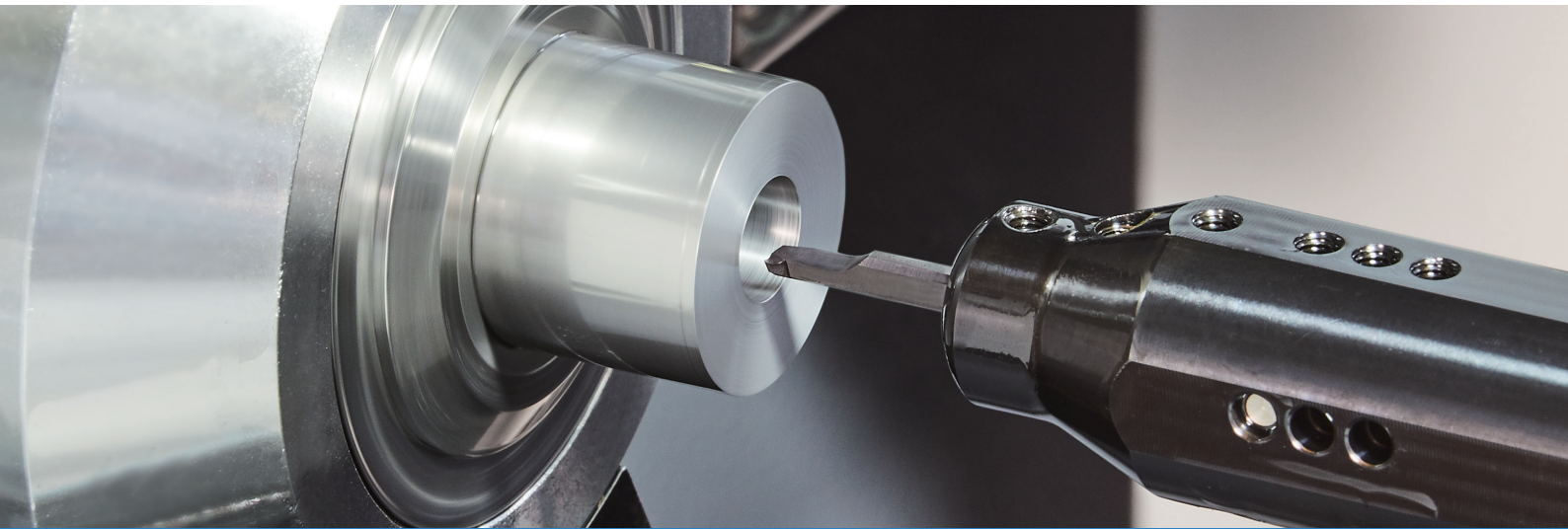


Small Internal Machining

# EZ Bar Series



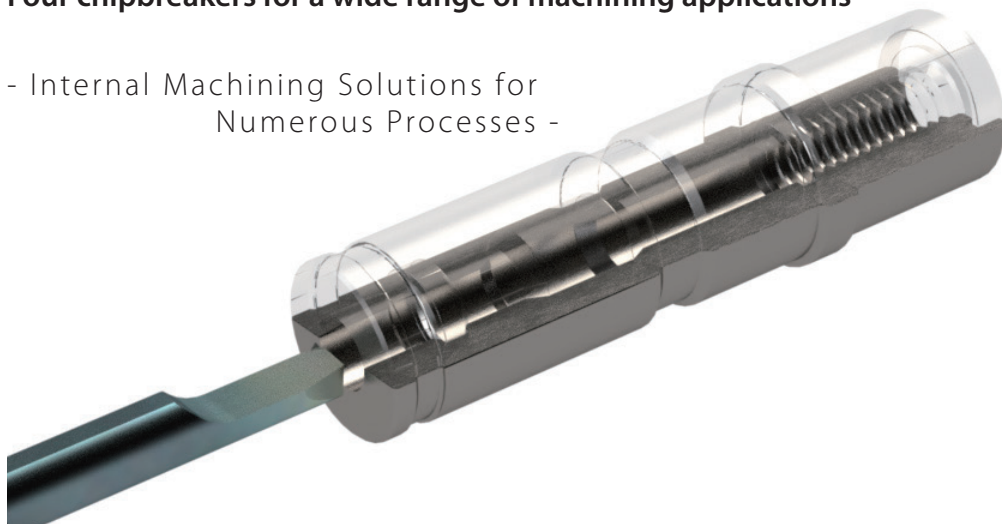
Complete Lineup for a Wide Range of Small Internal Machining Applications

Selecting the proper tool in a simple step

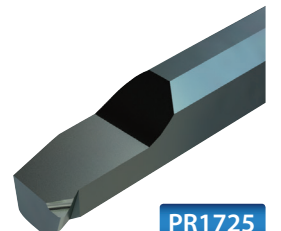
Easy adjustment and high precision

Four chipbreakers for a wide range of machining applications

- Internal Machining Solutions for  
Numerous Processes -

**NEW**

G Chipbreaker  
Chip Control Oriented



PR1725

# EZ Bar Series

Large Tooling Lineup for a Wide Application Range



## 1 Large Tooling Lineup. Select the proper tool in a simple step

### Internal Turning

Supports wide range of Internal Machining Applications

**Boring** EZB → P8 ~ 12

#### Chipbreakers

**H** 1st Recommendation / General Purpose  
Extended reach type available  
Tough Edge (General Purpose) → P8,10 ~ 11 **PR1725**

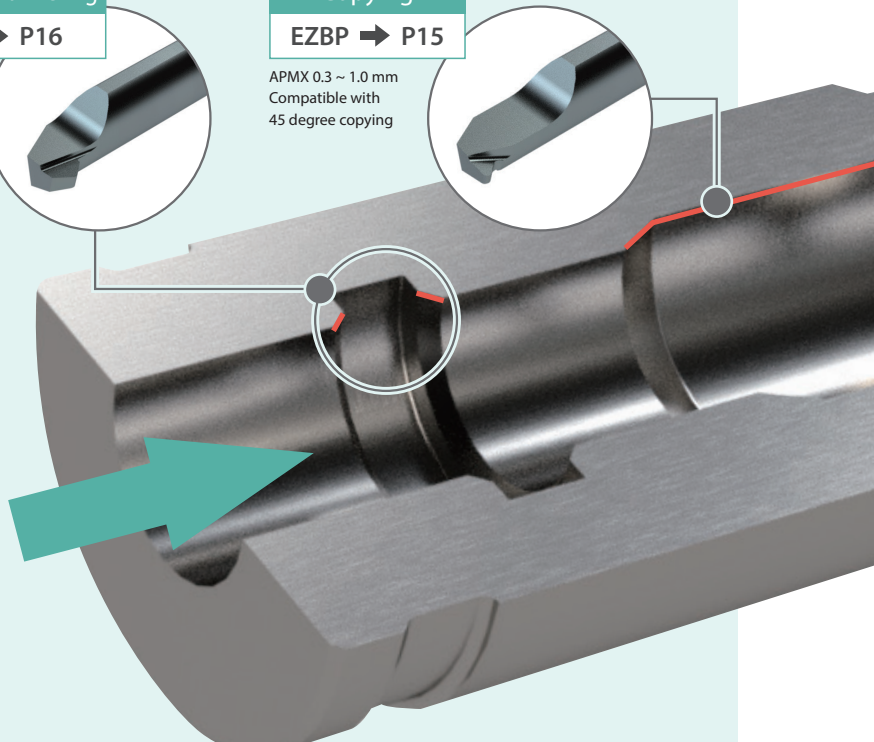
**G** **NEW** Excellent Chip Control Performance  
Chip Control Oriented → P8 **PR1725**

**F** Finishing / Sharpness Oriented  
Low Cutting Force → P9,11 **PR1725**

**NB** GW05 Insert Grade for Aluminum Machining Available  
Without Chipbreaker → P12

45 Degree Chamfering  
EZBC → P16

Copying  
EZBP → P15  
APMX 0.3 ~ 1.0 mm  
Compatible with 45 degree copying



90 Degree Lead Angle EZBF → P13

Back Boring EZBT → P14

Internal Facing • Internal Profiling EZVB → P14

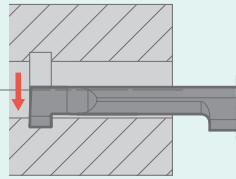
## Grooving

High precision groove width tolerance  $\pm 0.03\text{mm}$

### Internal Grooving

EZG  $\rightarrow$  P19

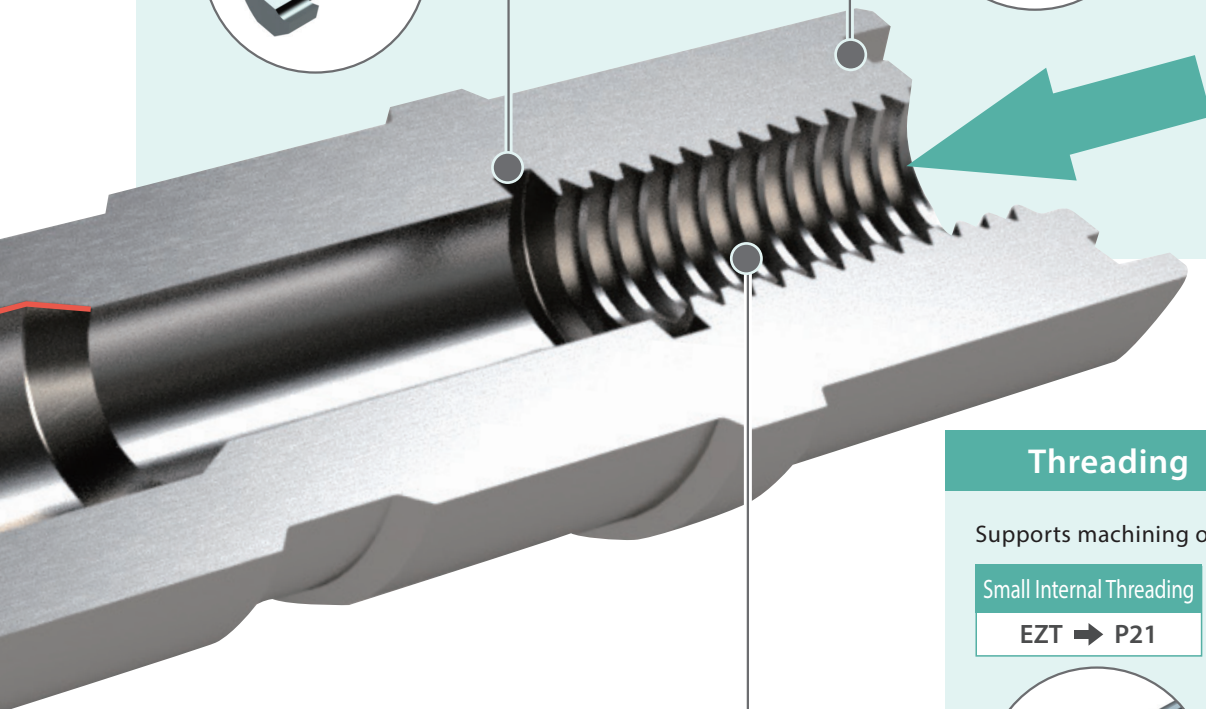
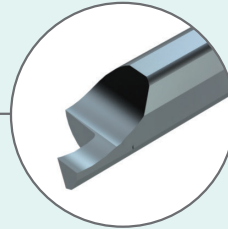
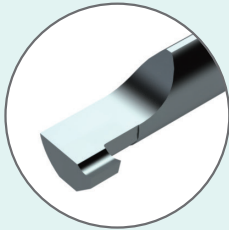
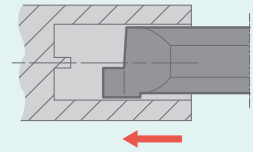
Two different overhang lengths (LU) are available  
Groove width 0.5 ~ 2.0 mm



### Face Grooving

EZFG  $\rightarrow$  P20

Groove width 1.0 ~ 3.0 mm

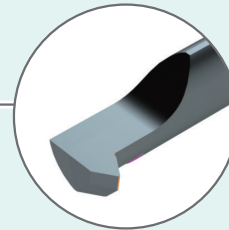
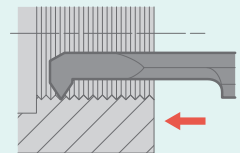


## Threading

Supports machining of M4 metric screws

### Small Internal Threading

EZT  $\rightarrow$  P21



Point

Supports a **Wide Range of Small** Machining Diameters

Application	Details	Description	Min. Cutting Dia.(mm)								
			ø2	ø3	ø4	ø5	ø6	ø7	ø8	ø9	ø10
Internal Turning	Boring	EZB	■	■	■	■	■	■	■	■	■
	90 Degree Lead Angle	EZBF		■	■	■	■	■	■	■	■
	Back Boring	EZBT			■	■	■	■	■	■	■
	Copying	EZBP	■	■	■	■	■	■	■	■	■
	Internal Facing * Internal Profiling	EZVB		■	■	■	■	■	■	■	■
	45 Degree Chamfering	EZBC				■	■	■	■	■	■
	EZ Bar PLUS			■	■	■	■	■	■	■	■
Grooving	Internal Grooving	EZG			■	■	■	■	■	■	■
	Face Grooving*	EZFG				■	■	■	■	■	■
Threading	Small Internal Threading*	EZT		■	■	■	■	■	■	■	■

\* For Face Grooving, indicates the Min. Face Grooving Dia.

\* For Small Internal Threading, indicates the minimum pilot hole diameter.

## 2 4 Chipbreakers and New PVD Coating PR 1725 for a Wide Range of Machining Processes

**H Chipbreaker (Without Lead Angle)**  
1st Recommendation / General Purpose



Recommended  $a_p$  : More than 0.2mm

**PR1725** Available

GW05 Insert Grade for Aluminum Machining Available  
Left-hand Available (HP Type)

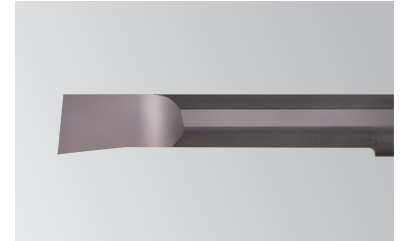
**F Chipbreaker (With Lead Angle)**  
Finishing / Sharpness Oriented



Recommended  $a_p$  : Less than 0.2mm

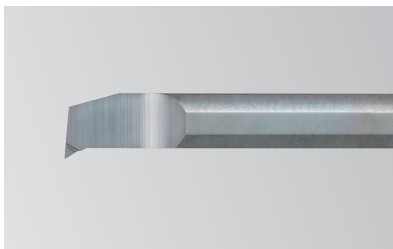
**PR1725** Available

**NB Chipbreaker (without Chipbreaker)**  
Non-ferrous Metal Machining



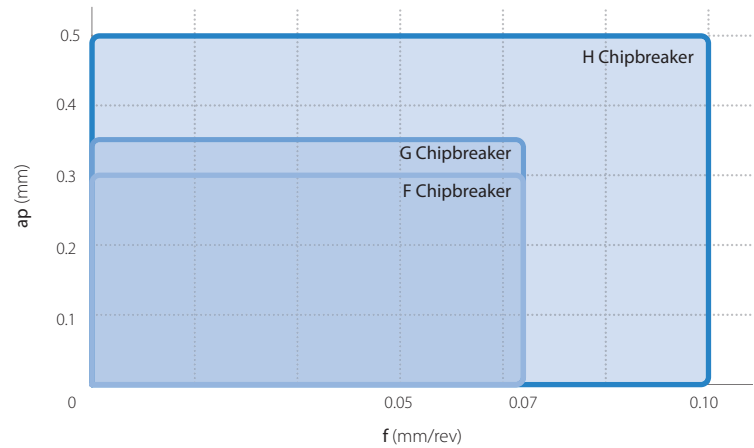
PCD.CBN Inserts Available  
GW05 Insert Grade for Aluminum Machining Available

**NEW** **G Chipbreaker (With Lead Angle)**  
Chip Control Oriented



**PR1725** Available

Applicable Chipbreaker Range

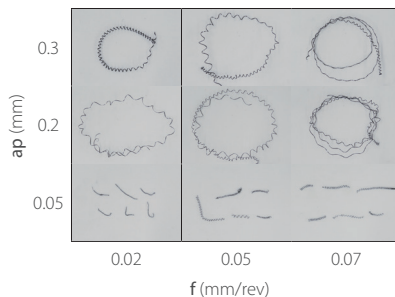


## Check Cutting Performance Comparison

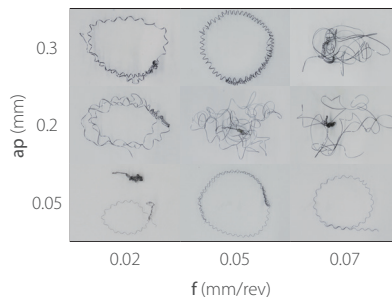
### Chip Control Comparison

Stable Chip Curls and Good Chip Breaking

#### G Chipbreaker



#### Competitor (With Lead Angle)

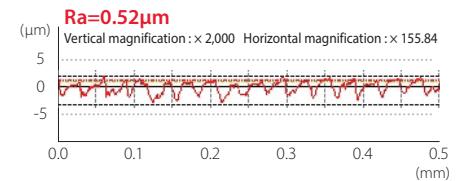


Cutting Conditions:  $V_c = 80$  m/min, Wet Workpiece: S45C (Internal evaluation)

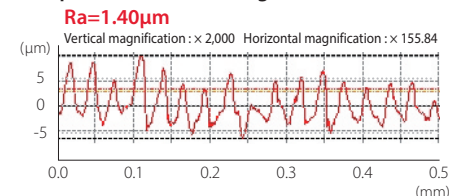
### Surface Finish Comparison

Excellent Surface Finish

#### G Chipbreaker



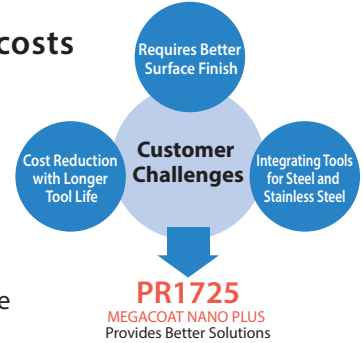
#### Competitor (With Lead Angle)



Using Tool : RE = 0.05 mm, Shank Diameter  $\phi 4$  (Internal evaluation)

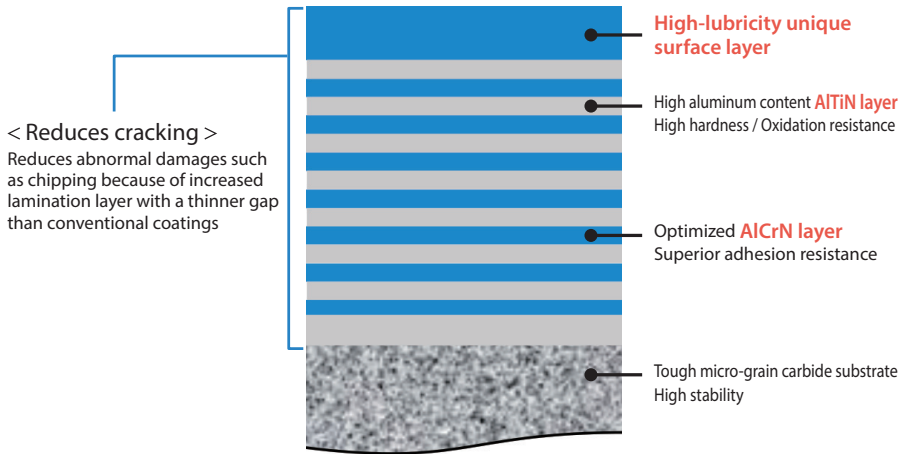
New PVD Coating **PR1725** MEGACOAT NANO PLUS Maintains Long Tool Life and Excellent Surface Finish. Great Performance in Small Parts Machining Applications

