

Grooving / Cut-Off Tools

## Grooving Tool Holders **GND** Series

**Expansion:** Holders with Internal Coolant Supply, CF Type Chipbreaker for Cut-Off, Polygon Toolholders with Cassettes for Axial and Radial Grooving



# Grooving Tool Holders

## GND Type



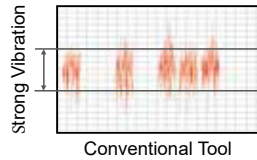
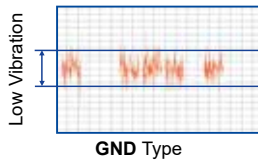
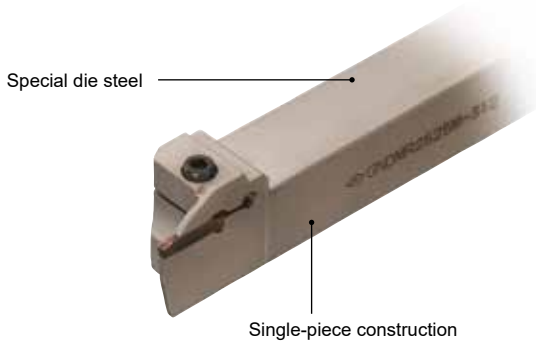
### Characteristics

- Wide range of application processes  
For grooving, turning, copying, facing, boring and cut-off.
- Stable tool life  
An array of chipbreakers improves the efficiency in chip control in various applications and prevents unexpected damage caused by chip blockade.
- Smooth cutting and high efficiency machining  
Holders utilizing one-piece body construction made of special steel, reduce vibration by 30 % during machining as compared to conventional types.
- High precision grooving widths with moulded inserts  
Grooving insert width tolerance of  $\pm 0,03$  mm over the entire range

### Cutting Performance

#### Eliminates Vibration

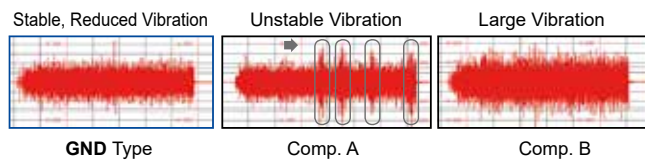
Reduces vibration up to 30 % compared to conventional steels thanks to its high-rigidity design.



Work Material:	15CrMo5
Holder:	GNDL R2525M 220
Insert:	GCM N2002 GG
Cutting Conditions:	$v_c = 100$ m/min, $f = 0,10$ mm/rev, $a_p = 20$ mm, wet

#### Ensures both, high rigidity and good chip evacuation

#### Internal

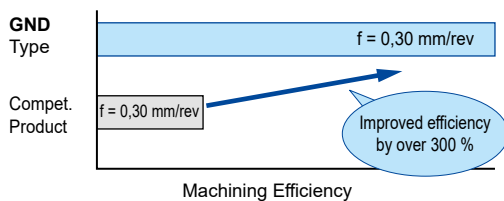


Work Material:	15CrMo5
Holder:	GNDI R2532 T306
Insert:	GCM N3002 GG
Cutting Conditions:	$v_c = 100$ m/min, $f = 0,05$ mm/rev, $a_p = 3,0$ mm, wet

### Application Examples

#### Substantially improved machining efficiency!

High rigidity holder enables high load machining at high feed rate.



Work Material:	42CrMo4
Holder:	GNDL R2525M 320
Insert:	GCM N3002 GG (AC530U)
Cutting Conditions:	$v_c = 130$ m/min, $f = 0,30$ mm/rev, wet

#### Stable and long tool life ensures reliable functionality even on automatic production lines!

Reduction of chattering prevents unexpected breakage.



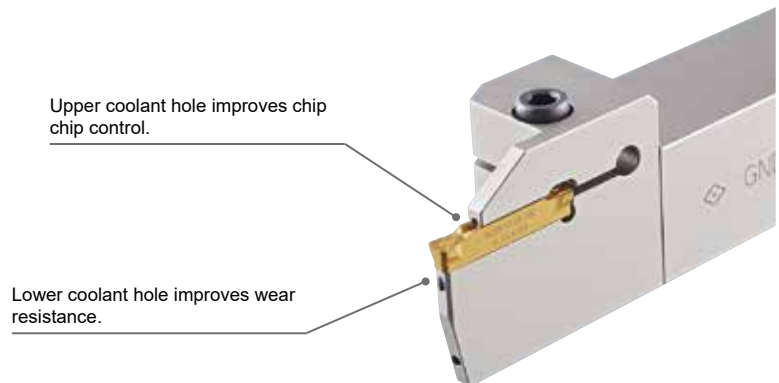
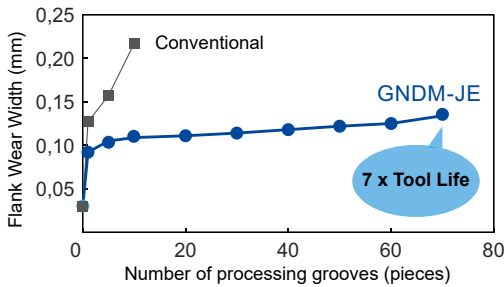
Work Material:	C53
Holder:	GNDM L2525M 618
Insert:	GCM N6030 RG (AC530U)
Cutting Conditions:	$v_c = 130$ m/min, $f = 0,30$ mm/rev, wet

## Internal Coolant Grooving Tool Holder GNDM-JE Type / GNDL-JE Type

- Newly developed 2-hole coolant design optimizes cooling of the insert and improves chip removal, extending tool life and allowing for improved speeds and feeds in production.
- Grooving width range from 2,0 to 6,0 mm.
- Achieves both high efficiency in high speed machining and extension of tool life due to internal coolant supply to the cutting edge.
- Improves chip control by applying direct coolant from cutting edge side.



## Wear Resistance



## Chip Control



Coolant Pressure: 7 MPA



Coolant Pressure: 1 MPA



External Coolant

Work Material:	Ti-6Al-4V
Holder:	GNDM R2525K 312JE
Insert:	GCM N3002 GG (AC530U)
Cutting Conditions:	$v_c = 60$ m/min, $f = 0,1$ mm/rev, $a_p = 5,0$ mm, wet

## CF Type Chipbreaker for Cut-Off

- Lead angle of 10°/15° for improved sharpness in cut-off machining.
- Asymmetrical chipbreaker design provides excellent chip control even in difficult to machine conditions.



GCMN20003 CF 10



GCMN20003 CF 15



Competitor

Work Material:	St42-3
Holder:	GNDM R2525M 220
Insert:	GCM N3002 CF-10,15 (AC1030U)
Cutting Conditions:	$n = 2000$ min <sup>-1</sup> , $f = 0,08$ mm/rev, wet

# Grooving Tool Holders

## GND Type

### ■ Inserts - Chipbreaker Series

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

Grooving / Turning			Grooving / Cut-Off			Cut-Off		Profiling	Necking	Non Ferrous Metals
General Type	Low Feed Type		General Type	Low Feed Type	Low Cutting ForceType	Cut-Off Type	Low Cutting ForceType	General Type	General Type	General Type
<b>MG</b>	<b>ML</b>		<b>GG</b>	<b>GL</b>	<b>GF</b>	<b>CG</b>	<b>CF</b>	<b>RG</b>	<b>RN</b>	<b>GA</b>
Cross Section of Cutting Edge	Cross Section of Cutting Edge		Cross Section of Cutting Edge	Cross Section of Cutting Edge	Cross Section of Cutting Edge	Cross Section of Cutting Edge	Cross Section of Cutting Edge	Cross Section of Cutting Edge	Cross Section of Cutting Edge	Cross Section of Cutting Edge
Grooving Width (mm)	Grooving Width (mm)		Grooving Width (mm)	Grooving Width (mm)	Grooving Width (mm)	Grooving Width (mm)	Grooving Width (mm)	Grooving Width (mm)	Grooving Width (mm)	Grooving 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	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
Grade	Grade		Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade
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

Stock
\* Only use with GNDIS


### ■ Recommended Cutting Conditions

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


Please see cutting data page 14

### ■ Excellent Chip Control

**Grooving**




**GND Type**  
(GG Type Chipbreaker)




Conventional Tool

Work Material: 15CrMo5  
 Holder: GNDL R2525M 320  
 Insert: GCM N3002 GG  
 Cutting Conditions:  $v_c=100$  m/min,  $f=0,15$  mm/rev,  $a_p=12,0$  mm, wet

**Turning**




**GND Type**  
(ML Type Chipbreaker)




Conventional Tool

Work Material: 15CrMo5  
 Holder: GNDM R2525M 312  
 Insert: GCM N3002 ML  
 Cutting Conditions:  $v_c=100$  m/min,  $f=0,10$  mm/rev,  $a_p=0,5$  mm, wet

**Cut-Off**



**GND Type**  
(CG Type Chipbreaker)



Conventional Tool

Work Material: X5CrMo17122 (Ø 30 mm)  
 Holder: GNDL R2525M 220  
 Insert: GCM R2002 CG 05  
 Cutting Conditions:  $v_c = 100$  m/min,  $f = 0,15$  mm/rev, wet

**Profiling**














**GND Type**  
(RG Type Chipbreaker)









Conventional Tool

Work Material: 15CrMo5  
 Holder: GNDM R2525M 312  
 Insert: GCM N3015 RG  
 Cutting Conditions:  $v_c=100$  m/min,  $f=0,15$  mm/rev,  $a_p=0,1$  mm, wet

## Chipbreaker Selection

	 Grooving / Turning	 Grooving	 Cut-Off
1st Recommendation	<b>MG</b> General Feed 	<b>GG</b> General Feed 	<b>GG</b> General Feed 
	Improved Chip Control Chipping Prevention	Improved Chip Control Chipping Prevention	Prevent Nip Formation Good Chip Control Improved Chip Control Chipping Prevention
2nd Recommendation	<b>ML</b> Low Feed Good Chip Control 	<b>GL</b> General Feed Good Chip Control 	<b>GL</b> General Feed Good Chip Control 
		Good Chip Control Reduce Chattering Chipping Prevention	Prevent Nip Formation Chipping Prevention Good Chip Control Reduce Chattering Chipping Prevention
		<b>GF</b> Low Cutting Force 	<b>CF</b> Low Cutting Force Feed Direction Front Cutting Edge Angle 10°/15° 

	 Profiling / Radius Grooving Outside Diameter	 Necking / Radius Grooving Internal Profiling	 For Non Ferrous Metals
Recommendation	<b>RG</b> General Feed 1st Recommendation 	<b>RN</b> General Feed 2nd Recommendation w = 2 mm 	<b>GA</b> General Feed 

## Grade Selection

	<b>P</b> Steel	<b>M</b> Stainless Steel	<b>K</b> Cast Iron	<b>S</b> Exotic Alloy	<b>N</b> Non Ferrous Metals
1st Recommendation	<b>AC530U/AC1030U</b> PVD	<b>AC530U/AC1030U</b> PVD	<b>AC425K</b> CVD	<b>AC520U</b> PVD	<b>H10</b> Uncoated Carbide
2nd Recommendation	Insufficient Wear Resistance Chipping Countermeasures <b>AC520U</b> PVD	Insufficient Wear Resistance Chipping Countermeasures <b>AC520U</b> PVD	Chipping Countermeasures Insufficient Wear Resistance <b>AC520U</b> PVD	Chipping Countermeasures Insufficient Wear Resistance	
	Insufficient Wear Resistance Chipping Countermeasures <b>AC830P</b> CVD	Insufficient Wear Resistance Chipping Countermeasures <b>AC830P</b> CVD	Chipping Countermeasures Insufficient Wear Resistance <b>AC530U/AC1030U</b> PVD	Insufficient Wear Resistance <b>AC530U/AC1030U</b> PVD	
	<b>T2500A</b> Uncoated Cermet				



# Grooving Tool Holders GNDMS / GNDLS / GNDLMS Type

## For External Machining (L Type)

### Turning / Profiling

**GNDMS**

L Type  
Shank Size  
Height x Width  
20 mm x 20 mm  
25 mm x 25 mm

→ 20

Grooving Width (mm)		
1,25	1,5	2,0
3,0	4,0	5,0
6,0	7,0	8,0

Chipbreaker  
MG ML GG GL GF CG CF RGR RN GA

### Grooving / Cut-Off

**GNDLS**

L Type  
Shank Size  
Height x Width  
20 mm x 20 mm  
25 mm x 25 mm

→ 24

Grooving Width (mm)		
1,25	1,5	2,0
3,0	4,0	5,0
6,0	7,0	8,0

Chipbreaker  
MG ML GG GL GF CG CF RGR RN GA

## Series for External Machining (L Type)

Type	Shank Size Height: Width	Cutting Width (mm)	Series	Max. Grooving Depth (mm)						Ref. Page	Applicable Chipbreaker											
				5	10	15	20	25	30		MG	ML	GG	GL	GF	CG	CF	RG	RN	GA		
L Type	20	20	2	GNDLS	16						→ 24	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
			3	GNDMS	10						→ 20	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		3	GNDLS	16						→ 24	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		4	GNDMS	12						→ 20	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		5	GNDMS	12						→ 20	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		2	GNDLS	18						→ 24	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	25	25	3	GNDMS	12						→ 20	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
			3	GNDLS	18						→ 24	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		4	GNDMS	14						→ 20	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
		4	GNDLS	23						→ 24	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
		5	GNDMS	14						→ 20	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
		6	GNDLS	23						→ 24	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		

Stock

1st Recommendation      2nd Recommendation

## Cassettes for Radial Machining

### Grooving

**GNDLMS**

Cassette  
Applicable Holder  
SumiPolygon  
PSC 00 (Straight)  
PSC 90 (L Type)

→ 36

Grooving Width (mm)		
1,25	1,5	2,0
3,0	4,0	5,0
6,0	7,0	8,0

Chipbreaker  
MG ML GG GL GF CG CF RGR RN GA

## Radial Grooving Cassettes

Type	Applicable Holders	Cutting Width (mm)	Series	Max. Grooving Depth (mm)						Ref. Page	Applicable Chipbreaker										
				5	10	15	20	25	30		MG	ML	GG	GL	GF	CG	CF	RG	RN	GA	
Cassette	GND00	2	GNDLMS	12						→ 36	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		3	GNDLMS	12							<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	GND90	4	GNDLMS	18							<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		5	GNDLMS	18							<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Stock


1st Recommendation      2nd Recommendation

# Grooving Tool Holders GNDF / GNDFS Type

## For Face Machining

### Grooving / Turning / Profiling

**GNDF**  
Straight Type



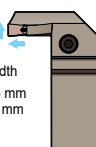
Shank Size  
Height x Width  
20 mm x 20 mm  
25 mm x 25 mm

→ 32

Grooving Width (mm)		
1,25	1,5	2,0
3,0	4,0	5,0
6,0	7,0	8,0

Chipbreaker  
MG ML GG GL GF CG CF RGR RN GA

**GNDFS**  
L Type



Shank Size  
Height x Width  
25 mm x 25 mm  
32 mm x 32 mm

→ 34

Grooving Width (mm)		
1,25	1,5	2,0
3,0	4,0	5,0
6,0	7,0	8,0

Chipbreaker  
MG ML GG GL GF CG CF RGR RN GA

### Series for Face Machining

Type	Shank Size Height : Width	Cutting Width (mm)						Series	Max. Grooving Depth (mm)	Bore (mm)	Ref. Page	Applicable Chipbreaker										
		3	4	5	6	7	8					MG	ML	GG	GL	GF	CG	CF	RGR	RN	GA	
Straight Type	20 20	3						GNDF	12	ø35	→ 32	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		3							12	ø40		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		3							18	ø50		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		3							18	ø65		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		3							18	ø90		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		3							18	ø140		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	25 25	4						GNDF	18	ø40	→ 32	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		4							23	ø50		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		4							23	ø65		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		4							23	ø85		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		4							23	ø125		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		4							23	ø180		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
L Type	20 20	5					GNDF	23	ø50	→ 32	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
		5						23	ø65		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		5						23	ø85		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		5						23	ø125		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		5						23	ø180		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		5						23	ø280		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
L Type	25 25	6					GNDF	23	ø50	→ 32	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
		6						23	ø70		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		6						23	ø100		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		6						23	ø180		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		6						23	ø280		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		6						23	ø1.000		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
L Type	25 25	6					GNDFS	20	ø70	→ 34	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
		6						20	ø100		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		6						20	ø180		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
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		6						20	ø450~		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		∞						∞	∞		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
L Type	25 25	∞					GNDFS	20	ø70	→ 34	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
		∞						20	ø100		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
		∞						20	ø180		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
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		∞						20	ø450~		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
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Stock

