

SEC-Grooving Tool Holders GND Series

Rev.14



Stable Machining through
Outstanding Chip Control and
Chattering Resistance Performance

High-precision machining with a cutting width tolerance of $\pm 0.03\text{mm}$
(for cutting widths of 1.25 to 6mm, and front cutting edge angles of 0° or 5°).
Available in 10 chipbreaker styles with 7 grades for a wide range of machining applications.

- Expanded Polygon Tapered Shank SUMIPOLYGON GND00 / GND90 / GNDPCM Type
- Expanded GNDM-J / GNDL-J Type Holders with Internal Coolant Capabilities
- Expanded CF Type Chipbreakers for Cut-Off Machining

Expanded
Expanded
Expanded

SEC-Grooving Tool Holders GND Series

High-Rigidity Body

With an integrated structure, SEC-Grooving Tool Holders GND Series adopt die steel for not only grooving but also turning, profiling, and facing, thereby preventing chattering and ensuring stable cutting.

Various Chipbreakers

SEC-Grooving Tool Holders GND Series lineup includes 10 chip-breaker varieties for any given application. This ensures stable chip control in a variety of situations.

VIDEO OF CUTTING

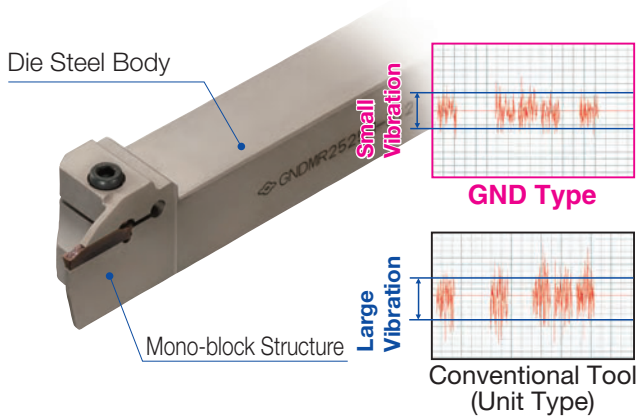


Grooving / Traversing		Grooving / Cut-Off			Cut-Off		External Profiling	Profiling / Necking	Non-Ferrous Metals
General-Purpose	Low Feed	General-Purpose	Low Feed	Low Resistance	General-Purpose	Low Resistance	General-Purpose	General-Purpose	General-Purpose

■ Cutting Performance

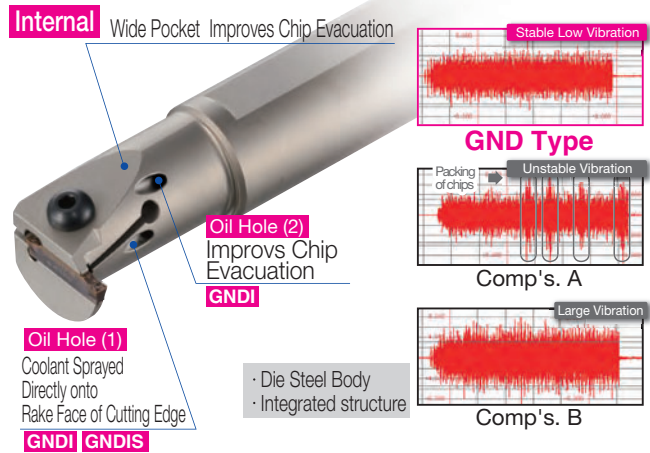
Reduce Chattering

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

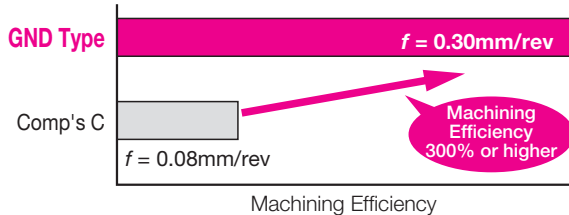


Work Material : SCM415
Holder : GNDI R2532-T306 Insert : GCM N3002-GG
Cutting Conditions : $v_c=100\text{m/min}$ $f=0.05\text{mm/rev}$ $a_p=3.0\text{mm}$ Wet

■ Application Examples

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

Stable and long 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

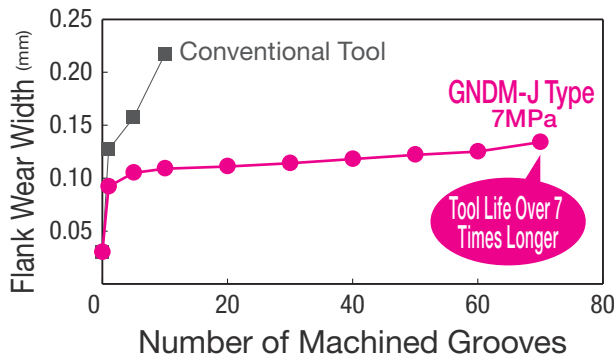
Internal Coolant Holder

GNDM-J Type/GNDL-J Type *New*

- Series expansion of SEC-Grooving Tool GND Type with internal coolant holder series
- Available grooving widths from 2.0 to 6.0mm
- 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

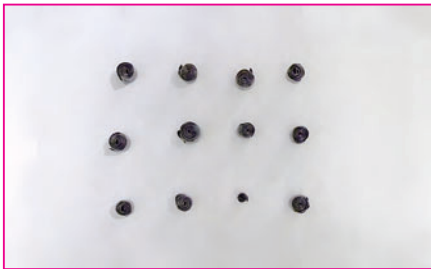


Coolant hole at the top improves chip control

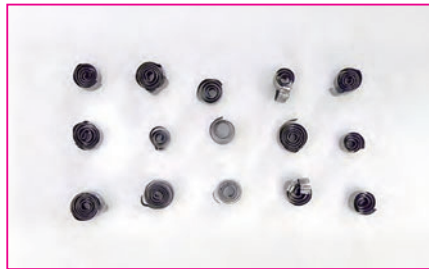
Coolant hole at the bottom effectively suppresses wear control



●Chip Control



Coolant Pressure : **7MPa**



Coolant Pressure : **1MPa**



External Coolant Supply

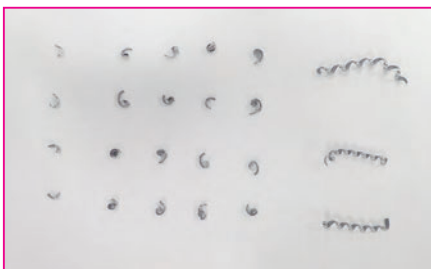
Work Material : Ti-6Al-4V Holder : GNDM R2525K-312J Insert : GCMN3002-GG(AC530U)
 Cutting Conditions : $v_c=60\text{m/min}$ $f=0.1\text{mm/rev}$ $a_p=5.0\text{mm}$ Wet

Chipbreakers for Cut-Off Machining

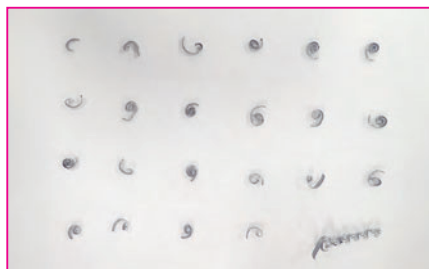
CF Type *New*



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



GCMR20003-CF-10



GCMR20003-CF-15



Competitor's Product

Work Material : SS400 Holder : GNDL R2525M-220 Insert : GCMN20003-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 / Traversing		Grooving / Cut-Off			Cut-Off		Profiling	Profiling / Necking	Non-Ferrous Metals
General-Purpose	Low Feed	General-Purpose	Low Feed	Low Cutting Force	General-Purpose	Low Cutting Force	General-Purpose	General-Purpose	General-Purpose
MG Type	ML Type	GG Type	GL Type	GF Type	CG Type	CF Type <i>New</i>	RG Type	RN Type	GA Type
Standard traversing chipbreaker	For low-feed chip control	1st recommendation for grooving	For low-feed chip control	For low resistance and chip control at low-feed	1st recommendation for cut-off	For low-feed chip control	For external Profiling, R grooving	For facing/internal Profiling/R grooving/necking	Ideal for aluminium alloy machining
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
AC830P AC425K	AC830P AC425K	AC830P AC425K	AC830P AC425K	AC830P AC425K	AC830P AC425K	AC830P AC425K	AC830P AC425K	AC830P AC425K	AC830P AC425K
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
H10	H10	H10	H10	H10	H10	H10	H10	H10	H10
*: For GNDIS Type only				*: For GNDIS Type only		Front Cutting Edge Angle : 5°		Front Cutting Edge 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 ($\phi 30\text{mm}$)
 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 / Traversing	Grooving	Cut-Off
1st Recommendation	MG Type General Purpose	GG Type General Purpose	GG Type 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 Low Feed Emphasis on Chip Control	GL Type General Purpose Emphasis on Chip Control	GL Type General Purpose Emphasis on Chip Control
		Improved Chip Control Chattering Reduction Chipping Prevention	Central Burr Prevention Chipping Prevention Improved Chip Control Chattering Reduction Chipping Prevention
		GF Type Low Cutting Force	CF Type <i>New</i> Low Cutting Force Directional, Front Cutting Edge Angle : 10° / 15°
		GF Type Low Cutting Force	

	External Profiling / External R Grooving	Facing/Internal Profiling / R Grooving/Necking	Non-Ferrous Metals
Recommended	RG Type General Purpose 1st Recommendation	RN Type General Purpose 2nd Recommendation, 2mm width-compatible	GA Type General Purpose Non-Ferrous Metals

■ Insert Grade Selection

	P Steel	M Stainless Steel	K Cast Iron	S Exotic Alloy	N Non-ferrous Metal
1st Recommendation	AC530U/AC1030U PVD	AC530U/AC1030U PVD	AC425K CVD	AC520U PVD	H10 Uncoated Carbide
	Insufficient Wear Resistance Finishing-Focused, Insufficient Wear Resistance Chipping Prevention	Insufficient Wear Resistance Chipping Prevention	Chipping Prevention Insufficient Wear Resistance	Chipping Prevention	
2nd Recommendation	AC520U PVD	AC520U PVD	AC520U PVD		
	Insufficient Wear Resistance Chipping Prevention	Insufficient Wear Resistance Chipping Prevention	Chipping Prevention Insufficient Wear Resistance	Insufficient Wear Resistance	
	AC830P CVD	AC830P CVD	AC530U/AC1030U PVD	AC530U/AC1030U PVD	
	T2500A Cermet				

Only AC520U and AC1030U are in stock for GNDIS Type holders. Only AC1030U is in stock for CF Type chipbreakers.

External Grooving (Straight Type)

Traversing / Profiling

Grooving / Cut-Off

GNDM Type Straight Type For Small Lathes Shank Size (LxW) □ 16x16mm P14	GNDS Type Straight Type Shallow Grooves Shank Size (LxW) □ 20x20mm □ 25x25mm P16	GNDM Type Straight Type Shank Size (LxW) □ 20x20mm □ 25x25mm □ 32x32mm P18	GNDM-J Type Straight Type Internal Coolant Supply Shank Size (LxW) □ 20x20mm □ 25x25mm New P20	GNDL Type Straight Type For Small Lathes Shank Size (LxW) □ 10x10mm □ 12x12mm □ 16x16mm P14	GNDL Type Straight Type Shank Size (LxW) □ 20x20mm □ 25x25mm □ 32x32mm P22	GNDL-J Type Straight Type Internal Coolant Supply Shank Size (LxW) □ 20x20mm □ 25x25mm New P24
Applicable Cutting Width (mm)	Applicable Cutting Width (mm)	Applicable Cutting Width (mm)	Applicable Cutting Width (mm)	Applicable Cutting Width (mm)	Applicable Cutting Width (mm)	Applicable Cutting Width (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
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
Applicable Chipbreaker	Applicable Chipbreaker	Applicable Chipbreaker	Applicable Chipbreaker	Applicable Chipbreaker	Applicable Chipbreaker	Applicable Chipbreaker
MG ML GG GL GF CG CF RG RN GA	MG ML GG GL GF CG CF RG RN GA	MG ML GG GL GF CG CF RG RN GA	MG ML GG GL GF CG CF RG RN GA	MG ML GG GL GF CG CF RG RN GA	MG ML GG GL GF CG CF RG RN GA	MG ML GG GL GF CG CF RG RN GA

External Grooving Straight Type Series

MG Non-ferrous Metals, General-Purpose Type
 ML Non-ferrous Metals, 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 Profiling, Low Feed Type
GA Facing/Necking, General-Purpose Type

Type	Shank Size (mm) Height: Width (H) (B)	Cutting Width (mm)	Series	Max. Grooving Depth (mm)					Ref. Page	Applicable Chipbreaker												
				5	10	15	20	25		MG	ML	GG	GL	GF	CG	CF	RG	RN	GA			
For Small Lathes	10	10	GNDL For Small Lathes	10					P14													
				10					P14	○	○	○	○	○	○	○	○	○	○			
				10					P14	○	○	○	○	○	○	○	○	○	○			
		12		12	GNDL For Small Lathes	12					P14											
		12				12.5					P14	○	○	○	○	○	○	○	○	○		
		12				12.5					P14	○	○	○	○	○	○	○	○	○		
	Straight Type	16	16	GNDM For Small Lathes	8					P14												
				GNDL For Small Lathes	12.5					P14												
				GNDM For Small Lathes	10					P14												
			16	16	GNDM For Small Lathes	12					P14											
					GNDL For Small Lathes	16					P14	○	○	○	○	○	○	○	○	○	○	
					GNDM For Small Lathes	12					P14	○	○	○	○	○	○	○	○	○	○	
20		20	20	GNDL For Small Lathes	16					P14	○	○	○	○	○	○	○	○	○	○		
				GNDM For Small Lathes	10					P18												
				GNDL For Small Lathes	16					P14	○	○	○	○	○	○	○	○	○	○		
			20	20	GNDM	6					P16	○	○	○	○	○	○	○	○	○	○	
					GNDL	10					P18	○	○	○	○	○	○	○	○	○	○	
					GNDM	10					P18	○	○	○	○	○	○	○	○	○	○	
	25	25	25	GNDM-J Internal Coolant Supply	10					P20	○	○	○	○	○	○	○	○	○	○		
				GNDL	20					P22	○	○	○	○	○	○	○	○	○	○		
				GNDL-J Internal Coolant Supply	20					P24	○	○	○	○	○	○	○	○	○	○		
			25	25	GNDS	6					P16	○	○	○	○	○	○	○	○	○	○	
					GNDM	12					P18	○	○	○	○	○	○	○	○	○	○	
					GNDM-J Internal Coolant Supply	12					P20	○	○	○	○	○	○	○	○	○	○	
		32	32	32	GNDL	20					P22	○	○	○	○	○	○	○	○	○	○	
					GNDL-J Internal Coolant Supply	20					P24	○	○	○	○	○	○	○	○	○	○	
					GNDS	10					P16	○	○	○	○	○	○	○	○	○	○	
			32	32	32	GNDM	18					P18	○	○	○	○	○	○	○	○	○	○
						GNDM-J Internal Coolant Supply	18					P20	○	○	○	○	○	○	○	○	○	○
						GNDL	25					P22	○	○	○	○	○	○	○	○	○	○
32	32	32	GNDL-J Internal Coolant Supply	25					P24	○	○	○	○	○	○	○	○	○	○			
			32	32	GNDS	10					P16	○	○	○	○	○	○	○	○	○	○	
					GNDM	18					P18	○	○	○	○	○	○	○	○	○	○	
	GNDM-J Internal Coolant Supply	18					P20	○	○	○	○	○	○	○	○	○	○					
	32	32	32	GNDL	25					P22	○	○	○	○	○	○	○	○	○	○		
				GNDM	18					P18	○	○	○	○	○	○	○	○	○	○		
GNDL				25					P22	○	○	○	○	○	○	○	○	○	○			

○ : Stock * : Made-to-order item (Shank Size : □ 32x25mm)

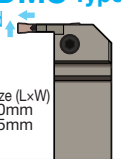
◎ : Best ○ : Suitable Red Text : Expanded Item

External Grooving (L-Shaped)

Traversing / Profiling

Grooving / Cut-Off

GNDMS Type
L-Shaped



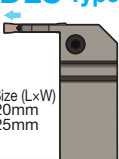
Shank Size (LxW)
 □ 20x20mm
 □ 25x25mm

P18

Applicable Cutting Width (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

GNDLS Type
L-Shaped



Shank Size (LxW)
 □ 20x20mm
 □ 25x25mm

P22

Applicable Cutting Width (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

External Grooving L-Shaped Series

MG : Non-ferrous Metals, General-Purpose Type	ML : Non-ferrous Metals, 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)		Cutting Width (mm)								Series	Max. Grooving Depth (mm)						Ref. Page	Applicable Chipbreaker																		
	Height (H)	Width (B)	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								
L-Shaped	20	20			2												P22																				
						3													P18	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙				
						3														P22	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙		
								4												P18	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙		
									5											P18	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	
										5	6									P22	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
	25	25			2													P22																			
						3													P18	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙		
						3													P22	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	
								4											P18	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	
								4											P22	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
									5	6									P18	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙


⬢ : Stock

⊙ : Best ○ : Suitable Red Text : Expanded Item

External Grooving (SUMIPOLYGON Cassette)

Grooving

GNDCM Type
Cassette



Applicable Holder
 SUMIPOLYGON
 GND00 (Straight)
 GND90 (L-Shaped)

P36

Applicable Cutting Width (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

SUMIPOLYGON Cassette Series

MG : Non-ferrous Metals, General-Purpose Type	ML : Non-ferrous Metals, 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	Applicable SUMIPOLYGON Holder	Cutting Width (mm)								Series	Max. Grooving Depth (mm)						Ref. Page	Applicable Chipbreaker																			
		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									
Cassette	GND00 GND90			2													P36																				
					3													P36	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙		
						4												P36	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙
							5	6										P36	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙


⬢ : Stock

⊙ : Best ○ : Suitable Red Text : Expanded Item

For Necking
 Necking

For Facing
 Grooving / Traversing / Profiling

GNDN Type
 Straight Type



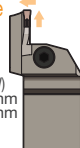
Shank Size (LxW)
 □ 20x20mm
 □ 25x25mm

P26

Applicable Cutting Width (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

GNDF Type
 Straight Type



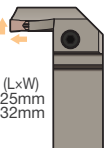
Shank Size (LxW)
 □ 20mmx20mm
 □ 25mmx25mm

P28

Applicable Cutting Width (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

GNDFS Type
 L-Shaped



Shank Size (LxW)
 □ 25mmx25mm
 □ 32mmx32mm

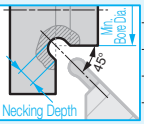
P30

Applicable Cutting Width (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

Necking Series

MG: Non-ferrous Metals, General-Purpose Type | ML: Non-ferrous Metals, Low Feed Type | GG: Grooving, General-Purpose Type | GL: Grooving, Low Feed Type | GF: Grooving, Low Cutting Force Type
 CG: Cut-Off, General-Purpose Type | CF: Cut-Off, Low Cutting Force Type | RG: Profiling, General-Purpose Type | RN: Facing/Necking, General-Purpose Type | GA: Non-ferrous Metal, General-Purpose Type

Type	Shank Size (mm) Height (H) / Width (B)	Cutting Width (mm)						Series	Max. Grooving Depth (mm) 5 10 15 20 25 30	Min. Work Dia. (mm) ø20 ø30 ø45 ø60 ø75 ø90 ø105 ø120 ø135 ø150 ø165 ø180 ø200 ø225 ø240 ø255 ø270 ø285 ø300	Rel. Page	Applicable Chipbreaker												
		2	3	4	5	6	MG					ML	GG	GL	GF	CG	CF	RG	RN	GA				
Straight Type	20	20	2	3				GNDN	1.5		P26													
		25			4																			
	25					5																		
							6																	

Stock: (Blue background) Best: (⊙ symbol)

Straight/L-Shaped Series for Facing

MG: Non-ferrous Metals, General-Purpose Type | ML: Non-ferrous Metals, Low Feed Type | GG: Grooving, General-Purpose Type | GL: Grooving, Low Feed Type | GF: Grooving, Low Cutting Force Type
 CG: Cut-Off, General-Purpose Type | CF: Cut-Off, Low Cutting Force Type | RG: Profiling, General-Purpose Type | RN: Facing/Necking, General-Purpose Type | GA: Non-ferrous Metal, General-Purpose Type

Type	Shank Size (mm) Height (H) / Width (B)	Cutting Width (mm)								Series	Max. Grooving Depth (mm) 5 10 15 20 25 30	Work Diameter (mm) ø35 ø45 ø50 ø65 ø70 ø85 ø90 ø100 ø110 ø120 ø130 ø140 ø150 ø165 ø180 ø200 ø225 ø240 ø255 ø270 ø285 ø300	Rel. Page	Applicable Chipbreaker										
		3	4	5	6	7	8	MG	ML					GG	GL	GF	CG	CF	RG	RN	GA			
Straight Type	20	20	3						GNDF	12	ø35 ø45	P28												
			3							12	ø40 ø55													
			3							18	ø50 ø70													
			3							18	ø65 ø100													
			3							18	ø90 ø150													
			3							18	ø140 ø200													
	25	25	4						GNDF	18	ø180 ø300	P28												
			4							23	ø40 ø55													
			4							23	ø50 ø70													
			4							23	ø65 ø90													
			4							23	ø85 ø130													
			4							23	ø125 ø200													
L-Shaped	20	20	5					GNDF	23	ø180 ø300	P28													
			5							23		ø50 ø70												
			5							23		ø65 ø90												
			5							23		ø85 ø130												
			5							23		ø125 ø200												
			5							23		ø180 ø300												
	25	25	6					GNDF	23	ø280 ø1,000	P28													
			6							23		ø50 ø75												
			6							23		ø70 ø110												
			6							23		ø100 ø200												
			6							23		ø180 ø300												
			6							23		ø280 ø1,000												
20	20	6					GNDFS	20	ø70 ø100	P30														
		6							20		ø100 ø200													
		6							20		ø180 ø300													
		6							20		ø280 ø1,000													
		6							20		ø450-													
		6							20		ø70 ø100													
25	25	8					GNDFS	20	ø100 ø200	P30														
		8							20		ø180 ø300													
		8							20		ø280 ø1,000													
		8							20		ø450-													
		8							20		ø70 ø100													
		8							20		ø180 ø300													

Stock: (Orange background) Made-to-order item: (Grey background) Best: (⊙ symbol) Suitable: (○ symbol)

Internal Grooving (Diameter : ϕ 14mm or more)
 Grooving / Traversing / Profiling

GNDIS Type
 Straight Type

Shank Diameter
 ϕ 12mm
 ϕ 16mm
 ϕ 20mm

P32

Applicable Cutting Width (mm)

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

Applicable Chipbreaker

ML	GF
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Dedicated inserts are used with this model.

