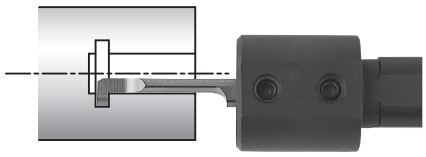
Summary of Internal Grooving

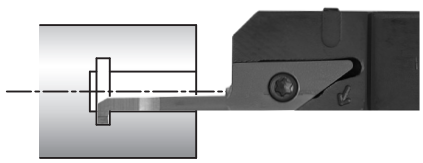
Small Dia. Internal Grooving φ4 ～ (G43 ～ G45)

2-Edge Tip-Bar & System Tip-Bar



Type	HPG
Min.Bore Dia.	φ4 ～φ7
Width (mm)	1.0 ～ 2.0
Grooving Depth (mm)	1.0 ～ 2.0
Ref. Page	G44

2-Edge Tip-Bar

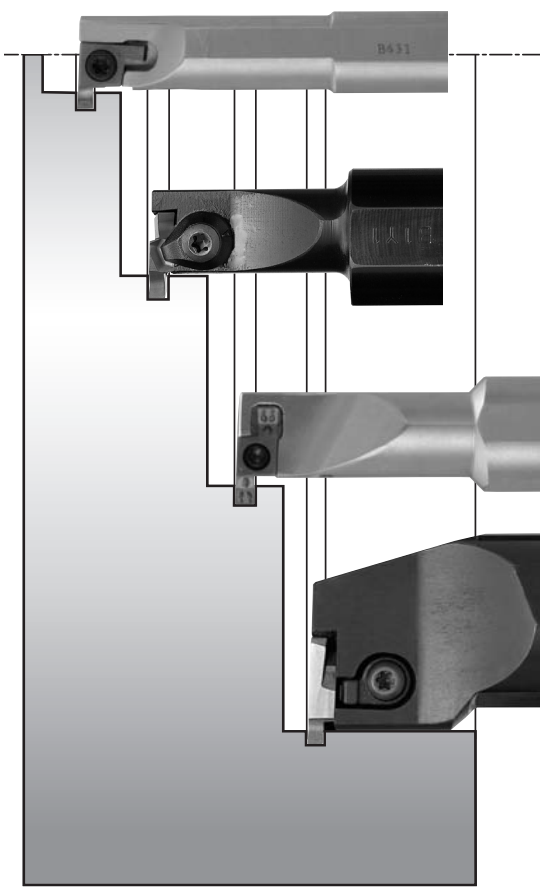


Type	VNG
Min.Bore Dia.	φ4 ～φ7
Width (mm)	1.0 ～ 2.0
Grooving Depth (mm)	0.8 ～ 2.0
Ref. Page	G43

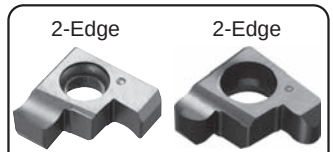
System Tip-bars

Internal Grooving φ8 ～ (G46 ～ G56)

Shallow Grooving

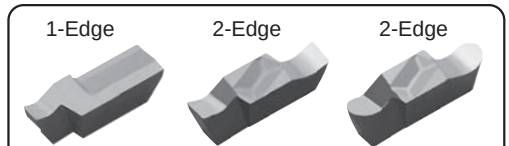


Type	SIGE
Min.Bore Dia.	φ8 ～φ12
Width (mm)	1.0 ～ 3.0
Grooving Depth (mm)	1.5 ～ 2.2
Ref. Page	G48



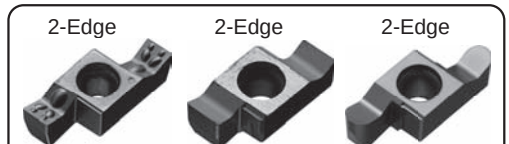
2-Edge Ground Chipbreaker; 2-Edge Ground Chipbreaker Full-R

Type	GIV
Min.Bore Dia.	φ12 ～φ40
Width (mm)	1.0 ～ 5.0
Grooving Depth (mm)	1.7 ～ 6.3
Ref. Page	G52



1-Edge Ground Chipbreaker; 2-Edge Ground Chipbreaker; 2-Edge Ground Chipbreaker Full-R

Type	SIGE
Min.Bore Dia.	φ14 ～φ40
Width (mm)	1.0 ～ 5.0
Grooving Depth (mm)	2.5 ～ 6.5
Ref. Page	G48



2-Edge Molded Chipbreaker; 2-Edge Ground Chipbreaker; 2-Edge Ground Chipbreaker Full-R

Type	KIGBA
Min.Bore Dia.	φ35 ～φ40
Width (mm)	0.33 ～ 4.8
Grooving Depth (mm)	0.8 ～ 2.8
Ref. Page	G55

Ground Chipbreaker; Ground Chipbreaker Full-R; MY Chipbreaker

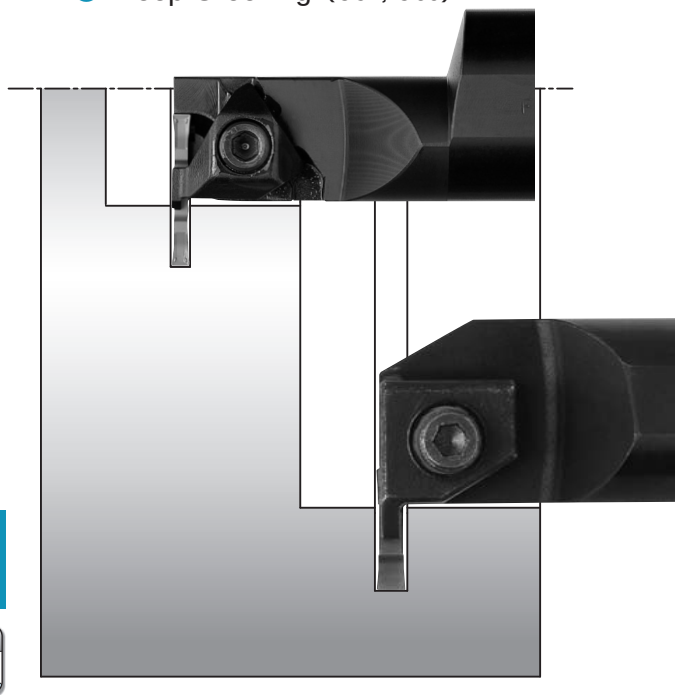
Type	KITG
Min.Bore Dia.	φ35 ～φ45
Width (mm)	0.75 ～ 4.5
Grooving Depth (mm)	2.0 ～ 2.5
Ref. Page	G56

Ground Chipbreaker

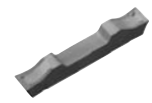
※KITG will be switched to KIGBA.

Summary of Internal Grooving

Deep Grooving (G57, G60)



Type	KGIA
Min.Bore Dia.	ϕ 32～ϕ 66
Width (mm)	3.0～5.0
Grooving Depth (mm)	10～15
Ref. Page	G60



Molded Chipbreaker

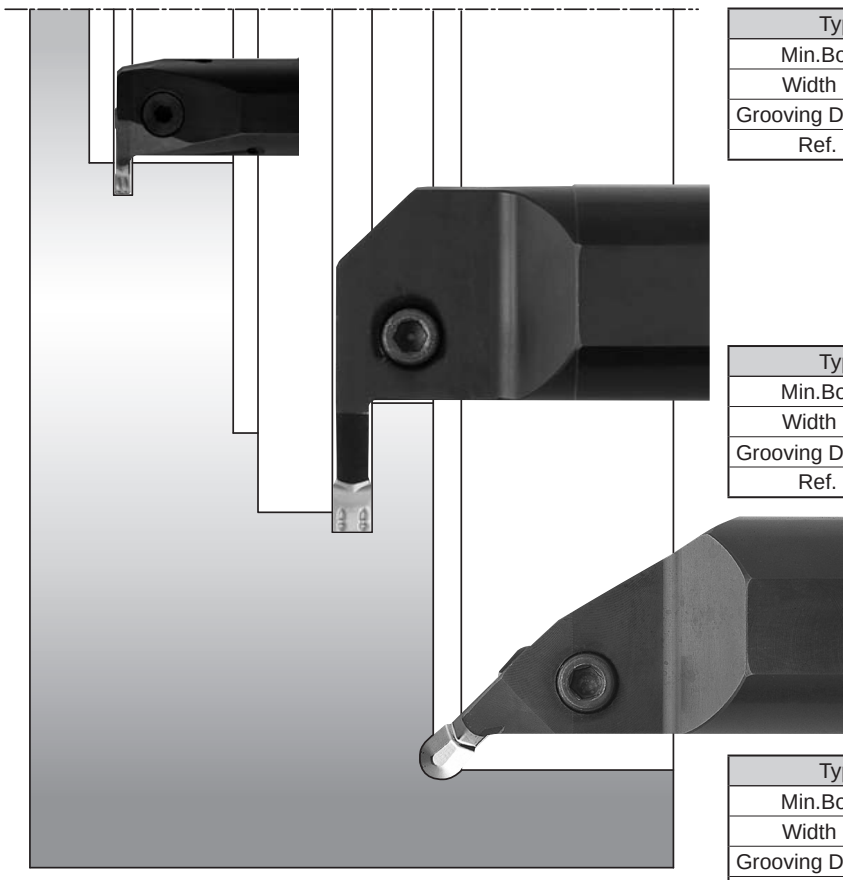
Type	KIGH
Min.Bore Dia.	ϕ 45～ϕ 65
Width (mm)	4.0～8.0
Grooving Depth (mm)	12
Ref. Page	G57

Ground Chipbreaker

Molded Chipbreaker

Internal Grooving & Longitudinal turning ϕ20～ (G58, G59)

CERACUT Plunge & Turn

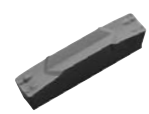


Type	KIGM-V
Min.Bore Dia.	ϕ 20～ϕ 40
Width (mm)	3.0～5.0
Grooving Depth (mm)	5.5～11.0
Ref. Page	G58

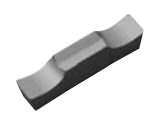
Molded Chipbreaker

Molded Chipbreaker Full-R

Type	KIGM-8
Min.Bore Dia.	ϕ 65
Width (mm)	8.0
Grooving Depth (mm)	20
Ref. Page	G59



Molded Chipbreaker



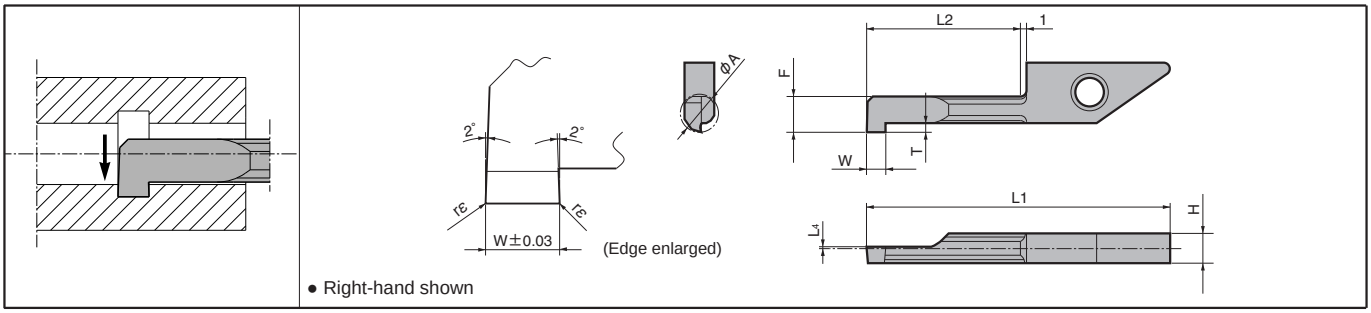
Ground Chipbreaker

Type	KIGMU-8
Min.Bore Dia.	ϕ 65
Width (mm)	8.0
Grooving Depth (mm)	2.2
Ref. Page	G59

Ground Chipbreaker Full-R

System Tip-Bar for Micro Internal Grooving

VNG



● Right-hand shown

Classification of usage									
● : Continuous / 1st Choice ○ : Continuous / 2nd Choice	P	Carbon Steel / Alloy Steel				●			
	M	Stainless Steel				○			
	K	Cast Iron					●		
	N	Non-ferrous Metals							
	S	Titanium Alloy							
	H	Hard materials (under 40HRC)				●			
		Hard materials (over 40HRC)							

● Insert Dimensions

Description		Min. Cutting Dia.	Dimension (mm)										Cermet	PVD Coated Carbide			Carbide	PCD		Ref. Page for Toolholder
		øA	W	rε	øD	H	L1	L2	L3	L4	F	T	TC60	PR630	PR915	PR930	KW10	KPD001	KPD010	
VNGR	0410-11	4	1.0	0.05	-	3.9	30.8	11	-	0.1	3.5	0.8				●	●			F16 F17 F18
	0420-11		2.0													●	●			
	0510-11	5	1.0								4.4	1.0	●			●	●			
	0520-11		2.0										●			●	●			
	0610-20	6	1.0				39.8	20		0.3	5.2	1.8	●			●	●			
	0620-20		2.0										●			●	●			
	0710-20	7	1.0								6.2	2.0	□			●	●			
	0720-20		2.0										□			●	●			
VNGR	0410-11NB	4	1.0	0.05	-	3.9	30.8	11	-	0.1	3.5	0.8						□	□	
	0420-11NB		2.0															□	□	
	0510-11NB	5	1.0								4.4	1.0						□	□	
	0520-11NB		2.0															□	□	
	0610-20NB	6	1.0				39.8	20		0.3	5.2	1.8						□	□	
	0620-20NB		2.0															□	□	
	0710-20NB	7	1.0								6.2	2.0						□	□	
	0720-20NB		2.0															□	□	

• Dimension T shows available grooving depth.
• Dimension L4 indicates the cutting edge is above the Tool's Center Position.

