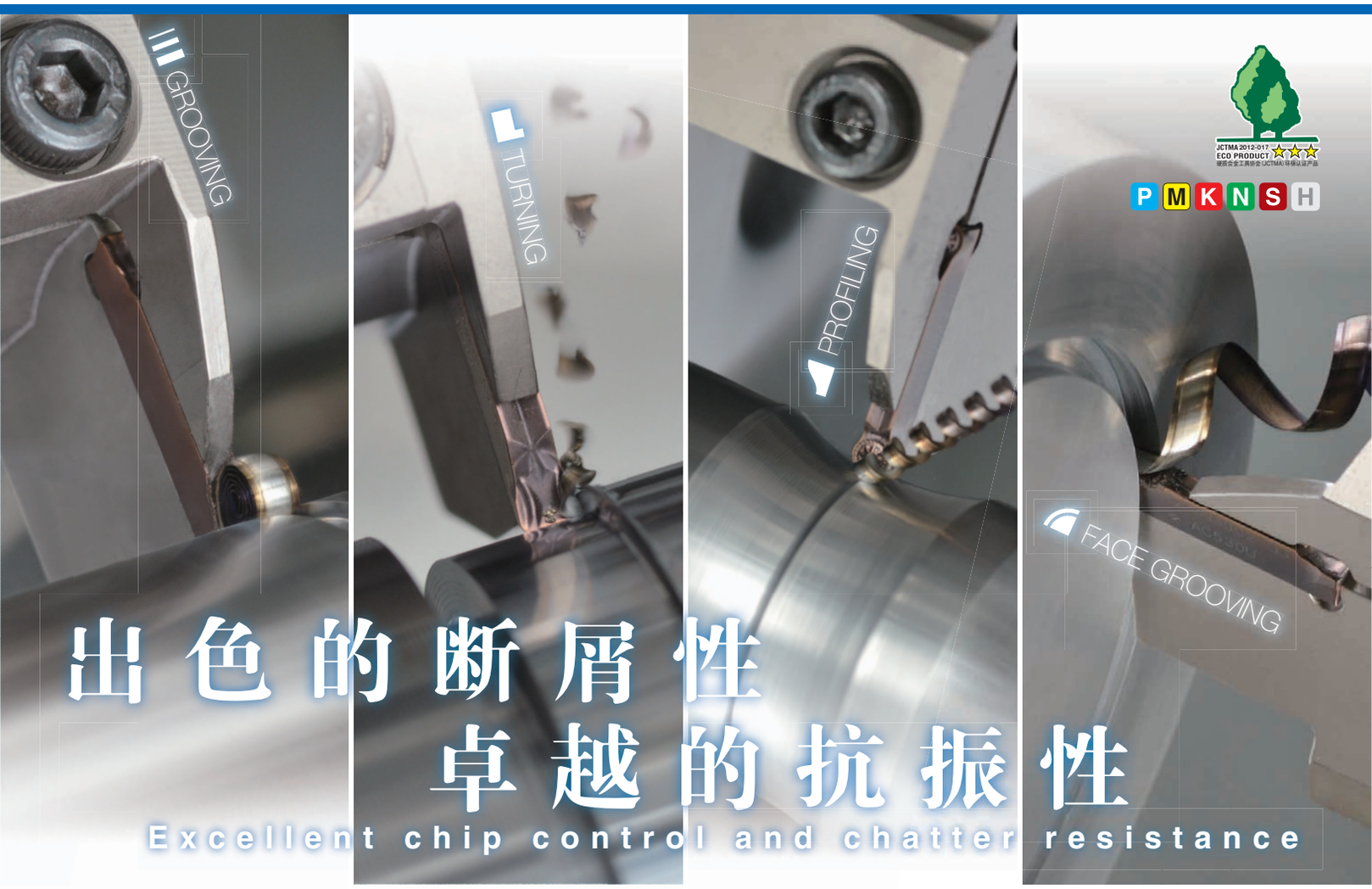
Igetalloy News No.492

SUMITOMO
CARBIDE - CBN - DIAMOND

切槽・切断车刀
Grooving / Cut-off Tools

SEC-切槽车刀GND型

SEC-Grooving Tool Holders GND Series 第8版



出色的断屑性
卓越的抗振性

Excellent chip control and chatter resistance

- 以高刚性设计抑制切削中的振动 ▸▸▸ 比以往产品最大降低30% Up to 30% reduction compared to previous types.
  Reduction of vibration with high rigidity design
- 实现高精度加工 ▸▸▸ 刃宽精度 ±0.03mm(刃宽1.25/1.5/2/3/4/5/6mm)
  High precision grooving
  Grooving width precision: ±0.03mm (for grooving widths of 1.25/1.5/2/3/4/5/6mm)

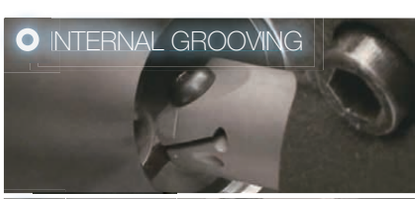
MG | ML | GG | GL | GF(New) | RG | CG

AC830P | AC425K(New) | AC520U(New) | AC530U

- 以7种刀片断屑槽与4种材质对应多种加工
  7 types of chipbreakers and 4 grades to suit various applications

多功能/通用 Multi-Purpose/General Feed	多功能/低进给 Multi-Purpose/Low Feed	切槽/通用 Grooving/General Feed	切槽/低进给 Grooving/Low Feed	切槽/低阻力 Grooving/Low Cutting Forces	仿形/通用 Profiling/General Feed	切断 Cut-Off
3.0~8.0mm	3.0~8.0mm	2.0~8.0mm	2.0~8.0mm	1.25~6.0mm	3.0~8.0mm	2.0~4.0mm
MG Type	ML Type	GG Type	GL Type	GF Type(New)	RG Type	CG Type

刀片 每箱5个装 Five inserts per case



New
小型车床用车刀 &
短型车刀 系列化
The Newly created Mini tool Holder & Short shank Type

Ingenious Dynamics

住友电工硬质合金
SUMITOMO ELECTRIC HARDMETAL

SEC-Grooving Tool GND Series

多种刀片断屑槽
Wide Range of Chipbreakers

SEC-GND型根据加工用途备有7种刀片断屑槽
可在多种场合实现稳定的切屑处理

The SEC-GND lineup features 6 types of chipbreakers for various machining applications.
Offers consistent chip control under various conditions.

高刚性刀体
High Rigidity Body

SEC-GND型采用一体型构造的模具钢，无论是切槽加工，还是车削加工、仿形加工或端面加工，均可抑制振刀，实现稳定加工

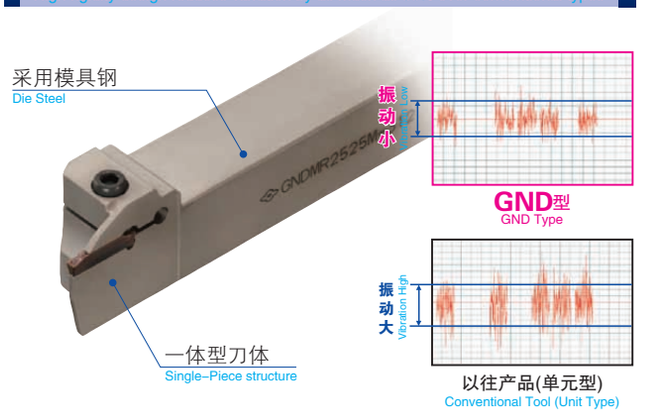
The SEC-GND Series is designed for grooving and features a single-piece structure made of die steel. This design reduces chatter and also delivers steady performance with turning, profiling, and facing work.

MG	ML	GG	GL	GF	RG	CG
多功能/通用 Multi-Purpose/General Feed	多功能/低进给 Multi-Purpose/Low Feed	切槽/通用 Grooving/General Feed	切槽/低进给 Grooving/Low Feed	切槽/低阻力 Grooving/Low Cutting Forces	仿形/通用 Profiling/General Feed	切断 Cut-Off

■ SEC-GND型的切削性能 Cutting Performance

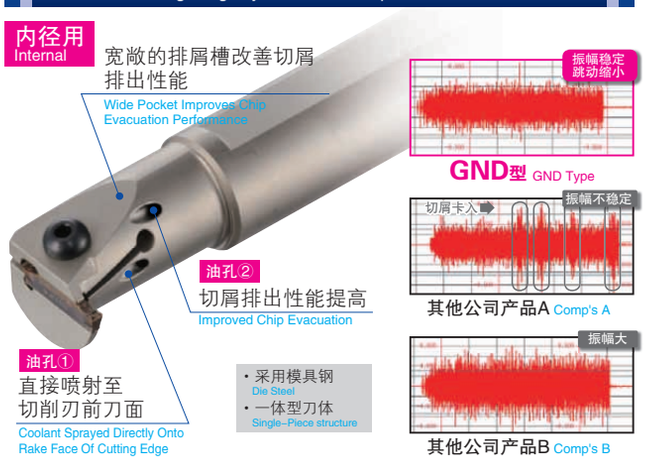
消除振刀
Eliminates Vibration

采用高刚性设计，振动比以往产品最大降低30%
High rigidity design reduces vibration by as much as 30% over conventional types



被削材：SCM415
Work Material
刀杆：GNDL R2525M-220　刀片：GCM N2002-GG
Holder　Insert
切削条件：v_c=100m/min, f=0.10mm/rev, a_p=20.0mm, Wet
Cutting Conditions

兼顾高刚性与排屑性
Ensures Both High Rigidity And Good Chip Evacuation Performance

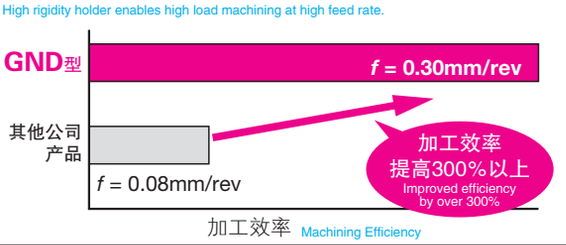


被削材：SCM415
Work Material
刀杆：GNDI R2532-T306　刀片：GCM N3002-GG
Holder　Insert
切削条件：v_c=100m/min, f=0.05mm/rev, a_p=3.0mm, Wet
Cutting Conditions

■ 使用实例 Application Examples

加工效率大幅提高!!
Substantially improved machining efficiency!!

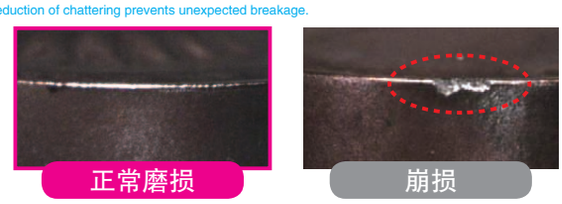
采用高刚性刀杆，也可实现高负载的大进给加工
High rigidity holder enables high load machining at high feed rate.



被削材：SCM435
Work Material
刀杆：GNDL R2525M-320　刀片：GCM N3002-GG(AC530U)
Holder　Insert
切削条件：v_c=130m/min　f=0.30mm/rev　Wet
Cutting Conditions

稳定长寿命，自动化生产线也可放心!!
Stable and long tool life ensures reliable functionality even on automatic production lines!!

抑制振刀，消除突发崩损
Reduction of chattering prevents unexpected breakage.



被削材：S53C
Work Material
刀杆：GNDM L2525M-618　刀片：GCM N6030-RG(AC530U)
Holder　Insert
切削条件：v_c=130m/min　f=0.3mm/rev　Wet
Cutting Conditions

■新增GND型小型车床用品种 GND Type Items for Small Lathes Expanded

●配备刃宽1.25mm / 1.5mm / 2.0mm / 3.0mm

●无振刀，实现高效加工
作为GND型的特长，继承高刀杆的刚性，抑制加工时的振动

●抑制切屑问题
丰富多彩的断屑槽系列中的GF型断屑槽崭新登场
改善在多种条件下的切屑处理

- The lineup includes grooving widths of 1.25, 1.5, 2.0, and 3.0mm.
- Reduces chattering and achieves high-efficiency machining
  Reduces vibration during grooving while inheriting the high holder rigidity of the GND Type.
- Reduces chip control problems
  To improve chip control under various conditions, we have newly added the GF Type to our wide lineup of chipbreakers.

■ 低切削阻力断屑槽 GF型 Low Cutting Resistance Chipbreaker GF Type

●改善切削加工时的振刀

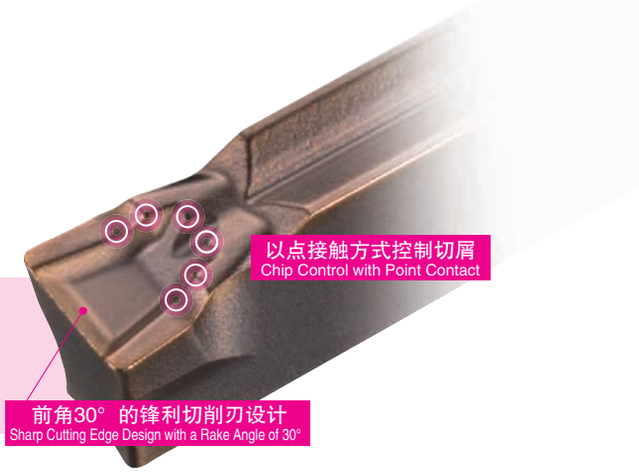
●最适合小型车床等低马力设备的加工

●有效抑制刀具粘屑，在不锈钢加工领域实现长寿命

- 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 and similar operations

采用前角30° 的锋利切削刃设计，以点接触方式控制切屑，通过抑制摩擦阻力实现优异的切屑处理以及低切削阻力

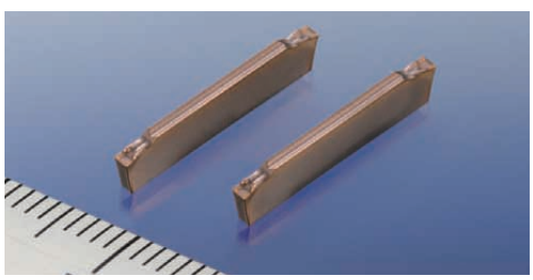
Achieves excellent chip control and reduced cutting resistance thanks to the sharp cutting edge design with a rake angle of 30° as well as the reduction of frictional resistance through chip control with point contact