Internal Grooving (Diameter : ϕ 32mm or more)
 Grooving / Traversing / Profiling

GNDI Type
 Straight Type

Shank Diameter
 ϕ 25mm
 ϕ 32mm
 ϕ 40mm

P34

Applicable Cutting Width (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
----	----	----	----	----	----	----	----	----	----

Internal Grooving Series (Diameter : ϕ 14mm or more)

ML : Non-ferrous Metals, Low Feed Type **GF** : Grooving, Low Cutting Force Type

Type	Shank Size DCON (mm)	Cutting Width (mm)			Series	Max. Grooving Depth (mm)						Min. Work Dia. (mm)	Ref. Page	Applicable Chipbreaker (for GNDIS Type)	
		1.5	2	3		5	10	15	20	25	30			ML(For GNDIS Type)	GF(For GNDIS Type)
Straight Type	ϕ 12	1.5			GNDIS	2.6						ϕ 14	P32		⊙
		1.5				3.6						ϕ 14		P32	
			2	3		2.6						ϕ 14	P32	⊙	⊙
	ϕ 16	1.5			GNDIS	3.6						ϕ 16	P32		⊙
		1.5				4.6						ϕ 20		P32	
			2	3		3.6						ϕ 16	P32	⊙	⊙
ϕ 20	1.5			GNDIS	4.6						ϕ 20	P32		⊙	
		2	3		6.6						ϕ 25		P32	⊙	⊙
		2	3		6.6						ϕ 25	P32		⊙	⊙

Stock : Stock

Note : Only GXM inserts can be used for GNDIS Type.

⊙ : Best

Internal Grooving Series (Diameter : ϕ 32mm or more)

MG : Non-ferrous Metals, General-Purpose Type **ML** : Non-ferrous Metals, 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

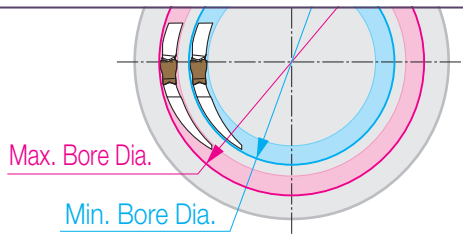
Type	Shank Size DCON (mm)	Cutting Width (mm)					Series	Max. Grooving Depth (mm)						Min. Work Dia. (mm)	Ref. Page	Applicable Chipbreaker										
		2	3	4	5	6		5	10	15	20	25	30			MG	ML	GG	GL	GF	CG	CF	RG	RN	GA	
Straight Type	ϕ 25	2					GNDI	6						ϕ 32	P34	⊙	⊙	⊙	⊙	⊙					⊙	⊙
			3	4	5			6						ϕ 32		P34	⊙	⊙	⊙	⊙	⊙					⊙
	ϕ 32	2					GNDI	6						ϕ 32	P34	⊙	⊙	⊙	⊙	⊙					⊙	⊙
			3	4	5			10						ϕ 40		P34	⊙	⊙	⊙	⊙	⊙					⊙
ϕ 40		3	4	5	6	GNDI	11						ϕ 50	P34	⊙	⊙	⊙	⊙	⊙					⊙	⊙	

Stock : Stock

⊙ : Best ○ : Suitable

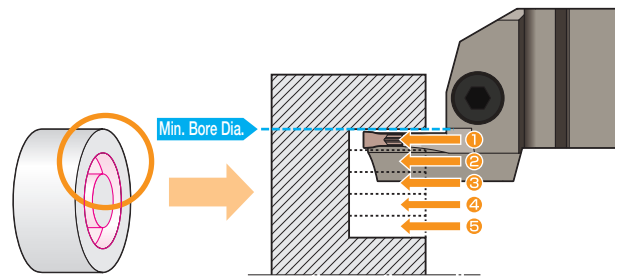
Key Points for Facing

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**

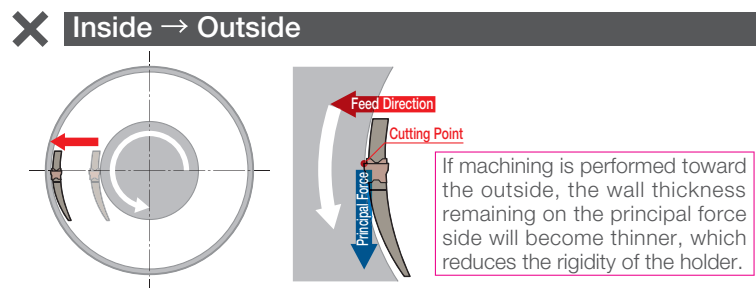
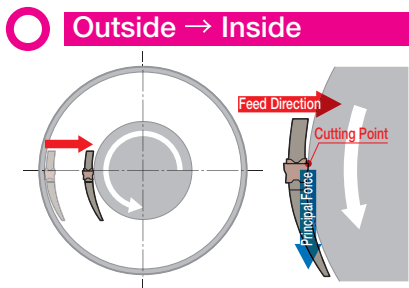


- If the first groove is within the effective work diameter range during groove expansion via plunging, the work diameter will not be limited for subsequent passes.

Precautions for Traversing

Recommended Chipbreaker **MG ML RN**

Considering the rigidity of the holder, machining from the outside to the inside is recommended.



- 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 for evacuation**. (In face grooving, **broken chips easily get stuck in grooves**, which causes problems.)
- When breaking chips, step feed is required.

Key Points for Internal Grooving

Precautions for Internal Grooving

Recommended Chipbreakers **ML GL GF**

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



Work Material : SCM415 Bore Diameter : $\phi 25\text{mm}$ Holder : GNDI R2532-T306 Insert : GCM N300○-○○
 Cutting Conditions : $v_c=100\text{m/min}$ $f=0.1\text{mm/rev}$ $a_p=3.0\text{mm}$ Wet

Internal Grooving



External Grooving



! Chip shapes differ between internal and external grooving 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

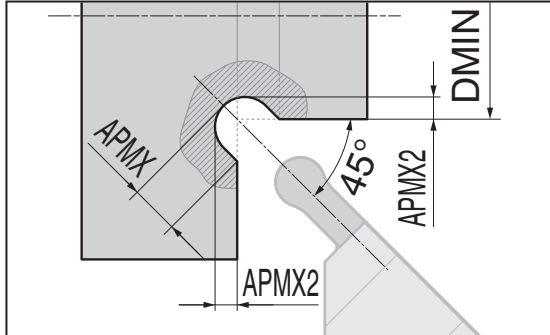


Key Points for Necking

Precautions for Necking

Recommended Chipbreaker **RN**

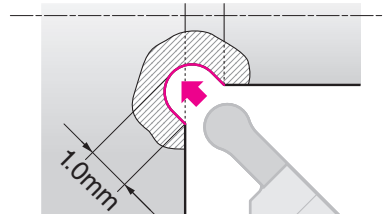
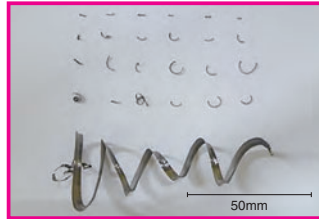
Distance from Work Material to Necking Depth



Cutting Width 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

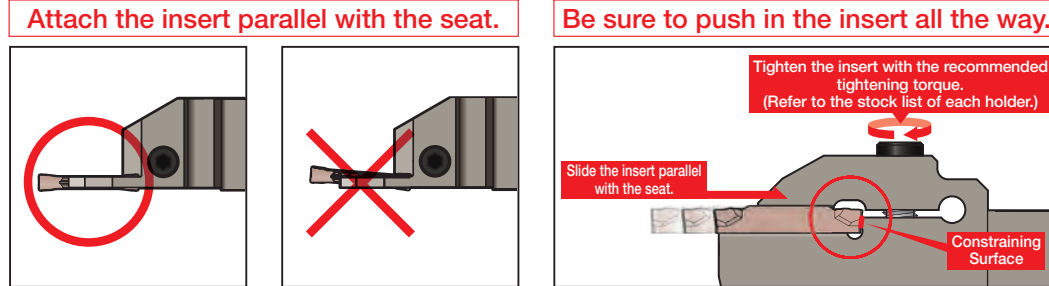


Work Material : SCM435, Grooving Width : 3.0mm
 Holder : GNDN R2020K-320-020 Insert : GCMN3015-RN
 Cutting Conditions : $v_c=100\text{m/min}$ $f=0.1\text{mm/rev}$
 Necking Depth=1.0mm Wet

Precautions for SEC-Grooving Tool Holders GND Series

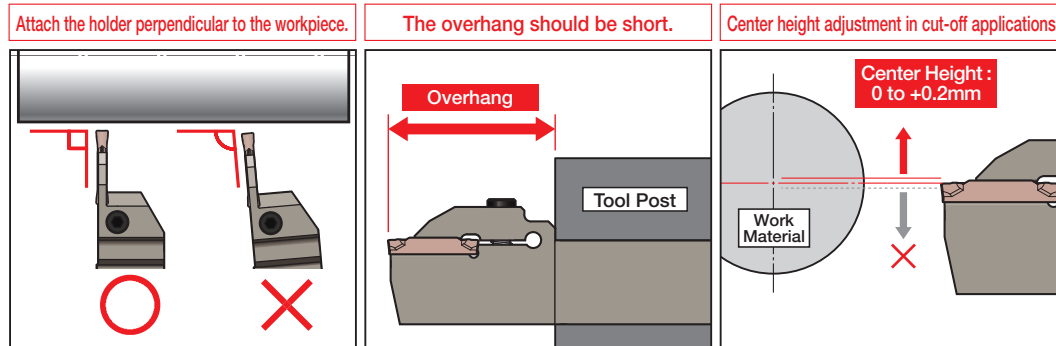
■ Precautions when Attaching Inserts

- ① Remove any dust or other foreign particles 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 Attach the insert by sliding it parallel along 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.** Tightening the insert with excessive torque may cause the insert to break, which may lead to injury.



■ Precautions when Setting Holders

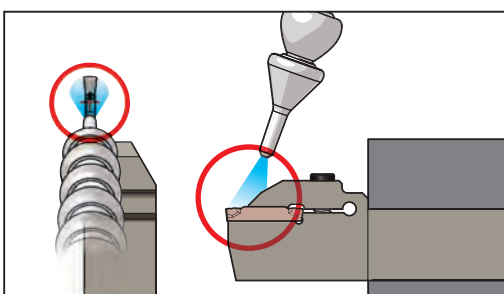
- ① Remove any dust and oil from the tool post before setting the holder.
- ② If there are scratches or burrs on the tool post, scrape them away.
- ③ Place the holder so that the insert is perpendicular to the workpiece. Failure to do so may bend the machined surface or cause chattering.
- ④ The overhang of the holder should be as short as possible.
- ⑤ When grooving or traversing, adjust the center height of the cutting edge to as close to $\pm 0\text{mm}$ as possible. ($\pm 0.1\text{mm}$ is recommended.) Incorrect center height adjustment may cause chattering. In cut-off applications, adjust the center height of the cutting edge to a value from 0.0 to $+0.2\text{mm}$. A lower center height will result in larger central burrs.



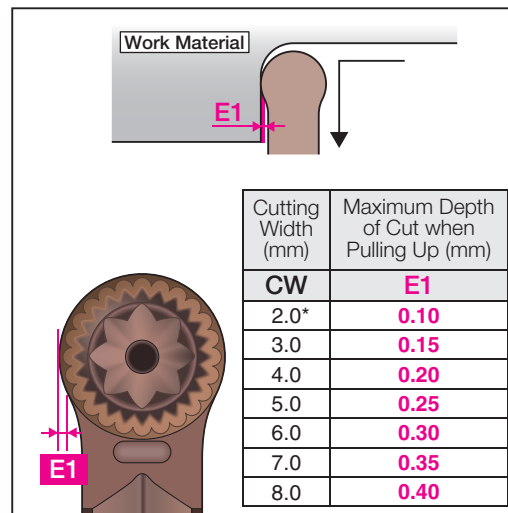
■ Precautions when Setting the Coolant Supply Nozzle

- ① Set the coolant supply nozzle so that coolant can be supplied from the top of the upper clamp unit.

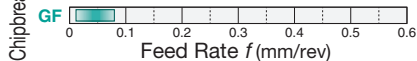
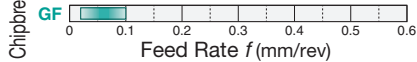
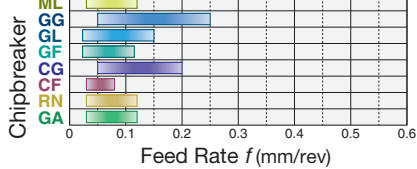
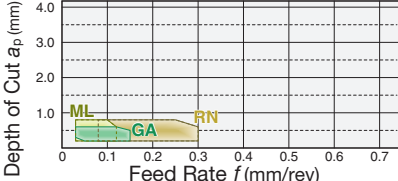
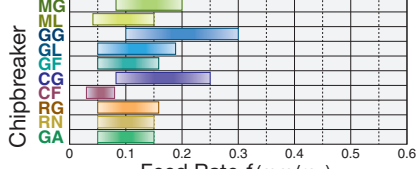
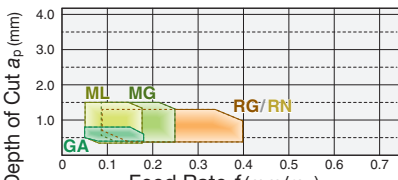
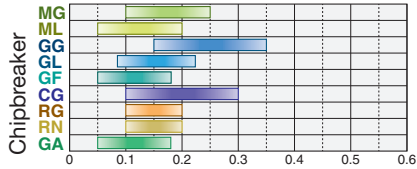
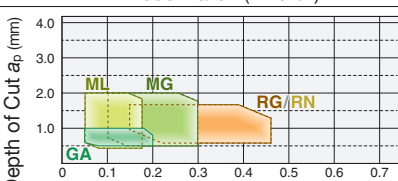
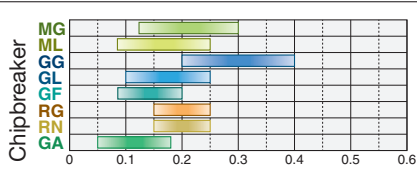
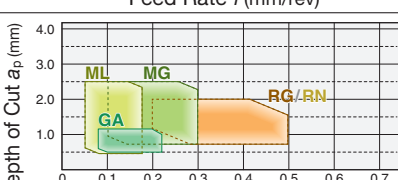
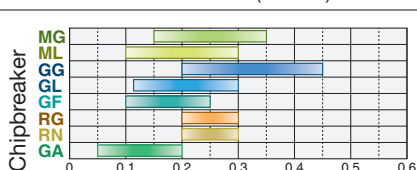
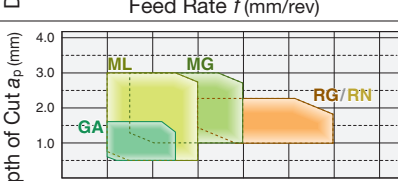
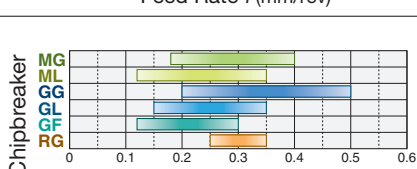
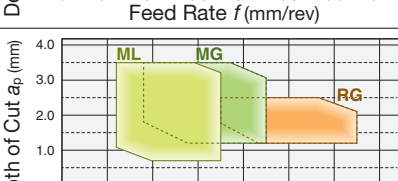
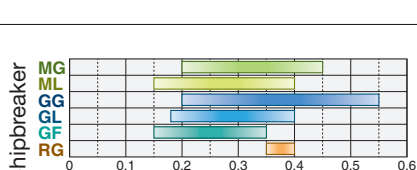
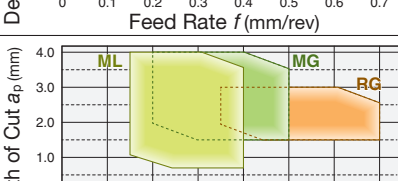
Apply coolant to the top of the upper clamp unit.



■ Depth of Cut when Pulling Up with RG / RN Type Chipbreakers



* : Only RN Type chipbreakers will have a cutting width of 2.0.

Cutting Width (mm)	Recommended Cutting Conditions		Nose Radius (mm)	Insert Cat. No.
	Grooving / Cut-Off (Necking)	Traversing		
1.25	Chipbreaker 	—	0.05	GCM N125005-GF
1.5	Chipbreaker 	—	0.05	GCM N150005-GF
2.0	Chipbreaker 		0.03	GCM R/L20003-CF-10 GCM R/L20003-CF-15
			0.2	GCM N2002-ML GCM N2002-GG GCM N2002-GL GCM N2002-GF GCM R/L2002-CG-05 GCG N2002-GA
			1.0	GCM N2010-RN
3.0	Chipbreaker 		0.03	GCM R/L30003-CF-10 GCM R/L30003-CF-15
			0.2	GCM N3002-ML GCM N3002-GG GCM N3002-GL GCM N3002-GF GCM R/L3002-CG-05 GCG N3002-GA
			0.4	GCM N3004-MG GCM N3004-GG
4.0	Chipbreaker 		0.03	GCM N3015-RG GCM N3015-RN
			0.2	GCM N4002-GG GCM N4002-GL GCM N4002-GF GCM R/L4002-CG-05
			0.4	GCM N4004-ML GCM N4004-GG GCG N4004-GA GCM N4008-MG
5.0	Chipbreaker 		0.2	GCM N4020-RG GCM N4020-RN
			0.4	GCM N5002-GG GCM N5002-GL GCM N5002-GF GCM N5004-ML GCM N5004-GG GCG N5004-GA GCM N5008-MG
			0.8	GCM N5025-RG GCM N5025-RN
6.0	Chipbreaker 		2.5	GCM N6002-GG GCM N6002-GL GCM N6002-GF
			0.2	GCM N6004-ML GCM N6004-GG GCG N6004-GA GCM N6008-MG
			0.4	GCM N6030-RG GCM N6030-RN
7.0	Chipbreaker 		0.2	GCM N6008-MG
			0.4	GCM N7002-GF GCM N7004-ML GCM N7004-GG GCM N7004-GL GCM N7004-GF
			0.8	GCM N7008-MG GCM N7035-RG
8.0	Chipbreaker 		3.5	GCM N8002-GF GCM N8004-ML GCM N8004-GG GCM N8004-GL GCM N8004-GF
			0.2	GCM N8008-MG
			0.4	GCM N8040-RG

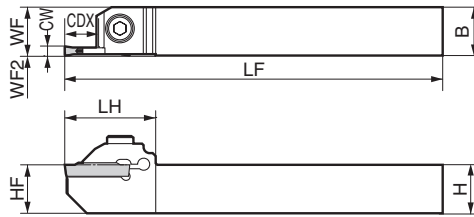
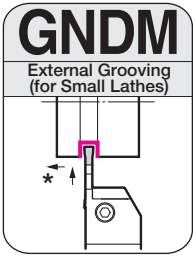
When face grooving, use cutting conditions closer to the lower limit of the recommended cutting conditions to ensure the chips are long.
 In cut-off applications, reduce the feed rate to around 30% to 50% near the center of the workpiece.
 Because there is less space for chip evacuation when machining internal diameters (particularly small bore diameters), ML, GL, or GF Type chipbreakers are recommended.
 Modifications to inserts and holders are required to perform machining such as R-grooving when using an RG Type chipbreaker with a GND F Type holder for facing.