◆ Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grade (Cutting Speed: m/min)				VNG04 VNG05	VNG06 VNG07	Remarks
	Cermet	PVD Coated Carbide		Carbide	f (mm/rev)		
	TC60	PR630	PR930	KW10			
Carbon Steel / Alloy Steel	☆ 60～120	☆ 30～100	★ 30～100		～0.03	～0.05	Coolant
Stainless Steel	☆ 50～100	☆ 30～80	★ 30～80		～0.02	～0.03	
Non-ferrous Metals				★ ～300	～0.05	～0.08	

★ : 1st Recommendation ☆ : 2nd Recommendation

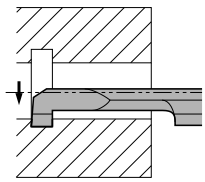
● : Std. Item □ : Check Availability
R : Std. Item (R-hand Only) L : Std. Item (L-hand Only)

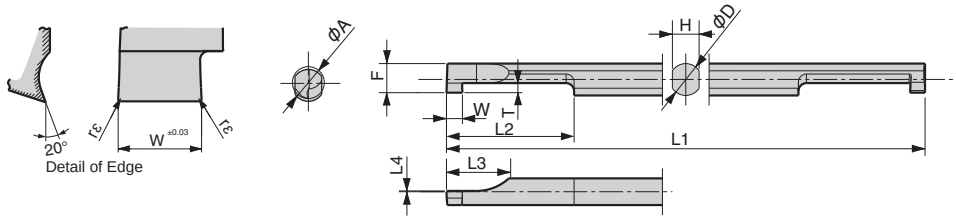
System Tip-Bars (VNG) are sold in 5 piece boxes.

CBN & PCD Inserts are sold in 1 piece boxes.

2-Edge Tip-Bar for Micro Internal Grooving HPG / PSG-S

HPG (Small Dia. Internal Grooving)





● R-hand Shown

● Tip-Bars Dimensions

Description		Min.Bore Dia.	Dimension (mm)										PVD Coated Carbide		Carbide	
		φA	W ±0.03	rε	φD	H	L1	L2	L3	L4	F	T	PR930		KW10	
													R	L	R	L
HPG R/L	0404-10	4	1	+0 -0.02 0.05	4	3.35	60	15	8	0	3.65	1	●	●	●	
	0404-20		2										●	●	●	
	0505-10	5	1		5	4.3	70	20			4.55	1.5	●	●	●	
	0505-20		2										●	●	●	
	0606-10	6	1		6	5.2			10		5.5	2	●	●	●	
	0606-20		2										●	●	●	
	0707-10	7	1		7	6.2	80	25			6.45		●	●	●	
	0707-20		2										●	●	●	

・Dimension T shows available grooving depth.

● Description Table for Tip-Bars and Applicable Sleeves

Tip-Bar Description		Applicable Sleeves ⇒G45	
HPG R/L	0404-··	PSH	04-····
	0505-··		05-····
	0606-··		06-····
	0707-··		07-····

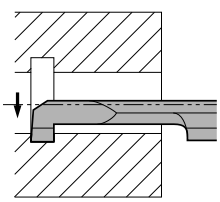
◆Recommended Cutting Conditions

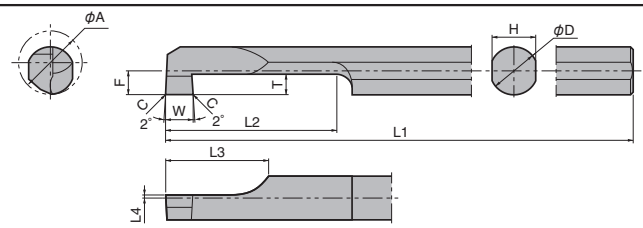
Workpiece Material	Recommended Insert Grade (Vc: m/min)		HPG R/L04 HPG R/L05	HPG R/L06 HPG R/L07	Remarks
	PVD Coated Carbide	Carbide			
	PR930	KW10	Feed Rate (mm/rev)		
Carbon steel / Alloy steel(C45 / 34CrMo4 etc)	★ 30～100	-	~0.03	~0.05	Coolant
Stainless Steel(SUS304 etc)	★ 30～80	-	~0.02	~0.03	
Non-ferrous Metals (Aluminum / Brass)	-	★ ～300	~0.05	~0.08	

★:1st Recommendation ☆:2nd Recommendation

PSG-S (Tip-Bars)

This insert will be switched to HPG Type (2-Edge).





● R-hand Shown

● Tip-Bars Dimensions

Description		Min.Bore Dia.	Dimension (mm)										Cermet	PVD Coated Carbide	Carbide	Ref. page for Applicable Sleeves
		φA	W±0.03	C	φD	H	L1	L2	L3	L4	F	T	TC60M	PR930	KW10	
PSG R/L	0510-60S	5	1.0	0.05	3.8	3.6	60	15	8	0.1	1.86	1.5			□	F80
	0520-60S		2.0	0.1											□	
	0610-70S	6	1.0	0.05	4.8	4.4	70	20		0.3	2.36	2.0	□	□	□	
	0620-70S		2.0	0.1									□	□	□	
	0710-70S	7	1.0	0.05	5.8	5.2	70	20	10		2.86		□	□	□	
	0720-70S		2.0	0.1									□	□	□	
	0810-80S	8	1.0	0.05	6.8	6.2	80	25			3.38		□	□	□	
	0820-80S		2.0	0.1									□	□	□	

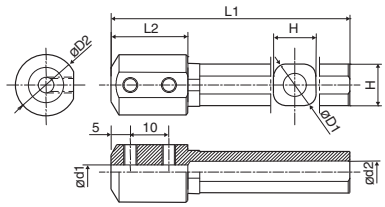
・Dimension T shows available grooving depth.
・Dimension L4 indicates the cutting edge is above the Tool's Center Position.

Recommended Cutting Conditions ⇒G89

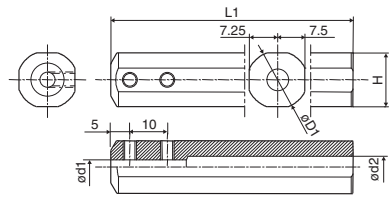
● : Std. Item
□ : Check Availability

Tip-Bar is sold in 1 piece boxes.

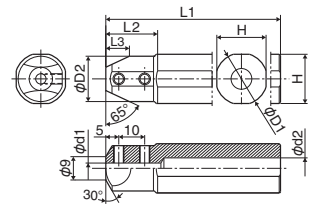
Applicable Sleeve



(Tip-Bar installation side) Fig.1



(Tip-Bar installation side) Fig.2



(Tip-Bar installation side) Fig.3

Description		Std.	Dimension (mm)								Drawing	Spare Parts		Applicable Machine Manufactuer	Ref. Page for 2-Edge Tip-Bar (Ref. Page for other 2-Edge Tip-Bar)
			*ød1	øD1	øD2	ød2	H	L1	L2	L3		Screw	Wrench		
PSH	0412-80	●	4	12	16	6	11	80	20	-	Fig.1	HS4×4P	LW-2	(General use)	Grooving (HPG) ⇒ **G44** Boring (HPB) ⇒ **F22** Back Boring (HPBT) ⇒ **F22** Face Grooving (HPFG) ⇒ **G65** Threading (HPT) ⇒ **J24**
PSH	0512-80	●	5												
PSH	0612-80	●	6			8									
PSH	0712-80	●	7												
PSH	0416-100	●	4	16	-	6	15	100	-	-	Fig.2	HS4×4P	LW-2		
PSH	0516-100	●	5												
PSH	0616-100	●	6			8									
PSH	0716-100	●	7												
PSH	0420-120	●	4	20	17.5	6	19	120	20	9	Fig.3	HS4×4P	LW-2	Amada Wasino Eguro Citizen machinery Precision Tsugami Miyano (General use)	
PSH	0520-120	●	5												
PSH	0620-120	●	6			8				7.5					
PSH	0720-120	●	7												
PSH	0425.0-135	●	4	25	18	6	24	135	23	9.5	Fig.3	HS4×4P	LW-2	Amada Wasino Eguro Precision Tsugami Miyano (General use)	
PSH	0525.0-135	●	5												
PSH	0625.0-135	●	6			8				8					
PSH	0725.0-135	●	7												
PSH	0419-120	●	4	19.05 (0.75")	17.5	6	18	120	20	9	Fig.3	HS4×4P	LW-2	Citizen Machinery	
PSH	0519-120	●	5												
PSH	0619-120	●	6			8				7.5					
PSH	0719-120	●	7												
PSH	0425-120	●	4	25.4 (1")	18	6	24.4	120	23	9.5	Fig.3	HS4×4P	LW-2		
PSH	0525-120	●	5												
PSH	0625-120	●	6			8				8					
PSH	0725-120	●	7												
PSH	0422-135	●	4	22	18	6	21	135	22	9.5	Fig.3	HS4×4P	LW-2	Star Micronics Nomura VTC	
PSH	0522-135	●	5												
PSH	0622-135	●	6			8				8					
PSH	0722-135	●	7												
PSH	0423-120	●	4	23	18	6	22	120	22	9.5	Fig.3	HS4×4P	LW-2	Nomura VTC	
PSH	0523-120	●	5												
PSH	0623-120	●	6			8				8					
PSH	0723-120	●	7												

*: Length of ød1...20mm (PSH04)
...25mm (PSH05, PSH06, PSH07)

- Choose sleeves (ød1) to meet with øD dimension of Tip-Bar.
- The names of the machine manufacturers are listed in the Japanese sort order.