Long tool life leads to improved cycle time  
 Excellent surface finish with no tearing lowers quality control costs

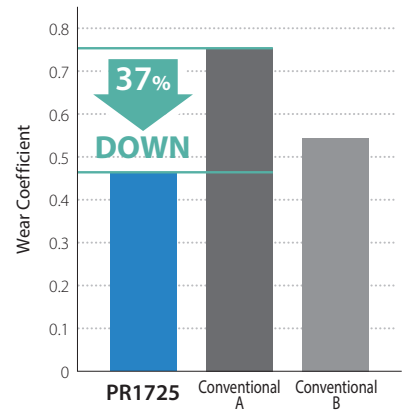


# MEGACOAT<sup>®</sup> NANO PLUS

AlTiN/AlCrN Nano laminated film with superior wear resistance and adhesion resistance  
 Excellent Surface Finish and Long Tool Life



Wear Coefficient Comparison (Internal evaluation)



**Superior Wear and Chipping Resistance**  
 High hardness with nano laminated film layer properties  
 Internal stress optimization reduces chipping

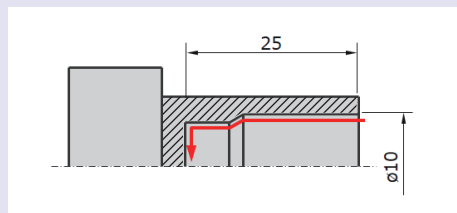
**Excellent Surface Finish**  
 Special surface layer with great lubricity reduces adhesion

**Applicable to Various Workpiece Materials**  
 Excellent oxidation resistance. Superior high temperature properties maintains good performance in steel, stainless steel and free-cutting steel

**High Machining Stability**  
 Tough micro-grain carbide substrate provides stable machining

**SOLUTION 1** Improved machining efficiency. 2.8 times longer tool life

Automotive Parts (S45C)



Vc = 50 m/min  
 ap = 0.2 mm  
 f = 0.045 mm/rev  
 Wet  
 EZBR035035HP-015F PR1725

**SOLUTION**  
**EZ Bar PR1725**

**18,000 pcs/edge**

**x2.8**  
**↑**  
**Tool Life**

Conventional  
 Conventional C

**6,300 pcs/edge**

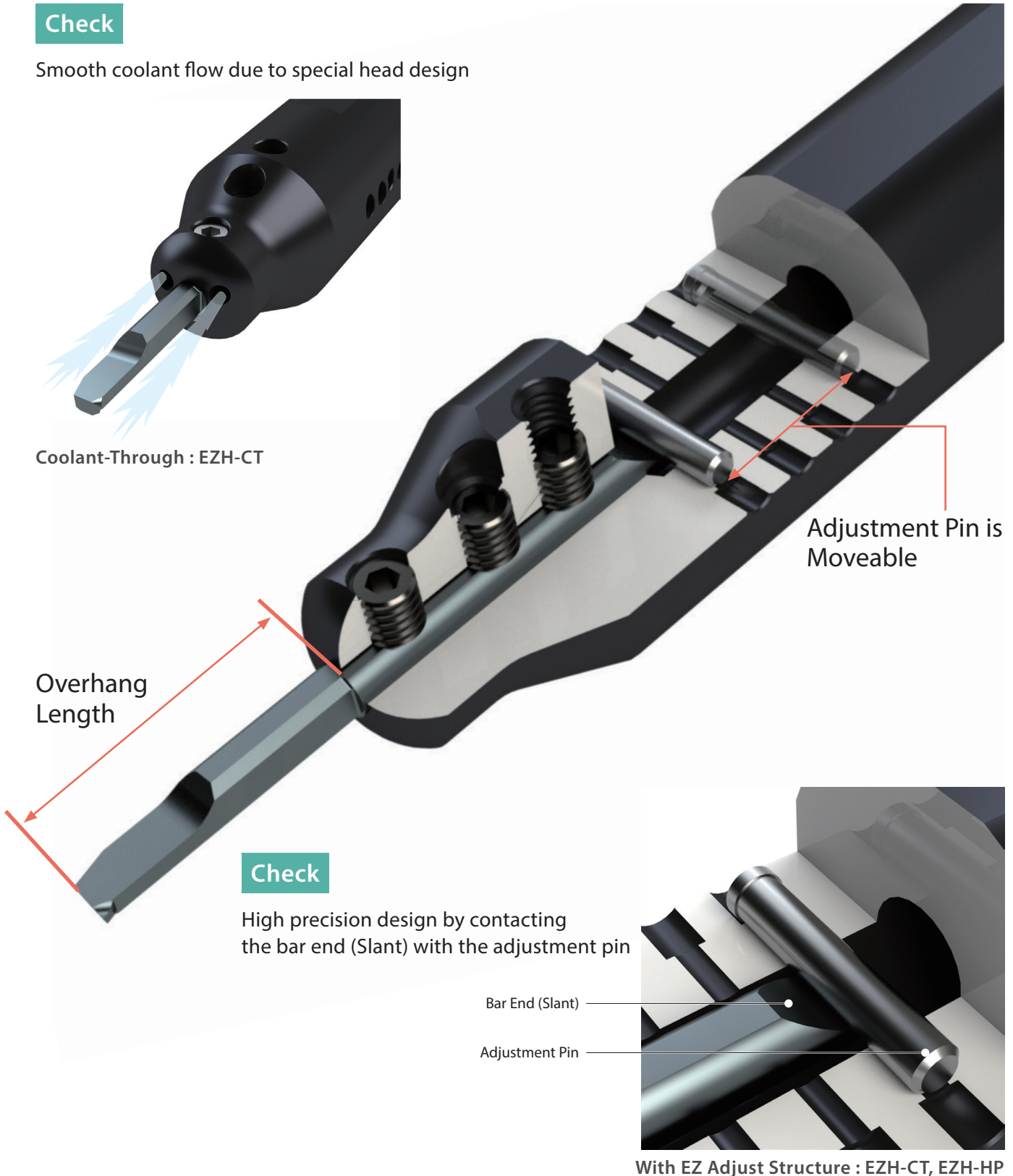
The EZ bar (PR1725) showed **2.8 times** longer tool life than the conventional C (User Evaluation)

### 3 Easy Adjustment and High Precision

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

#### Check

Smooth coolant flow due to special head design



**Point** Large Tooling Lineup that can be Customized for Your Machining Demands

**How to select sleeves**

Select between three types of sleeves

**EZH-CT**

With EZ Adjust Structure  
Coolant-Through



**EZH-HP**

With EZ Adjust Structure



**EZH-ST**

Without EZ Adjust Structure

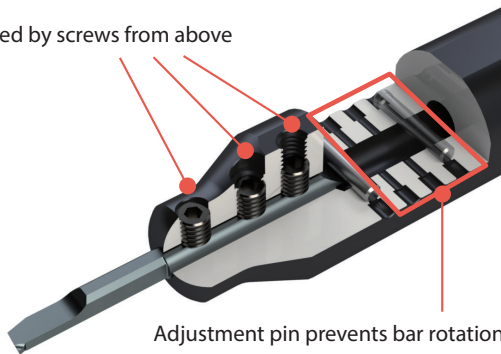


**Point** The EZ Bar prevents deviation with high-rigidity clamping

The adjustment pin prevents the bar from rotating during machining

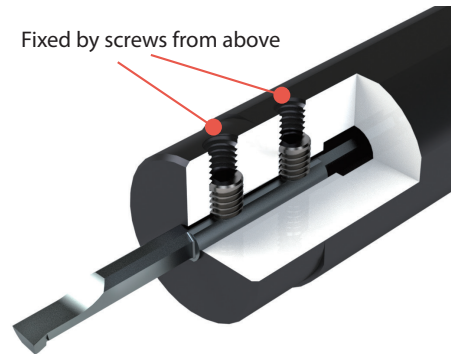
**EZ Bar**

Fixed by screws from above



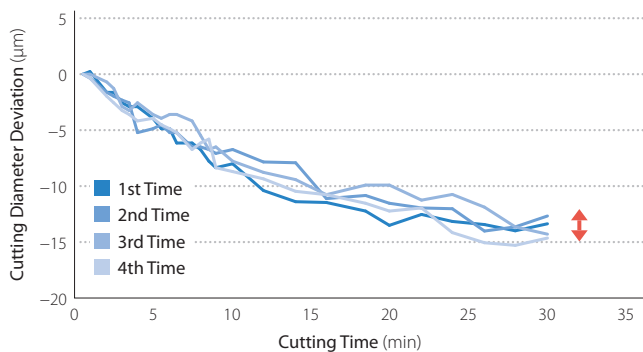
**Competitor**

Fixed by screws from above

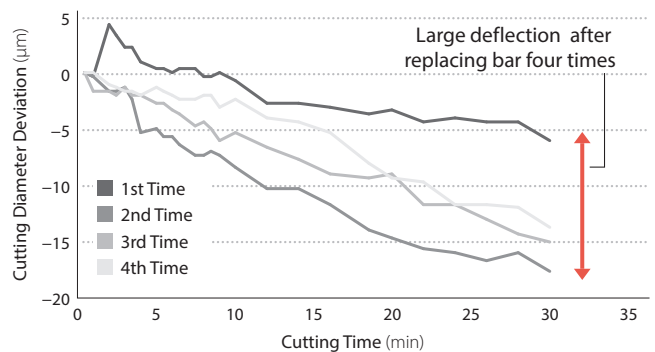


**Cutting Diameter Deviation Comparison (Internal Evaluation)**

**EZ Bar**



**Competitor A**

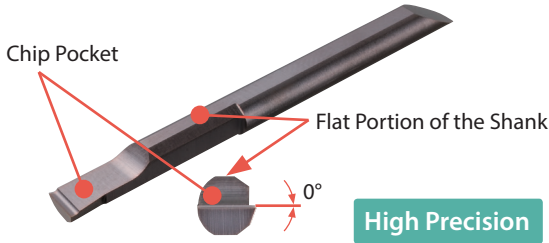


Cutting conditions : Vc = 66 m/min, ap = 0.1 mm, f = 0.02 mm/rev, Wet (Oil-based) Workpiece : SK4

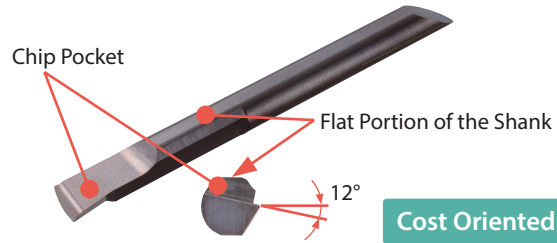
4

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

HP (EZB-HP)



ST (EZB-ST)



Bar Tolerance

	Bar Tolerance	Offset (WF)	Longitudinal Direction (L)	Cutting Edge Height (Y)	Min. Bore Dia.
HP	± 0.025 mm		± 0.05 mm	+ 0.05 mm / 0 mm	Same as Shank Dia.
ST	± 0.06 mm		± 0.1 mm	+ 0.06 mm / 0 mm	Different from Shank Dia.

# EZ Bar PLUS → P23 ~ 24

High Precision Solid Bar with Convenience of Indexable Inserts  
Reduce Machining Costs



Indexable EZ Bar  
Minimum Bore Diameter 5 mm

**Point** Minimum Bore Diameter 5 mm

**Point** Reduces Installing Times by 1/3

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

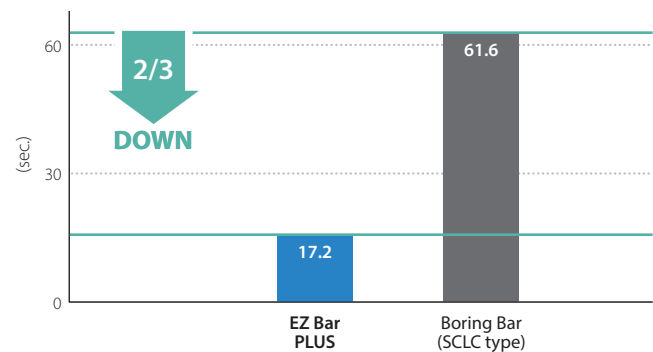
The EZ adjust structure features much lower mounting times compared to conventional boring bars



Carbide Bar

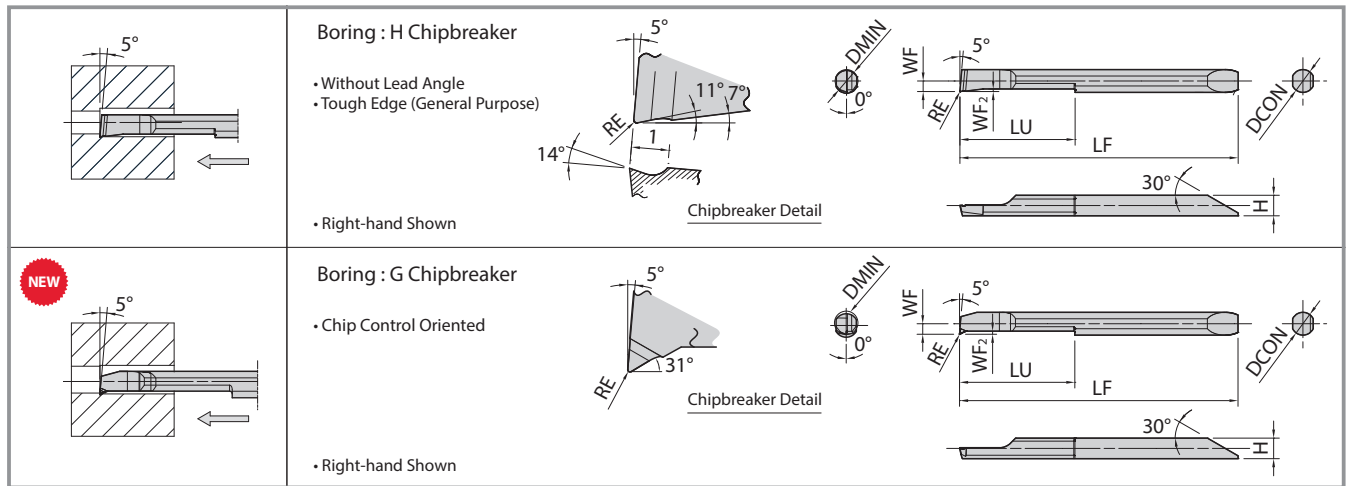
Steel Bar

Mounting Time Comparison (Internal Evaluation)



\*Average values from 5 tests



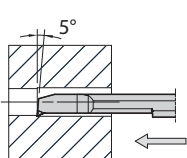


EZ Bar Dimensions HP High Precision

Description	Min. Bore Dia.	Dimensions (mm)							Grade						Applicable Sleeve	
		DMIN	DCON	H	LF	LU	WF	WF <sub>2</sub>	RE	MEGACOAT NANO PLUS		MEGACOAT		Carbide		
										PR1725	PR1225	GW05	R	L		R
EZB <sup>R/L</sup>	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 ±0.02	●						
	030030HP-008H	3	3	2.7	38.9	13	1.35	0.3	0.08 ±0.015	●		●	●	●		EZH030...
	030030HP-015H								0.15 ±0.02	●						
	035035HP-008H	3.5	3.5	3.2	41.9	15	1.6	0.4	0.08 ±0.015	●		●	●	●		EZH035...
	035035HP-015H								0.15 ±0.02	●						
	040040HP-008H	4	4	3.6	48.8	20	1.85	0.4	0.08 ±0.015	●		●	●	●		EZH040...
	040040HP-015H								0.15 ±0.02	●						
	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 ±0.02	●						
	050050HP-008H	5	5	4.6	58.1	25	2.35	0.5	0.08 ±0.015	●		●	●	●		EZH050...
	050050HP-015H								0.15 ±0.02	●						
	060060HP-008H	6	6	5.6	66.1	30	2.85	0.6	0.08 ±0.015	●		●	●	●		EZH060...
	060060HP-015H								0.15 ±0.02	●						
	070070HP-008H	7	7	6.3	73.8	35	3.3	0.7	0.08 ±0.015	●		●	●	●		EZH070...
070070HP-015H	0.15 ±0.02								●							
080080HP-008H	8	8	7.2	84.8	40	3.75	0.8	0.08 ±0.015	●		●	●	●		EZH080...	
080080HP-015H								0.15 ±0.02	●							
NEW EZBR	020020HP-005G	2	2	1.65	31.8	8	0.55	0.25	0.05 ±0.01	●					EZH020...	
	025025HP-005G	2.5	2.5	2.15	34.8	10.5	0.8	0.3	0.05 ±0.01	●					EZH025...	
	025025HP-015G								0.15 ±0.02	●						
	030030HP-005G	3	3	2.5	38.7	13	1.05	0.4	0.05 ±0.01	●					EZH030...	
	030030HP-015G								0.15 ±0.02	●						
	035035HP-005G	3.5	3.5	3	41.7	15	1.3	0.5	0.05 ±0.01	●					EZH035...	
	035035HP-015G								0.15 ±0.02	●						
	040040HP-005G	4	4	3.45	48.7	20	1.55	0.5	0.05 ±0.01	●					EZH040...	
	040040HP-015G								0.15 ±0.02	●						
	045045HP-005G	4.5	4.5	3.95	50.9	22.5	1.8	0.7	0.05 ±0.01	●					EZH045...	
	045045HP-015G								0.15 ±0.02	●						
	050050HP-005G	5	5	4.3	57.8	25	2.05	0.7	0.05 ±0.01	●					EZH050...	
	050050HP-015G								0.15 ±0.02	●						
	060060HP-005G	6	6	5.15	65.7	30	2.55	0.9	0.05 ±0.01	●					EZH060...	
	060060HP-015G								0.15 ±0.02	●						
	070070HP-005G	7	7	6.15	73.7	35	3.05	1	0.05 ±0.01	●					EZH070...	
070070HP-015G	0.15 ±0.02								●							
080080HP-005G	8	8	7.1	84.8	40	3.55	1	0.05 ±0.01	●					EZH080...		
080080HP-015G								0.15 ±0.02	●							

Tolerance (of the reference pin) : Offset ±0.025mm, Overall Length ±0.05mm, Edge Height +0.05/0mm  
 \*See P7 for details on tolerances

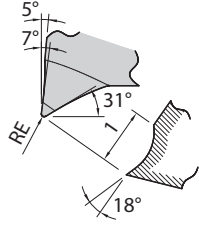
Bars are Sold in 1 Piece Boxes  
 ● : Std. Item



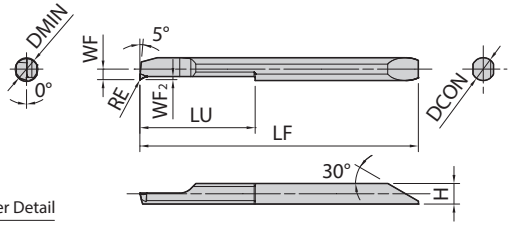
**Boring : F Chipbreaker**

- With Lead Angle
- Sharp Cutting (Finishing)