Make to order item

⊙ 1st Recommendation

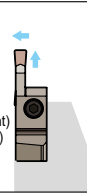
○ 2nd Recommendation



## Cassettes for Face Machining

### Face Grooving / Turning / Profiling

**GNDCF**  
Cassette  
Applicable Holder  
SumiPolygon  
PSC 00 (Straight)  
PSC 90 (L Type)



→ 38

Grooving Width (mm)		
1,25	1,5	2,0
3,0	4,0	5,0
6,0	7,0	8,0

Chipbreaker  
MG ML GG GL GF CG CF RG RN GA

### Face Grooving Cassettes

Type	Cutting Width (mm)								Series	Max. Grooving Depth (mm)					Bore (mm)					Ref. Page	Applicable Chipbreaker																	
	3	4	5	6	7	8	5	10		15	20	25	30	50	100	150	200	250	300		1.000	MG	ML	GG	GL	GF	CG	CF	RG	RN	GA							
Straight Type	3								GNDCF R/L	12					ø40 ø55					→ 38	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>				
	3									15					ø50 ø75						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>				
	3									15					ø65 ø100						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>				
	3									18					ø90 ø150						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
	3									18					ø140 ø200						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
	4									18					ø40 ø55						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
	4									18					ø50 ø70						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	4									18					ø65 ø90						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
	4									18					ø85 ø130						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	4									18					ø125 ø200						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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	5									18					ø50 ø70						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	5									18					ø65 ø90						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	5									18					ø85 ø130						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	5									18					ø125 ø200						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	5									18					ø180 ø300						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	6									18					ø50 ø75						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	6									18					ø70 ø110						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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	6									18					ø180 ø300						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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■ Stock     
  Make to order item     
 ○ 1st Recommendation     
 ○ 2nd Recommendation

# Grooving Tool Holders

## GNDN Type

### For Necking

**GNDN**  
Straight Type



Shank Size  
Height x Width  
20 mm x 20 mm  
25 mm x 25 mm

→ 31

Grooving Width (mm)		
1,25	1,5	2,0
3,0	4,0	5,0
6,0	7,0	8,0

Chipbreaker  
M G ML GG GL GF CG CF RGRN GA

### Series for Necking

Straight Type	Shank Size		Cutting Width (mm)						Series	Max. Grooving Depth (mm)						Min. Bore (mm)	Ref. Page	Applicable Chipbreaker													
	Height	Width	2	3	4	5	6	5		10	15	20	25	30	MG			ML	GG	GL	GF	CG	CF	RGRN	GA						
20	20	2		3				GNDN	2,0						→ 31												○				
					4																										○
						5																									○
							6																								○

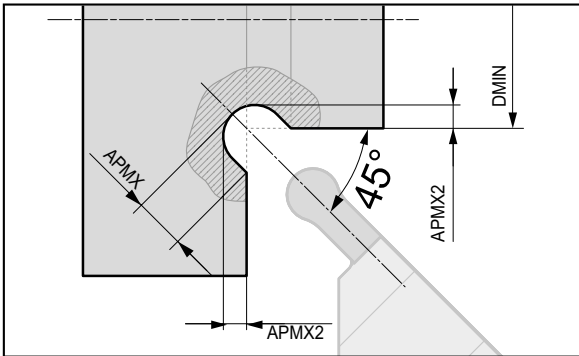
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### Tips for Necking

#### Notes for Undercutting

Recommended Chipbreaker: RN

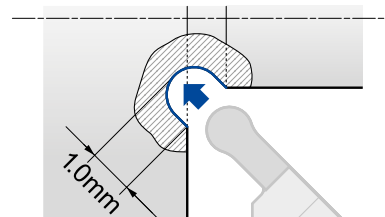
#### Distance between Workpiece and Necking



Edge Width CW (mm)	Depth of Necking APMX (mm)	Distance between Workpiece and Necking APMX2 (mm)
2,0	1,50	0,64
3,0	2,00	0,79
4,0	3,00	1,29
5,0	3,50	1,44
6,0	4,00	1,59

The recommended cutting conditions for necking are the same as grooving with RN type chipbreaker and edge width. To prevent interference with the work material, do not use the holder for less than the minimum cutting diameter (DMIN) as specified for GNGN type holders.

#### Chip Shape



Work Material: 34CrMo4  
 Holder: GNDN R2020K 325-020  
 Insert: GCM N3015 RN  
 Cutting Conditions:  $v_c = 100\text{m/min}$ ,  $f = 0,1\text{mm/rev}$   
 Depth of Necking = 1,0mm, wet

# Grooving Tool Holders GNDI / GNDIS Type

For Internal Machining ( $\geq \varnothing 14 \text{ mm} \sim$ )

Grooving / Turning / Copying

GNDIS  
Straight Type

$\varnothing 12 \text{ mm}$   
 $\varnothing 16 \text{ mm}$   
 $\varnothing 20 \text{ mm}$

→ 30

Grooving Width (mm)		
1,5	2,0	3,0

Chipbreaker	
ML	GF

For Internal Machining ( $\geq \varnothing 32 \text{ mm} \sim$ )

Grooving / Turning / Copying

GNDI  
Straight Type

$\varnothing 25 \text{ mm}$   
 $\varnothing 32 \text{ mm}$   
 $\varnothing 40 \text{ mm}$

→ 28

Grooving Width (mm)		
1,25	1,5	2,0
3,0	4,0	5,0
6,0	7,0	8,0

Chipbreaker									
MG	ML	GG	GL	GF	CG	CF	RG	RN	GA

## Series for Internal Machining ( $\geq \varnothing 14 \text{ mm} \sim$ )

Type	Shank Size (mm)	Cutting Width (mm)			Series	Max. Grooving Depth (mm)						Min. Bore (mm)	Ref. Page	Applicable Chipbreaker		
		1,5	2	3		5	10	15	20	25	30			ML	GF	
Straight Type	$\varnothing 12$	1,5			GNDIS	2,6						$\varnothing 14$	→ 30		○	
		1,5				3,6						$\varnothing 14$		○		
			2	3		2,6	3,6					$\varnothing 14$		○		
	$\varnothing 16$	1,5			GNDIS	3,6						$\varnothing 16$		○		○
		1,5				4,6						$\varnothing 20$		○		○
			2	3		3,6	4,6					$\varnothing 16$		○		○
$\varnothing 20$		2	3	GNDIS	4,6						$\varnothing 20$	○		○		
	1,5				6,6						$\varnothing 25$	○		○		
		2	3		6,6						$\varnothing 25$	○		○		

Stock

GNDIS type: use smaller GXM type inserts

○ 1st Recommendation

## Series for Internal Machining ( $\geq \varnothing 32 \text{ mm} \sim$ )

Type	Shank Size (mm)	Cutting Width (mm)					Series	Max. Grooving Depth (mm)						Min. Bore (mm)	Ref. Page	Applicable Chipbreaker											
		2	3	4	5	6		5	10	15	20	25	30			MG <td>ML</td> <td>GG</td> <td>GL</td> <td>GF</td> <td>CG</td> <td>CF</td> <td>RG</td> <td>RN</td> <td>GA</td>	ML	GG	GL	GF	CG	CF	RG	RN	GA		
Straight Type	$\varnothing 25$	2					GNDI	6						$\varnothing 32$	→ 28	○	○	○	○							○	○
			3	4	5			6						$\varnothing 32$		○	○	○	○							○	○
								6						$\varnothing 32$		○	○	○	○							○	○
	$\varnothing 32$	2						10						$\varnothing 40$		○	○	○	○							○	○
			3	4	5			11						$\varnothing 50$		○	○	○	○							○	○
																	○	○	○	○						○	○

Stock

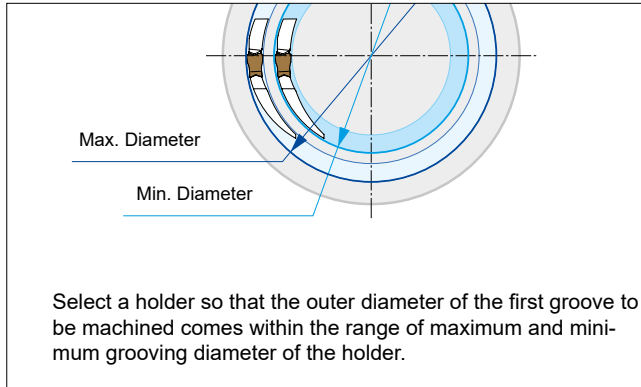
○ 1st Recommendation

○ 2nd Recommendation

# Grooving Tool Holders GND Type

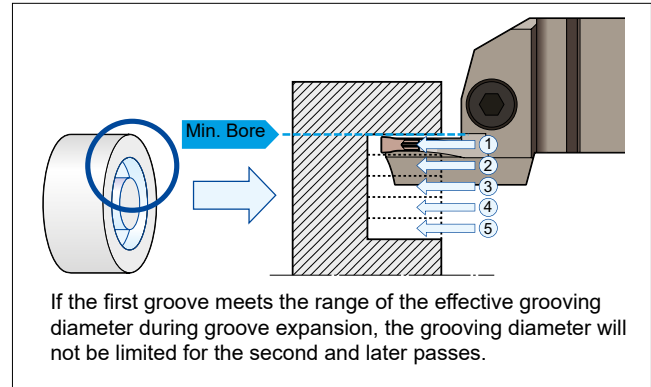
## Key Points for Face Machining

### Holder Selection



### Precautions for Groove Expansion

Recommended Chipbreaker: **MG, ML, GG, GL, GF**

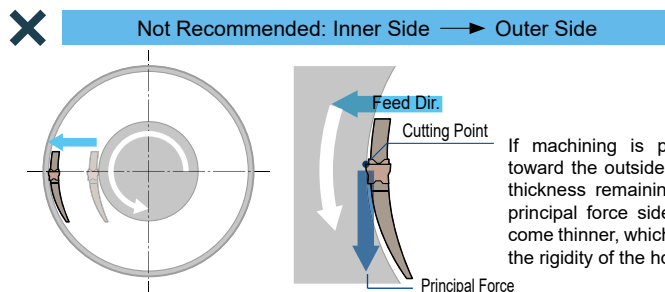
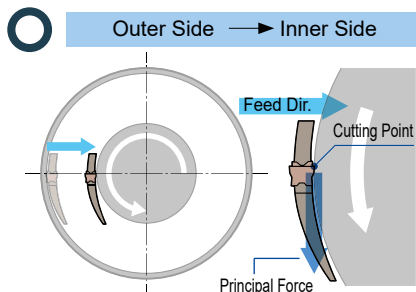


### Precautions for Turning

Recommended Chipbreaker:

**MG, ML**

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



- If the first groove meets the range of the effective grooving diameter in face turning, the grooving diameter will not be limited for the second and later passes.
- Select the chipbreaker of the lower limit side of the recommended cutting conditions and straight chips before evacuation. (In face grooving, broken chips easily get stuck in grooves, which causes problems.)
- When breaking chips, step feed is required.

## Key Points for Internal Machining

### Precautions for Internal Machining

Recommended Chipbreaker:

**ML, GL**

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



Work Material: 15CrMo5 (Ø 25 mm)  
Holder: GNDI R2532 T306  
Insert: GCM N300□-□□  
Cutting Conditions:  $v_c=100$  m/min,  $f=0,10$  mm/rev,  $a_p=3,0$  mm, wet

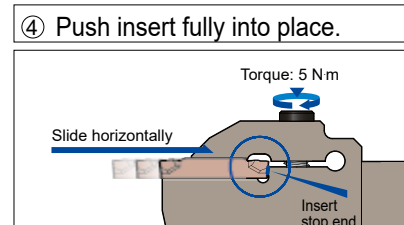
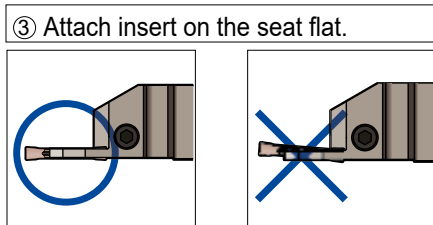


Chip shapes differ between internal and external machining even under the same cutting conditions.

Work Material: 15CrMo5  
Holder: GNDL R2525M 320  
Insert: GCM N3002 GG  
Cutting Conditions:  $v_c=100$  m/min,  $f=0,10$  mm/rev,  $a_p=5$  mm, wet

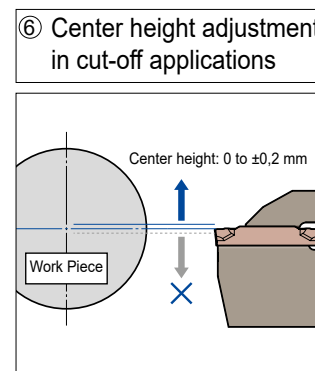
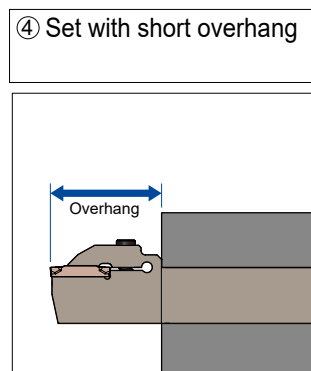
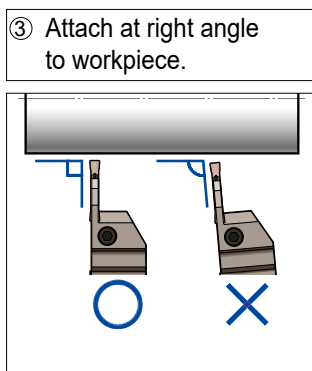
## Notes on how to Attach Inserts

- ① Remove any foreign particles or oil from the insert seat before attaching the insert.
- ② Ensure the seat location is clean and free of damage.
- ③ Slide the insert level over its seat.
- ④ Push the insert with its opposite end (the holder side) firmly against the insert stop end.
- ⑤ The recommended tightening torque is 5 N·m. Tightening above the recommended torque may damage the insert or the holder which could cause injury and other accidents.



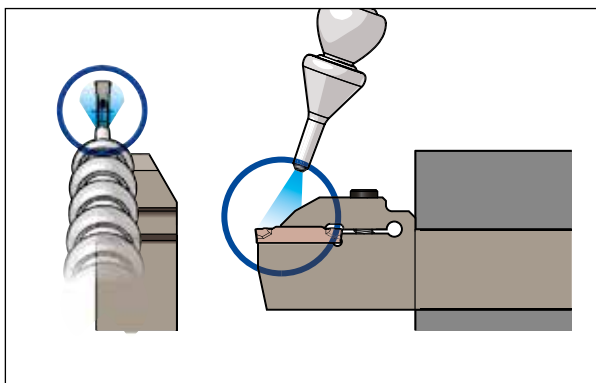
## Notes on how to Apply Holders

- ① Remove any foreign particles or oil from the tool post before attaching the holder.
- ② Ensure the seat location is clean and free of damage.
- ③ Attach the holder so that the insert is perpendicular to the workpiece.
- ④ Set holder with shortest possible overhang.
- ⑤ When grooving or turning, adjust the center height of the cutting edge to as close  $\pm 0$  mm as possible. (Within  $\pm 0,1$  mm is recommended)
- ⑥ 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 mm).  
A lower center height will result in larger nip at the center.