● : Std. Item ☐ : Check Availability R : Std. Item (R-hand Only) L : Std. Item (L-hand Only)

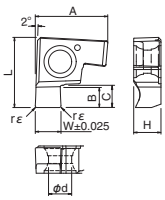
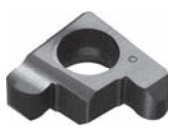
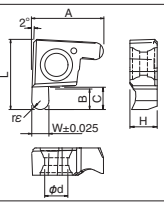
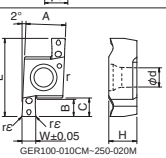
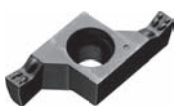
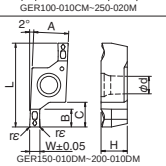
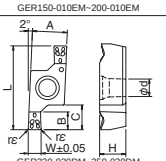
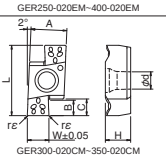
Applicable Inserts

(mm)

Description	A	L	H	ød
GE$^{R/L}$...-A	6.69	6.5	2.58	2.5
GER...-AR				
GE$^{R/L}$...-B	8.46	8.2	3.18	2.7
GER...-BR				
GER...-CM	5.8	11.48	4.05	2.8
GER...-DM	6.8	16.44	5.05	3.4
GER...-EM	9.54	21.66	5.55	4.4

P	Carbon Steel / Alloy Steel		●		
M	Stainless Steel		●		
K	Cast Iron				◔
N	Non-ferrous Metals				●
S	Titanium Alloy				●
H	Hard materials (under 40HRC)		●		
	Hard materials (over 40HRC)				

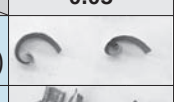
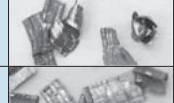
Classification of usage
● : Light Interruption / 1st Choice
◔ : Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert (R-hand shown)		Description		Dimension (mm) W	B	C	rε	Cermet TN6020 R	TN6020 L	PVD Coated Carbide PR1025 R	PR1025 L	Carbide GW15 R	GW15 L	Carbide KW10 R	KW10 L	Applicable Toolholder	Ref. Page for Toolholder
 2-Edge		GE$^{R/L}$	100-005A	1.00	1.5	1.8	0.05	●	●	●	●			●	●	SIGE$^{R/L}$...A-EH SIGE$^{R/L}$...A-WH	G48 G49
			120-005A	1.20				●	●	●	●			●	●		
			125-005A	1.25				●	●	●	●			●	●		
			150-010A	1.50			0.1	●	●	●	●			●	●		
			200-010A	2.00				●	●	●	●			●	●		
		GE$^{R/L}$	100-005B	1.00	2.2	2.6	0.05	●	●	●	●			●	●	SIGE$^{R/L}$...B-EH SIGE$^{R/L}$...B-WH SIGER...B-WH-90	G48 G49 G50
			120-005B	1.20				●	●	●	●			●	●		
			125-005B	1.25				●	●	●	●			●	●		
			145-010B	1.45			0.1	●	●	●	●			●	●		
			150-010B	1.50				●	●	●	●			●	●		
			200-010B	2.00				●	●	●	●			●	●		
			250-020B	2.50			0.2	●	●	●	●			●	●		
			300-020B	3.00				●	●	●	●			●	●		
 Full-R		GER	100-050AR	1.00	1.5	1.8	0.5			●				●		SIGER...A-EH SIGER...A-WH	G48 G49
			200-100AR	2.00			1.0			●				●			
		GER	100-050BR	1.00	2.2	2.6	0.5			●				●		SIGER...B-EH SIGER...B-WH SIGER...B-WH-90	G48 G49 G50
			200-100BR	2.00			1.0			●				●			
	 GER100-010CM~250-020M	GER	150-010CM	1.50	2.5	2.7	0.1			●						SIGER...C-EH SIGER...C-WH SIGER...C-WH-90	
			200-010CM	2.00						●							
			250-020CM	2.50			0.2			●							
			300-020CM	3.00						●							
			350-020CM	3.50						●							
	 GER150-010DM~200-010DM GER150-010EM~200-010EM	GER	150-010DM	1.50	3.0	4.8	0.1			●						SIGER...D-EH	G48
			200-010DM	2.00						●							
			230-020DM	2.30	3.2		0.2			●							
			250-020DM	2.50						●							
			300-020DM	3.00						●							
			350-020DM	3.50	4.5					●							
	 GER230-020DM~250-020DM GER250-020EM~400-020EM		400-020DM	4.00						●							
		GER	150-010EM	1.50	3.0	6.8	0.1			●						SIGER...E-EH	G48
			200-010EM	2.00	3.2					●							
			250-020EM	2.50	4.5		0.2			●							
			300-020EM	3.00						●							
			350-020EM	3.50	5.5					●							
			400-020EM	4.00						●							
			450-020EM	4.50	6.5					●							
2-Edge Molded Chipbreaker	 GER300-020CM~350-020CM GER300-020DM~400-020DM GER450-020EM~500-020EM		500-020EM	5.00						●							

• Dimension B: shows available grooving depth.

For recommended cutting conditions, see page G51

Comparison of Chip evacuation (Molded Chipbreaker)

Description \ f (mm/rev)	15CrMo4 (SCM415 (Minimum Bore Dia. ø16)) 0.05	0.07	0.1	Evaluation
SIGER1612C-EH GER300-020CM(PR1025)				Good Chip Control
Competitor A Width: 3mm			Insert cracks	Unstable chip control and biting
Competitor B Width: 3mm				Unstable chip control and biting

[Vc =100m/min, ap=2.0mm, Wet] (Internal evaluation)

Comparison of Chip evacuation (Min. Bore Dia.: ø8)

Description \ f (mm/rev)	15CrMo4 (JIS:SCM415) 0.02	Evaluation
SIGER0808A-EH GER200-010A (PR1025)		◎
Competitor C Width: 2mm		× Chipping

[Vc=50m/min, ap=1.25mm, Wet] (Internal evaluation)

● : Std. Item □ : Check Availability

Inserts are sold in 10 piece boxes.

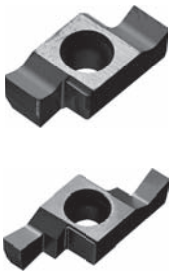
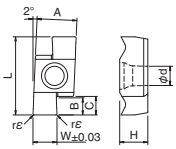
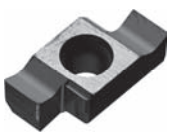
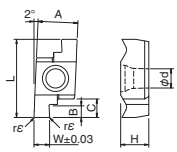
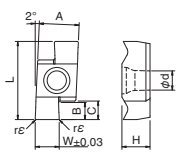
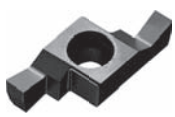
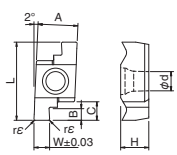
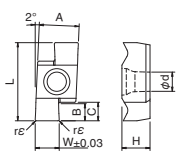
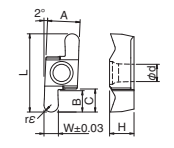
Applicable Inserts

(mm)

Description	A	L	H	ød
GE$^{R/L}$...-C	5.8	11.48	4.05	2.8
GER...-CR				
GE$^{R/L}$...-D	6.8	16.44	5.05	3.4
GER...-DR				
GE$^{R/L}$...-E	9.54	21.66	5.55	4.4

		PR1025	GW15
P	Carbon Steel / Alloy Steel	●	
M	Stainless Steel	●	
K	Cast Iron		◯
N	Non-ferrous Metals		●
S	Titanium Alloy		●
H	Hard materials (under 40HRC)	●	
	Hard materials (over 40HRC)		

Classification of usage
- ●: Light Interruption / 1st Choice
- ◯: Light Interruption / 2nd Choice
- ●: Continuous / 1st Choice
- ○: Continuous / 2nd Choice

Insert (R-hand shown)	Description		Dimension (mm) W	B	C	rε	Cermet TN6020 R	Cermet TN6020 L	PVD Coated Carbide PR1025 R	PR1025 L	Carbide GW15 R	GW15 L	Carbide KW10 R	KW10 L	Applicable Toolholder	Ref. Page for Toolholder
 2-Edge		GE$^{R/L}$	100-005C	1.00	2.5	2.7	0.05	●	●	●	●	●	●			SIGE$^{R/L}$...C-EH SIGE$^{R/L}$...C-WH SIGER...C-WH-90	G48 G49 G50
			120-005C	1.20				●		●	●	●					
			125-005C	1.25				●	●	●	●	●	●				
			140-005C	1.40				●		●	●	●					
			145-010C	1.45			0.1	●	●	●	●	●	●				
			150-010C	1.50				●	●	●	●	●	●				
			170-010C	1.70				●		●	●	●					
			185-010C	1.85				●		●	●	●					
			195-010C	1.95				●		●	●	●					
			200-010C	2.00				●	●	●	●	●	●				
			250-020C	2.50			0.2	●	●	●	●	●	●				
			300-020C	3.00				●	●	●	●	●	●				
			350-020C	3.50				●	●	●	●	●	●				
	 GER100-005D~280-020D  GER300-020D~400-020D	GE$^{R/L}$	100-005D	1.00	2.5	4.8	0.05	●	●	●	●	●	●			SIGE$^{R/L}$...D-EH	G48
			140-005D	1.40				●		●	●	●					
			145-010D	1.45			0.10	●	●	●	●	●	●				
			150-010D	1.50	3.0			●	●	●	●	●	●				
			170-010D	1.70				●		●	●	●					
			185-010D	1.85				●		●	●	●					
			195-010D	1.95				●		●	●	●					
			200-010D	2.00	3.2			●	●	●	●	●	●				
			225-010D	2.25				●		●	●	●					
			230-020D	2.30			0.20	●	●	●	●	●	●				
			250-020D	2.50				●	●	●	●	●	●				
			275-020D	2.75				●		●	●	●					
			280-020D	2.80				●		●	●	●					
			300-020D	3.00	4.5			●	●	●	●	●	●				
			330-020D	3.30				●		●	●	●					
			350-020D	3.50				●	●	●	●	●	●				
			400-020D	4.00				●	●	●	●	●	●				
 2-Edge	 GER100-005E~430-020E  GER450-020E~500-020E	GE$^{R/L}$	100-005E	1.00	2.5	6.8	0.05	●	●	●	●	●	●			SIGE$^{R/L}$...E-EH	G48
			150-010E	1.50	3.0		0.1	●	●	●	●	●	●				
			170-010E	1.70				●		●	●	●					
			185-010E	1.85				●		●	●	●					
			195-010E	1.95				●		●	●	●					
			200-010E	2.00	3.2			●	●	●	●	●	●				
			225-010E	2.25				●		●	●	●					
			230-020E	2.30	4.5		0.2	●	●	●	●	●	●				
			250-020E	2.50				●	●	●	●	●	●				
			275-020E	2.75				●		●	●	●					
			280-020E	2.80				●		●	●	●					
			300-020E	3.00				●	●	●	●	●	●				
			330-020E	3.30				●		●	●	●					
			350-020E	3.50	5.5			●	●	●	●	●	●				
			400-020E	4.00				●	●	●	●	●	●				
			430-020E	4.30				●		●	●	●					
			450-020E	4.50	6.5			●	●	●	●	●	●				
			460-020E	4.60				●		●	●	●					
			500-020E	5.00				●	●	●	●	●	●				
 Full-R		GER	200-100CR	2.00	2.5	2.7	1.0			●		●				SIGER...C-EH SIGER...C-WH SIGER...C-WH-90	G48 G49 G50
			250-125CR	2.50			1.25			●		●					
			300-150CR	3.00			1.5			●		●					
		GER	200-100DR	2.00	3.2	4.8	1.0			●		●				SIGER...D-EH	G48
			300-150DR	3.00	4.5		1.5			●		●					

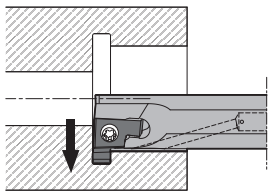
• Dimension B: shows available grooving depth.

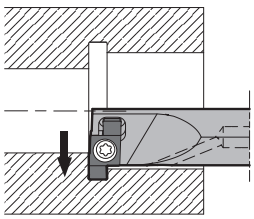
For recommended cutting conditions, see page ➔ G51

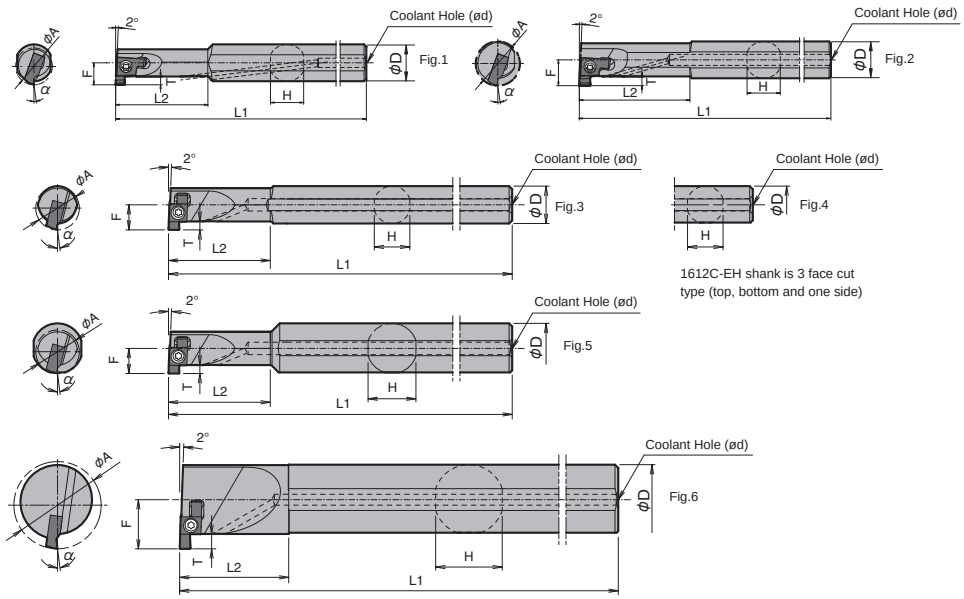
● : Std. Item ☐ : Check Availability

Inserts are sold in 10 piece boxes.

