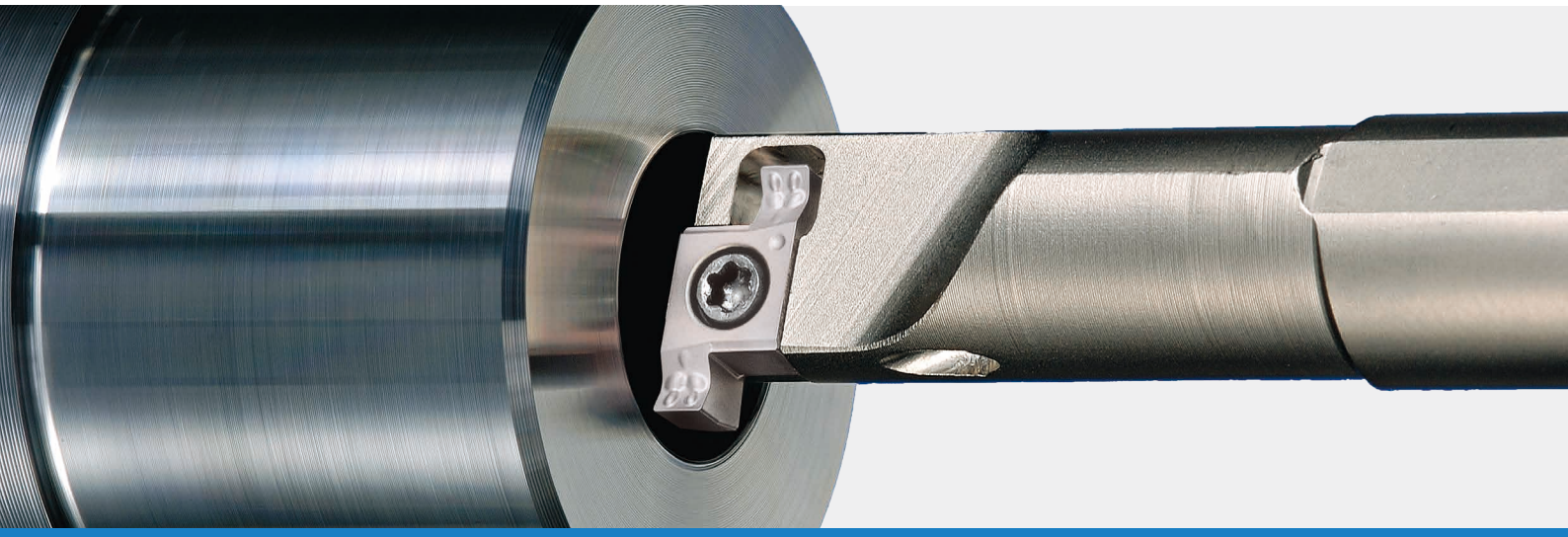
Internal Grooving

SIGE

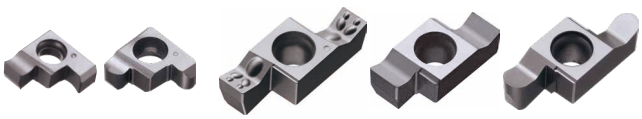
New Insert Grades PR20 Series



Internal screw clamp toolholder provides excellent chip evacuation

New insert grades PR20 series provide longer tool life
ø8mm minimum cutting diameter with a 2 edge design
Toolholders for automatic lathes available

NEW **PR20 series**
For Steel and Stainless steel



Internal Grooving

SIGE

Internal screw clamp toolholder provides excellent chip evacuation
Superior chip control with molded chipbreaker

1 New grades PR20 series for general purpose MEGACOAT NANO EX coating technology provides long tool life

New grades for Grooving and Cut-off

PR20 series

NEW

MEGACOAT NANO EX | Grooving Cut-Off |

PR2025 is 1st recommendation for steel and stainless steel
Excellent wear resistance and fracture resistance provides long tool life

Achieve long tool life and high stability with the combination of

High content aluminum nano coating layer

-New coating for grooving launched-

Challenges

Since most of the grooving is continuous machining, the wear progress of the insert is rapid

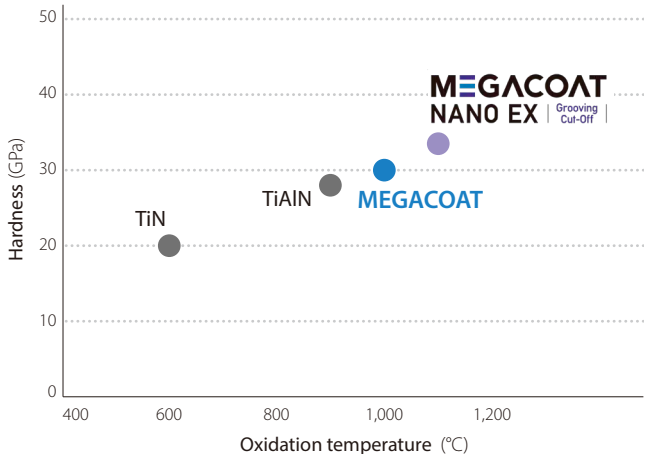
Tool life is shortened due to deterioration of surface finish, machining accuracy, burr, etc

SOLUTION

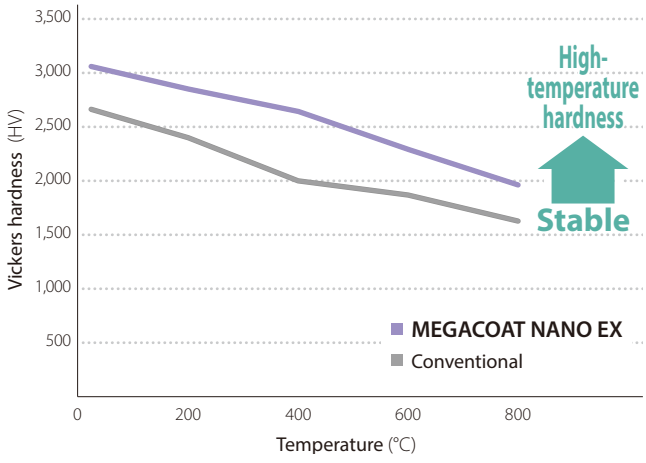
MEGACOAT NANO EX is a special nano coating layer with a high aluminum content developed by Kyocera's unique technology

Solve the machining challenges with exellent wear resistance, high-temperature hardness and plastic deformation resistance

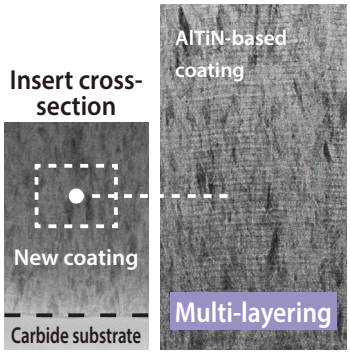
Coating characteristics (Internal evaluation)



Comparison of vickers hardness transition with temperature
(Internal evaluation)