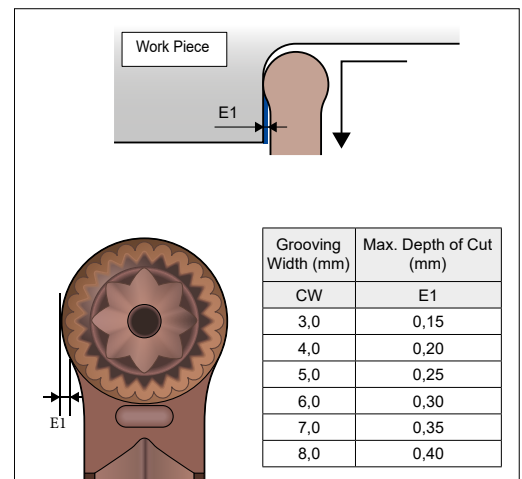
## Notes on Setting Coolant Supply Nozzle

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



## Maximum Depth of Cut

Maximum depth of cut when pulling up with RG chipbreaker



# Grooving Tool Holders

## GND Type

### Chipbreaker Selection Guide

Groov. Width (mm)	Recommended Cutting Conditions		Nose Radius (mm)	Inserts
	Grooving	Turning		
1,25			0,05	GCM N125005-GF
1,5			0,05	GCM N150005-GF
2,0			0,02	GCM R/L20002-CF-10 GCM R/L20002-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			0,02	GCM R/L30002-CF-10 GCM R/L30002-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
			1,5	GCM N3015-RG GCM N3015-RN
4,0			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
			0,8	GCM N4008-MG
			2,0	GCM N4020-RG GCM N4020-RN
5,0			0,2	GCM N5002-GG GCM N5002-GL GCM N5002-GF
			0,4	GCM N5004-ML GCM N5004-GG GCG N5004-GA
			0,8	GCM N5008-MG
			2,5	GCM N5025-RG GCM N5025-RN
6,0			0,2	GCM N6002-GG GCM N6002-GL GCM N6002-GF
			0,4	GCM N6004-ML GCM N6004-GG GCG N6004-GA
			0,8	GCM N6008-MG
			3,0	GCM N6030-RG GCM N6030-RN
7,0			0,2	GCM N7002-GF
			0,4	GCM N7004-ML GCM N7004-GG GCM N7004-GL GCM N7004-GF
			0,8	GCM N7008-MG
			3,5	GCM N7035-RG
8,0			0,2	GCM N8002-GF
			0,4	GCM N8004-ML GCM N8004-GG GCM N8004-GL GCM N8004-GF
			0,8	GCM N8008-MG
			4,0	GCM N8040-RG

### Recommended Cutting Conditions

Work Material	P Carbon Steel, Alloy Steel				M Stainless Steel			K Cast Iron			S Exotic Alloy		N
Grade	AC830P	AC520U	AC530U AC1030U	T2500A	AC830P	AC520U	AC530U AC1030U	AC425K	AC520U	AC530U AC1030U	AC520U	AC530U AC1030U	H10
Cutting Speed (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

## ■ Identification Details – Holders

GND M R 25 25 (M) - (T) 3 12 (JE) (- 0 3 5)

①  
Series Symbol  
GND

②  
Holder Design  
Chart 3

③  
Shank Width/  
Work Diameter  
Chart 5

④  
Type  
Internal Grooving

⑤  
Max. Grooving Depth  
Chart 8

⑥  
Min. Machining  
Diameter  
(mm)

Application  
Chart 2

Shank Height /  
Diameter  
Chart 4

Shank Length  
Chart 6

Insert Width  
Chart 7

Coolant Supply  
JE: Internal Coolant

② Application		
Symbol	Application	
S	External Multi-Purpose	Grooving/Cut Off/ Turning/Profiling
M	External Multi-Purpose	Grooving/Cut Off/ Turning/Profiling
L	External Grooving	Grooving/Cut Off
MS	External L-Styled (Side Cut) Multi-Purpose	Grooving/Turning/Profiling
LS	External L-Styled (Side Cut) Deep Grooving	Grooving
N	Necking	Necking
I	Internal Grooving	Grooving/Turning/ Profiling
IS	Internal Grooving	Grooving/Turning/ Profiling
F	Face Grooving	Grooving/Turning/ Profiling
FS	L-Shaped Tools for Facing	Grooving/Turning/ Profiling
CM	Cassette for Polygon Holder	Radial Grooving
CF	Cassette for Polygon Holder	Face Grooving

③ Holder Design	
Symbol	Direction
R	Right
L	Left

④ Shank Height / Diameter			
Application	Symbol	Height (mm)	
External/ Face Grooving (Shank Height)	10	10	
	12	12	
	16	16	
	20	20	
	25	25	
Internal Grooving (Shank Diameter)	25	25	
	32	32	
	40	40	

⑤ Shank Width / Work Diameter		
Application	Symbol	Width (mm)
External/ Face Grooving (Shank Width)	10	10
	12	12
	16	16
	20	20
	25	25
Internal Grooving (Shank Diameter)	32	32
	40	40
	50	50

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

⑧ Insert Width	
Symbol	Groov. Width (mm)
1,25	1,25
1,5	1,5
2	2,0
3	3,0
4	4,0
5	5,0
6	6,0
7	7,0
8	8,0

⑨ Max. Grooving Depth			
Symbol	Groov. Depth (mm)	Symbol	Groov. Depth (mm)
06	6,0	20	20,0
08	8,0	23	23,0
10	10,0	25	25,0
11	11,0		
12	12,0		
12,5	12,5		
14	14,0		
16	16,0		
18	18,0		

To ensure maximum rigidity, use the multi-purpose type holder to machine the maximum grooving depth.

## ■ Identification Details – Inserts

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

①  
Series Symbol  
Grooving

②  
Tolerance  
G Class  
M Class

③  
Insert Design  
Symbol Direction  
N Neutral  
R Right Hand  
L Left Hand

④  
Front Relief  
Angle  
C: 7°  
X: Special

⑤  
Insert Width  
Symbol Groov. 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  
Nose Radius  
Symbol R (mm)  
005 0,05  
02 0,2  
04 0,4  
08 0,8  
15 1,5  
20 2,0  
25 2,5  
30 3,0

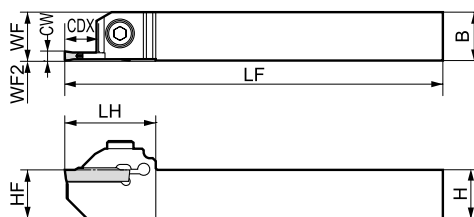
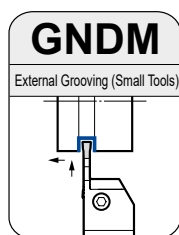
⑦  
Applicable  
Holder  
Symbol Holder  
S GNDIS

⑧  
Chipbreaker  
Symbol Application  
MG Multi-Purpose: General Feed  
ML Multi-Purpose: Low Feed  
GG Grooving: General Feed  
GL Grooving: Low Feed  
GF Grooving: Low Cutting Forces  
CG Cut-Off  
CF Cut-Off: Low Cutting Forces  
RG Copying: General Feed  
RN Multi-Purpose: General Feed  
GA Multi-Purpose: General Feed

⑨  
Front Cutt.  
Edge Angle  
PSI  
05 : 5°  
10 : 10°  
15 : 15°

# Grooving Tool Holders GNDM / GNDL Type

## External Multi-Purpose Small Tools Type (Grooving, Turning, Profiling)



Use the multi-purpose profiling insert for turning (wide grooves).

Above figures show right hand tools.

### Spare Parts



### Holders

Cat. No.	Stock		Dimensions (mm)								Grooving Width (mm)	Max. Groov. Depth (mm)	Max. Cut-Off Dia (mm)	Applicable Insert	Cap Screw	N·m	Spanner
	R	L	H	B	LF	WF	HF	LH	WF2	CW							
GNDM R/L 1616 JX 1.2508	●	●	16	16	120	(16)	16	26	0	1,25	8,0	16	GCM N125005 GF	BX0515	4,0	LH040	
GNDM R/L 1616 JX 1.510	○	○	16	16	120	(16)	16	26	0	1,50	10,0	20	GCM N150005 GF				
GNDM R/L 1616 JX 212	○	○	16	16	120	(16)	16	30	0	2,00	12,0	24	GCM □200O-□□				
GNDM R/L 1616 JX 312	○	○	16	16	120	(16)	16	30	0	3,00	12,0	24	GCM □300O-□□				

Select holders and inserts with the same grooving width (CW).

## External Grooving / Cut-Off Small Tools

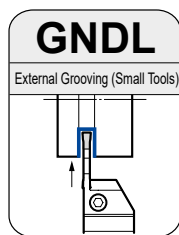


Fig. 1

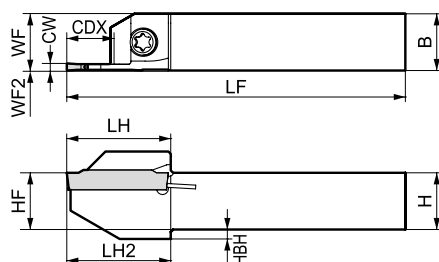
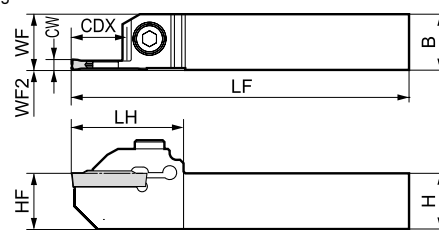


Fig. 2



Above figures show right hand tools.

### Spare Parts



### Holders

Cat. No.	Stock		Dimensions (mm)										Grooving Width (mm)	Max. Groov. Depth (mm)	Max. Cut-Off Dia (mm)	Fig.	Applicable Insert	Cap Screw	N·m	Spanner
	R	L	H	B	LF	WF	HF	HBH	LH	LH2	WF2	CW								
GNDL R/L 1010 JX 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/L 1010 JX 1.510	●	●	10	10	120	(10)	10	2,0	18	22,3	0	1,50	10,0	20		GCM N150005 GF				
GNDL R/L 1010 JX 210	●	●	10	10	120	(10)	10	2,0	22	22,3	0	2,00	10,0	20		GCM □200O-□□				
GNDL R/L 1010 JX 310	●	●	10	10	120	(10)	10	2,0	22	22,3	0	3,00	10,0	20		GCM □300O-□□				
GNDL R/L 1212 JX 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/L 1212 JX 1.512	●	●	12	12	120	(12)	12	2,0	19	19,3	0	1,50	12,0	24		GCM N150005 GF				
GNDL R/L 1212 JX 212.5	●	●	12	12	120	(12)	12	2,0	22	22,3	0	2,00	12,5	25		GCM □200O-□□				
GNDL R/L 1212 JX 312.5	●	●	12	12	120	(12)	12	2,0	22	22,3	0	3,00	12,5	25		GCM □300O-□□				
GNDL R/L 1616 JX 1.2512.5	●	●	16	16	120	(16)	16		28		0	1,25	12,5	20	2	GCM N125005 GF	BFTX0515	4,0	LH040	
GNDL R/L 1616 JX 1.512.5	●	●	16	16	120	(16)	16		28		0	1,50	12,5	25		GCM N150005 GF				
GNDL R/L 1616 JX 216	●	●	16	16	120	(16)	16		32		0	2,00	16,0	32		GCM □200O-□□				
GNDL R/L 1616 JX 316	●	●	16	16	120	(16)	16		32		0	3,00	16,0	32		GCM □300O-□□				

Select holders and inserts with the same grooving width (CW).



# Grooving Tool Holders GNDM / GNDL Type

## ■ Inserts for GNDM (Small Tools) / GNGL (Small Tools)

Application	Shape	Type	Cat. No.	Coated Carbide				Cermets	Carbide	Dimensions (mm)						
				AC830P	AC425K	AC520U	AC530U			T2500A	H10	CW		RE	L	S
												Cutting Width	Tolerance			
Grooving/ Turning		General Purpose	GCM N3004 MG	●	●	○	●			3,0	±0,03	0,4	21,1	3,8		
		Low Feed	GCM N2002 ML			○	●			2,0	±0,03	0,2	21,1	3,6		
			N3002 ML	●	●	○	●	○		3,0	±0,03	0,2	21,1	3,8		
Copying/Cut-Off		General Purpose	GCM N2002 GG	●		●	●			2,0	±0,03	0,2	21,1	3,6		
		Low Feed	N3002 GG	●		○	●			3,0	±0,03	0,2	21,1	3,8		
			N3004 GG	●		○	●			3,0	±0,03	0,2	21,1	3,8		
		Low Cutting Force	GCM N2002 GL	●		○	●			2,0	±0,03	0,2	21,1	3,6		
			M3002 GL	●		○	●			3,0	±0,03	0,2	21,1	3,8		
		Copying		General Purpose	GCM N3015 RG	●	●	○	●	○		3,0	±0,03	1,5	21,1	3,8
				Face/ Necking	GCM N2010 RN			○	○				2,0	±0,03	1,0	21,7
N3015 RN	○				○	○	○				3,0	±0,03	1,5	22,4	3,8	
Non Ferrous Metals		General Purpose	GCG N2002 GA						○	2,0	±0,025	0,2	21,1	3,6		
		N3002 GA						○	3,0	±0,025	0,2	21,1	3,8			

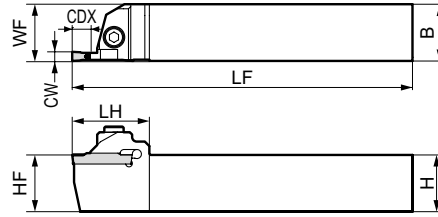
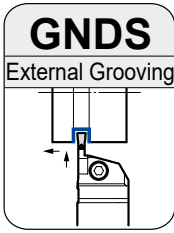
Application	Shape	Type	Cat. No.	Coated Carbide										PSI	Dimensions (mm)					
				AC830P		AC520U		AC530U		AC1030U		R	L		Cutting Width	Tolerance	RE	L	S	
				R	L	R	L	R	L	R	L									R
Cut-Off	Figures show right hand tools. 	General Purpose	GCM R/L2002 CG 05	○	○	○	○	●	●						5°	2,0	±0,03	0,2	21,1	3,6
			R/L3002 CG 05	●	○	○	○	●	●						5°	3,0	±0,03	0,2	21,3	3,8
			R/L4002 CG 05	○	○	○	○	●	●						5°	4,0	±0,04	0,2	26,7	4,0
Cut-Off		Low Cutting Force	GCM R/L20003 CF 10							●	●			10°	2,0	±0,08	0,03	22,4	3,6	
			R/L30003 CF 10							●	●			10°	3,0	±0,08	0,03	22,4	3,8	
			R/L20003 CF 15								●	●			15°	2,0	±0,08	0,03	22,4	3,6
			R/L30003 CF 15								●	●			15°	3,0	±0,08	0,03	22,4	3,8

Select holders and inserts with the same grooving width (CW).

# Grooving Tool Holders

## GNDS Type

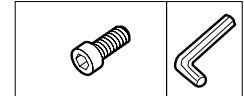
### External Multi-Purpose Shallow Grooves Type (Grooving, Turning, Profiling)



Use the multi-purpose profiling insert for turning (wide grooves).

Above figures show right hand tools.

#### Spare Parts



#### ■ Holders

Cat. No.	Stock		Dimensions (mm)						Grooving Width (mm)	Max. Groov. Depth (mm)	Applicable Insert	Cap Screw	N·m	Spanner
	R	L	H	B	LF	WF	HF	LH						
GNDS R/L 2020 K 206	○	○	20	20	125	20	20	30	2,0	6	GCM □2000-□□	BX0520	5,0	LH040
GNDS R/L 2020 K 306	○	○	20	20	125	20	20	30	3,0	6	GCM □3000-□□			
GNDS R/L 2020 K 410	○	○	20	20	125	20	20	34	4,0	10	GCM □4000-□□			
GNDS R/L 2020 K 510	○	○	20	20	125	20	20	34	5,0	10	GCM N5000-□□			
GNDS R/L 2020 K 610	○	○	20	20	125	20	20	34	6,0	10	GCM N6000-□□			
GNDS R/L 2525 M 206	○	○	25	25	150	25	25	30	2,0	6	GCM □2000-□□			
GNDS R/L 2525 M 306	○	○	25	25	150	25	25	30	3,0	6	GCM □3000-□□			
GNDS R/L 2525 M 410	○	○	25	25	150	25	25	34	4,0	10	GCM □4000-□□			
GNDS R/L 2525 M 510	○	○	25	25	150	25	25	34	5,0	10	GCM N5000-□□			
GNDS R/L 2525 M 610	○	○	25	25	150	25	25	34	6,0	10	GCM N6000-□□			

Select holders and inserts with the same grooving width (CW).

