KYOCERA

SIGE

Internal Grooving

AHB

TOOLING & MACHINERY

COMPLETE METALWORKING SOLUTIONS

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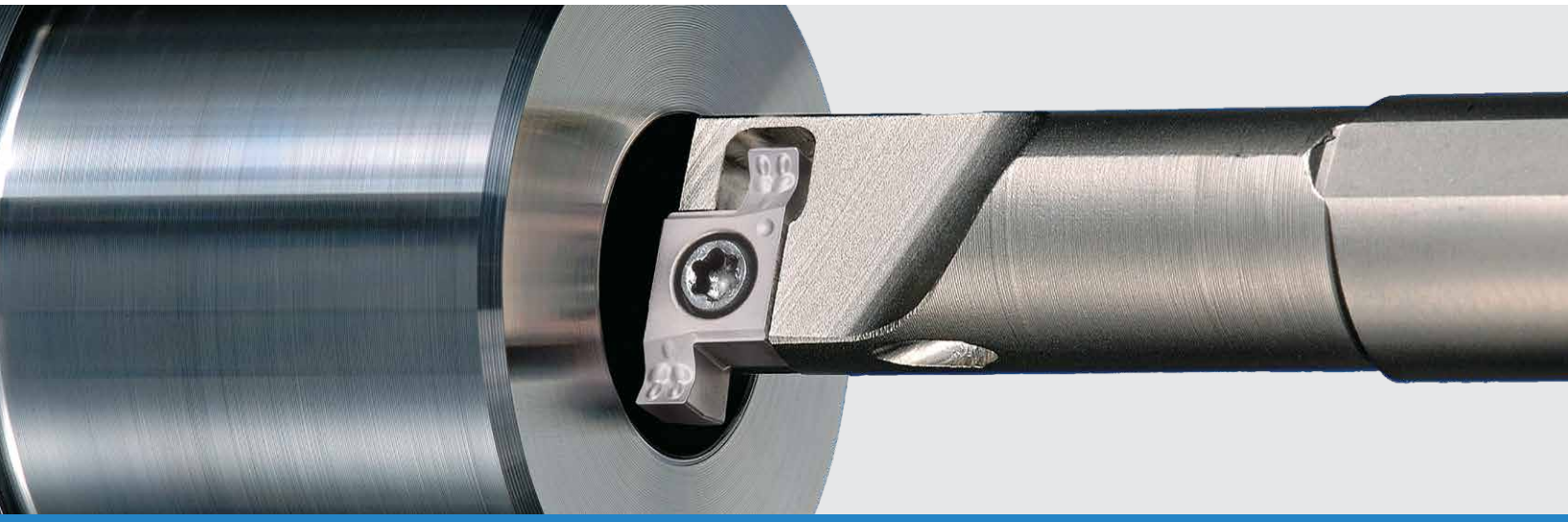


Internal Screw Clamp Toolholder Provides Excellent Chip Evacuation

Superior chip control with molded chipbreaker

ø0.313" / ø8mm minimum cutting diameter with a 2 edge design

Toolholders for small part machining available

NEW **PR20 Series Insert Grades for steel and stainless steel**

SIGE

Internal grooving 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

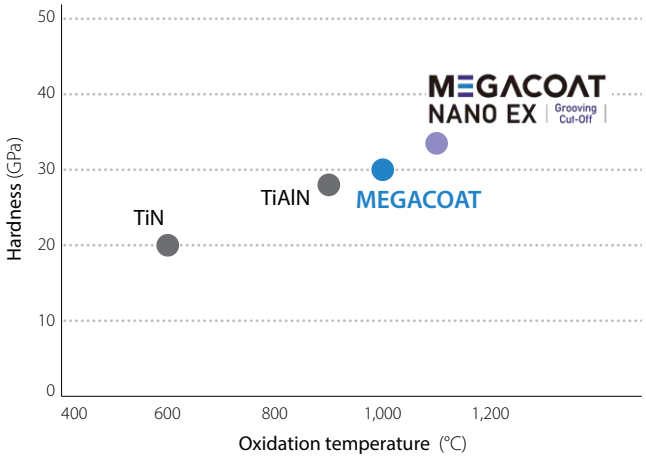
Achieve long tool life and high stability with the combination of

High content aluminum nano coating layer

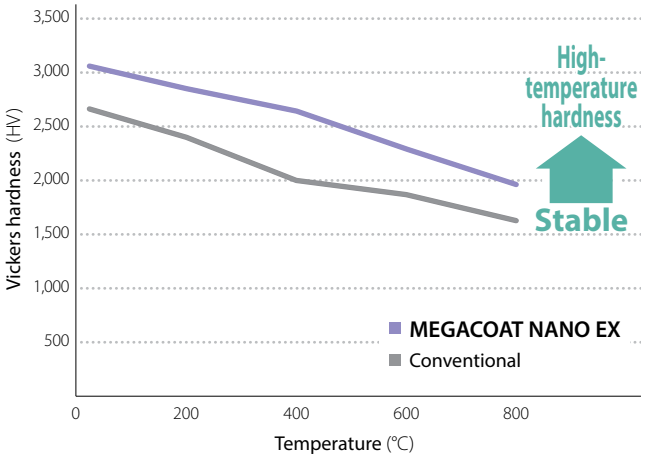
Challenges
Since most of the grooving is continuous machining, the wear progress of the insert is rapid
Tool life is shortened due to deterioration of surface finish, machining accuracy, burr, etc

SOLUTION
MEGACOAT NANO EX is a special nano coating layer with a high aluminum content developed by Kyocera's unique technology
Solve these machining challenges with exellent wear resistance, high-temperature hardness and plastic deformation resistance

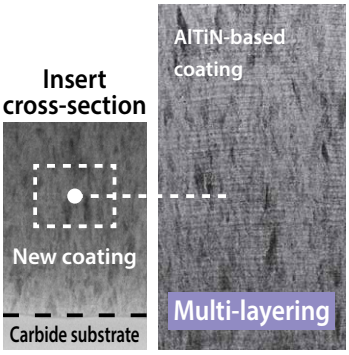
Coating characteristics (Internal evaluation)