Recommended Cutting Conditions, GNDIS Type  P33

Recommended Cutting Conditions

Work Material	P Carbon Steel / Alloy Steel				M Stainless Steel			K Cast Iron			S Exotic Alloy		N Non-ferrous Metal
Insert Grade	AC830P	AC520U	AC530U AC1030U	T2500A	AC830P	AC520U	AC530U AC1030U	AC425K	AC520U	AC530U AC1030U	AC520U	AC530U AC1030U	H10
Cutting Speed V_c (m/min)	80~200	80~200	50~200	50~200	70~150	70~150	50~150	80~200	60~200	50~200	20~80	20~60	150~300

External General-purpose Type for Small Lathes (Grooving / Traversing / Profiling)



Figures shows right-hand tool.

■ Holders

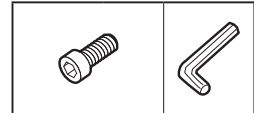
*Use a multifunctional profiling insert for traversing (groove expansion).

Dimensions (mm)

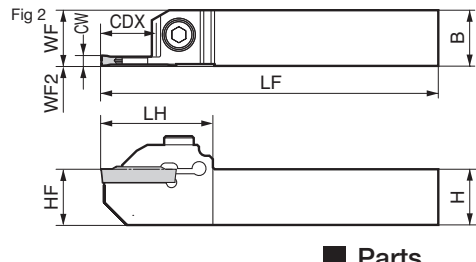
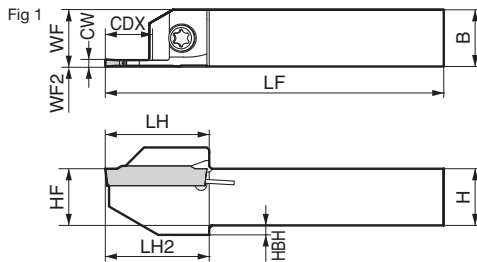
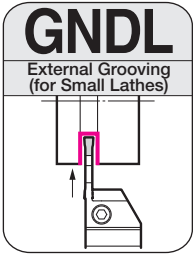
Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Head LH	Offset WF2	Width of Cut CW	Max. Groove Depth CDX	Max. Cut-off Dia.	Applicable Insert	Cap Screw	N·m	Wrench
	R	L														
GNDM R/L1616JX-1.2508	●	●	16	16	120	(16)	16	26	0	1.25	8.0	16	GCM N125005-GF	BX0515	4.0	LH040
GNDM R/L1616JX-1.510	●	●	16	16	120	(16)	16	26	0	1.50	10.0	20	GCM N150005-GF			
GNDM R/L1616JX-212	●	●	16	16	120	(16)	16	30	0	2.00	12.0	24	GC□□200□-□□			
GNDM R/L1616JX-312	●	●	16	16	120	(16)	16	30	0	3.00	12.0	24	GC□□300□-□□			

Use an insert and a holder with the same cutting width (CW). Refer to page 15 for applicable inserts.

■ Parts



External Grooving / Cut-Off for Small Lathes



Figures shows right-hand tool.

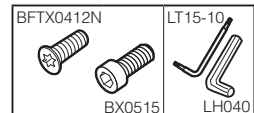
■ Holders

Dimensions (mm)

Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Level Difference HBH	Head LH	Head LH2	Offset WF2	Width of Cut CW	Max. Groove Depth CDX	Max. Cut-off Dia.	Fig	Applicable Insert	Screw / Cap Screw	N·m	Wrench
	R	L																	
GNDL R/L1010JX-1.2510	●	●	10	10	120	(10)	10	2.0	18	18.3	0	1.25	10.0	20	1	GCM N125005-GF	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			
GNDL R/L1010JX-210	●	●	10	10	120	(10)	10	2.0	22	22.3	0	2.00	10.0	20		GC□□200□-□□			
GNDL R/L1010JX-310	●	●	10	10	120	(10)	10	2.0	22	22.3	0	3.00	10.0	20		GC□□300□-□□			
GNDL R/L1212JX-1.2512	●	●	12	12	120	(12)	12	2.0	19	19.3	0	1.25	12.0	24	1	GCM N125005-GF	BFTX0412N	3.0	LT15-10
GNDL R/L1212JX-1.512	●	●	12	12	120	(12)	12	2.0	19	19.3	0	1.50	12.0	24		GCM N150005-GF			
GNDL R/L1212JX-212.5	●	●	12	12	120	(12)	12	2.0	22	22.3	0	2.00	12.5	25		GC□□200□-□□			
GNDL R/L1212JX-312.5	●	●	12	12	120	(12)	12	2.0	22	22.3	0	3.00	12.5	25		GC□□300□-□□			
GNDL R/L1616JX-1.2512.5	●	●	16	16	120	(16)	16	—	28	—	0	1.25	12.5	25	2	GCM N125005-GF	BX0515	4.0	LH040
GNDL R/L1616JX-1.512.5	●	●	16	16	120	(16)	16	—	28	—	0	1.50	12.5	25		GCM N150005-GF			
GNDL R/L1616JX-216	●	●	16	16	120	(16)	16	—	32	—	0	2.00	16.0	32		GC□□200□-□□			
GNDL R/L1616JX-316	●	●	16	16	120	(16)	16	—	32	—	0	3.00	16.0	32		GC□□300□-□□			

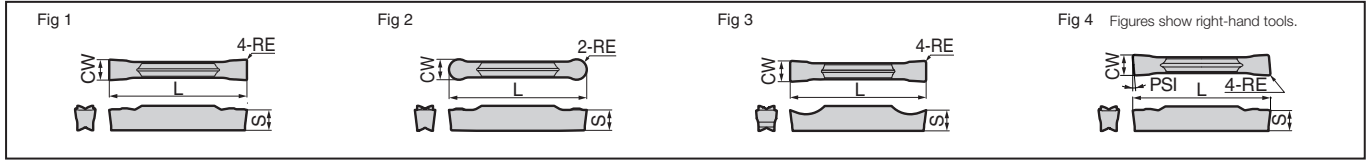
Use an insert and a holder with the same cutting width (CW). Refer to page 15 for applicable inserts.

■ Parts



■ Inserts for GNDM Type (For Small Lathes) / GNDL Type (For Small Lathes)

(Yellow) Coated Carbide / (Pink) Cermet / (White) Cemented Carbide



● Grooving / Traversing

Dimensions (mm)

Appearance	Cat. No.	Stock					Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	T2500A	CW						
							Width of Cut	Tolerance	RE	L	S		
MG General Purpose	GCM N3004-MG	●	●	●	●	—	3.0	±0.03	0.4	21.1	3.8	5	1
ML Low Feed	GCM N2002-ML N3002-ML	—	—	●	●	—	2.0	±0.03	0.2	21.1	3.6	5	1
		●	●	●	●	—	3.0	±0.03	0.2	21.1	3.8	5	1

● External Profiling / External Radius Grooving

Dimensions (mm)

Appearance	Cat. No.	Stock					Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	T2500A	CW						
							Width of Cut	Tolerance	RE	L	S		
RG General Purpose	GCM N3015-RG	●	●	●	●	—	3.0	±0.03	1.5	21.1	3.8	5	2

● Profiling / Radius Grooving / Necking

Dimensions (mm)

Appearance	Cat. No.	Stock					Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	T2500A	CW						
							Width of Cut	Tolerance	RE	L	S		
RN General Purpose	GCM N2010-RN N3015-RN	—	—	●	●	—	2.0	±0.03	1.0	21.7	3.6	5	2
		●	●	●	●	—	3.0	±0.03	1.5	22.4	3.8	5	2

● Grooving / Cut-Off Machining

Dimensions (mm)

Appearance	Cat. No.	Stock					Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC520U	AC530U	T2500A	CW							
						Width of Cut	Tolerance	RE	L	S			
GG General Purpose	GCM N2002-GG N3002-GG	●	●	●	—	—	2.0	±0.03	0.2	21.1	3.6	5	1
		●	●	●	—	—	3.0	±0.03	0.2	21.1	3.8	5	1
GL Low Feed	GCM N2002-GL N3002-GL	●	●	●	—	—	2.0	±0.03	0.2	21.1	3.6	5	1
		●	●	●	—	—	3.0	±0.03	0.2	21.1	3.8	5	1
GF Low Cutting Force	GCM N125005-GF N150005-GF	—	—	●	—	—	1.25	±0.03	0.05	17.4	3.2	5	1
		—	—	●	—	—	1.5	±0.03	0.05	17.4	3.7	5	1
	GCM N2002-GF N3002-GF	●	●	●	—	—	2.0	±0.03	0.2	21.1	3.6	5	1
		●	●	●	—	—	3.0	±0.03	0.2	21.1	3.8	5	1

● Non-Ferrous Metals

Dimensions (mm)

Appearance	Cat. No.	Stock					Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		H10					CW						
							Width of Cut	Tolerance	RE	L	S		
GA General Purpose	GCG N2002-GA N3002-GA	●					2.0	±0.025	0.2	21.1	3.6	5	3
		●					3.0	±0.025	0.2	21.1	3.8	5	3

● Cut-Off Machining (Handed Edge)

Dimensions (mm)

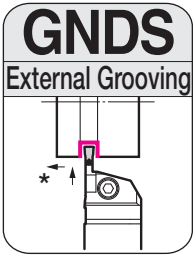
Appearance	Cat. No.	Stock					Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC520U	AC530U	AC1030U	Front Cutting Edge Angle (Psi)	CW						
							Width of Cut	Tolerance	RE	L	S		
CG General Purpose	GCM R2002-CG-05 L2002-CG-05 R3002-CG-05 L3002-CG-05	●	●	●	—	5°	2.0	±0.03	0.2	21.1	3.6	5	4
		●	●	●	—	5°	2.0	±0.03	0.2	21.1	3.6	5	4
		●	●	●	—	5°	3.0	±0.03	0.2	21.3	3.8	5	4
		●	●	●	—	5°	3.0	±0.03	0.2	21.3	3.8	5	4
CF Low Cutting Force	GCM R2003-CF-10 L2003-CF-10 R3003-CF-10 L3003-CF-10	—	—	—	●	10°	2.0	±0.08	0.03	22.4	3.6	5	4
		—	—	—	●	10°	2.0	±0.08	0.03	22.4	3.6	5	4
		—	—	—	●	10°	3.0	±0.08	0.03	22.4	3.8	5	4
		—	—	—	●	10°	3.0	±0.08	0.03	22.4	3.8	5	4
	GCM R2003-CF-15 L2003-CF-15 R3003-CF-15 L3003-CF-15	—	—	—	●	15°	2.0	±0.08	0.03	22.4	3.6	5	4
		—	—	—	●	15°	2.0	±0.08	0.03	22.4	3.6	5	4
		—	—	—	●	15°	3.0	±0.08	0.03	22.4	3.8	5	4
		—	—	—	●	15°	3.0	±0.08	0.03	22.4	3.8	5	4

GCM R : Right hand GCM L : Left-Handed

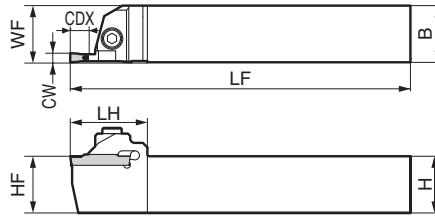
Use an insert and a holder with the same cutting width (CW). Cannot be used with GNDIS Type holders. Recommended Cutting Conditions P13

● : Standard stocked item ● : Standard stocked item (expanded item) Blank : Made-to-order item — : Not available.

External General-purpose Type for Shallow Grooves (Grooving / Traversing / Profiling)



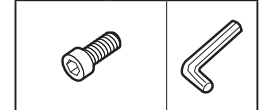
* Use a multifunctional profiling insert for traversing (groove expansion).



Figures shows right-hand tool.
Dimensions (mm)

■ Holders

■ Parts

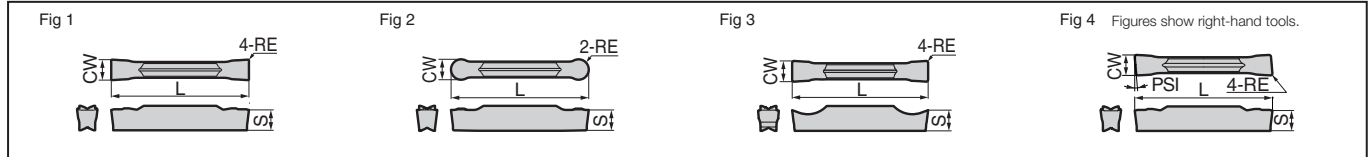


Cat. No.	Stock		Height		Width		Overall Length	Cutting Edge Distance	Cutting Edge Height	Head	Width of Cut		Max. Groove Depth	Applicable Insert	Cap Screw	N·m	Wrench
	R	L	H	B	LF	WF					HF	LH					
GNDS R/L2020K-206	●	●	20	20	125	20	20	30	2.0	6	GC□□2000-□□	BX0520	5.0	LH040			
GNDS R/L2020K-306	●	●	20	20	125	20	20	30	3.0	6	GC□□3000-□□						
GNDS R/L2020K-410	●	●	20	20	125	20	20	34	4.0	10	GC□□4000-□□						
GNDS R/L2020K-510	●	●	20	20	125	20	20	34	5.0	10	GC□ N5000-□□						
GNDS R/L2020K-610	●	●	20	20	125	20	20	34	6.0	10	GC□ N6000-□□						
GNDS R/L2525M-206	●	●	25	25	150	25	25	30	2.0	6	GC□□2000-□□	BX0520	5.0	LH040			
GNDS R/L2525M-306	●	●	25	25	150	25	25	30	3.0	6	GC□□3000-□□						
GNDS R/L2525M-410	●	●	25	25	150	25	25	34	4.0	10	GC□□4000-□□						
GNDS R/L2525M-510	●	●	25	25	150	25	25	34	5.0	10	GC□ N5000-□□						
GNDS R/L2525M-610	●	●	25	25	150	25	25	34	6.0	10	GC□ N6000-□□						

Use an insert and a holder with the same cutting width (CW). Refer to page 17 for applicable inserts.

GNDS Type Inserts

(Coated Carbide / Cermet / Cemented Carbide)



Grooving / Traversing

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW						
						Width of Cut	Tolerance					
MG General Purpose	GCM N3004-MG	●	●	●	●	3.0	±0.03	0.4	21.1	3.8	5	1
	GCM N4008-MG	●	●	●	●	4.0	±0.03	0.8	26.4	4.0		
	N5008-MG	●	●	●	●	5.0	±0.03	0.8	26.4	4.1		
	N6008-MG	●	●	●	●	6.0	±0.03	0.8	26.4	4.5		
ML CW=40mm CW=50mm Low Feed	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		
	GCM N4004-ML	●	●	●	●	4.0	±0.03	0.4	26.4	4.0		
	N5004-ML	●	●	●	●	5.0	±0.03	0.4	26.4	4.1		
N6004-ML	●	●	●	●	6.0	±0.03	0.4	26.4	4.5			

External Profiling / External Radius Grooving

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW						
						Width of Cut	Tolerance					
RG General Purpose	GCM N3015-RG	●	●	●	●	3.0	±0.03	1.5	21.1	3.8	5	2
	N4020-RG	●	●	●	●	4.0	±0.03	2.0	26.4	4.0		
	N5025-RG	●	●	●	●	5.0	±0.03	2.5	27.2	4.1		
	N6030-RG	●	●	●	●	6.0	±0.03	3.0	27.5	4.5		

Grooving / Cut-Off Machining

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC520U	AC530U	T2500A	CW						
						Width of Cut	Tolerance					
GG General Purpose	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		
	N4002-GG	●	●	●	—	4.0	±0.03	0.2	26.4	4.0		
	N5002-GG	●	●	●	—	5.0	±0.03	0.2	26.4	4.1		
	N6002-GG	●	●	●	—	6.0	±0.03	0.2	26.4	4.5		
	GCM N3004-GG	●	●	●	—	3.0	±0.03	0.4	21.1	3.8		
GL Low Feed	GCM N2002-GL	●	●	●	—	2.0	±0.03	0.2	21.1	3.6	5	1
	N3002-GL	●	●	●	—	3.0	±0.03	0.2	21.1	3.8		
	N4002-GL	●	●	●	—	4.0	±0.03	0.2	26.4	4.0		
	N5002-GL	●	●	●	—	5.0	±0.03	0.2	26.4	4.1		
N6002-GL	●	●	●	—	6.0	±0.03	0.2	26.4	4.5			
GF Low Cutting Force	GCM N2002-GF	—	—	●	—	2.0	±0.03	0.2	21.1	3.6	5	1
	N3002-GF	●	●	●	—	3.0	±0.03	0.2	21.1	3.8		
	N4002-GF	●	●	●	—	4.0	±0.03	0.2	26.4	4.0		
	N5002-GF	●	●	●	—	5.0	±0.03	0.2	26.4	4.1		
N6002-GF	●	●	●	—	6.0	±0.03	0.2	26.4	4.5			

Profiling / Radius Grooving / Necking

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW						
						Width of Cut	Tolerance					
RN General Purpose	GCM N2010-RN	—	—	●	●	2.0	±0.03	1.0	21.7	3.6	5	2
	N3015-RN	●	●	●	●	3.0	±0.03	1.5	22.4	3.8		
	N4020-RN	●	●	●	●	4.0	±0.03	2.0	28.0	4.0		
	N5025-RN	●	●	●	●	5.0	±0.03	2.5	28.1	4.1		
	N6030-RN	●	●	●	●	6.0	±0.03	3.0	28.1	4.5		

Non-Ferrous Metals

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		H10				CW						
						Width of Cut	Tolerance					
GA General Purpose	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		
	N5004-GA	●	—	—	—	5.0	±0.025	0.4	26.4	4.1		
	N6004-GA	●	—	—	—	6.0	±0.025	0.4	26.4	4.5		

Cut-Off Machining (Handed Edge)

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC520U	AC530U	AC1030U	CW						
						Width of Cut	Tolerance					
CG General Purpose	GCM R2002-CG-05	●	●	●	—	5° 2.0	±0.03	0.2	21.1	3.6	5	4
	L2002-CG-05	●	●	●	—	5° 2.0	±0.03	0.2	21.1	3.6		
	R3002-CG-05	●	●	●	—	5° 3.0	±0.03	0.2	21.3	3.8		
	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		
	L4002-CG-05	●	●	●	—	5° 4.0	±0.04	0.2	26.7	4.0		
CF Low Cutting Force	GCM R2003-CF-10	—	—	—	●	10° 2.0	±0.08	0.03	22.4	3.6	5	4
	L2003-CF-10	—	—	—	●	10° 2.0	±0.08	0.03	22.4	3.6		
	R3003-CF-10	—	—	—	●	10° 3.0	±0.08	0.03	22.4	3.8		
	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		
	L2003-CF-15	—	—	—	●	15° 2.0	±0.08	0.03	22.4	3.6		
	R3003-CF-15	—	—	—	●	15° 3.0	±0.08	0.03	22.4	3.8		
	L3003-CF-15	—	—	—	●	15° 3.0	±0.08	0.03	22.4	3.8		

GCM R : Right hand GCM L : Left-Handed

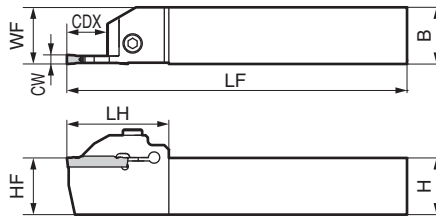
Use an insert and a holder with the same cutting width (CW). Cannot be used with GNDIS Type holders. Recommended Cutting Conditions P13

● : Standard stocked item ● : Standard stocked item (expanded item) Blank : Made-to-order item — : Not available.

