

THE NEW VALUE FRONTIER



SIGE Internal Grooving

- Internal screw clamp toolholder provides excellent chip evacuation
- GER---M type insert features a 3-D molded chipbreaker for cost effective chip control
- GER---A type insert features an 8mm minimum cutting diameter with a 2 edge design
- New PR1025 PVD coated carbide provides very stable machining and long tool life



ADVANCING PRODUCTIVITY

SIGE Advantages

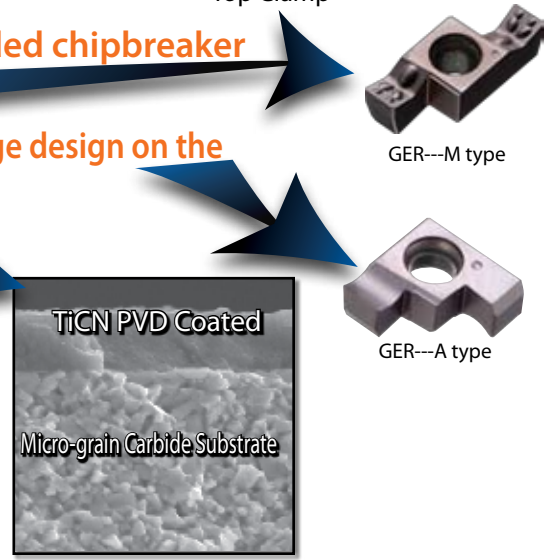
◇ Large chip pocket screw clamp toolholder design provides excellent chip evacuation



◇ Cost effective chip control from a 3-D molded chipbreaker on the new GER---M type insert

◇ An 8mm minimum cutting diameter with a 2 edge design on the GER---A type insert

◇ New PR1025 PVD coated carbide
 ◇ Consistent machining with our new micrograin carbide substrate and PVD-FS TiCN coating
 ◇ Long tool life



SIGE Insert and Toolholder Lineup

Insert	Shape	Ground chipbreaker										3-D molded chipbreaker					Ground chipbreaker									
	Description	GE ^R / _L ...A	GE ^R / _L ...B	GER...CM	GER...DM	GER...EM					GE ^R / _L ...C	GE ^R / _L ...D					GE ^R / _L ...E									
		GER...AR	GER...BR	-	-	-					GER...CR	GER...DR					-									
Groove Width		1.0 (0.04") 2.0 (0.08")	1.0 (0.04") 3.0 (0.12")	1.0 2.0	1.5 2.5	2.0 3.0 4.0	1.5 2.0	2.5 3.0	3.5 4.0	4.5 5.0	1.0 3.0	1.0 1.45	1.5 1.95	2.0 2.8	3.0 4.0	1.0 1.95	1.5 2.3	2.0 3.3	2.5 3.3	3.5 4.3	4.5 5.0					
Available Groove Depth (mm)		1.5mm (0.06")	2.5mm (0.10")	2.5	3.0	3.2	4.5	3.0	3.2	4.5	5.5	6.5	2.5	2.5	3.0	3.2	4.5	2.5	3.0	3.2	4.5	5.5	6.5			
Minimum Cutting Dia. (mm)		ø8mm (0.3")	ø10 (0.4"), ø12 (0.5")	ø14, ø16	ø20	ø25, ø32, ø40					ø14, ø16	ø20					ø25, ø32, ø40									
Excellent Bar		SIGE ^R / _L ...A-EH	SIGE ^R / _L ...B-EH	SIGE ^R / _L ...C-EH	SIGE ^R / _L ...D-EH					SIGE ^R / _L ...E-EH					SIGE ^R / _L ...C-EH	SIGE ^R / _L ...D-EH					SIGE ^R / _L ...E-EH					
Carbide Shank Bar		SIGE ^R / _L ...A-WH	SIGE ^R / _L ...B-WH	-	-					-					-	-					-					

See P3-P5 for details.

Comparison of chip evacuation (3-D molded chipbreaker GER---M)

Description	Feed rate (in/rev)	SCM415 (Minimum Bore Dia. ϕ 0.6")				Evaluation
		0.001	0.002	0.003	0.004	
SIGER1612C-EH GER300-020CM (PR1025)						Good chip control
Comp A 3mm (Width 3mm)					Insert fracture	Unstable chip control and biting
Comp B 3mm (Width 3mm)						Unstable chip control and biting

[Vc=328 sfm, ap=.079", Wet.]

(Internal evaluation)

Comparison of chip evacuation (Minimum cutting dia. 8mm)

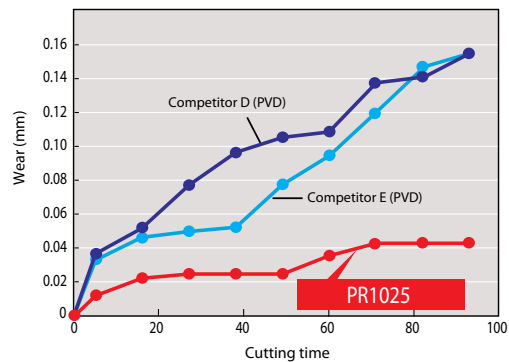
Description	Feed rate	SCM415	Evaluation
SIGER0808A-EH GER200-010A PR1025			
Comp C (Width .08 in)			 Chipping

[Vc=164 sfm, doc=0.05", Wet.]