■ 最小刃宽1.25mm Minimum Grooving Width: 1.25mm

节约切断加工时的材料费，有效抑制加工时的切削振动

Effective for reduction of material costs and vibration during cutting off

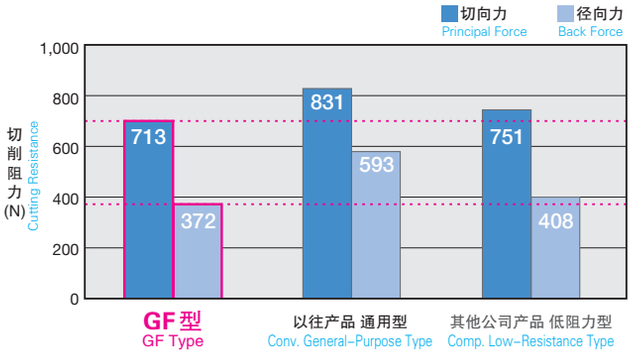


被削材：SCM415 ϕ22mm
Work Material
刀杆：GNDL R1212JX-1.2512
Holder
刀片：GCM N125005-GF(AC530U)
Insert
切削条件：n=2000min^{-1} f=0.03mm/rev Wet
Cutting Conditions

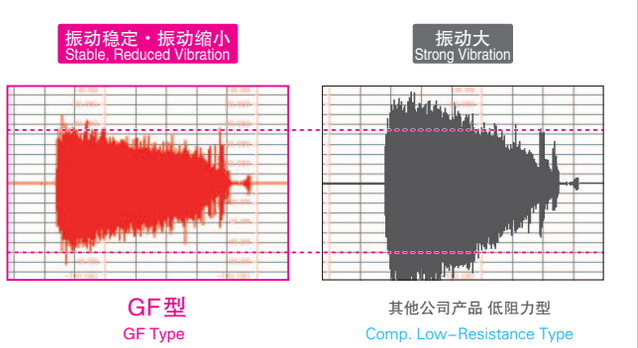
良好的加工面以及优异的切屑处理
Provides Excellent Surface Finish and Chip Control

GND型(GF型) GND Type (GF Type)　　其他公司产品 Competitor's Product

■ 使用实例(GF型) Application Examples(GF Type)



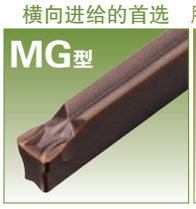
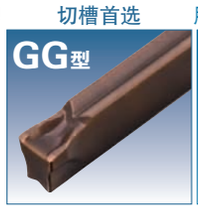
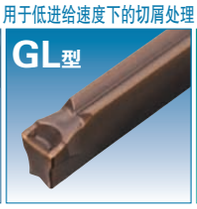
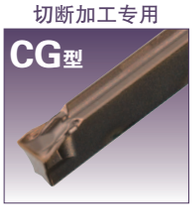
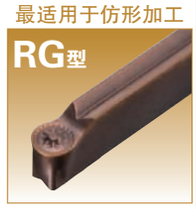
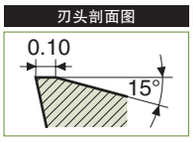
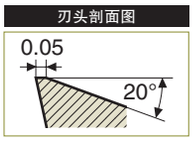
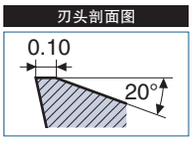
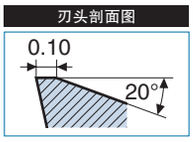
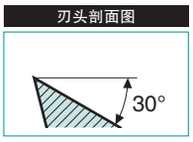
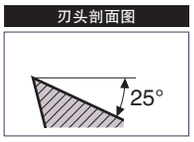
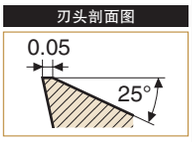
被削材：S45C ϕ30mm 切断加工
Work Material
刀杆：GNDL R2525M-320 刀片：GCM N3002-GF(AC530U)
Holder Insert
切削条件：v_c=80m/min f=0.10mm/rev Wet
Cutting Conditions



被削材：SUS316 ϕ30mm 切断加工
Work Material
刀杆：GNDL R2525M-320 刀片：GCM N3002-GF(AC530U)
Holder Insert
切削条件：v_c=80m/min f=0.10mm/rev Wet
Cutting Conditions

GND型

■ 实现稳定性与长寿命……凭借丰富多彩的刀片断屑槽，在各种加工中发挥出众的切屑处理性能

切槽・横向进给		切槽・切断				仿形
通用型	低进给型	通用型	低进给型	低阻力型	切断型	通用型
横向进给的首选	用于低进给速度下的切屑处理	切槽首选	用于低进给速度下的切屑处理	适用极细切槽	切断加工专用	最适用于仿形加工
MG型	ML型	GG型	GL型	GF型 NEW	CG型	RG型
						
刃头剖面图	刃头剖面图	刃头剖面图	刃头剖面图	刃头剖面图	刃头剖面图	刃头剖面图
						
0.10 15°	0.05 20°	0.10 20°	0.10 20°	30°	25°	0.05 25°
库存刃宽(mm)	库存刃宽(mm)	库存刃宽(mm)	库存刃宽(mm)	库存刃宽(mm)	库存刃宽(mm)	库存刃宽(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
				*印：仅AC530U有库存	CG型全部分左右手	
库存材质	库存材质	库存材质	库存材质	库存材质	库存材质	库存材质
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

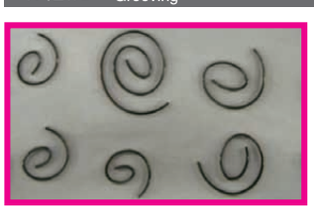
■ 推荐切削条件

被削材	P 碳素钢・合金钢			M 不锈钢			K 铸铁			S 难削材	
刀片材质	AC830P	AC520U	AC530U	AC830P	AC520U	AC530U	AC425K	AC520U	AC530U	AC520U	AC530U
切削速度v_c(m/min)	80~200	80~200	50~200	70~150	70~150	50~150	80~200	60~200	50~200	20~80	20~60

优异的切屑处理性能
Excellent Chip Control

适用于各种加工用途的专用刀片断屑槽系列
Special chipbreakers for various machining applications

切槽加工 Grooving

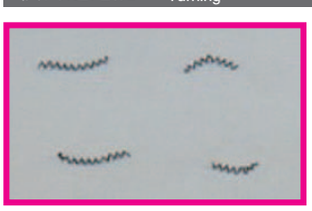


GND型(GG断屑槽)
GND Type (GG Type Chipbreaker)

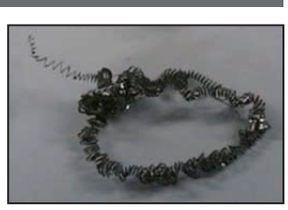
以往产品
Conventional Tool

被削材：SCM415
Work Material
刀杆：GNDL R2525M–320　刀片：GCM N3002–GG
Holder　Insert
切削条件：v_c=100m/min, f=0.15mm/rev, a_p=12.0mm, Wet
Cutting Conditions

横向进给加工 Turning



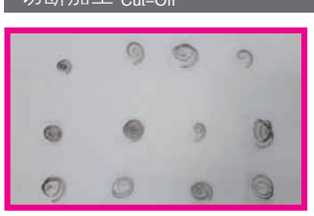
GND型(ML断屑槽)
GND Type (ML Type Chipbreaker)



以往产品
Conventional Tool

被削材：SCM415
Work Material
刀杆：GNDM R2525M–312　刀片：GCM N3002–ML
Holder　Insert
切削条件：v_c=100m/min, f=0.10mm/rev, a_p=0.5mm, Wet
Cutting Conditions

切断加工 Cut-Off



GND型(CG断屑槽)
GND Type (CG Type Chipbreaker)

其他公司产品
Competitor's Tool

被削材：SUS316(ϕ30mm)
Work Material
刀杆：GNDL R2525M–220　刀片：GCM R2002–CG–05
Holder　Insert
切削条件：v_c=100m/min, f=0.15mm/rev, Wet
Cutting Conditions

仿形加工 Profiling

GND型(RG断屑槽)
GND Type (RG Type Chipbreaker)

以往产品
Conventional Tool

被削材：SCM415
Work Material
刀杆：GNDM R2525M–312　刀片：GCM N3015–RG
Holder　Insert
切削条件：v_c=100m/min, f=0.15mm/rev, a_p=0.1mm, Wet
Cutting Conditions

■ 刀片断屑槽选型指南

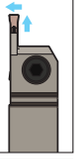
■ 刀片材质选择指南

GND型

外径加工用

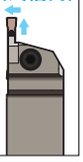
横向进给・仿形

GNDM型(小型车床用) 直刃型 New



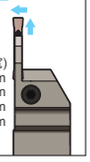
刀杆尺寸(长×宽)
□16mm×16mm
P12

GNDS型(浅槽用) 直刃型 New



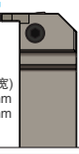
刀杆尺寸(长×宽)
□20mm×20mm
□25mm×25mm
P13

GNDM型 直刃型



刀杆尺寸(长×宽)
□20mm×20mm
□25mm×25mm
□32mm×25mm
□32mm×32mm
P14

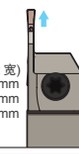
GNDMS型 L型



刀杆尺寸(长×宽)
□20mm×20mm
□25mm×25mm
P14

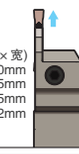
切槽・切断

GNDL型(小型车床用) 直刃型 New



刀杆尺寸(长×宽)
□10mm×10mm
□12mm×12mm
□16mm×16mm
P12

GNDL型 直刃型



刀杆尺寸(长×宽)
□20mm×20mm
□25mm×25mm
□32mm×25mm
□32mm×32mm
P15

GNDLS型 L型

刀杆尺寸(长×宽)
□20mm×20mm
□25mm×25mm
P15

适用刃宽(mm)		
1.25	1.5	2.0
3.0	4.0	5.0
6.0	7.0	8.0

适用断屑槽 MG ML GG GL GF RG CG

外径加工用 系列一览

MG：多功能・通用型 ML：多功能・低进给型 GG：切槽・通用型 GL：切槽・低进给型 GF：切槽・低阻力型 RG：仿形・通用型 CG：切断型

类型	刀杆尺寸(mm) 高度(h)	宽度(b)	刃宽(mm)	型号	最大槽深(mm)	刊载页	适用刀片断屑槽 MG	ML	GG	GL	GF	RG	CG
小型车床用	10	10	1.25 1.5	GNDL 小型	10	→P12					◎		
			2	GNDL 小型	10	→P12			◎	◎	◎		◎
			3	GNDL 小型	10	→P12	○	○	◎	◎	◎	◎	◎
	12	12	1.25 1.5	GNDL 小型	12	→P12					◎		
			2	GNDL 小型	12.5	→P12			◎	◎	◎		◎
			3	GNDL 小型	12.5	→P12	○	○	◎	◎	◎	◎	◎
	16	16	1.5	GNDM 小型	10	→P12					◎		
			1.5	GNDL 小型	12.5	→P12					◎		
			2	GNDM 小型	12	→P12			◎	◎	◎		◎
			2	GNDL 小型	16	→P12			◎	◎	◎		◎
			3	GNDM 小型	12	→P12	◎	◎	◎	◎	◎	◎	◎
			3	GNDL 小型	16	→P12	○	○	◎	◎	◎	◎	◎
直刃型	20	20	2	GNDS	6	→P13			◎	◎	◎		◎
			2	GNDM	10	→P14			◎	◎	◎		◎
			2	GNDL	20	→P15			◎	◎	◎		◎
			3	GNDS	6	→P13	◎	◎	◎	◎	◎	◎	◎
			3	GNDM	12	→P14	◎	◎	◎	◎	◎	◎	◎
			3	GNDL	20	→P15	○	○	◎	◎	◎	◎	◎
	20	20	4	GNDS	10	→P13	◎	◎	◎	◎	◎	◎	◎
	25	25	4	GNDM	18	→P14	◎	◎	◎	◎	◎	◎	◎
			4	GNDL	25	→P15	○	○	◎	◎	◎	◎	◎
			5 6	GNDS	10	→P13	◎	◎	◎	◎	◎	◎	
			5 6	GNDM	18	→P14	◎	◎	◎	◎	◎	◎	
			5 6	GNDL	25	→P15	○	○	◎	◎	◎	◎	
			7 8	GNDM	18	→P14	◎	◎	◎	◎		◎	
			7 8	GNDL	25	→P15	○	○	◎	◎		◎	
	32	25※	3	GNDM	12	→P14	◎	◎	◎	◎	◎	◎	◎
			3	GNDL	20	→P15	○	○	◎	◎	◎	◎	◎
			4	GNDM	18	→P14	◎	◎	◎	◎	◎	◎	◎
			4	GNDL	25	→P15	○	○	◎	◎	◎	◎	◎
	32	32	5 6	GNDM	18	→P14	◎	◎	◎	◎	◎	◎	
			5 6	GNDL	25	→P15	○	○	◎	◎	◎	◎	
			7 8	GNDM	18	→P14	◎	◎	◎	◎		◎	
			7 8	GNDL	25	→P15	○	○	◎	◎		◎	
L型	20	20	2	GNDLS	16	→P15			◎	◎	◎		◎
			3	GNDMS	10	→P14	◎	◎	◎	◎	◎	◎	◎
			3	GNDLS	16	→P15	○	○	◎	◎	◎	◎	◎
			4	GNDMS	12	→P14	◎	◎	◎	◎	◎	◎	◎
			5	GNDMS	12	→P14	◎	◎	◎	◎	◎	◎	
	25	25	2	GNDLS	18	→P15			◎	◎	◎		◎
			3	GNDMS	12	→P14	◎	◎	◎	◎	◎	◎	◎
			3	GNDLS	18	→P15	○	○	◎	◎	◎	◎	◎
			4	GNDMS	14	→P14	◎	◎	◎	◎	◎	◎	◎
			4	GNDLS	23	→P15	○	○	◎	◎	◎	◎	◎
			5 6	GNDMS	14	→P14	◎	◎	◎	◎	◎	◎	
			5 6	GNDLS	23	→P15	○	○	◎	◎	◎	◎	

■：库存 ※：接单生产产品(刀杆尺寸 □32×25mm)

◎：第一推荐 ○：第二推荐

内径加工用

切槽・横向进给・仿形

GNDI型 直刃型

柄径
ϕ25mm
ϕ32mm
ϕ40mm
P16

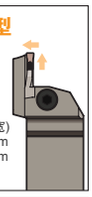
适用刃宽(mm)		
1.25	1.5	2.0
3.0	4.0	5.0
6.0	7.0	8.0