• Right-hand Shown



Chipbreaker Detail

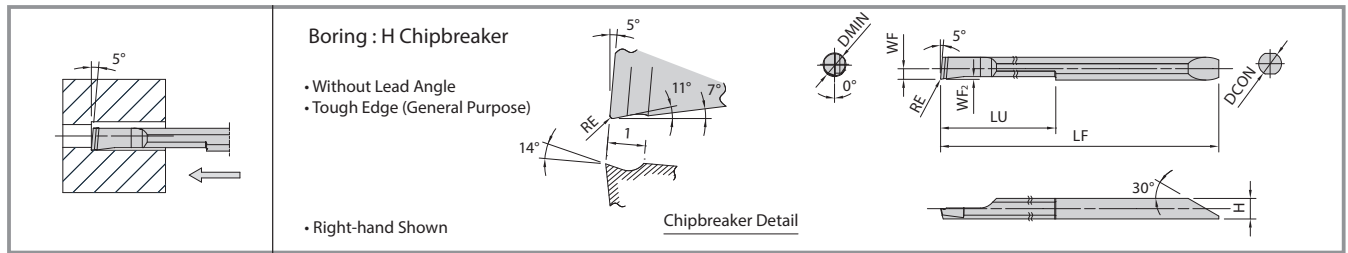


**EZ Bar Dimensions HP High Precision**

Description	Min. Bore Dia.	Dimensions (mm)								Grade						Applicable Sleeve
										MEGACOAT NANO PLUS		MEGACOAT		Carbide		
		DMIN	DCON	H	LF	LU	WF	WF <sub>2</sub>	RE	PR1725		PR1225		GW05		
									R	L	R	L	R	L		
EZBR 020020HP-005F	2	2	1.8	32	8	0.85	0.25	0.05 <sup>±0.01</sup>	●		●					EZH020...
025025HP-005F	2.5	2.5	2.3	35	10.5	1.1	0.3	0.05 <sup>±0.01</sup>	●		●					EZH025...
025025HP-015F								0.15 <sup>±0.02</sup>	●		●					
030030HP-005F	3	3	2.7	38.9	13	1.35	0.4	0.05 <sup>±0.01</sup>	●		●					EZH030...
030030HP-015F								0.15 <sup>±0.02</sup>	●		●					
035035HP-005F	3.5	3.5	3.2	41.9	15	1.6	0.5	0.05 <sup>±0.01</sup>	●		●					EZH035...
035035HP-015F								0.15 <sup>±0.02</sup>	●		●					
040040HP-005F	4	4	3.6	48.8	20	1.85	0.5	0.05 <sup>±0.01</sup>	●		●					EZH040...
040040HP-015F								0.15 <sup>±0.02</sup>	●		●					
045045HP-005F	4.5	4.5	4.1	51.1	22.5	2.1	0.7	0.05 <sup>±0.01</sup>	●		●					EZH045...
045045HP-015F								0.15 <sup>±0.02</sup>	●		●					
050050HP-005F	5	5	4.6	58.1	25	2.35	0.7	0.05 <sup>±0.01</sup>	●		●					EZH050...
050050HP-015F								0.15 <sup>±0.02</sup>	●		●					
060060HP-005F	6	6	5.6	66.1	30	2.85	0.9	0.05 <sup>±0.01</sup>	●		●					EZH060...
060060HP-015F								0.15 <sup>±0.02</sup>	●		●					
070070HP-005F	7	7	6.3	73.8	35	3.3	1	0.05 <sup>±0.01</sup>	●		●					EZH070...
070070HP-015F								0.15 <sup>±0.02</sup>	●		●					
080080HP-005F	8	8	7.2	84.8	40	3.75	1	0.05 <sup>±0.01</sup>	●		●					EZH080...
080080HP-015F								0.15 <sup>±0.02</sup>	●		●					

Tolerance (of the reference pin) : Offset ±0.025mm, Overall Length ±0.05mm, Edge Height +0.05/0mm  
 \*See P7 for details on tolerances

Bars are Sold in 1 Piece Boxes  
 ● : Std. Item



EZ Bar Dimensions **HP** High Precision Extended reach type

Description	Min. Bore Dia.	Dimensions (mm)										Grade MEGACOAT PR1225	Applicable Sleeve		
		DMIN	DCON	H	LF	LU	*Overhang Length				WF			WF <sub>2</sub>	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 <sup>+0.015</sup>	●	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, Overall Length ±0.05mm, Edge Height +0.05/0mm

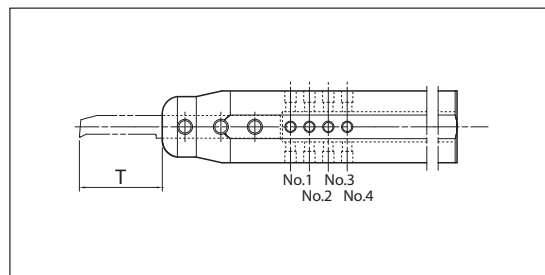
\*See P7 for details on tolerances. \* In case of overhang length mentioned in italics, modified insert is required

Bars are Sold in 1 Piece Boxes

● : Std. Item

Extended Reach (...HP...-LT) Bar Overhang Length T (mm)

Description	Adjustment Pin Setting			
	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



\* In case of overhang length mentioned in italics, modified insert is required

EZ Bar Compatibility

EZ Bar Compatible with Conventional Tip Bars

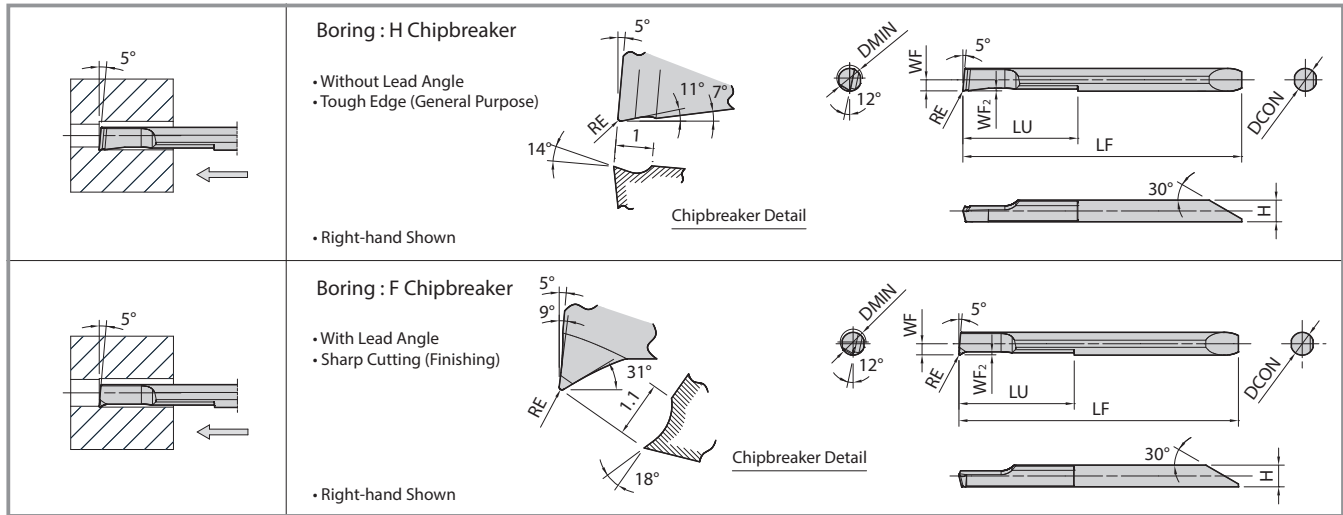
Sleeve	Bar	EZB ... HP	EZB ... ST	HPB ... (EOL)
EZH ... CT		✓	✓	✓ <sup>*1*2</sup> (Compatible)
EZH ... HP		✓	✓	✓ <sup>*1*2</sup> (Compatible)
EZH ... ST		✓	✓	✓ <sup>*1</sup> (Compatible)
PSH ... (EOL)		✓ <sup>*1</sup> (Compatible)	✓ <sup>*1</sup> (Compatible)	✓

\*1 : Some diameters of conventional tip bars are incompatible

\*2 : Use conventional tip bars without adjustment pins. The overhang length of bar is not adjustable

EZ Bar Identification System

<b>EZ</b>	<b>B</b>	<b>R</b>	<b>020</b>	<b>020</b>	<b>HP</b> - <b>008</b>	<b>H</b>	
Bar Symbol (EZ Bar)	Application B : Boring Bar	Bar Hand R : Right-hand L : Left-hand	Min. Bore Dia. 020 : 2 mm 025 : 2.5 mm	Shank Dia. 020 : 2 mm 025 : 2.5 mm	Precision HP : High Precision ST : Standard	Corner-R(RE) 005 : 0.05 mm 008 : 0.08 mm 015 : 0.15 mm	Chipbreaker H Chipbreaker (Without Lead Angle) H-LT : Chipbreaker (Extended Reach) G Chipbreaker (With Lead Angle) F Chipbreaker (With Lead Angle) NB : Without Chipbreaker

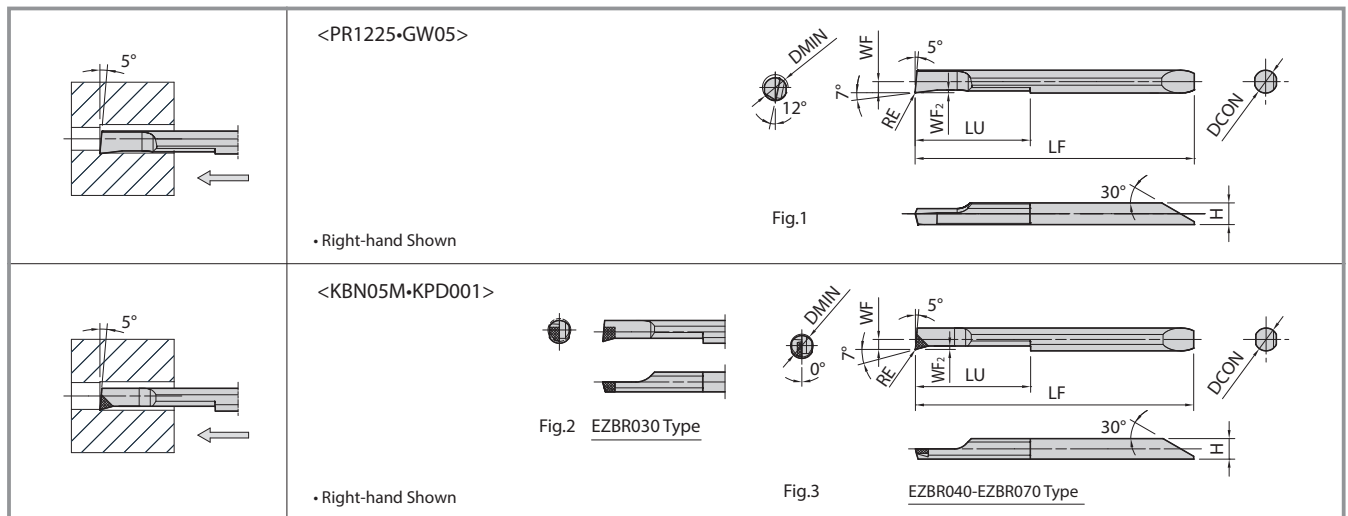


EZ Bar Dimensions ST Cost Oriented

Description	Min. Bore Dia	Dimensions (mm)								Grade		Applicable Sleeve
		DMIN	DCON	H	LF	LU	WF	WF <sub>2</sub>	RE	MEGACOAT NANO PLUS	MEGACOAT	
										PR1725	PR1225	
EZBR 020017ST-008H	2	1.7	1.5	27.3	7	0.79	0.19	0.08 <sup>+0.015</sup>	●	●	EZH017...	
025020ST-008H	2.5	2	1.82	32	8	0.94	0.16	0.08 <sup>+0.015</sup>	●	●	EZH020...	
025020ST-015H								0.15 <sup>+0.02</sup>	●	●		
030025ST-008H	3	2.5	2.3	35	10.5	1.19	0.15	0.08 <sup>+0.015</sup>	●	●	EZH025...	
030025ST-015H								0.15 <sup>+0.02</sup>	●	●		
035030ST-008H	3.5	3	2.8	39	13	1.44	0.18	0.08 <sup>+0.015</sup>	●	●	EZH030...	
035030ST-015H								0.15 <sup>+0.02</sup>	●	●		
040035ST-008H	4	3.5	3.3	42	15	1.69	0.24	0.08 <sup>+0.015</sup>	●	●	EZH035...	
040035ST-015H								0.15 <sup>+0.02</sup>	●	●		
045040ST-008H	4.5	4	3.8	49	20	1.94	0.27	0.08 <sup>+0.015</sup>	●	●	EZH040...	
045040ST-015H								0.15 <sup>+0.02</sup>	●	●		
055050ST-008H	5.5	5	4.8	58.2	25	2.44	0.33	0.08 <sup>+0.015</sup>	●	●	EZH050...	
055050ST-015H								0.15 <sup>+0.02</sup>	●	●		
065060ST-008H	6.5	6	5.8	66.2	30	2.94	0.38	0.08 <sup>+0.015</sup>	●	●	EZH060...	
065060ST-015H								0.15 <sup>+0.02</sup>	●	●		
075070ST-008H	7.5	7	6.8	74.2	35	3.44	0.44	0.08 <sup>+0.015</sup>	●	●	EZH070...	
075070ST-015H								0.15 <sup>+0.02</sup>	●	●		
EZBR 020017ST-005F	2	1.7	1.5	27.3	7	0.79	0.2	0.05 <sup>+0.01</sup>	●	●	EZH017...	
025020ST-005F	2.5	2	1.82	32	8	0.94	0.16	0.05 <sup>+0.01</sup>	●	●	EZH020...	
025020ST-015F								0.15 <sup>+0.02</sup>	●	●		
030025ST-005F	3	2.5	2.3	35	10.5	1.19	0.2	0.05 <sup>+0.01</sup>	●	●	EZH025...	
030025ST-015F								0.15 <sup>+0.02</sup>	●	●		
035030ST-005F	3.5	3	2.8	39	13	1.44	0.26	0.05 <sup>+0.01</sup>	●	●	EZH030...	
035030ST-015F								0.15 <sup>+0.02</sup>	●	●		
040035ST-005F	4	3.5	3.3	42	15	1.69	0.33	0.05 <sup>+0.01</sup>	●	●	EZH035...	
040035ST-015F								0.15 <sup>+0.02</sup>	●	●		
045040ST-005F	4.5	4	3.8	49	20	1.94	0.31	0.05 <sup>+0.01</sup>	●	●	EZH040...	
045040ST-015F								0.15 <sup>+0.02</sup>	●	●		
055050ST-005F	5.5	5	4.8	58.2	25	2.44	0.45	0.05 <sup>+0.01</sup>	●	●	EZH050...	
055050ST-015F								0.15 <sup>+0.02</sup>	●	●		
065060ST-005F	6.5	6	5.8	66.2	30	2.94	0.59	0.05 <sup>+0.01</sup>	●	●	EZH060...	
065060ST-015F								0.15 <sup>+0.02</sup>	●	●		
075070ST-005F	7.5	7	6.8	74.2	35	3.44	0.65	0.05 <sup>+0.01</sup>	●	●	EZH070...	
075070ST-015F								0.15 <sup>+0.02</sup>	●	●		

Tolerance : Offset ±0.06mm, Overall Length ±0.1mm, Edge Height +0.06/0mm  
 \*See P7 for details on tolerances

Bars are Sold in 1 Piece Boxes  
 ● : Std. Item



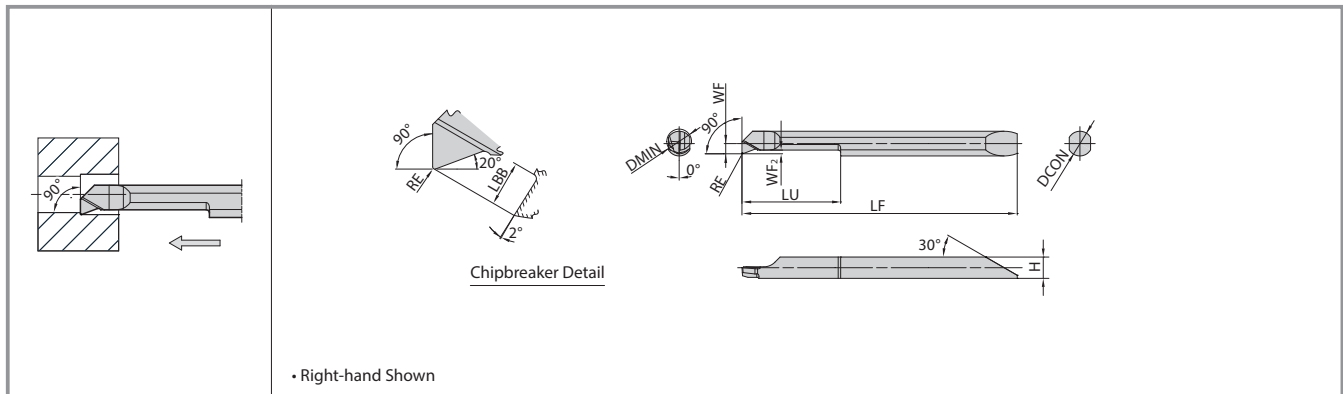
EZ Bar Dimensions Without chipbreaker (PCD • CBN)

Description	Min. Bore Dia	Dimensions (mm)							Drawing	Grade				Applicable Sleeve	
		DMIN	DCON	H	LF	LU	WF	WF <sub>2</sub>		RE	MEGA COAT	Carbide	MEGA COAT CBN		PCD
											PR1225	GW05	KBN05M		KPD001
EZBR 020017-005NB	2	1.7	1.5	27.3	7	0.79	0.2	0.05 ±0.015	Fig.1	●	●			EZH017...	
025020-005NB	2.5	2	1.82	32	8	0.94	0.16			●	●			EZH020...	
030025-005NB	3	2.5	2.3	35	10.5	1.19	0.16			●	●			EZH025...	
035030-005NB	3.5	3	2.8	39	13	1.44	0.19			●	●			EZH030...	
040035-005NB	4	3.5	3.3	42	15	1.69	0.25			●	●			EZH035...	
045040-005NB	4.5	4	3.8	49	20	1.94	0.28			●	●			EZH040...	
055050-005NB	5.5	5	4.8	58.2	25	2.44	0.33			●	●			EZH050...	
065060-005NB	6.5	6	5.8	66.2	30	2.94	0.39			●	●			EZH060...	
075070-005NB	7.5	7	6.8	74.2	35	3.44	0.45			●	●			EZH070...	
EZBR 030030-003NB	3	3	2.6	38.8	13	1.25	0.3	0.035 ±0.015	Fig.2			●		EZH030...	
040040-003NB	4	4	3.6	48.8	20	1.75	0.5					●		EZH040...	
050050-003NB	5	5	4.6	58.1	25	2.25						●		EZH050...	
060060-003NB	6	6	5.6	66.1	30	2.75						●		EZH060...	
070070-003NB	7	7	6.6	74.1	35	3.25						●		EZH070...	
EZBR 040040-003NB	4	4	3.6	48.8	20	1.75		0.5	0.035 ±0.015	Fig.3				●	EZH040...
050050-003NB	5	5	4.6	58.1	25	2.25							●	EZH050...	
060060-003NB	6	6	5.6	66.1	30	2.75							●	EZH060...	
070070-003NB	7	7	6.6	74.1	35	3.25							●	EZH070...	

Bars are Sold in 1 Piece Boxes  
 ● : Std. Item

Edge Preparation

Grade	Edge Preparation	Notes
PR1225 • GW05	Sharp Edge	-
KBN05M	T00815	0.08 mm × 15° Chamfered Cutting Edge
KPD001	Sharp Edge	-



EZ Bar Dimensions

Description	Min. Bore Dia.	Dimensions (mm)								Grade	Applicable Sleeve	
		DMIN	DCON	H	LF	LU	WF	WF <sub>2</sub>	LBB	RE		MEGACOAT
												PR1225
EZBFR 030030-008	3	3	2.5	37.7	12	1.2	0.45	1.5	0.08 <sup>±0.015</sup>	●	EZH030...	
040040-008	4	4	3.45	44.6	16	1.65	0.55	2.0	0.08 <sup>±0.015</sup>	●	EZH040...	
050050-015	5	5	4.3	52.7	20	2.15	0.7	2.4	0.15 <sup>±0.02</sup>	●	EZH050...	
060060-015	6	6	5.15	59.6	24	2.55	0.85	2.8	0.15 <sup>±0.02</sup>	●	EZH060...	