SIGE-EH Excellent Bar (with Coolant Hole)







● Right-hand Shown

R-hand Insert for R-hand Toolholder, L-hand Insert for L-hand Toolholder.

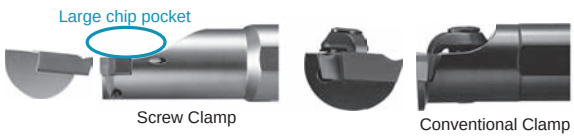
Toolholder Dimensions

Description		Std. R	Std. L	Min. Cutting Dia. øA	Dimension (mm) øD	H	L1	L2	F	T	ød	Drawing	Spare Parts: Clamp Screw	Spare Parts: Wrench FT	Spare Parts: Wrench DT	Applicable Inserts
SIGE R/L	0808A-EH	●	●	8	8	7.2	100	20	4.8	1.5	3	Fig.1	SB-2045TRN	FT-6	-	GE R/L 100-005A~GE R/L 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 R/L 100-005B~GE R/L 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 R/L 100-005C~GE R/L 350-020C GER150-010CM~GER350-020CM GER200-100CR~GER300-150CR
	1612C-EH	●	●	16				20	8.5			Fig.4				
	1616C-EH	●	●		16	15	160	36	9		5	Fig.5				
	2020D-EH	●	●	20	20	19	180	40	12.1	4.5	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	●	●	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	●	●	32	32	30.4	220	55	19							
	4032E-EH	●	●	40			250	45	23			Fig.6				

• Dimension T: shows available grooving depth.

Features

● Large chip pocket, screw clamp toolholder design enables excellent chip evacuation..



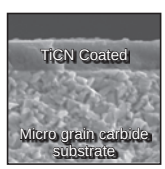
● Cutting edge is free from contact face.

● An 8mm minimum cutting diameter with a 2-Edge design

● Cost effective chip control from a molded chipbreaker

● Grade PR1025 improves stable machining

Grade PR1025
(Micro Grain Carbide + PVD Coated Carbide)
Long tool life and stable machining for internal grooving



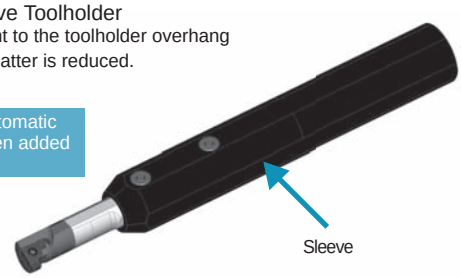
● SIGE toolholder and Sleeve for Automatic Lathes

• SIGE toolholder
The locating surface of the sleeve lock screw nearly reaches the insert pocket.
This provides a maximum range of overhang adjustment to reduce chatter.

To retain the groove depth, the edge of the single straight core is thinner than the shank.

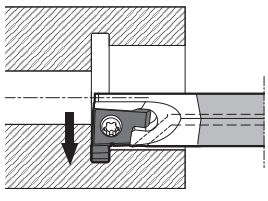
• Applicable Sleeve Toolholder
Enables adjustment to the toolholder overhang so vibration and chatter is reduced.

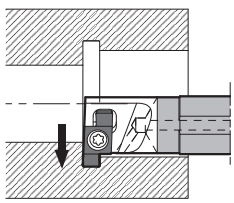
Shank diameters of other automatic lathe manufactures have been added to the stock items.



● : Std. Item □ : Check Availability

SIGE-WH Carbide Shank Bar (with Coolant Hole)





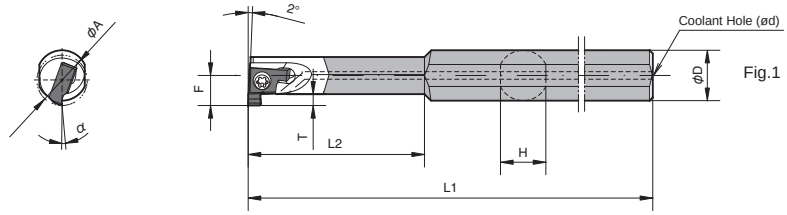


Fig.1

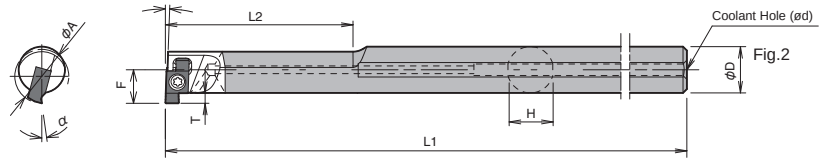


Fig.2

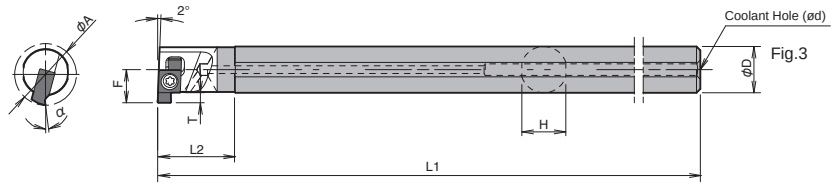


Fig.3

● Right-hand Shown

R-hand Insert for R-hand Toolholder, L-hand Insert for L-hand Toolholder.

Toolholder Dimensions

Description		Std.		Min. Cutting Dia.	Dimension (mm)							Drawing	Spare Parts			Applicable Inserts
													Clamp Screw	Wrench		
		R	L	øA	øD	H	L1	L2	F	T	ød			 FT DT		
SIGE$^{R/L}$	0808A-WH	●	●	8	8	7.2	125	28	4.8	1.5	3	Fig.1	SB-2045TRN	FT-6	-	GE$^{R/L}$100-005A~GE$^{R/L}$200-010A GER100-050AR~GER200-100AR
	1010B-WH	●	●	10	10	9	125	35	6.2	2.2	3		SB-2255TR	-	DT-7	GE$^{R/L}$100-005B~GE$^{R/L}$300-020B GER100-050BR~GER200-100BR
	1210B-WH	●	●	12			140	45	7							
	1412C-WH	●	●	14	12	11.4	150	50	8.7	2.5	4	Fig.2	SB-2570TR	FT-8	-	GE$^{R/L}$100-005C~GE$^{R/L}$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.

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

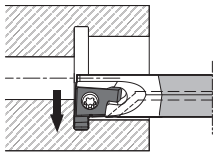
Description		Applicable Insert & Rake Angle (α) after Installment of Insert			
		Ground Chipbreaker	α (°)	Molded Chipbreaker	α (°)
SIGE$^{R/L}$	0808A-EH	GE$^{R/L}$100-005A~GE$^{R/L}$200-010A GER100-050AR~GER200-100AR	5°	-	-
	1010B-EH	GE$^{R/L}$100-005B~GE$^{R/L}$300-020B GER100-050BR~GER200-100BR	5°	-	-
	1210B-EH				
	1412C-EH	GE$^{R/L}$100-005C~GE$^{R/L}$350-020C GER200-100CR~GER300-150CR	8°	GER150-010CM~GER350-020CM	10°
	1612C-EH				
	1616C-EH				
	2020D-EH	GE$^{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}$500-020E	10°	GER150-010EM~GER500-020EM	10°
	3232E-EH				
	4032E-EH				
SIGE$^{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				

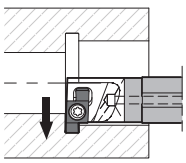
α indicates the rake angle at the center of the edge width, after installing insert.

● : Std. Item □ : Check Availability

Internal Grooving SIGE

SIGE-WH Carbide Shank Bar (with Coolant Hole)





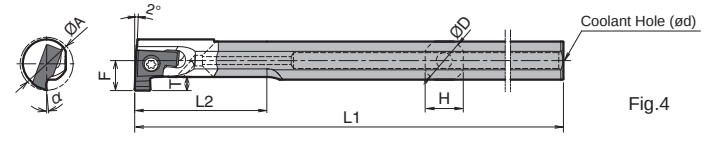


Fig.4

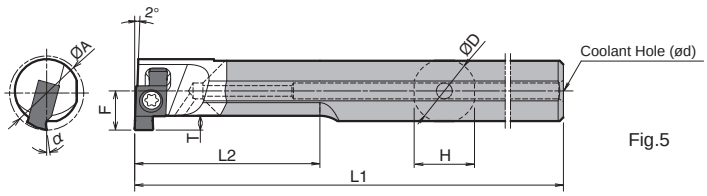


Fig.5

● Right-hand shown

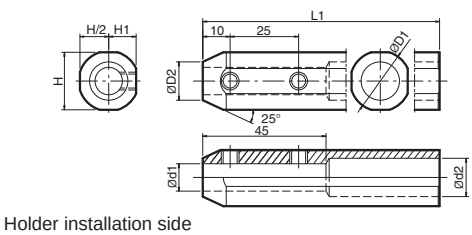
R-hand Insert for R-hand Toolholder.

Toolholder Dimensions

Description		Std.	Min. Cutting Dia.	Dimension (mm)							Drawing	Spare Parts			Applicable Inserts
												Clamp Screw	Wrench		
			øA	øD	H	L1	L2	F	T	ød			FT	DT	
SIGER	1008B-WH-90	●	10	8	7.2	90	25	5.6	2.2	3	Fig.4	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.5	SB-2570TR	FT-8	-	GER100-005C~GER350-020C GER150-010CM~GER350-020CM GER200-100CR~GER300-150CR

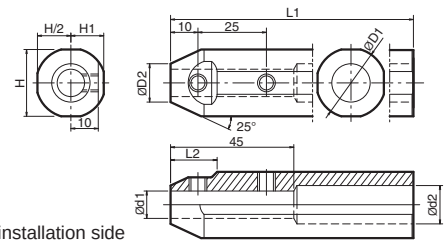
• See page ⇒G49 for applicable Insert & Rake Angle (α) after Installment of Insert.

Applicable Sleeve



Holder installation side

Fig.1



Holder installation side

Fig.2

Description		Std.	Dimension (mm)								Drawing	Spare Parts		Applicable Machine Manufactuer
												Screw	Wrench	
			ød1	øD1	øD2	ød2	H	H1	L1	L2				
SHA	0820-120	●	8	20	14	12	19	9.25	120	-	Fig.1	HS6x4P	LW-3	Amada Wasino Eguro Precision Tsugami Miyano
	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 VTC
	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 VTC
	1023-120	●	10											
	1223-120	●	12		16									

* Length of ød1...45mm (SHA all types)

• Select a sleeve dimension ød1 by adjusting for toolholder dimension øD.

• The names of the machine manufacturers are listed in the Japanese sort order.