# Grooving Tool Holders GNDS Type

## Inserts for GNDS

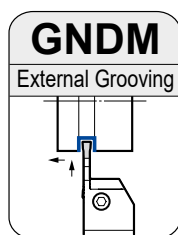
Application	Shape	Type	Cat. No.	Coated Carbide				Cermets/Carbide		Dimensions (mm)				
				AC830P	AC425K	AC520U	AC530U	T2500A	H10	CW		RE	L	S
										Cutting Width	Tolerance			
Grooving/Turning		MG General Purpose	GCM N3004 MG	●	●	○	●			3,0	±0,03	0,4	21,1	3,8
			N4008 MG	●	●	○	●			4,0	±0,03	0,8	26,4	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=<4mm CW=>5mm Low Feed	GCM N2002 ML	●	●	○	●			2,0	±0,03	0,2	21,1	3,6
			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
			Copying/Cut-Off	GG General Purpose	GCM N2002 GG	●		●	●			2,0	±0,03	0,2
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	
N4004 GG	●				○	●			4,0	±0,03	0,4	26,4	4,0	
N5004 GG	○				○	●			5,0	±0,03	0,4	26,4	4,1	
GL Low Feed	GCM N2002 GL	●			○	●			2,0	±0,03	0,2	21,1	3,6	
	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	
	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	
RG General Purpose	GCM N3015 RG	●	●	○	●	○		3,0	±0,03	1,5	21,1	3,8		
	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		
RN General Purpose	GCM N2010 RN			○	○			2,0	±0,03	1,0	21,7	3,6		
	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		
Non Ferrous Metals	GA General Purpose	GCM N2002 GA						○	2,0	±0,025	0,2	21,1	3,6	
		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	
Non Ferrous Metals	GA General Purpose	N6004 GA						○	6,0	±0,025	0,4	26,4	4,5	

Application	Shape	Type	Cat. No.	Coated Carbide								PSI	Dimensions (mm)						
				AC830P		AC520U		AC530U		AC1030U			Cutting Width	Tolerance	RE	L	S		
				R	L	R	L	R	L	R	L								
Cut-Off		CG General Purpose	GCM R/L2002 CG 05	○	○	○	○	●	●				5°	2,0	±0,03	0,2	21,1	3,6	
			R/L3002 CG 05	●	○	○	○	●	●					5°	3,0	±0,03	0,2	21,3	3,8
			R/L4002 CG 05	○	○	○	○	●	●					5°	4,0	±0,03	0,2	26,7	4,0
Cut-Off		CF Low Cutting Force	GCM R/L20003 CF 10							●	●		10°	2,0	±0,08	0,03	22,4	3,6	
			R/L30003 CF 10							●	●			10°	3,0	±0,08	0,03	22,4	3,8
			R/L20003 CF 15							●	●			15°	2,0	±0,08	0,03	22,4	3,6
			R/L30003 CF 15							●	●			15°	3,0	±0,08	0,03	22,4	3,8

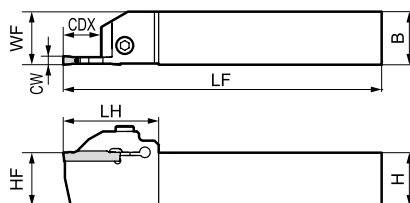
Select holders and inserts with the same grooving width (CW).

# Grooving Tool Holders GNDM / GNDMS Type

## External Multi-Purpose Type (Grooving, Turning, Profiling)

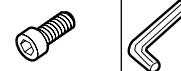


Use for multi-purpose or profiling insert for turning (wide grooves).



Above figures show right hand tools.

### Spare Parts

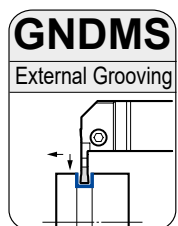


### Holders

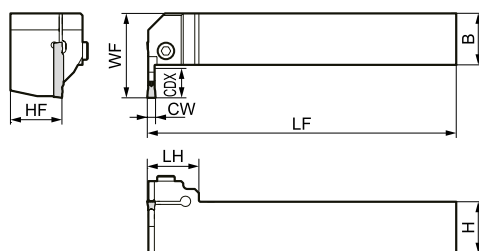
Cat. No.	Stock		Dimensions (mm)						Grooving Width (mm)	Max. Groov. Depth (mm)	Max. Cut-Off Dia (mm)	Applicable Insert	Cap Screw	N·m	Spanner
	R	L	H	B	LF	WF	HF	LH							
GNDM R/L 2020 K 1.2510	●	●	20	20	125	20	20	34,0	1,25	10	20	GCM N125005 GF	BX0520	5,0	LH040
GNDM R/L 2020 K 1.510	●	●	20	20	125	20	20	34,0	1,50	10	20	GCM N150005 GF			
GNDM R/L 2020 K 210	○	○	20	20	125	20	20	33,6	2,00	10	20	GCM □200○-□□			
GNDM R/L 2020 K 312	○	○	20	20	125	20	20	36,6	3,00	12	24	GCM □300○-□□			
GNDM R/L 2020 K 418	○	○	20	20	125	20	20	45,0	4,00	18	36	GCM □400○-□□			
GNDM R/L 2020 K 518	●	○	20	20	125	20	20	45,0	5,00	18	36	GCM N500○-□□			
GNDM R/L 2020 K 618	○	○	20	20	125	20	20	45,0	6,00	18	36	GCM N600○-□□			
GNDM R/L 2525 M 1.2510	●	●	25	25	150	25	25	36,0	1,25	10	20	GCM N125005 GF			
GNDM R/L 2525 M 1.510	●	●	25	25	150	25	25	36,0	1,25	10	20	GCM N150005 GF			
GNDM R/L 2525 M 210	○	○	25	25	150	25	25	33,6	2,00	10	20	GCM N200○-□□			
GNDM R/L 2525 M 312	○	○	25	25	150	25	25	36,6	3,00	12	24	GCM □300○-□□			
GNDM R/L 2525 M 418	○	○	25	25	150	25	25	45,0	4,00	18	36	GCM □400○-□□			
GNDM R/L 2525 M 518	○	○	25	25	150	25	25	45,0	5,00	18	36	GCM N500○-□□			
GNDM R/L 2525 M 618	●	○	25	25	150	25	25	45,0	6,00	18	36	GCM N600○-□□			
GNDM R/L 3225 P 312			32	25	170	25	32	36,6	3,00	12	24	GCM □300○-□□			
GNDM R/L 3225 P 418			32	25	170	25	32	45,0	4,00	18	36	GCM □400○-□□			
GNDM R/L 3225 P 518			32	25	170	25	32	45,0	5,00	18	36	GCM N500○-□□			
GNDM R/L 3225 P 618			32	25	170	25	32	45,0	6,00	18	36	GCM N600○-□□			
GNDM R/L 3225 P 718			32	25	170	25	32	50,0	7,00	18	36	GCM N700○-□□			
GNDM R/L 3225 P 818			32	25	170	25	32	50,0	8,00	18	36	GCM N800○-□□			
GNDM R/L 3232 P 312	●	●	32	32	170	32	32	36,6	3,00	12	24	GCM □300○-□□			
GNDM R/L 3232 P 418	●	●	32	32	170	32	32	45,0	4,00	18	36	GCM □400○-□□			
GNDM R/L 3232 P 518	●	●	32	32	170	32	32	45,0	5,00	18	36	GCM N500○-□□			
GNDM R/L 3232 P 618	●	●	32	32	170	32	32	45,0	6,00	18	36	GCM N600○-□□			
GNDM R/L 3232 P 718	●	●	32	32	170	32	32	50,0	7,00	18	36	GCM N700○-□□			
GNDM R/L 3232 P 818	●	●	32	32	170	32	32	50,0	8,00	18	36	GCM N800○-□□			

Select holders and inserts with the same grooving width (CW).

## External L-Styled (Side Cut) Multi-Purpose Type (Grooving, Turning, Profiling)

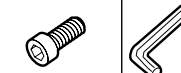


Use for multi-purpose or profiling insert for turning (wide grooves).



Above figures show right hand tools.

### Spare Parts



### Holders

Cat. No.	Stock		Dimensions (mm)						Grooving Width (mm)	Max. Groov. Depth (mm)	Applicable Insert	Cap Screw	N·m	Spanner
	R	L	H	B	LF	WF	HF	LH						
GNDMS R/L 2020 K 310	●	●	20	20	125	32	20	25	3,0	10	GCM □300○-□□	BX0520	5,0	LH040
GNDMS R/L 2020 K 412	●	●	20	20	125	34	20	25	4,0	12	GCM □400○-□□			
GNDMS R/L 2020 K 512	●	●	20	20	125	34	20	25	5,0	12	GCM N500○-□□			
GNDMS R/L 2525 M 312	●	●	25	25	150	39	25	25	3,0	12	GCM □300○-□□			
GNDMS R/L 2525 M 414	●	●	25	25	150	41	25	25	4,0	14	GCM □400○-□□			
GNDMS R/L 2525 M 514	●	●	25	25	150	41	25	25	5,0	14	GCM N500○-□□			
GNDMS R/L 2525 M 614	●	●	25	25	150	41	25	25	6,0	14	GCM N600○-□□			

Select holders and inserts with the same grooving width (CW).

● Euro stock

○ Japan stock

# Grooving Tool Holders GNDM / GNDMS Type

## Inserts for GNDM / GNDMS

Application	Shape	Type	Cat. No.	Coated Carbide				Cermets		Dimensions (mm)					
				AC830P	AC425K	AC520U	AC530U	T2500A	H10	CW		RE	L	S	
										Cutting Width	Tolerance				
Grooving /Turning		MG General Purpose	GCM N3004 MG	●	●	○	●			3.0	±0,03	0,4	21,1	3,8	
			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	
			N7008 MG	○	●	○	●			7.0	±0,04	0,8	28,75	5,5	
			N8008 MG	●	●	○	●			8.0	±0,04	0,8	28,75	6,0	
		ML CW=<4mm CW=>5mm Low Feed	GCM N2002 ML		○	○	○	●			2.0	±0,03	0,2	21,1	3,6
			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
			N7004 ML	●	●	○	●	○			7.0	±0,04	0,4	28,75	5,5
			N8004 ML	○	●	○	●	○			8.0	±0,04	0,4	28,75	6,0
			Copying/Cut-Off		GG General Purpose	GCM N2002 GG	●		○	●			2.0	±0,03	0,2
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	
N3004 GG	●					○	●			3.0	±0,03	0,4	21,1	3,8	
N4004 GG	●					○	●			4.0	±0,03	0,4	26,4	4,0	
N5004 GG	○					○	●			5.0	±0,03	0,4	26,4	4,1	
GL Low Feed	GCM N2002 GL	●				○	●			2.0	±0,03	0,2	21,1	3,6	
	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	
	N7004 GL	○				○	●			7.0	±0,04	0,4	28,75	5,5	
	N8004 GL	○				○	●			8.0	±0,04	0,4	28,75	6,0	
	GF Low Cutting Force	GCM N125005 GF						●				1,25	±0,03	0,05	17,4
N150005 GF							●				1,5	±0,03	0,05	17,4	3,7
N2002 GF							●	○			2.0	±0,03	0,2	21,1	3,6
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
N7002 GF		○				○	●				7.0	±0,04	0,2	28,75	5,5
RG General Purpose	GCM N3015 RG	●			●	○	●	○			3.0	±0,03	1,5	21,1	3,8
	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		
	N7035 RG	○	●	○	●				7.0	±0,04	3,5	29,05	5,5		
	N8040 RG	○	●	○	●				8.0	±0,04	4,0	29,25	6,0		
RN General Purpose	GCM N2010 RN			○	○				2.0	±0,03	1,0	21,7	3,6		
	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	GA General Purpose	GCG N2002 GA						○	2.0	±0,025	0,2	21,1	3,6		
		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		

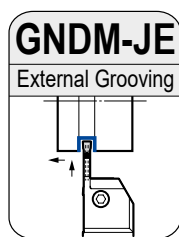
Application	Shape	Type	Cat. No.	Coated Carbide								PSI	Dimensions (mm)							
				AC830P		AC520U		AC530U		AC1030U			Cutting Width	Tolerance	RE	L	S			
				R	L	R	L	R	L	R	L									
Cut-Off		CG General Purpose	GCM R/L2002 CG 05	○	○	○	○	●	●				5°	2.0	±0,03	0,2	21,1	3,6		
			R/L3002 CG 05	●	○	○	○	●	●						5°	3.0	±0,03	0,2	21,3	3,8
			R/L4002 CG 05	○	○	○	○	●	●						5°	4.0	±0,04	0,2	26,7	4,0
Cut-Off		CF Low Cutting Force	GCM R/L20003 CF 10					●	●				10°	2.0	±0,08	0,03	22,4	3,6		
			R/L30003 CF 10					●	●						10°	3.0	±0,08	0,03	22,4	3,8
			R/L20003 CF 15					●	●						15°	2.0	±0,08	0,03	22,4	3,6
			R/L30003 CF 15					●	●						15°	3.0	±0,08	0,03	22,4	3,8

Select holders and inserts with the same grooving width (CW).

# Grooving Tool Holders GNDM-JE Type

## Holder with Internal Coolant

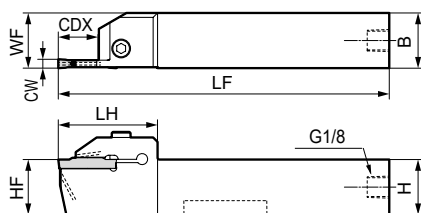
### External Multi-Purpose Type (Grooving, Turning, Profiling)



Internal Coolant



Use for multi-purpose or profiling insert for turning (wide grooves).



Above figures show right hand tools.

### Spare Parts

Cap Screw	Plug and Sealing	Grub Screw*	Spanner
BX0520	6,0	XP02-E	BT0505-E
			LH040

### Holders

Cat. No.	Stock		Dimensions (mm)						Grooving Width (mm)	Max. Groov. Depth (mm)	Max. Cutt-Off Dia (mm)	Applicable Insert	Cap Screw	N·m	Plug and Sealing	Grub Screw*	Spanner
	R	L	H	B	LF	WF	HF	LH									
GNDM R/L 2020 X 210 JE	●	●	20	20	100	20	20	33,6	2,00	10	20	GC □ 2000-□□	BX0520	6,0	XP02-E	BT0505-E	LH040
GNDM R/L 2020 X 312 JE	●	●	20	20	100	20	20	36,6	3,00	12	24	GC □ 3000-□□					
GNDM R/L 2020 X 418 JE	●	●	20	20	110	20	20	45,0	4,00	18	36	GC □ 4000-□□					
GNDM R/L 2020 X 518 JE	●	●	20	20	110	20	20	45,0	5,00	18	36	GC □ N5000-□□					
GNDM R/L 2020 X 618 JE	●	●	20	20	110	20	20	45,0	6,00	18	36	GC □ N6000-□□					
GNDM R/L 2525 X 210 JE	●	●	25	25	100	25	25	33,6	2,00	10	20	GC □ 2000-□□					
GNDM R/L 2525 X 312 JE	●	●	25	25	100	25	25	36,6	3,00	12	24	GC □ 3000-□□					
GNDM R/L 2525 X 418 JE	●	●	25	25	110	25	25	45,0	4,00	18	36	GC □ 4000-□□					
GNDM R/L 2525 X 518 JE	●	●	25	25	110	25	25	45,0	5,00	18	36	GC □ N5000-□□					
GNDM R/L 2525 X 618 JE	●	●	25	25	110	25	25	45,0	6,00	18	36	GC □ N6000-□□					

Select holders and inserts with the same grooving width (CW).

\*Grub screws are sold separately (M5x5)

Fig. 1

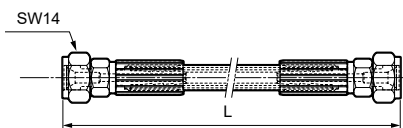


Fig. 1

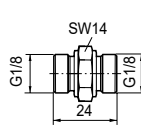


Fig. 2

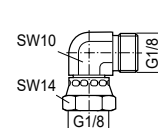
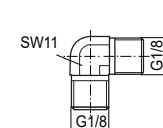


Fig. 3



### Parts (Hose)

Cat. No.	Stock	L (mm)	Srew Standard	Srew Standard	Fig.
J-HOSE-G1/8-G1/8-200-E	●	200	G1/8	G1/8	1
J-HOSE-G1/8-G1/8-300-E	●	300	G1/8	G1/8	1

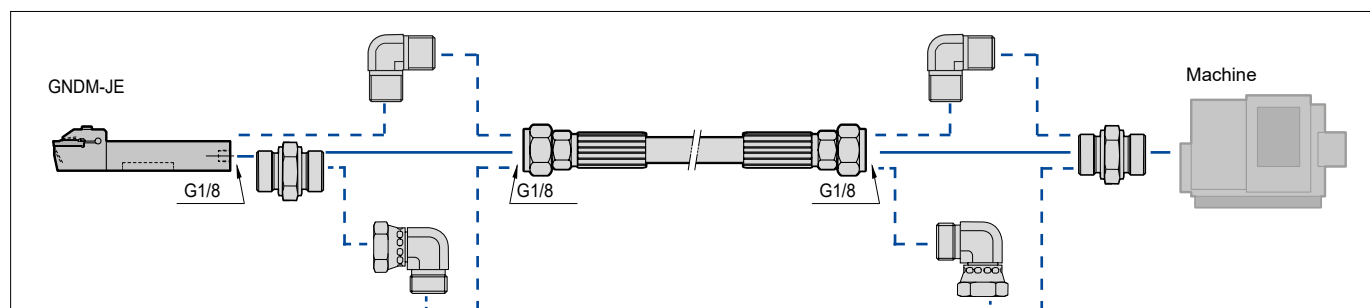
Hoses are sold separately.

