INDEXABLE MILLING

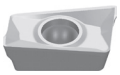


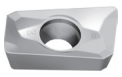
Indexable milling

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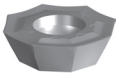
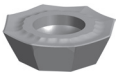
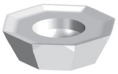
B

Milling inserts

	ANGX-GM	ANGX-LH	APKT-ALH	APKT-APF	APKT-APM	APKT-LH	APKT-NM	APKT-PF	
									
Edge length	11 15	11 15	11 16	11 16	07 11 16	11 16	11	11 16	
Page	B124, B126, B128, B130, B132	B124, B126, B128, B130, B132	B104, B107, B111, B114, B116, B202, B213	B104, B107, B111, B114, B116, B202, B213	B104, B107, B111, B114, B116, B202, B213	B104, B107, B111, B114, B116, B202, B213	B104, B107, B111, B114, B116, B202, B213	B104, B107, B111, B114, B116, B202, B213	

	APKT-PM/PR	APKT-XR	APMT	CNE-A/B	HNEX-DR	HNGX-HDR	HNGX-MR	LNCX	
									
Edge length	11 15 16	11	11 16	12	09	09	09	18	
Page	B104, B107, B111, B114, B116, B202, B213	B104, B107, B111, B114, B116, B202, B213	B118	B174	B64	B218	B218	B220	

	LNE32.534	LNKT-GL	LNKT-GM	LNKT-ZR	MPHT-DM	ODHT-GH	ODHT-GL	ODHT-GM	
									
		08 12 16	08 12 16	12 15 20 25	06 08 12	06	06	06	Edge length
	B219	B120, B122	B120, B122	B66, B73, B80	B156, B158, B176	B47	B47	B47	Page

	ODHT-LH	ODMT-GM	OFKR-DF	OFKR-DM	OFKR-LH	OFKT-DF	OFKT-DM	OFKT-LH	
									
	06	06	07	07	07	05	05	05	Edge length
	B47	B47	B45	B45	B45	B43	B43	B43	Page

	ONHU-CM	ONHU-GH	ONHU-GL	ONHU-GM	ONHU-PF	ONHU-PM	PNEG-CF	PNEG-CM	
									
	06 08	06	06	06 08	06 08	06 08	11	11	Edge length
	B49, B51	B56	B56	B56	B49, B51	B49, B51	B59, B61	B59, B61	Page

	PNEG-CR	PNEG-PF	PNEG-PM	PNEG-PR	RCKT-DM	RCKT-DR	RCKT-ER	RCKT-NM	
	11	11	11	11	10 12 16 20	12 16 20	12 16 20	12 16 20	Edge length
	B59, B61	B58, B61	B58, B61	B58, B61	B89, B92	B89, B92	B89, B92	B89, B92	Page

	RDKT-MM	RDKW	ROHX	SDMT	SDMT-DM	SDMT-NM	SDMT-PM	SEEN	
	10 12	07 08 10 12 16 20	12 16 20	09	06 09 12 15	09 12	06 09 12 15	12	Edge length
	B95, B99, B205	B95, B99, B205	B137	B135	B164, B167, B198, B211	B164	B164, B167, B198, B211	B41	Page

Milling inserts

 **SEET-APF**	 **SEET-APM**	 **SEET-APR**	 **SEET-CF**	 **SEET-CM**	 **SEET-CR**	 **SEET-DF**	 **SEET-DM**	
09 12	09 12	09 12	12	12	12	12	12 18	Edge length
B77	B77	B77	B35, B37	B35, B37	B35, B37	B35, B37	B35, B37	Page

 **SEET-DR**	 **SEET-EF**	 **SEET-EM**	 **SEET-LH**	 **SEET-PF**	 **SEET-PM**	 **SEET-PR**	 **SEET-W**	
12	12	12	12	09 12	09 12	09 12	12	Edge length
B35, B37	B35, B37	B35, B37	B35, B37	B77	B77	B77	B34, B37	Page

 **SEKN**	 **SEKR**	 **SNEG-E**	 **SNEG-GM**	 **SNEG-GR**	 **SNEG-HGR**	 **SNEG-W**	 **SNKN**	
12 15	12	15	12 15	12 15 19	15	12	12 15	Edge length
B40	B41	B53	B53	B53	B53	B54	B221	Page

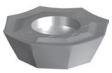
 **SPCN**	 **SPGN**	 **SPKN**	 **SPKR**	 **SPKR-GM**	 **SPKT**	 **SPKW**	 **SPMR**	
12 15	12	12 15	12	12 15	12	12	09 12	Edge length
B222	B225	B70	B71	B71	B68	B68	B223	Page

 **SPMT**	 **SPMT-HT**	 **SPMT-KT**	 **SPMT-PM**	 **SPUN**	 **TPKN**	 **TPMR**	 **TPUN**	
06 09 12	09 12	06	12	12 15	16 22	11 16 22	11 16 22	Edge length
B135, B184, B186, B188, B190, B192, B194	B224	B135, B224	B178, B180, B182	B225	B75, B226	B227	B227	Page

WPGT	**WPGT-PM**	**XEEC**	**XPHT-GM**	**XSEQ**	**ZDET**	**ZDET-PM**	**ZOHX-GF**	
05 06 08 09	05 06 08 09	12	16 20 25 30 32 40 50	12	08 11	13	12 16 20 25 30 32	Edge length
B169, B171, B200	B169, B171, B200	B87	B139, B141, B143, B145, B196	B152, B154	B134	B134	B147, B149, B209	Page

ZOHX-GM	**ZPNT**	
12 16 20 25 30 32	22	Edge length
B147, B149, B209	B134	Page

Face milling

Series	Milling body	Inserts	Kr	Application						Features	Page
				P	M	K	N	S	H		
FMA01		 SEET12T3 SEET18T6	45°	✔	✔	✔	✔	✔		• Diameter range Ø50 – 315 mm • For steel, stainless steel, cast iron, non-ferrous metals and heatresistant alloys • Milling cutter with positive, soft cutting geometry • Wiper inserts for good surface quality	B33
FMA02		 SEET12T3	45°	✔	✔	✔	✔	✔		• Diameter range Ø50 – 125 mm • For steel, stainless steel, cast iron, non-ferrous metals and heatresistant alloys • Milling cutter with positive, soft cutting geometry • Wide pitch	B36
FMA03		 SEEN1203 SEKN1203 SEKR1203 SEKN1504 SEKR1504	45°	✔	✔	✔	✔			• Diameter range Ø80 – 315 mm • For steel, stainless steel and cast iron • Milling cutter with positive, soft cutting geometry • Wedge clamping	B39
FMA04		 OFKT05T3	45°	✔	✔	✔	✔			• Diameter range Ø50 – 160 mm • For steel, stainless steel, cast iron and non-ferrous metals • Inserts with eight cutting edges • Screw clamping	B42
FMA04		 OFKR0704	45°	✔	✔	✔	✔			• Diameter range Ø125 – 315 mm • For steel, stainless steel, cast iron and non-ferrous metals • Inserts with eight cutting edges • Wedge clamping	B44
FMA04		 OD*T0605**	45°	✔	✔	✔	✔			• Diameter range Ø50 – 160 mm • For steel, stainless steel, cast iron and non-ferrous metals • Inserts with eight cutting edges • Screw clamping	B46

✔ Very suitable ✔ Suitable

Face milling

Series	Milling body	Inserts	Kr	Application						Features	Page
				P	M	K	N	S	H		
FMA07		 ONHU0604 ONHU08T5	45°	✔		✔			✔	• Diameter range Ø25 – 50 mm • For steel and cast iron • Inserts with 16 cutting edges	B48
FMA07		 ONHU0604 ONHU08T5	45°	✔		✔			✔	• Diameter range Ø40 – 315 mm • For steel and cast iron • Inserts with 16 cutting edges	B50
FMA11		 SNEG1205 SNEG1506 SNEG1907	45°	✔	✔	✔		✔		• Diameter range Ø63 – 315 mm • For steel, stainless steel and cast iron • Inserts with eight cutting edges • Double sided, thicker inserts for high stability and deeper cutting depths • Wiper geometry for good surface quality • Normal and fine pitch	B52
FMA12		 ON*U0604** ONHU08T6	45°	✔	✔	✔		✔		• Diameter range Ø63 – 315 mm • For steel, stainless steel and cast iron • Inserts with 16 cutting edges	B55
FMD02		 PNEG1105	67°	✔	✔	✔				• Diameter range Ø50 – 315 mm • For steel, stainless steel and cast iron • Inserts with ten cutting edges • Wedge clamping or screw clamping • Normal and fine pitch	B57
FMD02		 PNEG1105	67°			✔				• Diameter range Ø50 – 315 mm • For steel, stainless steel and cast iron • Inserts with ten cutting edges • Wedge clamping or screw clamping • Normal and fine pitch	B60

✔ Very suitable ✔ Suitable

Face milling

Series	Milling body	Inserts	Kr	Application						Features	Page
				P	M	K	N	S	H		
FMD02		 HNEX0905	55°			✔				• Diameter range Ø80 – 315 mm • For cast iron • Wedge clamping • Inserts with twelve cutting edges	B63
FMD03		 LNKT2007-ZR LNKT2510-ZR	60°	✔		✔				• Diameter range Ø100 – 400 mm • For steel, stainless steel and cast iron • Tangential insert with four cutting edges • Heavy duty machining for high cutting depths• Screw clamping	B65
FME02		 SPKT1204 SPKW1204	75°	✔	✔	✔				• Diameter range Ø50 – 125 mm • For steel and cast iron • Screw clamping	B67
FME03		 SPKN1203 SPKR1203 SPEX1203 SPKN1504 SPKR1504 SPEX1504	75°	✔	✔	✔				• Diameter range Ø80 – 400 mm • For steel and cast iron • Wedge clamping	B69
FME04		 LNKT1506-ZR	75°	✔		✔				• Diameter range Ø125 – 315 mm • For steel, stainless steel and cast iron • Tangential insert with four cutting edges • Heavy duty machining for high cutting depths • Screw clamping	B72
FMP01		 TPKN2204	90°	✔	✔	✔		✔		• Diameter range Ø80 – 315 mm • For steel, stainless steel and cast iron • Milling cutter with positive, soft cutting geometry • Wedge clamping	B74

✔ Very suitable ✔ Suitable

Face milling

Series	Milling body	Inserts	Kr	Application						Features	Page
				P	M	K	N	S	H		
FMP02		 SEET09T3 SEET1203	90°	✔	✔	✔	✔	✔		• Diameter range Ø50 – 315 mm • For steel, stainless steel, cast iron an non-ferrous metals • Screw clamping	B76
FMP03		 LNKT120608-ZR LNKT1506EN-ZR LNKT2007DN-ZR LNKT2510-ZR	89°	✔		✔				• Diameter range Ø50 – 315 mm • For steel, stainless steel and cast iron • Tangential insert with four cutting edges • Screw clamping	B79
FMP12		 WNHU0604 WNHU0806	90°	✔		✔				• Diameter range Ø50 – 315 mm • For steel, stainless steel and cast iron • Tangential insert with four cutting edges • Screw clamping	B81
FMP12		 WNHU0604	90°	✔		✔				• Diameter range Ø50 – 315 mm • For steel, stainless steel and cast iron • Tangential insert with four cutting edges • Screw clamping	B83
FMWX		 XEEC1209		✔		✔				• Diameter range Ø50–125 mm • High feed finishing cutters for steel and cast materials • Inserts with four cutting edges • Reserve insert seats for increased safety • The milling body is only equipped with two opposing inserts	B86
FMR01		 RCKT10T3 RCKT1204 RCGX1204		✔	✔	✔	✔	✔		• Diameter range Ø25 – 63 mm • For steel, stainless steel, cast iron, non-ferrous metals and heatresistant alloys • Screw clamping	B88

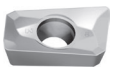
✔ Very suitable ✔ Suitable

Face milling

Series	Milling body	Inserts	Kr	Application						Features	Page
				P	M	K	N	S	H		
FMR02		 RCGX1204 RCKT1204 RCMW1204 RCKT1606 RCKT2006		✔	✔	✔	✔	✔		• Diameter range Ø50 – 250 mm • For steel, stainless steel, cast iron, non-ferrous metals and heatresistant alloys • Screw clamping	B90
FMR03		 RD**0803 RD**10T3 RD**1204		✔	✔	✔			✔	• Diameter range Ø15 – 50 mm • For steel, stainless steel and cast iron • Screw clamping • Mould and die industry	B94
FMR03		 RDKW0702 RDKW1003		✔	✔	✔			✔	• Diameter range Ø15 – 50 mm • For steel, stainless steel and cast iron • Screw clamping • Mould and die industry	B96
FMR04		 RD**1204 RD**1605 RD**2006		✔	✔	✔			✔	• Diameter range Ø50 – 200 mm • For steel, stainless steel and cast iron • Screw clamping • Mould and die industry	B98
FMR04		 RDKW1003 RDKW12T3 RDKW1604		✔	✔	✔			✔	• Diameter range Ø42 – 200 mm • For steel, stainless steel and cast iron • Screw clamping • Mould and die industry	B100

✔ Very suitable ✔ Suitable

Square shoulder milling

Series	Milling body	Inserts	Kr	Application						Features	Page
				P	M	K	N	S	H		
EMP01		 APKT0702 APKT11T3 APKT1604	90°	✔	✔	✔	✔	✔		• Diameter range Ø12 – 63 mm • For steel, stainless steel, cast iron, non-ferrous metals and heatresistant alloys • Weldon shank • For square shoulder milling, slot milling and ramping • Milling cutter with positive, soft cutting geometry • Inserts with two cutting edges	B103
EMP01		 APKT11T3 APKT0702 APKT1604	90°	✔	✔	✔	✔	✔		• Diameter range Ø12 – 63 mm • For steel, stainless steel, cast iron, non-ferrous metals and heatresistant alloys • Weldon shank • For square shoulder milling, slot milling and ramping • Milling cutter with positive, soft cutting geometry • Inserts with two cutting edges	B106
EMP02		 APKT0702 APKT11T3 APKT1604	90°	✔	✔	✔	✔	✔		• Diameter range Ø40–250 mm • For steel, stainless steel, cast iron, non-ferrous metals and heat-resistant alloys • For square-shoulder, slot and plunge milling • Milling cutter with positive, soft cutting geometry • INSERTs with two cutting edges	B109
EMP03		 APKT11T3	90°	✔	✔	✔	✔			• Diameter range Ø50–100 mm • For steel, stainless steel, cast iron, non-ferrous metals and heat-resistant alloys • For square-shoulder, slot and plunge milling • Milling cutter with positive, soft cutting geometry • INSERTs with two cutting edges	B113
EMP04		 APKT11T3	90°	✔	✔	✔	✔			• Diameter range Ø20–40 mm • For steel, stainless steel, cast iron, non-ferrous metals and heat-resistant alloys • For square-shoulder, slot and plunge milling • Milling cutter with positive, soft cutting geometry • INSERTs with two cutting edges	B115
EMP05		 APMT1135	90°	✔	✔	✔				• Diameter range Ø25–40 mm • For steel, stainless steel and cast iron • Straight shank • For square-shoulder, slot and plunge milling • Milling cutter with positive, soft cutting geometry • INSERTs with two cutting edges • Machining in z-direction possible	B117

✔ Very suitable ✔ Suitable

Square shoulder milling

Series	Milling body	Inserts	Kr	Application						Features	Page
				P	M	K	N	S	H		
EMP09		 LNKT0804PNR LNKT1206PNR LNKT1607PNR	90°	✔	✓	✔				• Diameter range Ø40 – 125 mm • Sharp cutting edge geometry combined with robust tangential inserts • First choice for large cutting depths with high feed rates. • Specially designed cutting edge with high precision control for high quality 90 degree square shoulder milling	B119
EMP09		 LNKT1206PNR	90°	✔	✓	✔				• Diameter range Ø40 – 80 mm • Sharp cutting edge geometry combined with robust tangential inserts • First choice for large cutting depths with high feed rates. • Specially designed cutting edge with high precision control for high quality 90 degree square shoulder milling	B121
EMP13		 ANGX1105 ANGX1506	90°	✔	✓	✔	✔			• Diameter range Ø40 – 250 mm • For steel, cast iron and non-ferrous metals • Double sided, thicker inserts for high stability and deeper cutting depths • Inserts with four cutting edges	B123
EMP13		 ANGX1105 ANGX1506	90°	✔	✓	✔	✔			• Diameter range Ø25 – 40 mm • For steel, cast iron and non-ferrous metals • Double sided, thicker inserts for high stability and deeper cutting depths • Inserts with four cutting edges	B125
EMP13		 ANGX1105 ANGX1506	90°	✔	✓	✔	✔			• Diameter range Ø25 – 40 mm • For steel, cast iron and non-ferrous metals • Double sided, thicker inserts for high stability and deeper cutting depths • Inserts with four cutting edges	B127

✔ Very suitable ✓ Suitable

Square shoulder milling

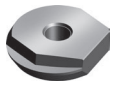
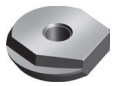
Series	Milling body	Inserts	Kr	Application						Features	Page
				P	M	K	N	S	H		
EMP13		 ANGX1105 ANGX1506	90°	✔	✔	✔	✔			• Diameter range Ø50 – 80 mm • For steel, cast iron and non-ferrous metals • Double sided, thicker inserts for high stability and deeper cutting depths • Inserts with four cutting edges	B129
EMP13		 ANGX1105 ANGX1506	90°	✔	✔	✔	✔			• Diameter range Ø25 – 40 mm • For steel, cast iron and non-ferrous metals • Double sided, thicker inserts for high stability and deeper cutting depths • Inserts with four cutting edges	B131

Profile milling

BMR01		 ZDET08T2 & SPMT0603 ZDET1103 & SPMT0603 ZDET13T2 & SDMT0903 ZPNT2204 & SPMT1204		✔	✔	✔				• Diameter range Ø20 – 63 mm • For steel, stainless steel and cast iron • Very suitable for roughing of big moulds • Inserts with three cutting edges	B133
BMR02		 ROHX1203 ROHX1604 ROHX2005		✔	✔	✔				• Diameter range Ø12 – 20 mm • For steel, stainless steel and cast iron • Very suitable for finishing in mould and die industry • Inserts with two cutting edges	B136
BMR03		 XPHT16 XPHT20 XPHT25 XPHT30 XPHT32 XPHT40		✔	✔	✔				• Diameter range Ø16 – 40 mm • For steel and cast iron • Very suitable for roughing in mould and die industry • Tool with high stability	B138

✔ Very suitable ✔ Suitable

Profile milling

Series	Milling body	Inserts	Kr	Application						Features	Page
				P	M	K	N	S	H		
BMR03		 XPHT16 XPHT20 XPHT25 XPHT30 XPHT32 XPHT40 XPHT50		✔	✔	✔				• Diameter range Ø16 – 40 mm • For steel and cast iron • Very suitable for roughing in mould and die industry • Tool with high stability	B140
BMR03		 XPHT20 XPHT25 XPHT30 XPHT32 XPHT40 XPHT50		✔	✔	✔				• Diameter range Ø16 – 40 mm • For steel and cast iron • Very suitable for roughing in mould and die industry • Tool with high stability	B142
BMR03		 XPHT40 XPHT50		✔	✔	✔				• Diameter range Ø16 – 40 mm • For steel and cast iron • Very suitable for roughing in mould and die industry • Tool with high stability	B144
BMR04		 ZOHX12 ZOHX16 ZOHX20 ZOHX25 ZOHX30 ZOHX32		✔	✔	✔				• Diameter range Ø12 – 32 mm • For steel, stainless steel and cast iron • Very suitable for finishing in mould and die industry • Inserts with two cutting edges	B146
BMR04		 ZOHX12 ZOHX16 ZOHX20 ZOHX25 ZOHX30 ZOHX32		✔	✔	✔				• Diameter range Ø12 – 32 mm • For steel, stainless steel and cast iron • Very suitable for finishing in mould and die industry • Inserts with two cutting edges	B148

✔ Very suitable ✔ Suitable

Slot milling

Series	Milling body	Inserts	Kr	Application						Features	Page
				P	M	K	N	S	H		
SMP01		 XSEQ1202 XSEQ1203 XSEQ12T3 XSEQ1204 XSEQ12T4	90°	✔	✔	✔				• Diameter range Ø100 – 250 mm • For steel, stainless steel and cast iron • Bore with keyway • Groove widths 4, 5, 6, 7, 8 mm	B151
SMP01		 XSEQ1202 XSEQ1203 XSEQ12T3 XSEQ1204 XSEQ12T4	90°	✔	✔	✔				• Diameter range Ø63 – 160 mm • For steel, stainless steel and cast iron • Groove widths 4, 5, 6, 7, 8 mm	B153
SMP03		 MPHT0603 MPHT0803 MPHT1204	90°	✔	✔	✔				• Diameter range Ø80 – 200 mm • For steel, stainless steel and cast iron • Bore with keyway • Groove widths 8, 10, 12, 16, 18, 20 mm	B155
SMP03		 MPHT0603 MPHT0803 MPHT1204	90°	✔	✔	✔				• Diameter range Ø80 – 200 mm • For steel, stainless steel and cast iron • Groove widths 8, 10, 12, 16, 18, 20 mm	B157
SMP05		 QC16L QC22L	90°	✔	✔	✔				• Diameter range Ø25 – 44 mm • For steel, stainless steel and cast iron • Groove widths range 1,1 – 4,8 mm	B159

✔ Very suitable ✔ Suitable

High-feed milling

Series	Milling body	Inserts	Kr	Application						Features	Page
				P	M	K	N	S	H		
XMR01		 SDMT06T2 SDMT09T3 SDMT1204 SDMT1505	15°	✔	✔	✔				• Diameter range Ø20 – 40 mm • For steel, stainless steel and cast iron • Inserts with four cutting edges • Ramping possible • Double clamping system for inserts	B163
XMR01		 SDMT06T2 SDMT09T3 SDMT1204 SDMT1505	15°	✔	✔	✔				• Diameter range Ø40 – 125 mm • For steel, stainless steel and cast iron • Inserts with four cutting edges • Ramping possible • Double clamping system for inserts	B165
XMR01		 WPGT0503 WPGT0604	11°- 22°	✔	✔	✔				• Diameter range Ø20 – 40 mm • For steel, stainless steel and cast iron • Inserts with three cutting edges • Ramping possible • Double clamping system for inserts	B168
XMR01		 WPGT0604 WPGT0806 WPGT0907	11°- 22°	✔	✔	✔				• Diameter range Ø42 – 160 mm • For steel, stainless steel and cast iron • Inserts with three cutting edges • Ramping possible • Double clamping system for inserts	B170

Bore milling

XMP01		 CNE12	90°	✔	✔	✔				• Diameter range Ø80 – 400 mm • For steel, stainless steel and cast iron • Also for face and square shoulder milling	B173

✔ Very suitable ✔ Suitable

T-slot milling

Series	Milling body	Inserts	Kr	Application						Features	Page
				P	M	K	N	S	H		
TMP01		 MPHT0603 MPHT0803 MPHT1204	90°	✔	✔	✔				• Diameter range Ø21 – 60 mm • For cast iron • Groove widths 9, 11, 14, 18, 22, 28 mm	B175

Helical milling

HMP01		 APKT1504 & SPMT1204	90°	✔	✔	✔				• Diameter range Ø40 – 50 mm • For steel and cast iron • Weldon shank	B177
HMP01		 APKT1504 & SPMT1204	90°	✔	✔	✔				• Diameter range Ø50 – 80 mm • For steel and cast iron • With JT coupling	B179
HMP01-EC		 APKT1504 & SPMT1204	90°	✔	✔	✔				• Diameter range Ø50 – 80 mm • For steel and cast iron • With JT coupling • With indexable head	B181

✔ Very suitable ✔ Suitable

Chamfer milling

Series	Milling body	Inserts	Kr	Application						Features	Page
				P	M	K	N	S	H		
CMZ01		 SPMT1204	30°	✓	✓	✓				• Diameter range Ø12 – 32 mm • For steel, stainless steel and cast iron • Chamfer milling cutter 30°	B185
CMZ01		 SPMT1204	30°	✓	✓	✓				• Diameter range Ø12 – 32 mm • For steel, stainless steel and cast iron • Chamfer milling cutter 30°	B183
CMA01		 SPMT1204	45°	✓	✓	✓				• Diameter range Ø12 – 32 mm • For steel, stainless steel and cast iron • Chamfer milling cutter 45° • Weldon shank	B187
CMA01		 SPMT1204	45°	✓	✓	✓				• Diameter range Ø12 – 32 mm • For steel, stainless steel and cast iron • Chamfer milling cutter 45° • Weldon shank	B189
CMD01		 SPMT1204	60°	✓	✓	✓				• Diameter range Ø12 – 32 mm • For steel, stainless steel and cast iron • Chamfer milling cutter 60° • Weldon shank	B191
CMD01		 SPMT1204	60°	✓	✓	✓				• Diameter range Ø12 – 32 mm • For steel, stainless steel and cast iron • Chamfer milling cutter 60° • Weldon shank	B193