Insert cross-section



Special nano coating layer

Long tool life — **Exellent wear and fracture resistance**

Multi-layering of high content aluminum nano layers added with high melting point material having different concentration. Suppresses hexagonal crystal precipitation and achieves excellent oxidation resistance

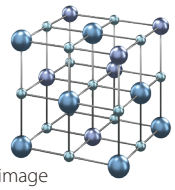
Stable machining — **High coating toughness**

Crystal grain refinement
Optimized internal stress suppresses crack growth

Unique Technology (Patent applied)

Proprietary coating process improve high content aluminum coating nano layers performance

Maintains a cubic crystal structure to maximize the properties of aluminum (Al)



CG image

2 Internal screw clamp toolholder provides excellent chip evacuation

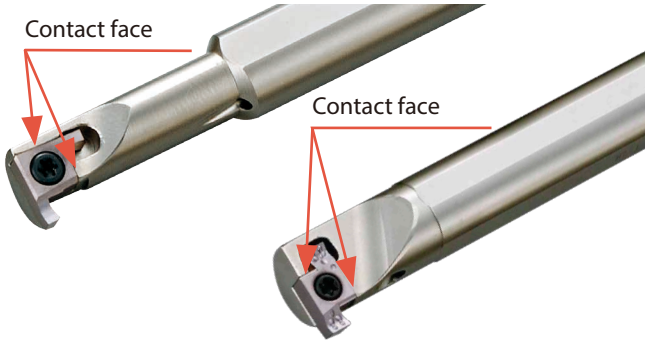
Large chip pocket on screw clamp toolholder enables excellent chip evacuation

Screw clamp

Conventional clamp

3 Reduces chattering with firm insert clamping system

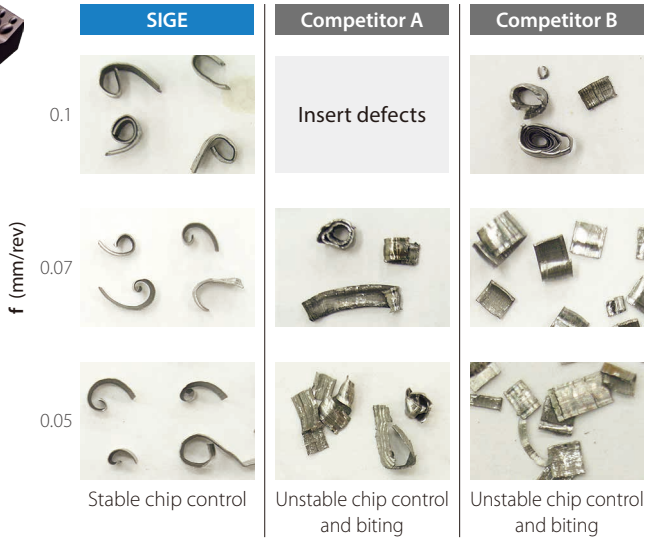
Clamp the insert firmly from the two contact faces



4 Superior chip control with a 2 edge design

Excellent chip evacuation with molded chipbreaker

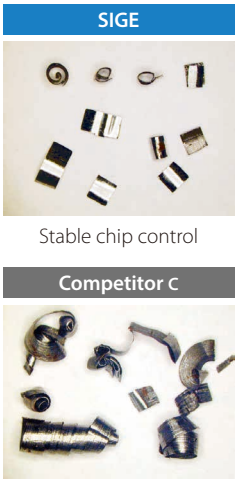
Chip evacuation comparison (Internal evaluation)



Cutting conditions : Vc = 100 m/min, ap = 2.0 mm, Minimum bore dia. ø16, Wet
Workpiece : SCM415
SIGER1612C-EH, GER300-020CM

ø8mm minimum cutting diameter

Chip evacuation comparison (Internal evaluation)



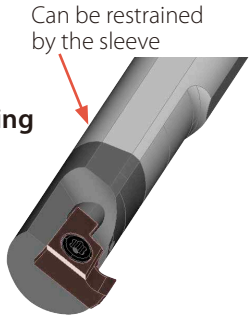
Cutting conditions : Vc = 50 m/min, ap = 1.25 mm, f = 0.02 mm/rev,
Minimum bore dia. ø8, Wet Workpiece : SCM415
SIGER0808A-EH, GER200-010A

5 Variety of toolholders for automatic lathe available

Shank diameter compatible with automatic lathes

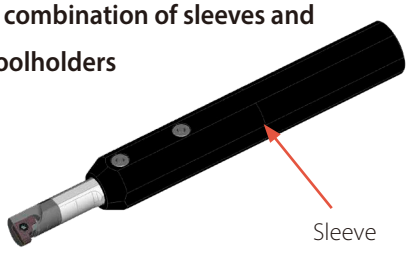
Tool overhang length can be shortened by mounting sleeve still near the shank tip

The toolholder is tightly restrained by the sleeve, which suppresses chatter when using automatic lathe



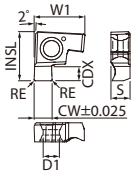
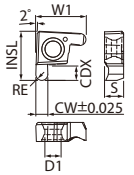
Applicable sleeve

Overhang length is adjustable with a combination of sleeves and toolholders



Applicable inserts (Ground chipbreaker)

Classification of usage			NEW			
●: Light Interruption / 1st Choice ◔: Light Interruption / 2nd Choice ●: Continuous/1st Choice ○: Continuous/2nd Choice	P	Carbon steel / Alloy steel	●	◔	○	
	M	Stainless steel	●	◔		
	K	Cast iron				◔
	N	Non-ferrous metals				●
	S	Titanium alloy				●

Shape Right-hand shown			Description		Dimensions (mm)							MEGACOAT NANO EX	MEGACOAT	Cermet	Carbide		Applicable toolholders
					CW	CDX	RE	W1	INSL	S	D1	PR2025	PR1225	TN6020	GW15	KW10	
2-edge			GE R/L	100-005A	1.00	1.5	0.05	6.69	6.5	2.58	2.5	●	●	R		R	SIGE R/L0808A-EH SIGE R/L0808A-WH
				120-005A	1.20							●	●	R			
				125-005A	1.25							●	●			R	
				150-010A	1.50		0.1					●	●	R		●	
				200-010A	2.00							●	●	R		R	
			GE R/L	100-005B	1.00	2.2	0.05	8.46	8.2	3.18	2.7	●	●	R		●	SIGE R/L...B-EH SIGE R/L...B-WH SIGER...B-WH-90
				120-005B	1.20							●	●	R		R	
				125-005B	1.25							●	●			R	
				145-010B	1.45		0.1					●	●	R		R	
				150-010B	1.50							●	●	●		R	
				200-010B	2.00							●	●	●		●	
				250-020B	2.50		0.2					●	●	●		R	
				300-020B	3.00							●	●	●		●	
2-edge/ Full-R			GER	100-050AR	1.00	1.5	0.5	6.69	6.5	2.58	2.5	R	R			R	SIGER0808A-EH SIGER0808A-WH
				200-100AR	2.00		1.0					R	R				
			GER	100-050BR	1.00	2.2	0.5	8.46	8.2	3.18	2.7	R	R			R	SIGER...B-EH SIGER...B-WH SIGER...B-WH-90
				200-100BR	2.00		1.0					R	R			R	

・CDX shows available grooving depth.
・Inserts are sold in 10 piece boxes.