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

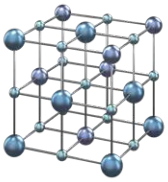
Stable machining — High coating toughness

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)



2 Internal screw clamp toolholder provides excellent chip evacuation

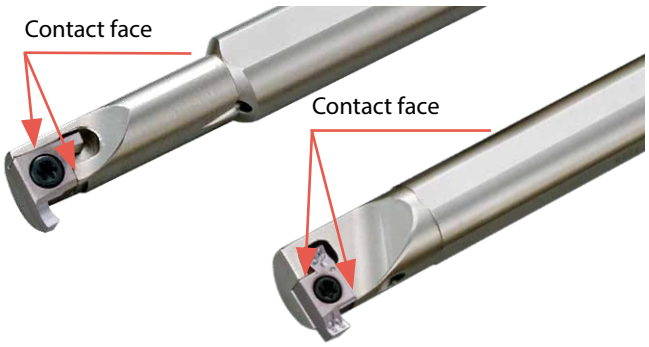
Large chip pocket on screw clamp toolholder enables excellent chip evacuation

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 = 330 sfm, D.O.C. = 0.079", Minimum Bore Dia. ø0.630", Wet
Workpiece : SCM415
SIGER0810C-EH, GER300-020CM

ø0.313" / ø8mm minimum bore diameter

Chip evacuation comparison (Internal evaluation)

Cutting conditions : Vc = 160 sfm, D.O.C. = 1.25 mm, f = 0.0008 ipr,
Minimum Bore Dia. ø0.313", Wet Workpiece : SCM415
SIGER05EH, GER200-010A

5 Variety of toolholders for small parts machining available

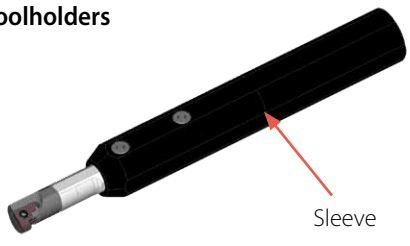
Shank diameter compatible with automatic lathes

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

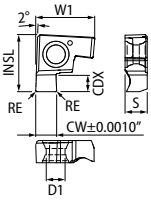
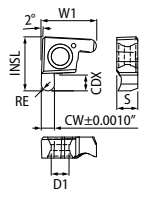
Overhang length is adjustable with a combination of sleeves and toolholders



Applicable Inserts (Ground Chipbreaker)

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

		NEW				
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	S	D1	RE	INSL	W1	PR2025		PR1225		TN6020		GW15		KW10		
				in	mm							R	L	R	L	R	L	R	L	R	L	
 2-Edge		GE R/L	100-005A	0.039	1.00	1.5	2.58	2.5	0.05	6.5	6.69	●	●	●	●	●				●		SIGE R/L 05EH SIGE R/L 0808A-EH SIGE R/L 0808A-WH
			120-005A	0.047	1.20							●	●	●	●	●						
			125-005A	0.049	1.25							●	●	●	●					●		
			150-010A	0.059	1.50				0.1			●	●	●	●	●				●	●	
			200-010A	0.079	2.00							●	●	●	●	●				●		
		GE R/L	100-005B	0.039	1.00	2.2	3.18	2.7	0.05	8.2	8.46	●	●	●	●	●				●	●	SIGE R/L 06EH SIGE R/L ...B-EH SIGE R/L ...B-WH SIGER...B-WH-90
			120-005B	0.047	1.20							●	●	●	●	●				●		
			125-005B	0.049	1.25							●	●	●	●					●		
			145-010B	0.057	1.45				0.1			●	●	●	●	●				●		
			150-010B	0.059	1.50							●	●	●	●	●	●			●		
			200-010B	0.079	2.00							●	●	●	●	●	●			●	●	
			250-020B	0.098	2.50				0.2			●	●	●	●	●	●			●		
			300-020B	0.118	3.00							●	●	●	●	●	●			●	●	
 2-Edge / Full Radius		GER	100-050AR	0.039	1.00	1.5	2.58	2.5	0.5	6.5	6.69	●		●						●		SIGER05EH SIGER0808A-EH SIGER0808A-WH
			200-100AR	0.079	2.00				1.0			●		●								
		GER	100-050BR	0.039	1.00	2.2	3.18	2.7	0.5	8.2	8.46	●		●						●		SIGER...B-EH SIGER...B-WH SIGER...B-WH-90
			200-100BR	0.079	2.00				1.0			●		●						●		