### Parts (Connector)

Cat. No.	Stock	Srew Standard	Srew Standard	Fig.
J-G1/8-G1/8-00-E	●	G1/8	G1/8	1
J-G1/8-G1/8F-90-E	●	G1/8	G1/8	2
J-G1/8-G1/8-90-E	●	G1/8	G1/8	3

Connectors are sold separately.

### Piping Method for Hoses and Connectors



Apply sealant such as commercial sealing tape to the piping connection parts.

GNDM-JE type holders have a plug (XP02-E) mounted on the holder back end at shipping. (see fig. 1)

When piping from the holder back end, mount a grub screw (BT0505-E) on the bottom of the holder for use. (see fig. 2)

Fig. 1 Piping from bottom.

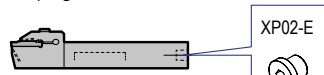
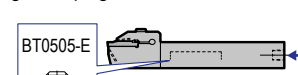


Fig. 2 Piping from back end.



# Grooving Tool Holders GNDM-JE Type

## Inserts for GNDM-JE

Application	Shape	Type	Cat. No.	Coated Carbide				Cermets/Carbide		Dimensions (mm)				
				AC830P	AC425K	AC520U	AC530U	T2500A	H10	CW		RE	L	S
										Cutting Width	Tolerance			
Grooving/Turning		MG General Purpose	GCM N3004 MG	●	●	○	●			3,0	±0,03	0,4	21,1	3,8
			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=<4mm CW=>5mm Low Feed	GCM N2002 ML	●	●	○	●			2,0	±0,03	0,2	21,1	3,6
			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
			Copying/Cut-Off		GG General Purpose	GCM N2002 GG	●		●	●			2,0	±0,03
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
	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
	N3002 GL	●				○	●			3,0	±0,03	0,2	21,1	3,8
	N4002 GL	●				○	●			4,0	±0,03	0,2	26,4	4,0
GF Low Cutting Force	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 N2002 GF						●	○		2,0	±0,03	0,2	21,1	3,6
	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
Copying		RG General Purpose	GCM N3015 RG	●	●	○	●	○		3,0	±0,03	1,5	21,1	3,8
			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
Face/Necking		RN General Purpose	GCM N2010 RN			○	○			2,0	±0,03	1,0	21,7	3,6
			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		GA General Purpose	GCM N2002 GA						○	2,0	±0,025	0,2	21,1	3,6
			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

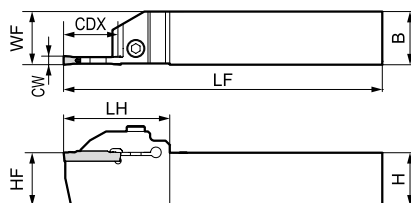
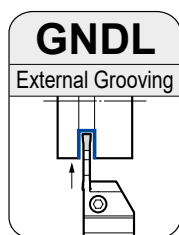
Application	Shape	Type	Cat. No.	Coated Carbide								PSI	Dimensions (mm)						
				AC830P		AC520U		AC530U		AC1030U			Cutting Width	Tolerance	RE	L	S		
				R	L	R	L	R	L	R	L								
Cut-Off		CG General Purpose	GCM R/L2002 CG 05	○	○	○	○	●	●				5°	2,0	±0,03	0,2	21,1	3,6	
			R/L3002 CG 05	●	○	○	○	●	●					5°	3,0	±0,03	0,2	21,3	3,8
			R/L4002 CG 05	○	○	○	○	●	●					5°	4,0	±0,03	0,2	26,7	4,0
Cut-Off		CF Low Cutting Force	GCM R/L20003 CF 10							●	●		10°	2,0	±0,08	0,03	22,4	3,6	
			R/L30003 CF 10							●	●			10°	3,0	±0,08	0,03	22,4	3,8
			R/L20003 CF 15							●	●			15°	2,0	±0,08	0,03	22,4	3,6
			R/L30003 CF 15							●	●			15°	3,0	±0,08	0,03	22,4	3,8

Select holders and inserts with the same grooving width (CW).

# Grooving Tool Holders

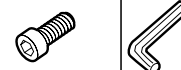
## GNDL / GNDLS Type

### External Deep Grooving and Cut-Off



Above figures show right hand tools.

### Spare Parts

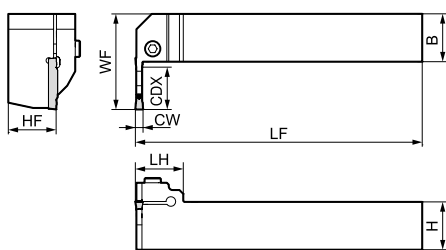
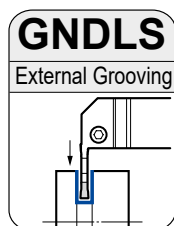


### Holders

Cat. No.	Stock		Dimensions (mm)						Grooving Width (mm)	Max. Groov. Depth (mm)	Max. Cutt-Off Dia (mm)	Applicable Insert	Cap Screw	N·m	Spanner
	R	L	H	B	LF	WF	HF	LH							
GNDL R/L 2020 K 1.2516	●	●	20	20	125	20	20	38,0	1,25	16	32	GCM N125005 GF	BX0520	5,0	LH040
GNDL R/L 2020 K 1.516	●	●	20	20	125	20	20	38,0	1,50	16	32	GCM N150005 GF			
GNDL R/L 2020 K 220	●	●	20	20	125	20	20	44,5	2,00	20	40	GCM □200○-□□			
GNDL R/L 2020 K 320	●	●	20	20	125	20	20	44,5	3,00	20(18)	40	GCM □300○-□□			
GNDL R/L 2020 K 425	●	●	20	20	125	20	20	50,0	4,00	25(23)	50	GCM □400○-□□			
GNDL R/L 2020 K 525	●	●	20	20	125	20	20	50,0	5,00	25(23)	50	GCM N500○-□□			
GNDL R/L 2020 K 625	●	●	20	20	125	20	20	50,0	6,00	25(23)	50	GCM N600○-□□			
GNDL R/L 2525 M 1.2516	●	●	25	25	150	25	25	40,0	1,25	16	32	GCM N125005 GF			
GNDL R/L 2525 M 1.516	●	●	25	25	150	25	25	40,0	1,50	16	32	GCM N150005 GF			
GNDL R/L 2525 M 220	●	●	25	25	150	25	25	44,5	2,00	20	40	GCM □200○-□□			
GNDL R/L 2525 M 320	●	●	25	25	150	25	25	44,5	3,00	20(18)	40	GCM □300○-□□			
GNDL R/L 2525 M 425	●	●	25	25	150	25	25	50,0	4,00	25(23)	50	GCM □400○-□□			
GNDL R/L 2525 M 525	●	●	25	25	150	25	25	50,0	5,00	25(23)	50	GCM N500○-□□			
GNDL R/L 2525 M 625	●	●	25	25	150	25	25	50,0	6,00	25(23)	50	GCM N600○-□□			
GNDL R/L 3225 P 320			32	25	170	25	32	44,5	3,00	20(18)	40	GCM □300○-□□	BX0520	6,0	LH050
GNDL R/L 3225 P 425			32	25	170	25	32	50,0	4,00	25(23)	50	GCM □400○-□□			
GNDL R/L 3225 P 525			32	25	170	25	32	50,0	5,00	25(23)	50	GCM N500○-□□			
GNDL R/L 3225 P 625			32	25	170	25	32	50,0	6,00	25(23)	50	GCM N600○-□□			
GNDL R/L 3225 P 725			32	25	170	25	32	50,0	7,00	25(23)	50	GCM N700○-□□			
GNDL R/L 3225 P 825			32	25	170	25	32	50,0	8,00	25(23)	50	GCM N800○-□□			
GNDL R/L 3232 P 320	●	●	32	32	170	32	32	44,5	3,00	20(18)	40	GCM □300○-□□	BX0620	6,0	LH050
GNDL R/L 3232 P 425	●	●	32	32	170	32	32	50,0	4,00	25(23)	50	GCM □400○-□□			
GNDL R/L 3232 P 525	●	●	32	32	170	32	32	50,0	5,00	25(23)	50	GCM N500○-□□			
GNDL R/L 3232 P 625	●	●	32	32	170	32	32	50,0	6,00	25(23)	50	GCM N600○-□□			
GNDL R/L 3232 P 725	●	●	32	32	170	32	32	50,0	7,00	25(23)	50	GCM N700○-□□			
GNDL R/L 3232 P 825	●	●	32	32	170	32	32	50,0	8,00	25(23)	50	GCM N800○-□□			

Select holders and inserts with the same grooving width (CW). Dimensions in parentheses are for applications that use copying inserts (RG type breakers).

### External L-Styled (Side Cut) Grooving



Above figures show right hand tools.

### Spare Parts



### Holders

Cat. No.	Stock		Dimensions (mm)						Grooving Width (mm)	Max. Groov. Depth (mm)	Applicable Insert	Cap Screw	N·m	Spanner
	R	L	H	B	LF	WF	HF	LH						
GNDLS R/L 2020 K 216	●	●	20	20	125	38	20	25	2,0	16	GCM □200○-□□	BX0520	5,0	LH040
GNDLS R/L 2020 K 316	●	●	20	20	125	38	20	25	3,0	16	GCM □300○-□□			
GNDLS R/L 2525 M 218	●	●	25	25	150	45	25	25	2,0	18	GCM □200○-□□			
GNDLS R/L 2525 M 318	●	●	25	25	150	45	25	25	3,0	18	GCM □300○-□□			
GNDLS R/L 2525 M 423	●	●	25	25	150	50	25	25	4,0	23	GCM □400○-□□			
GNDLS R/L 2525 M 523	●	●	25	25	150	50	25	25	5,0	23	GCM N500○-□□			
GNDLS R/L 2525 M 623	●	●	25	25	150	50	25	25	6,0	23	GCM N600○-□□			

Select holders and inserts with the same grooving width (CW).

● Euro stock

○ Japan stock



# Grooving Tool Holders GNDL / GNDLS Type

## Inserts for GNDL / GNDLS

Application	Shape	Type	Cat. No.	Coated Carbide				Cermets		Dimensions (mm)					
				AC830P	AC425K	AC520U	AC530U	T2500A	H10	CW		RE	L	S	
										Cutting Width	Tolerance				
Grooving/Turning		MG General Purpose	GCM N3004 MG	●	●	○	●			3.0	±0,03	0,4	21,1	3,8	
			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	
			N7008 MG	○	●	○	●			7.0	±0,04	0,8	28,75	5,5	
			N8008 MG	●	●	○	●			8.0	±0,04	0,8	28,75	6,0	
		ML CW=<4mm CW=>5mm Low Feed	GCM N2002 ML		○	○	○	●			2.0	±0,03	0,2	21,1	3,6
			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
			N7004 ML	●	●	○	●	○			7.0	±0,04	0,4	28,75	5,5
			N8004 ML	○	●	○	●	○			8.0	±0,04	0,4	28,75	6,0
			Copying/Cut-Off		GG General Purpose	GCM N2002 GG	●		○	●			2.0	±0,03	0,2
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	
N3004 GG	●					○	●			3.0	±0,03	0,4	21,1	3,8	
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	
N7004 GG	○					○	●			7.0	±0,04	0,4	28,75	5,5	
N8004 GG	●					○	●			8.0	±0,04	0,4	28,75	6,0	
GL Low Feed	GCM N2002 GL	●					○	●				2.0	±0,03	0,2	21,1
	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
	N7004 GL	○				○	●				7.0	±0,04	0,4	28,75	5,5
GF Low Cutting Force	GCM N125005 GF						●				1,25	±0,03	0,05	17,4	3,2
	N150005 GF						●				1,5	±0,03	0,05	17,4	3,7
	N2002 GF						●		○		2.0	±0,03	0,2	21,1	3,6
	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
	N7002 GF	○		○	●				7.0	±0,04	0,2	28,75	5,5		
	N8002 GF	○		○	●				8.0	±0,04	0,2	28,75	6,0		
	GCM N7004 GF	○		○	●				7.0	±0,04	0,4	28,75	5,5		
	N8004 GF	○		○	●				8.0	±0,04	0,4	28,75	6,0		
	Copying		RG General Purpose	GCM N3015 RG	●	●	○	●	○		3.0	±0,03	1,5	21,1	3,8
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	
N7035 RG				○	●	○	●	○		7.0	±0,04	3,5	29,05	5,5	
N8040 RG				○	●	○	●	○		8.0	±0,04	4,0	29,25	6,0	
Face/Necking		RN General Purpose	GCM N2010 RN			○	○			2.0	±0,03	1,0	21,7	3,6	
			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		GA General Purpose	GCG N2002 GA						○	2.0	±0,025	0,2	21,1	3,6	
			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	

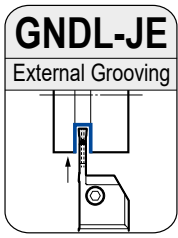
Application	Shape	Type	Cat. No.	Coated Carbide								PSI	Dimensions (mm)						
				AC830P		AC520U		AC530U		AC1030U			Cutting Width	Tolerance	RE	L	S		
				R	L	R	L	R	L	R	L								
Cut-Off		CG General Purpose	GCM R/L2002 CG 05	○	○	○	○	●	●				5°	2.0	±0,03	0,2	21,1	3,6	
			R/L3002 CG 05	●	○	○	○	●	●					5°	3.0	±0,03	0,2	21,3	3,8
			R/L4002 CG 05	○	○	○	○	●	●					5°	4.0	±0,04	0,2	26,7	4,0
Cut-Off		CF Low Cutting Force	GCM R/L20003 CF 10					●	●				10°	2.0	±0,08	0,03	22,4	3,6	
			R/L30003 CF 10					●	●				10°	3.0	±0,08	0,03	22,4	3,8	
			R/L20003 CF 15					●	●				15°	2.0	±0,08	0,03	22,4	3,6	
			R/L30003 CF 15					●	●				15°	3.0	±0,08	0,03	22,4	3,8	

Select holders and inserts with the same grooving width (CW).

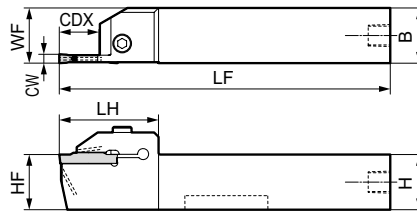
# Grooving Tool Holders GNDL-JE Type

## Holder with Internal Coolant

### External Deep Grooving and Cut-Off



Internal Coolant



Above figures show right hand tools.

### Spare Parts

Cap Screw	Plug and Sealing	Grub Screw*	Spanner
BX0520	6,0	XP02-E	BT0505-E
			LH040

### Holders

Cat. No.	Stock		Dimensions (mm)						Grooving Width (mm)	Max. Groov. Depth (mm)	Max. Cutt-Off Dia (mm)	Applicable Insert
	R	L	H	B	LF	WF	HF	LH				
GNDL R/L 2020 X 220 JE	●	●	20	20	110	20	20	44,5	2,00	20	20	GC □ 2000-□□
GNDL R/L 2020 X 320 JE	●	●	20	20	110	20	20	44,5	3,00	20	24	GC □ 3000-□□
GNDL R/L 2020 X 425 JE	●	●	20	20	115	20	20	50,0	4,00	25	36	GC □ 4000-□□
GNDL R/L 2020 X 525 JE	●	●	20	20	115	20	20	50,0	5,00	25	36	GC □ N5000-□□
GNDL R/L 2020 X 625 JE	●	●	20	20	115	20	20	50,0	6,00	25	36	GC □ N6000-□□
GNDL R/L 2525 X 220 JE	●	●	25	25	110	25	25	44,5	2,00	20	20	GC □ 2000-□□
GNDL R/L 2525 X 320 JE	●	●	25	25	110	25	25	44,5	3,00	20	24	GC □ 3000-□□
GNDL R/L 2525 X 425 JE	●	●	25	25	115	25	25	50,0	4,00	25	36	GC □ 4000-□□
GNDL R/L 2525 X 525 JE	●	●	25	25	115	25	25	50,0	5,00	25	36	GC □ N5000-□□
GNDL R/L 2525 X 625 JE	●	●	25	25	115	25	25	50,0	6,00	25	36	GC □ N6000-□□

Select holders and inserts with the same grooving width (CW).