●: Standard Stock R: R-hand only in stock

Recommended cutting conditions ★ 1st recommendation ☆ 2nd recommendation

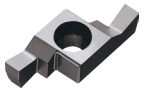
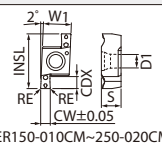
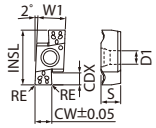
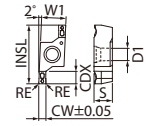
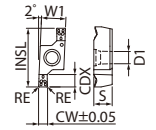
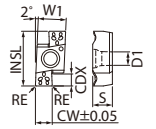
Ground chipbreaker : GE R/L...A(R), GE R/L...B(R)

Workpiece	Recommended insert grades (Vc : m/min)				(1) f for grooving (mm/rev) (2) f for turning (mm/rev) (3) ap for turning (mm)			Remarks
	MEGACOAT NANO EX NEW	MEGACOAT	Cermet	Carbide				
	PR2025	PR1225	TN6020	KW10	GE R/L 100 ~ 200 - 010A 100 ~ 200 - 100AR	GE R/L 100 ~ 200 - 010B 100 ~ 200 - 100BR	GE R/L 250 ~ 300 - 020B	
Carbon steel (SxxC etc.)	★ 50 ~ 80	☆ 50 ~ 80	☆ 50 ~ 80	-	(1) 0.01 ~ 0.03 (2) 0.01 ~ 0.03 (3) Max. 0.05	(1) 0.02 ~ 0.04 (2) 0.02 ~ 0.04 (3) Max. 0.05	(1) 0.02 ~ 0.04 (2) 0.02 ~ 0.04 (3) Max. 0.1	Wet
Alloy steel (SCM etc.)	★ 50 ~ 80	☆ 50 ~ 80	☆ 50 ~ 80	-	(1) 0.01 ~ 0.03 (2) 0.01 ~ 0.03 (3) Max. 0.05	(1) 0.02 ~ 0.04 (2) 0.02 ~ 0.04 (3) Max. 0.05	(1) 0.02 ~ 0.04 (2) 0.02 ~ 0.04 (3) Max. 0.1	
Stainless steel (SUS304 etc.)	★ 50 ~ 80	☆ 50 ~ 80	-	-	(1) 0.01 ~ 0.03 (2) 0.01 ~ 0.03 (3) Max. 0.05	(1) 0.01 ~ 0.03 (2) 0.01 ~ 0.03 (3) Max. 0.05	(1) 0.01 ~ 0.03 (2) 0.01 ~ 0.03 (3) Max. 0.1	
Cast iron (FC, FCD etc.)	-	-	-	★ 50 ~ 80	(1) 0.01 ~ 0.03 (2) 0.01 ~ 0.03 (3) Max. 0.05	(1) 0.02 ~ 0.04 (2) 0.02 ~ 0.04 (3) Max. 0.05	(1) 0.02 ~ 0.04 (2) 0.02 ~ 0.04 (3) Max. 0.1	
Aluminum	-	-	-	★ 50 ~ 100	(1) 0.01 ~ 0.03 (2) 0.01 ~ 0.03 (3) Max. 0.1	(1) 0.02 ~ 0.04 (2) 0.02 ~ 0.04 (3) Max. 0.1	(1) 0.02 ~ 0.04 (2) 0.02 ~ 0.04 (3) Max. 0.2	
Brass	-	-	-	★ 50 ~ 100	(1) 0.01 ~ 0.03 (2) 0.01 ~ 0.03 (3) Max. 0.1	(1) 0.02 ~ 0.04 (2) 0.02 ~ 0.04 (3) Max. 0.1	(1) 0.02 ~ 0.04 (2) 0.02 ~ 0.04 (3) Max. 0.2	

*Use PR2025, PR1225, KW10 for turning with edge width 1mm. (GE R/L100-005A/100-005B)

Applicable inserts (Molded chipbreaker)

Classification of usage			NEW			
● : Light Interruption / 1st Choice ◔ : Light Interruption / 2nd Choice ● : Continuous/1st Choice ○ : Continuous/2nd Choice	P	Carbon steel / Alloy steel	●	◔	○	
	M	Stainless steel	●	◔		
	K	Cast iron				◔
	N	Non-ferrous metals				●
	S	Titanium alloy				●

Shape Right-hand shown			Description		Dimensions (mm)							MEGACOAT NANO EX	MEGACOAT	Cermet	Carbide		Applicable toolholders
					CW	CDX	RE	W1	INSL	S	D1	PR2025	PR1225	TN6020	GW15	KW10	
2-edge/Molded chipbreaker		 GER150-010CM~250-020CM  GER300-020CM~350-020CM	GER	150-010CM	1.50	2.5	0.1	5.8	11.48	4.05	2.8	R	R				SIGER...C-EH SIGER...C-WH SIGER...C-WH-90
				200-010CM	2.00							R	R				
				250-020CM	2.50		0.2					R	R				
				300-020CM	3.00							R	R				
				350-020CM	3.50							R	R				
		 GER150-010DM~200-010DM GER150-010EM~200-010EM  GER230-020DM~250-020DM GER250-020EM~400-020EM  GER300-020DM~400-020DM GER450-020EM~500-020EM	GER	150-010DM	1.50	3.0	0.1	6.8	16.44	5.05	3.4	R	R				SIGER2020D-EH
				200-010DM	2.00							R	R				
				230-020DM	2.30	3.2						R	R				
				250-020DM	2.50							R	R				
				300-020DM	3.00	4.5	0.2					R	R				
				350-020DM	3.50							R	R				
				400-020DM	4.00							R	R				
			GER	150-010EM	1.50	3.0	0.1	9.54	21.66	5.55	4.4	R	R				SIGER...E-EH
				200-010EM	2.00	3.2						R	R				
				250-020EM	2.50	4.5	0.2					R	R				
				300-020EM	3.00							R	R				
				350-020EM	3.50	5.5						R	R				
				400-020EM	4.00							R	R				
				450-020EM	4.50	6.5						R	R				
				500-020EM	5.00							R	R				

・CDX shows available grooving depth.
・Inserts are sold in 10 piece boxes.