Dimension CDX shows available grooving depth

● : Standard Item

Inserts sold in 10 piece boxes

Recommended Cutting Conditions ★ 1st recommendation ☆ 2nd recommendation

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

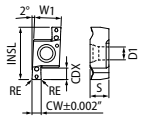
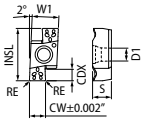
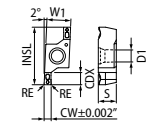
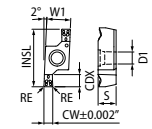
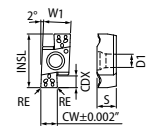
Workpiece	Recommended insert grades (Vc : m/min)				(1) f for Grooving (ipr)			Notes
	MEGACOAT NANO EX NEW	MEGACOAT	Cermet	Carbide	(2) f for Traversing (ipr)			
					(3) D.O.C. for Traversing (in)			
	PR2025	PR1225	TN6020	KW10	GE R/L 100 ~ 200 - 010A 100 ~ 200 - 100AR	GE R/L 100 ~ 200 - 010B 100 ~ 200 - 100BR	GE R/L 250 ~ 300 - 020B	
Carbon Steel	★ 160 ~ 260	☆ 160 ~ 260	☆ 160 ~ 260	-	(1) 0.0004 ~ 0.0012	(1) 0.0008 ~ 0.0016	(1) 0.0008 ~ 0.0016	Wet
					(2) 0.0004 ~ 0.0012	(2) 0.0008 ~ 0.0016	(2) 0.0008 ~ 0.0016	
					(3) Max. 0.0020	(3) Max. 0.0020	(3) Max. 0.0039	
Alloy Steel	★ 160 ~ 260	☆ 160 ~ 260	☆ 160 ~ 260	-	(1) 0.0004 ~ 0.0012	(1) 0.0008 ~ 0.0016	(1) 0.0008 ~ 0.0016	
					(2) 0.0004 ~ 0.0012	(2) 0.0008 ~ 0.0016	(2) 0.0008 ~ 0.0016	
					(3) Max. 0.0020	(3) Max. 0.0020	(3) Max. 0.0039	
Stainless Steel	★ 160 ~ 260	☆ 160 ~ 260	-	-	(1) 0.0004 ~ 0.0012	(1) 0.0004 ~ 0.0012	(1) 0.0004 ~ 0.0012	
					(2) 0.0004 ~ 0.0012	(2) 0.0004 ~ 0.0012	(2) 0.0004 ~ 0.0012	
					(3) Max. 0.0020	(3) Max. 0.0020	(3) Max. 0.0039	
Cast Iron	-	-	-	★ 160 ~ 260	(1) 0.0004 ~ 0.0012	(1) 0.0008 ~ 0.0016	(1) 0.0008 ~ 0.0016	
					(2) 0.0004 ~ 0.0012	(2) 0.0008 ~ 0.0016	(2) 0.0008 ~ 0.0016	
					(3) Max. 0.0020	(3) Max. 0.0020	(3) Max. 0.0039	
Aluminum	-	-	-	★ 160 ~ 330	(1) 0.0004 ~ 0.0012	(1) 0.0008 ~ 0.0016	(1) 0.0008 ~ 0.0016	
					(2) 0.0004 ~ 0.0012	(2) 0.0008 ~ 0.0016	(2) 0.0008 ~ 0.0016	
					(3) Max. 0.0039	(3) Max. 0.0039	(3) Max. 0.0079	
Brass	-	-	-	★ 160 ~ 330	(1) 0.0004 ~ 0.0012	(1) 0.0008 ~ 0.0016	(1) 0.0008 ~ 0.0016	
					(2) 0.0004 ~ 0.0012	(2) 0.0008 ~ 0.0016	(2) 0.0008 ~ 0.0016	
					(3) Max. 0.0039	(3) Max. 0.0039	(3) Max. 0.0079	

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

Applicable Inserts (Molded Chipbreaker)

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

		NEW MEGACOAT NANO EX	MEGACOAT	Cermet	Carbide	
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) CW in	CW mm	CDX	S	D1	RE	INSL	W1	MEGACOAT NANO EX PR2025 R	PR2025 L	MEGACOAT PR1225 R	PR1225 L	Cermet TN6020 R	TN6020 L	Carbide GW15 R	GW15 L	Carbide KW10 R	KW10 L	Applicable Toolholders
 2-Edge / Molded Chipbreaker	 GER150-010CM~250-020CM  GER300-020CM~350-020CM	GER	150-010CM	0.059	1.50	2.5	4.05	2.8	0.1	11.48	5.8	●		●								SIGER...C-EH SIGER...C-WH SIGER...C-WH-90
		GER	200-010CM	0.079	2.00							●		●								
		GER	250-020CM	0.098	2.50				0.2			●		●								
		GER	300-020CM	0.118	3.00							●		●								
		GER	350-020CM	0.138	3.50							●		●								
	 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	0.059	1.50	3.0	5.05	3.4	0.1	16.44	6.8	●		●								SIGER2020D-EH
		GER	200-010DM	0.079	2.00							●		●								
		GER	230-020DM	0.091	2.30	3.2						●		●								
		GER	250-020DM	0.098	2.50				0.2			●		●								
		GER	300-020DM	0.118	3.00							●		●								
		GER	350-020DM	0.138	3.50	4.5						●		●								
		GER	400-020DM	0.158	4.00							●		●								
		GER	150-010EM	0.059	1.50	3.0	5.55	4.4	0.1	21.66	9.54	●		●								SIGER...E-EH
		GER	200-010EM	0.079	2.00	3.2						●		●								
		GER	250-020EM	0.098	2.50	4.5			0.2			●		●								
		GER	300-020EM	0.118	3.00							●		●								
		GER	350-020EM	0.138	3.50	5.5						●		●								
		GER	400-020EM	0.158	4.00							●		●								
		GER	450-020EM	0.177	4.50	6.5						●		●								
		GER	500-020EM	0.197	5.00							●		●								

Dimension CDX shows available grooving depth

● : Standard Item

Inserts sold in 10 piece boxes

Recommended Cutting Conditions ★ 1st recommendation ☆ 2nd recommendation

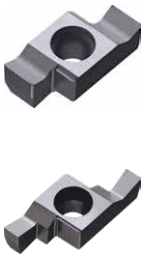
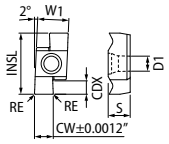
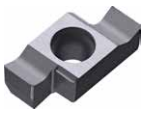
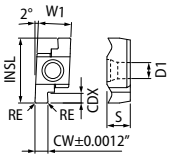
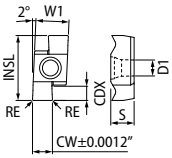
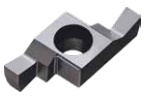
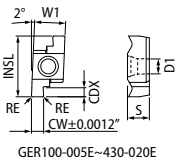
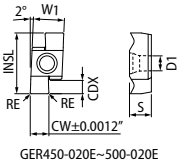
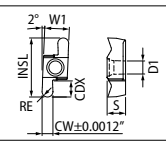
Molded Chipbreaker : GER...CM, GER...DM, GER...EM