● : Std. Item □ : Check Availability R : Std. Item (R-hand Only) L : Std. Item (L-hand Only)

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 for Grooving (mm/rev)			Remarks
				② f for Traversing (mm/rev)			
	Cermet	PVD Coated Carbide	Carbide	③ ap for Traversing (mm)			
	TN6020	**PR1025**	**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	-	①0.01~0.03	①0.02~0.04	①0.02~0.04	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	
Non-ferrous Metals	-	-	★ 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	
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 carbie 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 for Grooving (mm/rev)							Remarks
				② f for Traversing (mm/rev)							
	Cermet	PVD Coated Carbide	Carbide	③ ap for Traversing (mm)							
	TN6020	**PR1025**	**GW15**	GE^{R}/L 100~200-010C 200-100CR	GE^{R}/L 250~350-020C 250~300-150CR						
				GE^{R}/L 100~145-010D	GE^{R}/L 150~195-010D	GE^{R}/L 200~280-020D 200-100DR		GE^{R}/L 300~400-020D 300-150DR			
				GE^{R}/L 100-010E	GE^{R}/L 150~195-010E	GE^{R}/L 200~225-010E 230-020E	GE^{R}/L 250~330-020E		GE^{R}/L 350~430-020E	GE^{R}/L 450~500-020E	
Carbon Steel	☆ 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	Coolant
				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	-	① 0.03~0.07	① 0.03~0.07	① 0.04~0.08	① 0.04~0.08	① 0.05~0.1	① 0.05~0.1	① 0.05~0.1	
				② 0.03~0.1	② 0.03~0.1	② 0.04~0.08	② 0.04~0.08	② 0.05~0.1	② 0.05~0.1	② 0.05~0.1	
				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	-	① 0.03~0.07	① 0.03~0.07	① 0.04~0.08	① 0.04~0.08	① 0.05~0.1	① 0.05~0.1	① 0.05~0.1	
				② 0.03~0.1	② 0.03~0.1	② 0.04~0.08	② 0.04~0.08	② 0.05~0.1	② 0.05~0.1	② 0.05~0.1	
				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	① 0.03~0.08	① 0.03~0.08	① 0.04~0.09	① 0.04~0.09	① 0.05~0.12	① 0.05~0.12	① 0.05~0.12	
				② 0.03~0.08	② 0.03~0.08	② 0.04~0.09	② 0.04~0.09	② 0.05~0.1	② 0.05~0.1	② 0.05~0.1	
				③Max. 0.3	③Max. 0.3	③Max. 0.3	③Max. 0.3	③Max. 0.5	③Max. 0.5	③Max. 0.5	
Non-ferrous Metals	-	-	★ 150~300	① 0.05~0.12	① 0.05~0.12	① 0.05~0.15	① 0.05~0.15	① 0.08~0.15	① 0.08~0.15	① 0.08~0.15	
				② 0.05~0.12	② 0.05~0.12	② 0.05~0.15	② 0.05~0.15	② 0.08~0.15	② 0.08~0.15	② 0.08~0.15	
				③Max. 0.5	③Max. 0.5	③Max. 0.5	③Max. 0.5	③ Max. 0.8	③ Max. 0.8	③ Max. 0.8	
Brass	-	-	★ 100~250	① 0.05~0.12	① 0.05~0.12	① 0.05~0.15	① 0.05~0.15	① 0.08~0.15	① 0.08~0.15	① 0.08~0.15	
				② 0.05~0.12	② 0.05~0.12	② 0.05~0.15	② 0.05~0.15	② 0.08~0.15	② 0.08~0.15	② 0.08~0.15	
				③Max. 0.5	③Max. 0.5	③Max. 0.5	③Max. 0.5	③ Max. 0.8	③ Max. 0.8	③ Max. 0.8	

* Use PVD coated grade or carbie for traversing with edge width 1mm. (GE^{R}/L100-010C / 100-010D / 100-010E)

★: 1st Recommendation ☆: 2nd Recommendation

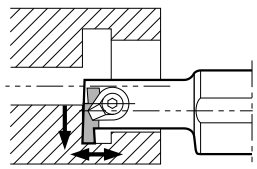
Recommended Cutting Conditions (Molded Chipbreaker: GER•••CM, GER•••DM, GER•••EM)

Workpiece Material	Recommended Insert Grade (Cutting Speed: m/min)			① f for Grooving (mm/rev)						Remarks
				② f for Traversing (mm/rev)						
	Cermet	PVD Coated Carbide	Carbide	③ ap for 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 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	Coolant
				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	
				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	-	★ 60~110	-	① 0.03~0.08	① 0.03~0.08	① 0.04~0.08	① 0.05~0.1	① 0.05~0.1	① 0.05~0.1	
				② 0.03~0.1	② 0.03~0.1	② 0.04~0.1	② 0.05~0.1	② 0.05~0.1	② 0.05~0.1	
				③ Max. 1.0	③ Max. 1.5	③ Max. 1.5	③ Max. 1.5	③ Max. 1.5	③ Max. 1.5	

★: 1st Recommendation ☆: 2nd Recommendation

Internal Small Diameter Grooving Toolholders [GV Insert]

GIV



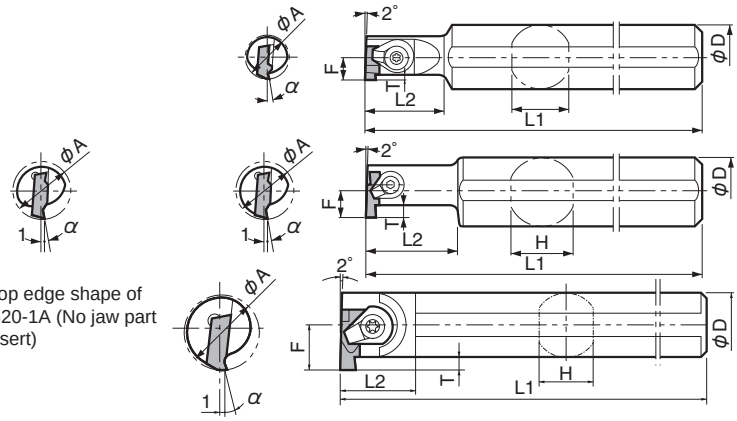


Fig.1

Fig.2

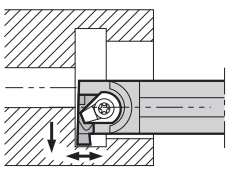
Fig.3

Shows top edge shape of GIV$^{R/L}$1620-1A (No jaw part under Insert)

● Right-hand shown

R-hand insert for R-hand toolholder, L-hand insert for L-hand toolholder.

GIV-E Excellent Bar



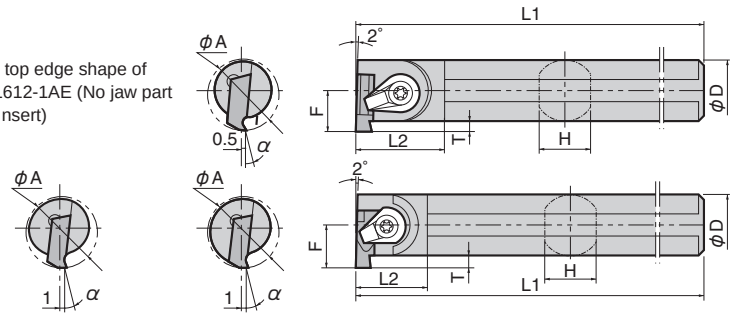


Fig.1

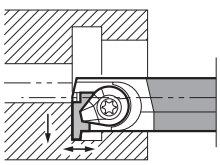
Fig.2

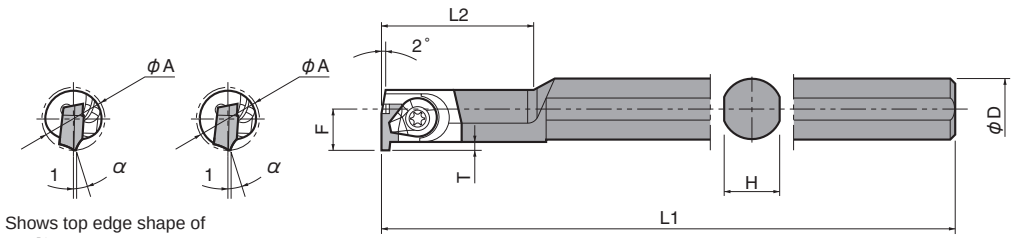
Shows top edge shape of GIV$^{R/L}$1612-1AE (No jaw part under Insert)

● Right-hand shown

R-hand insert for R-hand toolholder, L-hand insert for L-hand toolholder.

GIV-W Carbide Shank Bar





Shows top edge shape of GIV$^{R/L}$1616-1AW (No jaw part under Insert)

● Right-hand shown

R-hand insert for R-hand toolholder, L-hand insert for L-hand toolholder.

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

Toolholder	Description ➡G54		Rake Angle (α)	
	General Grooving (Square)	Full-R Grooving (Round)	TC40	TN90, TC60 PR630, PR930 KW10
GIV$^{R/L}$…1SS	GV$^{R/L}$100SS~300SS	-	10°	15°
GIV$^{R/L}$…1S	GV$^{R/L}$100S~340S	-	10°	15°
GIV$^{R/L}$…1SE	GV$^{R/L}$100S~340S	-	3°	8°
GIV$^{R/L}$…1A(□)	GV$^{R/L}$100A~340A	GV$^{R/L}$100AR~150AR	3°	8°
GIV$^{R/L}$…1B(□)	GV$^{R/L}$145B~250B	GV$^{R/L}$100BR	4°	9°
GIV$^{R/L}$…2B(□)	GV$^{R/L}$280B~400B	GV$^{R/L}$150BR		
GIV$^{R/L}$…1C(□)	GV$^{R/L}$280C~340C	-	5°	10°
GIV$^{R/L}$…2C(□)	GV$^{R/L}$400C~500C	-		

Toolholder Dimensions

Description		Std. R	Std. L	Min. Cutting Dia. øA	Dimension (mm) øD	H	L1	L2	F	T		Drawing	Spare Parts: Clamp Set		Spare Parts: Wrench	Spare Parts: Wrench	Reference page for applicable inserts
GIV$^{R}_{L}$	1216-1SS	●	●	12	16	15	150	20	6.0	2.2		Fig.1	CPS-4V	-	FT-10	-	G54
	1420-1S	●	●	14	20	19	150	24	7.0	2.2		Fig.1	CPS-5F	-	FT-15	-	
	1620-1A	●	●	16	20	19	160	28	8.0	2.2		Fig.2	CPS-5V	-	FT-15	-	
	2025-1B	●	●	20	25	23	180	35	10.0	Note2) 2.8		Fig.2	CPS-5V	-	FT-15	-	
	2025-2B	●	●							Note2) 3.2							
	2532-1C	●	●	25	32	30	200	43	12.5	Note3) 4.5		Fig.2	-	CPS-6V	-	LW-3	
	3232-1C	●	●	32			220	52	16.0								
	4032-1C	●	●	40			250	43	21.0			Fig.3					
	2532-2C	●	●	25	32	30	200	43	12.5	Note4) 5.5		Fig.2					
	3232-2C	●	●	32			220	52	16.0								
	4032-2C	●	●	40			250	43	22.2			Fig.3					
GIV$^{R}_{L}$	1412-1SE	●	●	14	12	11.4	150	18	7.7	1.7		Fig.1	CPS-5F	-	FT-15	-	
	1612-1AE	●	●	16	12	11.4	150	19	8.2	2.2		Fig.2	CPS-5V	-	FT-15	-	
	2016-1BE	●	●	20	16	15.2	180	20	11.2	Note1) 2.8		Fig.2	CPS-5V	-	FT-15	-	
	2016-2BE	●	●					19	11.7	Note5) 3.2							
	2520-1CE	●	●	25	20	19	200	25	14.5	Note6) 4.5		Fig.2	-	CPS-6V	-	LW-3	
	3225-1CE	●	●	32	25	24	220	24	17.5	Note7) 4.5							
	4032-1CE	●	●	40	32	31	240	29	21.0	Note7) 4.5							
	2720-2CE	●	●	27	20	19	200	25	16.2	Note4) 5.5							
	3225-2CE	●	●	32	25	24	220	24	18.7								
	4032-2CE	●	●	40	32	31	240	29	22.2								
GIV$^{R}_{L}$	1616-1AW	●	●	16	16	15	175	48	10.6	2.2		-	CPS-5V	-	FT-15	-	
	2020-1BW	●	●	20	20	19	220	60	14.6	Note1) 2.8		-	CPS-5V	-	FT-15	-	
	2020-2BW	●	●							Note2) 3.2							
	2525-1CW	●	●	25	25	24	260	70	19.1	Note3) 4.5		-	-	CPS-6V	-	LW-3	
	2525-2CW	●	●							Note4) 5.5							

•Dimension T shows available grooving depth.

