

SEC-Grooving Tool Holders **GND Series**

Rev.16



Stable Machining Through Outstanding Chip Control and Chatter Resistance

Lineup of New Grades for Steel / Stainless Steel / Exotic Alloy Machining



High precision machining with a cutting width tolerance of $\pm 0.03\text{mm}$ (width of cut 1.25 to 6mm / lead angle $0^\circ, 5^\circ$)

Available in 10 chipbreaker styles and 11 insert grades for diverse machining applications

New Insert Grade Lineup: AC8025P / AC8035P / AC5015S / AC5025S

Expansion Expanded Insert Grades: AC425K / T2500A (AC425K: 7 Cat. Nos. / T2500A: 4 Cat. Nos.)

Expansion Internal Coolant Supply Holders for Small Lathes Available

Expansion Expanded 20×12mm Square Holders for Small Lathes

SEC-Grooving Tool GND Series

High Rigidity Body

The SEC-Grooving Tool GND Type uses a mono-block structure die steel body to achieve excellent grooving, as well as suppression of chatter for stable machining in turning / profiling / facing work.

Diverse Chipbreakers

The SEC-Grooving Tool GND Type lineup includes 10 chipbreaker styles suited to various machining applications. Stable chip evacuation is possible in a variety of processes



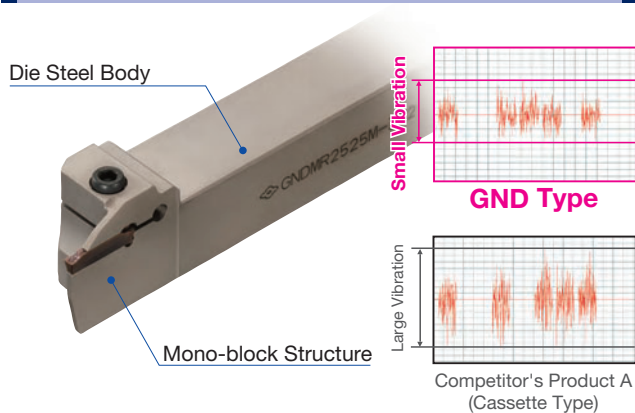
Grooving / Traverse Cutting	Grooving / Cut-off	Cut-off	External Profiling	Profiling / Necking	Multi-Functional				
General-purpose	Low Feed	General-purpose	Low Feed	Low cutting force	General-purpose	Low cutting force	General-purpose	General-purpose	For Non-Ferrous Metals



SEC-Grooving Tool Holders GND Type Cutting Performance

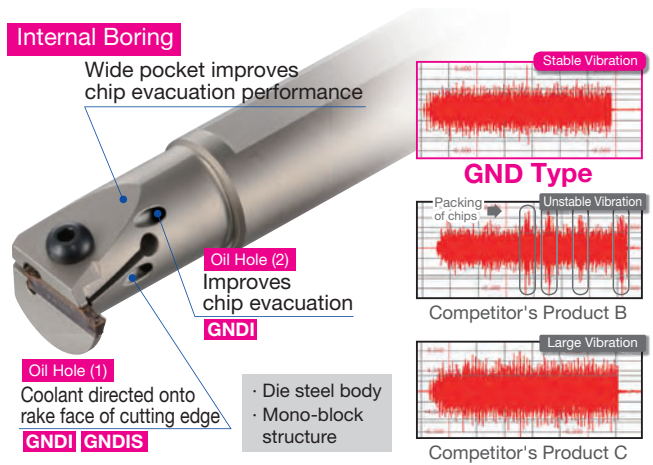
Reduced chattering

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



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

Both high rigidity and good chip evacuation performance

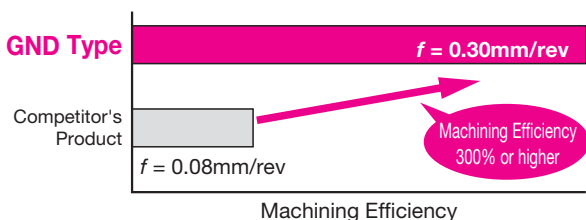


Work Material: SCM415
Holder: GNDI R2532-T306 Insert: GCM N3002-GG
Cutting Conditions: $v_c = 100\text{m/min}$, $f = 0.05\text{mm/rev}$, $a_p = 3.0\text{mm}$ Wet

Cutting Performance

Substantially improved machining efficiency

High-rigidity holder enables machining at high feed rates



Work Material: SCM435
Holder: GNDL R2525M-320 Insert: GCM N3002-GG (AC530U)
Cutting Conditions: $v_c = 130\text{m/min}$, $f = 0.30\text{mm/rev}$ 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: $v_c = 130\text{m/min}$, $f = 0.3\text{mm/rev}$ Wet

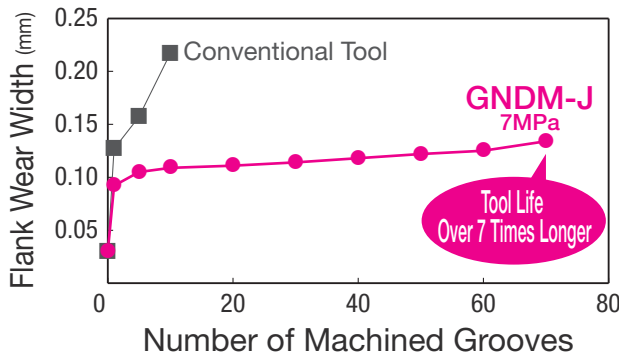
Internal Coolant Holder

GNDM-J Type / GNDL-J Type Expansion

- Series expansion of SEC-Grooving Tool GND Type with internal coolant holder series Holders for even **smaller lathes (12mm, 16mm, 20x12mm square)** also available
- Available grooving widths from 2.0 to 6.0mm (2.0 to 3.0mm for small lathes)
- Effective coolant supply to the cutting edge during grooving, achieving both high-efficiency high-speed machining and longer insert tool life
- Improved chip control through direct coolant supply around the cutting edge



● Wear Resistance



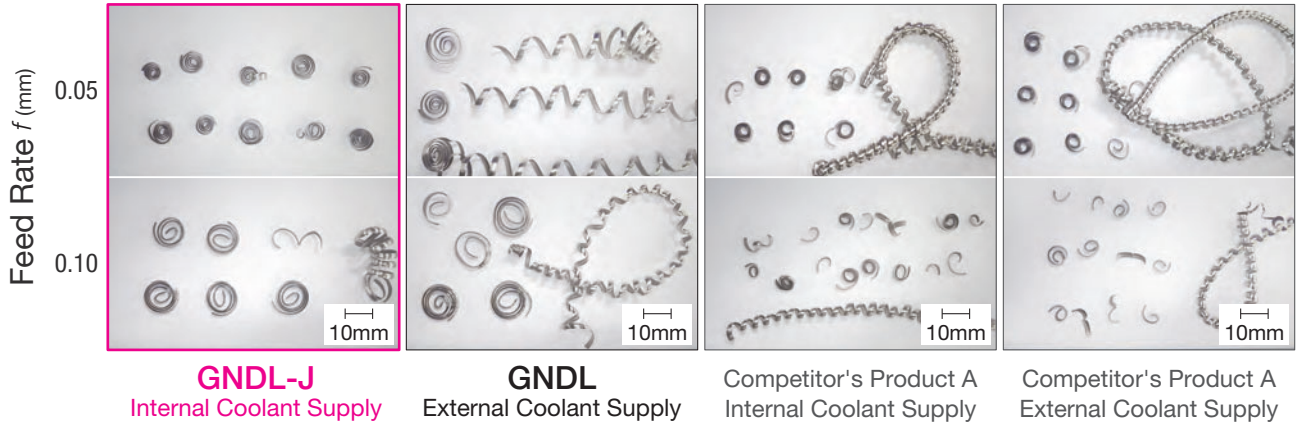
Coolant hole at the top improves chip control

Coolant hole at the bottom effectively suppresses wear



Work Material: Ti-6Al-4V Holder: GNDM R2525K-312J Insert: GCMN3002-GG (AC530U) Cutting Conditions: $v_c = 60\text{m/min}$, $f = 0.1\text{mm/rev}$, $a_p = 5.0\text{mm}$ Wet

● Chip Evacuation Performance

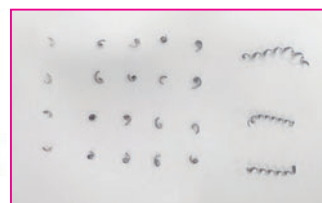


Work Material: SUS316 Holder: GNDL R1212JX-312.5J Insert: GCMN3002-GG (AC530U) Cutting Conditions: $n = 1,000\text{min}^{-1}$, $a_p = 5.0\text{mm}$ Wet (Internal Coolant Supply 0.5MPa (Normal Pressure))

Chipbreakers for Cut-off Machining

CF Type

- Chipbreakers with lead angles $10^\circ / 15^\circ$ for cut-off machining now available
- Asymmetric breaker design demonstrates outstanding chip evacuation even on inserts with lead angles, where chip control is typically difficult



GCMR20003-CF-10

GCMR20003-CF-15

Competitor's Product B

Work Material: SS400 Holder: GNDL R2525M-220 Insert: GCMR20003-CF-10,15 (AC1030U) Cutting Conditions: $n = 2,000\text{min}^{-1}$, $f = 0.08\text{mm/rev}$ Wet

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

Grooving / Traverse Cutting		Grooving / Cut-off			Cut-off		Profiling	Profiling Necking	For 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
Stock	Stock	Stock	Stock	Stock	Stock	Stock	Stock	Stock	Stock
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 Type
(GG Type Chipbreaker)



Conventional Tool

Work Material: SCM415
 Holder: GNDL R2525M-320, Insert: GCM N3002-GG
 Cutting Conditions: $v_c = 100\text{m/min}$, $f = 0.15\text{mm/rev}$, $a_p = 12.0\text{mm}$ Wet

Traversing




GND Type
(ML Type Chipbreaker)




Conventional Tool

Work Material: SCM415
 Holder: GNDM R2525M-312, Insert: GCM N3002-ML
 Cutting Conditions: $v_c = 100\text{m/min}$, $f = 0.10\text{mm/rev}$, $a_p = 0.5\text{mm}$ Wet

Cut-off




GND Type
(CG Type Chipbreaker)




Competitor's Product

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

Profiling



GND Type
(RG Type Chipbreaker)



Conventional Tool

Work Material: SCM415
 Holder: GNDM R2525M-312, Insert: GCM N3015-RG
 Cutting Conditions: $v_c = 100\text{m/min}$, $f = 0.15\text{mm/rev}$, $a_p = 0.1\text{mm}$ Wet

■ Chipbreaker Selection

	Grooving / Traverse Cutting	Grooving	Cut-off
1st Recommendation	MG Type Expansion General-purpose 	GG Type Expansion General-purpose 	GG Type Expansion General-purpose
	Improved Chip Control Chipping Prevention	Improved Chip Control Chipping Prevention	Central Burr Prevention Improved Chip Control Improved Chip Control Chipping Prevention
2nd Recommendation	ML Type Expansion Low Feed Chip control emphasised Cutting Edge Width: Up to 4.0mm Cutting Edge Width: 5.0mm and greater 	GL Type Expansion General-purpose Chip control emphasised 	CG Type Expansion General-purpose Feed Direction Lead Angle 5°
	Improved Chip Control Reduction of Chattering Chipping Prevention	Improved Chip Control Reduction of Chattering Chipping Prevention	Central Burr Prevention Chipping Prevention Improved Chip Control Reduction of Chattering Chipping Prevention
	GF Type Expansion Low cutting force 	GF Type Expansion Low cutting force 	CF Type Expansion Low cutting force Feed Direction Lead Angle 10° / 15°
	GF Type Expansion Low cutting force 	GF Type Expansion Low cutting force 	GF Type Expansion Low cutting force
	RG Type Expansion General-purpose 1st Recommendation 	RN Type Expansion General-purpose 2nd Recommendation 2mm Width Supported 	RN Type Expansion General-purpose
	GA Type General-purpose For Non-Ferrous Metals 		

■ Insert Grade Selection

Application	P Steel	M Stainless Steel	K Cast Iron	S Exotic Alloy	N Non-ferrous Metal
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 Turning (Straight Type)

Traverse Cutting / Profiling (Cut-off)

Grooving / Cut-off (Traverse Cutting)

GNDs Type
Straight Type

For Shallow Grooves

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

P22

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

GNDM Type
Straight Type

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

P24

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

GNDM-J Type
Straight Type

Internal Coolant Supply

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

P26

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

GNDL Type
Straight Type

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

P28

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

GNDL-J Type
Straight Type

Internal Coolant Supply

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

P30

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

For External Turning
 Straight Type Series Overview

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 (A) / Width (B)	Width of Cut (mm)								Series	Maximum Groove Depth (mm)					Ref. Page	Applicable Chipbreakers														
		1.25	1.5	2	3	4	5	6	7		8	5	10	15	20		25	30	MG	ML	GG	GL	GF	CG	CF	RG	RN	GA			
Straight Type	20	20	1.25	1.5							GNDM	10						P24					⊙								
			1.25	1.5								GNDL	16						P28					⊙							
		25	25	2								GNDs	6						P22	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙	
				2									GNDM	10						P24	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙
		25	25	2								GNDM-J	10						P26	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙	
				2									GNDL	20						P28	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙
		25	25	2								GNDL-J	20						P30	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙	
				3									GNDs	6						P22	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙
		25	25	3								GNDM	12						P24	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙	
				3									GNDM-J	12						P26	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙
		25	25	3								GNDL	20						P28	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙	
				3									GNDL-J	20						P30	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙
	25	25	4								GNDs	10						P22	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙		
			4									GNDM	18						P24	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙	
	25	25	4								GNDM-J	18						P26	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙		
			4									GNDL	25						P28	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙	
	25	25	4								GNDL-J	25						P30	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙		
			5	6								GNDs	10						P22	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙	
	25	25	5	6							GNDM	18						P24	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙		
			5	6								GNDM-J	18						P26	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙	
	25	25	5	6							GNDL	25						P28	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙		
			5	6								GNDL-J	25						P30	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙	
	25	25	7	8							GNDM	18						P24	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙		
			7	8								GNDL	25						P28	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙	
32	25	3								GNDM	12						P24	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙			
		3									GNDL	20						P28	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙		
32	25	4								GNDM	18						P24	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙			
		4									GNDL	25						P28	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙		
32	32	5	6							GNDM	18						P24	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙			
		5	6								GNDL	25						P28	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙		
32	32	7	8							GNDM	18						P24	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙			
		7	8								GNDL	25						P28	⊙	⊙	⊙	⊙	⊙	⊙				⊙	⊙		

⊙ : In stock * : Made-to-order item (Shank size □32 x 25mm)

⊙ : Best ○ : Suitable

 For Internal Boring (Work Dia.: ø14mm up)
 Grooving / Traverse Cutting / Profiling

GNDIS Type
 Straight Type



Shank Dia.
 ø12mm
 ø16mm
 ø20mm

P38


Available Edge Widths (mm)

1.5	2.0	3.0
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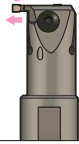
Applicable Chipbreaker

ML	GF
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Inserts are dedicated products.

