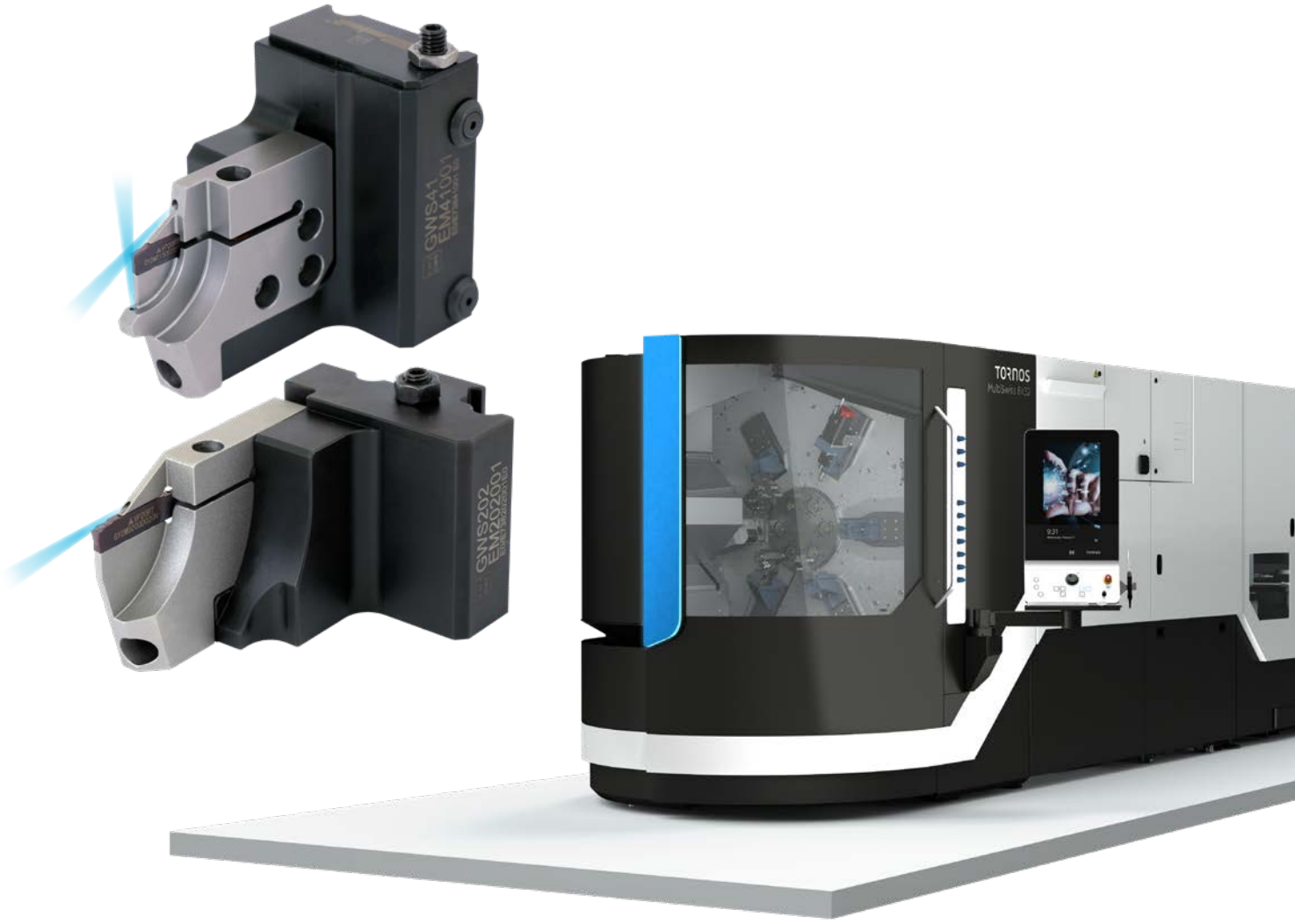
NEW

MP112E

G80A

PARTING OFF SYSTEM FOR TORNOS MULTI-SPINDLE MACHINES



In cooperation with

Göltenbodt®
Innovation and Precision.

