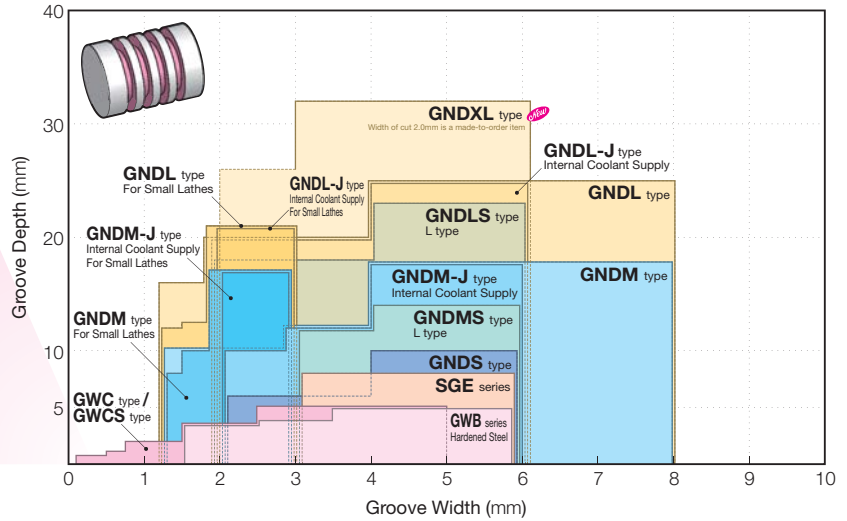
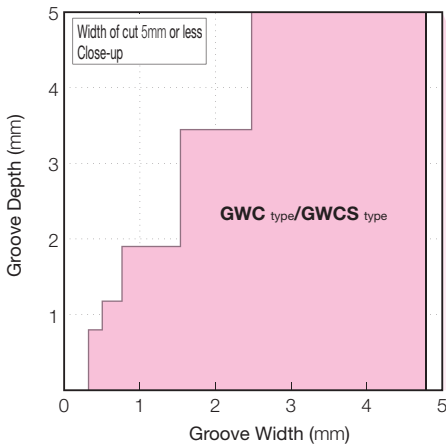


Selection Guide

External Grooving



External Grooving Tools

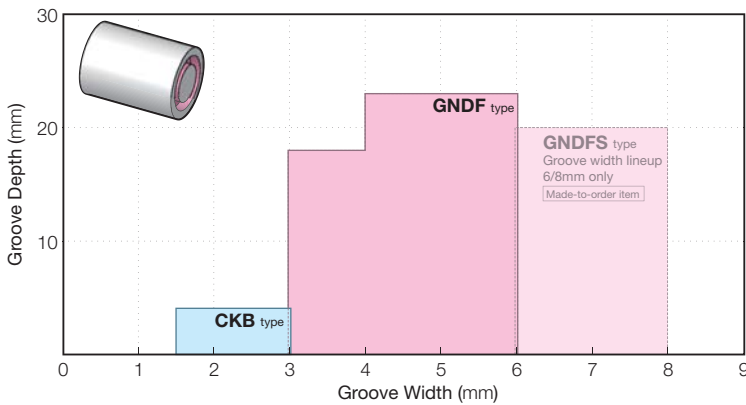
* mark: For groove depths and width combinations, refer to the above figures or the relevant page.

Applications	Series	Shape	Structure	Insert Shape () indicates no. of cutting edges	Groove Depth* (mm)		Groove Width* (mm)		Features
					10	20	30	40	
For Shallow Grooves	GWC		Screw-on		5.0	4.8	0.33	4.8	<ul style="list-style-type: none"> High rigidity double clamping (Screw-on for Mini Holders) Triangular type insert with 3 usable corners
	GWCS		Clamp-on	(Standard, with Chipbreaker) Traverse Cutting Possible	5.0	4.8	0.33	4.8	<ul style="list-style-type: none"> "L-shaped" (side cut) GWC holder
	GWB [†] Hardened Steel		Double Clamp	Traverse Cutting Possible	5.0	6.0	1.5	6.0	<ul style="list-style-type: none"> High rigidity double clamping Employs Coated SUMIBORON for interrupted turning of hardened steel
	SGE		Clamp-on	Traverse Cutting Possible	8.0	6.0	3.0	6.0	<ul style="list-style-type: none"> Traverse cutting (groove expansion) is possible
For General Grooves	GNDS		Clamp-on		10.0	6.0	2.0	6.0	<ul style="list-style-type: none"> High-rigidity design reduces vibration Enables high-efficiency turning and traversing thanks to its short tool overhang length
	GNDM For Small Lathes		Clamp-on		17.0	3.0	1.25	3.0	<ul style="list-style-type: none"> High-rigidity design reduces vibration 16x16, 20x12mm square shanks available
	GNDM-J Internal Coolant Supply For Small Lathes		Clamp-on		17.0	3.0	1.25	3.0	<ul style="list-style-type: none"> GNDM type with internal coolant supply for small lathes
	GNDM		Clamp-on	Traverse Cutting Possible	18.0	8.0	1.25	8.0	<ul style="list-style-type: none"> High-rigidity design reduces vibration Perfect for traverse cutting and profiling
	GNDM-J Internal Coolant Supply		Clamp-on		18.0	6.0	2.0	6.0	<ul style="list-style-type: none"> GNDM type with internal coolant supply
	GNDMS		Clamp-on		23.0	6.0	3.0	6.0	<ul style="list-style-type: none"> "L-shaped" (side cut) GNDM type
	GNDL For Small Lathes		Clamp-on		21.0	3.0	1.25	3.0	<ul style="list-style-type: none"> High-rigidity design reduces vibration 10x10, 12x12, 16x16, 20x12mm square shanks available
	GNDL-J Internal Coolant Supply For Small Lathes		Clamp-on		21.0	3.0	1.25	3.0	<ul style="list-style-type: none"> GNDL type with internal coolant supply for small lathes
For Deep Grooves	GNDL		Clamp-on		25.0	8.0	1.25	8.0	<ul style="list-style-type: none"> High-rigidity design reduces vibration Perfect for grooving, deep grooving and cut-off applications
	GNDL-J Internal Coolant Supply		Clamp-on		25.0	6.0	2.0	6.0	<ul style="list-style-type: none"> GNDL type with internal coolant supply
	GNDLS		Clamp-on		25.0	6.0	2.0	6.0	<ul style="list-style-type: none"> "L-shaped" (side cut) GNDL type
	GNDXL ^{NEW}		Clamp-on		32.0	6.0	2.0	6.0	<ul style="list-style-type: none"> Supports a maximum grooving depth of 32mm.

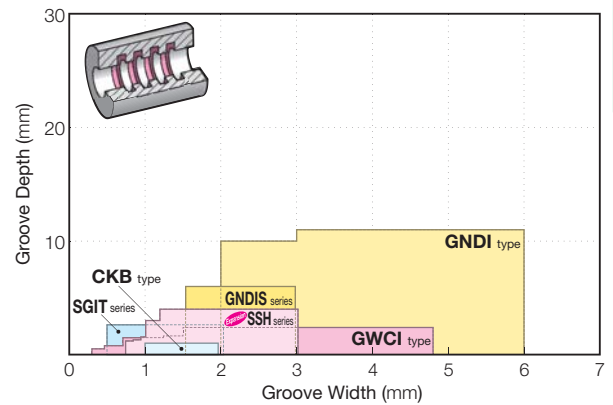
*1: For hardened steel, refer to page F65 for SUMIBORON Grooving Holder BNGG series. *2: Width of cut 2.0mm is a made-to-order item.

Selection Guide

Face Grooving



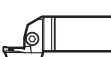

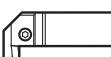



Internal Grooving



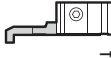



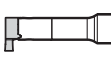




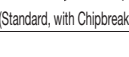


Face Grooving Tools

Note: * mark: For groove depths and width combinations, refer to the above figures or the relevant page.

Applications	Series	Shape	Structure		Insert Shape () indicates no. of cutting edges	Groove Depth* (mm)				Machining diameter (mm)	Features	
			Screw-on	Clamp-on		10	20	30	Groove Width* (mm)			
Very Small Diameter For General Grooves to Deep Grooves	CKB	 → F55	●		 (1)	4.0			1.5	3.0	ø6 ~	· Face grooving for small lathes
	GNDF	 → F42		●	 (2)		23		3.0	6.0	ø35 to ø1,000	· High-rigidity design reduces vibration
	GNDFS <small>Made-to-order item</small>	 → F45			●	 (2) Traverse Cutting Possible			20		6.0	8.0



Internal Grooving Tools

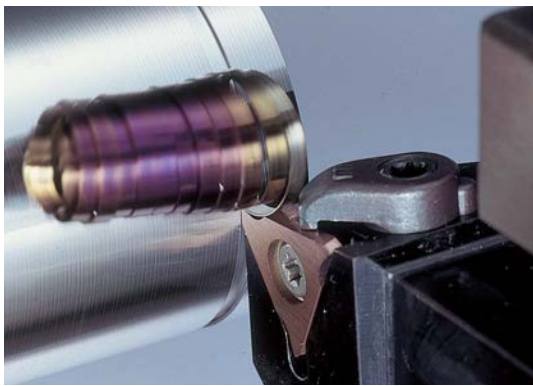
* mark: For groove depths and width combinations, refer to the above figures or the relevant page.

Applications	Series	Shape	Structure		Insert Shape () indicates no. of cutting edges	Groove Depth* (mm)				Min. bore diameter (mm)	Features	
			Screw-on	Clamp-on		10	20	30	Groove Width* (mm)			
For Small Diameter Grooves	CKB	 → F56	●		 (1)	1.0			1.0	2.0	ø4	· Very small diameter grooving · High clamping force · Wide variety of tool holders
	SGIT	 → F57		●	 (3)	3.2			0.5	2.0	ø10	· 3-cornered type
	SSH <small>Expansion</small>	 → F58			●	 (1) Traverse Cutting Possible	4.0			0.74	3.0	ø8
For Shallow Grooves	GWCI	 → F5		●	 (3) (Standard, with Chipbreaker)	2.5			0.33	4.8	ø35	· Using same inserts as GWC series holders · Inserts with chipbreakers now in stock
For General Grooves to Deep Grooves	GNDFI	 → F46		●	 (2) Traverse Cutting Possible	6.6			1.5	3.0	ø14	· Supports grooving with minimum bore diameter from ø14
	GNDFI	 → F48		●	 (2) Traverse Cutting Possible		11.0		2.0	6.0	ø32	· High-rigidity design reduces vibration

Necking Tools

* mark: For groove depths and width combinations, refer to the above figures or the relevant page.

Applications	Series	Shape	Structure		Insert Shape () indicates no. of cutting edges	Groove Depth* (mm)				Machining diameter (mm)	Features	
			Screw-on	Clamp-on		10	20	30	Groove Width* (mm)			
Facing Necking	GNDFI	 → F40		●	 (2)	4.0			2.0	6.0	ø20 ~	· Necking at corners possible

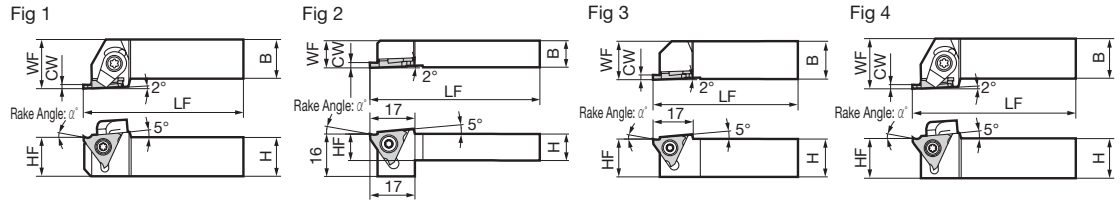


Features of GWC series for Shallow Groove

- The same insert can be used for both external and internal grooving.
- Full range of insert grades to cover a wide range of work materials. Coated Carbide AC530U, Cemented Carbide H1, Coated Cermet T2500Z and T3000Z, Cermet T1500A, SUMIBORON BN2000, and SUMIDIA DA2200 are now in stock.
- A wide range of grooving widths from 0.33mm to 4.8mm.
- SumiTurn B-Groove inserts with chipbreaker are now in stock.
- Customers can modify the grooving width, corner radius and rake angle according to their own requirements using the grooving insert blanks. (Sumitomo Electric Hardmetal also accepts orders.)



External Shallow Grooves
Double Clamp / Screw-on



Note 1: Rake angle α' varies depending on the insert grade. Refer to the insert table on F5 for details.
Note 2: Figures show right hand (R) tools.

Holder

Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Width of Cut CW	Maximum Groove Depth	Group No.	Fig
	R	L									
GWC R/L1010-3	●	●	10	10	125	10	10	0.33 to 2.80	0.8 to 2.5	1	2
GWC R/L1212-3	●	●	12	12	125	12	12	0.33 to 2.80	0.8 to 2.5	1	2
GWC R/L1616-3	●	●	16	16	125	16	16	0.33 to 2.80	0.8 to 2.5	1	3
GWC R/L2020-3	●	●	20	20	125	25	20	0.33 to 2.80	0.8 to 2.5	1	1
GWC R/L2525-3	●	●	25	25	150	30	25	0.33 to 2.80	0.8 to 2.5	1	1
GWC R/L2020-15	●	●	20	20	125	25	20	1.00 to 1.45	2.0	2	4
GWC R/L2020-25	●	●	20	20	125	25	20	1.50 to 2.30	3.5	3	1
GWC R/L2020-35	●	●	20	20	125	25	20	2.50 to 4.80	5.0	4	1
GWC R/L2525-15	●	●	25	25	150	30	25	1.00 to 1.45	2.0	2	4
GWC R/L2525-25	●	●	25	25	150	30	25	1.50 to 2.30	3.5	3	1
GWC R/L2525-35	●	●	25	25	150	30	25	2.50 to 4.80	5.0	4	1

Parts

Dimensions (mm)

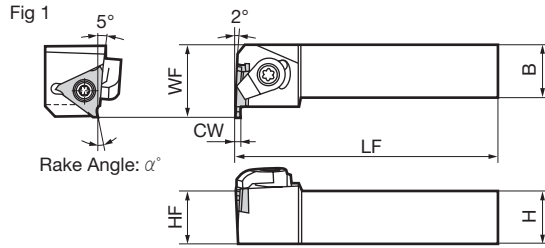
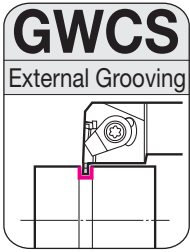
Flat Head Screw	Wrench	Clamp Plate	Double Screw	Wrench		
BFTX0409N	3.4	TRX15	CCM6B L/R	WB6-20 T/TL	5.0	LT20
BFTX0511N	5.0	TRX20	CCM8U L/R	WB8-22 T/TL	5.0	LT27

* mark: Cermet inserts have a recommended tightening torque of 4N·m.
 Right-handed (R) tool holders are used with right-handed (R) inserts.
 * Refer to TGA type insert group numbers on F6, F7 and F8 for applicable inserts. Select applicable inserts for the holders by using matching group numbers.
 * Right-handed (R) tool holders are compatible with left-handed clamp plates (CCM□□L) and right-handed double screws (WBO-2OT).
 Left-handed (L) tool holders are compatible with right-handed clamp plates (CCM□□R) and left-handed double screws (WBO-2OTL).

GWCS type/GWCI type



Double Clamp for External L-Shaped (Side Cut) Shallow Grooves



Note 1: Rake angle α° varies depending on the insert grade. Refer to the insert table at the bottom of this page for details.
 Note 2: Figure shows right-handed (R) tool.

Holder

Parts

Dimensions (mm)

Cat. No.	Stock		Height	Width	Overall Length	Cutting Edge Distance	Cutting Edge Height	Width of Cut	Maximum Groove Depth	Group No.	Fig	Flat Head Screw		Wrench	Clamp Plate	Double Screw	Wrench	
	R	L										(N-m)	(N-m)					
GWCS R/L2020-3	●	●	20	20	125	25	20	0.33 to 2.80	0.8 to 2.5	1	1	BFTX0409N	3.4	TRX15	CCM6B R/L	WB6-20 TL/T	5.0*	LT20
GWCS R/L2525-3	●	●	25	25	150	30	25	0.33 to 2.80	0.8 to 2.5	1	1							
GWCS R/L2020-15	●	●	20	20	125	27	20	1.00 to 1.45	2.0	2	1							
GWCS R/L2020-25	●	●	20	20	125	27	20	1.50 to 2.30	3.5	3	1							
GWCS R/L2020-35	●	●	20	20	125	27	20	2.50 to 4.80	5.0	4	1							
GWCS R/L2525-15	●	●	25	25	150	32	25	1.00 to 1.45	2.0	2	1							
GWCS R/L2525-25	●	●	25	25	150	32	25	1.50 to 2.30	3.5	3	1							
GWCS R/L2525-35	●	●	25	25	150	32	25	2.50 to 4.80	5.0	4	1	BFTX0511N	5.0	TRX20	CCM8U R/L	WB8-22 TL/T	5.0*	LT27

* mark: Cermet inserts have a recommended tightening torque of 4N·m.

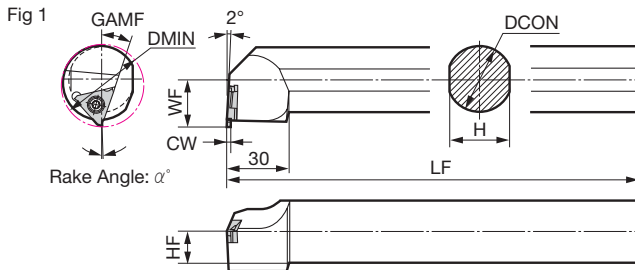
Right-handed (R) tool holders are used with left-handed (L) inserts.

* Refer to TGA type insert group numbers on F6, F7 and F8 for GWCS type holder applicable inserts. Select applicable inserts for the holders by using matching group numbers.

* Right-handed (R) tool holders are compatible with right-handed clamp plates (CCM□□R) and left-handed double screws (WBO-2□TL). Left-handed (L) tool holders are compatible with left-handed clamp plates (CCM□□L) and right-handed double screws (WBO-2□T).



Screw-on for Internal Diameter Shallow Grooves



Note 1: Rake angle α° varies depending on the insert grade. Refer to the insert table at the bottom of this page for details.
 Note 2: Figure shows right-handed (R) tool.

Holder

Parts

Dimensions (mm)

Cat. No.	Stock		Diameter	Height	Overall Length	Cutting Edge Distance	Cutting Edge Height	Min. Bore Dia.	Rake Angle	Width of Cut	Maximum Groove Depth	Group No.	Fig	Flat Head Screw		Wrench
	R	L												(N-m)	(N-m)	
GWCI R/L325	●	●	25	23	220	17.5	11.5	35	14°	0.33 to 2.80	0.5 to 2.0	1	1	BFTX0409N	3.4	TRX15
GWCI R/L432	●	●	32	30	250	23.0	15.0	40	16°	1.25 to 4.80	1.7 to 2.5	2/3/4	1	BFTX0511N	5.0	TRX20

Right-handed (R) tool holders are used with left-handed (L) inserts.

*Refer to TGA type insert group numbers on F6, F7 and F8 for GWCI type holder applicable inserts.

● Rake angle when mounted on a holder (α°)

	Coated Carbide	Carbide	Coated Cermet	Cermet	SUMIBORON	SUMIDIA
	AC530U	H1	T2500Z T3000Z	T1500A	BN2000	DA2200
External Grooving GWC/GWCS	10°	20°	10°	5°	0°	10°
Internal Grooving GWCI R/L325	1°	11°	1°	-4°	-9°	1°
Internal Grooving GWCI R/L432	-1°	9°	-1°	-6°	-11°	-1°

Grooving Insert TGA type

(Coated Carbide / Cermet / Cemented Carbide / SUMIBORON / SUMIDIA)

Fig 1

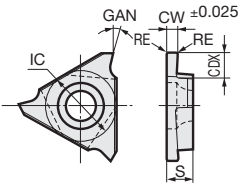
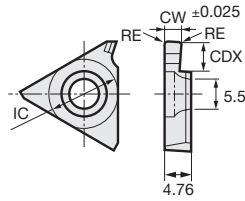


Fig 2 (For BN2000 / DA2200)



Grade	Cutting Edge Shape	GAN
Coated Carbide AC530U	Honing	15°
Carbide H1	Sharp Edged	25°
Coated Cermet T2500Z	Honing	15°
Coated Cermet T3000Z	Honing	15°
Cermet T1500A	Sharp Edged	10°
SUMIBORON BN2000	Negative Land	5°
SUMIDIA DA2200	Sharp Edged	15°

* For the rake angle when fitted on the holder, refer to F5.

Square Edged Grooving Insert

Figure shows right-handed (R) tool.

Dimensions (mm)

Cat. No.	AC530U		H1		T2500Z		T3000Z		T1500A		BN2000		DA2200		Width of Cut CW	Maximum Depth of Cut		Maximum Groove Depth CDX	Corner Radius RE	Inscribed Circle IC	Thickness S	Group No.	Fig
	R	L	R	L	R	L	R	L	R	L	R	L	R	L		External	Internal						
TGA R/L3033(E)	●	●	●	●	●	●	▲	▲	●	●	—	—	—	—	0.33	0.8	0.5	1.0	0.05	9.525	3.18	1	1
TGA R/L3050(E)	●	●	●	●	●	●	▲	▲	●	●	—	—	—	—	0.50	1.2	0.8	1.4	0.05	9.525	3.18	1	1
TGA R/L3075(E)	●	●	●	●	●	●	▲	▲	●	●	—	—	—	—	0.75	2.0	1.5	2.5	0.1 ³	9.525	3.18	1	1
TGA R/L3095(E)	●	●	●	●	●	●	▲	▲	●	●	—	—	—	—	0.95	2.0	1.5	2.5	0.1 ³	9.525	3.18	1	1
TGA R/L3100(E)	●	●	●	●	●	●	▲	▲	●	●	—	—	—	—	1.00	2.0	1.5	2.5	0.1 ³	9.525	3.18	1	1
TGA R/L3110(E)	●	●	●	●	●	●	▲	▲	●	●	—	—	—	—	1.10	2.0	1.5	2.5	0.1 ³	9.525	3.18	1	1
TGA R/L3125(E)	●	●	●	●	●	●	▲	▲	●	●	—	—	—	—	1.25	2.0	1.5	2.5	0.1 ³	9.525	3.18	1	1
TGA R/L3135(E)	●	●	●	●	●	●	▲	▲	●	●	—	—	—	—	1.35	2.0	1.5	2.5	0.1 ³	9.525	3.18	1	1
TGA R/L3145(E)	●	●	●	●	●	●	▲	▲	●	●	—	—	—	—	1.45	2.0	1.5	2.5	0.1 ³	9.525	3.18	1	1
TGA R/L3150(E)	●	●	●	●	●	●	▲	▲	●	●	—	—	—	—	1.50	2.0	1.5	2.5	0.1 ³	9.525	3.18	1	1
TGA R/L3165(E)	●	●	●	●	●	●	▲	▲	●	●	—	—	—	—	1.65	2.0	1.5	2.5	0.1 ³	9.525	3.18	1	1
TGA R/L3175(E)	●	●	●	●	●	●	▲	▲	●	●	—	—	—	—	1.75	2.0	1.5	2.5	0.1 ³	9.525	3.18	1	1
TGA R/L3185(E)	●	●	●	●	●	●	▲	▲	●	●	—	—	—	—	1.85	2.0	1.5	2.5	0.1 ³	9.525	3.18	1	1
TGA R/L3200(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	2.00	2.5	2.0	3.0	0.1 ³	9.525	3.18	1	1
TGA R/L3220(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	2.20	2.5	2.0	3.0	0.1 ³	9.525	3.18	1	1
TGA R/L3230(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	2.30	2.5	2.0	3.0	0.1 ³	9.525	3.18	1	1
TGA R/L3250(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	2.50	2.5	2.0	3.0	0.1 ³	9.525	3.18	1	1
TGA R/L3265(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	2.65	2.5	2.0	3.0	0.1 ³	9.525	3.18	1	1
TGA R/L3270(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	2.70	2.5	2.0	3.0	0.1 ³	9.525	3.18	1	1
TGA R/L3280(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	2.80	2.5	2.0	3.0	0.1 ³	9.525	3.18	1	1
TGA R/L4125(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	1.25	2.0	1.7	2.5	0.2 ²	12.70	4.76	2	1(2)
TGA R/L4145(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	1.45	2.0	1.7	2.5	0.2 ²	12.70	4.76	2	1
TGA R/L4150(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	1.50	3.5	2.5	3.9	0.2 ²	12.70	4.76	3	1(2)
TGA R/L4165(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	1.65	3.5	2.5	3.9	0.2 ²	12.70	4.76	3	1
TGA R/L4175(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	1.75	3.5	2.5	3.9	0.2 ²	12.70	4.76	3	1
TGA R/L4185(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	1.85	3.5	2.5	3.9	0.2 ²	12.70	4.76	3	1
TGA R/L4200(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	2.00	3.5	2.5	3.9	0.2 ²	12.70	4.76	3	1(2)
TGA R/L4220(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	2.20	3.5	2.5	3.9	0.2 ²	12.70	4.76	3	1
TGA R/L4230(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	2.30	3.5	2.5	3.9	0.2 ²	12.70	4.76	3	1
TGA R/L4250(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	2.50	5.0 ¹	2.5	5.4 ¹	0.3 ²	12.70	4.76	4	1(2)
TGA R/L4265(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	2.65	5.0 ¹	2.5	5.4 ¹	0.3 ²	12.70	4.76	4	1
TGA R/L4270(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	2.70	5.0 ¹	2.5	5.4 ¹	0.3 ²	12.70	4.76	4	1
TGA R/L4280(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	2.80	5.0 ¹	2.5	5.4 ¹	0.3 ²	12.70	4.76	4	1
TGA R/L4300(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	3.00	5.0 ¹	2.5	5.4 ¹	0.3 ²	12.70	4.76	4	1(2)
TGA R/L4320(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	3.20	5.0 ¹	2.5	5.4	0.3 ²	12.70	4.76	4	1
TGA R/L4330(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	3.30	5.0 ¹	2.5	5.4	0.3 ²	12.70	4.76	4	1
TGA R/L4350(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	3.50	5.0	2.5	5.4	0.3 ²	12.70	4.76	4	1(2)
TGA R/L4370(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	3.70	5.0	2.5	5.4	0.3 ²	12.70	4.76	4	1
TGA R/L4390(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	3.90	5.0	2.5	5.4	0.3 ²	12.70	4.76	4	1
TGA R/L4400(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	4.00	5.0	2.5	5.4	0.4 ²	12.70	4.76	4	1(2)
TGA R/L4410(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	4.10	5.0	2.5	5.4	0.4 ²	12.70	4.76	4	1
TGA R/L4420(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	4.20	5.0	2.5	5.4	0.4 ²	12.70	4.76	4	1
TGA R/L4430(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	4.30	5.0	2.5	5.4	0.4 ²	12.70	4.76	4	1
TGA R/L4440(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	4.40	5.0	2.5	5.4	0.4 ²	12.70	4.76	4	1
TGA R/L4450(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	4.50	5.0	2.5	5.4	0.4 ²	12.70	4.76	4	1
TGA R/L4480(E)	●	●	●	●	●	●	▲	▲	●	●	●	●	●	●	4.80	5.0	2.5	5.4	0.4 ²	12.70	5.00	4	1

* Add E as the part number suffix for T1500A.

* Refer to F4 and F5 for group numbers of holders that can be used with the GWC, GWCS and GWCI Types. Select applicable inserts for the holders by using matching group numbers.

*1: CDX = 4.4 (maximum groove depth 4.0) for SUMIBORON and SUMIDIA (2.5 for internal boring)

*2: RE = 0.2 for SUMIBORON; RE = 0.1 for SUMIDIA

*3: T1500A is RE = 0.2

Recommended Cutting Conditions

Work Material	P General Steel			M Stainless Steel			N Non-Ferrous Metal		H Hardened Steel
Insert Grade	AC530U	T2500Z / T3000Z	T1500A	AC530U	T2500Z / T3000Z	T1500A	H1	DA2200	BN2000
Cutting Speed vc (m/min)	50 to 200	100 to 180	100 to 180	50 to 200	80 to 150	80 to 120	200 to 300	200 to 300	80 to 120
Feed Rate f (mm/rev)	0.02 to 0.10	0.05 to 0.10	0.05 to 0.08	0.02 to 0.10	0.05 to 0.08	0.05 to 0.08	0.05 to 0.15	0.05 to 0.15	0.03 to 0.07

Grooving Insert TGA type

(Coated Carbide / Cermet / Cemented Carbide)

Fig 1

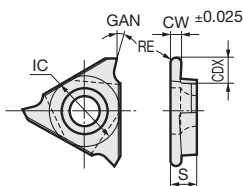


Figure shows right-handed (R) tool.

Grade	Cutting Edge Shape	GAN
Coated Carbide AC530U	Honing	15°
Carbide H1	Sharp Edged	25°
Coated Cermet T2500Z	Honing	15°
Coated Cermet T3000Z	Honing	15°
SUMIBORON BN2000	Negative Land	5°
SUMIDIA DA2200	Sharp Edged	15°

* For the rake angle when fitted on the holder, refer to F5.

Round Edged Grooving Insert

Dimensions (mm)

Cat. No.	AC530U		H1		T2500Z		T3000Z		Width of Cut CW	Maximum Depth of Cut		Maximum Groove Depth CDX	Corner Radius RE	Inscribed Circle IC	Thickness S	Group No.	Fig
	R	L	R	L	R	L	R	L		External	Internal						
TGA R/L4050R	●	●	●	●	●	●	▲	▲	1.00	2.0	1.7	2.5	0.50	12.70	4.76	2	1
TGA R/L4075R	●	●	●	●	●	●	▲	▲	1.50	3.5	2.5	3.9	0.75	12.70	4.76	3	1
TGA R/L4100R	●	●	●	●	●	●	▲	▲	2.00	3.5	2.5	3.9	1.00	12.70	4.76	3	1
TGA R/L4125R	●	●	●	●	●	●	▲	▲	2.50	5.0	2.5	5.4	1.25	12.70	4.76	4	1
TGA R/L4150R	●	●	●	●	●	●	▲	▲	3.00	5.0	2.5	5.4	1.50	12.70	4.76	4	1
TGA R/L4200R	●	●	●	●	●	●	▲	▲	4.00	5.0	2.5	5.4	2.00	12.70	4.76	4	1

* Refer to F4 and F5 for group numbers of holders that can be used with the GWC, GWCS and GWCI Types. Select applicable inserts for the holders by using matching group numbers.

Recommended Cutting Conditions

Work Material	P General Steel			M Stainless Steel			N Non-Ferrous Metal		H Hardened Steel	
Insert Grade	AC530U	T2500Z / T3000Z		T1500A	AC530U	T2500Z / T3000Z	T1500A	H1	DA2200	BN2000
Cutting Speed v_c (m/min)	50 to 200	100 to 180		100 to 180	50 to 200	80 to 150	80 to 120	200 to 300	200 to 300	80 to 120
Feed Rate f (mm/rev)	0.02 to 0.10	0.05 to 0.10		0.05 to 0.08	0.02 to 0.10	0.05 to 0.08	0.05 to 0.08	0.05 to 0.15	0.05 to 0.15	0.03 to 0.07

Fig 1

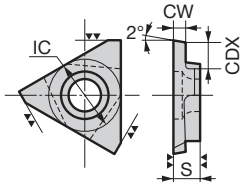
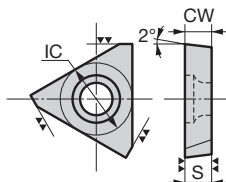


Fig 2



Precautions when Modifying Inserts

When modifying the cutting edge, refer to the shapes in Fig 3 for the rake face, back taper, etc. Cutting edge specifications shown in Fig 4 are when the insert is mounted on the holder.

Insert Blank

(Uncompleted inserts: Width of cut, corner radius and rake angle modifications are required.)

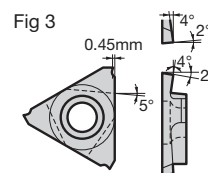
(Cermet / Cemented Carbide)

Dimensions (mm)

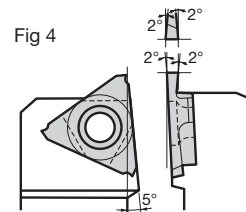
Cat. No.	KH03		H1		EH510		T1500A		Width of Cut CW	Maximum Groove Depth CDX	Inscribed Circle IC	Thickness S	Fig
	R	L	R	L	R	L	R	L					
TGA R/L3-T18	●	●	●	●	●	●	●	●	1.85 (3.4)	9.525	3.18	1	
TGA R/L3-T23	●	●	●	●	●	●	●	●	2.35 (3.4)	9.525	3.18	1	
TGA R/L3-T31	●	●	●	●	●	●	●	●	3.18	—	9.525	3.18	2
TGA R/L4-T22	●	●	●	●	●	●	●	●	2.20 (4.8)	12.70	4.76	1	
TGA R/L4-T37	●	●	●	●	●	●	●	●	3.75 (6.2)	12.70	4.76	1	
TGA R/L4-T47	●	●	●	●	●	●	●	●	4.76	—	12.70	4.76	2

<Note> Figures in () for CDX are reference values

Recommended Modification



Cutting Edge Specifications When Mounted



● Ordering TGA type Blanks and Special Inserts

Sumitomo Electric Hardmetal also accepts orders for insert blanks. Use the "Special Grooving Insert Request Form" on F9 when ordering.

Use the "Special Grooving Insert Request Form" on F9 when ordering special inserts (with different shapes, widths of cut, and cutting edge lengths).

Make a copy of the form, fill it out and send it to a Sumitomo Electric Hardmetal dealer or distributor.