适用断屑槽: MG ML GG GL GF RG CG

端面加工的要点

切槽・横向进给・仿形

GNDF型 直刃型

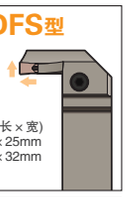


刀杆尺寸(长×宽)
□20mm×20mm
□25mm×25mm
P17

适用刃宽(mm)		
1.25	1.5	2.0
3.0	4.0	5.0
6.0	7.0	8.0

适用断屑槽: MG ML GG GL GF RG CG

GNDFS型 L型 New



刀杆尺寸(长×宽)
□25mm×25mm
□32mm×32mm
P18

适用刃宽(mm)		
1.25	1.5	2.0
3.0	4.0	5.0
6.0	7.0	8.0

适用断屑槽: MG ML GG GL GF RG CG

内径加工用 系列一览

MG：多功能・通用型 ML：多功能・低进给型 GG：切槽・通用型 GL：切槽・低进给型 GF：切槽・低阻力型 RG：仿形・通用型 CG：切断型

类型	刀杆尺寸 ϕDs(mm)	刃宽(mm) 2	3	4	5	6	型号	最大槽深(mm) 5 10 15 20 25 30	最小加工直径(mm)	刊载页	适用刀片断屑槽 MG	ML	GG	GL	GF	RG	CG
直刃型	ϕ32	2					GNDI	6	ϕ32	→P16			○	◎	○		
	ϕ40	2						10	ϕ40				○	◎	○		
	ϕ25		3	4				6	ϕ32		○	◎	○	◎	○	○	
	ϕ32		3	4				10	ϕ40		○	◎	○	◎	○	○	
	ϕ40		3	4				11	ϕ50		○	◎	○	◎	○	○	
	ϕ25				5			6	ϕ32		○	◎	○	◎	○	○	
	ϕ32				5			10	ϕ40		○	◎	○	◎	○	○	
	ϕ40				5			11	ϕ50		○	◎	○	◎	○	○	
	ϕ40					6		11	ϕ50		○	◎	○	◎	○	○	

■ ：库存

◎：第一推荐 ○：第二推荐

端面加工用 系列一览

MG：多功能・通用型 ML：多功能・低进给型 GG：切槽・通用型 GL：切槽・低进给型 GF：切槽・低阻力型 RG：仿形・通用型 CG：切断型

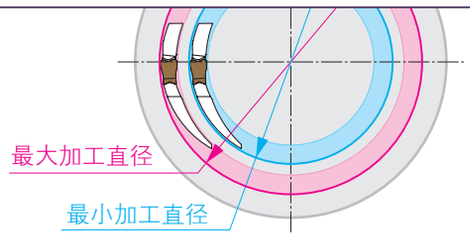
类型	刀杆尺寸(mm) 高度(h)	宽度(b)	刃宽(mm) 3	4	5	6	7	8	型号	最大槽深(mm) 5 10 15 20 25 30	加工径(mm) 50 100 150 200 250 300 1,000 ft	刊载页	适用刀片断屑槽 MG	ML	GG	GL	GF	RG	CG
直刃型	20	20	3						GNDF	12	ϕ35 ϕ45	→P17	◎	◎	◎	◎	◎	△	
	25	25	3							12	ϕ40 ϕ55		◎	◎	◎	◎	◎	△	
			3							18	ϕ50 ϕ70		◎	◎	◎	◎	◎	△	
			3							18	ϕ65 ϕ100		◎	◎	◎	◎	◎	△	
			3							18	ϕ90 ϕ150		◎	◎	◎	◎	◎	△	
			3							18	ϕ140 ϕ200		◎	◎	◎	◎	◎	△	
			3							18	ϕ180 ϕ300		◎	◎	◎	◎	◎	△	
				4					GNDF	18	ϕ40 ϕ55	→P17	◎	◎	◎	◎	◎	△	
				4						23	ϕ50 ϕ70		◎	◎	◎	◎	◎	△	
				4						23	ϕ65 ϕ90		◎	◎	◎	◎	◎	△	
				4						23	ϕ85 ϕ130		◎	◎	◎	◎	◎	△	
				4						23	ϕ125 ϕ200		◎	◎	◎	◎	◎	△	
				4						23	ϕ180 ϕ300		◎	◎	◎	◎	◎	△	
				4						23	ϕ280 ϕ1,000		◎	◎	◎	◎	◎	△	
					5				GNDF	23	ϕ50 ϕ70	→P17	◎	◎	◎	◎	◎	△	
					5					23	ϕ65 ϕ90		◎	◎	◎	◎	◎	△	
					5					23	ϕ85 ϕ130		◎	◎	◎	◎	◎	△	
					5					23	ϕ125 ϕ200		◎	◎	◎	◎	◎	△	
					5					23	ϕ180 ϕ300		◎	◎	◎	◎	◎	△	
					5					23	ϕ280 ϕ1,000		◎	◎	◎	◎	◎	△	
						6			GNDF	23	ϕ50 ϕ75	→P17	◎	◎	◎	◎	◎	△	
						6				23	ϕ70 ϕ110		◎	◎	◎	◎	◎	△	
						6				23	ϕ100 ϕ200		◎	◎	◎	◎	◎	△	
						6				23	ϕ180 ϕ300		◎	◎	◎	◎	◎	△	
						6				23	ϕ280 ϕ1,000		◎	◎	◎	◎	◎	△	
L型	20	20				6			GNDFS	20	ϕ70 ϕ100	→P18	◎	◎	◎	◎	◎	△	
	25	25				6				20	ϕ100 ϕ200		◎	◎	◎	◎	◎	△	
						6				20	ϕ180 ϕ300		◎	◎	◎	◎	◎	△	
						6				20	ϕ280 ϕ1,000		◎	◎	◎	◎	◎	△	
						6				20	ϕ450~		◎	◎	◎	◎	◎	△	
								8	GNDFS	20	ϕ70 ϕ100	→P18	◎	◎	◎	◎		△	
								8		20	ϕ100 ϕ200		◎	◎	◎	◎		△	
								8		20	ϕ180 ϕ300		◎	◎	◎	◎		△	
								8		20	ϕ280 ϕ1,000		◎	◎	◎	◎		△	
								8		20	ϕ450~		◎	◎	◎	◎		△	

■ ：库存 ■ ：接单生产产品

◎：第一推荐 ○：第二推荐 △：必须以局部加工方式对刀片和刀杆进行追加加工

端面加工的要点

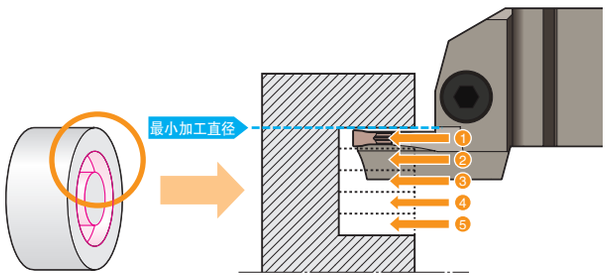
刀杆选择



・选择刀杆时，请确保最初加工槽的外径在该刀杆的最大和最小加工直径的范围内。

扩槽加工时的注意点

推荐断屑槽 MG ML GG GL GF



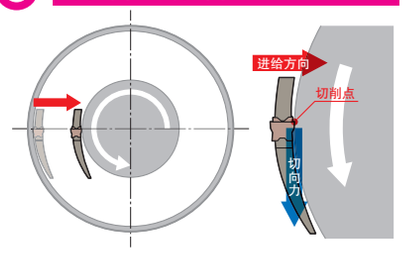
・扩槽加工时，若最初的槽在有效加工直径范围内，则第2刀以上没有加工直径的限制。

横向进给加工时的注意点

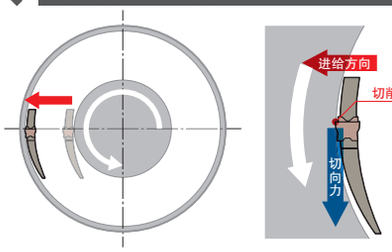
推荐断屑槽 MG ML

从刀杆刚性角度而言，推荐沿从外径侧到内径侧的方向加工。

○ 外径侧→内径侧



× 内径侧→外径侧



从内径侧向外径侧加工时，因为切向力一侧刀片支撑少，刚性会降低。

・端面横向进给加工时，若最初的槽在有效加工直径范围内，则第2刀以上没有加工直径的限制。
・请选择推荐切削条件下限的断屑槽，伸展切屑并排出。(端面切槽加工时，若分断切屑，切屑容易堵塞槽内，产生故障。)
・分断切屑时，请采用步进进给加工。

内径加工的要点

内径加工时的注意点

推荐断屑槽 ML GL

底孔加工孔径小时，请使用从排屑面开始切屑卷曲直径变小的低进给型断屑槽ML型 / GL型。

GCMN3004–MG

GCMN3002–ML

GCMN3002–GG

GCMN3002–GL

被削材：SCM415 底孔口径 ϕ25mm 刀杆：GNDI R2532–T306 刀片：GCM N300○–○○
切削条件：v_c=100m/min f=0.1mm/rev a_p=3.0mm Wet

内径加工时

外径加工时

GCMN3002–GG

即使在相同切削条件下，内径加工与外径加工的切屑形状也会有所不同。

被削材：SCM415
刀杆：GNDL R2525M–320 刀片：GCM N3002–GG
切削条件：v_c=100m/min f=0.10mm/rev a_p=5mm Wet

■ 刀片安装时的注意点 Notes on Attaching Inserts

① 安装刀片前，请除去安装面上的异物或油污。
Remove any foreign particles or oil from the insert seat before attaching the insert.

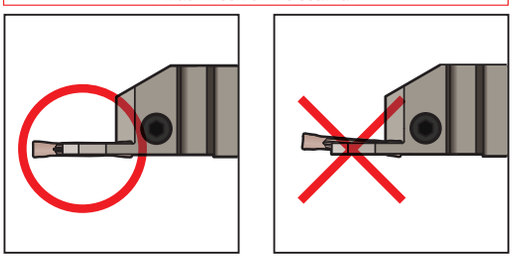
② 请磨掉刀片安装安装面上的裂纹或毛刺等。
Grind off any burr or flaws on the insert seat.

③ 请沿着与安装面平行的方向滑动刀片，将其安装到位。
Slide the insert flat over its seat.

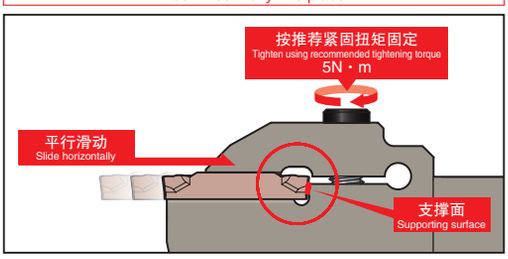
④ 请将切削刃的反向侧(刀杆侧)紧贴支撑面，将切削刃紧固到位。
Clamp the insert with its opposite end (the holder side) firmly against the supporting surface.

⑤ 刀片请按推荐紧固扭矩进行固定。用超过推荐扭矩的力紧固时，可能会导致刀片破损，造成人员受伤。
Tighten the insert using the recommended tightening torque. Tightening above the recommended torque may damage the insert which could cause injury and other accidents.

与安装面平行安装刀片
Attach insert on the seat flat



将刀片完全插入到位
Push insert fully into place



■ 刀杆安装时的注意点 Notes on Attaching Holders

① 安装刀杆前，请除去刀架上的异物或油污。
Remove any foreign particles or oil from the tool post before attaching the holder.

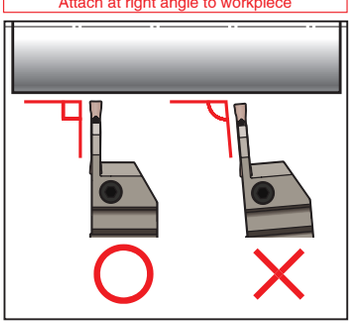
② 请磨掉刀架上的毛刺等。
Grind off any burr or flaws on the tool post.

③ 请沿着与工件垂直的方向安装刀片。否则，可能会导致加工面弯曲、振动。
Attach the insert so that it is perpendicular to the workpiece. Failure to do so may bend the machined surface or cause chattering.

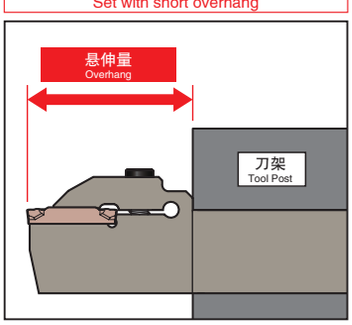
④ 请以最短的悬伸量安装刀杆。
Set holder with shortest possible overhang.

⑤ 切槽・横向进给加工时刀刃芯高请尽可能控制在±0mm。(推荐±0.1mm以内)
中心高不对时，可能导致振动。切断加工时，中心高度请控制在0 ~ +0.2mm以内。
中心高过低可能导致残留凸起增大。
When grooving or traversing, adjust the centre height of the cutting edge to as close to ±0mm as possible. (Within ±0.1mm is recommended.)
If the centre height is incorrectly adjusted, it may cause chattering. In cut–off applications, adjust the centre height of the cutting edge to within 0.0 to +0.2mm.
A lower centre height will result in a larger burr.

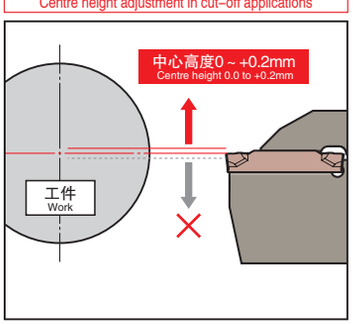
沿着与工件垂直的方向安装
Attach at right angle to workpiece



以较短的悬伸量安装
Set with short overhang



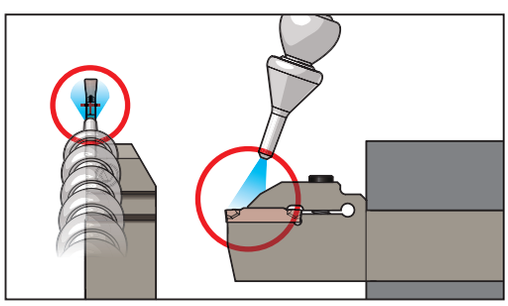
切断加工时的中心高调整
Centre height adjustment in cut–off applications



■ 供油嘴安装时的注意点 Notes on Setting Coolant Supply Nozzle

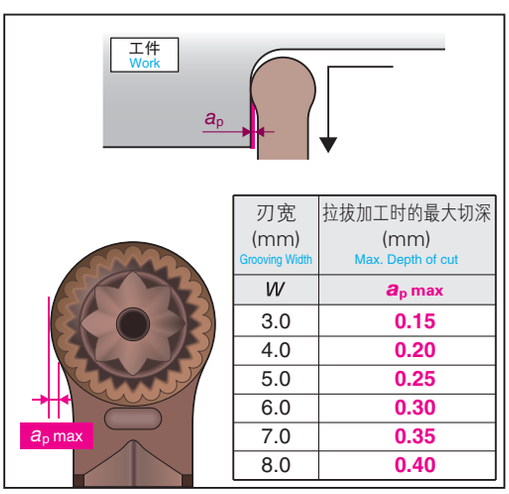
① 安装供油嘴时，请确保能够从上夹紧部顶部供给切削油。
Set the coolant supply nozzle so that coolant can be supplied from the top of the upper clamp unit.