TORNOS

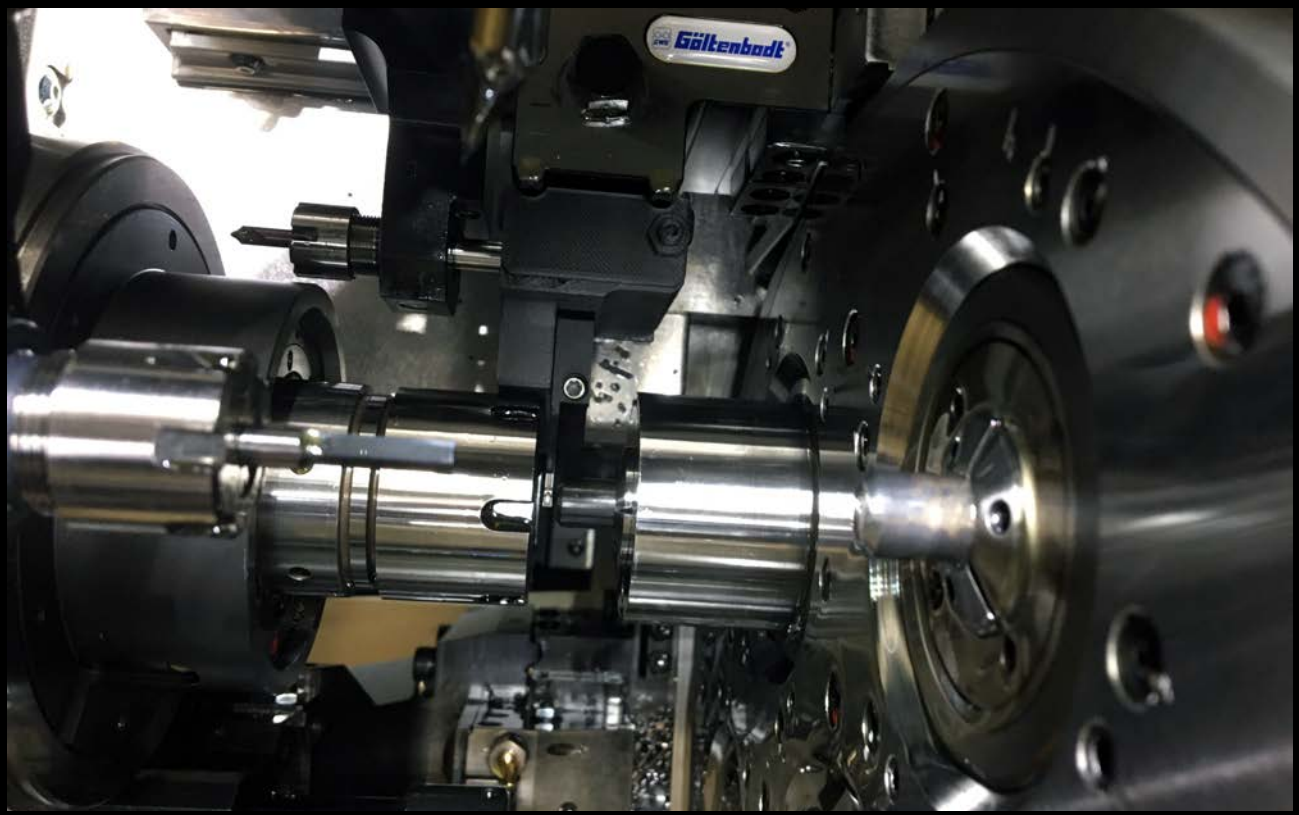
Mplus...