SumiTurn B-Groove

Grooving Tools

T

Grooving

Cut-off

Threading

External

Face

Internal

Necking

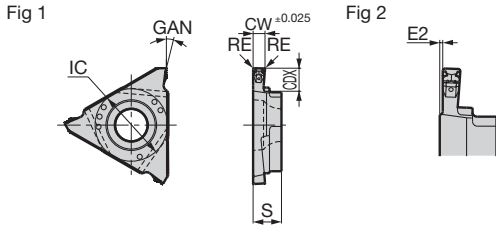
CBN



General Features

SumiTurn B-Groove (BF type) inserts with chipbreaker have been added to the TGA type grooving insert lineup to solve chip control problems.

- Features
 - Achieves good chip control in a wide range of grooving processes.
 - Good chip control during final wide groove touch-up with traverse cutting.
 - Series covering grooving widths from 1.4mm to 4.5mm with a total of 60 stocked items.
 - The AC530U grade for a longer tool life is now in stock to cover various work materials from steel and stainless steel to non-ferrous metals.



Grade	Cutting Edge Shape	GAN
Coated Carbide AC530U	Honing	15°

* For the rake angle when fitted on the holder, refer to F5.

Note 1: Please note that inserts with edge width (CW) less than 1.85mm have different cutting edge distance (E2).

Note 2: Figure shows right-handed (R) tool.



Chipbreaker Insert for Square Grooves BF type (Coated Carbide) Dimensions (mm)

Cat. No.	AC530U		Width of Cut CW	Max. Depth of Cut		Maximum Groove Depth CDX	Corner Radius RE	Inscribed Circle IC	Thickness S	Cutting Edge Distance E2	Group No.	Fig
	R	L		External	Internal							
TGA R/L4140BF01	●	●	1.40	2.0	1.7	2.5	0.1	12.70	4.76	0.300	2	2
TGA R/L4165BF01	●	●	1.65	3.5	2.5	3.9	0.1	12.70	4.76	0.175	3	2
TGA R/L4190BF01	●	●	1.90	3.5	2.5	3.9	0.1	12.70	4.76	—	3	1
TGA R/L4220BF01	●	●	2.20	3.5	2.5	3.9	0.1	12.70	4.76	—	3	1
TGA R/L4270BF02	●	●	2.70	5.0	2.5	5.4	0.2	12.70	4.76	—	4	1
TGA R/L4320BF02	●	●	3.20	5.0	2.5	5.4	0.2	12.70	4.76	—	4	1
TGA R/L4420BF02	●	●	4.20	5.0	2.5	5.4	0.2	12.70	4.76	—	4	1
TGA R/L4150BF	●	●	1.50	3.5	2.5	3.9	0.2	12.70	4.76	0.250	3	2
TGA R/L4165BF	●	●	1.65	3.5	2.5	3.9	0.2	12.70	4.76	0.175	3	2
TGA R/L4175BF	●	●	1.75	3.5	2.5	3.9	0.2	12.70	4.76	0.125	3	2
TGA R/L4185BF	●	●	1.85	3.5	2.5	3.9	0.2	12.70	4.76	0.075	3	2
TGA R/L4200BF	●	●	2.00	3.5	2.5	3.9	0.2	12.70	4.76	—	3	1
TGA R/L4220BF	●	●	2.20	3.5	2.5	3.9	0.2	12.70	4.76	—	3	1
TGA R/L4230BF	●	●	2.30	3.5	2.5	3.9	0.2	12.70	4.76	—	3	1
TGA R/L4250BF	●	●	2.50	5.0	2.5	5.4	0.3	12.70	4.76	—	4	1
TGA R/L4265BF	●	●	2.65	5.0	2.5	5.4	0.3	12.70	4.76	—	4	1
TGA R/L4270BF	●	●	2.70	5.0	2.5	5.4	0.3	12.70	4.76	—	4	1
TGA R/L4280BF	●	●	2.80	5.0	2.5	5.4	0.3	12.70	4.76	—	4	1
TGA R/L4300BF	●	●	3.00	5.0	2.5	5.4	0.3	12.70	4.76	—	4	1
TGA R/L4320BF	●	●	3.20	5.0	2.5	5.4	0.3	12.70	4.76	—	4	1
TGA R/L4330BF	●	●	3.30	5.0	2.5	5.4	0.3	12.70	4.76	—	4	1
TGA R/L4350BF	●	●	3.50	5.0	2.5	5.4	0.3	12.70	4.76	—	4	1
TGA R/L4370BF	●	●	3.70	5.0	2.5	5.4	0.3	12.70	4.76	—	4	1
TGA R/L4390BF	●	●	3.90	5.0	2.5	5.4	0.3	12.70	4.76	—	4	1
TGA R/L4400BF	●	●	4.00	5.0	2.5	5.4	0.4	12.70	4.76	—	4	1
TGA R/L4410BF	●	●	4.10	5.0	2.5	5.4	0.4	12.70	4.76	—	4	1
TGA R/L4420BF	●	●	4.20	5.0	2.5	5.4	0.4	12.70	4.76	—	4	1
TGA R/L4430BF	●	●	4.30	5.0	2.5	5.4	0.4	12.70	4.76	—	4	1
TGA R/L4440BF	●	●	4.40	5.0	2.5	5.4	0.4	12.70	4.76	—	4	1
TGA R/L4450BF	●	●	4.50	5.0	2.5	5.4	0.4	12.70	4.76	—	4	1

Recommended Cutting Conditions

Work Material	Machining Details	Cutting Conditions	Groove Width CW (mm)			
			1.4 to 2.3	2.5 to 3.3	3.5 to 4.5	
General Steel P	Cutting Speed v_c (m/min)		50 to 180	50 to 180	50 to 180	
	Feed Rate f (mm/rev)		0.03 to 0.12	0.04 to 0.12	0.05 to 0.12	
	Grooving	Depth of Cut a_p (mm)	External	up to 3.5	up to 5.0	up to 5.0
			Internal	up to 2.5	up to 2.5	up to 2.5
	Traverse Cutting	Feed Rate f (mm/rev)		0.03 to 0.10	0.05 to 0.10	0.07 to 0.12
Depth of Cut a_p (mm)			up to 0.3	up to 0.5	up to 0.7	
Stainless Steel M	Cutting Speed v_c (m/min)		50 to 160	50 to 160	50 to 160	
	Feed Rate f (mm/rev)		0.03 to 0.12	0.04 to 0.12	0.05 to 0.12	
	Grooving	Depth of Cut a_p (mm)	External	up to 3.5	up to 5.0	up to 5.0
			Internal	up to 2.5	up to 2.5	up to 2.5
	Traverse Cutting	Feed Rate f (mm/rev)		0.03 to 0.10	0.05 to 0.10	0.07 to 0.12
Depth of Cut a_p (mm)			up to 0.3	up to 0.5	up to 0.7	

* Refer to F4 and F5 for group numbers of holders that can be used with the GWC, GWCS and GWCI Types.
Select applicable inserts for the holders by using matching group numbers.

GWC series Special Grooving Insert Request Form

Applies to the GWC type (page F4), GWCS type (page F5) and GWCI type (page F5) inserts.

To order special grooving inserts, fill out the form below (indicate your preference by circling the item or specify dimensions), and send it to a Sumitomo Electric Hardmetal dealer or distributor. (Make a copy of this form.)

For grooving inserts with shape, width of cut or grade other than those listed below, contact your nearest Sumitomo Electric Hardmetal sales office (refer to the back of this catalog).

Your Company / Contact Information (Phone / Fax / Address, etc.)

Cat. No.	(1)	(2)	(3)*	(4)
Shape				
Uses	Internal Grooving/External Grooving			
Holders	GWC type (page F4)/GWCS type (page F5)/GWCI type (page F5)			
Direction	Right Hand (R)/Left Hand (L)			
Insert Size	"3": ø9.525 "4": ø12.70			
CW				
CDX				
C1				
C2				
E1				
RER				
REL				
KAPR1				
KAPR2				
Grade				
Quantity				
Remarks				

*Inquire about applicable holders.

Form instructions

- The above illustration shows only external right-hand and internal left-hand inserts. (The external left-hand and internal right-hand inserts will be opposite to the above illustration.)
- The following two insert sizes are available.
 - 3: Inscribed circle 9.525mm
 - 4: Inscribed circle 12.70mm
- Dimension limits for groove width and groove depth.
 - (1) Maximum Width of Cut (CW): 4.8mm
 - For Models (1) and (4) : $CW \leq 4.8$ (SumiTurn B-Groove (BF type) is 4.5mm)
 - For Model (2) : $CW + C1 \leq 4.8$ (SumiTurn B-Groove (BF type) is 4.5mm)
 - For Model (3) : $CW + E1$ (or $C1$) + $C2 \leq 4.8$ (SumiTurn B-Groove (BF type) is 4.5mm)
 - (2) Minimum Width of Cut (CW)
 - For Insert Size "3": $CW \geq 0.33$ mm
 - For Insert Size "4": $CW \geq 0.75$ mm
 - (3) Groove Depth (CDX)
 - For Insert Size "3": $CDX \leq 0.8$ to $CDX \leq 2.5$ mm (For I.D.: $CDX \leq 0.8$ to $CDX \leq 2.0$)
 - For Insert Size "4": $CDX \leq 2.0$ to $CDX \leq 5.0$ mm (For I.D.: $CDX \leq 2.0$ to $CDX \leq 2.5$)
- SumiTurn B-Groove (BF type) grooving inserts with chipbreaker are limited to insert size 4 and AC530U grade. For shape details, please contact us directly.
- The following shows the standard tolerance for inserts.

Symbol	Standard Tolerance
CW	± 0.025 mm
CDX	± 0.05 mm
KAPR1, KAPR2	$\pm 1^\circ$

Unless otherwise specified, inserts are made to standard tolerances.
- Insert grades are based on the catalogue numbers in stock.
- The applicable tool holders for Models (1), (2) and (4) should match the CW dimension. Contact us for Model (3).



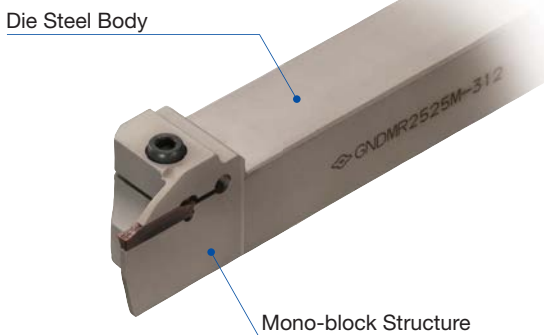
■ Features

- Suitable for a wide variety of applications
Applicable for grooving, traverse cutting, profiling, necking, facing and internal boring
- Stable tool life
A variety of chipbreakers improve chip control in various applications
Prevents sudden fractures due to chip clogging
- Achieving high-efficiency turning with reduced chattering
The mono-block structure and die steel body reduce vibration during turning around 30% compared to conventional tools
- Higher edge width precision even with unground inserts
High-precision sintering technology achieves width of cut precision of $\pm 0.03\text{mm}$ for widths from 1.25 to 6.0mm (lead angle of 0° or 5°)

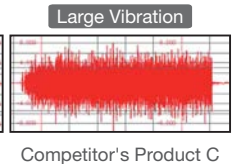
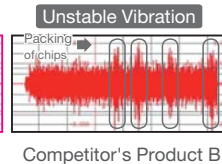
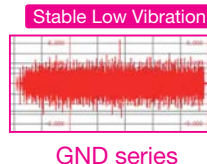
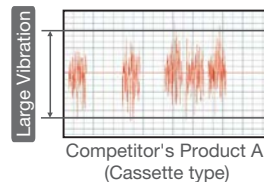
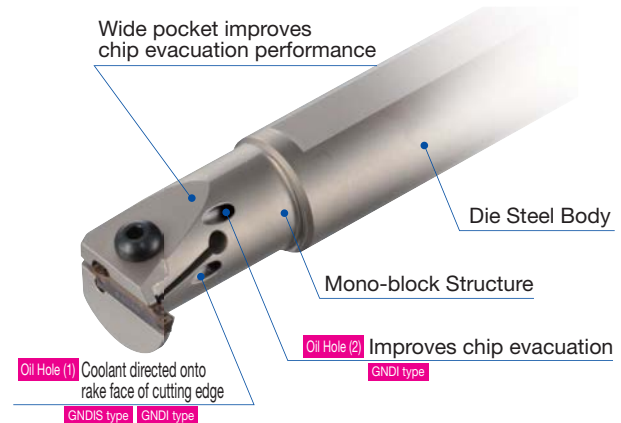
■ Cutting Performance

Reduced chattering

High-rigidity design reduces chattering by up to 30% as compared to conventional tools.



Both high rigidity and good chip evacuation performance Internal Grooving



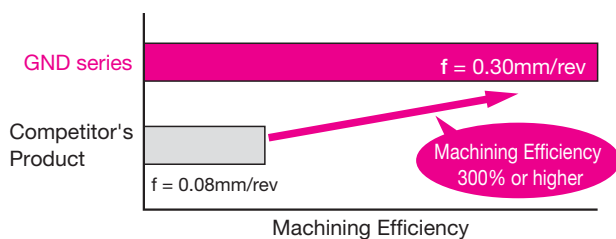
Work Material: SCM415
Holder: GNDL R2525M-220 Insert: GCM N2002-GG
Cutting Conditions: $vc = 100\text{m/min}$, $f = 0.10\text{mm/rev}$, $ap = 20.0\text{mm}$ Wet

Work Material: SCM415
Holder: GNDI R2532-T306 Insert: GCM N3002-GG
Cutting Conditions: $vc = 100\text{m/min}$, $f = 0.05\text{mm/rev}$, $ap = 3.0\text{mm}$ Wet

■ Application Examples

Substantially improved machining efficiency

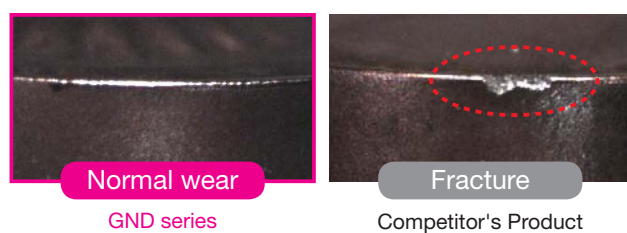
High-rigidity holder enables turning at high feed rates



Work Material: SCM435
Holder: GNDL R2525M-320 Insert: GCM N3002-GG (AC530U)
Cutting Conditions: $vc = 130\text{m/min}$, $f = 0.30\text{mm/rev}$ Wet

Long, stable tool life ensures reliable functionality even on automatic production lines!

Reduction of chattering prevents unexpected breakage

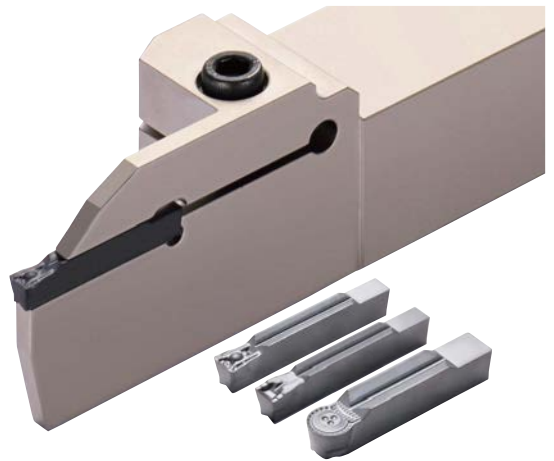


Work Material: S53C
Holder: GNDM L2525M-618 Insert: GCM N6030-RG (AC530U)
Cutting Conditions: $vc = 130\text{m/min}$, $f = 0.3\text{mm/rev}$ Wet

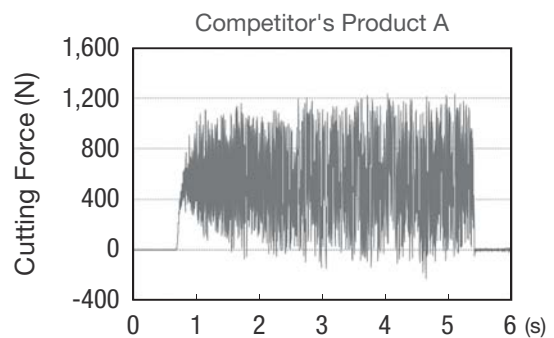
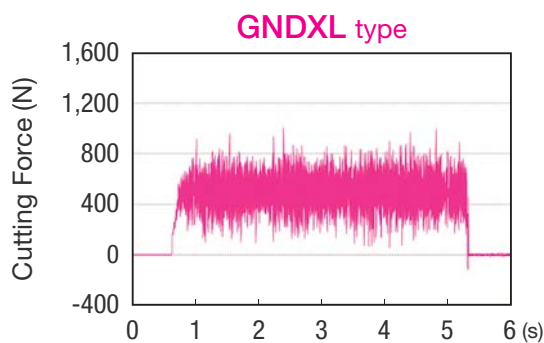
GND series

■ New Holders for Deep Grooves GNDXL type *New*

- SEC-Grooving Tools GND series now feature holders for deep grooves with groove depth up to **32mm**
- Integrated high-rigidity body and insert realise superb vibration resistance with extra-strong clamp-on specifications
- Shank width lineup includes **20mm square** and **25mm square**
- Dedicated **1-cornered inserts** for deep grooving with **widths of cut from 3.0 to 6.0mm** are stocked (2.0mm is a made-to-order item)
- Chipbreaker lineup includes ML type / GF type / RN type



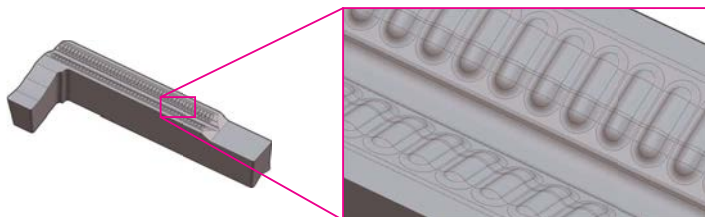
● Vibration Resistance



Work Material: SUS316 Holder: GNDXL R2525M-332 Insert: GCMN3002-GF1 (AC530U) Cutting Conditions: $v_c = 100\text{m/min}$ $f = 0.10\text{mm/rev}$ $a_p = 10\text{mm}$ Wet (External Coolant Supply)

■ 90° Insert for Special Grooving (Made-to-order item) *New*

- Ideal for grooving in narrow spaces
- Widths of cut from 2.0 to 5.0mm available as made-to-order items
- Various cutting edge designs possible with ground type inserts
- Utilises an unique insert fallout prevention design

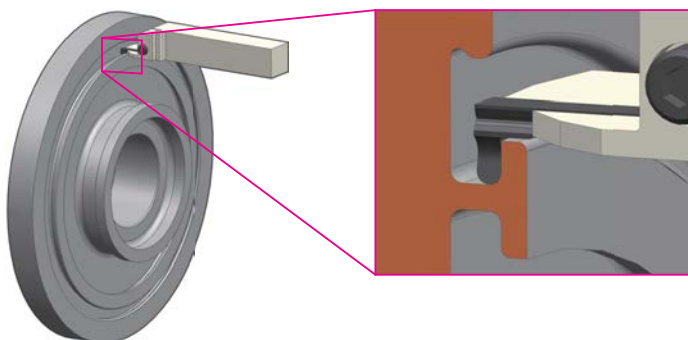


Grip effect for extra-strong clamping



GND series 90° Insert Request Form [F53](#)

Usage Example: Aerospace Engine Disc



GND series

■ Achieving stability and longer tool life ... A variety of chipbreakers ensure outstanding chip evacuation performance in many different types of applications.

Grooving Tools

F

Grooving

Cut-off

Threading

External

Face

Internal

Necking

CBN

Grooving / Traverse Cutting			Grooving / Cut-off			Cut-off		Profiling	Profiling Necking	Non-Ferrous Metals
General-purpose	Low Feed	General-purpose	Low Feed	Low Cutting Force	General-purpose	Low Cutting Force	General-purpose	General-purpose	General-purpose	
MG type	ML type	GG type	GL type	GF type	CG type	CF type	RG type	RN type	GA type	
Standard chipbreaker for traverse cutting	For low-feed chip control	1st recommendation for grooving	For low-feed chip control	For low cutting force and chip control at low-feeds	1st recommendation for cut-off machining	For low-feed chip control	For external profiling and radius grooving	For facing, internal profiling, radius grooving and necking	Ideal for aluminum alloy machining	
Edge Widths in Stock (mm)	Edge Widths in Stock (mm)	Edge Widths in Stock (mm)	Edge Widths in Stock (mm)	Edge Widths in Stock (mm)	Edge Widths in Stock (mm)	Edge Widths in Stock (mm)	Edge Widths in Stock (mm)	Edge Widths in Stock (mm)	Edge Widths in Stock (mm)	
1.25 1.5 2.0	1.25 1.5 2.0	1.25 1.5 2.0	1.25 1.5 2.0	1.25 1.5 2.0	1.25 1.5 2.0	1.25 1.5 2.0	1.25 1.5 2.0	1.25 1.5 2.0	1.25 1.5 2.0	
3.0 4.0 5.0	3.0 4.0 5.0	3.0 4.0 5.0	3.0 4.0 5.0	3.0 4.0 5.0	3.0 4.0 5.0	3.0 4.0 5.0	3.0 4.0 5.0	3.0 4.0 5.0	3.0 4.0 5.0	
6.0 7.0 8.0	6.0 7.0 8.0	6.0 7.0 8.0	6.0 7.0 8.0	6.0 7.0 8.0	6.0 7.0 8.0	6.0 7.0 8.0	6.0 7.0 8.0	6.0 7.0 8.0	6.0 7.0 8.0	
Stocked Grades	Stocked Grades	Stocked Grades	Stocked Grades	Stocked Grades	Stocked Grades	Stocked Grades	Stocked Grades	Stocked Grades	Stocked Grades	
AC8025P AC8035P AC8025P AC8035P	AC8025P AC8035P AC8025P AC8035P	AC8025P AC8035P AC8025P AC8035P	AC8025P AC8035P AC8025P AC8035P	AC8025P AC8035P AC8025P AC8035P	AC8025P AC8035P AC8025P AC8035P	AC8025P AC8035P AC8025P AC8035P	AC8025P AC8035P AC8025P AC8035P	AC8025P AC8035P AC8025P AC8035P	AC8025P AC8035P AC8025P AC8035P	
AC830P AC425K AC830P AC425K	AC830P AC425K AC830P AC425K	AC830P AC425K AC830P AC425K	AC830P AC425K AC830P AC425K	AC830P AC425K AC830P AC425K	AC830P AC425K AC830P AC425K	AC830P AC425K AC830P AC425K	AC830P AC425K AC830P AC425K	AC830P AC425K AC830P AC425K	AC830P AC425K AC830P AC425K	
AC5015S AC5025S AC5015S AC5025S	AC5015S AC5025S AC5015S AC5025S	AC5015S AC5025S AC5015S AC5025S	AC5015S AC5025S AC5015S AC5025S	AC5015S AC5025S AC5015S AC5025S	AC5015S AC5025S AC5015S AC5025S	AC5015S AC5025S AC5015S AC5025S	AC5015S AC5025S AC5015S AC5025S	AC5015S AC5025S AC5015S AC5025S	AC5015S AC5025S AC5015S AC5025S	
AC520U AC530U AC520U AC530U	AC520U AC530U AC520U AC530U	AC520U AC530U AC520U AC530U	AC520U AC530U AC520U AC530U	AC520U AC530U AC520U AC530U	AC520U AC530U AC520U AC530U	AC520U AC530U AC520U AC530U	AC520U AC530U AC520U AC530U	AC520U AC530U AC520U AC530U	AC520U AC530U AC520U AC530U	
AC1030U T2500A AC1030U T2500A	AC1030U T2500A AC1030U T2500A	AC1030U T2500A AC1030U T2500A	AC1030U T2500A AC1030U T2500A	AC1030U T2500A AC1030U T2500A	AC1030U T2500A AC1030U T2500A	AC1030U T2500A AC1030U T2500A	AC1030U T2500A AC1030U T2500A	AC1030U T2500A AC1030U T2500A	AC1030U T2500A AC1030U T2500A	
H10	H10	H10	H10	H10	H10	H10	H10	H10	H10	
*: GNDIS type Only				*: GNDIS type Only		Lead Angle: 5°		Lead Angle: 10° / 15°		

■ Improved Chip Control

Grooving

GND series
(GG type Chipbreaker)

Conventional Tool

Work Material: SCM415
Holder: GNDL R2525M-320, Insert: GCM N3002-GG
Cutting Conditions: vc = 100m/min, f = 0.15mm/rev, ap = 12.0mm Wet

Traverse cutting

GND series
(ML type Chipbreaker)

Conventional Tool

Work Material: SCM415
Holder: GNDM R2525M-312 Insert: GCM N3002-ML
Cutting Conditions: vc = 100m/min, f = 0.10mm/rev, ap = 0.5mm Wet

Cut-off

GND series
(CG type Chipbreaker)

Competitor's Product

Work Material: SUS316 (ø30mm)
Holder: GNDL R2525M-220 Insert: GCM R2002-CG-05
Cutting Conditions: vc = 100m/min, f = 0.15mm/rev Wet

Profiling

GND series
(RG type Chipbreaker)

Conventional Tool

Work Material: SCM415
Holder: GNDM R2525M-312 Insert: GCM N3015-RG
Cutting Conditions: vc = 100m/min, f = 0.15mm/rev, ap = 0.1mm Wet

Chipbreaker Selection

	Grooving / Traverse Cutting	Grooving	Cut-off
1st Recommendation	MG type General-purpose 	GG type General-purpose 	GG type General-purpose
2nd Recommendation	ML type Low Feed Chip Control Emphasised Cutting Edge Width: Up to 4.0mm Cutting Edge Width: 5.0mm and greater 	GL type General-purpose Chip Control Emphasised 	GL type General-purpose Chip Control Emphasised
		GF type Low Cutting Force 	GF type Low Cutting Force

	External Profiling / External Radius Grooving	Facing / Internal Profiling / Radius Grooving / Necking	Non-Ferrous Metals
Recommendation	RG type General-purpose 1st Recommendation 	RN type General-purpose 2nd Recommendation 2mm Width Supported 	GA type General-purpose Non-Ferrous Metals

Insert Grade Selection

Application	P Steel	M Stainless Steel	K Cast Iron	S Exotic Alloy	N Non-Ferrous Metals
Continuous / High-speed ↑ ↓ Interrupted / Unstable	AC8025P CVD Surface Finish Emphasised	AC8035P (AC830P) CVD	AC425K CVD 1st Recommendation	AC5015S PVD	H10 1st Recommendation Uncoated Carbide
	AC8035P (AC830P) CVD	AC5015S PVD	AC8025P CVD	AC5025S (AC520U) PVD 1st Recommendation	
	AC5025S (AC520U) PVD	AC5025S (AC520U) PVD 1st Recommendation	AC5015S PVD	AC5025S (AC520U) PVD	
	AC530U/AC1030U PVD 1st Recommendation	AC530U/AC1030U PVD	AC5025S (AC520U) PVD	AC530U/AC1030U PVD	

Only AC520U and AC1030U inserts are stocked for GNDIS type holders.

For External Machining (Straight type Groove Depth up to 25mm)


For External Machining
(Straight Edge type Groove Depth up to 32mm)

Traverse Cutting / Profiling (Cut-off)

Grooving / Cut-off (Traverse Cutting)

Grooving / Cut-off (Traverse Cutting)

GND S type
Straight type
For Shallow Grooves




Shank Size (H x W)
20 x 20mm
25 x 25mm

F28

Available Edge Widths (mm)		
1.25	1.5	2.0
3.0	4.0	5.0
6.0	7.0	8.0

Applicable Chipbreaker
MG ML GG GL GF CG CF RG RN GA

GND M type
Straight type




Shank Size (H x W)
20 x 20mm
25 x 25mm
32 x 25mm

F30

Available Edge Widths (mm)		
1.25	1.5	2.0
3.0	4.0	5.0
6.0	7.0	8.0

Applicable Chipbreaker
MG ML GG GL GF CG CF RG RN GA

GND M-J type
Straight type
Internal Coolant Supply




Shank Size (H x W)
20 x 20mm
25 x 25mm

F32

Available Edge Widths (mm)		
1.25	1.5	2.0
3.0	4.0	5.0
6.0	7.0	8.0

Applicable Chipbreaker
MG ML GG GL GF CG CF RG RN GA

GND L type
Straight type




Shank Size (H x W)
20 x 20mm
25 x 25mm
32 x 25mm

F34

Available Edge Widths (mm)		
1.25	1.5	2.0
3.0	4.0	5.0
6.0	7.0	8.0

Applicable Chipbreaker
MG ML GG GL GF CG CF RG RN GA

GND L-J type
Straight type
Internal Coolant Supply



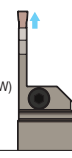
Shank Size (H x W)
20 x 20mm
25 x 25mm

F36

Available Edge Widths (mm)		
1.25	1.5	2.0
3.0	4.0	5.0
6.0	7.0	8.0

Applicable Chipbreaker
MG ML GG GL GF CG CF RG RN GA

GND XL type
Straight type
New



Shank Size (H x W)
20 x 20mm
25 x 25mm

F38

Available Edge Widths (mm)		
2.0	3.0	4.0
5.0	6.0	

Applicable Chipbreaker
ML GF RN

Inserts are dedicated products.

Grooving Tools
Cut-off
Threading
External
Face
Internal
Necking
CBN

For External Machining Straight type series (Groove Depth up to 25mm)

MG: Multi-functional / General-purpose type ML: Multi-functional / Low-feed type GG: Grooving / General-purpose type GL: Grooving / Low-feed type GF: Grooving / Low cutting force type
CG: Cut-off / General-purpose type CF: Cut-off / Low cutting force type RG: Profiling / General-purpose type RN: Facing / Necking / General-purpose type GA: Non-Ferrous Metal / General-purpose type

Type	Shank Size (mm) Height (H) / Width (B)	Width of Cut (mm)								Series	Max. Groove Depth (mm)							Ref. Page	Applicable Chipbreakers											
		1.25	1.5	2	3	4	5	6	7		8	5	10	15	20	25	30		35	MG	ML	GG	GL	GF	CG	CF	RG	RN	GA	
Straight type	20	20	1.25	1.5							GNDM	10							F30					⊙						
			1.25	1.5								GNDL	16							F34					⊙					
		25	20	2								GND S	6							F28	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙
				2								GNDM	10							F30	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙
		25	25	2								GNDM-J	10							F32	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙
				2								GNDL	20							F34	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙
		25	25	2								GNDL-J	20							F36	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙
				3								GND S	6							F28	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙
		25	25	3								GNDM	12							F30	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙
				3								GNDM-J	12							F32	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙
		25	25	3								GNDL	20							F34	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙
				3								GNDL-J	20							F36	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙
	25	25	4								GND S	10							F28	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙	
			4								GNDM	18							F30	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙	
	25	25	4								GNDM-J	18							F32	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙	
			4								GNDL	25							F34	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙	
	25	25	4								GNDL-J	25							F36	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙	
			5	6							GND S	10							F28	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙	
	25	25	5	6							GNDM	18							F30	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙	
			5	6							GNDM-J	18							F32	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙	
	25	25	5	6							GNDL	25							F34	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙	
			5	6							GNDL-J	25							F36	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙	
	25	25	7	8							GNDM	18							F30	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙	
			7	8							GNDL	25							F34	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙	
32	25	3								GNDM	12							F30	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙		
		3								GNDL	20							F34	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙		
32	32	4								GNDM	18							F30	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙		
		4								GNDL	25							F34	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙		
32	32	5	6							GNDM	18							F30	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙		
		5	6							GNDL	25							F34	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙		
32	32	7	8							GNDM	18							F30	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙		
		7	8							GNDL	25							F34	⊙	⊙	⊙	⊙	⊙	⊙			⊙	⊙		

■: In stock *: Made-to-order item (Shank size (height x width) 32 x 25mm) ⊙: Best ○: Suitable

For External Machining Straight Edge type series (Groove Depth up to 32mm)

ML: Multi-functional / Low-feed type GF: Grooving / Low cutting force type RN: Facing / Necking / General-purpose type

Type	Shank Size (mm) Height (H) / Width (B)	Cutting Edge Width (mm)					Model	Max. Groove Depth (mm)							Ref. Page	Applicable Chipbreakers (GNDXL type Dedicated)				
		2	3	4	5	6		5	10	15	20	25	30	35		ML	GF	RN		
Straight Edge type	20	20	2														F38	○	⊙	○
	25	25	3	4	5	6											F38	○	⊙	○

■: In Stock ■: Made-to-order item Note: Only dedicated 1-cornered inserts (insert part number suffix [1]) can be used for GNDXL type. ⊙: Best ○: Suitable Red text: Expanded item

GND series

Grooving Tools
F

Grooving

Cut-off

Threading

External

Face

Internal

Necking

CBN

For Internal Machining (Work Dia.: ϕ 14mm~)

For Internal Machining (Work Dia.: ϕ 32mm~)

Grooving / Traverse Cutting / Profiling

Grooving / Traverse Cutting / Profiling



Available Edge Widths (mm)

1.5	2.0	3.0
-----	-----	-----

Applicable Chipbreaker

ML	GF
----	----

Inserts are dedicated products.



Available Edge Widths (mm)

1.25	1.5	2.0
3.0	4.0	5.0
6.0	7.0	8.0

Applicable Chipbreaker

MG	ML	GG	GL	GF	CG	CF	RG	RN	GA
----	----	----	----	----	----	----	----	----	----

Series for Internal Machining
(Machining Dia. ϕ 14mm ~)

ML: Multi-functional / Low-feed type GF: Grooving / Low cutting force type

Type	Shank Size DCON (mm)	Width of Cut (mm)			Series	Max. Groove Depth (mm)	Min. Bore Dia. (mm)	Ref. Page	Applicable Chipbreakers (Dedicated for GNDIS type)	
		1.5	2	3					ML	GF
Straight type	ϕ 12	1.5			GNDIS	2.6	ϕ 14	F46		⊙
		1.5				3.6	ϕ 14	F46		⊙
			2	3		2.6	ϕ 14	F46	⊙	⊙
	ϕ 16	1.5			GNDIS	3.6	ϕ 16	F46		⊙
		1.5				4.6	ϕ 20	F46		⊙
			2	3		3.6	ϕ 16	F46	⊙	⊙
ϕ 20	1.5			GNDIS	4.6	ϕ 20	F46		⊙	
		2	3		6.6	ϕ 25	F46		⊙	
		2	3		6.6	ϕ 25	F46	⊙	⊙	

 : In Stock

Note: Only dedicated GXM inserts can be used for GNDIS types.

