315	1/64 1/32	490 - 590 - 660 330 - 490 - 590	0.008 - 0.020 - 0.039 0.008 - 0.020 - 0.039	0.002 - 0.004 - 0.008 0.002 - 0.004 - 0.008
			Medium	Continuous Interruption	Standard	CA310 CA315	1/32 1/32	330 - 490 - 660 260 - 390 - 490	0.020 - 0.039 - 0.079 0.020 - 0.039 - 0.079	0.004 - 0.006 - 0.008 0.002 - 0.004 - 0.006
	Nodular Cast Iron	HB 270	High Speed Machining	Continuous Interruption	Without Chipbreaker	KBN60M PT600M	1/64 1/32	660 - 980 - 1310 490 - 660 - 820	0.002 - 0.008 - 0.020 0.008 - 0.020 - 0.039	0.001 - 0.002 - 0.004 0.002 - 0.004 - 0.006
			Finishing (Gloss Oriented)	Continuous Interruption	Standard	PV7005 TN620	1/32 1/32	490 - 660 - 820 390 - 490 - 660	0.008 - 0.020 - 0.039 0.008 - 0.020 - 0.039	0.002 - 0.004 - 0.008 0.002 - 0.004 - 0.008
			Finishing	Continuous Interruption	Standard	CA310 CA315	1/64 1/32	390 - 490 - 590 330 - 390 - 490	0.008 - 0.020 - 0.039 0.008 - 0.020 - 0.039	0.002 - 0.004 - 0.008 0.002 - 0.004 - 0.008
			Medium	Continuous Interruption	Standard	CA315 CA320	1/32 1/32	330 - 390 - 490 260 - 330 - 390	0.020 - 0.039 - 0.079 0.020 - 0.039 - 0.079	0.002 - 0.004 - 0.008 0.002 - 0.004 - 0.006
N	Non-ferrous Metals Copper Alloy Aluminum Aluminum Alloys	HB 100	High Speed Machining (Surface Finish Oriented)	Continuous	Without Chipbreaker	KPD001	0.008	660 - 1310 - 3280	0.002 - 0.004 - 0.012	0.002 - 0.004 - 0.006
			Finishing (Long Tool Life)	Continuous Interruption	F, U	PDL025	1/64 1/64	330 - 660 - 1310 330 - 660 - 1310	0.002 - 0.020 - 0.039 0.002 - 0.020 - 0.039	0.001 - 0.004 - 0.008 0.001 - 0.004 - 0.008
			Finishing	Continuous Interruption	F, U	KW10	1/64 1/64	330 - 660 - 1310 330 - 660 - 1310	0.002 - 0.020 - 0.039 0.002 - 0.020 - 0.039	0.001 - 0.004 - 0.008 0.001 - 0.004 - 0.008
	Titanium Alloy	HB 400	Precision Finishing (Surface Finish Oriented)	Continuous Interruption	Without Chipbreaker	KPD001	0.008 1/64	330 - 390 - 490 230 - 330 - 390	0.002 - 0.004 - 0.012 0.002 - 0.004 - 0.012	0.001 - 0.003 - 0.004 0.001 - 0.003 - 0.004
S	Heat-resistant Alloys	HB 350	Finishing	Continuous Interruption	F, U	KW10	0.008 1/64	100 - 160 - 230 100 - 160 - 230	0.002 - 0.020 - 0.039 0.002 - 0.020 - 0.039	0.001 - 0.004 - 0.008 0.001 - 0.004 - 0.008
			Finishing	Continuous Interruption	MQ	PR1310	1/64 1/32	130 - 200 - 260 130 - 200 - 260	0.004 - 0.012 - 0.020 0.004 - 0.012 - 0.020	0.001 - 0.002 - 0.004 0.001 - 0.002 - 0.004
	Hardened Steel Hardened Materials	40~50 HRC	Finishing	Continuous Interruption	HQ Standard	CA515	1/32 1/32	200 - 260 - 330 100 - 160 - 230	0.002 - 0.012 - 0.020 0.002 - 0.012 - 0.020	0.002 - 0.003 - 0.004 0.002 - 0.003 - 0.004
		45~68 HRC	Finishing	Continuous Interruption	ME MET	KBN05M	1/64 1/32	330 - 460 - 590 300 - 390 - 520	0.004 - 0.008 - 0.012 0.004 - 0.008 - 0.012	0.001 - 0.003 - 0.004 0.001 - 0.003 - 0.004
H	Hardened Steel Hardened Materials	45~68 HRC	Medium	Continuous	Without Chipbreaker (Negative)	KBN900	1/32	200 - 260 - 330	0.012 - 0.028 - 0.039	0.001 - 0.004 - 0.006