PARTING OFF IN SERIES

MODULAR – PERFORMANCE – UNCOMPROMISING

Regardless of the industry, it is the deep knowledge of the details that ultimately makes the difference and distinguishes the best from the rest. Whether it is in the medical or automotive industries, general mechanical engineering or the consumer goods industry, the components should be designed using the least space, weight or resources for the same function.

This means, small parts have to be produced in an efficient and precise way, as it has been done for many years on multi-spindle machines. Completely independent of any component details, one of the key elements in the whole machining process is reliable parting off.



The new G80A parting-off system, also includes the details that offer added performance, reliability and efficiency. The targeted internal coolant supply makes the process even more reliable and enables longer tool life.

Easy handling both when changing inserts and when setting the centre height are added features. The grooving modules are specially designed for the conditions on the machine, which significantly increases stability.

PARTING OFF SYSTEM FOR TORNOS MULTI-SPINDLE MACHINES

FOR THE LIMITED SPACE IN MULTI-SPINDLE MACHINES

Reliable parting off with modular tools specially designed for Swiss multi-spindle machines in cooperation with Göltenbodt. Efficientand reliable processing is realised due to the optimized internal through coolant supply for parting off widths from 1.5 mm.

Product range

- Quick change adapter system GWS41
- Quick change adapter system GWS202
- Modules for GY indexable inserts
- GY indexable inserts

Characteristics

- Designed for the limited space between the main and counter spindle
- Secure and accurate clamping of the indexable insert
- Optimised through coolant supply

SPECIALLY DESIGNED FEATURES FOR EFFICIENCY AND EASE OF USE

BENEFITS

- High process reliability
- Internal coolant supply optimised for long tool life
- Small grooving width for maximum material utilisation

G80A

PARTING OFF SYSTEM FOR TORNOS MULTI-SPINDLE MACHINES

Internal coolant supply up to 8 Mpa
for optimal coolant on the cutting edge.

Stability based on the proven
Göltenbodt GWS column guide system.
Quick change, easy centre height
setting and precision in one system.

Accessible and strong clamping
of the indexable insert.

Optimal stability and function by
individual alignment of the components
and with regards to the limited space in
these type of machines.

G80A

PARTING OFF SYSTEM FOR TORNOS MULTI-SPINDLE MACHINES

Designed respectively for the current Tornos Multi-Swiss machines the following combinations are available.

Multi-Swiss 6 x 16 | Multi-Swiss 8 x 26 | Multi-Swiss 6 x 32

6 x 16

8 x 26
6 x 32

Göltenbodt Innovation and Precision.

Göltenbodt system GWS41 (page 6+7)

Modul G80A w = 1.5 – w = 2.0

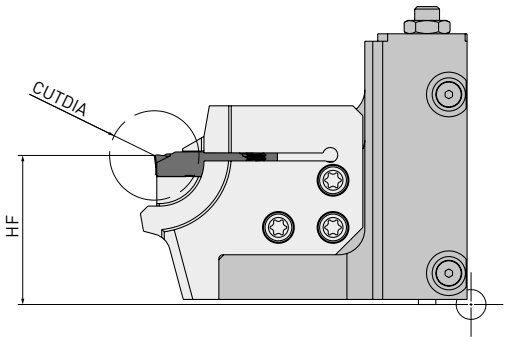
Göltenbodt system GWS202 (page 8+9)

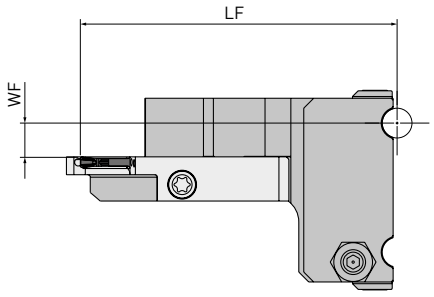
Modul G80A w = 2.0

Wide variety of GY-grooving inserts for applications in different materials

G80A

QUICK CHANGE TYPE ADAPTERS GWS41





Order number	Stock	Hand	GWS system	Suitable for machine	CUTDIA	LF X-Axis	HF Y-Axis	WF Z-Axis
EM41001	●	R	41	MS 6 x 16	16	63.8*	30	7.15 (cw = 1.5) / 6.9 (cw = 2.0)

