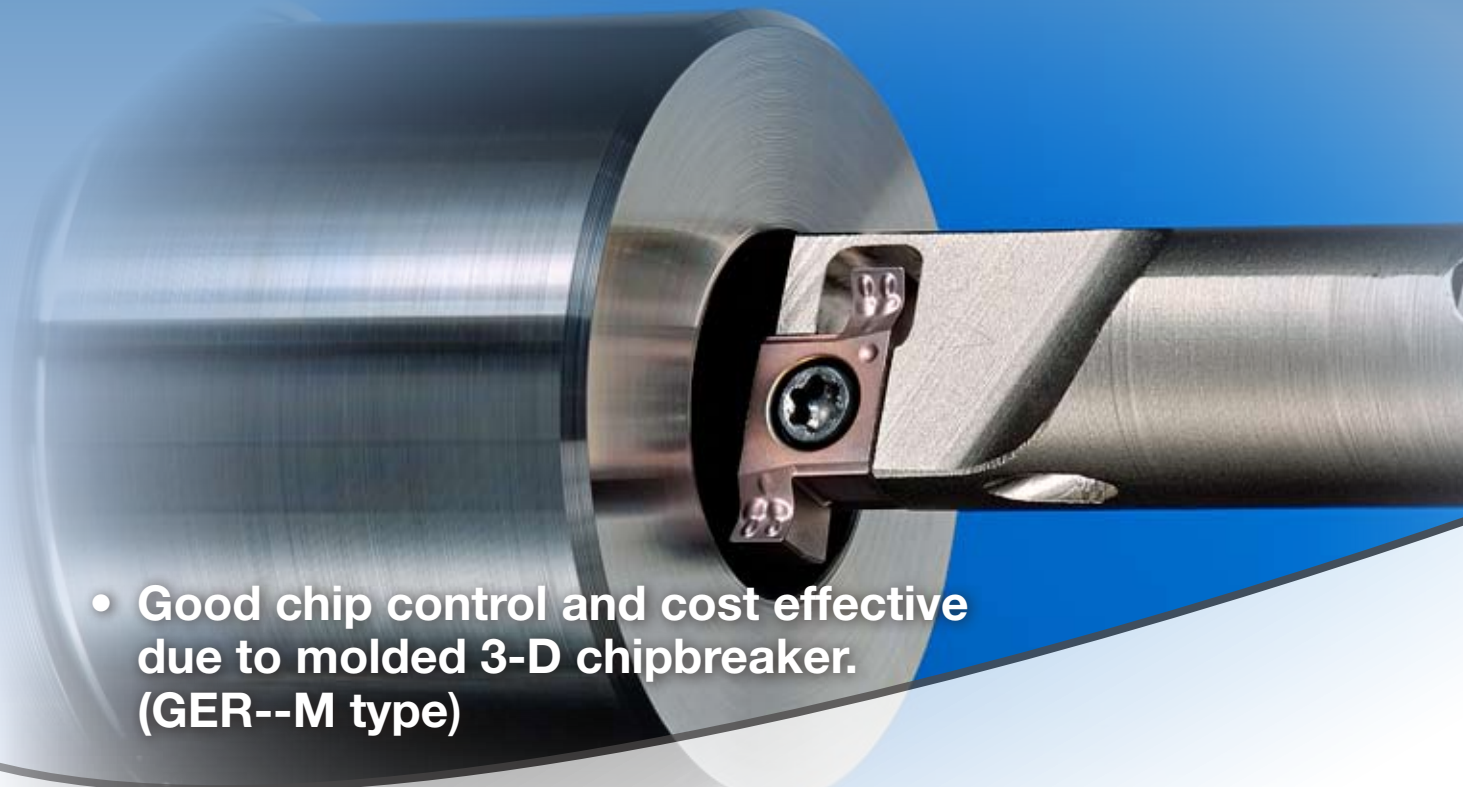




# SIGE INTERNAL GROOVING

**Good chip evacuation due to large chip pocket with screw clamping system**

- **Minimum cutting diameter 8mm.**
- **2 edge design insert.**

- 
- **Good chip control and cost effective due to molded 3-D chipbreaker. (GER--M type)**

**Gute Spankontrolle durch große Spankammer und Schraubklemmsystem**

- Mindestbohrungsdurchmesser 8mm.
- 2 Schneidkantendesign.
- Gute Spankontrolle und wirtschaftlicher 3-D Spanbrecher (GER--M).

TZZ00016

**Bonne évacuation des copeaux grâce à une large poche à copeaux et au système de fixation par vis**

- Diamètre d'usinage minimum 8 mm.
- 2 arêtes de coupe par plaquette.
- Comparatif de l'évacuation des copeaux (brise-copeaux 3D brut de frittage).

