

# Grooving Tool Holders

## GND Type Expansion II



Grooving



Turning



Profiling



Face Grooving

- Excellent chip control
- Reduction of vibration with high rigidity design  
Up to 30% reduction compared with previous types
- High precision grooving  
Grooving width precision:  $\pm 0,03\text{mm}$  (for grooving width of 1,25/1,5/2/3/4/5/6mm)



Internal Grooving

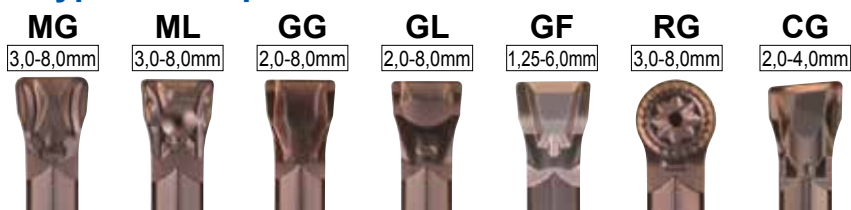


Cut-Off

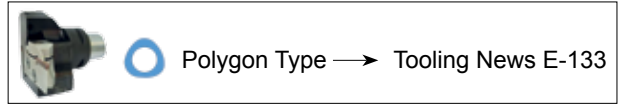


Mini Toolholder

### 7 Types of Chipbreakers



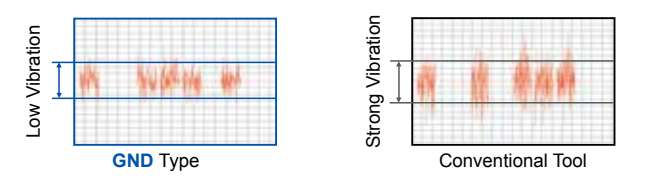
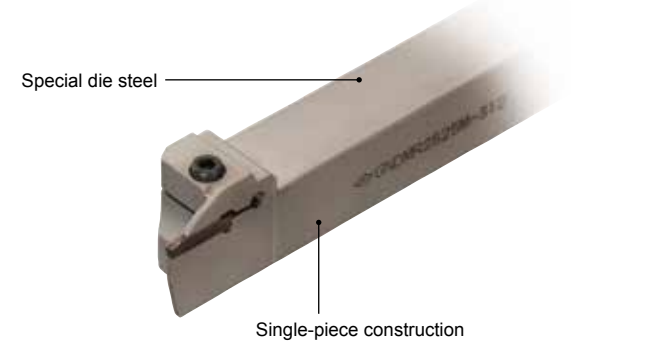
# Grooving Tool Holders GND Type



## Cutting Performance

### Eliminates Vibration

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

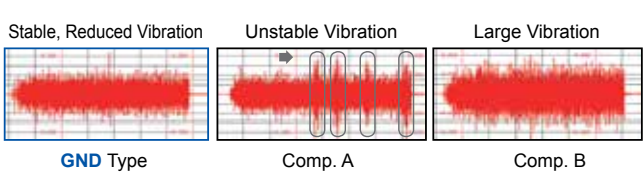


Work Material:	15CrMo5
Holder:	GNDL R2525M 220
Insert:	GCM N2002 GG
Cutting Conditions:	$v_c=100\text{m/min}$ , $f=0,10\text{mm/rev}$ , $a_p=20\text{mm}$ , wet

## Characteristics

- **Wide range of application processes**  
Applicable for grooving, turning, profiling, facing, boring and cut-off.
- **Achieving stable tool life**  
An array of chipbreakers improves the efficiency in chip control in various applications and prevents unexpected damages caused by chip blockade.
- **Achieving 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.
- **Achieving high precision grooving widths with moulded inserts**  
Grooving insert width tolerance of  $\pm 0,03\text{mm}$  over the entire range.

### Ensures both high rigidity and good chip evacuation

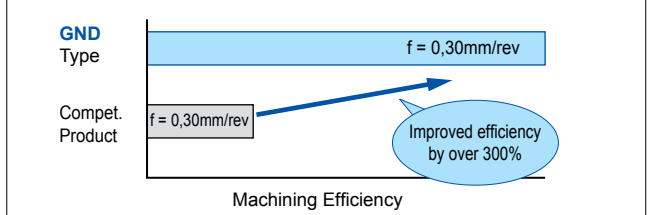


Work Material:	15CrMo5
Holder:	GNDI R2532 T306
Insert:	GCM N3002 GG
Cutting Conditions:	$v_c=100\text{m/min}$ , $f=0,05\text{mm/rev}$ , $a_p=3,0\text{mm}$ , wet

## Application Examples

### Substantially improved machining efficiency!

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



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

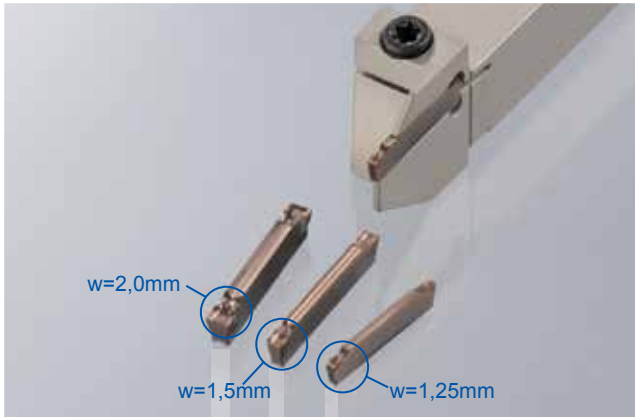
### Stable and long tool life ensures reliable functionality even on automatic production lines!

Reduction of chattering prevents unexpected breakage.



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

# Grooving Tool Holders GND Type

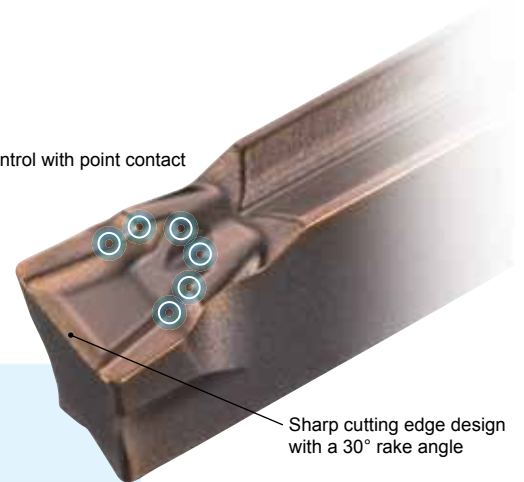


## Low Cutting Resistance Chipbreaker GF Type

- Reduces chip control problems  
The GF type chipbreaker is added to the current wide selection of chipbreakers to improve chip control under various conditions.
- Reduces chattering during cutting
- Ideal for machining using low-powered equipment such as small lathes
- Reduces adhesion to tools and achieves long tool life in machining of stainless steel, etc.

Achieves excellent chip control and reduced cutting resistance due to the sharp cutting edge design with a 30° rake angle as well as the reduction of frictional resistance through chip control with point contact.

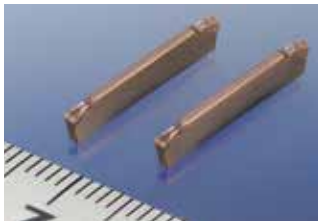
Chip control with point contact



Sharp cutting edge design with a 30° rake angle

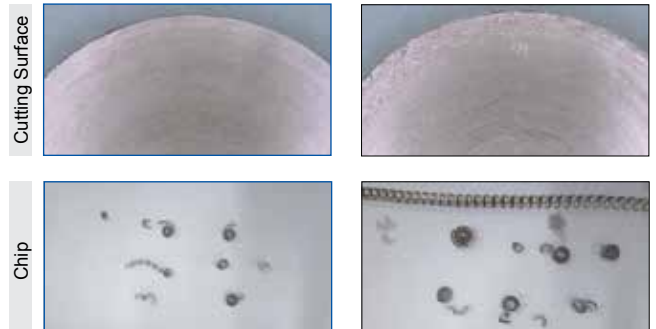
## Minimum Groove Width: 1,25mm

Effective for reduction of material costs and for reduction of vibration during cutting off.



Work Material: 15CrMo5, Ø22mm  
Holder: GNDL R1212JX 1,2512  
Insert: GCM N125005GF (AC530U)  
Cutting Conditions:  $n=2000\text{min}^{-1}$ ,  $f=0,03\text{mm/rev}$ , wet

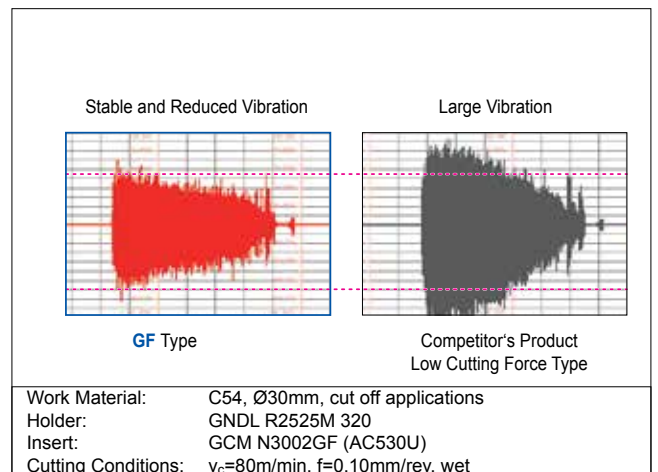
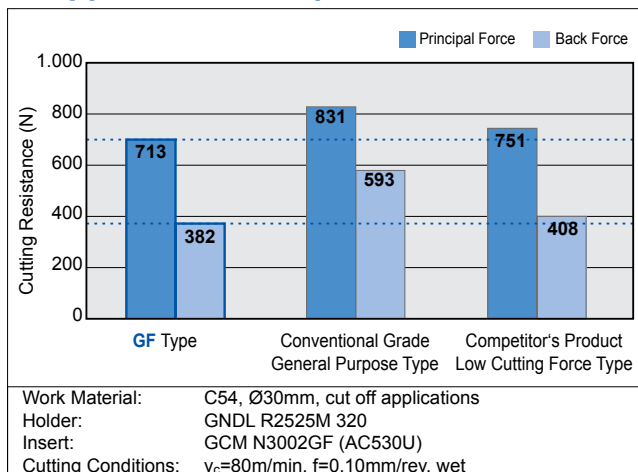
Provides Excellent Surface Finish and Chip Control