⊙: Best

Series for Internal Machining
(Machining Dia. ϕ 32mm ~)

MG: Multi-functional / General-purpose type ML: Multi-functional / Low-feed type GG: Grooving / General-purpose type GL: Grooving / Low-feed type GF: Grooving / Low cutting force type
CG: Cut-off / General-purpose type CF: Cut-off / Low cutting force type RG: Profiling / General-purpose type RN: Facing / Necking / General-purpose type GA: Non-Ferrous Metal / General-purpose type

Type	Shank Size DCON (mm)	Width of Cut (mm)					Series	Max. Groove Depth (mm)	Min. Bore Dia. (mm)	Ref. Page	Applicable Chipbreakers									
		2	3	4	5	6					MG	ML	GG	GL	GF	CG	CF	RG	RN	GA
Straight type	ϕ 25	2					GNDI	6	ϕ 32	F48	⊙	⊙	⊙	⊙					⊙	⊙
			3	4	5	6		6	ϕ 32	F48	⊙	⊙	⊙	⊙					⊙	⊙
	ϕ 32	2					GNDI	6	ϕ 32	F48	⊙	⊙	⊙	⊙					⊙	⊙
			3	4	5	6		10	ϕ 40	F48	⊙	⊙	⊙	⊙					⊙	⊙
ϕ 40		3	4	5	6	GNDI	11	ϕ 50	F48	⊙	⊙	⊙	⊙					⊙	⊙	

 : In Stock

⊙: Best ○: Suitable

GND series Recommended Cutting Conditions

Width of Cut (mm)	Recommended Cutting Conditions		Corner Radius (mm)	Applicable Insert
	Grooving / Cut-off (Necking)	Traverse Cutting		
1.25	Chipbreaker 	—	0.05	MG ML GG GL GF CG CF RG RN GA
1.5	Chipbreaker 	—	0.05	MG ML GG GL GF CG CF RG RN GA
2.0	Chipbreaker 	Depth of Cut ap (mm) 	0.03	MG ML GG GL GF CG CF RG RN GA
			0.2	MG ML GG GL GF CG CF RG RN GA
			0.4	MG ML GG GL GF CG CF RG RN GA
			1.0	MG ML GG GL GF CG CF RG RN GA
3.0	Chipbreaker 	Depth of Cut ap (mm) 	0.03	MG ML GG GL GF CG CF RG RN GA
			0.2	MG ML GG GL GF CG CF RG RN GA
			0.4	MG ML GG GL GF CG CF RG RN GA
			1.5	MG ML GG GL GF CG CF RG RN GA
4.0	Chipbreaker 	Depth of Cut ap (mm) 	0.2	MG ML GG GL GF CG CF RG RN GA
			0.4	MG ML GG GL GF CG CF RG RN GA
			0.8	MG ML GG GL GF CG CF RG RN GA
			2.0	MG ML GG GL GF CG CF RG RN GA
5.0	Chipbreaker 	Depth of Cut ap (mm) 	0.2	MG ML GG GL GF CG CF RG RN GA
			0.4	MG ML GG GL GF CG CF RG RN GA
			0.8	MG ML GG GL GF CG CF RG RN GA
			2.5	MG ML GG GL GF CG CF RG RN GA
6.0	Chipbreaker 	Depth of Cut ap (mm) 	0.2	MG ML GG GL GF CG CF RG RN GA
			0.4	MG ML GG GL GF CG CF RG RN GA
			0.8	MG ML GG GL GF CG CF RG RN GA
			3.0	MG ML GG GL GF CG CF RG RN GA
7.0	Chipbreaker 	Depth of Cut ap (mm) 	0.2	MG ML GG GL GF CG CF RG RN GA
			0.4	MG ML GG GL GF CG CF RG RN GA
			0.8	MG ML GG GL GF CG CF RG RN GA
			3.5	MG ML GG GL GF CG CF RG RN GA
8.0	Chipbreaker 	Depth of Cut ap (mm) 	0.2	MG ML GG GL GF CG CF RG RN GA
			0.4	MG ML GG GL GF CG CF RG RN GA
			0.8	MG ML GG GL GF CG CF RG RN GA
			4.0	MG ML GG GL GF CG CF RG RN GA

For face grooving, use cutting conditions closer to the lower limit of the recommended cutting conditions to ensure that chips are long.

In cut-off applications, reduce the feed rate to around 30% to 50% near the centre of the workpiece.

As there is less space for chip evacuation when machining internal diameters (particularly small bore diameters), ML/GL/GF type chipbreakers are recommended. Modifications to inserts and holders are required to perform turning such as radius grooving when using the RG type chipbreaker with the GND type holder for facing. Use GNDXL type holders at feed rate 80% or below.

Recommended Cutting Conditions

Recommended Cutting Conditions for GNDIS type F47

Work Material	P Carbon Steel / Alloy Steel					M Stainless Steel			K Cast Iron				S Exotic Alloy		N Non-Ferrous Metals
Insert Grade	AC8025P	AC8035P AC830P	AC5015S AC520U	AC5025S AC530U AC1030U	T2500A	AC8035P AC830P	AC5015S AC520U	AC5025S AC530U AC1030U	AC8025P	AC425K	AC5015S AC520U	AC5025S AC530U AC1030U	AC5015S AC520U	AC5025S AC530U AC1030U	H10
Cutting Speed vc (m/min)	80 to 250	80 to 200	80 to 200	50 to 200	50 to 200	70 to 150	70 to 150	50 to 150	80 to 200	80 to 200	60 to 200	50 to 200	20 to 80	20 to 60	150 to 300

Grooving Tools



Grooving

Cut-off

Threading

External

Face

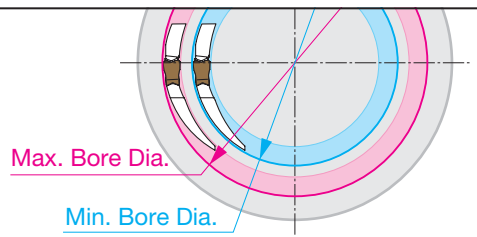
Internal

Necking

CBN

Key Points for Facing

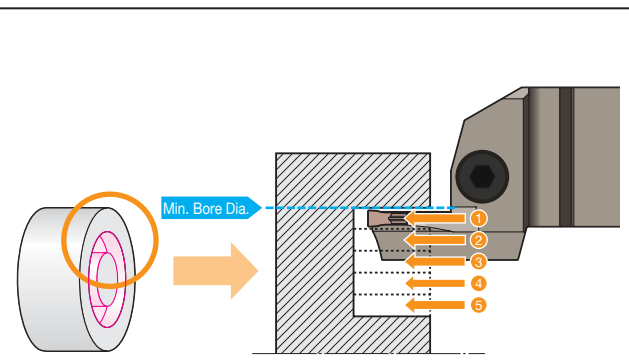
Holder Selection



- Select a holder with which the outer diameter of the first groove to be machined is between the **maximum** and **minimum** grooving diameters of the holder.
- If the turning start point is within the effective work diameter range, the work diameter will not be limited for subsequent passes.
- Select the lower limit of the recommended cutting conditions for the chipbreaker and **ensure long chips for evacuation purposes**. (In face grooving, **broken chips easily get stuck in grooves**, which causes problems.)
- When breaking chips, step feed is required.

Precautions for Groove Expansion

Recommended Chipbreakers **MG ML GG GL GF GA**

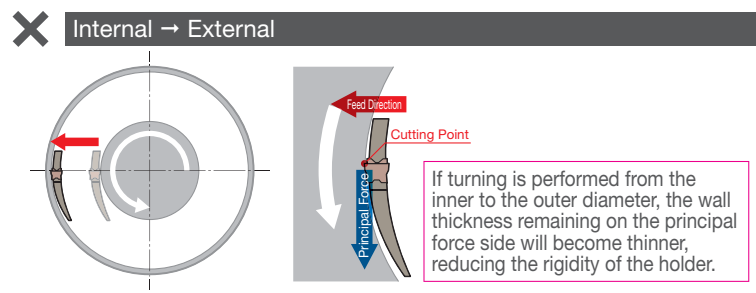
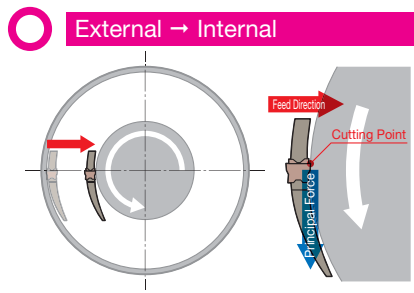


- If the first groove is within the effective work diameter range during groove expansion via plunging, the work diameter will not be limited for subsequent passes.

Precautions for Traverse Cutting

Recommended Chipbreakers **MG ML RN**

Considering the rigidity of the holder, we recommend turning from the outside to the inside.



If turning is performed from the inner to the outer diameter, the wall thickness remaining on the principal force side will become thinner, reducing the rigidity of the holder.

- If the turning start point for traverse face cutting operation is within the effective work diameter range, the work diameter will not be limited for traverse cutting.

Key Points in Internal Machining

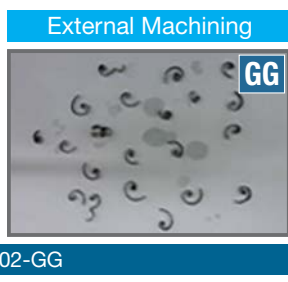
Precautions for Internal Machining

Recommended Chipbreakers **ML GL GF**

If the prepared hole diameter is small, use an **ML** type or **GL** type low-feed chipbreaker, both of which reduce chip curl diameter, to ensure adequate chip evacuation.



Work Material: SCM415 Prepared Hole Diameter: $\phi 25\text{mm}$ Holder: GNDI R2532-T306 Insert: GCM N3000-00
Cutting Conditions: $vc = 100\text{m/min}$, $f = 0.1\text{mm/rev}$, $ap = 3.0\text{mm}$ Wet



! Chip shapes differ between internal machining and external machining even under the same cutting conditions.

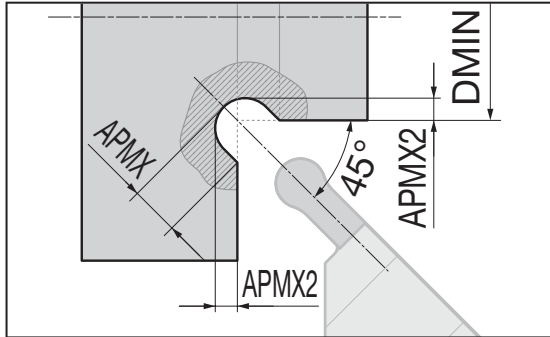
Work Material: SCM415
Holder: GNDL R2525M-320, Insert: GCM N3002-GG
Cutting Conditions: $vc = 100\text{m/min}$, $f = 0.10\text{mm/rev}$, $ap = 5.0\text{mm}$ Wet

Key Points for Necking

Precautions for Necking

Recommended Chipbreaker **RN**

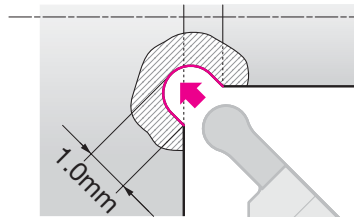
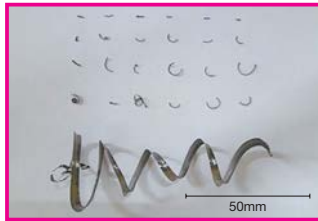
Distance from Work Material to Necking Depth



Width of Cut CW (mm)	Necking Depth APMX (mm)	Distance from Work Material to Necking Depth APMX2 (mm)
2.0	1.5	0.64
3.0	2.0	0.79
4.0	3.0	1.29
5.0	3.5	1.44
6.0	4.0	1.59

- For necking, these conditions are recommended for each width of cut when grooving with RN type chipbreakers.
- To prevent interference with the work material, the work diameter for each GNDN type holder should be set to the minimum bore diameter (DMIN) or less.

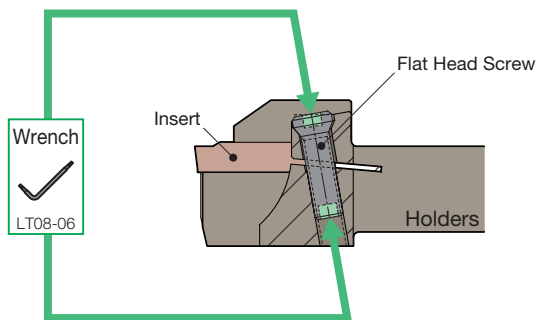
Chip Shape



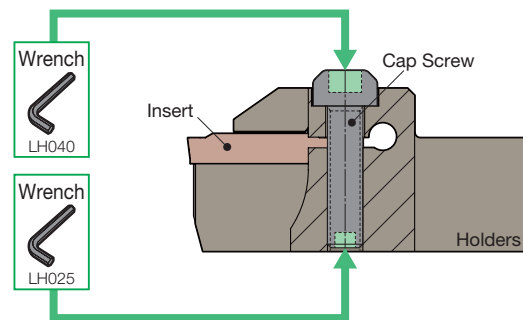
Work Material : SCM435 Groove Width: 3.0mm
 Holder : GNDN R2020K-320-020
 Insert : GCMN3015-RN
 Cutting Conditions : $vc = 100\text{m/min}$, $f = 0.1\text{mm/rev}$
 Necking Depth = 1.0mm Wet

Key Points in Internal Coolant Supply Holders For Small Lathes

- 12mm and 16mm square Internal Coolant Supply Holders for Small Lathes enable insert exchange from both top and bottom.



12mm square holder: **GNDL R/L1212JX-000.OJ**

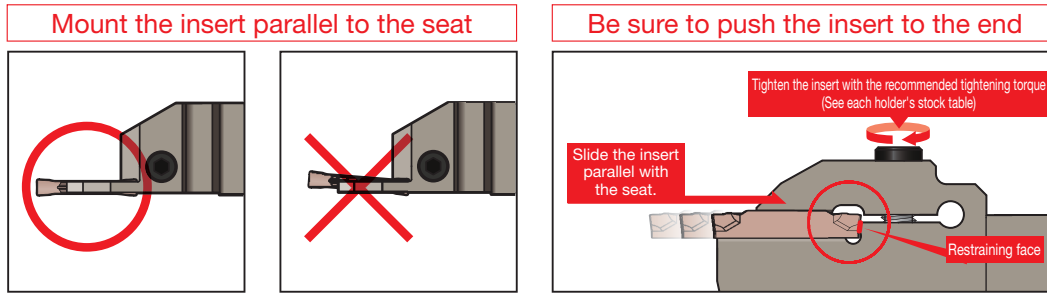


16mm square holder: **GNDM R/L1616JX-000J**
GNDL R/L1616JX-000J

Precautions for SEC-Grooving Tool Holders GND series

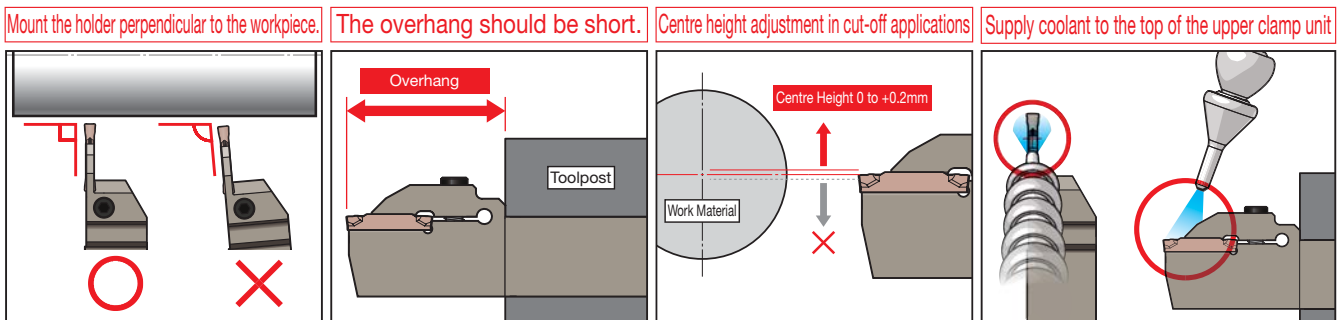
■ Insert Mounting Precautions

- (1) Remove any dust, etc. from the insert seat, bolt, and bolt hole before attaching the insert.
- (2) If there are scratches or burrs on the insert seat, scrape them away.
- (3) Mount the insert by sliding it parallel to the seat.
- (4) Clamp the insert with the opposite side (holder side) of the cutting edge secured on the constraining surface.
- (5) **Tighten the insert with the recommended tightening torque.** If the insert is tightened with excessive torque, **it may be damaged, leading to injury.**
- (6) **When exchanging the insert, adjust the cutting edge offset value.**



■ Precautions when Mounting Holders

- (1) Remove any dust and oil from the toolpost before setting the holder.
- (2) If there are scratches or burrs on the toolpost, scrape them away.
- (3) Place the holder so that the insert is perpendicular to the workpiece. Failure to do so may bend the machined surface or cause chattering.
- (4) The overhang of the holder should be as short as possible.
- (5) When grooving or traverse cutting, adjust the centre height of the cutting edge to as close to ± 0 mm as possible. (Within ± 0.1 mm is recommended.) Incorrect centre height adjustment may cause chattering. In cut-off applications, adjust the centre height of the cutting edge to a value from 0 to $+0.2$ mm. A lower centre height will result in a larger pip at the centre.
- (6) Set the oil supply nozzle so that coolant can be supplied from the top of the upper clamp unit.



■ Depth of Cut when Pulling Out with RG/RN type Chipbreakers

Width of Cut (mm)	Maximum Depth of Cut when Pulling Out (mm)
CW	E1
2.0*	0.10
3.0	0.15
4.0	0.20
5.0	0.25
6.0	0.30
7.0	0.35
8.0	0.40

*: CW = 2.0 is RN type chipbreakers only

Precautions for SEC-Grooving Tool Holders GND series

■ Piping Method for Hoses and Connectors

Internal Coolant Holders
GNDM R/L○○○○□-○○○J
GNDL R/L○○○○□-○○○J

Connector (Straight) **J-G1/8-R1/8-00**
 Connector (L-Shaped) **J-G1/8-R1/8-90**
 Hose **J-HOSE-G1/8-G1/8-200** (Overall length 200mm)
J-HOSE-G1/8-G1/8-300 (Overall length 300mm)

Machine

- Apply sealant such as commercial sealing tape to the piping connection parts.
- For plug mounting when piping, see the figure below.

Piping from bottom (at shipping)

Piping from bottom

Plug **XP02**

Piping from back end

Piping from back end

Plug **XP02**

* The plug will protrude a few millimetres when mounted on the bottom.

■ Piping Method for Hoses and Connectors (For Small Lathes)

Internal Coolant Supply Holders for Small Lathes
GNDM R/L○○○○JX-○○○J
GNDL R/L○○○○JX-○○○J

Connector (Straight) **J-G1/8-R1/8-00**
 Connector (L-Shaped) **J-G1/8-R1/8-90**
 Hose **J-HOSE-G1/8-G1/8-200** (Overall length 200mm)
J-HOSE-G1/8-G1/8-300 (Overall length 300mm)

Machine (small lathes, etc.)

- Apply sealant such as commercial sealing tape to the piping connection parts.
- For plug mounting when piping, see the figure below.

Piping from side (at shipping)

Piping from side

Plug **XP02**

Piping from back end

Piping from back end

Plug **XP02**

Coolant Supply Without Hose Compatible Products

Connecting Point for Coolant Supply Without Hose

Plug **XP02**

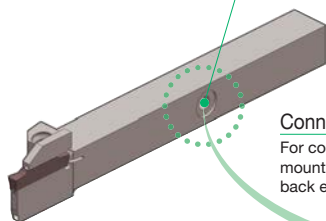
Plug **XP02**

*1: The plug will protrude a few millimetres when mounted on the side.
 *2: The plug is mounted at shipping, so remove it for use with coolant supply without hose.

Coolant Supply to Holders Without Hose Coolant can be supplied directly from the toolpost without a hose

Connecting Point for Coolant Supply Without Hose

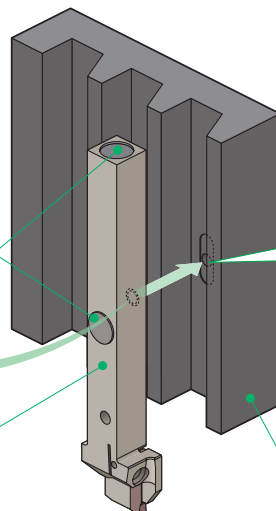
For coolant supply without hose, remove the plug.



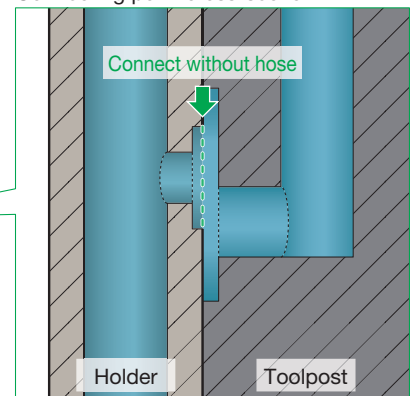
Connecting Points for Hoses
 For coolant supply without hose, mount plugs (XP02) on the side and back end

Coolant Supply to Holders Without Hose

- 12mm size: **GNDL R/L1212JX-○○○J**
- 16mm size: **GNDM R/L1616JX-○○○J**
GNDL R/L1616JX-○○○J



Connecting point cross-section



Compatible Toolpost for Coolant Supply Without Hose

GNDM type / GNDL type



*For traverse cutting (groove expansion), use a multi-functional or profiling insert.

For Small Lathes, External Multi-Functional (Grooving, Traverse Cutting and Profiling) Clamp-on

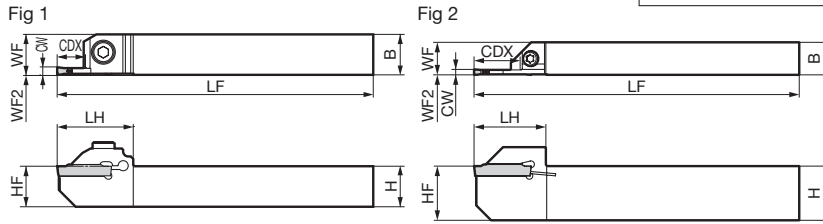


Figure shows right-handed (R) tool.

Holder

Parts

Dimensions (mm)

Cat. No.	Stock		Height	Width	Overall Length	Cutting Edge Distance	Cutting Edge Height	Head	Offset	Width of Cut	Maximum Groove Depth	Applicable Insert	Fig	Cap Screw		Wrench
	R	L												B	H	
GNDM R/L1616JX-1.2508	●	●	16	16	120	(16)	16	26	0	1.25	8.0	GCM N125005-GF	1	BFTX0414	4.0	LT15-10
GNDM R/L1616JX-1.510	●	●	16	16	120	(16)	16	26	0	1.50	10.0	GCM N150005-GF	1	BX0515	4.0	LH040
GNDM R/L1616JX-212	●	●	16	16	120	(16)	16	30	0	2.00	12.0	GC□ □20○-□□	1	BX0515	4.0	LH040
GNDM R/L1616JX-312	●	●	16	16	120	(16)	16	30	0	3.00	12.0	GC□ □30○-□□	1	BX0515	4.0	LH040
GNDM R/L2012JX-217	●	●	20	12	120	(12)	20	26.5	0	2.00	17.0	GC□ □20○-□□	2	BFTX0414	3.0	LT15-10
GNDM R/L2012JX-317	●	●	20	12	120	(12)	20	26.5	0	3.00	17.0	GC□ □30○-□□	2	BFTX0414	3.0	LT15-10

Select holders and inserts with matching width of cut (CW). Refer to F25 for applicable inserts.

The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to F19.



For Small Lathes, External Grooving & Cut-off Clamp-on

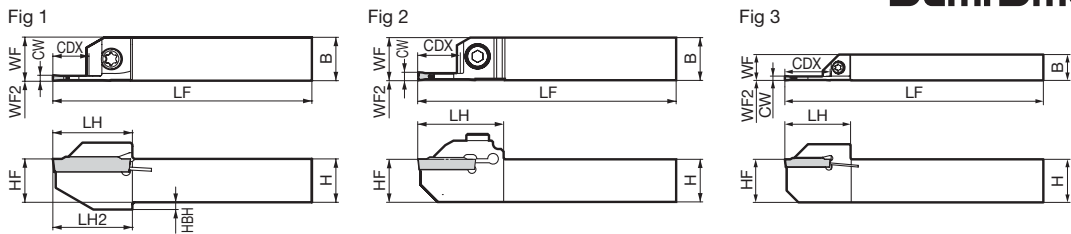


Figure shows right-handed (R) tool.

Holder

Parts

Dimensions (mm)

Cat. No.	Stock		Height	Width	Overall Length	Cutting Edge Distance	Cutting Edge Height	Step	Head	Head	Offset	Width of Cut	Maximum Groove Depth	Applicable Insert	Fig	Flat Head Screw / Cap Screw		Wrench
	R	L														B	H	
GNDL R/L1010JX-1.2510	●	●	10	10	120	(10)	10	2.0	18	18.3	0	1.25	10.0	GCM N125005-GF	1	BFTX0412N	3.0	LT15-10
GNDL R/L1010JX-1.510	●	●	10	10	120	(10)	10	2.0	18	18.3	0	1.50	10.0	GCM N150005-GF	1	BFTX0412N	3.0	LT15-10
GNDL R/L1010JX-210	●	●	10	10	120	(10)	10	2.0	22	22.3	0	2.00	10.0	GC□ □20○-□□	1	BFTX0412N	3.0	LT15-10
GNDL R/L1010JX-310	●	●	10	10	120	(10)	10	2.0	22	22.3	0	3.00	10.0	GC□ □30○-□□	1	BFTX0412N	3.0	LT15-10
GNDL R/L1212JX-1.2512	●	●	12	12	120	(12)	12	2.0	19	19.3	0	1.25	12.0	GCM N125005-GF	1	BFTX0412N	3.0	LT15-10
GNDL R/L1212JX-1.512	●	●	12	12	120	(12)	12	2.0	19	19.3	0	1.50	12.0	GCM N150005-GF	1	BFTX0412N	3.0	LT15-10
GNDL R/L1212JX-212.5	●	●	12	12	120	(12)	12	2.0	22	22.3	0	2.00	12.5	GC□ □20○-□□	1	BFTX0412N	3.0	LT15-10
GNDL R/L1212JX-312.5	●	●	12	12	120	(12)	12	2.0	22	22.3	0	3.00	12.5	GC□ □30○-□□	1	BFTX0412N	3.0	LT15-10
GNDL R/L1616JX-1.2512.5	●	●	16	16	120	(16)	16	—	28	—	0	1.25	12.5	GCM N125005-GF	2	BX0515	4.0	LH040
GNDL R/L1616JX-1.512.5	●	●	16	16	120	(16)	16	—	28	—	0	1.50	12.5	GCM N150005-GF	2	BX0515	4.0	LH040
GNDL R/L1616JX-216	●	●	16	16	120	(16)	16	—	32	—	0	2.00	16.0	GC□ □20○-□□	2	BX0515	4.0	LH040
GNDL R/L1616JX-316	●	●	16	16	120	(16)	16	—	32	—	0	3.00	16.0	GC□ □30○-□□	2	BX0515	4.0	LH040
GNDL R/L2012JX-221	●	●	20	12	120	(12)	20	—	30.5	—	0	2.00	21.0	GC□ □20○-□□	3	BFTX0414	3.0	LT15-10
GNDL R/L2012JX-321	●	●	20	12	120	(12)	20	—	30.5	—	0	3.00	21.0	GC□ □30○-□□	3	BFTX0414	3.0	LT15-10

Select holders and inserts with matching width of cut (CW). Refer to F25 for applicable inserts.

The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to F19.

GNDM type / GNDL type

Inserts for GNDM type (For Small Lathes)/GNDL type (For Small Lathes) (Coated Carbide/ Cermet/ Cemented Carbide)

Fig 1

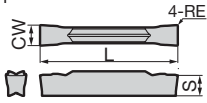


Fig 2 (Figure shows right-handed (R) tool.)

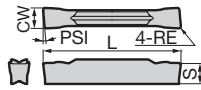


Fig 3

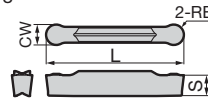
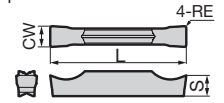


Fig 4



Grooving / Traverse Cutting

Dimensions (mm)

Cat. No.	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig				
	Width of Cut		Tolerance													
	Width of Cut	Tolerance	RE	L	S											
GCM N3002-MG	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	3.0	±0.03	0.2	21.1	3.8	5	1
N3004-MG										3.0	±0.03	0.4	21.1	3.8	5	1
GCM N2002-ML										2.0	±0.03	0.2	21.1	3.6	1	1
GCM N3002-ML										3.0	±0.03	0.2	21.1	3.8	5	1
N3004-ML										3.0	±0.03	0.4	21.1	3.8	1	1

Grooving / Cut-off

Dimensions (mm)

Cat. No.	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig				
	Width of Cut		Tolerance													
	Width of Cut	Tolerance	RE	L	S											
GCM N2002-GG	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	2.0	±0.03	0.2	21.1	3.6	5	1
GCM N3002-GG										3.0	±0.03	0.2	21.1	3.8	1	1
N3004-GG										3.0	±0.03	0.4	21.1	3.8	1	1
GCM N2002-GL										2.0	±0.03	0.2	21.1	3.6	5	1
N2004-GL										2.0	±0.03	0.4	21.1	3.6	1	1
GCM N3002-GL										3.0	±0.03	0.2	21.1	3.8	1	1
N3004-GL										3.0	±0.03	0.4	21.1	3.8	1	1
GCM N125005-GF										1.25	±0.03	0.05	17.4	3.2	1	1
GCM N150005-GF										1.5	±0.03	0.05	17.8	3.7	1	1
GCM N2002-GF										2.0	±0.03	0.2	21.1	3.6	5	1
N2004-GF										2.0	±0.03	0.4	21.1	3.6	1	1
GCM N3002-GF										3.0	±0.03	0.2	21.1	3.8	1	1
N3004-GF										3.0	±0.03	0.4	21.1	3.8	1	1

Cut-off (Handed Edge)

Dimensions (mm)

Cat. No.	Width of Cut CW							Lead Angle	Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig				
	Width of Cut		Tolerance														
	Width of Cut	Tolerance	RE	L	S												
GCM R2002-CG-05	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	AC1030U	5°	2.0	±0.03	0.2	21.1	3.6	5	2
L2002-CG-05										5°	2.0	±0.03	0.2	21.1	3.6	2	2
GCM R3002-CG-05										5°	3.0	±0.03	0.2	21.3	3.8	5	2
L3002-CG-05										5°	3.0	±0.03	0.2	21.3	3.8	2	2
GCM R20003-CF-10										10°	2.0	±0.08	0.03	22.4	3.6	5	2
L20003-CF-10										10°	2.0	±0.08	0.03	22.4	3.6	2	2
GCM R30003-CF-10										10°	3.0	±0.08	0.03	22.4	3.8	5	2
L30003-CF-10										10°	3.0	±0.08	0.03	22.4	3.8	2	2
GCM R20003-CF-15										15°	2.0	±0.08	0.03	22.4	3.6	5	2
L20003-CF-15										15°	2.0	±0.08	0.03	22.4	3.6	2	2
GCM R30003-CF-15										15°	3.0	±0.08	0.03	22.4	3.8	5	2
L30003-CF-15										15°	3.0	±0.08	0.03	22.4	3.8	2	2

GCMR: Right-handed, GCML: Left-handed

External Profiling / External Radius Grooving

Dimensions (mm)

Cat. No.	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig				
	Width of Cut		Tolerance													
	Width of Cut	Tolerance	RE	L	S											
GCM N3015-RG	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	3.0	±0.03	1.5	21.1	3.8	5	3

Profiling / Radius Grooving / Necking

Dimensions (mm)

Cat. No.	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig				
	Width of Cut		Tolerance													
	Width of Cut	Tolerance	RE	L	S											
GCM N2010-RN	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U		2.0	±0.03	1.0	21.7	3.6	5	3
N3015-RN										3.0	±0.03	1.5	22.6	3.8	5	3

Non-Ferrous Metals

Dimensions (mm)

Cat. No.	H10	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig			
		Width of Cut		Tolerance												
		Width of Cut	Tolerance	RE	L	S										
GCG N2002-GA										2.0	±0.025	0.2	21.1	3.6	5	4
N3002-GA										3.0	±0.025	0.2	21.1	3.8	5	4

Part Number Suffix Code (Chipbreakers)

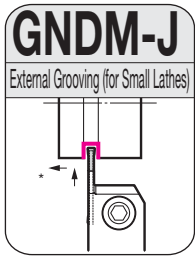
Type	Symbol	Applications	Type	Symbol	Applications
Grooving / Traverse Cutting	MG	Multi-functional / General-purpose	Cut-off (Handed Edge)	CG	Cut-off / General-purpose
	ML	Multi-functional / Low-feed		CF	Cut-off / Low cutting force
Grooving / Cut-off	GG	Grooving / General-purpose	External Profiling / External Radius Grooving	RG	Profiling / General-purpose
	GL	Grooving / Low-feed	Profiling / Radius Grooving / Necking	RN	Facing / Necking / General-purpose
	GF	Grooving / Low cutting force	Non-Ferrous Metals	GA	Non-Ferrous Metals / General-purpose

Chipbreaker Selection **F13** Precautions for Use **F22** Recommended Cutting Conditions **F19**

Note: The values in red have been changed from those in the 2021-2022 General Catalogue.