● : Standard Stock R : R-hand only in stock

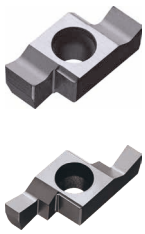
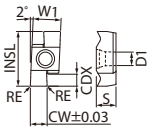
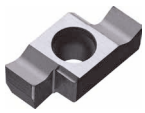
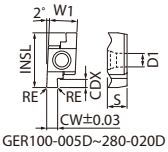
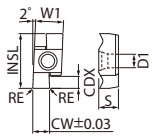
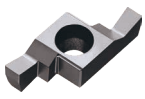
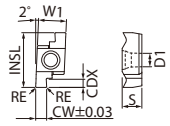
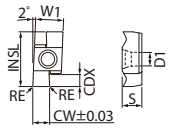
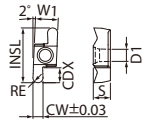
Recommended cutting conditions ★ 1st recommendation ☆ 2nd recommendation

Molded chipbreaker : GER...CM, GER...DM, GER...EM

Workpiece	Recommended insert grades (Vc : m/min)		(1) f for grooving (mm/rev) (2) f for turning (mm/rev) (3) ap for turning (mm)						Remarks
	MEGACOAT NANO EX NEW	MEGACOAT							
	PR2025	PR1225	GER 150 ~ 200 - 010CM	GER 250 ~ 350 - 020CM					
			GER 150 ~ 200 - 010DM		GER 230 ~ 250 - 020DM	GER 300 ~ 400 - 020DM			
			GER 150 ~ 200 - 010EM			GER 250 ~ 300 - 020EM	GER 350 ~ 400 - 020EM	GER 450 ~ 500 - 020EM	
Carbon steel (SxxC etc.)	★ 60 ~ 160	☆ 60 ~ 160	(1) 0.03 ~ 0.1	(1) 0.03 ~ 0.12	(1) 0.04 ~ 0.12	(1) 0.05 ~ 0.12	(1) 0.05 ~ 0.12	(1) 0.05 ~ 0.12	Wet
			(2) 0.03 ~ 0.1	(2) 0.03 ~ 0.1	(2) 0.04 ~ 0.1	(2) 0.05 ~ 0.1	(2) 0.05 ~ 0.1	(2) 0.05 ~ 0.1	
			(3) Max. 1.0	(3) Max. 1.5	(3) Max. 1.5	(3) Max. 1.5	(3) Max. 1.5	(3) Max. 1.5	
Alloy steel (SCM etc.)	★ 60 ~ 140	☆ 60 ~ 140	(1) 0.03 ~ 0.1	(1) 0.03 ~ 0.1	(1) 0.04 ~ 0.12	(1) 0.05 ~ 0.12	(1) 0.05 ~ 0.12	(1) 0.05 ~ 0.12	
			(2) 0.03 ~ 0.1	(2) 0.03 ~ 0.1	(2) 0.04 ~ 0.1	(2) 0.05 ~ 0.1	(2) 0.05 ~ 0.1	(2) 0.05 ~ 0.1	
			(3) Max. 1.0	(3) Max. 1.5	(3) Max. 1.5	(3) Max. 1.5	(3) Max. 1.5	(3) Max. 1.5	
Stainless steel (SUS304 etc.)	★ 60 ~ 110	☆ 60 ~ 110	(1) 0.03 ~ 0.08	(1) 0.03 ~ 0.08	(1) 0.04 ~ 0.08	(1) 0.05 ~ 0.1	(1) 0.05 ~ 0.1	(1) 0.05 ~ 0.1	
			(2) 0.03 ~ 0.1	(2) 0.03 ~ 0.1	(2) 0.04 ~ 0.1	(2) 0.05 ~ 0.1	(2) 0.05 ~ 0.1	(2) 0.05 ~ 0.1	
			(3) Max. 1.0	(3) Max. 1.5	(3) Max. 1.5	(3) Max. 1.5	(3) Max. 1.5	(3) Max. 1.5	

Applicable inserts (Ground chipbreaker)

Classification of usage							
● : Light Interruption / 1st Choice	P	Carbon steel / Alloy steel	●	◔	○	
◔ : Light Interruption / 2nd Choice	M	Stainless steel	●	◔		
● : Continuous/1st Choice	K	Cast iron				◔
○ : Continuous/2nd Choice	N	Non-ferrous metals				●
	S	Titanium alloy				●

Shape (Right-hand shown)			Description		Dimensions (mm)							MEGACOAT NANO EX	MEGACOAT	Cermet	Carbide		Applicable toolholders
					CW	CDX	RE	W1	INSL	S	D1	PR2025	PR1225	TN6020	GW15	KW10	
2-edge			GE R/L	100-005C	1.00	2.5	0.05	5.8	11.48	4.05	3.1	●	●	●	●		SIGE R/L...C-EH SIGE R/L...C-WH SIGE R/-...C-WH-90
				120-005C	1.20							●	●	R	R		
				125-005C	1.25							●	●	R	●		
				140-005C	1.40							R	R	R	R		
				145-010C	1.45		0.1					●	●		R		
				150-010C	1.50							●	●	R	●		
				170-010C	1.70							R	R		R		
				185-010C	1.85							R	R		R		
				195-010C	1.95							R	R		R		
				200-010C	2.00							●	●	R	●		
				250-020C	2.50		0.2					●	●	●	●		
				300-020C	3.00							●	●	●	R		
				350-020C	3.50							●	●		R		
2-edge		 GER100-005D~280-020D  GER300-020D~400-020D	GE R/L	100-005D	1.00	2.5	0.05	6.8	16.44	5.05	3.6	●	●	R	●		SIGE R/L2020D-EH
				140-005D	1.40							●	●	R	R		
				145-010D	1.45		0.1					●	●	R	R		
				150-010D	1.50	3.0						●	●	●	●		
				170-010D	1.70							●	●	R	R		
				185-010D	1.85							R	R		R		
				195-010D	1.95							R	R		R		
				200-010D	2.00	3.2						●	●	●	R		
				225-010D	2.25							●	●		R		
				230-020D	2.30		0.2					●	●	R	R		
				250-020D	2.50							●	●	●	R		
				280-020D	2.80							R	R		R		
				300-020D	3.00	4.5						●	●	●	●		
				330-020D	3.30							R	R		R		
				350-020D	3.50							R	R		R		
				400-020D	4.00							●	●	R	R		
2-edge		 GER100-005E~430-020E  GER450-020E~500-020E	GE R/L	100-005E	1.00	2.5	0.05	9.54	21.66	5.55	4.6	●	●	R	R		SIGE R/L...E-EH
				150-010E	1.50	3.0	0.1					●	●	R	●		
				170-010E	1.70							●	●	R	R		
				185-010E	1.85							●	●	R	R		
				195-010E	1.95							●	●		R		
				200-010E	2.00	3.2						●	●	R	●		
				225-010E	2.25							R	R	R	R		
				230-020E	2.30		0.2					R	R	●	R		
				250-020E	2.50	4.5						●	●	●	●		
				275-020E	2.75							R	R		R		
				280-020E	2.80							●	●	R	R		
				300-020E	3.00							●	●	●	●		
				330-020E	3.30							●	●	R	R		
				350-020E	3.50	5.5						●	●	●	R		
				400-020E	4.00							●	●	R	●		
				430-020E	4.30							R	R	R	R		
				450-020E	4.50	6.5						R	R	R	R		
				460-020E	4.60							R	R		R		
				500-020E	5.00							●	●	R	R		
2-edge/ Full-R			GER	200-100CR	2.00	2.5	1.0	5.8	11.48	4.05	3.1	R	R		R		SIGER...C-EH SIGER...C-WH(-...)
				250-125CR	2.50		1.25					R	R		R		
				300-150CR	3.00		1.5					R	R		R		
			GER	200-100DR	2.00	3.2	1.0	6.8	16.44	5.05	3.6	R	R		R		SIGER2020D-EH
				300-150DR	3.00	4.5	1.5					R	R		R		

・CDX shows available grooving depth.
・Inserts are sold in 10 piece boxes.