Note 1: GV$^{R}_{L}$200B~250B Insert can be used up to a Groove Depth 3.2mm.
Note 2: GV$^{R}_{L}$300B~400B Insert can be used up to a Groove Depth 4.2mm.
Note 3: GV$^{R}_{L}$340C Insert can be used up to a Groove Depth 5.5mm
Note 4: GV$^{R}_{L}$430C~500C Insert can be used up to a Groove Depth 6.3mm
Note 5: GV$^{R}_{L}$300B~400B Insert can be used up to a Groove Depth 3.8mm.（When using GIV$^{R}_{L}$2016-2BE）
Note 6: GV$^{R}_{L}$340C Insert can be used up to a Groove Depth 4.7mm.（When using GIV$^{R}_{L}$2520-1CE）
Note 7: GV$^{R}_{L}$340C Insert can be used up to a Groove Depth 5.3mm.（When using GIV$^{R}_{L}$3225-1CE, GIV$^{R}_{L}$4032-1CE）
If you need any of insert groove depth specified in notes 1 to 7, modify the dimension T of toolholder.

● : Std. Item ☐ : Check Availability

Insert for Small Internal Grooving

Applicable Inserts (GIV / GIV-E / GIV-W)

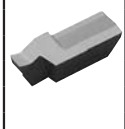
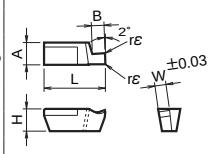
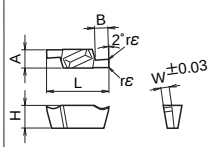
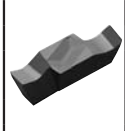
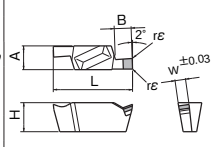
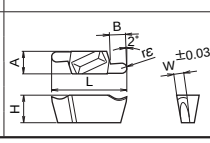
(mm)

Description	A	L	H
GV$^{R}_{L}$...SS	3.6	9	3.0
GV$^{R}_{L}$...S	4.0	11	4.0
GV$^{R}_{L}$...A	4.0	12	5.0
GV$^{R}_{L}$...B	4.5	15	5.5
GV$^{R}_{L}$...C	5.8	21	6.5

		Cermet			PVD Coated Carbide		Carbide	PCD	
		TN90	TC40	TC60	PR630	PR930	KW10	KPD001	KPD010
P	Carbon Steel / Alloy Steel					◕			
M	Stainless Steel					◕			
K	Cast Iron						◕		
N	Non-ferrous Metals						◕	●	
S	Titanium Alloy						◕	●	
H	Hard materials (under 40HRC)					○			
	Hard materials (over 40HRC)								

Classification of usage

◕ : Continuous-Light Interruption / 1st Choice
○ : Continuous-Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert (R-hand shown)	Description	(Previous Description)	W	B	rε	Cermet TN90	Cermet TC40	Cermet TC60	PVD Coated Carbide PR630	PVD Coated Carbide PR930	Carbide KW10	PCD KPD001	PCD KPD010	Applicable Toolholder	Ref. Page for Toolholder
  1-Edge	GV$^{R}_{L}$ 100-020SS	GV$^{R}_{L}$ 100SS	1.00	2.3	0.2			R		R	●			GIV$^{R}_{L}$···1SS	G52
	GV$^{R}_{L}$ 125-020SS	GV$^{R}_{L}$ 125SS	1.25					R		R	●				
	GV$^{R}_{L}$ 145-020SS	GV$^{R}_{L}$ 145SS	1.45					R		●	●				
	GV$^{R}_{L}$ 200-020SS	GV$^{R}_{L}$ 200SS	2.00					R		R	●				
	GV$^{R}_{L}$ 250-020SS	GV$^{R}_{L}$ 250SS	2.50					R		R	●				
	GV$^{R}_{L}$ 300-020SS	GV$^{R}_{L}$ 300SS	3.00					R		●	●				
	GV$^{R}_{L}$ 100-020S	GV$^{R}_{L}$ 100S	1.00	2.3	0.2			R		●	●			GIV$^{R}_{L}$···1S GIV$^{R}_{L}$···1SE	
	GV$^{R}_{L}$ 125-020S	GV$^{R}_{L}$ 125S	1.25					R		R	●				
	GV$^{R}_{L}$ 145-020S	GV$^{R}_{L}$ 145S	1.45					R		R	●				
	GV$^{R}_{L}$ 185-020S	GV$^{R}_{L}$ 185S	1.85					R		R	●				
	GV$^{R}_{L}$ 200-020S	GV$^{R}_{L}$ 200S	2.00					R		●	●				
	GV$^{R}_{L}$ 250-020S	GV$^{R}_{L}$ 250S	2.50					R		R	●				
	GV$^{R}_{L}$ 340-020S	GV$^{R}_{L}$ 340S	3.40					R		R	●				
  2-Edge	GV$^{R}_{L}$ 100-020A	GV$^{R}_{L}$ 100A	1.00	2.3	0.2			□		●	●			GIV$^{R}_{L}$···1A GIV$^{R}_{L}$···1AE GIV$^{R}_{L}$···1AW	
	GV$^{R}_{L}$ 120-020A	GV$^{R}_{L}$ 120A	1.20					□							
	GV$^{R}_{L}$ 125-020A	GV$^{R}_{L}$ 125A	1.25					□		R	●				
	GV$^{R}_{L}$ 140-020A	GV$^{R}_{L}$ 140A	1.40					□							
	GV$^{R}_{L}$ 145-020A	GV$^{R}_{L}$ 145A	1.45					□		R	●				
	GV$^{R}_{L}$ 170-020A	GV$^{R}_{L}$ 170A	1.70					□							
	GV$^{R}_{L}$ 185-020A	GV$^{R}_{L}$ 185A	1.85					□		R	●				
	GV$^{R}_{L}$ 195-020A	GV$^{R}_{L}$ 195A	1.95					□							
	GV$^{R}_{L}$ 200-020A	GV$^{R}_{L}$ 200A	2.00					□		●	●				
	GV$^{R}_{L}$ 225-020A	GV$^{R}_{L}$ 225A	2.25					□							
	GV$^{R}_{L}$ 250-020A	GV$^{R}_{L}$ 250A	2.50					□		R	●				
	GV$^{R}_{L}$ 275-020A	GV$^{R}_{L}$ 275A	2.75					□							
	GV$^{R}_{L}$ 300-020A	GV$^{R}_{L}$ 300A	3.00					□		R	●				
	GV$^{R}_{L}$ 340-020A	GV$^{R}_{L}$ 340A	3.40					R		R	●				
	GV$^{R}_{L}$ 145-020B	GV$^{R}_{L}$ 145B	1.45	2.8	0.2			□		●	●			GIV$^{R}_{L}$···1B GIV$^{R}_{L}$···1BE GIV$^{R}_{L}$···1BW	
	GV$^{R}_{L}$ 185-020B	GV$^{R}_{L}$ 185B	1.85					□		R	●				
	GV$^{R}_{L}$ 200-020B	GV$^{R}_{L}$ 200B	2.00	3.2				□		●	●				
	GV$^{R}_{L}$ 225-020B	GV$^{R}_{L}$ 225B	2.25					□							
	GV$^{R}_{L}$ 230-020B	GV$^{R}_{L}$ 230B	2.30					□		●	R				
	GV$^{R}_{L}$ 250-020B	GV$^{R}_{L}$ 250B	2.50					□		●	●				
	GV$^{R}_{L}$ 275-020B	GV$^{R}_{L}$ 275B	2.75					□							
	GV$^{R}_{L}$ 280-020B	GV$^{R}_{L}$ 280B	2.80					□		R	R			GIV$^{R}_{L}$···2B GIV$^{R}_{L}$···2BE GIV$^{R}_{L}$···2BW	
	GV$^{R}_{L}$ 300-020B	GV$^{R}_{L}$ 300B	3.00	4.2				□		●	●				
	GV$^{R}_{L}$ 325-020B	GV$^{R}_{L}$ 325B	3.25					□							
	GV$^{R}_{L}$ 340-020B	GV$^{R}_{L}$ 340B	3.40					R		R	R				
	GV$^{R}_{L}$ 400-020B	GV$^{R}_{L}$ 400B	4.00					R		R	●				
	GV$^{R}_{L}$ 280-020C	GV$^{R}_{L}$ 280C	2.80	4.5	0.2			□		R	●			GIV$^{R}_{L}$···1C GIV$^{R}_{L}$···1CE GIV$^{R}_{L}$···1CW	
	GV$^{R}_{L}$ 300-020C	GV$^{R}_{L}$ 300C	3.00					□		●	●				
	GV$^{R}_{L}$ 325-020C	GV$^{R}_{L}$ 325C	3.25					□							
	GV$^{R}_{L}$ 340-020C	GV$^{R}_{L}$ 340C	3.40	5.5				□		●	●				
	GV$^{R}_{L}$ 400-020C	GV$^{R}_{L}$ 400C	4.00					□		●	●			GIV$^{R}_{L}$···2C GIV$^{R}_{L}$···2CE GIV$^{R}_{L}$···2CW	
	GV$^{R}_{L}$ 425-020C	GV$^{R}_{L}$ 425C	4.25					□							
	GV$^{R}_{L}$ 430-020C	GV$^{R}_{L}$ 430C	4.30	6.3				□		R	●				
	GV$^{R}_{L}$ 460-020C	GV$^{R}_{L}$ 460C	4.60					□		R	●				
	GV$^{R}_{L}$ 500-020C	GV$^{R}_{L}$ 500C	5.00					□		●	●				
  2-Edge	GV$^{R}_{L}$ 145-020A	GV$^{R}_{L}$ 145A	1.45	2.3	0.2								R	GIV$^{R}_{L}$···1A	
	GV$^{R}_{L}$ 200-020A	GV$^{R}_{L}$ 200A	2.00										R	GIV$^{R}_{L}$···1AE	
	GV$^{R}_{L}$ 300-020A	GV$^{R}_{L}$ 300A	3.00										○	GIV$^{R}_{L}$···1AW	
	GV$^{R}_{L}$ 200-020B	GV$^{R}_{L}$ 200B	2.00	3.2	0.2								R	GIV$^{R}_{L}$···1B	
	GV$^{R}_{L}$ 250-020B	GV$^{R}_{L}$ 250B	2.50										R	GIV$^{R}_{L}$···1BE GIV$^{R}_{L}$···1BW	
	GV$^{R}_{L}$ 300-020B	GV$^{R}_{L}$ 300B	3.00	4.2									○	GIV$^{R}_{L}$···2B ○	
	GV$^{R}_{L}$ 300-020C	GV$^{R}_{L}$ 300C	3.00	4.5	0.2								○	GIV$^{R}_{L}$···1C ○	
	GV$^{R}_{L}$ 400-020C	GV$^{R}_{L}$ 400C	4.00	5.5									○	GIV$^{R}_{L}$···2C ○	
  2-Edge Full-R	GV$^{R}_{L}$ 200-100AR	GV$^{R}_{L}$ 100AR	2.00	2.3	1.00			R		●	R			GIV$^{R}_{L}$···1A	
	GV$^{R}_{L}$ 250-125AR	GV$^{R}_{L}$ 125AR	2.50		1.25			R		R	R			GIV$^{R}_{L}$···1AE	
	GV$^{R}_{L}$ 300-150AR	GV$^{R}_{L}$ 150AR	3.00		1.50			R		R	R			GIV$^{R}_{L}$···1AW	
	GV$^{R}_{L}$ 200-100BR	GV$^{R}_{L}$ 100BR	2.00	3.2	1.00			R		R	R			GIV$^{R}_{L}$···1B ○	
	GV$^{R}_{L}$ 300-150BR	GV$^{R}_{L}$ 150BR	3.00	4.2	1.50			R		R	R			GIV$^{R}_{L}$···2B ○	

· Dimension B shows available grooving depth.

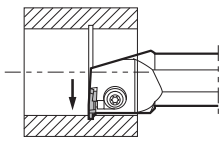
For recommended cutting conditions, see page ➡ G92

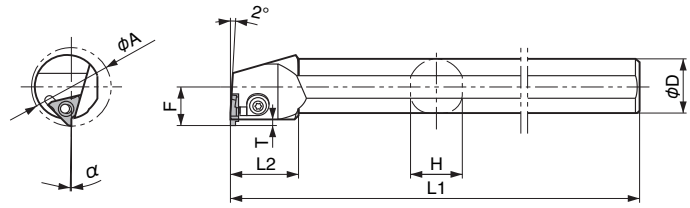
● : Std. Item
□ : Check Availability
R : Std. Item (R-hand Only)
L : Std. Item (L-hand Only)

Inserts are sold in 10 piece boxes.