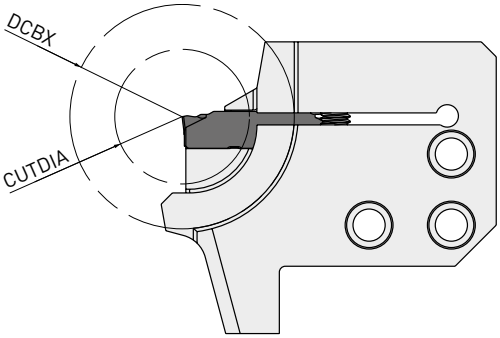
1/1

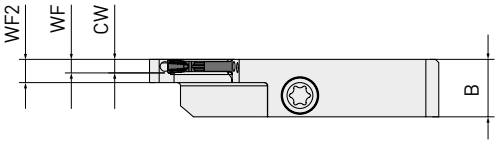
1. Module shown only for dimensional visualisation.
* Spindle nut diameter max. 30 mm.

● : Inventory maintained.

G80A

MODULE FOR QUICK CHANGE ADAPTER GWS41





Order number	Stock	Hand	GWS system	Suitable for machine	CUTDIA	DCBX	Seat size	CW	WF	WF2	B	IK
G80A-EM410RL16GYC2-E	●	R	41	MS 6x16	16	30	C	1.5	1.85	3.6	8.9	FF1 / SF2
G80A-EM410RL16GYD2-E	●	R	41	MS 6x16	16	30	D	2.0	2.1	3.6	8.9	FF1 / SF2

1/1

1. For modules with flank cooling (FF), tool presetting must be carried out using the incident light method.
2. Rake face coolant requires no specific presetting method.

SPARE PARTS

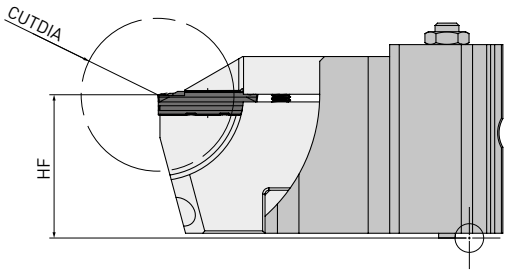
Tool holder	Screw	Wrench
EM41001	TS43 (3.5 Nm)*	TKY15W-E
G80A-EM410RL16GYC2-E	TS406 (3.5 Nm)*	
G80A-EM410RL16GYD2-E		

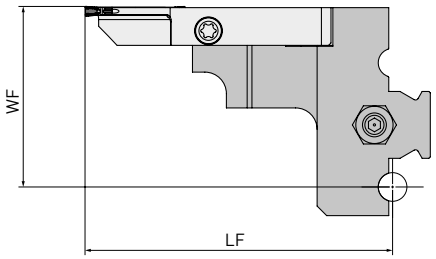
* Recommended to use a torque screwdriver with a Torx 15 bit.

● : Inventory maintained.

G80A

QUICK CHANGE ADAPTERS GWS202





Order number	Stock	Hand	GWS system	Suitable for machine	CUTDIA	LF X-Axis	HF Y-Axis	WF Z-Axis
EM202001	●	L	202	MS 8x26 / MS 6x32	32*	64.4	30	37.8 (cw = 2.0)

1/1

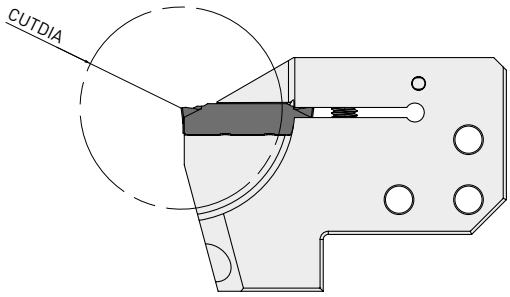
1. Module shown only for dimensional visuilasation.
* Spindle nut diameter max. 66 mm.

