motherson

DELTACARB
HARDMETAL Switzerland

MGSM series

A True 90° highly Versatile Square Shoulder Milling Solution





APMX insert with modern carbide grades.

Accurate shoulders. Easy Selection.

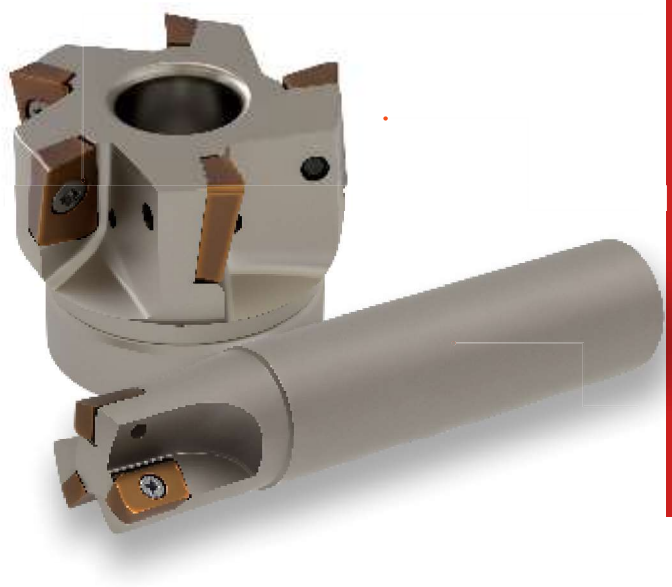
Brochure/MDC/2025/001

motherson

DELTACARB
HARDMETAL Switzerland

MGSM - The APMX insert based square shoulder milling solution

A reliable and **easy-to-select** solution for one of the most common machining operations in any workshop. This proven system, built on **high performance cemented carbide grades**, offers **versatility** and easy tool choice for **consistent results in every setup.**



1st choice for batch production setups with **exceptional versatile performance.**

Compatible with two insert sizes. **APMX11 and APMX16** to meet various machining requirement.

Shank and Arbor Type cutters available in **all common diameters**.

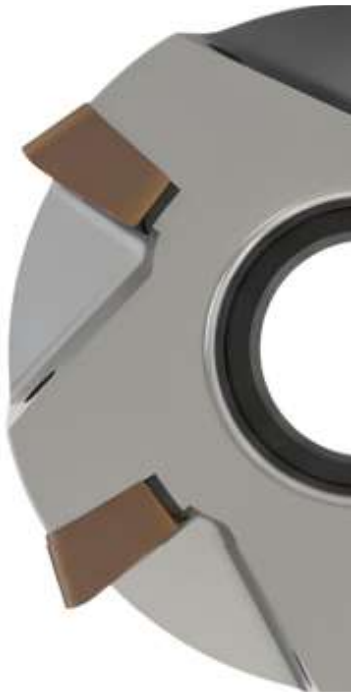
Grade advantage

A range of advanced **PVD-coated grades** engineered for **versatility, toughness**, and **superior performance** across work materials and cutting conditions.

DMP2030P - Highly versatile
1st choice for steel & stainless steel general purpose milling.
Fine grained substrate and a multilayer coating.
High adherence, toughness and wear resistance for long life.
Complimentary grade for cast iron.

DMP2130P - Highly wear resistant
Built for steels up to 50 HRC and high-temperature cutting.
Fine-grained substrate with heat-resistant PVD coating.
Ensures edge strength and thermal reliability.

DMP3130K - Highly abrasion resistant
Made for grey and nodular cast irons.
Tough substrate with abrasion-resistant PVD coating.
Guarantees wear control and steady tool life.



motherson

DELTACARB
HARDMETAL Switzerland

Application Target

- Efficient square shoulder milling of steels, stainless steels, and cast irons requiring consistent performance and reliable productivity.

Grade Selection For First Time Right

What is your primary machining goal?

General purpose milling and high performance across steels and stainless steels	Reliable machining of hard steels or high-temperature conditions	Consistent performance in grey and nodular cast irons
➤ Choose **DMP2030P**	➤ Choose **DMP2130P**	➤ Choose **DMP3130K**
✓ All-Round Machining	✓ Handles upto 50 HRC	✓ Optimized for Dry Cutting
✓ Proven wear resistance	✓ Tough & Reliable	✓ Stable tool life
✓ **Multilayered coating**	✓ **Thermal barrier coating**	✓ **Abrasion resistant coating**

RECOMMENDED Cutting conditions

For STEEL machining

Insert	Parameters	for DMP2030P			for DMP2130P		
APMX16 (Ap ~ 6mm)	Speed (m/min)	110	**180** Ideal condition	225	125	**200** Ideal condition	275
	Feed (mm/tooth)	0.10	**0.25**	0.35	0.10	**0.25**	0.35
APMX11 (Ap ~ 4mm)	Speed (m/min)	140	**180** Ideal condition	225	125	**200** Ideal condition	275
	Feed (mm/tooth)	0.10	**0.25**	0.30	0.10	**0.20**	0.30