●: Standard Stock R : R-hand only in stock

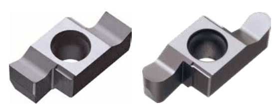
Recommended cutting conditions ★ 1st recommendation ☆ 2nd recommendation

Ground chipbreaker : GE R/L...C(R), GE R/L...D(R), GE R/L...E

Workpiece	Recommended insert grades (Vc : m/min)				(1) f for grooving (mm/rev) (2) f for turning (mm/rev) (3) ap for turning (mm)							Remarks
	NEW MEGACOAT NANO EX	MEGACOAT	Cermet	Carbide								
	PR2025	PR1225	TN6020	GW15	GE R/L 100 ~ 200 - 010C 200 - 100CR	GE R/L 250 ~ 350 - 020C 250 ~ 300 - 150CR						
					GE R/L 100 ~ 145 - 010D	GE R/L 150 ~ 195 - 010D	GE R/L 200 ~ 280 - 020D 200 - 100DR		GE R/L 300 ~ 400 - 020D 300 - 150DR			
					GE R/L 100 - 010E	GE R/L 150 ~ 195 - 010E	GE R/L 200 ~ 225 - 010E 230 - 020E	GE R/L 250 ~ 330 - 020E		GE R/L 350 ~ 430 - 020E	GE R/L 450 ~ 500 - 020E	
Carbon steel (SxxC etc.)	★ 60 ~ 140	☆ 60 ~ 140	☆ 120 ~ 180	-	(1) 0.03 ~ 0.08	(1) 0.03 ~ 0.08	(1) 0.04 ~ 0.09	(1) 0.04 ~ 0.09	(1) 0.05 ~ 0.12	(1) 0.05 ~ 0.12	(1) 0.05 ~ 0.12	Wet
					(2) 0.03 ~ 0.08	(2) 0.03 ~ 0.08	(2) 0.04 ~ 0.09	(2) 0.04 ~ 0.09	(2) 0.05 ~ 0.1	(2) 0.05 ~ 0.1	(2) 0.05 ~ 0.1	
					(3) Max. 0.3	(3) Max. 0.3	(3) Max. 0.3	(3) Max. 0.3	(3) Max. 0.5	(3) Max. 0.5	(3) Max. 0.5	
Alloy steel (SCM etc.)	★ 60 ~ 120	☆ 60 ~ 120	☆ 100 ~ 160	-	(1) 0.03 ~ 0.07	(1) 0.03 ~ 0.07	(1) 0.04 ~ 0.08	(1) 0.04 ~ 0.08	(1) 0.05 ~ 0.1	(1) 0.05 ~ 0.1	(1) 0.05 ~ 0.1	
					(2) 0.03 ~ 0.1	(2) 0.03 ~ 0.1	(2) 0.04 ~ 0.08	(2) 0.04 ~ 0.08	(2) 0.05 ~ 0.1	(2) 0.05 ~ 0.1	(2) 0.05 ~ 0.1	
					(3) Max. 0.3	(3) Max. 0.3	(3) Max. 0.3	(3) Max. 0.3	(3) Max. 0.5	(3) Max. 0.5	(3) Max. 0.5	
Stainless steel (SUS304 etc.)	★ 60 ~ 110	☆ 60 ~ 110	☆ 70 ~ 130	-	(1) 0.03 ~ 0.07	(1) 0.03 ~ 0.07	(1) 0.04 ~ 0.08	(1) 0.04 ~ 0.08	(1) 0.05 ~ 0.1	(1) 0.05 ~ 0.1	(1) 0.05 ~ 0.1	
					(2) 0.03 ~ 0.1	(2) 0.03 ~ 0.1	(2) 0.04 ~ 0.08	(2) 0.04 ~ 0.08	(2) 0.05 ~ 0.1	(2) 0.05 ~ 0.1	(2) 0.05 ~ 0.1	
					(3) Max. 0.3	(3) Max. 0.3	(3) Max. 0.3	(3) Max. 0.3	(3) Max. 0.5	(3) Max. 0.5	(3) Max. 0.5	
Cast iron (FC, FCD etc.)	-	-	-	★ 60 ~ 100	(1) 0.03 ~ 0.08	(1) 0.03 ~ 0.08	(1) 0.04 ~ 0.09	(1) 0.04 ~ 0.09	(1) 0.05 ~ 0.12	(1) 0.05 ~ 0.12	(1) 0.05 ~ 0.12	
					(2) 0.03 ~ 0.08	(2) 0.03 ~ 0.08	(2) 0.04 ~ 0.09	(2) 0.04 ~ 0.09	(2) 0.05 ~ 0.1	(2) 0.05 ~ 0.1	(2) 0.05 ~ 0.1	
					(3) Max. 0.3	(3) Max. 0.3	(3) Max. 0.3	(3) Max. 0.3	(3) Max. 0.5	(3) Max. 0.5	(3) Max. 0.5	
Aluminum	-	-	-	★ 150 ~ 300	(1) 0.05 ~ 0.12	(1) 0.05 ~ 0.12	(1) 0.05 ~ 0.15	(1) 0.05 ~ 0.15	(1) 0.08 ~ 0.15	(1) 0.08 ~ 0.15	(1) 0.08 ~ 0.15	
					(2) 0.05 ~ 0.12	(2) 0.05 ~ 0.12	(2) 0.05 ~ 0.15	(2) 0.05 ~ 0.15	(2) 0.08 ~ 0.15	(2) 0.08 ~ 0.15	(2) 0.08 ~ 0.15	
					(3) Max. 0.5	(3) Max. 0.5	(3) Max. 0.5	(3) Max. 0.5	(3) Max. 0.8	(3) Max. 0.8	(3) Max. 0.8	
Brass	-	-	-	★ 100 ~ 250	(1) 0.05 ~ 0.12	(1) 0.05 ~ 0.12	(1) 0.05 ~ 0.15	(1) 0.05 ~ 0.15	(1) 0.08 ~ 0.15	(1) 0.08 ~ 0.15	(1) 0.08 ~ 0.15	
					(2) 0.05 ~ 0.12	(2) 0.05 ~ 0.12	(2) 0.05 ~ 0.15	(2) 0.05 ~ 0.15	(2) 0.08 ~ 0.15	(2) 0.08 ~ 0.15	(2) 0.08 ~ 0.15	
					(3) Max. 0.5	(3) Max. 0.5	(3) Max. 0.5	(3) Max. 0.5	(3) Max. 0.8	(3) Max. 0.8	(3) Max. 0.8	

*Use PR2025, PR1225, KW10 for turning with edge width 1mm. (GE R/L100-005A/100-005B)