(Internal evaluation)

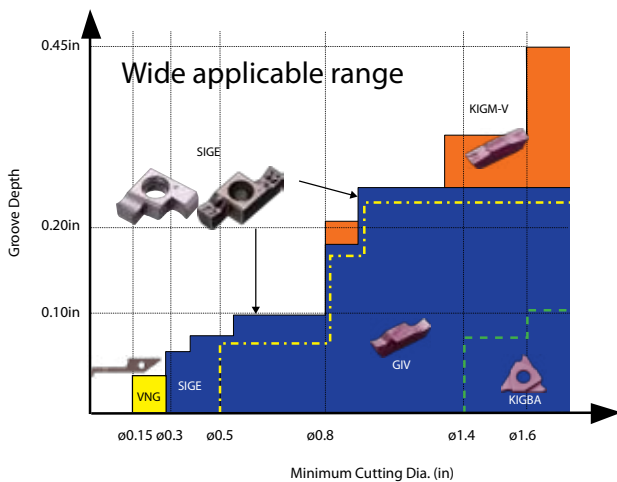
Comparison of wear resistance

Maximum wear amount of front edge relief surface



[Vc=328 sfm, doc=0.04", f=0.002 ipr, One side grooving, Wet, 4135]
(Internal evaluation)

Applicable Range of Internal Grooving Tool



Groove width (inch)	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.06	0.04	0.04	0.06	0.11	0.01	0.06	0.12	0.16	0.16	
	0.08	0.08	0.08	0.08	0.12	0.12	0.16	0.20	0.12	0.13	0.16	0.20	0.1	0.19	0.16	0.20	0.20	
0.45																	0.43	
0.40																	0.33	
0.35																		
0.30																		
0.25																		
0.20																		
0.175																		
0.15																		
0.10																		
0.075																		
0.05																		
Minimum Cutting Dia. (inch)	ϕ 0.16	ϕ 0.20	ϕ 0.24	ϕ 0.28	ϕ 0.32	ϕ 0.39	ϕ 0.47	ϕ 0.55	ϕ 0.63	ϕ 0.79	ϕ 0.98	ϕ 1.26	ϕ 1.57	ϕ 0.55	ϕ 0.79	ϕ 0.98	ϕ 1.26	ϕ 1.57
Toolholder	VNG			SIGE				GIV			KIGBA		KIGM-V					

Insert grade selection

Classification of usage					
●: Continuous-Light Int. /1st Choice ○: Continuous-Light Int. /2nd Choice ●: Continuous / 1st Choice ○: Continuous / 2nd Choice		Cermet	PVD Coated	Carbide	
		TN6020	PR1025	GW15	KW10
P	Carbon Steel / Alloy Steel	●	●		
M	Stainless Steel	●	●		
K	Cast Iron			●	●
N	Non-ferrous Material			●	●
S	Titanium Alloy			●	●
H	Hardened Material(~40HRC)	○	●		
	Hardened Material(40HRC~)				

Recommended cutting conditions (Ground Chipbreaker : $GE^{R/L} \cdot \cdot A(R), GE^{R/L} \cdot \cdot B(R)$)

Workpiece Material	Recommended Insert Grade(Cutting Speed : sfm)			① f at Grooving (ipr)			Remark
	Cermet TN6020	PVD Coated PR1025	Carbide KW10	② f at Traversing (ipr)			
				③ doc at Traversing (inch)			
				$GE^{R/L}$ 100~200-010A 100~200-100AR	$GE^{R/L}$ 100~200-010B 100~200-100BR	$GE^{R/L}$ 250~300-020B	
Carbon Steel	☆ 150~275	★ 150~275	-	①0.0004~0.0012 ②0.0004~0.0012 ③Max. 0.002	①0.0008~0.0016 ②0.0008~0.0016 ③Max. 0.0020	①0.0008~0.0016 ②0.0008~0.0016 ③Max. 0.004	Coolant
Alloy Steel	☆ 150~275	★ 150~275	-	①0.0004~0.0012 ②0.0004~0.0012 ③Max. 0.002	①0.0008~0.0016 ②0.0008~0.0016 ③Max. 0.002	①0.0008~0.0016 ②0.0008~0.0016 ③Max. 0.004	
Stainless Steel(SUS304)	-	★ 150~275	-	①0.0004~0.0012 ②0.0004~0.0012 ③Max. 0.002	①0.01~0.03 ②0.01~0.03 ③Max. 0.002	①0.01~0.03 ②0.01~0.03 ③Max. 0.004	
Cast Iron(FC FCD)	-	-	★ 150~275	①0.0004~0.0012 ②0.0004~0.0012 ③Max. 0.002	①0.0008~0.0016 ②0.0008~0.0016 ③Max. 0.002	①0.0008~0.0016 ②0.0008~0.0016 ③Max. 0.004	
Aluminum	-	-	★ 150~350	①0.0004~0.0012 ②0.0004~0.0012 ③Max. 0.004	①0.0008~0.0016 ②0.0008~0.0016 ③Max. 0.004	①0.0008~0.0016 ②0.0008~0.0016 ③Max. 0.008	
Brass	-	-	★ 150~350	①0.0004~0.0012 ②0.0004~0.0012 ③Max. 0.004	①0.0008~0.0016 ②0.0008~0.0016 ③Max. 0.004	①0.0008~0.0016 ②0.0008~0.0016 ③Max. 0.008	