\*Grub screws are sold separately (M5x5)

Fig. 1

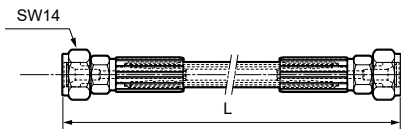


Fig. 1

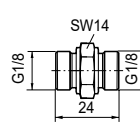


Fig. 2

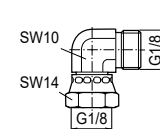
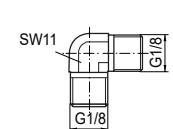


Fig. 3



### Parts (Hose)

Cat. No.	Stock	L (mm)	Srew Standard	Srew Standard	Fig.
J-HOSE-G1/8-G1/8-200-E	●	200	G1/8	G1/8	1
J-HOSE-G1/8-G1/8-300-E	●	300	G1/8	G1/8	1

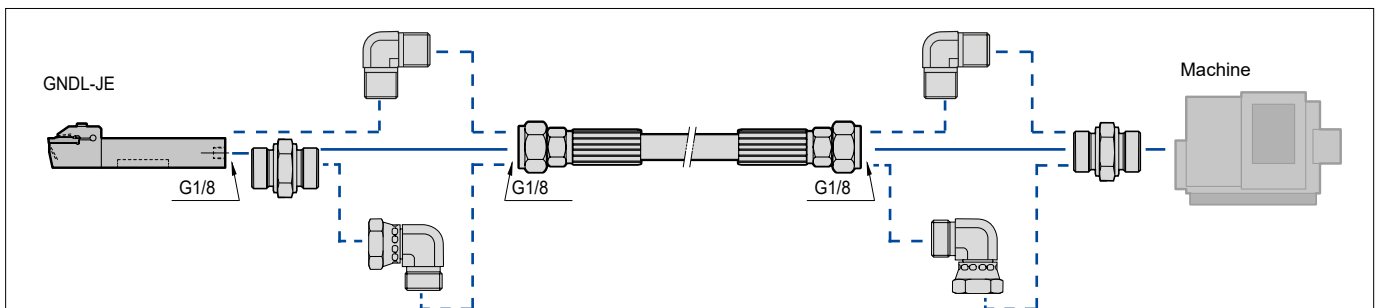
Hoses are sold separately.

### Parts (Connector)

Cat. No.	Stock	Srew Standard	Srew Standard	Fig.
J-G1/8-G1/8-00-E	●	G1/8	G1/8	1
J-G1/8-G1/8F-90-E	●	G1/8	G1/8	2
J-G1/8-G1/8-90-E	●	G1/8	G1/8	3

Connectors are sold separately.

### Piping Method for Hoses and Connectors



Apply sealant such as commercial sealing tape to the piping connection parts.

GNDL-JE type holders have a plug (XP02-E) mounted on the holder back end at shipping. (see fig.1)

When piping from the holder back end, mount a grub screw (BT0505-E) on the bottom of the holder for use. (see fig. 2)

Fig. 1 Piping from bottom.

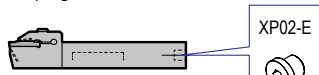
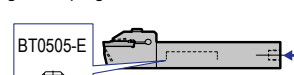


Fig. 2 Piping from back end.



# Grooving Tool Holders GNDL-JE Type

## Inserts for GNDL-JE

Application	Shape	Type	Cat. No.	Coated Carbide				Cermets		Dimensions (mm)							
				AC830P	AC425K	AC520U	AC530U	T2500A	H10	CW		RE	L	S			
										Cutting Width	Tolerance						
Grooving/Turning		MG General Purpose	GCM N3004 MG	●	●	○	●				3,0	±0,03	0,4	21,1	3,8		
			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=<4mm CW=>5mm Low Feed	GCM N2002 ML	●	●	○	●					2,0	±0,03	0,2	21,1	3,6	
			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	
			Copying/Cut-Off		GG General Purpose	GCM N2002 GG	●		●	●				2,0	±0,03	0,2	21,1
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	
	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	
	N3002 GL	●				○	●					3,0	±0,03	0,2	21,1	3,8	
	N4002 GL	●				○	●					4,0	±0,03	0,2	26,4	4,0	
GF Low Cutting Force	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 N2002 GF						●	○				2,0	±0,03	0,2	21,1	3,6	
	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	
Copying		RG General Purpose	GCM N3015 RG	●	●	○	●	○			3,0	±0,03	1,5	21,1	3,8		
			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	
			Face/Necking		RN General Purpose	GCM N2010 RN			○	○				2,0	±0,03	1,0	21,7
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		GA General Purpose	GCG N2002 GA							○	2,0	±0,025	0,2	21,1	3,6		
			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

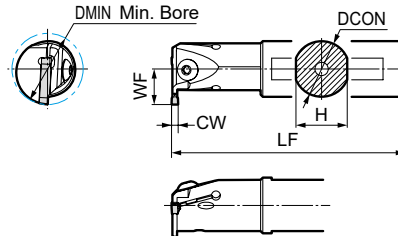
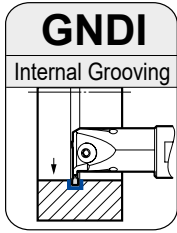
Application	Shape	Type	Cat. No.	Coated Carbide				PSI	Dimensions (mm)												
				AC830P		AC520U			AC530U		AC1030U		RE	L	S						
				R	L	R	L		R	L	R	L				CW	Tolerance				
Cut-Off		CG General Purpose	GCM R/L2002 CG 05	○	○	○	○	●	●				5°	2,0	±0,03	0,2	21,1	3,6			
			R/L3002 CG 05	●	○	○	○	●	●						5°	3,0	±0,03	0,2	21,3	3,8	
			R/L4002 CG 05	○	○	○	○	●	●						5°	4,0	±0,03	0,2	26,7	4,0	
Cut-Off		CF Low Cutting Force	GCM R/L20003 CF 10							●	●			10°	2,0	±0,08	0,03	22,4	3,6		
			R/L30003 CF 10								●	●			10°	3,0	±0,08	0,03	22,4	3,8	
			R/L20003 CF 15									●	●			15°	2,0	±0,08	0,03	22,4	3,6
			R/L30003 CF 15									●	●			15°	3,0	±0,08	0,03	22,4	3,8

Select holders and inserts with the same grooving width (CW).

# Grooving Tool Holders

## GNDI Type

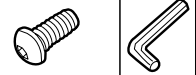
### Internal Grooving



Use for multi-purpose or profiling insert for turning (wide grooves).

Above figures show right hand tools.

### Spare Parts



### Holders

Cat. No.	Stock		Dimensions (mm)				Min. Bore (mm)	Groov. Width (mm)	Max. Groov. Depth (mm)	Applicable Insert	Cap Screw	N·m	Spanner
	R	L	DCON	H	LF	WF							
GNDI R/L 2532 T 206	●	●	25	23	200	16	32	2,0	6	GCM N2000-□□	BH0516	5,0	LH030
GNDI R/L 3240 T 210	●	●	32	30	250	26	40	2,0	10	GCM N2000-□□	BH0616	6,0	LH040
GNDI R/L 2532 T 306	●	●	25	23	200	16	32	3,0	6	GCM N3000-□□	BH0516	5,0	LH030
GNDI R/L 3240 T 310	●	●	32	30	250	26	40	3,0	10	GCM N3000-□□	BH0616	6,0	LH040
GNDI R/L 4050 T 311	●	●	40	38	300	31	50	3,0	11	GCM N3000-□□	BH0616	6,0	LH040
GNDI R/L 2532 T 406	●	●	25	23	200	19	32	4,0	6	GCM N4000-□□	BH0516	5,0	LH030
GNDI R/L 3240 T 410	●	●	32	30	250	26	40	4,0	10	GCM N4000-□□	BH0616	6,0	LH040
GNDI R/L 4050 T 411	●	●	40	38	300	31	50	4,0	11	GCM N4000-□□	BH0616	6,0	LH040
GNDI R/L 2532 T 506	●	●	25	23	200	19	32	5,0	6	GCM N5000-□□	BH0516	5,0	LH030
GNDI R/L 3240 T 510	●	●	32	30	250	26	40	5,0	10	GCM N5000-□□	BH0616	6,0	LH040
GNDI R/L 4050 T 511	●	●	40	38	300	31	50	5,0	11	GCM N5000-□□	BH0616	6,0	LH040
GNDI R/L 4050 T 611	●	●	40	38	300	31	50	6,0	11	GCM N6000-□□	BH0616	6,0	LH040

Select holders and inserts with the same grooving width (CW).

## ■ GNDI Inserts

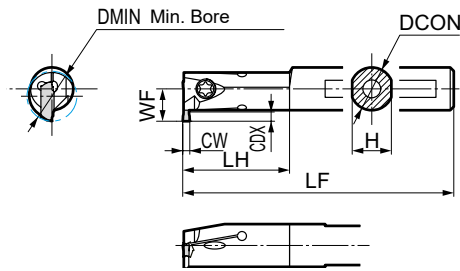
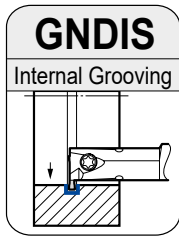
Application	Shape	Type	Cat. No.	Coated Carbide				Cermet	Carbide	Dimensions (mm)				
				AC830P	AC425K	AC520U	AC530U	T2500A	H10	CW		RE	L	S
										Cutting Width	Tolerance			
Grooving/Turning		MG General Purpose	GCM N3004 MG	●	●	○	●			3,0	±0,03	0,4	21,1	3,8
			N4008 MG	●	●	○	●			4,0	±0,03	0,8	26,4	4,0
			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=<4mm CW=>5mm Low Feed	GCM N2002 ML	●	●	○	●			2,0	±0,03	0,2	21,1	3,6
			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
Copying/Cut-Off		GG General Purpose	GCM N2002 GG	●		●	●			2,0	±0,03	0,2	21,1	3,6
			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
		GL Low Feed	GCM N2002 GL	●		○	●			2,0	±0,03	0,2	21,1	3,6
			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
			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
		RG General Purpose	GCM N3015 RG	●	●	○	●	○		3,0	±0,03	1,5	21,1	3,8
			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
RN General Purpose	GCM N2010 RN			○	○			2,0	±0,03	1,0	21,7	3,6		
	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		
Non Ferrous Metals		GA General Purpose	GCG N2002 GA					○	2,0	±0,025	0,2	21,1	3,6	
			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	
						○	6,0	±0,025	0,4	26,4	4,5			

Select holders and inserts with the same grooving width (CW).

# Grooving Tool Holders

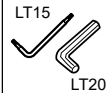
## GNDIS Type

### Internal Grooving



Above figures show right hand tools.

### Spare Parts



### Holders

Cat. No.	Stock		Dimensions (mm)					Min. Bore (mm)	Groov. Width (mm)	Max. Groov. Depth (mm)	Applicable Insert	Cap Screw	Spanner
	R	L	DCON	H	LF	LH	WF						
GNDIS R/L 1214 T 1526	○	○	12	11	150	30	9,0	14	1,5	2,6	GXM N150005S GF		
GNDIS R/L 1214 T 1536	○	○	12	11	150	30	10,0	14	1,5	3,6	GXM N150005S GF	BFTX0409N	3,4 LT15
GNDIS R/L 1616 T 1536	○	○	16	15	160	35	11,5	16	1,5	3,6	GXM N150005S GF		
GNDIS R/L 1620 T 1546	○	○	16	15	160	40	14,5	20	1,5	4,6	GXM N150005S GF		
GNDIS R/L 2025 T 1566	○	○	20	19	180	40	19,0	25	1,5	6,6	GXM N150005S GF	BFTX0511N	5,0 LT20
GNDIS R/L 1214 T 2026	○	○	12	11	150	30	9,0	14	2,0	2,6	GXM N2002S-□□		
GNDIS R/L 1214 T 2036	○	○	12	11	150	30	10,0	14	2,0	3,6	GXM N2002S-□□	BFTX0409N	3,4 LT15
GNDIS R/L 1616 T 2036	○	○	16	15	160	35	11,5	16	2,0	3,6	GXM N2002S-□□		
GNDIS R/L 1620 T 2046	○	○	16	15	160	40	14,5	20	2,0	4,6	GXM N2002S-□□	BFTX0511N	5,0 LT20
GNDIS R/L 2025 T 2066	○	○	20	19	180	40	19,0	25	2,0	6,6	GXM N2002S-□□		
GNDIS R/L 1214 T 3026	○	○	12	11	150	30	9,0	14	3,0	2,6	GXM N3002S-□□		
GNDIS R/L 1214 T 3036	○	○	12	11	150	30	10,0	14	3,0	3,6	GXM N3002S-□□	BFTX0409N	3,4 LT15
GNDIS R/L 1616 T 3036	○	○	16	15	160	35	11,5	16	3,0	3,6	GXM N3002S-□□		
GNDIS R/L 1620 T 3046	○	○	16	15	160	40	14,5	20	3,0	4,6	GXM N3002S-□□		
GNDIS R/L 2025 T 3066	○	○	20	19	180	40	19,0	25	3,0	6,6	GXM N3002S-□□	BFTX0511N	5,0 LT20

Select holders and inserts with the same grooving width (CW).

Only GXM inserts can be used.

### GNDIS Inserts

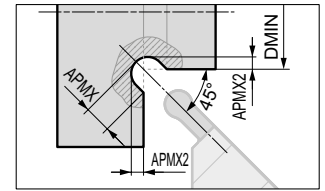
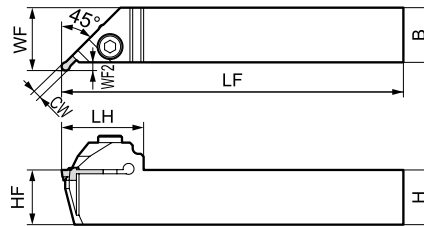
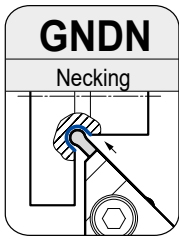
Application	Shape	Type	Cat. No.	Coated Carbide		Dimensions (mm)				
				AC520U	AC1030U	CW		RE	L	S
						Cutting Width	Tolerance			
Grooving/ Turning		ML Low Feed	GXM N2002S ML	○	○	2,0	±0,03	0,2	11,1	3,1
			N3002S ML	○	○	3,0	±0,03	0,2	11,1	3,1
Grooving		GF Low Cutting Force	GXM N150005S GF		○	1,5	±0,03	0,05	11,1	3,1
			N2002S GF	○	○	2,0	±0,03	0,2	11,1	3,1
			N3002S GF	○	○	3,0	±0,03	0,2	11,1	3,1

Select holders and inserts with the same grooving width (CW).

GCM and GCG inserts are not compatible.

# Grooving Tool Holders GNDN Type

## Necking



Above figures show right hand tools.

## Spare Parts



## Holders

Cat. No.	Stock		Dimensions (mm)							Min. Bore (mm)	Groov. Width (mm)	APMX	APMX2	Applicable Insert	Cap Screw	Spanner	
	R	L	H	B	LF	WF	HF	LH	WF2								DMIN
GNDN R/L2020 K 215-020	○	○	20	20	125	23	20	30	3,0	20	2,0	1,5	0,64	GCM N2010 RN	BX0520	5,0	LH040
GNDN R/L2020 K 320-020	○	○	20	20	125	23	20	30	3,0	20	3,0	2,0	0,79	GCM N3015 RN			
GNDN R/L2020 K 430-030	○	○	20	20	125	24	20	32	4,0	30	4,0	3,0	1,29	GCM N4020 RN			
GNDN R/L2020 K 535-030	○	○	20	20	125	25	20	35	5,0	30	5,0	3,5	1,44	GCM N5025 RN			
GNDN R/L2020 K 640-030	○	○	20	20	125	25	20	35	5,0	30	6,0	4,0	1,59	GCM N6030 RN			
GNDN R/L2525 M 215-020	○	○	25	25	150	28	25	30	3,0	20	2,0	1,5	0,64	GCM N2010 RN	BX0520	5,0	LH040
GNDN R/L2525 M 320-020	○	○	25	25	150	28	25	30	3,0	20	3,0	2,0	0,79	GCM N3015 RN			
GNDN R/L2525 M 430-030	○	○	25	25	150	29	25	32	4,0	30	4,0	3,0	1,29	GCM N4020 RN			
GNDN R/L2525 M 535-030	○	○	25	25	150	30	25	35	5,0	30	5,0	3,5	1,44	GCM N5025 RN			
GNDN R/L2525 M 640-030	○	○	25	25	150	30	25	35	5,0	30	6,0	4,0	1,59	GCM N6030 RN			

Select holders and inserts with the same grooving width (CW).