GND (GF) Type

Competitor's Product








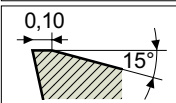
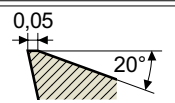
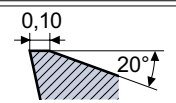
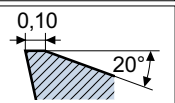
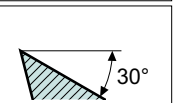
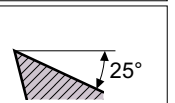
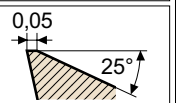
## Application Examples



# 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			Profiling
General Type	Low Feed Type	General Type	Low Feed Type	Low Cutting Force Type	Cut-Off Type	General Type
<b>MG Type</b> 	<b>ML Type</b> 	<b>GG Type</b> 	<b>GL Type</b> 	<b>GF Type</b> 	<b>CG Type</b> 	<b>RG Type</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
						
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
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
Grade	Grade	Grade	Grade	Grade	Grade	Grade
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

Stock

\* Only AC530U is on stock

## ■ 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	
Grade	<b>AC830P</b>	<b>AC520U</b>	<b>AC530U</b>	<b>AC830P</b>	<b>AC520U</b>	<b>AC530U</b>	<b>AC425K</b>	<b>AC520U</b>	<b>AC530U</b>	<b>AC520U</b>	<b>AC530U</b>
Cutting Speed (m/min)	80~200	80~200	50~200	70~150	70~150	50~150	80~200	60~200	50~200	20~80	20~60

## ■ Excellent Chip Control

### Grooving



**GND Type**  
(GG Type Chipbreaker)



Conventional Tool

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

### Turning



**GND Type**  
(ML Type Chipbreaker)



Conventional Tool

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

### Cut-Off



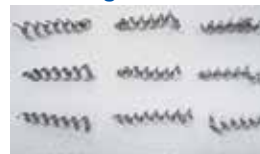
**GND Type**  
(CG Type Chipbreaker)



Conventional Tool

Work Material: X5CrMo17122 (Ø30mm)  
Holder: GNDL R2525M 220  
Insert: GCM R2002 CG 05  
Cutting Conditions:  $v_c=100\text{m/min}$ ,  $f=0,15\text{mm/rev}$ , wet

### Profiling



**GND Type**  
(RG Type Chipbreaker)










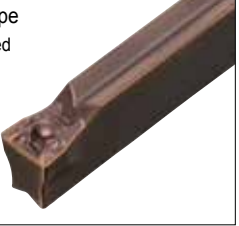

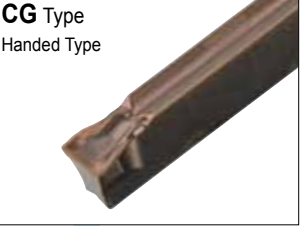





Conventional Tool

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

# Grooving Tool Holders GND Type

## Chipbreaker Selection

	 Grooving / Turning	 Grooving	 Cut-Off	 Profiling
1st Recommendation	<b>MG Type</b> General Feed 	<b>GG Type</b> General Feed 	<b>GG Type</b> General Feed  <b>GL Type</b> Low Feed  Good Chip Control	<b>RG Type</b> General Feed 
2nd Recommendation	<b>ML Type</b> Low Feed 	<b>GL Type</b> General Feed  Good Chip Control	<b>CG Type</b> Handed Type 	
3rd Recommendation	<b>MG Type</b> General Feed 	<b>ML Type</b> Low Feed  Good Chip Control	<b>GF Type</b> Low Cutting Force 	

Flowchart details:

- MG Type (1st) → Improved Chip Control → ML Type (2nd)
- ML Type (2nd) → Chipping Prevention → MG Type (3rd)
- GG Type (1st) → Improved Chip Control → GL Type (2nd)
- GL Type (2nd) → In Case of Unstable Chip Shape → ML Type (3rd)
- GG Type (1st) → Reduce Chattering → GF Type (3rd)
- GG Type (1st) → Prevent Nip Formation → CG Type (2nd)
- CG Type (2nd) → Reduce Chattering → GF Type (3rd)
- GL Type (1st) → Improved Chip Control → GL Type (2nd)
- GL Type (2nd) → Improved Chip Control → CG Type (2nd)

## Grade Selection

	<b>P</b> Steel	<b>M</b> Stainless Steel	<b>K</b> Cast Iron	<b>S</b> Exotic Alloy
1st Recommendation	<b>PVD</b> AC530U Insufficient Wear Resistance Chipping Prevention	<b>PVD</b> AC530U Insufficient Wear Resistance Chipping Prevention	<b>CVD</b> AC425K Chipping Prevention Insufficient Wear Resistance	<b>PVD</b> AC520U Chipping Prevention
2nd Recommendation	<b>PVD</b> AC520U Insufficient Wear Resistance Chipping Prevention	<b>PVD</b> AC520U Insufficient Wear Resistance Chipping Prevention	<b>PVD</b> AC520U Chipping Prevention Insufficient Wear Resistance	Insufficient Wear Resistance
	<b>CVD</b> AC830P	<b>CVD</b> AC830P	<b>PVD</b> AC530U	<b>PVD</b> AC530U

# Grooving Tool Holders GND Type

## For External Machining

### Turning / Profiling

### Grooving / Cut-Off

Tool Type	Shank Size (Height x Width)	Grooving Width (mm)	Chipbreaker
<b>GNDM (Small Tools) Straight Type</b>	16mm x 16mm	1.25, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0	MG ML GG GL GF RG CG
<b>GNDS (Shallow Grooves) Straight Type</b>	20mm x 20mm, 25mm x 25mm	1.25, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0	MG ML GG GL GF RG CG
<b>GNDM Straight Type</b>	20mm x 20mm, 25mm x 25mm, 32mm x 25mm, 32mm x 32mm	1.25, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0	MG ML GG GL GF RG CG
<b>GNDMS L Type</b>	20mm x 20mm, 25mm x 25mm	1.25, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0	MG ML GG GL GF RG CG
<b>GNDL (Small Tools) Straight Type</b>	10mm x 10mm, 12mm x 12mm, 16mm x 16mm	1.25, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0	MG ML GG GL GF RG CG
<b>GNDL Straight Type</b>	20mm x 20mm, 25mm x 25mm, 32mm x 25mm, 32mm x 32mm	1.25, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0	MG ML GG GL GF RG CG
<b>GNDLS L Type</b>	20mm x 20mm, 25mm x 25mm	1.25, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0	MG ML GG GL GF RG CG

### Series for External Machining

Type	Shank Size (Height x Width)	Cutting Width (mm)	Series	Max. Grooving Depth (mm)						Ref. Page	Applicable Chipbreaker							
				5	10	15	20	25	30		MG	ML	GG	GL	GF	RG	CG	
Small Tools	10 10	1.25 1.5	GNDL	10						→ 12					○			
		2		10									○	○	○		○	
		3		10							○	○	○	○	○	○	○	
	12 12	1.25 1.5	GNDL	12						→ 12					○			
		2		12,5									○	○	○		○	
		3		12,5							○	○	○	○	○	○	○	
16 16	1.5 1.5	GNDM	10						→ 12					○				
			GNDL	12,5						→ 12					○			
	2	GNDM		12						→ 12			○	○	○		○	
	2		GNDL	16						→ 12			○	○	○		○	
	3	GNDM		12						→ 12	○	○	○	○	○	○	○	
	3		GNDL	16						→ 12	○	○	○	○	○	○	○	
Straight Type	20 20	2		GNDS	6						→ 13			○	○	○		○
		2	GNDM		10						→ 14			○	○	○		○
		2		GNDL	20						→ 15			○	○	○		○
		3	GNDS		6						→ 13	○	○	○	○	○	○	○
		3		GNDM	12						→ 14	○	○	○	○	○	○	○
		3	GNDL		20						→ 15	○	○	○	○	○	○	○
	25 25	4		GNDS	10						→ 13	○	○	○	○	○	○	○
		4	GNDM		18						→ 14	○	○	○	○	○	○	○
		4		GNDL	25						→ 15	○	○	○	○	○	○	○
		5 6	GNDS		10						→ 13	○	○	○	○	○	○	○
		5 6		GNDM	18						→ 14	○	○	○	○	○	○	○
		5 6	GNDL		25						→ 15	○	○	○	○	○	○	○
32 25*	3	GNDM		12						→ 14	○	○	○	○	○	○	○	
			GNDL	20						→ 15	○	○	○	○	○	○	○	
		4		GNDM	18						→ 14	○	○	○	○	○	○	○
	GNDL		25						→ 15	○	○	○	○	○	○	○		
			32 32	5 6	GNDM	18						→ 14	○	○	○	○	○	○
	5 6	GNDL		25						→ 15	○	○	○	○	○	○	○	
7 8	GNDM			18						→ 14	○	○	○	○	○	○	○	
7 8		GNDL		25						→ 15	○	○	○	○	○	○	○	
L Type	20 20			2	GNDLS	16						→ 15			○	○	○	
		3		GNDMS		10						→ 14	○	○	○	○	○	○
		3	GNDLS		16						→ 15	○	○	○	○	○	○	○
	4	GNDMS		12						→ 14	○	○	○	○	○	○	○	
	5		GNDMS	12						→ 14	○	○	○	○	○	○	○	
	25 25	2		GNDLS	18						→ 15			○	○	○		○
3		GNDMS	12						→ 14	○	○	○	○	○	○	○		
3			GNDLS	18						→ 15	○	○	○	○	○	○	○	
4		GNDMS		14						→ 14	○	○	○	○	○	○	○	
4			GNDLS	23						→ 15	○	○	○	○	○	○	○	
5 6		GNDMS		14						→ 14	○	○	○	○	○	○	○	
5 6	GNDLS		23						→ 15	○	○	○	○	○	○	○		