Workpiece	Recommended Insert Grades (Vc : sfm) MEGACOAT NANO EX NEW	MEGACOAT	(1) f for Grooving (ipr) / (2) f for Traversing (ipr) / (3) D.O.C. for Traversing (in)						Notes
	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	★ 200 ~ 520	☆ 200 ~ 520	(1) 0.0012 ~ 0.0039	(1) 0.0012 ~ 0.0047	(1)0.0016 ~ 0.0047	(1) 0.0020 ~ 0.0047	(1) 0.0020 ~ 0.0047	(1) 0.0020 ~ 0.0047	Wet
			(2) 0.0012 ~ 0.0039	(2) 0.0012 ~ 0.0039	(2) 0.0016 ~ 0.0039	(2) 0.0020 ~ 0.0039	(2) 0.0020 ~ 0.0039	(2) 0.0020 ~ 0.0039	
			(3) Max. 0.0394	(3) Max. 0.0591	(3) Max. 0.0591	(3) Max. 0.0591	(3) Max. 0.0591	(3) Max. 0.0591	
Alloy Steel	★ 200 ~ 460	☆ 200 ~ 460	(1) 0.0012 ~ 0.0039	(1) 0.0012 ~ 0.0039	(1) 0.0016 ~ 0.0047	(1) 0.0020 ~ 0.0047	(1) 0.0020 ~ 0.0047	(1) 0.0020 ~ 0.0047	
			(2) 0.0012 ~ 0.0039	(2) 0.0012 ~ 0.0039	(2) 0.0016 ~ 0.0039	(2) 0.0020 ~ 0.0039	(2) 0.0020 ~ 0.0039	(2) 0.0020 ~ 0.0039	
			(3) Max. 0.0394	(3) Max. 0.0591	(3) Max. 0.0591	(3) Max. 0.0591	(3) Max. 0.0591	(3) Max. 0.0591	
Stainless Steel	★ 200 ~ 360	☆ 200 ~ 360	(1) 0.0012 ~ 0.0031	(1) 0.0012 ~ 0.0031	(1) 0.0016 ~ 0.0031	(1) 0.0020 ~ 0.0039	(1) 0.0020 ~ 0.0039	(1) 0.0020 ~ 0.0039	
			(2) 0.0012 ~ 0.0039	(2) 0.0012 ~ 0.0039	(2) 0.0016 ~ 0.0039	(2) 0.0020 ~ 0.0039	(2) 0.0020 ~ 0.0039	(2) 0.0020 ~ 0.0039	
			(3) Max. 0.0394	(3) Max. 0.0591	(3) Max. 0.0591	(3) Max. 0.0591	(3) Max. 0.0591	(3) Max. 0.0591	

Applicable Inserts (Ground Chipbreaker)

Classification of Usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

		NEW				
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	S	D1	RE	INSL	W1	PR2025		PR1225		TN6020		GW15		KW10		
			in	mm							R	L	R	L	R	L	R	L	R	L	
 2-Edge		GE℀ 100-005C	0.039	1.00	2.5	4.05	3.1	0.05	11.48	5.8	●	●	●	●	●	●	●	●			SIGE℀...C-EH SIGE℀...C-WH SIGE℀...C-WH-90
		120-005C	0.047	1.20							●	●	●	●	●		●				
		125-005C	0.049	1.25							●	●	●	●	●		●	●			
		140-005C	0.055	1.40							●		●		●		●				
		145-010C	0.057	1.45				0.1			●	●	●	●							
		150-010C	0.059	1.50							●	●	●	●	●		●	●			
		170-010C	0.067	1.70							●		●				●				
		185-010C	0.073	1.85							●		●								
		195-010C	0.077	1.95							●		●								
		200-010C	0.079	2.00							●	●	●	●	●		●	●			
		250-020C	0.098	2.50				0.2			●	●	●	●	●	●	●	●			
		300-020C	0.118	3.00							●	●	●	●	●	●	●				
		350-020C	0.138	3.50							●	●	●	●			●				
	 GER100-005D~280-020D  GER300-020D~400-020D	GE℀ 100-005D	0.039	1.00	2.5	5.05	3.6	0.05	16.44	6.8	●	●	●	●	●		●	●			SIGE℀...D-EH
		140-005D	0.055	1.40							●	●	●	●	●		●				
		145-010D	0.057	1.45				0.1			●	●	●	●	●						
		150-010D	0.059	1.50	3.0						●	●	●	●	●	●	●	●			
		170-010D	0.067	1.70							●	●	●	●	●						
		185-010D	0.073	1.85							●		●								
		195-010D	0.077	1.95							●		●								
		200-010D	0.079	2.00							●	●	●	●	●	●	●				
		225-010D	0.089	2.25							●	●	●	●							
		230-020D	0.091	2.30	3.2			0.2			●	●	●	●	●		●				
		250-020D	0.098	2.50							●	●	●	●	●	●	●				
		280-020D	0.110	2.80							●		●				●				
		300-020D	0.118	3.00							●	●	●	●	●	●	●	●			
		330-020D	0.130	3.30	4.5						●		●								
		350-020D	0.138	3.50							●		●								
		400-020D	0.157	4.00							●	●	●	●	●		●				
 2-Edge	 GER100-005E~430-020E  GER450-020E~500-020E	GE℀ 100-005E	0.039	1.00	2.5	5.55	4.6	0.05	21.66	9.54	●	●	●	●	●		●				SIGE℀...E-EH
		150-010E	0.059	1.50	3.0			0.1			●	●	●	●	●		●	●			
		170-010E	0.067	1.70							●	●	●	●	●		●				
		185-010E	0.073	1.85							●	●	●	●	●						
		195-010E	0.077	1.95							●	●	●	●							
		200-010E	0.079	2.00							●	●	●	●	●		●	●			
		225-010E	0.089	2.25	3.2						●		●		●		●				
		230-020E	0.091	2.30				0.2			●		●		●	●	●				
		250-020E	0.098	2.50							●	●	●	●	●	●	●	●			
		275-020E	0.108	2.75	4.5						●				●		●				
		280-020E	0.110	2.80							●	●	●	●	●						
		300-020E	0.118	3.00							●	●	●	●	●	●	●	●			
		330-020E	0.130	3.30							●	●	●	●	●						
		350-020E	0.138	3.50	5.5						●	●	●	●	●	●	●				
		400-020E	0.157	4.00							●	●	●	●	●		●	●			
		430-020E	0.169	4.30							●		●		●						
		450-020E	0.177	4.50	6.5						●		●		●		●				
		460-020E	0.181	4.60							●		●								
		500-020E	0.197	5.00							●	●	●	●	●		●				
 2-Edge / Full Radius		GER 200-100CR	0.079	2.00	2.5	4.05	3.1	1.0	11.48	5.8	●		●				●				SIGER...C-EH SIGER...C-WH SIGER...C-WH-90
		250-125CR	0.098	2.50				1.25			●		●				●				
		300-150CR	0.118	3.00				1.5			●		●				●				
		GER 200-100DR	0.079	2.00	3.2	5.05	3.6	1.0	16.44	6.8	●		●				●				SIGE℀...D-EH
		300-150DR	0.118	3.00	4.5			1.5			●		●				●				