**Buona evacuazione del truciolo dovuto alla larga tasca ed al sistema di bloccaggio a vite**

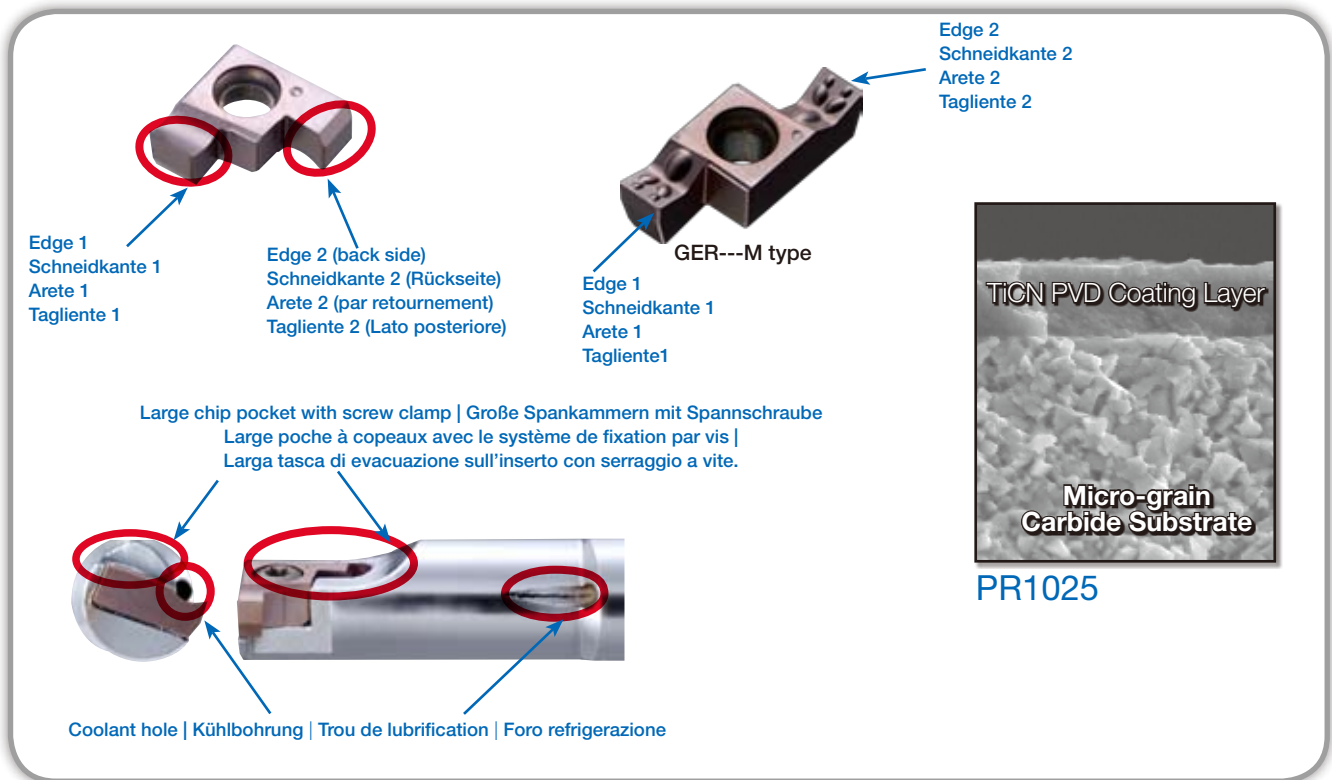
- Diametre d'usinage minimum 8 mm.
- 2 arêtes de coupe par plaquette.
- Buon controllo del truciolo ed economia dell'inserto dovuto al rompitruciolo stampato 3-D

## ■ Advantages | Vorteile | Avantage | Vantaggi

2 edge use design (minimum cutting dia. 8-40mm). Stable cutting and long tool life by the new grade PR1025.  
 2 Schneidkanten Ausführung (min. Bearbeitungsdurchmesser 8-40mm). Stabile Bearbeitung und lange Standzeit durch die neu Sorte PR1025.

2 aretes (minimum d'usinage 8 mm – 40 mm) . Usinage stable et longue durée de vie grace à la nouvelle nuance PR 1025.

Design con 2 taglienti per inserto (minimo diametro di lavoro 8-40 mm). Lavorazione stabile e lunga vita utensile con il nuovo grado PR1025.



## SIGE Insert and Toolholder Lineup SIGE Schneidplatten und Werkzeughalter Produktpalette Plaqueette SIGE et gamme de porte outil Inserti SIGE e gamma portainseriti

Shape	Ground chipbreaker		3-D molded chipbreaker					Ground chipbreaker														
	GE%...A GER...AR	GE%...B GER...BR	GER...CM	GER...DM		GER...EM			GE%...C GER...CR	GE%...D GER...DR		GE%...E										
Groove Width (mm)	1.0 2.0	1.0 3.0	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	1.0 1.45	1.5 1.95	2.0 2.8	3.0 4.0	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	2.5	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)	ø8	ø10,ø12	ø14,ø16	ø20	ø25,ø32,ø40			ø14,ø16	ø20	ø25,ø32,ø40												
Excellent Bar	SIGE%...A-EH	SIGE%...B-EH	SIGE%...C-EH	SIGE%...D-EH	SIGE%...E-EH			SIGE%...C-EH	SIGE%...D-EH		SIGE%...E-EH											
Carbide Shank Bar	SIGE%...A-WH	SIGE%...B-WH	SIGE%...C-WH	-	-			SIGE%...C-WH	-		-											

See P.3-P.5 for details.

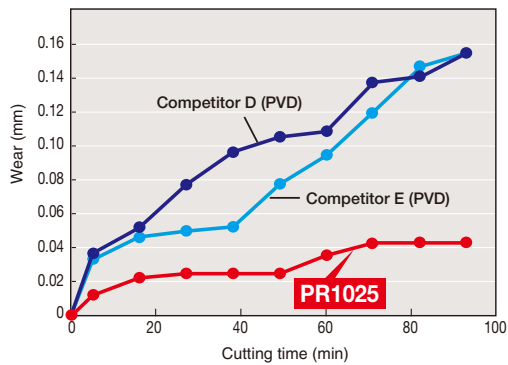
**Comparison of chip evacuation (3-D molded chipbreaker)**  
**Vergleich der Spanabfuhr (gesinterte 3-D Spangeometrie)**  
**Comparaison de l'évacuation copeaux (3-D brise copeaux brut de frittage)**  
**Confronto evacuazione del truciolo (Rompitruciolo stampato 3-D)**

Description	Feed rate (mm/rev)				Remarks
	0.03	0.05	0.07	0.1	
SIGER1612C-EH GER300-020CM (PR1025)					Good
Comp A (Width 3mm)				Insert fracture	Not good
Comp B (Width 3mm)					Not good