Stock

\* Make to order item (32x25mm)

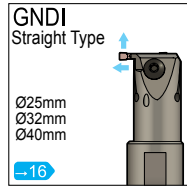
○ 1st Recommendation

○ 2nd Recommendation

# Grooving Tool Holders GND Type

## For Internal Machining

Grooving / Turning / Copying

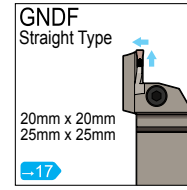


Grooving Width (mm)		
1.25	1.5	2.0
3.0	4.0	5.0
6.0	7.0	8.0

Chipbreaker  
MG|ML|GG|GL|GF|RG|CG

## For Face Machining

Grooving / Turning / Profiling



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|RG|CG

### Series for Internal Machining

Type	Shank Size ØD <sub>s</sub> (mm)	Cutting Width (mm)					Series	Max. Grooving Depth (mm)	Min. Bore (mm)	Ref. Page	Applicable Chipbreaker						
		2	3	4	5	6					MG	ML	GG	GL	GF	RG	CG
Straight Type	Ø32	2					GNDI	6	Ø32	- 16			○	○	○		
	Ø40	2						10	Ø40				○	○	○		
	Ø25		3	4				6	Ø32			○	○	○	○		
	Ø32		3	4				10	Ø40			○	○	○	○		
	Ø40		3	4				11	Ø50			○	○	○	○		
	Ø25				5			6	Ø32			○	○	○	○		
	Ø32				5			10	Ø40			○	○	○	○		
	Ø40				5			11	Ø50			○	○	○	○		
	Ø40					6		11	Ø50			○	○	○	○		

### 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	RG
Straight Type	20 : 20	3	GNDF	12	Ø35	Ø45	- 17	○	○	○	○	○	△				
					Ø40	Ø55		○	○	○	○	△					
					Ø50	Ø70		○	○	○	○	△					
					Ø65	Ø100		○	○	○	○	△					
					Ø90	Ø150		○	○	○	○	△					
					Ø140	Ø200		○	○	○	○	△					
		25 : 25			4	GNDF		18	Ø180	Ø300	○	○	○	○	○	○	△
									Ø40	Ø55	○	○	○	○	△		
									Ø50	Ø70	○	○	○	○	△		
									Ø65	Ø90	○	○	○	○	△		
									Ø85	Ø130	○	○	○	○	△		
									Ø125	Ø200	○	○	○	○	△		
	25 : 25	5	GNDF	23	Ø180		Ø300		○	○	○	○	○	○	△		
					Ø280		Ø1,000		○	○	○	○	△				
					Ø50		Ø70		○	○	○	○	△				
					Ø65		Ø90		○	○	○	○	△				
					Ø85		Ø130		○	○	○	○	△				
					Ø125		Ø200		○	○	○	○	△				
	25 : 25	6			GNDF	23	Ø180	Ø300	○	○	○	○	○	○	△		
							Ø280	Ø1,000	○	○	○	○	△				
							Ø50	Ø75	○	○	○	○	△				
							Ø70	Ø110	○	○	○	○	△				
							Ø100	Ø200	○	○	○	○	△				
							Ø180	Ø300	○	○	○	○	△				

■ Stock

◎ 1st Recommendation

○ 2nd Recommendation

△ Inserts and holders need modification in some cases

# Grooving Tool Holders GND Type

## Key Points for Face Machining

### Holder Selection

Max. Diameter  
Min. Diameter

Select a holder so that the outer diameter of the first groove to be machined comes within the range of maximum and minimum grooving diameter of the holder.

### Precautions for Groove Expansion

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

Min. Bore

1  
2  
3  
4  
5

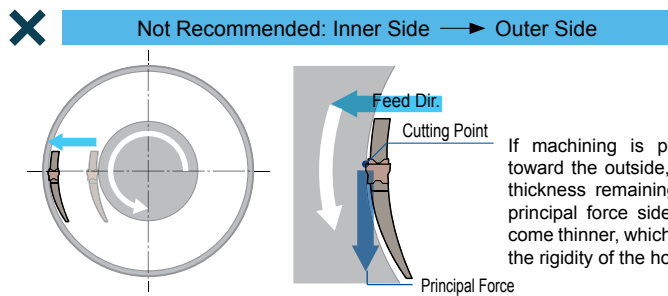
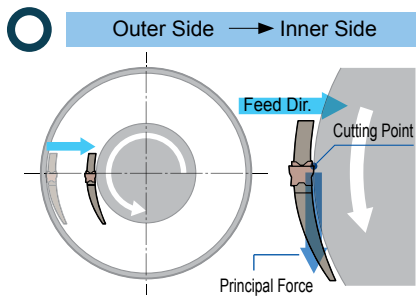
If the first groove meets the range of the effective grooving diameter during groove expansion, the grooving diameter will not be limited for the second and later passes.

### 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.


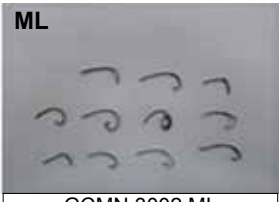


## Key Points for Internal Machining

### 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.

 GCMN 3004 MG	 GCMN 3002 ML	 GCMN 3002 GG	 GCMN 3002 GL
<p>Work Material: 15CrMo5 (Ø25mm)                  Holder: GNDI R2532 T306                  Insert: GCM N300                  Cutting Conditions: <math>v_c=100\text{m/min}</math>, <math>f=0,10\text{mm/rev}</math>, <math>a_p=3,0\text{mm}</math>, wet</p>			

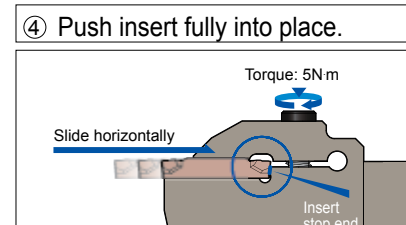
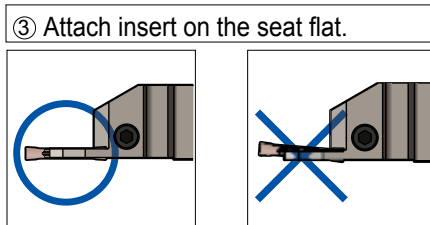
 GCMN 3002 GG	 GCMN 3002 GG	<p>⚠ Chip shapes differ between internal and external machining even under the same cutting conditions.</p> <p>Work Material: 15CrMo5                  Holder: GNDL R2525M 320                  Insert: GCM N3002 GG                  Cutting Conditions: <math>v_c=100\text{m/min}</math>, <math>f=0,10\text{mm/rev}</math>, <math>a_p=5\text{mm}</math>, wet</p>
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# Grooving Tool Holders GND Type

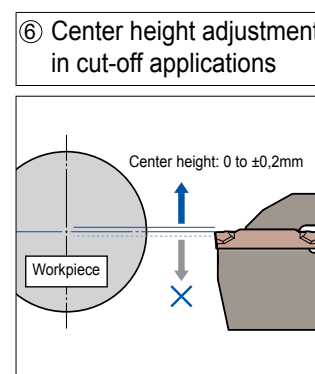
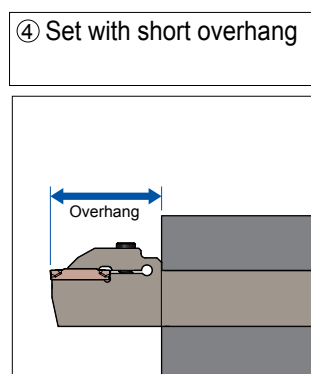
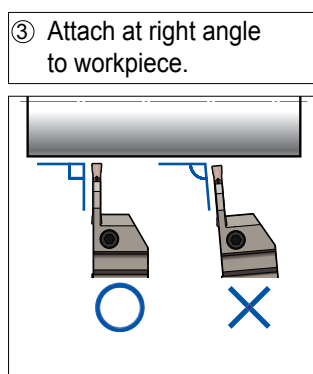
## Notes on how to Attach Inserts

- 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 5N·m. Tightening above the recommended torque may damage the insert or the holder which could cause injury and other accidents.



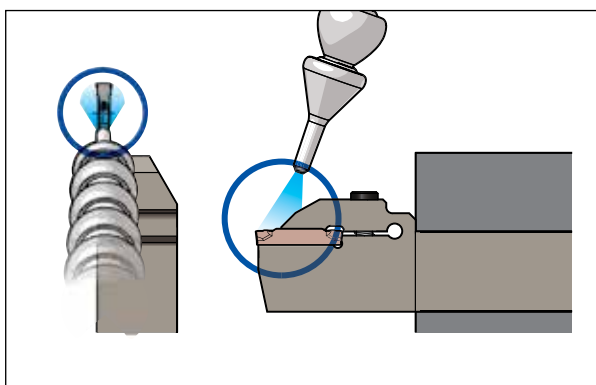
## Notes on how to Apply Holders

- 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  $\pm 0\text{mm}$  as possible. (Within  $\pm 0,1\text{mm}$  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  $+0,2\text{mm}$ .  
A lower center height will result in larger nip at the center.