CBN & PCD Inserts are sold in 1 piece boxes.

KIGBA





● Right-hand shown

L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder.

Toolholder Dimensions

Description		Std. R	Std. L	Min. Cutting Dia. øA	Dimension (mm) øD	H	L1	L2	F	T	Spare Parts: Clamp Set	Spare Parts: Wrench	Applicable Inserts ➡G10~G12
KIGBA$^{R}_{L}$	3525-16	●	●	35	25	23	220	30	17.5	2.8	LGBA-16$^{L}_{R}$S	FT-15	GBA32$^{L}_{R}$ type
	4032-22	●	●	40	32	30	250	30	23.0	3.0	LGBA-22$^{L}_{R}$S	FT-15	GBA43$^{L}_{R}$ type

・Dimension T shows the distance from the Toolholder to the cutting edge.
Available Groove Depth : KIGBA$^{R}_{L}$3525-16 … "B" Dimension of the Applicable Insert
2.0mm for KIGBA$^{R}_{L}$4032-22…GBA43$^{R}_{L}$125-020,145-020,100-050R
2.8mm for the Inserts except the above.

・Clamp Set : LGBA-○LS for Right-hand Toolholder, and LGBA-○RS for Left-hand Toolholder.

Rake Angle (α) after Installment of GBA type

GBA32$^{R}_{L}$○○○-○○○		GBA43$^{R}_{L}$○○○-○○○		GBA43$^{R}_{L}$○○○-○○○R (Full-R)		
α	Insert Grades	α	Insert Grades	α	Insert Grades	Full-R Description
+1°	TN90 PR630 PR930 PR1115, PR1215, PR905 KPD001, KPD010	-9°	KBN510, KBN525	+1°	TN90 PR630 PR930 PR1115, PR1215, PR905	050R~150R
		+1°	TC40, TN90 PR630 PR930 PR1115, PR1215, PR905 KPD001, KPD010	+5°	TN90 PR630 PR930 PR1115, PR1215, PR905	200R
+11°	KW10	+11°	KW10		KW10	050R~200R

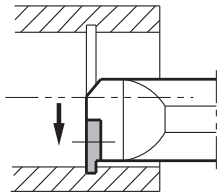
Rake Angle (α) after Installment of GBA-MY type

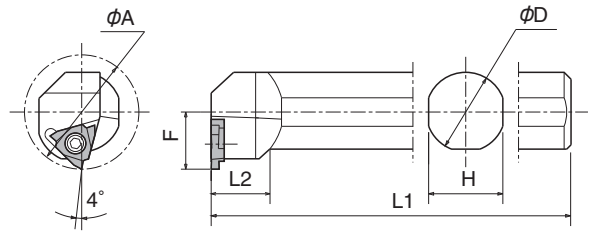
α	Insert
+6°	GBA43$^{R}_{L}$175MY ⟆ GBA43$^{R}_{L}$350MY
+5°	GBA43$^{R}_{L}$400MY

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

● : Std. Item □ : Check Availability

KITG (Changes to KIGBA, See Page G43)





●Right-hand shown

L-hand Insert for R-hand Toolholder, R-hand Insert for L-hand Toolholder.

Toolholder Dimensions

Description		Std. R	Std. L	Min. Cutting Dia. øA	Dimension (mm) øD	H	L1	L2	F	Spare Parts: Clamp Screw		Wrench	
KITG R/L	3525T-16	●	●	35	25	23	220	18	17.5	SB-4TR	-	FT-15	-
	4532T-22	●	●	45	32	30	250	20	22.5	-	GS-50	-	LW-3

・Available Grooving Depth：KITG R/L 3525T-16=2.0mm, KITG R/L 4532T-22=2.5mm

* KITG will be switched to KIGBA as an Internal Large Diameter Shallow Grooving Toolholder; however, it will continue to be sold as Internal Threading Toolholder (→ J23).
・GBA Insert cannot be installed to this toolholder.

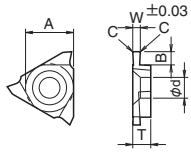
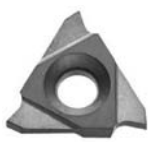
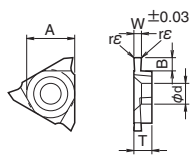
Applicable Inserts

(TG type insert changes to GBA type → See page G10 ~ → G12)

(mm)

Description	A	T	ød
TG32_	9.525	3.18	4.5
TG43_	12.70	4.76	5.5

						Classification of usage
P	Carbon Steel / Alloy Steel	●				● : Continuous-Light Interruption / 1st Choice
M	Stainless Steel					◔ : Continuous-Light Interruption / 2nd Choice
K	Cast Iron					● : Continuous / 1st Choice
N	Non-ferrous Metals					○ : Continuous / 2nd Choice
S	Titanium Alloy					
H	Hard materials (under 40HRC)					
	Hard materials (over 40HRC)					

Insert (R-hand shown)		Description		Dimension (mm) W	B	C or rε	Cermet TN60	TN90	TC40	TC60	Applicable Toolholder	Ref. Page for Toolholder
General (Square) TG32 type	 (Corner is C shape)	TG32 R/L	075	0.75	2.0	C0.1	●				KITG R/L ···16	G56
			095	0.95			●					
			125	1.25			●					
			145	1.45			●					
			150	1.50			●					
			175	1.75			●					
			200	2.00			●					
 General (Square) (Corner is R shape) TG43 type		TG43 R/L	150	1.50	3.5	0.2	●				KITG R/L ···22	G56
			175	1.75			●					
			200	2.00			●					
			230	2.30			●					
			250	2.50	4.0	0.3	●					
			265	2.65			●					
			280	2.80			●					
			300	3.00			●					
			330	3.30			●					
			350	3.50	5.0	0.3	●					
			400	4.00		0.4	●					
			430	4.30			●					
			450	4.50			●					

・Dimension B: shows available grooving depth.

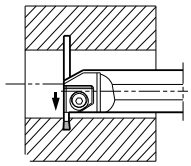
For recommended cutting conditions, see page → G90

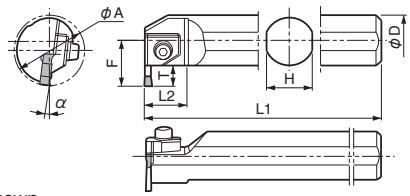
* KITG will be switched to KIGBA.
* For applicable insert, TG insert changes to GBA.
Change Insert Grade TN60 for TN90.
There are various types of GBA insert materials available depending on the user's cutting condition requirements.
* Check the cornner-R(rε) of the insert when changing.

● : Std. Item □ : Check Availability R : Std. Item (R-hand Only) L : Std. Item (L-hand Only)

Inserts are sold in 10 piece boxes.

KIGH





● Right-hand shown

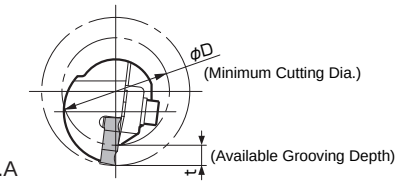


Fig.A

Toolholder Dimensions

Description		Std. R	Std. L	Min. Cutting Dia. øA	Dimension (mm) øD	H	L1	L2	F	T	Spare Parts: Clamp	Clamp Bolt	Washer	Spring	Wrench
KIGH$^{R}_{L}$	4532B-4	●		45	32	30	200		28.2		CGH-1L	HH6X25	W-6	SP-6	LW-5
	5540B-4	●		55	40	38	250	27	32.2	12					
	6550B-4	●		65	50	48	300		37.2						
	4532B-5	●		45	32	30	200		28.2						
	5540B-5	●		55	40	38	250	27	32.2	12					
	6550B-5	●		65	50	48	300		37.2						
	5540B-7	●		55	40	38	250	27	32.2	12	CGH-2L				
	6550B-7	●		65	50	48	300		37.2						

・Dimension T shows the distance from the Toolholder to the cutting edge. For the available Grooving Depth (t) see "List of Minimum Available Cutting Diameter and Groove Depth".
・Dimension L2 depends on the width of the installed Insert.

Rake Angle (α) after Installment of GH / GHU

When using GH ○○○○ - ○○		When using GHU ○○○○	
α	Insert Grades	α	Insert Grades
-5°	A65, A66N	+5°	TN60 CR9025
+5°	TC40		
+15°	TN90, TC60 PR630, PR930 KW10		

List of the Minimum Cutting Diameter and Grooving Depth (Refer Fig.A)

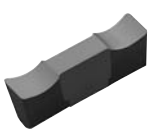
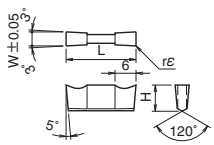
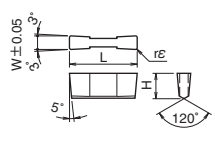
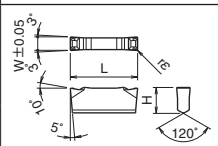
Toolholder		øD (Minimum Cutting Dia.)					
KIGH$^{R}_{L}$	4532B- ○	ø110	ø70	ø65	ø60	ø55	ø45
	5540B- ○	ø70	ø60	ø55			
	6550B- ○	ø65					
Available Grooving Depth t (mm)		12	11.5	11	10	9	under 8

Applicable Inserts

(mm)

Description	L	H
GH4020- ○○ ~GH8020- ○○	20	7.5
GHU ○○○○	20	

		Classification of usage
P	Carbon Steel / Alloy Steel	● : Continuous-Light Interruption / 1st Choice
M	Stainless Steel	◔ : Continuous-Light Interruption / 2nd Choice
K	Cast Iron	● : Continuous / 1st Choice
N	Non-ferrous Metals	○ : Continuous / 2nd Choice
S	Titanium Alloy	
H	Hard materials (under 40HRC)	
	Hard materials (over 40HRC)	

Insert		Description		Dimension (mm) W	rε	Cermet TN60	TN90	TC40	TC60	CVD Coated Carbide CR9025	PVD Coated Carbide PR630	PR930	Carbide KW10	Ceramic A65	A66N	PT600M	Applicable Toolholder
 Ground Chipbreaker		GH	4020-02	4.0	0.2		●	●				●	●				KIGH$^{R}_{L}$4532B-4 5540B-4 6550B-4
			4020-05		0.5		●	●				●	●	●	●	●	
			4520-02	4.5	0.2			●									
			4520-05		0.5			●									
			5020-02	5.0	0.2		●	●				●	●				KIGH$^{R}_{L}$4532B-5 5540B-5 6550B-5
			5020-05		0.5		●	●				●	●	●	●	●	
			5520-02	5.5	0.2			●									
			5520-05		0.5			●									
			6020-02	6.0	0.2		●	●				●	●				
			6020-05		0.5		●	●				●	●	●		●	
			6520-02	6.5	0.2			●									
			6520-05		0.5			●									
 Ceramic	 Ceramic insert is above shape.		7020-02	7.0	0.2		●	●				●	●				
			7020-05		0.5		●	●				●	●	●		●	
			7520-02	7.5	0.2			●									KIGH$^{R}_{L}$5540B-7 6550B-7
			7520-05		0.5			●									
			8020-02	8.0	0.2		●	●				●	●				
			8020-05		0.5		●	●				●	●				
 Molded Chipbreaker		GHU	4020	4.0	0.25	●				●							KIGH$^{R}_{L}$…○○○ B-4
			5020	5.0	0.30	●				●							KIGH$^{R}_{L}$…○○○ B-5
			6020	6.0	0.30	●				●							

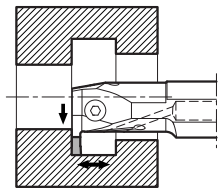
For recommended cutting conditions, see page G90

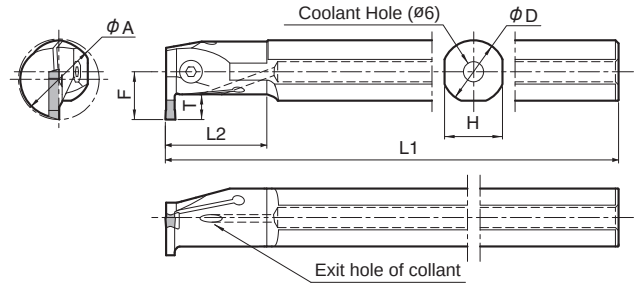
● : Std. Item ☐ : Check Availability R : Std. Item (R-hand Only) L : Std. Item (L-hand Only)

Inserts are sold in 10 piece boxes.