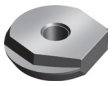
✓ Very suitable ✓ Suitable

Indexable heads - QCH series

Series	Milling body	Inserts	Kr	Application						Features	Page
				P	M	K	N	S	H		
QCH-XPHT		 XPHT16 XPHT20 XPHT25 XPHT30 XPHT32		✔	✔	✔				• Diameter range Ø16 – 32 mm • For steel and cast iron • Very suitable for roughing in mould and die industry	B195
QCH-SDMT		 SDMT06T2 SDMT09T3 SDMT1204	15°	✔	✔	✔				• Diameter range Ø20 – 40 mm • For steel, stainless steel and cast iron • Inserts with four cutting edges • Ramping possible • Double clamping system for inserts	B197
QCH-WPGT		 WPGT0503 WPGT0604 WPGT0806	11°- 22°	✔	✔	✔				• Diameter range Ø16 – 42 mm • For steel, stainless steel and cast iron • Inserts with three cutting edges • Ramping possible • Double clamping system for inserts	B199
QCH-APKT		 APKT11T3 APKT1604	90°	✔	✔	✔	✔	✔		• Diameter range Ø16–40 mm • For steel, stainless steel, cast iron, non-ferrous metals and heat-resistant alloys • For square-shoulder, slot and plunge milling • Milling cutter with positive, soft cutting geometry • INSERTs with two cutting edges • For metric ISO threads according to DIN standard only	B201
QCH-RD		 RDKW0702 RDKW10T3 RDKW1605		✔	✔	✔			✔	• Diameter range Ø15 – 42 mm • For steel, stainless steel and cast iron • Screw clamping • Mould and die industry • For two different thicknesses of inserts	B204
QCH-RD		 RDKW0702 RDKW1003 RDKW12T3 RDKW1604		✔	✔	✔			✔	• Diameter range Ø15 – 42 mm • For steel, stainless steel and cast iron • Screw clamping • Mould and die industry • For two different thicknesses of inserts	B206

✔ Very suitable ✔ Suitable

QCH series

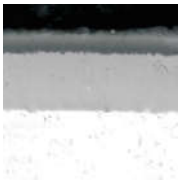
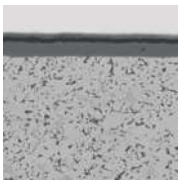
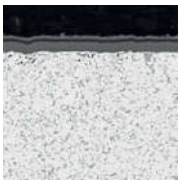
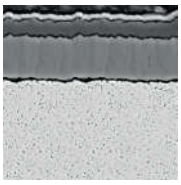
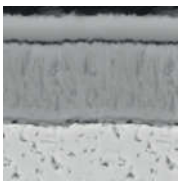
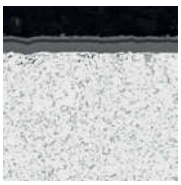
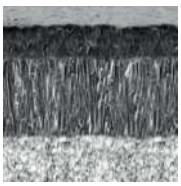
Series	Milling body	Inserts	Kr	Application						Features	Page
				P	M	K	N	S	H		
QCH-ZOHX		 ZOHX16 ZOHX20 ZOHX25 ZOHX30 ZOHX32		✓	✓	✓				• Diameter range Ø16 – 32 mm • For steel, stainless steel and cast iron • Very suitable for finishing in mould and die industry • Inserts with two cutting edges	B208
QCH-SDMT-Q		 SDMT09T3		✓	✓	✓				• Diameter range Ø16–40 mm • For steel, stainless steel, cast iron, non-ferrous metals and heat-resistant alloys • For square-shoulder, slot and plunge milling • Milling cutter with positive, soft cutting geometry • Inserts with two cutting edges • Only for Q-thread according to ZCC-CT factory standard	B210
QCH-APKT-Q		 APKT11T3	90°	✓	✓	✓				• Diameter range Ø20 – 40 mm • For steel, stainless steel and cast iron • Inserts with four cutting edges • Ramping possible • Double clamping system for inserts • Only for Q-thread according to ZCC-CT factory standard	B212
QCH-SPGT-Q		 SPGT0502		✓	✓	✓				• Diameter range Ø16 – 20 mm • For steel, stainless steel and cast iron • For deburring and chamfer milling • Soft cutting milling cutter with large, positive cutting edge geometry • Inserts with four cutting edges • Only for Q-thread according to ZCC-CT factory standard	B214

Notes

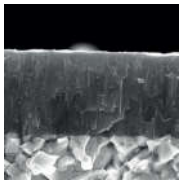
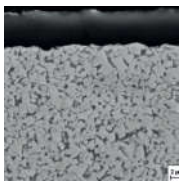
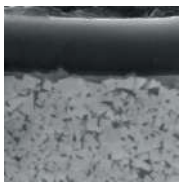
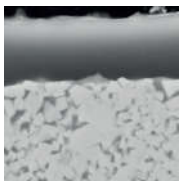
Chip breaker overview

	Finishing	Medium machining	Roughing
P	DF	DM	DR
	APF	APM	–
	PF	PM	PR
	GF	GM	GR
	GL	GM	GH
	–	HGR	–
	–	–	ZR
	–	XR	–
	–	MM	–
	MO-2	MO-1	MO-3
M	EF	EM	–
	APF	APM	–
	DF	DM	–
	PF	PM	PR
	GF	GM	GR
	GL	GM	GH
	–	HGR	–
	E	E	–
	–	–	ZR
	–	XR	–
	–	MM	–
K	CF	CM	CR
	DF	DM	DR
	EDFR	DER	DER
	PF	PM	PR
	GF	GM	GR
	GL	GM	GH
	–	–	ZR
	–	XR	–
	MO-2	MO-1	MO-3
S	EF	EM	–
	NM	NM	–
N	LH	LH	LH
	ALH	ALH	ALH

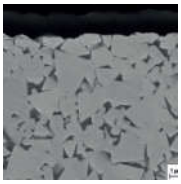
Coated cemented carbide CVD

Grade	ISO	Micro structure	Grade description
YBC302	P20 - P35		CVD coated P20–P35 carbide grade for medium operation to roughing of steel at higher cutting speed. Optimal performance of wear resistance and toughness for a wide application field.
YBC301	P20 - P35		CVD coated P20–P35 carbide grade for medium operation to roughing of steel at lower cutting speed.
YBC401	P30 - P50 M30 - M40		CVD coated P30–P50/M30–M40 carbide grade for roughing operation of steel at lower cutting speed and unstable condition.
YBM251	P20 - P30 M15 - M35		CVD coated P20–P30/M15–M35 carbide grade for medium to roughing operation in stainless steel and steel with wide application field. Good wear resistance and capability against plastic deformation at normal cutting speed.
YBM253	M15 - M35		CVD coated M15–M35 carbide grade for medium to roughing operation in stainless steel with wide application field. High wear resistance and capability against plasctic deformation at higher cutting speed.
YBM351	P25 - P40 M20 - M40		CVD coated P25–P40/M25–M40 carbide grade for roughing operation in stainless steel and steel. Good wear resistance and edge stability at normal cutting speed.
YBD152	K10 - K25		CVD coated K10–K25 carbide substrate. Optimized for medium to roughing operation of cast iron. Good wear resistance and toughness at higher cutting speed.
YBD252	K20 - K35		CVD coated K20–K35 carbide substrate. Optimized for medium to roughing operation of cast iron and Steel. Good wear resistance and toughness at higher cutting speed.

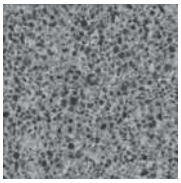
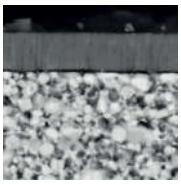
Coated cemented carbide PVD

Grade	ISO	Micro structure	Grade description
YBG101	N05–N20		PVD coated N05–N20 carbide substrate for finishing to semi-finishing in aluminium materials. Coating only on the top face, in combination with the aluminium chip breakers, prevents built-up edges and gives a smooth cut.
YBG102	S05 - S15		PVD coated S05–S15 carbide substrate for finishing to medium application of super alloy material, stainless steel and aluminum. Good wear resistance in a wide application field.
YBG202	P10 - P30 M10-M25		PVD coated P10–P30/M10–M25 carbide substrate for finishing to medium application of stainless steel and steel (milling). Good wear resistance in a wide application field.
YBG212	P25 - P35 M25-M40		PVD coated M25–M40/P25–P35 carbide substrate for steel and stainless steel. Especially for inner insert at drilling operation.
YBS203	S15 – S25		Turning and milling grades for processing heat-resistant materials. A special carbon substrate and the latest PVD coating technology enable a very good wear behaviour, high fracture toughness and high thermal stability.
YBG205	P10 - P30 M20 - M40 S15-S25		PVD multilayer coated P10–P30/M20–M40/S15–S25 carbide substrate for finishing to medium machining of stainless steel, super alloys and steel (milling). Excellent wear resistance and thermal stability in a wide range of applications.
YB9320	P10 - P30 M10-M25		PVD multilayer coated P10–P30/M10–M25 carbide substrate for finishing to medium machining of stainless steel, super alloys and steel (grooving/milling). Optimised coating stability for higher wear resistance and thermal stability in a wide range of applications.
YBG302	P15 - P30 M25 - M40		PVD coated P15–P30/M25–M40 carbide substrate for medium roughing application of stainless steel and steel (milling). Good wear resistance and toughness.

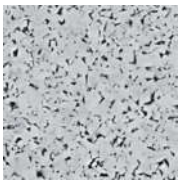
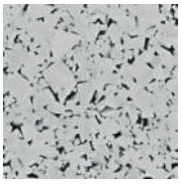
Coated cemented carbide PVD

Grade	ISO	Micro structure	Grade description
YBS303	S25 - S35		Milling grade for machining titanium alloys. A tough carbide substrate and the latest PVD coating technology with increased impact resistance and high thermal stability.

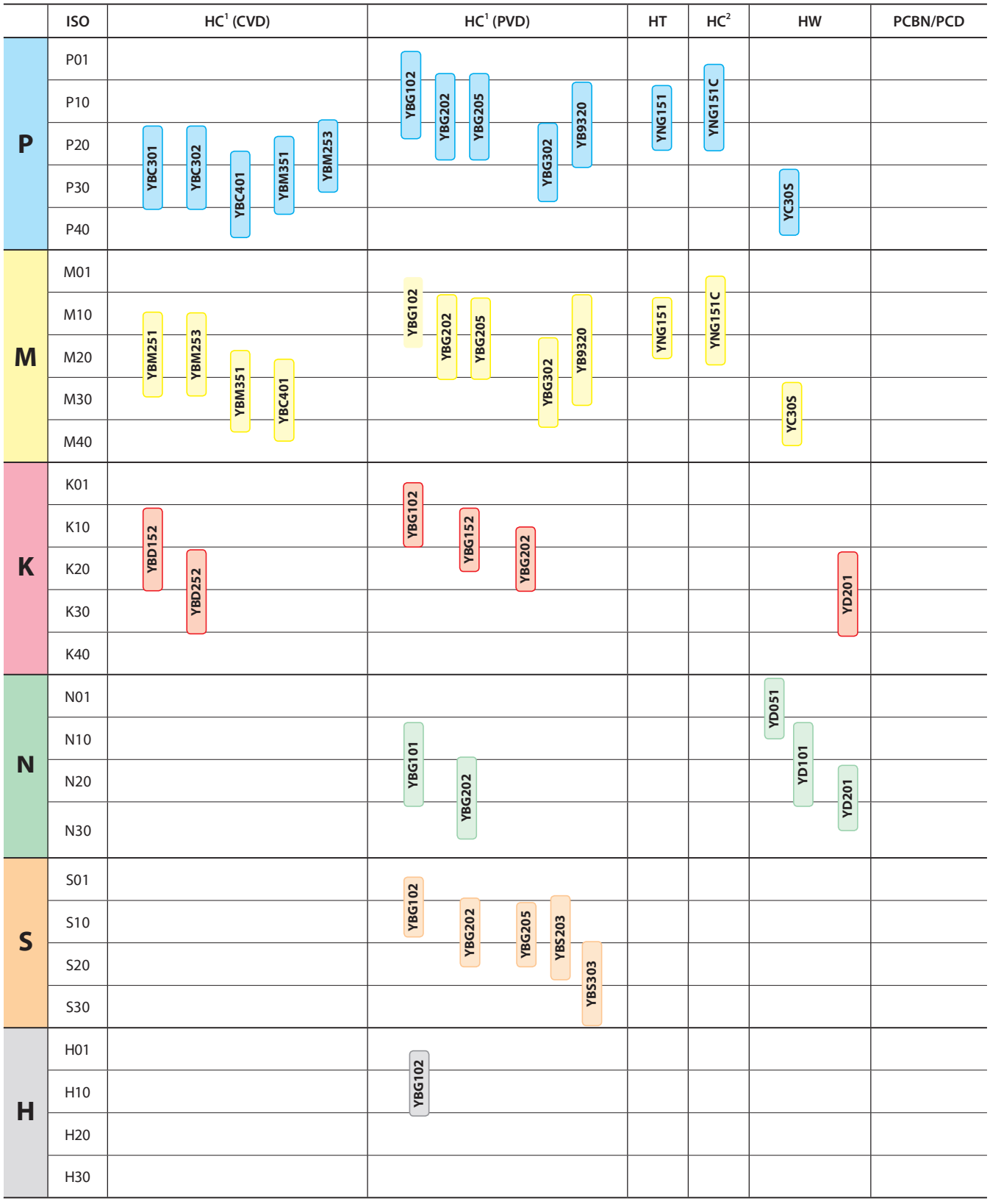
Cermet

Grade	ISO	Micro structure	Grade description
YNG151	P05 - P15		Uncoated P05–P15 cermet grade for fine finishing operation of steel and stainless steel. Good resistance against plastic deformation for good surface finishing.
YNG151C	P05 - P15		PVD coated P05–P15 cermet grade for fine finishing operation of steel and stainless steel. Good wear resistance and capability against plastic deformation for good surface roughness.

Uncoated cemented carbide

Grade	ISO	Micro structure	Grade description
YD101	N05 - N25 K05 - K20		Uncoated K05–K20/N05–N20 carbide substrate for fine to medium application in aluminum and other material.
YD201	K10 - K30 N10 - N30		Uncoated K10–K30/N10–N30 carbide substrate for medium application in aluminum and other material.

Application fields of grades – indexable milling



P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metals
S	Heat-resistant alloys
H	Hardened materials

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated carbide
HW Uncoated carbide

Notes

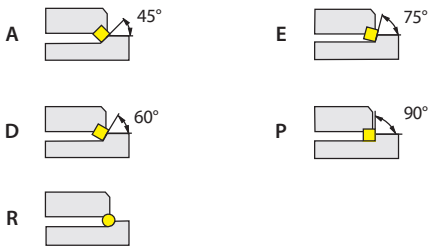
Indexable milling System code – milling bodies

FM	A	12	050	–	A22	O	–	N	06	–	04	(L)	(C)
1	2	3	4		5	6		7	8		9	10	11

Type	
Code	Description
BM	Profile milling
CM	Chamfer milling
EM	Square shoulder milling
FM	Face milling
HM	Helical milling
SM	Slot milling
TM	T-slot milling
XM	Special

1

Entering angle



2

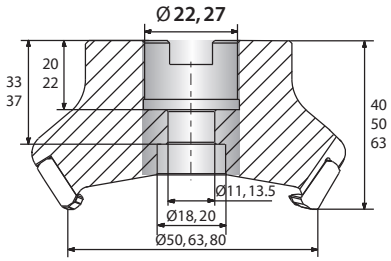
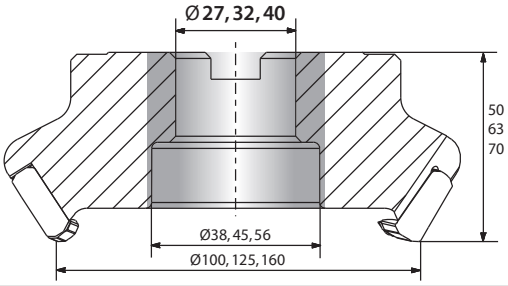
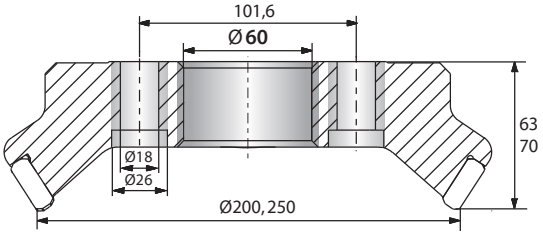
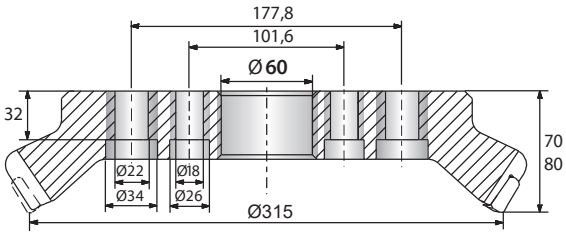
Serial number

3

Nominal diameter [mm]	
Code	Description
025	25
050	50
160	160
315	315
...	

4

Type and size of tool holders

Code	Type	Code	Type
A	Nominal diameter Ø50 – 80 mm 	B	Nominal diameter Ø100 – 160 mm 
C	Nominal diameter Ø200 – 250 mm 	D	Nominal diameter Ø315 mm 
G	Straight shank	XP	Weldon shank
K	Bore with keyway		

5

With respect to mounting please adhere to the information provided by the tool holder manufacturer.

Insert shape			
A		C	
H		L	
M		O	
P		R	
S		T	
W		X	Special
Z	Special		

6

Clearance angle			
B	5°	C	7°
D	15°	E	20°
F	25°	N	0°
P	11°		

7

Cutting edge length l [mm]	
Insert shape	
	
A	C, M
	
H, O, P	L
	
R	S
	
T	W

8

Number of teeth

9

Cutting direction	
Code	Description
L	Left

10

With inner cooling

11

Tools with B coupling and inner coolant supply require the following spare parts:



Coolant clamp screw



Coolant shower plate



Spare parts (B coupling with inner coolant supply)

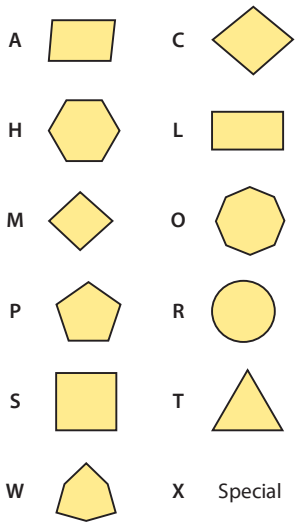
		B27	B32	B40	B40
	Ø	**80**	**100**	**125**	**160**
	**Coolant clamp screw**	LDB27C	LDB32C	LDB40C	LDB40C
	**Coolant shower plate**	B27-002-CP	B32-002-CP	B40-002-CP	B40-003-CP

When purchasing tools with inner coolant supply and B coupling these spare parts are included in delivery.

Indexable milling ISO code – inserts

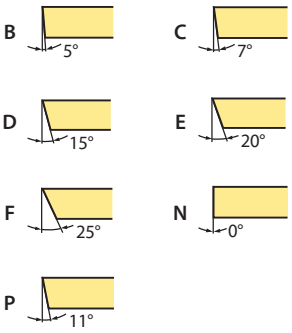
S	P	K	N	12	04	ED	T21K	R	–	DM
1	2	3	4	5	6	7	8	9		10

Insert shape



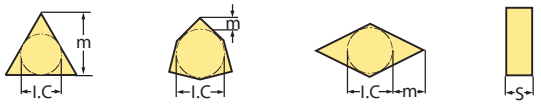
1

Clearance angle



2

Tolerance class

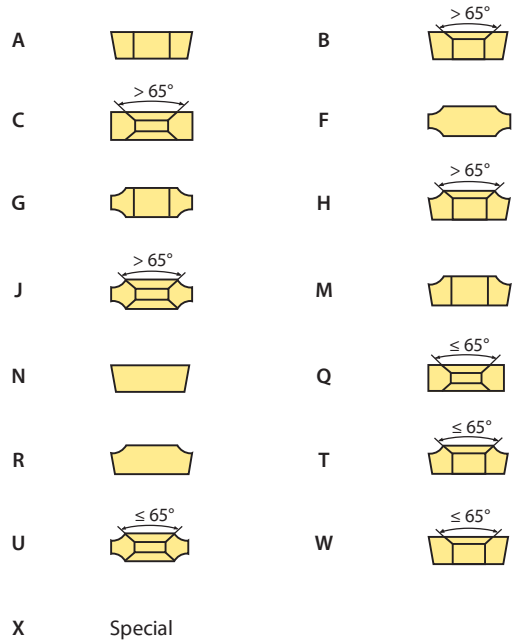


Code	I.C [mm]	m [mm]	S [mm]
A	±0,025	±0,005	±0,025
C	±0,025	±0,013	±0,025
E	±0,025	±0,025	±0,025
F	±0,013	±0,005	±0,025
G	±0,025	±0,025	±0,130
H	±0,013	±0,013	±0,025
J	±0,05–0,13	±0,005	±0,025
K	±0,05–0,13	±0,013	±0,025
L	±0,05–0,13	±0,025	±0,025
M	±0,05–0,13	±0,08–0,18	±0,130
N	±0,05–0,13	±0,08–0,18	±0,025
U	±0,08–0,25	±0,13–0,38	±0,130

3

Fastening features (metric)

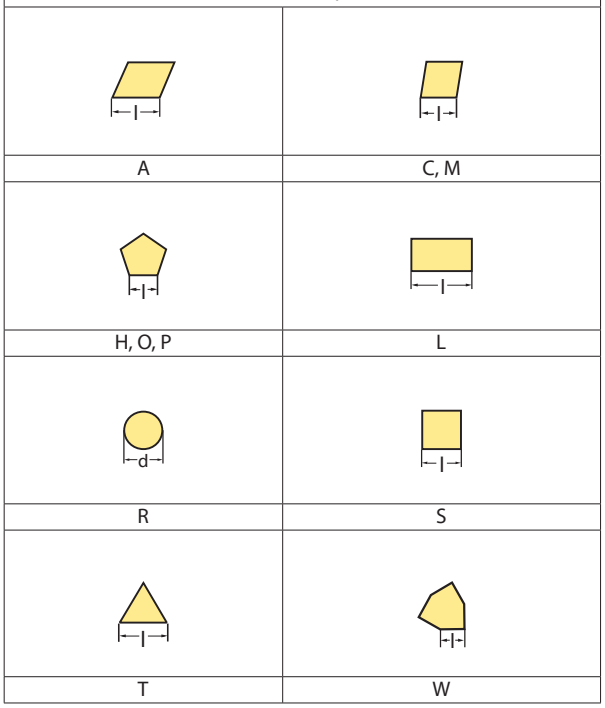
Insert shape



4

Cutting edge length l [mm]

Insert shape



5

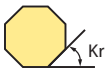
Insert thickness S [mm]



Code	S	Code	S
00	0,79	**05**	5,56
T0	0,99	**T5**	5,95
01	1,59	**06**	6,35
T1	1,98	**T6**	6,75
02	2,38	**07**	7,94
T2	2,58	**09**	9,52
03	3,18	**T9**	9,72
T3	3,97	**11**	11,11
04	4,76	**12**	12,70
T4	4,96		

6

Angle





Code	Kr	Code	αn
A	45°	**A**	3°
D	60°	**B**	5°
E	75°	**C**	7°
F	85°	**D**	15°
P	90°	**E**	20°
Z	Special	**F**	25°
		G	30°
		N	0°
		P	11°
		Z	Special

7

Chamfer

Code	Type	Code	Angle	Code	Width [mm]	Code	Position
F		**0**	5°	**0**	0,10	**K**	
E		**1**	10°	**1**	0,15		
T		**2**	15°	**2**	0,20	**P**	
S		**3**	20°	**3**	0,25		
		4	25°	**4**	0,30	**W**	
		5	30°	**5**	0,35		
				6	0,40	**–**	
				7	0,45		

8

Cutting direction

Code	Description
R	Right
L	Left
N	Right and left

9

Chip breaker overview
(on page B20)

10

Indexable milling System code – slot milling

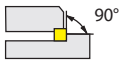
SM	P	03	–	160	×	16	–	K	40	–	M	P	12	–	12	L
1	2	3		4		5		6	7		8	9	10		11	12

Type

Code	Description
SM	Slot milling cutter

1

Entering angle

P 

2

Serial number

3

Nominal diameter [mm]

4

Cutting width [mm]

5

Tool holder type

Code	Description	Code	Description
A	A type	B	B type
C	C type	D	D type
K	With feather key		

6

Diameter of mounting hole [mm]

7

Insert shape

M 

S 

8

Clearance angle

N 

P 

9

Insert size [mm]

10

Number of teeth

11

Cutting direction

Code	Description
R	Right
L	Left

12

QCH – 35 – SDMT 09 – Q 18 – 03

1	2	3	4	5	6	7

Series [mm]

Code	Description
QCH	Indexable head system

1

Nominal diameter [mm]

Code	Description
16	16
20	20
25	25
35	35
...	

2

Insert shape

3

Cutting edge length l [mm]

A 

R 

S 

4

Thread type

Code	Description
M	Metric
Q	Q thread

5

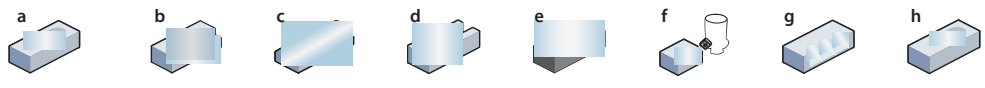
Thread size [mm]

Code	Description
8	8
10	10
12	12
14	14
...	

6

Number of teeth

7



a Groove milling **b** Square shoulder milling **c** Profile milling **d** Slot milling **e** Face milling **f** Chamfer milling **g** Plunge milling **h** Circular milling/Ramping

Indexable milling System code – QCH shanks

G	25	–	QCH	–	Q	12	–	250	C	–	(ZJ)	(115)
1	2		3		4	5		6	7		8	9

Clamping form	
Code	Description
G	Cylindrical
XP	Weldon

1

Clamping diameter [mm]	
Code	Description
12	12
16	16
20	20
25	25
32	32

2

Series [mm]	
Code	Description
QCH	Indexable head system

3

Thread type	
Code	Description
M	Metric
Q	Q thread

4

Thread size [mm]	
Code	Description
8	8
10	10
12	12
14	14
...	