Select holders and inserts with matching width of cut (CW). Not usable with GNDXL type / GNDIS type holders.

GNDM-J type / GNDL-J type



- External
- Zero Offset
- Internal Coolant

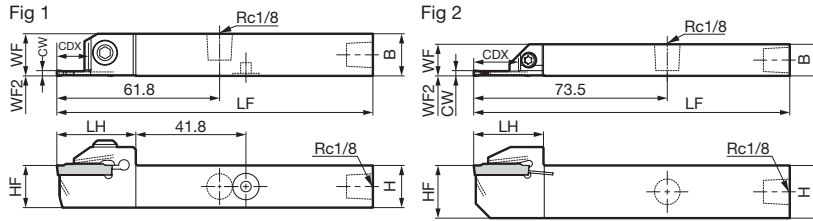
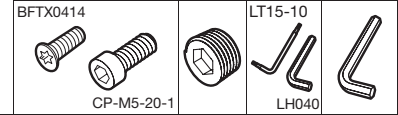


Figure shows right-handed (R) tool.

*For traverse cutting (groove expansion), use a multi-functional or profiling insert.

Parts

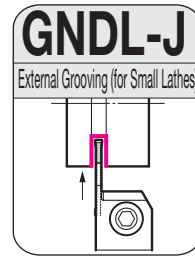


Holder

Dimensions (mm)

Cat. No.	Stock		Height	Width	Overall Length	Cutting Edge Distance	Cutting Edge Height	Head	Offset	Width of Cut	Maximum Groove Depth	Max. Cut-off Dia.	Applicable Insert	Fig	Flat Head Screw / Cap Screw	N·m	Plug	Top Hex Wrench	Bottom Hex Wrench
	R	L																	
GNDM R/L1616JX-212J	●	●	16	16	120	(16)	16	30.0	0	2.0	12.0	24	GC □2000-□□	1	CP-M5-20-1	5.0	XP02	LH040	LH025
GNDM R/L1616JX-312J	●	●	16	16	120	(16)	16	30.0	0	3.0	12.0	24	GC □3000-□□	1	CP-M5-20-1	5.0	XP02	LH040	LH025
GNDM R/L2012JX-217J	●	●	20	12	120	(12)	20	26.5	0	2.0	17.0	34	GC □2000-□□	2	BFTX0414	3.0	XP02	LT15-10	—
GNDM R/L2012JX-317J	●	●	20	12	120	(12)	20	26.5	0	3.0	17.0	34	GC □3000-□□	2	BFTX0414	3.0	XP02	LT15-10	—

Select holders and inserts with matching width of cut (CW). Refer to F27 for applicable inserts.
The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to F19.



- External
- Zero Offset
- Internal Coolant

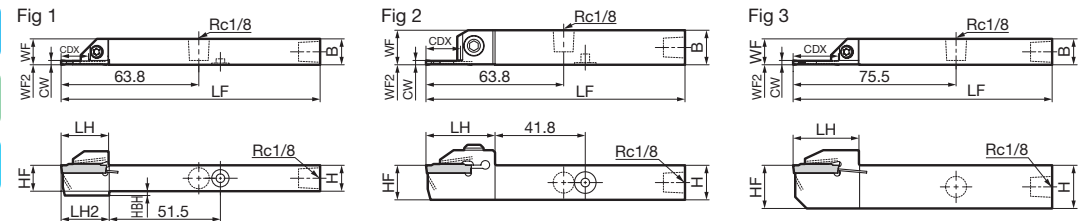
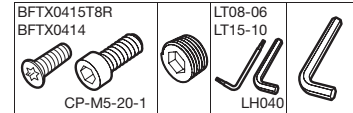


Figure shows right-handed (R) tool.

Parts

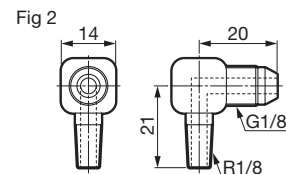
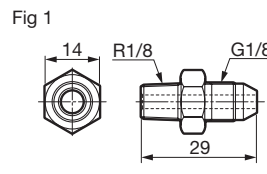
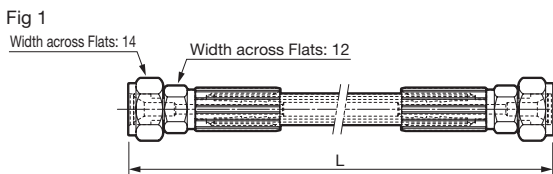


Holder

Dimensions (mm)

Cat. No.	Stock		Height	Width	Overall Length	Cutting Edge Distance	Cutting Edge Height	Step	Head	Head	Offset	Width of Cut	Maximum Groove Depth	Max. Cut-off Dia.	Applicable Insert	Fig	Flat Head Screw / Cap Screw	N·m	Plug	Top Hex Wrench	Bottom Hex Wrench
	R	L																			
GNDL R/L1212JX-212.5J	●	●	12	12	120	(12)	12	2.0	22.0	22.3	0	2.0	12.5	25	GC □2000-□□	1	BFTX0415T8R	1.5	XP02	LT08-06	←
GNDL R/L1212JX-312.5J	●	●	12	12	120	(12)	12	2.0	22.0	22.3	0	3.0	12.5	25	GC □3000-□□	1	BFTX0415T8R	1.5	XP02	LT08-06	←
GNDL R/L1616JX-216J	●	●	16	16	120	(16)	16	—	32.0	—	0	2.0	16.0	32	GC □2000-□□	2	CP-M5-20-1	5.0	XP02	LH040	LH025
GNDL R/L1616JX-316J	●	●	16	16	120	(16)	16	—	32.0	—	0	3.0	16.0	32	GC □3000-□□	2	CP-M5-20-1	5.0	XP02	LH040	LH025
GNDL R/L2012JX-221J	●	●	20	12	120	(12)	20	—	30.5	—	0	2.0	21.0	42	GC □2000-□□	3	BFTX0414	3.0	XP02	LT15-10	—
GNDL R/L2012JX-321J	●	●	20	12	120	(12)	20	—	30.5	—	0	3.0	21.0	42	GC □3000-□□	3	BFTX0414	3.0	XP02	LT15-10	—

Select holders and inserts with matching width of cut (CW). Refer to F27 for applicable inserts.
The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to F19.



Parts (Hose)

Dimensions (mm)

Cat. No.	Stock	L	Screw Standard	Screw Standard	Fig
J-HOSE-G1/8-G1/8-200	●	200	G1/8	G1/8	1
J-HOSE-G1/8-G1/8-300	●	300	G1/8	G1/8	1

Hoses are sold separately.

Piping Method for Hoses and Connectors F23

Parts (Connector)

Dimensions (mm)

Cat. No.	Stock	Screw Standard	Screw Standard	Fig
J-G1/8-R1/8-00	●	G1/8	R1/8	1
J-G1/8-R1/8-90	●	G1/8	R1/8	2

Connectors are sold separately.

Piping Method for Hoses and Connectors F23

GNDM-J type / GNDL-J type

Inserts for GNDM-J type (For Small Lathes)/GNDL-J type (For Small Lathes) (Coated Carbide/ Cermet/ Cemented Carbide)

Fig 1

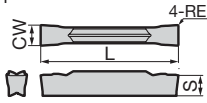


Fig 2 (Figure shows right-handed (R) tool.)

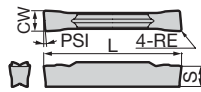


Fig 3

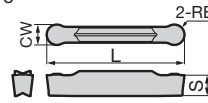
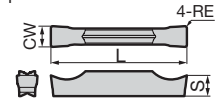


Fig 4



Grooving / Traverse Cutting

Dimensions (mm)

Cat. No.	Width of Cut CW								Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig			
	Width of Cut		Tolerance													
	Width of Cut	Tolerance	RE	L	S	RE	L	S								
GCM N3002-MG N3004-MG	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	3.0	±0.03	0.2	21.1	3.8	5	1
GCM N2002-ML										2.0	±0.03	0.2	21.1	3.6	1	1
GCM N3002-ML N3004-ML										3.0	±0.03	0.2	21.1	3.8	5	1

Grooving / Cut-off

Dimensions (mm)

Cat. No.	Width of Cut CW								Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig			
	Width of Cut		Tolerance													
	Width of Cut	Tolerance	RE	L	S	RE	L	S								
GCM N2002-GG	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	2.0	±0.03	0.2	21.1	3.6	5	1
GCM N3002-GG N3004-GG										3.0	±0.03	0.2	21.1	3.8	1	1
GCM N2002-GL N2004-GL										2.0	±0.03	0.2	21.1	3.6	5	1
GCM N3002-GL N3004-GL										3.0	±0.03	0.2	21.1	3.8	1	1
GCM N2002-GF N2004-GF										2.0	±0.03	0.2	21.1	3.6	5	1
GCM N3002-GF N3004-GF										3.0	±0.03	0.2	21.1	3.8	1	1

Cut-off (Handed Edge)

Dimensions (mm)

Cat. No.	Width of Cut CW								Lead Angle	Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig			
	Width of Cut		Tolerance														
	Width of Cut	Tolerance	RE	L	S	RE	L	S									
GCM R2002-CG-05 L2002-CG-05	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	AC1030U	5°	2.0	±0.03	0.2	21.1	3.6	5	2
GCM R3002-CG-05 L3002-CG-05										5°	3.0	±0.03	0.2	21.3	3.8	2	2
GCM R2003-CF-10 L2003-CF-10										10°	2.0	±0.08	0.03	22.4	3.6	5	2
GCM R3003-CF-10 L3003-CF-10										10°	3.0	±0.08	0.03	22.4	3.8	2	2
GCM R2003-CF-15 L2003-CF-15										15°	2.0	±0.08	0.03	22.4	3.6	5	2
GCM R3003-CF-15 L3003-CF-15										15°	3.0	±0.08	0.03	22.4	3.8	2	2

GCMR: Right-handed, GCML: Left-handed

External Profiling / External Radius Grooving

Dimensions (mm)

Cat. No.	Width of Cut CW								Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig			
	Width of Cut		Tolerance													
	Width of Cut	Tolerance	RE	L	S	RE	L	S								
GCM N3015-RG	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	3.0	±0.03	1.5	21.1	3.8	5	3

Profiling / Radius Grooving / Necking

Dimensions (mm)

Cat. No.	Width of Cut CW								Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig			
	Width of Cut		Tolerance													
	Width of Cut	Tolerance	RE	L	S	RE	L	S								
GCM N2010-RN N3015-RN	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U		2.0	±0.03	1.0	21.7	3.6	5	3
										3.0	±0.03	1.5	22.6	3.8	5	3

Non-Ferrous Metals

Dimensions (mm)

Cat. No.	H10	Width of Cut CW								Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig		
		Width of Cut		Tolerance												
		Width of Cut	Tolerance	RE	L	S	RE	L	S							
GCG N2002-GA N3002-GA										2.0	±0.025	0.2	21.1	3.6	5	4
										3.0	±0.025	0.2	21.1	3.8	5	4

Part Number Suffix Code (Chipbreakers)

Type	Symbol	Applications	Type	Symbol	Applications
Grooving / Traverse Cutting	MG	Multi-functional / General-purpose	Cut-off (Handed Edge)	CG	Cut-off / General-purpose
	ML	Multi-functional / Low-feed		CF	Cut-off / Low cutting force
Grooving / Cut-off	GG	Grooving / General-purpose	External Profiling / External Radius Grooving	RG	Profiling / General-purpose
	GL	Grooving / Low-feed	Profiling / Radius Grooving / Necking	RN	Facing / Necking / General-purpose
	GF	Grooving / Low cutting force	Non-Ferrous Metals	GA	Non-Ferrous Metals / General-purpose

Chipbreaker Selection **F13** Precautions for Use **F22** Recommended Cutting Conditions **F19**

Note: The values in red have been changed from those in the 2021-2022 General Catalogue.

Select holders and inserts with matching width of cut (CW). Not usable with GNDXL type / GNDIS type holders.

SEC-Grooving Tools

GNDS type



*For traverse cutting (groove expansion), use a multi-functional or profiling insert.

External Multi-Functional, Shallow Grooves
(Grooving, Traverse Cutting and Profiling)
Clamp-on

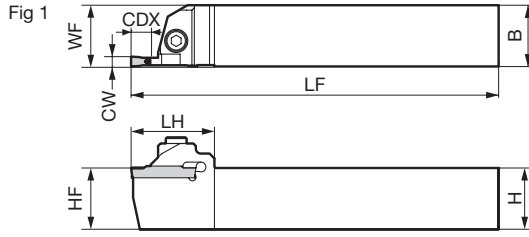
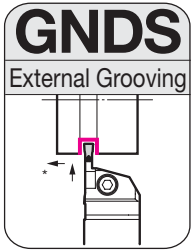


Figure shows right-handed (R) tool.

Holder

Parts

Dimensions (mm)

Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Head LH	Width of Cut CW	Maximum Groove Depth CDX	Applicable Insert	Fig	Cap Screw		Wrench
	R	L											N·m		
GNDS R/L2020K-206	●	●	20	20	125	20	20	30	2.0	6	GC □ □20○○-□□	1	BX0520	5.0	LH040
GNDS R/L2020K-306	●	●	20	20	125	20	20	30	3.0	6	GC □ □30○○-□□	1			
GNDS R/L2020K-410	●	●	20	20	125	20	20	34	4.0	10	GC □ □40○○-□□	1			
GNDS R/L2020K-510	●	●	20	20	125	20	20	34	5.0	10	GC □ N50○○-□□	1			
GNDS R/L2020K-610	●	●	20	20	125	20	20	34	6.0	10	GC □ N60○○-□□	1			
GNDS R/L2525M-206	●	●	25	25	150	25	25	30	2.0	6	GC □ □20○○-□□	1	BX0520	5.0	LH040
GNDS R/L2525M-306	●	●	25	25	150	25	25	30	3.0	6	GC □ □30○○-□□	1			
GNDS R/L2525M-410	●	●	25	25	150	25	25	34	4.0	10	GC □ □40○○-□□	1			
GNDS R/L2525M-510	●	●	25	25	150	25	25	34	5.0	10	GC □ N50○○-□□	1			
GNDS R/L2525M-610	●	●	25	25	150	25	25	34	6.0	10	GC □ N60○○-□□	1			

Select holders and inserts with matching width of cut (CW). Refer to F29 for applicable inserts.

The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to F19.

Grooving Tools

Grooving

Cut-off

Threading

External

Face

Internal

Necking

CBN

Inserts for GNDS type

Fig 1

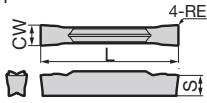


Fig 2 (Figure shows right-handed (R) tool.)

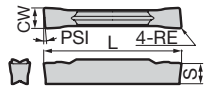


Fig 3

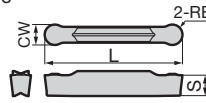
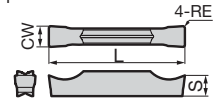


Fig 4



(Coated Carbide/ Cermet/ Cemented Carbide)

Grooving / Traverse Cutting

Dimensions (mm)

Cat. No.	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig			
	Width of Cut		Tolerance												
	RE	L	S	RE	L	S									
GCM N3002-MG N3004-MG	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	3.0	±0.03	0.2	21.1	3.8	1
GCM N4002-MG N4004-MG N4008-MG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	5
GCM N5004-MG N5008-MG	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	1
GCM N6004-MG N6008-MG	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	1
GCM N2002-ML N3002-ML N3004-ML	—	●	●	—	●	●	●	●	—	2.0	±0.03	0.2	21.1	3.6	1
GCM N4002-ML N4004-ML N4008-ML	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	5
GCM N5004-ML N5008-ML	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	1
GCM N6004-ML N6008-ML	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	1

Cut-off (Handed Edge)

Dimensions (mm)

Cat. No.	Width of Cut CW							Lead Angle	Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig			
	Width of Cut		Tolerance													
	RE	L	S	RE	L	S										
GCM R2002-CG-05 L2002-CG-05	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	AC1030U	5°	2.0	±0.03	0.2	21.1	3.6	2
GCM R3002-CG-05 L3002-CG-05	●	●	●	●	●	●	●	●	●	5°	3.0	±0.03	0.2	21.3	3.8	5
GCM R4002-CG-05 L4002-CG-05	●	●	●	●	●	●	●	●	●	5°	4.0	±0.04	0.2	26.7	4.0	2
GCM R2003-CF-10 L2003-CF-10	—	—	—	—	—	—	—	—	—	10°	2.0	±0.08	0.03	22.4	3.6	2
GCM R3003-CF-10 L3003-CF-10	—	—	—	—	—	—	—	—	—	10°	3.0	±0.08	0.03	22.4	3.8	5
GCM R2003-CF-15 L2003-CF-15	—	—	—	—	—	—	—	—	—	15°	2.0	±0.08	0.03	22.4	3.6	2
GCM R3003-CF-15 L3003-CF-15	—	—	—	—	—	—	—	—	—	15°	3.0	±0.08	0.03	22.4	3.8	2

GCMR: Right-handed, GCML: Left-handed

Grooving / Cut-off

Dimensions (mm)

Cat. No.	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig			
	Width of Cut		Tolerance												
	RE	L	S	RE	L	S									
GCM N2002-GG N3002-GG N3004-GG	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	2.0	±0.03	0.2	21.1	3.6	1
GCM N4002-GG N4004-GG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	5
GCM N5002-GG N5004-GG	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.2	26.4	4.1	1
GCM N6002-GG N6004-GG	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	1
GCM N2002-GL N2004-GL	—	—	—	—	—	—	—	—	—	2.0	±0.03	0.2	21.1	3.6	1
GCM N3002-GL N3004-GL	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	1
GCM N4002-GL N4004-GL	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	5
GCM N5002-GL N5004-GL	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.2	26.4	4.1	1
GCM N6002-GL N6004-GL	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	1
GCM N125005-GF N150005-GF	—	—	—	—	—	—	—	—	—	1.25	±0.03	0.05	17.4	3.2	1
GCM N2002-GF N2004-GF	—	—	—	—	—	—	—	—	—	2.0	±0.03	0.2	21.1	3.6	1
GCM N3002-GF N3004-GF	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	1
GCM N4002-GF N4004-GF	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	5
GCM N5002-GF N5004-GF	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.2	26.4	4.1	1
GCM N6002-GF N6004-GF	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	1

External Profiling / External Radius Grooving

Dimensions (mm)

Cat. No.	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig			
	Width of Cut		Tolerance												
	RE	L	S	RE	L	S									
GCM N3015-RG N4020-RG	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	3.0	±0.03	1.5	21.1	3.8	3
GCM N5025-RG N6030-RG	●	●	●	●	●	●	●	●	●	4.0	±0.03	2.0	26.4	4.0	5
										5.0	±0.03	2.5	27.2	4.1	3
										6.0	±0.03	3.0	27.5	4.5	3

Profiling / Radius Grooving / Necking

Dimensions (mm)

Cat. No.	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig			
	Width of Cut		Tolerance												
	RE	L	S	RE	L	S									
GCM N2010-RN N3015-RN	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	—	2.0	±0.03	1.0	21.7	3.6	3
GCM N4020-RN N5025-RN	●	●	●	●	●	●	●	●	●	3.0	±0.03	1.5	22.6	3.8	3
GCM N6030-RN	●	●	●	●	●	●	●	●	●	4.0	±0.03	2.0	28.2	4.0	5
										5.0	±0.03	2.5	28.3	4.1	3
										6.0	±0.03	3.0	28.3	4.5	3

Non-Ferrous Metals

Dimensions (mm)

Cat. No.	H10	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig		
		Width of Cut		Tolerance											
		RE	L	S	RE	L	S								
GCG N2002-GA N3002-GA	●									2.0	±0.025	0.2	21.1	3.6	4
GCG N4004-GA N5004-GA	●									3.0	±0.025	0.2	21.1	3.8	4
GCG N6004-GA	●									4.0	±0.025	0.4	26.4	4.0	5
										5.0	±0.025	0.4	26.4	4.1	4
										6.0	±0.025	0.4	26.4	4.5	4

Part Number Suffix Code (Chipbreakers)

Type	Symbol	Applications	Type	Symbol	Applications
Grooving / Traverse Cutting	MG	Multi-functional / General-purpose	Cut-off (Handed Edge)	CG	Cut-off / General-purpose
	ML	Multi-functional / Low-feed		CF	Cut-off / Low cutting force
Grooving / Cut-off	GG	Grooving / General-purpose	External Profiling / External Radius Grooving	RG	Profiling / General-purpose
	GL	Grooving / Low-feed	Profiling / Radius Grooving / Necking	RN	Facing / Necking / General-purpose
	GF	Grooving / Low cutting force	Non-Ferrous Metals	GA	Non-Ferrous Metals / General-purpose

Chipbreaker Selection **F13** Precautions for Use **F22** Recommended Cutting Conditions **F19**

Note: The values in red have been changed from those in the 2021-2022 General Catalogue.

Select holders and inserts with matching width of cut (CW). Not usable with GNDXL type / GNDS type holders.

Grooving Tools
Grooving
Cut-off
Threading
External
Face
Internal
Necking
CBN

GNDM type / GNDMS type



* For traverse cutting (groove expansion), use a multi-functional or profiling insert.

External Multi-Functional (Grooving, Traverse Cutting and Profiling) Clamp-on

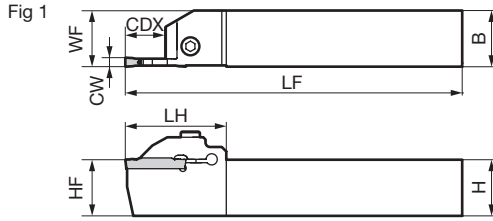


Figure shows right-handed (R) tool.

Grooving Tools

F

Holder

Parts

Dimensions (mm)

Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Head LH	Width of Cut CW	Maximum Groove Depth CDX	Applicable Insert	Fig	Cap Screw		Wrench
	R	L											Fig	N-m	
GNDM R/L2020K-1.2510	●	●	20	20	125	20	20	34.0	1.25	10	GCM N125005-GF	1	BX0520	5.0	LH040
GNDM R/L2020K-1.510	●	●	20	20	125	20	20	34.0	1.50	10	GCM N150005-GF	1			
GNDM R/L2020K-210	●	●	20	20	125	20	20	33.6	2.00	10	GC □200○-□□	1			
GNDM R/L2020K-312	●	●	20	20	125	20	20	36.6	3.00	12	GC □300○-□□	1			
GNDM R/L2020K-418	●	●	20	20	125	20	20	45.0	4.00	18	GC □400○-□□	1			
GNDM R/L2020K-518	●	●	20	20	125	20	20	45.0	5.00	18	GC □N500○-□□	1			
GNDM R/L2020K-618	●	●	20	20	125	20	20	45.0	6.00	18	GC □N600○-□□	1			
GNDM R/L2525M-1.2510	●	●	25	25	150	25	25	36.0	1.25	10	GCM N125005-GF	1	BX0520	5.0	LH040
GNDM R/L2525M-1.510	●	●	25	25	150	25	25	36.0	1.50	10	GCM N150005-GF	1			
GNDM R/L2525M-210	●	●	25	25	150	25	25	33.6	2.00	10	GC □200○-□□	1			
GNDM R/L2525M-312	●	●	25	25	150	25	25	36.6	3.00	12	GC □300○-□□	1			
GNDM R/L2525M-418	●	●	25	25	150	25	25	45.0	4.00	18	GC □400○-□□	1			
GNDM R/L2525M-518	●	●	25	25	150	25	25	45.0	5.00	18	GC □N500○-□□	1			
GNDM R/L2525M-618	●	●	25	25	150	25	25	45.0	6.00	18	GC □N600○-□□	1			
GNDM R/L3225P-312			32	25	170	25	32	36.6	3.00	12	GC □300○-□□	1	BX0520	5.0	LH040
GNDM R/L3225P-418			32	25	170	25	32	45.0	4.00	18	GC □400○-□□	1			
GNDM R/L3225P-518			32	25	170	25	32	45.0	5.00	18	GC □N500○-□□	1			
GNDM R/L3225P-618			32	25	170	25	32	45.0	6.00	18	GC □N600○-□□	1			
GNDM R/L3225P-718			32	25	170	25	32	50.0	7.00	18	GCM N700○-□□	1	BX0620	6.0	LH050
GNDM R/L3225P-818			32	25	170	25	32	50.0	8.00	18	GCM N800○-□□	1			
GNDM R/L3232P-312	●	●	32	32	170	32	32	36.6	3.00	12	GC □300○-□□	1	BX0620	6.0	LH050
GNDM R/L3232P-418	●	●	32	32	170	32	32	45.0	4.00	18	GC □400○-□□	1			
GNDM R/L3232P-518	●	●	32	32	170	32	32	45.0	5.00	18	GC □N500○-□□	1			
GNDM R/L3232P-618	●	●	32	32	170	32	32	45.0	6.00	18	GC □N600○-□□	1			
GNDM R/L3232P-718	●	●	32	32	170	32	32	50.0	7.00	18	GCM N700○-□□	1			
GNDM R/L3232P-818	●	●	32	32	170	32	32	50.0	8.00	18	GCM N800○-□□	1			

Select holders and inserts with matching width of cut (CW). Refer to F31 for applicable inserts.

The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to F19.



* For traverse cutting (groove expansion), use a multi-functional or profiling insert.

External L-Shaped (Side Cut), Multi-Functional (Grooving, Traverse Cutting and Profiling) Clamp-on

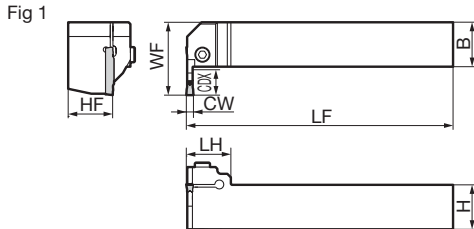
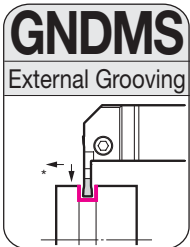


Figure shows right-handed (R) tool.

Necking

CBN

Holder

Parts

Dimensions (mm)

Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Head LH	Width of Cut CW	Maximum Groove Depth CDX	Applicable Insert	Fig	Cap Screw		Wrench
	R	L											Fig	N-m	
GNDMS R/L2020K-310	●	●	20	20	125	32	20	25.0	3.0	10	GC □300○-□□	1	BX0520	5.0	LH040
GNDMS R/L2020K-412	●	●	20	20	125	34	20	25.0	4.0	12	GC □400○-□□	1			
GNDMS R/L2020K-512	●	●	20	20	125	34	20	25.0	5.0	12	GC □N500○-□□	1			
GNDMS R/L2525M-312	●	●	25	25	150	39	25	25.0	3.0	12	GC □300○-□□	1	BX0520	5.0	LH040
GNDMS R/L2525M-414	●	●	25	25	150	41	25	25.0	4.0	14	GC □400○-□□	1			
GNDMS R/L2525M-514	●	●	25	25	150	41	25	25.0	5.0	14	GC □N500○-□□	1			
GNDMS R/L2525M-614	●	●	25	25	150	41	25	25.0	6.0	14	GC □N600○-□□	1			

Select holders and inserts with matching width of cut (CW). Refer to F31 for applicable inserts.

The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to F19.

GNDM type / GNDMS type

Inserts for GNDM type/GNDMS type

Fig 1

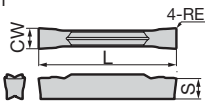


Fig 2 (Figure shows right-handed (R) tool.)

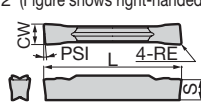


Fig 3

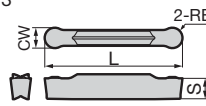
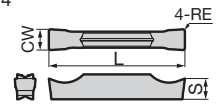


Fig 4



Coated Carbide / Cermet / Cemented Carbide

Grooving / Traverse Cutting

Dimensions (mm)

Cat. No.	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig		
	Width of Cut		Tolerance	RE	L	S	Pcs/Pack							
	Width of Cut	Tolerance												
GCM N3002-MG N3004-MG	AC8025P AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	3.0	±0.03	0.2	21.1	3.8	1
GCM N4002-MG N4004-MG N4008-MG	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	1
GCM N5004-MG N5008-MG	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	5
GCM N6004-MG N6008-MG	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	1
GCM N7004-MG N7008-MG	●	●	●	●	●	●	●	●	7.0	±0.04	0.4	28.8	5.5	1
GCM N8004-MG N8008-MG	●	●	●	●	●	●	●	●	8.0	±0.04	0.4	28.8	6.0	1
GCM N2002-ML N3002-ML N3004-ML	●	●	●	●	●	●	●	●	2.0	±0.03	0.2	21.1	3.6	1
GCM N4002-ML N4004-ML N4008-ML	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	1
GCM N5004-ML N5008-ML	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	5
GCM N6004-ML N6008-ML	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	1
GCM N7004-ML N7008-ML	●	●	●	●	●	●	●	●	7.0	±0.04	0.4	28.8	5.5	1
GCM N8004-ML N8008-ML	●	●	●	●	●	●	●	●	8.0	±0.04	0.4	28.8	6.0	1

Cut-off (Handed Edge)

Dimensions (mm)

Cat. No.	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig	
	Width of Cut		Tolerance	RE	L	S	Pcs/Pack						
	Width of Cut	Tolerance											
GCM R2002-CG-05 L2002-CG-05	AC8025P AC8035P	AC830P	AC5015S	AC5025S	AC520U	AC1030U	5°	2.0	±0.03	0.2	21.1	3.6	2
GCM R3002-CG-05 L3002-CG-05	●	●	●	●	●	●	5°	3.0	±0.03	0.2	21.3	3.8	5
GCM R4002-CG-05 L4002-CG-05	●	●	●	●	●	●	5°	4.0	±0.04	0.2	26.7	4.0	2
GCM R20003-CF-10 L20003-CF-10	●	●	●	●	●	●	10°	2.0	±0.08	0.03	22.4	3.6	2
GCM R30003-CF-10 L30003-CF-10	●	●	●	●	●	●	10°	3.0	±0.08	0.03	22.4	3.8	5
GCM R20003-CF-15 L20003-CF-15	●	●	●	●	●	●	15°	2.0	±0.08	0.03	22.4	3.6	2
GCM R30003-CF-15 L30003-CF-15	●	●	●	●	●	●	15°	3.0	±0.08	0.03	22.4	3.8	2

GCMR: Right-handed, GCML: Left-handed

External Profiling / External Radius Grooving

Dimensions (mm)

Cat. No.	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig		
	Width of Cut		Tolerance	RE	L	S	Pcs/Pack							
	Width of Cut	Tolerance												
GCM N3015-RG N4020-RG	AC8025P AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	3.0	±0.03	1.5	21.1	3.8	3
GCM N5025-RG N6030-RG	●	●	●	●	●	●	●	●	4.0	±0.03	2.0	26.4	4.0	5
GCM N7035-RG N8040-RG	●	●	●	●	●	●	●	●	5.0	±0.03	2.5	27.2	4.1	3
									6.0	±0.03	3.0	27.5	4.5	3
									7.0	±0.04	3.5	29.1	5.5	3
									8.0	±0.04	4.0	29.3	6.0	3

Grooving / Cut-off

Dimensions (mm)

Cat. No.	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig		
	Width of Cut		Tolerance	RE	L	S	Pcs/Pack							
	Width of Cut	Tolerance												
GCM N2002-GG N3002-GG N3004-GG	●	●	●	●	●	●	●	●	2.0	±0.03	0.2	21.1	3.6	1
GCM N4002-GG N4004-GG	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	1
GCM N5002-GG N5004-GG	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	1
GCM N6002-GG N6004-GG	●	●	●	●	●	●	●	●	5.0	±0.03	0.2	26.4	4.0	5
GCM N7004-GG	●	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	1
GCM N8004-GG	●	●	●	●	●	●	●	●	7.0	±0.04	0.4	28.8	5.5	1
GCM N2002-GL N2004-GL	●	●	●	●	●	●	●	●	8.0	±0.04	0.4	28.8	6.0	1
GCM N3002-GL N3004-GL	●	●	●	●	●	●	●	●	2.0	±0.03	0.2	21.1	3.6	1
GCM N4002-GL N4004-GL	●	●	●	●	●	●	●	●	2.0	±0.03	0.4	21.1	3.6	1
GCM N5002-GL N5004-GL	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	1
GCM N6002-GL N6004-GL	●	●	●	●	●	●	●	●	3.0	±0.03	0.4	21.1	3.8	1
GCM N7004-GL	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	1
GCM N8004-GL	●	●	●	●	●	●	●	●	4.0	±0.03	0.4	26.4	4.0	1
GCM N2002-GF N2004-GF	●	●	●	●	●	●	●	●	5.0	±0.03	0.2	26.4	4.1	5
GCM N3002-GF N3004-GF	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	1
GCM N4002-GF N4004-GF	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	1
GCM N5002-GF N5004-GF	●	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	1
GCM N6002-GF N6004-GF	●	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	1
GCM N7002-GF N7004-GF	●	●	●	●	●	●	●	●	7.0	±0.04	0.2	28.8	5.5	1
GCM N8002-GF N8004-GF	●	●	●	●	●	●	●	●	7.0	±0.04	0.4	28.8	5.5	1
									8.0	±0.04	0.2	28.8	6.0	1
									8.0	±0.04	0.4	28.8	6.0	1

Profiling / Radius Grooving / Necking

Dimensions (mm)

Cat. No.	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig	
	Width of Cut		Tolerance	RE	L	S	Pcs/Pack						
	Width of Cut	Tolerance											
GCM N2010-RN N3015-RN	AC8025P AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	2.0	±0.03	1.0	21.7	3.6	3
GCM N4020-RN N5025-RN	●	●	●	●	●	●	●	3.0	±0.03	1.5	22.6	3.8	5
GCM N6030-RN	●	●	●	●	●	●	●	4.0	±0.03	2.0	28.2	4.0	3
								5.0	±0.03	2.5	28.3	4.1	3
								6.0	±0.03	3.0	28.3	4.5	3

Non-Ferrous Metals

Dimensions (mm)

Cat. No.	H10	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
		Width of Cut		Tolerance	RE	L	S	Pcs/Pack					
		Width of Cut	Tolerance										
GCG N2002-GA N3002-GA	●	●	●	●	●	●	●	2.0	±0.025	0.2	21.1	3.6	4
GCG N4004-GA N5004-GA	●	●	●	●	●	●	●	3.0	±0.025	0.2	21.1	3.8	5
GCG N6004-GA	●	●	●	●	●	●	●	4.0	±0.025	0.4	26.4	4.0	4
								5.0	±0.025	0.4	26.4	4.1	4
								6.0	±0.025	0.4	26.4	4.5	4

Part Number Suffix Code (Chipbreakers)

Type	Symbol	Applications	Type	Symbol	Applications
Grooving / Traverse Cutting	MG ML	Multi-functional / General-purpose Multi-functional / Low-feed	Cut-off (Handed Edge)	CG CF	Cut-off / General-purpose Cut-off / Low cutting force
Grooving / Cut-off	GG GL GF	Grooving / General-purpose Grooving / Low-feed Grooving / Low cutting force	External Profiling / External Radius Grooving	RG	Profiling / General-purpose
			Profiling / Radius Grooving / Necking	RN	Facing / Necking / General-purpose
			Non-Ferrous Metals	GA	Non-Ferrous Metals / General-purpose

Chipbreaker Selection **F13** Precautions for Use **F22** Recommended Cutting Conditions **F19**

Note: The values in red have been changed from those in the 2021-2022 General Catalogue.

