

THE NEW VALUE FRONTIER



CERATIP®

KYOCERA Cutting Tools

CP183-E

Internal Grooving **SIGE** Type

Better chip evacuation due to screw clamp system with large chip pocket

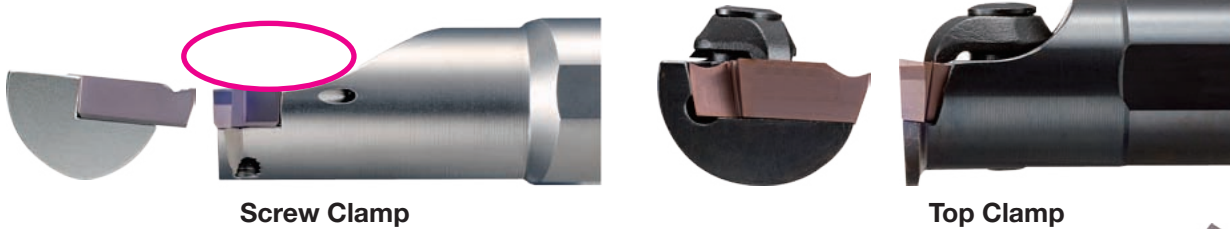


Wide lineup : Minimum cutting diameter 8mm with 2 edge design

Advantages

- Better chip evacuation due to screw clamp system with large chip pocket

Large chip pocket



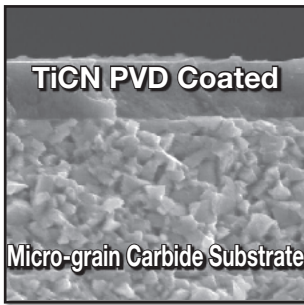
Screw Clamp

Top Clamp

- Good chip control and cost efficiency due to 3-D molded chipbreaker (GER---M type)
- Minimum cutting diameter 8mm with 2 edge design
- Stable cutting with new grade PR1025 (PR925)



GER---M type



TiCN PVD Coated

Micro-grain Carbide Substrate

Long tool life. Stable cutting by new grade PR1025 (PR925) (Micro grain carbide + PVD coated) internal dia. grooving

Wide lineup of internal grooving SIGE type

Insert	Shape	Ground chipbreaker		3-D molded chipbreaker						Ground chipbreaker																
	Description	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	1.0 ? 2.0	1.0 ? 3.0	1.0 ? 2.0	1.5 ?	2.0 ?	3.0 ?	1.5 ?	2.0 ?	2.5 ?	3.5 ?	4.5 ?	1.0 ?	1.0 ?	1.5 ?	2.0 ?	3.0 ?	4.0 ?	1.0 ?	1.5 ?	2.0 ?	2.5 ?	3.5 ?	4.5 ?		
Available Groove Depth (mm)	7																								6.5	
	6																									5.5
	5																									4.5
	4																									3.0
	3																									2.5
Toolholder	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	-	-		-			-	-		-													

Comparison of chip evacuation (3-D molded chipbreaker)

Description	Feed rate (mm/rev)	SCM415(Minimum Bore Dia.φ16)				Evaluation
		0.03	0.05	0.07	0.1	
SIGER1612C-EH GER300-020CM(PR1025)						Good chip control
Comp A 3mm (Width 3mm)					Insert fracture	Instability chip control and biting
Comp B 3mm (Width 3mm)						Instability chip control and biting

[Vc =100m/min, ap=2.0mm, Wet]

(Internal evaluation)

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

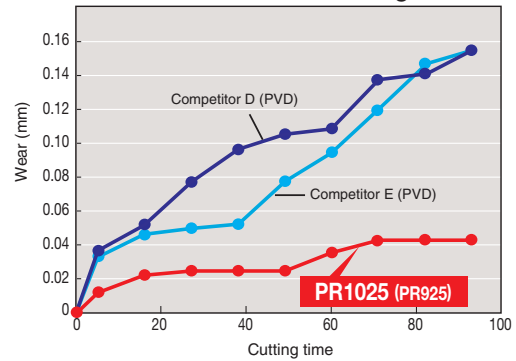
Description	Feed rate SCM415	Evaluation
SIGER0808A-EH GER200-010A PR1025 (PR925)		
Comp C (Width 2mm)		 Chipping