5

Total length [mm]	
Code	Description
85	85
150	150
200	200
...	

6

Material	
Code	Description
C	Solid carbide
S	Steel

7

Shank	
Code	Description
ZJ	Conical
–	Cylindrically stepped

8

Taper length [mm]	
Code	Description
90	90
115	115
...	

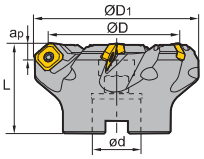
9

Face milling

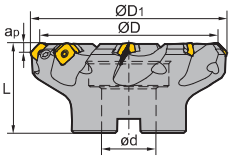
FMA01 Kr: 45°



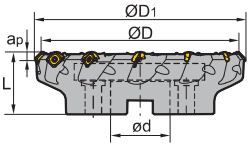
Fine pitch



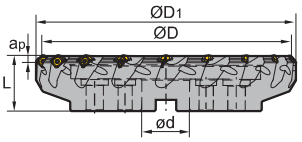
A



B



C



D

Article	✲	Stock R	Stock L	Dimensions [mm] ØD	ØD1	ød	L	ap max	Teeth	Coupling	kg	Inserts
FMA01-050-A22-SE12-04		●	○	50	61	22	40	6	4	A	0.3	
FMA01-050-A22-SE12-04C	✲	●	○	50	61	22	40	6	4	A	0.3	
FMA01-063-A22-SE12-05		●		63	74	22	40	6	5	A	0.5	
FMA01-063-A22-SE12-05C	✲	●	○	63	74	22	40	6	6	A	1.2	
FMA01-080-A27-SE12-06		●	●	80	91	27	50	6	6	A	1.2	
FMA01-080-A27-SE12-06C	✲	●	○	80	91	27	50	6	6	A	1.2	
FMA01-100-B32-SE12-07		●	○	100	107	32	50	6	7	B	1.2	
FMA01-100-B32-SE12-07C	✲	○	○	100	107	32	50	6	7	B	1.2	SEET12T3
FMA01-125-B40-SE12-08		●	●	125	136	40	63	6	8	B	2.6	
FMA01-125-B40-SE12-08C	✲	○		125	136	40	63	6	8	B	2.6	
FMA01-160-B40-SE12-10		●	●	160	170	40	63	6	10	B	4.3	
FMA01-160-B40-SE12-10C	✲	○		160	170	40	63	6	10	B	4.3	
FMA01-200-C60-SE12-12		●	○	200	210	60	63	6	12	C	7.6	
FMA01-250-C60-SE12-14		●	○	250	260	60	63	6	14	C	13.5	
FMA01-315-D60-SE12-18		●	○	315	325	60	70	6	18	D	20.8	
FMA01-100-B32-SE18-04		○	○	100	120	32	63	10	4	B	1.2	
FMA01-125-B40-SE18-05		○	○	125	145	40	63	10	5	B	2.6	
FMA01-160-C40-SE18-06		○	○	160	180	40	63	10	6	C	4.3	SEET18T6
FMA01-200-C60-SE18-08		●	○	200	220	60	63	10	8	C	7.6	
FMA01-250-C60-SE18-10		●		250	270	60	63	10	10	C	13.5	
FMA01-315-D60-SE18-12		○	○	315	335	60	80	10	12	D	20.8	

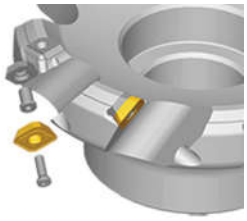
● Ex stock ○ On demand

✲ With internal cooling

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Spare parts

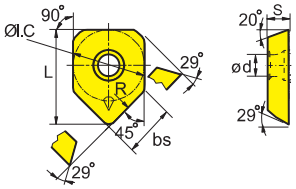
	Insert	SEET12T3	SEET12T3	SEET18T6
	ØD	50-100	125 - 315	100- 315
	Screw (insert)	I60M3.5×10 (2.7 Nm)	I60M3.5×12 (2.7 Nm)	I60M5×17 (6.7 Nm)
	Screw (shim)		SM5×7XA	SM8×9XA
	Shim		S13BS	S18BS
	Wrench (shim)		WH35L	WH50L
	Wrench (insert)	WT15IS	WT15IS	
	Wrench (insert)			WT20IT



- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SEET	L	I.C	S	d
12 T3	17.82	13.4	3.97	4.1

Milling inserts

SE** milling insert				HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
			P																			
			M																			
			K																			
			N																			
			S																			
			H																			
ISO		R	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**SEET12T3-W**		9.46							○						●						○	○		

● Ex stock ○ On demand

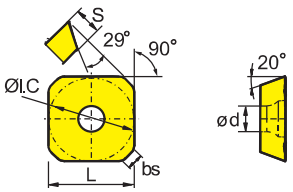
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code > B26 Grade selection > B24 Technical info > B527 Cutting data > B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SEET	L	I.C	S	d
12 T3	13.4	13.4	3.97	4.1
18 T6	18	18	6.1	5.5



SE** milling insert			HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
		P																				
		M																				
		K																				
		N																				
		S																				
		H																				
ISO		bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SEET12T3-CF	2.55							○			●												
	SEET12T3-CM	2.55							●			●												
	SEET12T3-CR	2.55							●	●		○												
	SEET12T3-DF	2.55	●	●			○	●					○					○			○	○		
	SEET12T3-DM	2.55	●	●	●	●	○	●					○				●	●						
	SEET18T6-DM	2.29	●			●																		
	SEET12T3-DR	2.55		●	●			●		○			○					○						
	SEET12T3-EF	2.55											○					●						
	SEET12T3-EM	2.55					○	●					○					●						
	SEET12T3-LH	2.55									○												●	●

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

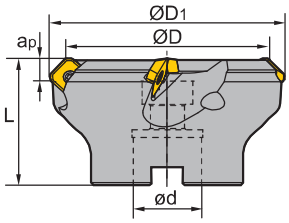
Face milling

FMA02 Kr: 45°

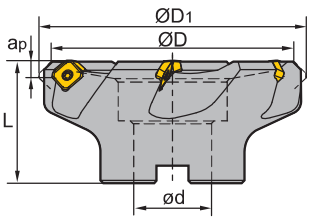




Coarse and differential pitch



A



B

Article	✻	Stock	Dimensions [mm] ØD	ØD1	ød	L	ap max	Teeth	Coupling	kg	Inserts
FMA02-050-A22-SE12-03		●	50	61	22	40	6	3	A	0.4	SEET12T3
FMA02-063-A22-SE12-04		●	63	74	22	40	6	4	A	0.6	
FMA02-080-A27-SE12-04		●	80	91	27	50	6	4	A	1.3	
FMA02-100-B32-SE12-05		●	100	107	32	50	6	5	B	1.3	
FMA02-125-B40-SE12-06		○	125	131	40	63	6	6	B	2.6	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	SEET12T3
	ØD	50-125
	Screw (insert)	I60M3.5×10 (2.7 Nm)
	Wrench (insert)	WT15IS



System code B26 Grade selection B24 Technical info B527 Cutting data B230

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

SEET	L	l.C	S	d
12 T3	17.82	13.4	3.97	4.1

Milling inserts

SE** milling insert				HC[1] (CVD)							HC[1] (PVD)									HT	HC[2]	HW	
			P																				
			M																				
			K																				
			N																				
			S																				
			H																				
ISO		R	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SEET12T3-W		9.46							○							●					○	○		

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

SEET	L	l.C	S	d
12 T3	13.4	13.4	3.97	4.1

Milling inserts

SE** milling insert			HC[1] (CVD)							HC[1] (PVD)									HT	HC[2]	HW	
	P																					
	M																					
	K																					
	N																					
	S																					
	H																					
ISO	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
SEET12T3-CF	2.55							○			●												
SEET12T3-CM	2.55							●			●												
SEET12T3-CR	2.55							●	●		○												

● Ex stock ○ On demand

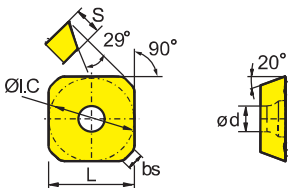
HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SEET	L	l.C	S	d
12 T3	13.4	13.4	3.97	4.1

Milling inserts



SE** milling insert			HC[1] (CVD)								HC[1] (PVD)									HT	HC[2]	HW		
		P																						
		M																						
		K																						
		N																						
		S																						
		H																						
ISO		bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**SEET12T3-DF**	2.55	●	●			○	●					○					○			○	○		
	**SEET12T3-DM**	2.55	●	●	●	●	○	●					○				●	●						
	**SEET12T3-DR**	2.55		●	●			●		○			○					○						
	**SEET12T3-EF**	2.55											○					●						
	**SEET12T3-EM**	2.55					○	●					○					●						
	**SEET12T3-LH**	2.55									○												●	●

● Ex stock ○ On demand

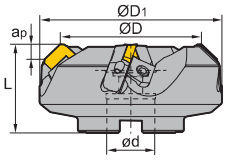
HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

System code > B26 Grade selection > B24 Technical info > B527 Cutting data > B230

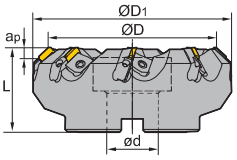
Face milling

FMA03 Kr: 45°

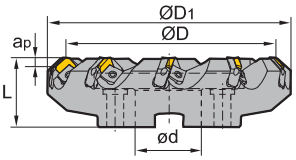




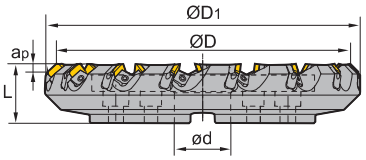
A



B



C



D

Article	✻	Stock		Dimensions [mm]					Teeth	Coupling	kg	Inserts
		R	L	ØD	$ØD_1$	ød	L	$a_{p\,max}$				
FMA03-080-A27-SE12-04		○	○	80	103	27	50	5.5	4	A	1.8	SEEN1203 SEKN1203 SEKR1203
FMA03-100-B32-SE12-05		○	○	100	122	32	50	5.5	5	B	2.4	
FMA03-125-B40-SE12-06		○	○	125	147	40	63	5.5	6	B	4.4	
FMA03-160-B40-SE12-08		○	○	160	181	40	63	5.5	8	B	6.4	
FMA03-200-C60-SE12-10		○	○	200	221	60	63	5.5	10	C	8.5	
FMA03-250-C60-SE12-12		○	○	250	270	60	63	5.5	12	C	14.1	
FMA03-315-D60-SE12-15		○	○	315	353	60	63	5.5	15	D	22.2	
FMA03-080-A27-SE15-04		○		80	103	27	50	7.5	4	A	1.7	SEKN1504 SEKR1504
FMA03-100-B32-SE15-05		○		100	122	32	50	7.5	5	B	2.3	
FMA03-125-B40-SE15-06		○		125	147	40	63	7.5	6	B	4.2	
FMA03-160-B40-SE15-08		○		160	181	40	63	7.5	8	B	6.1	
FMA03-200-C60-SE15-10		○		200	221	60	63	7.5	10	C	8.3	
FMA03-250-C60-SE15-12		○		250	270	60	63	7.5	12	C	13.6	
FMA03-315-D60-SE15-15		○	○	315	353	60	63	7.5	15	D	21.8	

● Ex stock ○ On demand

✻ With internal cooling

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Spare parts

	Insert	SEEN1203 SEKN1203 SEKR1203	SEKN1504 SEKR1504
	ØD	80- 315	80- 315
	Adjustable screw	LOM5×15.1	LOM5×15.1
	Cassette (left)	LSE12L	LSE15L
	Cassette (right)	LSE12R	LSE15R
	Screw (wedge)	DM8×21X (10.2 Nm)	DM8×21X (10.2 Nm)
	Wedge (left)	W01L	W01L
	Wedge (right)	W01R	W01R
	Wrench (locator)	WT20T	WT20T
	Wrench (wedge)	WH40T	WH40T

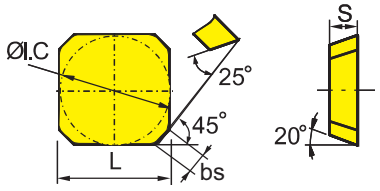


Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SEKN	L	I.C	S
12 03	12.7	12.7	3.18
15 04	15.875	15.875	4.76

SE** milling insert



	ISO	bs	HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
P																					
M																					
K																					
N																					
S																					
H																					
			YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SEKN1203AFN	1.8		○																				
	SEKN1203AFTN	1.8		●		●	●	○		○			○								●	●		○
	SEKN1504AFTN	1.6		●	○		●	●									●							
	SEKN1504AZ	1.6		○																				○

● Ex stock ○ On demand

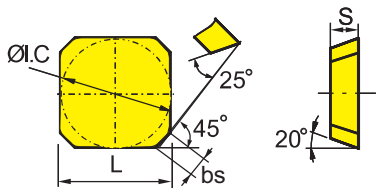
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

SEEN	L	I.C	S
12 03	12.7	12.7	3.18



SE** milling insert			HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW		
		P	○	○	◎	◎	◎	◎	◎			○	○		○	○	◎		○	○	○			
		M		◎	◎	◎	◎	◎	◎			○	○		○	○	◎	◎	○	○	○			
		K						◎	◎	○								○					◎	
		N								◎													◎	◎
		S				◎		◎			○	○		○	○	○		◎						
		H																						
ISO		bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SEEN1203AFTN	1.8																			●			

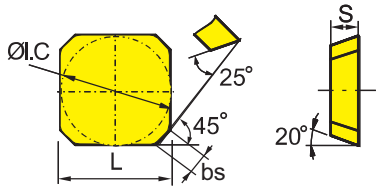
● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

SEKR	L	I.C	S
12 03	12.7	12.7	3.18



SE** milling insert			HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW		
		P	○	○	◎	◎	◎	◎	◎			○	○		○	○	◎		○	○	○			
		M		◎	◎	◎	◎	◎	◎			○	○		○	○	◎	◎	○	○	○			
		K						◎	◎	○								○					◎	
		N								◎													◎	◎
		S				◎		◎			○	○		○	○	○		◎						
		H																						
ISO		bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SEKR1203AFN	1.8		●									○											

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

A Turning
B Milling
C Drilling
D Technical Information
E Index

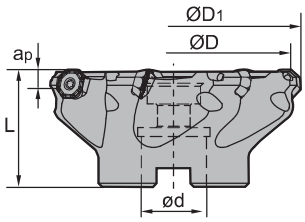
System code B26 Grade selection B24 Technical info B527 Cutting data B230

Face milling

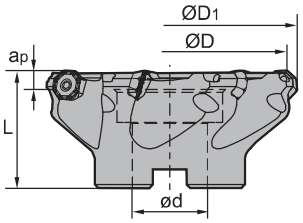
FMA04 Kr: 45°



Screw Clamping



A



B

Article	✻	Stock R	Stock L	Dimensions [mm] ØD	ØD1	ød	L	ap max	Teeth	Coupling	kg	Inserts
FMA04-050-A22-OF05-04		●		50	56	22	40	3.5	4	A	0.3	OFKT05T3
FMA04-050-A22-OF05-05		●		50	56	22	40	3.5	5	A	0.4	
FMA04-050-A22-OF05-05C	✻	○		50	56	22	40	3.5	5	A	0.4	
FMA04-063-A22-OF05-05		●		63	69	22	40	3.5	5	A	0.5	
FMA04-063-A22-OF05-05C	✻	○		63	69	22	40	3.5	5	A	0.5	
FMA04-080-A27-OF05-06		●	○	80	86	27	50	3.5	6	A	0.8	
FMA04-080-A27-OF05-06C	✻	●		80	86	27	50	3.5	6	A	0.8	
FMA04-100-B32-OF05-07		●	○	100	106	32	50	3.5	7	B	1.2	
FMA04-100-B32-OF05-07C	✻	○		100	106	32	50	3.5	7	B	1.2	
FMA04-125-B40-OF05-08		●		125	130	40	63	3.5	8	B	2.7	
FMA04-125-B40-OF05-08C	✻	○		125	130	40	63	3.5	8	B	2.7	
FMA04-160-B40-OF05-10		●		160	165	40	63	3.5	10	B	5.1	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

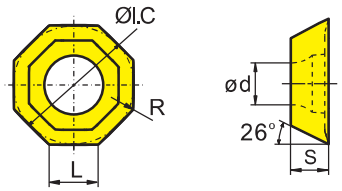
	Insert	OFKT05T3	OFKT05T3	
	ØD	50-63	80-160	
	Screw (insert)	I60M4×8.4 (3.4 Nm)	I60M4×10 (3.4 Nm)	
	Wrench (insert)	WT15IS	WT15IS	

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

OFKT	L	I.C	S	d
05 T3	5.26	12.7	3.97	4.4

Milling inserts



OF** milling insert			HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
		P																				
		M																				
		K																				
		N																				
		S																				
		H																				
ISO		R	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**OFKT05T3-DF**	0.5									●	○												
	**OFKT05T3-DM**	0.5					○		●		●	○						●						
	**OFKT05T3-LH**	0.5																					●	

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

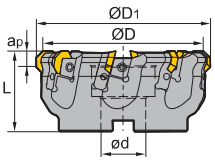
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Face milling

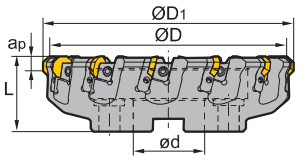
FMA04 Kr: 45°



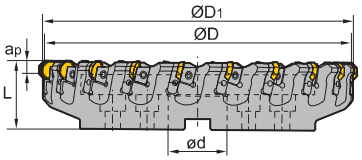
Wedge



B



C



D

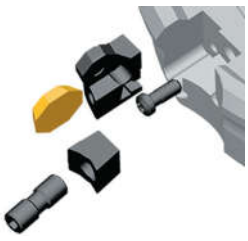
Article	*	Stock R	Stock L	Dimensions [mm] ØD	ØD1	ød	L	ap max	Teeth	Coupling	kg	Inserts
FMA04-125-B40-OF07-08		○		125	136	40	63	5	8	B	3.9	
FMA04-160-B40-OF07-10		○		160	171	40	63	5	10	B	5.9	
FMA04-200-C60-OF07-12		○		200	211	60	63	5	12	C	7.6	OFKR0704
FMA04-250-C60-OF07-16		○		250	261	60	63	5	16	C	13.3	
FMA04-315-D60-OF07-20		○	○	315	321	60	63	5	20	D	20.3	

● Ex stock ○ On demand

* With internal cooling

Spare parts

	Insert	OFKR0704
	ØD	**125 - 315**
	Adjustable screw	LOM5×15.1
	Cassette (left)	LOF07L
	Cassette (right)	LOF07R
	Screw (wedge)	DM8×21X (10.2 Nm)
	Wedge (left)	W02L
	Wedge (right)	W02R
	Wrench (locator)	WT20T
	Wrench (wedge)	WH40T

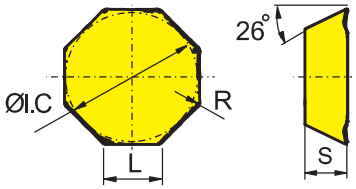


System code > B26 Grade selection > B24 Technical info > B527 Cutting data > B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

OFKR	L	I.C	S
07 04	7.45	17.94	4.76



OF** milling insert			HC[1] (CVD)							HC[1] (PVD)									HT	HC[2]	HW	
		P																				
		M																				
		K																				
		N																				
		S																				
		H																				
ISO		R	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**OFKR0704-DF**	0.8					○					○												
	**OFKR0704-DM**	0.8		○	○		○	○		○			○					○						
	OFKR0704W-DM	0.8		○						○						○								
	**OFKR0704-LH**	0.8																					○	

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

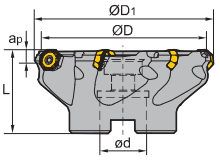
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Face milling

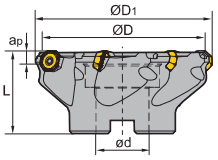
FMA04 Kr: 45°



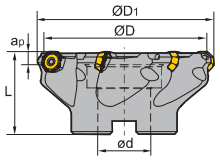
Screw Clamping



A



B



C

Article	✻	Stock	Dimensions [mm]					Teeth	kg	Inserts
			ØD	$ØD_1$	ød	L	$a_{p\,max}$			
FMA04-050-A22-OD06-04C	✻	●	50	60	22	40	4	4	0.284	OD*T0605**
FMA04-063-A22-OD06-05C	✻	●	63	73	22	40	4	5	0.409	
FMA04-080-A27-OD06-06C	✻	●	80	90	27	50	4	6	1.017	
FMA04-100-A32-OD06-07C	✻	●	100	110	32	50	4	7	1.536	
FMA04-125-B40-OD06-08		○	125	135	40	63	4	8	2.931	
FMA04-160-C40-OD06-10		○	160	170	40	63	4	10	3.838	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

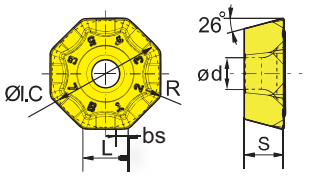
	Insert	**OD*T0605****
	ØD	**50-160**
	Screw (insert)	I60M5×13 (6.7 Nm)
	Wrench (insert)	WT20IS

System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

ODHT
06 05
06 05



OD**milling insert		HC[1] (CVD)							HC[1] (PVD)										HT	HC[2]	HW	
	P																					
	M																					
	K																					
	N																					
	S																					
	H																					
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**ODHT060508-GH**				●			●	●							●							
	**ODHT060508-GL**			○			○									●							
	**ODHT060508-GM**	●			●			●								●							
	**ODHT060508-LH**																					●	○
	**ODMT060512-GM**															○							

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

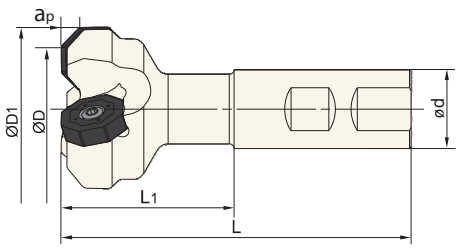
System code B26 Grade selection B24 Technical info B527 Cutting data B230

Face milling

FMA07 Kr: 45°







Weldon shank

Article	✻	Stock	Dimensions [mm] ØD	ØD1	ød	L1	L	ap max	Teeth	kg	Inserts
FMA07-025-XP20-ON06-02		○	25	37	20	45	95	4	2	0.2	ONHU0604
FMA07-025-XP20-ON06-02C	✻	○	25	37	20	45	95	4	2	0.2	
FMA07-032-XP25-ON06-02C	✻	○	32	44	25	55	111	4	2	0.4	
FMA07-040-XP25-ON06-03		○	40	52	25	50	106	4	3	0.4	
FMA07-032-XP25-ON08-02		○	32	47	25	55	111	5	2	0.4	ONHU08T5
FMA07-040-XP25-ON08-03		○	40	55	25	55	111	5	3	0.5	
FMA07-040-XP25-ON08-03C	✻	○	40	55	25	55	111	5	3	0.5	
FMA07-050-XP25-ON08-04		○	50	65	25	55	111	5	4	0.6	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	ONHU0604	ONHU08T5
	ØD	25-40	32-50
	Screw (insert)	I60M4×10 (3.4 Nm)	I60M5×13 (6.7 Nm)
	Wrench (insert)	WT15IS	
	Wrench (insert)		WT20IT

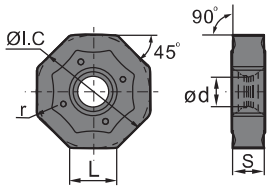


System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

ONHU	L	I.C	S	d
06 04	6.58	15.875	4.76	4.4
08 T5	8.39	20.2	5.77	5.3



ON**milling insert			HC[1] (CVD)							HC[1] (PVD)										HT	HC[2]	HW	
		P																					
		M																					
		K																					
		N																					
		S																					
		H																					
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**ONHU060408-CM**								○															
	ONHU08T512-CM		○						○															
	**ONHU060408-PF**	0.8	○			○			●				○											
	ONHU08T508-PF	0.8	○			○			○				○				○							
	**ONHU060408-PM**	0.8	●			●		●	●							●								
	ONHU08T508-PM	0.8	○			○		○	○															

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

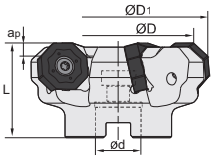
A Turning
B Milling
C Drilling
D Technical Information
E Index