Lineup

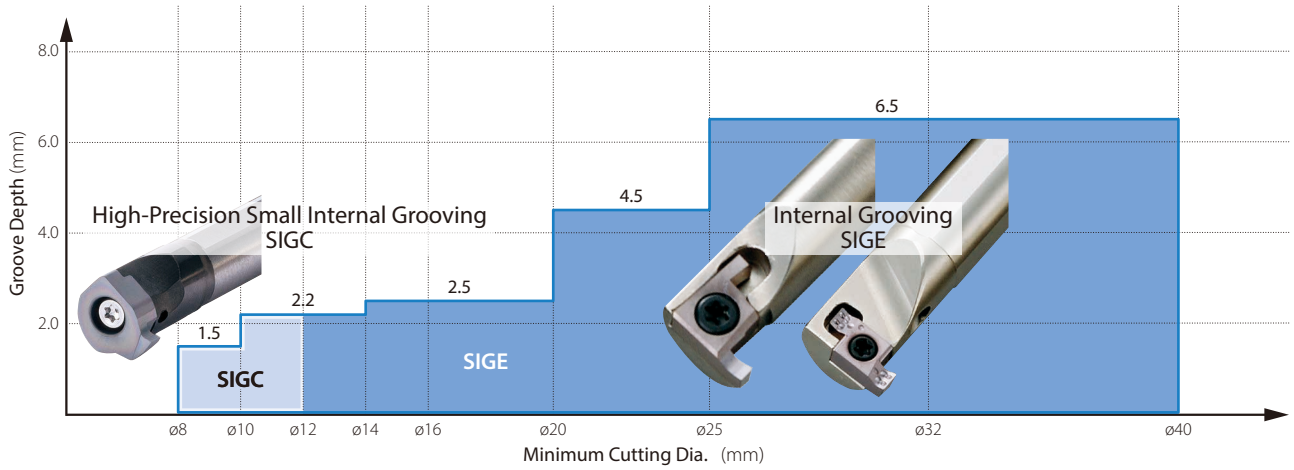
Insert	Shape	Ground Chipbreaker			Molded Chipbreaker									 Ground Chipbreaker													
	Description	GE R/L...A GER...AR	GE R/L...B	GER...BR	GER...CM	GER...DM			GER...EM					GE R/L...C	GER...CR	GE R/L...D				GER...DR		GE R/L...E					
	Groove Width	1.0 ~ 2.0	1.0 ~ 3.0	1.0 ~ 2.0	1.5 ~ 3.5	1.5	2.0 ~ 2.5	3.0 ~ 4.0	1.5	2.0	2.5 ~ 3.0	3.5 ~ 4.0	4.5 ~ 5.0	1.0 ~ 3.5	2.0 ~ 3.0	1.0 ~ 1.45	1.5 ~ 1.95	2.0 ~ 2.8	3.0 ~ 4.0	2.0	3.0	1.0	1.5 ~ 1.95	2.0 ~ 2.3	2.5 ~ 3.3	3.5 ~ 4.3	4.5 ~ 5.0
	Available Groove Depth (mm)	1.5	2.2	2.2	2.5	3.0	3.2	4.5	3.0	3.2	4.5	5.5	6.5	2.5	2.5	2.5	3.0	3.2	4.5	3.2	4.5	2.5	3.0	3.2	4.5	5.5	6.5
Toolholder	Minimum Cutting Dia. (mm)	ø8	ø10,ø12		ø14,ø16	ø20			ø25,ø32,ø40					ø14,ø16		ø20						ø25,ø32,ø40					
	Excellent Bar	SIGE R/L 0808A-EH	SIGE R/L...B-EH		SIGE R/L... C-EH	SIGE R/L 2020D-EH			SIGER...E-EH					SIGE R/L...C-EH		SIGE R/L 2020D-EH						SIGE R/L...E-EH					
	Carbide Shank Bar	SIGE R/L 0808A-WH	SIGE R/L... B-WH(-90)		SIGE R/L... C-WH(-90)	-			-					SIGE R/L... C-WH(-90)		-						-					

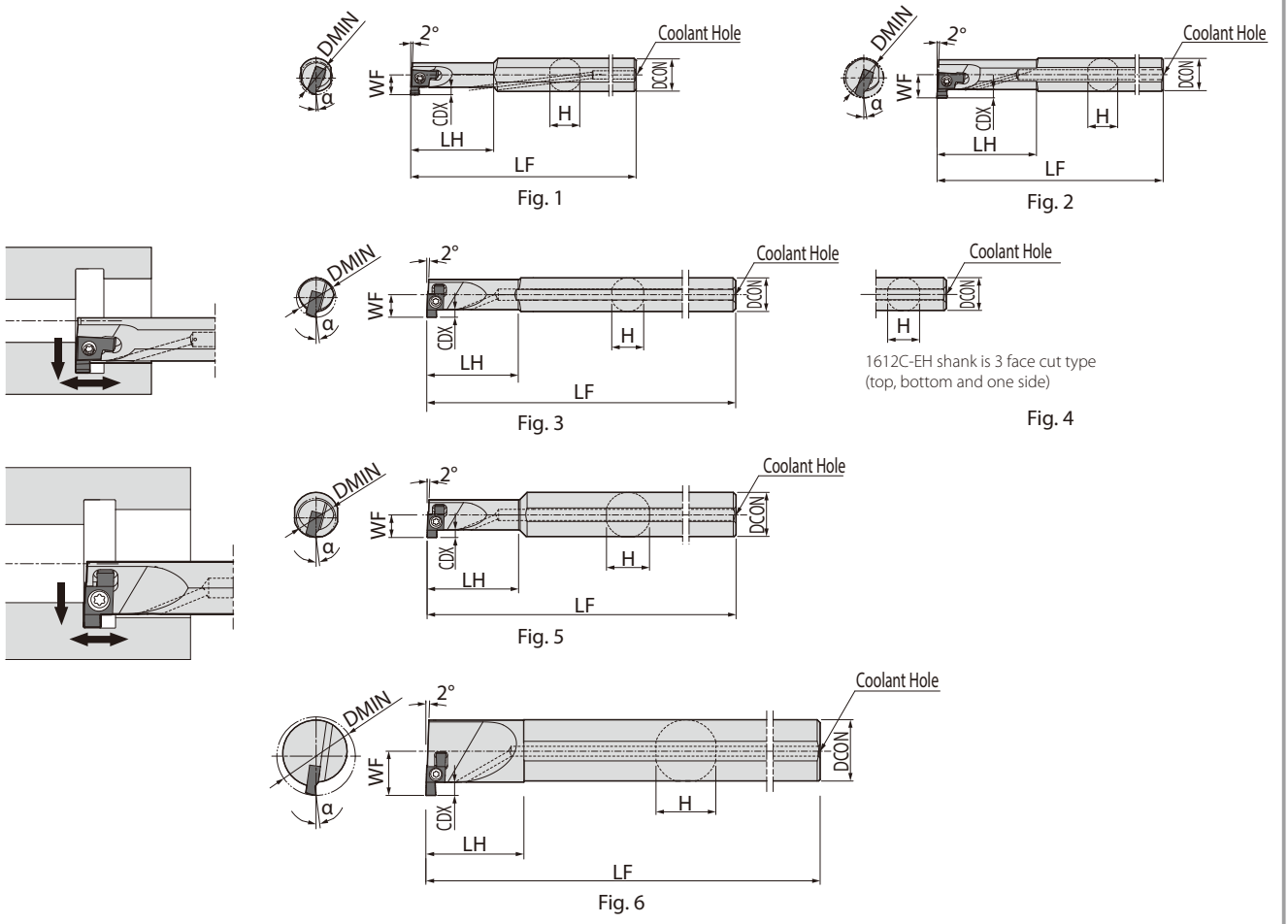
Applicable Insert & Rake Angle (α) after Installement of Insert