## GNDN Inserts

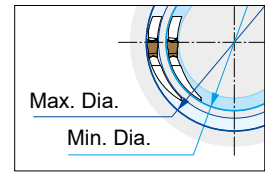
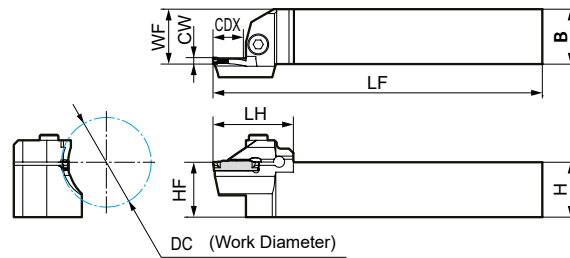
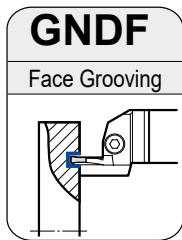
Application	Shape	Type	Cat. No.	Coated Carbide				Dimensions (mm)					
				AC830P	AC425K	AC520U	AC530U	CW		RE	L	S	
								Cutting Width	Tolerance				
Face/ Necking		RN		GCM N2010 RN	-	-	○	○	2,0	±0,03	1,0	21,7	3,6
					○	○	○	○	3,0	±0,03	1,5	22,4	3,8
					○	○	○	○	4,0	±0,03	2,0	28,0	4,0
					○	○	○	○	5,0	±0,03	2,5	28,1	4,1
					○	○	○	○	6,0	±0,03	3,0	28,1	4,5

Select holders and inserts with the same grooving width (CW).

# Grooving Tool Holders

## GNDF Type

### Face Grooving



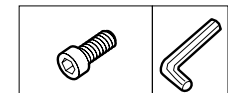
Work diameters in the stock indicate external diameters of face grooving.

Use for multi-purpose or profiling insert for turning (wide grooves).

Above figures show right hand tools.

### ■ Holders

### ■ Spare Parts



Cat. No.	Stock		Dimensions (mm)						Work Dia. (mm)	Groov. Width (mm)	Max. Cut-off Dia. (mm)	Applicable Insert	Cap Screw	N-m	Spanner
	R	L	H	B	LF	WF	HF	LH							
GNDF R/L 2020 K 312-035	●	●	20	20	125	20	20	35,6	35-45	3,0	12	GCM N300O-□□	BX0520	5,0	LH040
GNDF R/L 2020 K 312-040	●	●	20	20	125	20	20	35,6	40-55	3,0	12				
GNDF R/L 2020 K 318-050	●	●	20	20	125	20	20	41,6	50-70	3,0	18				
GNDF R/L 2020 K 318-065	●	●	20	20	125	20	20	41,6	65-100	3,0	18				
GNDF R/L 2020 K 318-090	●	●	20	20	125	20	20	41,6	90-150	3,0	18				
GNDF R/L 2020 K 318-140	●	●	20	20	125	20	20	41,6	140-200	3,0	18				
GNDF R/L 2020 K 318-180	●	●	20	20	125	20	20	41,6	180-300	3,0	18				
GNDF R/L 2020 K 418-040	●	●	20	20	125	20	20	41,6	40-55	4,0	18	GCM N400O-□□	BX0520	5,0	LH040
GNDF R/L 2020 K 423-050	●	●	20	20	125	20	20	46,6	50-70	4,0	23				
GNDF R/L 2020 K 423-065	●	●	20	20	125	20	20	46,6	65-90	4,0	23				
GNDF R/L 2020 K 423-085	●	●	20	20	125	20	20	46,6	85-130	4,0	23				
GNDF R/L 2020 K 423-125	●	●	20	20	125	20	20	46,6	125-200	4,0	23				
GNDF R/L 2020 K 423-180	●	●	20	20	125	20	20	46,6	180-300	4,0	23				
GNDF R/L 2020 K 423-280	●	●	20	20	125	20	20	46,6	280-1000	4,0	23				
GNDF R/L 2020 K 523-050	●	●	20	20	125	20	20	46,6	50-70	5,0	23	GCM N500O-□□	BX0520	5,0	LH040
GNDF R/L 2020 K 523-065	●	●	20	20	125	20	20	46,6	65-90	5,0	23				
GNDF R/L 2020 K 523-085	●	●	20	20	125	20	20	46,6	85-130	5,0	23				
GNDF R/L 2020 K 523-125	●	●	20	20	125	20	20	46,6	125-200	5,0	23				
GNDF R/L 2020 K 523-180	●	●	20	20	125	20	20	46,6	180-300	5,0	23				
GNDF R/L 2020 K 523-280	●	●	20	20	125	20	20	46,6	280-1000	5,0	23				
GNDF R/L 2020 K 623-050	●	●	20	20	125	20	20	46,6	50-75	6,0	23	GCM N600O-□□	BX0520	5,0	LH040
GNDF R/L 2020 K 623-070	●	●	20	20	125	20	20	46,6	70-110	6,0	23				
GNDF R/L 2020 K 623-100	●	●	20	20	125	20	20	46,6	100-200	6,0	23				
GNDF R/L 2020 K 623-180	●	●	20	20	125	20	20	46,6	180-300	6,0	23				
GNDF R/L 2020 K 623-280	●	●	20	20	125	20	20	46,6	280-1000	6,0	23				
GNDF R/L 2525 M 312-035	●	●	25	25	150	25	25	35,6	35-45	3,0	12				
GNDF R/L 2525 M 312-040	●	●	25	25	150	25	25	35,6	40-55	3,0	12				
GNDF R/L 2525 M 318-050	●	●	25	25	150	25	25	41,6	50-70	3,0	18				
GNDF R/L 2525 M 318-065	●	●	25	25	150	25	25	41,6	65-100	3,0	18				
GNDF R/L 2525 M 318-090	●	●	25	25	150	25	25	41,6	90-150	3,0	18				
GNDF R/L 2525 M 318-140	●	●	25	25	150	25	25	41,6	140-200	3,0	18				
GNDF R/L 2525 M 318-180	●	●	25	25	150	25	25	41,6	180-300	3,0	18				
GNDF R/L 2525 M 418-040	●	●	25	25	150	25	25	41,6	40-55	4,0	18	GCM N400O-□□	BX0520	5,0	LH040
GNDF R/L 2525 M 423-050	●	●	25	25	150	25	25	46,6	50-70	4,0	23				
GNDF R/L 2525 M 423-065	●	●	25	25	150	25	25	46,6	65-90	4,0	23				
GNDF R/L 2525 M 423-085	●	●	25	25	150	25	25	46,6	85-130	4,0	23				
GNDF R/L 2525 M 423-125	●	●	25	25	150	25	25	46,6	125-200	4,0	23				
GNDF R/L 2525 M 423-180	●	●	25	25	150	25	25	46,6	180-300	4,0	23				
GNDF R/L 2525 M 423-280	●	●	25	25	150	25	25	46,6	280-1000	4,0	23				
GNDF R/L 2525 M 523-050	●	●	25	25	150	25	25	46,6	50-70	5,0	23	GCM N500O-□□	BX0520	5,0	LH040
GNDF R/L 2525 M 523-065	●	●	25	25	150	25	25	46,6	65-90	5,0	23				
GNDF R/L 2525 M 523-085	●	●	25	25	150	25	25	46,6	85-130	5,0	23				
GNDF R/L 2525 M 523-125	●	●	25	25	150	25	25	46,6	125-200	5,0	23				
GNDF R/L 2525 M 523-180	●	●	25	25	150	25	25	46,6	180-300	5,0	23				
GNDF R/L 2525 M 523-280	●	●	25	25	150	25	25	46,6	280-1000	5,0	23				
GNDF R/L 2525 M 623-050	●	●	25	25	150	25	25	46,6	50-75	6,0	23	GCM N600O-□□	BX0520	5,0	LH040
GNDF R/L 2525 M 623-070	●	●	25	25	150	25	25	46,6	70-110	6,0	23				
GNDF R/L 2525 M 623-100	●	●	25	25	150	25	25	46,6	100-200	6,0	23				
GNDF R/L 2525 M 623-180	●	●	25	25	150	25	25	46,6	180-300	6,0	23				
GNDF R/L 2525 M 623-280	●	●	25	25	150	25	25	46,6	280-1000	6,0	23				

Select holders and inserts with the same grooving width (CW).

● Euro stock

○ Japan stock



## Inserts for GNDF

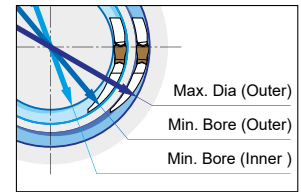
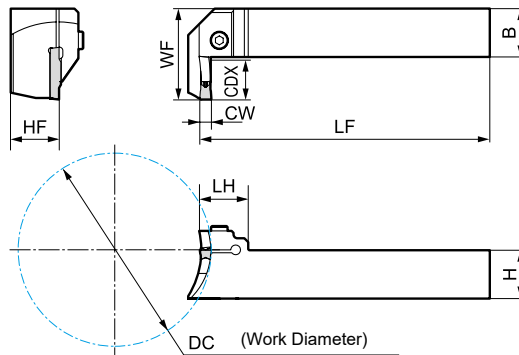
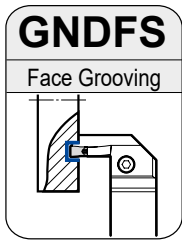
Application	Shape	Type	Cat. No.	Coated Carbide				Cermet	Carbide	Dimensions (mm)					
				AC830P	AC425K	AC520U	AC530U	T2500A	H10	CW		RE	L	S	
										Cutting Width	Tolerance				
Grooving/Turning		MG General Purpose	GCM N3004 MG	●	●	○	●			3,0	±0,03	0,4	21,1	3,8	
			N4008 MG	●	●	○	●			4,0	±0,03	0,8	26,4	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<4mm CW->5mm Low Feed	GCM 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
Copying/Cut-Off		GG General Purpose	GCM 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
			N4004 GG	●		○	●				4,0	±0,03	0,4	26,4	4,0
		GL Low Feed	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 N3002 GL	●		○	●				3,0	±0,03	0,2	21,1	3,8
			N4002 GL	●		○	●				4,0	±0,03	0,2	26,4	4,0
		GF Low Cutting Force	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 N3002 GF	●		●	●		○		3,0	±0,03	0,2	21,1	3,8
			N4002 GF	●		●	●		○		4,0	±0,03	0,2	26,4	4,0
Face/ Necking		RN General Purpose	N5002 GF	○		●	●			5,0	±0,03	0,2	26,4	4,1	
			N6002 GF	○		●	●			6,0	±0,03	0,2	26,4	4,5	
			GCM 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
Non Ferrous Metals		GA General Purpose	N6030 RN	○	○	○	○			6,0	±0,03	3,0	28,1	4,5	
			GCG 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

Select holders and inserts with the same grooving width (CW).

# Grooving Tool Holders

## GNDFS Type

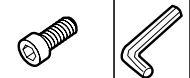
### Face Grooving L-Styled (Non-Adjustable Type)



Use the multi-purpose copying inserts for turning (wide grooves).

Above figures show right hand tools.

### Spare Parts



### ■ Holders

Cat. No.	Stock		Dimensions (mm)						Work Dia. (mm)	Min. Bore Ø Inner (mm)	Groov. Width (mm)	Max. Groov. Depth (mm)	Applicable Insert	Cap Screw	Spanner	
	R	L	H	B	LF	WF	HF	LH								DC
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	100-200	88	6,0	20					
GNDFS R/L2525M 620 180			25	25	150	47	25	180-300	168	6,0	20					
GNDFS R/L2525M 620 280			25	25	150	47	25	280-1000	268	6,0	20					
GNDFS R/L2525M 620 450			25	25	150	47	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	100-200	88	6,0	20					
GNDFS R/L3232P 620 180			32	32	170	54	32	180-300	168	6,0	20					
GNDFS R/L3232P 620 280			32	32	170	54	32	280-1000	268	6,0	20					
GNDFS R/L3232P 620 450			32	32	170	54	32	>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	100-200	84	8,0	20					
GNDFS R/L2525M 820 180			25	25	150	47	25	180-300	164	8,0	20					
GNDFS R/L2525M 820 280			25	25	150	47	25	280-1000	264	8,0	20					
GNDFS R/L2525M 820 450			25	25	150	47	25	>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	100-200	84	8,0	20					
GNDFS R/L3232P 820 180			32	32	170	54	32	180-300	164	8,0	20					
GNDFS R/L3232P 820 280			32	32	170	54	32	280-1000	264	8,0	20					
GNDFS R/L3232P 820 450			32	32	170	54	32	>450	434	8,0	20					

Select holders and inserts with the same grooving width (CW).

### ■ Inserts for GNDFS

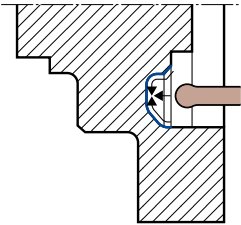
Application	Shape	Type	Cat. No.	Coated Carbide				Cermet Carbide		Dimensions (mm)					
				AC830P	AC425K	AC520U	AC530U	T2500A	H10	CW		RE	L	S	
										Cutting Width	Tolerance				
Grooving/ Turning		MG General Purpose	GCM N6008 MG	●	●	○	●			6,0	±0,03	0,8	26,4	4,5	
			N8008 MG	●	●	○	●			8,0	±0,04	0,8	28,75	6,0	
		ML Low Feed	GCM N6004 ML	●	●	○	●			6,0	±0,03	0,4	26,4	4,5	
			N8004 ML	○	●	○	●			8,0	±0,04	0,4	28,75	6,0	
Copying/Cut-Off		GG General Purpose	GCM N6002 GG	○	○	○	●			6,0	±0,03	0,2	26,4	4,5	
			N6004 GG	○	○	○	●			6,0	±0,03	0,4	26,4	4,5	
		GL Low Feed	GCM N6002 GL	○	○	○	●			6,0	±0,03	0,2	26,4	4,5	
			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	
			N8002 GF	○	○	○	●			8,0	±0,04	0,2	28,75	6,0	
Face/ Necking		RN General Purpose	GCM N6030 RN	○	○	○	○			6,0	±0,03	3,0	28,1	4,5	
Non Ferrous Metals		GA General Purpose	GCG N6004 GA							○	6,0	±0,025	0,4	26,4	4,5

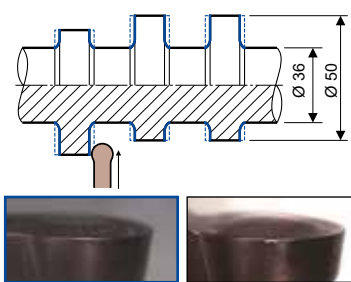
Select holders and inserts with the same grooving width (CW).

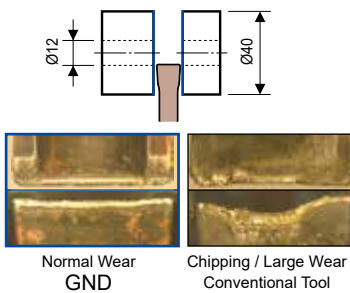
● Euro stock

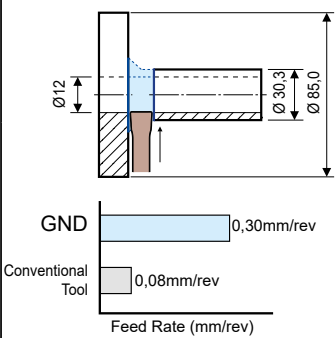
○ Japan stock

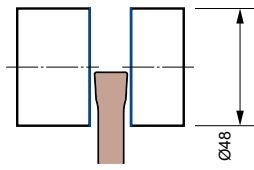
## Application Examples

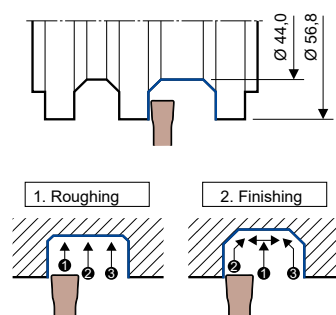
20CrMo5, Automotive Part, Face Profiling	
	<b>Target:</b> - Higher rigidity - Vibration reduction - Chip control - Wear resistance performance
	Holder: GND R2525M 423-125 Insert: GCM N4020 RG Grooving width: 4 mm Cutting conditions: $v_c = 200$ m/min $f = 0,14$ mm/rev wet
Stable machining free of vibration! Excellent chip control using the GND type.	