向上夹紧部顶部供油
Supply coolant to top of upper clamp unit



■ RG型断屑槽拉拔加工时的切深量

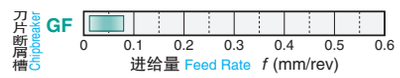
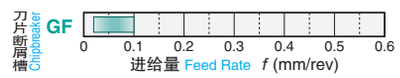
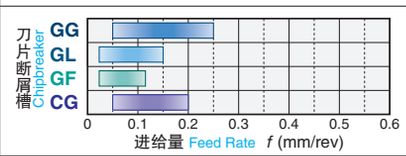
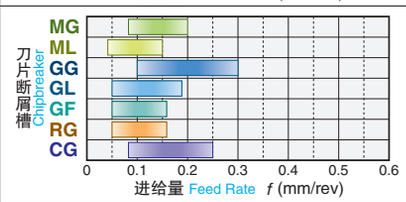
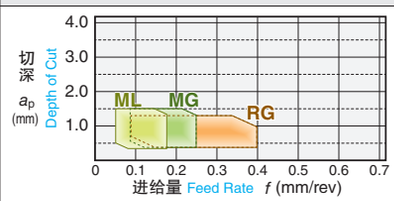
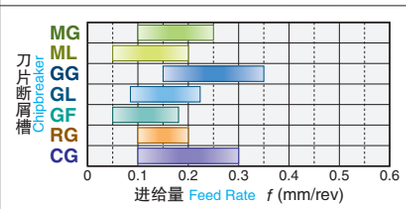
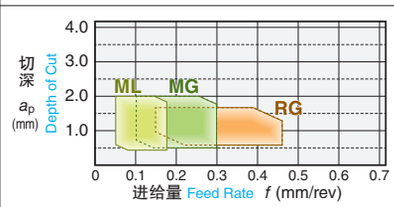
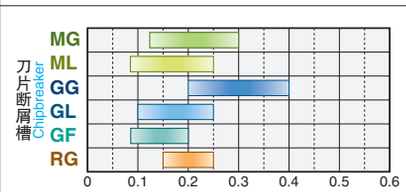
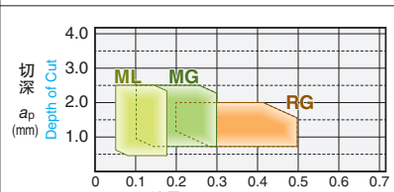
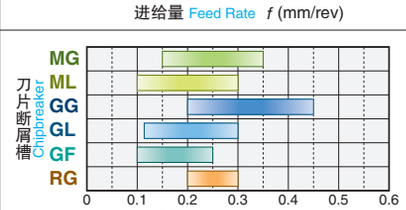
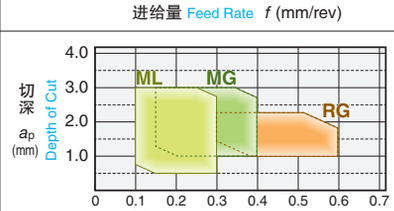
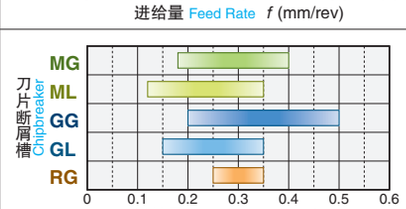
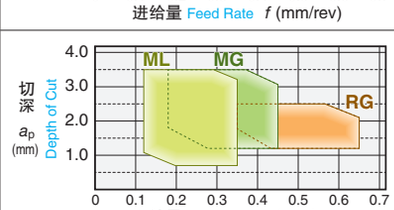
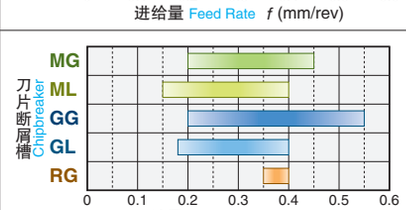
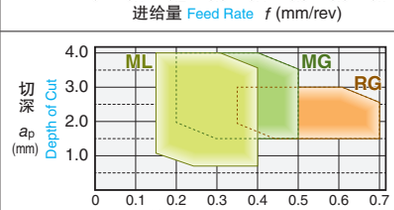
Maximum depth of cut when pulling up with RG chipbreaker



刃宽 (mm) Grooving Width	拉拔加工时的最大切深 (mm) Max. Depth of cut
W	a_p max
3.0	0.15
4.0	0.20
5.0	0.25
6.0	0.30
7.0	0.35
8.0	0.40

GND型

■ 刀片断屑槽选型指南 Chipbreaker Selection Guide

刃宽 (mm) Grooving Width	推荐切削条件 Recommended Cutting Conditions 切槽 Grooving	横向进给 Turning	刀尖半径 (mm) Nose Radius	刀片型号 Cat. No.
1.25			0.2	GCM N125005–GF
1.5			0.2	GCM N150005–GF
2.0			0.2	GCM N2002–GG GCM N2002–GL GCM N2002–GF GCM R/L2002–CG–05
3.0			0.2	GCM N3002–ML GCM N3002–GG GCM N3002–GL GCM N3002–GF GCM R/L3002–CG–05
			0.4	GCM N3004–MG GCM N3004–GG
			1.5	GCM N3015–RG
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
			0.8	GCM N4008–MG
			2.0	GCM N4020–RG
5.0			0.2	GCM N5002–GG GCM N5002–GL GCM N5002–GF
			0.4	GCM N5004–ML GCM N5004–GG
			0.8	GCM N5008–MG
			2.5	GCM N5025–RG
6.0			0.2	GCM N6002–GG GCM N6002–GL GCM N6002–GF
			0.4	GCM N6004–ML GCM N6004–GG
			0.8	GCM N6008–MG
			3.0	GCM N6030–RG
7.0			0.4	GCM N7004–ML GCM N7004–GG GCM N7004–GL
			0.8	GCM N7008–MG
			3.5	GCM N7035–RG
8.0			0.4	GCM N8004–ML GCM N8004–GG GCM N8004–GL
			0.8	GCM N8008–MG
			4.0	GCM N8040–RG

端面切槽加工时，请在推荐的切削下限条件下进行加工，以确保不断屑。
切断加工时，请将工件中心附近的进给量减少到30%～50%左右。
内径加工时(特别是加工直径较小时)切屑排放空间缩小，因此推荐使用ML型/GL型断屑槽。
使用GNDF型刀杆、RG型断屑槽进行端面加工时，必须对刀片和刀杆进行追加加工。如R槽加工等局部加工。
When face grooving, use cutting conditions closer to the lower limit of the recommended cutting conditions to ensure that chips are long.
In cut–off applications, reduce the feed rate to around 30% to 50% near the centre of the workpiece.
As there is less space for chip evacuation when machining internal diameters (particularly small bore diameters), ML and GL type chipbreakers are recommended.
When using the RG Type chipbreaker with the GNDF Type holder to perform facing, modifications to the chipbreaker and holder are required in order to perform machining such as R–grooving.

库存刊载页 Stock ☞ P19

■ 推荐切削条件 Recommended Cutting Conditions

被削材 Work Materials	P 碳素钢・合金钢 Carbon Steel / Alloy Steel			M 不锈钢 Stainless Steel			K 铸铁 Cast Iron			S 难削材 Exotic Alloy	
刀片材质 Grades	AC830P	AC520U	AC530U	AC830P	AC520U	AC530U	AC425K	AC520U	AC530U	AC520U	AC530U
切削速度v_c(m/min) Cutting Speed	80~200	80~200	50~200	70~150	70~150	50~150	80~200	60~200	50~200	20~80	20~60

■ 型号的称呼方法 Identification Details

刀杆 Holders

GND M R 25 25 (M)–(T) 3 12(–)(035)

① 型式记号 Model Symbol: GND

② 用途记号 Application — 参照(表2) Chart 2

③ 方向记号 Feed Direction — 参照(表3) Chart 3

④ 刀柄高度・柄径记号 Shank Height/Dia. — 参照(表4) Chart 4

⑤ 刀柄宽度・加工径记号 Shank Width/Work Dia. — 参照(表5) Chart 5

⑥ 刀柄长度记号 Shank Length — 参照(表6) Chart 6

⑦ 种类 Type: T：内径加工用 Internal Grooving

⑧ 刀片刃宽记号 Insert Width — 参照(表8) Chart 8

⑨ 最大槽深记号 Max. Grooving Depth — 参照(表9) Chart 9

⑩ 最小加工直径记号 Min. Work Dia. — (mm)

(表2) ②用途记号 Application

代号 Symbol	用途 Application	
S	外径多功能加工用 External Multi–Purpose	切槽・切断・横向进给・仿形 Grooving / Cut–Off / Turning / Profiling
M	外径多功能加工用 External Multi–Purpose	切槽・切断・横向进给・仿形 Grooving / Cut–Off / Turning / Profiling
L	外径加工用 External Grooving	切槽・切断 Grooving / Cut–Off
MS	外径L型(横向进给)多功能加工用 External L–Styled (Side Cut) Multi–Purpose	切槽・横向进给・仿形 Grooving / Turning / Profiling
LS	外径L型(横向进给)加工用 External L–Styled (Side Cut) Grooving	切槽 Grooving
F	端面加工用 Face Grooving	切槽・横向进给・仿形 Grooving / Turning / Profiling
FS	端面L型加工用 Face L–Style (Side Cut) Grooving	切槽・横向进给・仿形 Grooving / Turning / Profiling
I	内径加工用 Internal Grooving	切槽・横向进给・仿形 Grooving / Turning / Profiling

(表3) ③方向记号 Feed Direction

代号 Symbol	方向 Direction
R	右手边 Right Hand
L	左手边 Left Hand

(表4) ④刀柄高度・柄径记号 Shank Height / Diameter

用途 Application	代号 Symbol	高度(mm) Height
外径・端面用(刀柄高度) External / Face Grooving (Shank Heigth)	10	10
	12	12
	16	16
	20	20
	25	25
内径用(柄径) Internal Groving (Shank Diameter)	25	25
	32	32
	40	40

(表5) ⑤刀柄宽度・加工径记号 Shank Width / Work Dia.

用途 Application	代号 Symbol	高度(mm) Height
外径・端面用(刀柄高度) External / Face Grooving (Shank Higth)	10	10
	12	12
	16	16
	20	20
	25	25
内径用(最小加工直径) Internal Groving (Shank Diameter)	32	32
	40	40
	50	50

(表6) ⑥刀柄长度记号 Shank Length

代号 Symbol	长度(mm) Length
JX	120
K	125
M	150
P	170

(表8) ⑧刀片刃宽记号 Insert Width

代号 Symbol	刃宽(mm) Grooving Width	代号 Symbol	刃宽(mm) Grooving Width
1.25	1.25	5	5.0
1.5	1.5	6	6.0
2	2.0	7	7.0
3	3.0	8	8.0
4	4.0		

(表9) ⑨最大槽深记号 Max Grooving Depth

代号 Symbol	刃宽(mm) Grooving Width	代号 Symbol	刃宽(mm) Grooving Width
06	6	18	18
10	10	20	20
11	11	21	21
12	12	25	25
12.5	12.5		

刀片 Inserts

G C M N 30 02 GG (–) (05)

① 型式记号 Model Symbol: Grooving

② 前后角记号 Front Relief Angle: C：7°

③ 等级记号 Tolerance: M：M级 M Class

④ 方向记号 Feed Direction

代号 Symbol	方向 Direction
R	右手边 R:Right Hand
L	左手边 L:Laft Hand
N	无方向 Neutral

⑤ 刀片刃宽记号 Insert Width

代号 Symbol	刃宽(mm) Grooving Width
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 刀尖R记号 Nose Radius

代号 Symbol	r_ε (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

刀尖R1.5mm以上用于仿形。
Inserts with a nose radius of 1.5 mm or larger are for profiling.

⑦ 断屑槽记号 Chipbreaker

代号 Symbol	用途 Application
MG	多功能：通用 Multi–Purpose: General Feed
ML	多功能：低进给 Multi–Purpose: Low Feed
GG	切槽：通用 Grooving: General Feed
GL	切槽：低进给 Grooving: Low Feed
GF	切槽：低阻力 Grooving: Low Cutting Forces
RG	仿形 Profiling
CG	切断 Cut–Off

⑧ 副切削刃角 Front angle: 05：5°

■选择工具时的注意事项 Special Notes About Tool Selection

- 请选择尽可能大的刀杆尺寸。
  Select the maximum shank size allowable.
- 利于排屑，推荐使用刃口朝下加工。
  It is recommended that holders are used in the opposite direction to feed direction.
- 请根据加工条件选择刀片断屑槽。
  Chipbreaker should be selected according to the machining conditions.
- 为确保精确的切屑处理，在没有限制的情况下，请选择尽可能小的刀尖半径。
  To ensure adequate chip control, unless restrictions apply, select the smallest nose radius possible.
- 为确保刚性，只要能确保最大加工槽深，就请尽可能使用多功能型刀杆。
  As long as it is possible to obtain the maximum grooving depth, use the multi–purpose type holders wherever possible to ensure sufficient rigidity.

GND型

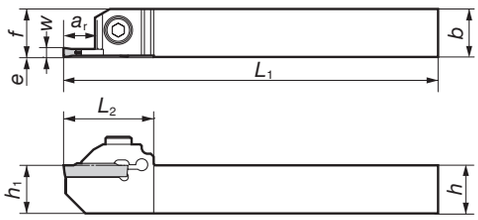
外径多功能 小型车床用(切槽・横向进给・仿形用)

外径 External

切断 Cut-Off

New

※横向进给(扩槽)加工时，请使用多功能・仿形加工用刀片。
Use for multi-purpose or profiling insert for turning (widening).



本图表示右手车刀(R)。
Above figures show right hand tools.