 For Internal Boring (Work Dia.: ø32mm up)
 Grooving / Traverse Cutting / Profiling

GNDI Type
 Straight Type



Shank Dia.
 ø25mm
 ø32mm
 ø40mm

P40

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
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Internal Boring Series Overview (Work Dia.: ø14mm up)

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

Type	Shank Size DCON (mm)	Width of Cut (mm)			Series	Maximum Groove Depth (mm)	Min. Bore Dia. (mm)	Ref. Page	Applicable Chipbreakers (GNDIS Type Dedicated)			
		1.5	2	3					ML (GNDIS Type Dedicated)	GF (GNDIS Type Dedicated)		
Straight Type	ø12	1.5			GNDIS	2.6	ø14	P38		⊙		
		1.5				3.6	ø14		P38		⊙	
			2	3		2.6	ø14	P38	⊙	⊙		
			2	3		3.6	ø14		P38	⊙	⊙	
		ø16	1.5				GNDIS	3.6	ø16	P38		⊙
			1.5					4.6	ø20		P38	
			2	3	3.6	ø16		P38	⊙	⊙		
			2	3	4.6	ø20			P38	⊙	⊙	
	ø20		1.5			GNDIS		6.6	ø25	P38		⊙
				2	3			6.6	ø25		P38	⊙

 : In Stock

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

⊙: Best

Internal Boring Series Overview
 (Work Dia.: ø32mm up)

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	Maximum 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	ø25	2					GNDI	6	ø32	P40	⊙	⊙	⊙	⊙					⊙	⊙
			3	4	5	6		6	ø32		P40	⊙	⊙	⊙	⊙					⊙
			2						6	ø32	P40	⊙	⊙	⊙	⊙					⊙
	ø32		3	4	5	6	GNDI	10	ø40	P40	⊙	⊙	⊙	⊙					⊙	⊙
			3	4	5	6		11	ø50		P40	⊙	⊙	⊙	⊙					⊙
		ø40		3	4	5		6				⊙	⊙	⊙	⊙					⊙

 : In Stock

⊙: Best ○: Suitable

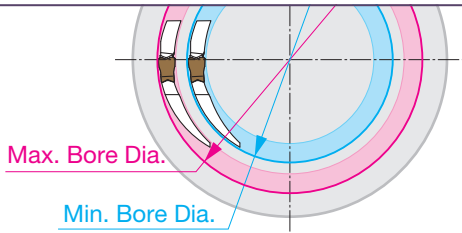
Width of Cut (mm)	Recommended Cutting Conditions		Corner Radius (mm)	Applicable Insert
	Grooving / Cut-off (Necking)	Traverse Cutting		
1.25		—	0.05	MG ML GG GL GF CG CF RG RN GA
1.5		—	0.05	MG ML GG GL GF CG CF RG RN GA
2.0			0.03	MG ML GG GL GF CG CF RG RN GA
			0.2	MG ML GG GL GF CG CF RG RN GA
			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			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			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			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			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			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			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. : Expanded item
 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 machining such as radius grooving when using the RG type chipbreaker with the GNDf type holder for facing.

Work Material	P Carbon Steel / Alloy Steel					M Stainless Steel			K Cast Iron				S Exotic Alloy		N Non-ferrous Metal
	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 v_c (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

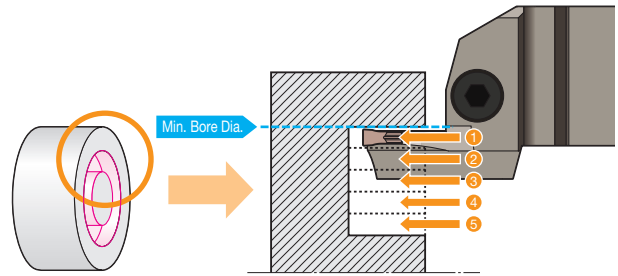
Key Points for Facing

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 machining start point is within the effective work diameter range, the work diameter will not be limited for subsequent passes.

Precautions for Groove Expansion Recommended Chipbreakers **MG ML GG GL GF GA**

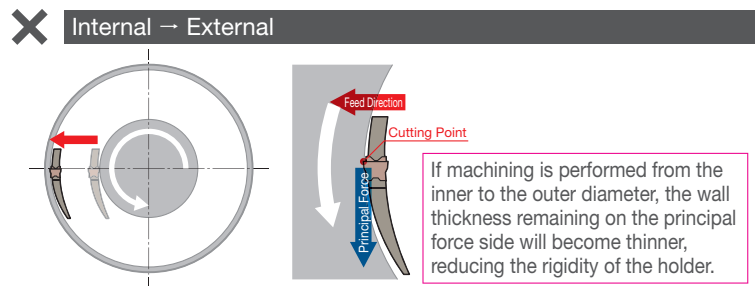
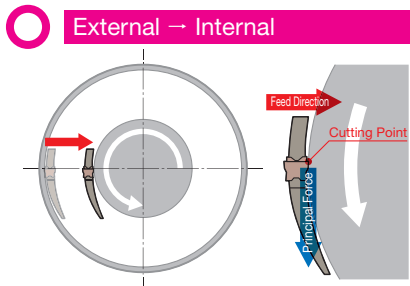


- If the first groove is within the effective work diameter range during groove expansion via plunging, the work diameter will not be limited for subsequent passes.

Precautions for Traverse Cutting

Recommended Chipbreakers **MG ML RN**

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



- If the machining start point for traverse face cutting operation 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 **lengthen the chips before evacuation**. (In face grooving, **broken chips easily get stuck in grooves**, which causes problems.)
- When breaking chips, step feed is required.

Key Points in Internal Boring

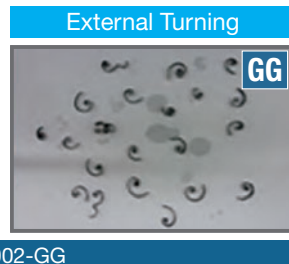
Precautions for Internal Boring

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: $v_c = 100\text{m/min}$, $f = 0.1\text{mm/rev}$, $a_p = 3.0\text{mm}$ Wet



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

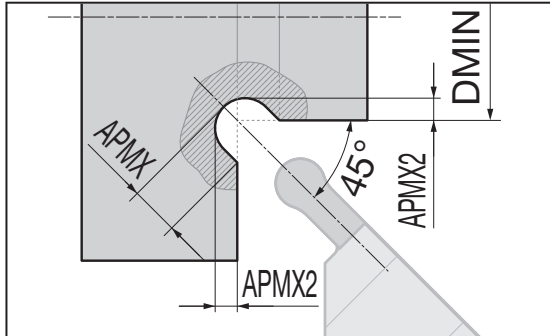
Work Material: SCM415
Holder: GNDL R2525M-320, Insert: GCM N3002-GG
Cutting Conditions: $v_c = 100\text{m/min}$, $f = 0.10\text{mm/rev}$, $a_p = 5.0\text{mm}$ Wet

 Key Points for Necking

Precautions for Necking

Recommended Chipbreaker **RN**

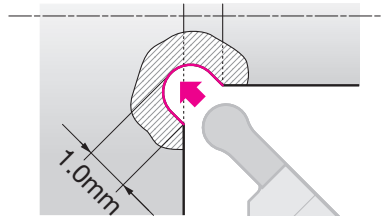
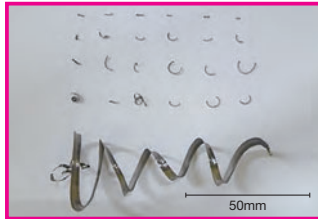
Distance from Work Material to Necking Depth



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 machining diameter (DMIN) or less.

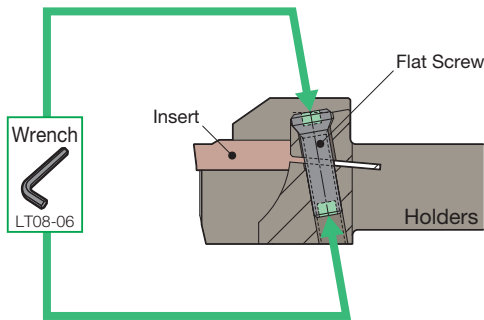
Chip Shape



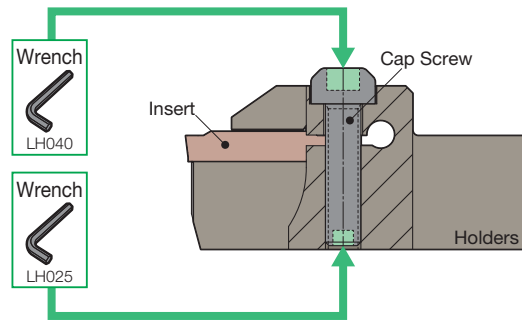
Work Material : SCM435 Groove Width: 3.0mm
 Holder : GNDN R2020K-320-020
 Insert : GCMN3015-RN
 Cutting Conditions: $v_c=100\text{m/min}$, $f=0.1\text{mm/rev}$
 Necking Depth = 1.0mm Wet

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**

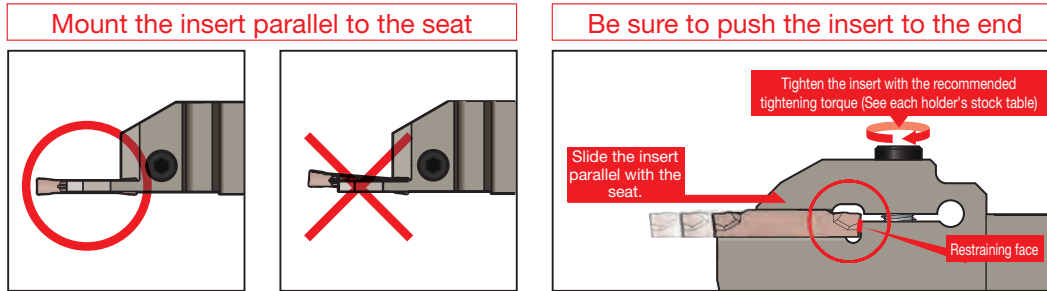


16mm square holder: **GNDM R/L1616JX-000J**
GNDL R/L1616JX-000J

Precautions for SEC-Grooving Tool Holders GND Type

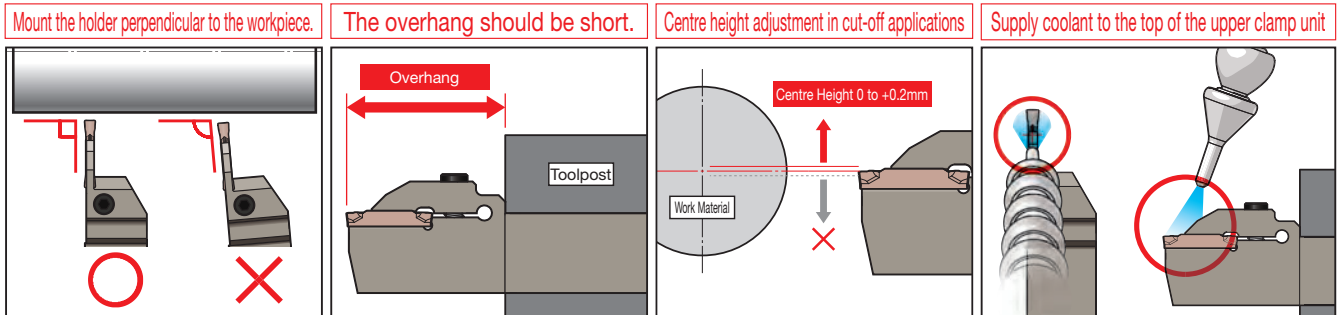
Insert Mounting Precautions

- (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 center.
- (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 Type / 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 Type

Piping Method for Hoses and Connectors

Internal Coolant Holder
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 back end

Plug **XP02**

*The plug will protrude a few millimeters 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 back end Coolant Supply Without Hose Compatible Products

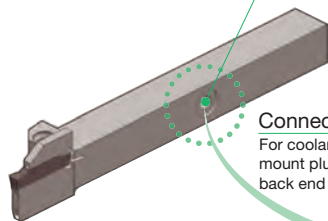
Plug **XP02**

* The plug will protrude a few millimeters when mounted on the side.
 *1 The plug will protrude a few millimeters 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

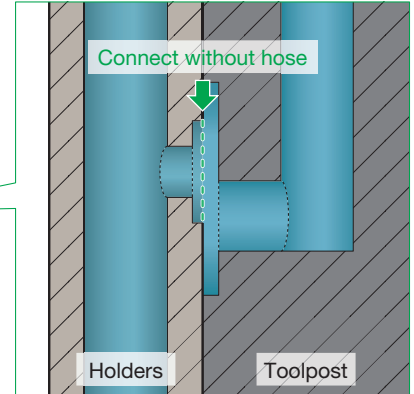
For coolant supply without hose, remove the plug.



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

Holders for Coolant Supply 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

Identification Code

Holders

GND M R 25 25 (M)-(T) 3 12 (J) (-) (035)

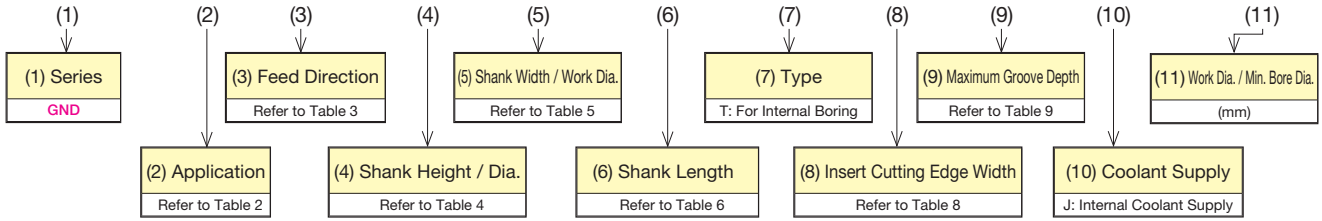


Table 2

(2) Application	
Symbol	Application
S	For External Multi-Function: Traverse Cutting / Profiling (Grooving / Cut-off)
M	For External Multi-Function: Traverse Cutting / Profiling (Grooving / Cut-off)
L	For External Machining: Grooving / Cut-off (Traverse Cutting / Profiling)
MS	L type Holder (Side Cut) for External: Multi-Functional Machining: Grooving / Traverse Cutting / Profiling
LS	L type Holder (Side Cut) for External: Machining: Grooving
N	For Necking: Necking
F	For Face Machining: Grooving / Traverse Cutting / Profiling
FS	L type Holder for Face Machining: Grooving / Traverse Cutting / Profiling
I	For Internal Boring: Grooving / Traverse Cutting / Profiling
IS	For Internal Boring: Grooving / Traverse Cutting / Profiling
CM	SumiPolygon Cassette: Grooving / Cut-off Traverse Cutting / Profiling

Refer to P42 for SumiPolygon Cassette.

Table 3

(3) Feed Direction	
Symbol	Feed Direction
R	Right Hand
L	Left Hand

Table 4

(4) Shank Height / Dia.	
Application	Height / Dia. (mm)
External Machining / Facing (Shank Height)	10
	12
	16
	20
Internal Boring (Shank Diameter)	25
	40

Table 5

(5) Shank Width / Work Dia.	
Application	Width / Work Diameter (mm)
External Machining / Facing (Shank Width)	10
	12
	16
	20
Internal Boring (Min. Bore Diameter)	32
	50

Table 6

(6) Shank Length	
Symbol	Length (mm)
JX	120
K	125
M	150
P	170

Table 8

(8) Insert Cutting Edge Width*			
Symbol	Width of Cut (mm)	Symbol	Width of Cut (mm)
1.25	1.25	5	5.0
1.5	1.5	6	6.0
2	2.0	7	7.0
3	3.0	8	8.0
4	4.0		

* Excluding GNDIS Type.

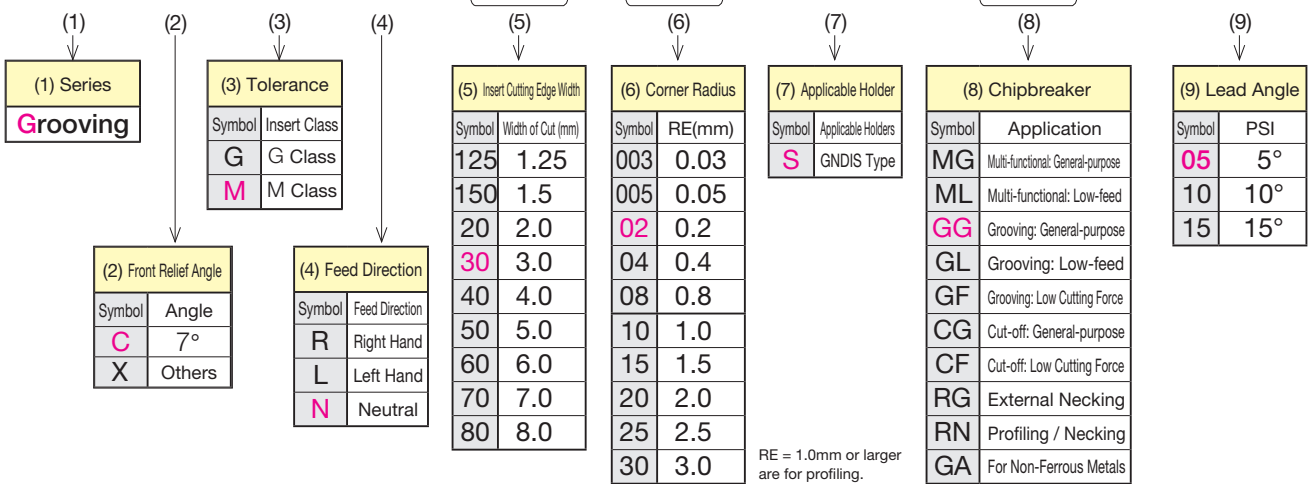
Table 9

(9) Maximum Groove Depth*			
Symbol	Depth (mm)	Symbol	Depth (mm)
06	6.0	14	14.0
08	8.0	16	16.0
10	10.0	18	18.0
11	11.0	20	20.0
12	12.0	23	23.0
12.5	12.5	25	25.0

* Excluding GNDN Type / GNDIS Type.