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

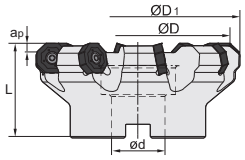
Face milling

FMA07 Kr: 45°

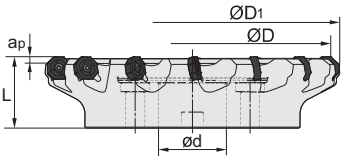




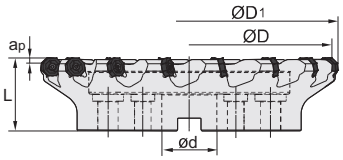
A



B



C



D

Article	✲	Stock		Dimensions [mm]					Teeth	Coupling	kg	Inserts
		R	L	ØD	$ØD_1$	ød	L	$a_{p\,max}$				
FMA07-050-A22-ON06-05		○	○	50	62	22	40	4	5	A	0.3	ONHU0604
FMA07-050-A22-ON06-05C	✲	○		50	62	22	40	4	5	A	0.3	
FMA07-063-A22-ON06-06		○		63	75	22	40	4	6	A	0.5	
FMA07-063-A22-ON06-06C	✲	○		63	75	22	40	4	6	A	0.5	
FMA07-080-A27-ON06-07C	✲	○		80	92	27	50	4	7	A	1	
FMA07-080-B27-ON06-07		○		80	92	27	50	4	7	B	1	
FMA07-100-B32-ON06-08		○		100	112	32	63	4	8	B	1.9	
FMA07-100-B32-ON06-08C	✲	○		100	112	32	63	4	8	B	1.9	
FMA07-125-B40-ON06-09		○		125	137	40	63	4	9	B	3.5	
FMA07-125-B40-ON06-09C	✲	○		125	137	40	63	4	9	B	3.5	
FMA07-160-C40-ON06-11		○	○	160	172	40	63	4	11	C	4.3	
FMA07-200-C60-ON06-13		○		200	212	60	63	4	13	C	6.4	
FMA07-250-C60-ON06-15		○		250	262	60	63	4	15	C	13.4	
FMA07-315-D60-ON06-17		○		315	327	60	80	4	17	D	21.9	
FMA07-063-A22-ON08-05		○		63	78	22	40	5	5	A	0.5	ONHU08T5
FMA07-063-A22-ON08-05C	✲	○		63	78	22	40	5	5	A	0.5	
FMA07-080-A27-ON08-06C	✲	○		80	95	27	50	5	6	A	0.9	
FMA07-080-B27-ON08-06		○	○	80	95	27	50	5	6	B	0.9	
FMA07-100-B32-ON08-07		○		100	115	32	63	5	7	B	1.8	
FMA07-100-B32-ON08-07C	✲	○		100	115	32	63	5	8	B	3.1	
FMA07-125-B40-ON08-08		○	○	125	140	40	63	5	8	B	3.1	
FMA07-125-B40-ON08-08C	✲	○		125	140	40	63	5	8	B	3.1	
FMA07-160-C40-ON08-10		○	○	160	175	40	63	5	10	C	4.1	
FMA07-200-C60-ON08-12		○	○	200	215	60	63	5	12	C	6.1	
FMA07-250-C60-ON08-14		○	○	250	265	60	63	5	14	C	12	
FMA07-315-D60-ON08-16		○	○	315	330	60	80	5	16	D	21	

● Ex stock ○ On demand

✲ With internal cooling

System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Spare parts

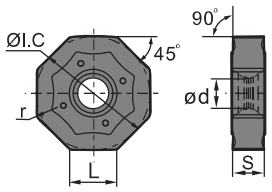
	Insert	ONHU0604	ONHU08T5
	ØD	50- 315	63- 315
	Screw (insert)	I60M4×10 (3.4 Nm)	I60M5×13 (6.7 Nm)
	Wrench (insert)	WT15IS	
	Wrench (insert)		WT20IT



- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

ONHU	L	I.C	S	d
06 04	6.58	15.875	4.76	4.4
08 T5	8.39	20.2	5.77	5.3

Milling inserts



ON**milling insert			HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW		
		P																					
		M																					
		K																					
		N																					
		S																					
		H																					
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**ONHU060408-CM**								○															
	ONHU08T512-CM		○						○															
	**ONHU060408-PF**	0.8	○			○			●				○											
	ONHU08T508-PF	0.8	○			○			○				○				○							
	**ONHU060408-PM**	0.8	●			●		●	●							●								
	ONHU08T508-PM	0.8	○			○		○	○															

● Ex stock ○ On demand

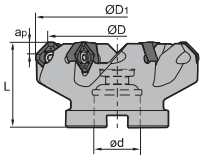
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

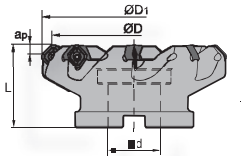
Face milling

FMA11 Kr: 45°

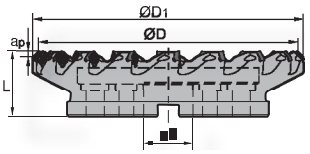




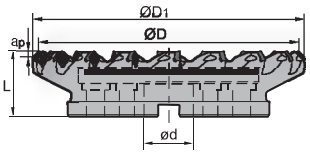
A



B



C



D

Article	✻	Stock	Dimensions [mm] ØD	ØD1	ød	L	ap max	Teeth	Coupling	kg	Inserts
FMA11-063-A22-SN12-05C	✻	●	63	74.47	22	40	5.5	5	A	0.55	SNEG1205
FMA11-063-A22-SN12-06C	✻	●	63	74.47	22	40	5.5	6	A	0.58	
FMA11-080-A27-SN12-06C	✻	●	80	91.47	27	50	5.5	6	A	1.14	
FMA11-100-B32-SN12-07		●	100	111.47	32	50	5.5	7	B	1.42	
FMA11-100-B32-SN12-07C	✻	○	100	111.47	32	50	5.5	7	B	1.42	
FMA11-100-B32-SN12-10C	✻	●	100	111.47	32	50	5.5	10	B	1.42	
FMA11-125-B40-SN12-08		●	125	136.47	40	63	5.5	8	B	2.86	
FMA11-125-B40-SN12-08C	✻	○	125	136.47	40	63	5.5	8	B	2.86	
FMA11-125-B40-SN12-12C	✻	●	125	136.47	40	63	5.5	12	B	2.86	
FMA11-160-C40-SN12-10		●	160	171.47	40	63	5.5	10	C	4.06	
FMA11-160-C40-SN12-15		●	160	171.47	40	63	5.5	15	C	4.06	
FMA11-200-C60-SN12-14		●	200	212.08	60	63	5.5	14	C	6.89	
FMA11-063-A22-SN15-05C	✻	●	63	77.4	22	40	7	5	A	0.56	SNEG1506
FMA11-080-A27-SN15-06C	✻	●	80	94.4	27	50	7	6	A	1.06	
FMA11-100-B32-SN15-07		●	100	114.4	32	50	7	7	B	1.47	
FMA11-100-B32-SN15-07C	✻	○	100	114.4	32	50	7	7	B	1.47	
FMA11-100-B32-SN15-09C	✻	●	100	114.4	32	50	7	9	B	1.47	
FMA11-125-B40-SN15-08		●	125	139.4	40	63	7	8	B	2.7	
FMA11-125-B40-SN15-08C	✻	○	125	139.4	40	63	7	8	B	2.7	
FMA11-125-B40-SN15-10C	✻	●	125	140.25	40	63	7	10	B	3.1	
FMA11-160-C40-SN15-10		●	160	174.4	40	63	7	10	C	3.92	
FMA11-160-C40-SN15-13		●	160	175.25	40	63	7	13	C	4.14	
FMA11-200-C60-SN15-12		●	200	214.4	60	63	7	12	C	5.46	
FMA11-250-C60-SN15-14		●	250	264.4	60	63	7	14	C	11.26	
FMA11-315-D60-SN15-18		○	315	329.4	60	80	7	18	D	20	
FMA11-125-B40-SN19-07		●	125	142.63	40	63	9	7	B	3	SNEG1907
FMA11-125-B40-SN19-07C	✻	●	125	142.63	40	63	9	7	B	3	
FMA11-160-C40-SN19-09		●	160	167.63	40	63	9	9	C	4.25	
FMA11-200-C60-SN19-11		●	200	217.63	60	63	9	11	C	6.18	

● Ex stock ○ On demand

✻ With internal cooling

System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Article	✻	Stock	Dimensions [mm] ØD	ØD$_1$	ød	L	$a_{p\,max}$	Teeth	Coupling	kg	Inserts
FMA11-250-C60-SN19-13		●	250	267.63	60	63	9	13	C	11.55	SNEG1907
FMA11-315-D60-SN19-16		○	315	332.63	60	80	9	16	D	20.9	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	SNEG1205	SNEG1506	SNEG1907
	ØD	63-200	63-315	125-315
	Screw (insert)	I60M3.5×10 (2.7 Nm)	I60M5×13 (6.7 Nm)	I43M6×16 (9.1 Nm)
	Wrench (insert)	WT15IS		
	Wrench (insert)		WT20IT	WT25IT

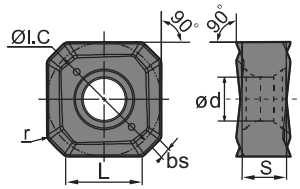


Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SNEG	L	I.C	S	d
12 05	7.6	12	4.76	4.6
15 06	9.4	15	5.6	5.5
19 07	12.1	19	7	7.2

SN** negative insert



	ISO	r	bs	HC[1] (CVD) YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	HC[1] (PVD) YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	HT YNG151	HC[2] YNG151C	HW YD101	YD201
	SNEG1506ANR-E	0.9	1.3														●								
	SNEG1205ANR-GM	0.8	1.05	●			●			●								●							
	SNEG1506ANR-GM	0.9	1.3	●			●			●							●								

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

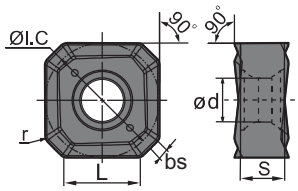
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SNEG	L	I.C	S	d
12 05	7.6	12	4.76	4.6
15 06	9.4	15	5.6	5.5
19 07	12.1	19	7	7.2

SN** negative insert



	ISO	r	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SNEG1205ANR-GR	0.8	1.05	●			●			●						○				○					
	SNEG1506ANR-GR	0.9	1.3	●			●			●						○				○					
	SNEG1907ANR-GR	1	1.67	●			●			●	●														
	SNEG1506ANR-HGR																○								

● Ex stock ○ On demand

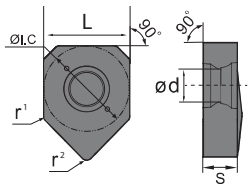
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SNEG	L	I.C	S	d
12 05	12	12	4.76	4.6

SN** negative insert



	ISO	r1	r2	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SNEG1205ANR-W	0.6	0.8														●								

● Ex stock ○ On demand

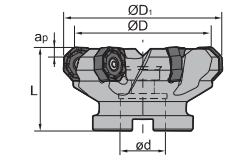
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 Grade selection B24 Technical info B527 Cutting data B230

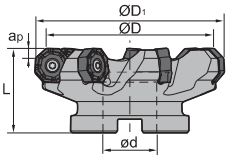
Face milling

FMA12 Kr: 45°

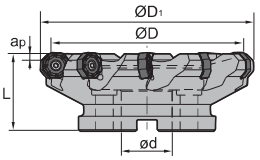




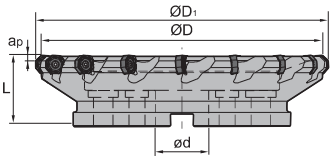
A



B



C



D

Article	✲	Stock	Dimensions [mm]					Teeth	Coupling	kg	Inserts
			ØD	$ØD_1$	ød	L	$a_{p\,max}$				
FMA12-050-A22-ON06-04C	✲	●	50	59	22	40	4	4	A	0.309	ON*U0604**
FMA12-050-A22-ON06-05C	✲	●	50	59	22	40	4	5	A	0.352	
FMA12-063-A27-ON06-05C	✲	●	63	72	27	50	4	5	A	0.645	
FMA12-063-A27-ON06-07C	✲	●	63	72	27	50	4	7	A	0.695	
FMA12-080-A27-ON06-07C	✲	●	80	90	27	50	4	7	A	1.071	
FMA12-080-A27-ON06-09C	✲	●	80	90	27	50	4	9	A	1.098	
FMA12-100-A32-ON06-08C	✲	●	100	110	32	50	4	8	A	1.599	
FMA12-100-A32-ON06-11C	✲	●	100	110	32	50	4	11	A	1.616	
FMA12-125-B40-ON06-10		●	125	135	40	63	4	10	B	3.114	
FMA12-125-B40-ON06-14		●	125	135	40	63	4	14	B	3.151	
FMA12-160-C40-ON06-12		●	160	170	40	63	4	12	C	4.504	
FMA12-160-C40-ON06-18		●	160	170	40	63	4	18	C	4.568	
FMA12-063-A22-ON08-05		○	63	78	22	50	5	5	A	0.6	ONHU08T6
FMA12-080-A27-ON08-06		○	80	95	27	50	5	6	A	0.97	
FMA12-100-B32-ON08-07		○	100	115	32	50	5	7	B	1.28	
FMA12-100-B32-ON08-07C	✲	○	100	115	32	50	5	7	B	1.28	
FMA12-125-B40-ON08-08		○	125	140	40	63	5	8	B	2.59	
FMA12-125-B40-ON08-08C	✲	○	125	140	40	63	5	8	B	2.59	
FMA12-160-C40-ON08-10		○	160	175	40	63	5	10	C	4.1	
FMA12-200-C60-ON08-12		○	200	215	60	63	5	12	C	5.68	
FMA12-250-C60-ON08-14		○	250	265	60	63	5	14	C	11.9	
FMA12-315-D60-ON08-18		○	315	330	60	80	5	18	D	20.41	

● Ex stock ○ On demand

✲ With internal cooling

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Spare parts

	Insert	ON*U0604**	ONHU08T6
	ØD	50-160	63- 315
	Screw (insert)		I60M5×13 (6.7 Nm)
	Wrench (insert)	WT15IS	
	Wrench (insert)		WT20IT

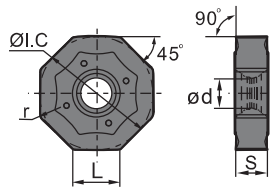


- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

ONHU	L	I.C	S	d
06 04	6.15	15.875	5.54	6
08 T6	6.38	20.2	6.3	5.3

Milling inserts

ON**milling insert



			HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
		P	◉	◉	◉	◉	◉	◉	◉			◉	◉		◉	◉	◉	◉	◉	◉		
		M		◉	◉	◉	◉	◉				◉	◉		◉	◉	◉	◉	◉	◉		
		K						◉	◉	◉								◉			◉	
		N								◉											◉	◉
		S			◉		◉			◉	◉		◉		◉	◉	◉					
		H																				
	ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	ONHU060408ANN-GH					●			●	●						●	●		○					
	ONMU060408-GH									●							●							
	ONHU060404ANN-GL					●			○							●	●		○					
	ONHU060408ANN-GM	0,8				●			●							●	●							
	ONHU08T624R-GM	2,4				○			○							○								
	ONMU060408-GM					○			○								●		●					

● Ex stock ○ On demand

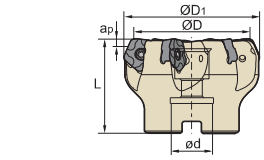
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 Grade selection B24 Technical info B527 Cutting data B230

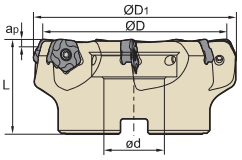
Face milling

FMD02 Kr: 67°

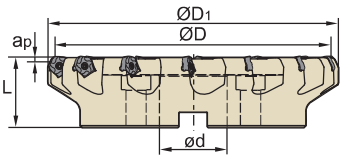




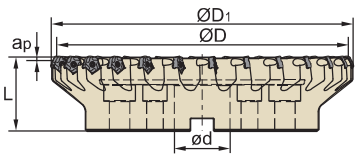
A



B



C



D

Article	✻	Stock R	Stock L	Dimensions [mm] ØD	ØD1	ød	L	ap max	Teeth	Coupling	kg	Inserts
FMD02-050-A22-PN11-04		●	○	50	60.1	22	50	5	4	A	0.6	
FMD02-050-A22-PN11-04C	✻	○		50	60.1	22	50	5	4	A	0.6	
FMD02-050-A22-PN11-05		●		50	60.1	22	50	5	5	A	0.6	
FMD02-050-A22-PN11-05C	✻	●		50	60.1	22	50	5	5	A	0.6	
FMD02-063-A22-PN11-05		●	○	63	73.1	22	50	5	5	A	0.8	
FMD02-063-A22-PN11-05C	✻	○		63	73.1	22	50	5	5	A	0.8	
FMD02-063-A22-PN11-06		●		63	73.1	22	50	5	6	A	0.9	
FMD02-063-A22-PN11-06C	✻	●		63	73.1	22	50	5	6	A	0.9	
FMD02-080-A27-PN11-06		●		80	90.1	27	50	5	6	A	1.1	
FMD02-080-A27-PN11-08		●		80	90.1	27	50	5	8	A	1.2	
FMD02-080-A27-PN11-08C	✻	●		80	90.1	27	50	5	8	A	1.2	
FMD02-100-B32-PN11-07		●		100	110.1	32	50	5	7	B	1.8	
FMD02-100-B32-PN11-07C	✻	○		100	110.1	32	50	5	7	B	1.8	
FMD02-100-B32-PN11-10		●		100	110.1	32	50	5	10	B	1.9	
FMD02-100-B32-PN11-10C	✻	○		100	110.1	32	50	5	10	B	1.9	PNEG1105
FMD02-125-B40-PN11-08		●	●	125	135.1	40	63	5	8	B	2.9	
FMD02-125-B40-PN11-08C	✻	○		125	135.1	40	63	5	8	B	2.9	
FMD02-125-B40-PN11-12		●	○	125	135.1	40	63	5	12	B	3.2	
FMD02-125-B40-PN11-12C	✻	○		125	135.1	40	63	5	12	B	3.2	
FMD02-160-B40-PN11-10		●	○	160	170.1	40	63	5	10	B	5.6	
FMD02-160-B40-PN11-14		●	○	160	170.1	40	63	5	14	B	6.4	
FMD02-200-C60-PN11-12		○	○	200	210.1	60	63	5	12	C	7.9	
FMD02-200-C60-PN11-16		●		200	210.1	60	63	5	16	C	8.5	
FMD02-200-C60-PN11-20		○		200	210.1	60	63	5	20	C	8.5	
FMD02-200-C60-PN11-24		●		200	210.1	60	63	5	24	C	8.6	
FMD02-250-C60-PN11-14		○		250	260.1	60	63	5	14	C	13.4	
FMD02-250-C60-PN11-18		●	○	250	260.1	60	63	5	18	C	18	
FMD02-250-C60-PN11-30		○		250	260.1	60	63	5	30	C	13.5	
FMD02-315-D60-PN11-26		○	○	315	325.1	60	80	5	26	D	24.5	

● Ex stock ○ On demand

✻ With internal cooling

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Spare parts

	Insert	PNEG1105
	ØD	50- 315
	Screw (insert)	I60M4×10 (3.4Nm)
	Wrench (insert)	WT15IS

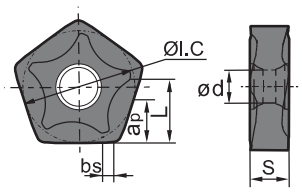


- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

PNEG	L	I.C	S	d
11 05	7.5	15.875	5.56	4.64

Milling inserts

PN** milling insert



	ISO	bs	a_p max	HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
P				YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
M																									
K																									
N																									
S																									
H																									
	**PNEG110512L-PF**	1.6	7.5	○																					
	PNEG110512R-PF	1.6	7.5	○			○																		
	**PNEG110512L-PM**	1.6	7.5	○			○																		
	PNEG110512R-PM			●			●			○															
	**PNEG110512L-PR**	1.6	7.5	○			●																		
	PNEG110512R-PR	1.6	7.5	○			●																		

● Ex stock ○ On demand

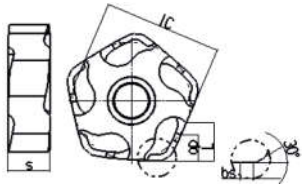
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code > B26 Grade selection > B24 Technical info > B527 Cutting data > B230

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

PNEG	L	I.C	S	d
11 05	5.4	15.875	5.56	4.64

Milling inserts



PN** milling insert				HC[1] (CVD)							HC[1] (PVD)									HT	HC[2]	HW	
			P	❁	❁	❁	❁	❁	❁	❁			❁	❁		❁	❁	❁	●	●	●			
			M		❁	❁	❁	❁	❁				❁	❁		❁	❁	❁	❁	○	○	○		
			K						❁	❁	●									●			❁	
			N								❁												❁	❁
			S			❁		❁				○	❁		❁	❁	❁		❁					
			H																					
	ISO		bs	$a_{p\,max}$	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**PNEG110512L-CF**		1.6	5							○													
	PNEG110512R-CF		1.6	5							●													
	**PNEG110512L-CM**		1.6	5							○													
	PNEG110512R-CM		1.6	5							●													
	**PNEG110512L-CR**		1.6	5							○	○												
	PNEG110512R-CR		1.6	5							●	●												

● Ex stock ○ On demand

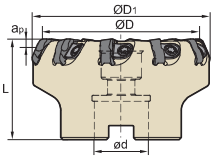
HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

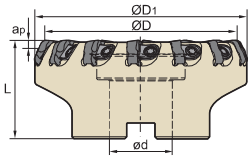
Face milling

FMD02 Kr: 67°

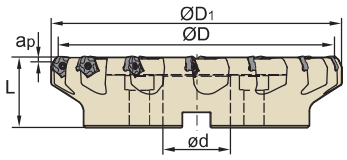




A



B



C

Article	✻	Stock R	Stock L	Dimensions [mm] ØD	ØD1	ød	L	ap max	Teeth	Coupling	kg	Inserts
FMD02-080-A27-PN11-10		●		80	90.1	27	50	5	10	A	1.3	PNEG1105
FMD02-100-B32-PN11-14		●	○	100	110.1	32	50	5	14	B	1.6	
FMD02-125-B40-PN11-18		●		125	135.1	40	63	5	18	B	3.2	
FMD02-160-B40-PN11-22		●		160	170.1	40	63	5	22	B	5.8	
FMD02-200-C60-PN11-28		○	○	200	210.1	60	63	5	28	C	8.5	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	PNEG1105
	ØD	80-200
	Screw (wedge)	DM6×20A (7.0 Nm)
	Wedge	W18N
	Wrench (wedge)	WT15IT

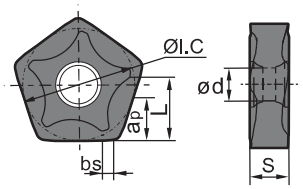


System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

PNEG	L	I.C	S	d
11 05	7.5	15.875	5.56	4.64



PN** milling insert				HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
P																							
M																							
K																							
N																							
S																							
H																							
ISO		bs	a_p max	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**PNEG110512L-PF**	1.6	7.5	○																					
	PNEG110512R-PF	1.6	7.5	○			○																		
	**PNEG110512L-PM**	1.6	7.5	○			○																		
	PNEG110512R-PM			●			●			○															
	**PNEG110512L-PR**	1.6	7.5	○			●																		
	PNEG110512R-PR	1.6	7.5	○			●																		

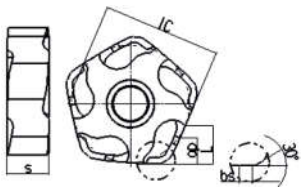
● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

PNEG	L	I.C	S	d
11 05	5.4	15.875	5.56	4.64



PN** milling insert				HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
P																							
M																							
K																							
N																							
S																							
H																							
ISO		bs	a_p max	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**PNEG110512L-CF**	1.6	5							○															
	PNEG110512R-CF	1.6	5							●															

● Ex stock ○ On demand

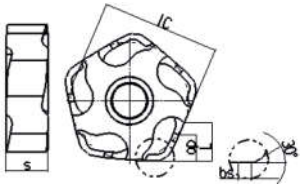
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

PNEG	L	I.C	S	d
11 05	5.4	15.875	5.56	4.64

Milling inserts



PN** milling insert				HC[1] (CVD)							HC[1] (PVD)									HT	HC[2]	HW	
			P																				
			M																				
			K																				
			N																				
			S																				
			H																				
ISO		bs	$a_{p\,max}$	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**PNEG110512L-CM**	1.6	5							○															
	PNEG110512R-CM	1.6	5							●															
	**PNEG110512L-CR**	1.6	5							○	○														
	PNEG110512R-CR	1.6	5							●	●														

● Ex stock ○ On demand

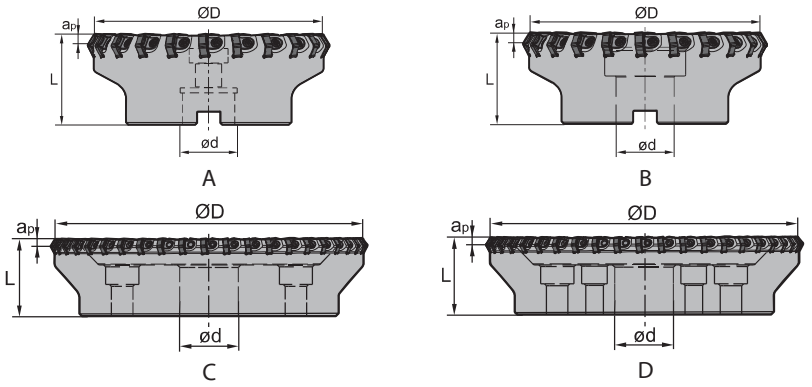
HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Face milling

FMD02 Kr: 55°





Article	✻	Stock R	Stock L	Dimensions [mm] ØD	Dimensions [mm] ød	Dimensions [mm] L	Dimensions [mm] $a_{p\,max}$	Teeth	Coupling	kg	Inserts
FMD02-080-A27-HN09-08		○		80	27	50	6	8	A	1.19	
FMD02-100-B32-HN09-10		○		100	32	50	6	10	B	1.77	
FMD02-125-B40-HN09-14		○		125	40	63	6	14	B	3.55	
FMD02-125-B40-HN09-18		○		125	40	63	6	18	B	3.7	
FMD02-160-B40-HN09-18		●		160	40	63	6	18	B	5.62	HNEX0905
FMD02-160-B40-HN09-22		○		160	40	63	6	22	B	5.6	
FMD02-200-C60-HN09-22		○		200	60	63	6	22	C	6.7	
FMD02-250-C60-HN09-28		○	○	250	60	63	6	28	C	13	
FMD02-315-D60-HN09-44		○		315	60	63	6	44	D	21.7	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	HNEX0905
	ØD	80- 315
	Screw (wedge)	DM6×20A (7.0Nm)
	Wedge	W18N
	Wrench (wedge)	WT15IT