Select holders and inserts with matching width of cut (CW). Not usable with GNDXL type / GNDIS type holders.

Grooving Tools
Grooving
Cut-off
Threading
External
Face
Internal
Necking
CBN

GNDM-J type



* For traverse cutting (groove expansion), use a multi-functional or profiling insert.

External Multi-Functional (Grooving, Traverse Cutting and Profiling)
Internal Coolant Supply, Clamp-on

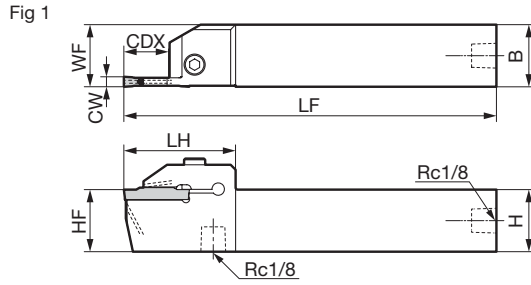
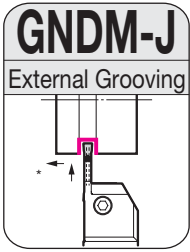


Figure shows right-handed (R) tool.

Holder

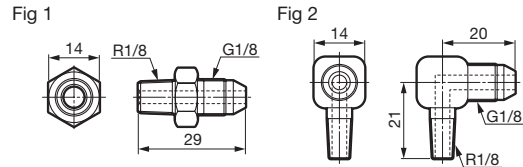
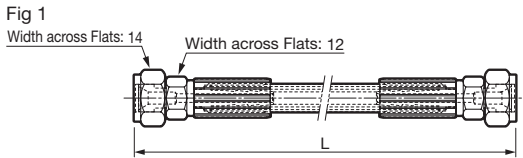
Parts

Dimensions (mm)

Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Head LH	Width of Cut CW	Maximum Groove Depth CDX	Applicable Insert	Fig	Cap Screw		Plug	Wrench
	R	L											Nm			
GNDM R/L2020K-210J	●	●	20	20	125	20	20	33.6	2.00	10	GC □ 20 ○ ○ - □ □	1	BX0520	6.0	XP02	LH040
R/L2020K-312J	●	●	20	20	125	20	20	36.6	3.00	12	GC □ 30 ○ ○ - □ □	1				
R/L2020K-418J	●	●	20	20	125	20	20	45	4.00	18	GC □ 40 ○ ○ - □ □	1				
R/L2020K-518J	●	●	20	20	125	20	20	45	5.00	18	GC □ N50 ○ ○ - □ □	1				
R/L2020K-618J	●	●	20	20	125	20	20	45	6.00	18	GC □ N60 ○ ○ - □ □	1				
GNDM R/L2525K-210J	●	●	25	25	125	25	25	33.6	2.00	10	GC □ 20 ○ ○ - □ □	1	BX0520	6.0	XP02	LH040
R/L2525K-312J	●	●	25	25	125	25	25	36.6	3.00	12	GC □ 30 ○ ○ - □ □	1				
R/L2525K-418J	●	●	25	25	125	25	25	45	4.00	18	GC □ 40 ○ ○ - □ □	1				
R/L2525K-518J	●	●	25	25	125	25	25	45	5.00	18	GC □ N50 ○ ○ - □ □	1				
R/L2525K-618J	●	●	25	25	125	25	25	45	6.00	18	GC □ N60 ○ ○ - □ □	1				

Select holders and inserts with matching width of cut (CW). Refer to F33 for applicable inserts.

The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to F19.



Parts (Hose)

Dimensions (mm)

Cat. No.	Stock	L	Screw Standard	Screw Standard	Fig
J-HOSE-G1/8-G1/8-200	●	200	G1/8	G1/8	1
J-HOSE-G1/8-G1/8-300	●	300	G1/8	G1/8	1

Hoses are sold separately.

Piping Method for Hoses and Connectors **F23**

Parts (Connector)

Dimensions (mm)

Cat. No.	Stock	Screw Standard	Screw Standard	Fig
J-G1/8-R1/8-00	●	G1/8	R1/8	1
J-G1/8-R1/8-90	●	G1/8	R1/8	2

Connectors are sold separately.

Piping Method for Hoses and Connectors **F23**

GNDM-J type

Inserts for GNDM-J type

Fig 1

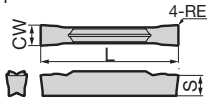


Fig 2 (Figure shows right-handed (R) tool.)

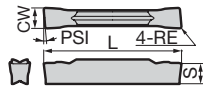


Fig 3

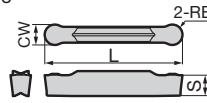
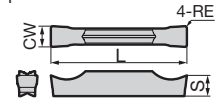


Fig 4



(Coated Carbide/ Cermet/ Cemented Carbide)

Grooving / Traverse Cutting

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	Width of Cut CW				Pcs/Pack	Fig	
										Width of Cut		RE	L			S
										Width of Cut	Tolerance					
GCM N3002-MG	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	1	
N3004-MG	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.4	21.1	3.8		
GCM N4002-MG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	1	
N4004-MG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.4	26.4	4.0		
GCM N4008-MG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.8	26.4	4.0	5	
N4008-MG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.8	26.4	4.0		
GCM N5004-MG	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	1	
N5008-MG	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.8	26.4	4.1		
GCM N6004-MG	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	1	
N6008-MG	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.8	26.4	4.5		
GCM N2002-ML	—	—	—	—	—	—	—	—	—	2.0	±0.03	0.2	21.1	3.6	1	
N3002-ML	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8		
GCM N3004-ML	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.4	21.1	3.8	1	
N4002-ML	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0		
GCM N4004-ML	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.4	26.4	4.0	5	
N4008-ML	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.8	26.4	4.0		
GCM N5004-ML	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	1	
N5008-ML	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.8	26.4	4.1		
GCM N6004-ML	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	1	
N6008-ML	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.8	26.4	4.5		

Grooving / Cut-off

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	Width of Cut CW				Pcs/Pack	Fig	
										Width of Cut		RE	L			S
										Width of Cut	Tolerance					
GCM N2002-GG	—	—	—	—	—	—	—	—	—	2.0	±0.03	0.2	21.1	3.6	1	
N3002-GG	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8		
GCM N3004-GG	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.4	21.1	3.8	1	
N4002-GG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0		
GCM N4004-GG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.4	26.4	4.0	5	
N4004-GG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.4	26.4	4.0		
GCM N5002-GG	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.2	26.4	4.1	1	
N5004-GG	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1		
GCM N6002-GG	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	1	
N6004-GG	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5		
GCM N2002-GL	—	—	—	—	—	—	—	—	—	2.0	±0.03	0.2	21.1	3.6	1	
N2004-GL	●	●	●	●	●	●	●	●	●	2.0	±0.03	0.4	21.1	3.6		
GCM N3002-GL	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	1	
N3004-GL	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.4	21.1	3.8		
GCM N4002-GL	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	5	
N4004-GL	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.4	26.4	4.0		
GCM N5002-GL	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.2	26.4	4.1	1	
N5004-GL	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1		
GCM N6002-GL	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	1	
N6004-GL	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5		
GCM N125005-GF	—	—	—	—	—	—	—	—	—	1.25	±0.03	0.05	17.4	3.2	1	
N150005-GF	—	—	—	—	—	—	—	—	—	1.5	±0.03	0.05	17.8	3.7		
GCM N2002-GF	—	—	—	—	—	—	—	—	—	2.0	±0.03	0.2	21.1	3.6	1	
N2004-GF	—	—	—	—	—	—	—	—	—	2.0	±0.03	0.4	21.1	3.6		
GCM N3002-GF	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	1	
N3004-GF	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.4	21.1	3.8		
GCM N4002-GF	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	5	
N4004-GF	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.4	26.4	4.0		
GCM N5002-GF	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.2	26.4	4.1	1	
N5004-GF	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1		
GCM N6002-GF	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	1	
N6004-GF	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5		

Cut-off (Handed Edge)

Dimensions (mm)

Cat. No.	AC8035P	AC830P	AC5015S	AC5025S	AC520U	AC530U	AC1030U	Lead Angle	Width of Cut CW				Pcs/Pack	Fig	
									Width of Cut		RE	L			S
									Width of Cut	Tolerance					
GCM R2002-CG-05	●	●	●	●	●	●	—	5°	2.0	±0.03	0.2	21.1	3.6	2	
L2002-CG-05	●	●	●	●	●	●	—	5°	2.0	±0.03	0.2	21.1	3.6		
GCM R3002-CG-05	●	●	●	●	●	●	—	5°	3.0	±0.03	0.2	21.3	3.8	5	
L3002-CG-05	●	●	●	●	●	●	—	5°	3.0	±0.03	0.2	21.3	3.8		
GCM R4002-CG-05	●	●	●	●	●	●	—	5°	4.0	±0.04	0.2	26.7	4.0	2	
L4002-CG-05	●	●	●	●	●	●	—	5°	4.0	±0.04	0.2	26.7	4.0		
GCM R2003-CF-10	—	—	—	—	—	—	●	10°	2.0	±0.08	0.03	22.4	3.6	2	
L2003-CF-10	—	—	—	—	—	—	●	10°	2.0	±0.08	0.03	22.4	3.6		
GCM R3003-CF-10	—	—	—	—	—	—	●	10°	3.0	±0.08	0.03	22.4	3.8	5	
L3003-CF-10	—	—	—	—	—	—	●	10°	3.0	±0.08	0.03	22.4	3.8		
GCM R2003-CF-15	—	—	—	—	—	—	●	15°	2.0	±0.08	0.03	22.4	3.6	2	
L2003-CF-15	—	—	—	—	—	—	●	15°	2.0	±0.08	0.03	22.4	3.6		
GCM R3003-CF-15	—	—	—	—	—	—	●	15°	3.0	±0.08	0.03	22.4	3.8	2	
L3003-CF-15	—	—	—	—	—	—	●	15°	3.0	±0.08	0.03	22.4	3.8		

GCMR: Right-handed, GCML: Left-handed

External Profiling / External Radius Grooving

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	Width of Cut CW				Pcs/Pack	Fig	
										Width of Cut		RE	L			S
										Width of Cut	Tolerance					
GCM N3015-RG	●	●	●	●	●	●	●	●	●	3.0	±0.03	1.5	21.1	3.8	3	
N4020-RG	●	●	●	●	●	●	●	●	●	4.0	±0.03	2.0	26.4	4.0		
GCM N5025-RG	●	●	●	●	●	●	●	●	●	5.0	±0.03	2.5	27.2	4.1	5	
N6030-RG	●	●	●	●	●	●	●	●	●	6.0	±0.03	3.0	27.5	4.5		

Profiling / Radius Grooving / Necking

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	Width of Cut CW				Pcs/Pack	Fig	
										Width of Cut		RE	L			S
										Width of Cut	Tolerance					
GCM N2010-RN	—	—	—	—	—	—	●	●	●	2.0	±0.03	1.0	21.7	3.6	3	
N3015-RN	●	●	●	●	●	●	●	●	●	3.0	±0.03	1.5	22.6	3.8		
GCM N40																

GNDL type/GNDLS type



External Deep Grooving & Cut-off Clamp-on

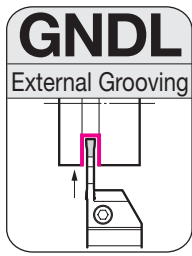


Fig 1

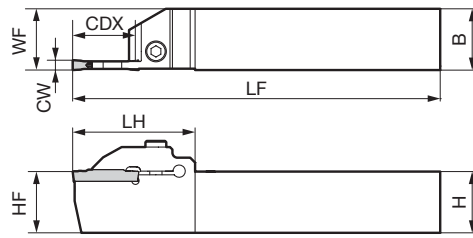


Figure shows right-handed (R) tool.

Holder

Parts

Dimensions (mm)

Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Head LH	Width of Cut CW	Maximum Groove Depth CDX	Applicable Insert	Fig	Cap Screw		Wrench
	R	L											BX0520	N-m	
GNDL R/L2020K-1.2516	●	●	20	20	125	20	20	38.0	1.25	16	GCM N125005-GF	1	BX0520	5.0	LH040
GNDL R/L2020K-1.516	●	●	20	20	125	20	20	38.0	1.50	16	GCM N150005-GF	1			
GNDL R/L2020K-220	●	●	20	20	125	20	20	44.5	2.00	20(18)	GC □2000-□□	1			
GNDL R/L2020K-320	●	●	20	20	125	20	20	44.5	3.00	20(18)	GC □3000-□□	1			
GNDL R/L2020K-425	●	●	20	20	125	20	20	50.0	4.00	25(23)	GC □4000-□□	1			
GNDL R/L2020K-525	●	●	20	20	125	20	20	50.0	5.00	25(23)	GC N5000-□□	1			
GNDL R/L2020K-625	●	●	20	20	125	20	20	50.0	6.00	25(23)	GC N6000-□□	1			
GNDL R/L2525M-1.2516	●	●	25	25	150	25	25	40.0	1.25	16	GCM N125005-GF	1	BX0520	5.0	LH040
GNDL R/L2525M-1.516	●	●	25	25	150	25	25	40.0	1.50	16	GCM N150005-GF	1			
GNDL R/L2525M-220	●	●	25	25	150	25	25	44.5	2.00	20(18)	GC □2000-□□	1			
GNDL R/L2525M-320	●	●	25	25	150	25	25	44.5	3.00	20(18)	GC □3000-□□	1			
GNDL R/L2525M-425	●	●	25	25	150	25	25	50.0	4.00	25(23)	GC □4000-□□	1			
GNDL R/L2525M-525	●	●	25	25	150	25	25	50.0	5.00	25(23)	GC N5000-□□	1			
GNDL R/L2525M-625	●	●	25	25	150	25	25	50.0	6.00	25(23)	GC N6000-□□	1			
GNDL R/L3225P-320			32	25	170	25	32	44.5	3.00	20(18)	GC □3000-□□	1	BX0520	5.0	LH040
GNDL R/L3225P-425			32	25	170	25	32	50.0	4.00	25(23)	GC □4000-□□	1			
GNDL R/L3225P-525			32	25	170	25	32	50.0	5.00	25(23)	GC N5000-□□	1			
GNDL R/L3225P-625			32	25	170	25	32	50.0	6.00	25(23)	GC N6000-□□	1			
GNDL R/L3225P-725			32	25	170	25	32	50.0	7.00	25(23)	GCM N7000-□□	1			
GNDL R/L3225P-825			32	25	170	25	32	50.0	8.00	25(23)	GCM N8000-□□	1			
GNDL R/L3232P-320	●	●	32	32	170	32	32	44.5	3.00	20(18)	GC □3000-□□	1	BX0620	6.0	LH050
GNDL R/L3232P-425	●	●	32	32	170	32	32	50.0	4.00	25(23)	GC □4000-□□	1			
GNDL R/L3232P-525	●	●	32	32	170	32	32	50.0	5.00	25(23)	GC N5000-□□	1			
GNDL R/L3232P-625	●	●	32	32	170	32	32	50.0	6.00	25(23)	GC N6000-□□	1			
GNDL R/L3232P-725	●	●	32	32	170	32	32	50.0	7.00	25(23)	GCM N7000-□□	1			
GNDL R/L3232P-825	●	●	32	32	170	32	32	50.0	8.00	25(23)	GCM N8000-□□	1			

Select holders and inserts with matching width of cut (CW). Dimensions in parentheses under maximum groove depth are for profiling inserts (RG type / RN type chipbreakers). Refer to F35 for applicable inserts. The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to F19.



External L-Shaped (Side Cut), Grooving Clamp-on

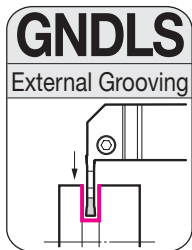


Fig 1

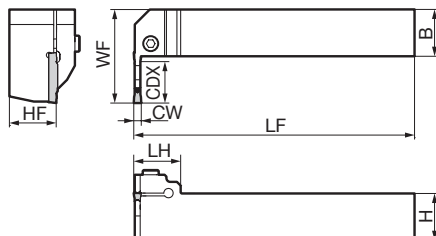


Figure shows right-handed (R) tool.

Holder

Parts

Dimensions (mm)

Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Head LH	Width of Cut CW	Maximum Groove Depth CDX	Applicable Insert	Fig	Cap Screw		Wrench
	R	L											BX0520	N-m	
GNDLS R/L2020K-216	●	●	20	20	125	38	20	25	2.0	16	GC □2000-□□	1	BX0520	5.0	LH040
GNDLS R/L2020K-316	●	●	20	20	125	38	20	25	3.0	16	GC □3000-□□	1			
GNDLS R/L2525M-218	●	●	25	25	150	45	25	25	2.0	18	GC □2000-□□	1	BX0520	5.0	LH040
GNDLS R/L2525M-318	●	●	25	25	150	45	25	25	3.0	18	GC □3000-□□	1			
GNDLS R/L2525M-423	●	●	25	25	150	50	25	25	4.0	23	GC □4000-□□	1			
GNDLS R/L2525M-523	●	●	25	25	150	50	25	25	5.0	23	GC N5000-□□	1			
GNDLS R/L2525M-623	●	●	25	25	150	50	25	25	6.0	23	GC N6000-□□	1			

Select holders and inserts with matching width of cut (CW). Refer to F35 for applicable inserts.

The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to F19.

GNDL type/GNDLS type

Inserts for GNDL type/GNDLS type

Fig 1

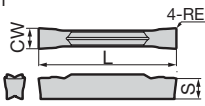


Fig 2 (Figure shows right-handed (R) tool.)

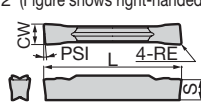


Fig 3

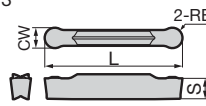
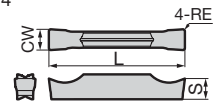


Fig 4



Coated Carbide / Cermet / Cemented Carbide

Grooving / Traverse Cutting

Dimensions (mm)

Cat. No.	Material							Width of Cut CW			Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	T2500A	Width of Cut	Tolerance					
	●	●	●	●	●	●	●								
GCM N3002-MG N3004-MG	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	1	1	
GCM N4002-MG N4004-MG N4008-MG	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	1	1	
GCM N5004-MG N5008-MG	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	5	1	
GCM N6004-MG N6008-MG	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	1	1	
GCM N7004-MG N7008-MG	●	●	●	●	●	●	●	7.0	±0.04	0.4	28.8	5.5	1	1	
GCM N8004-MG N8008-MG	●	●	●	●	●	●	●	8.0	±0.04	0.4	28.8	6.0	1	1	
GCM N2002-ML N3002-ML N3004-ML	●	●	●	●	●	●	●	2.0	±0.03	0.2	21.1	3.6	1	1	
GCM N4002-ML N4004-ML N4008-ML	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	1	1	
GCM N5004-ML N5008-ML	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	5	1	
GCM N6004-ML N6008-ML	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	1	1	
GCM N7004-ML N7008-ML	●	●	●	●	●	●	●	7.0	±0.04	0.4	28.8	5.5	1	1	
GCM N8004-ML N8008-ML	●	●	●	●	●	●	●	8.0	±0.04	0.4	28.8	6.0	1	1	

Cut-off (Handed Edge)

Dimensions (mm)

Cat. No.	Material							Lead Angle PSI	Width of Cut CW			Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
	AC8025P	AC8035P	AC830P	AC5015S	AC5025S	AC520U	AC1030U		Width of Cut	Tolerance						
	●	●	●	●	●	●	●									
GCM R2002-CG-05 L2002-CG-05	●	●	●	●	●	●	●	5°	2.0	±0.03	0.2	21.1	3.6	2	2	
GCM R3002-CG-05 L3002-CG-05	●	●	●	●	●	●	●	5°	3.0	±0.03	0.2	21.3	3.8	5	2	
GCM R4002-CG-05 L4002-CG-05	●	●	●	●	●	●	●	5°	4.0	±0.04	0.2	26.7	4.0	2	2	
GCM R20003-CF-10 L20003-CF-10	●	●	●	●	●	●	●	10°	2.0	±0.08	0.03	22.4	3.6	2	2	
GCM R30003-CF-10 L30003-CF-10	●	●	●	●	●	●	●	10°	3.0	±0.08	0.03	22.4	3.8	5	2	
GCM R20003-CF-15 L20003-CF-15	●	●	●	●	●	●	●	15°	2.0	±0.08	0.03	22.4	3.6	2	2	
GCM R30003-CF-15 L30003-CF-15	●	●	●	●	●	●	●	15°	3.0	±0.08	0.03	22.4	3.8	2	2	

GCMR: Right-handed, GCML: Left-handed

Grooving / Cut-off

Dimensions (mm)

Cat. No.	Material							Width of Cut CW			Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	T2500A	Width of Cut	Tolerance					
	●	●	●	●	●	●	●								
GCM N2002-GG N3004-GG	●	●	●	●	●	●	●	2.0	±0.03	0.2	21.1	3.6	1	1	
GCM N4002-GG N4004-GG	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	1	1	
GCM N5002-GG N5004-GG	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	1	1	
GCM N6002-GG N6004-GG	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	5	1	
GCM N7002-GG N7004-GG	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	1	1	
GCM N8002-GG N8004-GG	●	●	●	●	●	●	●	7.0	±0.04	0.4	28.8	5.5	1	1	
GCM N2002-GL N2004-GL	●	●	●	●	●	●	●	8.0	±0.04	0.4	28.8	6.0	1	1	
GCM N3002-GL N3004-GL	●	●	●	●	●	●	●	2.0	±0.03	0.2	21.1	3.6	1	1	
GCM N4002-GL N4004-GL	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	1	1	
GCM N5002-GL N5004-GL	●	●	●	●	●	●	●	3.0	±0.03	0.4	21.1	3.8	1	1	
GCM N6002-GL N6004-GL	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	1	1	
GCM N7002-GL N7004-GL	●	●	●	●	●	●	●	4.0	±0.03	0.4	26.4	4.0	1	1	
GCM N8002-GL N8004-GL	●	●	●	●	●	●	●	5.0	±0.03	0.2	26.4	4.1	5	1	
GCM N2002-GF N2004-GF	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	1	1	
GCM N3002-GF N3004-GF	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	1	1	
GCM N4002-GF N4004-GF	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	1	1	
GCM N5002-GF N5004-GF	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	1	1	
GCM N6002-GF N6004-GF	●	●	●	●	●	●	●	7.0	±0.04	0.2	28.8	5.5	1	1	
GCM N7002-GF N7004-GF	●	●	●	●	●	●	●	7.0	±0.04	0.4	28.8	5.5	1	1	
GCM N8002-GF N8004-GF	●	●	●	●	●	●	●	8.0	±0.04	0.2	28.8	6.0	1	1	
GCM N125005-GF N150005-GF	●	●	●	●	●	●	●	1.25	±0.03	0.05	17.4	3.2	1	1	
								1.5	±0.03	0.05	17.8	3.7	1	1	

Profiling / Radius Grooving / Necking

Dimensions (mm)

Cat. No.	Material							Width of Cut CW			Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	T2500A	Width of Cut	Tolerance					
	●	●	●	●	●	●	●								
GCM N2010-RN N3015-RN	●	●	●	●	●	●	●	2.0	±0.03	1.0	21.7	3.6	3	3	
GCM N4020-RN N5025-RN	●	●	●	●	●	●	●	3.0	±0.03	1.5	22.6	3.8	5	3	
GCM N6030-RN	●	●	●	●	●	●	●	4.0	±0.03	2.0	28.2	4.0	3	3	
								5.0	±0.03	2.5	28.3	4.1	3	3	
								6.0	±0.03	3.0	28.3	4.5	3	3	

Non-Ferrous Metals

Dimensions (mm)

Cat. No.	Material	Width of Cut CW			Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
		Width of Cut	Tolerance	RE					
		●	●	●					
GCG N2002-GA N3002-GA	H10	2.0	±0.025	0.2	21.1	3.6	4	4	
GCG N4004-GA N5004-GA	●	3.0	±0.025	0.2	21.1	3.8	5	4	
GCG N6004-GA	●	4.0	±0.025	0.4	26.4	4.0	4	4	
		5.0	±0.025	0.4	26.4	4.1	4	4	
		6.0	±0.025	0.4	26.4	4.5	4	4	

Part Number Suffix Code (Chipbreakers)

Type	Symbol	Applications	Type	Symbol	Applications
Grooving / Traverse Cutting	MG	Multi-functional / General-purpose	Cut-off (Handed Edge)	CG	Cut-off / General-purpose
	ML	Multi-functional / Low-feed		CF	Cut-off / Low cutting force
Grooving / Cut-off	GG	Grooving / General-purpose	External Profiling / External Radius Grooving	RG	Profiling / General-purpose
	GL	Grooving / Low-feed	Profiling / Radius Grooving / Necking	RN	Facing / Necking / General-purpose
	GF	Grooving / Low cutting force	Non-Ferrous Metals	GA	Non-Ferrous Metals / General-purpose

Chipbreaker Selection **F13** Precautions for Use **F22** Recommended Cutting Conditions **F19**

Note: The values in red have been changed from those in the 2021-2022 General Catalogue.

Select holders and inserts with matching width of cut (CW). Not usable with GNDXL type / GNDIS type holders.

Grooving Tools
 Grooving
 Cut-off
 Threading
 External
 Face
 Internal
 Necking
 CBN

GNDL-J type



External Deep Grooving and Cut-off
Internal Coolant Supply,
Clamp-on

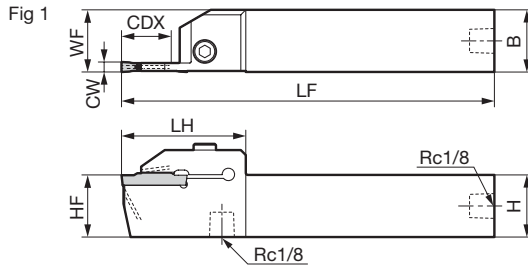
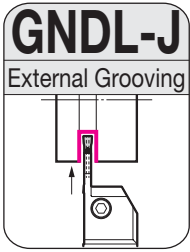


Figure shows right-handed (R) tool.

Holder

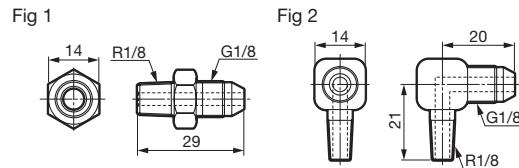
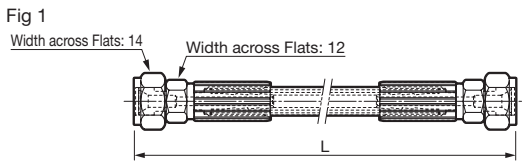
Parts

Dimensions (mm)

Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Head LH	Width of Cut CW	Maximum Groove Depth CDX	Applicable Insert	Fig	Cap Screw		Plug	Wrench
	R	L											N·m			
GNDL R/L2020K-220J	●	●	20	20	125	20	20	44.5	2.00	20(18)	GC □ 20○○-□□	1	BX0520	6.0	XP02	LH040
R/L2020K-320J	●	●	20	20	125	20	20	44.5	3.00	20(18)	GC □ 30○○-□□	1				
R/L2020K-425J	●	●	20	20	125	20	20	50	4.00	25(23)	GC □ 40○○-□□	1				
R/L2020K-525J	●	●	20	20	125	20	20	50	5.00	25(23)	GC □ N50○○-□□	1				
R/L2020K-625J	●	●	20	20	125	20	20	50	6.00	25(23)	GC □ N60○○-□□	1				
GNDL R/L2525K-220J	●	●	25	25	125	25	25	44.5	2.00	20(18)	GC □ 20○○-□□	1	BX0520	6.0	XP02	LH040
R/L2525K-320J	●	●	25	25	125	25	25	44.5	3.00	20(18)	GC □ 30○○-□□	1				
R/L2525K-425J	●	●	25	25	125	25	25	50	4.00	25(23)	GC □ 40○○-□□	1				
R/L2525K-525J	●	●	25	25	125	25	25	50	5.00	25(23)	GC □ N50○○-□□	1				
R/L2525K-625J	●	●	25	25	125	25	25	50	6.00	25(23)	GC □ N60○○-□□	1				

Select holders and inserts with matching width of cut (CW). Dimensions in parentheses under maximum groove depth are for profiling inserts (RG type / RN type chipbreakers). Refer to F37 for applicable inserts.

The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to F19.

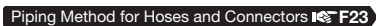


Parts (Hose)

Dimensions (mm)

Cat. No.	Stock	L	Screw Standard	Screw Standard	Fig
J-HOSE-G1/8-G1/8-200	●	200	G1/8	G1/8	1
J-HOSE-G1/8-G1/8-300	●	300	G1/8	G1/8	1

Hoses are sold separately.

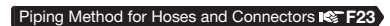


Parts (Connector)

Dimensions (mm)

Cat. No.	Stock	Screw Standard	Screw Standard	Fig
J-G1/8-R1/8-00	●	G1/8	R1/8	1
J-G1/8-R1/8-90	●	G1/8	R1/8	2

Connectors are sold separately.



Grooving Tools

Grooving

Cut-off

Threading

External

Face

Internal

Necking

CBN

GNDL-J type

Inserts for GNDL-J type

Fig 1

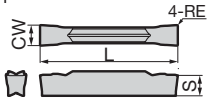


Fig 2 (Figure shows right-handed (R) tool.)