External General-purpose Type (Grooving / Traversing / Profiling)

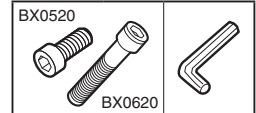


* Use a multifunctional profiling insert for traversing (groove expansion).



Figures shows right-hand tool.
 Dimensions (mm)

Parts

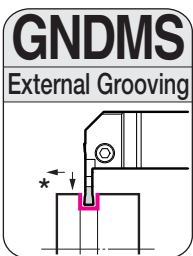


Holders

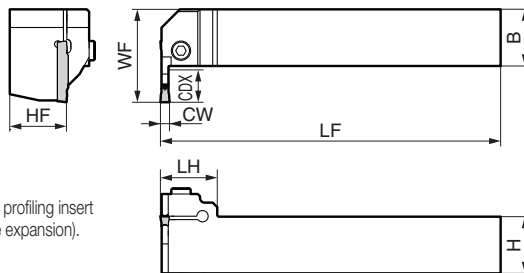
Cat. No.	Stock		Height	Width	Overall Length	Cutting Edge Distance	Cutting Edge Height	Head	Width of Cut	Max. Groove Depth	Max. Cut-off Dia.	Applicable Insert	Cap Screw	N·m	Wrench
	R	L													
GNDM R/L2020K-1.2510	●	●	20	20	125	20	20	34.0	1.25	10	20	GCM N125005-GF	BX0520	5.0	LH040
GNDM R/L2020K-1.510	●	●	20	20	125	20	20	34.0	1.50	10	20	GCM N150005-GF			
GNDM R/L2020K-210	●	●	20	20	125	20	20	33.6	2.00	10	20	GC□2000-□□			
GNDM R/L2020K-312	●	●	20	20	125	20	20	36.6	3.00	12	24	GC□3000-□□			
GNDM R/L2020K-418	●	●	20	20	125	20	20	45.0	4.00	18	36	GC□4000-□□			
GNDM R/L2020K-518	●	●	20	20	125	20	20	45.0	5.00	18	36	GC□N5000-□□			
GNDM R/L2020K-618	●	●	20	20	125	20	20	45.0	6.00	18	36	GC□N6000-□□			
GNDM R/L2525M-1.2510	●	●	25	25	150	25	25	36.0	1.25	10	20	GCM N125005-GF	BX0520	5.0	LH040
GNDM R/L2525M-1.510	●	●	25	25	150	25	25	36.0	1.50	10	20	GCM N150005-GF			
GNDM R/L2525M-210	●	●	25	25	150	25	25	33.6	2.00	10	20	GC□2000-□□			
GNDM R/L2525M-312	●	●	25	25	150	25	25	36.6	3.00	12	24	GC□3000-□□			
GNDM R/L2525M-418	●	●	25	25	150	25	25	45.0	4.00	18	36	GC□4000-□□			
GNDM R/L2525M-518	●	●	25	25	150	25	25	45.0	5.00	18	36	GC□N5000-□□			
GNDM R/L2525M-618	●	●	25	25	150	25	25	45.0	6.00	18	36	GC□N6000-□□			
GNDM R/L3225P-312			32	25	170	25	32	36.6	3.00	12	24	GC□3000-□□	BX0520	5.0	LH040
GNDM R/L3225P-418			32	25	170	25	32	45.0	4.00	18	36	GC□4000-□□			
GNDM R/L3225P-518			32	25	170	25	32	45.0	5.00	18	36	GC□N5000-□□			
GNDM R/L3225P-618			32	25	170	25	32	45.0	6.00	18	36	GC□N6000-□□			
GNDM R/L3225P-718			32	25	170	25	32	50.0	7.00	18	36	GCM N7000-□□			
GNDM R/L3225P-818			32	25	170	25	32	50.0	8.00	18	36	GCM N8000-□□			
GNDM R/L3232P-312	●	●	32	32	170	32	32	36.6	3.00	12	24	GC□3000-□□	BX0620	6.0	LH050
GNDM R/L3232P-418	●	●	32	32	170	32	32	45.0	4.00	18	36	GC□4000-□□			
GNDM R/L3232P-518	●	●	32	32	170	32	32	45.0	5.00	18	36	GC□N5000-□□			
GNDM R/L3232P-618	●	●	32	32	170	32	32	45.0	6.00	18	36	GC□N6000-□□			
GNDM R/L3232P-718	●	●	32	32	170	32	32	50.0	7.00	18	36	GCM N7000-□□			
GNDM R/L3232P-818	●	●	32	32	170	32	32	50.0	8.00	18	36	GCM N8000-□□			

Use an insert and a holder with the same cutting width (CW). Refer to page 19 for applicable inserts.

L-Shaped (Side Cut) Tools for External General-Purpose (Grooving / Traversing / Profiling)

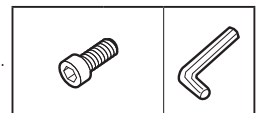


* Use a multifunctional profiling insert for traversing (groove expansion).



Figures shows right-hand tool.

Parts



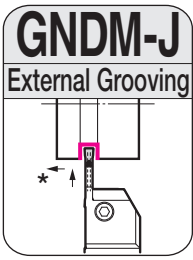
Holders

Cat. No.	Stock		Height	Width	Overall Length	Cutting Edge Distance	Cutting Edge Height	Head	Width of Cut	Max. Groove Depth	Applicable Insert	Cap Screw	N·m	Wrench
	R	L												
GNDMS R/L2020K-310	●	●	20	20	125	32	20	25	3.0	10	GC□3000-□□	BX0520	5.0	LH040
GNDMS R/L2020K-412	●	●	20	20	125	34	20	25	4.0	12	GC□4000-□□			
GNDMS R/L2020K-512	●	●	20	20	125	34	20	25	5.0	12	GC□N5000-□□			
GNDMS R/L2525M-312	●	●	25	25	150	39	25	25	3.0	12	GC□3000-□□	BX0520	5.0	LH040
GNDMS R/L2525M-414	●	●	25	25	150	41	25	25	4.0	14	GC□4000-□□			
GNDMS R/L2525M-514	●	●	25	25	150	41	25	25	5.0	14	GC□N5000-□□			
GNDMS R/L2525M-614	●	●	25	25	150	41	25	25	6.0	14	GC□N6000-□□			

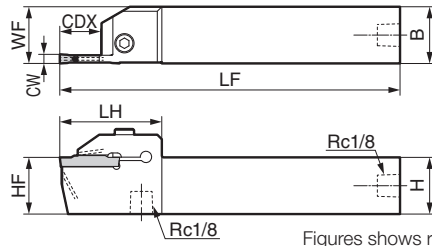
Use an insert and a holder with the same cutting width (CW). Refer to page 19 for applicable inserts.

● : Standard stocked item Blank : Made-to-order item : Recommended tightening torque (N·m)

External General-purpose Type (Grooving / Traversing / Profiling) with Internal Coolant



New



Figures shows right-hand tool.

■ Parts

Cap Screw	Plug	Wrench
BX0520	6.0	XP02 LH040
BX0520	6.0	XP02 LH040

■ Holders

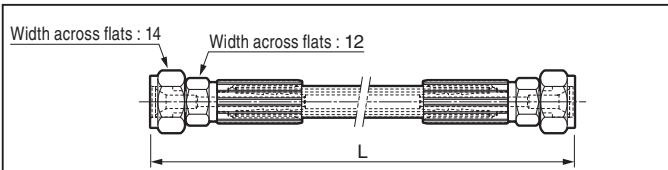
*Use a multifunctional profiling insert for traversing (groove expansion).

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	Cap Screw	N·m	Plug	Wrench
	R	L														
GNDM R/L2020K-210J <i>New</i>	●	●	20	20	125	20	20	33.6	2.00	10	20	GC□ 20○○□□	BX0520	6.0	XP02	LH040
GNDM R/L2020K-312J <i>New</i>	●	●	20	20	125	20	20	36.6	3.00	12	24	GC□ 30○○□□				
GNDM R/L2020K-418J <i>New</i>	●	●	20	20	125	20	20	45.0	4.00	18	36	GC□ 40○○□□				
GNDM R/L2020K-518J <i>New</i>	●	●	20	20	125	20	20	45.0	5.00	18	36	GC□ N50○○□□				
GNDM R/L2020K-618J <i>New</i>	●	●	20	20	125	20	20	45.0	6.00	18	36	GC□ N60○○□□	BX0520	6.0	XP02	LH040
GNDM R/L2525K-210J <i>New</i>	●	●	25	25	125	25	25	33.6	2.00	10	20	GC□ 20○○□□				
GNDM R/L2525K-312J <i>New</i>	●	●	25	25	125	25	25	36.6	3.00	12	24	GC□ 30○○□□				
GNDM R/L2525K-418J <i>New</i>	●	●	25	25	125	25	25	45.0	4.00	18	36	GC□ 40○○□□				
GNDM R/L2525K-518J <i>New</i>	●	●	25	25	125	25	25	45.0	5.00	18	36	GC□ N50○○□□	BX0520	6.0	XP02	LH040
GNDM R/L2525K-618J <i>New</i>	●	●	25	25	125	25	25	45.0	6.00	18	36	GC□ N60○○□□				

Use an insert and a holder with the same cutting width (CW). Refer to page 21 for applicable inserts.

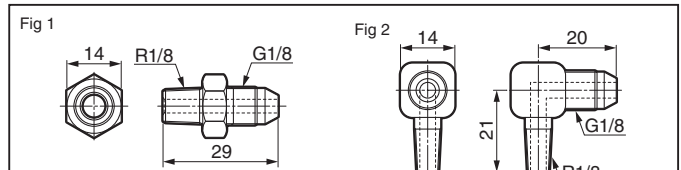
■ Parts (Hoses)



Cat. No.	Stock	Dimensions (mm)		
		L	Screw Standard	Screw Standard
J-HOSE-G1/8-G1/8-200 <i>New</i>	●	200	G1/8	G1/8
J-HOSE-G1/8-G1/8-300 <i>New</i>	●	300	G1/8	G1/8

Hoses are sold separately.

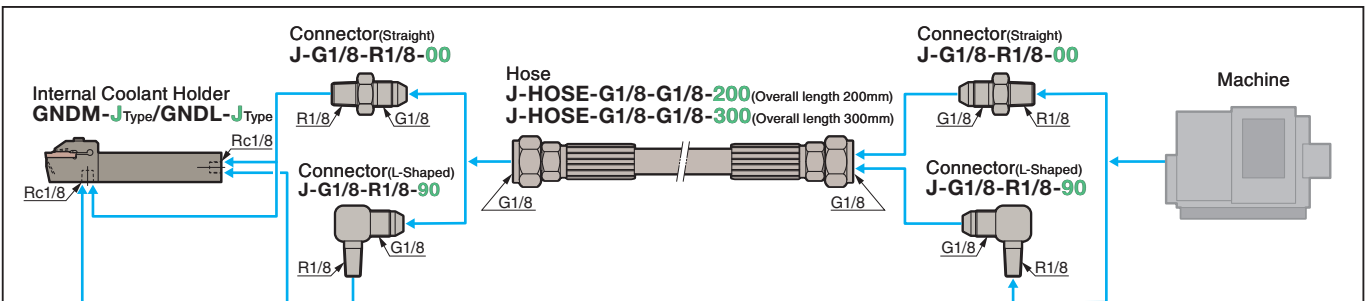
■ Parts (Connectors)



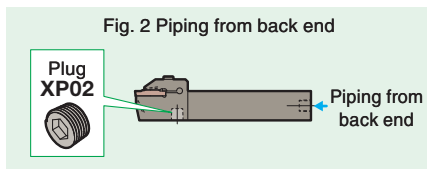
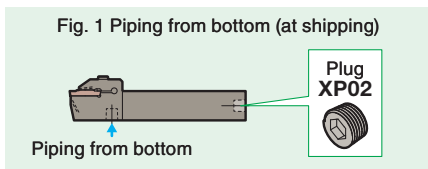
Cat. No.	Stock	Dimensions (mm)		Fig
		Screw Standard	Screw Standard	
J-G1/8-R1/8-00 <i>New</i>	●	G1/8	R1/8	1
J-G1/8-R1/8-90 <i>New</i>	●	G1/8	R1/8	2

Connectors are sold separately.

■ Piping Method for Hoses and Connectors



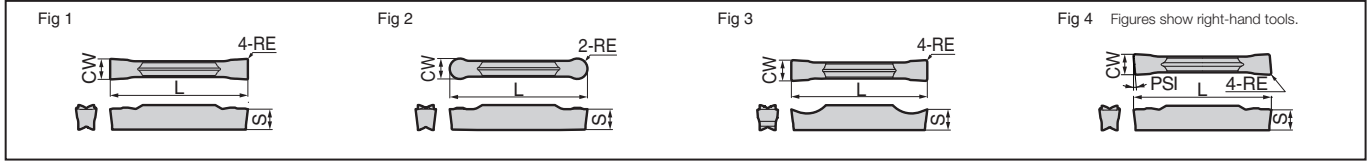
- Apply sealant such as commercial sealing tape to the piping connection parts.
- GNDM-J/GNDL-J Type holders have a plug (XP02) mounted on the holder back end at shipping. (See Fig. 1) When piping from the holder back end, mount a plug (XP02) on the bottom of the holder for use. (See Fig. 2)



● : Standard stocked item (N·m) : Recommended tightening torque (N·m)

GNDM-J Type Inserts

(Coated Carbide / Cermet / Cemented Carbide)



Grooving / Traversing

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW						
						Width of Cut	Tolerance	RE	L	S		
MG General Purpose	GCM N3004-MG	●	●	●	—	3.0	±0.03	0.4	21.1	3.8	5	1
	N4008-MG	●	●	●	—	4.0	±0.03	0.8	26.4	4.0		
	N5008-MG	●	●	●	—	5.0	±0.03	0.8	26.4	4.1		
	N6008-MG	●	●	●	—	6.0	±0.03	0.8	26.4	4.5		
ML Low Feed	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		
	N4004-ML	●	●	●	●	4.0	±0.03	0.4	26.4	4.0		
	N5004-ML	●	●	●	●	5.0	±0.03	0.4	26.4	4.1		
N6004-ML	●	●	●	—	6.0	±0.03	0.4	26.4	4.5			

External Profiling / External Radius Grooving

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW						
						Width of Cut	Tolerance	RE	L	S		
RG General Purpose	GCM N3015-RG	●	●	●	●	3.0	±0.03	1.5	21.1	3.8	5	2
	N4020-RG	●	●	●	●	4.0	±0.03	2.0	26.4	4.0		
	N5025-RG	●	●	●	—	5.0	±0.03	2.5	27.2	4.1		
	N6030-RG	●	●	●	—	6.0	±0.03	3.0	27.5	4.5		

Profiling / Radius Grooving / Necking

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW						
						Width of Cut	Tolerance	RE	L	S		
RN General Purpose	GCM N2010-RN	—	—	●	●	2.0	±0.03	1.0	21.7	3.6	5	2
	N3015-RN	●	●	●	●	3.0	±0.03	1.5	22.4	3.8		
	N4020-RN	●	●	●	●	4.0	±0.03	2.0	28.0	4.0		
	N5025-RN	●	●	●	●	5.0	±0.03	2.5	28.1	4.1		
	N6030-RN	●	●	●	●	6.0	±0.03	3.0	28.1	4.5		

Grooving / Cut-Off Machining

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC520U	AC530U	T2500A	CW						
						Width of Cut	Tolerance	RE	L	S		
GG General Purpose	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		
	N4002-GG	●	●	●	—	4.0	±0.03	0.2	26.4	4.0		
	N5002-GG	●	●	●	—	5.0	±0.03	0.2	26.4	4.1		
	N6002-GG	●	●	●	—	6.0	±0.03	0.2	26.4	4.5		
	GCM N3004-GG	●	●	●	—	3.0	±0.03	0.4	21.1	3.8		
GL Low Feed	GCM N2002-GL	●	●	●	—	2.0	±0.03	0.2	21.1	3.6	5	1
	N3002-GL	●	●	●	—	3.0	±0.03	0.2	21.1	3.8		
	N4002-GL	●	●	●	—	4.0	±0.03	0.2	26.4	4.0		
	N5002-GL	●	●	●	—	5.0	±0.03	0.2	26.4	4.1		
	N6002-GL	●	●	●	—	6.0	±0.03	0.2	26.4	4.5		
	GCM N3004-GL	●	●	●	—	3.0	±0.03	0.4	26.4	4.1		
GF Low Cutting Force	GCM N2002-GF	—	—	●	●	2.0	±0.03	0.2	21.1	3.6	5	1
	N3002-GF	●	●	●	●	3.0	±0.03	0.2	21.1	3.8		
	N4002-GF	●	●	●	—	4.0	±0.03	0.2	26.4	4.0		
	N5002-GF	●	●	●	—	5.0	±0.03	0.2	26.4	4.1		
N6002-GF	●	●	●	—	6.0	±0.03	0.2	26.4	4.5			

Non-Ferrous Metals

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		H10				CW						
						Width of Cut	Tolerance	RE	L	S		
GA General Purpose	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		
	N5004-GA	●				5.0	±0.025	0.4	26.4	4.1		
	N6004-GA	●				6.0	±0.025	0.4	26.4	4.5		

Cut-Off Machining (Handed Edge)

Dimensions (mm)

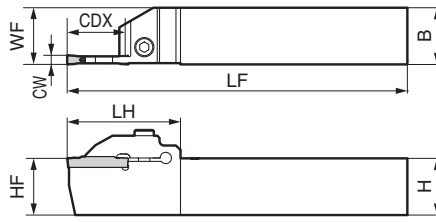
Appearance	Cat. No.	Stock				Front Cutting Edge Angle PSI	Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC520U	AC530U	AC1030U		CW						
						Width of Cut	Tolerance	RE	L	S			
CG General Purpose	GCM R2002-CG-05	●	●	●	—	5°	2.0	±0.03	0.2	21.1	3.6	5	4
	L2002-CG-05	●	●	●	—	5°	2.0	±0.03	0.2	21.1	3.6		
	R3002-CG-05	●	●	●	—	5°	3.0	±0.03	0.2	21.3	3.8		
	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		
CF Low Cutting Force	L4002-CG-05	●	●	●	—	5°	4.0	±0.04	0.2	26.7	4.0	5	4
	GCM R20003-CF-10	—	—	—	●	10°	2.0	±0.08	0.03	22.4	3.6		
	L20003-CF-10	—	—	—	●	10°	2.0	±0.08	0.03	22.4	3.6		
	R30003-CF-10	—	—	—	●	10°	3.0	±0.08	0.03	22.4	3.8		
	L30003-CF-10	—	—	—	●	10°	3.0	±0.08	0.03	22.4	3.8		
	GCM R20003-CF-15	—	—	—	●	15°	2.0	±0.08	0.03	22.4	3.6		
	L20003-CF-15	—	—	—	●	15°	2.0	±0.08	0.03	22.4	3.6		
	R30003-CF-15	—	—	—	●	15°	3.0	±0.08	0.03	22.4	3.8		
	L30003-CF-15	—	—	—	●	15°	3.0	±0.08	0.03	22.4	3.8		

GCM R : Right hand GCM L : Left-Handed

Use an insert and a holder with the same cutting width (CW). Cannot be used with GNDIS Type holders. Recommended Cutting Conditions P13

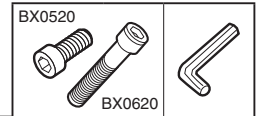
● : Standard stocked item ● : Standard stocked item (expanded item) Blank : Made-to-order item — : Not available.

External Deep Grooving & Cut-Off



Figures shows right-hand tool.