■ 配件 Parts


■ 刀杆 Holders

型　号 Cat No.	库存 Stock R	库存 Stock L	尺寸(mm) Dimensions h	b	L_1	f	h_1	L_2	e	刃宽(mm) Grooving Width w	最大槽深(mm) Max. Grooving Depth a_r	最大切断直径(mm) Max. Cut-off Dia.	适用刀片 Applicable Insert	沉头螺钉 Cap Screw	推荐紧固扭矩 Recommended Tightening Torque (N・m)	扳手 Spanner
GNDM R/L1616JX-1.510	○	○	16	16	120	(16)	16	26	0	1.5	10	20	GCM N150005-GF			
GNDM R/L1616JX-212	●	●	16	16	120	(16)	16	30	0	2.0	12	24	GCM □20○○-□□	BX0515	4.0	LH040
GNDM R/L1616JX-312	●	●	16	16	120	(16)	16	30	0	3.0	12	24	GCM □30○○-□□			

请对刀片和刀杆使用相同的刃宽w。
Please use the same grooving width for the insert and holder.

刀片刊载页 Insert Selection ☞ P19

外径切槽・切断 小型车床用

外径 External

切断 Cut-Off

New

Fig 1

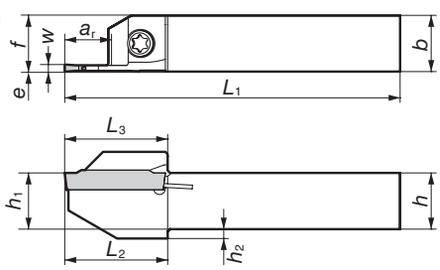
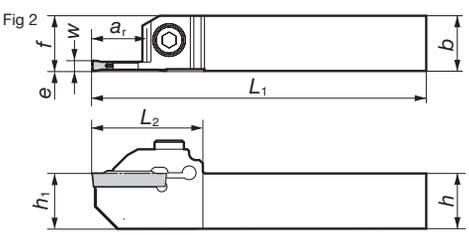


Fig 2



本图表示右手车刀(R)。
Above figures show right hand tools.

■ 配件 Parts

■ 刀杆 Holders

型　号 Cat No.	库存 Stock R	库存 Stock L	尺寸(mm) Dimensions h	b	L_1	f	h_1	h_2	L_2	L_3	e	刃宽(mm) Grooving Width w	最大槽深(mm) Max. Grooving Depth a_r	最大切断直径(mm) Max. Cut-off Dia.	Fig	适用刀片 Applicable Insert	平头螺钉/内六角螺钉	推荐紧固扭矩 Recommended Tightening Torque (N・m)	扳手 Spanner
GNDL R/L1010JX-1.2510	●	●	10	10	120	(10)	10	2.0	18	18.3	0	1.25	10.0	20	1	GCM N125005-GF	BFTX0412N	3.0	LT15–10
GNDL R/L1010JX-1.510	○	○	10	10	120	(10)	10	2.0	18	18.3	0	1.50	10.0	20		GCM N150005-GF			
GNDL R/L1010JX-210	●	●	10	10	120	(10)	10	2.0	22	22.3	0	2.00	10.0	20		GCM □20○○-□□			
GNDL R/L1010JX-310	●	●	10	10	120	(10)	10	2.0	22	22.3	0	3.00	10.0	20		GCM □30○○-□□			
GNDL R/L1212JX-1.2512	●	●	12	12	120	(12)	12	2.0	19	19.3	0	1.25	12.0	24	1	GCM N125005-GF	BFTX0412N	3.0	LT15–10
GNDL R/L1212JX-1.512	○	○	12	12	120	(12)	12	2.0	19	19.3	0	1.50	12.0	24		GCM N150005-GF			
GNDL R/L1212JX-212.5	●	●	12	12	120	(12)	12	2.0	22	22.3	0	2.00	12.5	25		GCM □20○○-□□			
GNDL R/L1212JX-312.5	●	●	12	12	120	(12)	12	2.0	22	22.3	0	3.00	12.5	25		GCM □30○○-□□			
GNDL R/L1616JX-1.512.5	○	○	16	16	120	(16)	16	–	32	–	0	1.50	12.5	25	2	GCM N150005-GF	BX0515	4.0	LH040
GNDL R/L1616JX-216	●	●	16	16	120	(16)	16	–	32	–	0	2.00	16.0	32		GCM □20○○-□□			
GNDL R/L1616JX-316	●	●	16	16	120	(16)	16	–	32	–	0	3.00	16.0	32		GCM □30○○-□□			

请对刀片和刀杆使用相同的刃宽w。
Please use the same grooving width for the insert and holder.

刀片刊载页 Insert Selection ☞ P19

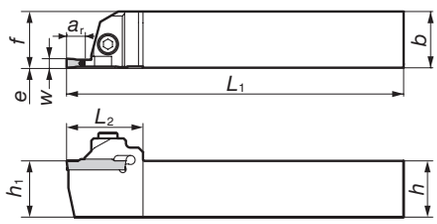
●印：标准库存产品　○印：预定库存产品(2015年3月)
●mark: Standard stock item　○mark: Planned stock (Mar 2015)

外径多功能 浅槽用(切槽・横向进给・仿形用)

外径 External

New

※横向进给(扩槽)加工时，请使用多功能・仿形加工用刀片。
Use for multi–purpose or profiling insert for turning (widening).



本图表示右手车刀(R)。
Above figures show right hand tools.

■ 刀杆 Holders

■ 配件 Parts

型　号 Cat No.	库存 Stock		尺寸(mm) Dimensions						刃宽(mm) Grooving Width	最大槽深(mm) Max. Grooving Depth	适用刀片 Applicable Insert	沉头螺钉 Cap Screw	推荐紧固扭矩 Recommended Tightening Torque (N・m)	扳手 Spanner
	R	L	h	b	L_1	f	h_1	L_2	w	a_r				
GNDS R/L2020K–206	●	●	20	20	125	20	20	30	**2.0**	**6**	GCM □20○○–□□	BX0520	**5.0**	LH040
GNDS R/L2020K–306	●	●	20	20	125	20	20	30	**3.0**	**6**	GCM □30○○–□□			
GNDS R/L2020K–410	●	●	20	20	125	20	20	34	**4.0**	**10**	GCM □40○○–□□			
GNDS R/L2020K–510	●	●	20	20	125	20	20	34	**5.0**	**10**	GCM N50○○–□□			
GNDS R/L2020K–610	●	●	20	20	125	20	20	34	**6.0**	**10**	GCM N60○○–□□			
GNDS R/L2525M–206	●	●	25	25	150	25	25	30	**2.0**	**6**	GCM □20○○–□□			
GNDS R/L2525M–306	●	●	25	25	150	25	25	30	**3.0**	**6**	GCM □30○○–□□			
GNDS R/L2525M–410	●	●	25	25	150	25	25	34	**4.0**	**10**	GCM □40○○–□□			
GNDS R/L2525M–510	●	●	25	25	150	25	25	34	**5.0**	**10**	GCM N50○○–□□			
GNDS R/L2525M–610	●	●	25	25	150	25	25	34	**6.0**	**10**	GCM N60○○–□□			

请对刀片和刀杆使用相同的刃宽w。
Please use the same grooving width for the insert and holder.

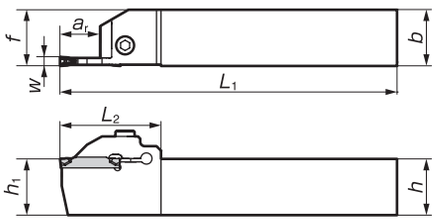
刀片刊载页 Insert Selection ☞ P19

●印：标准库存产品
●mark: Standard stock item

外径多功能(切槽・横向进给・仿形用) External Multi–Purpose (Grooving / Turning / Profiling)

外径 External

切断 Cut–Off



※横向进给(扩槽)加工时，请使用多功能・仿形加工用刀片。

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

本图表示右手车刀(R)。
Above figures show right hand tools.

■ 刀杆 Holders

型　号 Cat No.	库存 Stock R	库存 Stock L	尺寸(mm) Dimensions h	b	L_1	f	h_1	L_2	刃宽(mm) Grooving Width w	最大槽深(mm) Max. Grooving Depth a_r	最大切断直径(mm) Max. Cut–off Dia.	适用刀片 Applicable Insert	沉头螺钉 Cap Screw	推荐紧固扭矩 Recommended Tightening Torque (N・m)	扳手 Spanner
GNDM R/L2020K–210 New	●	●	20	20	125	20	20	33.6	**2.0**	**10**	**20**	GCM □20○○–□□	BX0520	**5.0**	LH040
GNDM R/L2020K–312	●	●	20	20	125	20	20	36.6	**3.0**	**12**	**24**	GCM □30○○–□□			
GNDM R/L2020K–418	●	●	20	20	125	20	20	45.0	**4.0**	**18**	**36**	GCM □40○○–□□			
GNDM R/L2020K–518	●	●	20	20	125	20	20	45.0	**5.0**	**18**	**36**	GCM N50○○–□□			
GNDM R/L2020K–618	●	●	20	20	125	20	20	45.0	**6.0**	**18**	**36**	GCM N60○○–□□			
GNDM R/L2525M–210 New	●	●	25	25	150	25	25	33.6	**2.0**	**10**	**20**	GCM N20○○–□□			
GNDM R/L2525M–312	●	●	25	25	150	25	25	36.6	**3.0**	**12**	**24**	GCM □30○○–□□			
GNDM R/L2525M–418	●	●	25	25	150	25	25	45.0	**4.0**	**18**	**36**	GCM □40○○–□□			
GNDM R/L2525M–518	●	●	25	25	150	25	25	45.0	**5.0**	**18**	**36**	GCM N50○○–□□			
GNDM R/L2525M–618	●	●	25	25	150	25	25	45.0	**6.0**	**18**	**36**	GCM N60○○–□□			
GNDM R/L3225P–312			32	25	170	25	32	36.6	**3.0**	**12**	**24**	GCM □30○○–□□			
GNDM R/L3225P–418			32	25	170	25	32	45.0	**4.0**	**18**	**36**	GCM □40○○–□□			
GNDM R/L3225P–518			32	25	170	25	32	45.0	**5.0**	**18**	**36**	GCM N50○○–□□			
GNDM R/L3225P–618			32	25	170	25	32	45.0	**6.0**	**18**	**36**	GCM N60○○–□□			
GNDM R/L3225P–718			32	25	170	25	32	50.0	**7.0**	**18**	**36**	GCM N70○○–□□	BX0620	**6.0**	LH050
GNDM R/L3225P–818			32	25	170	25	32	50.0	**8.0**	**18**	**36**	GCM N80○○–□□			
GNDM R/L3232P–312	●	●	32	32	170	32	32	36.6	**3.0**	**12**	**24**	GCM □30○○–□□	BX0620	**6.0**	LH050
GNDM R/L3232P–418	●	●	32	32	170	32	32	45.0	**4.0**	**18**	**36**	GCM □40○○–□□			
GNDM R/L3232P–518	●	●	32	32	170	32	32	45.0	**5.0**	**18**	**36**	GCM N50○○–□□			
GNDM R/L3232P–618	●	●	32	32	170	32	32	45.0	**6.0**	**18**	**36**	GCM N60○○–□□			
GNDM R/L3232P–718	●	●	32	32	170	32	32	50.0	**7.0**	**18**	**36**	GCM N70○○–□□			
GNDM R/L3232P–818	●	●	32	32	170	32	32	50.0	**8.0**	**18**	**36**	GCM N80○○–□□			

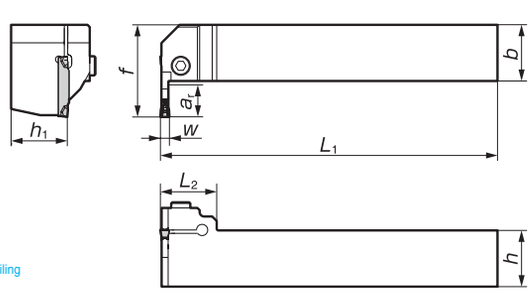
■ 配件 Parts

请对刀片和刀杆使用相同的刃宽w。
Please use the same grooving width for the insert and holder.

刀片刊载页 Insert Selection ☞ P19

外径L型(侧切)多功能(切槽・横向进给・仿形用) External L–Styled (Side Cut) Multi–Purpose (Grooving / Turning / Profiling)

外径 External



※横向进给(扩槽)加工时，请使用多功能・仿形加工用刀片。

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

本图表示右手车刀(R)。
Above figures show right hand tools.

■ 刀杆 Holders

型　号 Cat No.	库存 Stock R	库存 Stock L	尺寸(mm) Dimensions h	b	L_1	f	h_1	L_2	刃宽(mm) Grooving Width w	最大槽深(mm) Max. Grooving Depth a_r	适用刀片 Applicable Insert	沉头螺钉 Cap Screw	推荐紧固扭矩 Recommended Tightening Torque (N・m)	扳手 Spanner
GNDMS R/L2020K–310	●	●	20	20	125	32	20	25	**3.0**	**10**	GCM □30○○–□□	BX0520	**5.0**	LH040
GNDMS R/L2020K–412	●	●	20	20	125	34	20	25	**4.0**	**12**	GCM □40○○–□□			
GNDMS R/L2020K–512	●	●	20	20	125	34	20	25	**5.0**	**12**	GCM N50○○–□□			
GNDMS R/L2525M–312	●	●	25	25	150	39	25	25	**3.0**	**12**	GCM □30○○–□□			
GNDMS R/L2525M–414	●	●	25	25	150	41	25	25	**4.0**	**14**	GCM □40○○–□□			
GNDMS R/L2525M–514	●	●	25	25	150	41	25	25	**5.0**	**14**	GCM N50○○–□□			
GNDMS R/L2525M–614	●	●	25	25	150	41	25	25	**6.0**	**14**	GCM N60○○–□□			

■ 配件 Parts

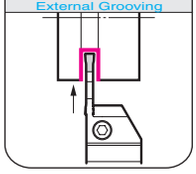
请对刀片和刀杆使用相同的刃宽w。
Please use the same grooving width for the insert and holder.

刀片刊载页 Insert Selection ☞ P19

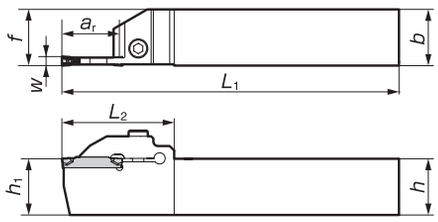
●印：标准库存品　●印：标准库存品(新增产品) 无印：接单生产产品
●mark: Standard stock item　●mark: Standard stock item(expanded item)　blank:Made to order item

外径深切槽・切断用 External Deep Grooving / Cut–Off

GNDL
外径切槽
External Grooving



外径 External
切断 Cut–Off



本图表示右手车刀(R)。
Above figures show right hand tools.