* Use PVD coated grade or carbide for traversing with edge width 1mm.($GE^{R/L}$ 100-005A / 100-005B)

★ : 1st Recommendation ☆ : 2nd Recommendation



◆ Recommended cutting conditions (Ground Chipbreaker : GE^{R/L} · · C(R), GE^{R/L} · · D(R), GE^{R/L} · · E)

Workpiece Material	Recommended Insert Grade(Cutting Speed : sfm)			① f at Grooving (ipr)							Remark
	Cermet	PVD Coated	Carbide	② f at Traversing (ipr)							
				③ doc at Traversing (inch)							
				GE ^{R/L} 100~200-010C 200-100CR	GE ^{R/L} 250~350-020C 250~300-150CR						
TNG6020	PR1025	GW15	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} 350~430-020E	GE ^{R/L} 450~500-020E		
Carbon Steel	375 ☆ ~ 600	★ 200 ~ 475	-	① 0.0012~0.0031	① 0.0012~0.0031	① 0.0016~0.0035	① 0.0016~0.0035	① 0.002~0.0047	① 0.002~0.0047	① 0.002~0.0047	
				② 0.0012~0.0031	② 0.0012~0.0031	② 0.0016~0.0035	② 0.0016~0.0035	② 0.002~0.004	② 0.002~0.004	② 0.002~0.004	
				③ Max. 0.012	③ Max. 0.012	③ Max. 0.012	③ Max. 0.012	③ Max. 0.02	③ Max. 0.02	③ Max. 0.02	
Alloy Steel	325 ☆ ~ 525	★ 200 ~ 400	-	① 0.0012~0.0028	① 0.0012~0.0028	① 0.0016~0.032	① 0.0016~0.032	① 0.002~0.004	① 0.002~0.004	① 0.002~0.004	
				② 0.0012~0.004	② 0.03~0.1	② 0.0016~0.032	② 0.0016~0.032	② 0.002~0.004	② 0.002~0.004	② 0.002~0.004	
				③ Max. 0.012	③ Max. 0.012	③ Max. 0.012	③ Max. 0.012	③ Max. 0.02	③ Max. 0.02	③ Max. 0.02	
Stainless Steel(SUS304)	225 ☆ ~ 450	★ 200 ~ 375	-	① 0.0012~0.0028	① 0.0012~0.0028	① 0.0016~0.032	① 0.0016~0.032	① 0.002~0.004	① 0.002~0.004	① 0.002~0.004	
				② 0.0012~0.004	② 0.0012~0.004	② 0.0016~0.032	② 0.0016~0.032	② 0.002~0.004	② 0.002~0.004	② 0.002~0.004	
				③ Max. 0.012	③ Max. 0.012	③ Max. 0.012	③ Max. 0.012	③ Max. 0.02	③ Max. 0.5	③ Max. 0.02	
Cast Iron(FC FCD)	-	★ 200 ~ 350	-	① 0.0012~0.0031	① 0.0012~0.0031	① 0.0016~0.0035	① 0.0016~0.0035	① 0.002~0.0047	① 0.002~0.0047	① 0.002~0.0047	
				② 0.0012~0.0031	② 0.0012~0.0031	② 0.0016~0.035	② 0.0016~0.035	② 0.002~0.004	② 0.002~0.004	② 0.002~0.004	
				③ Max. 0.012	③ Max. 0.012	③ Max. 0.012	③ Max. 0.012	③ Max. 0.02	③ Max. 0.02	③ Max. 0.02	
Aluminum	-	★ 500 ~ 1000	-	① 0.002~0.005	① 0.002~0.005	① 0.002~0.006	① 0.002~0.006	① 0.003~0.006	① 0.003~0.006	① 0.003~0.006	
				② 0.002~0.005	② 0.002~0.005	② 0.002~0.006	② 0.002~0.006	② 0.003~0.006	② 0.003~0.006	② 0.003~0.006	
				③ Max. 0.02	③ Max. 0.02	③ Max. 0.02	③ Max. 0.02	③ Max. 0.03	③ Max. 0.03	③ Max. 0.03	
Brass	-	★ 350 ~ 825	-	① 0.002~0.005	① 0.002~0.005	① 0.002~0.006	① 0.002~0.006	① 0.003~0.006	① 0.003~0.006	① 0.003~0.006	
				② 0.002~0.005	② 0.002~0.005	② 0.002~0.006	② 0.002~0.006	② 0.003~0.006	② 0.003~0.006	② 0.003~0.006	
				③ Max. 0.02	③ Max. 0.02	③ Max. 0.02	③ Max. 0.02	③ Max. 0.03	③ Max. 0.03	③ Max. 0.03	