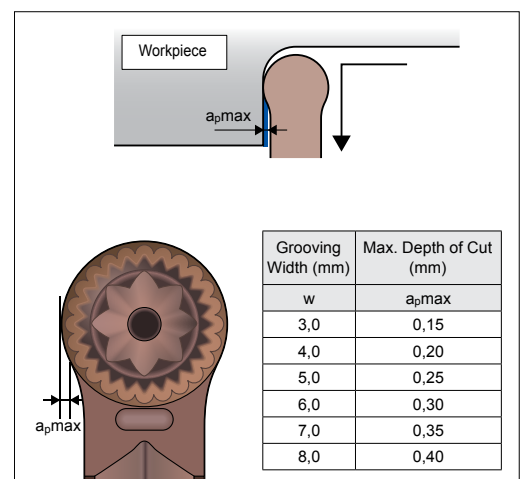
## Notes on Setting Coolant Supply Nozzle

Set the coolant supply nozzle so that coolant can be supplied from the top of the upper clamp unit. (See picture below)



## 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	Chipbreaker <b>GF</b> 		0,2	GCM N12505 <b>GF</b>
1,5	Chipbreaker <b>GF</b> 		0,2	GCM N150005 <b>GF</b>
2,0	Chipbreaker <b>GG</b> <b>GL</b> <b>GF</b> <b>CG</b> 		0,2	GCM N2002 <b>GG</b> GCM N2002 <b>GL</b> GCM N2002 <b>GF</b> GCM R/L2002 <b>CG05</b>
3,0	Chipbreaker <b>MG</b> <b>ML</b> <b>GG</b> <b>GL</b> <b>GF</b> <b>RG</b> <b>CG</b> 		0,2	GCM N3002 <b>ML</b> GCM N3002 <b>GG</b> GCM N3002 <b>GL</b> GCM N3002 <b>GF</b> GCM R/L3002 <b>CG05</b>
			0,4	GCM N3004 <b>MG</b> GCM N3004 <b>GG</b>
			1,5	GCM N3015 <b>RG</b>
4,0	Chipbreaker <b>MG</b> <b>ML</b> <b>GG</b> <b>GL</b> <b>GF</b> <b>RG</b> <b>CG</b> 		0,2	GCM N4002 <b>GG</b> GCM N4002 <b>GL</b> GCM N4002 <b>GF</b> GCM R/L4002 <b>CG05</b>
			0,4	GCM N4004 <b>ML</b> GCM N4004 <b>GG</b>
			0,8	GGCM N 4008 <b>MG</b>
2,0	GCM N4020 <b>RG</b>			
5,0	Chipbreaker <b>MG</b> <b>ML</b> <b>GG</b> <b>GL</b> <b>GF</b> <b>RG</b> 		0,2	GCM N5002 <b>GG</b> GCM N5002 <b>GL</b> GCM N5002 <b>GF</b>
			0,4	GCM N5004 <b>ML</b> GCM N5004 <b>GG</b>
			0,8	GCM N5008 <b>MG</b>
2,5	GCM N5025 <b>RG</b>			
6,0	Chipbreaker <b>MG</b> <b>ML</b> <b>GG</b> <b>GL</b> <b>GF</b> <b>RG</b> 		0,2	GCM N6002 <b>GG</b> GCM N6002 <b>GL</b> GCM N6002 <b>GF</b>
			0,4	GCM N6004 <b>ML</b> GCM N6004 <b>GG</b>
			0,8	GCM N6008 <b>MG</b>
3,0	GCM N6030 <b>RG</b>			
7,0	Chipbreaker <b>MG</b> <b>ML</b> <b>GG</b> <b>GL</b> <b>RG</b> 		0,4	GCM N7004 <b>ML</b> GCM N7004 <b>GG</b> GCM N7004 <b>GL</b>
			0,8	GCM N7008 <b>MG</b>
			3,5	GCM N7035 <b>RG</b>
8,0	Chipbreaker <b>MG</b> <b>ML</b> <b>GG</b> <b>GL</b> <b>RG</b> 		0,4	GCM N8004 <b>ML</b> GCM N8004 <b>GG</b> GCM N8004 <b>GL</b>
			0,8	GCM N8008 <b>MG</b>
			4,0	GCM N8040 <b>RG</b>

## 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
Grade	<b>AC830P AC520U AC530U</b>	<b>AC830P AC520U AC530U</b>	<b>AC425K AC520U AC530U</b>	<b>AC520U AC530U</b>
Cutting Speed (m/min)	80 ~ 200 80 ~ 200 50 ~ 200	70 ~ 150 70 ~ 150 50 ~ 150	80 ~ 200 60 ~ 200 50 ~ 200	20 ~ 80 20 ~ 60

# Grooving Tool Holders GND Type

## Identification Details – Holders

<b>GND</b>	<b>M</b>	<b>R</b>	<b>25</b>	<b>25</b>	<b>(M)</b>	<b>(T)</b>	<b>3</b>	<b>12</b>	<b>(-035)</b>
①	②	③	④	⑤	⑥	⑦	⑧	⑨	
Series Symbol GND	Application Chart 2	Holder Design Chart 3	Shank Height / Dia. Chart 4	Shank Width / Work Dia. Chart 5	Shank Length Chart 6	Type Internal Grooving	Insert Width Chart 7	Max. Grooving Depth Chart 8	Min. Machining Dia. (mm)

② Application			③ Holder Design		④ Shank Height / Diameter			⑤ Shank Width / Work Dia.		
Symbol	Application		Symbol	Direction	Application	Symbol	Height (mm)	Application	Symbol	Width (mm)
S	External Multi-Purpose	Grooving / Cut Off / Turning / Profiling	R	Right	External/ Face Grooving (Shank Height)	10	10	External/ Face Grooving (Shank Width)	10	10
M	External Multi-Purpose	Grooving / Cut Off / Turning / Profiling	L	Left		12	12		12	12
L	External Grooving	Grooving / Cut Off				16	16		16	16
MS	External L-Styled (Side Cut) Multi-Purpose	Grooving / Turning / Profiling				20	20		20	20
						25	25		25	25
LS	External L-Styled (Side Cut) Deep Grooving	Grooving			Internal Grooving (Shank Diameter)	25	25	Internal Grooving (Shank Diameter)	32	32
I	Internal Grooving	Grooving / Turning / Profiling				32	32		40	40
F	Face Grooving	Grooving / Turning / Profiling				40	40		50	50

⑥ Shank Length		⑧ Insert Width		⑨ Max. Grooving Depth	
Symbol	Length (mm)	Symbol	Groov. Width (mm)	Symbol	Groov. Depth (mm)
JX	120	1,25	1,25	06	6
K	125	1,5	1,5	10	10
M	150	2	2,0	11	11
P	170	3	3,0	12	12
		4	4,0	12,5	12,5
		5	5,0	18	18
		6	6,0	20	20
		7	7,0	21	21
		8	8,0	25	25

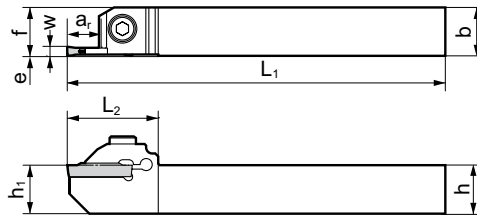
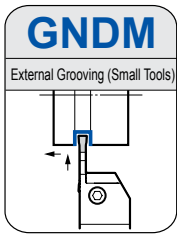
To ensure maximum rigidity, use the multi-purpose type holder to machine the maximum grooving depth.

## Identification Details – Inserts

<b>G</b>	<b>C</b>	<b>M</b>	<b>N</b>	<b>30</b>	<b>02</b>	<b>GG</b>	<b>(05)</b>
①	②	③	④	⑤	⑥	⑦	⑧
Series Symbol Grooving	Tolerance M Class	Front Relief Angle C: 7°	Insert Design Symbol   Direction N   Neutral R   Right Hand L   Left Hand	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	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	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 RG   Profiling	Front Angle 05 : 5°

# Grooving Tool Holders GND Type

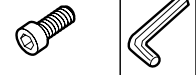
## External Multi-Purpose Small Tools Type (Grooving, Turning, Profiling)



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	Torque (N·m)	Spanner
	R	L	h	b	L <sub>1</sub>	f	h <sub>1</sub>	L <sub>2</sub>	e							
GNDM R/L 1616 JX 1.510	●	●	16	16	120	(16)	16	26	0	<b>1,5</b>	<b>10</b>	<b>20</b>	GCM N150005 GF	BX0515	4,0	LH040
GNDM R/L 1616 JX 212	●	●	16	16	120	(16)	16	30	0	<b>2,0</b>	<b>12</b>	<b>24</b>	GCM □2000-□□			
GNDM R/L 1616 JX 312	●	●	16	16	120	(16)	16	30	0	<b>3,0</b>	<b>12</b>	<b>24</b>	GCM □3000-□□			

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

## External Grooving / Cut-Off Small Tools

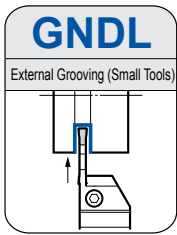


Fig. 1

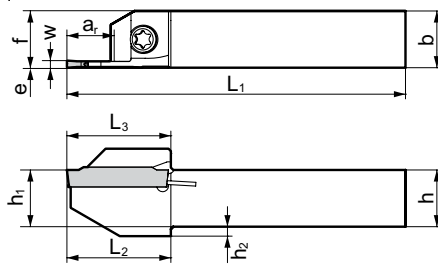
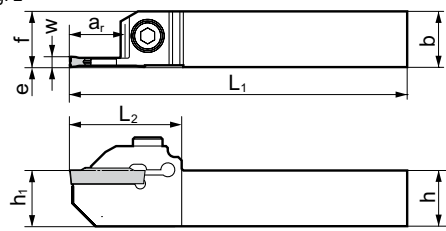
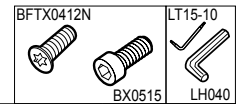


Fig. 2



Above figures show right hand tools.