Parts



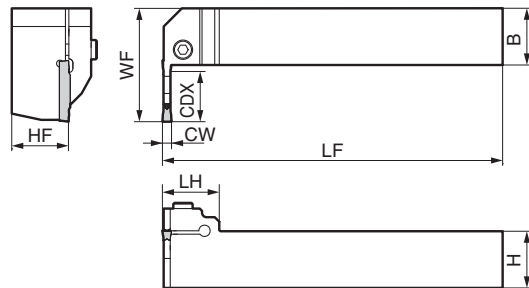
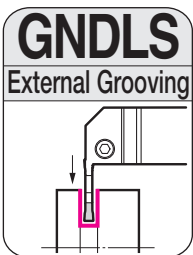
■ Holders

Dimensions (mm)

Cat. No.	Stock		Height	Width	Overall Length	Cutting Edge Distance	Cutting Edge Height	Head	Width of Cut	Max. Groove Depth	Max. Cut-off Dia.	Applicable Insert	Cap Screw	N·m	Wrench
	R	L													
GNDL R/L2020K-1.2516	●	●	20	20	125	20	20	38.0	1.25	16	32	GCM N125005-GF	BX0520	5.0	LH040
GNDL R/L2020K-1.516	●	●	20	20	125	20	20	38.0	1.50	16	32	GCM N150005-GF			
GNDL R/L2020K-220	●	●	20	20	125	20	20	44.5	2.00	20(18)	40	GC□□2000-□□			
GNDL R/L2020K-320	●	●	20	20	125	20	20	44.5	3.00	20(18)	40	GC□□3000-□□			
GNDL R/L2020K-425	●	●	20	20	125	20	20	50.0	4.00	25(23)	50	GC□□4000-□□			
GNDL R/L2020K-525	●	●	20	20	125	20	20	50.0	5.00	25(23)	50	GC□□N5000-□□			
GNDL R/L2020K-625	●	●	20	20	125	20	20	50.0	6.00	25(23)	50	GC□□N6000-□□			
GNDL R/L2525M-1.2516	●	●	25	25	150	25	25	40.0	1.25	16	32	GCM N125005-GF	BX0520	5.0	LH040
GNDL R/L2525M-1.516	●	●	25	25	150	25	25	40.0	1.50	16	32	GCM N150005-GF			
GNDL R/L2525M-220	●	●	25	25	150	25	25	44.5	2.00	20(18)	40	GC□□2000-□□			
GNDL R/L2525M-320	●	●	25	25	150	25	25	44.5	3.00	20(18)	40	GC□□3000-□□			
GNDL R/L2525M-425	●	●	25	25	150	25	25	50.0	4.00	25(23)	50	GC□□4000-□□			
GNDL R/L2525M-525	●	●	25	25	150	25	25	50.0	5.00	25(23)	50	GC□□N5000-□□			
GNDL R/L2525M-625	●	●	25	25	150	25	25	50.0	6.00	25(23)	50	GC□□N6000-□□			
GNDL R/L3225P-320			32	25	170	25	32	44.5	3.00	20(18)	40	GC□□3000-□□	BX0520	5.0	LH040
GNDL R/L3225P-425			32	25	170	25	32	50.0	4.00	25(23)	50	GC□□4000-□□			
GNDL R/L3225P-525			32	25	170	25	32	50.0	5.00	25(23)	50	GC□□N5000-□□			
GNDL R/L3225P-625			32	25	170	25	32	50.0	6.00	25(23)	50	GC□□N6000-□□			
GNDL R/L3225P-725			32	25	170	25	32	50.0	7.00	25(23)	50	GCM N7000-□□			
GNDL R/L3225P-825			32	25	170	25	32	50.0	8.00	25(23)	50	GCM N8000-□□			
GNDL R/L3232P-320	●	●	32	32	170	32	32	44.5	3.00	20(18)	40	GC□□3000-□□	BX0620	6.0	LH050
GNDL R/L3232P-425	●	●	32	32	170	32	32	50.0	4.00	25(23)	50	GC□□4000-□□			
GNDL R/L3232P-525	●	●	32	32	170	32	32	50.0	5.00	25(23)	50	GC□□N5000-□□			
GNDL R/L3232P-625	●	●	32	32	170	32	32	50.0	6.00	25(23)	50	GC□□N6000-□□			
GNDL R/L3232P-725	●	●	32	32	170	32	32	50.0	7.00	25(23)	50	GCM N7000-□□			
GNDL R/L3232P-825	●	●	32	32	170	32	32	50.0	8.00	25(23)	50	GCM N8000-□□			

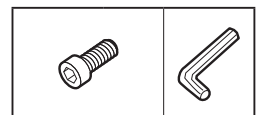
Use an insert and a holder with the same cutting width (CW). Dimensions in parentheses under maximum grooving depth are for applications that use profiling inserts (RG / RN Type breakers). Refer to page 23 for applicable inserts.

L-Shaped (Side Cut) Tools for External Grooving



Figures shows right-hand tool.

Parts



■ Holders

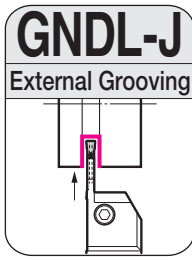
Dimensions (mm)

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

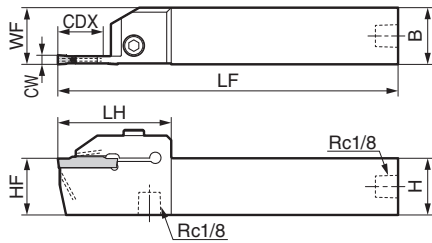
Use an insert and a holder with the same cutting width (CW). Refer to page 23 for applicable inserts.

● : Standard stocked item Blank : Made-to-order item : Recommended tightening torque (N·m)

External Deep Grooving / Cut-Off Type with Internal Coolant



New



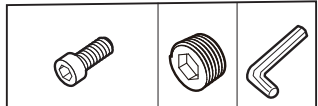
Figures shows right-hand tool.

■ Holders

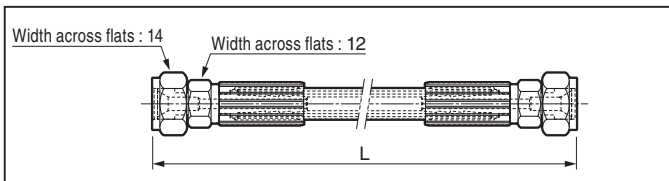
Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Head LH	Width of Cut CW	Max. Groove Depth CDX	Max. Cut-off Dia.	Applicable Insert	Cap Screw	N·m	Plug	Wrench
	R	L														
GNDL R/L2020K-220J <i>New</i>	●	●	20	20	125	20	20	44.5	2.00	20(18)	40	GC □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

Use an insert and a holder with the same cutting width (CW).
 Dimensions in parentheses under maximum grooving depth are for applications that use profiling inserts (RG / RN Type breakers).
 Refer to page 25 for applicable inserts.

■ Parts



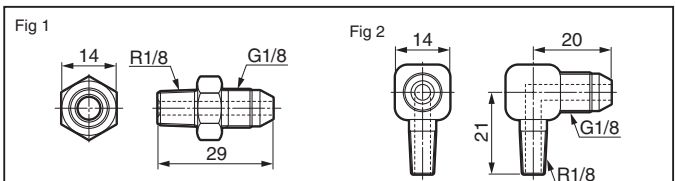
■ Parts (Hoses)



Cat. No.	Stock	Dimensions (mm)		
		L	Screw Standard	Screw Standard
J-HOSE-G1/8-G1/8-200 <i>New</i>	●	200	G1/8	G1/8
J-HOSE-G1/8-G1/8-300 <i>New</i>	●	300	G1/8	G1/8

Hoses are sold separately.

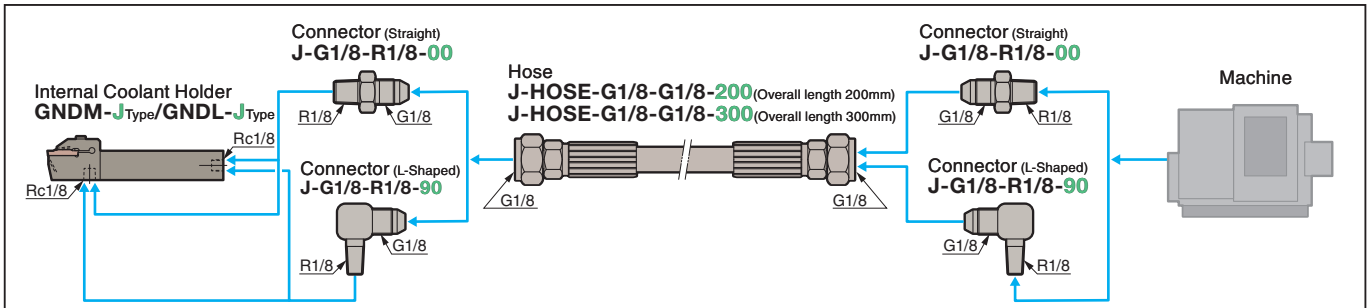
■ Parts (Connectors)



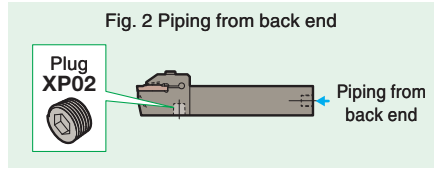
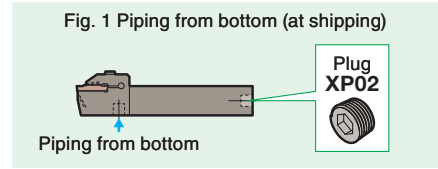
Cat. No.	Stock	Dimensions (mm)		Fig
		Screw Standard	Screw Standard	
J-G1/8-R1/8-00 <i>New</i>	●	G1/8	R1/8	1
J-G1/8-R1/8-90 <i>New</i>	●	G1/8	R1/8	2

Connectors are sold separately.

■ Piping Method for Hoses and Connectors



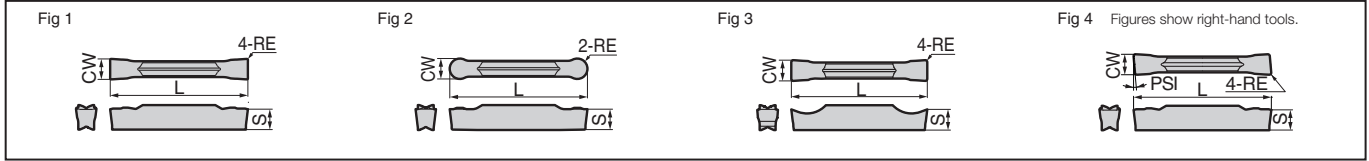
- Apply sealant such as commercial sealing tape to the piping connection parts.
- GNDM-J/GNDL-J Type holders have a plug (XP02) mounted on the holder back end at shipping. (See Fig. 1) When piping from the holder back end, mount a plug (XP02) on the bottom of the holder for use. (See Fig. 2)



● : Standard stocked item (N·m) : Recommended tightening torque (N·m)

GNDL-J Type Inserts

(Coated Carbide / Cermet / Cemented Carbide)



Grooving / Traversing

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW						
						Width of Cut	Tolerance	RE	L	S		
MG General Purpose	GCM N3004-MG	●	●	●	—	3.0	±0.03	0.4	21.1	3.8	5	1
	N4008-MG	●	●	●	—	4.0	±0.03	0.8	26.4	4.0		
	N5008-MG	●	●	●	—	5.0	±0.03	0.8	26.4	4.1		
	N6008-MG	●	●	●	—	6.0	±0.03	0.8	26.4	4.5		
ML 3.0mm-5.0mm Low Feed	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		
	N4004-ML	●	●	●	●	4.0	±0.03	0.4	26.4	4.0		
	N5004-ML	●	●	●	●	5.0	±0.03	0.4	26.4	4.1		
N6004-ML	●	●	●	—	6.0	±0.03	0.4	26.4	4.5			

External Profiling / External Radius Grooving

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW						
						Width of Cut	Tolerance	RE	L	S		
RG General Purpose	GCM N3015-RG	●	●	●	●	3.0	±0.03	1.5	21.1	3.8	5	2
	N4020-RG	●	●	●	●	4.0	±0.03	2.0	26.4	4.0		
	N5025-RG	●	●	●	—	5.0	±0.03	2.5	27.2	4.1		
	N6030-RG	●	●	●	—	6.0	±0.03	3.0	27.5	4.5		

Profiling / Radius Grooving / Necking

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW						
						Width of Cut	Tolerance	RE	L	S		
RN General Purpose	GCM N2010-RN	—	—	●	●	2.0	±0.03	1.0	21.7	3.6	5	2
	N3015-RN	●	●	●	●	3.0	±0.03	1.5	22.4	3.8		
	N4020-RN	●	●	●	●	4.0	±0.03	2.0	28.0	4.0		
	N5025-RN	●	●	●	●	5.0	±0.03	2.5	28.1	4.1		
	N6030-RN	●	●	●	●	6.0	±0.03	3.0	28.1	4.5		

Grooving / Cut-Off Machining

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC520U	AC530U	T2500A	CW						
						Width of Cut	Tolerance	RE	L	S		
GG General Purpose	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		
	N4002-GG	●	●	●	—	4.0	±0.03	0.2	26.4	4.0		
	N5002-GG	●	●	●	—	5.0	±0.03	0.2	26.4	4.1		
	N6002-GG	●	●	●	—	6.0	±0.03	0.2	26.4	4.5		
	GCM N3004-GG	●	●	●	—	3.0	±0.03	0.4	21.1	3.8		
GL Low Feed	GCM N2002-GL	●	●	●	—	2.0	±0.03	0.2	21.1	3.6	5	1
	N3002-GL	●	●	●	—	3.0	±0.03	0.2	21.1	3.8		
	N4002-GL	●	●	●	—	4.0	±0.03	0.2	26.4	4.0		
	N5002-GL	●	●	●	—	5.0	±0.03	0.2	26.4	4.1		
	N6002-GL	●	●	●	—	6.0	±0.03	0.2	26.4	4.5		
	GCM N3004-GL	●	●	●	—	3.0	±0.03	0.4	26.4	4.1		
GF Low Cutting Force	GCM N2002-GF	—	—	●	●	2.0	±0.03	0.2	21.1	3.6	5	1
	N3002-GF	●	●	●	●	3.0	±0.03	0.2	21.1	3.8		
	N4002-GF	●	●	●	—	4.0	±0.03	0.2	26.4	4.0		
	N5002-GF	●	●	●	—	5.0	±0.03	0.2	26.4	4.1		
N6002-GF	●	●	●	—	6.0	±0.03	0.2	26.4	4.5			

Non-Ferrous Metals

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		H10				CW						
						Width of Cut	Tolerance	RE	L	S		
GA General Purpose	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		
	N5004-GA	●				5.0	±0.025	0.4	26.4	4.1		
	N6004-GA	●				6.0	±0.025	0.4	26.4	4.5		

Cut-Off Machining (Handed Edge)

Dimensions (mm)

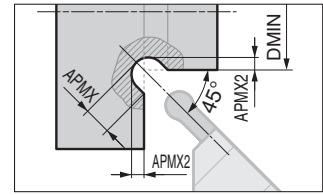
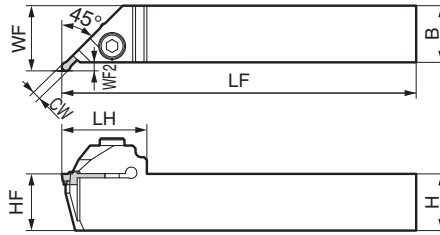
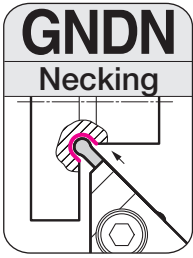
Appearance	Cat. No.	Stock				Front Cutting Edge Angle	Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC520U	AC530U	AC1030U		CW						
						Width of Cut	Tolerance	RE	L	S			
CG General Purpose	GCM R2002-CG-05	●	●	●	—	5°	2.0	±0.03	0.2	21.1	3.6	5	4
	L2002-CG-05	●	●	●	—	5°	2.0	±0.03	0.2	21.1	3.6		
	R3002-CG-05	●	●	●	—	5°	3.0	±0.03	0.2	21.3	3.8		
	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		
CF Low Cutting Force	L4002-CG-05	●	●	●	—	5°	4.0	±0.04	0.2	26.7	4.0	5	4
	GCM R20003-CF-10	—	—	—	●	10°	2.0	±0.08	0.03	22.4	3.6		
	L20003-CF-10	—	—	—	●	10°	2.0	±0.08	0.03	22.4	3.6		
	R30003-CF-10	—	—	—	●	10°	3.0	±0.08	0.03	22.4	3.8		
	L30003-CF-10	—	—	—	●	10°	3.0	±0.08	0.03	22.4	3.8		
	GCM R20003-CF-15	—	—	—	●	15°	2.0	±0.08	0.03	22.4	3.6		
	L20003-CF-15	—	—	—	●	15°	2.0	±0.08	0.03	22.4	3.6		
	R30003-CF-15	—	—	—	●	15°	3.0	±0.08	0.03	22.4	3.8		
	L30003-CF-15	—	—	—	●	15°	3.0	±0.08	0.03	22.4	3.8		

GCM R : Right hand GCM L : Left-Handed

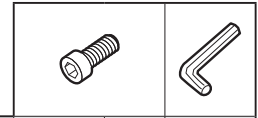
Use an insert and a holder with the same cutting width (CW). Cannot be used with GNDIS Type holders. Recommended Cutting Conditions P13

● : Standard stocked item ● : Standard stocked item (expanded item) Blank : Made-to-order item — : Not available.

For Necking



Parts



Figures shows right-hand tool.

■ Holders

Dimensions (mm)

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

Use an insert and a holder with the same cutting width (CW). Refer to page 27 for applicable inserts.

■ Identification Details

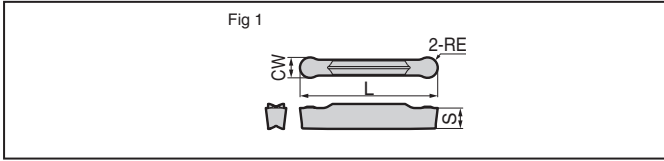
GND N R 20 20 K - 2 15 - 020

Series Application Direction Shank Height Shank Width Shank Length Cutting Width APMX x10 Min. Work Dia.
: Necking (mm) (mm) (mm) (mm) (mm) (mm) (mm)

● : Standard stocked item : Recommended tightening torque (N·m)

■ GNDN Type Inserts


( Coated Carbide)



● Profiling / Radius Grooving / Necking

Dimensions (mm)

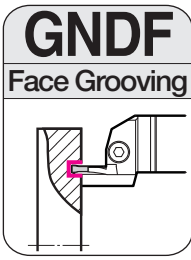


Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW		RE	L	S		
						Width of Cut	Tolerance					
 General Purpose	GCM N2010-RN	—	—	●	●	2.0	±0.03	1.0	21.7	3.6	5	1
	N3015-RN	●	●	●	●	3.0	±0.03	1.5	22.4	3.8		
	N4020-RN	●	●	●	●	4.0	±0.03	2.0	28.0	4.0		
	N5025-RN	●	●	●	●	5.0	±0.03	2.5	28.1	4.1		
	N6030-RN	●	●	●	●	6.0	±0.03	3.0	28.1	4.5		

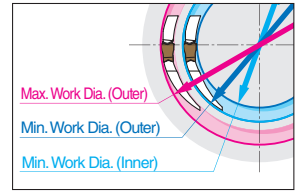
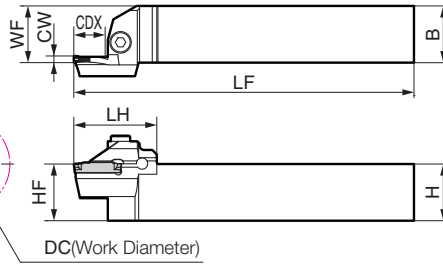
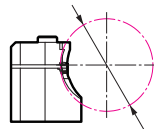
Use an insert and a holder with the same cutting width (CW). Cannot be used with GNDIS Type holders. **Recommended Cutting Conditions** 

● : Standard stocked item — : Not available.

Face Grooving

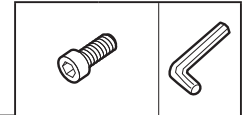


* Use a general-purpose profiling insert for traversing (groove expansion).



Figures shows right-hand tool.