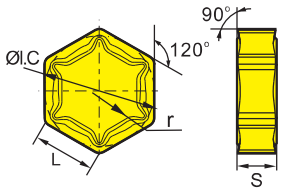


System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

HNEX	L	I.C	S
09 05	9.16	15.875	5.56



HN** milling insert			HC[1] (CVD)							HC[1] (PVD)									HT	HC[2]	HW	
		P	◉	◉	❁	◉	◉	❁		◉			◉	❁		◉	◉	❁	◉	◉	◉		
		M		❁	❁	❁	❁	❁					❁	❁		◉	❁	❁	❁	◉	◉		
		K							❁	❁	◉									◉			❁	
		N										❁											❁	❁
		S				❁		❁			◉	❁			❁	◉	◉	❁						
		H																						
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**HNEX090512-DR**	1.2							●	●														

● Ex stock ○ On demand

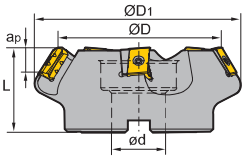
HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

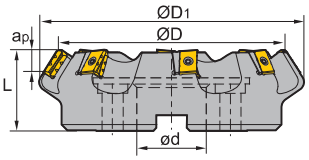
Face milling

FMD03 Kr: 60°

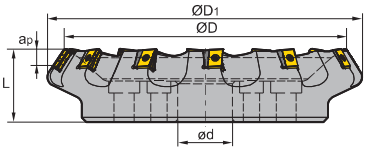




B



C



D

Article	✻	Stock R	Stock L	Dimensions [mm] ØD	ØD1	ød	L	ap max	Teeth	Coupling	kg	Inserts
FMD03-100-B32-LN20-05		○		100	129	32	63	12	5	B	3.02	
FMD03-125-B40-LN20-06		●		125	153	40	63	12	6	B	4.5	
FMD03-160-C40-LN20-08		●		160	187	40	63	12	8	C	6.9	
FMD03-160-C40-LN20-09		○		160	187	40	63	12	9	C	6.7	LNKT2007-ZR
FMD03-200-C60-LN20-10		●		200	227	60	70	12	10	C	10.5	
FMD03-250-C60-LN20-12		●		250	276	60	70	12	12	C	13.4	
FMD03-315-D60-LN20-15		○		315	339	60	80	12	15	D	26.2	
FMD03-125-B40-LN25-05		○		125	154	40	63	16	5	B	4.5	
FMD03-160-C40-LN25-06		●		160	189	40	63	16	6	C	6.9	
FMD03-200-C60-LN25-08		●		200	229	60	70	16	8	C	10.5	
FMD03-250-C60-LN25-10		●		250	278	60	70	16	10	C	16.7	LNKT2510-ZR
FMD03-315-D60-LN25-12		○	○	315	346	60	80	16	12	D	27.3	
FMD03-400-D60-LN25-16		○	○	400	427	60	80	16	16	D	47.1	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	LNKT2007-ZR	LNKT2510-ZR
	ØD	100- 315	125 -400
	Screw (insert)	I60M4×15 (3.4 Nm)	I60M5×17 (6.7 Nm)
	Screw (shim)	I60M3×7	I60M3.5×10.4
	Shim	LLN20R-ZR	LLN25R-ZR
	Wrench (shim)	WT09IS	WT15IS
	Wrench (insert)	WT15IS	
	Wrench (insert)		WT20IT

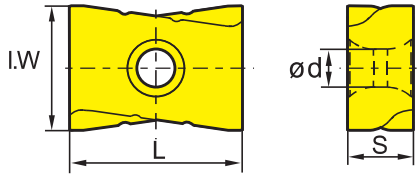


System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

LNKT	L	S	d
20 07	20	7.94	4.6
25 10	25	9.525	5.5



LN** milling insert			HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
		P																			
		M																			
		K																			
		N																			
		S																			
		H																			
ISO		I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**LNKT2007DN-ZR**	17				●		●		○								●						
	LNKT2510-ZR	18						●		●								●						

● Ex stock ○ On demand

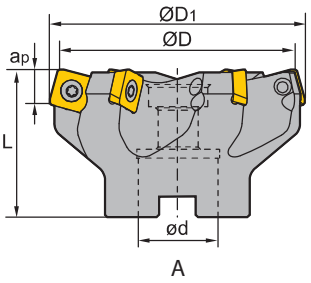
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

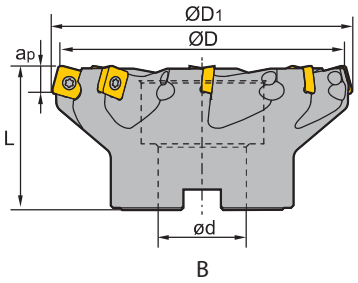
System code B26 Grade selection B24 Technical info B527 Cutting data B230

Face milling

FME02 Kr: 75°







Article	✻	Stock	Dimensions [mm]					Teeth	Coupling	kg	Inserts
			ØD	$ØD_1$	ød	L	$a_{p\,max}$				
FME02-050-A22-SP12-04		●	50	54	22	40	6	4	A	0.3	SPKT1204 SPKW1204
FME02-063-A22-SP12-05		●	63	66	22	50	6	5	A	0.6	
FME02-080-A27-SP12-06		●	80	83	27	50	6	6	A	0.9	
FME02-100-B32-SP12-07		●	100	103	32	50	6	7	B	1.4	
FME02-125-B40-SP12-08		●	125	128	40	63	6	8	B	2.5	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**SPKT1204 SPKW1204**
	ØD	**50-125**
	Screw (insert)	I60M5×13.2 (6.7 Nm)
	Wrench (insert)	WT20IS



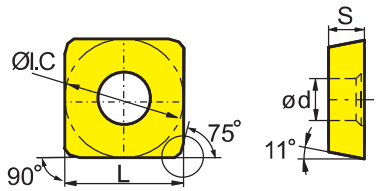
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SPKW	L	I.C	S	d
12 04	12.7	12.7	4.76	5.56

SP** milling insert		HC¹ (CVD)								HC¹ (PVD)									HT	HC²	HW	
	P																					
	M																					
	K																					
	N																					
	S																					
	H																					
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**SPKW1204EDFR**											○											
	SPKW1204EDSR											○											



● Ex stock ○ On demand

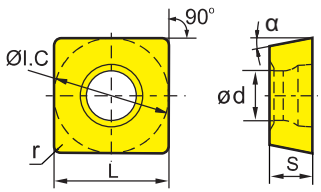
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SPKT	L	I.C	S	d
12 04	12.7	12.7	4.76	5.56

SP** milling insert		HC¹ (CVD)								HC¹ (PVD)									HT	HC²	HW	
	P																					
	M																					
	K																					
	N																					
	S																					
	H																					
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**SPKT1204EDR**											○											



● Ex stock ○ On demand

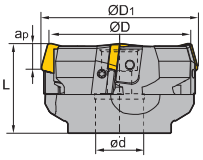
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 Grade selection B24 Technical info B527 Cutting data B230

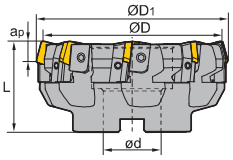
Face milling

FME03 Kr: 75°

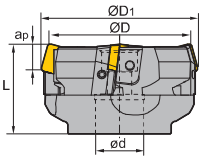




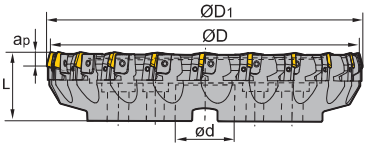
A



B



C



D

Article	✻	Stock R	Stock L	Dimensions [mm] ØD	ØD$_1$	ød	L	$a_{p\,max}$	Teeth	Coupling	kg	Inserts
FME03-080-A27-SP12-04		○		80	84	27	50	6	4	A	1.1	SPKN1203 SPKR1203 SPEX1203
FME03-100-B32-SP12-06		●		100	104	32	50	6	6	B	1.9	
FME03-125-B40-SP12-08		○	○	125	129	40	63	6	8	B	3.5	
FME03-160-B40-SP12-10		●	○	160	164	40	63	6	10	B	5.7	
FME03-200-C60-SP12-12		○	○	200	203	60	63	6	12	C	8.2	
FME03-250-C60-SP12-16		○	○	250	253	60	63	6	16	C	13.8	
FME03-315-D60-SP12-20		○		315	318	60	70	6	20	D	23.5	
FME03-080-A27-SP15-04		○	○	80	84	27	50	8	4	A	1	SPKN1504 SPKR1504 SPEX1504
FME03-100-B27-SP15-06		○		100	104	27	50	8	6	B	1.8	
FME03-125-B40-SP15-08		●	○	125	129	40	63	8	8	B	3.3	
FME03-160-B40-SP15-10		○	○	160	164	40	63	8	10	B	5.4	
FME03-200-C60-SP15-12		○	○	200	204	60	63	8	12	C	7.9	
FME03-250-C60-SP15-16		○	○	250	253	60	63	8	16	C	13.6	
FME03-315-D60-SP15-20		○	○	315	318	60	70	8	20	D	23.1	

● Ex stock ○ On demand

✻ With internal cooling

System code B26 Grade selection B24 Technical info B527 Cutting data B230

Spare parts

	Insert	SPKN1203 SPKR1203 SPEX1203	SPKN1203 SPKR1203 SPEX1203	SPKN1504 SPKR1504 SPEX1504
	ØD	80-100	125 - 315	80- 315
	Adjustable screw	LOM5×15.1	LOM5×15.1	LOM5×15.1
	Cassette (left)	LSP12L	LSP12L	LSP15L
	Cassette (right)	LSP12R	LSP12R	LSP15R
	Screw (wedge)	WM8×17	WM8×22	WM8×22
	Wedge (left)	W04L	W04L	W04L
	Wedge (right)	W04R	W04R	W04R
	Wrench (locator)	WT20T	WT20T	WT20T
	Wrench (wedge)	WT25T	WT25T	WT25T

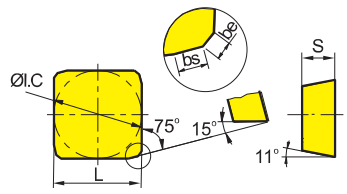


Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SPKN	L	I.C	S
12 03	12.7	12.7	3.18
15 04	15.875	15.875	4.76

SP** milling insert



	HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
P	◉	◉	◉	◉	◉	◉	◉			◉	◉		◉	◉	◉	●	●		
M		◉	◉	◉	◉	◉				◉	◉		◉	◉	◉	●	●		
K						◉	◉	●							●			◉	
N								◉										◉	◉
S			◉		◉			●	◉		◉	◉	◉		◉				
H																			

ISO	be	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
SPKN1203EDFL	1	1.4																						●
SPKN1203EDFR	1	1.4		○								○												●
SPKN1203EDSKL	1	1.4		●																				
SPKN1203EDSKR	1	1.4		●						○			○					●						
SPKN1203EDTKR	1	1.4						○										○						
SPKN1504EDFL	1	1.4																						○
SPKN1504EDFR	1	1.4																						○
SPKN1504EDS32PR	1	1.4		○										○										
SPKN1504EDSKL	1	1.4																○						
SPKN1504EDSKR	1	1.4		●						●			○					●						
SPKN1504EDTKR	1	1.4											○											

● Ex stock ○ On demand

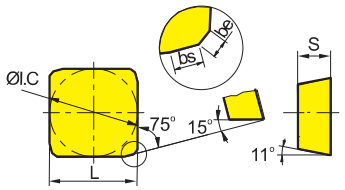
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SPKR	L	I.C	S
12 03	12.7	12.7	3.18
15 04	15.875	15.875	4.76



SP** milling insert		HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
P																					
M																					
K																					
N																					
S																					
H																					
ISO		be	bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SPKR1203EDL-GM	1	1.4					○																	
	SPKR1203EDR-GM	1	1.4					●																	
	SPKR1504EDR-GM	1	1.4				○							○											
	SPKR1203EDR	1	1.4		○																				

● Ex stock ○ On demand

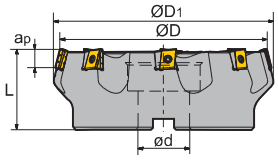
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

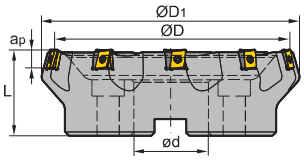
Face milling

FME04 Kr: 75°

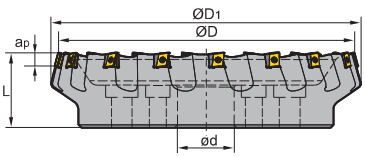




B



C



D

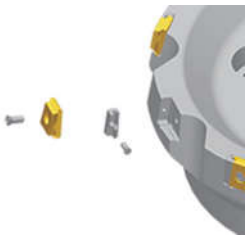
Article	✻	Stock	Dimensions [mm] ØD	ØD1	ød	L	ap max	Teeth	Coupling	kg	Inserts
FME04-125-B40-LN15-06		●	125	137	40	63	10	6	B	3.8	LNKT1506-ZR
FME04-200-C60-LN15-10		●	200	208	60	70	10	10	C	9.6	
FME04-250-C60-LN15-12		○	250	257	60	70	10	12	C	13.4	
FME04-315-D60-LN15-16		○	315	328	60	80	10	16	D	25.2	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	LNKT1506-ZR
	ØD	**125 - 315**
	Screw (insert)	I60M4×12 (3.4Nm)
	Screw (shim)	I60M3×7
	Shim	LLN15-ZR
	Wrench (shim)	WT09IS
	Wrench (insert)	WT15IS

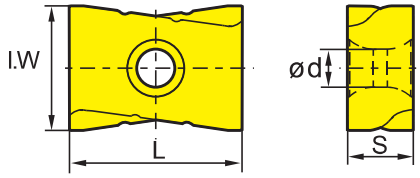


System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

LNKT	L	S	d
15 06	15.875	6.35	4.6



LN** milling insert			HC¹ (CVD)							HC¹ (PVD)										HT	HC²	HW	
		P																					
		M																					
		K																					
		N																					
		S																					
		H																					
ISO		l.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**LNKT1506EN-ZR**	14	●			○	●	●	●								○							

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

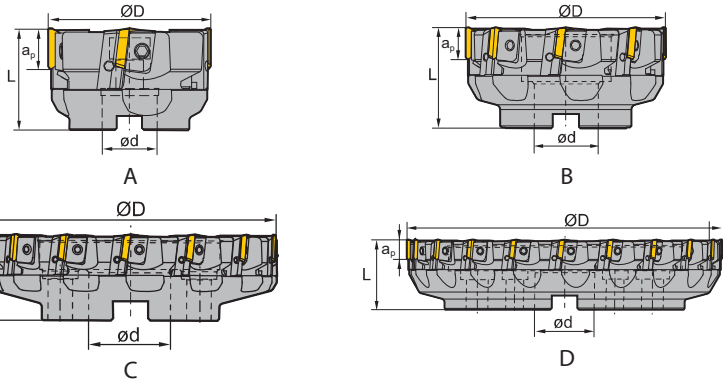
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Face milling

FMP01 Kr: 90°







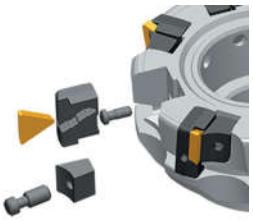
Article	*	Stock R	Stock L	ØD	ød	L	$a_{p\,max}$	Teeth	Coupling	kg	Inserts
FMP01-080-A27-TP22-04		●		80	27	50	18	4	A	1.2	TPKN2204
FMP01-100-B32-TP22-06		●		100	32	50	18	6	B	1.7	
FMP01-125-B40-TP22-08		●	○	125	40	63	18	8	B	3.2	
FMP01-160-B40-TP22-10		●	○	160	40	63	18	10	B	5.1	
FMP01-200-C60-TP22-12		●	○	200	60	63	18	12	C	7.4	
FMP01-250-C60-TP22-16		○	○	250	60	63	18	16	C	12.3	
FMP01-315-D60-TP22-20		○	○	315	60	70	18	20	D	21.9	

● Ex stock ○ On demand

* With internal cooling

Spare parts

	Insert	TPKN2204	TPKN2204
	ØD	80-100	125 - 315
	Adjustable screw	LOM5×15.1	LOM5×15.1
	Cassette (left)	LTP4L1	LTP4L
	Cassette (right)	LTP4R1	LTP4R
	Screw (wedge)	WM8×17	WM8×22
	Wedge (left)	W04L	W04L
	Wedge (right)	W04R	W04R
	Wrench (locator)	WT20T	WT20T
	Wrench (wedge)	WT25T	WT25T

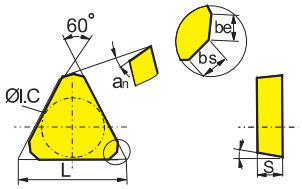


System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

TPKN	L	I.C	S
22 04	22	12.7	4.76



	HC[1] (CVD)							HC[1] (PVD)									HT		HC[2]		HW	
P	●	●	●	●	●	●	●			●	●		●	●	●	●	●		●			
M		●	●	●	●	●				●	●		●	●	●	●	●		●			
K						●	●	●									●				●	
N								●													●	●
S			●		●				●	●		●	●	●		●						
H																						

	ISO	be	bs	an	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**TPKN2204PDFR**	1.4	0.7	11°										○												●
	TPKN2204PDS32PR	1.4	0.7	11°												○		○								
	TPKN2204PDSKL	1.4	0.7	11°		○																				
	TPKN2204PDSKR	1.4	0.7	11°		●	●			●		●			○			●		●						
	TPKN2204PDTKR	1.4	0.7	11°										●												

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

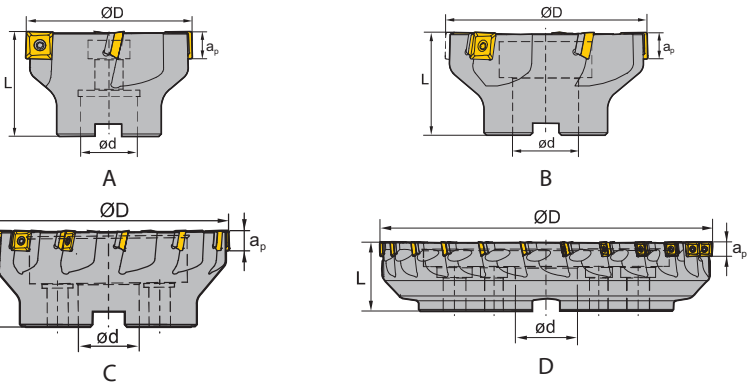
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Face milling

FMP02 Kr: 90°







Article	✻	Stock	Dimensions [mm] ØD	ød	L	$a_{p\ max}$	Teeth	Coupling	kg	Inserts
FMP02-050-A22-SE09-05		●	50	22	40	6.7	5	A	0.3	SEET09T3
FMP02-050-A22-SE09-05C	✻	●	50	22	40	6.7	5	A	0.3	
FMP02-063-A22-SE09-06		●	63	22	40	6.7	6	A	0.5	
FMP02-063-A22-SE09-06C	✻	●	63	22	40	6.7	6	A	0.5	
FMP02-080-A27-SE09-08		●	80	27	50	6.7	8	A	0.9	
FMP02-100-B32-SE09-08		○	100	32	50	6.7	8	B	1.7	
FMP02-100-B32-SE09-10		○	100	32	50	6.7	10	B	1.7	
FMP02-100-B32-SE09-10C	✻	○	100	32	50	6.7	10	B	1.7	
FMP02-125-B40-SE09-12		●	125	40	63	6.7	12	B	2.6	
FMP02-125-B40-SE09-12C	✻	○	125	40	63	6.7	12	B	2.6	
FMP02-050-A22-SE12-03		○	50	22	40	10.8	3	A	0.3	SEET1203
FMP02-050-A22-SE12-03C	✻	○	50	22	40	10.8	3	A	0.3	
FMP02-050-A22-SE12-04		●	50	22	40	10.8	4	A	0.3	
FMP02-050-A22-SE12-04C	✻	●	50	22	40	10.8	4	A	0.3	
FMP02-050-A22-SE12-05		●	50	22	40	10.8	5	A	0.2	
FMP02-050-A22-SE12-05C	✻	○	50	22	40	10.8	5	A	0.2	
FMP02-063-A22-SE12-04		○	63	22	40	10.8	4	A	0.4	
FMP02-063-A22-SE12-05		●	63	22	40	10.8	5	A	0.4	
FMP02-063-A22-SE12-05C	✻	●	63	22	40	10.8	5	A	0.4	
FMP02-063-A22-SE12-06		●	63	22	40	10.8	6	A	0.4	
FMP02-063-A22-SE12-06C	✻	○	63	22	40	10.8	6	A	0.4	
FMP02-080-A27-SE12-04		○	80	27	50	10.8	4	A	0.9	
FMP02-080-A27-SE12-06		●	80	27	50	10.8	6	A	0.8	
FMP02-080-A27-SE12-06C	✻	●	80	27	50	10.8	6	A	0.8	
FMP02-080-A27-SE12-08		●	80	27	50	10.8	8	A	0.8	
FMP02-080-A27-SE12-08C	✻	○	80	27	50	10.8	8	A	0.8	
FMP02-100-B32-SE12-05		●	100	32	50	10.8	5	B	1.2	
FMP02-100-B32-SE12-07		●	100	32	50	10.8	7	B	1.2	
FMP02-100-B32-SE12-10		●	100	32	50	10.8	10	B	1.2	

● Ex stock ○ On demand

✻ With internal cooling

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Article	✻	Stock	Dimensions [mm] ØD	ød	L	$a_{p\,max}$	Teeth	Coupling	kg	Inserts
FMP02-100-B32-SE12-10C	✻	○	100	32	50	10.8	10	B	1.2	SEET1203
FMP02-125-B40-SE12-06		○	125	40	63	10.8	6	B	3.1	
FMP02-125-B40-SE12-08		●	125	40	63	10.8	8	B	3	
FMP02-125-B40-SE12-08C	✻	○	125	40	63	10.8	8	B	3	
FMP02-125-B40-SE12-12		●	125	40	63	10.8	12	B	2.9	
FMP02-160-C40-SE12-08		●	160	40	63	10.8	8	C	4.1	
FMP02-160-C40-SE12-12		●	160	40	63	10.8	12	C	3.9	
FMP02-250-C60-SE12-12		○	250	60	63	10.8	12	C	11.1	
FMP02-250-C60-SE12-18		●	250	60	63	10.8	18	C	10.9	
FMP02-315-D60-SE12-24		○	315	60	63	10.8	24	D	21.6	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

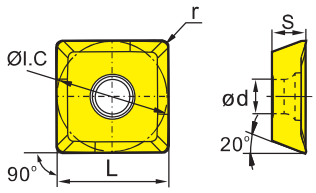
	Insert	SEET09T3	SEET1203	SEET1203
	ØD	50-125	50	63- 315
	Screw (insert)	I60M3×7 (1.8 Nm)	I60M3.5×10 (2.7 Nm)	I60M3.5×12 (2.7 Nm)
	Screw (shim)			SM5×7XA
	Shim			S12BSX
	Wrench (shim)			WH35L
	Wrench (insert)	WT09IS	WT15IS	WT15IS



Milling inserts

● Ideal machining conditions
✻ Normal machining conditions
✻ Unfavourable machining conditions

SEET	L	I.C	S	d
09 T3	9.525	9.525	4.01	3.3
12 03	13.308	13.308	4.04	4.1

SE** milling insert			HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
		P																			
		M																			
		K																			
		N																			
		S																			
		H																			
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YN151	YN151C	YD101	YD201
	**SEET09T308PER-APF**	0.8						○								●								

● Ex stock ○ On demand

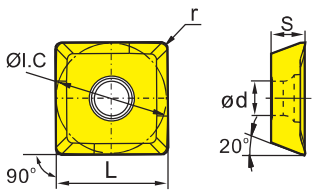
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

SEET	L	I.C	S	d
09 T3	9.525	9.525	4.01	3.3
12 03	13.308	13.308	4.04	4.1



SE** milling insert			HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
		P																				
		M																				
		K																				
		N																				
		S																				
		H																				
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SEET09T308PER-APM	0.8						○									●							
	SEET09T308PER-APR	0.8						○									○							
	SEET120308PER-APF	0.8						○				○					●							
	SEET120308PER-APM	0.8						●				○					●							
	SEET120308PER-APR	0.8						●				○					●							
	SEET120308-LH	0.8									○	○											●	
	SEET09T308PER-PF	0.8											○											
	SEET120308PER-PF	0.8	○																					
	SEET09T308PER-PM	0.8							○				○											
	SEET120308PER-PM	0.8	○				○	○	○	○		○	○					○						
	SEET09T308PER-PR	0.8							○									○						
	SEET120308PER-PR	0.8	○					○	○	○		○	○					○						

● Ex stock ○ On demand

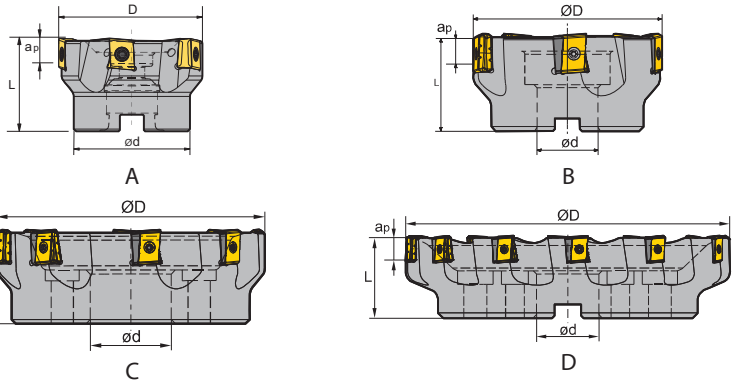
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code > B26 Grade selection > B24 Technical info > B527 Cutting data > B230