### Spare Parts



### Holders

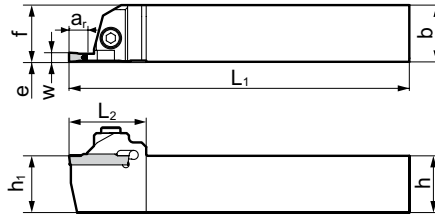
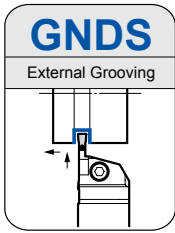
Cat. No.	Stock		Dimensions (mm)										Grooving Width (mm)	Max. Groov. Depth (mm)	Max. Cut-Off Dia (mm)	Fig.	Applicable Insert	Cap Screw	Torque (N·m)	Spanner
	R	L	h	b	L <sub>1</sub>	f	h <sub>1</sub>	h <sub>2</sub>	L <sub>2</sub>	L <sub>3</sub>	e	w								
GNDL R/L 1010 JX 1.2510	●	●	10	10	120	(10)	10	2,0	18	18,3	0	<b>1,25</b>	<b>10,0</b>	<b>20</b>	1	GCM N125005 GF	BFTX0412N	3,0	LT15-10	
GNDL R/L 1010 JX 1.510	●	●	10	10	120	(10)	10	2,0	18	18,3	0	<b>1,50</b>	<b>10,0</b>	<b>20</b>		GCM N150005 GF				
GNDL R/L 1010 JX 210	●	●	10	10	120	(10)	10	2,0	22	22,3	0	<b>2,00</b>	<b>10,0</b>	<b>20</b>		GCM □2000-□□				
GNDL R/L 1010 JX 310	●	●	10	10	120	(10)	10	2,0	22	22,3	0	<b>3,00</b>	<b>10,0</b>	<b>20</b>		GCM □3000-□□				
GNDL R/L 1212 JX 1.2512	●	●	12	12	120	(12)	12	2,0	19	19,3	0	<b>1,25</b>	<b>12,0</b>	<b>24</b>	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	<b>1,50</b>	<b>12,0</b>	<b>24</b>		GCM N150005 GF				
GNDL R/L 1212 JX 212.5	●	●	12	12	120	(12)	12	2,0	22	22,3	0	<b>2,00</b>	<b>12,5</b>	<b>25</b>		GCM □2000-□□				
GNDL R/L 1212 JX 312.5	●	●	12	12	120	(12)	12	2,0	22	22,3	0	<b>3,00</b>	<b>12,5</b>	<b>25</b>		GCM □3000-□□				
GNDL R/L 1616 JX 1.512.5	●	●	16	16	120	(16)	16		28		0	<b>1,50</b>	<b>12,5</b>	<b>25</b>	2	GCM N150005 GF	BFTX0515	4,0	LH040	
GNDL R/L 1616 JX 216	●	●	16	16	120	(16)	16		32		0	<b>2,00</b>	<b>16,0</b>	<b>32</b>		GCM □2000-□□				
GNDL R/L 1616 JX 316	●	●	16	16	120	(16)	16		32		0	<b>3,00</b>	<b>16,0</b>	<b>32</b>		GCM □3000-□□				

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

● Euro stock

# Grooving Tool Holders GND Type

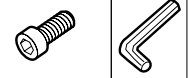
## External Multi-Purpose Shallow Grooves Type (Grooving, Turning, Profiling)



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

Above figures show right hand tools.

### Spare Parts



### Holders

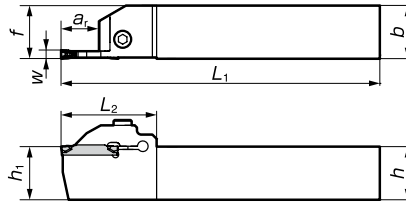
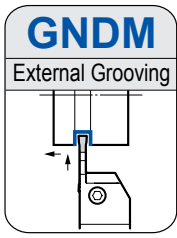
Cat. No.	Stock		Dimensions (mm)						Grooving Width (mm)	Max. Groov. Depth (mm)	Applicable Insert	Cap Screw	Torque (Nm)	Spanner
	R	L	<i>h</i>	<i>b</i>	<i>L</i> <sub>1</sub>	<i>f</i>	<i>h</i> <sub>1</sub>	<i>L</i> <sub>2</sub>						
GNDS R/L 2020 K 206	●	●	20	20	125	20	20	30	2,0	6	GCM □20○○-□□	BX0520	5,0	LH040
GNDS R/L 2020 K 306	●	●	20	20	125	20	20	30	3,0	6	GCM □30○○-□□			
GNDS R/L 2020 K 410	●	●	20	20	125	20	20	34	4,0	10	GCM □40○○-□□			
GNDS R/L 2020 K 510	●	●	20	20	125	20	20	34	5,0	10	GCM N50○○-□□			
GNDS R/L 2020 K 610	●	●	20	20	125	20	20	34	6,0	10	GCM N60○○-□□			
GNDS R/L 2525 M 206	●	●	25	25	150	25	25	30	2,0	6	GCM □20○○-□□			
GNDS R/L 2525 M 306	●	●	25	25	150	25	25	30	3,0	6	GCM □30○○-□□			
GNDS R/L 2525 M 410	●	●	25	25	150	25	25	34	4,0	10	GCM □40○○-□□			
GNDS R/L 2525 M 510	●	●	25	25	150	25	25	34	5,0	10	GCM N50○○-□□			
GNDS R/L 2525 M 610	●	●	25	25	150	25	25	34	6,0	10	GCM N60○○-□□			

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

● Euro stock

# Grooving Tool Holders GND Type

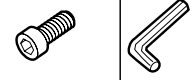
## External Multi-Purpose Type (Grooving, Turning, Profiling)



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

Above figures show right hand tools.

### Spare Parts

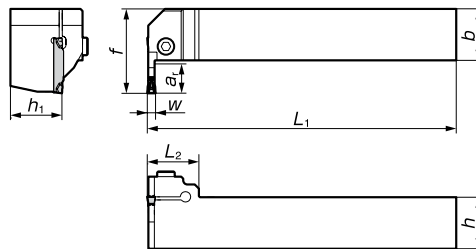
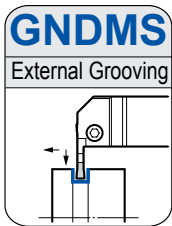


### Holders

Cat. No.	Stock		Dimensions (mm)						Grooving Width (mm)	Max. Groov. Depth (mm)	Max. Cut-Off Dia (mm)	Applicable Insert	Cap Screw	Torque (N·m)	Spanner
	R	L	h	b	L <sub>1</sub>	f	h <sub>1</sub>	L <sub>2</sub>							
GNDM R/L 2020 K 210	●	●	20	20	125	20	20	33,6	2,0	10	20	GCM □2000-□□	BX0520	5,0	LH040
GNDM R/L 2020 K 312	●	●	20	20	125	20	20	36,6	3,0	12	24	GCM □3000-□□			
GNDM R/L 2020 K 418	●	●	20	20	125	20	20	45,0	4,0	18	36	GCM □4000-□□			
GNDM R/L 2020 K 518	●	●	20	20	125	20	20	45,0	5,0	18	36	GCM N5000-□□			
GNDM R/L 2020 K 618	●	●	20	20	125	20	20	45,0	6,0	18	36	GCM N6000-□□			
GNDM R/L 2525 M 210	●	●	25	25	150	25	25	33,6	2,0	10	20	GCM N2000-□□			
GNDM R/L 2525 M 312	●	●	25	25	150	25	25	36,6	3,0	12	24	GCM □3000-□□			
GNDM R/L 2525 M 418	●	●	25	25	150	25	25	45,0	4,0	18	36	GCM □4000-□□			
GNDM R/L 2525 M 518	●	●	25	25	150	25	25	45,0	5,0	18	36	GCM N5000-□□			
GNDM R/L 2525 M 618	●	●	25	25	150	25	25	45,0	6,0	18	36	GCM N6000-□□			
GNDM R/L 3225 P 312			32	25	170	25	32	36,6	3,0	12	24	GCM □3000-□□	BX0620	6,0	LH050
GNDM R/L 3225 P 418			32	25	170	25	32	45,0	4,0	18	36	GCM □4000-□□			
GNDM R/L 3225 P 518			32	25	170	25	32	45,0	5,0	18	36	GCM N5000-□□			
GNDM R/L 3225 P 618			32	25	170	25	32	45,0	6,0	18	36	GCM N6000-□□			
GNDM R/L 3225 P 718			32	25	170	25	32	50,0	7,0	18	36	GCM N7000-□□			
GNDM R/L 3225 P 818			32	25	170	25	32	50,0	8,0	18	36	GCM N8000-□□			
GNDM R/L 3232 P 312	●	●	32	32	170	32	32	36,6	3,0	12	24	GCM □3000-□□	BX0620	6,0	LH050
GNDM R/L 3232 P 418	●	●	32	32	170	32	32	45,0	4,0	18	36	GCM □4000-□□			
GNDM R/L 3232 P 518	●	●	32	32	170	32	32	45,0	5,0	18	36	GCM N5000-□□			
GNDM R/L 3232 P 618	●	●	32	32	170	32	32	45,0	6,0	18	36	GCM N6000-□□			
GNDM R/L 3232 P 718	●	●	32	32	170	32	32	50,0	7,0	18	36	GCM N7000-□□			
GNDM R/L 3232 P 818	●	●	32	32	170	32	32	50,0	8,0	18	36	GCM N8000-□□			

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

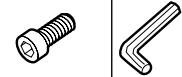
## External L-Styled (Side Cut) Multi-Purpose Type (Grooving, Turning, Profiling)



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

Above figures show right hand tools.