Dimension CDX shows available grooving depth

● : Standard Item

Inserts sold in 10 piece boxes

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 : sfm) NEW MEGACOAT NANO EX	MEGACOAT	Cermet	Carbide	(1) f for Grooving (ipr) / (2) f for Traversing (ipr) / (3) D.O.C. for Traversing (in)							Notes
					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			
	PR2025	PR1225	TN6020	GW15	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	★ 200 ~ 460	☆ 200 ~ 460	☆ 390 ~ 590	-	(1) 0.0012~0.0031	(1) 0.0012~0.0031	(1) 0.0016~0.0035	(1) 0.0016~0.0035	(1) 0.0020~0.0047	(1) 0.0020~0.0047	(1) 0.0020~0.0047	Wet
					(2) 0.0012~0.0031	(2) 0.0012~0.0031	(2) 0.0016~0.0035	(2) 0.0016~0.0035	(2) 0.0020~0.0039	(2) 0.0020~0.0039	(2) 0.0020~0.0039	
					(3) Max. 0.0118	(3) Max. 0.0118	(3) Max. 0.0118	(3) Max. 0.0118	(3) Max. 0.0197	(3) Max. 0.0197	(3) Max. 0.0197	
Alloy Steel	★ 200 ~ 390	☆ 200 ~ 390	☆ 330 ~ 520	-	(1) 0.0012~0.0028	(1) 0.0012~0.0028	(1) 0.0016~0.0031	(1) 0.0016~0.0031	(1) 0.0020~0.0039	(1) 0.0020~0.0039	(1) 0.0020~0.0039	
					(2) 0.0012~0.0039	(2) 0.0012~0.0039	(2) 0.0016~0.0031	(2) 0.0016~0.0031	(2) 0.0020~0.0039	(2) 0.0020~0.0039	(2) 0.0020~0.0039	
					(3) Max. 0.0118	(3) Max. 0.0118	(3) Max. 0.0118	(3) Max. 0.0118	(3) Max. 0.0197	(3) Max. 0.0197	(3) Max. 0.0197	
Stainless Steel	★ 200 ~ 360	☆ 200 ~ 360	☆ 230 ~ 430	-	(1) 0.0012~0.0028	(1) 0.0012~0.0028	(1) 0.0016~0.0031	(1) 0.0016~0.0031	(1) 0.0020~0.0039	(1) 0.0020~0.0039	(1) 0.0020~0.0039	
					(2) 0.0012~0.0039	(2) 0.0012~0.0039	(2) 0.0016~0.0031	(2) 0.0016~0.0031	(2) 0.0020~0.0039	(2) 0.0020~0.0039	(2) 0.0020~0.0039	
					(3) Max. 0.0118	(3) Max. 0.0118	(3) Max. 0.0118	(3) Max. 0.0118	(3) Max. 0.0197	(3) Max. 0.0197	(3) Max. 0.0197	
Cast Iron	-	-	-	★ 200 ~ 330	(1) 0.0012~0.0031	(1) 0.0012~0.0031	(1) 0.0016~0.0035	(1) 0.0016~0.0035	(1) 0.0020~0.0047	(1) 0.0020~0.0047	(1) 0.0020~0.0047	
					(2) 0.0012~0.0031	(2) 0.0012~0.0031	(2) 0.0016~0.0035	(2) 0.0016~0.0035	(2) 0.0020~0.0039	(2) 0.0020~0.0039	(2) 0.0020~0.0039	
					(3) Max. 0.0118	(3) Max. 0.0118	(3) Max. 0.0118	(3) Max. 0.0118	(3) Max. 0.0197	(3) Max. 0.0197	(3) Max. 0.0197	
Aluminum	-	-	-	★ 490 ~ 980	(1) 0.0020~0.0047	(1) 0.0020~0.0047	(1) 0.0020~0.0059	(1) 0.0020~0.0059	(1) 0.0031~0.0059	(1) 0.0031~0.0059	(1) 0.0031~0.0059	
					(2) 0.0020~0.0047	(2) 0.0020~0.0047	(2) 0.0020~0.0059	(2) 0.0020~0.0059	(2) 0.0031~0.0059	(2) 0.0031~0.0059	(2) 0.0031~0.0059	
					(3) Max. 0.0197	(3) Max. 0.0197	(3) Max. 0.0197	(3) Max. 0.0197	(3) Max. 0.0315	(3) Max. 0.0315	(3) Max. 0.0315	
Brass	-	-	-	★ 330 ~ 820	(1) 0.0020~0.0047	(1) 0.0020~0.0047	(1) 0.0020~0.0059	(1) 0.0020~0.0059	(1) 0.0031~0.0059	(1) 0.0031~0.0059	(1) 0.0031~0.0059	
					(2) 0.0020~0.0047	(2) 0.0020~0.0047	(2) 0.0020~0.0059	(2) 0.0020~0.0059	(2) 0.0031~0.0059	(2) 0.0031~0.0059	(2) 0.0031~0.0059	
					(3) Max. 0.0197	(3) Max. 0.0197	(3) Max. 0.0197	(3) Max. 0.0197	(3) Max. 0.0315	(3) Max. 0.0315	(3) Max. 0.0315	