Insert

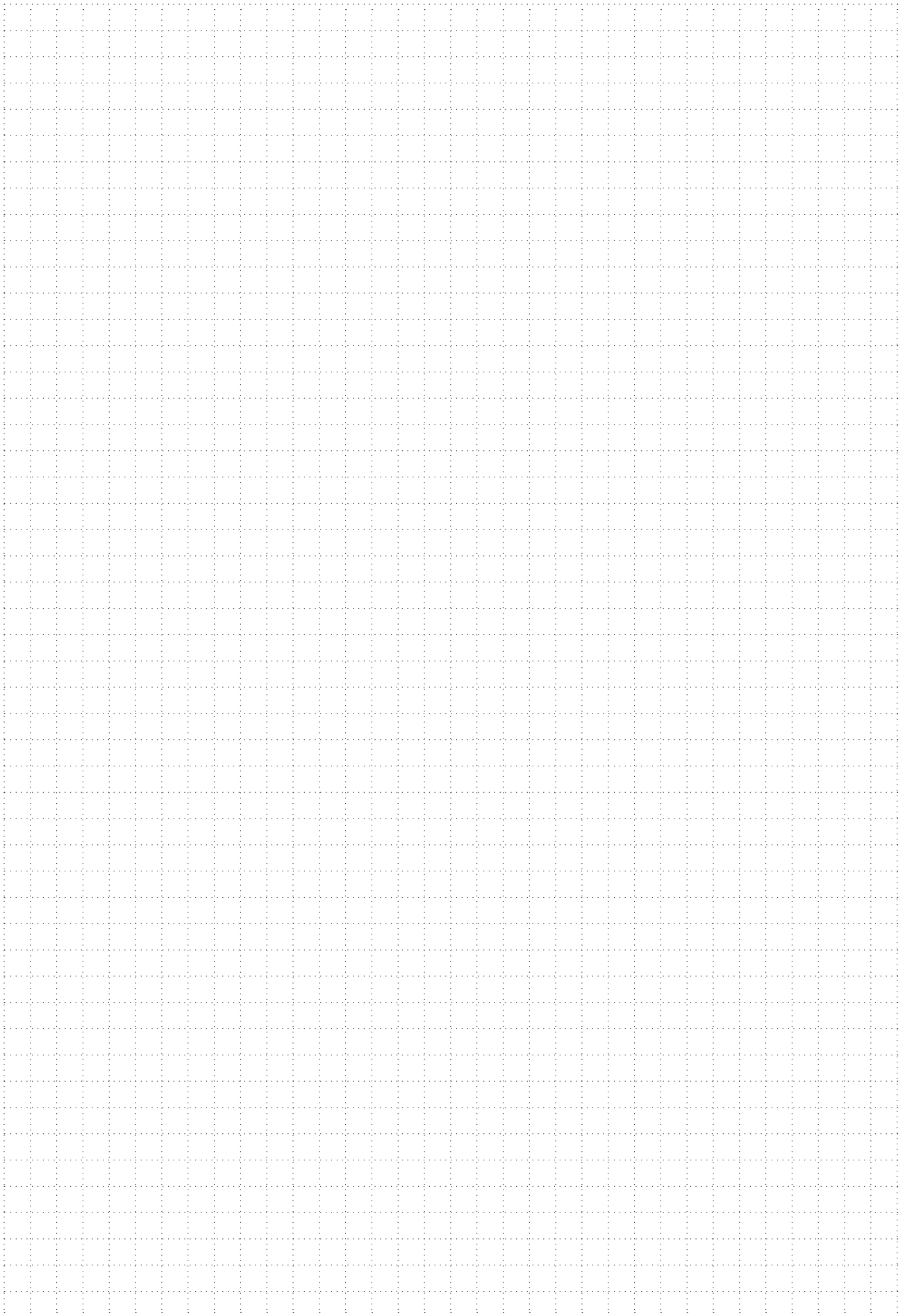
G C M N 30 02 (S) - GG (-) (05)



Precautionary Notes on Tool Selection

- Select the largest shank size possible.
- It is recommended to mount the holder upside down.
- Select a chipbreaker according to the cutting conditions.
- To ensure adequate chip evacuation, select the smallest corner radius possible unless restrictions apply.
- To ensure rigidity as well, use a multi-function type holder so long as the maximum groove depth can be achieved.

MEMO





* For traverse cutting (groove expansion), use a multifunctional insert for profiling.

External Multi-Function Clamp-on for Small Lathes (Grooving, Traverse Cutting and Profiling)

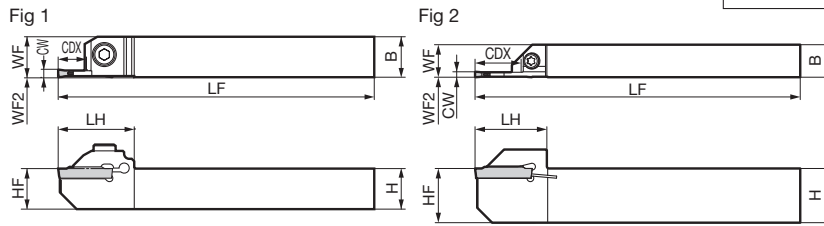
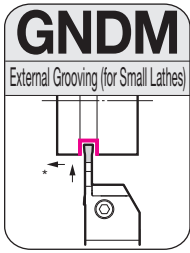


Figure shows right hand (R) tool.



Holder

Parts

Dimensions (mm)

Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Head LH	Offset WF2	Width of Cut CW	Max. Groove Depth CDX	Max. Cut-off Dia.	Applicable Insert	Fig	Cap Screw		Wrench
	R	L													BX0515	N·m	
GNDM R/L1616JX-1.2508	●	●	16	16	120	(16)	16	26	0	1.25	8.0	16	GCM N125005-GF	1	BX0515	4.0	LH040
GNDM R/L1616JX-1.510	●	●	16	16	120	(16)	16	26	0	1.50	10.0	20	GCM N150005-GF	1			
GNDM R/L1616JX-212	●	●	16	16	120	(16)	16	30	0	2.00	12.0	24	GCM □20○□□□	1			
GNDM R/L1616JX-312	●	●	16	16	120	(16)	16	30	0	3.00	12.0	24	GCM □30○□□□	1	BFTX0414	3.0	LT15-10
GNDM R/L2012JX-217 <small>new</small>	●	●	20	12	120	(12)	20	26.5	0	2.00	17.0	34	GCM □20○□□□	2			
GNDM R/L2012JX-317 <small>new</small>	●	●	20	12	120	(12)	20	26.5	0	3.00	17.0	34	GCM □30○□□□	2			

Select holders and inserts with matching width of cut (CW). Refer to P19 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 P11.



External Grooving & Cut-off Clamp-on for Small Lathes

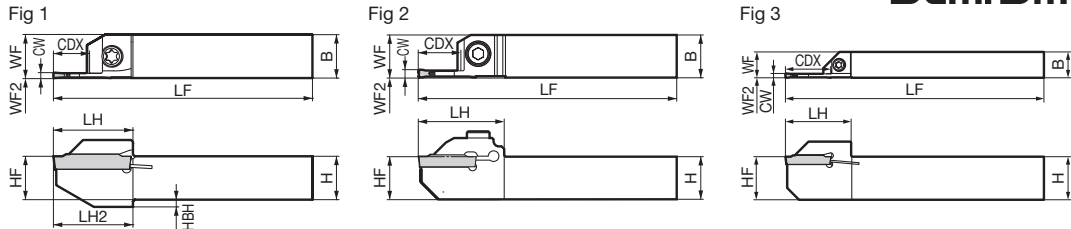
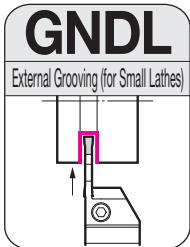


Figure shows right hand (R) tool.



Holder

Parts

Dimensions (mm)

Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Step HBH	Head LH	Head LH2	Offset WF2	Width of Cut CW	Max. Groove Depth CDX	Max. Cut-off Dia.	Applicable Insert	Fig	Flat Screw / Cap Screw		Wrench
	R	L															BFTX0412N BFTX0414	N·m	
GNDL R/L1010JX-1.2510	●	●	10	10	120	(10)	10	2.0	18	18.3	0	1.25	10.0	20	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	20	GCM N150005-GF	1			
GNDL R/L1010JX-210	●	●	10	10	120	(10)	10	2.0	22	22.3	0	2.00	10.0	20	GCM □20○□□□	1			
GNDL R/L1010JX-310	●	●	10	10	120	(10)	10	2.0	22	22.3	0	3.00	10.0	20	GCM □30○□□□	1	BX0515	4.0	LH040
GNDL R/L1212JX-1.2512	●	●	12	12	120	(12)	12	2.0	19	19.3	0	1.25	12.0	24	GCM N125005-GF	1			
GNDL R/L1212JX-1.512	●	●	12	12	120	(12)	12	2.0	19	19.3	0	1.50	12.0	24	GCM N150005-GF	1			
GNDL R/L1212JX-212.5	●	●	12	12	120	(12)	12	2.0	22	22.3	0	2.00	12.5	25	GCM □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	25	GCM □30○□□□	1			
GNDL R/L1616JX-1.2512.5	●	●	16	16	120	(16)	16	—	28	—	0	1.25	12.5	20	GCM N125005-GF	2			
GNDL R/L1616JX-1.512.5	●	●	16	16	120	(16)	16	—	28	—	0	1.50	12.5	25	GCM N150005-GF	2	BX0515	4.0	LH040
GNDL R/L1616JX-216	●	●	16	16	120	(16)	16	—	32	—	0	2.00	16.0	32	GCM □20○□□□	2			
GNDL R/L1616JX-316	●	●	16	16	120	(16)	16	—	32	—	0	3.00	16.0	32	GCM □30○□□□	2			
GNDL R/L2012JX-221 <small>new</small>	●	●	20	12	120	(12)	20	—	30.5	—	0	2.00	21.0	42	GCM □20○□□□	3	BFTX0414	3.0	LT15-10
GNDL R/L2012JX-321 <small>new</small>	●	●	20	12	120	(12)	20	—	30.5	—	0	3.00	21.0	42	GCM □30○□□□	3			

Select holders and inserts with matching width of cut (CW). Refer to P19 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 P11.

● mark: Standard stocked item ● mark: Standard stocked item (new product/expanded item) Recommended Tightening Torque (N·m)



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

Fig 1

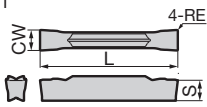


Fig 2 (Figure shows right-hand (R) tool.)

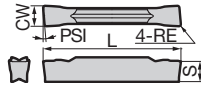


Fig 3

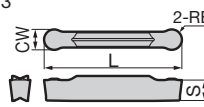
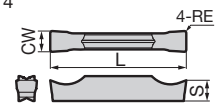


Fig 4



Grooving / Traverse Cutting

Dimensions (mm)

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

Cut-off (Handed Edge)

Dimensions (mm)

Cat. No.	Width of Cut CW						Lead Angle PSI	Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig		
	AC8035P	AC830P	AC5015S	AC5025S	AC520U	AC530U							Width of Cut Tolerance	
GCM R2002-CG-05 L2002-CG-05	●	●	●	●	●	●	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	—	—
GCM R20003-CF-10 L20003-CF-10	—	—	—	—	—	—	10°	2.0	±0.08	0.03	22.4	3.6	—	—
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	—	—
GCM R30003-CF-15 L30003-CF-15	—	—	—	—	—	—	15°	3.0	±0.08	0.03	22.4	3.8	—	—

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		
	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S						Width of Cut Tolerance	
GCM N2002-GG	●	●	●	●	●	●	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	—	—
GCM N2002-GL N2004-GL	—	—	—	—	—	—	2.0	±0.03	0.2	21.1	3.6	—	—
GCM N3002-GL N3004-GL	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	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	—	—
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	—	—

External Profiling / External Radius Grooving

Dimensions (mm)

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

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											
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	—	—

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	For Non-Ferrous Metals	GA	Non-Ferrous Metals / General-purpose

Chipbreaker Selection P5 Recommended Cutting Conditions P11 Precautions for Use P14

Note: The values in red have been changed from Rev. 15 and the 2021-2022 General Catalogue. Select holders and inserts with matching width of cut (CW). Not usable with GNDIS type holders.

● mark: Standard stocked item ● mark: Standard stocked item (new product / expanded item) Blank: Made-to-order item — mark: Not available

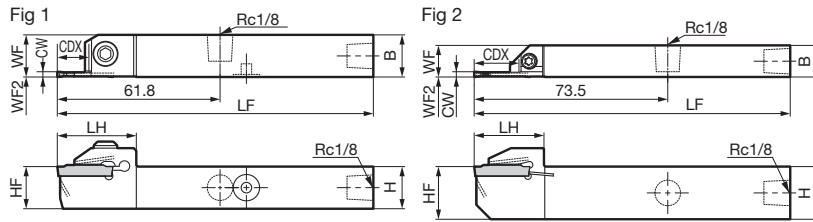
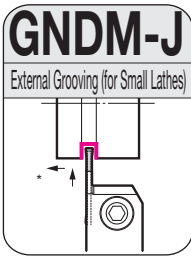
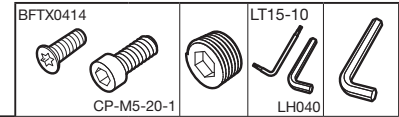


Figure shows right hand (R) tool.

* For traverse cutting (groove expansion), use a multifunctional insert for profiling.

Holder

Parts



Cat. No.	Stock		Height	Width	Overall Length	Cutting Edge Distance	Cutting Edge Height	Head	Offset	Width of Cut	Max. Groove Depth	Max. Cut-off Dia.	Applicable Insert	Fig	Flat Screw / Cap Screw	N·m	Plug	Top Hex Wrench	Bottom Hex Wrench
	R	L																	
GNDM R/L1616JX-212J <i>New</i>	●	●	16	16	120	(16)	16	30.0	0	2.0	12.0	24	GC □200□-□□	1	CP-M5-20-1	5.0	XP02	LH040	LH025
GNDM R/L1616JX-312J <i>New</i>	●	●	16	16	120	(16)	16	30.0	0	3.0	12.0	24	GC □300□-□□	1	CP-M5-20-1	5.0	XP02	LH040	LH025
GNDM R/L2012JX-217J <i>New</i>	●	●	20	12	120	(12)	20	26.5	0	2.0	17.0	34	GC □200□-□□	2	BFTX0414	3.0	XP02	LT15-10	—
GNDM R/L2012JX-317J <i>New</i>	●	●	20	12	120	(12)	20	26.5	0	3.0	17.0	34	GC □300□-□□	2	BFTX0414	3.0	XP02	LT15-10	—

Select holders and inserts with matching width of cut (CW). Refer to P21 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 P11.

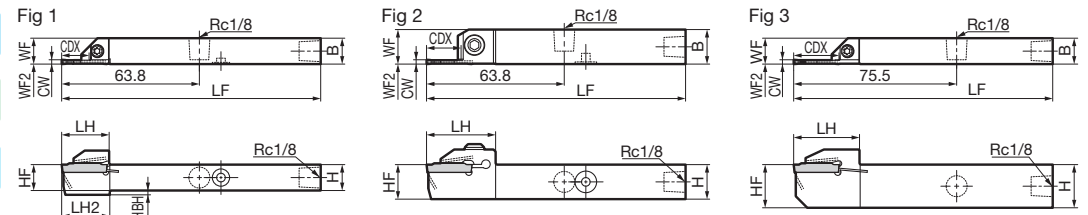
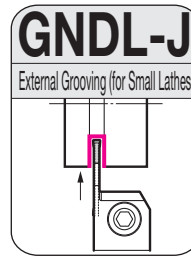
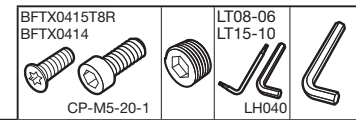


Figure shows right hand (R) tool.