### Spare Parts



### Holders

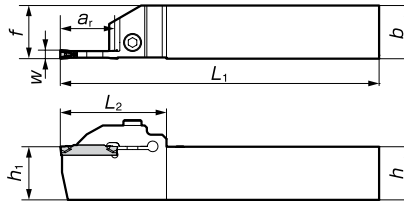
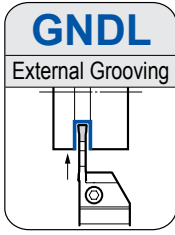
Cat. No.	Stock		Dimensions (mm)						Grooving Width (mm)	Max. Groov. Depth (mm)	Applicable Insert	Cap Screw	Torque (N·m)	Spanner
	R	L	h	b	L <sub>1</sub>	f	h <sub>1</sub>	L <sub>2</sub>						
GNDMS R/L 2020 K 310	●	●	20	20	125	32	20	25	3,0	10	GCM □3000-□□	BX0520	5,0	LH040
GNDMS R/L 2020 K 412	●	●	20	20	125	34	20	25	4,0	12	GCM □4000-□□			
GNDMS R/L 2020 K 512	●	●	20	20	125	34	20	25	5,0	12	GCM N5000-□□			
GNDMS R/L 2525 M 312	●	●	25	25	150	39	25	25	3,0	12	GCM □3000-□□			
GNDMS R/L 2525 M 414	●	●	25	25	150	41	25	25	4,0	14	GCM □4000-□□			
GNDMS R/L 2525 M 514	●	●	25	25	150	41	25	25	5,0	14	GCM N5000-□□			
GNDMS R/L 2525 M 614	●	●	25	25	150	41	25	25	6,0	14	GCM N6000-□□			

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

● Euro stock

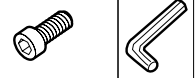
# Grooving Tool Holders GND Type

## External Deep Grooving and Cut-Off



Above figures show right hand tools.

### Spare Parts

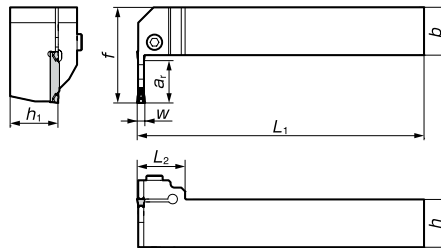
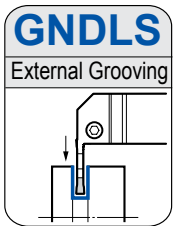


### Holders

Cat. No.	Stock		Dimensions (mm)						Grooving Width (mm)	Max. Groov. Depth (mm)	Max. Cut-Off Dia (mm)	Applicable Insert	Cap Screw	Torque (Nm)	Spanner
	R	L	h	b	L <sub>1</sub>	f	h <sub>1</sub>	L <sub>2</sub>							
GNDL R/L 2020 K 220	●	●	20	20	125	20	20	44,5	2,0	20	40	GCM □2000-□□	BX0520	5,0	LH040
GNDL R/L 2020 K 320	●	●	20	20	125	20	20	44,5	3,0	20(18)	40	GCM □3000-□□			
GNDL R/L 2020 K 425	●	●	20	20	125	20	20	50,0	4,0	25(23)	50	GCM □4000-□□			
GNDL R/L 2020 K 525	●	●	20	20	125	20	20	50,0	5,0	25(23)	50	GCM N5000-□□			
GNDL R/L 2020 K 625	●	●	20	20	125	20	20	50,0	6,0	25(23)	50	GCM N6000-□□			
GNDL R/L 2525 M 220	●	●	25	25	150	25	25	44,5	2,0	20	40	GCM □2000-□□			
GNDL R/L 2525 M 320	●	●	25	25	150	25	25	44,5	3,0	20(18)	40	GCM □3000-□□			
GNDL R/L 2525 M 425	●	●	25	25	150	25	25	50,0	4,0	25(23)	50	GCM □4000-□□			
GNDL R/L 2525 M 525	●	●	25	25	150	25	25	50,0	5,0	25(23)	50	GCM N5000-□□			
GNDL R/L 2525 M 625	●	●	25	25	150	25	25	50,0	6,0	25(23)	50	GCM N6000-□□			
GNDL R/L 3225 P 320			32	25	170	25	32	44,5	3,0	20(18)	40	GCM □3000-□□			
GNDL R/L 3225 P 425			32	25	170	25	32	50,0	4,0	25(23)	50	GCM □4000-□□			
GNDL R/L 3225 P 525			32	25	170	25	32	50,0	5,0	25(23)	50	GCM N5000-□□			
GNDL R/L 3225 P 625			32	25	170	25	32	50,0	6,0	25(23)	50	GCM N6000-□□			
GNDL R/L 3225 P 725			32	25	170	25	32	50,0	7,0	25(23)	50	GCM N7000-□□			
GNDL R/L 3225 P 825			32	25	170	25	32	50,0	8,0	25(23)	50	GCM N8000-□□			
GNDL R/L 3232 P 320	●	●	32	32	170	32	32	44,5	3,0	20(18)	40	GCM □3000-□□			
GNDL R/L 3232 P 425	●	●	32	32	170	32	32	50,0	4,0	25(23)	50	GCM □4000-□□			
GNDL R/L 3232 P 525	●	●	32	32	170	32	32	50,0	5,0	25(23)	50	GCM N5000-□□			
GNDL R/L 3232 P 625	●	●	32	32	170	32	32	50,0	6,0	25(23)	50	GCM N6000-□□			
GNDL R/L 3232 P 725	●	●	32	32	170	32	32	50,0	7,0	25(23)	50	GCM N7000-□□			
GNDL R/L 3232 P 825	●	●	32	32	170	32	32	50,0	8,0	25(23)	50	GCM N8000-□□			

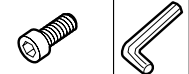
Select holders and inserts with the same grooving width (w). Dimensions in parentheses are for applications that use copying inserts (RG type breakers).

## External L-Styled (Side Cut) Grooving



Above figures show right hand tools.

### Spare Parts



### Holders

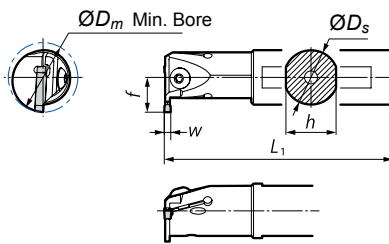
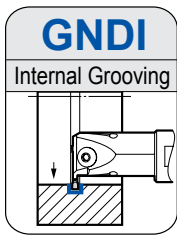
Cat. No.	Stock		Dimensions (mm)						Grooving Width (mm)	Max. Groov. Depth (mm)	Applicable Insert	Cap Screw	Torque (Nm)	Spanner
	R	L	h	b	L <sub>1</sub>	f	h <sub>1</sub>	L <sub>2</sub>						
GNDLS R/L 2020 K 216	●	●	20	20	125	38	20	25	2,0	16	GCM □2000-□□	BX0520	5,0	LH040
GNDLS R/L 2020 K 316	●	●	20	20	125	38	20	25	3,0	16	GCM □3000-□□			
GNDLS R/L 2525 M 218	●	●	25	25	150	45	25	25	2,0	18	GCM □2000-□□			
GNDLS R/L 2525 M 318	●	●	25	25	150	45	25	25	3,0	18	GCM □3000-□□			
GNDLS R/L 2525 M 423	●	●	25	25	150	50	25	25	4,0	23	GCM □4000-□□			
GNDLS R/L 2525 M 523	●	●	25	25	150	50	25	25	5,0	23	GCM N5000-□□			
GNDLS R/L 2525 M 623	●	●	25	25	150	50	25	25	6,0	23	GCM N6000-□□			

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

● Euro stock

# Grooving Tool Holders GND 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	Torque (N·m)	Spanner
	R	L	ØDs	h	L <sub>1</sub>	f							
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

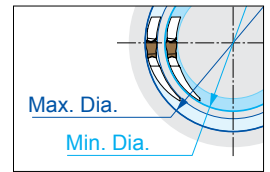
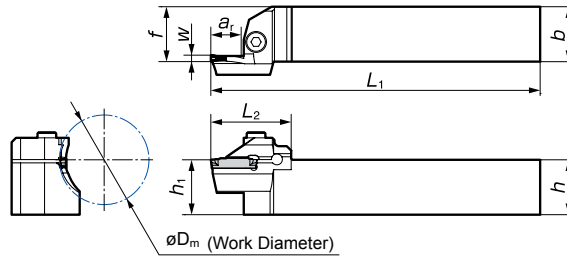
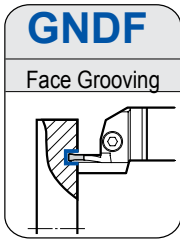
Select holders and inserts with the same grooving width (w).

● Euro stock



# Grooving Tool Holders GND Type

## Face Grooving



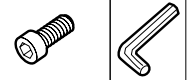
Work diameters in the stock indicate external diameters of face grooving.