Face milling

FMP03 Kr: 89°





Article	✻	Stock R	Stock L	Dimensions [mm] ØD	ød	L	$a_{p\ max}$	Teeth	Coupling	kg	Inserts
FMP03-050-A22-LN12-04C	✻	●		50	22	40	7	4	A	0.3	
FMP03-050-A22-LN12-05C	✻	○		50	22	40	7	5	A	0.3	
FMP03-063-A22-LN12-05C	✻	●		63	22	40	7	5	A	0.5	
FMP03-063-A27-LN12-05C	✻	○		63	27	50	7	5	A	0.64	
FMP03-063-A22-LN12-06C	✻	○		63	22	40	7	6	A	0.5	
FMP03-063-A27-LN12-06C	✻	●		63	27	50	7	6	A	0.65	LNKT120608-ZR
FMP03-063-A27-LN12-07C	✻	○		63	27	50	7	7	A	0.64	
FMP03-080-A27-LN12-06C	✻	●		80	27	50	7	6	A	1	
FMP03-080-A27-LN12-07C	✻	○		80	27	50	7	7	A	1	
FMP03-100-B32-LN12-06		○		100	32	50	7	6	B	1.47	
FMP03-125-B40-LN15-06		●		125	40	63	12	6	B	3.2	
FMP03-160-C40-LN15-08		●		160	40	63	12	8	C	5.1	
FMP03-160-C40-LN15-09		○		160	40	63	12	9	C		
FMP03-200-C60-LN15-10		●		200	60	70	12	10	C	7.5	LNKT1506EN-ZR
FMP03-250-C60-LN15-12		○		250	60	70	12	12	C	12.2	
FMP03-250-C60-LN15-13		○		250	60	70	12	13	C		
FMP03-315-D60-LN15-16		○		315	60	80	12	16	D	23.7	
FMP03-125-B40-LN20-06		○		125	40	63	16	6	B	3.3	
FMP03-160-C40-LN20-08		●		160	40	63	16	8	C	5.3	
FMP03-200-C60-LN20-10		●		200	60	70	16	10	C	8.8	
FMP03-200-C60-LN20-11		○		200	60	70	16	11	C		LNKT2007DN-ZR
FMP03-250-C60-LN20-12		●		250	60	70	16	12	C	14	
FMP03-315-D60-LN20-15		○		315	60	80	16	15	D	23.9	
FMP03-125-B40-LN25-05		○		125	40	63	20	5	B	3.3	
FMP03-160-C40-LN25-06		○	○	160	40	63	20	6	C	5.1	
FMP03-200-C60-LN25-08		○		200	60	70	20	8	C	8.9	LNKT2510-ZR
FMP03-250-C60-LN25-10		●	○	250	60	70	20	10	C	12	
FMP03-315-D60-LN25-12		○	○	315	60	80	20	12	D	21.9	

● Ex stock ○ On demand

✻ With internal cooling

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Spare parts

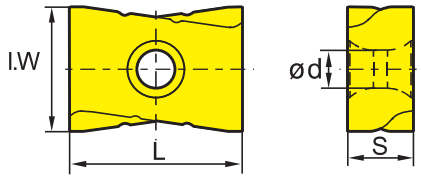
	Insert	LNKT120608-ZR	LNKT1506EN-ZR	LNKT2007DN-ZR	LNKT2510-ZR
	ØD	50-100	125 - 315	125 - 315	125 - 315
	Screw (insert)	I60M4×12 (3.4 Nm)	I60M4×12 (3.4 Nm)	I60M4×15 (3.4 Nm)	I60M5×17 (6.7 Nm)
	Screw (shim)		I60M3×7	I60M3×7	I60M3.5×10.4
	Shim		LLN15-ZR	LLN20R-ZR	LLN25R-ZR
	Wrench (shim)		WT09IS	WT09IS	WT15IS
	Wrench (insert)	WT15IS	WT15IS	WT15IS	
	Wrench (insert)				WT20IT



LNKT	L	S	d
12 06	12.7	6.65	4.4
15 06	15.875	6.35	4.6
20 07	20	7.94	4.6
25 10	25	9.525	5.5

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions



LN** milling insert			HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
		P	●	●	●	●	●	●		●		●	●		●	●	●	●	●			
		M		●	●	●	●	●				●	●		●	●	●	●	●			
		K							●	●									●			●
		N								●												●
		S				●		●		●	●		●	●	●		●					
		H																				
ISO		I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	LNKT120608-ZR	12	●			●											●							
	LNKT1506EN-ZR	14		●			○	●	●	●								○						
	LNKT2007DN-ZR	17				●		●		○								●						
	LNKT2510-ZR	18						●		●								●						

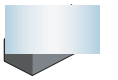
● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

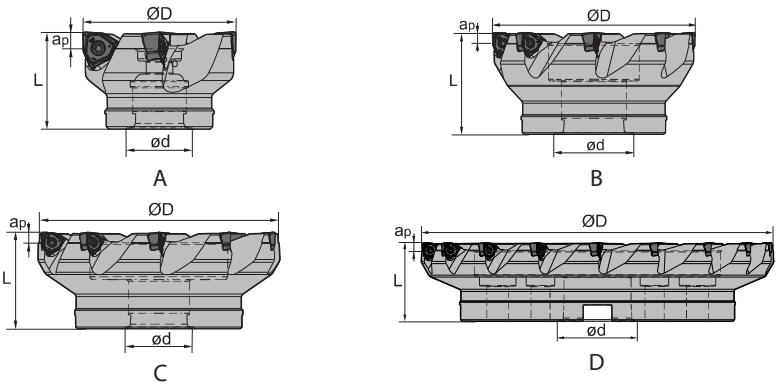
System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Face milling

FMP12 Kr: 90°







Article	✻	Stock	Dimensions [mm] ØD	ød	$a_{p\,max}$	Teeth	Coupling	kg	Inserts
FMP12-050-A22-WN06-05C	✻	○	50	22	5.7	5	A	0.55	
FMP12-063-A22-WN06-06C	✻	●	63	22	5.7	6	A	0.45	
FMP12-080-A27-WN06-07C	✻	●	80	27	5.7	7	A	1	
FMP12-100-B32-WN06-09		●	100	32	5.7	9	A	1.4	WNHU0604
FMP12-100-B32-WN06-09C	✻	●	100	32	5.7	9	A	1.4	
FMP12-125-B40-WN06-11C	✻	○	125	40	5.7	11	B	3.4	
FMP12-160-C40-WN06-14		○	160	40	5.7	14	C	5.4	
FMP12-063-A22-WN08-04C	✻	●	63	22	7.7	4	A	0.39	
FMP12-063-A22-WN08-05C	✻	●	63	22	7.7	5	A	0.45	
FMP12-080-A27-WN08-05C	✻	●	80	27	7.7	5	A	0.95	
FMP12-100-B32-WN08-06		●	100	32	7.7	6	B	1.32	
FMP12-100-B32-WN08-06C	✻	●	100	32	7.7	6	B	1.32	WNHU0806
FMP12-125-B40-WN08-08C	✻	○	125	40	7.7	8	B	3.3	
FMP12-160-C40-WN08-10		○	160	40	7.7	10	C	5.2	
FMP12-200-C60-WN08-12		○	200	60	7.7	12	C		
FMP12-250-C60-WN08-14		○	250	60	7.7	14	C		
FMP12-315-D60-WN08-18		○	315	60	7.7	18	D		

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

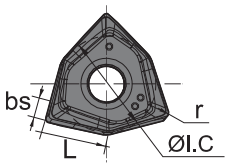
	Insert	WNHU0604	WNHU0806
	ØD	50-315	50-315
	Screw (insert)	I60M3×9 (1.8 Nm)	I60M4×10 (3.4 Nm)
	Wrench (insert)	WT09IS	
	Wrench (insert)		WT20IT

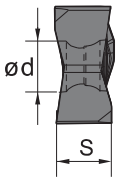
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

WNHU	L	I.C	S	d
06 04	5.73	9.525	4.704	3.5
08 06	7.76	12.7	6.32	4.4





WN** negative insert			HC[1] (CVD)							HC[1] (PVD)								HT	HC[2]	HW	
		P																			
		M																			
		K																			
		N																			
		S																			
		H																			
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**WNHU060404PNR-GM**	0.4				○			○							○								
	WNHU060408PNR-GM	0.8				●			○	○						○								
	WNHU080608PNR-GM	0.8				●			●	●						●								
	WNHU080616PNR-GM	1.6				○			●	○														

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

System code > B26 Grade selection > B24 Technical info > B527 Cutting data > B230

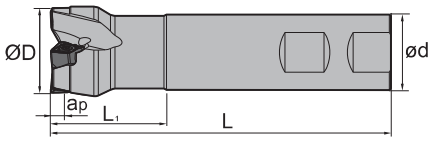
Face milling

FMP12 Kr: 90°









Article	✻	Stock	Dimensions [mm]					Teeth	Coupling	kg	Inserts
			ØD	ød	L_1	L	$a_{p\,max}$				
FMP12-025-XP25-WN06-02C	✻	○	25	25	30	100	5,7	2	XP	0.38	WNHU0604
FMP12-032-XP25-WN06-03C	✻	○	32	25	40	120	5,7	3	XP	0.47	
FMP12-040-XP32-WN06-04C	✻	○	40	32	40	140	5,7	4	XP	0.85	
FMP12-050-XP40-WN06-05C	✻	○	50	40	40	169	5,7	5	XP	1.59	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**WNHU0604**
	ØD	**25-50**
	Screw (insert)	I60M3×9 (1.8Nm)
	Wrench (insert)	WT09IS

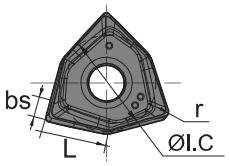


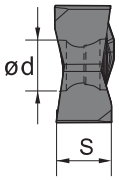
System code B26 Grade selection B24 Technical info B527 Cutting data B230

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

WNHU	L	I.C	S	d
06 04	5.73	9.525	4.704	3.5

Milling inserts





WN** negative insert			HC[1] (CVD)							HC[1] (PVD)								HT	HC[2]	HW	
		P																			
		M																			
		K																			
		N																			
		S																			
		H																			
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**WNHU060404PNR-GM**	0.4				○			○							○								
	WNHU060408PNR-GM	0.8				●			○	○						○								

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

System code > B26 Grade selection > B24 Technical info > B527 Cutting data > B230

IMPORTANT INFORMATION

Notes on using the **FMWX series**

Please note the following: The milling body is only equipped with two opposing inserts.

Select insert seat **1.1** in combination with **1.2** *or* insert seat **2.1** in combination with **2.2**.



Fig.: **FMWX-063-A27-XE12-04C**

Cutting data

ISO group	Material	v_c (m/min)	F_n [mm/rev]	a_p [mm]
P	Low-alloy steel	300–400	3,50–5,00	0,02–0,05
M	Stainless steels	280–300	3,50–5,00	0,02–0,05
K	Cast steel	300–400	3,50–5,00	0,02–0,05

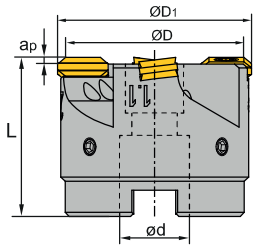
Face milling

FMWX





Screw Clamping



Article	✲	Stock	Dimensions [mm]				Teeth	Coupling	kg	Inserts
			$ØD_1$	ød	L	$a_{p\,max}$				
FMWX-050-A22-XE12-04C	✲	○	46	22	40	0.1	4	A	0.3	
FMWX-063-A27-XE12-04C	✲	○	59	27	40	0.1	4	A	0.5	
FMWX-080-A27-XE12-04C	✲	○	76	27	50	0.1	4	A	1	XEEC1209
FMWX-100-B32-XE12-06C	✲	○	96	32	50	0.1	6	B	1.9	
FMWX-125-B40-XE12-06C	✲	○	121	40	63	0.1	6	B	3.5	

● Ex stock ○ On demand

✲ With internal cooling

Spare parts

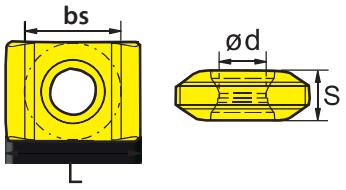
	Insert	XEEC1209
	ØD	**50-125**
	Screw (insert)	I60M4×10 (3.4 Nm)

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

XEEC
12 09

Milling inserts

XE** positive insert		HC[1] (CVD)							HC[1] (PVD)									HT	HC[2]	HW	
	P	✿	✿	✿	✿	✿	✿	✿			✿	✿		✿	✿	✿	●	●	●		
	M		✿	✿	✿	✿	✿				✿	✿		✿	✿	✿	✿	○	○	○	
	K						✿	✿	●								●				✿
	N								✿											✿	✿
	S			✿		✿				●	✿		✿	✿	✿	✿					
	H																				
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	XEEC120904						●																

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

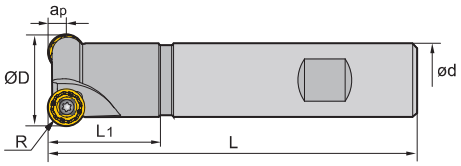
System code B26 Grade selection B24 Technical info B527 Cutting data B230

Face milling

FMR01





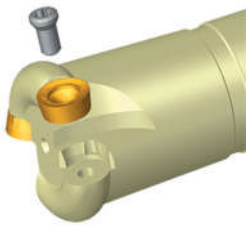


Article	✻	Stock	Dimensions [mm]						Teeth	kg	Inserts
			R	ØD	ød	L_1	L	$a_{p\,max}$			
FMR01-025-XP20-RC10-02		○	5	25	20	30	100	5	2	0.2	RCKT10T3
FMR01-025-XP20-RC10-02C	✻	○	5	25	20	30	100	5	2	0.2	
FMR01-032-XP25-RC10-02		●	5	32	25	35	120	5	2	0.5	
FMR01-032-XP25-RC10-02C	✻	●	5	32	25	35	120	5	2	0.5	
FMR01-040-XP32-RC12-03		●	6	40	32	40	120	6	3	0.7	RCKT1204 RCGX1204
FMR01-040-XP32-RC12-03C	✻	●	6	40	32	40	120	6	3	0.7	
FMR01-050-XP32-RC12-03		●	6	50	32	40	120	6	3	0.8	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

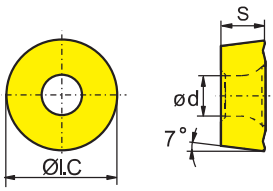
	Insert	**RCKT10T3**	**RCKT1204 RCGX1204**	
	ØD	**25-32**	**40-50**	
	Screw (insert)	I60M4×8.4 (3.4 Nm)	I60M3.5×10 (2.7 Nm)	
	Wrench (insert)	WT15S	WT15S	

System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

RCKT	l.C	S	d
10 T3	10	3.97	4.4
12 04	12	4.76	4



RC** milling insert		HC¹ (CVD)							HC¹ (PVD)										HT	HC²	HW	
P																						
M																						
K																						
N																						
S																						
H																						
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**RCKT10T3MO-DM**	○									○				●	○							
	RCKT1204MO-DM	○	○		○	●	○				○				●	○							
	**RCKT1204MO-DR**	○	○		○	●									●								
	**RCKT1204MO-ER**			●																			
	**RCKT1204MO-NM**											○											

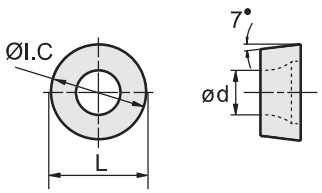
● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

RCGX	l.C	S	d
12 04	12	4.76	4



RC** positive insert		HC¹ (CVD)							HC¹ (PVD)										HT	HC²	HW	
P																						
M																						
K																						
N																						
S																						
H																						
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**RCGX1204MO-LH**																					●	

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

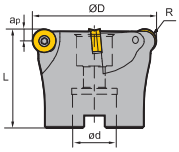
System code B26 Grade selection B24 Technical info B527 Cutting data B230

Face milling

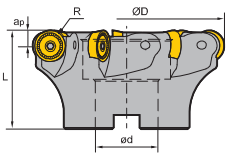
FMR02



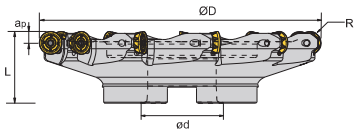




A



B



C

Article	✻	Stock	Dimensions [mm] R	ØD	ød	L	$a_{p\,max}$	Teeth	Coupling	kg	Inserts
FMR02-050-A22-RC12-05C	✻	●	6	50	22	40	6	5	A	0.7	RCGX1204 RCKT1204 RCMW1204
FMR02-050-A22-RC12-06C	✻	○	6	50	22	40	6	6	A	0.7	
FMR02-052-A22-RC12-05C	✻	●	6	52	22	40	6	5	A	0.7	
FMR02-063-A22-RC12-04		●	6	63	22	40	6	4	A	0.7	
FMR02-063-A22-RC12-05C	✻	●	6	63	22	40	6	5	A	0.7	
FMR02-063-A22-RC12-06		●	6	63	22	40	6	6	A	0.7	
FMR02-063-A22-RC12-06C	✻	●	6	63	22	40	6	6	A	0.7	
FMR02-080-A27-RC12-07C	✻	●	6	80	27	50	6	7	B	0.7	
FMR02-100-B32-RC12-08C	✻	●	6	100	32	50	6	8	B	0.89	
FMR02-063-A22-RC16-04		●	8	63	22	40	8	4	A	0.7	RCKT1606
FMR02-063-A22-RC16-04C	✻	○	8	63	22	40	8	4	A	0.7	
FMR02-063-A22-RC16-05C	✻	○	8	63	22	40	8	5	A	0.7	
FMR02-066-A27-RC16-05C(FB)	✻	●	8	66	27	50	8	5	A	0.5	
FMR02-080-B27-RC16-05		●	8	80	27	50	8	5	B	0.7	
FMR02-080-B27-RC16-07		●	8	80	27	50	8	7	B	0.7	
FMR02-100-B32-RC16-06		●	8	100	32	63	8	6	B	1.2	
FMR02-100-A32-RC16-06C	✻	○	8	100	32	63	8	6	B	1.2	
FMR02-125-B40-RC16-07		●	8	125	40	63	8	7	B	2.5	
FMR02-125-B40-RC16-07C	✻	○	8	125	40	63	8	7	B	2.5	
FMR02-160-B40-RC16-10(FB)		○	8	160	40	63	8	10	B	3.94	
FMR02-200-C60-RC16-12(FB)		●	8	200	60	63	8	12	C	5.4	
FMR02-080-A27-RC20-04		●	10	80	27	50	10	4	A	0.7	RCKT2006
FMR02-080-A27-RC20-04C(FB)	✻	●	10	80	27	50	10	4	A	0.7	
FMR02-100-B32-RC20-05		●	10	100	32	63	10	5	B	1.2	
FMR02-100-B32-RC20-06		●	10	100	32	63	10	6	B	1.2	
FMR02-100-B32-RC20-06C	✻	○	10	100	32	63	10	6	B	1.2	
FMR02-125-B32-RC20-05		○	10	125	32	63	10	5	B	1.2	
FMR02-125-B40-RC20-06		●	10	125	40	63	10	6	B	1.2	

● Ex stock ○ On demand

✻ With internal cooling

System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Indexable milling

Article	✻	Stock	Dimensions [mm]					Teeth	Coupling	kg	Inserts
			R	ØD	ød	L	$a_{p\,max}$				
FMR02-125-B40-RC20-07		●	10	125	40	63	10	7	B	2.2	RCKT2006
FMR02-125-B40-RC20-07C	✻	○	10	125	40	63	10	7	B	2.2	
FMR02-160-B40-RC20-08		●	10	160	40	63	10	8	B	4.2	
FMR02-160-B40-RC20-08C	✻	○	10	160	40	63	10	8	B	4.2	
FMR02-250-C60-RC20-10		●	10	250	60	63	10	10	C	8.49	
FMR02-250-C60-RC20-11		○	10	250	60	63	10	11	C	8.37	

● Ex stock ○ On demand

✻ With internal cooling

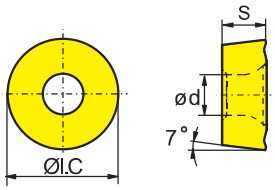
Spare parts

	Insert	**RCGX1204 RCKT1204 RCMW1204**	**RCKT1606**	**RCKT2006**	
	ØD	**50-100**	**63-200**	**80-250**	
	Screw (insert)	I60M3.5×10 (2.7 Nm)	I60M5×13 (6.7 Nm)	I43M6×16 (9.1 Nm)	
	Wrench (insert)	WT15IS			
	Wrench (insert)		WT20IT	WT25IT	

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

RCKT	l.C	S	d
12 04	12	4.76	4
16 06	16	6.35	5.56
20 06	20	6.35	6.55



RC** milling insert		HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
	P																			
	M																			
	K																			
	N																			
	S																			
	H																			
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RCKT1204MO-DM		○	○		○	●	○				○				●	○						
	RCKT1606MO-DM		○												●		●						
	RCKT2006MO-DM		○																				
	RCKT1204MO-DR		○	○		○	●								●								
	RCKT1606MO-DR	●	○	●			●		●							●							
	RCKT2006MO-DR	●	○	●			○		●			○					○						
	RCKT1204MO-ER				●																		
	RCKT1606MO-ER				●																		
	RCKT2006MO-ER				●																		
	RCKT1204MO-NM												○										
	RCKT1606MO-NM												○										

● Ex stock ○ On demand

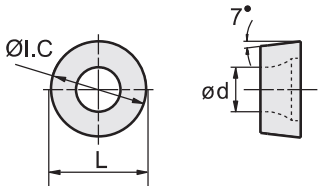
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

RCGX	I.C	S	d
12 04	12	4.76	4



RC** positive insert		HC[1] (CVD)							HC[1] (PVD)									HT	HC[2]	HW	
	P	❁	❁	❁	❁	❁	❁	❁			❁	❁		❁	❁	❁	●	●	●		
	M		❁	❁	❁	❁	❁				❁	❁		❁	❁	❁	❁	○	○		
	K							❁	●		●						●			❁	
	N								❁											❁	❁
	S				❁		❁			○	❁		❁	❁	❁		❁					
	H																				
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RCGX1204MO-LH																					●	

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

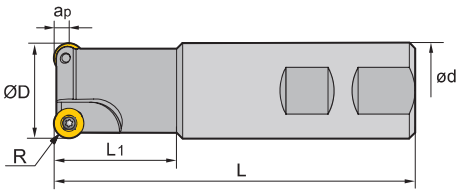
System code B26 Grade selection B24 Technical info B527 Cutting data B230

Face milling

FMR03







Article	✻	Stock	Dimensions [mm]						Teeth	kg	Inserts
			R	ØD	ød	L_1	L	$a_{p\,max}$			
FMR03-016-XP16-RD08-02		○	4	16	16	25	100	4	2	0.1	
FMR03-025-XP25-RD08-02		●	4	25	25	30	100	4	2	0.3	RD**0803
FMR03-025-XP25-RD08-02C	✻	○	4	25	25	30	100	4	2	0.3	
FMR03-032-XP32-RD10-02		●	5	32	32	40	120	5	2	0.7	RD**10T3
FMR03-040-XP32-RD12-03		●	6	40	32	40	120	6	3	0.7	RD**1204
FMR03-050-XP32-RD12-04		●	6	50	32	40	120	6	4	0.8	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	RD**0803	RD**10T3	RD**1204
	ØD	16-25	32	40-50
	Screw (insert)	I60M3×7 (1.8 Nm)	I60M4×10 (3.4 Nm)	I60M4×10 (3.4 Nm)
	Wrench (insert)	WT09IP	WT15IP	WT15IP

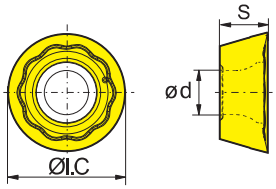


System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

RDKT
10 T3
12 04

RD** milling insert		HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
	P																				
	M																				
	K																				
	N																				
	S																				
	H																				
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**RDKT10T3MO-MM**																	○					
	RDKT1204MO-MM																	○					

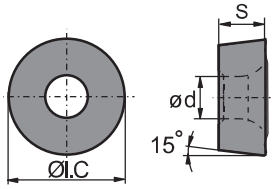
● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

RDKW	I.C	S	d
08 03	8	3.18	3.4
10 T3	10	3.97	4.4
12 04	12	4.76	4.4

Milling inserts

RD** milling insert		HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
	P																				
	M																				
	K																				
	N																				
	S																				
	H																				
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**RDKW0803MO**						●				○												
	RDKW10T3MO	●	○				○			●	○						○						
	RDKW1204MO	●				○	●			●	○				●	●	○						

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

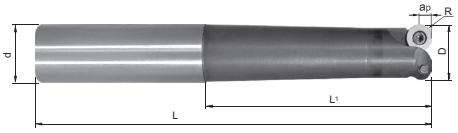
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Face milling

FMR03







Article	✻	Stock	Dimensions [mm]						Teeth	Inserts
			R	ØD	ød	L_1	L	$a_{p\,max}$		
FMR03-015-G16-XS-RD0702-02		●	3.5	15	16	40	88	3.5	2	
FMR03-015-G16-XS-RD0702-02C	✻	○	3.5	15	16	40	88	3.5	2	
FMR03-015-G16-S-RD0702-02		●	3.5	15	16	60	108	3.5	2	
FMR03-015-G16-S-RD0702-02C	✻	○	3.5	15	16	60	108	3.5	2	RDKW0702
FMR03-015-G20-M-RD0702-02		●	3.5	15	20	80	130	3.5	2	
FMR03-015-G20-M-RD0702-02C	✻	○	3.5	15	20	80	130	3.5	2	
FMR03-015-G25-XL-RD0702-02C	✻	○	3.5	15	25	120	176	3.5	2	
FMR03-020-G20-XS-RD1003-02C	✻	○	5	20	20	40	90	5	2	
FMR03-020-G20-S-RD1003-02C	✻	○	5	20	20	60	110	5	2	
FMR03-020-G25-M-RD1003-02C	✻	○	5	20	25	80	136	5	2	RDKW1003
FMR03-020-G25-L-RD1003-02C	✻	○	5	20	25	100	156	5	2	
FMR03-020-G25-XL-RD1003-02C	✻	○	5	20	25	120	176	5	2	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

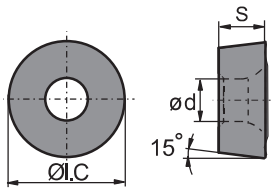
	Insert	RDKW0702	RDKW1003	
	ØD	15	20	
	Screw (insert)		l60M3.5×6.5TT (2.7 Nm)	
	Screw (insert)	l60M2.5×5.0 (1.0 Nm)		
	Wrench (insert)		WT10IP	
	Wrench (insert)	WT07P		

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

RDKW	l.C	S	d
07 02	7	2.38	2.7
10 03	10	3.18	3.9



RD** milling insert		HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
	P	⊛	⊛	⊛	⊛	⊛	⊛	⊛			⊛	⊛		⊛	⊛	⊛		○	○			
	M		⊛	⊛	⊛	⊛	⊛				⊛	⊛		⊛	⊛	⊛	⊛	○	○			
	K						⊛	⊛	●								●				⊛	
	N																			⊛	⊛	
	S				⊛		⊛			○	⊛		⊛	⊛	⊛		⊛					
	H																					
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RDKW0702MO-1						●				○				●								
	RDKW0702MO-2									●													
	RDKW1003MO-1					○	●				○				●	●							
	RDKW1003MO-2									●													
	RDKW1003MO-3				●										●								

● Ex stock ○ On demand

Important information on the cutting edge design can be found on page B102.