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

Lineup


Ground Chipbreaker


Molded Chipbreaker


Ground Chipbreaker

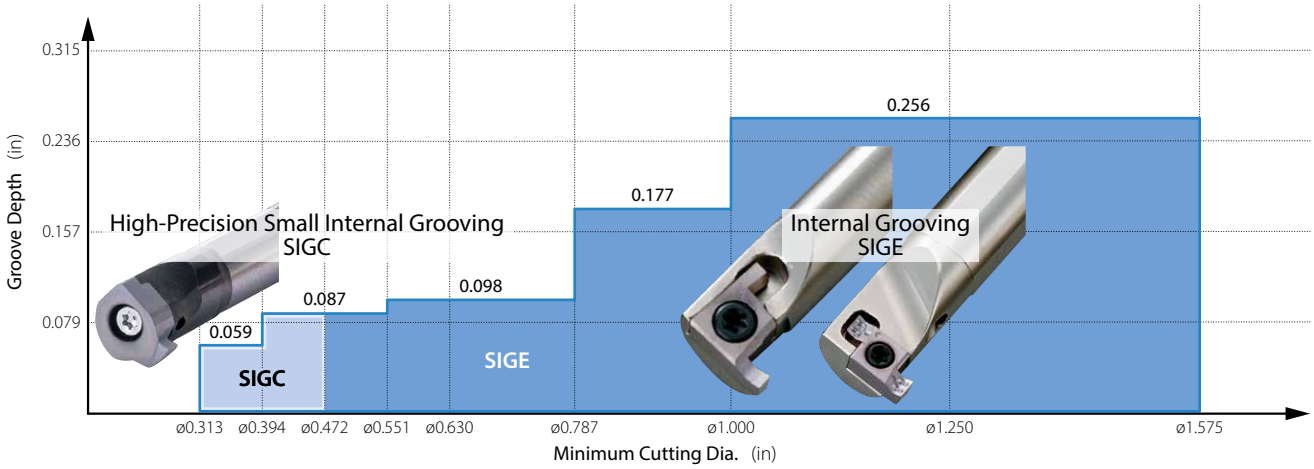
Insert	Description	GE R/L...A GER...AR	GE R/L...B	GER...BR	GER...CM	GER...DM	GER...EM	GE R/L...C	GER...CR	GE R/L...D	GER...DR	GE R/L...E
	Groove Width (in)	0.039 ~ 0.079	0.039 ~ 0.118	0.039 ~ 0.079	0.059 ~ 0.138	0.059 / 0.079 ~ 0.098 / 0.118 ~ 0.157	0.059 / 0.079 / 0.098 ~ 0.118 / 0.138 ~ 0.157 / 0.177 ~ 0.197	0.039 ~ 0.138	0.079 ~ 0.118	0.039 ~ 0.057 / 0.059 ~ 0.078 / 0.079 ~ 0.110 / 0.118 ~ 0.157	0.079 / 0.118	0.039 / 0.059 ~ 0.078 / 0.079 ~ 0.091 / 0.098 ~ 0.130 / 0.138 ~ 0.169 / 0.177 ~ 0.197
	Groove Width (mm)	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	Min. Cutting Dia. (in)	ø0.313	ø0.394	ø0.394	ø0.551, ø0.630	ø0.790	ø1.000, ø1.250, ø1.575	ø0.551, ø0.630	ø0.551, ø0.630	ø0.790	ø0.790	ø1.000, ø1.250, ø1.575
	Min. Cutting Dia. (mm)	ø8	ø10, ø12	ø10, ø12	ø14, ø16	ø20	ø25, ø32, ø40	ø14, ø16	ø14, ø16	ø20	ø20	ø25, ø32, ø40
	Excellent Bar	SIGE R/L 05EH SIGE R/L 0808A-EH	SIGE R/L 06EH SIGE R/L...B-EH	SIGE R/L 06EH SIGE R/L...B-EH	SIGE R/L... C-EH	SIGE R/L... D-EH	SIGER...E-EH	SIGE R/L...C-EH	SIGE R/L...C-EH	SIGE R/L...D-EH	SIGE R/L...D-EH	SIGE R/L...E-EH
	Carbide Shank Bar	SIGE R/L 0808A-WH	SIGE R/L... B-WH(-90)	SIGE R/L... B-WH(-90)	SIGE R/L... C-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]	05EH	GE[R/L] 100-005A ~ GE[R/L] 200-010A GER100-050AR ~ GER200-100AR	5°	-	-
	0808A-EH				
	06EH	GE[R/L] 100-005B ~ GE[R/L] 300-020B GER100-050BR ~ GER200-100BR	5°	-	-
	1010B-EH				
	1210B-EH				
	0809C-EH	GE[R/L] 100-005C ~ GE[R/L] 350-020C GER200-100CR ~ GER300-150CR	8°	GER150-010CM ~ GER350-020CM	10°
	0810C-EH				
	1412C-EH				
	1612C-EH				
	1616C-EH				
	1213D-EH	GE[R/L] 100-005D ~ GE[R/L] 400-020D GER200-100DR ~ GER300-150DR	9°	GER150-010DM ~ GER400-020DM	10°
	2020D-EH				
	1616E-EH	GE[R/L] 100-005E ~ GE[R/L] 500-020E	10°	GER150-010EM ~ GER500-020EM	10°
	2020E-EH				
	2025E-EH				
	2525E-EH				
	3232E-EH				
	4032E-EH				
SIGE[R/L]	0808A-WH	GE[R/L] 100-005A ~ GE[R/L] 200-010A GER100-050AR ~ GER200-100AR	5°	-	-
	1010B-WH	GE[R/L] 100-005B ~ GE[R/L] 300-020B GER100-050BR ~ GER200-100BR	5°	-	-
	1210B-WH				
	1008B-WH-90				
	1210B-WH-90				
	1412C-WH	GE[R/L] 100-005C ~ GE[R/L] 350-020C 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

Internal Grooving Range for SIGE and SIGC Tools



SIGE-EH Excellent Bar (with Coolant Hole)