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	Torque (Nm)	Spanner
	R	L	h	b	L <sub>1</sub>	f	h <sub>1</sub>	L <sub>2</sub>							
GND F R/L 2020 K 312-035	●	●	20	20	125	20	20	35,6	35 ~ 45	3,0	12	GCM N3000-□□	BX0520	5,0	LH040
GND F R/L 2020 K 312-040	●	●	20	20	125	20	20	35,6	40 ~ 55	3,0	12				
GND F R/L 2020 K 318-050	●	●	20	20	125	20	20	41,6	50 ~ 70	3,0	18				
GND F R/L 2020 K 318-065	●	●	20	20	125	20	20	41,6	65 ~ 100	3,0	18				
GND F R/L 2020 K 318-090	●	●	20	20	125	20	20	41,6	90 ~ 150	3,0	18				
GND F R/L 2020 K 318-140	●	●	20	20	125	20	20	41,6	140 ~ 200	3,0	18				
GND F R/L 2020 K 318-180	●	●	20	20	125	20	20	41,6	180 ~ 300	3,0	18				
GND F R/L 2020 K 418-040	●	●	20	20	125	20	20	41,6	40 ~ 55	4,0	18	GCM N4000-□□	BX0520	5,0	LH040
GND F R/L 2020 K 423-050	●	●	20	20	125	20	20	46,6	50 ~ 70	4,0	23				
GND F R/L 2020 K 423-065	●	●	20	20	125	20	20	46,6	65 ~ 90	4,0	23				
GND F R/L 2020 K 423-085	●	●	20	20	125	20	20	46,6	85 ~ 130	4,0	23				
GND F R/L 2020 K 423-125	●	●	20	20	125	20	20	46,6	125 ~ 200	4,0	23				
GND F R/L 2020 K 423-180	●	●	20	20	125	20	20	46,6	180 ~ 300	4,0	23				
GND F R/L 2020 K 423-280	●	●	20	20	125	20	20	46,6	280 ~ 1000	4,0	23				
GND F R/L 2020 K 523-050	●	●	20	20	125	20	20	46,6	50 ~ 70	5,0	23	GCM N5000-□□	BX0520	5,0	LH040
GND F R/L 2020 K 523-065	●	●	20	20	125	20	20	46,6	65 ~ 90	5,0	23				
GND F R/L 2020 K 523-085	●	●	20	20	125	20	20	46,6	85 ~ 130	5,0	23				
GND F R/L 2020 K 523-125	●	●	20	20	125	20	20	46,6	125 ~ 200	5,0	23				
GND F R/L 2020 K 523-180	●	●	20	20	125	20	20	46,6	180 ~ 300	5,0	23				
GND F R/L 2020 K 523-280	●	●	20	20	125	20	20	46,6	280 ~ 1000	5,0	23				
GND F R/L 2020 K 623-050	●	●	20	20	125	20	20	46,6	50 ~ 75	6,0	23	GCM N6000-□□	BX0520	5,0	LH040
GND F R/L 2020 K 623-070	●	●	20	20	125	20	20	46,6	70 ~ 110	6,0	23				
GND F R/L 2020 K 623-100	●	●	20	20	125	20	20	46,6	100 ~ 200	6,0	23				
GND F R/L 2020 K 623-180	●	●	20	20	125	20	20	46,6	180 ~ 300	6,0	23				
GND F R/L 2020 K 623-280	●	●	20	20	125	20	20	46,6	280 ~ 1000	6,0	23				
GND F R/L 2525 M 312-035	●	●	25	25	150	25	25	35,6	35 ~ 45	3,0	12				
GND F R/L 2525 M 312-040	●	●	25	25	150	25	25	35,6	40 ~ 55	3,0	12				
GND F R/L 2525 M 318-050	●	●	25	25	150	25	25	41,6	50 ~ 70	3,0	18				
GND F R/L 2525 M 318-065	●	●	25	25	150	25	25	41,6	65 ~ 100	3,0	18				
GND F R/L 2525 M 318-090	●	●	25	25	150	25	25	41,6	90 ~ 150	3,0	18				
GND F R/L 2525 M 318-140	●	●	25	25	150	25	25	41,6	140 ~ 200	3,0	18				
GND F R/L 2525 M 318-180	●	●	25	25	150	25	25	41,6	180 ~ 300	3,0	18				
GND F R/L 2525 M 418-040	●	●	25	25	150	25	25	41,6	40 ~ 55	4,0	18	GCM N4000-□□	BX0520	5,0	LH040
GND F R/L 2525 M 423-050	●	●	25	25	150	25	25	46,6	50 ~ 70	4,0	23				
GND F R/L 2525 M 423-065	●	●	25	25	150	25	25	46,6	65 ~ 90	4,0	23				
GND F R/L 2525 M 423-085	●	●	25	25	150	25	25	46,6	85 ~ 130	4,0	23				
GND F R/L 2525 M 423-125	●	●	25	25	150	25	25	46,6	125 ~ 200	4,0	23				
GND F R/L 2525 M 423-180	●	●	25	25	150	25	25	46,6	180 ~ 300	4,0	23				
GND F R/L 2525 M 423-280	●	●	25	25	150	25	25	46,6	280 ~ 1000	4,0	23				
GND F R/L 2525 M 523-050	●	●	25	25	150	25	25	46,6	50 ~ 70	5,0	23	GCM N5000-□□	BX0520	5,0	LH040
GND F R/L 2525 M 523-065	●	●	25	25	150	25	25	46,6	65 ~ 90	5,0	23				
GND F R/L 2525 M 523-085	●	●	25	25	150	25	25	46,6	85 ~ 130	5,0	23				
GND F R/L 2525 M 523-125	●	●	25	25	150	25	25	46,6	125 ~ 200	5,0	23				
GND F R/L 2525 M 523-180	●	●	25	25	150	25	25	46,6	180 ~ 300	5,0	23				
GND F R/L 2525 M 523-280	●	●	25	25	150	25	25	46,6	280 ~ 1000	5,0	23				
GND F R/L 2525 M 623-050	●	●	25	25	150	25	25	46,6	50 ~ 75	6,0	23	GCM N6000-□□	BX0520	5,0	LH040
GND F R/L 2525 M 623-070	●	●	25	25	150	25	25	46,6	70 ~ 110	6,0	23				
GND F R/L 2525 M 623-100	●	●	25	25	150	25	25	46,6	100 ~ 200	6,0	23				
GND F R/L 2525 M 623-180	●	●	25	25	150	25	25	46,6	180 ~ 300	6,0	23				
GND F 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 (w).

● Euro stock

# Grooving Tool Holders GND Type

## ■ Inserts – GCM Type

Grooving / Turning	Shape	Cat. No.	Coated Carbide				Dimensions (mm)				Pcs./ Pack.	Applicable Holder							
			AC830P	AC425K	AC520U	AC530U	W		$r_e$	$\ell$		S	GND	GND	GND	GND	GND	GND	
							Grooving Width	Tolerance					S	M	MS	L	LS	I	F
<p>Fig.1</p>	<b>MG Breaker</b> General Type	GCM N3004 MG	●	●	○	●	3,0	±0,03	0,4	21,1	3,8	5	●	●	●	●	●	●	●
		GCM N4008 MG	●	●	○	●	4,0	±0,03	0,8	26,4	4,0		●	●	●	●	●	●	●
		GCM N5008 MG	●	●	○	●	5,0	±0,03	0,8	26,4	4,1		●	●	●	●	●	●	●
		GCM N6008 MG	●	●	○	●	6,0	±0,03	0,8	26,4	4,5		●	●	●	●	●	●	●
		GCM N7008 MG	●	●	○	●	7,0	±0,04	0,8	28,75	5,5		●	●	●	●	●	●	●
	GCM N8008 MG	●	●	○	●	8,0	±0,04	0,8	28,75	6,0	●	●	●	●	●	●	●		
	<b>ML</b> Low Feed Type w = 4,0mm w = 5,0mm	GCM N3002 ML	●	●	○	●	3,0	±0,03	0,2	21,1	3,8	5	●	●	●	●	●	●	●
		GCM N4004 ML	●	●	○	●	4,0	±0,03	0,4	26,4	4,0		●	●	●	●	●	●	●
		GCM N5004 ML	●	●	○	●	5,0	±0,03	0,4	26,4	4,1		●	●	●	●	●	●	●
		GCM N6004 ML	●	●	○	●	6,0	±0,03	0,4	26,4	4,5		●	●	●	●	●	●	●
GCM N7004 ML		●	●	○	●	7,0	±0,04	0,4	28,75	5,5	●		●	●	●	●	●	●	
GCM N8004 ML	●	●	○	●	8,0	±0,04	0,4	28,75	6,0	●	●	●	●	●	●	●			

Grooving / Cut-Off	Shape	Cat. No.	Coated Carbide				Dimensions (mm)				Pcs./ Pack.	Applicable Holder							
			AC830P	AC425K	AC520U	AC530U	W		$r_e$	$\ell$		S	GND	GND	GND	GND	GND	GND	
							Grooving Width	Tolerance					S	M	MS	L	LS	I	F
	<b>GG Breaker</b> General Type	GCM N2002 GG	●	○	○	●	2,0	±0,03	0,2	21,1	3,6	5	●	●	●	●	●	●	●
		GCM N3002 GG	●	○	○	●	3,0	±0,03	0,2	21,1	3,8		●	●	●	●	●	●	●
		GCM N4002 GG	●	○	○	●	4,0	±0,03	0,2	26,4	4,0		●	●	●	●	●	●	●
		GCM N5002 GG	●	○	○	●	5,0	±0,03	0,2	26,4	4,1		●	●	●	●	●	●	●
		GCM 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		●	●	●	●	●	●	●
		GCM N4004 GG	●	○	○	●	4,0	±0,03	0,4	26,4	4,0		●	●	●	●	●	●	●
		GCM 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		●	●	●	●	●	●	●
	<b>GL Breaker</b> Low Feed Type	GCM N7004 GG	●	○	○	●	7,0	±0,04	0,4	28,75	5,5	5	●	●	●	●	●	●	●
		GCM N8004 GG	●	○	○	●	8,0	±0,04	0,4	28,75	6,0		●	●	●	●	●	●	●
		GCM N2002 GL	●	○	○	●	2,0	±0,03	0,2	21,1	3,6		●	●	●	●	●	●	●
		GCM N3002 GL	●	○	○	●	3,0	±0,03	0,2	21,1	3,8		●	●	●	●	●	●	●
		GCM N4002 GL	●	○	○	●	4,0	±0,03	0,2	26,4	4,0		●	●	●	●	●	●	●
		GCM N5002 GL	●	○	○	●	5,0	±0,03	0,2	26,4	4,1		●	●	●	●	●	●	●
		GCM N6002 GL	●	○	○	●	6,0	±0,03	0,2	26,4	4,5		●	●	●	●	●	●	●
		GCM N7004 GL	●	○	○	●	7,0	±0,04	0,4	28,75	5,5		●	●	●	●	●	●	●
		GCM N8004 GL	●	○	○	●	8,0	±0,04	0,4	28,75	6,0		●	●	●	●	●	●	●
<b>GF Breaker</b> Low Cutting Force Type	GCM N125005 GF				●	1,25	±0,03	0,05	17,4	3,2	5	●	●	●	●	●	●	●	
	GCM N150005 GF				●	1,50	±0,03	0,05	17,4	3,7		●	●	●	●	●	●	●	
	GCM N2002 GF				●	2,0	±0,03	0,2	21,1	3,6		●	●	●	●	●	●	●	
	GCM N3002 GF	●		●	●	3,0	±0,03	0,2	21,1	3,8		●	●	●	●	●	●	●	
	GCM N4002 GF	●		●	●	4,0	±0,03	0,2	26,4	4,0		●	●	●	●	●	●	●	
	GCM N5002 GF	●		●	●	5,0	±0,03	0,2	26,4	4,1		●	●	●	●	●	●	●	
GCM N6002 GF	●		●	●	6,0	±0,03	0,2	26,4	4,5	●	●	●	●	●	●	●			