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

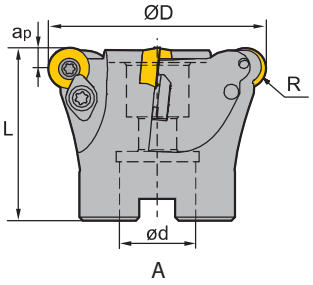
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

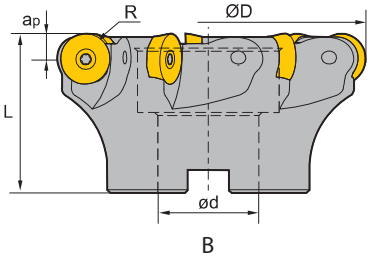
Face milling

FMR04









Article	✻	Stock	Dimensions [mm] R	ØD	ød	L	$a_{p\,max}$	Teeth	Coupling	kg	Inserts
FMR04-050-A22-RD12-03		●	6	50	22	40	6	3	A	0.3	RD**1204
FMR04-063-A22-RD12-04		●	6	63	22	50	6	4	A	0.5	
FMR04-080-B27-RD16-05		●	8	80	27	50	8	5	B	1.2	RD**1605
FMR04-100-B32-RD16-06		●	8	100	32	50	8	6	B	1	
FMR04-100-B32-RD20-06C	✻	○	10	100	32	50	8	6	B	1	RD**2006
FMR04-125-B40-RD20-06		○	10	125	40	63	10	6	B	1.9	
FMR04-125-B40-RD20-06C	✻	○	10	125	40	63	10	6	B	1.9	
FMR04-160-B40-RD20-07		○	10	160	40	63	10	7	B	3.7	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert / **ØD**	**RD**1204** 50-63	**RD**1605** 80-100	**RD**2006** 100-160
	Clamp	WD-204	WD-207	
	Screw (clamp)	I60M4×10 (3.4 Nm)	I60M5×13 (6.7 Nm)	
	Screw (insert)	I60M3.5×10 (2.7 Nm)	I60M5×13 (6.7 Nm)	I43M6×16 (9.1 Nm)
	Wrench (clamp)	WT15IP		
	Wrench (clamp)		WT20IT	
	Wrench (insert)	WT15IP		
	Wrench (insert)		WT20IT	WT25IT



System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

RDKT
12 04

Milling inserts

RD** milling insert		HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
	P																			
	M																			
	K																			
	N																			
	S																			
	H																			
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RDKT1204MO-MM																	○					

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

RDKW	I.C	S	d
12 04	12	4.76	4.4
16 05	16	5.56	5.5
20 06	20	6.35	6.5

Milling inserts

RD** milling insert		HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
	P																			
	M																			
	K																			
	N																			
	S																			
	H																			
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RDKW1204MO	●				○	●			●	○				●	●	○						
	RDKW1605MO						○				○	○					○						
	RDKW2006MO		○				○		○														
	RDKW2006MO-3														●								

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

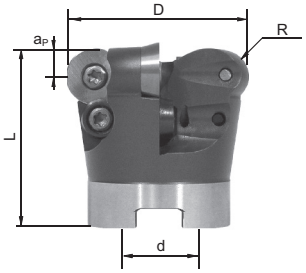
Important information on the cutting edge design can be found on page B102.

Face milling

FMR04







Article	✲	Stock	Dimensions [mm]					Teeth	Inserts
			R	ØD	ød	L	$a_{p\,max}$		
FMR04-042-A16-RD1003-06		○	5	42	16	44	5	6	RDKW1003
FMR04-042-A16-RD1003-06C	✲	●	5	42	16	44	5	6	
FMR04-052-A22-RD1003-07		○	5	52	22	50	5	7	
FMR04-052-A22-RD1003-07C	✲	●	5	52	22	50	5	7	
FMR04-042-A16-RD12T3-05		○	6	42	16	42	6	5	RDKW12T3
FMR04-042-A16-RD12T3-05C	✲	●	6	42	16	42	6	5	
FMR04-052-A22-RD12T3-05		○	6	52	22	50	6	5	
FMR04-052-A22-RD12T3-05C	✲	●	6	52	22	50	6	5	
FMR04-066-A27-RD12T3-06		○	6	66	27	50	6	6	
FMR04-066-A27-RD12T3-06C	✲	●	6	66	27	50	6	6	
FMR04-080-A27-RD12T3-07		○	6	80	27	50	6	7	
FMR04-080-A27-RD12T3-07C	✲	●	6	80	27	50	6	7	
FMR04-052-A22-RD1604-04		○	8	52	22	50	8	4	RDKW1604
FMR04-052-A22-RD1604-04C	✲	●	8	52	22	50	8	4	
FMR04-066-A27-RD1604-05		○	8	66	27	50	8	5	
FMR04-066-A27-RD1604-05C	✲	●	8	66	27	50	8	5	
FMR04-080-A27-RD1604-06		○	8	80	27	52	8	6	
FMR04-080-A27-RD1604-06C	✲	●	8	80	27	52	8	6	
FMR04-100-B32-RD1604-07		○	8	100	32	52	8	7	
FMR04-100-B32-RD1604-07C	✲	●	8	100	32	52	8	7	
FMR04-125-B40-RD1604-08		○	8	125	40	52	8	8	
FMR04-160-B40-RD1604-09		○	8	160	40	52	8	9	
FMR04-160-B40-RD1604-09C	✲	●	8	160	40	52	8	9	

● Ex stock ○ On demand

✲ With internal cooling

System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

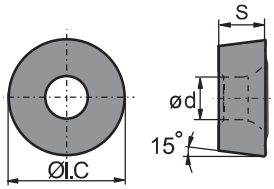
Spare parts

	Insert	RDKW1003	RDKW12T3	RDKW12T3	RDKW1604	RDKW1604
	ØD	42-52	42	52-80	52	66-160
	Clamp					WX16N
	Clamp			LOM3.5×7.1		
	Screw (clamp)					I60M4.5×10 (5.0 Nm)
	Screw (insert)	I60M3.5×6.5TT (2.7 Nm)				
	Screw (insert)		I60M3.5×7.7 (2.7 Nm)	I60M3.5×7.7 (2.7 Nm)	I60M4.5×10 (5.0 Nm)	I60M4.5×10 (5.0 Nm)
	Wrench (clamp)			WT15P		
	Wrench (clamp)					WT20T
	Wrench (insert)	WT10IP				
	Wrench (insert)		WT15P	WT15P		
	Wrench (insert)				WT20T	WT20T

RDKW	I.C	S	d
10 03	10	3.18	3.9
12 T3	12	3.97	3.9
16 04	16	4.76	5.2

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions



RD** milling insert		HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
P																				
M																				
K																				
N																				
S																				
H																				
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RDKW1003MO-1					○	●				○				●	●							
	RDKW1003MO-2									●													
	RDKW1003MO-3				●										●								
	RDKW12T3MO-1					○	●				○				●	●							
	RDKW12T3MO-2									●					○								
	RDKW12T3MO-3				●										●								
	RDKW1604MO-1						●				○				●	●	●						
	RDKW1604MO-2									○													
	RDKW1604MO-3	○			●				●		○				●		●						

● Ex stock ○ On demand

Important information on the cutting edge design can be found on page B102.

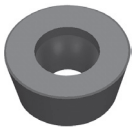
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code > B26 Grade selection > B24 Technical info > B527 Cutting data > B230

IMPORTANT INFORMATION

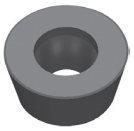
Cutting edge design **RDKW**

RDKW*MO–1



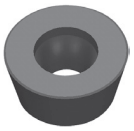
General machining

RDKW*MO–2

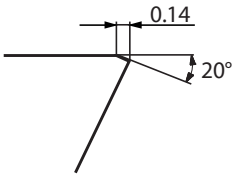


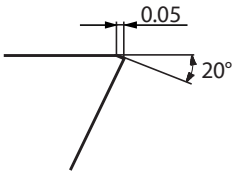
Soft cutting geometry
(Finishing)

RDKW*MO–3



Roughing





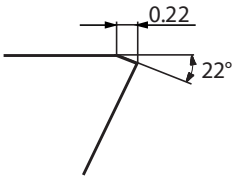
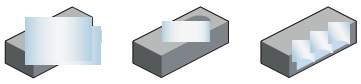




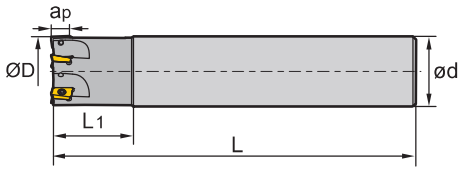
Fig.: **FMR04-052-B22-RD12T3-05C**

Square shoulder milling

EMP01 Kr: 90°







Straight shank

Article	✲	Stock	Dimensions [mm]					Teeth	kg	Inserts
			ØD	ød	L_1	L	$a_{p\,max}$			
EMP01-012-G12-AP07-02C	✲	●	12	12	25	75	6.4	2	0.31	
EMP01-014-G16-AP07-03C	✲	●	14	16	25	85	6.4	3	0.61	APKT0702
EMP01-016-G16-AP07-04C	✲	●	16	16	30	90	6.4	4	0.75	
EMP01-012-G16-AP11-01		●	12	16	25	85	10.5	1	0.1	
EMP01-016-G16-AP11-02		●	16	16	25	90	10.5	2	0.1	
EMP01-016-G16-AP11-02C	✲	○	16	16	25	90	10.5	2	0.1	
EMP01-020-G20-AP11-02		●	20	20	30	100	10.5	2	0.2	
EMP01-020-G20-AP11-02C	✲	●	20	20	30	100	10.5	2	0.2	
EMP01-020-G20-AP11-03		○	20	20	30	100	10.5	3	0.2	
EMP01-020-G20-AP11-03C	✲	●	20	20	30	100	10.5	3	0.2	APKT11T3
EMP01-025-G25-AP11-03		●	25	25	35	115	10.5	3	0.4	
EMP01-025-G25-AP11-03C	✲	○	25	25	35	115	10.5	3	0.4	
EMP01-025-G25-AP11-04		●	25	25	35	115	10.5	4	0.4	
EMP01-025-G25-AP11-04C	✲	●	25	25	35	115	10.5	4	0.4	
EMP01-032-G32-AP11-04		●	32	32	40	125	10.5	4	0.7	
EMP01-025-G25-AP16-02		●	25	25	35	115	15.5	2	0.4	
EMP01-025-G25-AP16-02C	✲	●	25	25	35	115	15.5	2	0.4	
EMP01-032-G32-AP16-03		●	32	32	40	125	15.5	3	0.7	
EMP01-032-G32-AP16-03C	✲	●	32	32	40	125	15.5	3	0.7	
EMP01-040-G32-AP16-03		●	40	32	42	130	15.5	3	0.7	
EMP01-040-G32-AP16-03C	✲	●	40	32	42	130	15.5	3	0.7	
EMP01-040-G32-AP16-04C	✲	○	40	32	42	130	15.5	4	0.8	
EMP01-050-G32-AP16-05		●	50	32	45	135	15.5	5	1	
EMP01-063-G32-AP16-06		●	63	32	45	135	15.5	6	1.4	

● Ex stock ○ On demand

✲ With internal cooling

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Indexable milling Square shoulder milling

Spare parts

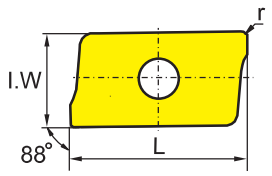
	Insert	APKT0702	APKT11T3	APKT1604
	ØD	12-25	12-32	25-63
	Screw (insert)	I60M1.8×4 (0.5 Nm)		I60M4×8.4 (3.4 Nm)
	Screw (insert)		I60M2.5×6.5T (1.0 Nm)	
	Wrench (insert)	WT05IP	WT08IP	
	Wrench (insert)			WT15S



APKT	L	S	d
07 02	4.26	2.38	2
11 T3	12.24	3.6	2.8
16 04	17.877	5.76	4.4

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions



	ISO	r	I.W	HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
				YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P																									
M																									
K																									
N																									
S																									
H																									
	APKT11T304-ALH	0.4	6.5									●												●	●
	APKT11T308-ALH	0.8	6.5									●												●	●
	APKT160408-ALH	0.8	9.33									●												●	●
	APKT11T304-APF	0.4	6.5															●							
	APKT11T308-APF	0.8	6.5													○		●		○					
	APKT160408-APF	0.8	9.33													○		●	○	○					
	APKT070204-APM	0.4	6.91															●							
	APKT11T304-APM	0.4	6.5				●			●								●							
	APKT11T308-APM	0.8	6.5				●			●						○		●		○					
	APKT11T312-APM	1.2	6.5				●			●								●							
	APKT11T316-APM	1.6	6.5				●			●								●							
	APKT11T320-APM	2	6.5				●			●								●							
	APKT160408-APM	0.8	9.33				●			●	●					○		●		○					
	APKT160416-APM	1.6	9.33				●			●								●							
	APKT160420-APM	2	9.33				●			●								●							
	APKT160424-APM	2.4	9.33				●			●								●							
	APKT160430-APM	3	9.33				●											●							
	APKT11T304-LH	0.4	6.5																					○	○
	APKT11T308-LH	0.8	6.5																					○	●
	APKT160408-LH	0.8	9.33																					○	○

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

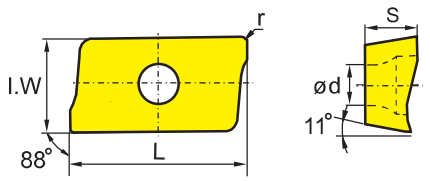
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

APKT	L	S	d
07 02	4.26	2.38	2
11 T3	12.24	3.6	2.8
16 04	17.877	5.76	4.4

AP** milling insert



	HC[1] (CVD)								HC[1] (PVD)								HT	HC[2]	HW	
P																				
M																				
K																				
N																				
S																				
H																				

ISO		r	l.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**APKT11T308-NM**															●				●					
	APKT11T312-NM															●				●					
	**APKT11T304-PF**	0.4	6.5		○			○				○	○						○						
	APKT11T308-PF	0.8	6.5										○												
	APKT11T316-PF	1.6	6.5										○												
	APKT160408-PF	0.8	9.33		○				○					○					○						
	APKT160430-PF	3	9.33	○																					
	**APKT11T304-PM**	0.4	6.5	○	○	○		○	○			○	○						○						
	APKT11T308-PM	0.8	6.5	○	○		○	○	●	○	○	○	○				○		○						
	APKT11T312-PM	1.2	6.5					○				○	○						○						
	APKT11T316-PM	1.6	6.5					○				○	○						○						
	APKT160408-PM	0.8	9.33	○	○	○	●		●	○	○	○	○				○		●						
	APKT160416-PM	1.6	9.33	○									○												
	**APKT11T304-PR**	0.4	6.5						○										○						
	APKT11T316-PR	1.6	6.5																○						
	**APKT11T3XR**										●							●							

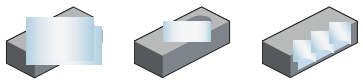
● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

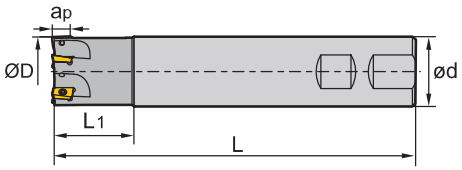
System code B26 Grade selection B24 Technical info B527 Cutting data B230

Square shoulder milling

EMP01 Kr: 90°







Weldon shank

Article	✻	Stock	Dimensions [mm]					Teeth	kg	Inserts
			ØD	ød	L_1	L	$a_{p\,max}$			
EMP01-020-XP20-AP07-05C	✻	●	20	20	30	100	6.4	5	0.31	APKT0702
EMP01-025-XP25-AP07-07C	✻	●	25	25	35	115	6.4	7	0.61	
EMP01-012-XP16-AP11-01		●	12	16	25	85	10.5	1	0.1	APKT11T3
EMP01-012-XP16-AP11-01C	✻	○	12	16	25	85	10.5	1	0.1	
EMP01-016-XP16-AP11-02		●	16	16	25	90	10.5	2	0.1	
EMP01-016-XP16-AP11-02C	✻	○	16	16	25	90	10.5	2	0.1	
EMP01-020-XP20-AP11-02		●	20	20	30	100	10.5	2	0.2	
EMP01-020-XP20-AP11-02C	✻	○	20	20	30	100	10.5	2	0.2	
EMP01-020-XP20-AP11-03		●	20	20	30	100	10.5	3	0.2	
EMP01-020-XP20-AP11-03C	✻	●	20	20	30	100	10.5	3	0.2	
EMP01-025-XP25-AP11-03		●	25	25	35	115	10.5	3	0.4	
EMP01-025-XP25-AP11-03C	✻	●	25	25	35	115	10.5	3	0.4	
EMP01-025-XP25-AP11-04		●	25	25	35	115	10.5	4	0.4	
EMP01-025-XP25-AP11-04C	✻	○	25	25	35	115	10.5	4	0.4	
EMP01-032-XP32-AP11-04		●	32	32	40	125	10.5	4	0.7	
EMP01-032-XP32-AP11-04C	✻	○	32	32	40	125	10.5	4	0.7	
EMP01-025-XP25-AP16-02		●	25	25	35	115	15.5	2	0.4	APKT1604
EMP01-025-XP25-AP16-02C	✻	○	25	25	35	115	15.5	2	0.4	
EMP01-032-XP32-AP16-03		●	32	32	40	125	15.5	3	0.7	
EMP01-032-XP32-AP16-03C	✻	○	32	32	40	125	15.5	3	0.7	
EMP01-040-XP32-AP16-04		●	40	32	42	130	15.5	4	0.8	
EMP01-040-XP32-AP16-04C	✻	○	40	32	42	130	15.5	4	0.8	
EMP01-050-XP32-AP16-05		●	50	32	45	135	15.5	5	1	
EMP01-063-XP32-AP16-06		○	63	32	45	135	15.5	6	1.4	

● Ex stock ○ On demand

✻ With internal cooling

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Spare parts

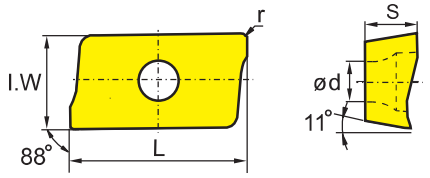
	Insert	APKT0702	APKT11T3	APKT1604
	ØD	12-25	12-32	25-63
	Screw (insert)	I60M1.8×4 (0.5 Nm)		I60M4×8.4 (3.4 Nm)
	Screw (insert)		I60M2.5×6.5T (1.0 Nm)	
	Wrench (insert)	WT05IP	WT08IP	
	Wrench (insert)			WT15S



APKT	L	S	d
07 02	4.26	2.38	2
11 T3	12.24	3.6	2.8
16 04	17.877	5.76	4.4

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions



	ISO	r	I.W	HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
				YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	APKT11T304-ALH	0.4	6.5									●												●	●
	APKT11T308-ALH	0.8	6.5									●												●	●
	APKT160408-ALH	0.8	9.33									●												●	●
	APKT11T304-APF	0.4	6.5															●							
	APKT11T308-APF	0.8	6.5													○		●		○					
	APKT160408-APF	0.8	9.33													○		●	○	○					
	APKT070204-APM	0.4	6.91															●							
	APKT11T304-APM	0.4	6.5				●			●								●							
	APKT11T308-APM	0.8	6.5				●			●						○		●		○					
	APKT11T312-APM	1.2	6.5				●			●								●							
	APKT11T316-APM	1.6	6.5				●			●								●							
	APKT11T320-APM	2	6.5				●			●								●							
	APKT160408-APM	0.8	9.33				●			●	●					○		●		○					
	APKT160416-APM	1.6	9.33				●			●								●							
	APKT160420-APM	2	9.33				●			●								●							
	APKT160424-APM	2.4	9.33				●			●								●							
	APKT160430-APM	3	9.33				●											●							
	APKT11T304-LH	0.4	6.5																					○	○
	APKT11T308-LH	0.8	6.5																					○	●
	APKT160408-LH	0.8	9.33																					○	○

● Ex stock ○ On demand

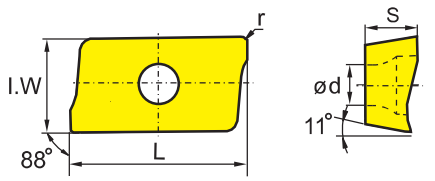
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

APKT	L	S	d
07 02	4.26	2.38	2
11 T3	12.24	3.6	2.8
16 04	17.877	5.76	4.4



AP** milling insert				HC¹ (CVD)								HC¹ (PVD)								HT	HC²	HW	
			P	◉	◉	❁	◉	◉	❁		◉			❁	❁		❁	❁	❁	◉	◉	◉		
			M		○	❁	○	○	❁					❁	❁		❁	❁	❁	○	○	○		
			K							❁	❁		◉						◉				❁	
			N									❁											❁	❁
			S				❁		❁				○	❁		❁	❁	❁		❁				
			H																					
	ISO	r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	APKT11T308-NM															●				●					
	APKT11T312-NM															●				●					
	APKT11T304-PF	0.4	6.5		○			○					○	○					○						
	APKT11T308-PF	0.8	6.5											○											
	APKT11T316-PF	1.6	6.5											○											
	APKT160408-PF	0.8	9.33		○				○					○					○						
	APKT160430-PF	3	9.33	○																					
	APKT11T304-PM	0.4	6.5	○	○	○		○	○				○	○					○						
	APKT11T308-PM	0.8	6.5	○	○		○	○	●	○	○		○	○			○		○						
	APKT11T312-PM	1.2	6.5					○					○	○					○						
	APKT11T316-PM	1.6	6.5					○					○	○					○						
	APKT160408-PM	0.8	9.33	○	○	○	●		●	○	○		○	○			○		●						
	APKT160416-PM	1.6	9.33	○										○											
	APKT11T304-PR	0.4	6.5						○										○						
	APKT11T316-PR	1.6	6.5																○						
	APKT11T3XR										●							●							

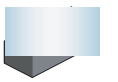
● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

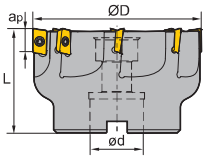
System code > B26 Grade selection > B24 Technical info > B527 Cutting data > B230

Square shoulder milling

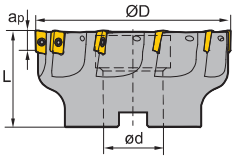
EMP02 Kr: 90°



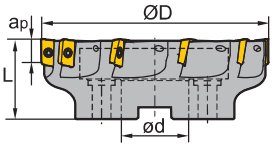




A



B



C

Article	✻	Stock	Dimensions [mm] ØD	ød	L	$a_{p\ max}$	Teeth	Coupling	kg	Inserts
EMP02-032-A16-AP07-08C	✻	●	32	16	35	6.4	8	A	0.34	
EMP02-040-A16-AP07-10C	✻	●	40	16	40	6.4	10	A	0.4	APKT0702
EMP02-050-A22-AP07-12C	✻	●	50	22	40	6.4	12	A	0.6	
EMP02-040-A16-AP11-04C	✻	●	40	16	40	11	4	A	0.237	
EMP02-040-A16-AP11-05C	✻	●	40	16	40	11	5	A	0.177	
EMP02-040-A16-AP11-06C	✻	●	40	16	40	11	6	A	0.234	
EMP02-050-A22-AP11-06		●	50	22	40	11	6	A	0.3	
EMP02-050-A22-AP11-06C	✻	●	50	22	40	11	6	A	0.3	
EMP02-050-A22-AP11-07C	✻	●	50	22	40	11	7	A	0.39	
EMP02-063-A22-AP11-08		●	63	22	40	11	8	A	0.6	
EMP02-063-A22-AP11-08C	✻	●	63	22	40	11	8	A	0.6	APKT11T3
EMP02-063-A22-AP11-09C	✻	●	63	22	40	11	9	A	0.54	
EMP02-080-A27-AP11-08		●	80	27	50	11	8	A	1.2	
EMP02-080-A27-AP11-08C	✻	●	80	27	50	11	8	A	1.2	
EMP02-080-A27-AP11-10C	✻	●	80	27	50	11	10	A	1.13	
EMP02-100-B32-AP11-10		●	100	32	50	11	10	B	1.7	
EMP02-100-B32-AP11-10C	✻	○	100	32	50	11	10	B	1.7	
EMP02-125-B40-AP11-10		○	125	40	63	11	10	B	3.42	
EMP02-040-A16-AP16-03		○	40	16	40	15.5	3	A	0.17	
EMP02-040-A16-AP16-04C	✻	●	40	16	40	15.5	4	A	0.17	
EMP02-050-A22-AP16-05		●	50	22	40	15.5	5	A	0.3	
EMP02-050-A22-AP16-05C	✻	●	50	22	40	15.5	5	A	0.3	
EMP02-063-A22-AP16-06		●	63	22	40	15.5	6	A	0.5	
EMP02-063-A22-AP16-06C	✻	●	63	22	40	15.5	6	A	0.5	APKT1604
EMP02-080-A27-AP16-06C	✻	○	80	27	50	15.5	6	A	1.08	
EMP02-080-A27-AP16-07		●	80	27	50	15.5	7	A	1.1	
EMP02-080-A27-AP16-07C	✻	●	80	27	50	15.5	7	A	1.1	
EMP02-100-B32-AP16-08		●	100	32	50	15.5	8	B	1.6	