C53, Cam Shaft Grooving / Finishing (Contin. to Heavy Interrupted)	
	<b>Target:</b> - Higher rigidity - Vibration reduction - Chip control - Fracture resistance
	Holder: GNDM L2525M 618 Insert: GCM N6030 RG Grooving width: 6 mm Cutting conditions: $v_c = 130$ m/min $f = 0,36$ mm/rev wet
Stable machining free of vibration! Excellent fracture resistance Stable chip control	

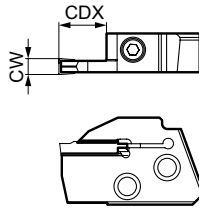
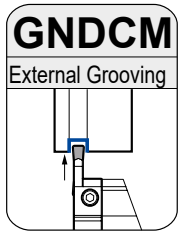
C48, Machine Part, Cut-Off	
	<b>Target:</b> - Higher rigidity - Vibration reduction - Fracture resistance
	Holder: GNDL R2525M 320 Insert: GCM N3002 GG Grooving width: 3 mm Cutting conditions: $n = 1600$ min <sup>-1</sup> $v_c = 200$ m/min $f = 0,05$ mm/rev wet
Stable machining free of vibration! Excellent fracture resistance Stable fracture resistance	

34CrMo4, Crank, Cut-Off	
	<b>Target:</b> - Higher rigidity - Vibration reduction - Chip control
	Holder: GNDL R2525M 320 Insert: GCM N3002 GG Grooving width: 3 mm Cutting conditions: $v_c = 115$ m/min $f = 0,30$ mm/rev wet
Improved efficiency Stable machining free of vibration Stable chip control	

X40CrVMo5-1, (45-48HRC), Machine Part, Cut-Off	
	<b>Target:</b> - Higher rigidity - Vibration reduction - Chip control
	Holder: GNDL R2525M 425 Insert: GCM N4002 GG Grooving width: 4 mm Cutting conditions: $v_c = 50$ m/min $f = 0,03$ mm/rev wet
Stable machining free of vibration! Excellent chip control using the GND type. No more unexpected breakage!	

20Cr4, Gear Shaft, Grooving / Pocketing	
	<b>Target:</b> - Higher rigidity - Vibration reduction - Chip control
	Holder: GNDM R2020K 518 Insert: GCM N5008 MG Grooving width: 5 mm Cutting conditions: $v_c = 150$ m/min $f = 0,1$ mm/rev wet
Stable machining free of vibration! Excellent chip control using the GND type.	

# ISO-PSC Polygon Modular GND Grooving System



## General Features

New grades and chipbreakers have been added to the already established GND grooving system with polygon shank and a flexible and economical cassette system for inserts. An array of chipbreakers improves the efficiency in chip control in various applications such as grooving, turning, profiling and cut-off.

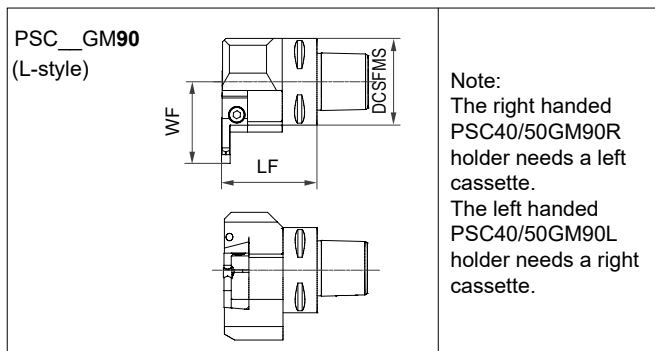
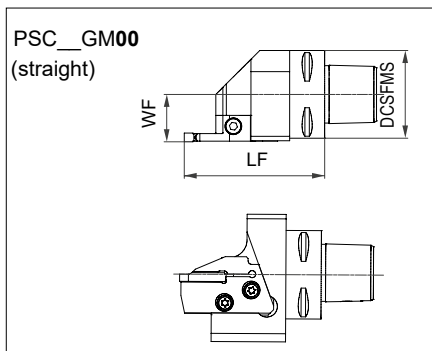
## Advantages

- GND inserts for soft grooving from 2,0 - 6,0 mm width
- Expanded grade selection with 9 different chipbreakers for a wide application range
- Provides excellent chip control
- Achieves stable long tool life

## Cassette

Cat. No.	R	L	CW (mm)	CDX (mm)	Inserts	Cap Screw	Tightening Torque (N·m)	Spanner
GND MCM R/L 212	●	●	2	12	GCM □2000-□□	BX0512	5,0	LH040
GND MCM R/L 312	●	●	3		GCM □3000-□□			
GND MCM R/L 418	●	●	4	GCM □4000-□□				
GND MCM R/L 518	●	●	5	GCM □5000-□□				
GND MCM R/L 618	●	●	6	GCM □6000-□□				
							6,0	

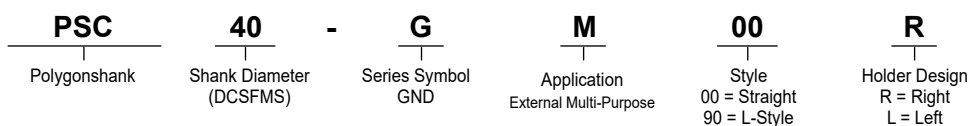
## Holder



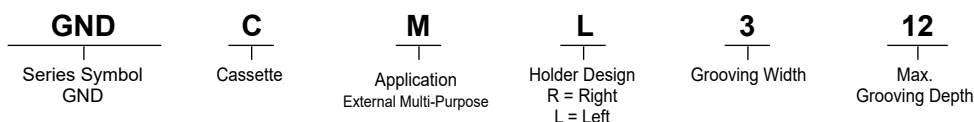
Style	Cat. No.	R	L	DCSFMS (mm)	WF (mm)	LF (mm)	Cap Screw	Tightening Torque (N·m)	Spanner
Straight	PSC40GM00 R/L	●	●	40	22	80*	BFTX0619N	7,5	LT25
	PSC50GM00 R/L	●	●	50	27				
L-Style	PSC40GM90 R/L	●	●	40	42*	52,5			
	PSC50GM90 R/L	●	●	50	47*	55,0			

\* Dimension when using radial grooving cassettes.

## Identification Details - Polygon-Toolholder



## Identification Details - Cassette



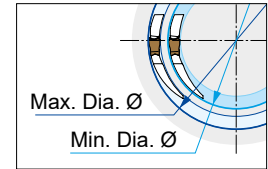
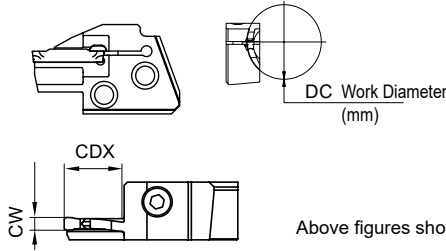
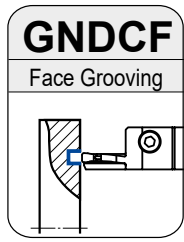
## ■ Inserts

Application	Shape	Type	Cross section of cutting edge	Cat. No.	Coated Carbide						Cermet		Dimensions (mm)				
					AC830P	AC425K	AC520U	AC530U	T2500A	H10	CW		RE	L	S		
											Cutting Width	Tolerance					
Grooving/Turning		MG General Purpose		GCM N3004 MG	●	●	○	●				3,0	±0,03	0,4	21,1	3,8	
				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		
				N3002 ML	●	●	○	●	○		3,0	±0,03	0,2	21,1	3,8		
	Copying/Cut-Off		GG General Purpose		GCM N2002 GG	●		○	●				2,0	±0,03	0,2	21,1	3,6
					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	
			GL Low Feed		GCM N6002 GG	○		○	●			6,0	±0,03	0,2	26,4	4,5	
					N3004 GG	●		○	●			3,0	±0,03	0,4	21,1	3,8	
		GF Low Cutting Force		N4004 GG	●		○	●				4,0	±0,03	0,4	26,4	4,0	
				N5004 GG	○		○	●			5,0	±0,03	0,4	26,4	4,1		
				GCM N6004 GG	○		○	●			6,0	±0,03	0,4	26,4	4,5		
				N2002 GL	●		○	●			2,0	±0,03	0,2	21,1	3,6		
				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				
		N2002 GF				●	○			2,0	±0,03	0,2	21,1	3,6			
		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			
		Copying		RG General Purpose		GCM N3015 RG	●	●	○	●	○			3,0	±0,03	1,5	21,1
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	
Face/Necking		RN General Purpose		GCM N2010 RN	○		○	○				2,0	±0,03	1,0	21,7	3,6	
				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	
Non Ferrous Metals		GA General Purpose		GCM N6030 RN	○		○	○				6,0	±0,03	3,0	28,1	4,5	
				GCG N2002 GA						○		2,0	±0,025	0,2	21,1	3,6	
				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		

Select holders and inserts with the same grooving width (CW).

Application	Shape	Type	Cross section of cutting edge	Cat. No. R / L	Coated Carbide										PSI	Dimensions (mm)						
					AC830P		AC520U		AC530U		AC1030U		R	L		CW		RE	L	S		
					R	L	R	L	R	L	R	L				Cutting Width	Tolerance					
Cut-Off		CG General Purpose		GCM □2002 CG 05	○	○	○	○	●	●						5°	2,0	±0,03	0,2	21,1	3,6	
				□3002 CG 05	●	○	○	○	●	●							5°	3,0	±0,03	0,2	21,3	3,8
				□4002 CG 05	○	○	○	○	●	●							5°	4,0	±0,03	0,2	26,7	4,0
Cut-Off		CF Low Cutting Force		GCM □20003 CF 10												10°	2,0	±0,08	0,03	22,4	3,6	
				□30003 CF 10													10°	3,0	±0,08	0,03	22,4	3,8
				□20003 CF 15													15°	2,0	±0,08	0,03	22,4	3,6
				□30003 CF 15													15°	3,0	±0,08	0,03	22,4	3,8

# ISO-PSC Polygon Modular GND Grooving System



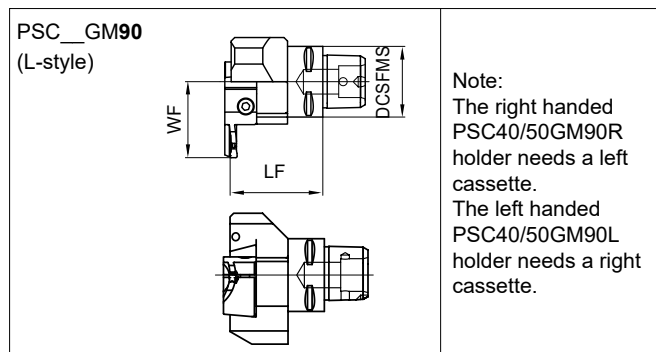
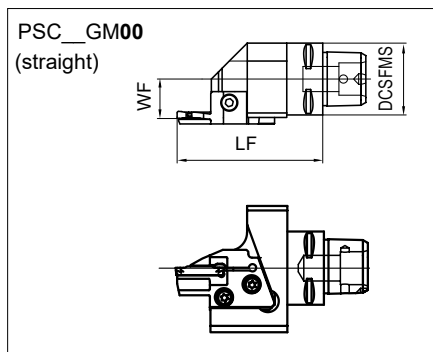
Work diameters in the stock indicate external diameters of face grooving.

Above figures show right hand tools.

## Cassette

Cat. No.	R	L	CW (mm)	Diameter Range (mm)	DC (mm)	CDX (mm)	Inserts	Cap Screw	Tightening Torque (N·m)	Spanner
GNDCF R/L 312-040	●	●	3	40-200	40-55	12	GC □ N3000-□□	BX0512	5,0	LH040
GNDCF R/L 315-050	●	●			50-70	15				
GNDCF R/L 315-065	●	●			65-100	15				
GNDCF R/L 318-090	●	●			90-150	18				
GNDCF R/L 318-140	□	□			140-200	18				
GNDCF R/L 418-040	●	●	4	40-300	40-55	18	GC □ N4000-□□		6,0	
GNDCF R/L 418-050	●	●			50-70	18				
GNDCF R/L 418-065	●	●			65-90	18				
GNDCF R/L 418-085	●	●			85-130	18				
GNDCF R/L 418-125	□	□			125-200	18				
GNDCF R/L 418-180	□	□	180-300	18						
GNDCF R/L 518-050	□	□	5	50-300	50-70	18	GC □ N5000-□□	6,0		
GNDCF R/L 518-065	□	□			65-90	18				
GNDCF R/L 518-085	□	□			85-130	18				
GNDCF R/L 518-125	□	□			125-200	18				
GNDCF R/L 518-180	□	□			180-300	18				
GNDCF R/L 618-050	□	□	6	50-1000	50-75	18	GC □ N6000-□□		6,0	
GNDCF R/L 618-070	□	□			70-110	18				
GNDCF R/L 618-100	□	□			100-200	18				
GNDCF R/L 618-180	□	□			180-300	18				
GNDCF R/L 618-280	□	□			280-1000	18				

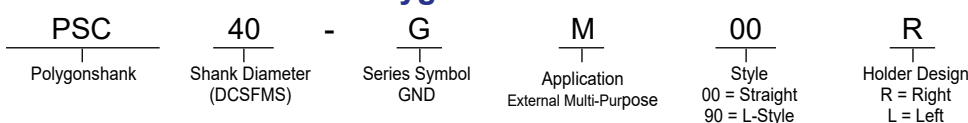
## Holder



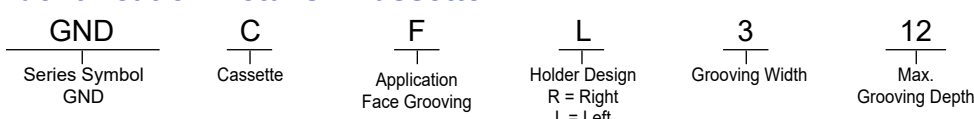
Style	Cat. No.	R	L	DCSFMS (mm)	WF (mm)	LF (mm)	Cap Screw	Tightening Torque (N·m)	Spanner
Straight	PSC40GM00 R/L	●	●	40	22	81*	BFTX0619N	7,5	LT25
	PSC50GM00 R/L	●	●	50	27				
L-Style	PSC40GM90 R/L	●	●	40	43*	52,5			
	PSC50GM90 R/L	●	●	50	48*	55,0			

\* Dimension when using face grooving cassettes.

## Identification Details - Polygon-Toolholder



## Identification Details - Cassette



● Euro stock

○ Japan stock



# ISO-PSC Polygon Modular GND Grooving System

## ■ Inserts

Application	Shape	Type	Cat. No.	Coated Carbide				Cermet	Carbide	Dimensions (mm)						
				AC830P	AC425K	AC520U	AC530U	T2500A	H10	CW		RE	L	S		
										Cutting Width	Tolerance					
Grooving/Turning		MG General Purpose	GCM N3004 MG	●	●	○	●			3,0	±0,03	0,4	21,1	3,8		
			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<4mm CW->5mm Low Feed	GCM 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	
Copying/Cut-Off		GG General Purpose	GCM 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		
		GL Low Feed	GCM N3004 GG	●		○	●				3,0	±0,03	0,4	21,1	3,8	
			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	
		GF Low Cutting Force	GCM 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	
		Face-/Necking		RN General Purpose	GCM 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		
GA General Purpose	GCG 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	

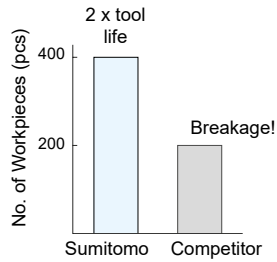
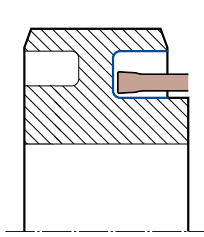
Select holders and inserts with the same grooving width (CW).

# ISO-PSC Polygon Modular GND Grooving System



## Application Examples

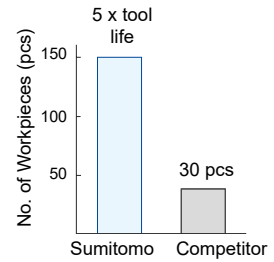
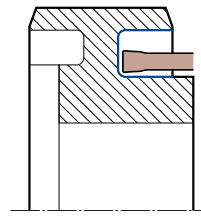
Case-Hardened Steel, Synchronizer Ring, Face Grooving



Holder: PSC40GM00R  
Cassette: GNDCFR618-050  
Insert: GCMN6004MLAC830P

Cutting Conditions:  $v_c = 180$  m/min,  $f = 0,15$  mm/rev,  $t_e = 0,16$  min  
Coolant: air

21CrNiMo2, Gear, Face Grooving



Holder: PSC40GM90L  
Cassette: GNDCFR518-050  
Insert: GCMN5004MLAC830P

Cutting Conditions:  $v_c = 200$  m/min,  $f = 0,154$  mm/rev,  $t_e = 0,73$  min  
Coolant: -



CARBIDE - CBN - DIAMOND

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