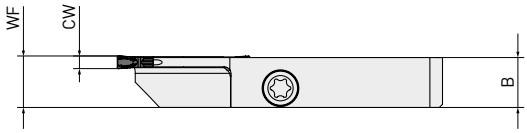
Gültenbodt Innovation and Precision.

● : Inventory maintained.

G80A

MODULE FOR QUICK CHANGE ADAPTER GWS202





Order number	Stock	Hand	GWS system	Suitable for machine	CUTDIA	Seat size	CW	WF	B	IK
G80A-EM202LL32GYD1-E	●	L	41	MS 8x26 / MS 6x32	32	D	2.0	8.15	7.9	SF1

1/1

1. Rake face coolant requires no specific presetting method.

SPARE PARTS

Tool holder	Screw	Wrench
EM202001	TS43 (3.5 Nm)*	TKY15W-E
G80A-EM202LL32GYD1-E	TS406 (3.5 Nm)*	

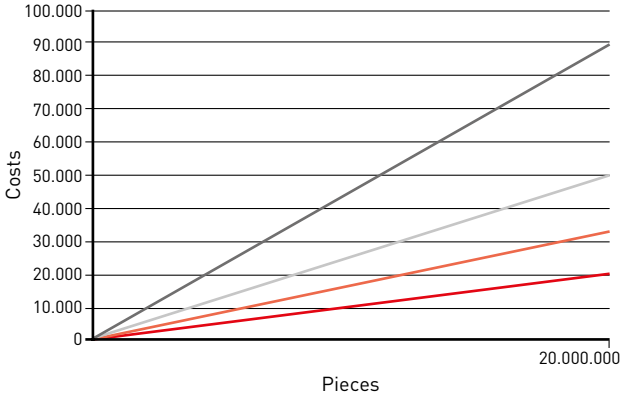
* Recommended to use a torque screwdriver with a Torx 15 bit.

● : Inventory maintained.

G80A

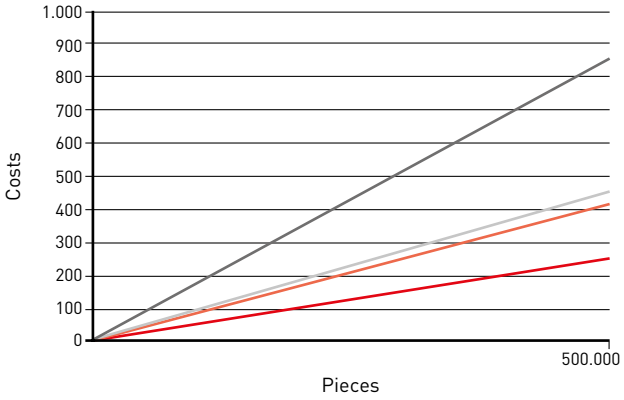
PERFORMANCE COMPARISON 1

Material	NiCr23Fe
Tool	GWS41 – G80A
Vc (m/min)	47
f (mm/rev)	0.02
Lot size	20.000.000
Efficiency increase	Approx. 55.000 € / batch tooling cost reduction
Results	10.000 m less material consumption due to smaller grooving width.



PERFORMANCE COMPARISON 2

Material	100Cr6
Tool	GWS41 – G80A
Vc (m/min)	117
f (mm/rev)	0.03
Lot size	50.000
Efficiency increase	Approx. 430 € / Lot
Results	Positive environmental influence enabled by producing less scrap material.