* Use PVD coated grade or carbide for traversing with edge width 1mm.(GE^{R/L}100-010C / 100-010D / 100-010E)


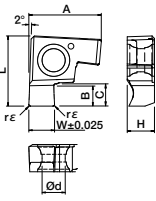

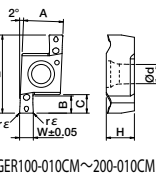
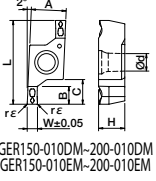
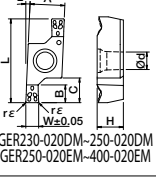
★ : 1st Recommendation ☆ : 2nd Recommendation

◆ Recommended cutting conditions (3-D Molded Chipbreaker)

Workpiece Material	Recommended Insert Grade(Cutting Speed : sfm)			① f at Grooving (ipr)						Remark
	Cermet	PVD Coated	Carbide	② f at Traversing (ipr)						
				③ doc at Traversing (inch)						
				GER 150 ~ 200-010CM	GER 250 ~ 350-020CM					
TNG6020	PR1025	GW15	GER 150 ~ 200-010DM	GER 230 ~ 250-020DM	GER 300 ~ 400-020DM	GER 250 ~ 300-020EM	GER 350 ~ 400-020EM	GER 450 ~ 500-020EM		
Carbon Steel	-	★ 200 ~ 525	-	① 0.0012~0.004	① 0.0012~0.0047	① 0.0016~0.0047	① 0.002~0.0047	① 0.002~0.0047	① 0.002~0.0047	
				② 0.0012~0.004	② 0.0012~0.004	② 0.0016~0.004	② 0.002~0.004	② 0.002~0.004	② 0.002~0.004	
				③ Max. 0.04	③ Max. 0.06	③ Max. 0.06	③ Max. 0.06	③ Max. 0.06	③ Max. 0.06	
Alloy Steel	-	★ 200 ~ 475	-	① 0.0012~0.004	① 0.0012~0.004	① 0.0016~0.0047	① 0.002~0.0047	① 0.002~0.0047	① 0.002~0.0047	
				② 0.0012~0.004	② 0.0012~0.004	② 0.0016~0.004	② 0.002~0.004	② 0.002~0.004	② 0.002~0.004	
				③ Max. 0.04	③ Max. 0.06	③ Max. 0.06	③ Max. 0.06	③ Max. 0.06	③ Max. 0.06	
Stainless Steel(SUS304)	-	★ 200 ~ 375	-	① 0.0012~0.0032	① 0.012~0.0032	① 0.0016~0.0032	① 0.002~0.004	① 0.002~0.004	① 0.002~0.004	
				② 0.0012~0.004	② 0.0012~0.004	② 0.0016~0.004	② 0.002~0.004	② 0.002~0.004	② 0.002~0.004	
				③ Max. 0.04	③ Max. 0.06	③ Max. 0.06	③ Max. 0.06	③ Max. 0.06	③ Max. 0.06	

★ : 1st Recommendation ☆ : 2nd Recommendation


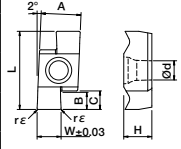

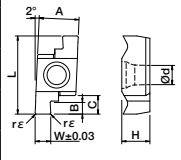
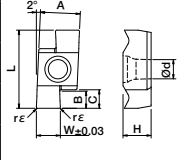
Applicable Insert