[ Vc =100m/min, ap=2.0mm, Wet ] 15CrMo5 7 (Minimum Bore Dia. ø16)

(Internal evaluation)

**Comparison of wear resistance**  
**Vergleich der Verschleißfestigkeit**  
**Comparaison de résistance à l'abrasion**  
**Confronto della resistenza ad usura**



[ Vc=100m/min, ap=1mm, f=0.05mm/rev, One side grooving, with coolant, 50CrMo4 (1.7223) ] (Internal evaluation)


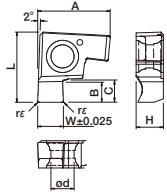

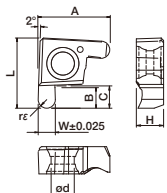

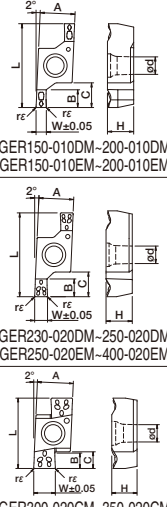

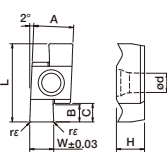
Maximum wear amount of front edge relief surface.  
 Maximaler Verschleiß an der Freifläche der Schneide.  
 Usure maximum en depouille.  
 Massima usura sulla superficie della spoglia frontale.

**Case Study**  
**Fallstudie**  
**Exemple**  
**Test eseguito**

15CrMo5 (1.7262)	
<ul style="list-style-type: none"> <li>Vc=50m/min</li> <li>grooving depth 1.5mm</li> <li>f=0.01mm/rev</li> <li>with coolant</li> <li>SIGER0808A-EH GER100-005A</li> </ul>	
<b>PR1025</b>	700 pcs/edge
<b>Competitor Cermet E (V=30m/min)</b>	100~150 pcs/edge
<ul style="list-style-type: none"> <li>PR1025 shows stable cutting with higher cutting speed Vc=50m/min and improved tool life while reducing cutting time by 40%.</li> </ul>	
(Evaluation by the user)	






# Applicable Insert

Shape	Description	Dimensions (mm)								Cermet		PVD coated carbide		Carbide		Applicable holder			
		W	B	C	re	A	L	H	ød	TN6020		PR1025		GW15			KW10		
										R	L	R	L	R	L		R	L	
Right-handed insert shown																			
 2 Edge type		GE <sup>®</sup> 100-005A	1.00	1.5	1.8	0.05	6.69	6.5	2.58	2.5	●	●	●	●			●	●	
		120-005A	1.20								●	●	●	●			●	●	
		125-005A	1.25								●	●	●	●			●	●	
		150-010A	1.50								●	●	●	●			●	●	
		200-010A	2.00	●	●	●	●			●	●								
		GE <sup>®</sup> 100-005B	1.00	2.2	2.6	0.05	8.46	8.2	3.18	2.7	●	●	●	●				●	●
		120-005B	1.20								●	●	●	●			●	●	
		125-005B	1.25								●	●	●	●			●	●	
		145-010B	1.45								●	●	●	●			●	●	
		150-010B	1.50								●	●	●	●			●	●	
		200-010B	2.00								●	●	●	●			●	●	
		250-020B	2.50	●	●	●	●			●	●								
		300-020B	3.00	●	●	●	●			●	●								
		 Full-R		GER 100-050AR	1.00	1.5	1.8	0.5	6.69	6.5	2.58	2.5		●				●	
200-100AR	2.00				●										●				
GER 100-050BR	1.00			2.2	2.6	0.5	8.46	8.2	3.18	2.7		●					●		
200-100BR	2.00											●			●				
 2 Edge type 3-D molded Chipbreaker		GER 150-010CM	1.50	2.5	2.7	0.1	5.8	11.48	4.05	2.8		●							
		200-010CM	2.00									●							
		250-020CM	2.50									●							
		300-020CM	3.00									●							
		GER100-010CM-250-020CM	350-020CM	3.50		●													
		GER 150-010DM	1.50	3.0	3.2	0.1	6.8	16.44	5.05	3.4		●							
		200-010DM	2.00									●							
		230-020DM	2.30									●							
		250-020DM	2.50									●							
		GER150-010DM-200-010DM	300-020DM	3.00		●													
		GER150-010EM-200-010EM	350-020DM	3.50	4.5														
		400-020DM	4.00			●													
		GER 150-010EM	1.50	3.0	3.2	0.1	9.54	21.66	5.55	4.4		●							
		200-010EM	2.00									●							
250-020EM	2.50		●																
300-020EM	3.00		●																
GER230-020DM-250-020DM	350-020EM	3.50	4.5																
GER250-020EM-400-020EM	400-020EM	4.00			●														
GER300-020CM-350-020CM	450-020EM	4.50	6.5																
GER300-020DM-400-020DM	500-020EM	5.00			●														
GER450-020EM-500-020EM																			
 2 Edge type		GE <sup>®</sup> 100-005C	1.00	2.5	2.7	0.05	5.8	11.48	4.05	2.8	●	●	●	●	●	●			
		120-005C	1.20								●	●	●	●	●				
		125-005C	1.25								●	●	●	●	●				
		140-005C	1.40								●	●	●	●	●				
		145-010C	1.45	●	●	●	●	●											
		150-010C	1.50	●	●	●	●	●											
		170-010C	1.70	●	●	●	●	●											
		185-010C	1.85	●	●	●	●	●											
		195-010C	1.95	●	●	●	●	●											
		200-010C	2.00	●	●	●	●	●											
		250-020C	2.50	●	●	●	●	●											
		300-020C	3.00	●	●	●	●	●											
		350-020C	3.50	●	●	●	●	●											