[Vc=50m/min, ap=1.25mm, Wet]

(Internal evaluation)

Comparison of wear resistance

Maximum wear amount of front edge relief surface



[Vc=100m/min, ap=1mm, f=0.05mm/rev, One side grooving Wet, SCM435]

(Internal evaluation)

Insert grade selection

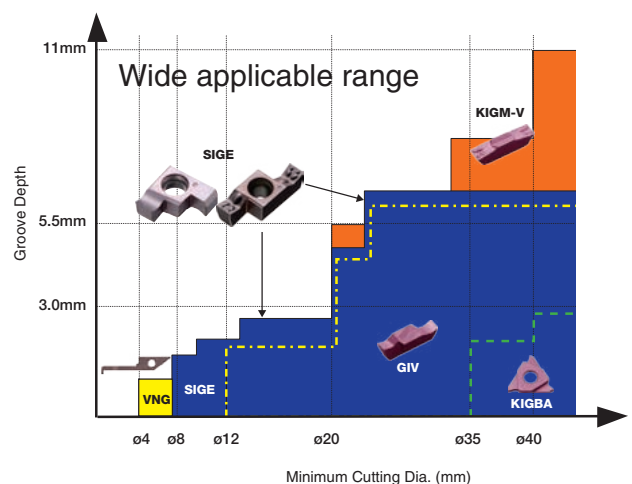
		Classification of usage			
		Cermet	PVD Coated	Carbide	
		TN6020	PR1025 (PR925)	GW15	KW10
●	Continuous-Light Int. /1st Choice				
○	Continuous-Light Int. /2nd Choice				
●	Continuous / 1st Choice				
○	Continuous / 2nd Choice				
P	Carbon Steel / Alloy Steel		●		
M	Stainless Steel		●		
K	Cast Iron			●	
N	Non-ferrous Material			●	
S	Titanium Alloy			●	
H	Hardened Material(~40HRC)		●		
	Hardened Material(40HRC~)				

Available Groove Depth of Internal Grooving Tool


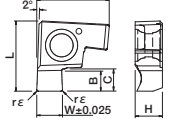
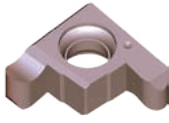
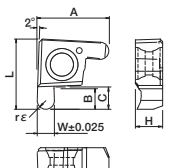

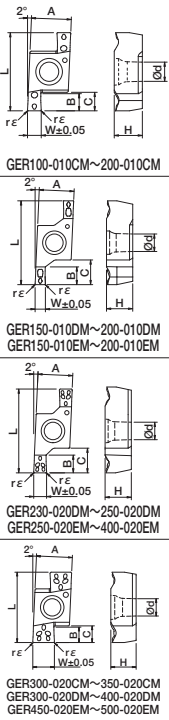
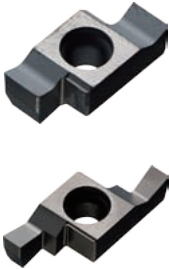
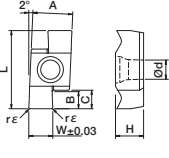
Groove width (mm)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.0	1.0	1.45	2.8	0.33	1.5	3.0	4.0	4.0			
	2.0	2.0	2.0	2.0	2.0	3.0	3.0	4.0	5.0	3.0	3.4	4.0	5.0	2.5	4.8	3.0	4.0	5.0	5.0	
11																			11.0	
10																			8.5	
9																				
8																				
7																				
6																				
5																				
4																				
3																				
2																				
1																				
Minimum Cutting Dia. (mm)	φ4	φ5	φ6	φ7	φ8	φ10	φ12	φ14	φ16	φ20	φ25	φ32	φ40	φ12	φ14	φ16	φ20	φ25	φ32	φ40
Toolholder	VNG			SIGE				GIV				KIGBA		KIGM-V						

Available groove depth depends on the maximum groove width of the attached insert. Please refer to the toolholder catalogs for details.