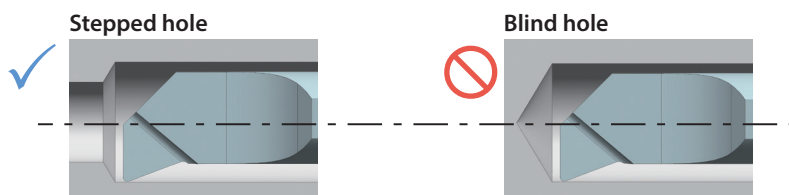
Tolerance : Offset ±0.05mm, Overall Length ±0.05mm, Edge Height +0.05/0mm  
 \*See P7 for details on tolerances

Bars are Sold in 1 Piece Boxes  
 ● : Std. Item

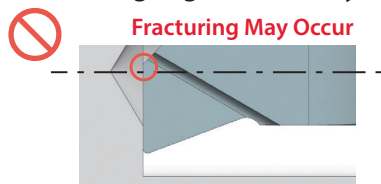
Precautions

✓ Recommended    ✗ Not Recommended

1. Machining in blind hole is not recommended



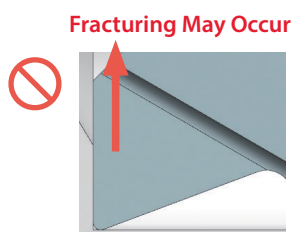
2. If front cutting edge exceeds beyond workpiece center line, fracturing may occur

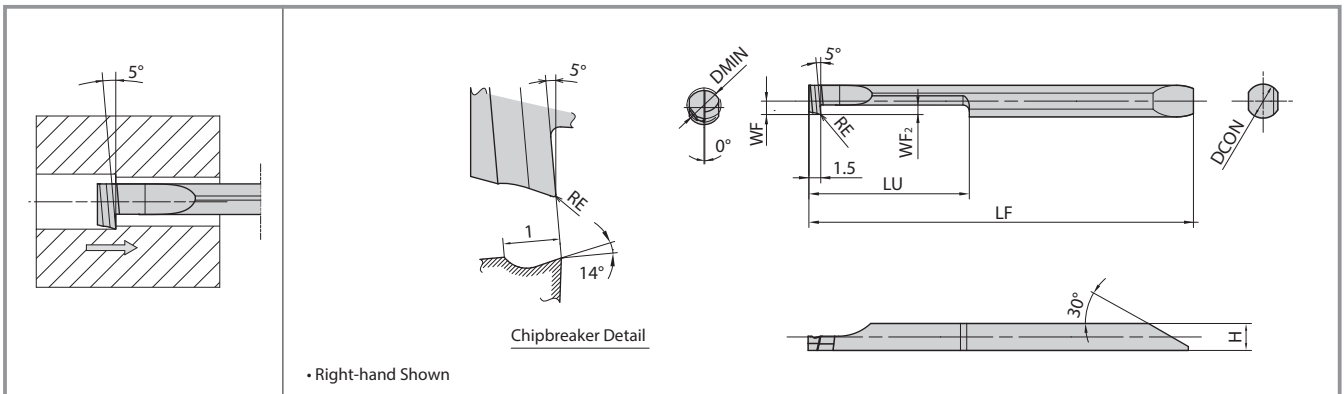


Min boring diameter of  $\phi 4$  : 1.9 mm front cutting edge length

Off-center Boring

3. Up facing is not recommended

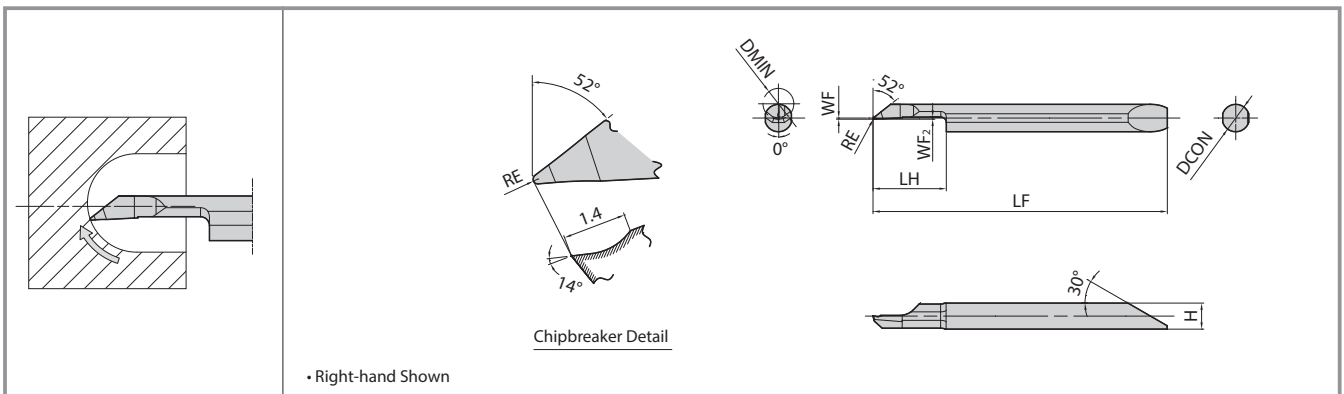




EZ Bar Dimensions

Description	Min. Bore Dia.	Dimensions (mm)							Grade		Applicable Sleeve	
		DMIN	DCON	H	LF	LU	WF	WF <sub>2</sub>	RE	MEGACOAT		Carbide
										PR1225		GW05
EZBTR 040040-005	4	4	3.45	48.7	20	1.7	1.2	0.05 <sup>+0</sup> <sub>-0.02</sub>	●	●	EZH040...	
050050-005	5	5	4.3	58.7	25	2.15	1.5		●	●	EZH050...	

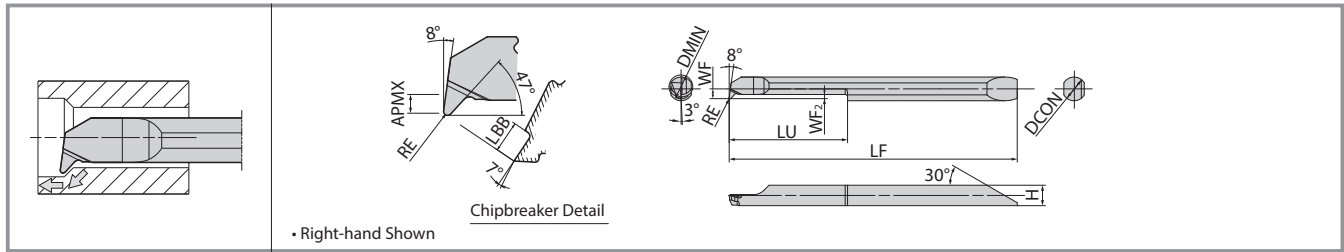
Bars are Sold in 1 Piece Boxes  
 ● : Std. Item



EZ Bar Dimensions

Description	Min. Bore Dia.	Dimensions (mm)							Grade		Applicable Sleeve
		DMIN	DCON	H	LF	LH	WF	WF <sub>2</sub>	RE	MEGACOAT	
										PR1225	
EZVBR 035030-010 045040-010 055050-010 065060-010	3.5	3	2.8	38	8	0.17	0.22	0.1 <sup>±0.015</sup>	●	EZH030...	
	4.5	4	3.8	43	10				●	EZH040...	
	5.5	5	4.8	50.2	12				●	EZH050...	
	6.5	6	5.8	55.2	14				●	EZH060...	

Bars are Sold in 1 Piece Boxes  
 ● : Std. Item



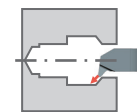
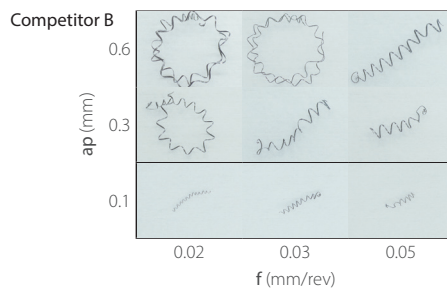
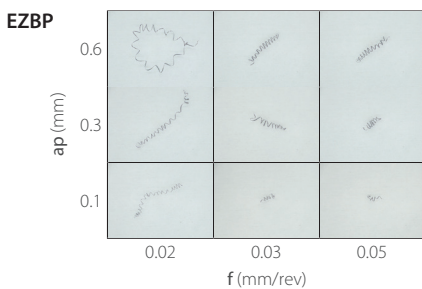
EZ Bar Dimensions

Description	Min. Bore Dia.	Dimensions (mm)									Grade	Applicable Sleeve	
		DMIN	DCON	H	LF	LU	WF	WF <sub>2</sub>	LBB	RE	APMX		MEGACOAT
													PR1225
EZBPR 020020-005-08	2	2	1.65	31.8	8	0.55	0.35	1.0	0.05 <sup>±0.01</sup>	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 <sup>±0.01</sup>	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 <sup>±0.02</sup>	0.6	●	EZH040...	
050050-015	5	5	4.3	57.8	25	2	1.1	2.2	0.15 <sup>±0.02</sup>	0.8	●	EZH050...	
060060-015	6	6	5.15	65.7	30	2.45	1.35	2.5	0.15 <sup>±0.02</sup>	1	●	EZH060...	

Bars are Sold in 1 Piece Boxes  
● : Std. Item

Chip Control Comparison (Internal evaluation)

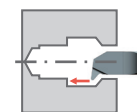
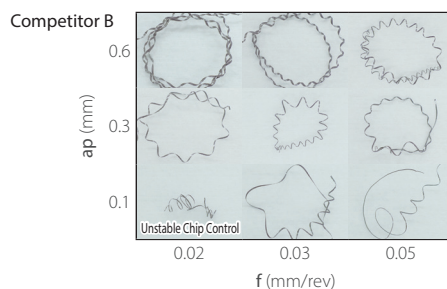
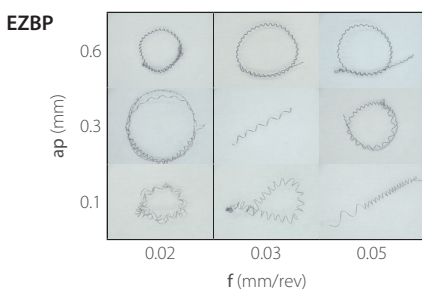
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Cutting Conditions : Vc = 80 m/min, Wet  
Workpiece : S45C (ø14)  
EZBPR040040-015 PR1225

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

Boring



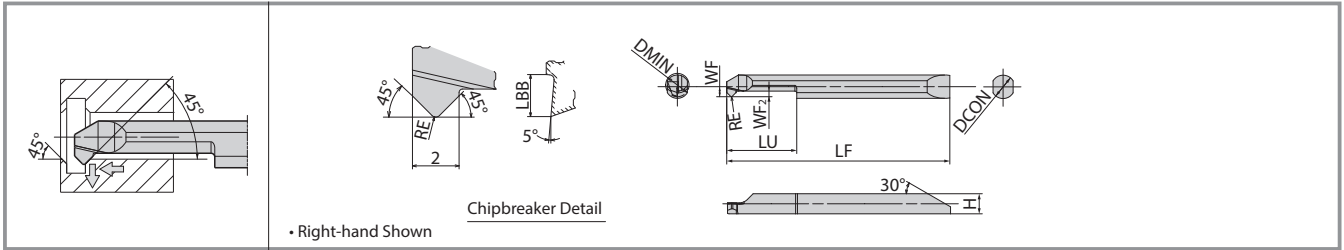
Cutting Conditions : Vc = 80 m/min, Wet  
Workpiece : S45C (ø14)  
EZBPR040040-015 PR1225

EZBP showed better chip control than competitor B

Recommended Cutting Conditions

Workpiece	Insert Grade (Vc: m/min)	EZBPR020020-005-08/10/12		EZBPR030030-005-12/15		EZBPR040040-015		EZBPR050050-015		EZBPR060060-015		Notes
	MEGACOAT	ap (mm), f (mm/rev)										
	PR1225	ap	f	ap	f	ap	f	ap	f	ap	f	
Carbon Steel • Alloy Steel (S45C • SCM)	30 ~ 100	~ 0.3	~ 0.05	~ 0.4	~ 0.05	~ 0.6	~ 0.05	~ 0.8	~ 0.05	~ 1.0	~ 0.05	Wet
Stainless Steel (SUS304)	30 ~ 80	~ 0.3	~ 0.05	~ 0.4	~ 0.05	~ 0.6	~ 0.05	~ 0.8	~ 0.05	~ 1.0	~ 0.05	





EZ Bar Dimensions

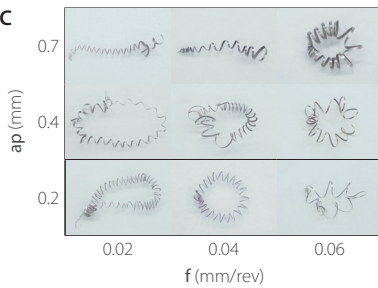
Description	Min. Bore Dia.	Dimensions (mm)								Grade	Applicable Sleeve
		DMIN	DCON	H	LF	LU	WF	WF <sub>2</sub>	LBB	RE	
EZBCR 050050-020-15	5	5	4.3	47.8	15	2.15	1.2	1.8	0.2 <sup>+0.02</sup>	●	EZH050...
				52.8	20					●	
060060-020-18	6	6	5.15	53.7	18	2.65	1.9	2.5		●	EZH060...
59.7				24	●						
070070-020-21	7	7	6.2	59.7	21	3	2.5	3.1		●	EZH070...
070070-020-42				80.7	28					●	

Bars are Sold in 1 Piece Boxes  
● : Std. Item

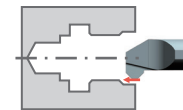
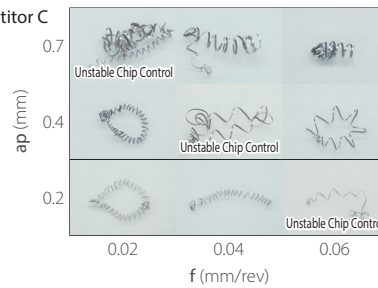
Chip Control Comparison (Internal evaluation)

Boring

EZBC



Competitor C

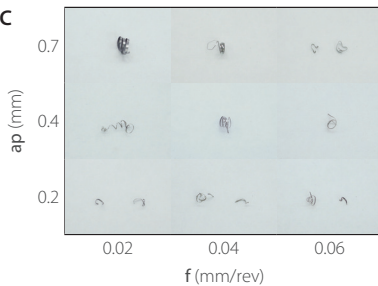


Cutting Conditions : Vc = 80 m/min, Wet  
Workpiece : SUS304 (ø14)  
EZBCR050050-020-15 PR1225

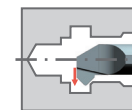
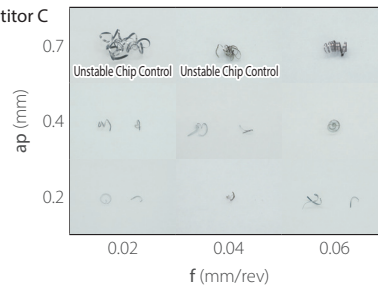
EZBC reduced chip clogging and showed stable chip control

Chamfering

EZBC



Competitor C



Cutting Conditions : Vc = 80 m/min, Wet  
Workpiece : SUS304 (ø14)  
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	Insert Grade (Vc : m/min)	EZBC050050-020-15/20		EZBC060060-020-18/24		EZBC070070-020-21/42		Notes
	MEGACOAT	ap (mm), f (mm/rev)						
	PR1225	ap	f	ap	f	ap	f	
Carbon Steel • Alloy Steel (S45C • SCM)	30 ~ 100	~ 0.7	~ 0.06	~ 0.7	~ 0.06	~ 0.7	~ 0.06	Wet
Stainless Steel (SUS304)	30 ~ 80	~ 0.7	~ 0.06	~ 0.7	~ 0.06	~ 0.7	~ 0.06	

# Recommended Cutting Conditions

## H Chipbreaker EZB-HP •• H Type EZB-ST •• H Type

Workpiece	Insert Grade (Vc: m/min)			EZB020/025 Type		EZB030/035 Type		Notes
	MEGACOAT NANO PLUS	MEGACOAT	Carbide	ap (mm), f (mm/rev)				
	PR1725	PR1225	GW05	ap	f	ap	f	
Carbon Steel • Alloy Steel (S45C • SCM)	30 ~ 120	30 ~ 100	–	~ 0.3	~ 0.03	~ 0.4	~ 0.04	Wet
Stainless Steel (SUS304)	30 ~ 100	30 ~ 80	–	~ 0.2	~ 0.02	~ 0.3	~ 0.03	
Non-ferrous Metals (Aluminum • Brass)	–	–	~ 100	~ 0.3	~ 0.05	~ 0.4	~ 0.06	

Workpiece	Insert Grade (Vc: m/min)			EZB040/045 Type		EZB050/055/060/065/070/075/080 Type		Notes
	MEGACOAT NANO PLUS	MEGACOAT	Carbide	ap (mm), f (mm/rev)				
	PR1725	PR1225	GW05	ap	f	ap	f	
Carbon Steel • Alloy Steel (S45C • SCM)	30 ~ 120	30 ~ 100	–	~ 0.45	~ 0.07	~ 0.5	~ 0.1	Wet
Stainless Steel (SUS304)	30 ~ 100	30 ~ 80	–	~ 0.35	~ 0.05	~ 0.4	~ 0.07	
Non-ferrous Metals (Aluminum • Brass)	–	–	~ 100	~ 0.45	~ 0.1	~ 0.5	~ 0.15	

## H Chipbreaker (Long Type)

Workpiece	Insert Grade (Vc: m/min)	EZB020/025/030/035 Type		EZB040/050/060 Type		Notes
	MEGACOAT	ap (mm), f (mm/rev)				
	PR1225	ap	f	ap	f	
Carbon Steel • Alloy Steel (S45C • SCM)	30 ~ 60	~ 0.3	~ 0.05	~ 0.4	~ 0.1	Wet
Stainless Steel (SUS304)	20 ~ 40	~ 0.25	~ 0.05	~ 0.3	~ 0.07	

## G Chipbreaker

Workpiece	Insert Grade (Vc: m/min)	EZB020/025 Type		EZB030/035 Type		EZB040/045/050/060/070/080 Type		Notes
	MEGACOAT NANO PLUS	ap (mm), f (mm/rev)						
	PR1725	ap	f	ap	f	ap	f	
Carbon Steel • Alloy Steel (S45C • SCM)	30 ~ 120	~ 0.25	~ 0.03	~ 0.3	~ 0.05	~ 0.35	~ 0.07	Wet
Stainless Steel (SUS304)	30 ~ 100	~ 0.2	~ 0.02	~ 0.25	~ 0.03	~ 0.3	~ 0.05	

## F Chipbreaker EZB-HP •• F Type EZB-ST •• F Type

Workpiece	Insert Grade (Vc: m/min)		EZB020/025 Type		EZB030/035 Type		EZB040/045 Type		EZB055/065/075/080 Type		Notes
	MEGACOAT NANO PLUS	MEGACOAT	ap (mm), f (mm/rev)								
	PR1725	PR1225	ap	f	ap	f	ap	f	ap	f	
Carbon Steel • Alloy Steel (S45C • SCM)	30 ~ 120	30 ~ 100	~ 0.2	~ 0.03	~ 0.2	~ 0.05	~ 0.3	~ 0.07	~ 0.3	~ 0.07	Wet
Stainless Steel (SUS304)	30 ~ 100	30 ~ 80		~ 0.02		~ 0.03	~ 0.25	~ 0.05	~ 0.25	~ 0.05	