# Applicable Insert

Shape	Description	Dimensions (mm)								Cermet		PVD coated carbide		Carbide		Applicable holder									
		W	B	C	re	A	L	H	ød	TN6020	PR1025	GW15	KW10												
		R		L		R		L		R		L													
Right-handed insert shown																									
 <p>GER100-005D-280-020D</p> <p>GER300-020D-400-020D</p>	<p><b>GE<sup>®</sup></b> 100-005D 1.00</p> <p>140-005D 1.40</p> <p>145-010D 1.45</p> <p>150-010D 1.50</p> <p>170-010D 1.70</p> <p>185-010D 1.85</p> <p>195-010D 1.95</p> <p>200-010D 2.00</p> <p>225-010D 2.25</p> <p>230-020D 2.30</p> <p>250-020D 2.50</p> <p>275-020D 2.75</p> <p>280-020D 2.80</p> <p>300-020D 3.00</p> <p>330-020D 3.30</p> <p>350-020D 3.50</p> <p>400-020D 4.00</p>	2.5	3.0	4.8	6.8	16.44	5.05	3.4	0.05	●	●	●	●	●	●		SIGE <sup>®</sup> ...D-EH								
		0.10							●	●	●	●	●	●											
		0.20							●	●	●	●	●	●	●	●		●	●	●	●				
		0.05							●	●	●	●	●	●	●	●		●	●	●	●				
		0.1							●	●	●	●	●	●	●	●		●	●	●	●				
		0.2							●	●	●	●	●	●	●	●		●	●	●	●				
		 <p>GER100-005E-430-020E</p> <p>GER450-020E-500-020E</p> <p>2 Edge type</p>	<p><b>GE<sup>®</sup></b> 100-005E 1.00</p> <p>150-010E 1.50</p> <p>170-010E 1.70</p> <p>185-010E 1.85</p> <p>195-010E 1.95</p> <p>200-010E 2.00</p> <p>225-010E 2.25</p> <p>230-020E 2.30</p> <p>250-020E 2.50</p> <p>275-020E 2.75</p> <p>280-020E 2.80</p> <p>300-020E 3.00</p> <p>330-020E 3.30</p> <p>350-020E 3.50</p> <p>400-020E 4.00</p> <p>430-020E 4.30</p> <p>450-020E 4.50</p> <p>460-020E 4.60</p> <p>500-020E 5.00</p>	2.5	3.0	6.8	9.54	21.66	5.55	4.4	0.05	●	●	●	●	●		●		SIGE <sup>®</sup> ...E-EH					
				0.1							●	●	●	●	●	●									
				0.2							●	●	●	●	●	●		●	●		●	●	●	●	
				0.05							●	●	●	●	●	●		●	●		●	●	●	●	
				0.1	●	●	●	●	●	●	●	●	●	●	●	●									
				0.2	●	●	●	●	●	●	●	●	●	●	●	●									
				 <p>Full-R</p>	<p><b>GER</b> 200-100CR 2.00</p> <p>250-125CR 2.50</p> <p>300-150CR 3.00</p> <p><b>GER</b> 200-100DR 2.00</p> <p>300-150DR 3.00</p>	2.5	2.7	4.8	6.8	16.44	5.05	3.4	1.0	●	●	●		●	●			SIGER...C-EH SIGER...C-WH			
						1.25							●	●	●	●		●							
						1.5	●	●	●	●	●	●	●	●	●	●		●	●						
						1.0	●	●	●	●	●	●	●	●	●	●		●	●						
						1.25	●	●	●	●	●	●	●	●	●	●		●	●						
						1.5	●	●	●	●	●	●	●	●	●	●		●	●						

\* Dimension B shows available grooving depth.