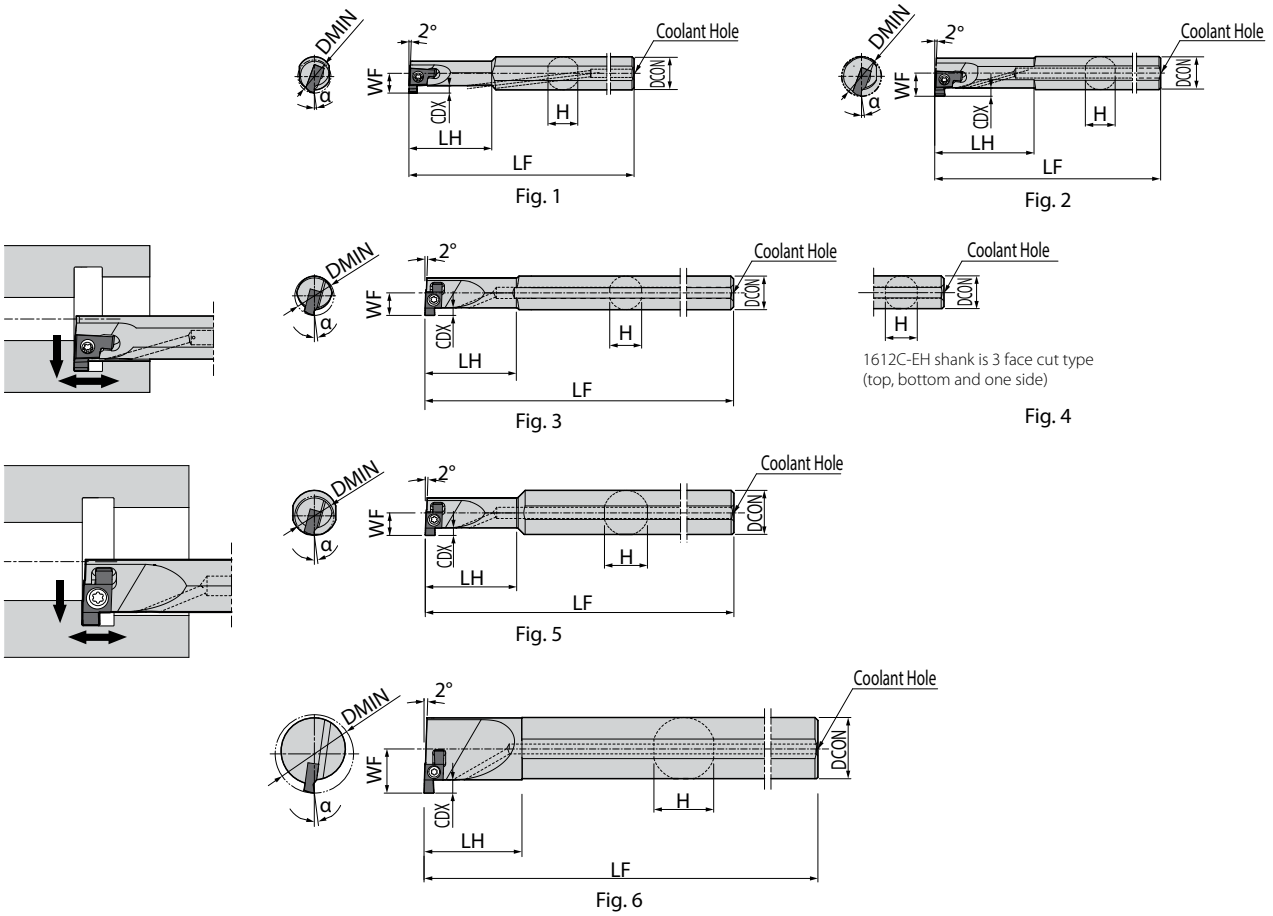


Fig. 1

Fig. 2

Fig. 3

1612C-EH shank is 3 face cut type
(top, bottom and one side)

Fig. 4

Fig. 5

Fig. 6

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

Right-hand shown

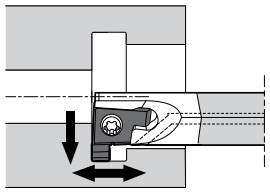
Toolholder Dimentions

Description		Stock		Unit	Min Bore Dia.	Dimensions							Coolant Hole	Shape	Spare Parts				Applicable Insert
															Clamp Screw	Wrench			
		R	L		DMIN	DCON	H	LF	LH	WF	CDX								
SIGE$^{R}_{L}$	05EH	●	●	inch	0.313	0.313	0.283	3.94	0.787	0.177	0.059		Yes	Fig.1	SB-2045TRN	-	-	FT-6	GE$^{R}_{L}$...A/AR
	06EH	●	●		0.394	0.375	0.354	4.92	0.984	0.232	0.087		Yes	Fig.1	SB-2255TR	-	DT-7	-	GE$^{R}_{L}$...B GE$^{R}_{L}$...BR
	0809C-EH	●	●		0.551	0.500	0.460	5.90	1.300	0.315	0.098		Yes	Fig.3	SB-2570TR	-	-	FT-8	GE$^{R}_{L}$...C GER$^{R}_{L}$...CM GER$^{R}_{L}$...CR
	0810C-EH	●	●		0.630	0.500	0.460	5.90	0.788	0.335	0.098								
	1213D-EH	●	●		0.790	0.750	0.710	7.09	1.575	0.477	0.177		Yes	Fig.5	SB-3080TR	-	-	FT-10	GE$^{R}_{L}$...D/DM/DR
	1616E-EH	●	●		1.000	1.000	0.960	7.88	1.772	0.614	0.255		Yes	Fig.5	SB-4085TR	FT-15	-	-	GE$^{R}_{L}$...E GER...EM
	2020E-EH	●	●		1.250	1.250	1.170	8.66	2.166	0.748	0.255								
	2025E-EH	●	●		1.575	1.250	1.170	9.84	1.772	0.906	0.255			Fig.6					
SIGE$^{R}_{L}$	0808A-EH	●	●	mm	8	8	7.2	100	20	4.8	1.5		Yes	Fig. 1	SB-2045TRN	-	-	FT-6	GE$^{R}_{L}$...A/AR
	1010B-EH	●	●		10	10	9.0	125	25	6.2	2.2		Yes	Fig. 1	SB-2255TR	-	DT-7	-	GE$^{R}_{L}$...B GE$^{R}_{L}$...BR
	1210B-EH	●	●		12	10	9.0	125	30	7.0	2.2			Fig. 2					
	1412C-EH	●	●		14	12	11.4	150	33	8.0	2.5		Yes	Fig. 3	SB-2570TR	-	-	FT-8	GE$^{R}_{L}$...C GER...CM GER...CR
	1612C-EH	●	●		16	12	11.4	150	20	8.5	2.5			Fig. 4					
	1616C-EH	●	●		16	16	15.0	160	36	9.0	2.5			Fig. 5					
	2020D-EH	●	●		20	20	19.0	180	40	12.1	4.5		Yes	Fig. 5	SB-3080TR	-	-	FT-10	GE$^{R}_{L}$...D/DM/DR
	2525E-EH	●	●		25	25	24.0	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	19.0	6.5			Fig. 5					
	4032E-EH	●	●		40	32	30.4	250	45	23.0	6.5			Fig. 6					

CDX shows the distance from the toolholder to the cutting edge. See "CDX" of insert for available groove depth.