## NB Chipbreaker (without Chipbreaker)

Workpiece	Insert Grade (Vc: m/min)		EZB020/025 Type		EZB030/035 Type		EZB040/045 Type		EZB055/065/075 Type		Notes
	MEGACOAT	Carbide	ap (mm), f (mm/rev)								
	PR1225	GW05	ap	f	ap	f	ap	f	ap	f	
Carbon Steel • Alloy Steel (S45C • SCM)	30 ~ 100	–	~ 0.3	~ 0.03	~ 0.4	~ 0.04	~ 0.45	~ 0.07	~ 0.5	~ 0.1	Wet
Stainless Steel (SUS304)	30 ~ 80	–	~ 0.2	~ 0.02	~ 0.3	~ 0.03	~ 0.35	~ 0.05	~ 0.4	~ 0.07	
Non-ferrous Metals (Aluminum • Brass)	–	~ 100	~ 0.3	~ 0.05	~ 0.4	~ 0.06	~ 0.45	~ 0.07	~ 0.5	~ 0.1	

## Recommended Cutting Conditions

### NB Chipbreaker (without Chipbreaker)

Workpiece	Insert Grade (Vc: m/min)		EZB030 Type		EZB040/045 Type		EZB050/060/070 Type		Notes
	MEGACOAT CBN	PCD	ap (mm), f (mm/rev)						
	KBN05M	KPD001	ap	f	ap	f	ap	f	
Non-ferrous Metals (Aluminum • Brass)	–	~ 300	–	–	~ 0.45	~ 0.1	~ 0.5	~ 0.15	Wet
Hard Materials (Heat-treated Steel)	~ 100	–	~ 0.07	~ 0.03	~ 0.10	~ 0.05	~ 0.15	~ 0.07	

### EZBF (90 Degree Lead Angle)

Workpiece	Insert Grade (Vc: m/min)	EZBFR030030-008		EZBFR040040-008		EZBFR050050/ 060060-015		Notes
	MEGACOAT	ap (mm), f (mm/rev)						
	PR1225	ap	f	ap	f	ap	f	
Carbon Steel • Alloy Steel (S45C • SCM)	30 ~ 100	~ 0.2	~ 0.05	~ 0.3	~ 0.05	~ 0.5	~ 0.05	Wet
Stainless Steel (SUS304)	30 ~ 80	~ 0.2	~ 0.05	~ 0.3	~ 0.05	~ 0.5	~ 0.05	

### EZBT (Back Boring)

Workpiece	Insert Grade (Vc: m/min)		EZBTR040 Type		EZBTR050 Type		Notes
	MEGACOAT	Carbide	ap (mm), f (mm/rev)				
	PR1225	GW05	ap	f	ap	f	
Carbon Steel • Alloy Steel (S45C • SCM)	30 ~ 100	–	~ 0.45	~ 0.07	~ 0.5	~ 0.1	Wet
Stainless Steel (SUS304)	30 ~ 80	–		~ 0.05		~ 0.07	
Non-ferrous Metals (Aluminum • Brass)	–	30 ~ 100		~ 0.1		~ 0.15	

### EZVB (Boring • Internal Facing • Internal Profiling)

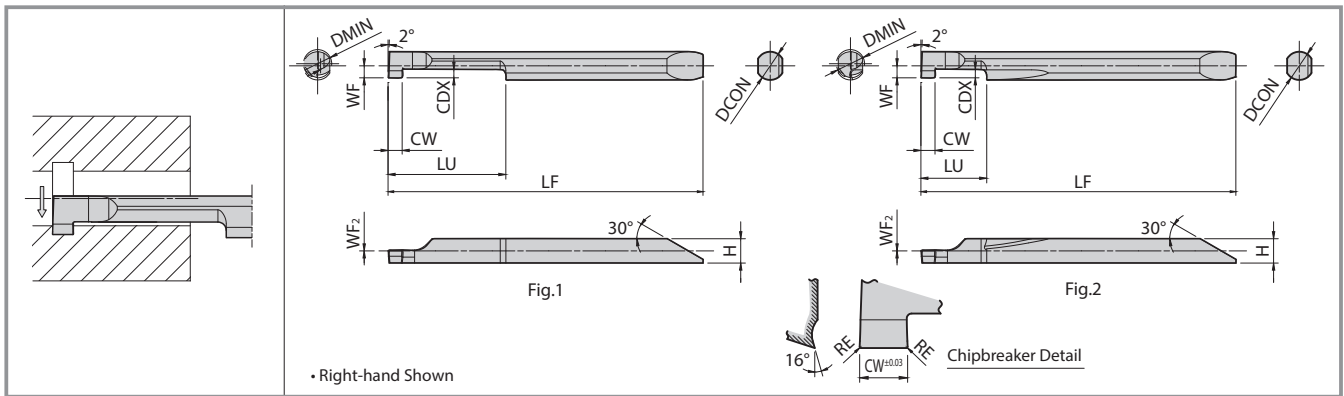
Workpiece	Insert Grade (Vc: m/min)	EZVB035 Type		EZVB045 Type		EZVB055/065 Type		Notes
	MEGACOAT	ap (mm), f (mm/rev)						
	PR1225	ap	f	ap	f	ap	f	
Carbon Steel • Alloy Steel (S45C • SCM)	30 ~ 100	~ 0.05	~ 0.04	~ 0.07	~ 0.07	~ 0.1	~ 0.07	Wet
Stainless Steel (SUS304)	30 ~ 80	~ 0.03	~ 0.03	~ 0.05	~ 0.05	~ 0.07	~ 0.05	

### EZBP (Copying)

Workpiece	Insert Grade (Vc: m/min)	EZBPR020020-005- 08/10/12		EZBPR030030-005- 12/15		EZBPR040040-015		EZBPR050050-015		EZBPR060060-015		Notes
	MEGACOAT	ap (mm), f (mm/rev)										
	PR1225	ap	f	ap	f	ap	f	ap	f	ap	f	
Carbon Steel • Alloy Steel (S45C • SCM)	30 ~ 100	~ 0.3	~ 0.05	~ 0.4	~ 0.05	~ 0.6	~ 0.05	~ 0.8	~ 0.05	~ 1.0	~ 0.05	Wet
Stainless Steel (SUS304)	30 ~ 80	~ 0.3	~ 0.05	~ 0.4	~ 0.05	~ 0.6	~ 0.05	~ 0.8	~ 0.05	~ 1.0	~ 0.05	

### EZBC (45 Degree Chamfering)

Workpiece	Insert Grade (Vc: m/min)	EZBC050050-020-15/20		EZBC060060-020-18/24		EZBC070070-020-21/42		Notes
	MEGACOAT	ap (mm), f (mm/rev)						
	PR1225	ap	f	ap	f	ap	f	
Carbon Steel • Alloy Steel (S45C • SCM)	30 ~ 100	~ 0.7	~ 0.06	~ 0.7	~ 0.06	~ 0.7	~ 0.06	Wet
Stainless Steel (SUS304)	30 ~ 80	~ 0.7	~ 0.06	~ 0.7	~ 0.06	~ 0.7	~ 0.06	



EZ Bar Dimensions

Description	Min. Bore Dia.	Dimensions (mm)									Drawing	MEGACOAT		Carbide		Applicable Sleeve			
		CDX	RE	DCON	H	LF	LU	WF	WF <sub>2</sub>	CDX		PR1225		GW05					
												R	L	R	L				
EZG <sup>R/L</sup> 040040-050 040040-100 040040-150 040040-200 050050-100 050050-150 050050-200 060060-100 060060-150 060060-200 070070-100 070070-150 070070-200 080070-100 080070-150 080070-200	4	0.5	0.05	4	3.45	44.7	12	1.7	0	1	Fig.2	●	●	●		EZH040..			
		1.0										●	●	●					
		1.5										●	●	●					
		2.0										●	●	●					
	5	1.0	0.05	5	4.3	52.8	20	2.15	0	1.5	Fig.1	●	●	●		EZH050..			
		1.5										●	●	●					
		2.0										●	●	●					
		1.0										●	●	●					
	6	1.5	0.05	6	5.15	60.7	25	2.65	0	2	Fig.1	●	●	●		EZH060..			
		2.0										●	●	●					
		1.0										●	●	●					
		1.5										●	●	●					
	7	2.0	0.05	7	6.2	63.7	25	3.05	0	2	Fig.1	●	●	●		EZH070..			
		1.0										●	●	●					
1.5		●										●	●						
2.0		●										●	●						
8	1.0	0.05	7	6.2	63.7	25	3.45	0	2	Fig.1	●	●	●		EZH070..				
	1.5										●	●	●						
	2.0										●	●	●						
	1.0										●	●	●						
EZGR 030030-050S 030030-100S 040040-050S 040040-100S 040040-150S 040040-200S 050050-100S 050050-150S 050050-200S 060060-100S 060060-150S 060060-200S 070070-100S 070070-150S 070070-200S 080070-100S 080070-150S 080070-200S	3	0.5	0.05	3	2.5	38.7	5	1.25	0	0.8	Fig.2	●				EZH030..			
		1.0										●							
	4	0.5		0.05	4	3.45	44.7	8	1.7	0		1	1	Fig.2	●				EZH040..
		1.0													●				
		1.5													●				
		2.0													●				
	5	1.0		0.05	5	4.3	52.8	10	2.15	0		1.5	1.5	Fig.2	●				EZH050..
		1.5													●				
		2.0													●				
		1.0													●				
	6	1.5		0.05	6	5.15	60.7	10	2.65	0		2	2	Fig.2	●				EZH060..
		2.0													●				
		1.0													●				
		1.5													●				
7	2.0	0.05	7	6.2	63.7	10	3.05	0	2	2	Fig.2	●				EZH070..			
	1.0											●							
	1.5											●							
	2.0											●							
8	1.0	0.05	7	6.2	63.7	10	3.45	0	2	2	Fig.2	●				EZH070..			
	1.5											●							
	2.0											●							
	1.0											●							

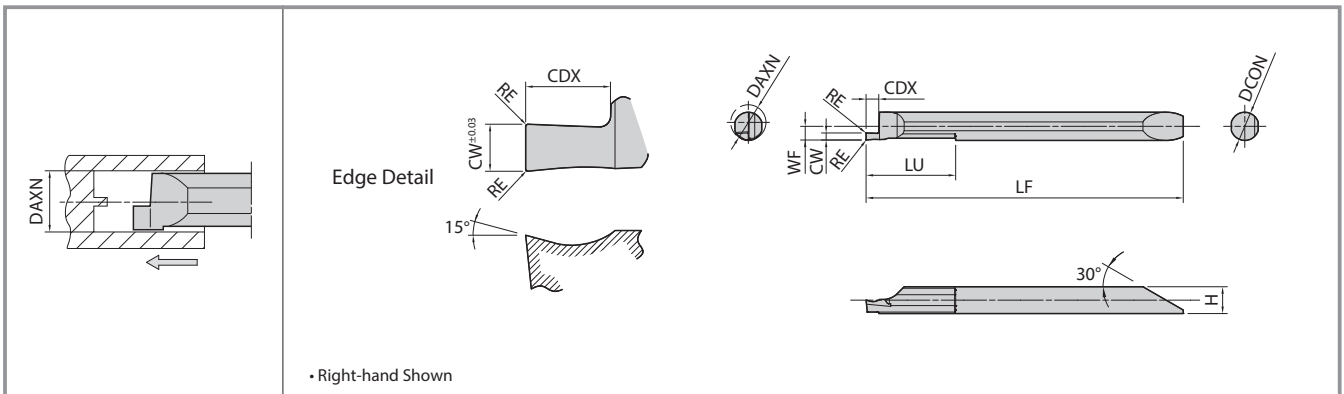
CDX : Available Grooving Depth  
Description : With suffix "S" indicates a short type

Bars are Sold in 1 Piece Boxes  
● : Std. Item

Recommended Cutting Conditions

Workpiece	Insert Grade (Vc : m/min)		EZGR030030-...S	EZGR040040-... EZGR050050-... EZGR040040-...S EZGR050050-...S	EZGR060060-... EZGR070070-... EZGR080070-... EZGR060060-...S EZGR070070-...S EZGR080070-...S	Notes
	MEGACOAT	Carbide				
	PR1225	GW05				
Carbon Steel • Alloy Steel (SxxC • SCM)	★ 30 ~ 100	-	~ 0.02	~ 0.03	~ 0.05	Wet
Stainless Steel (SUS304)	★ 30 ~ 80	-	~ 0.01	~ 0.02	~ 0.03	
Non-ferrous Metals	-	★ ~ 300	-	~ 0.05	~ 0.08	

★ : 1st Recommendation



• Right-hand Shown

EZ Bar Dimensions

Description	Face Grooving Dia. (MIN.)	Dimensions (mm)								MEGACOAT		Carbide		Applicable Sleeve	
		DAXN	CW <sup>±0.03</sup>	RE	DCON	H	LF	LU	WF	CDX	PR1225		GW05		
											R	L	R		L
EZFG <sup>R/L</sup> 050040-100	5	1.0	±0.013	4	3.8	45.0	12	1.9	1.5	●	●	●		EZH040..	
EZFG <sup>R/L</sup> 050040-150		1.5								●	●	●			
EZFG <sup>R/L</sup> 060050-100	6	1.0	±0.013	5	4.8	53.2	25	2.4	1.5	●	●	●		EZH050..	
EZFG <sup>R/L</sup> 060050-150		1.5							●	●	●				
EZFG <sup>R/L</sup> 060050-200		2.0							●	●	●				
EZFG <sup>R/L</sup> 080070-100	8	1.0	±0.013	7	6.8	64.2	25	3.4	2.0	●	●	●		EZH070..	
EZFG <sup>R/L</sup> 080070-150		1.5							●	●	●				
EZFG <sup>R/L</sup> 080070-200		2.0							●	●	●				
EZFG <sup>R/L</sup> 080070-300		3.0							●	●	●				

CDX : Available Grooving Depth

Bars are Sold in 1 Piece Boxes

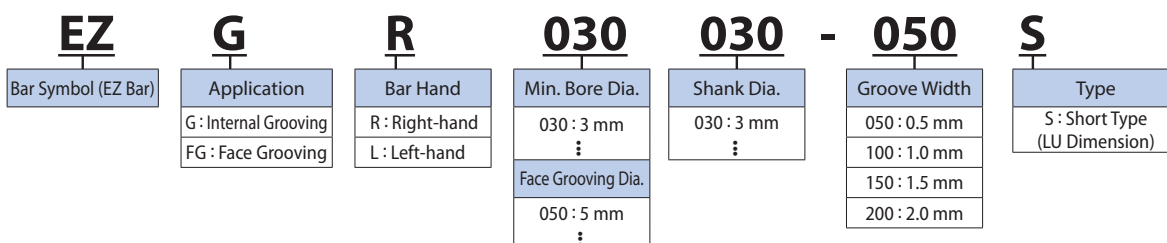
● : Std. Item

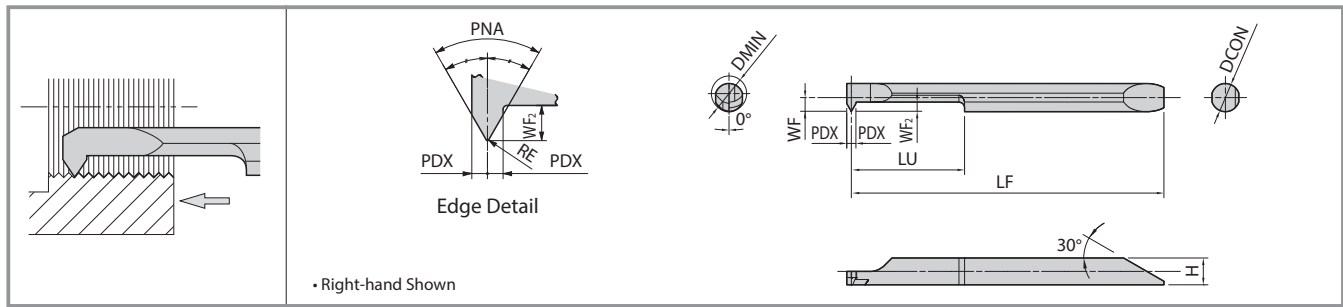
Recommended Cutting Conditions

Workpiece	Insert Grade (Vc: m/min)		EZFG050040-100 EZFG060050-100 EZFG080070-100	EZFG050040-150 EZFG060050-150 EZFG080070-150	EZFG060050-200 EZFG080070-200	EZFG080070-300	Notes
	MEGACOAT PR1225	Carbide GW05					
Carbon Steel • Alloy Steel (SxxC • SCM)	★ 30 ~ 100	—	~ 0.02	~ 0.03	~ 0.04	~ 0.05	Wet
Stainless Steel (SUS304)	★ 30 ~ 80	—	~ 0.01	~ 0.02	~ 0.02	~ 0.03	
Non-ferrous Metals	—	★ ~ 300	~ 0.03	~ 0.05	~ 0.06	~ 0.08	

★ : 1st Recommendation

EZ Bar Identification System (Internal Grooving, Face Grooving)





EZ Bar Dimensions

Description	Min. Bore Dia.	Dimensions (mm)									MEGA COAT	Carbide	Applicable Threads						
		DMIN	DCON	H	LF	LU	WF	WF <sub>2</sub>	PDX	RE			PNA	Metric		Unified		American National Pipe	
														Applicable Thread	Pitch (mm)	Applicable Thread	Pitch (TPI)	Applicable Thread	Pitch (TPI)
EZTR 030025-60-002	3.0	2.5	2.3	35.0	6.5	1.19	1.0	0.5	±0.01 0.02	60°	●	●	M4 or more (M3.5 or more)	0.35 ~ 0.8	No.8-32UNC No.8-36UNF or more	36 ~ 32	-	-	
	3.5	3.0	2.8	39.0	9.0	1.44	1.2	0.6			●	●	M4.5 or more (M4.5 or more)	0.5 ~ 1.0	No.10-24UNC No.8-36UNF or more	36 ~ 24	-	-	
	4.0	3.5	3.3	42.0	11.0	1.69	1.2	0.6			●	●	M5 or more (M6 or more)	0.75 ~ 1.25	No.12-24UNC No.12-28UNF or more	28 ~ 20	-	-	
	5.0	4.0	3.8	45.0	16.0	1.94	1.3	0.65			●	●	M7 or more (M6 or more)	0.75 ~ 1.5	1/4-20UNC 1/4-28UNF or more	28 ~ 18	-	-	
	6.0	5.0	4.8	53.2	19.5	2.44	1.6	0.8			●	●	M8 or more (M7 or more)	0.75 ~ 1.5	5/16-18UNC 5/16-24UNF or more	24 ~ 16	1/4NPT 3/8NPT	18	
	7.0	6.0	5.8	61.2	24.5	2.94	2.0	1.0			●	●	M9 or more (M8 or more)	0.75 ~ 1.75	3/8-16UNC 3/8-24UNF or more	24 ~ 16	1/4NPT or more	18,14	
												Whitworth		Parallel Pipe / Tapered Pipe					
EZTR 060050-55-008	6.0	5.0	4.8	53.2	19.5	2.44	1.6	0.8	±0.015 0.085	55°	●	●	W10 TPI 24 or more	24 ~ 20	G1/16 or more R1/16 or more	28	-	-	
	8.0	7.0	6.8	64.2	24.5	3.44	2.0	1.0			●	●	W11 TPI 20 or more	20 ~ 18	G1/8 or more R1/8 or more	28,19	-	-	

For American National Pipe (NPT), use EZTR..-60-004. See Page 22  
See back cover for applicable sleeves

ap & Number of Passes (Metric)

Pitch (mm)	Total ap (mm)	No. of Passes (Times)	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass	18 Pass	19 Pass	20 Pass
0.5	0.3	9	0.05	0.05	0.04	0.04	0.03	0.03	0.02	0.02	0.02											
0.7	0.42	10	0.06	0.05	0.05	0.05	0.05	0.04	0.04	0.03	0.03	0.02										
0.75	0.45	10	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.03	0.03										
0.8	0.48	11	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.03	0.03	0.03									
1.00	0.61	12	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.03	0.03								
1.25	0.77	14	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03						
1.50	0.93	17	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.03			
1.75	1.1	20	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.03

ap & Number of Passes (Whitworth)