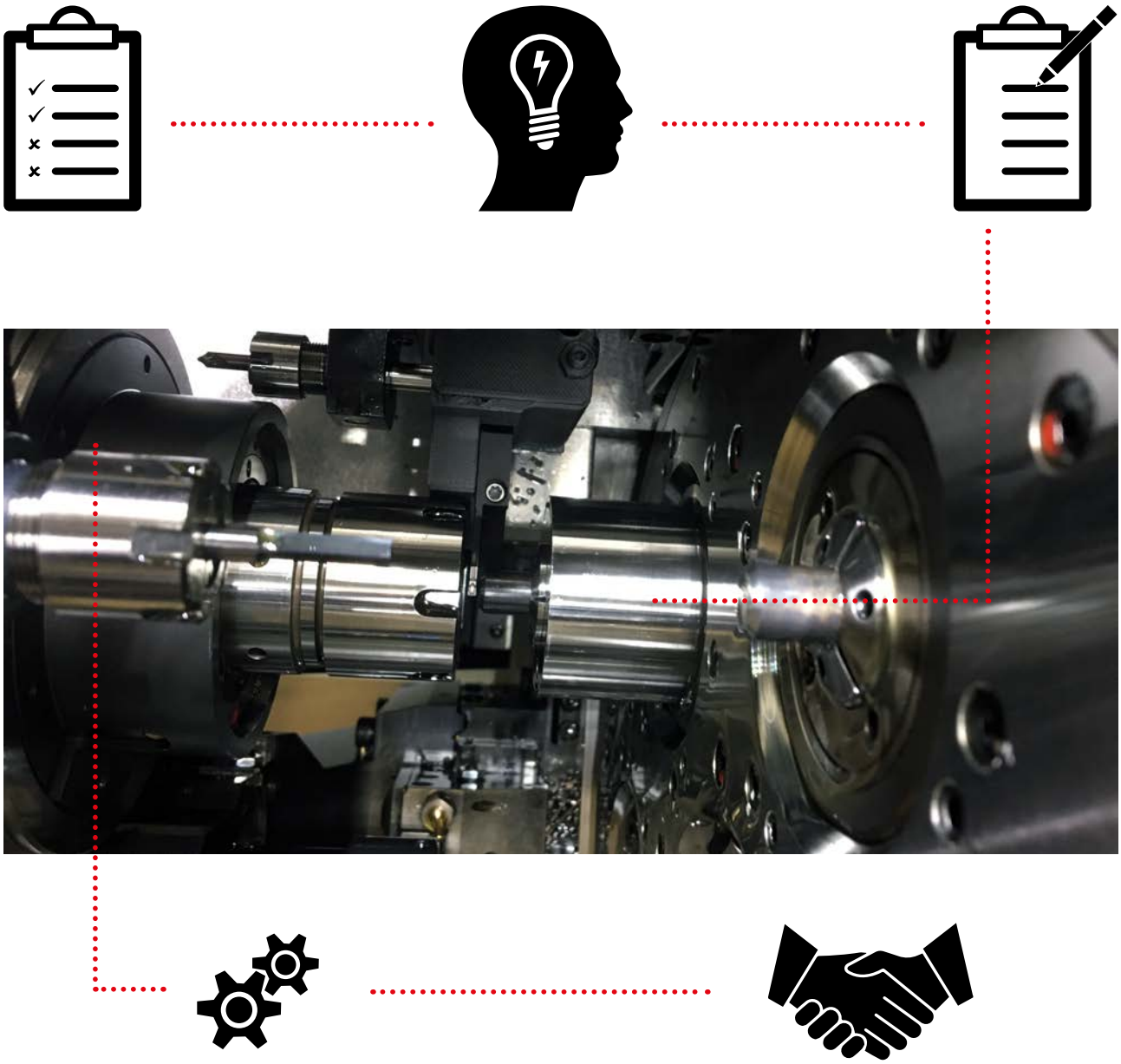


: Mplus tool
: Conventional tool
: Mplus tool including tool change
: Conventional tool including tool change

G80A

SPECIAL SOLUTIONS

Not all types of machines are mentioned in the overview on page 5. Technical support regarding fitment of the G80A type tool or a custom solution can be offered for other types of machines.