Description		Ground Chipbreaker	α	Molded Chipbreaker	α
SIGE R/L	0808A-EH	GE R/L100-005A ~ GE R/L200-010A GER100-050AR ~ GER200-100AR	5°	-	-
	1010B-EH	GE R/L100-005B ~ GE R/L300-020B GER100-050BR ~ GER200-100BR	5°	-	-
	1210B-EH				
	1412C-EH	GE R/L100-005C ~ GE R/L350-020C GER200-100CR ~ GER300-150CR	8°	GER150-010CM ~ GER350-020CM	10°
	1612C-EH				
	1616C-EH				
	2020D-EH	GE R/L100-005D ~ GE R/L400-020D GER200-100DR ~ GER300-150DR	9°	GER150-010DM ~ GER400-020DM	10°
	2525E-EH	GE R/L100-005E ~ GE R/L500-020E	10°	GER150-010EM ~ GER500-020EM	10°
	3232E-EH				
	4032E-EH				
SIGE R/L	0808A-WH	GE R/L100-005A ~ GE R/L200-010A GER100-050AR ~ GER200-100AR	5°	-	-
	1010B-WH	GE R/L100-005B ~ GE R/L300-020B GER100-050BR ~ GER200-100BR	5°	-	-
	1210B-WH				
	1008B-WH-90				
	1210B-WH-90				
	1412C-WH	GE R/L100-005C ~ GE R/L350-020C GER200-100CR ~ GER300-150CR	8°	GER150-010CM ~ GER350-020CM	10°
	1612C-WH				
	1412C-WH-90				

α indicates the rake angle at the center of the edge width after installing insert

Applicable Range of Internal Grooving Tool (SIGE and SIGC)





Toolholder Dimentions

Description	Stock		Minimum Cutting Dia. (mm)	Dimensions (mm)						Coolant Hole	Shape	Spare Parts				Applicable Insert
												Clamp Screw	Wrench			
	R	L	DMIN	DCON	H	LF	LH	WF	CDX							
SIGE R/L 0808A-EH	●	●	8	8	7.2	100	20	4.8	1.5	Yes	Fig. 1	SB-2045TRN	-	-	FT-6	GE R/L...A/AR
SIGE R/L 1010B-EH	●	●	10	10	9	125	25	6.2	2.2	Yes	Fig. 1	SB-2255TR	-	DT-7	-	GE R/L...B GE R/-...BR
1210B-EH	●	●	12				30	7			Fig. 2					
SIGE R/L 1412C-EH	●	●	14	12	11.4	150	33	8	2.5	Yes	Fig. 3	SB-2570TR	-	-	FT-8	GE R/L...C GER ...CM GER ...CR
1612C-EH	●	●	16				20	8.5			Fig. 4					
1616C-EH	●	●		16	15	160	36	9			Fig. 5					
SIGE R/L 2020D-EH	●	●	20	20	19	180	40	12.1	4.5	Yes	Fig. 5	SB-3080TR	-	-	FT-10	GE R/L...D/DM/DR
SIGE R/L 2525E-EH	●	●	25	25	24	200	45	15.6	6.5	Yes	Fig. 5	SB-4085TR	FT-15	-	-	GE R/L...E GER ...EM
3232E-EH	●	●	32	32	30.4	220	55	19			Fig. 5					
4032E-EH	●	●	40			250	45	23			Fig. 6					

CDX shows the distance from the toolholder to the cutting edge. Available groove depth: "CDX" of insert

● : Standard Stock

SIGE Carbide Anti-vibratoin Bar (With Coolant hole)