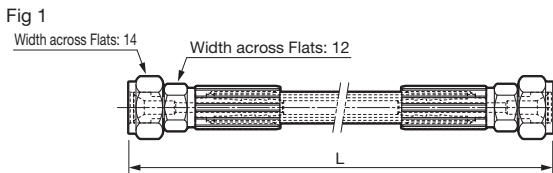
Holder

Parts



Cat. No.	Stock		Height	Width	Overall Length	Cutting Edge Distance	Cutting Edge Height	Step	Head	Head	Offset	Width of Cut	Max. Groove Depth	Max. Cut-off Dia.	Applicable Insert	Fig	Flat Screw / Cap Screw	N·m	Plug	Top Hex Wrench	Bottom Hex Wrench
	R	L																			
GNDL R/L1212JX-212.5J <i>New</i>	●	●	12	12	120	(12)	12	2.0	22.0	22.3	0	2.0	12.5	25	GC □200□-□□	1	BFTX0415T8R	1.5	XP02	LT08-06	←
GNDL R/L1212JX-312.5J <i>New</i>	●	●	12	12	120	(12)	12	2.0	22.0	22.3	0	3.0	12.5	25	GC □300□-□□	1	BFTX0415T8R	1.5	XP02	LT08-06	←
GNDL R/L1616JX-216J <i>New</i>	●	●	16	16	120	(16)	16	—	32.0	—	0	2.0	16.0	32	GC □200□-□□	2	CP-M5-20-1	5.0	XP02	LH040	LH025
GNDL R/L1616JX-316J <i>New</i>	●	●	16	16	120	(16)	16	—	32.0	—	0	3.0	16.0	32	GC □300□-□□	2	CP-M5-20-1	5.0	XP02	LH040	LH025
GNDL R/L2012JX-221J <i>New</i>	●	●	20	12	120	(12)	20	—	30.5	—	0	2.0	21.0	42	GC □200□-□□	3	BFTX0414	3.0	XP02	LT15-10	—
GNDL R/L2012JX-321J <i>New</i>	●	●	20	12	120	(12)	20	—	30.5	—	0	3.0	21.0	42	GC □300□-□□	3	BFTX0414	3.0	XP02	LT15-10	—

Select holders and inserts with matching width of cut (CW). Refer to P21 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 P11.

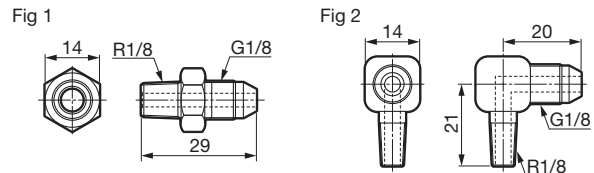


Parts (Hose)

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 **P15**



Parts (Connector)

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 **P15**

Expansion

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

Fig 1

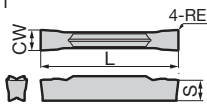


Fig 2 (Figure shows right-hand (R) tool.)

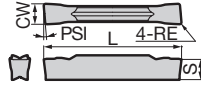


Fig 3

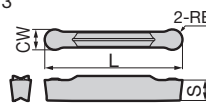
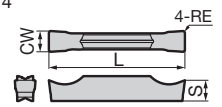


Fig 4



Grooving / Traverse Cutting

Dimensions (mm)

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

Cut-off (Handed Edge)

Dimensions (mm)

Cat. No.	Width of Cut CW							Lead Angle PSI	Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig		
	AC8025P	AC8035P	AC830P	AC5015S	AC5025S	AC520U	AC530U								
	AC1030U	Width of Cut	Tolerance	RE	L	S	Lead Angle								
GCM R2002-CG-05 L2002-CG-05	●	●	●	●	●	●	—	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	5	2
GCM R20003-CF-10 L20003-CF-10	—	—	—	—	—	—	●	10°	2.0	±0.08	0.03	22.4	3.6	5	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	5	2
GCM R30003-CF-15 L30003-CF-15	—	—	—	—	—	—	●	15°	3.0	±0.08	0.03	22.4	3.8	5	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		
	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U							
	AC530U	T2500A	Width of Cut	Tolerance	RE	L	S							
GCM N2002-GG N3002-GG	—	●	●	—	●	●	●	2.0	±0.03	0.2	21.1	3.6	5	1
GCM N3002-GG N3004-GG	—	●	●	—	●	●	●	3.0	±0.03	0.4	21.1	3.8	5	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	0.4	21.1	3.8	5	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	0.4	21.1	3.8	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		
	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U							
	AC530U	T2500A	Width of Cut	Tolerance	RE	L	S							
GCM N3015-RG	●	●	●	●	●	●	●	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		
	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U							
	AC530U	Width of Cut	Tolerance	RE	L	S	Lead Angle							
GCM N2010-RN N3015-RN	—	—	—	—	—	—	—	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	
		AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U						
		AC530U	Width of Cut	Tolerance	RE	L	S	Lead Angle						
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	For Non-Ferrous Metals	GA	Non-Ferrous Metals / General-purpose

Chipbreaker Selection P5 Recommended Cutting Conditions P11 Precautions for Use P14

Note: The values in red have been changed from Rev. 15 and the 2021-2022 General Catalogue. Select holders and inserts with matching width of cut (CW). Not usable with GNDIS type holders.

● mark: Standard stocked item ● mark: Standard stocked item (new product / expanded item) Blank: Made-to-order item — mark: Not available



* For traverse cutting (groove expansion), use a multifunctional insert for profiling.

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

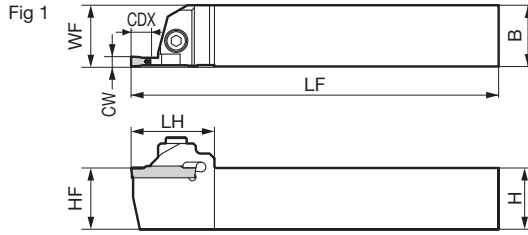
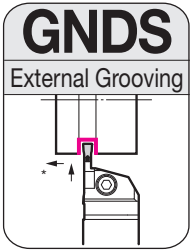


Figure shows right hand (R) tool.

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	Max. Groove Depth CDX	Max. Cut-off Dia.	Applicable Insert	Fig	Parts		
	R	L												Cap Screw	Wrench	
GNDS R/L2020K-206	●	●	20	20	125	20	20	30	2.0	6	12	GC □ 20□□-□□	1	BX0520	5.0	LH040
GNDS R/L2020K-306	●	●	20	20	125	20	20	30	3.0	6	12	GC □ 30□□-□□	1			
GNDS R/L2020K-410	●	●	20	20	125	20	20	34	4.0	10	20	GC □ 40□□-□□	1			
GNDS R/L2020K-510	●	●	20	20	125	20	20	34	5.0	10	20	GC □ N50□□-□□	1			
GNDS R/L2020K-610	●	●	20	20	125	20	20	34	6.0	10	20	GC □ N60□□-□□	1			
GNDS R/L2525M-206	●	●	25	25	150	25	25	30	2.0	6	12	GC □ 20□□-□□	1	BX0520	5.0	LH040
GNDS R/L2525M-306	●	●	25	25	150	25	25	30	3.0	6	12	GC □ 30□□-□□	1			
GNDS R/L2525M-410	●	●	25	25	150	25	25	34	4.0	10	20	GC □ 40□□-□□	1			
GNDS R/L2525M-510	●	●	25	25	150	25	25	34	5.0	10	20	GC □ N50□□-□□	1			
GNDS R/L2525M-610	●	●	25	25	150	25	25	34	6.0	10	20	GC □ N60□□-□□	1			

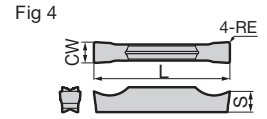
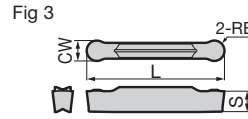
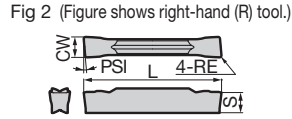
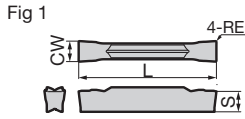
Select holders and inserts with matching width of cut (CW). Refer to P23 for applicable inserts.

The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to P11.



Inserts for GNDS 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	
	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S						
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 N5004-MG	●	●	●	●	●	●	5.0	±0.03	0.4	26.4	4.1	5
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	5
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	1
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	

Cut-off (Handed Edge)

Dimensions (mm)

Cat. No.	Width of Cut CW						Lead Angle PSI	Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig	
	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S							
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

Grooving / Cut-off

Dimensions (mm)

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

External Profiling / External Radius Grooving

Dimensions (mm)

Cat. No.	Width of Cut CW						Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig	
	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S						
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.	Width of Cut CW						Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig	
	AC3025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S						
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 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	
GCM N6030-RN	●	●	●	●	●	●	6.0	±0.03	3.0	28.3	4.5	3
N6030-RN	●	●	●	●	●	●	6.0	±0.03	3.0	28.3	4.5	

Non-Ferrous Metals

Dimensions (mm)

Cat. No.	H10	Width of Cut CW						Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
		AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S					
GCG N2002-GA	●	—	—	—	—	—	2.0	±0.025	0.2	21.1	3.6	4
N3002-GA	●	—	—	—	—	—	3.0	±0.025	0.2	21.1	3.8	
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	
GCG N6004-GA	●	—	—	—	—	—	6.0	±0.025	0.4	26.4	4.5	4
N6004-GA	●	—	—	—	—	—	6.0	±0.025	0.4	26.4	4.5	

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	For Non-Ferrous Metals	GA	Non-Ferrous Metals / General-purpose

Chipbreaker Selection P5 Recommended Cutting Conditions P11 Precautions for Use P14

Note: The values in red have been changed from Rev. 15 and the 2021-2022 General Catalogue. Select holders and inserts with matching width of cut (CW). Not usable with GNDS type holders.

● mark: Standard stocked item ● mark: Standard stocked item (new product / expanded item) Blank: Made-to-order item — mark: Not available



* For traverse cutting (groove expansion), use a multifunctional insert for profiling.

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

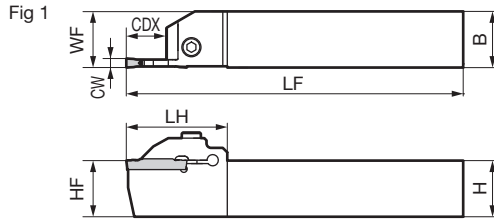
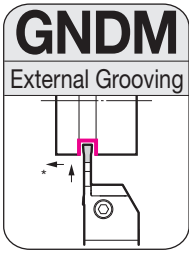


Figure shows right hand (R) tool.

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	Max. Groove Depth CDX	Max. Cut-off Dia.	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	20	GCM N125005-GF	1	BX0520	5.0	LH040
GNDM R/L2020K-1.510	●	●	20	20	125	20	20	34.0	1.50	10	20	GCM N150005-GF	1			
GNDM R/L2020K-210	●	●	20	20	125	20	20	33.6	2.00	10	20	GC □2000-□□	1			
GNDM R/L2020K-312	●	●	20	20	125	20	20	36.6	3.00	12	24	GC □3000-□□	1			
GNDM R/L2020K-418	●	●	20	20	125	20	20	45.0	4.00	18	36	GC □4000-□□	1			
GNDM R/L2020K-518	●	●	20	20	125	20	20	45.0	5.00	18	36	GC N5000-□□	1			
GNDM R/L2020K-618	●	●	20	20	125	20	20	45.0	6.00	18	36	GC N6000-□□	1			
GNDM R/L2525M-1.2510	●	●	25	25	150	25	25	36.0	1.25	10	20	GCM N125005-GF	1			
GNDM R/L2525M-1.510	●	●	25	25	150	25	25	36.0	1.50	10	20	GCM N150005-GF	1			
GNDM R/L2525M-210	●	●	25	25	150	25	25	33.6	2.00	10	20	GC □2000-□□	1			
GNDM R/L2525M-312	●	●	25	25	150	25	25	36.6	3.00	12	24	GC □3000-□□	1			
GNDM R/L2525M-418	●	●	25	25	150	25	25	45.0	4.00	18	36	GC □4000-□□	1			
GNDM R/L2525M-518	●	●	25	25	150	25	25	45.0	5.00	18	36	GC N5000-□□	1			
GNDM R/L2525M-618	●	●	25	25	150	25	25	45.0	6.00	18	36	GC N6000-□□	1			
GNDM R/L3225P-312			32	25	170	25	32	36.6	3.00	12	24	GC □3000-□□	1	BX0520	5.0	LH040
GNDM R/L3225P-418			32	25	170	25	32	45.0	4.00	18	36	GC □4000-□□	1			
GNDM R/L3225P-518			32	25	170	25	32	45.0	5.00	18	36	GC N5000-□□	1			
GNDM R/L3225P-618			32	25	170	25	32	45.0	6.00	18	36	GC N6000-□□	1			
GNDM R/L3225P-718			32	25	170	25	32	50.0	7.00	18	36	GCM N7000-□□	1			
GNDM R/L3225P-818			32	25	170	25	32	50.0	8.00	18	36	GCM N8000-□□	1			
GNDM R/L3232P-312	●	●	32	32	170	32	32	36.6	3.00	12	24	GC □3000-□□	1	BX0620	6.0	LH050
GNDM R/L3232P-418	●	●	32	32	170	32	32	45.0	4.00	18	36	GC □4000-□□	1			
GNDM R/L3232P-518	●	●	32	32	170	32	32	45.0	5.00	18	36	GC N5000-□□	1			
GNDM R/L3232P-618	●	●	32	32	170	32	32	45.0	6.00	18	36	GC N6000-□□	1			
GNDM R/L3232P-718	●	●	32	32	170	32	32	50.0	7.00	18	36	GCM N7000-□□	1			
GNDM R/L3232P-818	●	●	32	32	170	32	32	50.0	8.00	18	36	GCM N8000-□□	1			

Select holders and inserts with matching width of cut (CW). Refer to P25 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 P11.



* For traverse cutting (groove expansion), use a multifunctional insert for profiling.

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

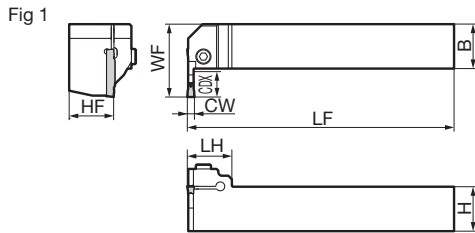
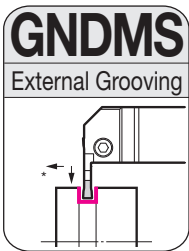


Figure shows right hand (R) tool.

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	Max. 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 □3000-□□	1	BX0520	5.0	LH040
GNDMS R/L2020K-412	●	●	20	20	125	34	20	25.0	4.0	12	GC □4000-□□	1			
GNDMS R/L2020K-512	●	●	20	20	125	34	20	25.0	5.0	12	GC N5000-□□	1			
GNDMS R/L2525M-312	●	●	25	25	150	39	25	25.0	3.0	12	GC □3000-□□	1	BX0520	5.0	LH040
GNDMS R/L2525M-414	●	●	25	25	150	41	25	25.0	4.0	14	GC □4000-□□	1			
GNDMS R/L2525M-514	●	●	25	25	150	41	25	25.0	5.0	14	GC N5000-□□	1			
GNDMS R/L2525M-614	●	●	25	25	150	41	25	25.0	6.0	14	GC N6000-□□	1			

Select holders and inserts with matching width of cut (CW). Refer to P25 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 P11.

● mark: Standard stocked item Blank: Made-to-order item Recommended Tightening Torque (N-m)



* For traverse cutting (groove expansion), use a multifunctional insert for profiling.

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

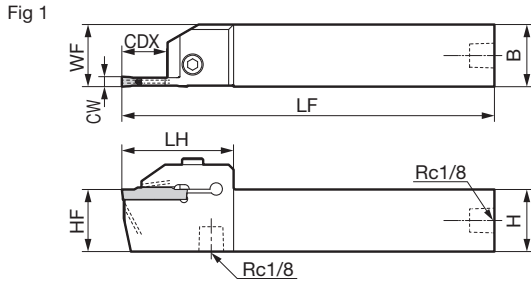
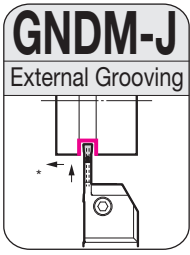


Figure shows right hand (R) tool.