TPI (TPI/inch)	Total ap (mm)	No. of Passes (Times)	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass		
24	0.65	13	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.03	0.03						
20	0.81	15	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.03	0.03				
18	0.91	17	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.03	0.03	0.03		

ap & Number of Passes (Unified)

TPI (TPI/inch)	Total ap (mm)	No. of Passes (Times)	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass	18 Pass	
36	0.44	10	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.03	0.02	0.02									
32	0.5	11	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.03	0.03	0.03								
28	0.55	12	0.07	0.06	0.05	0.05	0.05	0.05	0.04	0.04	0.03	0.03	0.03	0.03							
24	0.65	12	0.07	0.07	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.04	0.03							
20	0.78	14	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.04	0.04	0.03					
18	0.88	17	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.03	0.03			
16	0.99	18	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.03	0.03

Bars are Sold in 1 Piece Boxes  
● : Std. Item

## Recommended Cutting Conditions

Workpiece	Recommended Insert Grade (Vc : m/min)	
	MEGACOAT	Carbide
	PR1225	GW05
Carbon Steel • Alloy Steel (S45C • SCM435)	★ 30 ~ 50	–
Stainless Steel (SUS304)	★ 30 ~ 50	–
Non-ferrous Metals (Aluminum • Brass)	–	★ 30 ~ 50

<Note>

1) The standard cutting speed is Vc = 30 ~ 50 m/min  
The table feed may not follow the expected conditions when machining small diameter workpieces at high speeds

2) Coolant is recommended

★ : 1st Recommendation

## Application of Parallel Pipe and Tapered Pipe Thread

Parallel Pipe : G (PF), Rp (PS)

Applicable Thread Symbol (Previous Symbol)	TPI (TPI/inch)	Internal Threading		Same Root's Radius External Threading Internal Threading
		Insert	Bore Dia.	
G 1/16 (-)	28	EZTR 060050-55-008	6.56	0.12
G 1/8 (PF 1/8)			8.57	
G 1/4 (PF 1/4)	19	EZTR 080070-55-008	11.45	0.18
G 3/8 (PF 3/8)			14.95	

Tapered Pipe : R, Rc (PT) (BSPT)

Applicable Thread Symbol (Previous Symbol)	TPI (TPI/inch)	Internal Threading		Same Root's Radius External Threading Internal Threading
		Insert	Bore Dia.	
R 1/16, Rc 1/16 (-)	28	EZTR 060050-55-008	–	0.12
R 1/8, Rc 1/8 (PT 1/8)			–	
R 1/4, Rc 1/4 (PT 1/4)	19	EZTR 080070-55-008	–	0.18
R 3/8, Rc 3/8 (PT 3/8)			–	

When using "EZT type" for Parallel Pipe / Tapered Pipe threading, thread's corners become sharp edged due to its partial profile, and the shape will not be the same as the standard shape for Parallel Pipe / Tapered Pipe

## ap & Number of Passes (Parallel Pipe / Tapered Pipe)

TPI (TPI/inch)	Total ap (mm)	No. of Passes (Times)	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass	18 Pass
28	0.61	12	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.03	0.03						
19	0.95	18	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.03	0.03

## Application for NPT

Applicable Thread	TPI (TPI/inch)	Internal Threading		
		Toolholder	Insert	
			Partial Profile	Full Profile
1/16 NPT 1/8 NPT	27	No Tools Available		
1/4 NPT 3/8 NPT	18	EZH Sleeve	EZTR060050-60-004 EZTR070060-60-004	–
1/2 NPT 3/4 NPT	14	EZH Sleeve	EZTR070060-60-004	–
1/2 NPT 3/4 NPT	14	SINR1616S-16 SINR2016S-16	–	16R14NPT

Application of NPTF Thread

NPTF is the thread for sealing pipes without using any sealing material

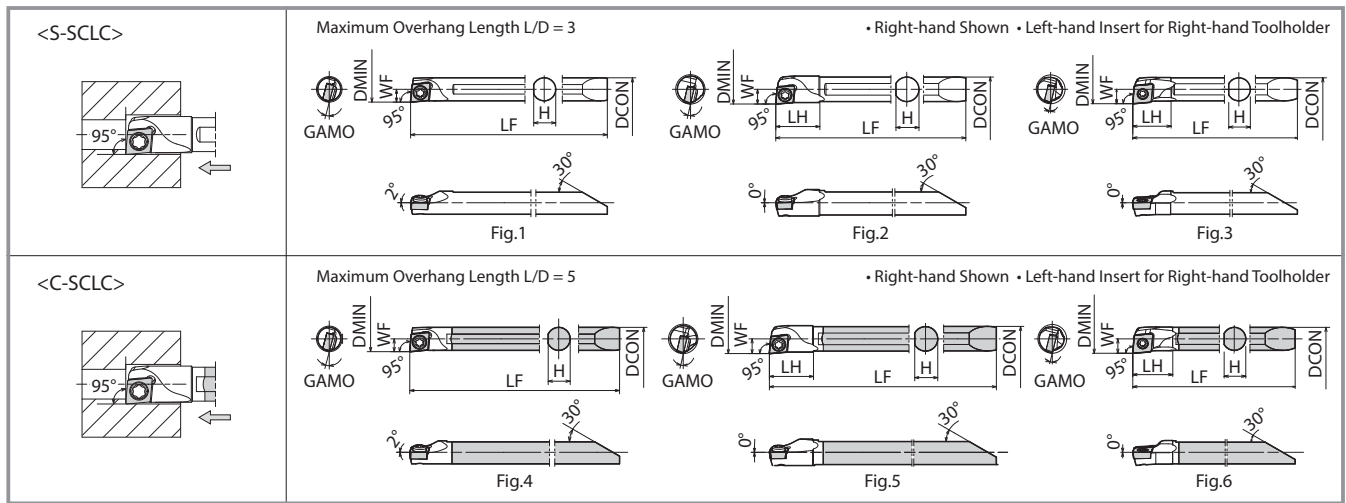
Thread symbol is similar to NPT but the tolerance is different from that of NPT, therefore the above inserts are not available for NPTF

## ap & Number of Passes (American National Pipe)

TPI (TPI/inch)	Total ap (mm)	No. of Passes (Times)	1 Pass	2 Pass	3 Pass	4 Pass	5 Pass	6 Pass	7 Pass	8 Pass	9 Pass	10 Pass	11 Pass	12 Pass	13 Pass	14 Pass	15 Pass	16 Pass	17 Pass	18 Pass	19 Pass
18	1.23	16	0.18	0.14	0.12	0.12	0.10	0.09	0.08	0.08	0.07	0.06	0.05	0.04	0.03	0.03	0.02	0.02			
14	1.56	19	0.18	0.16	0.14	0.14	0.12	0.10	0.09	0.09	0.08	0.07	0.07	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.02

Applicable Inserts :  045X... = CC...03...  050X... = CC...03...  
 060X... = CC...04...  070X... = CC...04...  
 080X... = CC...06...

**Toolholder Dimensions**

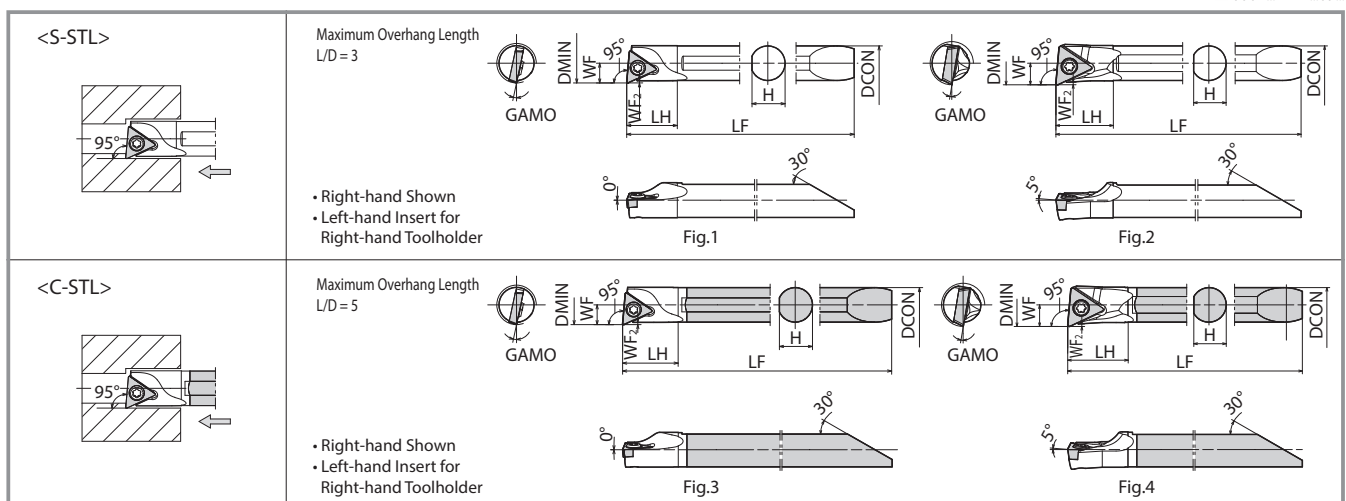


Description	Stock	Min. Bore Dia.	Dimensions (mm)					GAMO	Std. Corner-R(RE)	Coolant Hole	Drawing	Spare Parts		Applicable Sleeve
	R		DMIN	DCON	H	LF	LH					WF	Clamp Screw	
Steel	●	5	4.5	4.3	42.4	-	2.5	15°	0.2	No	Fig.1	SB-1635TR	FT-6	EZH045...
	●	6	5	4.7	48.4	9	3	13°			Fig.2			EZH050...
	●	7	6	5.7	54.4	10	3.5	11°	Fig.2		SB-2035TR	EZH060...		
	●	8	7	6.7	60.4	10.3	4	14°	Fig.3		SB-2545TR	FT-8	EZH070...	
	●	10	8	7.5	69.5	13.3	5	14°	0.4		Fig.3	EZH080...		
Carbide	●	5	4.5	4.3	51.4	-	2.5	15°	0.2	No	Fig.4	SB-1635TR	FT-6	EZH045...
	●	6	5	4.7	58.4	9	3	13°			Fig.5			EZH050...
	●	7	6	5.7	66.4	10	3.5	11°	Fig.5		SB-2035TR	EZH060...		
	●	8	7	6.7	74.4	11	4	14°	Fig.6		SB-2545TR	FT-8	EZH070...	
	●	10	8	7.5	85.5	14	5	14°	0.4		Fig.6	EZH080...		

● : Std. Item

**Toolholder Dimensions**

Applicable Inserts :  070X... = TB...06...  
 080X... = TP...09...



Description	Stock	Min. Bore Dia.	Dimensions (mm)					GAMO	Std. Corner-R(RE)	Coolant Hole	Drawing	Spare Parts		Applicable Sleeve	
	R		DMIN	DCON	H	LF	LH					WF	WF <sub>2</sub>		Clamp Screw
Steel	●	8	7	6.7	60.4	10.3	4	0.4	12°	0.2	No	Fig.1	SB-2035TR	FT-6	EZH070...
	●	10	8	7.5	69.5	13.3	5	0.5	10°			0.4	Fig.2	SB-2545TR	FT-8
Carbide	●	8	7	6.7	74.4	11	4	0.4	12°	0.2		Fig.3	SB-2035TR	FT-6	EZH070...
	●	10	8	7.5	85.5	14	5	0.5	10°			0.4	Fig.4	SB-2545TR	FT-8

\*TB\*\*06\*\*08 Inserts cannot be used

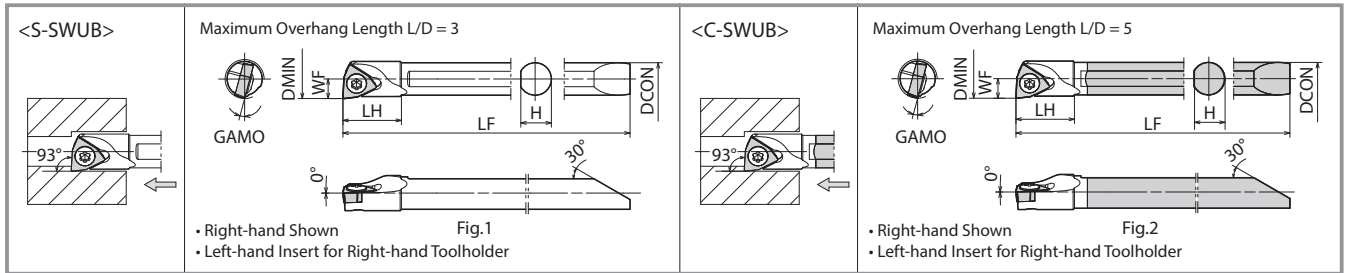
● : Std. Item



# EZ Bar PLUS (Indexable Boring Bar)

## Toolholder Dimensions

Applicable Inserts : □ 050X... = WB...06... □ 060X... = WB...06...  
□ 070X... = WB...08...

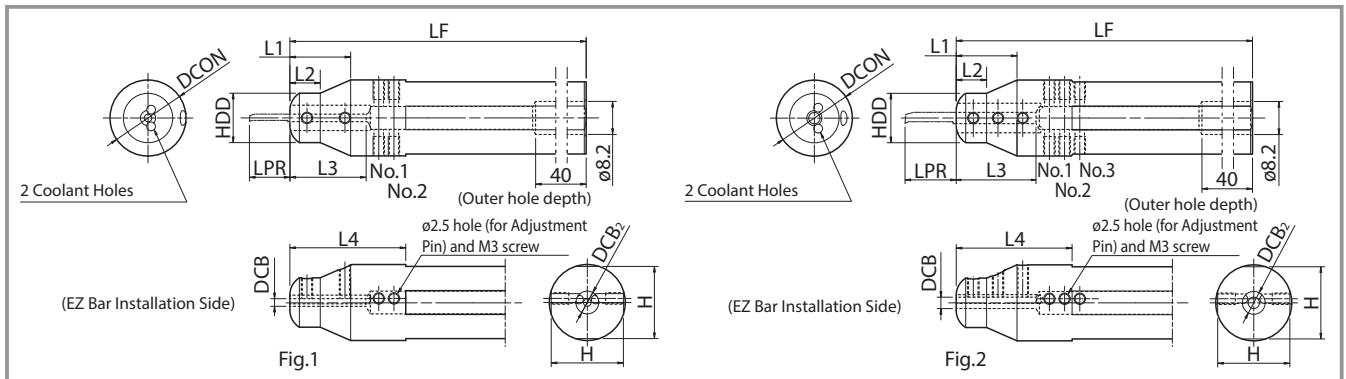


Description	Stock	Min. Bore Dia.	Dimensions (mm)						GAMO	Std. Corner-R(RE)	Coolant Hole	Drawing	Spare Parts		Applicable Sleeve
			R	DMIN	DCON	H	LF	LH					WF	Clamp Screw	
Steel	S050X-SWUBR06-060EZP	●	6	5	4.7	48.4	9	3	15°	0.2	No	Fig.1	SB-2035TR	FT-6	EZH050...
	S060X-SWUBR06-070EZP	●	7	6	5.7	54.4	10	3.5	13°						EZH060...
	S070X-SWUBR08-080EZP	●	8	7	6.7	60.4	10.3	4	15°						EZH070...
Carbide	C050X-SWUBR06-060EZP	●	6	5	4.7	58.4	9	3	15°	0.2	No	Fig.2	SB-2035TR	FT-6	EZH050...
	C060X-SWUBR06-070EZP	●	7	6	5.7	66.4	10	3.5	13°						EZH060...
	C070X-SWUBR08-080EZP	●	8	7	6.7	74.4	11	4	15°						EZH070...

● : Std. Item

## Applicable Sleeve

With Coolant Hole and EZ Adjust Structure



## Sleeve Dimensions

Description	Stock	Dimensions (mm)										Bar Overhang Length LPR (mm)				Drawing	Applicable EZ Bar		
		DCB	DCON	HDD	DCB <sub>2</sub>	H	LF	L1	L2	*1L3	L4	Adjustment Pin Setting							
												No.1	No.2	No.3	No.4				
EZH 01719CT-120	●	1.7	19.05	13	6	18	120	16	8	16	30.5	7.5	3.5	-	-	Fig.1	EZBR...017...		
	●					19	120												
	●					21	135												
	●					24	135												
	●					24.4	120												
EZH 02019CT-120	●	2	19.05	13	6	18	120	16	8	20	30.5	8.5	4.5	-	-	Fig.1	EZB R/L...020... EZBPR...020...		
	●					19	120												
	●					21	135												
	●					24	135												
	●					24.4	120												
EZH 02519CT-120	●	2.5	19.05	13	6	18	120	16	8	20	30.5	11	7	-	-	Fig.1	EZB R/L...025... EZTR...025...		
	●					19	120												
	●					21	135												
	●					24	135												
	●					24.4	120												
EZH 03019CT-120	●	3	19.05	13	6	18	120	16	8	21	30.5	13.5	9.5	5.5	-	Fig.2	EZB R/L...030... EZBFR...030... EZVBR...030... EZBPR...030... EZGR...030... EZTR...030...		
	●					19	120												
	●					21	135												
	●					24	135												
	●					24.4	120												
EZH 03519CT-120	●	3.5	19.05	13	6	18	120	16	8	21	31.1	15.5	11.5	7.5	-	Fig.2	EZB R/L...035... EZTR...035...		
	●					19	120												
	●					21	135												
	●					24	135												
	●					24.4	120												

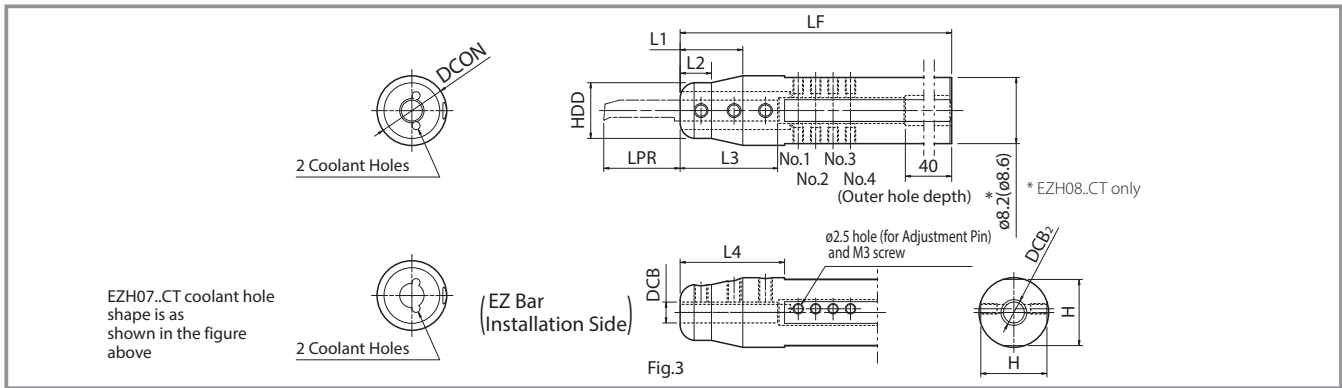
\*1. L3 shows DCB length \*2. LPR shows overhang length of the EZB Bar (except for long type) when attached to sleeve