Applicable Range of Internal Grooving Tool



Applicable Insert

Shape	Description	Dimensions (mm)								Cermet TN6020	PVD Coated		Carbide				Applicable holder						
		W	B	C	rε	A	L	H	ød		PR1025		GW15		KW10								
											R	L	R	L	R	L		R	L				
Handed insert shows Right hand.																							
 2 Edge type		GE% 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	2.2	2.6	0.1	8.46	8.2	3.18	2.7	●	●	●	●		●	●						
		200-010A	2.00								●	●	●	●		●	●						
		GE% 100-005B	1.00								●	●	●	●		●	●						
		120-005B	1.20								●	●	●	●		●	●						
		125-005B	1.25								●	●	●	●		●	●						
		145-010B	1.45								●	●	●	●		●	●						
		150-010B	1.50								●	●	●	●		●	●						
		200-010B	2.00	●	●	●	●		●	●													
		250-020B	2.50	2.2	2.6	0.2	8.46	8.2	3.18	2.7	●	●	●	●		●	●						
		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~200-010CM	3.50		●																		
		GER 150-010DM	1.50	3.0	4.8	0.1	6.8	16.44	5.05	3.4		●											
		200-010DM	2.00									●											
		230-020DM	2.30									●											
		GER150-010DM~200-010DM	2.50	4.5	6.8	0.2	9.54	21.66	5.55	4.4		●											
		GER150-010EM~200-010EM	3.00									●											
		GER 150-010EM	1.50	3.0	6.8	0.1	9.54	21.66	5.55	4.4		●											
		200-010EM	2.00									●											
		GER230-020DM~250-020DM	2.50								4.5	6.8	0.2	9.54	21.66	5.55	4.4		●				
		GER250-020EM~400-020EM	3.00																●				
GER 150-010EM	1.50	3.2	6.8	0.1	9.54	21.66	5.55	4.4		●													
200-010EM	2.00									●													
GER230-020DM~250-020DM	2.50								4.5	6.8	0.2	9.54	21.66	5.55	4.4		●						
GER250-020EM~400-020EM	3.00		●																				
GER 150-010EM	1.50	5.5	6.8	0.2	9.54	21.66	5.55	4.4		●													
200-010EM	2.00									●													
GER300-020CM~350-020CM	2.50	6.5	6.8	0.2	9.54	21.66	5.55	4.4		●													
GER300-020DM~400-020DM	3.00									●													
GER450-020EM~500-020EM	4.50	6.5	6.8	0.2	9.54	21.66	5.55	4.4		●													
500-020EM	5.00									●													
 2 Edge type		GE% 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	2.5	2.7	0.1	5.8	11.48	4.05	2.8	●	●	●	●									
		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	2.5	2.7	0.1	5.8	11.48	4.05	2.8	●	●	●	●									
		300-020C	3.00								●	●	●	●									
		350-020C	3.50								●	●	●	●									