Shape	Description	Dimensions (mm)									Cermet		PVD Coated		Carbide		Applicable holder	
		W (mm)	W (in)	B (max depth)	C	rε	A	L	H	dø	TN6020		PR1025		KW10			
											R	L	R	L	R	L		
 2 Edge type	 GE ^{R/L}	100-005A	1.00	0.039	1.5	1.8	6.69	6.5	2.58	2.5	●	●	●	●	○	○	SIGE ^{R/L} ...A-EH	
		120-005A	1.20	0.047							●	●	●	●	○	○		
		125-005A	1.25	0.049							●	●	●	●	○	○		
		150-010A	1.50	0.059							●	●	●	●	○	○		
		200-010A	2.00	0.079							●	●	●	●	○	○		
		100-005B	1.00	0.039	2.2	2.6	8.46	8.2	3.18	2.7	●	●	●	●	○	○		SIGE ^{R/L} ...B-EH
		120-005B	1.20	0.047							●	●	●	●	○	○		
		125-005B	1.25	0.049							●	●	●	●	○	○		
		145-010B	1.45	0.057							●	●	●	●	○	○		
		150-010B	1.50	0.059							●	●	●	●	○	○		
	200-010B	2.00	0.079	●							●	●	●	○	○			
	250-020B	2.50	0.098	●							●	●	●	○	○			
	300-020B	3.00	0.118	●	●	●	●	○	○									
	 2 Edge type 3-D molded Chip-breaker	 GER	150-010CM	1.50	0.059	2.5	2.7	5.8	11.48	4.05	2.8			●			SIGE ^{R/L} ...C-EH SIGE ^{R/L} ...C-WH	
200-010CM			2.00	0.079									●					
250-020CM			2.50	0.098									●					
300-020CM			3.00	0.118									●					
350-020CM			3.50	0.138									●					
 GER		150-010DM	1.50	0.059	3.0	4.8	6.8	16.44	5.05	3.4			●			SIGE ^{R/L} ...D-EH		
		200-010DM	2.00	0.079	3.2								●					
		230-020DM	2.30	0.091	3.2								●					
		250-020DM	2.50	0.098	3.2								●					
		300-020DM	3.00	0.118	4.5								●					
		350-020DM	3.50	0.138	4.5								●					
 GER		150-010EM	1.50	0.059	3.0	6.8	9.54	21.66	5.55	4.4			●			SIGE ^{R/L} ...E-EH		
		200-010EM	2.00	0.079	3.2								●					
		250-020EM	2.50	0.098	4.5								●					
	300-020EM	3.00	0.118	4.5								●						
	350-020EM	3.50	0.138	5.5								●						
	400-020EM	4.00	0.157	5.5								●						
	450-020EM	4.50	0.177	6.5								●						
	500-020EM	5.00	0.197	6.5								●						
	500-020EM	5.00	0.197	6.5								●						

*Dimension B shows available grooving depth.

● : Standard Stock
○ : World Express

Applicable Insert

Shape	Description	Dimensions (mm)										Cermet		PVD Coated		Carbide		Applicable holder
		W (mm)	W (in)	B (max depth)	C	rε	A	L	H	ød	TN6020		PR1025		GW15			
											R	L	R	L	R	L		
 2 Edge type		GE ^{R/L} 100-005C	1.00	0.039	2.5	2.7	0.05	5.8	11.48	4.05	2.8	○	○	○	○	○	○	SIGE ^{R/L} ...C-EH SIGE ^{R/L} ...C-WH
		120-005C	1.20	0.047								○	○	○	○	○		
		125-005C	1.25	0.049								○	○	○	○	○		
		140-005C	1.40	0.055								○	○	○	○	○		
		145-010C	1.45	0.057								○	○	○	○	○		
		150-010C	1.50	0.059								○	○	○	○	○		
		170-010C	1.70	0.067								○	○	○	○	○		
		185-010C	1.85	0.073								○	○	○	○	○		
		195-010C	1.95	0.077								○	○	○	○	○		
		200-010C	2.00	0.079								○	○	○	○	○		
		250-020C	2.50	0.098								○	○	○	○	○		
		300-020C	3.00	0.118								○	○	○	○	○		
		350-020C	3.50	0.138								○	○	○	○	○		
		 2 Edge type	 GER100-005D ~ 280-020D  GER300-020D ~ 400-020D	GE ^{R/L} 100-005D								1.00	0.039	2.5	0.05	6.8	16.44	
140-005D	1.40			0.055	●	●	●	●	●									
145-010D	1.45			0.057	●	●	●	●	●									
150-010D	1.50			0.059	3.0	0.10	●	●	●	●	●							
170-010D	1.70			0.067			●	●	●	●	●							
185-010D	1.85			0.073			●	●	●	●	●							
195-010D	1.95			0.077	3.2	0.20	●	●	●	●	●							
200-010D	2.00			0.079			●	●	●	●	●							
225-010D	2.25			0.089			●	●	●	●	●							
230-020D	2.30			0.091	4.5	0.20	●	●	●	●	●							
250-020D	2.50			0.098			●	●	●	●	●							
275-020D	2.75			0.108			●	●	●	●	●							
280-020D	2.80			0.110			●	●	●	●	●							
300-020D	3.00			0.118	4.5	0.20	●	●	●	●	●							
330-020D	3.30			0.130			●	●	●	●	●							
350-020D	3.50			0.138			●	●	●	●	●							
400-020D	4.00	0.157	●	●			●	●	●									