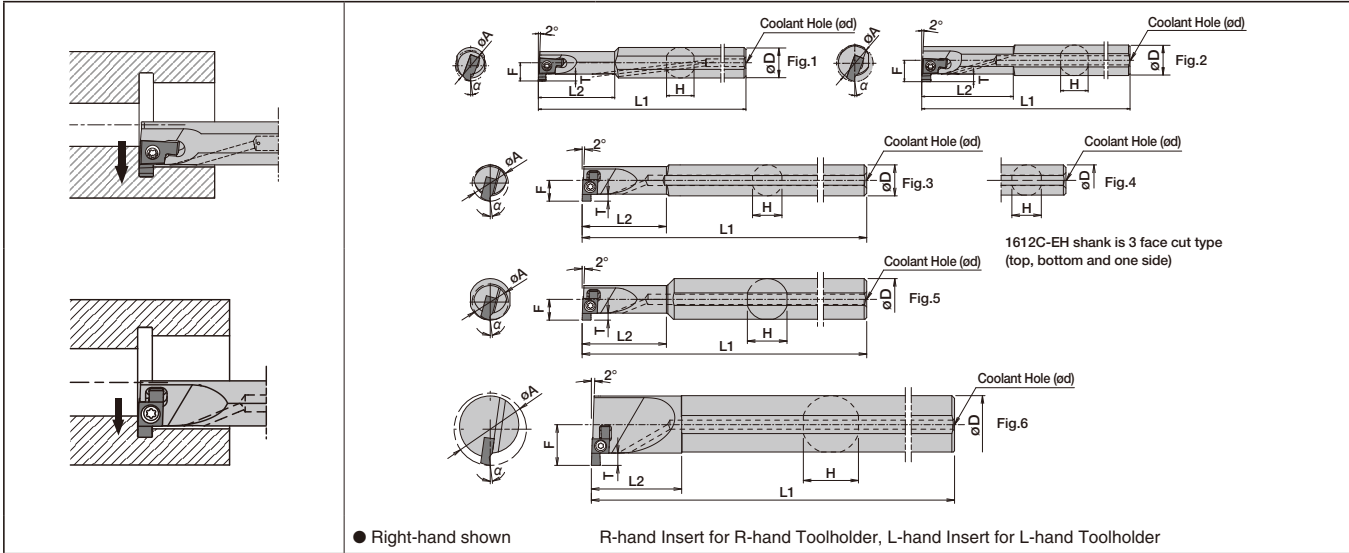
●: Standard Stock

## Applicable Insert & Rake Angle (α) after Installment of Insert


Description	Applicable Insert & Rake Angle (α) after Installment of Insert			
	Ground Chipbreaker	α(°)	3-D Molded Chipbreaker	α(°)
<b>SIGE<sup>®</sup></b> 0808A-EH	GE <sup>®</sup> 100-005A~GE <sup>®</sup> 200-010A GER100-050AR~GER200-100AR	5°	-	-
1010B-EH	GE <sup>®</sup> 100-005B~GE <sup>®</sup> 300-020B	5°	-	-
1210B-EH	GER100-050BR~GER200-100BR			
1412C-EH	GE <sup>®</sup> 100-005C~GE <sup>®</sup> 350-020C	8°	GER150-010CM~GER350-020CM	10°
1612C-EH	GER200-100CR~GER300-150CR			
2020D-EH	GE <sup>®</sup> 100-005D~GE <sup>®</sup> 400-020D GER200-100DR~GER300-150DR	9°	GER150-010DM~GER400-020DM	10°
2525E-EH	GE <sup>®</sup> 100-005E~GE <sup>®</sup> 500-020E	10°	GER150-010EM~GER500-020EM	10°
3232E-EH				
4032E-EH				
<b>SIGE<sup>®</sup></b> 0808A-WH	GE <sup>®</sup> 100-005A~GE <sup>®</sup> 200-010A GER100-050AR~GER200-100AR	5°	-	-
1010B-WH	GE <sup>®</sup> 100-005B~GE <sup>®</sup> 300-020B	5°	-	-
1210B-WH	GER100-050BR~GER200-100BR			
1412C-WH	GE <sup>®</sup> 100-005C~GE <sup>®</sup> 350-020C	8°	GER150-010CM~GER350-020CM	10°
1612C-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)



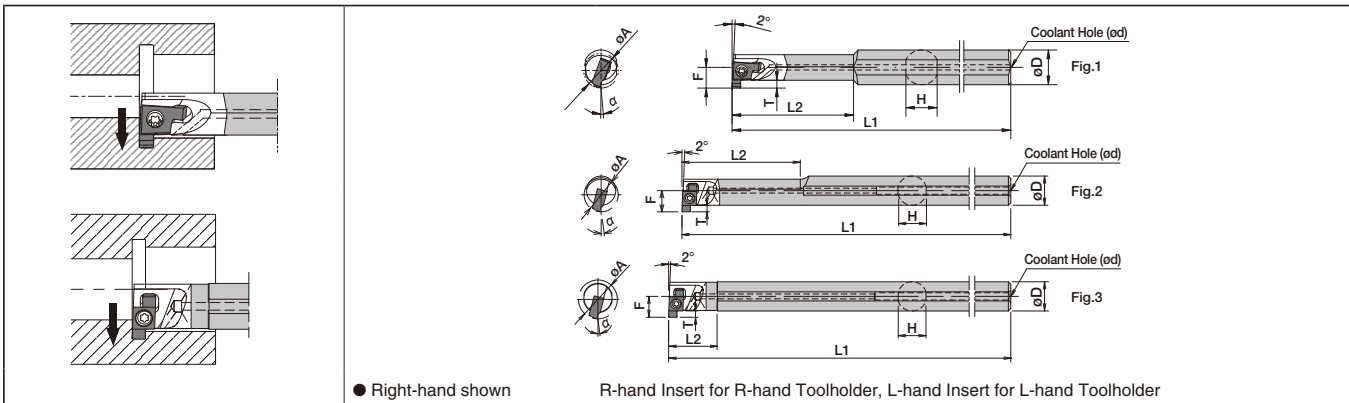
## ● Toolholder Dimension

Description	Stock		Minimum cutting dia.	Dimensions (mm)							Shape	Spare Parts			Applicable Insert	
	R	L		$\phi A$	$\phi D$	H	L1	L2	F	T		$\phi d$	Clamp screw	Wrench		
														FT		DT
<b>SIGE</b> 0808A-EH	●	●	8	8	7.2	100	20	4.8	1.5	3	Fig.1	SB-2045TRN	FT-6	-	GE% 100-005A-GE% 200-010A GER100-050AR-GER200-100AR	
1010B-EH	●	●	10	10	9	125	25	6.2	2.2	3	Fig.1	SB-2255TR	-	DT-7	GE% 100-005B-GE% 300-020B GER100-050BR-GER200-100BR	
1210B-EH	●	●	12				30	7			Fig.2					
1412C-EH	●	●	14	12	11.4	150	33	8	2.5	4	Fig.3	SB-2570TR	FT-8	-	GE% 100-005C-GE% 350-020C GER150-010CM-GER350-020CM GER200-100CR-GER300-150CR	
1612C-EH	●	●	16				20	8.5			Fig.4					
2020D-EH	●	●	20	20	19	180	40	12.1	4.5	5	Fig.5	SB-3080TR	FT-10	-	GE% 100-005D-GE% 400-020D GER150-010DM-GER400-020DM GER200-100DR-GER300-150DR	
2525E-EH	●	●	25	25	24	200	45	15.6	6.5	5		Fig.6	SB-4085TR	FT-15	-	GE% 100-005E-GE% 500-020E GER150-010EM-GER500-020EM
3232E-EH	●	●	32	32	30.4	220	55	19								
4032E-EH	●	●	40			250	45	23								


• Dimension T shows available grooving depth. Insert B dimension shows available grooving depth.