Parts



Holders

Dimensions (mm)

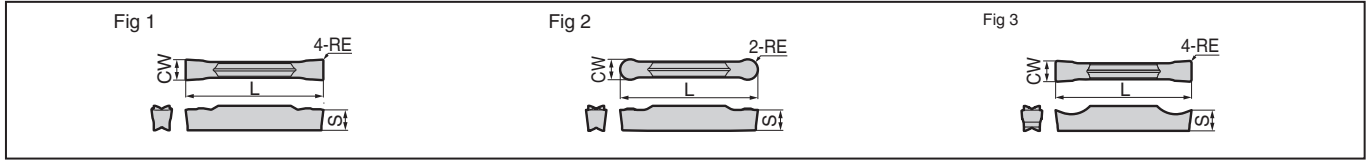
Cat. No.	Stock		Height H	Width B	Overall Length LF	Cutting Edge Distance WF	Cutting Edge Height HF	Head LH	Bore DC	Min. Work Dia. (Inner)	Width of Cut		Applicable Insert	Cap Screw	N·m	Wrench
	R	L									CW	Max. Groove Depth CDX				
GNDF R/L2020K-312-035	●	●	20	20	125	20	20	35.6	35-45	29	3.0	12	GC□ N300□-□□	BX0520	5.0	LH040
GNDF R/L2020K-312-040	●	●	20	20	125	20	20	35.6	40-55	34	3.0	12				
GNDF R/L2020K-318-050	●	●	20	20	125	20	20	41.6	50-70	44	3.0	18				
GNDF R/L2020K-318-065	●	●	20	20	125	20	20	41.6	65-100	59	3.0	18				
GNDF R/L2020K-318-090	●	●	20	20	125	20	20	41.6	90-150	84	3.0	18				
GNDF R/L2020K-318-140	●	●	20	20	125	20	20	41.6	140-200	134	3.0	18				
GNDF R/L2020K-318-180	●	●	20	20	125	20	20	41.6	180-300	174	3.0	18				
GNDF R/L2020K-418-040	●	●	20	20	125	20	20	41.6	40-55	32	4.0	18				
GNDF R/L2020K-423-050	●	●	20	20	125	20	20	46.6	50-70	42	4.0	23				
GNDF R/L2020K-423-065	●	●	20	20	125	20	20	46.6	65-90	57	4.0	23				
GNDF R/L2020K-423-085	●	●	20	20	125	20	20	46.6	85-130	77	4.0	23				
GNDF R/L2020K-423-125	●	●	20	20	125	20	20	46.6	125-200	117	4.0	23				
GNDF R/L2020K-423-180	●	●	20	20	125	20	20	46.6	180-300	172	4.0	23				
GNDF R/L2020K-423-280	●	●	20	20	125	20	20	46.6	280-1000	272	4.0	23				
GNDF R/L2020K-523-050	●	●	20	20	125	20	20	46.6	50-70	40	5.0	23				
GNDF R/L2020K-523-065	●	●	20	20	125	20	20	46.6	65-90	55	5.0	23				
GNDF R/L2020K-523-085	●	●	20	20	125	20	20	46.6	85-130	75	5.0	23				
GNDF R/L2020K-523-125	●	●	20	20	125	20	20	46.6	125-200	115	5.0	23				
GNDF R/L2020K-523-180	●	●	20	20	125	20	20	46.6	180-300	170	5.0	23				
GNDF R/L2020K-523-280	●	●	20	20	125	20	20	46.6	280-1000	270	5.0	23				
GNDF R/L2020K-623-050	●	●	20	20	125	20	20	46.6	50-75	38	6.0	23				
GNDF R/L2020K-623-070	●	●	20	20	125	20	20	46.6	70-110	58	6.0	23				
GNDF R/L2020K-623-100	●	●	20	20	125	20	20	46.6	100-200	88	6.0	23				
GNDF R/L2020K-623-180	●	●	20	20	125	20	20	46.6	180-300	168	6.0	23				
GNDF R/L2020K-623-280	●	●	20	20	125	20	20	46.6	280-1000	268	6.0	23				
GNDF R/L2525M-312-035	●	●	25	25	150	25	25	35.6	35-45	29	3.0	12				
GNDF R/L2525M-312-040	●	●	25	25	150	25	25	35.6	40-55	34	3.0	12				
GNDF R/L2525M-318-050	●	●	25	25	150	25	25	41.6	50-70	44	3.0	18				
GNDF R/L2525M-318-065	●	●	25	25	150	25	25	41.6	65-100	59	3.0	18				
GNDF R/L2525M-318-090	●	●	25	25	150	25	25	41.6	90-150	84	3.0	18				
GNDF R/L2525M-318-140	●	●	25	25	150	25	25	41.6	140-200	134	3.0	18				
GNDF R/L2525M-318-180	●	●	25	25	150	25	25	41.6	180-300	174	3.0	18				
GNDF R/L2525M-418-040	●	●	25	25	150	25	25	41.6	40-55	32	4.0	18				
GNDF R/L2525M-423-050	●	●	25	25	150	25	25	46.6	50-70	42	4.0	23				
GNDF R/L2525M-423-065	●	●	25	25	150	25	25	46.6	65-90	57	4.0	23				
GNDF R/L2525M-423-085	●	●	25	25	150	25	25	46.6	85-130	77	4.0	23				
GNDF R/L2525M-423-125	●	●	25	25	150	25	25	46.6	125-200	117	4.0	23				
GNDF R/L2525M-423-180	●	●	25	25	150	25	25	46.6	180-300	172	4.0	23				
GNDF R/L2525M-423-280	●	●	25	25	150	25	25	46.6	280-1000	272	4.0	23				
GNDF R/L2525M-523-050	●	●	25	25	150	25	25	46.6	50-70	40	5.0	23				
GNDF R/L2525M-523-065	●	●	25	25	150	25	25	46.6	65-90	55	5.0	23				
GNDF R/L2525M-523-085	●	●	25	25	150	25	25	46.6	85-130	75	5.0	23				
GNDF R/L2525M-523-125	●	●	25	25	150	25	25	46.6	125-200	115	5.0	23				
GNDF R/L2525M-523-180	●	●	25	25	150	25	25	46.6	180-300	170	5.0	23				
GNDF R/L2525M-523-280	●	●	25	25	150	25	25	46.6	280-1000	270	5.0	23				
GNDF R/L2525M-623-050	●	●	25	25	150	25	25	46.6	50-75	38	6.0	23				
GNDF R/L2525M-623-070	●	●	25	25	150	25	25	46.6	70-110	58	6.0	23				
GNDF R/L2525M-623-100	●	●	25	25	150	25	25	46.6	100-200	88	6.0	23				
GNDF R/L2525M-623-180	●	●	25	25	150	25	25	46.6	180-300	168	6.0	23				
GNDF R/L2525M-623-280	●	●	25	25	150	25	25	46.6	280-1000	268	6.0	23				

Use an insert and a holder with the same cutting width (CW). Refer to page 29 for applicable inserts.

● : Standard stocked item (N·m) : Recommended tightening torque (N·m)

GNDF Type Inserts

(Coated Carbide / Cermet / Cemented Carbide)



Grooving / Traversing

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW						
						Width of Cut	Tolerance					
MG General Purpose	GCM N3004-MG	●	●	●	—	3.0	±0.03	0.4	21.1	3.8	5	1
	GCM N4008-MG	●	●	●	—	4.0	±0.03	0.8	26.4	4.0		
	N5008-MG	●	●	●	—	5.0	±0.03	0.8	26.4	4.1		
	N6008-MG	●	●	●	—	6.0	±0.03	0.8	26.4	4.5		
ML CW=40mm CW=50mm Low Feed	GCM N3002-ML	●	●	●	—	3.0	±0.03	0.2	21.1	3.8	5	1
	GCM N4004-ML	●	●	●	—	4.0	±0.03	0.4	26.4	4.0		
	N5004-ML	●	●	●	—	5.0	±0.03	0.4	26.4	4.1		
	N6004-ML	●	●	●	—	6.0	±0.03	0.4	26.4	4.5		

Profiling / Radius Grooving / Necking

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW						
						Width of Cut	Tolerance					
RN General Purpose	GCM N3015-RN	●	●	●	●	3.0	±0.03	1.5	22.4	3.8	5	2
	N4020-RN	●	●	●	●	4.0	±0.03	2.0	28.0	4.0		
	N5025-RN	●	●	●	●	5.0	±0.03	2.5	28.1	4.1		
	N6030-RN	●	●	●	●	6.0	±0.03	3.0	28.1	4.5		

Non-Ferrous Metals

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		H10				CW						
						Width of Cut	Tolerance					
GA General Purpose	GCG N3002-GA	●				3.0	±0.025	0.2	21.1	3.8	5	3
	GCG N4004-GA	●				4.0	±0.025	0.4	26.4	4.0		
	N5004-GA	●				5.0	±0.025	0.4	26.4	4.1		
	N6004-GA	●				6.0	±0.025	0.4	26.4	4.5		

Grooving / Cut-Off Machining

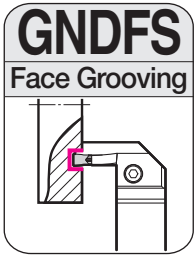
Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC520U	AC530U	T2500A	CW						
						Width of Cut	Tolerance					
GG General Purpose	GCM N3002-GG	●	●	●	—	3.0	±0.03	0.2	21.1	3.8	5	1
	N4002-GG	●	●	●	—	4.0	±0.03	0.2	26.4	4.0		
	N5002-GG	●	●	●	—	5.0	±0.03	0.2	26.4	4.1		
	N6002-GG	●	●	●	—	6.0	±0.03	0.2	26.4	4.5		
GL Low Feed	GCM N3004-GG	●	●	●	—	3.0	±0.03	0.4	21.1	3.8	5	1
	N4004-GG	●	●	●	—	4.0	±0.03	0.4	26.4	4.0		
	N5004-GG	●	●	●	—	5.0	±0.03	0.4	26.4	4.1		
	N6004-GG	●	●	●	—	6.0	±0.03	0.4	26.4	4.5		
GL Low Feed	GCM N3002-GL	●	●	●	—	3.0	±0.03	0.2	21.1	3.8	5	1
	N4002-GL	●	●	●	—	4.0	±0.03	0.2	26.4	4.0		
	N5002-GL	●	●	●	—	5.0	±0.03	0.2	26.4	4.1		
	N6002-GL	●	●	●	—	6.0	±0.03	0.2	26.4	4.5		
GF Low Cutting Force	GCM N3002-GF	●	●	●	—	3.0	±0.03	0.2	21.1	3.8	5	1
	N4002-GF	●	●	●	—	4.0	±0.03	0.2	26.4	4.0		
	N5002-GF	●	●	●	—	5.0	±0.03	0.2	26.4	4.1		
	N6002-GF	●	●	●	—	6.0	±0.03	0.2	26.4	4.5		

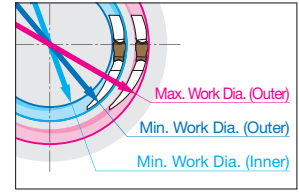
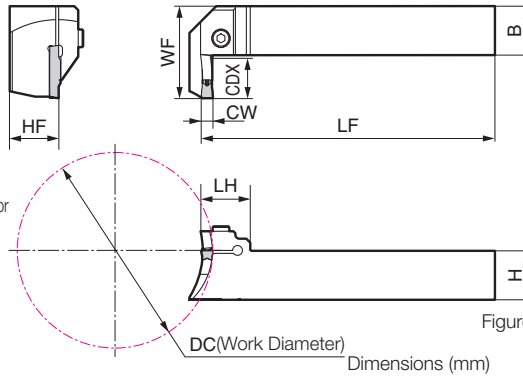
Use an insert and a holder with the same cutting width (CW). Cannot be used with GNDIS Type holders. **Recommended Cutting Conditions P13**

● : Standard stocked item Blank : Made-to-order item — : Not available.

L-Shaped (Side Cut) Facing Tools for Deep Grooving

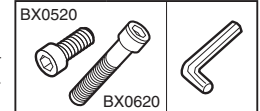


*Use a general-purpose profiling insert for traversing (groove expansion).



■ Holders

■ Parts



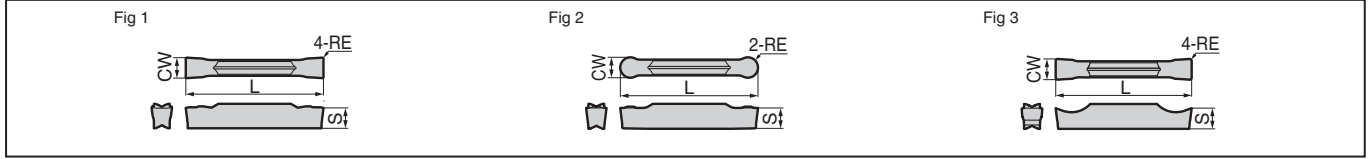
Figures shows right-hand tool.

Cat. No.	Stock		Height	Width	Overall Length	Cutting Edge Distance	Cutting Edge Height	Head	Bore	Min. Work Dia. (Inner)	Width of Cut	Max. Groove Depth	Applicable Insert	Cap Screw	N·m	Wrench
	R	L														
GNDFS R/L2525M-620-070			25	25	150	47	25	25	70~100	58	6.0	20	GC□ N60□□-□□	BX0520	5.0	LH040
GNDFS R/L2525M-620-100			25	25	150	47	25	25	100~200	88	6.0	20				
GNDFS R/L2525M-620-180			25	25	150	47	25	25	180~300	168	6.0	20				
GNDFS R/L2525M-620-280			25	25	150	47	25	25	280~1000	268	6.0	20				
GNDFS R/L2525M-620-450			25	25	150	47	25	25	450~	438	6.0	20				
GNDFS R/L3232P-620-070			32	32	170	54	32	25	70~100	58	6.0	20	GC□ N60□□-□□	BX0620	6.0	LH050
GNDFS R/L3232P-620-100			32	32	170	54	32	25	100~200	88	6.0	20				
GNDFS R/L3232P-620-180			32	32	170	54	32	25	180~300	168	6.0	20				
GNDFS R/L3232P-620-280			32	32	170	54	32	25	280~1000	268	6.0	20				
GNDFS R/L3232P-620-450			32	32	170	54	32	25	450~	438	6.0	20				
GNDFS R/L2525M-820-070			25	25	150	47	25	30	70~100	54	8.0	20	GCM N80□□-□□	BX0620	6.0	LH050
GNDFS R/L2525M-820-100			25	25	150	47	25	30	100~200	84	8.0	20				
GNDFS R/L2525M-820-180			25	25	150	47	25	30	180~300	164	8.0	20				
GNDFS R/L2525M-820-280			25	25	150	47	25	30	280~1000	264	8.0	20				
GNDFS R/L2525M-820-450			25	25	150	47	25	30	450~	434	8.0	20				
GNDFS R/L3232P-820-070			32	32	170	54	32	30	70~100	54	8.0	20	GCM N80□□-□□	BX0620	6.0	LH050
GNDFS R/L3232P-820-100			32	32	170	54	32	30	100~200	84	8.0	20				
GNDFS R/L3232P-820-180			32	32	170	54	32	30	180~300	164	8.0	20				
GNDFS R/L3232P-820-280			32	32	170	54	32	30	280~1000	264	8.0	20				
GNDFS R/L3232P-820-450			32	32	170	54	32	30	450~	434	8.0	20				

Use an insert and a holder with the same cutting width (CW). Refer to page 31 for applicable inserts.

GNDFS Type Inserts

(Coated Carbide / Cemented Carbide)



Grooving / Traversing

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW						
						Width of Cut	Tolerance					
MG General Purpose	GCM N6008-MG	●	●	●	●	6.0	±0.03	0.8	26.4	4.5	5	1
	GCM N8008-MG	●	●	●	●	8.0	±0.04	0.8	28.75	6.0		
ML Low Feed	GCM N6004-ML	●	●	●	●	6.0	±0.03	0.4	26.4	4.5	5	1
	N8004-ML	●	●	●	●	8.0	±0.04	0.4	28.75	6.0		

Profiling / Radius Grooving / Necking

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW						
						Width of Cut	Tolerance					
RN General Purpose	GCM N6030-RN	●	●	●	●	6.0	±0.03	3.0	28.1	4.5	5	2

Non-Ferrous Metals

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		H10				CW						
						Width of Cut	Tolerance					
GA General Purpose	GCG N6004-GA	●				6.0	±0.025	0.4	26.4	4.5	5	3

Grooving / Cut-Off Machining

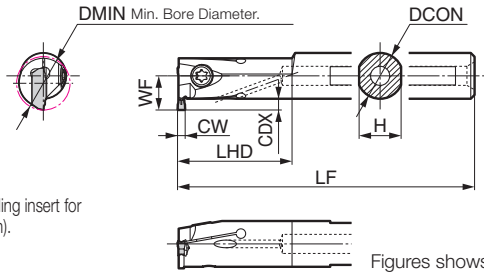
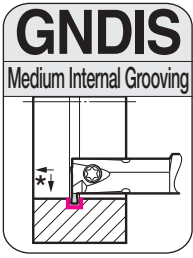
Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW						
						Width of Cut	Tolerance					
GG General Purpose	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		
GL Low Feed	GCM N6002-GL	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	5	1
	GCM N8004-GL	●	●	●	●	8.0	±0.04	0.4	28.75	6.0		
GF Low Cutting Force	GCM N6002-GF	●	●	●	●	6.0	±0.03	0.2	26.4	4.5	5	1
	GCM N8002-GF	●	●	●	●	8.0	±0.04	0.2	28.75	6.0		
	N8004-GF	●	●	●	●	8.0	±0.04	0.4	28.75	6.0		

Use an insert and a holder with the same cutting width (CW). Cannot be used with GNDIS Type holders. **Recommended Cutting Conditions** P13

● : Standard stocked item Blank : Made-to-order item.

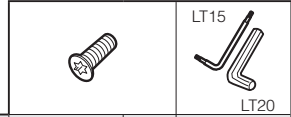
Internal Grooving



*Use a general-purpose profiling insert for traversing (groove expansion).

Figures shows right-hand (R) tool.

Parts



Holders

Dimensions (mm)

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

Use an insert and a holder with the same cutting width (CW). Only GXM inserts can be used. Refer to page 33 for applicable inserts.

Identification Details

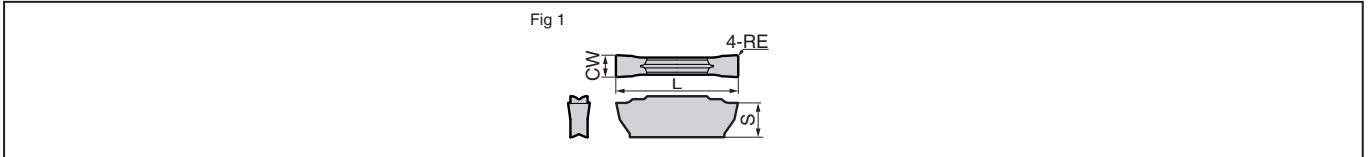
GND IS R 12 14 - T 15 26

Series	Application : Internal Grooving	Direction	Shank Diameter (mm)	Min. Bore Dia. (mm)	Boring	Cutting Width x 10 (mm)	Max. Grooving Depth x 10 (mm)
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● : Standard stocked item (N-m) : Recommended tightening torque (N-m)

■ **GNDIS Type Inserts**

(Coated Carbide)



● **Grooving / Traversing**

Dimensions (mm)

Appearance	Cat. No.	Stock		Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC520U	AC1030U	CW						
		Width of Cut	Tolerance	RE	L	S				
ML Low Feed	GXM N2002S-ML	●	●	2.0	±0.03	0.2	11.1	3.1		
	N3002S-ML	●	●	3.0	±0.03	0.2	11.1	3.1	5	1

● **Grooving / Cut-Off Machining**

Dimensions (mm)

Appearance	Cat. No.	Stock		Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC520U	AC1030U	CW						
		Width of Cut	Tolerance	RE	L	S				
GF Low Cutting Force	GXM N150005S-GF	—	●	1.5	±0.03	0.05	11.1	3.1		
	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		

Use an insert and a holder with the same cutting width (CW). GCM and GCG inserts are not 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
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 Machining / Necking**

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

■ **Traversing**

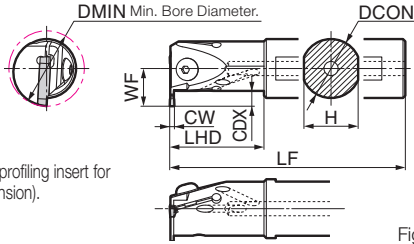
Chipbreaker		ML	
		Feed Rate f (mm/rev)	Depth of Cut a_p (mm/rev)
Width of Cut CW (mm)	2.0	0.03~0.12	0.2~0.8
	3.0	0.05~0.15	0.3~1.2

● : Standard stocked item — : Not available.