■ 配件 Parts


■ 刀杆 Holders

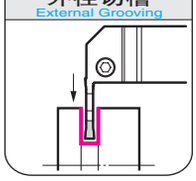
型　号 Cat No.	库存 Stock R	库存 Stock L	尺寸(mm) Dimensions h	b	L_1	f	h_1	L_2	刃宽(mm) Grooving Width w	最大槽深(mm) Max. Grooving Depth a_r	最大切断直径(mm) Max. Cut–off Dia.	适用刀片 Applicable Insert	沉头螺钉 Cap Screw	推荐紧固扭矩 Recommended Tightening Torque (N・m)	扳手 Spanner
GNDL R/L2020K–220	●	●	20	20	125	20	20	44.5	**2.0**	**20**	**40**	GCM □20○○–□□	BX0520	**5.0**	LH040
GNDL R/L2020K–320	●	●	20	20	125	20	20	44.5	**3.0**	**20**(18)	**40**	GCM □30○○–□□			
GNDL R/L2020K–425	●	●	20	20	125	20	20	50.0	**4.0**	**25**(23)	**50**	GCM □40○○–□□			
GNDL R/L2020K–525	●	●	20	20	125	20	20	50.0	**5.0**	**25**(23)	**50**	GCM N50○○–□□			
GNDL R/L2020K–625	●	●	20	20	125	20	20	50.0	**6.0**	**25**(23)	**50**	GCM N60○○–□□			
GNDL R/L2525M–220	●	●	25	25	150	25	25	44.5	**2.0**	**20**	**40**	GCM □20○○–□□			
GNDL R/L2525M–320	●	●	25	25	150	25	25	44.5	**3.0**	**20**(18)	**40**	GCM □30○○–□□			
GNDL R/L2525M–425	●	●	25	25	150	25	25	50.0	**4.0**	**25**(23)	**50**	GCM □40○○–□□			
GNDL R/L2525M–525	●	●	25	25	150	25	25	50.0	**5.0**	**25**(23)	**50**	GCM N50○○–□□			
GNDL R/L2525M–625	●	●	25	25	150	25	25	50.0	**6.0**	**25**(23)	**50**	GCM N60○○–□□			
GNDL R/L3225P–320			32	25	170	25	32	44.5	**3.0**	**20**(18)	**40**	GCM □30○○–□□			
GNDL R/L3225P–425			32	25	170	25	32	50.0	**4.0**	**25**(23)	**50**	GCM □40○○–□□			
GNDL R/L3225P–525			32	25	170	25	32	50.0	**5.0**	**25**(23)	**50**	GCM N50○○–□□			
GNDL R/L3225P–625			32	25	170	25	32	50.0	**6.0**	**25**(23)	**50**	GCM N60○○–□□			
GNDL R/L3225P–725			32	25	170	25	32	50.0	**7.0**	**25**(23)	**50**	GCM N70○○–□□	BX0620	**6.0**	LH050
GNDL R/L3225P–825			32	25	170	25	32	50.0	**8.0**	**25**(23)	**50**	GCM N80○○–□□			
GNDL R/L3232P–320	●	●	32	32	170	32	32	44.5	**3.0**	**20**(18)	**40**	GCM □30○○–□□	BX0620	**6.0**	LH050
GNDL R/L3232P–425	●	●	32	32	170	32	32	50.0	**4.0**	**25**(23)	**50**	GCM □40○○–□□			
GNDL R/L3232P–525	●	●	32	32	170	32	32	50.0	**5.0**	**25**(23)	**50**	GCM N50○○–□□			
GNDL R/L3232P–625	●	●	32	32	170	32	32	50.0	**6.0**	**25**(23)	**50**	GCM N60○○–□□			
GNDL R/L3232P–725	●	●	32	32	170	32	32	50.0	**7.0**	**25**(23)	**50**	GCM N70○○–□□			
GNDL R/L3232P–825	●	●	32	32	170	32	32	50.0	**8.0**	**25**(23)	**50**	GCM N80○○–□□			

请对刀片和刀杆使用相同的刃宽w。 最大槽深的( )内为使用仿形用刀片(RG型断屑槽)时的尺寸。
Please use the same grooving width for the insert and holder. Dimensions in parentheses under maximum grooving depth are for Profiling inserts (RG chipbreakers).

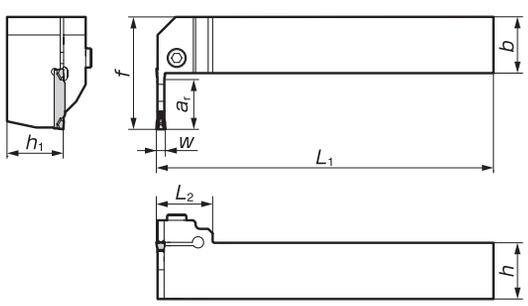
刀片刊载页 Insert Selection ☞ P19

外径L型(侧切)切槽用 External L–Styled (Side Cut) Grooving

GNDLS
外径切槽
External Grooving



外径 External



本图表示右手车刀(R)。
Above figures show right hand tools.

■ 配件 Parts


■ 刀杆 Holders

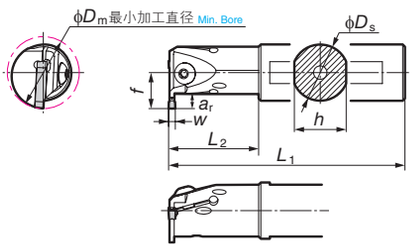
型　号 Cat No.	库存 Stock R	库存 Stock L	尺寸(mm) Dimensions h	b	L_1	f	h_1	L_2	刃宽(mm) Grooving Width w	最大槽深(mm) Max. Grooving Depth a_r	适用刀片 Applicable Insert	沉头螺钉 Cap Screw	推荐紧固扭矩 Recommended Tightening Torque (N・m)	扳手 Spanner
GNDLS R/L2020K–216	●	●	20	20	125	38	20	25	**2.0**	**16**	GCM □20○○–□□	BX0520	**5.0**	LH040
GNDLS R/L2020K–316	●	●	20	20	125	38	20	25	**3.0**	**16**	GCM □30○○–□□			
GNDLS R/L2525M–218	●	●	25	25	150	45	25	25	**2.0**	**18**	GCM □20○○–□□			
GNDLS R/L2525M–318	●	●	25	25	150	45	25	25	**3.0**	**18**	GCM □30○○–□□			
GNDLS R/L2525M–423	●	●	25	25	150	50	25	25	**4.0**	**23**	GCM □40○○–□□			
GNDLS R/L2525M–523	●	●	25	25	150	50	25	25	**5.0**	**23**	GCM N50○○–□□			
GNDLS R/L2525M–623	●	●	25	25	150	50	25	25	**6.0**	**23**	GCM N60○○–□□			

请对刀片和刀杆使用相同的刃宽w。
Please use the same grooving width for the insert and holder.

刀片刊载页 Insert Selection ☞ P19

●印：标准库存品　无印：接单生产产品
●mark: Standard stock item　blank:Made to order item

内径切槽用 Internal Grooving



※横向进给(扩槽)加工时，请使用多功能·仿形加工用刀片。 Use for multi-purpose or profiling insert for turning (widening).

本图表示右手车刀(R)。
Above figures show right hand tools.

■ 刀杆 Holders

型 号 Cat No.	库存 Stock R	库存 Stock L	尺寸(mm) Dimensions ϕDs	h	L1	f	L2	最小加工直径(mm) Min. Bore ϕDm	刃宽(mm) Grooving Width w	最大槽深(mm) Max. Grooving Depth ar	适用刀片 Applicable Insert	压板螺栓 Clamp Bolt	推荐紧固扭矩 Recommended Tightening Torque (N・m)	扳手 Spanner
GNDI R/L2532–T206	●	●	25	23	200	16	40	32	**2.0**	**6**	GCM N20○○–□□	BH0516	**5.0**	LH030
GNDI R/L3240–T210	●	●	32	30	250	26	50	40	**2.0**	**10**	GCM N20○○–□□	BH0616	**6.0**	LH040
GNDI R/L2532–T306	●	●	25	23	200	16	40	32	**3.0**	**6**	GCM N30○○–□□	BH0516	**5.0**	LH030
GNDI R/L3240–T310	●	●	32	30	250	26	50	40	**3.0**	**10**	GCM N30○○–□□	BH0616	**6.0**	LH040
GNDI R/L4050–T311	●	●	40	38	300	31	60	50	**3.0**	**11**	GCM N30○○–□□			
GNDI R/L2532–T406	●	●	25	23	200	19	40	32	**4.0**	**6**	GCM N40○○–□□	BH0516	**5.0**	LH030
GNDI R/L3240–T410	●	●	32	30	250	26	50	40	**4.0**	**10**	GCM N40○○–□□	BH0616	**6.0**	LH040
GNDI R/L4050–T411	●	●	40	38	300	31	60	50	**4.0**	**11**	GCM N40○○–□□			
GNDI R/L2532–T506	●	●	25	23	200	19	40	32	**5.0**	**6**	GCM N50○○–□□	BH0516	**5.0**	LH030
GNDI R/L3240–T510	●	●	32	30	250	26	50	40	**5.0**	**10**	GCM N50○○–□□	BH0616	**6.0**	LH040
GNDI R/L4050–T511	●	●	40	38	300	31	60	50	**5.0**	**11**	GCM N50○○–□□			
GNDI R/L4050–T611	●	●	40	38	300	31	60	50	**6.0**	**11**	GCM N60○○–□□	BH0616	**6.0**	LH040

内径加工时(特别是加工直径较小时)切屑排放空间缩小，因此推荐使用ML型/GL型断屑槽。
As there is less space for chip evacuation when machining internal diameters (particularly small bore diameters), ML and GL type chipbreakers are recommended.

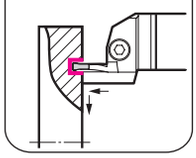
■ 配件 Parts

刀片刊载页 Insert Selection ☞ P19

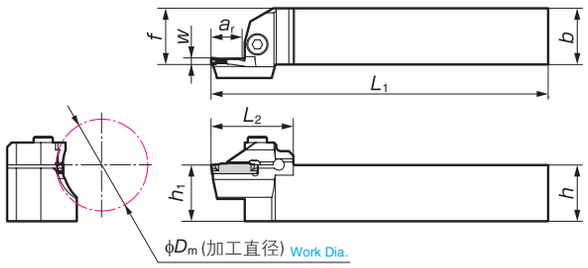
●印：标准库存品
●mark: Standard stocked item

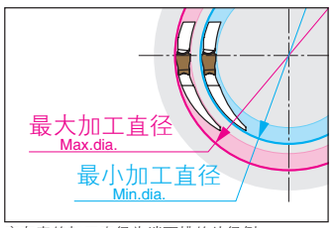
端面切槽用 Face Grooving

GNDF
端面切槽
Face Grooving



端面
Face





库存表的加工直径为端面槽的外径侧。
Work diameters in stock table indicate external diameter of face groove.

※横向进给(扩槽)加工时，请使用多功能·仿形加工用刀片。 Use for multi-purpose or profiling insert for turning (widening).

本图表示右手车刀(R)。
Above figures show right hand tools.

■ 配件 Parts


■ 刀杆 Holders

型号 Cat No.	库存 Stock R	库存 Stock L	尺寸(mm) Dimensions h	b	L_1	f	h_1	L_2	加工直径(mm) Work Dia. ϕD_m	刃宽(mm) Grooving Width w	最大槽深(mm) Max. Grooving Depth a_r	适用刀片 Applicable Insert	沉头螺钉 Cap Screw	推荐紧固扭矩 Recommended Tightening Torque (N·m)	扳手 Spanner
GNDF R/L2020K-312-035	●	●	20	20	125	20	20	35.6	35~45	3.0	12				
GNDF R/L2020K-312-040	●	●	20	20	125	20	20	35.6	40~55	3.0	12				
GNDF R/L2020K-318-050	●	●	20	20	125	20	20	41.6	50~70	3.0	18				
GNDF R/L2020K-318-065	●	●	20	20	125	20	20	41.6	65~100	3.0	18	GCM N30○○-□□	BX0520	5.0	LH040
GNDF R/L2020K-318-090	●	●	20	20	125	20	20	41.6	90~150	3.0	18				
GNDF R/L2020K-318-140	●	●	20	20	125	20	20	41.6	140~200	3.0	18				
GNDF R/L2020K-318-180	●	●	20	20	125	20	20	41.6	180~300	3.0	18				
GNDF R/L2020K-418-040	●	●	20	20	125	20	20	41.6	40~55	4.0	18				
GNDF R/L2020K-423-050	●	●	20	20	125	20	20	46.6	50~70	4.0	23				
GNDF R/L2020K-423-065	●	●	20	20	125	20	20	46.6	65~90	4.0	23				
GNDF R/L2020K-423-085	●	●	20	20	125	20	20	46.6	85~130	4.0	23	GCM N40○○-□□	BX0520	5.0	LH040
GNDF R/L2020K-423-125	●	●	20	20	125	20	20	46.6	125~200	4.0	23				
GNDF R/L2020K-423-180	●	●	20	20	125	20	20	46.6	180~300	4.0	23				
GNDF R/L2020K-423-280	●	●	20	20	125	20	20	46.6	280~1000	4.0	23				
GNDF R/L2020K-523-050	●	●	20	20	125	20	20	46.6	50~70	5.0	23				
GNDF R/L2020K-523-065	●	●	20	20	125	20	20	46.6	65~90	5.0	23				
GNDF R/L2020K-523-085	●	●	20	20	125	20	20	46.6	85~130	5.0	23	GCM N50○○-□□	BX0520	5.0	LH040
GNDF R/L2020K-523-125	●	●	20	20	125	20	20	46.6	125~200	5.0	23				
GNDF R/L2020K-523-180	●	●	20	20	125	20	20	46.6	180~300	5.0	23				
GNDF R/L2020K-523-280	●	●	20	20	125	20	20	46.6	280~1000	5.0	23				
GNDF R/L2020K-623-050	●	●	20	20	125	20	20	46.6	50~75	6.0	23				
GNDF R/L2020K-623-070	●	●	20	20	125	20	20	46.6	70~110	6.0	23				
GNDF R/L2020K-623-100	●	●	20	20	125	20	20	46.6	100~200	6.0	23	GCM N60○○-□□	BX0520	5.0	LH040
GNDF R/L2020K-623-180	●	●	20	20	125	20	20	46.6	180~300	6.0	23				
GNDF R/L2020K-623-280	●	●	20	20	125	20	20	46.6	280~1000	6.0	23				
GNDF R/L2525M-312-035	●	●	25	25	150	25	25	35.6	35~45	3.0	12				
GNDF R/L2525M-312-040	●	●	25	25	150	25	25	35.6	40~55	3.0	12				
GNDF R/L2525M-318-050	●	●	25	25	150	25	25	41.6	50~70	3.0	18				
GNDF R/L2525M-318-065	●	●	25	25	150	25	25	41.6	65~100	3.0	18	GCM N30○○-□□	BX0520	5.0	LH040
GNDF R/L2525M-318-090	●	●	25	25	150	25	25	41.6	90~150	3.0	18				
GNDF R/L2525M-318-140	●	●	25	25	150	25	25	41.6	140~200	3.0	18				
GNDF R/L2525M-318-180	●	●	25	25	150	25	25	41.6	180~300	3.0	18				
GNDF R/L2525M-418-040	●	●	25	25	150	25	25	41.6	40~55	4.0	18				
GNDF R/L2525M-423-050	●	●	25	25	150	25	25	46.6	50~70	4.0	23				
GNDF R/L2525M-423-065	●	●	25	25	150	25	25	46.6	65~90	4.0	23				
GNDF R/L2525M-423-085	●	●	25	25	150	25	25	46.6	85~130	4.0	23	GCM N40○○-□□	BX0520	5.0	LH040
GNDF R/L2525M-423-125	●	●	25	25	150	25	25	46.6	125~200	4.0	23				
GNDF R/L2525M-423-180	●	●	25	25	150	25	25	46.6	180~300	4.0	23				
GNDF R/L2525M-423-280	●	●	25	25	150	25	25	46.6	280~1000	4.0	23				
GNDF R/L2525M-523-050	●	●	25	25	150	25	25	46.6	50~70	5.0	23				
GNDF R/L2525M-523-065	●	●	25	25	150	25	25	46.6	65~90	5.0	23				
GNDF R/L2525M-523-085	●	●	25	25	150	25	25	46.6	85~130	5.0	23	GCM N50○○-□□	BX0520	5.0	LH040
GNDF R/L2525M-523-125	●	●	25	25	150	25	25	46.6	125~200	5.0	23				
GNDF R/L2525M-523-180	●	●	25	25	150	25	25	46.6	180~300	5.0	23				
GNDF R/L2525M-523-280	●	●	25	25	150	25	25	46.6	280~1000	5.0	23				
GNDF R/L2525M-623-050	●	●	25	25	150	25	25	46.6	50~75	6.0	23				
GNDF R/L2525M-623-070	●	●	25	25	150	25	25	46.6	70~110	6.0	23				
GNDF R/L2525M-623-100	●	●	25	25	150	25	25	46.6	100~200	6.0	23	GCM N60○○-□□	BX0520	5.0	LH040
GNDF R/L2525M-623-180	●	●	25	25	150	25	25	46.6	180~300	6.0	23				
GNDF R/L2525M-623-280	●	●	25	25	150	25	25	46.6	280~1000	6.0	23				