●: Standard Stock

Applicable Insert

Shape	Description	Dimensions (mm)								Cermet		PVD Coated		Carbide		Applicable holder
		W	B	C	rε	A	L	H	ød	TN6020	PR1025	GW15	KW10			
		R		L		R		L		R		L				
Handed insert shows Right hand.																
<p>GER100-005D ~ 280-020D</p> <p>GER300-020D ~ 400-020D</p>	GE% 100-005D	1.00	2.5	0.05	6.8	16.44	5.05	3.4	●	●	●	●	●	●		
	140-005D	1.40							●	●	●	●	●	●		
	145-010D	1.45							●	●	●	●	●	●		
	150-010D	1.50	3.0	0.10	6.8	16.44	5.05	3.4	●	●	●	●	●	●		
	170-010D	1.70							●	●	●	●	●	●		
	185-010D	1.85							●	●	●	●	●	●		
	195-010D	1.95	4.8	0.20	6.8	16.44	5.05	3.4	●	●	●	●	●	●		
	200-010D	2.00							●	●	●	●	●	●		
	225-010D	2.25							●	●	●	●	●	●		
	230-020D	2.30	3.2	0.20	6.8	16.44	5.05	3.4	●	●	●	●	●	●		
	250-020D	2.50							●	●	●	●	●	●		
	275-020D	2.75							●	●	●	●	●	●		
	280-020D	2.80	4.5	0.20	6.8	16.44	5.05	3.4	●	●	●	●	●	●		
	300-020D	3.00							●	●	●	●	●	●		
	330-020D	3.30							●	●	●	●	●	●		
	350-020D	3.50	4.5	0.20	6.8	16.44	5.05	3.4	●	●	●	●	●	●		
	400-020D	4.00							●	●	●	●	●	●		
	<p>GER100-005E ~ 430-020E</p> <p>GER450-020E ~ 500-020E</p>	GE% 100-005E	1.00	2.5	0.05	9.54	21.66	5.55	4.4	●	●	●	●	●		
150-010E		1.50	●							●	●	●	●	●		
170-010E		1.70	●							●	●	●	●	●		
185-010E		1.85	3.0	0.1	9.54	21.66	5.55	4.4	●	●	●	●	●	●		
195-010E		1.95							●	●	●	●	●	●		
200-010E		2.00							●	●	●	●	●	●		
225-010E		2.25	3.2	0.1	9.54	21.66	5.55	4.4	●	●	●	●	●	●		
230-020E		2.30							●	●	●	●	●	●		
250-020E		2.50							●	●	●	●	●	●		
275-020E		2.75	4.5	0.2	9.54	21.66	5.55	4.4	●	●	●	●	●	●		
280-020E		2.80							●	●	●	●	●	●		
300-020E		3.00							●	●	●	●	●	●		
330-020E		3.30	5.5	0.2	9.54	21.66	5.55	4.4	●	●	●	●	●	●		
350-020E		3.50							●	●	●	●	●	●		
400-020E		4.00							●	●	●	●	●	●		
430-020E		4.30	6.5	0.2	9.54	21.66	5.55	4.4	●	●	●	●	●	●		
450-020E		4.50							●	●	●	●	●	●		
460-020E		4.60	6.5	0.2	9.54	21.66	5.55	4.4	●	●	●	●	●	●		
500-020E	5.00	●							●	●	●	●	●			
<p>2 Edge type</p>	GER 200-100CR	2.00	2.5	2.7	5.8	11.48	4.05	2.8	●	●	●	●	●			
	250-125CR	2.50							●	●	●	●	●			
	300-150CR	3.00							●	●	●	●	●			
	GER 200-100DR	2.00	3.2	4.8	6.8	16.44	5.05	3.4	●	●	●	●	●			
300-150DR	3.00	●							●	●	●	●				

*Dimension B shows available grooving depth.