Profiling	Shape	Cat. No.	Coated Carbide				Dimensions (mm)				Pcs./ Pack.	Applicable Holder							
			AC830P	AC425K	AC520U	AC530U	W		$r_e$	$\ell$		S	GND	GND	GND	GND	GND	GND	
							Grooving Width	Tolerance					S	M	MS	L	LS	I	F
	<b>RG Breaker</b> General Type	GCM N3015 RG	●	●	○	●	3,0	±0,03	1,5	21,1	3,8	5	●	●	●	●	●	●	●
		GCM N4020 RG	●	●	○	●	4,0	±0,03	2,0	26,4	4,0		●	●	●	●	●	●	●
		GCM N5025 RG	●	●	○	●	5,0	±0,03	2,5	27,2	4,1		●	●	●	●	●	●	●
		GCM N6030 RG	●	●	○	●	6,0	±0,03	3,0	27,5	4,5		●	●	●	●	●	●	●
		GCM N7035 RG	●	●	○	●	7,0	±0,04	3,5	29,05	5,5		●	●	●	●	●	●	●
		GCM N8040 RG	●	●	○	●	8,0	±0,04	4,0	29,05	6,0		●	●	●	●	●	●	●

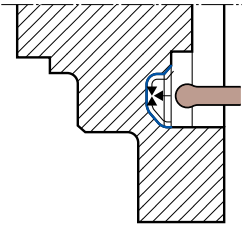
Cut-Off (Handed)	Shape	Cat. No.	Coated Carbide				Dimensions (mm)				Pcs./ Pack.	Applicable Holder								
			AC830P	AC425K	AC520U	AC530U	W		$r_e$	$\ell$		S	GND	GND	GND	GND	GND	GND		
							Grooving Width	Tolerance					S	M	MS	L	LS	I	F	
	<b>CG Breaker</b> General Type	GCM R/L2002 CG05	●	●	○	○	●	2,0	±0,03	0,2	21,1	3,6	5	●	●	●	●	●	●	●
		GCM R/L3002 CG05	●	●	○	○	●	3,0	±0,03	0,2	21,3	3,8		●	●	●	●	●	●	●
		GCM R/L4002 CG05	●	●	○	○	●	4,0	±0,03	0,2	26,7	4,0		●	●	●	●	●	●	●
			R	L	R	L	R	L	R	L										

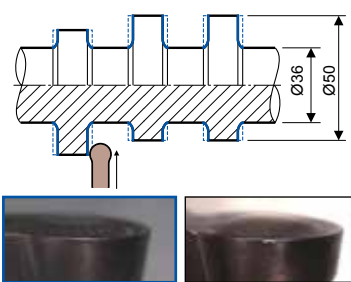
Drawing shows a right hand tool.  
Select holders and inserts with the same grooving widths (w).

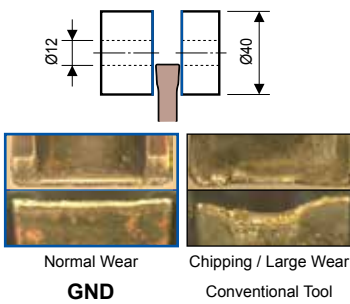
● Euro stock  
○ Japan stock

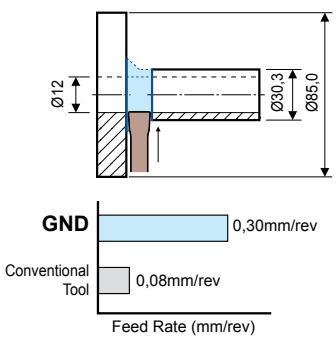
# Grooving Tool Holders GND Type

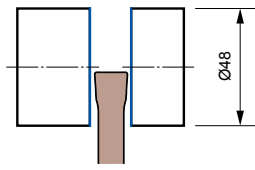
## Application Examples

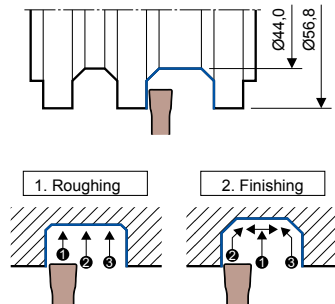
20CrMo5, Automotive Part, Face Profiling	
	<b>Target:</b> - Higher rigidity - Vibration reduction - Chip control - Wear resistance performance
	Holder: GND R2525M 423-125 Insert: GCM N4020 RG Grooving width: 4mm Cutting conditions: $v_c = 200\text{m/min}$ $f = 0,14\text{mm/rev}$ wet
Stable machining 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: GND M L2525M 618 Insert: GCM N6030 RG Grooving width: 6mm Cutting conditions: $v_c = 130\text{m/min}$ $f = 0,36\text{mm/rev}$ 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: GND L R2525M 320 Insert: GCM N3002 GG Grooving width: 3mm Cutting conditions: $n = 1600\text{min}^{-1}$ $v_c = 200\text{m/min}$ $f = 0,05\text{mm/rev}$ 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: GND L R2525M 320 Insert: GCM N3002 GG Grooving width: 3mm Cutting conditions: $v_c = 115\text{m/min}$ $f = 0,30\text{mm/rev}$ wet
Improved efficiency Stable machining free of vibration! Stable chip control	

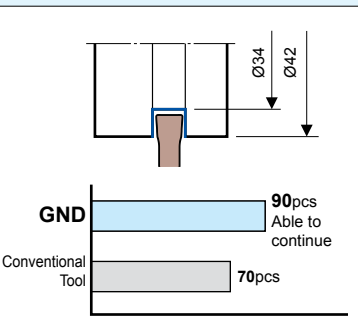
X40CrVMo5-1, (45-48HRC), Machine Part, Cut-Off	
	<b>Target:</b> - Higher rigidity - Vibration reduction - Chip control
	Holder: GND L R2525M 425 Insert: GCM N4002 GG Grooving width: 4mm Cutting conditions: $v_c = 50\text{m/min}$ $f = 0,03\text{mm/rev}$ wet
Stable machining free of vibration! Excellent 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: GND M R2020K 518 Insert: GCM N5008 MG Grooving width: 5mm Cutting conditions: $v_c = 150\text{m/min}$ $f = 0,1\text{mm/rev}$ wet
Stable machining free of vibration! Excellent chip control using the GND type.	

# Grooving Tool Holders GND Type

## Application Examples

**Sintered Iron Crank Sprocket Gear, Grooving / Finishing**



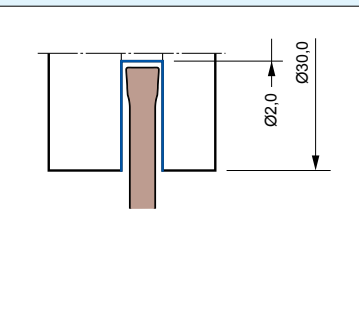
**Target:**

- Higher rigidity
- Vibration reduction
- Chip control
- Wear resistance

Holder: GNDL R2525M 220  
 Insert: GCM N4002 GG  
 Grooving width: 2mm  
 Cutting conditions:  $v_c = 100\text{m/min}$   
 $f = 0,08\text{mm/rev}$   
 wet

Stable machining free of vibration!  
 Excellent chip control using the GND type.  
 Excellent wear resistance extends tool life by 130%.

**X5CrNi1810, Measuring Instrument, Grooving**



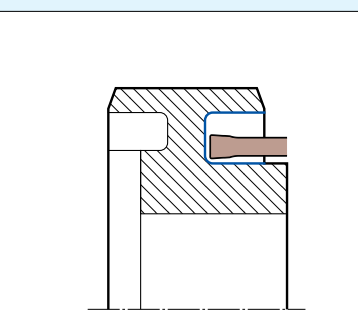
**Target:**

- Higher rigidity
- Vibration reduction
- Chip control
- Chip evacuation

Holder: GNDL R2525M 320  
 Insert: GCM N3002 GG  
 Grooving width: 3mm  
 Cutting conditions:  $v_c = 60\text{m/min}$   
 $f = 0,025\text{mm/rev}$   
 wet

Stable machining free of vibration!  
 Excellent chip control using the GND type.

**Sintered Clutch Hub, Face Grooving**



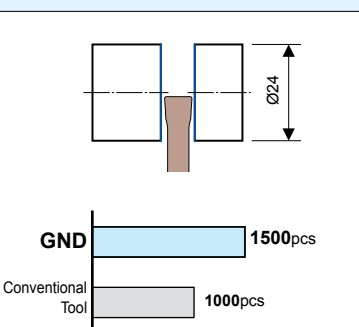
**Target:**

- Higher efficiency
- Vibration reduction

Holder: GNDF R2020K 523-050  
 Insert: GCM N5008 MG  
 Grooving width: 5mm  
 Cutting conditions:  $n = 500\text{min}^{-1}$   
 $v_c = 100\text{m/min}$   
 $f = 0,05\text{mm/rev}$   
 wet

Reduces cycle time up to 20%.  
 Stable cutting without chattering or vibration.

**Stainless Round Bar, Cutting Off**



**Target:**

- Higher tool life
- Adhesion resistance

Holder: GNDM L2020K 312  
 Insert: GCM N3002 GF  
 Grooving width: 3mm  
 Cutting conditions:  $n = 1000\text{min}^{-1}$   
 $f = 0,15-0,03\text{mm/rev}$   
 wet

Reduces adhesion breakage and achieves 1.5 times longer tool life.  
 Prevents vibration and achieves stable machining.



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