Holder

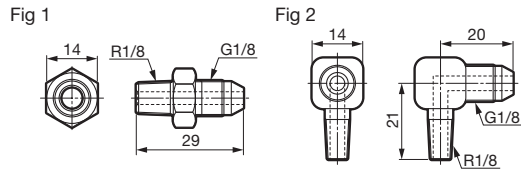
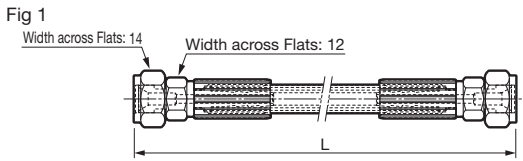
Parts

Dimensions (mm)

Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Head Length LH	Width of Cut CW	Max. Groove Depth CDX	Max. Cut-off Dia.	Applicable Insert	Fig	Parts			
	R	L												Cap Screw	Plug	Wrench	
GNDM R/L2020K-210J	●	●	20	20	125	20	20	33.6	2.00	10	20	GC □ 20○○-□□	1	BX0520	6.0	XP02	LH040
R/L2020K-312J	●	●	20	20	125	20	20	36.6	3.00	12	24	GC □ 30○○-□□	1				
R/L2020K-418J	●	●	20	20	125	20	20	45	4.00	18	36	GC □ 40○○-□□	1				
R/L2020K-518J	●	●	20	20	125	20	20	45	5.00	18	36	GC □ 50○○-□□	1				
R/L2020K-618J	●	●	20	20	125	20	20	45	6.00	18	36	GC □ 60○○-□□	1				
GNDM R/L2525K-210J	●	●	25	25	125	25	25	33.6	2.00	10	20	GC □ 20○○-□□	1	BX0520	6.0	XP02	LH040
R/L2525K-312J	●	●	25	25	125	25	25	36.6	3.00	12	24	GC □ 30○○-□□	1				
R/L2525K-418J	●	●	25	25	125	25	25	45	4.00	18	36	GC □ 40○○-□□	1				
R/L2525K-518J	●	●	25	25	125	25	25	45	5.00	18	36	GC □ 50○○-□□	1				
R/L2525K-618J	●	●	25	25	125	25	25	45	6.00	18	36	GC □ 60○○-□□	1				

Select holders and inserts with matching width of cut (CW). Refer to P27 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 P11.



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 **P15**

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 **P15**



External Deep Grooving & Cut-off
 Clamp-on

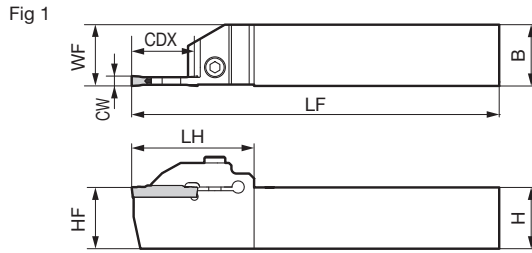
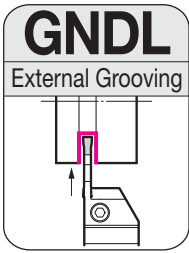


Figure shows right hand (R) tool.

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	Max. Groove Depth CDX	Max. Cut- off Dia.	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	32	GCM N125005-GF	1	BX0520	5.0	LH040
GNDL R/L2020K-1.516	●	●	20	20	125	20	20	38.0	1.50	16	32	GCM N150005-GF	1			
GNDL R/L2020K-220	●	●	20	20	125	20	20	44.5	2.00	20(18)	40	GC □ 2000-□□	1			
GNDL R/L2020K-320	●	●	20	20	125	20	20	44.5	3.00	20(18)	40	GC □ 3000-□□	1			
GNDL R/L2020K-425	●	●	20	20	125	20	20	50.0	4.00	25(23)	50	GC □ 4000-□□	1			
GNDL R/L2020K-525	●	●	20	20	125	20	20	50.0	5.00	25(23)	50	GC □ N5000-□□	1			
GNDL R/L2020K-625	●	●	20	20	125	20	20	50.0	6.00	25(23)	50	GC □ N6000-□□	1			
GNDL R/L2525M-1.2516	●	●	25	25	150	25	25	40.0	1.25	16	32	GCM N125005-GF	1	BX0520	5.0	LH040
GNDL R/L2525M-1.516	●	●	25	25	150	25	25	40.0	1.50	16	32	GCM N150005-GF	1			
GNDL R/L2525M-220	●	●	25	25	150	25	25	44.5	2.00	20(18)	40	GC □ 2000-□□	1			
GNDL R/L2525M-320	●	●	25	25	150	25	25	44.5	3.00	20(18)	40	GC □ 3000-□□	1			
GNDL R/L2525M-425	●	●	25	25	150	25	25	50.0	4.00	25(23)	50	GC □ 4000-□□	1			
GNDL R/L2525M-525	●	●	25	25	150	25	25	50.0	5.00	25(23)	50	GC □ N5000-□□	1			
GNDL R/L2525M-625	●	●	25	25	150	25	25	50.0	6.00	25(23)	50	GC □ N6000-□□	1			
GNDL R/L3225P-320			32	25	170	25	32	44.5	3.00	20(18)	40	GC □ 3000-□□	1	BX0520	5.0	LH040
GNDL R/L3225P-425			32	25	170	25	32	50.0	4.00	25(23)	50	GC □ 4000-□□	1			
GNDL R/L3225P-525			32	25	170	25	32	50.0	5.00	25(23)	50	GC □ N5000-□□	1			
GNDL R/L3225P-625			32	25	170	25	32	50.0	6.00	25(23)	50	GC □ N6000-□□	1			
GNDL R/L3225P-725			32	25	170	25	32	50.0	7.00	25(23)	50	GCM N7000-□□	1			
GNDL R/L3225P-825			32	25	170	25	32	50.0	8.00	25(23)	50	GCM N8000-□□	1			
GNDL R/L3232P-320	●	●	32	32	170	32	32	44.5	3.00	20(18)	40	GC □ 3000-□□	1	BX0620	6.0	LH050
GNDL R/L3232P-425	●	●	32	32	170	32	32	50.0	4.00	25(23)	50	GC □ 4000-□□	1			
GNDL R/L3232P-525	●	●	32	32	170	32	32	50.0	5.00	25(23)	50	GC □ N5000-□□	1			
GNDL R/L3232P-625	●	●	32	32	170	32	32	50.0	6.00	25(23)	50	GC □ N6000-□□	1			
GNDL R/L3232P-725	●	●	32	32	170	32	32	50.0	7.00	25(23)	50	GCM N7000-□□	1			
GNDL R/L3232P-825	●	●	32	32	170	32	32	50.0	8.00	25(23)	50	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 P29 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 P11.



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

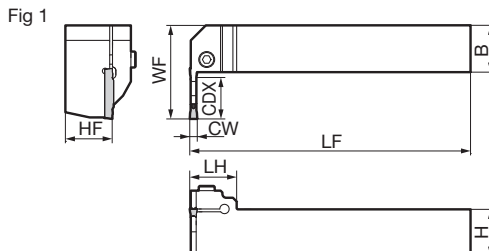
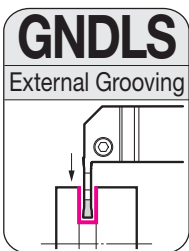


Figure shows right hand (R) tool.

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	Max. 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 P29 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 P11.

● mark: Standard stocked item Blank: Made-to-order item (N-m) Recommended Tightening Torque (N-m)



Internal Coolant Supply Clamp-on for External Deep Grooving & Cut-off

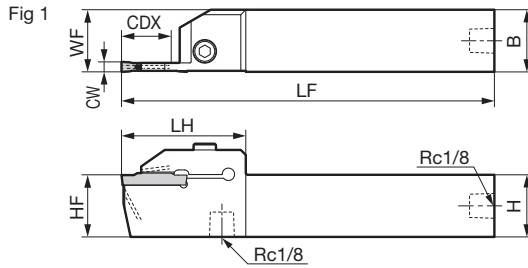
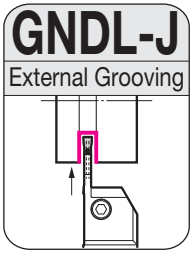


Figure shows right hand (R) tool.

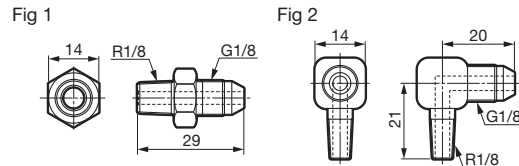
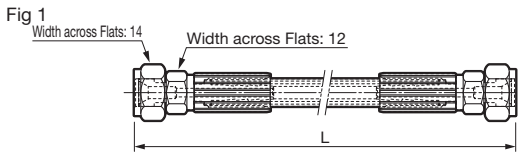
Holder

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	Max. Groove Depth CDX	Max. Cut-off Dia.	Applicable Insert	Fig	Dimensions (mm)			
	R	L												Cap Screw	Plug	Wrench	
GNDL R/L2020K-220J	●	●	20	20	125	20	20	44.5	2.00	20(18)	40	GC □ 20○○-□□	1	BX0520	6.0	XP02	LH040
R/L2020K-320J	●	●	20	20	125	20	20	44.5	3.00	20(18)	40	GC □ 30○○-□□	1				
R/L2020K-425J	●	●	20	20	125	20	20	50	4.00	25(23)	50	GC □ 40○○-□□	1				
R/L2020K-525J	●	●	20	20	125	20	20	50	5.00	25(23)	50	GC □ 50○○-□□	1				
R/L2020K-625J	●	●	20	20	125	20	20	50	6.00	25(23)	50	GC □ 60○○-□□	1				
GNDL R/L2525K-220J	●	●	25	25	125	25	25	44.5	2.00	20(18)	40	GC □ 20○○-□□	1	BX0520	6.0	XP02	LH040
R/L2525K-320J	●	●	25	25	125	25	25	44.5	3.00	20(18)	40	GC □ 30○○-□□	1				
R/L2525K-425J	●	●	25	25	125	25	25	50	4.00	25(23)	50	GC □ 40○○-□□	1				
R/L2525K-525J	●	●	25	25	125	25	25	50	5.00	25(23)	50	GC □ 50○○-□□	1				
R/L2525K-625J	●	●	25	25	125	25	25	50	6.00	25(23)	50	GC □ 60○○-□□	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 P31 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 P11.



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 **P15**

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 **P15**



Inserts for GNDL-J Type

Coated Carbide / Cermet / Cemented Carbide

Fig 1

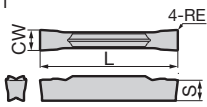


Fig 2 (Figure shows right-hand (R) tool.)

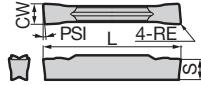


Fig 3

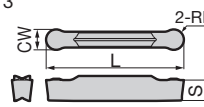
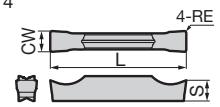


Fig 4



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	S	RE	L	S	RE	L	S	RE	L	S	RE	L	S	RE	L	S	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 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	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	5																									
N4008-ML	4.0	±0.03	0.8	26.4	4.0	1																									
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																									

Cut-off (Handed Edge)

Dimensions (mm)

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

GCMR: Right Handed, GCML: Left Handed

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	S	RE	L	S	RE	L	S	RE	L	S	RE	L	S	RE	L	S	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	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 N125005-GF	1.25	±0.03	0.05	17.4	3.2	1																									
GCM N150005-GF	1.5	±0.03	0.05	17.8	3.7	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	5																									
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																									
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																									



Clamp-on
for Necking

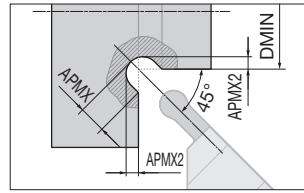
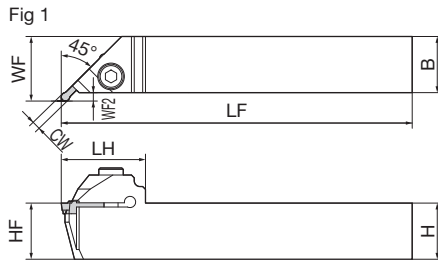
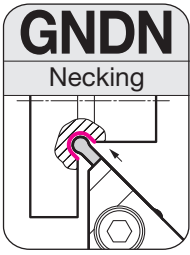


Figure shows right hand (R) tool.

Holder

Parts Dimensions (mm)

Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Head LH	Offset WF2	Min. Work Dia. DMIN	Width of Cut CW	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/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 P33 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 P11.

Identification Code

GND N R 20 20 K - 2 15 - 020

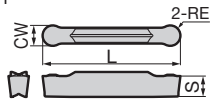
Series	Application Symbol: Necking	Feed Direction	Shank Height (mm)	Shank Width (mm)	Shank Length	Width of Cut (mm)	APMX x10 (mm)	Min. Work Dia. (mm)
GNDN	N	R	20	20	K	2	15	020



Inserts for GNDN Type

(Coated Carbide / Cermet / Cemented Carbide)

Fig 1



Profiling / Radius Grooving / Necking

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	Width of Cut CW		Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
									Width of Cut	Tolerance					
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	1		
N4020-RN	●	●	●	●	●	●	●	4.0	±0.03	2.0	28.2	4.0	1		
N5025-RN	●	●	●	●	●	●	●	5.0	±0.03	2.5	28.3	4.1	1		
N6030-RN	●	●	●	●	●	●	●	6.0	±0.03	3.0	28.3	4.5	1		

Part Number Suffix Code (Chipbreakers)

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

Chipbreaker Selection P5 Recommended Cutting Conditions P11 Precautions for Use P14

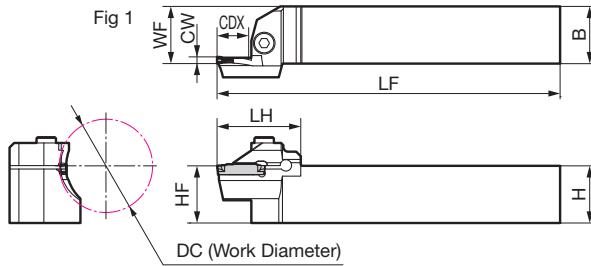
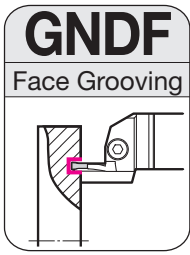
Note: The values in red have been changed from Rev. 15 and the 2021-2022 General Catalogue.

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

● mark: Standard stocked item ● mark: Standard stocked item (new product/expanded item) — mark: Not available



* For traverse cutting (groove expansion), use a multifunctional insert for profiling.



Clamp-on for Face Grooving

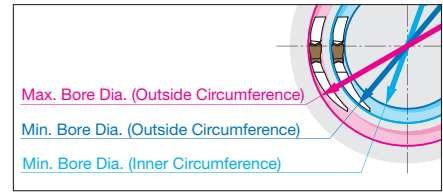


Figure shows right hand (R) tool.

Holder

Parts Dimensions (mm)

Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Head LH	Work Dia. DC	Min. Bore Dia. Inner Circumference	Width of Cut CW	Max. Groove Depth CDX	Applicable Insert	Fig	Cap Screw			Wrench
	R	L													Fig	N·m	Wrench	
GND 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	
GND R/L2020K-312-040	●	●	20	20	125	20	20	35.6	40 to 55	34	3.0	12						
GND R/L2020K-318-050	●	●	20	20	125	20	20	41.6	50 to 70	44	3.0	18						
GND R/L2020K-318-065	●	●	20	20	125	20	20	41.6	65 to 100	59	3.0	18						
GND R/L2020K-318-090	●	●	20	20	125	20	20	41.6	90 to 150	84	3.0	18						
GND R/L2020K-318-140	●	●	20	20	125	20	20	41.6	140 to 200	134	3.0	18						
GND R/L2020K-318-180	●	●	20	20	125	20	20	41.6	180 to 300	174	3.0	18						
GND R/L2020K-418-040	●	●	20	20	125	20	20	41.6	40 to 55	32	4.0	18						
GND R/L2020K-423-050	●	●	20	20	125	20	20	46.6	50 to 70	42	4.0	23						
GND R/L2020K-423-065	●	●	20	20	125	20	20	46.6	65 to 90	57	4.0	23						
GND R/L2020K-423-085	●	●	20	20	125	20	20	46.6	85 to 130	77	4.0	23						
GND R/L2020K-423-125	●	●	20	20	125	20	20	46.6	125 to 200	117	4.0	23						
GND R/L2020K-423-180	●	●	20	20	125	20	20	46.6	180 to 300	172	4.0	23						
GND R/L2020K-423-280	●	●	20	20	125	20	20	46.6	280 to 1000	272	4.0	23						
GND R/L2020K-523-050	●	●	20	20	125	20	20	46.6	50 to 70	40	5.0	23						
GND R/L2020K-523-065	●	●	20	20	125	20	20	46.6	65 to 90	55	5.0	23						
GND R/L2020K-523-085	●	●	20	20	125	20	20	46.6	85 to 130	75	5.0	23						
GND R/L2020K-523-125	●	●	20	20	125	20	20	46.6	125 to 200	115	5.0	23						
GND R/L2020K-523-180	●	●	20	20	125	20	20	46.6	180 to 300	170	5.0	23						
GND R/L2020K-523-280	●	●	20	20	125	20	20	46.6	280 to 1000	270	5.0	23						
GND R/L2020K-623-050	●	●	20	20	125	20	20	46.6	50 to 75	38	6.0	23						
GND R/L2020K-623-070	●	●	20	20	125	20	20	46.6	70 to 110	58	6.0	23						
GND R/L2020K-623-100	●	●	20	20	125	20	20	46.6	100 to 200	88	6.0	23						
GND R/L2020K-623-180	●	●	20	20	125	20	20	46.6	180 to 300	168	6.0	23						
GND R/L2020K-623-280	●	●	20	20	125	20	20	46.6	280 to 1000	268	6.0	23						
GND R/L2525M-312-035	●	●	25	25	150	25	25	35.6	35 to 45	29	3.0	12	GC□ N30○○-□□	1	BX0520	5.0	LH040	
GND R/L2525M-312-040	●	●	25	25	150	25	25	35.6	40 to 55	34	3.0	12						
GND R/L2525M-318-050	●	●	25	25	150	25	25	41.6	50 to 70	44	3.0	18						
GND R/L2525M-318-065	●	●	25	25	150	25	25	41.6	65 to 100	59	3.0	18						
GND R/L2525M-318-090	●	●	25	25	150	25	25	41.6	90 to 150	84	3.0	18						
GND R/L2525M-318-140	●	●	25	25	150	25	25	41.6	140 to 200	134	3.0	18						
GND R/L2525M-318-180	●	●	25	25	150	25	25	41.6	180 to 300	174	3.0	18						
GND R/L2525M-418-040	●	●	25	25	150	25	25	41.6	40 to 55	32	4.0	18						
GND R/L2525M-423-050	●	●	25	25	150	25	25	46.6	50 to 70	42	4.0	23						
GND R/L2525M-423-065	●	●	25	25	150	25	25	46.6	65 to 90	57	4.0	23						
GND R/L2525M-423-085	●	●	25	25	150	25	25	46.6	85 to 130	77	4.0	23						
GND R/L2525M-423-125	●	●	25	25	150	25	25	46.6	125 to 200	117	4.0	23						
GND R/L2525M-423-180	●	●	25	25	150	25	25	46.6	180 to 300	172	4.0	23						
GND R/L2525M-423-280	●	●	25	25	150	25	25	46.6	280 to 1000	272	4.0	23						
GND R/L2525M-523-050	●	●	25	25	150	25	25	46.6	50 to 70	40	5.0	23						
GND R/L2525M-523-065	●	●	25	25	150	25	25	46.6	65 to 90	55	5.0	23						
GND R/L2525M-523-085	●	●	25	25	150	25	25	46.6	85 to 130	75	5.0	23						
GND R/L2525M-523-125	●	●	25	25	150	25	25	46.6	125 to 200	115	5.0	23						
GND R/L2525M-523-180	●	●	25	25	150	25	25	46.6	180 to 300	170	5.0	23						
GND R/L2525M-523-280	●	●	25	25	150	25	25	46.6	280 to 1000	270	5.0	23						
GND R/L2525M-623-050	●	●	25	25	150	25	25	46.6	50 to 75	38	6.0	23						
GND R/L2525M-623-070	●	●	25	25	150	25	25	46.6	70 to 110	58	6.0	23						
GND R/L2525M-623-100	●	●	25	25	150	25	25	46.6	100 to 200	88	6.0	23						
GND R/L2525M-623-180	●	●	25	25	150	25	25	46.6	180 to 300	168	6.0	23						
GND 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 P35 for applicable inserts.

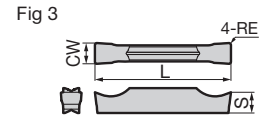
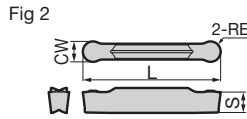
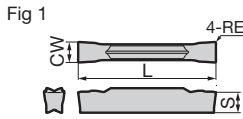
The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to P11.

● mark: Standard stocked item Recommended Tightening Torque (N·m)



Inserts for GND F 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	
	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U						
	AC530U	T2500A	Width of Cut	Tolerance	RE	L	S						
GCM N3002-MG N3004-MG	●	●	●	●	●	●	●	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	1
GCM N6004-MG N6008-MG	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	1
GCM N3002-ML N3004-ML	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	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	1
GCM N6004-ML N6008-ML	●	●	●	●	●	●	●	6.0	±0.03	0.4	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	
	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U						
	AC530U	Width of Cut	Tolerance	RE	L	S							
GCM N3015-RN N4020-RN N5025-RN N6030-RN	●	●	●	●	●	●	●	3.0	±0.03	1.5	22.6	3.8	2
								4.0	±0.03	2.0	28.2	4.0	2
								5.0	±0.03	2.5	28.3	4.1	2
								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
		AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U					
		AC530U	Width of Cut	Tolerance	RE	L	S						
GCG N2002-GA N3002-GA	●							2.0	±0.025	0.2	21.1	3.6	3
GCG N4004-GA N5004-GA N6004-GA	●							3.0	±0.025	0.2	21.1	3.8	3
								4.0	±0.025	0.4	26.4	4.0	5
								5.0	±0.025	0.4	26.4	4.1	3
								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	
	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U						
	AC530U	T2500A	Width of Cut	Tolerance	RE	L	S						
GCM N3002-GG N3004-GG	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	1
GCM N4002-GG N4004-GG	●	●	●	●	●	●	●	4.0	±0.03	0.2	26.4	4.0	1
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 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	1
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 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	1
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

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	For 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			

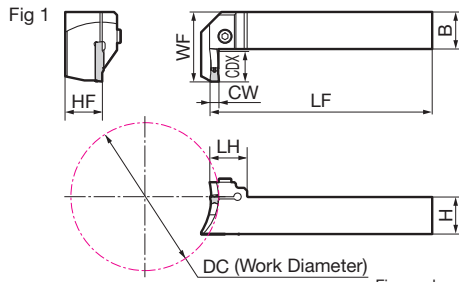
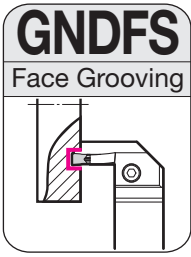
Chipbreaker Selection P5 Recommended Cutting Conditions P11 Precautions for Use P14

Note: The values in red have been changed from Rev. 15 and the 2021-2022 General Catalogue. Select holders and inserts with matching width of cut (CW). Not usable with GNDIS type holders.

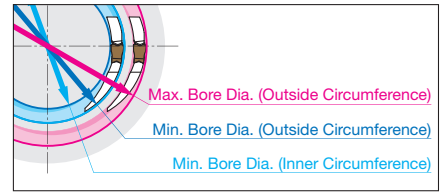
● mark: Standard stocked item ● mark: Standard stocked item (new product/expanded item) Blank: Made-to-order item — mark: Not available



* For traverse cutting (groove expansion), use a multifunctional insert for profiling.



Clamp-on for Face L Type
 (Side Cut) Deep Grooving



Holder

Figure shows right hand (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	Work Dia. DC	Min. Bore Diameter Inner Circumference	Width of Cut CW	Max. 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	GC □ 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	GC □ 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			

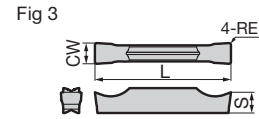
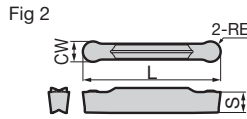
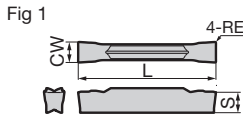
Select holders and inserts with matching width of cut (CW). Refer to P37 for applicable inserts.

The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to P11.



Inserts for GNDFS 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		
	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U							
	AC530U	T2500A	Width of Cut	Tolerance	RE	L	S							
GCM N6004-MG N6008-MG	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	5	1
GCM N8004-MG N8008-MG	●	●	●	●	●	●	●	8.0	±0.04	0.4	28.8	6.0	5	1
GCM N6004-ML N6008-ML	●	●	●	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	5	1
GCM N8004-ML N8008-ML	●	●	●	●	●	●	●	8.0	±0.04	0.4	28.8	6.0	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		
	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U							
	AC530U	Width of Cut	Tolerance	RE	L	S								
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 CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig	
		Width of Cut	Tolerance	RE	L	S								
		GCG N6004-GA	●											

Grooving / Cut-off

Dimensions (mm)

Cat. No.	Width of Cut CW							Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig		
	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U							
	AC530U	T2500A	Width of Cut	Tolerance	RE	L	S							
GCM N6002-GG N6004-GG	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	5	1
GCM N8004-GG	●	●	●	●	●	●	●	8.0	±0.04	0.4	28.8	6.0	5	1
GCM N6002-GL N6004-GL	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	5	1
GCM N8004-GL	●	●	●	●	●	●	●	8.0	±0.04	0.4	28.8	6.0	5	1
GCM N6002-GF N6004-GF	●	●	●	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	5	1
GCM N8002-GF N8004-GF	●	●	●	●	●	●	●	8.0	±0.04	0.2	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 For Non-Ferrous Metals	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 P5 Recommended Cutting Conditions P11 Precautions for Use P14

Note: The values in red have been changed from Rev. 15 and the 2021-2022 General Catalogue. Select holders and inserts with matching width of cut (CW). Not usable with GNDIS type holders.

● mark: Standard stocked item ● mark: Standard stocked item (new product/expanded item) Blank: Made-to-order item — mark: Not available



Clamp-on
for Internal Diameter Grooving

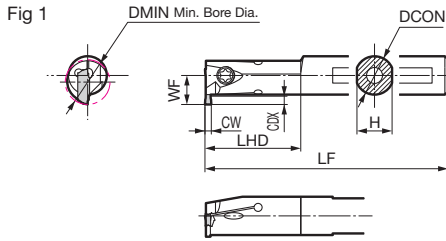
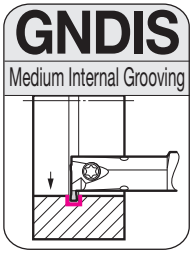


Figure shows right hand (R) tool.

Holder

Parts

Dimensions (mm)

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

Select holders and inserts with matching width of cut (CW). **Only GXM inserts can be used.** Refer to P39 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 P39.

Identification Code

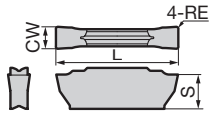
GND IS R 12 14 - T 15 26

Series	Application Symbol: Internal Boring	Feed Direction	Shank Dia. (mm)	Min. Bore Dia. (mm)	For Internal Boring	Width of Cut x 10 (mm)	Maximum Groove Depth x 10 (mm)
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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		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		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		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 v_c (m/min)	80-200	50-200	70-150	50-150	60-200	50-200	20-80	20-60

■ Grooving / Cut-off / Necking

Chipbreaker	Width of Cut CW (mm)	Feed Rate f (mm/rev)	
		ML	GF
	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	Width of Cut CW (mm)	ML	
		Feed Rate f (mm/rev)	Depth of Cut a_p (mm/rev)
	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



Clamp-on
for Internal Diameter Grooving

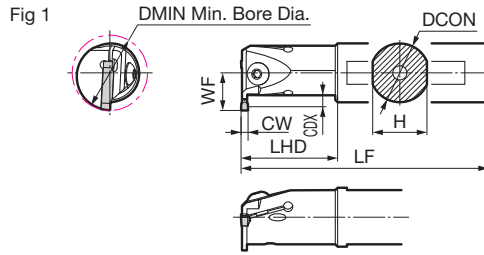


Figure shows right hand (R) tool.

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	Max. Groove Depth CDX	Applicable Insert	Fig	Bolt		Wrench
	R	L											N-m		
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	GC □ N20 ○ □ □	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

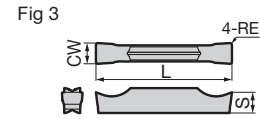
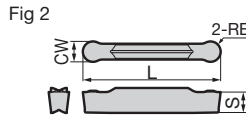
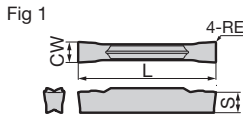
Select holders and inserts with matching width of cut (CW). Refer to P41 for applicable inserts.

The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to P11.



Inserts for GNDI Type

(Coated Carbide / Cermet / Cemented Carbide)



Grooving / Traverse Cutting

Dimensions (mm)

Cat. No.	AC Series						Width of Cut CW			Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	Width of Cut	Tolerance	RE					
	AC830P	AC520U	AC530U	T2500A										
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			
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	5	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	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	5	1	
N3002-ML	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8			
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			
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	5	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	5	1	
N6008-ML	●	●	●	●	●	●	6.0	±0.03	0.8	26.4	4.5			

Profiling / Radius Grooving / Necking

Dimensions (mm)

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

Non-Ferrous Metals

Dimensions (mm)

Cat. No.	H10	AC Series						Width of Cut CW			Corner Radius RE	Overall Length L	Thickness S	Pcs/Pack	Fig
		AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	Width of Cut	Tolerance	RE					
		AC830P	AC520U	AC530U											
GCG N2002-GA	●	—	—	—	—	—	2.0	±0.025	0.2	21.1	3.6	5	3		
N3002-GA	●	—	—	—	—	—	3.0	±0.025	0.2	21.1	3.8				
GCG N4004-GA	●	—	—	—	—	—	4.0	±0.025	0.4	26.4	4.0	5	3		
N5004-GA	●	—	—	—	—	—	5.0	±0.025	0.4	26.4	4.1				
N6004-GA	●	—	—	—	—	—	6.0	±0.025	0.4	26.4	4.5	5	3		

Grooving / Cut-off

Dimensions (mm)

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

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 P5 Recommended Cutting Conditions P11 Precautions for Use P14

Note: The values in red have been changed from Rev. 15 and the 2021-2022 General Catalogue. Select holders and inserts with matching width of cut (CW). Not usable with GNDIS type holders.

● mark: Standard stocked item ● mark: Standard stocked item (new product / expanded item) Blank: Made-to-order item — mark: Not available



SumiPolygon Cassette Clamp-on for External Grooving



Fig 1

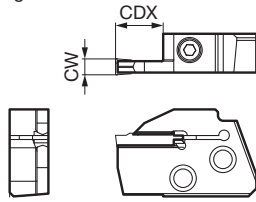


Figure shows right hand (R) tool.

SumiPolygon GND Type Cassette

Parts Dimensions (mm)

Cat. No.	Stock		Width of Cut CW	Maximum Groove Depth CDX	Applicable Insert	Applicable Holders	Fig	Cap Screw		Wrench
	R	L						N-m		
GNDCM R/L 212	●	●	2	12	GC□□20□□-□□	PSC□□GND□□□□□□ R/L	1			
GNDCM R/L 312	●	●	3	12	GC□□30□□-□□		1			
GNDCM R/L 418	●	●	4	18	GC□□40□□-□□		1	BX0512	5.0	LH040
GNDCM R/L 518	●	●	5	18	GC□N50□□-□□	PSC□□GND□□□□□□90 R/L	1			
GNDCM R/L 618	●	●	6	18	GC□N60□□-□□		1			

Select holders and inserts with matching width of cut (CW). Refer to P43 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 P11.

Identification Code Cassette

GNDCM R 2 12
Series Feed Direction Width of Cut (mm) Maximum Groove Depth (mm)

Fig 1

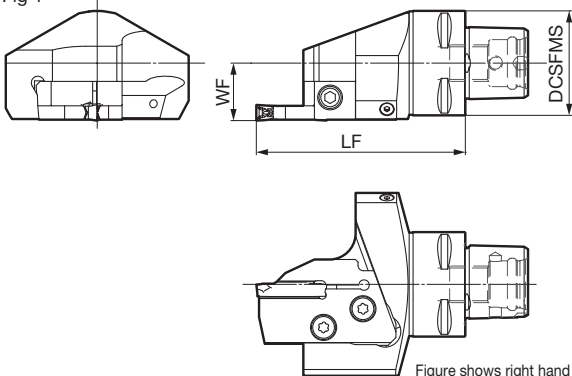


Figure shows right hand (R) tool.

Fig 1

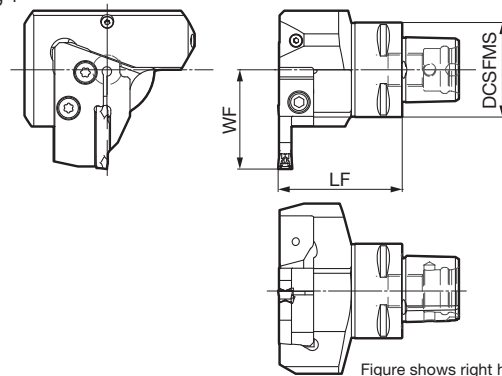


Figure shows right hand (R) tool.

SumiPolygon GND Type Tool Holder (Straight) Parts

Dimensions (mm)

Cat. No.	Stock		Cutting Edge WF	Overhang LF	Mounting DCS-FMS	Applicable Cassettes	Fig	Flat Screw		Wrench
	R	L						N-m		
PSC40 GND 228000 R/L	●	●	22	80	40	GNDCM R/L□□□□	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 embedded into tool holders.