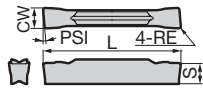


Fig 3

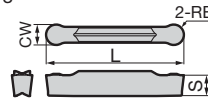
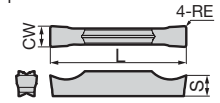


Fig 4



(Coated Carbide / Cermet / Cemented Carbide)

Grooving / Traverse Cutting

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	Width of Cut CW			Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
										Width of Cut	Tolerance						
											RE	L					
GCM N3002-MG	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	5	1	
N3004-MG	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.4	21.1	3.8			
GCM N4002-MG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	5	1	
N4004-MG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.4	26.4	4.0			
GCM N4008-MG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.8	26.4	4.0	5	1	
N5004-MG	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1			
N5008-MG	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.8	26.4	4.1	5	1	
N6004-MG	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5			
N6008-MG	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.8	26.4	4.5	5	1	
N2002-ML	●	●	●	●	●	●	●	●	●	2.0	±0.03	0.2	21.1	3.6			
GCM N3002-ML	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	5	1	
N3004-ML	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.4	21.1	3.8			
GCM N4002-ML	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	5	1	
N4004-ML	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.4	26.4	4.0			
GCM N4008-ML	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.8	26.4	4.0	5	1	
N5004-ML	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1			
N5008-ML	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.8	26.4	4.1	5	1	
N6004-ML	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5			
N6008-ML	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.8	26.4	4.5	5	1	

Grooving / Cut-off

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	Width of Cut CW			Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
										Width of Cut	Tolerance						
											RE	L					
GCM N2002-GG	●	●	●	●	●	●	●	●	●	2.0	±0.03	0.2	21.1	3.6	5	1	
GCM N3002-GG	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8			
N3004-GG	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.4	21.1	3.8	5	1	
GCM N4002-GG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0			
N4004-GG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.4	26.4	4.0	5	1	
GCM N5002-GG	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.2	26.4	4.1			
N5004-GG	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	5	1	
GCM N6002-GG	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5			
N6004-GG	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	5	1	
GCM N2002-GL	●	●	●	●	●	●	●	●	●	2.0	±0.03	0.2	21.1	3.6			
N2004-GL	●	●	●	●	●	●	●	●	●	2.0	±0.03	0.4	21.1	3.6	5	1	
GCM N3002-GL	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8			
N3004-GL	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.4	21.1	3.8	5	1	
GCM N4002-GL	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0			
N4004-GL	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.4	26.4	4.0	5	1	
GCM N5002-GL	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.2	26.4	4.1			
N5004-GL	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	5	1	
GCM N6002-GL	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5			
N6004-GL	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	5	1	
GCM N125005-GF	●	●	●	●	●	●	●	●	●	1.25	±0.03	0.05	17.4	3.2			
GCM N150005-GF	●	●	●	●	●	●	●	●	●	1.5	±0.03	0.05	17.8	3.7	5	1	
GCM N2002-GF	●	●	●	●	●	●	●	●	●	2.0	±0.03	0.2	21.1	3.6			
N2004-GF	●	●	●	●	●	●	●	●	●	2.0	±0.03	0.4	21.1	3.6	5	1	
GCM N3002-GF	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8			
N3004-GF	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.4	21.1	3.8	5	1	
GCM N4002-GF	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0			
N4004-GF	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.4	26.4	4.0	5	1	
GCM N5002-GF	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.2	26.4	4.1			
N5004-GF	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	5	1	
GCM N6002-GF	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5			
N6004-GF	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	5	1	

Cut-off (Handed Edge)

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC5015S	AC5025S	AC520U	AC530U	AC1030U	Lead Angle	Width of Cut CW			Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
										Width of Cut	Tolerance						
											RE	L					
GCM R2002-CG-05	●	●	●	●	●	●	●	●	5°	2.0	±0.03	0.2	21.1	3.6	5	2	
L2002-CG-05	●	●	●	●	●	●	●	●	5°	2.0	±0.03	0.2	21.1	3.6			
GCM R3002-CG-05	●	●	●	●	●	●	●	●	5°	3.0	±0.03	0.2	21.3	3.8	5	2	
L3002-CG-05	●	●	●	●	●	●	●	●	5°	3.0	±0.03	0.2	21.3	3.8			
GCM R4002-CG-05	●	●	●	●	●	●	●	●	5°	4.0	±0.04	0.2	26.7	4.0	5	2	
L4002-CG-05	●	●	●	●	●	●	●	●	5°	4.0	±0.04	0.2	26.7	4.0			
GCM R20003-CF-10	●	●	●	●	●	●	●	●	10°	2.0	±0.08	0.03	22.4	3.6	5	2	
L20003-CF-10	●	●	●	●	●	●	●	●	10°	2.0	±0.08	0.03	22.4	3.6			
GCM R30003-CF-10	●	●	●	●	●	●	●	●	10°	3.0	±0.08	0.03	22.4	3.8	5	2	
L30003-CF-10	●	●	●	●	●	●	●	●	10°	3.0	±0.08	0.03	22.4	3.8			
GCM R20003-CF-15	●	●	●	●	●	●	●	●	15°	2.0	±0.08	0.03	22.4	3.6	5	2	
L20003-CF-15	●	●	●	●	●	●	●	●	15°	2.0	±0.08	0.03	22.4	3.6			
GCM R30003-CF-15	●	●	●	●	●	●	●	●	15°	3.0	±0.08	0.03	22.4	3.8	5	2	
L30003-CF-15	●	●	●	●	●	●	●	●	15°	3.0	±0.08	0.03	22.4	3.8			

GCMR: Right-handed, GCML: Left-handed

External Profiling / External Radius Grooving

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	Width of Cut CW			Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
										Width of Cut	Tolerance						
											RE	L					
GCM N3015-RG	●	●	●	●	●	●	●	●	●	3.0	±0.03	1.5	21.1	3.8	5	3	
N4020-RG	●	●	●	●	●	●	●	●	●	4.0	±0.03	2.0	26.4	4.0			
GCM N5025-RG	●	●	●	●	●	●	●	●	●	5.0	±0.03	2.5	27.2	4.1	5	3	
N6030-RG	●	●	●	●	●	●	●	●	●	6.0	±0.03	3.0	27.5	4.5			

Profiling / Radius Grooving / Necking

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	H10	Width of Cut CW			Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
										Width of Cut	Tolerance						
											RE	L					

SEC-Grooving Tools GNDXL type



External Deep Grooving and Cut-off Clamp-on

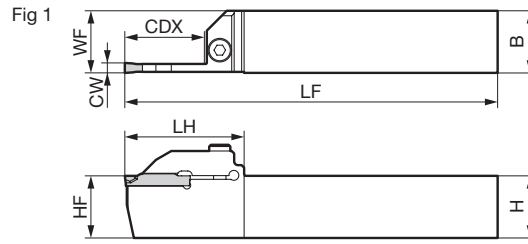
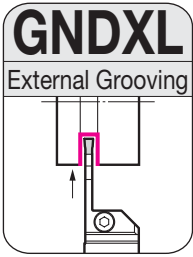


Figure shows right-handed (R) tool.

Holder

Parts

Dimensions (mm)

Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Head LH	Width of Cut CW	Maximum Groove Depth CDX	Applicable Insert	Fig	Parts		
	R	L											Cap Screw	Wrench	
GNDXL R/L2020K-226			20	20	125	20	20	42.0	2.0	26	GCM N2002-GF1	1	BX0520	5.0	LH040
R/L2020K-332	●	●	20	20	125	20	20	48.0	3.0	32	GCM N3000-□□1	1			
R/L2020K-432	●	●	20	20	125	20	20	48.0	4.0	32	GCM N4000-□□1	1			
R/L2020K-532	●	●	20	20	125	20	20	48.0	5.0	32	GCM N5000-□□1	1			
R/L2020K-632	●	●	20	20	125	20	20	48.0	6.0	32	GCM N6000-□□1	1			
GNDXL R/L2525M-226			25	25	150	25	25	42.0	2.0	26	GCM N2002-GF1	1	BX0520	5.0	LH040
R/L2525M-332	●	●	25	25	150	25	25	48.0	3.0	32	GCM N3000-□□1	1			
R/L2525M-432	●	●	25	25	150	25	25	48.0	4.0	32	GCM N4000-□□1	1			
R/L2525M-532	●	●	25	25	150	25	25	48.0	5.0	32	GCM N5000-□□1	1			
R/L2525M-632	●	●	25	25	150	25	25	48.0	6.0	32	GCM N6000-□□1	1			

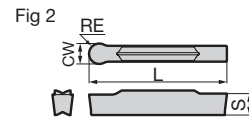
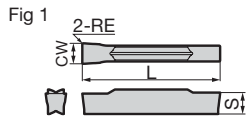
Select holders and inserts with matching width of cut (CW). Only 1-cornered inserts can be used. Refer to F39 for applicable inserts.

The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to F19.



Inserts for GNDXL type (1-cornered)

Coated Carbide



Grooving / Traverse Cutting (1-cornered)

Dimensions (mm)

Cat. No.	AC5015S	AC5025S	AC530U	Width of Cut CW		Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
				Width of Cut	Tolerance					
GCM N3002-ML1	●	●	●	3.0	±0.03	0.2	21.1	3.8	5	1
GCM N4004-ML1	●	●	●	4.0	±0.03	0.4	26.4	4.0		1
GCM N5004-ML1	●	●	●	5.0	±0.03	0.4	26.4	4.1		1
GCM N6004-ML1	●	●	●	6.0	±0.03	0.4	26.4	4.5		1

Profiling / Radius Grooving (1-cornered)

Dimensions (mm)

Cat. No.	AC5015S	AC5025S	AC530U	Width of Cut CW		Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
				Width of Cut	Tolerance					
GCM N3015-RN1	●	●	●	3.0	±0.03	1.5	22.6	3.8	5	2
GCM N6030-RN1	●	●	●	6.0	±0.03	3.0	28.3	4.5		2

Grooving / Cut-off (1-cornered)

Dimensions (mm)

Cat. No.	AC5015S	AC5025S	AC530U	Width of Cut CW		Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
				Width of Cut	Tolerance					
GCM N2002-GF1	●	●	●	2.0	±0.03	0.2	21.1	3.6	5	1
GCM N3002-GF1	●	●	●	3.0	±0.03	0.2	21.1	3.8		1
GCM N4002-GF1	●	●	●	4.0	±0.03	0.2	26.4	4.0		1
GCM N5002-GF1	●	●	●	5.0	±0.03	0.2	26.4	4.1		1
GCM N6002-GF1	●	●	●	6.0	±0.03	0.2	26.4	4.5		1

Select holders and inserts with matching width of cut (CW). Use in combination with GNDXL type holders. Not usable with GNDIS type holders.

Grooving Tools

Grooving

Cut-off

Threading

External

Face

Internal

Necking

CBN

Part Number Suffix Code (Chipbreakers)

Type	Symbol	Applications	Type	Symbol	Applications
Grooving / Traverse Cutting	ML1	Multi-functional / Low-feed	Profiling / Radius Grooving	RN1	General-purpose
Grooving / Cut-off	GF1	Grooving / Low cutting force			

GNDN type



Necking
Clamp-on

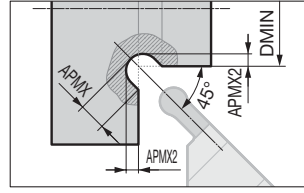
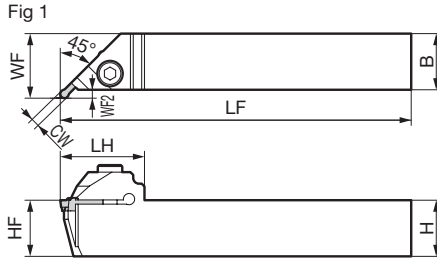
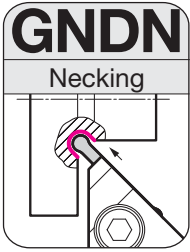


Figure shows right-handed (R) tool.

Holder

Parts Dimensions (mm)

Cat. No.	Stock		Height	Width	Overall Length	Cutting Edge Distance	Cutting Edge Height	Head	Offset	Min. Bore Dia.	Width of Cut	APMX	APMX2	Applicable Insert	Fig	Parts		
	R	L														Cap Screw	Wrench	
GNDN R/L2020K-215-020	●	●	20	20	125	23	20	35	3.0	20	2.0	1.5	0.64	GCM N2010-RN	1	BX0520	5.0	LH040
GNDN R/L2020K-320-020	●	●	20	20	125	23	20	35	3.0	20	3.0	2.0	0.79	GCM N3015-RN	1			
GNDN R/L2020K-430-030	●	●	20	20	125	24	20	37	4.0	30	4.0	3.0	1.29	GCM N4020-RN	1			
GNDN R/L2020K-535-030	●	●	20	20	125	25	20	40	5.0	30	5.0	3.5	1.44	GCM N5025-RN	1			
GNDN R/L2020K-640-030	●	●	20	20	125	25	20	40	5.0	30	6.0	4.0	1.59	GCM N6030-RN	1			
GNDN R/L2525M-215-020	●	●	25	25	150	28	25	35	3.0	20	2.0	1.5	0.64	GCM N2010-RN	1	BX0520	5.0	LH040
GNDN R/L2525M-320-020	●	●	25	25	150	28	25	35	3.0	20	3.0	2.0	0.79	GCM N3015-RN	1			
GNDN R/L2525M-430-030	●	●	25	25	150	29	25	37	4.0	30	4.0	3.0	1.29	GCM N4020-RN	1			
GNDN R/L2525M-535-030	●	●	25	25	150	30	25	40	5.0	30	5.0	3.5	1.44	GCM N5025-RN	1			
GNDN R/L2525M-640-030	●	●	25	25	150	30	25	40	5.0	30	6.0	4.0	1.59	GCM N6030-RN	1			

Select holders and inserts with matching width of cut (CW). Refer to F41 for applicable inserts.

The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to F19.

Identification Code

GND N R 20 20 K - 2 15 - 020

Series Code	Application Symbol: Necking	Feed Direction	Shank Height (mm)	Shank Width (mm)	Shank Length (mm)	Width of Cut (mm)	APMX x10 (mm)	Min. Bore Dia. (mm)
GND	N	R	20	20	K	2	15	020

Grooving Tools

F

Grooving

Cut-off

Threading

External

Face

Internal

Necking

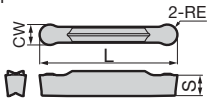
CBN

GNDN type

Inserts for GNDN type

(Coated Carbide)

Fig 1



Profiling / Radius Grooving / Necking

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	Width of Cut CW				Pcs/Pack	Fig	
									Width of Cut		Corner Radius	Overall Length			
									Width of Cut	Tolerance	RE	L			
GCM N2010-RN	●	●	●	●	●	●	●	●	2.0	±0.03	1.0	21.7	3.6	5	1
N3015-RN	●	●	●	●	●	●	●	●	3.0	±0.03	1.5	22.6	3.8	5	1
N4020-RN	●	●	●	●	●	●	●	●	4.0	±0.03	2.0	28.2	4.0	5	1
N5025-RN	●	●	●	●	●	●	●	●	5.0	±0.03	2.5	28.3	4.1	5	1
N6030-RN	●	●	●	●	●	●	●	●	6.0	±0.03	3.0	28.3	4.5	5	1

Grooving Tools



Grooving

Cut-off

Threading

External

Face

Internal

Necking

CBN

Part Number Suffix Code (Chipbreakers)

Type	Symbol	Applications
Profiling / Radius Grooving / Necking	RN	Facing / Necking / General-purpose

Chipbreaker Selection **F13** Precautions for Use **F22** Recommended Cutting Conditions **F19**

Note: The values in red have been changed from those in the 2021-2022 General Catalogue.

Select holders and inserts with matching width of cut (CW). Not usable with GNDXL type / GNDIS type holders.

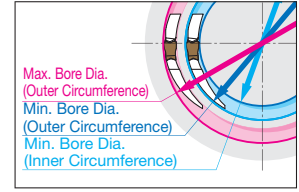
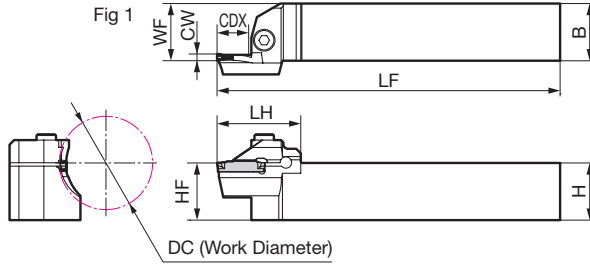
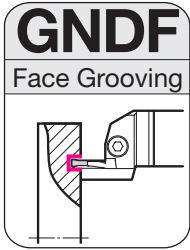
SEC-Grooving Tools

GNDF type



* For traverse cutting (groove expansion), use a multi-functional or profiling insert.

Face Grooving
Clamp-on



Holder

Figure shows right-handed (R) tool.

Parts

Dimensions (mm)

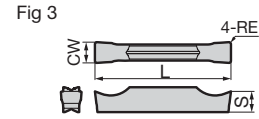
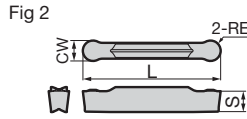
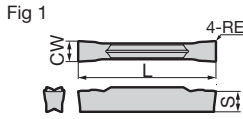
Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Head LH	Machining diameter DC	Min. Bore Dia. Inner Circumference	Width of Cut CW	Maximum Groove Depth CDX	Applicable Insert	Fig	Cap Screw		Wrench
	R	L													(N·m)		
GNDF R/L2020K-312-035	●	●	20	20	125	20	20	35.6	35 to 45	29	3.0	12	GC□ N30○○-□□	1	BX0520	5.0	LH040
GNDF R/L2020K-312-040	●	●	20	20	125	20	20	35.6	40 to 55	34	3.0	12					
GNDF R/L2020K-318-050	●	●	20	20	125	20	20	41.6	50 to 70	44	3.0	18					
GNDF R/L2020K-318-065	●	●	20	20	125	20	20	41.6	65 to 100	59	3.0	18					
GNDF R/L2020K-318-090	●	●	20	20	125	20	20	41.6	90 to 150	84	3.0	18					
GNDF R/L2020K-318-140	●	●	20	20	125	20	20	41.6	140 to 200	134	3.0	18					
GNDF R/L2020K-318-180	●	●	20	20	125	20	20	41.6	180 to 300	174	3.0	18	GC□ N40○○-□□	1	BX0520	5.0	LH040
GNDF R/L2020K-418-040	●	●	20	20	125	20	20	41.6	40 to 55	32	4.0	18					
GNDF R/L2020K-423-050	●	●	20	20	125	20	20	46.6	50 to 70	42	4.0	23					
GNDF R/L2020K-423-065	●	●	20	20	125	20	20	46.6	65 to 90	57	4.0	23					
GNDF R/L2020K-423-085	●	●	20	20	125	20	20	46.6	85 to 130	77	4.0	23					
GNDF R/L2020K-423-125	●	●	20	20	125	20	20	46.6	125 to 200	117	4.0	23					
GNDF R/L2020K-423-180	●	●	20	20	125	20	20	46.6	180 to 300	172	4.0	23	GC□ N50○○-□□	1	BX0520	5.0	LH040
GNDF R/L2020K-423-280	●	●	20	20	125	20	20	46.6	280 to 1000	272	4.0	23					
GNDF R/L2020K-523-050	●	●	20	20	125	20	20	46.6	50 to 70	40	5.0	23					
GNDF R/L2020K-523-065	●	●	20	20	125	20	20	46.6	65 to 90	55	5.0	23					
GNDF R/L2020K-523-085	●	●	20	20	125	20	20	46.6	85 to 130	75	5.0	23					
GNDF R/L2020K-523-125	●	●	20	20	125	20	20	46.6	125 to 200	115	5.0	23					
GNDF R/L2020K-523-180	●	●	20	20	125	20	20	46.6	180 to 300	170	5.0	23	GC□ N60○○-□□	1	BX0520	5.0	LH040
GNDF R/L2020K-523-280	●	●	20	20	125	20	20	46.6	280 to 1000	270	5.0	23					
GNDF R/L2020K-623-050	●	●	20	20	125	20	20	46.6	50 to 75	38	6.0	23					
GNDF R/L2020K-623-070	●	●	20	20	125	20	20	46.6	70 to 110	58	6.0	23					
GNDF R/L2020K-623-100	●	●	20	20	125	20	20	46.6	100 to 200	88	6.0	23					
GNDF R/L2020K-623-180	●	●	20	20	125	20	20	46.6	180 to 300	168	6.0	23					
GNDF R/L2020K-623-280	●	●	20	20	125	20	20	46.6	280 to 1000	268	6.0	23	GC□ N30○○-□□	1	BX0520	5.0	LH040
GNDF R/L2525M-312-035	●	●	25	25	150	25	25	35.6	35 to 45	29	3.0	12					
GNDF R/L2525M-312-040	●	●	25	25	150	25	25	35.6	40 to 55	34	3.0	12					
GNDF R/L2525M-318-050	●	●	25	25	150	25	25	41.6	50 to 70	44	3.0	18					
GNDF R/L2525M-318-065	●	●	25	25	150	25	25	41.6	65 to 100	59	3.0	18					
GNDF R/L2525M-318-090	●	●	25	25	150	25	25	41.6	90 to 150	84	3.0	18					
GNDF R/L2525M-318-140	●	●	25	25	150	25	25	41.6	140 to 200	134	3.0	18	GC□ N40○○-□□	1	BX0520	5.0	LH040
GNDF R/L2525M-318-180	●	●	25	25	150	25	25	41.6	180 to 300	174	3.0	18					
GNDF R/L2525M-418-040	●	●	25	25	150	25	25	41.6	40 to 55	32	4.0	18					
GNDF R/L2525M-423-050	●	●	25	25	150	25	25	46.6	50 to 70	42	4.0	23					
GNDF R/L2525M-423-065	●	●	25	25	150	25	25	46.6	65 to 90	57	4.0	23					
GNDF R/L2525M-423-085	●	●	25	25	150	25	25	46.6	85 to 130	77	4.0	23					
GNDF R/L2525M-423-125	●	●	25	25	150	25	25	46.6	125 to 200	117	4.0	23	GC□ N50○○-□□	1	BX0520	5.0	LH040
GNDF R/L2525M-423-180	●	●	25	25	150	25	25	46.6	180 to 300	172	4.0	23					
GNDF R/L2525M-423-280	●	●	25	25	150	25	25	46.6	280 to 1000	272	4.0	23					
GNDF R/L2525M-523-050	●	●	25	25	150	25	25	46.6	50 to 70	40	5.0	23					
GNDF R/L2525M-523-065	●	●	25	25	150	25	25	46.6	65 to 90	55	5.0	23					
GNDF R/L2525M-523-085	●	●	25	25	150	25	25	46.6	85 to 130	75	5.0	23					
GNDF R/L2525M-523-125	●	●	25	25	150	25	25	46.6	125 to 200	115	5.0	23	GC□ N60○○-□□	1	BX0520	5.0	LH040
GNDF R/L2525M-523-180	●	●	25	25	150	25	25	46.6	180 to 300	170	5.0	23					
GNDF R/L2525M-523-280	●	●	25	25	150	25	25	46.6	280 to 1000	270	5.0	23					
GNDF R/L2525M-623-050	●	●	25	25	150	25	25	46.6	50 to 75	38	6.0	23					
GNDF R/L2525M-623-070	●	●	25	25	150	25	25	46.6	70 to 110	58	6.0	23					
GNDF R/L2525M-623-100	●	●	25	25	150	25	25	46.6	100 to 200	88	6.0	23					
GNDF R/L2525M-623-180	●	●	25	25	150	25	25	46.6	180 to 300	168	6.0	23	GC□ N60○○-□□	1	BX0520	5.0	LH040
GNDF R/L2525M-623-280	●	●	25	25	150	25	25	46.6	280 to 1000	268	6.0	23					

Select holders and inserts with matching width of cut (CW). Refer to F43 for applicable inserts.

The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to F19.

Inserts for GNDF type

(Coated Carbide / Cermet / Cemented Carbide)



Grooving / Traverse Cutting

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	Width of Cut CW					Pcs/Pack	Fig
										Width of Cut		RE	L	S		
										Width of Cut	Tolerance					
GCM N3002-MG	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	1	
N3004-MG	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.4	21.1	3.8	1	
GCM N4002-MG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	1	
N4004-MG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.4	26.4	4.0	1	
N4008-MG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.8	26.4	4.0	5	
GCM N5004-MG	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	1	
N5008-MG	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.8	26.4	4.1	1	
GCM N6004-MG	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	1	
N6008-MG	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.8	26.4	4.5	1	
GCM N3002-ML	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	1	
N3004-ML	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.4	21.1	3.8	1	
GCM N4002-ML	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	1	
N4004-ML	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.4	26.4	4.0	1	
N4008-ML	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.8	26.4	4.0	5	
GCM N5004-ML	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	1	
N5008-ML	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.8	26.4	4.1	1	
GCM N6004-ML	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	1	
N6008-ML	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.8	26.4	4.5	1	

Profiling / Radius Grooving / Necking

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	Width of Cut CW					Pcs/Pack	Fig
									Width of Cut		RE	L	S		
									Width of Cut	Tolerance					
GCM N3015-RN	●	●	●	●	●	●	●	●	●	3.0	±0.03	1.5	22.6	3.8	2
N4020-RN	●	●	●	●	●	●	●	●	●	4.0	±0.03	2.0	28.2	4.0	5
N5025-RN	●	●	●	●	●	●	●	●	●	5.0	±0.03	2.5	28.3	4.1	2
N6030-RN	●	●	●	●	●	●	●	●	●	6.0	±0.03	3.0	28.3	4.5	2

Non-Ferrous Metals

Dimensions (mm)

Cat. No.	H10	Width of Cut CW					Pcs/Pack	Fig
		Width of Cut		RE	L	S		
		Width of Cut	Tolerance					
GCG N3002-GA	●	3.0	±0.025	0.2	21.1	3.8	3	
GCG N4004-GA	●	4.0	±0.025	0.4	26.4	4.0	5	
N5004-GA	●	5.0	±0.025	0.4	26.4	4.1	3	
N6004-GA	●	6.0	±0.025	0.4	26.4	4.5	3	

Grooving / Cut-off

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	Width of Cut CW					Pcs/Pack	Fig
										Width of Cut		RE	L	S		
										Width of Cut	Tolerance					
GCM N3002-GG	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	1	
N3004-GG	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.4	21.1	3.8	1	
GCM N4002-GG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	1	
N4004-GG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.4	26.4	4.0	1	
N4008-GG	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.8	26.4	4.0	5	
GCM N5002-GG	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.2	26.4	4.1	1	
N5004-GG	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	1	
GCM N6002-GG	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	1	
N6004-GG	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	1	
GCM N3002-GL	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	1	
N3004-GL	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.4	21.1	3.8	1	
GCM N4002-GL	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	1	
N4004-GL	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.4	26.4	4.0	1	
N4008-GL	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.8	26.4	4.0	5	
GCM N5002-GL	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.2	26.4	4.1	1	
N5004-GL	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	1	
GCM N6002-GL	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	1	
N6004-GL	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	1	
GCM N3002-GF	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	1	
N3004-GF	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.4	21.1	3.8	1	
GCM N4002-GF	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	1	
N4004-GF	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.4	26.4	4.0	1	
N4008-GF	●	●	●	●	●	●	●	●	●	4.0	±0.03	0.8	26.4	4.0	5	
GCM N5002-GF	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.2	26.4	4.1	1	
N5004-GF	●	●	●	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	1	
GCM N6002-GF	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	1	
N6004-GF	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	1	

Part Number Suffix Code (Chipbreakers)

Type	Symbol	Applications	Type	Symbol	Applications
Grooving / Traverse Cutting	MG	Multi-functional / General-purpose	Profiling / Radius Grooving / Necking	RN	Facing / Necking / General-purpose
	ML	Multi-functional / Low-feed	Non-Ferrous Metals	GA	Non-Ferrous Metals / General-purpose
Grooving / Cut-off	GG	Grooving / General-purpose			
	GL	Grooving / Low-feed			
	GF	Grooving / Low cutting force			

Chipbreaker Selection F13 Precautions for Use F22 Recommended Cutting Conditions F19

Note: The values in red have been changed from those in the 2021-2022 General Catalogue.

Select holders and inserts with matching width of cut (CW). Not usable with GNDXL type / GNDIS type holders.

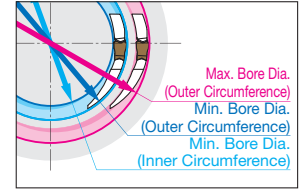
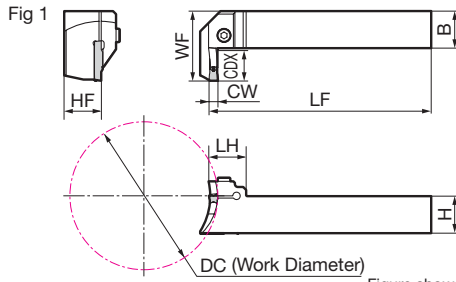
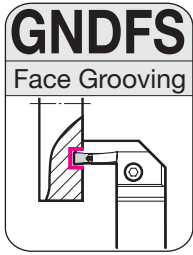
SEC-Grooving Tools

GNDFS type



* For traverse cutting (groove expansion), use a multi-functional or profiling insert.

Deep Face Grooving L-Shaped (Side Cut) Clamp-on



Holder

Figure shows right-handed (R) tool.

Parts

Dimensions (mm)

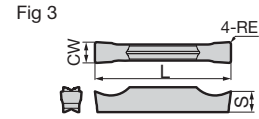
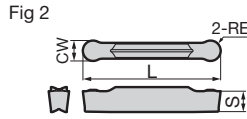
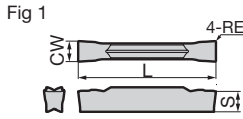
Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Head LH	Machining diameter DC	Min. Bore Diameter Inner Circumference	Width of Cut CW	Maximum Groove Depth CDX	Applicable Insert	Fig	Cap Screw		Wrench
	R	L													BX0520	N·m	
GNDFS R/L2525M-620-070			25	25	150	47	25	25	70 to 100	58	6.0	20		1			
GNDFS R/L2525M-620-100			25	25	150	47	25	25	100 to 200	88	6.0	20		1			
GNDFS R/L2525M-620-180			25	25	150	47	25	25	180 to 300	168	6.0	20	GCC N60○○-□□	1	BX0520	5.0	LH040
GNDFS R/L2525M-620-280			25	25	150	47	25	25	280 to 1000	268	6.0	20		1			
GNDFS R/L2525M-620-450			25	25	150	47	25	25	450 up	438	6.0	20		1			
GNDFS R/L3232P-620-070			32	32	170	54	32	25	70 to 100	58	6.0	20		1			
GNDFS R/L3232P-620-100			32	32	170	54	32	25	100 to 200	88	6.0	20		1			
GNDFS R/L3232P-620-180			32	32	170	54	32	25	180 to 300	168	6.0	20	GCC N60○○-□□	1	BX0620	6.0	LH050
GNDFS R/L3232P-620-280			32	32	170	54	32	25	280 to 1000	268	6.0	20		1			
GNDFS R/L3232P-620-450			32	32	170	54	32	25	450 up	438	6.0	20		1			
GNDFS R/L2525M-820-070			25	25	150	47	25	30	70 to 100	54	8.0	20		1			
GNDFS R/L2525M-820-100			25	25	150	47	25	30	100 to 200	84	8.0	20		1			
GNDFS R/L2525M-820-180			25	25	150	47	25	30	180 to 300	164	8.0	20	GCM N80○○-□□	1	BX0620	6.0	LH050
GNDFS R/L2525M-820-280			25	25	150	47	25	30	280 to 1000	264	8.0	20		1			
GNDFS R/L2525M-820-450			25	25	150	47	25	30	450 up	434	8.0	20		1			
GNDFS R/L3232P-820-070			32	32	170	54	32	30	70 to 100	54	8.0	20		1			
GNDFS R/L3232P-820-100			32	32	170	54	32	30	100 to 200	84	8.0	20		1			
GNDFS R/L3232P-820-180			32	32	170	54	32	30	180 to 300	164	8.0	20	GCM N80○○-□□	1	BX0620	6.0	LH050
GNDFS R/L3232P-820-280			32	32	170	54	32	30	280 to 1000	264	8.0	20		1			
GNDFS R/L3232P-820-450			32	32	170	54	32	30	450 up	434	8.0	20		1			

Select holders and inserts with matching width of cut (CW). Refer to F45 for applicable inserts.

The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to F19.

Inserts for GNDFS type

(Coated Carbide / Cermet / Cemented Carbide)



Grooving / Traverse Cutting

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	Width of Cut		Corner Radius	Overall Length	Thickness	Pcs/Pack	Fig
										RE	L					
										Width of Cut	Tolerance					
GCM N6004-MG	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	5	1
N6008-MG	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.8	26.4	4.5	5	1
GCM N8004-MG	●	●	●	●	●	●	●	●	●	8.0	±0.04	0.4	28.8	6.0	5	1
N8008-MG	●	●	●	●	●	●	●	●	●	8.0	±0.04	0.8	28.8	6.0	5	1
GCM N6004-ML	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	5	1
N6008-ML	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.8	26.4	4.5	5	1
GCM N8004-ML	●	●	●	●	●	●	●	●	●	8.0	±0.04	0.4	28.8	6.0	5	1
N8008-ML	●	●	●	●	●	●	●	●	●	8.0	±0.04	0.8	28.8	6.0	5	1

Profiling / Radius Grooving / Necking

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	Width of Cut		Corner Radius	Overall Length	Thickness	Pcs/Pack	Fig
									RE	L					
									Width of Cut	Tolerance					
GCM N6030-RN	●	●	●	●	●	●	●	●	6.0	±0.03	3.0	28.3	4.5	5	2

Non-Ferrous Metals

Dimensions (mm)

Cat. No.	H10	Width of Cut		Corner Radius	Overall Length	Thickness	Pcs/Pack	Fig
		RE	L					
		Width of Cut	Tolerance					
GCG N6004-GA	●	6.0	±0.025	0.4	26.4	4.5	5	3

Grooving / Cut-off

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	Width of Cut		Corner Radius	Overall Length	Thickness	Pcs/Pack	Fig
										RE	L					
										Width of Cut	Tolerance					
GCM N6002-GG	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	5	1
N6004-GG	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	5	1
GCM N8004-GG	●	●	●	●	●	●	●	●	●	8.0	±0.04	0.4	28.8	6.0	5	1
GCM N6002-GL	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	5	1
N6004-GL	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	5	1
GCM N8004-GL	●	●	●	●	●	●	●	●	●	8.0	±0.04	0.4	28.8	6.0	5	1
GCM N6002-GF	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	5	1
N6004-GF	●	●	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	5	1
GCM N8002-GF	●	●	●	●	●	●	●	●	●	8.0	±0.04	0.2	28.8	6.0	5	1
N8004-GF	●	●	●	●	●	●	●	●	●	8.0	±0.04	0.4	28.8	6.0	5	1

Part Number Suffix Code (Chipbreakers)

Type	Symbol	Applications	Type	Symbol	Applications
Grooving / Traverse Cutting	MG	Multi-functional / General-purpose	Profiling / Radius Grooving / Necking	RN	Facing / Necking / General-purpose
	ML	Multi-functional / Low-feed		GA	Non-Ferrous Metals / General-purpose
Grooving / Cut-off	GG	Grooving / General-purpose			
	GL	Grooving / Low-feed			
	GF	Grooving / Low cutting force			

Chipbreaker Selection **F13** Precautions for Use **F22** Recommended Cutting Conditions **F19**

Note: The values in red have been changed from those in the 2021-2022 General Catalogue.

Select holders and inserts with matching width of cut (CW). Not usable with GNDXL type / GNDIS type holders.

SEC-Grooving Tools GNDIS type



Internal Grooving
Clamp-on

Sumi Small

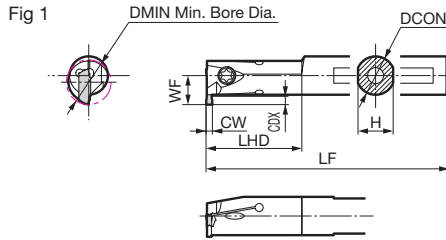
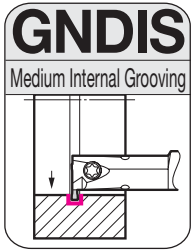


Figure shows right-handed (R) tool.