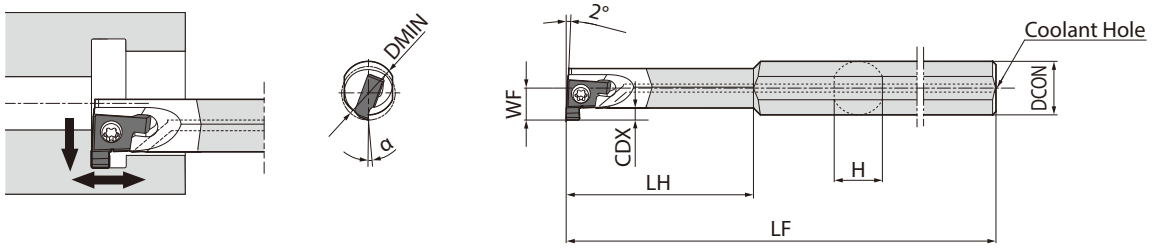


Fig. 1

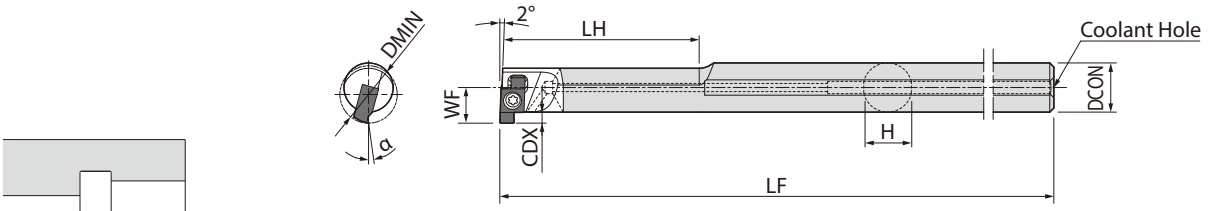


Fig. 2

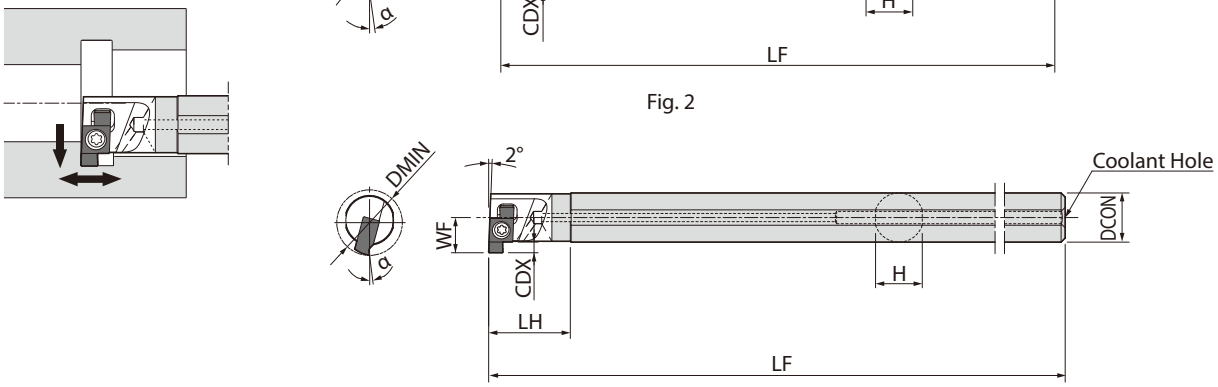


Fig. 3

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

Right-hand shown

Toolholder Dimentions

Description	Stock		Minimum Cutting Dia. (mm)	Dimensions (mm)						Coolant Hole	Shape	Spare Parts			Applicable Insert
												Clamp Screw	Wrench		
	R	L	DMIN	DCON	H	LF	LH	WF	CDX						
SIGE R/L 0808A-WH	●	●	8	8	7.2	125	28	4.8	1.5	Yes	Fig. 1	SB-2045TRN	-	FT-6	GE R/L...A/AR
SIGE R/L 1010B-WH	●	●	10	10	9	125	35	6.2	2.2	Yes	Fig. 1	SB-2255TR	DT-7	-	GE R/L...B GE R/-...BR
1210B-WH	●	●	12			140	45	7							
SIGE R/L 1412C-WH	●	●	14	12	11.4	150	50	8.7	2.5	Yes	Fig. 2	SB-2570TR	-	FT-8	GE R/L...C GE R/-...CM GE R/-...CR
1612C-WH	●	●	16			180	20	8.5			Fig. 3				

CDX shows the distance from the toolholder to the cutting edge. Available groove depth: "CDX" of insert

● : Standard Stock

SIGE Carbide Anti-vibratoin Bar (With Coolant hole · For Automatic Lathe)

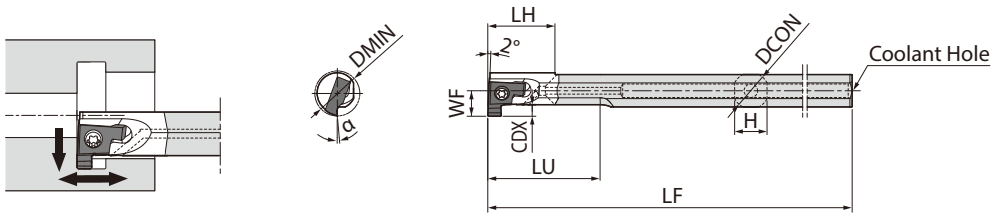


Fig. 1

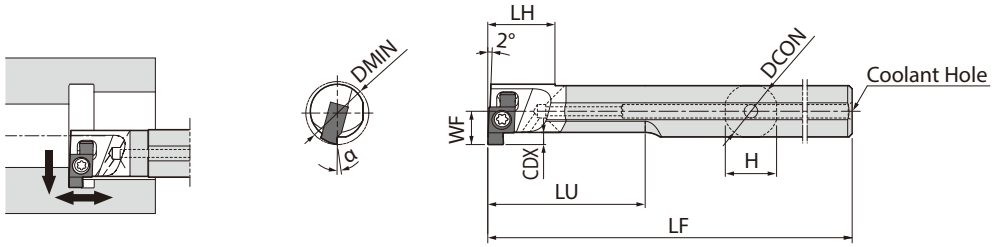


Fig. 2

Right-hand Insert for Right-hand Toolholder.

Right-hand shown

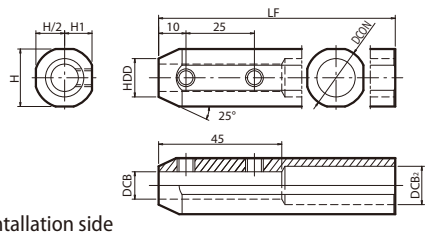
Toolholder Dimention See next page for applicable sleeves

Description	Stock	Minimum Cutting Dia. (mm)	Dimensions (mm)							Coolant Hole	Shape	Spare Parts		Applicable Insert
												Clamp Screw	Wrench	
	R	DMIN	DCON	H	LF	LH	LU	WF	CDX					
SIGER 1008B-WH-90	●	10	8	7.2	90	15	25	5.6	2.2	Yes	Fig. 1	SB-2255TR	FT-7	GER ...B GER ...BR
1210B-WH-90	●	12	10	9.4			30	6.6						
SIGER 1412C-WH-90	●	14	12	11.4	90	15	35	7.4	2.5	Yes	Fig. 2	SB-2570TR	FT-8	GE R/L...C/CM/CR

CDX shows the distance from the toolholder to the cutting edge. Available groove depth: "CDX" of insert
LH shows minumum overhang length (Distance from the cutting edge to the rear flat cut end position).

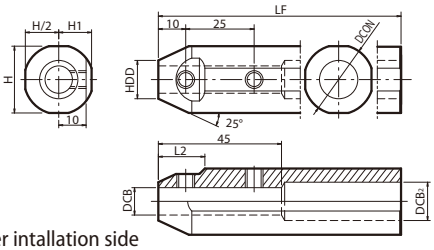
● : Standard Stock

Applicable sleeve (For automatic lathe)



Toolholder intallation side

Fig. 1



Toolholder intallation side

Fig. 2

Description		Stock	Dimensions (mm)								Shape	Spare parts		Applicable machine manufacturer (Random order)
			DCB	DCON	HDD	DCB_2	H	H1	LF	L2		Screw	Wrench	
SHA	0820-120	●	8	20	14	12	19	9.25	120	-	Fig. 1	HS6X4P	LW-3	EGURO TSUGAMI CITIZEN MACHINERY
	1020-120	●	10											
SHA	0825.0-135	●	8	25	14	14	24	11.5	135	17	Fig. 2			
	1025.0-135	●	10											
	1225.0-135	●	12		16									
SHA	0819-120	●	8	19.05	14	12	18	8.75	120	-	Fig. 1	HS6X4P	LW-3	CITIZEN MACHINERY
	1019-120	●	10											
SHA	0820-120	●	8	20	14	12	19	9.25	120	-	Fig. 1			
	1020-120	●	10											
SHA	0825.4-120	●	8	25.4	14	14	24.4	12	120	17	Fig. 2			
	1025.4-120	●	10											
	1225.4-120	●	12		16									
SHA	0822-125	●	8	22	14	14	21	10	125	-	Fig. 1	HS6X4P	LW-3	STAR MICRONICS NOMURA DS
	1022-125	●	10											
	1222-125	●	12		16									
SHA	0823-120	●	8	23	14	14	22	10.5	120	16	Fig. 2	HS6X4P	LW-3	NOMURA DS
	1023-120	●	10											
	1223-120	●	12		16									

Length of DCB … 45mm (all SHA types)
Select the sleeve DCB to match the DCON dimension of the toolholder.

●: Standard stock

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