请对刀片和刀杆使用相同的刃宽w。
Please use the same grooving width for the insert and holder.

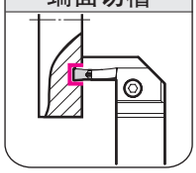
刀片刊载页 Insert Selection ☞ P19

●印：标准库存品
●mark: Standard stocked item

GND型

端面L型(侧切)深切槽用

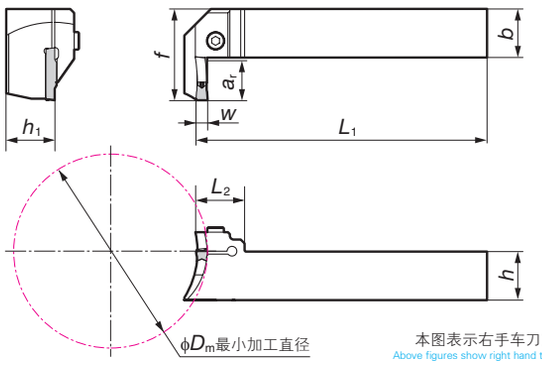
GNDFS
端面切槽



端面 Face

New

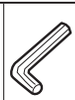
※横向进给(扩槽)加工时，请使用多功能・仿形加工用刀片。
Use for multi-purpose or profiling insert for turning (widening).



本图表示右手车刀(R)。
Above figures show right hand tools.

■ 刀杆 Holders

■ 配件 Parts



型　号 Cat No.	库存 Stock		尺寸(mm) Dimensions						加工直径(mm) Work Dia.	刃宽(mm) Grooving Width	最大槽深(mm) Max. Grooving Depth	适用刀片 Applicable Insert	沉头螺钉 Cap Screw	推荐紧固扭矩 Recommended Tightening Torque (N・m)	扳手 Spanner
	R	L	*h*	*b*	L_1	*f*	h_1	L_2	ϕD_m	*w*	a_r				
GNDFS R/L2525M–620–070			25	25	150	47	25	25	70~100	**6.0**	**20**	GCM N60○○–□□	BX0520	**5.0**	LH040
GNDFS R/L2525M–620–100			25	25	150	47	25	25	100~200	**6.0**	**20**				
GNDFS R/L2525M–620–180			25	25	150	47	25	25	180~300	**6.0**	**20**				
GNDFS R/L2525M–620–280			25	25	150	47	25	25	280~1000	**6.0**	**20**				
GNDFS R/L2525M–620–450			25	25	150	47	25	25	450~	**6.0**	**20**				
GNDFS R/L3232P–620–070			32	32	170	54	32	25	70~100	**6.0**	**20**	GCM N60○○–□□	BX0620	**6.0**	LH050
GNDFS R/L3232P–620–100			32	32	170	54	32	25	100~200	**6.0**	**20**				
GNDFS R/L3232P–620–180			32	32	170	54	32	25	180~300	**6.0**	**20**				
GNDFS R/L3232P–620–280			32	32	170	54	32	25	280~1000	**6.0**	**20**				
GNDFS R/L3232P–620–450			32	32	170	54	32	25	450~	**6.0**	**20**				
GNDFS R/L2525M–820–070			25	25	150	47	25	30	70~100	**8.0**	**20**	GCM N80○○–□□	BX0620	**6.0**	LH050
GNDFS R/L2525M–820–100			25	25	150	47	25	30	100~200	**8.0**	**20**				
GNDFS R/L2525M–820–180			25	25	150	47	25	30	180~300	**8.0**	**20**				
GNDFS R/L2525M–820–280			25	25	150	47	25	30	280~1000	**8.0**	**20**				
GNDFS R/L2525M–820–450			25	25	150	47	25	30	450~	**8.0**	**20**				
GNDFS R/L3232P–820–070			32	32	170	54	32	30	70~100	**8.0**	**20**	GCM N80○○–□□	BX0620	**6.0**	LH050
GNDFS R/L3232P–820–100			32	32	170	54	32	30	100~200	**8.0**	**20**				
GNDFS R/L3232P–820–180			32	32	170	54	32	30	180~300	**8.0**	**20**				
GNDFS R/L3232P–820–280			32	32	170	54	32	30	280~1000	**8.0**	**20**				
GNDFS R/L3232P–820–450			32	32	170	54	32	30	450~	**8.0**	**20**				

请对刀片和刀杆使用相同的刃宽*w*。
Please use the same grooving width for the insert and holder.

刀片刊载页 Insert Selection ☞ P19

无印：接单生产产品
Blank: Made to order item

■ GND型用刀片 Inserts for GND Series

切槽・横向进给 Grooving / Turning	形状 Shape	型号 Cat. No	库存 Stock AC830P	AC425K	AC520U	AC530U	尺寸 Dimensions (mm) W 刃宽 Grooving width	W 公差 Tolerance	r_ε	ℓ	s	包装单位 Package	适用刀杆 Applicable Holder GND S	GND M	GND MS	GND L	GND LS	GND I	GND F	GND FS
	MG型 MG Type 通用型 General Purpose	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			■		■				□
	ML型 ML Type 低进给型 Low Feed Type	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			■		■				□
切槽・切断 Grooving / Cut-Off	GG型 GG Type 通用型 General Purpose	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	5	■	■	■	■	■	■	■	
		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		■	■	■	■	■	■	■	□
		GCM N7004-GG	●		●	●	7.0	±0.04	0.4	28.75	5.5			■		■				
		GCM N8004-GG	●		●	●	8.0	±0.04	0.4	28.75	6.0			■		■				□
	GL型 GL Type 低进给型 Low Feed Type	GCM N2002-GL	●		●	●	2.0	±0.03	0.2	21.1	3.6	5	■	■		■	■	■		
		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			■		■				□
	GF型 GF Type New 低阻力型 Low Cutting Forces 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		■	■	■	■	■	■	■	□
仿形 Profiling	RG型 RG Type 通用型 General Purpose	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	29.25	6.0			■		■				

切断(分左右手) Cut-Off(Handed)	本图表示右手刀(R)。 Drawing shows a right hand tool.	形状 Shape	型号 Cat. No	库存 Stock AC830P R	AC830P L	AC425K R	AC425K L	AC520U R	AC520U L	AC530U R	AC530U L	尺寸 Dimensions (mm) W 刃宽 Grooving width	W 公差 Tolerance	r_ε	ℓ	s	包装单位 Package	适用刀杆 Applicable Holder GND S	GND M	GND MS	GND L	GND LS	GND I	GND F	GND FS
		CG型 CG Type 通用型 General Purpose	GCM R/L2002-CG-05	●	●			●	●	●	●	2.0	±0.03	0.2	21.1	3.6	5	■	■		■				
			GCM R/L3002-CG-05	●	●			●	●	●	●	3.0	±0.03	0.2	21.3	3.8		■	■		■				
			GCM R/L4002-CG-05	●	●			●	●	●	●	4.0	±0.03	0.2	26.7	4.0		■	■		■				

注：使用GNDF型刀杆、RG型断屑槽进行端面加工时，必须对刀片和刀杆进行追加加工。如R槽加工等局部加工。
Note: When using the RG Type chipbreaker with the GNDF Type holder to perform facing, modifications to the chipbreaker and holder are required in order to perform machining such as R–grooving.

推荐切削条件 Recommended Cutting Conditions P10

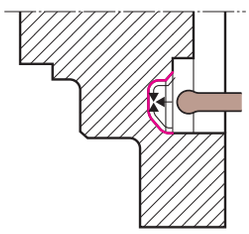
请对刀片和刀杆使用相同的刃宽W。
Please use the same grooving width for the inserts and holder.

刃宽为1.25～1.5mm的刀片请使用小型车床用刀杆(P12)。
Use the small tool holder (P12) for chipbreakers with grooving widths from 1.25 to 1.5mm.

●印：标准库存品 ●印：标准库存品(新增产品) ○印：预定库存产品(2015年3月) 无印：接单生产产品 –印：不生产 ■印：适用刀柄有库存 □印：适用刀柄接单生产
●mark: Standard stocked item ●mark: Standard stocked item(expanded item) ○mark: Planned stock (Mar 2015) Blank: Made to order item –mark: Not to be manufactured ■mark: Standard stock item □mark:Made to order item

■ 使用实例 Application Examples

SCM420H 汽车配件　端面仿形加工
SCM420H Automotive Part Face Profiling



Point
- 高刚性 High Rigidity
- 切屑处理 Chip Control
- 耐磨损性能 Wear Resistance

刀杆 Holder
GNDF R2525M–423–125

刀片 Insert
GCM N4020–RG

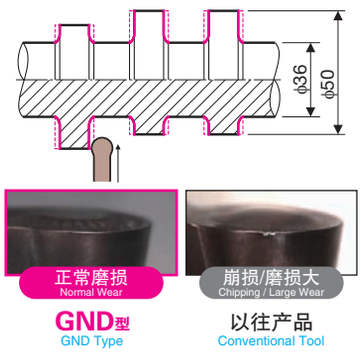
刃宽 Grooving Width： 4mm

切削条件 Cutting Conditions
v_c = 200m/min
f = 0.14mm/rev
Wet

- GND型的优异切屑处理性能
- 无振刀的稳定加工

- Excellent chip control of the GND type
- Stable machining free of chatter

S53C 凸轮轴 切槽・精加工(连续 ~ 强断续)
S53C Cam Shaft Grooving / Finishing (Continuous to Heavy Interrupted)



Point
- 高刚性 High Rigidity
- 振刀 Chatter
- 切屑处理 Chip Control
- 耐崩损性能 Fracture Resistance

刀杆 Holder
GNDM L2525M–618

刀片 Insert
GCM N6030–RG

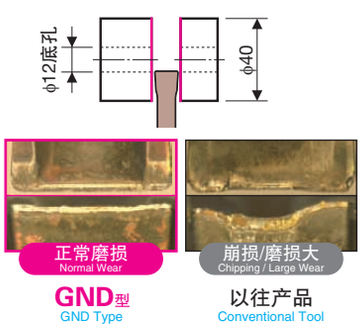
刃宽 Grooving Width： 6mm

切削条件 Cutting Conditions
v_c = 130m/min
f = 0.36mm/rev
Wet

- 无振刀的稳定加工
- 优异的耐崩损性能
- 稳定的切屑处理性能

- Stable machining free of chatter
- Excellent fracture resistance
- Stable chip control

S48C调质材料 机械配件 切断加工
S48C Machine Part Cut–Off



Point
- 高刚性 High Rigidity
- 振刀 Chatter
- 耐崩损性能 Fracture Resistance

刀杆 Holder
GNDL R2525M–320

刀片 Insert
GCM N3002–GG

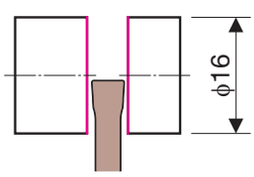
刃宽 Grooving Width： 3mm

切削条件 Cutting Conditions
n = 1,600min^{-1}
v_c = 200m/min
f = 0.05mm/rev
Wet

- 无振刀的稳定加工
- 优异的耐崩损性能
- 稳定的耐崩损性能

- Stable machining free of chatter
- Excellent fracture resistance
- Stable fracture resistance