Internal Grooving



*Use a general-purpose profiling insert for traversing (groove expansion).



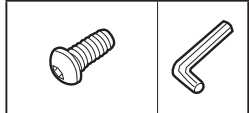
Figures shows right-hand tool.

■ Holders

Cat. No.	Stock		Dimensions (mm)										Parts	
	R	L	Diameter	Height	Overall Length	Head	Cutting Edge Distance	Min. Work Dia.	Width of Cut	Max. Groove Depth	Applicable Insert	Clamp Bolt	N·m	Wrench
GNDI R/L2532-T206	●	●	25	23	200	40	16	32	2.0	6	GC□ N200○-□□	BH0516	5.0	LH030
GNDI R/L3240-T210	●	●	32	30	250	50	26	40	2.0	10	GC□ N200○-□□	BH0616	6.0	LH040
GNDI R/L2532-T306	●	●	25	23	200	40	16	32	3.0	6	GC□ N300○-□□	BH0516	5.0	LH030
GNDI R/L3240-T310	●	●	32	30	250	50	26	40	3.0	10	GC□ N300○-□□	BH0516	5.0	LH030
GNDI R/L4050-T311	●	●	40	38	300	60	31	50	3.0	11	GC□ N300○-□□	BH0616	6.0	LH040
GNDI R/L2532-T406	●	●	25	23	200	40	19	32	4.0	6	GC□ N400○-□□	BH0516	5.0	LH030
GNDI R/L3240-T410	●	●	32	30	250	50	26	40	4.0	10	GC□ N400○-□□	BH0516	5.0	LH030
GNDI R/L4050-T411	●	●	40	38	300	60	31	50	4.0	11	GC□ N400○-□□	BH0616	6.0	LH040
GNDI R/L2532-T506	●	●	25	23	200	40	19	32	5.0	6	GC□ N500○-□□	BH0516	5.0	LH030
GNDI R/L3240-T510	●	●	32	30	250	50	26	40	5.0	10	GC□ N500○-□□	BH0516	5.0	LH030
GNDI R/L4050-T511	●	●	40	38	300	60	31	50	5.0	11	GC□ N500○-□□	BH0616	6.0	LH040
GNDI R/L4050-T611	●	●	40	38	300	60	31	50	6.0	11	GC□ N600○-□□	BH0616	6.0	LH040

Use an insert and a holder with the same cutting width (CW). Refer to page 35 for applicable inserts.

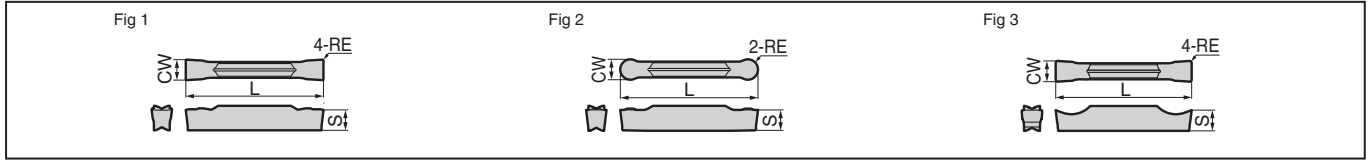
■ Parts



● : Standard stocked item (N·m) : Recommended tightening torque (N·m)

GNDI Type Inserts

(Coated Carbide / Cermet / Cemented Carbide)



Grooving / Traversing

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig	
		AC830P	AC425K	AC520U	AC530U	T2500A	CW						
							Width of Cut						Tolerance
MG General Purpose	GCM N3004-MG	●	●	●	●	—	3.0	±0.03	0.4	21.1	3.8	5	
	N4008-MG	●	●	●	●	—	4.0	±0.03	0.8	26.4	4.0		
	N5008-MG	●	●	●	●	—	5.0	±0.03	0.8	26.4	4.1		
	N6008-MG	●	●	●	●	—	6.0	±0.03	0.8	26.4	4.5		
ML CW=40mm CW=50mm Low Feed	GCM N2002-ML	—	—	●	●	—	2.0	±0.03	0.2	21.1	3.6	5	
	N3002-ML	●	●	●	●	—	3.0	±0.03	0.2	21.1	3.8		
	GCM N4004-ML	●	●	●	●	—	4.0	±0.03	0.4	26.4	4.0		
	N5004-ML	●	●	●	●	—	5.0	±0.03	0.4	26.4	4.1		
N6004-ML	●	●	●	●	—	6.0	±0.03	0.4	26.4	4.5			

External Profiling / External Radius Grooving

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig	
		AC830P	AC425K	AC520U	AC530U	T2500A	CW						
							Width of Cut						Tolerance
RG General Purpose	GCM N3015-RG	●	●	●	●	—	3.0	±0.03	1.5	21.1	3.8	5	
	N4020-RG	●	●	●	●	—	4.0	±0.03	2.0	26.4	4.0		
	N5025-RG	●	●	●	●	—	5.0	±0.03	2.5	27.2	4.1		
	N6030-RG	●	●	●	●	—	6.0	±0.03	3.0	27.5	4.5		

Profiling / Radius Grooving / Necking

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW						
						Width of Cut	Tolerance					
RN General Purpose	GCM N2010-RN	—	—	●	●	—	2.0	±0.03	1.0	21.7	3.6	5
	N3015-RN	●	●	●	●	—	3.0	±0.03	1.5	22.4	3.8	
	N4020-RN	●	●	●	●	—	4.0	±0.03	2.0	28.0	4.0	
	N5025-RN	●	●	●	●	—	5.0	±0.03	2.5	28.1	4.1	
	N6030-RN	●	●	●	●	—	6.0	±0.03	3.0	28.1	4.5	

Grooving / Cut-Off Machining

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC520U	AC530U	T2500A	CW						
						Width of Cut	Tolerance					
GG General Purpose	GCM N2002-GG	●	●	●	—	2.0	±0.03	0.2	21.1	3.6	5	
	N3002-GG	●	●	●	—	3.0	±0.03	0.2	21.1	3.8		
	N4002-GG	●	●	●	—	4.0	±0.03	0.2	26.4	4.0		
	N5002-GG	●	●	●	—	5.0	±0.03	0.2	26.4	4.1		
	N6002-GG	●	●	●	—	6.0	±0.03	0.2	26.4	4.5		
	GCM N3004-GG	●	●	●	—	3.0	±0.03	0.4	21.1	3.8		
GL Low Feed	GCM N2002-GL	●	●	●	—	2.0	±0.03	0.2	21.1	3.6	5	
	N3002-GL	●	●	●	—	3.0	±0.03	0.2	21.1	3.8		
	N4002-GL	●	●	●	—	4.0	±0.03	0.2	26.4	4.0		
	N5002-GL	●	●	●	—	5.0	±0.03	0.2	26.4	4.1		
GF Low Cutting Force	GCM N2002-GF	—	—	●	●	—	2.0	±0.03	0.2	21.1	3.6	5
	N3002-GF	●	●	●	●	—	3.0	±0.03	0.2	21.1	3.8	
	N4002-GF	●	●	●	●	—	4.0	±0.03	0.2	26.4	4.0	
	N5002-GF	●	●	●	●	—	5.0	±0.03	0.2	26.4	4.1	
N6002-GF	●	●	●	●	—	6.0	±0.03	0.2	26.4	4.5		

Non-Ferrous Metals

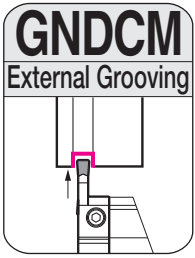
Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		H10				CW						
						Width of Cut	Tolerance					
GA General Purpose	GCG N2002-GA	●				—	2.0	±0.025	0.2	21.1	3.6	5
	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	
	N5004-GA	●				—	5.0	±0.025	0.4	26.4	4.1	
	N6004-GA	●				—	6.0	±0.025	0.4	26.4	4.5	

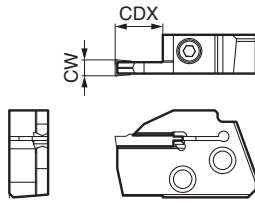
Use an insert and a holder with the same cutting width (CW). Cannot be used with GNDIS Type holders. **Recommended Cutting Conditions P13**

● : Standard stocked item Blank : Made-to-order item — : Not available.

External Grooving SUMIPOLYGON

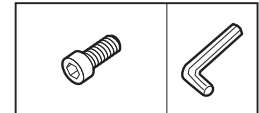


New



Figures shows right-hand tool.

Parts



SUMIPOLYGON GND Type Cassette

Dimensions (mm)

Cat. No.	Stock		Width of Cut		Max. Groove Depth	Applicable Insert	Applicable Holder	Cap Screw	N·m	Wrench
	R	L	CW	CDX						
GNDCM R/L 212	●	●	2	12	12	GC□□20○○-□□	PSC○○GND○○○○00 R/L PSC○○GND○○○○90 R/L	BX0512	5.0	LH040
GNDCM R/L 312	●	●	3	12	12	GC□□30○○-□□				
GNDCM R/L 418	●	●	4	18	18	GC□□40○○-□□				
GNDCM R/L 518	●	●	5	18	18	GC□N50○○-□□				
GNDCM R/L 618	●	●	6	18	18	GC□N60○○-□□				

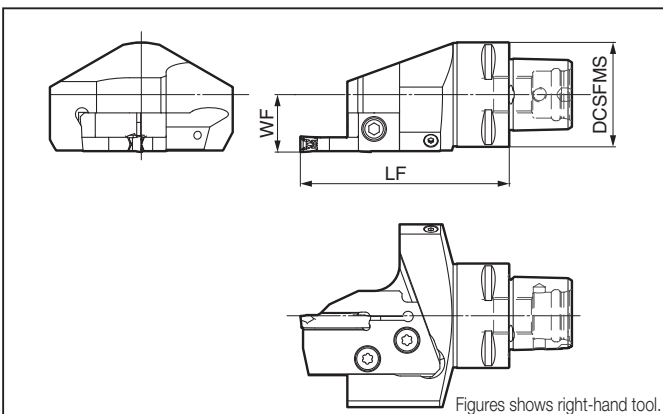
Use an insert and a holder with the same cutting width (CW). Refer to page 37 for applicable inserts.

Identification Details for Cassettes

GNDCM R 2 12

Series Direction Cutting Width (mm) Max. Grooving Depth (mm)

SUMIPOLYGON GND Type Holder (Straight)

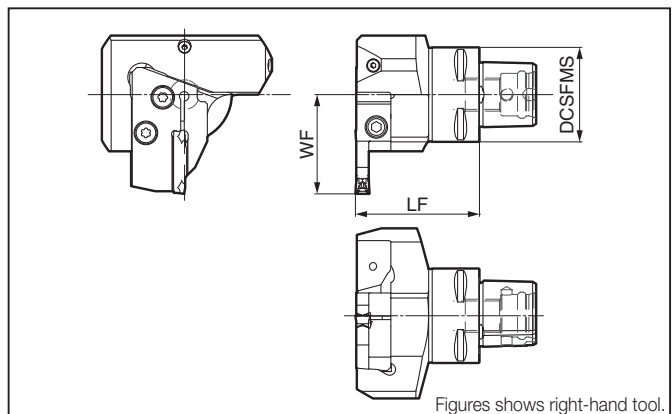


Figures shows right-hand tool.

Cat. No.	Stock		Cutting Edge	Overhang	Attachment	Applicable Cassette
	R	L				
PSC40 GND 228000 R/L	●	●	22	80	40	GNDCM R/L○○○
PSC50 GND 278000 R/L	●	●	27	80	50	
PSC63 GND 338000 R/L	●	●	33	80	63	

Inserts and cassettes are sold separately.

SUMIPOLYGON GND Type Holder (L-Shaped)



Figures shows right-hand tool.

Cat. No.	Stock		Cutting Edge	Overhang	Attachment	Applicable Cassette
	R	L				
PSC40 GND 425290 R/L	●	●	42	52.5	40	GNDCM R/L○○○
PSC50 GND 475590 R/L	●	●	47	55	50	
PSC63 GND 545790 R/L	●	●	54	57	63	

Inserts and cassettes are sold separately.

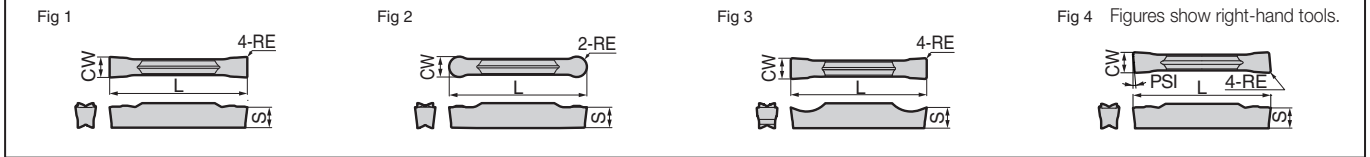
Identification Details for Holder

PSC40 GND 42 52 90 R

SUMIPOLYGON Shank Size Series : GND Type WF Dimension (mm) LF Dimension (mm) 00: Straight 90: L-shaped Direction

GNDCM Type Inserts

(Coated Carbide / Cermet / Cemented Carbide)



Grooving / Traversing

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW						
						Width of Cut	Tolerance	RE	L	S		
MG General Purpose	GCM N3004-MG	●	●	●	—	3.0	±0.03	0.4	21.1	3.8	5	1
	N4008-MG	●	●	●	—	4.0	±0.03	0.8	26.4	4.0		
	N5008-MG	●	●	●	—	5.0	±0.03	0.8	26.4	4.1		
	N6008-MG	●	●	●	—	6.0	±0.03	0.8	26.4	4.5		
ML General Purpose Low Feed	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		
	N4004-ML	●	●	●	—	4.0	±0.03	0.4	26.4	4.0		
	N5004-ML	●	●	●	—	5.0	±0.03	0.4	26.4	4.1		
N6004-ML	●	●	●	—	6.0	±0.03	0.4	26.4	4.5			

External Profiling / External Radius Grooving

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW						
						Width of Cut	Tolerance	RE	L	S		
RG General Purpose	GCM N3015-RG	●	●	●	—	3.0	±0.03	1.5	21.1	3.8	5	2
	N4020-RG	●	●	●	—	4.0	±0.03	2.0	26.4	4.0		
	N5025-RG	●	●	●	—	5.0	±0.03	2.5	27.2	4.1		
	N6030-RG	●	●	●	—	6.0	±0.03	3.0	27.5	4.5		

Profiling / Radius Grooving / Necking

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC425K	AC520U	AC530U	CW						
						Width of Cut	Tolerance	RE	L	S		
RN General Purpose	GCM N2010-RN	—	—	●	—	2.0	±0.03	1.0	21.7	3.6	5	2
	N3015-RN	—	—	●	—	3.0	±0.03	1.5	22.4	3.8		
	N4020-RN	●	●	●	—	4.0	±0.03	2.0	28.0	4.0		
	N5025-RN	●	●	●	—	5.0	±0.03	2.5	28.1	4.1		
	N6030-RN	●	●	●	—	6.0	±0.03	3.0	28.1	4.5		

Grooving / Cut-Off Machining

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		AC830P	AC520U	AC530U	T2500A	CW						
						Width of Cut	Tolerance	RE	L	S		
GG General Purpose	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		
	N4002-GG	●	●	—	—	4.0	±0.03	0.2	26.4	4.0		
	N5002-GG	●	●	—	—	5.0	±0.03	0.2	26.4	4.1		
	N6002-GG	●	●	—	—	6.0	±0.03	0.2	26.4	4.5		
	GCM N3004-GG	●	●	—	—	3.0	±0.03	0.4	21.1	3.8		
GL Low Feed	N4004-GG	●	●	—	—	4.0	±0.03	0.4	26.4	4.0	5	1
	N5004-GG	●	●	—	—	5.0	±0.03	0.4	26.4	4.1		
	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		
GF Low Cutting Force	N3002-GL	●	●	—	—	3.0	±0.03	0.2	21.1	3.8	5	1
	N4002-GL	●	●	—	—	4.0	±0.03	0.2	26.4	4.0		
	N5002-GL	●	●	—	—	5.0	±0.03	0.2	26.4	4.1		
	N6002-GL	●	●	—	—	6.0	±0.03	0.2	26.4	4.5		
GF Low Cutting Force	GCM N2002-GF	—	—	●	—	2.0	±0.03	0.2	21.1	3.6	5	1
	N3002-GF	●	●	●	—	3.0	±0.03	0.2	21.1	3.8		
	N4002-GF	●	●	●	—	4.0	±0.03	0.2	26.4	4.0		
	N5002-GF	●	●	●	—	5.0	±0.03	0.2	26.4	4.1		
N6002-GF	●	●	●	—	6.0	±0.03	0.2	26.4	4.5			

Non-Ferrous Metals

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig
		H10				CW						
						Width of Cut	Tolerance	RE	L	S		
GA General Purpose	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		
	N4004-GA	●	—	—	—	4.0	±0.025	0.4	26.4	4.0		
	N5004-GA	●	—	—	—	5.0	±0.025	0.4	26.4	4.1		
	N6004-GA	●	—	—	—	6.0	±0.025	0.4	26.4	4.5		

Cut-Off Machining (Handed Edge)

Dimensions (mm)

Appearance	Cat. No.	Stock				Width of Cut		Nose Radius	Total Length	Thickness	Package	Fig	
		AC830P	AC520U	AC530U	AC1030U	CW							
						Width of Cut	Tolerance	RE	L	S			
CG General Purpose	GCM R2002-CG-05	●	—	—	—	5°	2.0	±0.03	0.2	21.1	3.6	5	4
	L2002-CG-05	●	—	—	—	5°	2.0	±0.03	0.2	21.1	3.6		
	R3002-CG-05	●	—	—	—	5°	3.0	±0.03	0.2	21.3	3.8		
	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		
	L4002-CG-05	●	—	—	—	5°	4.0	±0.04	0.2	26.7	4.0		
CF Low Cutting Force	GCM R20003-CF-10	—	—	—	●	10°	2.0	±0.08	0.03	22.4	3.6	5	4
	L20003-CF-10	—	—	—	●	10°	2.0	±0.08	0.03	22.4	3.6		
	R30003-CF-10	—	—	—	●	10°	3.0	±0.08	0.03	22.4	3.8		
	L30003-CF-10	—	—	—	●	10°	3.0	±0.08	0.03	22.4	3.8		
	GCM R20003-CF-15	—	—	—	●	15°	2.0	±0.08	0.03	22.4	3.6		
	L20003-CF-15	—	—	—	●	15°	2.0	±0.08	0.03	22.4	3.6		
	R30003-CF-15	—	—	—	●	15°	3.0	±0.08	0.03	22.4	3.8		
	L30003-CF-15	—	—	—	●	15°	3.0	±0.08	0.03	22.4	3.8		

GCM R : Right hand GCM L : Left-Handed

Use an insert and a holder with the same cutting width (CW). Cannot be used with GNDIS Type holders.

● : Standard stocked item ● : Standard stocked item (expanded item) Blank : Made-to-order item — : Not available.

SEC-Grooving Tools GND Type Series — Special Grooving Insert Estimate Sheet

Applicable Holders (For Cutting Widths of 2 to 6mm)

External Grooving: GND S Type (→P16), GND M Type (→P14, P18, P20), GND MS Type (→P18), GND L Type (→P14, P22, P24), GND LS Type (→P22), GND CM Type (→P36)

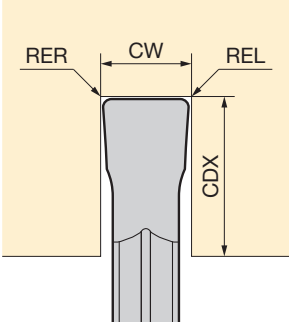
Boring : GND I Type (→P34) *GND IS Type cannot be used because of a difference in insert shape.

Facing : GND F Type (→P28), GND FS Type (→P30)

Special inserts with ground chipbreaker (customized width of cut and insert nose 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	Items	Remarks
	Width of Cut (mm)(2.00~6.59mm)	
	Corner Radius RER (mm)	
	Corner Radius REL (mm)	
	Grade (Choose from options to right)*1	AC530U · AC520UEH520 · H10 · KH03
	Grooving Depth CDX (mm)*2	
		*1 Selecting a grade of H10 will result in a sharp cutting edge. *2 Set the chipbreaker width according to CDX. The actual grooving depth must be less than or equal to the maximum grooving depth set for each standard holder.