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

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

● : Std. Item

# Applicable Sleeve

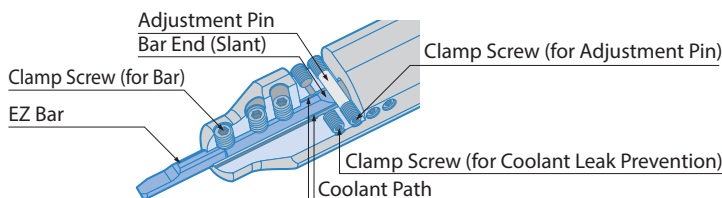


## Sleeve Dimensions

Description	Stock	Dimensions (mm)										Bar Overhang Length <sup>2</sup> LPR (mm)				Drawing	Applicable EZ Bar
		DCB	DCON	HDD	DCB <sub>2</sub>	H	LF	L1	L2	*1L3	L4	No.1	No.2	No.3	No.4		
EZH 04019CT-120	●	4	19.05	13	6	18	120	16	8	22	32.7	20.5	16.5	12.5	8.5	Fig.3	EZB <sup>R/L</sup> ...040... EZBFR...040... EZBTR...040... EZVBR...040... EZBPR...040... EZG <sup>R/L</sup> ...040... EZFG <sup>R/L</sup> ...040... EZTR...040...
EZH 04020CT-120	●		20			19	120										
EZH 04022CT-135	●		22			21	135										
EZH 04025.0CT-135	●		25			24	135										
EZH 04025.4CT-120	●		25.4			24.4	120										
EZH 04519CT-120	●	4.5	19.05	16	6	18	120	18	9	23	30.0	23	18.5	14	9.5	Fig.3	EZB <sup>R/L</sup> ...045... _045X-...-050EZP
EZH 04520CT-120	●		20			19	120										
EZH 04522CT-135	●		22			21	135										
EZH 04525.0CT-135	●		25			24	135										
EZH 04525.4CT-120	●		25.4			24.4	120										
EZH 05019CT-120	●	5	19.05	16	6	18	120	18	9	26	30.0	25.5	20.5	15.5	10.5	Fig.3	EZB <sup>R/L</sup> ...050... EZBFR...050... EZBTR...050... EZVBR...050... EZBPR...050... EZBCR...050... EZG <sup>R/L</sup> ...050... EZFG <sup>R/L</sup> ...050... EZTR...050... _050X-...-060EZP
EZH 05020CT-120	●		20			19	120										
EZH 05022CT-135	●		22			21	135										
EZH 05025.0CT-135	●		25			24	135										
EZH 05025.4CT-120	●		25.4			24.4	120										
EZH 06019CT-120	●	6	19.05	16	7.4	18	120	18	9	28	30.0	30.5	25.5	20.5	15.5	Fig.3	EZB <sup>R/L</sup> ...060... EZBFR...060... EZVBR...060... EZBPR...060... EZBCR...060... EZG <sup>R/L</sup> ...060... EZTR...060... _060X-...-070EZP
EZH 06020CT-120	●		20			19	120										
EZH 06022CT-135	●		22			21	135										
EZH 06025.0CT-135	●		25			24	135										
EZH 06025.4CT-120	●		25.4			24.4	120										
EZH 07019CT-120	●	7	19.05	16	7.4	18	120	18	9	29	30.0	35.5	30.5	25.5	20.5	Fig.3	EZB <sup>R/L</sup> ...070... EZBCR...070... EZG <sup>R/L</sup> ...070... EZFG <sup>R/L</sup> ...070... EZTR...070... _070X-...-080EZP
EZH 07020CT-120	●		20			19	120										
EZH 07022CT-135	●		22			21	135										
EZH 07025.0CT-135	●		25			24	135										
EZH 07025.4CT-120	●		25.4			24.4	120										
EZH 08019CT-120	●	8	19.05	16	8.6	18	120	18	9	33	34.0	40.5	35.5	30.5	25.5	Fig.3	EZB <sup>R/L</sup> ...080... _080X-...-100EZP
EZH 08020CT-120	●		20			19	120										
EZH 08022CT-135	●		22			21	135										
EZH 08025.0CT-135	●		25			24	135										
EZH 08025.4CT-120	●		25.4			24.4	120										

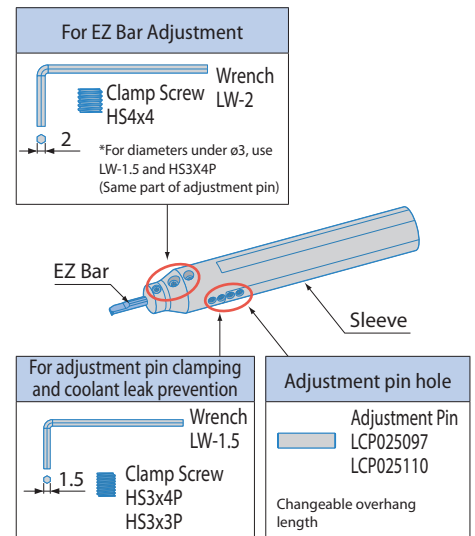
\*1. L3 shows DCB length \*2. LPR shows overhang length of the EZB Bar (except for long type) when attached to sleeve. ( ) value indicates the overhang length when installed the steel boring bar (EZ Bar PLUS) ● : Std. Item  
Choose sleeves (DCB) to meet with DCON dimension of bar  
A hole on the rear end of sleeve is prepared hole for Rc1/8 threading. Please modify by additional processing if necessary. The body hardness is 42HRC(except EZH080CT...)

## EZH-CT Internal Structure



## Parts (For EZH-CT Sleeves)

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



- If shank dia. is  $\phi 2.5\text{mm}$  or less, use clamp screw (HS3X4P)
  - For Adjustment Pin ..... 2 pcs
  - For liquid leak prevention ..... 2 pcs
  - For EZ Bar ..... 2 pcs
- If shank dia. is  $\phi 3\text{mm}$ , use clamp screw (HS3X4P)
  - For Adjustment Pin ..... 2 pcs
  - For liquid leak prevention ..... 4 pcs
  - For EZ Bar ..... 3 pcs

## EZ Bar Mounting Procedure (EZH-CT sleeve)

How to use adjustment pin and prevent liquid leak (Fig. 4)

- Put the adjustment pin into the hole. Push it into the sleeve, using the wrench "LW-1.5"
- Tighten the clamp screw for the adjustment pin (HS3X4P, HS3X3P) using the wrench (LW-1.5) from the both sides of the sleeve
- Put the clamp screws (HS3X4P, HS3X3P) into the holes for liquid leak prevention, using the wrench (LW-1.5) and fix them from the both sides of the sleeve

How to Secure Bar (Fig.5)

- 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.6)
- Tighten the clamp screw with wrench "LW-2" and secure the bar  
(Use "LW-1.5" if shank dia. is 3 mm or less)

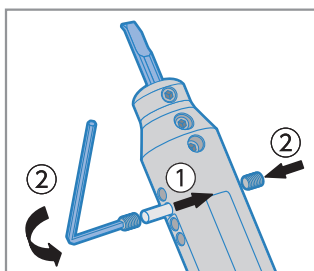


Fig.4 How to Use Adjustment Pin

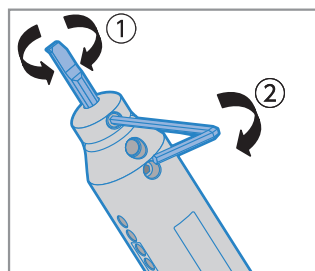


Fig.5 How to Secure Bar

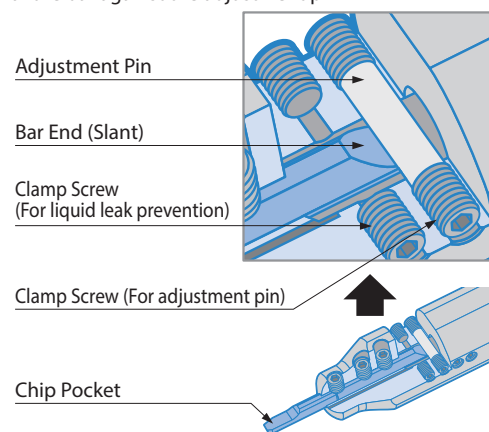
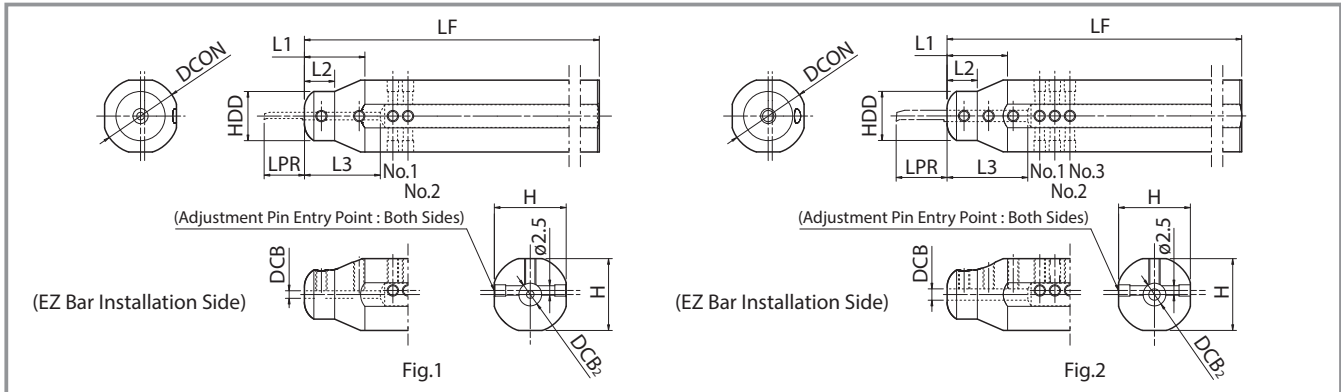


Fig.6 Clamped Bar

## Sleeve Identification System

<b>EZ</b>	<b>H</b>	<b>020</b>	<b>19</b>	<b>CT</b> - <b>120</b>
Bar Symbol (EZ Bar)	Application H : Sleeve	Shank Dia. of EZ Bar 020 : 2.0 mm   025 : 2.5 mm	Sleeve Shank Dia. 19 : 19.05 mm   25.4 : 25.4 mm	Precision Symbol CT : With Coolant Hole and EZ Adjust Structure HP : EZ Adjust Structure ST : Standard
				Overall Length of Sleeve 120 : 120 mm   135 : 135 mm

# Applicable Sleeve



## Sleeve Dimensions

Description	Stock	Dimensions (mm)									Bar Overhang Length <sup>*2</sup> LPR (mm)				Drawing	Applicable EZ Bar
		DCB	DCON	HDD	DCB <sub>2</sub>	H	LF	L1	L2	<sup>*1</sup> L3	No.1	No.2	No.3	No.4		
EZH 01716HP-100	●	1.7	16	13	6	15	100	16	8	16	7.5	3.5	-	-	Fig.1	EZBR...017...
01719HP-120	●		19.05			18	120									
01720HP-120	●		20			19	120									
01722HP-135	●		22			21	135									
01725.0HP-135	●		25			24	135									
01725.4HP-120	●		25.4			24.4	120									
EZH 02016HP-100	●	2	16	13	6	15	100	16	8	20	8.5	4.5	-	-	Fig.1	EZB <sup>R/L</sup> ...020... EZBPR...020...
02019HP-120	●		19.05			18	120									
02020HP-120	●		20			19	120									
02022HP-135	●		22			21	135									
02025.0HP-135	●		25			24	135									
02025.4HP-120	●		25.4			24.4	120									
EZH 02516HP-100	●	2.5	16	13	6	15	100	16	8	20	11	7	-	-	Fig.1	EZB <sup>R/L</sup> ...025... EZTR...025...
02519HP-120	●		19.05			18	120									
02520HP-120	●		20			19	120									
02522HP-135	●		22			21	135									
02525.0HP-135	●		25			24	135									
02525.4HP-120	●		25.4			24.4	120									
EZH 03016HP-100	●	3	16	13	6	15	100	16	8	21	13.5	9.5	5.5	-	Fig.2	EZB <sup>R/L</sup> ...030... EZBFR...030... EZVBR...030... EZBPR...030... EZGR...030... EZTR...030...
03019HP-120	●		19.05			18	120									
03020HP-120	●		20			19	120									
03022HP-135	●		22			21	135									
03025.0HP-135	●		25			24	135									
03025.4HP-120	●		25.4			24.4	120									
EZH 03516HP-100	●	3.5	16	13	6	15	100	16	8	22	15.5	11.5	7.5	-	Fig.2	EZB <sup>R/L</sup> ...035... EZTR...035...
03519HP-120	●		19.05			18	120									
03520HP-120	●		20			19	120									
03522HP-135	●		22			21	135									
03525.0HP-135	●		25			24	135									
03525.4HP-120	●		25.4			24.4	120									
EZH 04016HP-100	●	4	16	13	6	15	100	16	8	24	20.5	16.5	12.5	8.5	Fig.4	EZB <sup>R/L</sup> ...040... EZBFR...040... EZBTR...040... EZVBR...040... EZBPR...040... EZG <sup>R/L</sup> ...040... EZFG <sup>R/L</sup> ...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									

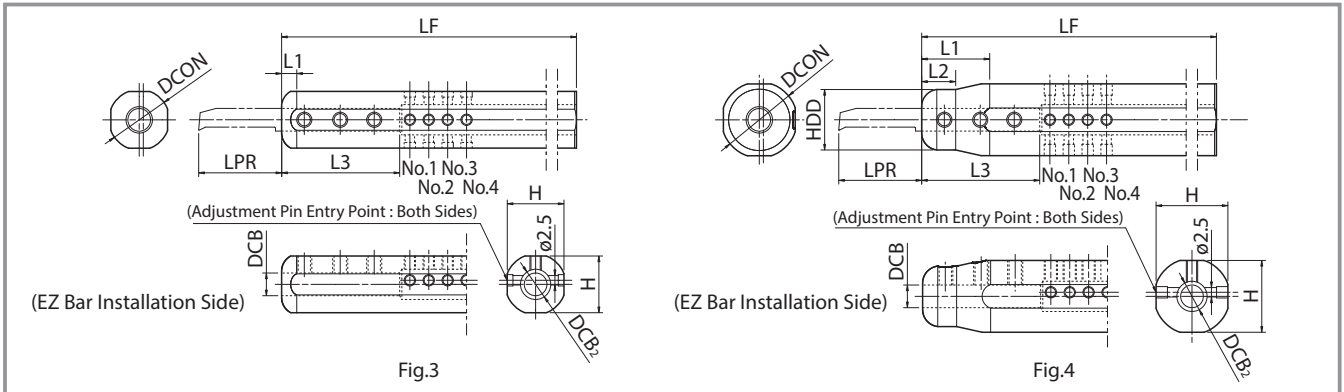
\*1. L3 shows DCB length \*2. LPR shows overhang length of the EZ Bar when attached to sleeve  
Choose sleeves (DCB) to meet with DCON dimension of bar

● : Std. Item

## Parts (For EZH-HP Sleeves)

Description	Spare Parts				
	Adjustment Pin	Clamp Screw (for Adjustment Pin)	Wrench	Clamp Screw (for Bar)	Wrench
EZH 017...HP-.. 020...HP-.. 025...HP-.. 030...HP-..	LCP025140	HS3X4P (for both Adjustment Pin and Bar)	LW-1.5 Tightening Torque 1N · m	HS3X4P	LW-1.5 Tightening Torque 1N · m
EZH 035...HP-.. 040...HP-.. 045...HP-.. 050...HP-.. 060...HP-.. 070...HP-.. 080...HP-..	LCP025140	HS3X4P	LW-1.5 Tightening Torque 1N · m	HS4X4P	LW-2 Tightening Torque 2N · m

## Applicable Sleeve



## Sleeve Dimensions

Description	Stock	Dimensions (mm)										Bar Overhang Length <sup>2</sup> LPR (mm)				Drawing	Applicable EZ Bar					
		DCB	DCON	HDD	DCB <sub>2</sub>	H	LF	L1	L2	<sup>1</sup> L3	No.1	No.2	No.3	No.4								
EZH 04516HP-100	●	4.5	16	16	6	15	100	4	-	25.3	23 (14)	18.5 (9.5)	14 (-)	9.5 (-)	Fig.3	EZB <sup>R/L</sup> ...045... _045X...-050EZP						
04519HP-120	●		19.05			18	120	18	9								29	25.5 (15.5)	20.5 (10.5)	15.5 (-)	10.5 (-)	Fig.4
04520HP-120	●		20			19	120															
04522HP-135	●		22			21	135															
04525.0HP-135	●		25			24	135															
04525.4HP-120	●		25.4			24.4	120															
EZH 05016HP-100	●	5	16	16	6	15	100	4	-	29	25.5 (15.5)	20.5 (10.5)	15.5 (-)	10.5 (-)	Fig.3	EZB <sup>R/L</sup> ...050... EZBFR...050... EZBTR...050... EZVBR...050... EZBPR...050... EZBCR...050... EZG <sup>R/L</sup> ...050... EZFG <sup>R/L</sup> ...050... EZTR...050... _050X...-060EZP						
05019HP-120	●		19.05			18	120															
05020HP-120	●		20			19	120															
05022HP-135	●		22			21	135															
05025.0HP-135	●		25			24	135															
05025.4HP-120	●		25.4			24.4	120															
EZH 06016HP-100	●	6	16	16	8	15	100	4	-	31	30.5 (18.5)	25.5 (13.5)	20.5 (-)	15.5 (-)	Fig.3	EZB <sup>R/L</sup> ...060... EZBFR...060... EZVBR...060... EZBPR...060... EZBCR...060... EZG <sup>R/L</sup> ...060... EZTR...060... _060X...-070EZP						
06019HP-120	●		19.05			18	120															
06020HP-120	●		20			19	120															
06022HP-135	●		22			21	135															
06025.0HP-135	●		25			24	135															
06025.4HP-120	●		25.4			24.4	120															
EZH 07016HP-100	●	7	16	16	8	15	100	4	-	33	35.5 (21.5)	30.5 (16.5)	25.5 (11.5)	20.5 (-)	Fig.3	EZB <sup>R/L</sup> ...070... EZBCR...070... EZG <sup>R/L</sup> ...070... EZFG <sup>R/L</sup> ...070... EZTR...070... _070X...-080EZP						
07019HP-120	●		19.05			18	120															
07020HP-120	●		20			19	120															
07022HP-135	●		22			21	135															
07025.0HP-135	●		25			24	135															
07025.4HP-120	●		25.4			24.4	120															
EZH 08019HP-120	●	8	19.05	16	8.4	18	120	18	9	37	40.5 (24.5)	35.5 (19.5)	30.5 (14.5)	25.5 (-)	Fig.4	EZB <sup>R/L</sup> ...080... _080X...-100EZP						
08020HP-120	●		20			19	120															
08022HP-135	●		22			21	135															
08025.0HP-135	●		25			24	135															
08025.4HP-120	●		25.4			24.4	120															

\*1. L3 shows DCB length \*2. LPR shows overhang length of the EZB Bar when attached to sleeve

( ) value indicates the overhang length when installed the steel boring bar (EZ Bar PLUS). Choose sleeves (DCB) to meet with DCON dimension of bar

● : Std. Item

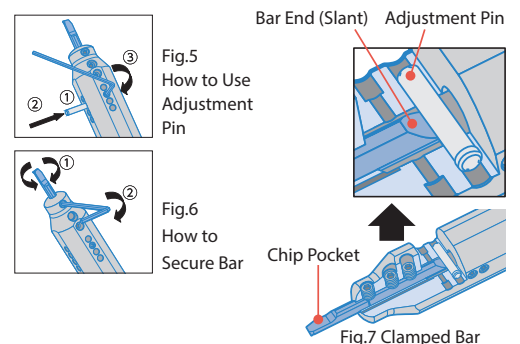
## EZ Bar Mounting Procedure (EZH-HP sleeve)