SCM435调质材料 液压配件 切断加工
SCM435 Hydraulic Part Cut–Off



Point
- 切屑处理 Chip Control
- 耐磨损性能 Wear Resistance

刀杆 Holder
GNDL R2525M–320

刀片 Insert
GCM N3002–GG

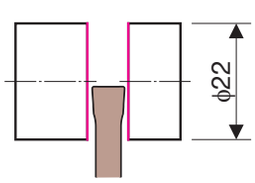
刃宽 Grooving Width： 3mm

切削条件 Cutting Conditions
n = 4,000min^{-1}
v_c = 200m/min
f = 0.05mm/rev
Wet

- 稳定的切屑处理性能
- 优异的耐磨损性能

- Stable chip control
- Excellent wear resistance

S45C 阀门材料 切断加工
S45C Valve Cut–Off



Point
- 高刚性 High Rigidity
- 振刀 Chatter
- 切屑处理 Chip Control

刀杆 Holder
GNDM R2525M–312

刀片 Insert
GCM N3002–ML

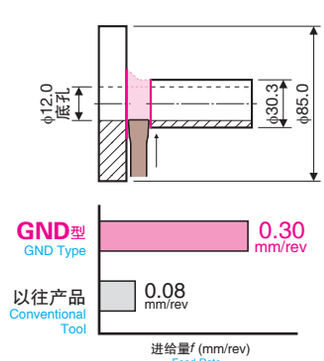
刃宽 Grooving Width： 3mm

切削条件 Cutting Conditions
v_c = 150m/min
f = 0.05 ~ 0.15mm/rev
Wet

- 无振刀的稳定加工
- 稳定的切屑处理性能

- Stable machining free of chatter
- Stable chip control

SCM435 曲柄 切断加工
SCM435 Crank Cut–Off



Point
- 高刚性 High Rigidity
- 振刀 Chatter
- 切屑处理 Chip Control

刀杆 Holder
GNDL R2525M–320

刀片 Insert
GCM N3002–GG

刃宽 Grooving Width： 3mm

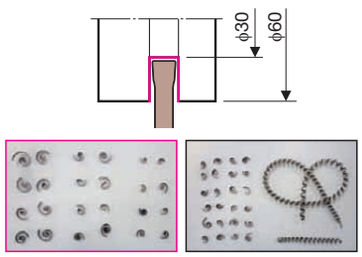
切削条件 Cutting Conditions
v_c = 115m/min
f = 0.30mm/rev
Wet

- 加工效率提高
- 无振刀的稳定加工
- 稳定的切屑处理性能

- Improved efficiency
- Stable machining free of chatter
- Stable chip control

■ 使用实例 Application Examples

SCM440 事务机械配件 切槽加工
SCM440 Business Machine Component Grooving



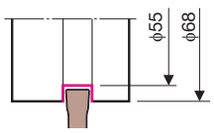
GND型 (连续进给) GND Type (Continuous Fees)　　以往产品 (步进) Conventional Tool (Step Feed)

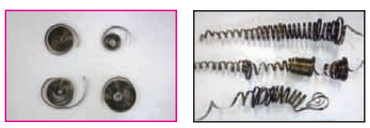
Point
- 切屑处理 Chip Control
- 加工效率 Efficiency

刀杆 Holder
GNDL R2525M–320
刀片 Insert
GCM N3002–GG
刃宽 Grooving Width： 3mm
切削条件 Cutting Conditions
v_c = 90m/min
f = 0.1mm/rev
Wet

- GND型的优异切屑处理性能
- 加工效率提高20%
- Excellent chip control of the GND type
- 20% better efficiency

SCr420H 齿轮轴 切槽加工
SCr420H Gear Shaft Grooving





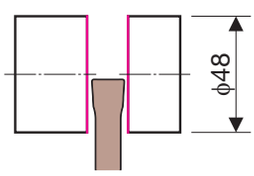
GND型 GND Type　　以往产品 Conventional Tool

Point
- 高刚性 High Rigidity
- 振刀 Chatter
- 切屑处理 Chip Control

刀杆 Holder
GNDM R2525M–312
刀片 Insert
GCM N3004–GG
刃宽 Grooving Width： 3mm
切削条件 Cutting Conditions
v_c = 100m/min
f = 0.12mm/rev
Wet

- 无振刀的稳定加工
- GND型的优异切屑处理性能
- Stable machining free of chatter
- Excellent chip control of the GND type

SKD61(45 ~ 48HRC) 机械配件 切断加工
SKD61 (45–48HRC) Machine Part Cut–Off

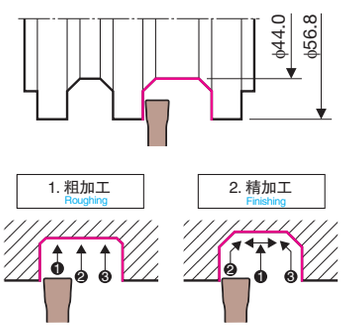


Point
- 高刚性 High Rigidity
- 振刀 Chatter
- 切屑处理 Chip Control

刀杆 Holder
GNDL R2525M–425
刀片 Insert
GCM N4002–GG
刃宽 Grooving Width： 4mm
切削条件 Cutting Conditions
v_c = 50m/min
f = 0.03mm/rev
Wet

- 无振刀的稳定加工
- GND型的优异切屑处理性能
- 消除突发崩损
- Stable machining free of chatter
- Excellent chip control of the GND type
- No more unexpected fracture

SCr415 齿轮轴 切槽・型腔加工
SCr415 Gear Shaft Grooving / Pocketing

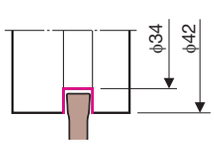


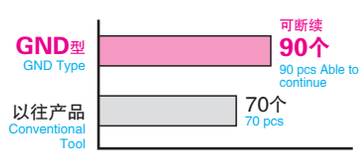
Point
- 高刚性 High Rigidity
- 振刀 Chatter
- 切屑处理 Chip Control

刀杆 Holder
GNDM R2020K–518
刀片 Insert
GCM N5008–MG
刃宽 Grooving Width： 5mm
切削条件 Cutting Conditions
v_c = 150m/min
f = 0.1mm/rev
Wet

- 无振刀的稳定加工
- GND型的优异切屑处理性能
- Stable machining free of chatter
- Excellent chip control of the GND type

铁烧结材料 曲柄链轮 切槽・精加工
Sintered Iron Crank Sprocket Gear Grooving / Finishing



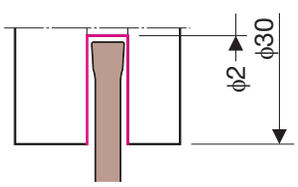


Point
- 高刚性 High Rigidity
- 振刀 Chatter
- 切屑处理 Chip Control
- 耐磨损性能 Wear Resistance

刀杆 Holder
GNDL R2525M–220
刀片 Insert
GCM N2002–GG
刃宽 Grooving Width： 2mm
切削条件 Cutting Conditions
v_c = 100m/min
f = 0.08mm/rev
Wet

- 无振刀的稳定加工
- GND型的优异切屑处理性能
- 优异的耐磨损性能，刀具寿命延长达130%以上
- Stable machining free of chatter
- Excellent chip control of the GND type
- Excellent wear resistance extends tool life by 130%

SUS304 测量配件 切槽加工
SUS304 Measuring Instrument Grooving



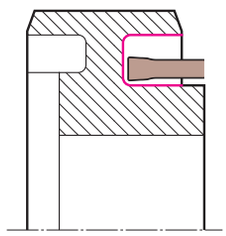
Point
- 高刚性 High Rigidity
- 振刀 Chatter
- 切屑处理 Chip Control

刀杆 Holder
GNDL R2525M–320
刀片 Insert
GCM N3002–GG
刃宽 Grooving Width： 3mm
切削条件 Cutting Conditions
v_c = 60m/min
f = 0.025mm/rev
Wet

- 无振刀的稳定加工
- GND型的优异切屑处理性能
- Stable machining free of chatter
- Excellent chip control of the GND type

■ 使用实例 Application Examples

烧结配件离合器轮毂端面切槽加工
Face Grooving Sintered Clutch Hub



Point
- 加工效率 Efficiency
- 振刀 Chatter

刀杆 Holder
GNDF R2020K–523–050

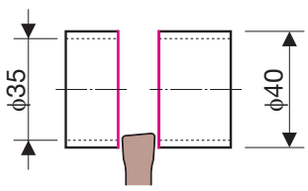
刀片 Insert
GCM N5008–MG

刃宽 Grooving Width：5mm

切削条件 Cutting Conditions
n = 500min^{-1}
v_c = 100m/min
f = 0.05mm/rev
Wet

- 周期时间最长缩短20%
- 无振刀的稳定加工
- Reduces cycle time by up to 20%
- Stable cutting without chattering or vibration

SUS303 中空圆棒管型材料切断加工
Cutting Off Round Hollow SUS303 Pipe



Point
- 加工效率 Efficiency
- 振刀 Chatter

刀杆 Holder
GNDL R2020K–220

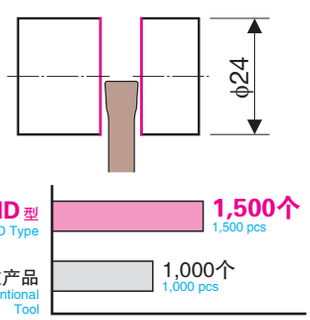
刀片 Insert
GCMR2002–CG–05

刃宽 Grooving Width：2mm

切削条件 Cutting Conditions
n = 1,000min^{-1}
v_c = 140m/min
f = 0.03mm/rev
Wet

- 切削力出色的稳定加工
- 稳定的切屑控制能力
- Sharp cutting edge provides stable cutting
- Stable chip control for stable cutting

不锈钢圆棒　切断加工
Cutting Off Stainless Round Bar



Point
- 寿命 Tool Life
- 耐粘屑性能 Adhesion Resistance

刀杆 Holder
GNDM L2020K–312

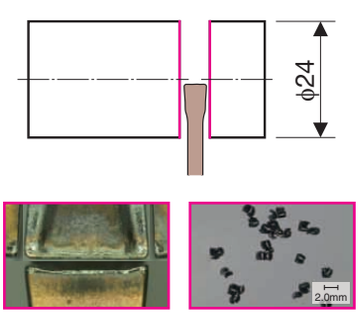
刀片 Insert
GCMN3002–GF

刃宽 Grooving Width：3mm

切削条件 Cutting Conditions
n = 1,000min^{-1}
f = 0.15→0.03mm/rev
Wet

- 抑制粘屑崩损，寿命达到150%
- 无振刀的稳定加工
- Reduces adhesion breakage and achieves 1.5 times longer tool life
- Prevents chattering and vibration and achieves stable machining

SCM415　阀柱切断加工
Cutting Off SCM415 Valve Spool



Point
- 寿命 Tool Life
- 切屑处理 Chip Control

刀杆 Holder
GNDL R1212JX1.2512

刀片 Insert
GCMN125005–GF

刃宽 Grooving Width：1.25mm

切削条件 Cutting Conditions
n = 2,000min^{-1}
f = 0.05mm/rev
Wet

即使加工7500个损伤也少，可持续
优异的切屑处理性能
- Can continue machining with little damage after machining 7,500 workpieces
- Exhibits excellent chip control

◆安全使用注意事项◆

- 加工时会出现高温切屑飞散、排出切屑过长等情况，请使用安全罩壳及防护眼镜等防护具，并务必注意防火、防灾。
- 使用时请务必小心锋利刀尖。
- 使用方法错误、使用条件不当时，会造成刀具崩损、飞散，请在推荐的范围内使用。
- 使用非水溶性切削油的场合，为防止火灾意外，请配置自动灭火装置。

- Very hot or lengthy chips may be discharged while the machine is in operation. Therefore, machine guards, safety goggles or other protective covers must be used. Fire safety precautions must also be considered.
- Please handle with care as this product has sharp edges.
- Improper cutting conditions or mis-handling of the tool may result in breakages or projectiles. Therefore, please use the tool within its recommended conditions.
- When using non-water soluble cutting oil, precautions against fire must be taken and please ensure that a fire extinguisher is placed near the machine.

住友电工硬质合金株式会社

住友电工硬质合金贸易(上海)有限公司
地址：上海市延安西路728号华敏・翰尊国际大厦6楼J座(邮编：200050)
电话：021–5238–1199　传真：021–6212–9689

住友电工硬质合金贸易(上海)有限公司广州分公司
地址：广州市天河区林和西路3–15号耀中广场A座2221室(邮编：510610)
电话：020–3891–0442　传真：020–3891–0449

住友电工硬质合金贸易(上海)有限公司北京分公司
地址：北京市朝阳区东三环北路3号幸福大厦B座1306室(邮编：100027)
电话：010–6468–8500　传真：010–6468–9500

住友电工硬质合金贸易(上海)有限公司大连分公司
地址：辽宁省大连市开发区金马路128号天成国际金融中心807D(邮编：116600)
电话：0411–8792–6266　传真：0411–8792–6277

住友电工硬质合金贸易(上海)有限公司重庆分公司
地址：重庆市江北区建新北路一支路6号未来国际大厦28–6室(邮编：400020)
电话：023–6785–7656　传真：023–6785–7780

住友电工硬质合金贸易(上海)有限公司成都分公司
地址：成都市锦江区东大街紫东楼段11号东方广场A座2003号(邮编：610016)
电话：028–8445–6626　传真：028–8443–6625

住友电工硬质合金贸易(上海)有限公司长春事务所
地址：长春市南关区人民大街207号(卫星广场)财富领域5A18A室(邮编：130000)
电话：0431–8191–6558　传真：0431–8191–6559

住友电工硬质合金贸易(上海)有限公司宁波分公司
地址：宁波市江北区大庆南路99号来福士广场办公楼709室(邮编：315020)
电话：0574–8723–3856　传真：0574–8723–3935

住友电工硬质合金贸易(上海)有限公司青岛分公司
地址：青岛市四方区山东路190号银华广场2栋212室(邮编：266033)
电话：0532–5578–7866　传真：0532–5578–7865

住友电工硬质合金贸易(上海)有限公司武汉分公司
地址：武汉市武昌区水果湖楚河汉街・汉街总部国际C座1808室(邮编：430077)
电话：027–8711–0060　传真：027–8711–0090

住友电工硬质合金贸易(上海)有限公司厦门分公司
地址：厦门市火炬高新区火炬园新丰三路16号401–B5(邮编：362000)
电话：0592–5602–190　传真：0592–5602–195

住友电工硬质合金贸易(上海)有限公司南京分公司
地址：南京市秦淮区汉中路1号国际金融中心12楼D座(邮编：210029)
电话：025–8586–0803　传真：025–8586–0881

住友电工硬质合金贸易(上海)有限公司天津分公司
地址：天津市空港经济区西四道168号融和广场5号楼2门905室(邮编：300300)
电话：022–8494–9495　传真：022–8494–9493

住友电工硬质合金(常州)有限公司
地址：江苏省常州市武进区技术产业开发区西湖路8号12号厂房(邮编：213164)
电话：0519–8622–0306　传真：0519–8622–0305

http://www.sumitool.com(日文)　http://www.sumitool.com/english(英文)　http://www.sumitool.com.cn(中文)

(2015.03)