Form instructions

- The applicable standard holder will vary depending on the cutting width. Refer to the table to the right for manufacturable cutting widths, and corner radius ranges during facing. (Additional holder work may be necessary to prevent interference with the work material when rounding corners beyond this range during facing.)
- The maximum corner radius during external/internal machining is 1/2 the cutting width.
- The cutting width CW tolerance during manufacturing is $\pm 0.025\text{mm}$.
- Dimension WF for each holder can be determined as follows with CWS as the applicable holder standard insert cutting width.

$$\frac{(\text{Standard holder dimension WF}) + (\text{WF} - \text{CWS})}{2}$$
- Unpolished inserts may be available for inch size cutting widths.

Width of Cut CW (Nominal)	Applicable Standard Holder	Max. corner radius (RER, REL) when used for facing (when using a standard holder)
2.00~2.59mm	2mmWidth Holder	0.2mm
2.60~3.59mm	3mmWidth Holder	0.4mm
3.60~4.59mm	4mmWidth Holder	0.8mm
4.60~5.59mm	5mmWidth Holder	
5.60~6.59mm	6mmWidth Holder	

Contact us for details.

■ Identification Details

Holder

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

① Series

GND

② Application

Refer to Table 2

③ Feed Direction

Refer to Table 3

④ Shank Height/Dia.

Refer to Table 4

⑤ Shank Width/Work Dia.

Refer to Table 5

⑥ Shank Length

Refer to Table 6

⑦ Type

T : Boring

⑧ Insert Cutting Width

Refer to Table 8

⑨ Max. Grooving Depth

Refer to Table 9

⑩ Coolant Supply

J : Internal Coolant Supply

⑪ Work Dia./Min. Work Dia. (mm)

Table 2

② Application		
Symbol	Application	
S	External Multi-Purpose Machining	Grooving / Cut-off / Traversing / Profiling
M	External Multi-Purpose Machining	Grooving / Cut-off / Traversing / Profiling
L	External Grooving	Grooving / Cut-Off
MS	L-Shaped (Side Cut) Tools for External Multi-Purpose Machining	Grooving / Traversing / Profiling
LS	L-Shaped (Side Cut) Tools for External Grooving	Grooving
N	Necking	Necking
F	Facing	Grooving / Traversing / Profiling
FS	L-Shaped Tools for Facing	Grooving / Traversing / Profiling
I	Internal Grooving	Grooving / Traversing / Profiling
IS	Internal Grooving	Grooving / Traversing / Profiling
CM	SUMIPOLYGON Cassette	Grooving

Refer to page 36 for SUMIPOLYGON Cassette information.

Table 3

③ Feed Direction	
Symbol	Direction
R	Right-Handed
L	Left-Handed

Table 4

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

Table 5

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

Table 6

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

Table 8

⑧ Insert Cutting Width*			
Symbol	Cutting Width (mm)	Symbol	Cutting Width (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 Max. Grooving 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/GNDIS Type.

Insert

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

① Series

Grooving

② Front Relief Angle

Symbol	Angle
C	7°
X	Others

③ Tolerance

Symbol	Insert Class
G	G Class
M	M Class

④ Feed Direction

Symbol	Direction
R	Right-Handed
L	Left-Handed
N	Non-Directional

⑤ Insert Cutting Width

Symbol	Cutting Width (mm)
125	1.25
150	1.5
20	2.0
30	3.0
40	4.0
50	5.0
60	6.0
70	7.0
80	8.0

⑥ Corner Radius

Symbol	RE (mm)
005	0.05
02	0.2
04	0.4
08	0.8
10	1.0
15	1.5
20	2.0
25	2.5
30	3.0

Inserts with an RE of 1.0 mm or larger are for Profiling.

⑦ Applicable Holder

Symbol	Applicable Holder
S	GNDIS Type

⑧ Chipbreaker

Symbol	Application
MG	Multi-Purpose : General Purpose
ML	Multi-Purpose : Low Feed
GG	Grooving : General Purpose
GL	Grooving : Low Feed
GF	Grooving : Low Cutting Force
CG	Cut-Off
RG	Profiling
RN	Profiling/Necking
GA	Non-Ferrous Metals

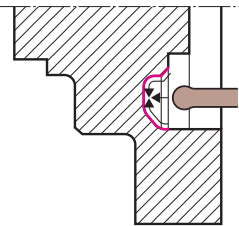
⑨ Front Cutting Edge Angle

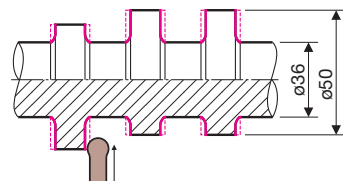
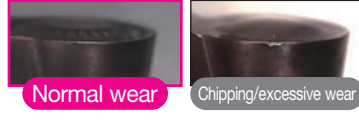
05:5°

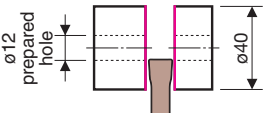
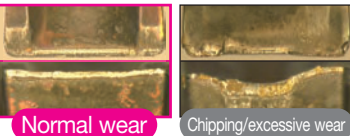
■ Cautions for Tool Selection

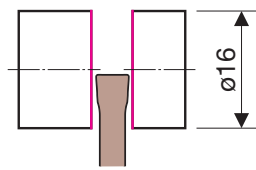
- Select as large a shank size as possible.
- Use of a reverse tool is recommended.
- Select the chipbreaker according to the working conditions.
- To ensure adequate chip control, unless restrictions apply, select the smallest corner radius possible.
- To ensure rigidity, use a Multi-Purpose Type holder whenever possible so long as the maximum grooving depth can be secured.

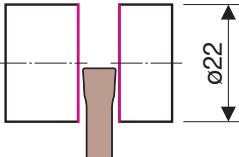
■ Application Examples

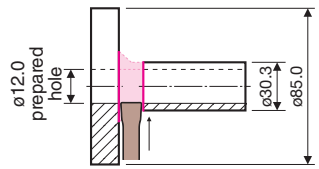
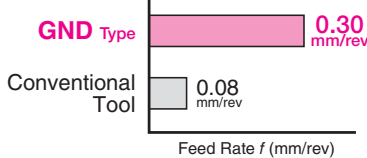
SCM420H Automotive Component Face Profiling	
	<p>Point</p> <ul style="list-style-type: none"> · High rigidity · Chip control · Wear resistance
	<p>Holder GDNF R2525M-423-125</p> <p>Insert GCM N4020-RN</p> <p>Cutting Width : 4.0mm</p> <p>Cutting Conditions $v_c=200\text{m/min}$ $f=0.14\text{mm/rev}$ Wet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

S53C Cam Shaft Grooving/Finishing(Continuous to Heavy Interrupted Cutting)	
	<p>Point</p> <ul style="list-style-type: none"> · High rigidity · Chattering · Chip control · Fracture resistance
	<p>Holder GNDM L2525M-618</p> <p>Insert GCM N6030-RG</p> <p>Cutting 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/excessive 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 control 	

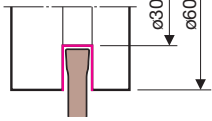

S48C Tempered Material Machine Component Cut-Off	
	<p>Point</p> <ul style="list-style-type: none"> · High rigidity · Chattering · Fracture resistance
	<p>Holder GNDL R2525M-320</p> <p>Insert GCM N3002-GG</p> <p>Cutting Width : 3.0mm</p> <p>Cutting Conditions $n=1,600\text{min}^{-1}$ $v_c=200\text{m/min}$ $f=0.05\text{mm/rev}$ Wet</p>
 <p>Normal wear Chipping/excessive 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 	

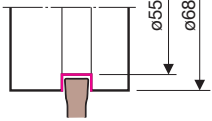
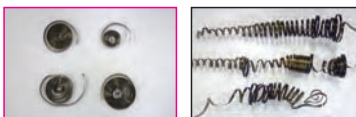
SCM435 Tempered Material Hydraulic Component Cut-Off	
	<p>Point</p> <ul style="list-style-type: none"> · Chip control · Wear resistance
	<p>Holder GNDL R2525M-320</p> <p>Insert GCM N3002-GG</p> <p>Cutting Width : 3.0mm</p> <p>Cutting Conditions $n=4,000\text{min}^{-1}$ $v_c=200\text{m/min}$ $f=0.05\text{mm/rev}$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

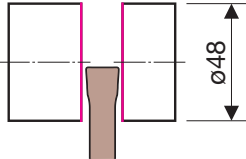
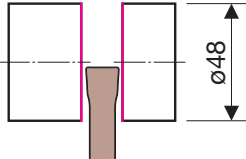
S45C Valve Material Cut-Off	
	<p>Point</p> <ul style="list-style-type: none"> · High rigidity · Chattering · Chip control
	<p>Holder GNDM R2525M-312</p> <p>Insert GCM N3002-ML</p> <p>Cutting Width : 3.0mm</p> <p>Cutting Conditions $v_c=150\text{m/min}$ $f=0.05$ to 0.15mm/rev Wet</p>
<ul style="list-style-type: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

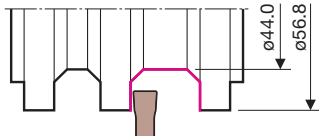
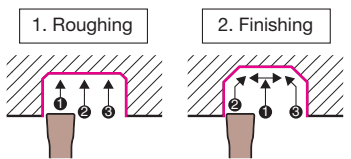
SCM435 Crank Cut-Off	
	<p>Point</p> <ul style="list-style-type: none"> · High rigidity · Chattering · Chip control
	<p>Holder GNDL R2525M-320</p> <p>Insert GCM N3002-GG</p> <p>Cutting Width : 3.0mm</p> <p>Cutting Conditions $v_c=115\text{m/min}$ $f=0.30\text{mm/rev}$ Wet</p>
 <p>GND Type 0.30 mm/rev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

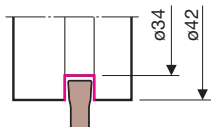
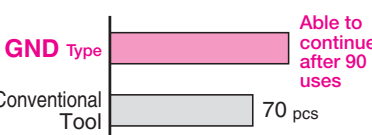
■ Application Examples

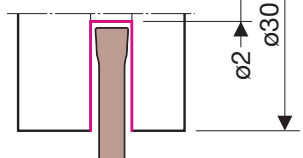
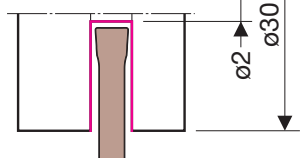
SCM440 Office Machine Components Grooving	
	<p>Point</p> <ul style="list-style-type: none"> • Chip control • Machining efficiency
 <p>GND Type (Continuous Feed)</p> <p>Conventional Tool (Step Feed)</p>	<p>Holder GNDL R2525M-320</p> <p>Insert GCM N3002-GG</p> <p>Cutting Width : 3.0mm</p> <p>Cutting Conditions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

SCr420H Gear Shaft Grooving	
	<p>Point</p> <ul style="list-style-type: none"> • High rigidity • Chattering • Chip control
 <p>GND Type</p> <p>Conventional Tool</p>	<p>Holder GNDM R2525M-312</p> <p>Insert GCM N3004-GG</p> <p>Cutting 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 control of GND Type 	

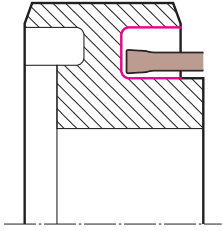
SKD61 (45 to 48 HRC) Machine Component Cut-Off	
	<p>Point</p> <ul style="list-style-type: none"> • High rigidity • Chattering • Chip control
 <p>GND Type</p> <p>Conventional Tool</p>	<p>Holder GNDL R2525M-425</p> <p>Insert GCM N4002-GG</p> <p>Cutting Width : 4.0mm</p> <p>Cutting Conditions $v_c=50\text{m/min}$ $f=0.03\text{mm/rev}$ Wet</p>
<ul style="list-style-type: none"> • Stable cutting without chattering or vibration • Excellent chip control of GND Type • Less unexpected breakage 	

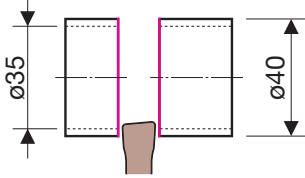
SCr415 Gear Shaft Grooving / Pocketing	
	<p>Point</p> <ul style="list-style-type: none"> • High rigidity • Chattering • Chip control
 <p>1. Roughing</p> <p>2. Finishing</p>	<p>Holder GNDM R2020K-518</p> <p>Insert GCM N5008-MG</p> <p>Cutting Width : 5.0mm</p> <p>Cutting Conditions $v_c=150\text{m/min}$ $f=0.1\text{mm/rev}$ Wet</p>
<ul style="list-style-type: none"> • Stable cutting without chattering or vibration • Excellent chip control of GND Type 	

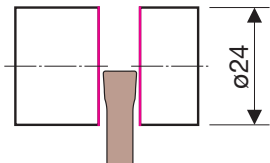
Iron-Based Sintered Material Crank Sprocket Gear Grooving/Finishing	
	<p>Point</p> <ul style="list-style-type: none"> • High rigidity • Chattering • Chip control • Wear resistance
 <p>GND Type</p> <p>Conventional Tool</p> <p>Able to continue after 90 uses</p> <p>70 pcs</p>	<p>Holder GNDL R2525M-220</p> <p>Insert GCM N2002-GG</p> <p>Cutting 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 control of GND Type • Excellent wear resistance for 130% or more tool life 	

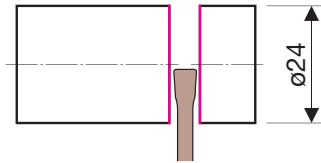
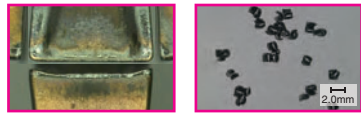
SUS304 Measuring Component Grooving	
	<p>Point</p> <ul style="list-style-type: none"> • High rigidity • Chattering • Chip control
 <p>GND Type</p> <p>Conventional Tool</p>	<p>Holder GNDL R2525M-320</p> <p>Insert GCM N3002-GG</p> <p>Cutting Width : 3.0mm</p> <p>Cutting Conditions $v_c=60\text{m/min}$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

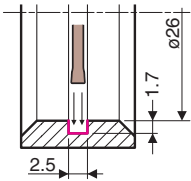
■ Application Examples

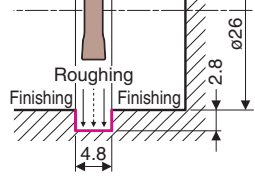

Sintered Clutch Hub Face Grooving	
	<p>Point</p> <ul style="list-style-type: none"> • Machining efficiency • Chattering
	<p>Holder GND F R2020K-523-050</p> <p>Insert GCM N5008-MG</p> <p>Cutting Width : 5.0mm</p> <p>Cutting Conditions $n = 500\text{min}^{-1}$ $v_c = 100\text{m/min}$ $f = 0.05\text{mm/rev}$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

SUS303 Hollow Round Pipe Material Cut-Off	
	<p>Point</p> <ul style="list-style-type: none"> • Machining efficiency • Chattering
	<p>Holder GNDL R2020K-220</p> <p>Insert GCMR2002-CG-05</p> <p>Cutting 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 GNDM L2020K-312</p> <p>Insert GCMN3002-GF</p> <p>Cutting 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"> • Reduced adhesion breakage for 150% longer tool life • Stable cutting without chattering or vibration 	

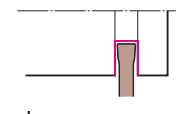
SCM415 Valve Spool Cut-Off	
	<p>Point</p> <ul style="list-style-type: none"> • Tool life • Chip control
	<p>Holder GNDL R1212JX-1.2512</p> <p>Insert GCMN125005-GF</p> <p>Cutting Width : 1.25mm</p> <p>Cutting Conditions $n = 2,000\text{min}^{-1}$ $f = 0.05\text{mm/rev}$ Wet</p>
	
<ul style="list-style-type: none"> • Able to continue with minimal damage even after 7,500 pcs • Excellent chip control 	

S45CD Motorcycle Transmission Part (Collar) Internal Grooving	
	<p>Point</p> <ul style="list-style-type: none"> • Tool life • Chip control
	<p>Holder GNDIS R1620-T2046</p> <p>Insert GXM N2002S-GF</p> <p>Cutting 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>Comp.A 900 pcs</p> <p>Comp.B 600 pcs</p> <p>Tool Life (pcs)</p>	
<ul style="list-style-type: none"> • Long tool life through stable chip control using a high-rigidity tool and 3D breaker 	

SCM420 Automotive Component (Coupling) Internal Grooving	
	<p>Point</p> <ul style="list-style-type: none"> • Machining efficiency • Chip control
	<p>Holder GNDIS R1620-T2046</p> <p>Insert GXM N2002S-GF</p> <p>Cutting Width : 2.0mm</p> <p>Cutting Conditions $v_c = \text{Roughing : } 50 \text{ to } 80\text{m/min}$ $f = \text{Roughing : } 0.07 \text{ to } 0.05\text{mm/rev}$ $a_p = 2.8\text{mm}$ Wet</p>
	
<ul style="list-style-type: none"> • Good chip control eliminates the need for step machining in the roughing process performed with a competitor's product 	

■ Application Examples

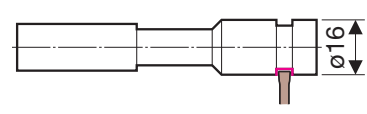
S15C Automotive Component Grooving



<p>GND Type 1.2 seconds per piece</p> <p>Competitor's Product 3.6 seconds per piece</p> <p>Cutting Time (seconds per piece)</p>	<p>Point</p> <ul style="list-style-type: none"> • Machining efficiency • Tool life
<p>GND Type 1,000 pcs</p> <p>Competitor's Product 250 pcs</p> <p>Tool Life (pcs)</p>	<p>Holder GNDM R2525K-312J</p> <p>Insert GCM N3004-GG</p> <p>Cutting Width : 3.0mm</p> <p>Cutting Conditions $v_c=152(91)\text{m/min}$ $f=0.10(0.05)\text{mm/rev}$ $a_p=19.05\text{mm}$ Wet → Internal coolant: 2.1 MPa *Figures in parentheses are for competitor's products</p>

- No chattering even at 2x the feed rate of conventional grades
- Internal coolant-type holder with 1.5x the cutting speed and 4x the tool life

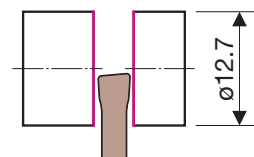
Sintered Component, Tap Component Grooving



<p>GND Type 50 pcs</p> <p>Competitor's Product 30 pcs</p> <p>Tool Life (pcs)</p>	<p>Point</p> <ul style="list-style-type: none"> • Tool life • Chip control
<p>Holder GNDL L2020K-220J</p> <p>Insert GCM N2002-GF</p> <p>Cutting Width : 2.0mm</p> <p>Cutting Conditions $v_c=90\text{m/min}$ $f=0.02\text{mm/rev}$ $a_p=2.0\text{mm}$ Wet → Internal coolant: 1.5 MPa</p>	

- 1.7x the tool life with oil supplied directly to the cutting point from near the cutting edge
- Internal coolant for stable chip control even at low feed rates

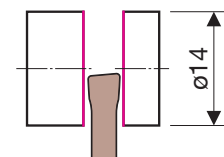
SUM23 Free-Cutting Steel Machine Component Cut-Off



<p>GND Type 2,800 pcs</p> <p>Competitor's Product 2,500 pcs</p> <p>Tool Life (pcs)</p>	<p>Point</p> <ul style="list-style-type: none"> • Tool life • Central burrs
<p>Holder GNDL R1212JX-212.5</p> <p>Insert GCM R20003-CF-10</p> <p>Cutting Width : 2.0mm</p> <p>Cutting Conditions $v_c=122\text{m/min}$ $f=0.05\text{mm/rev}$ $a_p=6.35\text{mm}$ Wet</p>	

- Excellent sharpness with 1.2x the tool life
- Handed insert for central burr prevention

SCM435H Machine Component Cut-Off



<p>GND Type 1,800 pcs</p> <p>Competitor's Product 1,000 pcs</p> <p>Tool Life (pcs)</p>	<p>Point</p> <ul style="list-style-type: none"> • Machined surface • Tool life
<p>Holder GNDM R2020K-210</p> <p>Insert GCM R20003-CF-15</p> <p>Cutting Width : 2.0mm</p> <p>Cutting Conditions $n=2,500\text{min}^{-1}$ $f=0.04\text{mm/rev}$ Wet</p>	

- Superior chip control for machined surface improvements
- Impressive sharpness with 1.8x the tool life



- 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.

< SAFETY NOTES >

- 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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