Please contact the local Mitsubishi Materials supplier for special analysis of the situation. If a tailored solution is required, collision tests are carried out both using CAD and on site using an additively manufactured tool model before the final tool is produced. After successful testing, a final solution will be offered.

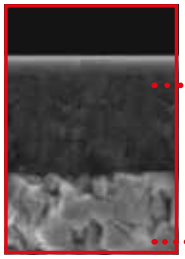
G80A

GY-GROOVING INSERTS

INSERT GRADES

P		M		K		S		N	
NX2525	●								
MY5015	◕			MY5015	◕	MP9015	◕		
VP10RT	◕	VP10RT	◕	VP10RT	◕	MP9025	◕	RT9020	●
VP20RT	✣	VP20RT	✣	VP20RT	✣		✣		◕

MP9000 SERIES



The high Al-rich (Al, Ti)N single layer coating provides stabilization of the high hardness phase and succeeds in dramatically improving wear, crater and welding resistance.

High Al-rich (Al, Ti)N Single Layer Coating

Special Cemented Carbide Substrate

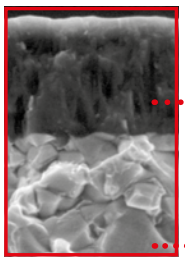
VP20RT (1st Recommendation)

PVD coated grade suitable for a wide range of applications. The combination of a special tough cemented carbide substrate with MIRACLE coating provides an excellent balance of wear and fracture resistance.

MIRACLE coating

Carbide substrate (HRA90.5)

VP10RT (2nd Recommendation)



PVD coated grade with a cemented carbide substrate harder than VP20RT. For use on difficult-to-cut materials and for extending tool life.

MIRACLE coating

Carbide substrate (HRA92.0)

MY5015

CVD coated grade with excellent wear resistance even at high temperatures. Providing longer tool life when machining cast and ductile cast irons.
Also suitable for high speed continuous cutting of steels.

CVD coating

Carbide substrate

RT9010

First recommended grade for titanium alloys.

NX2525

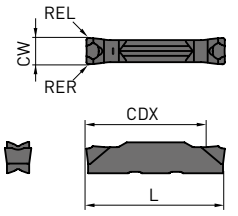
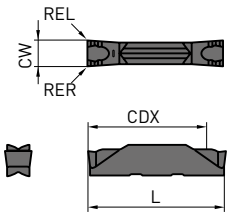
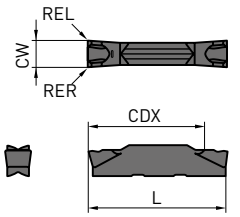
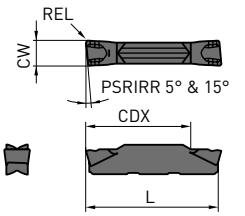
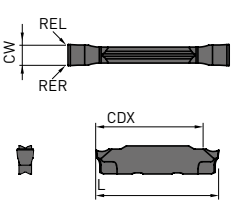
NX2525, a cermet grade for finish machining of steels and for good surface finishes at lower cutting speeds.

Cutting conditions: ●: Stable cutting ◕: General cutting ✣: Unstable cutting

G80A

A WIDE SELECTION OF INSERTS

PARTING OFF

GU Chipbreaker (For mild steel)	GS Chipbreaker (Low feeds)	GM Chipbreaker (Medium feeds)	R/L05-/R15-GS-GM Breaker (Medium feeds)	GL Breaker (For aluminium alloys)
				
				

Right hand tool holder shown.