● : Standard Item

SIGE-WH Carbide Shank Bar (with Coolant Hole)



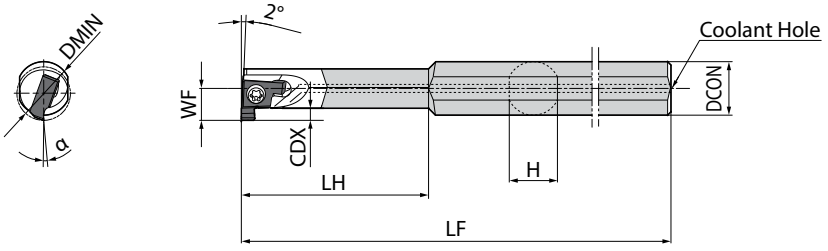
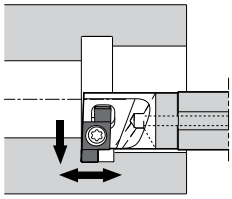


Fig. 1



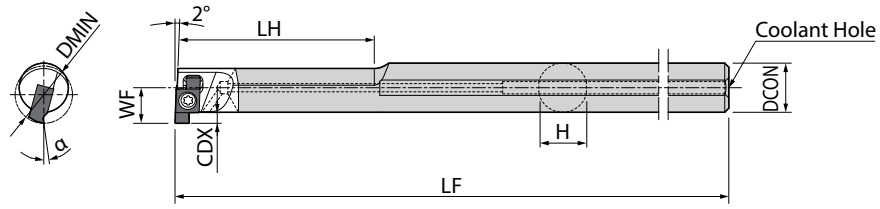


Fig. 2

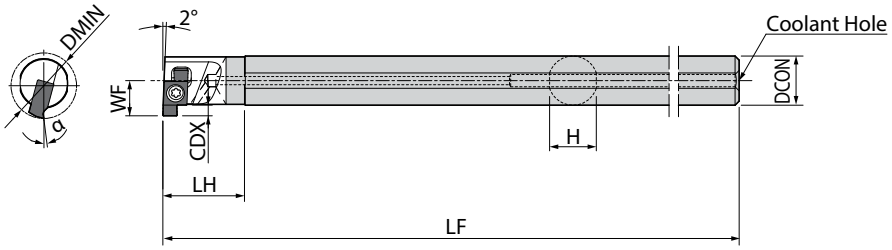
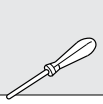


Fig. 3

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

Right-hand shown

Toolholder Dimentions

Description		Stock		Min Bore Dia.	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/L ...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/L ...CM GE R/L ...CR
	1612C-WH	●	●	16			180	20	8.5			Fig. 3				

CDX shows the distance from the toolholder to the cutting edge. See "CDX" of insert for available groove depth.

● : Standard Item

SIGE-WH-90 Carbide Shank Bar (with Coolant Hole • Small Parts Machining)

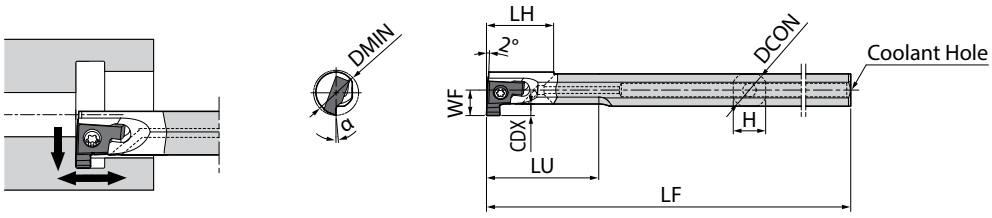


Fig. 1

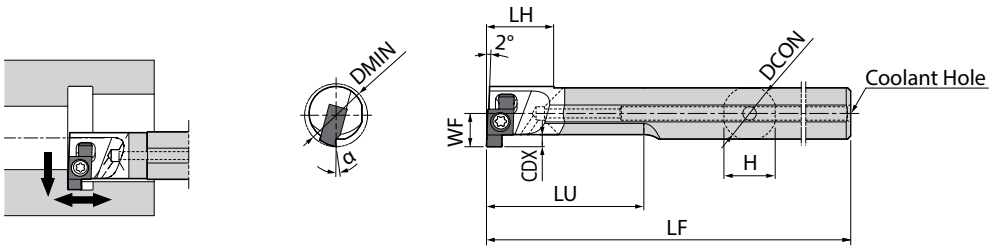


Fig. 2

Right-hand Insert for Right-hand Toolholder.

Right-hand shown

Toolholder Dimention

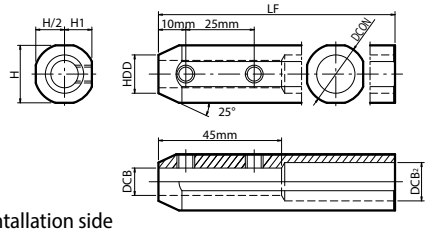
See next page for applicable sleeves

Description		Stock	Min Bore Dia.	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. See "CDX" of insert for available groove depth.
LH shows minumum overhang length (Distance from the cutting edge to the rear flat cut end position).

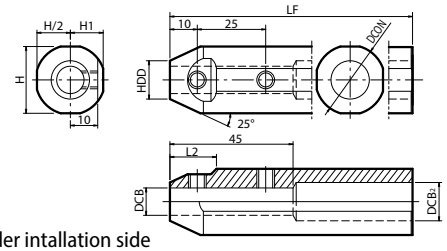
● : Standard Item

Applicable Sleeve (for Small Parts Machining)



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 Item □ : Made to Order

KYOCERA

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