SumiPolygon GND Type Tool Holder (L Type) Parts

Dimensions (mm)

Cat. No.	Stock		Cutting Edge WF	Overhang LF	Mounting DCS-FMS	Applicable Cassettes	Fig	Flat Screw		Wrench
	R	L						N-m		
PSC40 GND 425290 R/L	●	●	42	52.5	40	GNDCM L/R□□□□	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 embedded into tool holders.

Identification Code Holder

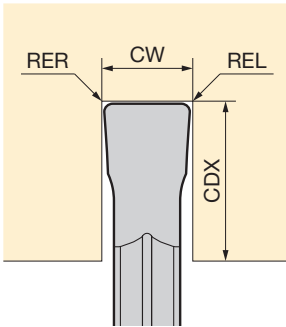
PSC40 GND 42 52 90 R
SumiPolygon Shank Size Series: GND Type WF Dimensions (mm) LF Dimensions (mm) 00: Straight 90: L Type Feed Direction

SEC-Grooving Tool GND Type Special Grooving Insert Request Form

Applicable Tool Holders (Width of Cut 2 to 6mm)
 External Turning: GNDS Type (→ P22), GNDM Type (→ P18, P20, P24, P26), GNDMS Type (→ P24), GNDL Type (→ P18, P20, P28, P30), GNDLS Type (→ P28), GNDCM Type (→ P42)
 Internal Boring: GNDI Type (→ P40) *GNDIS types cannot be used as the insert shape is different
 Facing: GNDF Type (→ P34), GNDFS Type (→ P36)

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 (mm) (2.00 to 6.59mm)	
	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 (mm)*2	
	<p>*1 If H10 is selected as the grade, the cutting edge will have a sharp edge. *2 Set the breaker 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>	

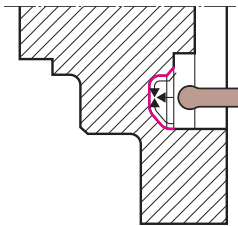
Form instructions

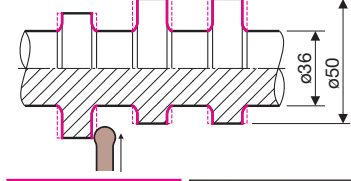
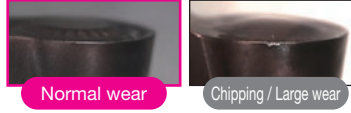
1. The applicable standard holder depends on the width of cut. Refer to the chart on the right for manufacturable widths of cut and corner radius range for facing. (If using a corner radius exceeding this for facing, modification is required to prevent the holder from interfering with the work material.)
2. The corner radius maximum value for external turning and internal boring is 1/2 the width of cut.
3. Width of cut (CW) tolerance is ±0.025mm when manufactured.
4. 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
5. For inch widths of cut, inserts can also be supplied partially unground.

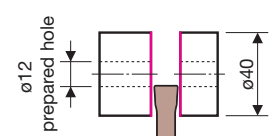

Width of Cut CW (Nominal Value)	Applicable Standard Holder	Corner radius (RER, REL) maximum value when used for facing (standard holder applicable)
2.00 to 2.59mm	2mm Width Holder	0.2mm
2.60 to 3.59mm	3mm Width Holder	0.4mm
3.60 to 4.59mm	4mm Width Holder	0.8mm
4.60 to 5.59mm	5mm Width Holder	
5.60 to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

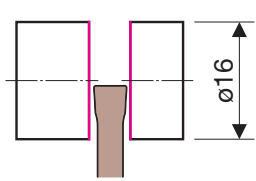
Contact your local sales office for details.

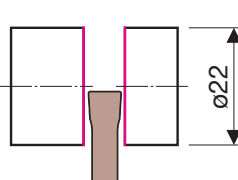
Application Examples

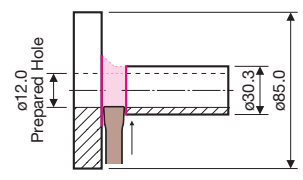
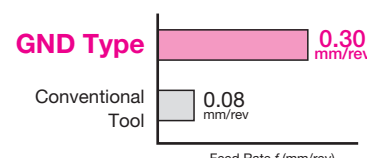
SCM420H Automotive Component Face Profiling	
	<p>Point</p> <ul style="list-style-type: none"> · High rigidity · Chip evacuation · Wear resistance
	<p>Holder GDNF R2525M-423-125</p> <p>Insert GCM N4020-RN</p> <p>Cutting Edge Width: 4.0mm</p> <p>Cutting Conditions $v_c = 200\text{m/min}$ $f = 0.14\text{mm/rev}$ Wet</p>
<ul style="list-style-type: none"> · Excellent chip evacuation performance · Stable cutting without chattering or vibration 	

S53C Camshaft Grooving / Finishing (Continuous to Heavy Interrupted)	
	<p>Point</p> <ul style="list-style-type: none"> · High rigidity · Chatter · Chip evacuation · Fracture resistance
	<p>Holder GNDM L2525M-618</p> <p>Insert GCM N6030-RG</p> <p>Cutting Edge Width: 6.0mm</p> <p>Cutting Conditions $v_c = 130\text{m/min}$ $f = 0.36\text{mm/rev}$ Wet</p>
 <p>Normal wear Chipping / Large wear</p> <p>GND Type Conventional Tool</p>	
<ul style="list-style-type: none"> · Stable cutting without chattering or vibration · Excellent fracture resistance · Stable chip evacuation 	

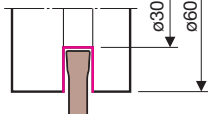

S48C Tempered Machine Component Cut-off	
	<p>Point</p> <ul style="list-style-type: none"> · High rigidity · Chatter · Fracture resistance
	<p>Holder GNDL R2525M-320</p> <p>Insert GCM N3002-GG</p> <p>Cutting Edge Width: 3.0mm</p> <p>Cutting Conditions $n = 1,600\text{min}^{-1}$ $v_c = 200\text{m/min}$ $f = 0.05\text{mm/rev}$ Wet</p>
 <p>Normal wear Chipping / Large wear</p> <p>GND Type Conventional Tool</p>	
<ul style="list-style-type: none"> · Stable cutting without chattering or vibration · Excellent fracture resistance · Stable fracture resistance 	

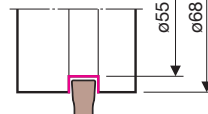
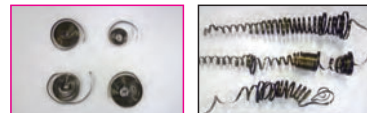
SCM435 Tempered Hydraulic Component Cut-off	
	<p>Point</p> <ul style="list-style-type: none"> · Chip evacuation · Wear resistance
	<p>Holder GNDL R2525M-320</p> <p>Insert GCM N3002-GG</p> <p>Cutting Edge Width: 3.0mm</p> <p>Cutting Conditions $n = 4,000\text{min}^{-1}$ $v_c = 200\text{m/min}$ $f = 0.05\text{mm/rev}$ Wet</p>
	<ul style="list-style-type: none"> · Stable chip evacuation · Excellent wear resistance

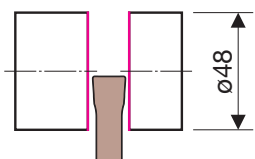
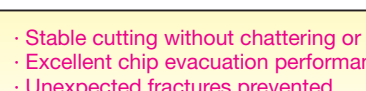
S45C Valve Cut-off	
	<p>Point</p> <ul style="list-style-type: none"> · High rigidity · Chatter · Chip evacuation
	<p>Holder GNDM R2525M-312</p> <p>Insert GCM N3002-ML</p> <p>Cutting Edge Width: 3.0mm</p> <p>Cutting Conditions $v_c = 150\text{m/min}$ $f = 0.05 \text{ to } 0.15\text{mm/rev}$ Wet</p>
<ul style="list-style-type: none"> · Stable cutting without chattering or vibration · Stable chip evacuation 	

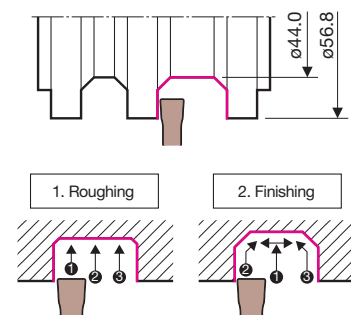
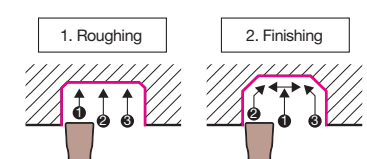
SCM435 Crank Cut-off	
	<p>Point</p> <ul style="list-style-type: none"> · High rigidity · Chatter · Chip evacuation
	<p>Holder GNDL R2525M-320</p> <p>Insert GCM N3002-GG</p> <p>Cutting Edge Width: 3.0mm</p> <p>Cutting Conditions $v_c = 115\text{m/min}$ $f = 0.30\text{mm/rev}$ Wet</p>
 <p>GND Type 0.30 mm/rev</p> <p>Conventional Tool 0.08 mm/rev</p> <p>Feed Rate f (mm/rev)</p>	
<ul style="list-style-type: none"> · Improved machining efficiency · Stable cutting without chattering or vibration · Stable chip evacuation 	

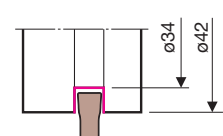
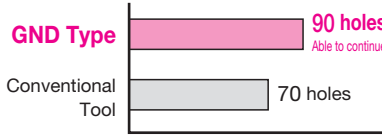
Application Examples

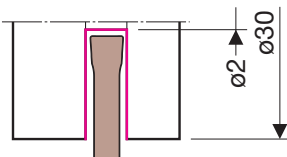
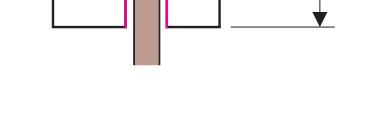
SCM440 Office Machine Component Grooving	
	<p>Point</p> <ul style="list-style-type: none"> · Chip evacuation · Machining efficiency
 <p>GND Type (Continuous Feed)</p> <p>Conventional Tool (Step Feed)</p>	<p>Holder GNDL R2525M-320</p> <p>Insert GCM N3002-GG</p> <p>Cutting Edge Width: 3.0mm</p> <p>Cutting Conditions $v_c = 90\text{m/min}$ $f = 0.1\text{mm/rev}$ Wet</p>
<ul style="list-style-type: none"> · Excellent chip evacuation performance · 20% greater machining efficiency 	

SCr420H Gearshaft Grooving	
	<p>Point</p> <ul style="list-style-type: none"> · High rigidity · Chatter · Chip evacuation
 <p>GND Type</p> <p>Conventional Tool</p>	<p>Holder GNDM R2525M-312</p> <p>Insert GCM N3004-GG</p> <p>Cutting Edge Width: 3.0mm</p> <p>Cutting Conditions $v_c = 100\text{m/min}$ $f = 0.12\text{mm/rev}$ Wet</p>
<ul style="list-style-type: none"> · Stable cutting without chattering or vibration · Excellent chip evacuation performance 	

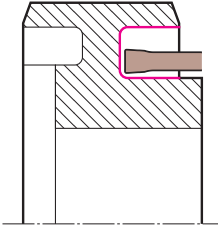
SKD61 (45 to 48HRC) Machine Component Cut-off	
	<p>Point</p> <ul style="list-style-type: none"> · High rigidity · Chatter · Chip evacuation
 <p>GND Type</p> <p>Conventional Tool</p>	<p>Holder GNDL R2525M-425</p> <p>Insert GCM N4002-GG</p> <p>Cutting Edge Width: 4.0mm</p> <p>Cutting Conditions $v_c = 50\text{m/min}$ $f = 0.03\text{mm/rev}$ Wet</p>
<ul style="list-style-type: none"> · Stable cutting without chattering or vibration · Excellent chip evacuation performance · Unexpected fractures prevented 	

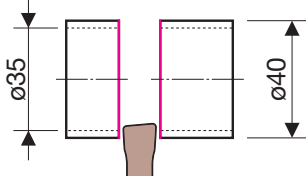
SCr415 Gearshaft Grooving / Profiling	
	<p>Point</p> <ul style="list-style-type: none"> · High rigidity · Chatter · Chip evacuation
 <p>GND Type</p> <p>Conventional Tool</p>	<p>Holder GNDM R2020K-518</p> <p>Insert GCM N5008-MG</p> <p>Cutting Edge Width: 5.0mm</p> <p>Cutting Conditions $v_c = 150\text{m/min}$ $f = 0.1\text{mm/rev}$ Wet</p>
<ul style="list-style-type: none"> · Stable cutting without chattering or vibration · Excellent chip evacuation performance 	

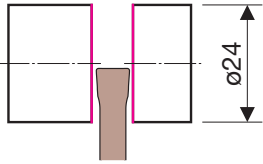
Sintered Ferrous Material Crank Sprocket Gear Grooving / Finishing	
	<p>Point</p> <ul style="list-style-type: none"> · High rigidity · Chatter · Chip evacuation · Wear resistance
 <p>GND Type 90 holes Able to continue</p> <p>Conventional Tool 70 holes</p>	<p>Holder GNDL R2525M-220</p> <p>Insert GCM N2002-GG</p> <p>Cutting Edge Width: 2.0mm</p> <p>Cutting Conditions $v_c = 100\text{m/min}$ $f = 0.08\text{mm/rev}$ Wet</p>
<ul style="list-style-type: none"> · Stable cutting without chattering or vibration · Excellent chip evacuation performance · Excellent wear resistance increasing tool life by 130% or more 	

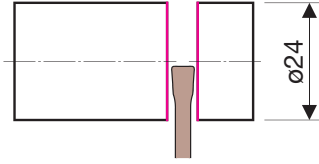
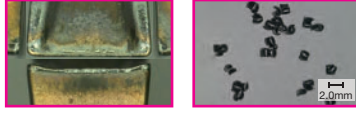
SUS304 Measuring Component Grooving	
	<p>Point</p> <ul style="list-style-type: none"> · High rigidity · Chatter · Chip evacuation
 <p>GND Type</p> <p>Conventional Tool</p>	<p>Holder GNDL R2525M-320</p> <p>Insert GCM N3002-GG</p> <p>Cutting Edge Width: 3.0mm</p> <p>Cutting Conditions $v_c = 60\text{m/min}$ $f = 0.025\text{mm/rev}$ Wet</p>
<ul style="list-style-type: none"> · Stable cutting without chattering or vibration · Excellent chip evacuation performance 	

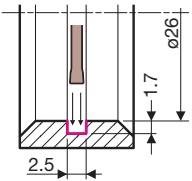
Application Examples

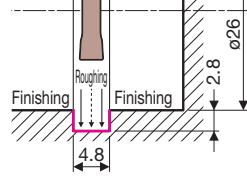

Sintered Component Clutch Hub Face Grooving	
	<p>Point</p> <ul style="list-style-type: none"> · Machining efficiency · Chatter
	<p>Holder GDNF R2020K-523-050</p> <p>Insert GCM N5008-MG</p> <p>Cutting Edge Width: 5.0mm</p> <p>Cutting Conditions $n = 500\text{min}^{-1}$ $v_c = 100\text{m/min}$ $f = 0.05\text{mm/rev}$ Wet</p>
<ul style="list-style-type: none"> · Reduces cycle time by up to 20% · Stable cutting without chattering or vibration 	

SUS303 Hollow Round Bar Pipe Cut-off	
	<p>Point</p> <ul style="list-style-type: none"> · Machining efficiency · Chatter
	<p>Holder GNL R2020K-220</p> <p>Insert GCMR2002-CG-05</p> <p>Cutting Edge Width: 2.0mm</p> <p>Cutting Conditions $n = 1,000\text{min}^{-1}$ $v_c = 140\text{m/min}$ $f = 0.03\text{mm/rev}$ Wet</p>
<ul style="list-style-type: none"> · Sharp cutting edge provides stable cutting · Stable chip control for stable cutting 	

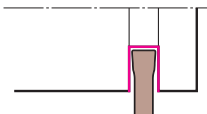
Stainless Steel Round Bar Cut-off	
	<p>Point</p> <ul style="list-style-type: none"> · Tool life · Adhesion resistance
	<p>Holder GNM L2020K-312</p> <p>Insert GCMN3002-GF</p> <p>Cutting Edge Width: 3.0mm</p> <p>Cutting Conditions $n = 1,000\text{min}^{-1}$ $f = 0.15 \rightarrow 0.03\text{mm/rev}$ Wet</p>
<p>GND Type 1,500 pcs.</p> <p>Conventional Tool 1,000 pcs.</p>	
<ul style="list-style-type: none"> · Suppressed adhesion fracture achieves 150% tool life · Stable cutting without chattering or vibration 	