Holder

Parts

Dimensions (mm)

Cat. No.	Stock		Diameter	Height	Overall Length	Head	Cutting Edge Distance	Min. Bore Dia.	Width of Cut	Maximum Groove Depth	Applicable Insert	Fig	Flat Head Screw		Wrench
	R	L											DCON	H	
GNDIS R/L1214-T1526	●	●	12	11	150	30	9.0	14	1.5	2.6	GXM N150005S-GF	1	BFTX0409N	3.4	LT15
GNDIS R/L1214-T1536	●	●	12	11	150	30	10.0	14	1.5	3.6		1			
GNDIS R/L1616-T1536	●	●	16	15	160	35	11.5	16	1.5	3.6		1			
GNDIS R/L1620-T1546	●	●	16	15	160	40	14.5	20	1.5	4.6	GXM N2002S-□□	1	BFTX0511N	5.0	LT20
GNDIS R/L2025-T1566	●	●	20	19	180	40	19.0	25	1.5	6.6		1			
GNDIS R/L1214-T2026	●	●	12	11	150	30	9.0	14	2.0	2.6		1			
GNDIS R/L1214-T2036	●	●	12	11	150	30	10.0	14	2.0	3.6	GXM N3002S-□□	1	BFTX0409N	3.4	LT15
GNDIS R/L1616-T2036	●	●	16	15	160	35	11.5	16	2.0	3.6		1			
GNDIS R/L1620-T2046	●	●	16	15	160	40	14.5	20	2.0	4.6		1			
GNDIS R/L2025-T2066	●	●	20	19	180	40	19.0	25	2.0	6.6	1	BFTX0511N	5.0	LT20	
GNDIS R/L1214-T3026	●	●	12	11	150	30	9.0	14	3.0	2.6	GXM N3002S-□□	1	BFTX0409N	3.4	LT15
GNDIS R/L1214-T3036	●	●	12	11	150	30	10.0	14	3.0	3.6		1			
GNDIS R/L1616-T3036	●	●	16	15	160	35	11.5	16	3.0	3.6		1			
GNDIS R/L1620-T3046	●	●	16	15	160	40	14.5	20	3.0	4.6	GXM N3002S-□□	1	BFTX0511N	5.0	LT20
GNDIS R/L2025-T3066	●	●	20	19	180	40	19.0	25	3.0	6.6		1			

Select holders and inserts with matching width of cut (CW). **Only GXM inserts can be used.** Refer to F47 for applicable inserts.

The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to F19.

Identification Code

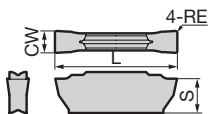
GND IS R 12 14 - T 15 26

Series Code	Application Symbol:	Feed Direction	Shank Dia. (mm)	Min. Bore Dia. (mm)	For Internal Machining	Width of Cut x 10 (mm)	Maximum Groove Depth x 10 (mm)
GND	IS	R	12	14	-	T	15 26

Inserts for GNDIS type

(Coated Carbide)

Fig 1



Grooving / Traverse Cutting

Dimensions (mm)

Cat. No.	AC520U	AC1030U	Width of Cut CW		Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
			Width of Cut	Tolerance					
GXM N2002S-ML	●	●	2.0	±0.03	0.2	11.1	3.1	5	1
N3002S-ML	●	●	3.0	±0.03	0.2	11.1	3.1	5	1

Grooving / Cut-off

Dimensions (mm)

Cat. No.	AC520U	AC1030U	Width of Cut CW		Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
			Width of Cut	Tolerance					
GXM N150005S-GF	—	●	1.5	±0.03	0.05	11.1	3.1	5	1
GXM N2002S-GF	●	●	2.0	±0.03	0.2	11.1	3.1	5	1
N3002S-GF	●	●	3.0	±0.03	0.2	11.1	3.1	5	1

Select holders and inserts with matching width of cut (CW). GCM/GCG inserts are not mutually compatible.

Recommended Cutting Conditions (GNDIS)

Work Material	P Carbon Steel / Alloy Steel		M Stainless Steel		K Cast Iron		S Exotic Alloy	
Insert Grade	AC520U	AC1030U	AC520U	AC1030U	AC520U	AC1030U	AC520U	AC1030U
Cutting Speed vc (m/min)	80-200	50-200	70-150	50-150	60-200	50-200	20-80	20-60

Grooving / Cut-off / Necking

Chipbreaker	Feed Rate f (mm/rev)	
	ML	GF
Width of Cut CW (mm)		
1.5	—	0.02 to 0.10
2.0	0.03 to 0.12	0.03 to 0.12
3.0	0.05 to 0.15	0.05 to 0.15

Traverse Cutting

Chipbreaker	ML	
	Feed Rate f (mm/rev)	Depth of Cut ap (mm)
Width of Cut CW (mm)		
2.0	0.03 to 0.12	0.2 to 0.8
3.0	0.05 to 0.15	0.3 to 1.2

Precautions for Use F22

GNDI type



Internal Grooving
Clamp-on

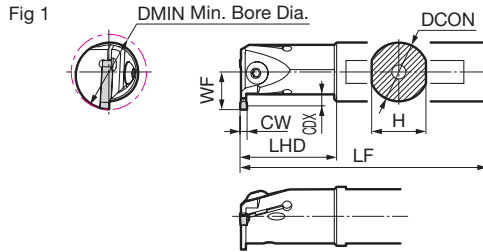


Figure shows right-handed (R) tool.

Holder

Parts

Dimensions (mm)

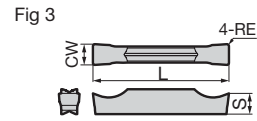
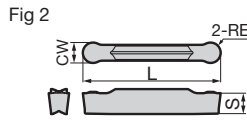
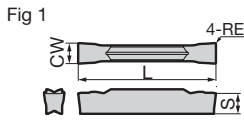
Cat. No.	Stock		Diameter DCON	Height H	Head LHD	Overall Length LF	Cutting Edge Distance WF	Min. Bore Dia. DMIN	Width of Cut CW	Maximum Groove Depth CDX	Applicable Insert	Fig	Dimensions (mm)		
	R	L											Bolt	N-m	Wrench
GNDI R/L2532-T206	●	●	25	23	40	200	16	32	2.0	6	GC □ N20 ○ □ □ □	1	BH0516	5.0	LH030
GNDI R/L3240-T210	●	●	32	30	50	250	26	40	2.0	10		1	BH0616	6.0	LH040
GNDI R/L2532-T306	●	●	25	23	40	200	16	32	3.0	6	GC □ N30 ○ □ □ □	1	BH0516	5.0	LH030
GNDI R/L3240-T310	●	●	32	30	50	250	26	40	3.0	10		1	BH0616	6.0	LH040
GNDI R/L4050-T311	●	●	40	38	60	300	31	50	3.0	11	GC □ N40 ○ □ □ □	1	BH0516	5.0	LH030
GNDI R/L2532-T406	●	●	25	23	40	200	19	32	4.0	6		1	BH0616	6.0	LH040
GNDI R/L3240-T410	●	●	32	30	50	250	26	40	4.0	10	GC □ N50 ○ □ □ □	1	BH0516	5.0	LH030
GNDI R/L4050-T411	●	●	40	38	60	300	31	50	4.0	11		1	BH0616	6.0	LH040
GNDI R/L2532-T506	●	●	25	23	40	200	19	32	5.0	6	GC □ N60 ○ □ □ □	1	BH0516	5.0	LH030
GNDI R/L3240-T510	●	●	32	30	50	250	26	40	5.0	10		1	BH0616	6.0	LH040
GNDI R/L4050-T511	●	●	40	38	60	300	31	50	5.0	11	GC □ N60 ○ □ □ □	1	BH0516	5.0	LH030
GNDI R/L4050-T611	●	●	40	38	60	300	31	50	6.0	11		1	BH0616	6.0	LH040

Select holders and inserts with matching width of cut (CW). Refer to F49 for applicable inserts.

The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to F19.

Inserts for GNDI type

(Coated Carbide/ Cermet/ Cemented Carbide)



Grooving / Traverse Cutting

Dimensions (mm)

Cat. No.	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig			
	Width of Cut		Tolerance	RE	L	S	Pcs/Pack								
	Width of Cut	Tolerance													
GCM N3002-MG	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	3.0	±0.03	0.2	21.1	3.8	1
N3004-MG	●	●	●	●	●	●	●	●	—	3.0	±0.03	0.4	21.1	3.8	1
GCM N4002-MG	●	●	●	●	●	●	●	●	—	4.0	±0.03	0.2	26.4	4.0	1
N4004-MG	●	●	●	●	●	●	●	●	—	4.0	±0.03	0.4	26.4	4.0	1
N4008-MG	●	●	●	●	●	●	●	●	—	4.0	±0.03	0.8	26.4	4.0	5
GCM N5004-MG	●	●	●	●	●	●	●	●	—	5.0	±0.03	0.4	26.4	4.1	1
N5008-MG	●	●	●	●	●	●	●	●	—	5.0	±0.03	0.8	26.4	4.1	1
GCM N6004-MG	●	●	●	●	●	●	●	●	—	6.0	±0.03	0.4	26.4	4.5	1
N6008-MG	●	●	●	●	●	●	●	●	—	6.0	±0.03	0.8	26.4	4.5	1
GCM N2002-ML	—	—	—	—	—	—	—	—	—	2.0	±0.03	0.2	21.1	3.6	1
GCM N3002-ML	●	●	●	●	●	●	●	●	—	3.0	±0.03	0.2	21.1	3.8	1
N3004-ML	●	●	●	●	●	●	●	●	—	3.0	±0.03	0.4	21.1	3.8	1
GCM N4002-ML	●	●	●	●	●	●	●	●	—	4.0	±0.03	0.2	26.4	4.0	1
N4004-ML	●	●	●	●	●	●	●	●	—	4.0	±0.03	0.4	26.4	4.0	1
N4008-ML	●	●	●	●	●	●	●	●	—	4.0	±0.03	0.8	26.4	4.0	5
GCM N5004-ML	●	●	●	●	●	●	●	●	—	5.0	±0.03	0.4	26.4	4.1	1
N5008-ML	●	●	●	●	●	●	●	●	—	5.0	±0.03	0.8	26.4	4.1	1
GCM N6004-ML	●	●	●	●	●	●	●	●	—	6.0	±0.03	0.4	26.4	4.5	1
N6008-ML	●	●	●	●	●	●	●	●	—	6.0	±0.03	0.8	26.4	4.5	1

Profiling / Radius Grooving / Necking

Dimensions (mm)

Cat. No.	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig			
	Width of Cut		Tolerance	RE	L	S	Pcs/Pack								
	Width of Cut	Tolerance													
GCM N2010-RN	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	—	2.0	±0.03	1.0	21.7	3.6	2
N3015-RN	●	●	●	●	●	●	●	●	—	3.0	±0.03	1.5	22.6	3.8	2
N4020-RN	●	●	●	●	●	●	●	●	—	4.0	±0.03	2.0	28.2	4.0	5
N5025-RN	●	●	●	●	●	●	●	●	—	5.0	±0.03	2.5	28.3	4.1	2
N6030-RN	●	●	●	●	●	●	●	●	—	6.0	±0.03	3.0	28.3	4.5	2

Non-Ferrous Metals

Dimensions (mm)

Cat. No.	H10	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig		
		Width of Cut		Tolerance	RE	L	S	Pcs/Pack							
		Width of Cut	Tolerance												
GCG N2002-GA	●	—	—	—	—	—	—	—	—	2.0	±0.025	0.2	21.1	3.6	3
N3002-GA	●	—	—	—	—	—	—	—	—	3.0	±0.025	0.2	21.1	3.8	3
GCG N4004-GA	●	—	—	—	—	—	—	—	—	4.0	±0.025	0.4	26.4	4.0	5
N5004-GA	●	—	—	—	—	—	—	—	—	5.0	±0.025	0.4	26.4	4.1	3
N6004-GA	●	—	—	—	—	—	—	—	—	6.0	±0.025	0.4	26.4	4.5	3

Grooving / Cut-off

Dimensions (mm)

Cat. No.	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig			
	Width of Cut		Tolerance	RE	L	S	Pcs/Pack								
	Width of Cut	Tolerance													
GCM N2002-GG	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	2.0	±0.03	0.2	21.1	3.6	1
GCM N3002-GG	●	●	●	●	●	●	●	●	—	3.0	±0.03	0.2	21.1	3.8	1
N3004-GG	●	●	●	●	●	●	●	●	—	3.0	±0.03	0.4	21.1	3.8	1
GCM N4002-GG	●	●	●	●	●	●	●	●	—	4.0	±0.03	0.2	26.4	4.0	1
N4004-GG	●	●	●	●	●	●	●	●	—	4.0	±0.03	0.4	26.4	4.0	5
GCM N5002-GG	●	●	●	●	●	●	●	●	—	5.0	±0.03	0.2	26.4	4.1	1
N5004-GG	●	●	●	●	●	●	●	●	—	5.0	±0.03	0.4	26.4	4.1	1
GCM N6002-GG	●	●	●	●	●	●	●	●	—	6.0	±0.03	0.2	26.4	4.5	1
N6004-GG	●	●	●	●	●	●	●	●	—	6.0	±0.03	0.4	26.4	4.5	1
GCM N2002-GL	—	—	—	—	—	—	—	—	—	2.0	±0.03	0.2	21.1	3.6	1
N2004-GL	—	—	—	—	—	—	—	—	—	2.0	±0.03	0.4	21.1	3.6	1
GCM N3002-GL	●	●	●	●	●	●	●	●	—	3.0	±0.03	0.2	21.1	3.8	1
N3004-GL	●	●	●	●	●	●	●	●	—	3.0	±0.03	0.4	21.1	3.8	1
GCM N4002-GL	●	●	●	●	●	●	●	●	—	4.0	±0.03	0.2	26.4	4.0	1
N4004-GL	●	●	●	●	●	●	●	●	—	4.0	±0.03	0.4	26.4	4.0	5
GCM N5002-GL	●	●	●	●	●	●	●	●	—	5.0	±0.03	0.2	26.4	4.1	1
N5004-GL	●	●	●	●	●	●	●	●	—	5.0	±0.03	0.4	26.4	4.1	1
GCM N6002-GL	●	●	●	●	●	●	●	●	—	6.0	±0.03	0.2	26.4	4.5	1
N6004-GL	●	●	●	●	●	●	●	●	—	6.0	±0.03	0.4	26.4	4.5	1
GCM N2002-GF	—	—	—	—	—	—	—	—	—	2.0	±0.03	0.2	21.1	3.6	1
N2004-GF	—	—	—	—	—	—	—	—	—	2.0	±0.03	0.4	21.1	3.6	1
GCM N3002-GF	●	●	●	●	●	●	●	●	—	3.0	±0.03	0.2	21.1	3.8	1
N3004-GF	●	●	●	●	●	●	●	●	—	3.0	±0.03	0.4	21.1	3.8	1
GCM N4002-GF	●	●	●	●	●	●	●	●	—	4.0	±0.03	0.2	26.4	4.0	1
N4004-GF	●	●	●	●	●	●	●	●	—	4.0	±0.03	0.4	26.4	4.0	5
GCM N5002-GF	●	●	●	●	●	●	●	●	—	5.0	±0.03	0.2	26.4	4.1	1
N5004-GF	●	●	●	●	●	●	●	●	—	5.0	±0.03	0.4	26.4	4.1	1
GCM N6002-GF	●	●	●	●	●	●	●	●	—	6.0	±0.03	0.2	26.4	4.5	1
N6004-GF	●	●	●	●	●	●	●	●	—	6.0	±0.03	0.4	26.4	4.5	1

Part Number Suffix Code (Chipbreakers)

Type	Symbol	Applications	Type	Symbol	Applications
Grooving / Traverse Cutting	MG	Multi-functional / General-purpose	Profiling / Radius Grooving / Necking	RN	Facing / Necking / General-purpose
	ML	Multi-functional / Low-feed	Non-Ferrous Metals	GA	Non-Ferrous Metals / General-purpose
Grooving / Cut-off	GG	Grooving / General-purpose			
	GL	Grooving / Low-feed			
	GF	Grooving / Low cutting force			

Chipbreaker Selection **F13** Precautions for Use **F22** Recommended Cutting Conditions **F19**

Note: The values in red have been changed from those in the 2021-2022 General Catalogue.

Select holders and inserts with matching width of cut (CW). Not usable with GNDXL type / GNDIS type holders.

SEC-Grooving Tools SumiPolygon GNDCM type



SumiPolygon Cassette for External Grooving
Clamp-on

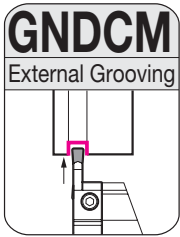


Fig 1

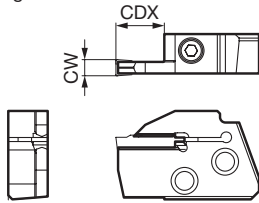


Figure shows right-handed (R) tool.

SumiPolygon GND series Cassette

Parts

Dimensions (mm)

Cat. No.	Stock		Width of Cut CW	Maximum Groove Depth CDX	Applicable Insert	Applicable Holder	Fig	Cap Screw		Wrench
	R	L						N-m		
GNDCM R/L 212	●	●	2	12	GC□□2000-□□		1			
GNDCM R/L 312	●	●	3	12	GC□□3000-□□	PSC00GND000000 R/L	1			
GNDCM R/L 418	●	●	4	18	GC□□4000-□□		1	BX0512	5.0	LH040
GNDCM R/L 518	●	●	5	18	GC□N5000-□□	PSC00GND000090 R/L	1			
GNDCM R/L 618	●	●	6	18	GC□N6000-□□		1			

Select holders and inserts with matching width of cut (CW). Refer to F51 for applicable inserts.

The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to F19.

Identification Code Cassette

GNDCM R 2 12

Series Code Feed Direction Width of Cut (mm) Maximum Groove Depth (mm)

Fig 1

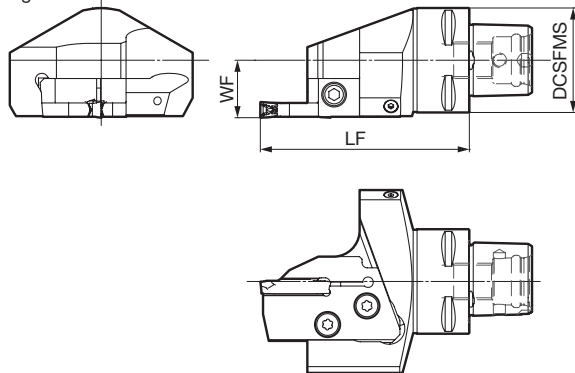


Figure shows right-handed (R) tool.

Fig 1

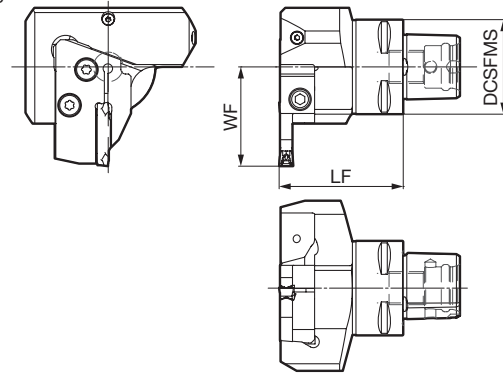


Figure shows right-handed (R) tool.

SumiPolygon GND series Tool Holder (Straight) Parts

Dimensions (mm)

Cat. No.	Stock		Cutting Edge WF	Overhang LF	Mounting DCS-FMS	Applicable Cassettes	Fig	Flat Head Screw		Wrench
	R	L						N-m		
PSC40 GND 228000 R/L	●	●	22	80	40	GNDCM R/L000	1			
PSC50 GND 278000 R/L	●	●	27	80	50		1	BFTX0619N	7.5	TT25
PSC63 GND 338000 R/L	●	●	33	80	63		1			

Inserts and cassettes are not included with the holders.

SumiPolygon GND series Tool Holder (L type) Parts

Dimensions (mm)

Cat. No.	Stock		Cutting Edge WF	Overhang LF	Mounting DCS-FMS	Applicable Cassettes	Fig	Flat Head Screw		Wrench
	R	L						N-m		
PSC40 GND 425290 R/L	●	●	42	52.5	40	GNDCM L/R000	1			
PSC50 GND 475590 R/L	●	●	47	55	50		1	BFTX0619N	7.5	TT25
PSC63 GND 545790 R/L	●	●	54	57	63		1			

Inserts and cassettes are not included with the holders.

Identification Code Holder

PSC40 GND 42 52 90 R

SumiPolygon Shank Size Series Code: GND series WF Dimension (mm) LF Dimension (mm) 00: Straight Feed Direction 90: L type

SEC-Grooving Tool GND series Special Grooving Insert Request Form

Applicable Tool Holders (Width of Cut 2 to 6mm)

External Turning: GNDS type (→F28), GNDM type (→F24, F26, F30, F32), GNDMS type (→F30), GNDL type (→F24, F26, F34, F36), GNDLS type (→F34), GNDCM type (→F50) *GNDXL Types cannot be used as the insert shape is different

Internal Boring: GNDI type (→F48) *GNDIS types cannot be used as the insert shape is different

Facing: GNDF type (→F42), GNDFS type (→F44)

Special inserts with ground chipbreaker (customised width of cut and insert corner radius) can be made-to-order. To order, fill out the form below (indicate preference by circling the item or specify dimensions), and send it to a Sumitomo Electric Hardmetal dealer or distributor. (Make a copy of this form.)

For grooving inserts with shape, width of cut or grade other than those listed below, contact your nearest Sumitomo Electric Hardmetal sales office (refer to the back of this catalog).

Your Company / Contact Information (Phone / Fax / Address, etc.)

Shape	Item	Description
	Width of Cut CW (2.00 to 6.59mm)	mm
	Corner Radius RER	mm
	Corner Radius REL	mm
	Grade (Select from right)*1	AC530U / AC520U / EH520 / H10 / KH03 CBN Grade / PCD Grade
	Grooving Depth CDX *2	mm
	<p>*1: If H10 is selected as the grade, the cutting edge will have a sharp edge. *2: Set the chipbreaker width based on CDX. The actual groove depth can only be less than or equal to the maximum groove depth configurable by each holder.</p>	

Form instructions

- The applicable standard holder depends on the width of cut. Refer to the chart on the right for manufacturable widths of cut and corner radius range for facing. (If using a corner radius exceeding this for facing, modification is required to prevent the holder from interfering with the work material.)
- The corner radius maximum value for external turning and internal boring is 1/2 the width of cut.
- Width of cut (CW) tolerance is ±0.025mm when manufactured.
- WF dimensions for each holder are the CWS value for the applicable holder standard insert width of cut as follows.
(Standard holder dimension WF) + (WF - CWS) / 2
- For inch widths of cut, inserts can also be supplied partially unground. Contact your local sales office for details.

Width of Cut CW (Nominal Value)	Applicable Standard Holder	Corner radius (RER, REL) maximum value when used for facing (standard holder applicable)
2.00 to 2.59mm	2mm Width Holder	0.2mm
2.60 to 3.59mm	3mm Width Holder	0.4mm
3.60 to 4.59mm	4mm Width Holder	0.8mm
4.60 to 5.59mm	5mm Width Holder	
5.60 to 6.59mm	6mm Width Holder	

SEC-Grooving Tool GND series 90° Insert Request Form

Applicable holders: Inquire along with inserts.

To order, fill out the form below (indicate your preference by circling the item or specify dimensions), and send it to a Sumitomo Electric Hardmetal dealer or distributor. (Make a copy of this form.)
 For grooving inserts with shape, width of cut or grade other than those listed below, contact your nearest Sumitomo Electric Hardmetal sales office (refer to the back of this catalog).

Your Company / Contact Information (Phone / Fax / Address, etc.)

Shape	Item	Description
	Width of Cut CW (2.00 to 6.00mm)	mm
	Corner Radius RER	mm
	Corner Radius REL	mm
	Grade (Select from right)	EH510 / EH520 / AC5015S / AC5025S
	Grooving Depth CDX	mm
	Cutting Edge Position L (5.80mm up) (Enter the maximum allowable value)	mm
	Feed Direction	Right-handed / Left-handed
	Insert Thickness (Select from right)	Standard / High rigidity

Workpiece machining part and machining method (Select one of the options below and enter the machining diameter)		
Facing	External Machining	Internal Machining
Machining Dia.: <input type="text"/> mm	Machining Dia.: <input type="text"/> mm	Machining Dia.: <input type="text"/> mm



Clamp-on for External Shallow Grooves

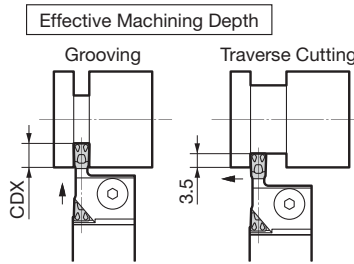
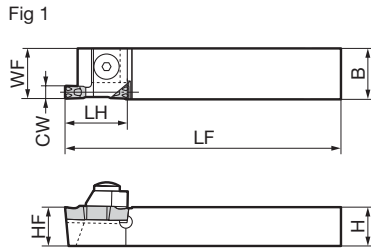
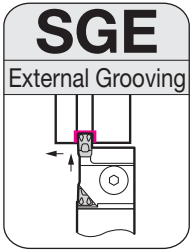


Figure shows right-handed (R) tool.

Holder

Parts

Dimensions (mm)

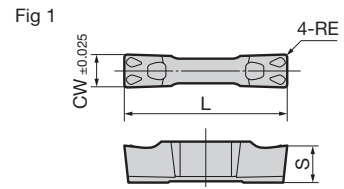
Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Head LH	Width of Cut CW	Maximum Groove Depth CDX	Applicable Insert	Fig	Clamp Plate	Bolt	Spring	Wrench
	R	L											GCL R/L-3	FBH 0516NT	GSP-5	LH025NT
SGE R/L1016-3	●	●	10	16	120	15.7	10	19.5	3.0	6.2	GEN3000	1	GCL R/L-3	FBH 0516NT	GSP-5	LH025NT
SGE R/L1216-3	●	●	12	16	120	15.7	12	19.5	3.0	6.2	GEN3000	1				
SGE R/L1616-3	●	●	16	16	120	15.7	16	22.0	3.0	8.0	GEN3000	1	GCL R/L-3	FBH 0520NT	GSP-5	LH025NT
SGE R/L2020-3	●	●	20	20	120	19.7	20	22.0	3.0	8.0	GEN3000	1				
SGE R/L1016-45	●	●	10	16	120	15.7	10	19.5	4.0	6.2	GEN4000	1	GCL R/L-4	FBH 0516NT	GSP-5	LH025NT
SGE R/L1216-45	●	●	12	16	120	15.7	12	19.5	5.0	8.0	GEN5000	1				
SGE R/L1616-45	●	●	16	16	120	15.7	16	22.0	5.0	8.0	GEN5000	1	GCL R/L-4	FBH 0520NT	GSP-5	LH025NT
SGE R/L2020-45	●	●	20	20	120	19.7	20	22.0	5.0	8.0	GEN5000	1				
SGE R/L1020-6	●	●	10	20	120	19.7	10	19.5	6.0	6.2	GEN6000	1	GCL R/L-6	FBH 0516NT	GSP-5	LH025NT
SGE R/L1220-6	●	●	12	20	120	19.7	12	19.5	6.0	6.2	GEN6000	1				
SGE R/L1620-6	●	●	16	20	120	19.7	16	22.0	6.0	8.0	GEN6000	1	GCL R/L-6	FBH 0520NT	GSP-5	LH025NT
SGE R/L2020-6	●	●	20	20	120	19.7	20	22.0	6.0	8.0	GEN6000	1				

*Width of cut CW = 4mm when the insert is mounted. Width of cut CW is 0.5mm larger when a 5mm insert is mounted.

Insert (Coated Carbide)

Dimensions (mm)

Cat. No.	ACZ150	Width of Cut	Overall Length	Thickness	Corner Radius	Applicable Holder	Fig
		CW	L	S	RE		
GEN 3002	●	3.0	20	4.64	0.2	SGE R/L 0000-3	1
GEN 3004	●	3.0	20	4.64	0.4	SGE R/L 0000-3	1
GEN 4002	●	4.0	20	4.50	0.2	SGE R/L 0000-45	1
GEN 4004	●	4.0	20	4.50	0.4	SGE R/L 0000-45	1
GEN 5002	●	5.0	20	4.50	0.2	SGE R/L 0000-45	1
GEN 5004	●	5.0	20	4.50	0.4	SGE R/L 0000-45	1
GEN 6002	●	6.0	20	4.50	0.2	SGE R/L 0000-6	1
GEN 6004	●	6.0	20	4.50	0.4	SGE R/L 0000-6	1



Recommended Cutting Conditions A24

Grooving Tools

Grooving

Cut-off

Threading

External

Face

Internal

Necking

CBN



Clamp-on for Very Small Diameter Face Grooving

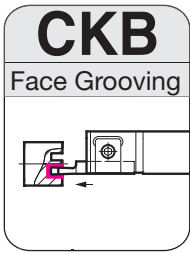
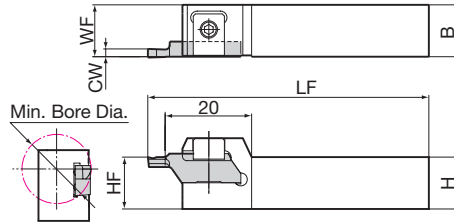


Fig 1



Holder

Parts

Dimensions (mm)

Cat. No.	Stock	Height	Width	Overall Length	Cutting Edge Distance	Cutting Edge Height	Fig	Parts			
		H	B	LF	WF	HF		Clamp Plate	Double Screw	Wrench	
CKBR 1010-16	●	10	10	111	10	10	1		CKBW16	WB4-8	LH020
CKBR 1212-16	●	12	12	136	12	12	1				
CKBR 1616-16	●	16	16	136	16	16	1				
CKBR 2020-16	●	20	20	136	20	20	1				
CKBR 2525-16	●	25	25	161	25	25	1				

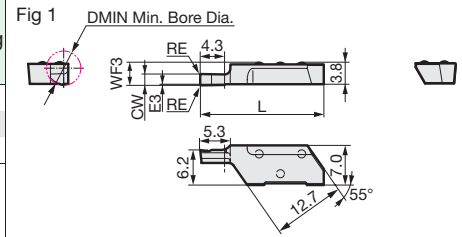
*For round shank holders, refer to page E58.

Round Shank Holders E66

Insert (Coated Carbide)

Dimensions (mm)

Cat. No.	ACZ150	Min. Bore Dia.	Cutting Edge Distance	Cutting Edge Distance	Width of Cut	Corner Radius	Overall Length	Maximum Groove Depth	Fig
		DMIN	WF3	E3	CW	RE	L	CDX	
KBMF R0615-05	●	6.0	4.0	0.2	1.5	0.05	21.8	4.0	1
KBMF R0620-05	●	6.0	4.0	0.2	2.0	0.05	21.8	4.0	1
KBMF R0630-05	●	6.0	4.0	0.2	3.0	0.05	21.8	4.0	1



Recommended Cutting Conditions A24

Grooving Tools

F

Grooving

Cut-off

Threading

External

Face

Internal

Necking

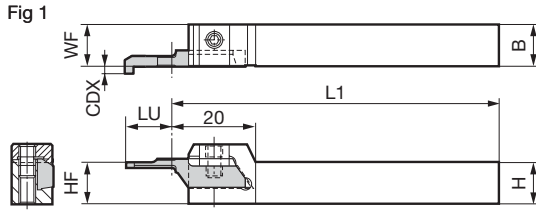
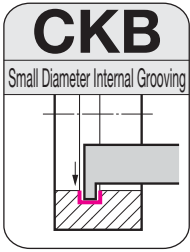
CBN

SEC-Grooving Tools CKB series



Internal Grooving
Clamp-on

Sumi Small



Refer to the insert table for CDX and LU values.

Holder

Parts

Dimensions (mm)

Cat. No.	Stock	Height H	Width B	Overall Length L1	Cutting Edge Distance WF	Cutting Edge Height HF	Fig	Parts		
								Clamp Plate	Double Screw	Wrench
CKB R1010-16	●	10	10	100	10	10	1	CKBW16	WB4-8	LH020
CKB R1212-16	●	12	12	125	12	12	1			
CKB R1616-16	●	16	16	125	16	16	1			
CKB R2020-16	●	20	20	125	20	20	1			
CKB R2525-16	●	25	25	150	25	25	1			

Refer to the insert table for CDX and LU values.