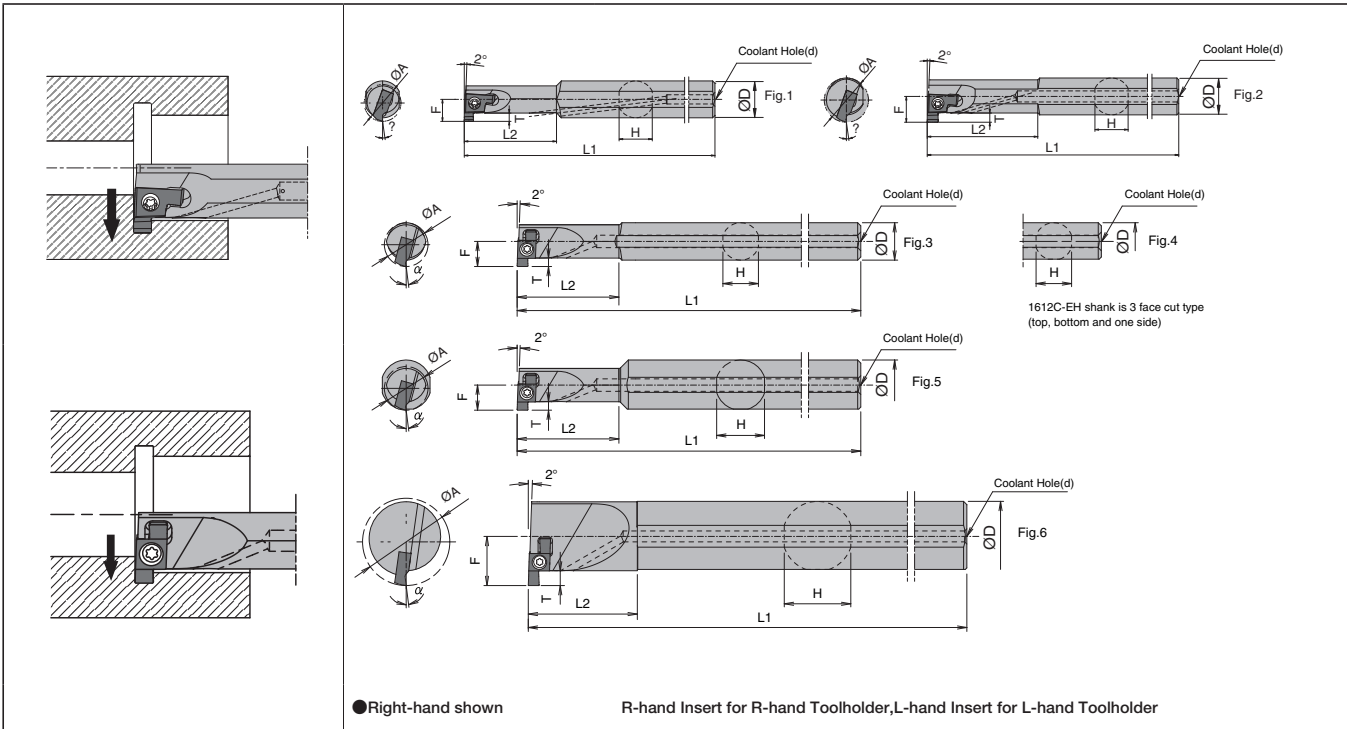
●: Standard Stock

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 (°)
SIGE% 0808A-EH	GE%100-005A~GE%200-010A GER100-050AR~GER200-100AR	5°	-	-
1010B-EH	GE%100-005B~GE%300-020B	5°	-	-
1210B-EH	GER100-050BR~GER200-100BR			
1412C-EH	GE%100-005C~GE%350-020C	8°	GER150-010CM~GER350-020CM	10°
1612C-EH	GER200-100CR~GER300-150CR			
2020D-EH	GE%100-005D~GE%400-020D GER200-100DR~GER300-150DR	9°	GER150-010DM~GER400-020DM	10°
2525E-EH				
3232E-EH	GE%100-005E~GE%500-020E	10°	GER150-010EM~GER500-020EM	10°
4032E-EH				
SIGE% 0808A-WH	GE%100-005A~GE%200-010A GER100-050AR~GER200-100AR	5°	-	-
1010B-WH	GE%100-005B~GE%300-020B	5°	-	-
1210B-WH	GER100-050BR~GER200-100BR			