● : Standard Stock
○ : World Express

Applicable Insert

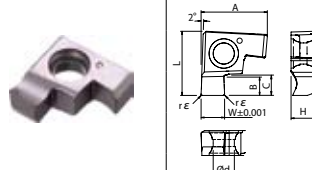
Shape	Description	Dimensions (mm)										Cermet		PVD Coated		Carbide		Applicable holder
		W	W	B	C	rε	A	L	H	ød	TN6020	PR1025	GW15					
		(mm)	(in)	(max depth)							R	L	R	L	R	L		
Right-handed inserts shown																		
<p>GER^{R/L} 100-005E ~ 430-020E GER450-020E ~ 500-020E</p>	100-005E	1.00	0.039	2.5	6.8	0.05	9.54	21.66	5.55	4.4	●	●	●	●	●	●	SIGER ^{R/L} ...E-EH	
	150-010E	1.50	0.059	3.0							0.1	●	●	●	●	●		●
	170-010E	1.70	0.067									●	●	●	●			
	185-010E	1.85	0.073									●	●	●	●			
	195-010E	1.95	0.077									●	●	●	●			
	200-010E	2.00	0.079	3.2	0.2	●	●	●	●	●	●							
	225-010E	2.25	0.089			●	●	●	●	●								
	230-020E	2.30	0.091	5.5	0.2	●	●	●	●	●	●							
	250-020E	2.50	0.098			●	●	●	●	●								
	275-020E	2.75	0.108			●	●	●	●	●								
	280-020E	2.80	0.110	4.5	0.2	●	●	●	●	●	●							
	300-020E	3.00	0.118			●	●	●	●	●								
	330-020E	3.30	0.130	6.5	0.2	●	●	●	●	●	●							
	350-020E	3.50	0.138			●	●	●	●	●								
	400-020E	4.00	0.157			●	●	●	●	●								
	430-020E	4.30	0.169	5.5	0.2	●	●	●	●	●	●							
	450-020E	4.50	0.177			●	●	●	●	●								
	460-020E	4.60	0.181	6.5	0.2	●	●	●	●	●	●							
	500-020E	5.00	0.197			●	●	●	●	●								
<p>Full-R</p>	GER 200-100CR	2.00	0.079	2.5	2.7	1.0	5.8	11.48	4.05	2.8	●	●	SIGER...C-EH					
	250-125CR	2.50	0.098			1.25					●	●						
	300-150CR	3.00	0.118			1.5					●	●						
	GER 200-100DR	2.00	0.079	3.2	4.8	1.0	6.8	16.44	5.05	3.4	●	●		SIGER...D-EH				
	300-150DR	3.00	0.118	4.5		1.5					●	●						

●: Standard Stock

Description	Applicable Insert & Rake Angle (α) after Installment of Insert			
	Ground Chipbreaker	α(°)	3-D Molded Chipbreaker	α(°)
SIGER ^{R/L} 0808A-EH	GE ^{R/L} 100-005A~GE ^{R/L} 200-010A	5°	-	-
1010B-EH	GE ^{R/L} 100-005B~GE ^{R/L} 300-020B	5°	-	-
1210B-EH				
1412C-EH	GE ^{R/L} 100-005C~GE ^{R/L} 350-020C	8°	GER150-010CM~GER350-020CM	10°
1612C-EH	GER200-100CR~GER300-150CR			
2020D-EH	GE ^{R/L} 100-005D~GE ^{R/L} 400-020D GER200-100DR~GER300-150DR	9°	GER150-010DM~GER400-020DM	10°
2525E-EH	GE ^{R/L} 100-005E~GE ^{R/L} 500-020E	10°	GER150-010EM~GER500-020EM	10°
3232E-EH				
4032E-EH				
SIGER ^{R/L} 0808A-WH	GE ^{R/L} 100-005A~GE ^{R/L} 200-010A	5°	-	-
1010B-WH	GE ^{R/L} 100-005B~GE ^{R/L} 300-020B	5°	-	-
1210B-WH				

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

Applicable Insert (Inch)