Round Shank Holders **E66**

Insert (Coated Carbide)

Dimensions (mm)

Cat. No.	AC1030U	Min. Bore Dia. DMIN	Width of Cut CW	Cutting Edge Distance WF3	Corner Radius RE	Overall Length L	Maximum Groove Depth CDX	Machinable Length LU	Fig	Fig 1	
										Close-up of Cutting Edge	Dimensions
KBMG R0411-05	●	4.0	1.00	4.90	0.05	28.5	1.1	11	1		
KBMG R0411-10	●	4.0	2.00	4.90	0.10	28.5	1.1	11	1		
KBMG R0511-05	●	5.0	1.00	5.10	0.05	28.5	1.3	11	1		
KBMG R0511-10	●	5.0	2.00	5.10	0.10	28.5	1.3	11	1		

Recommended Cutting Conditions **A24**

Grooving Tools

Grooving

Cut-off

Threading

External

Face

Internal

Necking

CBN



Internal Grooving
Screw-on

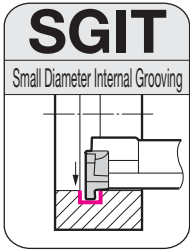
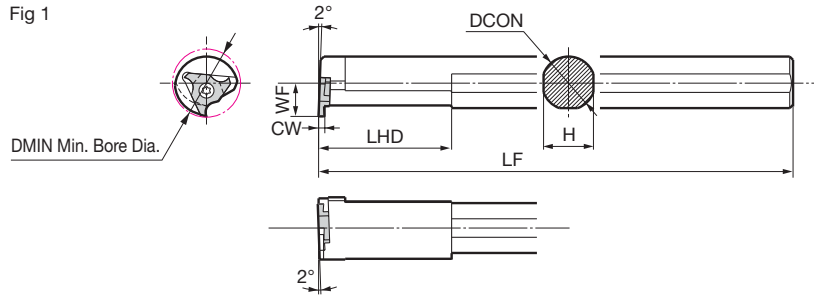


Fig 1



Holder

Parts Dimensions (mm)

Cat. No.	Stock	Diameter DCON	Height H	Overall Length LF	Cutting Edge Distance WF	Head LHD	Min. Bore Dia. DMIN	Width of Cut CW	Maximum Groove Depth	Applicable Insert	Fig	Dimensions (mm)	
												Flat Head Screw	Wrench
SGIT R08	●	8	7.0	125	5.0	20	10.0	0.50 to 2.00	0.8*	GITL3000	1	BFTX02506NS	RT08
SGIT R10	●	10	9.0	150	6.0	25	12.0	0.50 to 2.00	0.8*	GITL3000	1	BFTX02506NS	RT08
SGIT R12	●	12	11.0	180	7.0	30	14.0	1.00 to 2.00	1.8	GITL5000	1	BFTX0307NS	RT10
SGIT R14	●	14	13.0	180	8.0	35	16.0	1.00 to 2.00	1.8	GITL5000	1	BFTX0307NS	RT10
SGIT R16	●	16	15.0	200	10.0	40	20.0	1.50 to 2.00	2.8	GITL6000	1	BFTX0307NS	RT10
SGIT R20	●	20	19.0	200	12.0	40	25.0	1.50 to 2.00	2.8	GITL6000	1	BFTX0307NS	RT10

* The maximum groove depth is 0.5mm when GITL3050 is set. (Width of cut CW = 0.5mm)

Insert (Coated Carbide)

Dimensions (mm)

Cat. No.	ACZ150	Width of Cut CW	Cutting Edge Distance E3	Corner Radius RE	Inscribed Circle IC	Applicable Holder	Fig	Dimensions (mm)	
								RE	IC
GIT L3050	●	0.50	1.2	0.05	5.56	SGIT R08 SGIT R10	1		
GIT L3065	●	0.65	1.2	0.05	5.56		1		
GIT L3075	●	0.75	1.2	0.05	5.56		1		
GIT L3100	●	1.00	1.2	0.05	5.56		1		
GIT L3125	●	1.25	1.2	0.20	5.56		1		
GIT L3145	●	1.45	1.2	0.20	5.56		1		
GIT L3150	●	1.50	1.2	0.05	5.56		1		
GIT L3200	●	2.00	1.2	0.10	5.56	1			
GIT L5100	●	1.00	2.2	0.05	7.94	SGIT R12 SGIT R14	1		
GIT L5145	●	1.45	2.2	0.20	7.94		1		
GIT L5150	●	1.50	2.2	0.05	7.94		1		
GIT L5175	●	1.75	2.2	0.20	7.94		1		
GIT L5200	●	2.00	2.2	0.10	7.94	1			
GIT L6150	●	1.50	3.2	0.20	9.525	SGIT R16 SGIT R20	1		
GIT L6175	●	1.75	3.2	0.20	9.525		1		
GIT L6200	●	2.00	3.2	0.20	9.525		1		

Recommended Cutting Conditions A24

Grooving Tools

F

Grooving

Cut-off

Threading

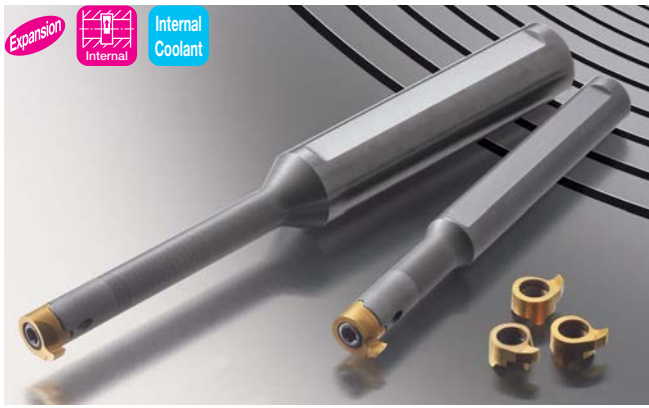
External

Face

Internal

Necking

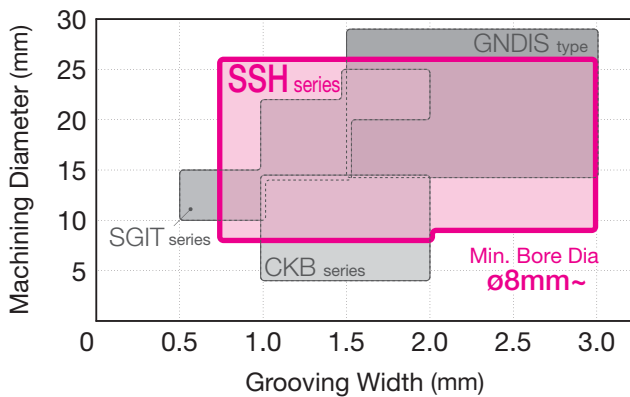
CBN



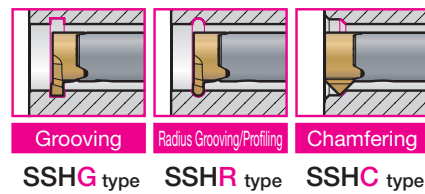
■ Features

- Internal coolant supply for outstanding chip evacuation
 - Tough carbide body for stable turning even with small diameters, suppressing chatter
 - Adopts AC1030U for excellent machined surface quality
 - Min. bore diameter from ø8mm
 - Wide range of grooving widths
- In addition to grooving applications, we have a lineup for circlip groove machining
- Expanded 09/10 sized inserts support grooving depths of 2mm (min. bore dia. 9mm) and 3mm (min. bore dia. 10mm)

■ Application Range



■ Insert Lineup



■ Product Range

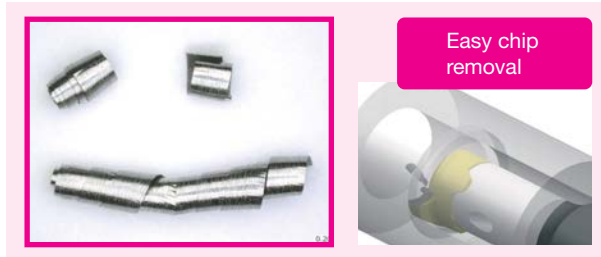
■ Grooving / Radius Shape
 ■ Grooving / C-Chamfering
 ■ Radius Grooving/Profiling
 ▶ Chamfering

Applications	Insert Type	Insert Size	Min. Bore Dia. (mm)	Max. Groove Depth (mm)	Width of Cut / Cutting Edge Corner Shape (mm)													Applicable Holder									
					0.74	0.80	0.84	0.94	1.00	1.19	1.20	1.39	1.50	1.69	1.80	2.00	2.20		2.50	3.00	Chamfering						
Grooving	SSHG	08	8	1.0																				E00□-SSHM000-08			
		09	9	2.0																							
		10	10	3.0																							
					1.2																						
					1.3																						
					1.5																						
			14	14	1.6																				E00□-SSHM000-14		
					1.6																						
					4.0																						
					4.0																						
Radius Grooving/Profiling	SSHR	08	8	1.0																				E00□-SSHM000-08			
		14	14	1.6																				E00□-SSHM000-14			
					4.0																				E00□-SSHM000-14		
Chamfering	SSHC	08	8	1.4																				E00□-SSHM000-08			

09/10 sized inserts are only right-handed.

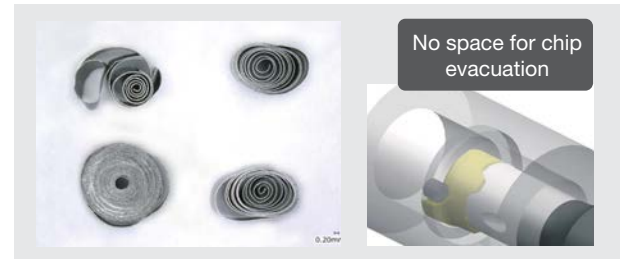
■ Chip Evacuation

Stable and smooth evacuation of curled chips even in small bore diameters



SSH series

Evacuation is poor, may cause sudden tool fracture

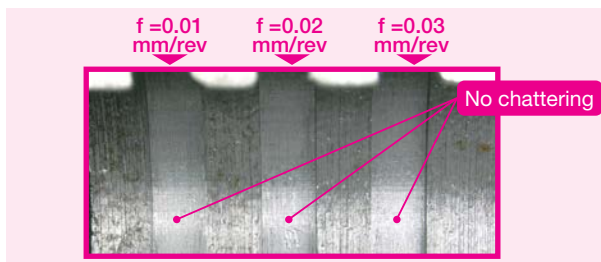


Competitor's Product A

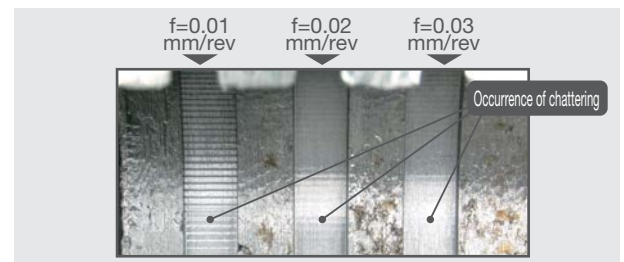
Work Material: S45C Machining Diameter: $\phi 13\text{mm}$ Cutting Conditions: $v_c = 50\text{m/min}$, $f = 0.02\text{mm/rev}$, $a_p = 1.0\text{mm}$ Wet (Oil-based)

■ Chatter Resistance

Outstanding sharpness and carbide shank suppress chatter



SSH series

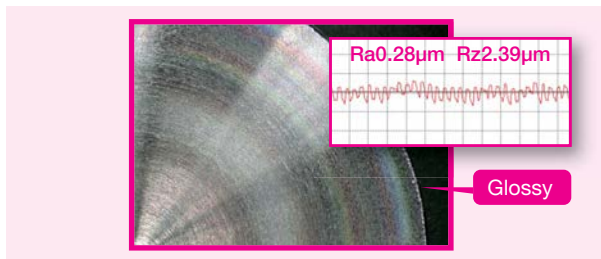


Competitor's Product B

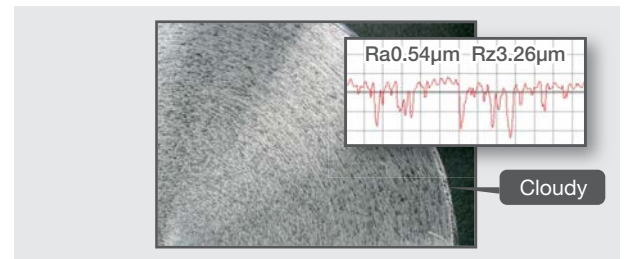
Work Material: S45C Machining Diameter: $\phi 13\text{mm}$ Cutting Conditions: $v_c = 100\text{m/min}$, $f = 0.01, 0.02, 0.03\text{mm/rev}$, $a_p = 0.2\text{mm}$ Wet (Oil-based)

■ Machined Surface Quality

Glossy, beautiful surface finish

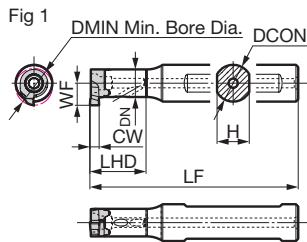


SSH series



Competitor's Product C

Work Material: SCM440 Machining Diameter: $\phi 30\text{mm}$ Cutting Conditions: $v_c = 180\text{m/min}$, $f = 0.02\text{mm/rev}$, $a_p = 0.2\text{mm}$ Wet (Oil-based)



Grooving Tools

F

Grooving

Cut-off

Threading

External

Face

Internal

Necking

CBN

Holder

Parts

Dimensions (mm)

Cat. No.	Stock	Shank Diameter DCON	Neck Dia. DN	Width H	Overall Length LF	Head Length LHD	Min. Bore Dia. DMIN	Width of Cut CW	Applicable Insert	Fig	Dimensions (mm)		
											Flat Head Screw	Wrench	
E08D-SSH M N125-08	●	8	6	7	60(60.4)	12.5(12.9)	8~	0.74 to 3.00	SSH□ R/L 08... SSH□ R 09... SSH□ R 10...	1	BFTX02608IPS	1.2	TRX08IP
E08E-SSH M N210-08	●	8	6	7	70(70.4)	21.0(21.4)	8~	0.74 to 3.00		1			
E12E-SSH M N125-08	●	12	6	11	70(70.4)	12.5(12.9)	8~	0.74 to 3.00		1			
E12F-SSH M N210-08	●	12	6	11	80(80.4)	21.0(21.4)	8~	0.74 to 3.00		1			
E12G-SSH M N300-08	●	12	6	11	90(90.4)	30.0(30.4)	8~	0.74 to 3.00		1			
E12H-SSH M N420-08	●	12	6	11	100(100.4)	42.0(42.4)	8~	0.74 to 3.00		1			

Overall Length LF and Head Length LHD are dimensions with SSHG Type / SSHR Type inserts mounted. Parentheses show dimensions with SSHG R 09 ... Type (09 size) / SSHG R 10 ... Type (10 size) mounted. Min. Bore Dia. DMIN above is the dimension when 08 sized inserts are mounted, it is 9mm with 09 sized inserts and 10mm with 10 sized inserts.

Refer to the Insert Stock Table on page F61 for cutting edge distance WF dimensions.

Identification Code

E 08 D - SSHM N 125 - 08

Shank Material Code	Shank Dia (mm)	Shank Length Code	Series Code	Feed Direction	Head Length Reference (mm) x 10	Min. Bore Dia. (mm) <small>* With sized 08 insert mounted</small>
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SEC-Grooving Tools

SSH series

Expansion

Insert (For E08□-SSHMN○○○-08 / E12□-SSHMN○○○-08) (Coated Carbide)

Dimensions (mm)

Applications	Cat. No.	AC1030U		Width of Cut	Maximum Groove Depth	Corner Radius	Cutting Edge Distance	Cutting Edge Distance	Thickness	Cutting Edge Distance	Applicable Holder	Fig	Diagram
		R	L										
Grooving (08 size)	SSHG R/L 0807400	●	●	0.74	1.0	—	3.2	4.80	3.6	0.4	E08□-SSHMN○○○-08 E12□-SSHMN○○○-08	1	Fig 1 (Grooving)
	R/L 0808400	●	●	0.84	1.0	—	3.2	4.80	3.6	0.4		1	
	R/L 0809400	●	●	0.94	1.0	—	3.2	4.80	3.6	0.4		1	
	R/L 0810000	●	●	1.00	1.0	—	3.2	4.80	3.1	—		1	
	R/L 0810010	●	●	1.00	1.0	0.10	3.2	4.80	3.1	—		2	
	R/L 0811900	●	●	1.19	1.0	—	3.2	4.80	3.1	—		1	
	R/L 0813900	●	●	1.39	1.0	—	3.2	4.80	3.0	—		1	
	R/L 0815000	●	●	1.50	1.0	—	3.2	4.80	3.0	—		1	
	R/L 0815010	●	●	1.50	1.0	0.10	3.2	4.80	3.0	—		2	
	R/L 0816900	●	●	1.69	1.0	—	3.2	4.80	3.0	—		1	
	R/L 0820000	●	●	2.00	1.0	—	3.2	4.80	3.0	—		1	
	R/L 0820010	●	●	2.00	1.0	0.10	3.2	4.80	3.0	—		2	
R/L 0820020	●	●	2.00	1.0	0.20	3.2	4.80	3.0	—	2			
Grooving (09 size)	SSHG R 0910010	●	—	1.00	2.0	0.10	3.6	5.50	3.5	—	2		
	R 0915010	●	—	1.50	2.0	0.10	3.6	5.50	3.4	—	2		
	R 0920010	●	—	2.00	2.0	0.10	3.6	5.50	3.4	—	2		
	R 0920020	●	—	2.00	2.0	0.20	3.6	5.50	3.4	—	2		
	R 0925010	●	—	2.50	2.0	0.10	3.6	5.50	3.4	—	2		
	R 0925020	●	—	2.50	2.0	0.20	3.6	5.50	3.4	—	2		
	R 0930010	●	—	3.00	2.0	0.10	3.6	5.50	3.4	—	2		
	R 0930020	●	—	3.00	2.0	0.20	3.6	5.50	3.4	—	2		
Grooving (10 size)	SSHG R 1010010	●	—	1.00	3.0	0.10	3.6	6.50	3.5	—	2		
	R 1015010	●	—	1.50	3.0	0.10	3.6	6.50	3.4	—	2		
	R 1020010	●	—	2.00	3.0	0.10	3.6	6.50	3.4	—	2		
	R 1020020	●	—	2.00	3.0	0.20	3.6	6.50	3.4	—	2		
	R 1025010	●	—	2.50	3.0	0.10	3.6	6.50	3.4	—	2		
	R 1025020	●	—	2.50	3.0	0.20	3.6	6.50	3.4	—	2		
	R 1030010	●	—	3.00	3.0	0.10	3.6	6.50	3.4	—	2		
R 1030020	●	—	3.00	3.0	0.20	3.6	6.50	3.4	—	2			
Radius Grooving/ Profiling	SSHR R/L 08080	●	●	0.80	1.0	0.40	3.2	4.80	3.1	—	3		
	R/L 08100	●	●	1.00	1.0	0.50	3.2	4.80	3.1	—	3		
	R/L 08120	●	●	1.20	1.0	0.60	3.2	4.80	3.1	—	3		
	R/L 08150	●	●	1.50	1.0	0.75	3.2	4.80	3.0	—	3		
	R/L 08180	●	●	1.80	1.0	0.90	3.2	4.80	3.0	—	3		
R/L 08200	●	●	2.00	1.0	1.00	3.2	4.80	3.0	—	3			
Chamfering	SSHC R/L 08454502	●	●	—	1.4	0.20	1.8	4.65	3.6	—	4	Figure shows right-handed (R) tool.	

Min. Bore Dia. DMIN dimension for 08 size: 8mm, 09 size: 9mm, 10 size: 10mm.

Recommended Cutting Conditions

Work Material	P Carbon Steel / Alloy Steel	M Stainless Steel	K Cast Iron
Cutting Speed vc (m/min)	20-200	15-80	20-160
Feed Rate f (mm/rev)	0.01-0.03	0.01-0.03	0.01-0.03

● mark: Standard stocked item (new product/expanded item)

F61

Grooving Tools

Grooving

Out-off

Threading

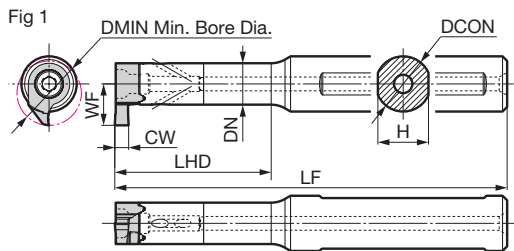
External

Face

Internal

Necking

CBN



Holder

Parts

Dimensions (mm)

Cat. No.	Stock	Shank Diameter		Neck Dia.	Width	Overall Length	Head Length	Min. Bore Dia.	Width of Cut	Applicable Insert	Fig	Dimensions (mm)		
		DCON	DN									Flat Head Screw	Wrench	
E12X-SSH M N195-14	●	12	9	11	75	19.5	14	14	0.74 to 3.00	SSH□ R/L 14...	1	BFTX0412IPS	5.0	LT15IP
E12H-SSH M N340-14	●	12	9	11	100	34.0	14	0.74 to 3.00	1					
E12J-SSH M N450-14	●	12	9	11	110	45.0	14	0.74 to 3.00	1					
E12X-SSH M N640-14	●	12	9	11	130	64.0	14	0.74 to 3.00	1					
E16F-SSH M N195-14	●	16	9	14	80	19.5	14	0.74 to 3.00	1					
E16H-SSH M N340-14	●	16	9	14	100	34.0	14	0.74 to 3.00	1					
E16J-SSH M N450-14	●	16	9	14	110	45.0	14	0.74 to 3.00	1					
E16X-SSH M N640-14	●	16	9	14	130	64.0	14	0.74 to 3.00	1					

Refer to the Insert Stock Table on page F63 for cutting edge distance WF dimensions.

Identification Code

E 12 X - SSH M N 195 - 14

Shank Material Code	Shank Dia (mm)	Shank Length Code	Series Code	Feed Direction	Head Length Reference (mm) x 10	Min. Bore Dia. (mm)
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Insert (For E12□-SSHMN○○○-14 / E16□-SSHMN○○○-14) (Coated Carbide)

Dimensions (mm)

Applications	Cat. No.	AC1030U		Width of Cut	Max. Groove Depth	Corner Radius	Cutting Edge Distance	Cutting Edge Distance	Thickness	Cutting Edge Distance	Applicable Holder	Fig	Diagram
		R	L										
Grooving (14 size)	SSHG R/L 1407400	●	●	0.74	1.2	—	5.3	9.0	5.5	0.2	E12□-SSHMN○○○-14 E16□-SSHMN○○○-14	1	
	R/L 1408400	●	●	0.84	1.3	—	5.3	9.0	5.5	0.2		1	
	R/L 1409400	●	●	0.94	1.5	—	5.3	9.0	5.5	0.2		1	
	R/L 1410000	●	●	1.00	1.6	—	5.3	9.0	5.5	0.2		1	
	R/L 1410010	●	●	1.00	1.6	0.10	5.3	9.0	5.5	0.2		2	
	R/L 1411900	●	●	1.19	4.0	—	5.3	9.0	5.2	—		1	
	R/L 1413900	●	●	1.39	4.0	—	5.3	9.0	5.1	—		1	
	R/L 1415000	●	●	1.50	4.0	—	5.3	9.0	5.1	—		1	
	R/L 1415010	●	●	1.50	4.0	0.10	5.3	9.0	5.1	—		2	
	R/L 1416900	●	●	1.69	4.0	—	5.3	9.0	5.1	—		1	
	R/L 1420000	●	●	2.00	4.0	—	5.3	9.0	5.1	—		1	
	R/L 1420010	●	●	2.00	4.0	0.10	5.3	9.0	5.1	—		2	
	R/L 1420020	●	●	2.00	4.0	0.20	5.3	9.0	5.1	—		2	
	R/L 1425000	●	●	2.50	4.0	—	5.3	9.0	5.1	—		1	
	R/L 1425010	●	●	2.50	4.0	0.10	5.3	9.0	5.1	—		2	
	R/L 1425020	●	●	2.50	4.0	0.20	5.3	9.0	5.1	—		2	
	R/L 1430000	●	●	3.00	4.0	—	5.3	9.0	5.1	—		1	
	R/L 1430010	●	●	3.00	4.0	0.10	5.3	9.0	5.1	—		2	
R/L 1430020	●	●	3.00	4.0	0.20	5.3	9.0	5.1	—	2			
Radius Grooving/ Profiling	SSHR R/L 14100	●	●	1.00	1.6	0.50	5.3	9.0	5.2	—	E12□-SSHMN○○○-14 E16□-SSHMN○○○-14	3	
	R/L 14120	●	●	1.20	4.0	0.60	5.3	9.0	5.2	—		3	
	R/L 14150	●	●	1.50	4.0	0.75	5.3	9.0	5.1	—		3	
	R/L 14180	●	●	1.80	4.0	0.90	5.3	9.0	5.1	—		3	
	R/L 14200	●	●	2.00	4.0	1.00	5.3	9.0	5.1	—		3	
	R/L 14220	●	●	2.20	4.0	1.10	5.3	9.0	5.1	—		3	
	R/L 14250	●	●	2.50	4.0	1.25	5.3	9.0	5.1	—		3	
R/L 14300	●	●	3.00	4.0	1.50	5.3	9.0	5.1	—	3			

Min. Bore Dia. DMIN dimension for 14 size: 14mm.

■ Recommended Cutting Conditions

Work Material	P Carbon Steel / Alloy Steel	M Stainless Steel	K Cast Iron
Cutting Speed vc (m/min)	20-200	15-80	20-160
Feed Rate f (mm/rev)	0.01-0.03	0.01-0.03	0.01-0.03

Grooving Tools

L

Grooving

Cut-off

Threading

External

Face

Internal

Necking

CBN

SUMIBORON Grooving Tool

GWB series

Grooving Tools

F

Grooving

Cut-off

Threading

External

Face

Internal

Necking

CBN



Features

- Tangentially-mounted insert enhances tool rigidity.
- Double clamping holder design improves stability during continuous and interrupted grooving. Can also be used for traverse cutting.
- Long tool life for interrupted cutting applications with the new Coated SUMIBORON BNC30G grade for grooving (BN2000 recommended for continuous cutting).
- Suited for grooving various types of hardened steel. Variety of widths of cut available from 1.5 to 6.0mm.



Hardened Steel,
Shallow Grooves Double Clamp

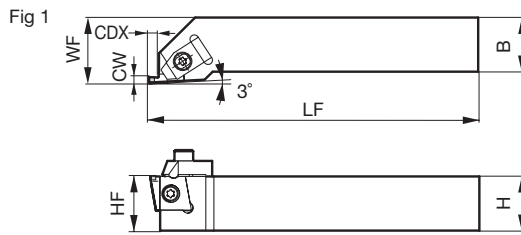
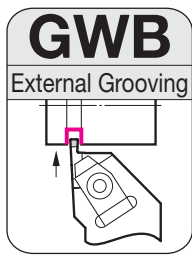


Figure shows right-handed (R) tool.

Holder

Cat. No.	Stock		Height	Width	Overall Length	Cutting Edge Distance	Cutting Edge Height	Width of Cut	Maximum Groove Depth	Group No.	Fig	Dimensions (mm)					
	R	L										H	B	LF	WF	HF	CW
GWB R/L 2525-45	●	●	25	25	151 (150)	30	25	$1.5 \leq CW \leq 4.5$	3.5 to 5.0	1	1	TF72/TF73	BX0520T	5.0	BFTX0511N	GSP06	TRX20
GWB R/L 2525-60	●	●	25	25	151	30	25	$4.5 < CW \leq 6.0$	5.0	2	1						

Dimensions in () are for width of cut (CW) of 3.0 or less. Right-handed (R) tool holders are applicable with right-handed (R) inserts and clamp plates (TF72).

Insert (SUMIBORON)

Cat. No.	BN2000		BNC30G		Width of Cut	Groove Depth	Inscribed Circle	Thickness	Group No.	Applicable Holder	Fig	Dimensions (mm)	
	R	L	R	L								CW	CDX
CGA R/L 1504150	●	●	●	●	1.5	3.5	15.875	4.76	1	GWB R/L 2525-45	1	Fig 1	
CGA R/L 1504200	●	●	●	●	2.0	3.5	15.875	4.76					
CGA R/L 1504250	●	●	●	●	2.5	4.0	15.875	4.76					
CGA R/L 1504300	●	●	●	●	3.0	4.0	15.875	4.76					
CGA R/L 1504350	●	●	●	●	3.5	5.0	15.875	4.76					
CGA R/L 1504400	●	●	●	●	4.0	5.0	15.875	4.76					
CGA R/L 1504450	●	●	●	●	4.5	5.0	15.875	4.76					
CGA R/L 1506500	●	●	●	●	5.0	5.0	15.875	6.35	2	GWB R/L 2525-60	1		
CGA R/L 1506550	●	●	●	●	5.5	5.0	15.875	6.35					
CGA R/L 1506600	●	●	●	●	6.0	5.0	15.875	6.35					

* It is also possible to manufacture widths of cut other than those listed above (CW = 1.5 to 6.0mm).

Grade Features

Grade	Application Range	Features	HV(GPa)	TRS(GPa)
BN2000	Continuous Grooving	General-purpose grade with superior wear resistance	31 to 34	1.0 to 1.1
BNC30G	Interrupted Grooving	Grade suited to interrupted grooving. Features tough substrate with special ceramic coating that exhibits both peel-off and wear resistance.	33 to 35	1.1 to 1.2

Recommended Cutting Conditions

Cutting Conditions	Hardened Steel
Cutting Speed v_c (m/min)	80 to 120
Feed Rate f (mm/rev)	0.04 to 0.08

* In order to avoid thermal cracking of the SUMIBORON cutting edge during interrupted cutting, ensure that the work material is thoroughly dry before cutting.

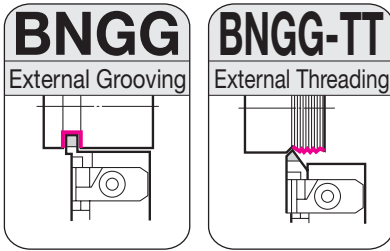
Application Examples

Tooling	Work Material	Tool Cat. No.	Cutting Conditions	Tool Life Comparison
Shaft Grooving: Continuous Required Surface Roughness for Groove Sides: Ra 0.4µm	Carburised steel 58 to 62 HRC	CGAR1504200 BN2000	v_c : 120m/min f : 0.05mm/rev Groove Depth: 2mm Dry	GWB series BN2000: No Chipping Conventional Tool: Chipping
Spline Grooving: Interrupted 	Carburised steel 58 to 62 HRC	CGAR1504200 BNC30G	v_c : 100m/min f : 0.05mm/rev Groove Depth: 1.6mm Dry	GWB series BNC30G: No Chipping Competitor's Product: Chipping



■ Features

- Improved rigidity for longer tool life
Strong clamping reduces insert fracture and holder chatter
- Enhanced tooling for 2mm fine grooves or threading
Grooving and threading can be done by changing the support



Clamp-on for Hardened Steel Shallow Grooves

Fig 1 (Grooving)

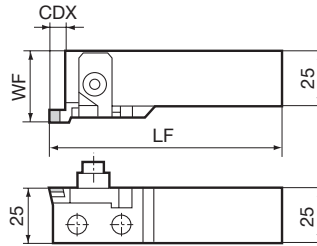
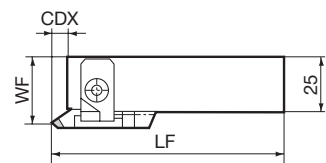


Fig 2 (Threading)



Holder

Dimensions (mm)

	Cat. No.	Stock		Cutting Edge Distance	Groove Depth	Overall Length	Applicable Insert	Fig
		R	L					
Grooving	BNGG R/L2525-200	●		WF 30.5	CDX 4	LF 150	BNGNT0200 R/L	1
	BNGG R/L2525-250	●		WF 30.5	CDX 4	LF 150	BNGNT0250 R/L	1
	BNGG R/L2525-300	●		WF 30.5	CDX 5	LF 150	BNGNT0300 R/L	1
	BNGG R/L2525-400	●		WF 30.5	CDX 6	LF 151	BNGNT0400 R/L	1
	BNGG R/L2525-500	●		WF 30.5	CDX 6	LF 151	BNGNT0500 R/L	1
	BNGG R/L2525-600	●		WF 30.5	CDX 7	LF 152	BNGNT0600 R/L	1
Threading	BNGG R/L2525-TT	●		WF 28.5	CDX 5	LF 150	BNTT1020 R/L, BNTT1530 R/L	2

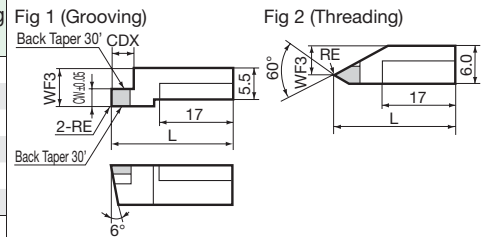
Inserts are not included with the tool holders.

* Holder body is universal. The holder can be configured for different groove widths or threading by changing the support.

Insert (SUMIBORON)

Dimensions (mm)

	Cat. No.	BN250		BNX20		BN350		BNX25		Width of Cut	Groove Depth	Corner Radius	Overall Length	Cutting Edge Distance	Applicable Holder	Fig
		R	L	R	L	R	L	R	L							
Grooving	BNGNT0200 R/L	●				●				2.0	4.0	0.2	25	6.0	BNGG R/L 2525-200	1
	BNGNT0250 R/L	●				●				2.5	4.0	0.2	25	6.0	BNGG R/L 2525-250	1
	BNGNT0300 R/L	●				●				3.0	5.0	0.4	25	6.0	BNGG R/L 2525-300	1
	BNGNT0400 R/L	●				●				4.0	6.0	0.4	26	6.0	BNGG R/L 2525-400	1
	BNGNT0500 R/L	●				●				5.0	6.0	0.4	26	6.0	BNGG R/L 2525-500	1
	BNGNT0600 R/L	●				●				6.0	7.0	0.4	27	6.0	BNGG R/L 2525-600	1
Threading	BNTT1020 R/L	●								Pitch 1.0 to 2.0	0.14	25	4.0	BNGG R/L 2525-TT	2	
	BNTT1530 R/L	●								Pitch 1.5 to 3.0	0.2	25	4.0	BNGG R/L 2525-TT	2	



Parts

Applicable Holder	Support	Clamp Plate	Adjustment Screw	Spring	Cap Screw	Wrench
BNGG R/L2525-200	BNGS R/L 200	BNGC R/L	FMJ	GSP06	BX0615 (For Clamp Plate) BX0414 (For Support)	LH050 (For Clamp Plate) LH030 (For Support)
BNGG R/L2525-250	BNGS R/L 250					
BNGG R/L2525-300	BNGS R/L 300					
BNGG R/L2525-400	BNGS R/L 400					
BNGG R/L2525-500	BNGS R/L 500					
BNGG R/L2525-600	BNGS R/L 600					
BNGG R/L2525-TT	BNGS R/L TT					

Recommended Cutting Conditions

• Grooving

Cutting Conditions	H Hardened Steel
Cutting Speed vc (m/min)	80 to 120
Feed Rate f (mm/rev)	0.03 to 0.07

• Threading

Cutting Conditions	H Hardened Steel
Cutting Speed vc (m/min)	80 to 120
Feed Rate f (mm)	Maximum Pitch 3.0

Grooving Tools

External

Grooving

Cut-off

Threading

External

Face

Internal

Necking

CBN

MEMO