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

SIGE-EH Type Excellent Bar (With coolant hole)



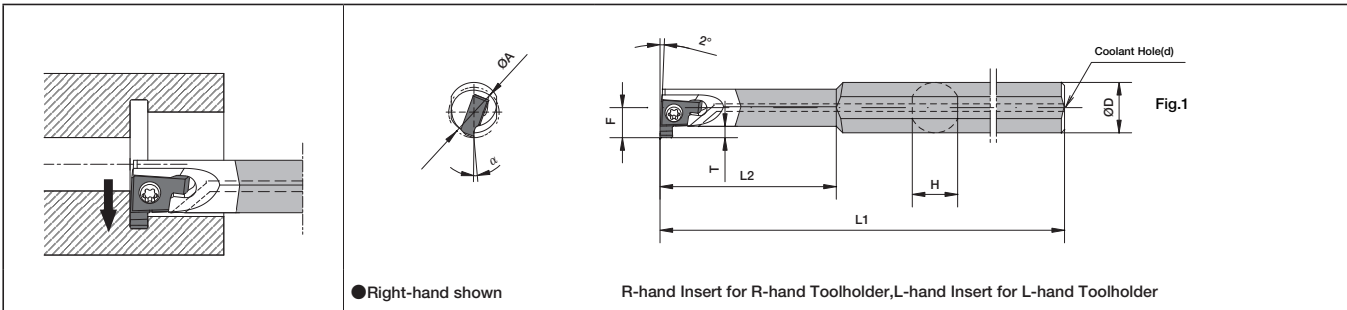
Toolholder Dimension

Description	Stock		Minimum cutting dia.	Dimensions (mm)							Shape	Spare Parts			Applicable Insert	
	R	L		øA	øD	H	L1	L2	F	T		ød	Clamp screw	Wrench		
														FT		
SIGE% 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								
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								
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		øA	øD	H	L1	L2	F	T		ød	Clamp screw	Wrench		
														FT		
SIGE% 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								

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

●: Standard Stock

◆ Recommended cutting conditions (Ground Chipbreaker : GE^R/L ··· A(R), GE^R/L ··· B(R))

Workpiece Material	Recommended Insert Grade(Cutting Speed : m/min)			① f at Grooving (mm/rev)			Remark
	Cermet	PVD Coated	Carbide	② f at Traversing (mm/rev)			
				③ ap at Traversing (mm)			
TN6020	PR1025 (PR925)	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	☆ 50~80	★ 50~80	-	① 0.01~0.03	① 0.02~0.04	① 0.02~0.04	
				② 0.01~0.03	② 0.02~0.04	② 0.02~0.04	
				③ Max. 0.05	③ Max. 0.05	③ Max. 0.1	
Alloy Steel	☆ 50~80	★ 50~80	-	① 0.01~0.03	① 0.02~0.04	① 0.02~0.04	
				② 0.01~0.03	② 0.02~0.04	② 0.02~0.04	
				③ Max. 0.05	③ Max. 0.05	③ Max. 0.1	
Stainless Steel(SUS304)	-	★ 50~80	-	① 0.01~0.03	① 0.01~0.03	① 0.01~0.03	
				② 0.01~0.03	② 0.01~0.03	② 0.01~0.03	
				③ Max. 0.05	③ Max. 0.05	③ Max. 0.1	
Cast Iron(FC FCD)	-	-	★ 50~80	① 0.01~0.03	① 0.02~0.04	① 0.02~0.04	
				② 0.01~0.03	② 0.02~0.04	② 0.02~0.04	
				③ Max. 0.05	③ Max. 0.05	③ Max. 0.1	
Aluminum	-	-	★ 50~100	① 0.01~0.03	① 0.02~0.04	① 0.02~0.04	
				② 0.01~0.03	② 0.02~0.04	② 0.02~0.04	
				③ Max. 0.1	③ Max. 0.1	③ Max. 0.2	
Brass	-	-	★ 50~100	① 0.01~0.03	① 0.02~0.04	① 0.02~0.04	
				② 0.01~0.03	② 0.02~0.04	② 0.02~0.04	
				③ Max. 0.1	③ Max. 0.1	③ Max. 0.2	