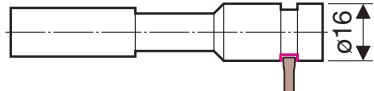
SCM415 Valve Spool Cut-off	
	<p>Point</p> <ul style="list-style-type: none"> · Tool life · Chip evacuation
	<p>Holder GNL R1212JX-1.2512</p> <p>Insert GCMN125005-GF</p> <p>Cutting Edge Width: 1.25mm</p> <p>Cutting Conditions $n = 2,000\text{min}^{-1}$ $f = 0.05\text{mm/rev}$ Wet</p>
	
<ul style="list-style-type: none"> · Slight damage and able to continue even after 7,500 uses · Excellent chip evacuation performance 	

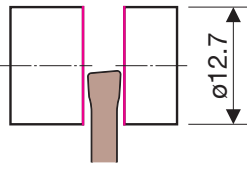
S45CD Motorcycle Transmission Component (Collar) Internal Grooving	
	<p>Point</p> <ul style="list-style-type: none"> · Tool life · Chip evacuation
	<p>Holder GNDIS R1620-T2046</p> <p>Insert GXM N2002S-GF</p> <p>Cutting Edge Width: 2.0mm</p> <p>Cutting Conditions $v_c = 150\text{m/min}$ $f = 0.03\text{mm/rev}$ $a_p = 1.7\text{mm}$ Wet</p>
<p>GND Type 1,100 pcs.</p> <p>Competitor's Product A 900 pcs.</p> <p>Competitor's Product B 600 pcs.</p> <p>Tool Life (pcs.)</p>	
<ul style="list-style-type: none"> · Realises stable chip evacuation and longer tool life through high-rigidity tools and 3D chipbreaker 	

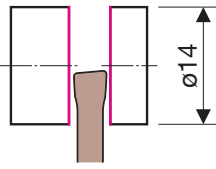
SCM420 Automotive Component (Coupling) Internal Grooving	
	<p>Point</p> <ul style="list-style-type: none"> · Machining efficiency · Chip evacuation
	<p>Holder GNDIS R1620-T2046</p> <p>Insert GXM N2002S-GF</p> <p>Cutting Edge Width: 2.0mm</p> <p>Cutting Conditions $v_c = \text{Roughing } 50 \text{ to Finishing } 80\text{m/min}$ $f = \text{Roughing } 0.07 \text{ to Finishing } 0.05\text{mm/rev}$ $a_p = 2.8\text{mm}$ Wet</p>
	
<ul style="list-style-type: none"> · Good chip evacuation means step feed in the roughing process, required with competitors' products, is no longer needed 	

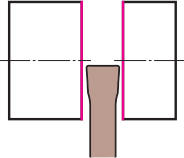
Application Examples

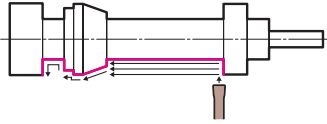
S15C Automotive Component Grooving	
	<p>Point</p> <ul style="list-style-type: none"> Machining efficiency Tool life
<p>GND Type 1.2 sec/pc</p> <p>Competitor's Product 3.6 sec/pc</p> <p>Cutting Time (sec/pc)</p>	<p>Holder GNDM R2525K-312J</p> <p>Insert GCM N3004-GG</p> <p>Cutting Edge Width: 3.0mm</p> <p>Cutting Conditions $v_c = 152$ (91) m/min $f = 0.10$ (0.05) mm/rev $a_p = 9.5$mm Wet → Internal Coolant Supply 2.1MPa (*) indicates value for competitors' products</p>
<p>GND Type 1,000 pcs.</p> <p>Competitor's Product 250 pcs.</p> <p>Tool Life (pcs.)</p>	
<ul style="list-style-type: none"> Double the feed rate of conventional tools, with no chatter 1.5 times the cutting speed thanks to an internal coolant holder, achieving 4 times longer tool life 	

Sintered Component Tap Component Grooving	
	<p>Point</p> <ul style="list-style-type: none"> Tool life Chip evacuation
<p>GND Type 50 pcs.</p> <p>Competitor's Product 30 pcs.</p> <p>Tool Life (pcs.)</p>	<p>Holder GNDL L2020K-220J</p> <p>Insert GCM N2002-GF</p> <p>Cutting Edge Width: 2.0mm</p> <p>Cutting Conditions $v_c = 90$m/min $f = 0.02$mm/rev $a_p = 2.0$mm Wet → Internal Coolant Supply 1.5MPa</p>
<ul style="list-style-type: none"> Coolant supply from near the cutting edge directly to the cutting point, achieves 1.7 times longer tool life Internal coolant supply realises stable chip evacuation even at low feed machining 	

SUM23 Free-cutting Steel Machine Component Cut-off	
	<p>Point</p> <ul style="list-style-type: none"> Tool life Central burrs
<p>GND Type 2,800 pcs.</p> <p>Competitor's Product 2,500 pcs.</p> <p>Tool Life (pcs.)</p>	<p>Holder GNDL R1212JX-212.5</p> <p>Insert GCM R20003-CF-10</p> <p>Cutting Edge Width: 2.0mm</p> <p>Cutting Conditions $v_c = 122$m/min $f = 0.05$mm/rev $a_p = 6.35$mm Wet</p>
<ul style="list-style-type: none"> Excellent cutting edge sharpness for 1.2 times longer tool life Central burrs eliminated with handed insert 	

SCM435H Machine Component Cut-off	
	<p>Point</p> <ul style="list-style-type: none"> Machined surface Tool life
<p>GND Type 1,800 pcs.</p> <p>Competitor's Product 1,000 pcs.</p> <p>Tool Life (pcs.)</p>	<p>Holder GNDM R2020K-210</p> <p>Insert GCM R20003-CF-15</p> <p>Cutting Edge Width: 2.0mm</p> <p>Cutting Conditions $n = 2,500$min⁻¹ $f = 0.04$mm/rev Wet</p>
<ul style="list-style-type: none"> Excellent chip control improves machined surface Outstanding cutting edge sharpness for 1.8 times longer tool life 	

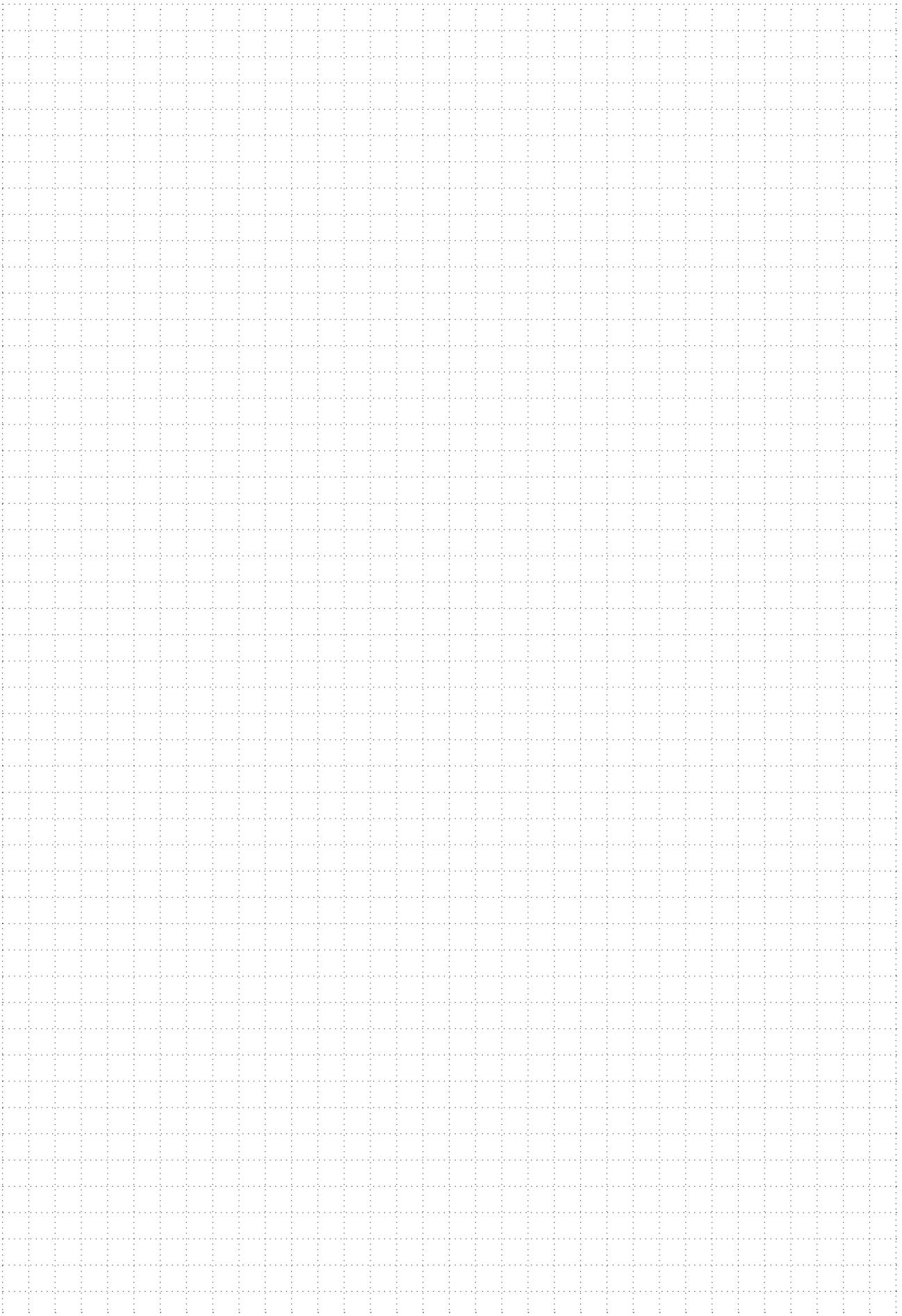
Pure Iron Automotive Component Cut-off	
	<p>Point</p> <ul style="list-style-type: none"> Machining efficiency Tool life
<p>GND Type 10,000 pcs.</p> <p>Competitor's Product 2,500 pcs.</p> <p>Tool Life (pcs.)</p>	<p>Holder GNDM R616JX-216J (Special Type)</p> <p>Insert GCM N2002-GF</p> <p>Cutting Edge Width: 2.0mm</p> <p>Cutting Conditions $v_c =$ up to 145m/min $f = 0.06$mm/rev $a_p = 5.0$mm Wet → Internal Coolant Supply (Normal Pressure)</p>
<ul style="list-style-type: none"> Effective cutting edge cooling via internal coolant supply, achieving 4 times longer tool life Tool change reduced, enabling longer automatic operation Improved productivity through change to high-speed conditions 	

S45C Equivalent Automotive Component Grooving / Traverse Cutting	
	<p>Point</p> <ul style="list-style-type: none"> Machined surface Tool life
<p>GND Type 1,500 pcs.</p> <p>Competitor's Product 500 pcs.</p> <p>Tool Life (pcs.)</p>	<p>Holder GNDM R2020K-418J</p> <p>Insert GCM N4004-ML</p> <p>Cutting Edge Width: 4.0mm</p> <p>Cutting Conditions $n = 2,500$min⁻¹ $f = 0.1$mm/rev $a_p = 0.5$ to 2.0mm Wet → Internal Coolant Supply (Normal Pressure)</p>
<ul style="list-style-type: none"> Effective cutting edge cooling via internal coolant supply, achieving 3 times longer tool life Cutting edge sharpness maintained for significantly improved post-machining tearing as well 	

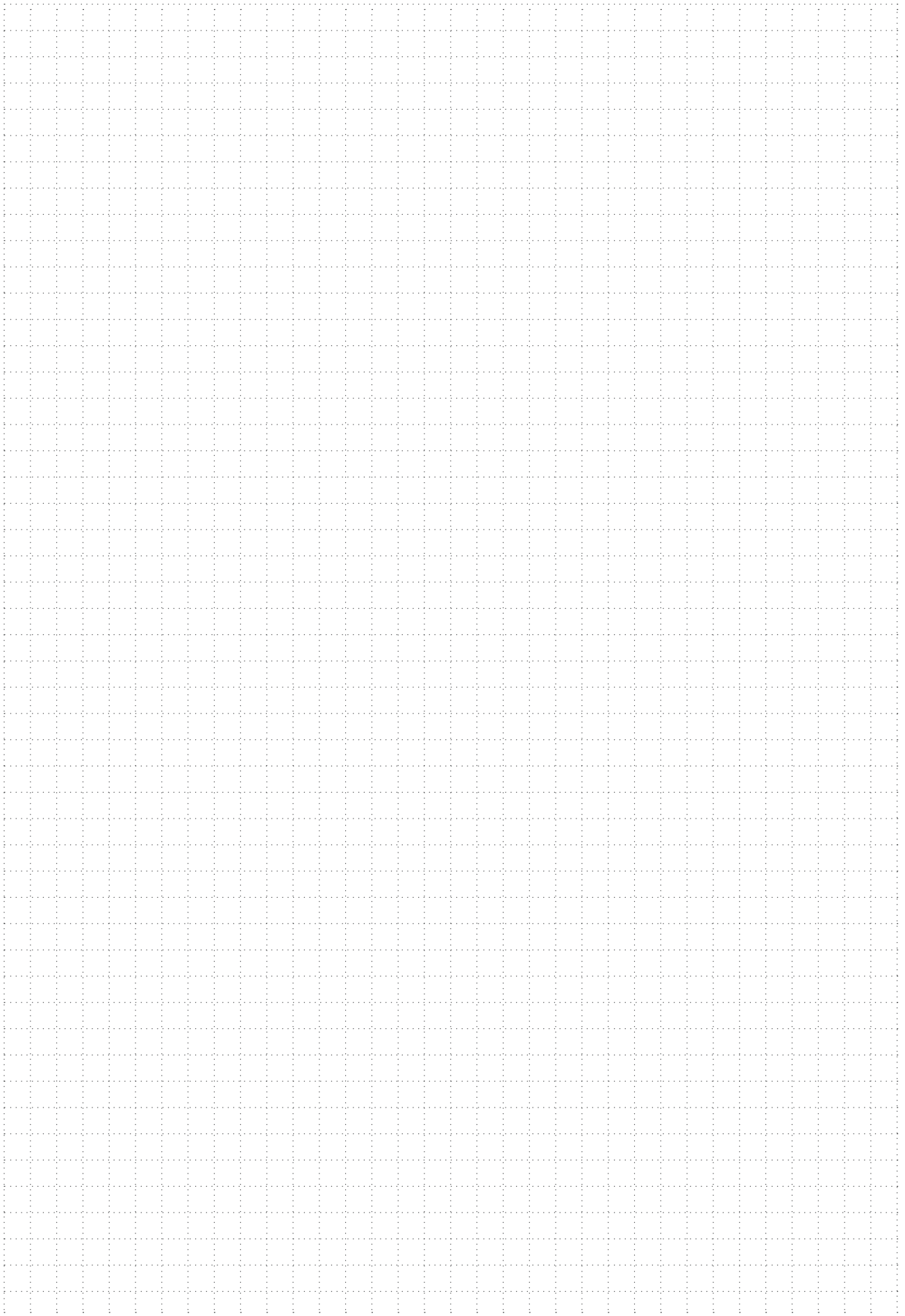
■ Application Examples

Stainless Cast Steel Turbine Housing Face Grooving / Groove Expansion	
	<p>Point</p> <ul style="list-style-type: none"> · High rigidity · Tool life
<p>GND Type</p> <p>40 pcs.</p>	<p>Holder GNS L2525M-410</p> <p>Insert GCM N4004-GF</p> <p>Cutting Edge Width: 4.0mm</p> <p>Cutting Conditions $v_c = 80\text{m/min}$ $f = 0.1\text{mm/rev}$ $a_p = \text{up to } 7.7\text{mm}$ Dry</p>
<p>Competitor's Product</p> <p>8 pcs.</p> <p>Tool Life (pcs.)</p>	
<ul style="list-style-type: none"> · Stable cutting without chattering or vibration · Excellent wear resistance for 5 times longer tool life 	

MEMO



MEMO



Sumitomo Electric Cutting Tools Official Apps for iOS/Android



Cutting calculation App

SumiTool Calculator



Grade & chipbreaker comparison App

SumiTool Converter



< SAFETY NOTES >



- Very hot or lengthy chips may be discharged while the machine is in operation. Therefore, machine guards, safety goggles or other protective covers must be used. Fire safety precautions must also be considered.

- Please handle with care as this product has sharp edges.
- Improper cutting conditions or mis-handling of the tool may result in breakages or projectiles. Therefore, please use the tool within its recommended conditions.

- When using non-water soluble cutting oil, precautions against fire must be taken and please ensure that a fire extinguisher is placed near the machine.

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