For CAST IRON machining

Insert	Parameters	for DMP3130K		
APMX16 (Ap ~ 6mm)	Speed (m/min)	125	**200** Ideal condition	275
	Feed (mm/tooth)	0.10	**0.25**	0.35
APMX11 (Ap ~ 4mm)	Speed (m/min)	125	**200** Ideal condition	275
	Feed (mm/tooth)	0.10	**0.20**	0.30

motherson

DELTACARB
HARDMETAL Switzerland

Machining example

Face Milling (APMX160408PDER-GM DMP2030P)

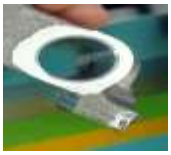
Component: Fork 3231
Material: EN-8D (ISO P)
Machine: VMC











	Existing	Motherson
Vc (m/min)	171	171
↑ Fz (mm/tooth)	0.10	0.15
Ap (mm)	0.80	0.80
Cutting edges	3	3
↑ **Tool life**	100 parts	140 parts
↓ **Cut time**	96 sec	62.75 sec

Feed
1.5X
Productivity
34%
Tool Life
40%

Face Milling (APMX160408PDER-GM DMP2130P)

Component: Die
Material: Steel (ISO P)
Machine: VMC







	Existing	Motherson
Vc (m/min)	141	141
↑ Fz (mm/tooth)	0.49	0.58
Ap (mm)	0.50	0.50
Cutting edges	5	5
↑ **Tool life**	270 parts	360 parts
↓ **Cut time**	273 sec	230 sec

Feed
1.2X
Productivity
16%
Tool Life
33%

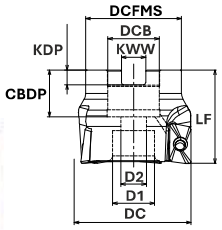


motherson

DELTACARB
HARDMETAL Switzerland

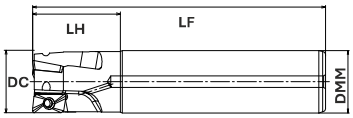
Cutter Body (MGSM Series)





Shell type





Shank type

Insert size: **APMX11** (for MGSM11) — 9mm — 90°

Insert size: **APMX16** (for MGSM16) — 14mm — 90°

Shank type Catalogue No.	Stock	Dia. DC	Shank Dia DMM	Working Length LH	Overall Length LF	Number of teeth Zn	Weight (kg)
MGSM11016E02	●	16	16	25	85	2	0.13
MGSM11020E02	●	20	20	30	110	2	0.23
MGSM11020E03	●	20	20	30	110	3	0.22
MGSM11025E03	●	25	25	35	125	3	0.44
MGSM16025E02	●	25	25	35	120	2	0.38
MGSM16032E03	●	32	32	45	150	3	0.69

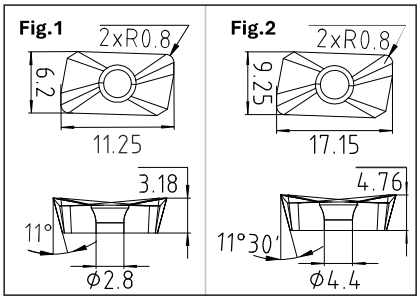
Shell type Catalogue No.	Stock	Dia. DC	Boss DCSFMS	Hight LF	Bore Dia. DCB	Key Way Width KWW	Keyway Depth KDP	Mounting Depth CBDP	Bolt D1	Bolt D2	Number Of Teeth	Weight (kg)
MGSM16040RS04	●	40	33	40	16	8.4	5.6	18	14	9	4	0.16
MGSM16050RS05	●	50	41	40	22	10.4	6.3	20	18	11	5	0.26
MGSM16063RS06	●	63	50	40	22	10.4	6.3	20	18	11	6	0.51

Spare items

Cutter Type	INSERT SIZE	INSERT SCREW	WRENCH
MGSM11	APMX11	S-M2506N	TRX08
MGSM16	APMX16	S-M0409N	TRX15

Inserts (APMX Series)

Grade		PVD	PVD	PVD	
Application	High-Speed	P			
General Shoulder Milling	General Purpose	P	P	K	
	Roughing		P	K	
	Cat. No.	DMP2030P	DMP2130P	DMP3130K	Fig.
	APMX113508PDER-GM	●	●	●	1
	APMX160408PDER-GM	●	●	●	2



Powered by

Motherson Techno Tools Limited

Communication address: A-2, Sector 84, Noida - 201301, Uttar Pradesh, India.
Reg. Office: 2nd floor, Block B1, Mohan Cooperative Industrial Estate, Mathura Road, New Delhi - 110044, India.
CIN No.: U74999DL1992PLC049607

Ph.: +91-120-6110000 | marketing.mttl@motherson.com

www.mothersontools.com

Motherson Deltacarb Advanced Metal Solutions SA

Via Al Molino 29,
CH-6915 Pambio Noranco-Lugano, Switzerland

info.deltacarb@motherson.com

www.deltacarb.ch | www.motherson.com