* Use PVD coated grade or carbide for traversing with edge width 1mm.(GE^R/L100-005A / 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 : m/min)			① f at Grooving (mm/rev)							Remark	
	Cermet	PVD Coated	Carbide	② f at Traversing (mm/rev)								
				③ ap at Traversing (mm)								
TN6020	PR1025 (PR925)	GW15	GE ^R /L 100~200-010C 200-100CR	GE ^R /L 250~350-020C 250~300-150CR	GE ^R /L 200~280-020D 200-100DR	GE ^R /L 300~400-020D 300-150DR	GE ^R /L 100~145-010D	GE ^R /L 150~195-010D	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	☆ 120~180	★ 60~140	-	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	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		
Alloy Steel	☆ 100~160	★ 60~120	-	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	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)	☆ 70~130	★ 60~110	-	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	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)	-	-	★ 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	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	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	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 PVD coated grade or carbide for traversing with edge width 1mm.(GE^R/L100-010C / 100-010D / 100-010E)

★:1st Recommendation ☆:2nd Recommendation

◆ Recommended cutting conditions (3-D Moided Chipbreaker)

Workpiece Material	Recommended Insert Grade(Cutting Speed : m/min)			① f at Grooving (mm/rev)							Remark
	Cermet	PVD Coated	Carbide	② f at Traversing (mm/rev)							
				③ ap at Traversing (mm)							
TN6020	PR1025 (PR925)	GW15	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	-	★ 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	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		
Alloy Steel	-	★ 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	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)	-	★ 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	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		

★:1st Recommendation ☆:2nd Recommendation

SCM415	
<ul style="list-style-type: none"> • Cap • Vc=50m/min • ap=1.5mm • f=0.01mm/rev • Wet • SIGER0808A-EH GER100-005A PR1025 (PR925) 	
PR1025 (PR925)	
Competitor Cermet E (V=30m/min)	
<p>•PR1025 (PR925) shows stable cutting with increased cutting speed V=50m/min and improved number of pieces machined to 700 while reducing cutting time by 40%.</p>	
(Evaluation from the user)	

SUM23	
<ul style="list-style-type: none"> • Sleeve • Vc=35m/min • ap=1.0mm • f=0.03mm/rev • Wet • SIGER1210B-EH GER200-010B PR1025 (PR925) 	
PR1025 (PR925)	
Competitor Carbide F	
<p>•PR1025 (PR925) machined 2 times as much as Competitor Carbide F.</p>	
(Evaluation from the user)	

SUM	
<ul style="list-style-type: none"> • Sleeve • Vc=60m/min • ap=1.5mm • f=0.02~0.04mm/rev • Wet • SIGER1412C-EH GER200-010CM (PR1025) 	
PR1025	
Competitor Coated G	
<p>•Chattering and damage of clamp portion by machining load was seen for Competitor Coated G. •PR1025 shows no chattering and chip bite, and stable machining was possible. Also tool life has been improved 6 times as much as Competitor Coated G. (PR1025 is 2 edge type, but Competitor Coated G is 1 edge type. Therefore tool life has been improved 12 times compared with one insert.)</p>	
(Evaluation from the user)	

SCM415	
<ul style="list-style-type: none"> • Housing • Vc=90m/min • ap=1.5mm • f=0.06mm/rev • Wet • SIGER1412C-EH GER250-010CM (PR1025) 	
PR1025	
Competitor Coated H	
<p>•Competitor Coated H was able to machine 300 pcs/edge. However PR1025 shows better edge condition after machining 600 pcs/edge and further machining seemed possible.</p>	
(Evaluation from the user)	