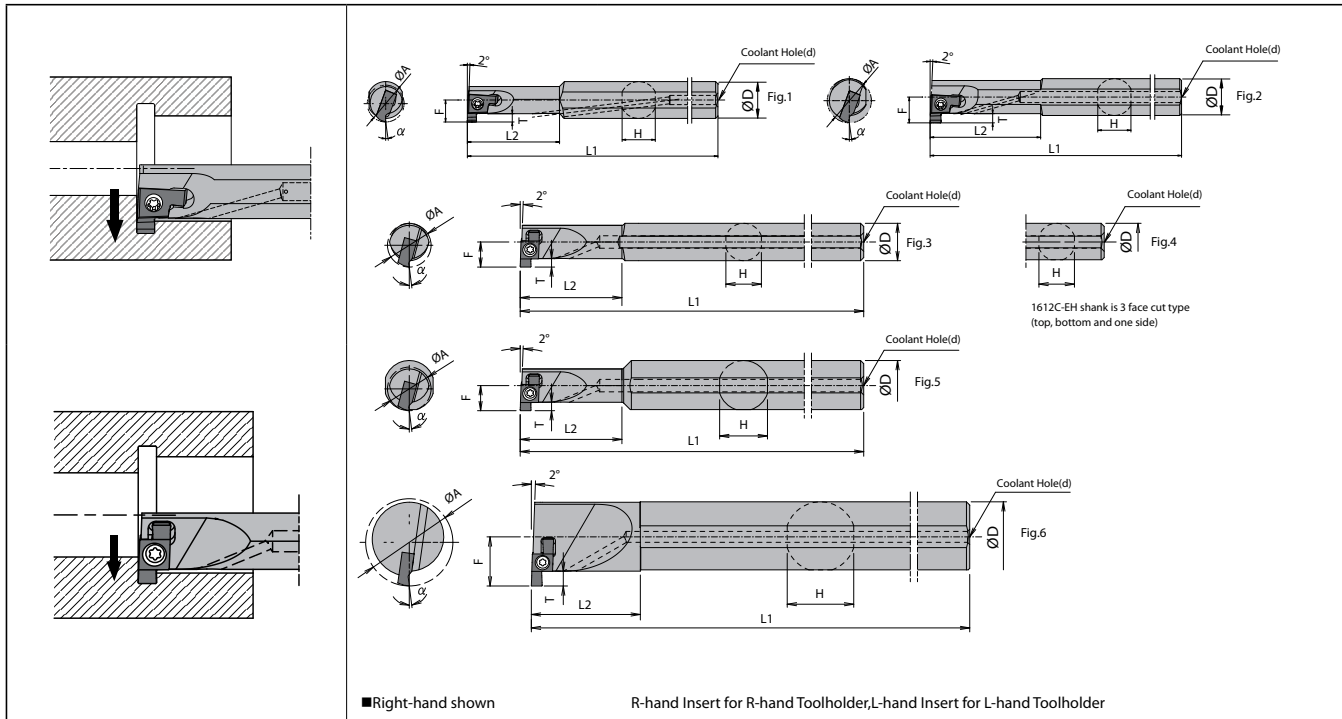
Shape	Description	Dimensions (inch)								PVD Coated		Applicable holder	
		W	B (max depth)	C	rε	A	L	H	ød	PR1025			
										R	L		
Right-handed inserts shown													
	GE ^{R/L} 031-002A	0.031	0.039	0.071	0.002	0.263	0.256	0.102	0.098	●	●	SIGE ^{R/L} 05EH	
	041-002A	0.041	0.059							●	●		
	047-002A	0.047	0.059							●	●		
	058-002A	0.058	0.059							●	●		
	062-004A	0.062	0.059							0.004	●		●
	072-004A	0.072	0.059								●		●
	078-004A	0.078	0.059	0.102	0.004	0.333	0.323	0.125	0.106	●	●	SIGE ^{R/L} 06EH	
	GE ^{R/L} 031-002B	0.031	0.039							●	●		
	041-002B	0.041	0.059							●	●		
	047-002B	0.047	0.059							●	●		
	058-002B	0.058	0.059							●	●		
	062-004B	0.062	0.059							●	●		
	072-004B	0.072	0.059							●	●		
	078-004B	0.078	0.059							●	●		
	088-004B	0.088	0.087							●	●		
	094-004B	0.094	0.087							●	●		
	097-004B	0.097	0.087							●	●		
	105-008B	0.105	0.087							0.008	●		●
	110-008B	0.110	0.087	●	●								
	122-008B	0.122	0.087	●	●								

●: Standard Stock

Description	Applicable Insert & Rake Angle (α) after Installment of Insert			
	Ground Chipbreaker	α(°)	3-D Molded Chipbreaker	α(°)
SIGE ^{R/L} 05-EH	GE ^{R/L} 031-002A~GE ^{R/L} 078-004A	5°	-	-
06-EH	GE ^{R/L} 031-002B~GE ^{R/L} 122-008B			
0809C-EH	GE ^{R/L} 100-005C~GE ^{R/L} 350-020C	8°	GER150-010CM~GER350-020CM	10°
0810C-EH	GER200-100CR~GER300-150CR			
1212D-EH	GE ^{R/L} 100-005D~GE ^{R/L} 400-020D	9°	GER150-010DM~GER400-020DM	10°
	GER200-100DR~GER300-150DR			
1616E-EH	GE ^{R/L} 100-005E~GE ^{R/L} 500-020E	10°	GER150-010EM~GER500-020EM	10°
2020E-EH				
2025E-EH				
SIGE ^{R/L} 0809C-WH	GE ^{R/L} 100-005C~GE ^{R/L} 350-020C	8°	GER150-010CM~GER350-020CM	10°
0810C-WH	GER200-100CR~GER300-150CR			

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

■ SIGE-EH Type Excellent Bar (with coolant hole)