GROOVING / CUTTING OFF

Order number	RT9010	VP10RT	VP20RT	MY5015	NX2525	MP9015	MP9025	Seat size	CW	Tolerance	RE R/L	CDX	L
GY2M0200D020N-GU		●	●		●			D	2.00	±0.03	0.2	19.7	20.70
GY2M0150C010N-GS		●	●					C	1.50	±0.03	0.1	13.4	14.70
GY2G0150C003R15-GS		●	●					C	1.50	±0.02	0.03	13.17	15.20
GY2G0150C010R08-GS		●	●					C	1.50	±0.02	0.1	13.17	15.20
GY2G0150C010R15-GS		●	●					C	1.50	±0.02	0.1	13.17	15.20
GY2M0200D020N-GS		●	●		●			D	2.00	±0.03	0.2	18.7	20.70
GY2G0200D003R15-GS		●	●					D	2.00	±0.03	0.03	18.85	21.30
GY2G0200D010R15-GS		●	●					D	2.00	±0.03	0.1	18.85	21.30
GY2G0200D020R08-GS		●	●					D	2.00	±0.03	0.2	18.85	21.30
GY2M0150C020N-GM		●	●		●	●	●	C	1.50	±0.03	0.2	13.9	14.70
GY2M0200D020N-GM		●	●	●	●	●	●	D	2.00	±0.03	0.2	19.4	20.70
GY2M0200D020R05-GM		●	●					D	2.00	±0.03	0.2	19.5	20.80
GY2M0200D020L05-GM		●	●					D	2.00	±0.03	0.2	19.5	20.80
GY1M0200D020L05-GM		★	●					D	2.00	±0.03	0.2	—	20.80
GY1M0200D020N-GM		●	●	●		●	●	D	2.00	±0.03	0.2	—	20.70
GY1M0200D020R05-GM		●	●					D	2.00	±0.03	0.2	—	20.80
GY2G0200D005N-GL	●							D	2.00	±0.02	0.05	19.5	21.05

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● : Inventory maintained.

G80A

RECOMMENDED CUTTING CONDITIONS

	Material	Hardness	Grade	Vc
P	Mild steel	<160HB	VP20RT	160 (100 – 220)
			VP10RT	170 (110 – 230)
			MY5015	220 (140 – 300)
			NX2525	150 (90 – 210)
	Carbon steel Alloy steel	160 – 280HB	VP20RT	130 (80 – 180)
			VP10RT	140 (90 – 190)
			MY5015	180 (110 – 250)
			NX2525	120 (70 – 170)
		≥280HB	VP20RT	100 (60 – 140)
			VP10RT	110 (70 – 150)
			MY5015	150 (90 – 210)
			NX2525	95 (55 – 135)
M	Stainless steel	≤270HB	VP20RT	100 (60 – 140)
			VP10RT	110 (70 – 150)
K	Gray cast iron	Tensile strength ≤300MPa	VP20RT	130 (80 – 180)
			VP10RT	140 (90 – 190)
			MY5015	220 (140 – 300)
	Ductile cast iron	Tensile strength ≤800MPa	VP20RT	100 (60 – 140)
			VP10RT	110 (70 – 150)
			MY5015	150 (90 – 210)
S	Heat resistant alloy Titanium alloy	—	MP9015	70 (40 – 100)
			MP9025	60 (30 – 90)
			VP20RT	45 (30 – 60)
			VP10RT	55 (40 – 70)

1/1

1. **VP20RT** is the first recommended grade for materials other than hardened steel.
2. For VP10RT, VP20RT, MP9015, MP9025 and MY5015, wet cutting is recommended.

RECOMMENDED FEED RATE (MM/REV)

CW	Breaker			
	GU	GS	GM	GL
1.5	—	0.025 – 0.130	0.05 – 0.15	—
2.0	0.03 – 0.08	0.025 – 0.130	0.05 – 0.15	0.02 – 0.08

MEMO

Mplus...

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