●:Standard Stock

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



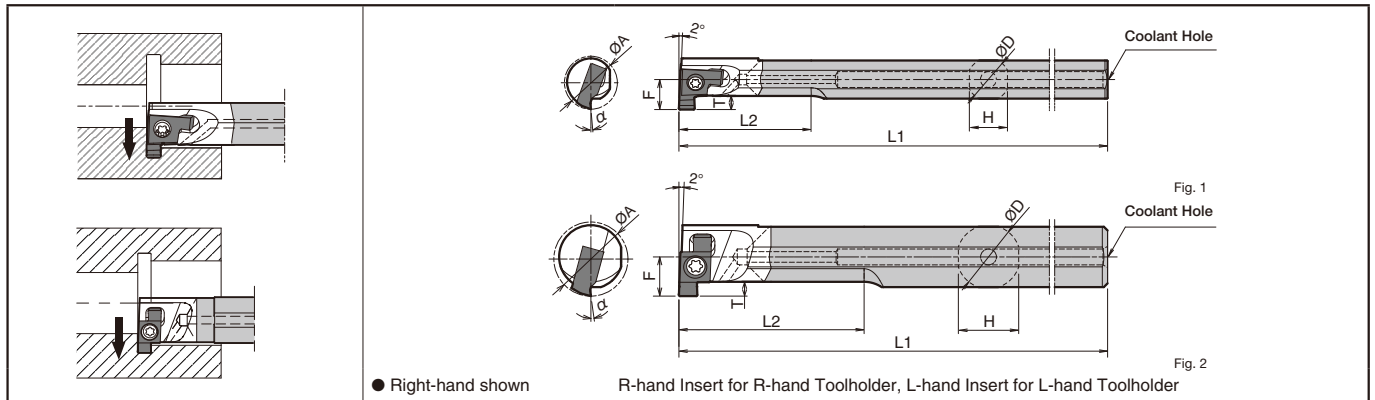
## ● Toolholder Dimension

Description	Stock		Minimum cutting dia.	Dimensions (mm)							Shape	Spare Parts			Applicable Insert	
	R	L		$\phi A$	$\phi D$	H	L1	L2	F	T		$\phi d$	Clamp screw	Wrench		
														FT		DT
<b>SIGE</b> 0808A-WH	●	●	8	8	7.2	125	28	4.8	1.5	3	Fig.1	SB-2045TRN	FT-6	-	GE% 100-005A-GE% 200-010A GER100-050AR-GER200-100AR	
1010B-WH	●	●	10	10	9	125	35	6.2	2.2	3		SB-2255TR	-	DT-7	GE% 100-005B-GE% 300-020B GER100-050BR-GER200-100BR	
1210B-WH	●	●	12			140	45	7								
1412C-WH	●	●	14	12	11.4	150	50	8.7	2.5	4	Fig.2	SB-2570TR	FT-8	DT-8	GE% 100-005C-GE% 350-020C GER150-010CM-GER350-020CM GER200-100CR-GER300-150CR	
1612C-WH	●	●	16				180	20			8.5					Fig.3



• Dimension T shows available grooving depth. Insert B dimension shows available grooving depth.

●:Standard Stock

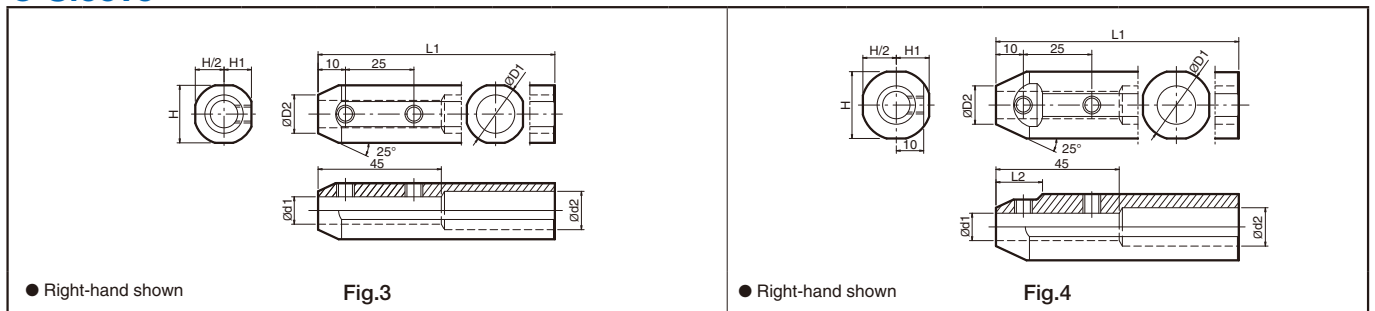
# ■ SIGE-WH (For automatic lathe) NEW





## ● Toolholder Dimension

Description	Stock	Minimum cutting dia.	Dimensions (mm)							Shape	Spare Parts		Applicable Insert	
			$\phi A$	$\phi D$	H	L1	L2	F	T		$\phi d$	Clamp screw 		Wrench FT  DT
SIGER 1008B-WH-90	●	10	8	7.2	90	25	5.6	2.2	3	Fig.1	SB-2255TR	-	DT-7	GER100-005B~GER300-020B GER100-050BR~GER200-100BR
1210B-WH-90	●	12	10	9.4		30	6.6							
1412C-WH-90	●	14	12	11.4	90	35	7.4	2.5	3	Fig.2	SB-2570TR	FT-8	-	GER100-005C~GER350-020C GER150-010CM~GER350-020CM GER200-100CR~GER300-150CR