◆ Toolholder Dimension

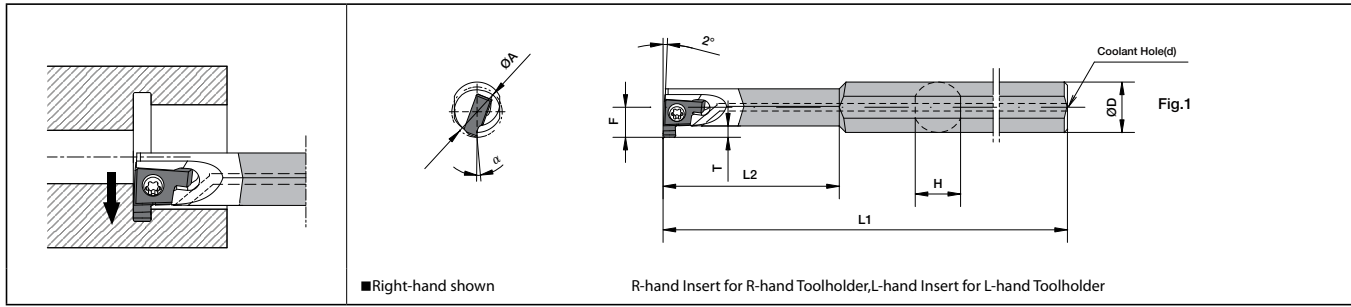
Description	Unit	Stock		Minimum cutting dia. ϕA	Dimensions						Shape	Spare Parts		Applicable Insert		
		R	L		ϕD	H	L1	L2	F	T		ϕd	Clamp screw		Wrench	
															FT DT	
SIGE ^R _L 05-EH	inch	●	●	0.315	0.315	0.283	3.94	0.787	0.177	0.059	0.158	Fig.1	SB-2045TRN	FT-6	-	GE ^R _L 031-002A~GE ^R _L 078-004A
06-EH	inch	●	●	0.394	0.394	0.654	4.92	0.984	0.232	0.087		Fig.1	SB-2255TR	-	DT-7	GE ^R _L 031-002B~GE ^R _L 122-008B
0809C-EH	inch	●	●	0.551	0.500	0.460	5.90	1.300	0.315	0.098		Fig.3	SB-2570TR	FT-8		GE ^R _L 100-005C~GE ^R _L 350-020C GER150-010CM~GER350-020CM GER200-100CR~GER300-150CR
0810C-EH	inch	●	●	0.630				0.788	0.335			Fig.4				
1212D-EH	inch	●	●	0.790	0.750	0.790	7.09	1.575	0.477	0.177	0.196	Fig.5	SB-3080TR	FT-10	-	GE ^R _L 100-005D~GE ^R _L 400-020D GER150-010DM~GER400-020DM GER200-100DR~GER300-150DR
1616E-EH	inch	●	●	1.000	1.000	0.960	7.88	1.772	0.614	0.255			SB-4085TR	FT-15	-	GE ^R _L 100-005E~GE ^R _L 500-020E GER150-010EM~GER500-020EM
2020E-EH	inch	●	●	1.250	1.250	1.170	8.66	2.166	0.748	0.255		Fig.6				
2025E-EH	inch	●	●	1.575												
0808A-EH	mm	○	○	8	8	7.2	100	20	4.8	1.5	4	Fig.1	SB-2045TRN	FT-6	-	GE ^R _L 100-005A~GE ^R _L 200-010A
1010B-EH	mm	○	○	10	10	9	125	25	6.2	2.2	5	Fig.1	SB-2255TR	-	DT-7	GE ^R _L 100-005B~GE ^R _L 300-020B
1210B-EH	mm	○	○	12	10	9	125	30	7.0	2.2	5	Fig.2				
1412C-EH	mm	●	●	14	12	11.4	150	33	8	2.5	4	Fig.3	SB-2570TR	FT-8		GE ^R _L 100-005C~GE ^R _L 350-020C GER150-010CM~GER350-020CM GER200-100CR~GER300-150CR
1612C-EH	mm	●	●	16				20	8.5			Fig.4				
2020D-EH	mm	●	●	20	20	19	180	40	12.1	4.5	5	Fig.5	SB-3080TR	FT-10	-	GE ^R _L 100-005D~GE ^R _L 400-020D GER150-010DM~GER400-020DM GER200-100DR~GER300-150DR
2525E-EH	mm	●	●	25	25	24	200	45	15.6	6.5	5		SB-4085TR	FT-15	-	GE ^R _L 100-005E~GE ^R _L 500-020E GER150-010EM~GER500-020EM
3232E-EH	mm	●	●	32	32	30.4	220	55	19							
4032E-EH	mm	●	●	40			250	45	23	Fig.6						

*Dimension T shows available grooving depth. Insert B dimension shows maximum grooving depth by insert.

● : Standard Stock
○ : World Express



SIGE-WH Type Carbide Anti-vibration Bar (with coolant hole)



Toolholder Dimension

Description	Unit	Stock			Dimensions							Shape	Spare Parts			Applicable Insert
		R	L	øA	øD	H	L1	L2	F	T	ød		Clamp screw	Wrench		
		●	●	0.551			5.90	1.969	0.342	0.098			SB-2045TRN	FT-6	-	
SIGE ^{R/L} 0809C-WH	inch	●	●	0.551	0.50	0.46	5.90	1.969	0.342	0.098	0.119	Fig.1	SB-2045TRN	FT-6	-	GE ^{R/L} 1100-005C~ GE ^{R/L} 350-020C GER150-010CM~ GER350-020CM~ GER200-100CR~ GER300-150CR
0810C-WH	inch	●	●	0.630			7.09	(0.788)	0.335	2.2			SB-2255TR	-	DT-7	

● : Standard Stock
 ○ : World Express



SIGE Case Studies