Internal Grooving Toolholders

KIGM-V





● Right-hand shown

● Toolholder Dimensions

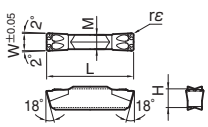
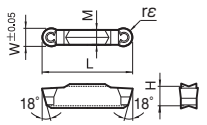
Description		Std. R	Std. L	Min. Cutting Dia. øA	Dimension (mm) øD	H	L1	L2	F	T				Width (mm) MIN.	MAX.	Spare Parts: Screw		Wrench	
KIGM$^{R/L}$	2016B-3V	●	●	20	16	15	150	25	11.5	5.5				3.0	3.0	GS-50	-	LW-3	-
	2520B-3V	●	●	25	20	18	180	32	14.5	6.0									
	3225B-3V	●	●	32	25	23	200	40	19	8.0						-	SB-5TR	-	LTW-20
	3225B-4V	●	●	32	25	23	200	40	19	8.5				4.0	5.0	-	SB-5TR	-	LTW-20
	4032B-4V	●	●	40	32	29	220	50	23.5	11.0									

・Dimension T shows available grooving depth.

Applicable Inserts (mm)

Description	L	H
GMM3015...V ○	15.5	4.3
GMM4020...V ○	20	
GMM5020...V ○		

								Classification of usage
P	Carbon Steel / Alloy Steel			◔	●			● : Continuous-Light Interruption / 1st Choice
M	Stainless Steel			●	◔			◔ : Continuous-Light Interruption / 2nd Choice
K	Cast Iron					●	◔	● : Continuous / 1st Choice
N	Non-ferrous Metals						●	○ : Continuous / 2nd Choice
S	Titanium Alloy						●	
H	Hard materials (under 40HRC)			○	●			
	Hard materials (over 40HRC)							

Insert		Description	(Previous Description)	Dimension (mm) W	rε	M	Cermet TN90	CVD Coated Carbide CR9025	PVD Coated Carbide PR915	PR930	PR905	Carbide KW10	Applicable Toolholder
 Chip Control Oriented M Class		GMM 3015-040V	GMM 3015-04V	3.0	0.4	2.3	●	●	●	●	●	●	KIGM$^{R/L}$ 2016B-3V 2520B-3V 3225B-3V
		4020-040V	4020-04V	4.0	0.4	3.3	●	●	●	●	●	●	KIGM$^{R/L}$ 3225B-4V 4032B-4V
		5020-080V	5020-08V	5.0	0.8	4.2	●	●	●	●	●	●	
 Chip Control Oriented M Class Full-R / Copying		GMM 3015-150VR	GMM 3015-15VR	3.0	1.5	2.3	●	●		●	●	●	KIGM$^{R/L}$ 2016B-3V 2520B-3V 3225B-3V
		4020-200VR	4020-20VR	4.0	2.0	3.3		●		●	●	●	KIGM$^{R/L}$ 3225B-4V 4032B-4V
		5020-250VR	5020-25VR	5.0	2.5	4.2		●		●	●	●	

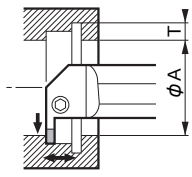
・It is not recommended to use this for KIGM-V Internal Grooving Toolholders against GMM…V / GMM…VR for which the front relief angle is 18°, because the relief angle of the insert used for GMM4020-04 toolholder is 10°.

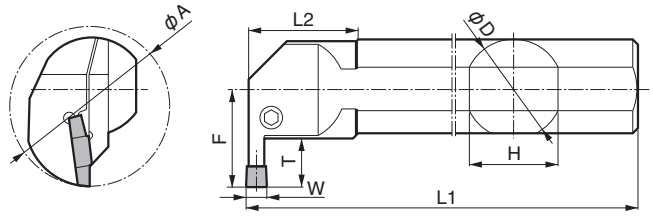
For recommended cutting conditions, see page ➡ G93

● : Std. Item □ : Check Availability R : Std. Item (R-hand Only) L : Std. Item (L-hand Only)

Inserts are sold in 10 piece boxes.

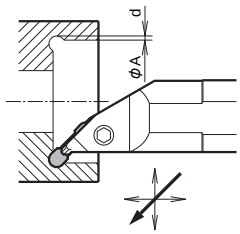
KIGM-8 (8mm-Width Insert / Large Internal Diameter Deep Grooving)

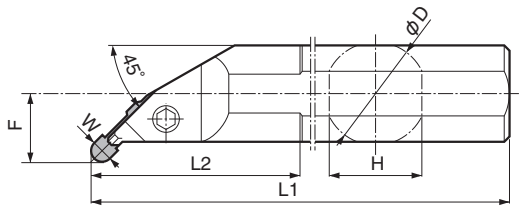




● Right-hand shown

KIGMU-8 (8mm-Width Insert / Large Internal Diameter Undercut Grooving)





● Right-hand shown

Toolholder Dimensions

Description	Std. R	Std. L	Min. Cutting Dia. øA	Dimension (mm) øD	H	L1	L2	F	T	d			Width (mm) MIN.	Width (mm) MAX.	Spare Parts: Screw	Spare Parts: Wrench
KIGM$^{R}_{L}$ 6540B-8	●	●	65	40	36	300	41	41	20	-			8.0	8.0	HH6X20	LW-5
KIGMU$^{R}_{L}$ 6540B-8	●		65	40	36	300	83	26	-	2.2			8.0	8.0	HH6X20	LW-5

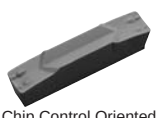
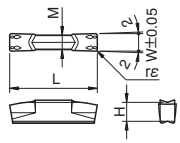
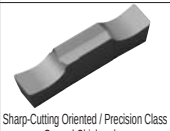
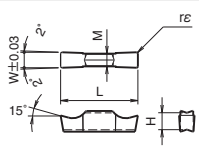
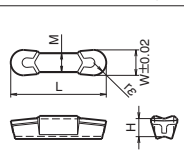
・Dimension T shows available grooving depth.
・Dimension d shows the distance from the Internal face of the workpiece.

Applicable Inserts (mm)

Description	L	H
GMM8030-080MW	30	5.5
GMG8030-050MG		
GMGA8030-400R		

							Classification of usage
P	Carbon Steel / Alloy Steel			◔	●		
M	Stainless Steel			●	◔		
K	Cast Iron					●	◔
N	Non-ferrous Metals						●
S	Titanium Alloy						●
H	Hard materials (under 40HRC)			○	●		
	Hard materials (over 40HRC)						

● : Continuous-Light Interruption / 1st Choice
◔ : Continuous-Light Interruption / 2nd Choice
● : Continuous / 1st Choice
○ : Continuous / 2nd Choice

Insert		Description	(Previous Description)	Dimension (mm) W	rε	M	Cermet TN90	CVD Coated Carbide CR9025	PVD Coated Carbide PR915	PR930	PR905	Carbide KW10	Applicable Toolholder	Ref. Page for Toolholder
 Chip Control Oriented / M Class		**GMM 8030-080MW**	**GMM 8030-08**	8.0	0.8	6.0		●	●	●	●	●	**KIGM$^{R}_{L}$ ···8** **KIGMU$^{R}_{L}$···8**	**G59**
 Sharp-Cutting Oriented / Precision Class Ground Chipbreaker		**GMG 8030-050MG**	**GMG 8030-05MG**	8.0	0.5	6.0	●	●		●	●	●		
 Sharp-Cutting Oriented / Precision Class Full-R / Copying		**GMGA 8030-400R**	**GMGA 8030-40R**	8.0	4.0	6.0						●		

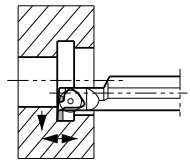
For recommended cutting conditions, see page ● **G93**

・If using a full-R insert with KIGM-8 type toolholder, you need to modify the corner of insert adapter of toolholder.

● : Std. Item ☐ : Check Availability R : Std. Item (R-hand Only) L : Std. Item (L-hand Only)

Inserts are sold in 10 piece boxes.

KGIA



Integral Type

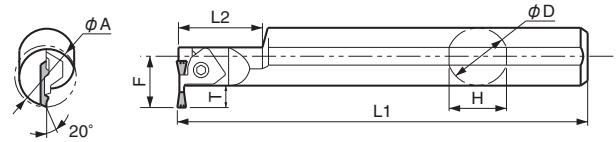
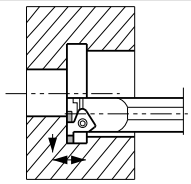


Fig.1



Separate Type

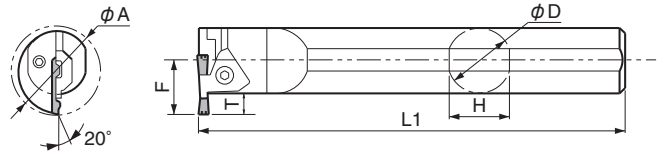


Fig.2

• Right-hand shown

Toolholder Dimensions

Description		Std.	Min. Cutting Dia. øA	Dimension (mm) øD	H	L1	L2	F	T			Drawing	Spare Parts: Clamp	Clamp Bolt	Spring	Wrench
KGIAR	3232B-3	●	32	32	30	200	45	26.3				Fig.1				
	4332B-3	●	43	32	30	200	-	26.3	10			Fig.2	CGIA-3R			
	5140B-3	●	51	40	38	250	-	30.3								
	3232B-4	●	32	32	30	200	45	26.3				Fig.1				
	4332B-4	●	43	32	30	200	-	26.3	10			Fig.2	CGIA-4R	HH5X15	SP-5	LW-4
	5140B-4	●	51	40	38	250	-	30.3								
	5640B-5	●	56	40	38	250	-	35.3	15			Fig.2	CGIA-5R			
	6650B-5	●	66	50	48	250	-	40.3								

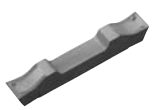
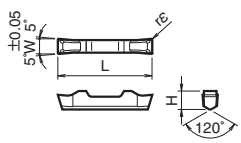
· Dimension T shows available grooving depth.

Composition

Type	Spare Parts / Toolholder		Toolholder	Blade	Screw	Wrench
Integral	KGIAR	3232B-3	-	-	-	-
Separate		4332B-3	KGIAR32H	BGIAR43-3	SB-40140TR	FT-15
		5140B-3	KGIAR40H	BGIAR51-3		
Integral		3232B-4	-	-	-	-
Separate		4332B-4	KGIAR32H	BGIAR43-4	SB-40140TR	FT-15
		5140B-4	KGIAR40H	BGIAR51-4		
Separate		5640B-5	KGIAR40H	BGIAR56-5	SB-40140TR	FT-15
		6650B-5	KGIAR50H	BGIAR66-5		

Applicable Inserts

				Classification of usage
P	Carbon Steel / Alloy Steel	○	◕	◕ : Continuous-Light Interruption / 1st Choice
M	Stainless Steel	○	◕	◔ : Continuous-Light Interruption / 2nd Choice
K	Cast Iron			● : Continuous / 1st Choice
N	Non-ferrous Metals			○ : Continuous / 2nd Choice
S	Titanium Alloy			
H	Hard materials (under 40HRC)	○	●	
	Hard materials (over 40HRC)			

Insert		Description		Dimension (mm) W	rε	L	H	Cermet TN60	CVD Coated Carbide CR9025	Applicable Toolholder
 Molded Chipbreaker		GIA	30	3.0	0.20	25	5.0	●	●	KGIA$^{R}_{L}$ ···3
			40	4.0	0.25			●	●	KGIA$^{R}_{L}$ ···4
			50	5.0	0.30	30		●	●	KGIA$^{R}_{L}$ ···5

For recommended cutting conditions, see page G91

● : Std. Item □ : Check Availability R : Std. Item (R-hand Only) L : Std. Item (L-hand Only)

Inserts are sold in 10 piece boxes.