## ● Sleeve



Description	Stock	Dimensions (mm)								Shape	Spare Parts		Applicable Machine Builder
		$\phi d1$	$\phi D1$	$\phi D2$	$\phi d2$	H	H1	L1	L2		Clamp screw 	Wrench 	
SHA 0820-120	●	8	20	14	12	19	9.25	120	-	Fig.3	HS6x4P	LW-3	AMADA WASINO EGURO TSUGAMI MIYIANO  CITIZEN  NOMURA VTC  NOMURA VTC
1020-120	●	10											
SHA 0825.0-135	●	8	25	14	14	24	11.5	135	17	Fig.4	HS6x4P	LW-3	
1025.0-135	●	10											
1225.0-135	●	12											
SHA 0819-120	●	8	19.05	14	12	18	8.75	120	-	Fig.3	HS6x4P	LW-3	
1019-120	●	10											
SHA 0820-120	●	8	20	14	12	19	9.25	120	-	Fig.3	HS6x4P	LW-3	
1020-120	●	10											
SHA 0825.4-120	●	8	25.4	14	14	24.4	12	120	17	Fig.4	HS6x4P	LW-3	
1025.4-120	●	10											
1225.4-120	●	12											
SHA 0822-125	●	8	22	14	14	21	10	125	-	Fig.3	HS6x4P	LW-3	
1022-125	●	10											
1222-125	●	12											
SHA 0823-120	●	8	23	14	14	22	10.5	120	16	Fig.4	HS6x4P	LW-3	
1023-120	●	10											
1223-120	●	12											

※ Length  $\phi d1$ : 45mm for all SHA series.  
 • Select suitable sleeve as referring boring bar  $\phi D$  and sleeve  $\phi d1$ .

### ◆Recommended cutting conditions (Ground Chipbreaker : GE<sup>R/L</sup>...A(R),GE<sup>R/L</sup>...B(R))

Workpiece Material	Recommended Insert Grade (Cutting Speed : m/min)			① f at Grooving (mm/rev)			Remark
	Cermet	PVD coated carbide	Carbide	② f at Traversing (mm/rev)			
				③ ap at Traversing (mm)			
TN6020	PR1025	KW10	GE <sup>R/L</sup> 100~200-010A 100~200-100AR	GE <sup>R/L</sup> 100~200-010B 100~200-100BR	GE <sup>R/L</sup> 250~300-020B		
Carbon Steel	☆ 50~80	★ 50~80	-	①0.01~0.03	①0.02~0.04	①0.02~0.04	with coolant
				②0.01~0.03	②0.02~0.04	②0.02~0.04	
				③Max. 0.05	③Max. 0.05	③Max. 0.1	
Alloy Steel	☆ 50~80	★ 50~80	-	①0.01~0.03	①0.02~0.04	①0.02~0.04	
				②0.01~0.03	②0.02~0.04	②0.02~0.04	
				③Max. 0.05	③Max. 0.05	③Max. 0.1	
Stainless Steel	-	★ 50~80	-	①0.01~0.03	①0.01~0.03	①0.01~0.03	
				②0.01~0.03	②0.01~0.03	②0.01~0.03	
				③Max. 0.05	③Max. 0.05	③Max. 0.1	
Cast Iron	-	-	★ 50~80	①0.01~0.03	①0.02~0.04	①0.02~0.04	
				②0.01~0.03	②0.02~0.04	②0.02~0.04	
				③Max. 0.05	③Max. 0.05	③Max. 0.1	
Aluminum Brass	-	-	★ 50~100	①0.01~0.03	①0.02~0.04	①0.02~0.04	
				②0.01~0.03	②0.02~0.04	②0.02~0.04	
				③Max. 0.1	③Max. 0.1	③Max. 0.2	

\* Use PVD coated grade or carbide for traversing with edge width 1mm. (GE<sup>R/L</sup> 100-005A / 100-005B)

★:1st Recommendation ☆:2nd Recommendation

### ◆Recommended cutting conditions (Ground Chipbreaker : GE<sup>R/L</sup>...C(R),GE<sup>R/L</sup>...D(R),GE<sup>R/L</sup>...E)