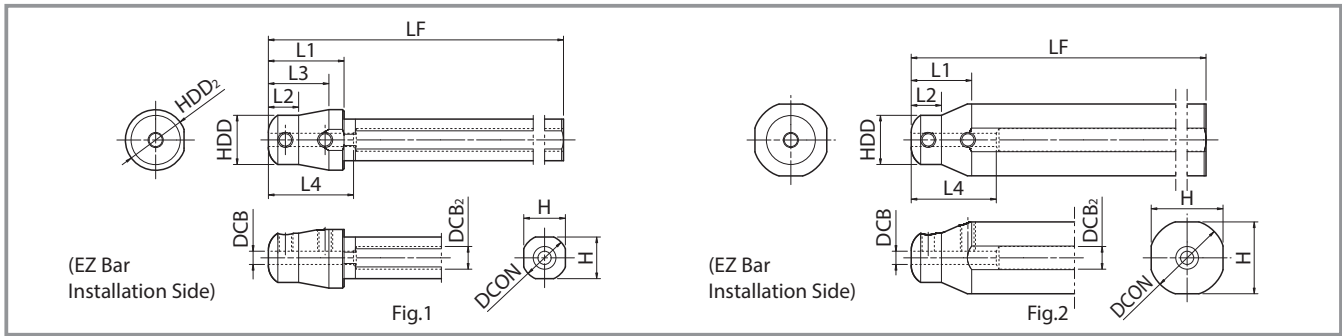
### How to Use Adjustment Pin (Fig.5)

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

### How to Secure Bar (Fig.6)

- (1) 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.7)
- (2) Tighten the clamp screw with wrench "LW-2" and secure the bar  
(Use "LW-1.5" if shank dia. is 3 mm or less)



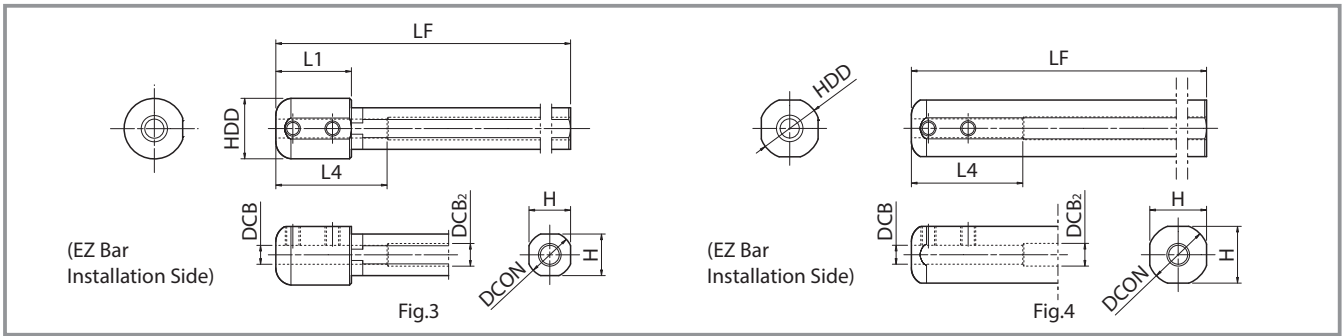


Sleeve Dimensions

Description	Stock	Dimensions (mm)											Drawing	Applicable EZ Bar
		DCB	DCON	HDD	HDD <sub>2</sub>	DCB <sub>2</sub>	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	●		19.05				18	120						
01720ST-120	●		20				19	120						
01722ST-135	●		22				21	135						
01725.0ST-135	●		25				24	135						
01725.4ST-120	●		25.4				24.4	120						
EZH 02012ST-80	●	2	12	13	16	6	11	80	20	8	16	20	Fig.1	EZB <sup>R</sup> /L...020... EZBPR...020...
02016ST-100	●		16				15	100						
02019ST-120	●		19.05				18	120						
02020ST-120	●		20				19	120						
02022ST-135	●		22				21	135						
02025.0ST-135	●		25				24	135						
02025.4ST-120	●		25.4				24.4	120						
EZH 02512ST-80	●	2.5	12	13	16	6	11	80	20	8	16	20	Fig.1	EZB <sup>R</sup> /L...025... EZTR...025...
02516ST-100	●		16				15	100						
02519ST-120	●		19.05				18	120						
02520ST-120	●		20				19	120						
02522ST-135	●		22				21	135						
02525.0ST-135	●		25				24	135						
02525.4ST-120	●		25.4				24.4	120						
EZH 03012ST-80	●	3	12	13	16	6	11	80	20	8	16	21	Fig.1	EZB <sup>R</sup> /L...030... EZBFR...030... EZVBR...030... EZBPR...030... EZGR...030... EZTR...030...
03016ST-100	●		16				15	100						
03019ST-120	●		19.05				18	120						
03020ST-120	●		20				19	120						
03022ST-135	●		22				21	135						
03025.0ST-135	●		25				24	135						
03025.4ST-120	●		25.4				24.4	120						
EZH 03512ST-80	●	3.5	12	13	16	6	11	80	20	8	16	22	Fig.1	EZB <sup>R</sup> /L...035... EZTR...035...
03516ST-100	●		16				15	100						
03519ST-120	●		19.05				18	120						
03520ST-120	●		20				19	120						
03522ST-135	●		22				21	135						
03525.0ST-135	●		25				24	135						
03525.4ST-120	●		25.4				24.4	120						
EZH 04012ST-80	●	4	12	13	16	6	11	80	20	8	16	24	Fig.1	EZB <sup>R</sup> /L...040... EZBFR...040... EZBTR...040... EZVBR...040... EZBPR...040... EZG <sup>R</sup> /L...040... EZFG <sup>R</sup> /L...040... EZTR...040...
04016ST-100	●		16				15	100						
04019ST-120	●		19.05				18	120						
04020ST-120	●		20				19	120						
04022ST-135	●		22				21	135						
04025.0ST-135	●		25				24	135						
04025.4ST-120	●		25.4				24.4	120						

\*L4 shows DCB length  
Choose sleeves (DCB) to meet with DCON dimension of bar  
Adjustment pin cannot be installed to EZH-ST sleeves. To adjust overhang of the bar, please use EZH-CT / HP sleeves

●: Std. Item



## Sleeve Dimensions

Description	Stock	Dimensions (mm)											Drawing	Applicable EZ Bar						
		DCB	DCON	HDD	HDD <sub>2</sub>	DCB <sub>2</sub>	H	LF	L1	L2	L3	L4								
EZH 05012ST-80	●	5	12	16	-	6	11	80	20	-	-	-	29	Fig.3	EZB <sup>R/L</sup> ...050... EZBFR...050... EZBTR...050... EZVBR...050... EZBPR...050... EZBCR...050... EZG <sup>R/L</sup> ...050... EZFG <sup>R/L</sup> ...050... EZTR...050... _050X...-060EZP					
EZH 05016ST-100	●		16				15	100	-					-		-	-	-	-	Fig.4
EZH 05019ST-120	●		19.05				18	120	-					-		-	-	-	-	Fig.2
EZH 05020ST-120	●		20				19	120	18					9		-	-	-		
EZH 05022ST-135	●		22				21	135	-					-		-	-	-		
EZH 05025.0ST-135	●		25				24	135	-					-		-	-	-		
EZH 05025.4ST-120	●		25.4				24.4	120	-					-		-	-	-	-	-
EZH 06012ST-80	●	6	12	16	-	8	11	80	20	-	-	-	31	Fig.3	EZB <sup>R/L</sup> ...060... EZBFR...060... EZVBR...060... EZBPR...060... EZBCR...060... EZG <sup>R/L</sup> ...060... EZTR...060... _060X...-070EZP					
EZH 06016ST-100	●		16				15	100	-					-		-	-	-	-	Fig.4
EZH 06019ST-120	●		19.05				18	120	-					-		-	-	-	-	Fig.2
EZH 06020ST-120	●		20				19	120	18					9		-	-	-		
EZH 06022ST-135	●		22				21	135	-					-		-	-	-		
EZH 06025.0ST-135	●		25				24	135	-					-		-	-	-		
EZH 06025.4ST-120	●		25.4				24.4	120	-					-		-	-	-	-	-
EZH 07012ST-80	●	7	12	16	-	8	11	80	20	-	-	-	33	Fig.3	EZB <sup>R/L</sup> ...070... EZBCR...070... EZG <sup>R/L</sup> ...070... EZFG <sup>R/L</sup> ...070... EZTR...070... _070X...-080EZP					
EZH 07016ST-100	●		16				15	100	-					-		-	-	-	-	Fig.4
EZH 07019ST-120	●		19.05				18	120	-					-		-	-	-	-	Fig.2
EZH 07020ST-120	●		20				19	120	18					9		-	-	-		
EZH 07022ST-135	●		22				21	135	-					-		-	-	-		
EZH 07025.0ST-135	●		25				24	135	-					-		-	-	-		
EZH 07025.4ST-120	●		25.4				24.4	120	-					-		-	-	-	-	-
EZH 08016ST-100	●	8	16	16	-	8.4	15	100	-	-	-	-	37	Fig.4	EZB <sup>R/L</sup> ...080... _080X...-100EZP					
EZH 08019ST-120	●		19.05				18	120	-	-				-		-	-	-	Fig.2	
EZH 08020ST-120	●		20				19	120	18	9				-		-	-			
EZH 08022ST-135	●		22				21	135	-	-				-		-	-			
EZH 08025.0ST-135	●		25				24	135	-	-				-		-	-			
EZH 08025.4ST-120	●		25.4				24.4	120	-	-				-		-	-			

\*L4 shows DCB length

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

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

● : Std. Item

## Parts (For EZH-ST Sleeves)

Description	Spare Parts		Applicable EZ Bar		EZ Bar PLUS
	Clamp Screw	Wrench	EZB-HP EZB-HP-LT EZB-ST EZB-NB	EZBF EZBT EZVB EZBP EZBC EZG EZFG EZT	
EZH 017...ST-..	HS3x4P	LW-1.5 Tightening Torque 1N·m	EZBR...017...	-	-
EZH 020...ST-..			EZB <sup>R/L</sup> ...020...	EZBPR...020-...	-
EZH 025...ST-..			EZB <sup>R/L</sup> ...025...	EZTR...025-...	-
EZH 030...ST-..			EZB <sup>R/L</sup> ...030...	EZ_R...030-...	-
EZH 035...ST-..	HS4x4P	LW-2 Tightening Torque 2N·m	EZB <sup>R/L</sup> ...035...	EZTR...035-...	-
EZH 040...ST-..			EZB <sup>R/L</sup> ...040...	EZ_R...040-...	-
EZH 050...ST-..			EZB <sup>R/L</sup> ...050...	EZ_R...050-...	_050X...-060EZP
EZH 060...ST-..			EZB <sup>R/L</sup> ...060...	EZ_R...060-...	_060X...-070EZP
EZH 070...ST-..			EZB <sup>R/L</sup> ...070...	EZ_R...070-...	_070X...-080EZP
EZH 080...ST-..			EZB <sup>R/L</sup> ...080...	-	_080X...-100EZP

# Applicable Sleeves for Machine Manufacturers

Sleeve Description				Applicable EZ Bar				Applicable Machine Manufacturer
EZH-CT (EZ Adjust Structure and with Coolant Hole)	EZH-HP (Adjustable)	EZH-ST	Sleeve Shank Dia. DCON (mm)	EZB	EZBF • EZBT • EZVB • EZBP • EZBC • EZG • EZFG • EZT	EZ Bar PLUS	Shank Dia. DCON (mm)	
-	-	EZH 01712ST-80 02012ST-80 02512ST-80 03012ST-80 03512ST-80 04012ST-80 05012ST-80 06012ST-80 07012ST-80	12	EZBR ...017... EZB R/L ...020... EZB R/L ...025... EZB R/L ...030... EZB R/L ...035... EZB R/L ...040... EZB R/L ...050... EZB R/L ...060... EZBR ...070...	- EZBPR ...020... EZ ...025... EZ ...030... EZ ...035... EZ ...040... EZ ...050... EZ ...060... EZ ...070...	-	1.7 2 2.5 3 3.5 4 5 6 7	(General Machines)
-	EZH 01716HP-100 02016HP-100 02516HP-100 03016HP-100 03516HP-100 04016HP-100 04516HP-100 05016HP-100 06016HP-100 07016HP-100	EZH 01716ST-100 02016ST-100 02516ST-100 03016ST-100 03516ST-100 04016ST-100 - 05016ST-100 06016ST-100 07016ST-100 08016ST-100	16	EZBR ...017... EZB R/L ...020... EZB R/L ...025... EZB R/L ...030... EZB R/L ...035... EZB R/L ...040... EZB R/L ...045... EZB R/L ...050... EZB R/L ...060... EZBR ...070... EZB R/L ...080...	- EZBPR ...020... EZ ...025... EZ ...030... EZ ...035... EZ ...040... - EZ ...050... EZ ...060... EZ ...070... - EZ ...080...	- - - - - - S/c 045X- ...050EZP S/c 050X- ...060EZP S/c 060X- ...070EZP S/c 070X- ...080EZP S/c 080X- ...100EZP	1.7 2 2.5 3 3.5 4 4.5 5 6 7 8	(General Machines)
EZH 01719CT-120 02019CT-120 02519CT-120 03019CT-120 03519CT-120 04019CT-120 04519CT-120 05019CT-120 06019CT-120 07019CT-120 08019CT-120	EZH 01719HP-120 02019HP-120 02519HP-120 03019HP-120 03519HP-120 04019HP-120 04519HP-120 05019HP-120 06019HP-120 07019HP-120 08019HP-120	EZH 01719ST-120 02019ST-120 02519ST-120 03019ST-120 03519ST-120 04019ST-120 - 05019ST-120 06019ST-120 07019ST-120 08019ST-120	19.05	EZBR ...017... EZB R/L ...020... EZB R/L ...025... EZB R/L ...030... EZB R/L ...035... EZB R/L ...040... EZB R/L ...045... EZB R/L ...050... EZB R/L ...060... EZBR ...070... EZB R/L ...080...	- EZBPR ...020... EZ ...025... EZ ...030... EZ ...035... EZ ...040... - EZ ...050... EZ ...060... EZ ...070... - -	- - - - - - S/c 045X- ...050EZP S/c 050X- ...060EZP S/c 060X- ...070EZP S/c 070X- ...080EZP S/c 080X- ...100EZP	1.7 2 2.5 3 3.5 4 4.5 5 6 7 8	Citizen Machinery
EZH 01720CT-120 02020CT-120 02520CT-120 03020CT-120 03520CT-120 04020CT-120 04520CT-120 05020CT-120 06020CT-120 07020CT-120 08020CT-120	EZH 01720HP-120 02020HP-120 02520HP-120 03020HP-120 03520HP-120 04020HP-120 04520HP-120 05020HP-120 06020HP-120 07020HP-120 08020HP-120	EZH 01720ST-120 02020ST-120 02520ST-120 03020ST-120 03520ST-120 04020ST-120 - 05020ST-120 06020ST-120 07020ST-120 08020ST-120	20	EZBR ...017... EZB R/L ...020... EZB R/L ...025... EZB R/L ...030... EZB R/L ...035... EZB R/L ...040... EZB R/L ...045... EZB R/L ...050... EZB R/L ...060... EZBR ...070... EZB R/L ...080...	- EZBPR ...020... EZ ...025... EZ ...030... EZ ...035... EZ ...040... - EZ ...050... EZ ...060... EZ ...070... - -	- - - - - - S/c 045X- ...050EZP S/c 050X- ...060EZP S/c 060X- ...070EZP S/c 070X- ...080EZP S/c 080X- ...100EZP	1.7 2 2.5 3 3.5 4 4.5 5 6 7 8	Eguro Tsumami Citizen Machinery (General Machines)
EZH 01722CT-135 02022CT-135 02522CT-135 03022CT-135 03522CT-135 04022CT-135 04522CT-135 05022CT-135 06022CT-135 07022CT-135 08022CT-135	EZH 01722HP-135 02022HP-135 02522HP-135 03022HP-135 03522HP-135 04022HP-135 04522HP-135 05022HP-135 06022HP-135 07022HP-135 08022HP-135	EZH 01722ST-135 02022ST-135 02522ST-135 03022ST-135 03522ST-135 04022ST-135 - 05022ST-135 06022ST-135 07022ST-135 08022ST-135	22	EZBR ...017... EZB R/L ...020... EZB R/L ...025... EZB R/L ...030... EZB R/L ...035... EZB R/L ...040... EZB R/L ...045... EZB R/L ...050... EZB R/L ...060... EZBR ...070... EZB R/L ...080...	- EZBPR ...020... EZ ...025... EZ ...030... EZ ...035... EZ ...040... - EZ ...050... EZ ...060... EZ ...070... - -	- - - - - - S/c 045X- ...050EZP S/c 050X- ...060EZP S/c 060X- ...070EZP S/c 070X- ...080EZP S/c 080X- ...100EZP	1.7 2 2.5 3 3.5 4 4.5 5 6 7 8	Star Micronics Nomura DS Tsumami
EZH 01725.0CT-135 02025.0CT-135 02525.0CT-135 03025.0CT-135 03525.0CT-135 04025.0CT-135 04525.0CT-135 05025.0CT-135 06025.0CT-135 07025.0CT-135 08025.0CT-135	EZH 01725.0HP-135 02025.0HP-135 02525.0HP-135 03025.0HP-135 03525.0HP-135 04025.0HP-135 04525.0HP-135 05025.0HP-135 06025.0HP-135 07025.0HP-135 08025.0HP-135	EZH 01725.0ST-135 02025.0ST-135 02525.0ST-135 03025.0ST-135 03525.0ST-135 04025.0ST-135 - 05025.0ST-135 06025.0ST-135 07025.0ST-135 08025.0ST-135	25	EZBR ...017... EZB R/L ...020... EZB R/L ...025... EZB R/L ...030... EZB R/L ...035... EZB R/L ...040... EZB R/L ...045... EZB R/L ...050... EZB R/L ...060... EZBR ...070... EZB R/L ...080...	- EZBPR ...020... EZ ...025... EZ ...030... EZ ...035... EZ ...040... - EZ ...050... EZ ...060... EZ ...070... - -	- - - - - - S/c 045X- ...050EZP S/c 050X- ...060EZP S/c 060X- ...070EZP S/c 070X- ...080EZP S/c 080X- ...100EZP	1.7 2 2.5 3 3.5 4 4.5 5 6 7 8	Eguro Tsumami Citizen Machinery (General Machines)
EZH 01725.4CT-120 02025.4CT-120 02525.4CT-120 03025.4CT-120 03525.4CT-120 04025.4CT-120 04525.4CT-120 05025.4CT-120 06025.4CT-120 07025.4CT-120 08025.4CT-120	EZH 01725.4HP-120 02025.4HP-120 02525.4HP-120 03025.4HP-120 03525.4HP-120 04025.4HP-120 04525.4HP-120 05025.4HP-120 06025.4HP-120 07025.4HP-120 08025.4HP-120	EZH 01725.4ST-120 02025.4ST-120 02525.4ST-120 03025.4ST-120 03525.4ST-120 04025.4ST-120 - 05025.4ST-120 06025.4ST-120 07025.4ST-120 08025.4ST-120	25.4	EZBR ...017... EZB R/L ...020... EZB R/L ...025... EZB R/L ...030... EZB R/L ...035... EZB R/L ...040... EZB R/L ...045... EZB R/L ...050... EZB R/L ...060... EZBR ...070... EZB R/L ...080...	- EZBPR ...020... EZ ...025... EZ ...030... EZ ...035... EZ ...040... - EZ ...050... EZ ...060... EZ ...070... - -	- - - - - - S/c 045X- ...050EZP S/c 050X- ...060EZP S/c 060X- ...070EZP S/c 070X- ...080EZP S/c 080X- ...100EZP	1.7 2 2.5 3 3.5 4 4.5 5 6 7 8	Citizen Machinery

- Choose sleeves (DCB) to meet with DCON dimension of bar
- Adjustment Pin cannot be installed to EZH-ST sleeves. To adjust overhang of the bar, please use EZH-CT / HP sleeves
- Machine manufacturers in random order