Workpiece Material	Recommended Insert Grade (Cutting Speed : m/min)			① f at Grooving (mm/rev)							Remark	
	Cermet	PVD coated carbide	Carbide	② f at Traversing (mm/rev)								
				③ ap at Traversing (mm)								
TN6020	PR1025	GW15	GE <sup>R/L</sup> 100-200-010C 200-100CR	GE <sup>R/L</sup> 250-350-020C 250-300-150CR	GE <sup>R/L</sup> 100-145-010D 150-195-010D	GE <sup>R/L</sup> 200-280-020D 200-100DR	GE <sup>R/L</sup> 300-400-020D 300-150DR	GE <sup>R/L</sup> 100-010E 150-195-010E	GE <sup>R/L</sup> 200-225-010E 230-020E	GE <sup>R/L</sup> 250-330-020E	GE <sup>R/L</sup> 350-430-020E	GE <sup>R/L</sup> 450-500-020E
Carbon Steel	☆ 120~180	★ 60~140	-	①0.03~0.08	①0.03~0.08	①0.04~0.09	①0.04~0.09	①0.05~0.12	①0.05~0.12	①0.05~0.12	①0.05~0.12	①0.05~0.12
				②0.03~0.08	②0.03~0.08	②0.04~0.09	②0.04~0.09	②0.05~0.1	②0.05~0.1	②0.05~0.1		
				③Max. 0.3	③Max. 0.3	③Max. 0.3	③Max. 0.3	③Max. 0.5	③Max. 0.5	③Max. 0.5		
Alloy Steel	☆ 100~160	★ 60~120	-	①0.03~0.07	①0.03~0.07	①0.04~0.08	①0.04~0.08	①0.05~0.1	①0.05~0.1	①0.05~0.1	①0.05~0.1	①0.05~0.1
				②0.03~0.1	②0.03~0.1	②0.04~0.08	②0.04~0.08	②0.05~0.1	②0.05~0.1	②0.05~0.1		
				③Max. 0.3	③Max. 0.3	③Max. 0.3	③Max. 0.3	③Max. 0.5	③Max. 0.5	③Max. 0.5		
Stainless Steel	☆ 70~130	★ 60~110	-	①0.03~0.07	①0.03~0.07	①0.04~0.08	①0.04~0.08	①0.05~0.1	①0.05~0.1	①0.05~0.1	①0.05~0.1	①0.05~0.1
				②0.03~0.1	②0.03~0.1	②0.04~0.08	②0.04~0.08	②0.05~0.1	②0.05~0.1	②0.05~0.1		
				③Max. 0.3	③Max. 0.3	③Max. 0.3	③Max. 0.3	③Max. 0.5	③Max. 0.5	③Max. 0.5		
Cast Iron	-	-	★ 60~100	①0.03~0.08	①0.03~0.08	①0.04~0.09	①0.04~0.09	①0.05~0.12	①0.05~0.12	①0.05~0.12	①0.05~0.12	①0.05~0.12
				②0.03~0.08	②0.03~0.08	②0.04~0.09	②0.04~0.09	②0.05~0.1	②0.05~0.1	②0.05~0.1		
				③Max. 0.3	③Max. 0.3	③Max. 0.3	③Max. 0.3	③Max. 0.5	③Max. 0.5	③Max. 0.5		
Aluminum Brass	-	-	★ 100~300	①0.05~0.12	①0.05~0.12	①0.05~0.15	①0.05~0.15	①0.08~0.15	①0.08~0.15	①0.08~0.15	①0.08~0.15	①0.08~0.15
				②0.05~0.12	②0.05~0.12	②0.05~0.15	②0.05~0.15	②0.08~0.15	②0.08~0.15	②0.08~0.15		
				③Max. 0.5	③Max. 0.5	③Max. 0.5	③Max. 0.5	③Max. 0.8	③Max. 0.8	③Max. 0.8		

\* Use PVD coated grade or carbide for traversing with edge width 1mm. (GE<sup>R/L</sup> 100-010C / 100-010D / 100-10E)

★:1st Recommendation ☆:2nd Recommendation

### ◆Recommended cutting conditions (3-D Molded Chipbreaker)

Workpiece Material	Recommended Insert Grade (Cutting Speed : m/min)			① f at Grooving (mm/rev)						Remark	
	Cermet	PVD coated carbide	Carbide	② f at Traversing (mm/rev)							
				③ ap at Traversing (mm)							
TN6020	PR1025	GW15	GER 150-200-010CM	GER 250-350-020CM	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 (SxxC)	-	★ 60~160	-	①0.03~0.1	①0.03~0.12	①0.04~0.12	①0.04~0.12	①0.05~0.12	①0.05~0.12	①0.05~0.12	①0.05~0.12
				②0.03~0.1	②0.03~0.1	②0.04~0.1	②0.04~0.1	②0.05~0.1	②0.05~0.1	②0.05~0.1	
				③Max. 1.0	③Max. 1.5	③Max. 1.5	③Max. 1.5	③Max. 1.5	③Max. 1.5	③Max. 1.5	
Alloy Steel (SCM)	-	★ 60~140	-	①0.03~0.1	①0.03~0.1	①0.04~0.12	①0.04~0.12	①0.05~0.12	①0.05~0.12	①0.05~0.12	①0.05~0.12
				②0.03~0.1	②0.03~0.1	②0.04~0.1	②0.04~0.1	②0.05~0.1	②0.05~0.1	②0.05~0.1	
				③Max. 1.0	③Max. 1.5	③Max. 1.5	③Max. 1.5	③Max. 1.5	③Max. 1.5	③Max. 1.5	
Stainless Steel (SUS304)	-	★ 60~110	-	①0.03~0.08	①0.03~0.08	①0.04~0.08	①0.04~0.08	①0.05~0.1	①0.05~0.1	①0.05~0.1	①0.05~0.1
				②0.03~0.1	②0.03~0.1	②0.04~0.1	②0.04~0.1	②0.05~0.1	②0.05~0.1	②0.05~0.1	
				③Max. 1.0	③Max. 1.5	③Max. 1.5	③Max. 1.5	③Max. 1.5	③Max. 1.5	③Max. 1.5	

★:1st Recommendation ☆:2nd Recommendation

THE NEW VALUE FRONTIER



www.kyocera.eu  
ceratip@kyocera.de

KYOCERA Fineceramics GmbH  
Cutting Tool Division  
Hammfelddamm 6, 41460 Neuss, Germany  
Phone: +49 (0) 2131 1637-115 Fax: +49 (0) 2131 1637-152  
www.kyocera.de

KYOCERA Fineceramics SAS.  
Cutting Tool Division,  
4, allée du Commandant Mouchotte, Paray-ville-poste, 91781, Wissous Cedex, France  
Phone: +33 (0) 1 45 12 06 93 Fax: +33 (0) 1 56 72 18 94  
www.kyocera.fr

KYOCERA Fineceramics GmbH Italy Branch Office  
Cutting Tool Division  
Via Torino 51, 20123 Milan, Italy  
Phone: +39-02 00620 845 Fax: +39-02 00620 848  
www.kyocera.it

KYOCERA Fineceramics GmbH sp. z o.o. Poland Branch Office  
Cutting Tool Division  
Leg. ul. Europejska 4, 55-220, Jelcz-Laskowice, Poland  
Phone: +48-(0)71-381-12-15 Fax: +48-(0)71-381-12-16