● Ex stock ○ On demand

✻ With internal cooling

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Indexable milling

Article	✻	Stock	Dimensions [mm] ØD	ød	L	$a_{p\,max}$	Teeth	Coupling	kg	Inserts
EMP02-100-B32-AP16-08C	✻	●	100	32	50	15.5	8	B	1.6	APKT1604
EMP02-125-B40-AP16-06C	✻	○	125	40	63	15.5	6	B	3.18	
EMP02-125-B40-AP16-10		○	125	40	63	15.5	10	B	3.2	
EMP02-125-B40-AP16-10C	✻	○	125	40	63	15.5	10	B	3.2	
EMP02-160-B40-AP16-07C	✻	○	160	40	63	15.5	7	B	4.3	
EMP02-160-B40-AP16-10		○	160	40	63	15.5	10	B	6.3	
EMP02-160-B40-AP16-10C	✻	○	160	40	63	15.5	10	B	6.3	
EMP02-200-C60-AP16-12		○	200	60	63	15.5	12	C	8.1	
EMP02-250-C60-AP16-12		○	250	60	63	15.5	12	C	11.2	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**APKT11T3**	**APKT1604**	**APKT1604**
	ØD	**40-125**	**40-160**	**160-250**
	Cassette			Locator-APKT16
	Screw (insert)		I60M4×10 (3.4 Nm)	I60M4×10 (3.4 Nm)
	Screw (insert)	I60M2.5×6.5T (1.0 Nm)		
	Wrench (insert)	WT08IS	WT15IS	WT15IS



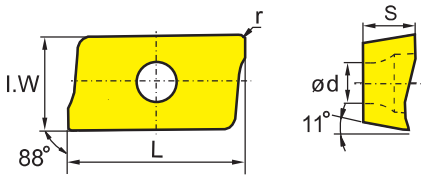
System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

APKT	L	S	d
07 02	4.26	2.38	2
11 T3	12.24	3.6	2.8
16 04	17.877	5.76	4.4

AP** milling insert



	HC[1] (CVD)								HC[1] (PVD)									HT		HC[2]	HW	
P	●	●	●	●	●	●		●			●	●		●	●	●		●	●	●		
M		●	●	●	●	●	●				●	●		●	●	●	●	●	●	●		
K							●	●	●								●				●	
N									●												●	●
S				●		●				●	●		●	●	●		●					
H																						

	ISO	r	l.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	APKT11T304-ALH	0.4	6.5									●												●	●
	APKT11T308-ALH	0.8	6.5									●												●	●
	APKT160408-ALH	0.8	9.33									●												●	●
	APKT11T304-APF	0.4	6.5															●							
	APKT11T308-APF	0.8	6.5													○		●		○					
	APKT160408-APF	0.8	9.33													○		●	○	○					
	APKT070204-APM	0.4	6.91															●							
	APKT11T304-APM	0.4	6.5				●		●									●							
	APKT11T308-APM	0.8	6.5				●		●							○		●		○					
	APKT11T312-APM	1.2	6.5				●		●									●							
	APKT11T316-APM	1.6	6.5				●		●									●							
	APKT11T320-APM	2	6.5				●		●									●							
	APKT160408-APM	0.8	9.33				●		●	●						○		●		○					
	APKT160416-APM	1.6	9.33				●		●									●							
	APKT160420-APM	2	9.33				●		●									●							
	APKT160424-APM	2.4	9.33				●		●									●							
	APKT160430-APM	3	9.33				●											●							
	APKT11T304-LH	0.4	6.5																					○	○
	APKT11T308-LH	0.8	6.5																					○	●
	APKT160408-LH	0.8	9.33																					○	○
	APKT11T308-NM															●				●					
	APKT11T312-NM															●				●					
	APKT11T304-PF	0.4	6.5		○			○					○	○						○					
	APKT11T308-PF	0.8	6.5											○											
	APKT11T316-PF	1.6	6.5											○											
	APKT160408-PF	0.8	9.33		○				○					○						○					
	APKT160430-PF	3	9.33	○																					
	APKT11T304-PM	0.4	6.5	○	○	○		○	○				○	○						○					
	APKT11T308-PM	0.8	6.5	○	○		○	○	●	○	○		○	○			○			○					
	APKT11T312-PM	1.2	6.5					○					○	○						○					
	APKT11T316-PM	1.6	6.5					○					○	○						○					
	APKT160408-PM	0.8	9.33	○	○	○	●		●	○	○		○	○			○			●					
	APKT160416-PM	1.6	9.33	○										○											

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

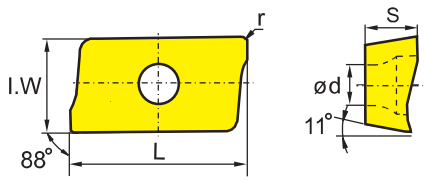
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

APKT	L	S	d
07 02	4.26	2.38	2
11 T3	12.24	3.6	2.8
16 04	17.877	5.76	4.4

AP** milling insert



				HC¹ (CVD)								HC¹ (PVD)									HT	HC²	HW	
				P																				
				M																				
				K																				
				N																				
				S																				
				H																				
	ISO		r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**APKT11T304-PR**		0.4	6.5						○										○						
	APKT11T316-PR		1.6	6.5																○						
	**APKT11T3XR**											●							●							

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

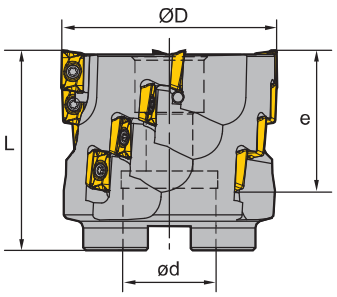
System code B26 Grade selection B24 Technical info B527 Cutting data B230

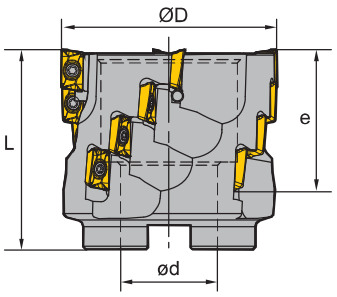
Square shoulder milling

EMP03 Kr: 90°









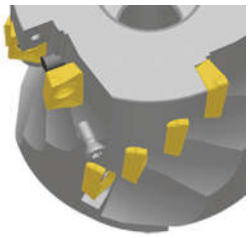
Article	✻	Stock	Dimensions [mm]				Teeth	Coupling	No. of inserts	kg	Inserts
			ØD	e	ød	L					
EMP03-050-A22-AP11-04		●	50	39	22	58	4	A	16	0.5	APKT11T3
EMP03-050-A22-AP11-04C	✻	○	50	39	22	58	4	A	16	0.5	
EMP03-063-A27-AP11-04		●	63	39	27	58	4	A	16	0.9	
EMP03-063-A27-AP11-04C	✻	○	63	39	27	58	4	A	16	0.9	
EMP03-080-B32-AP11-05		●	80	39	32	63	5	B	20	1.3	
EMP03-080-B32-AP11-05C	✻	○	80	39	32	63	5	B	20	1.3	
EMP03-100-B40-AP11-06		●	100	39	40	63	6	B	24	2	
EMP03-100-B40-AP11-06C	✻	○	100	39	40	63	6	B	24	2	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**APKT11T3**
	ØD	**50-100**
	Screw (insert)	I60M2.5×6.5T (1.0Nm)
	Wrench (insert)	WT08IS

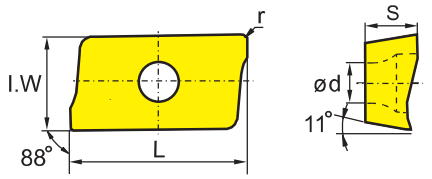


System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

APKT	L	S	d
11 T3	12.24	3.6	2.8

Milling inserts



AP** milling insert				HC¹ (CVD)								HC¹ (PVD)								HT	HC²	HW	
				P																			
				M																			
				K																			
				N																			
				S																			
				H																			
	ISO		r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	APKT11T304-ALH		0.4	6.5									●												●	●
	APKT11T308-ALH		0.8	6.5									●												●	●
	APKT11T304-APF		0.4	6.5															●							
	APKT11T308-APF		0.8	6.5													○		●		○					
	APKT11T304-APM		0.4	6.5				●			●								●							
	APKT11T308-APM		0.8	6.5				●			●						○		●		○					
	APKT11T312-APM		1.2	6.5				●			●								●							
	APKT11T316-APM		1.6	6.5				●			●								●							
	APKT11T320-APM		2	6.5				●			●								●							
	APKT11T304-LH		0.4	6.5																					○	○
	APKT11T308-LH		0.8	6.5																					○	●
	APKT11T308-NM																●				●					
	APKT11T312-NM																●				●					
	APKT11T304-PF		0.4	6.5		○			○					○	○					○						
	APKT11T308-PF		0.8	6.5											○											
	APKT11T316-PF		1.6	6.5											○											
	APKT11T304-PM		0.4	6.5	○	○	○		○	○				○	○					○						
	APKT11T308-PM		0.8	6.5	○	○		○	○	●	○	○		○	○			○		○						
	APKT11T312-PM		1.2	6.5					○					○	○					○						
	APKT11T316-PM		1.6	6.5					○					○	○					○						
	APKT11T304-PR		0.4	6.5						○										○						
	APKT11T316-PR		1.6	6.5																○						
	APKT11T3XR											●							●							

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

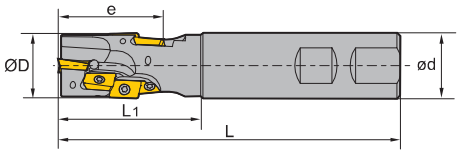
System code B26 Grade selection B24 Technical info B527 Cutting data B230

Square shoulder milling

EMP04 Kr: 90°







Weldon shank

Article	✻	Stock	Dimensions [mm]					Teeth	No. of inserts	kg	Inserts
			ØD	e	ød	L_1	L				
EMP04-020-XP20-AP11-01		●	20	29.4	20	45	120	1	3	0.3	APKT11T3
EMP04-025-XP25-AP11-02		●	25	38.9	25	55	130	2	8	0.4	
EMP04-032-XP32-AP11-02		●	32	48.5	32	65	140	2	10	0.7	
EMP04-040-XP40-AP11-02		●	40	58	40	75	150	2	14	1.3	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**APKT11T3**
	ØD	**20-40**
	Screw (insert)	I60M2.5×6.5T (1.0Nm)
	Wrench (insert)	WT08IS

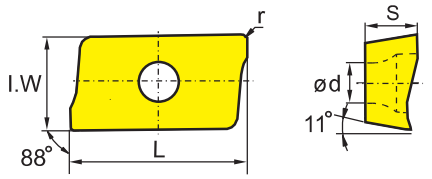


System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

APKT	L	S	d
11 T3	12.24	3.6	2.8

Milling inserts



AP** milling insert		HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
P		◉	◉	❁	◉	◉	❁		◉			❁	❁		❁	❁	◉	◉			
M			❁	❁	❁	❁	❁					❁	❁		❁	❁	❁	○			
K								❁	●											❁	
N										❁										❁	❁
S				❁		❁				○	❁		❁	❁	❁		❁				
H																					

ISO		r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	APKT11T304-ALH	0.4	6.5									●												●	●
	APKT11T308-ALH	0.8	6.5									●												●	●
	APKT11T304-APF	0.4	6.5															●							
	APKT11T308-APF	0.8	6.5													○		●		○					
	APKT11T304-APM	0.4	6.5				●			●								●							
	APKT11T308-APM	0.8	6.5				●			●						○		●		○					
	APKT11T312-APM	1.2	6.5				●			●								●							
	APKT11T316-APM	1.6	6.5				●			●								●							
	APKT11T320-APM	2	6.5				●			●								●							
	APKT11T304-LH	0.4	6.5																					○	○
	APKT11T308-LH	0.8	6.5																					○	●
	APKT11T308-NM															●				●					
	APKT11T312-NM															●				●					
	APKT11T304-PF	0.4	6.5		○			○					○	○					○						
	APKT11T308-PF	0.8	6.5											○											
	APKT11T316-PF	1.6	6.5											○											
	APKT11T304-PM	0.4	6.5	○	○	○		○	○				○	○					○						
	APKT11T308-PM	0.8	6.5	○	○		○	○	●	○	○		○	○			○		○						
	APKT11T312-PM	1.2	6.5					○					○	○					○						
	APKT11T316-PM	1.6	6.5					○					○	○					○						
	APKT11T304-PR	0.4	6.5						○										○						
	APKT11T316-PR	1.6	6.5																○						
	APKT11T3XR										●							●							

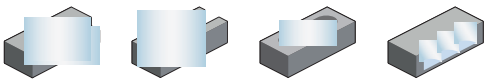
● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

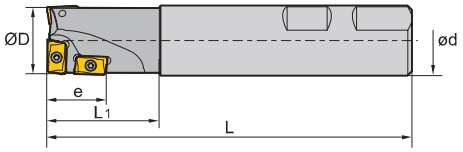
System code B26 Grade selection B24 Technical info B527 Cutting data B230

Square shoulder milling

EMP05 Kr: 90°







Weldon shank

Article	✻	Stock	Dimensions [mm]					Teeth	kg	Inserts
			ØD	e	ød	L_1	L			
EMP05-025-XP25-C	✻	●	25	20	25	40	130	3	0.5	APMT1135

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

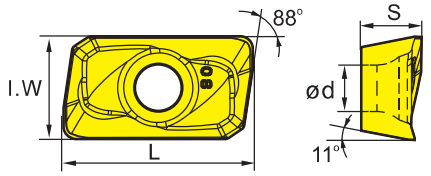
	Insert	**APMT1135**	
	ØD	**25**	
	Screw (insert)	l60M2.5×6.5T (1.0Nm)	
	Wrench (insert)	WT08IP	

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

APMT	L	S	d
11 35	11.25	3.5	2.8

AN** milling insert				HC[1] (CVD)							HC[1] (PVD)								HT	HC[2]	HW	
			P	◐	◐	◑	◐	◐	◑	◐		◐	◑	◐	◐	◑	◐	●	●	●		
			M		◐	◑	◐	◐	◑			◐	◑	◐	◐	◑	◑	●	●	●		
			K							◑	◐	●							●			◑
			N								◐											◑ ◑
			S			◑		◑				●	◐		◑	◐	◐	◑					
			H																			
ISO		r	l.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**APMT1135PDR**	0.8	6.2					○									●		○						

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

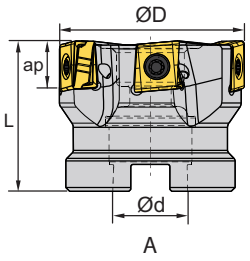
System code > B26 Grade selection > B24 Technical info > B527 Cutting data > B230

Square shoulder milling

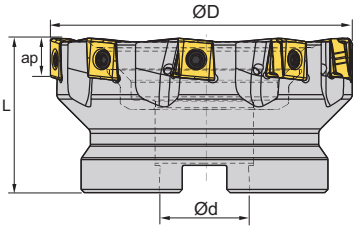
EMP09 Kr: 90°







A



B

Article	✻	Stock	Dimensions [mm] ØD	ød	L	$a_{p\,max}$	Teeth	Coupling	kg	Inserts
EMP09-040-A16-LN08-05C	✻	●	40	16	40	8	5	A		LNKT0804PNR
EMP09-050-A22-LN08-06C	✻	●	50	22	40	8	6	A		
EMP09-063-A22-LN08-08C	✻	●	63	22	40	8	8	A		
EMP09-080-A27-LN08-10C	✻	○	80	27	50	8	10	A		
EMP09-040-A16-LN12-04C	✻	●	40	16	40	11.5	4	A	0.19	LNKT1206PNR
EMP09-050-A22-LN12-05C	✻	●	50	22	40	11.5	5	A	0.33	
EMP09-063-A22-LN12-06C	✻	●	63	22	40	11.5	6	A	0.53	
EMP09-080-A27-LN12-07C	✻	●	80	27	50	11.5	7	A	1.18	
EMP09-100-B32-LN12-09C	✻	●	100	32	50	11.5	9	B	1.62	
EMP09-125-B40-LN12-11C	✻	●	125	40	63	11.5	11	B	3.25	
EMP09-080-A27-LN16-06C	✻	●	80	27	50	15	6	A		LNKT1607PNR
EMP09-100-B32-LN16-08C	✻	●	100	32	50	15	8	B		
EMP09-125-B40-LN16-10C	✻	●	125	40	63	15	10	B		
EMP09-160-B40-LN16-12C	✻	●	160	40	63	15	12	B		
EMP09-200-C60-LN16-16		○	200	60	70	15	16	C		
EMP09-250-C60-LN16-12		○	250	60	70	15	12	C		
EMP09-315-D60-LN16-16		○	315	60	80	15	16	D		

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	LNKT0804PNR	LNKT1206PNR	LNKT1607PNR
	ØD	40-80	40-125	80-360
	Screw (clamp)	I60M3×7 (1.8 Nm)	I60M4×12 (3.4 Nm)	
	Screw (insert)			I60M5×17 (6.7 Nm)
	Wrench	WT10IS	WT15IS	
	Wrench (insert)			WT20IS

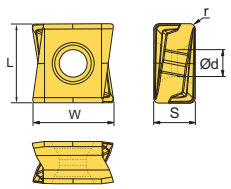
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

LNKT	L	S
08 04	8.75	4.45
12 06	12.7	6.75
16 07	16.05	7.35

LN** milling insert



	HC[1] (CVD)								HC[1] (PVD)								HT	HC[2]	HW	
P	◉	◉	◉	◉	◉	◉		◉			◉	◉		◉	◉	◉		○	○		
M		◉	◉	◉	◉	◉					◉	◉		◉	◉	◉	◉	○	○		
K							◉	◉		○							○			◉	
N									◉											◉	◉
S				◉		◉				○	◉		◉	◉	◉		◉				
H																					

	ISO	W	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**LNKT080404PNR-GL**	8.5	0.4								●							●		●					
	LNKT120608PNR-GL	13	0.8								●							●		●					
	LNKT160708PNR-GL	15	0.8								●							●		●					
	**LNKT080404PNR-GM**	8.5	0.4				●											●							
	LNKT120608PNR-GM	13	0.8				●				●							●							
	LNKT160708PNR-GM	15	0.8				●			○								●							

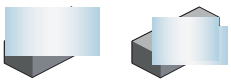
● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

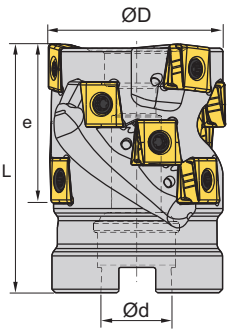
System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Square shoulder milling

EMP09 Kr: 90°







Article	✻	Stock	Dimensions [mm]				Teeth row	Teeth	Coupling	kg	Inserts
			ØD	e	ød	L					
EMP09-040x43-A16-LN12-02C	✻	○	40	43	16	70	2	8	A	0.4	LNKT1206PNR
EMP09-050x43-A22-LN12-03C	✻	●	50	43	22	70	3	12	A	0.64	
EMP09-063x53-A27-LN12-04C	✻	●	63	53	27	80	4	20	A	1.31	
EMP09-080x53-A27-LN12-05C	✻	○	80	53	27	80	5	25	A	2.33	
EMP09-080x53-A32-LN12-05C	✻	○	80	54.6	32	80	5	25	A	2.33	
EMP09-080x74-A32-LN12-05C	✻	○	80	74	32	100	5	35	A		

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

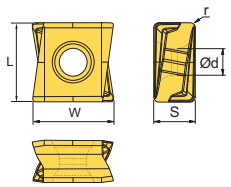
	Insert	**LNKT1206PNR**
	ØD	**40-80**
	Screw (clamp)	l60M4×12 (3.4Nm)
	Wrench	WT15IS

System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

LNKT	L	S
12 06	12.7	6.75



LN** milling insert				HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
			P																				
			M																				
			K																				
			N																				
			S																				
			H																				
ISO		W	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**LNKT120608PNR-GL**	13	0.8							●								●		●					
	**LNKT120608PNR-GM**	13	0.8				●			●								●							

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

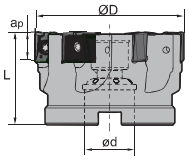
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Square shoulder milling

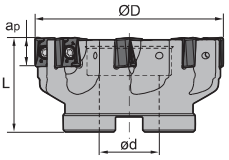
EMP13 Kr: 90°



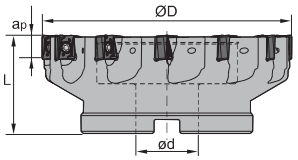




A



B



C

Article	✲	Stock	Dimensions [mm] ØD	ød	L	$a_{p\ max}$	Teeth	Coupling	kg	Inserts
EMP13-040-A16-AN11-04C	✲	○	40	16	40	11.2	4	A	0.45	
EMP13-050-A22-AN11-06C	✲	●	50	22	40	11.2	6	A	0.3	
EMP13-063-A22-AN11-06	✲	○	63	22	40	11.2	6	A	0.49	
EMP13-063-A22-AN11-07C	✲	●	63	22	40	11.2	7	A	0.49	
EMP13-080-A27-AN11-07	✲	○	80	27	50	11.2	7	A	1.18	
EMP13-080-A27-AN11-09C	✲	●	80	27	50	11.2	9	A	1.18	ANGX1105
EMP13-100-B32-AN11-12		●	100	32	50	11.2	12	B	1.46	
EMP13-100-B32-AN11-12C	✲	○	100	32	50	11.2	12	B	1.46	
EMP13-125-B40-AN11-14		●	125	40	63	11.2	14	B	2.92	
EMP13-125-B40-AN11-14C	✲	○	125	40	63	11.2	14	B	2.92	
EMP13-160-C40-AN11-16		●	160	40	63	11.2	16	C	4.3	
EMP13-050-A22-AN15-04C	✲	●	50	22	40	14.5	4	A	0.26	
EMP13-060-A22-AN15-05C	✲	○	60	22	40	14.5	5	A	0.53	
EMP13-063-A22-AN15-05C	✲	●	63	22	40	14.5	5	A	0.53	
EMP13-080-A27-AN15-06C	✲	●	80	27	50	14.5	6	A	1.23	
EMP13-100-B32-AN15-08		●	100	32	50	14.5	8	B	1.52	
EMP13-100-B32-AN15-08C	✲	○	100	32	50	14.5	8	B	1.52	ANGX1506
EMP13-125-B40-AN15-10		●	125	40	63	14.5	10	B	3.05	
EMP13-125-B40-AN15-10C	✲	○	125	40	63	14.5	10	B	3.05	
EMP13-160-C40-AN15-12		●	160	40	63	14.5	12	C	4.46	
EMP13-200-C60-AN15-16		○	200	60	63	14.5	16	C	6.26	

● Ex stock ○ On demand

✲ With internal cooling

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Spare parts

	Insert	ANGX1105	ANGX1506
	ØD	40-160	50-200
	Screw (clamp)		I60M4×12 (3.4 Nm)
	Screw (insert)	I60M3×9 (1.8 Nm)	I60M4×12 (3.4 Nm)
	Wrench		WT15IS
	Wrench (insert)	WT09IS	WT15IS

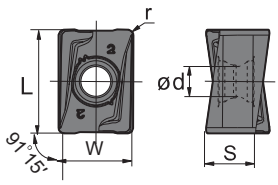


- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

ANGX	L	S	d
11 05	11.85	5.7	3.5
15 06	15.43	7.3	4.4

Milling inserts

AN** milling insert



		HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
P																				
M																				
K																				
N																				
S																				
H																				
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	ANGX110504PNR-GM				●			●							●	●							
	ANGX110508PNR-GM	●			●			●	●						●	●							
	ANGX110520PNR-GM				●				●						●								
	ANGX150608PNR-GM	○			●			●	●						●	●							
	ANGX150616PNR-GM				●			●							●								
	ANGX150620PNR-GM							●	●						●								
	ANGX110504PNR-LH																					●	
	ANGX150608PNR-LH																					●	

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

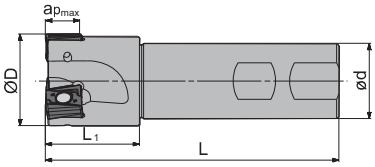
System code B26 Grade selection B24 Technical info B527 Cutting data B230

Square shoulder milling

EMP13 Kr: 90°







Weldon shank

Article	✻	Stock	Dimensions [mm] ØD	ød	L_1	L	$a_{p\,max}$	Teeth	kg	Inserts
EMP13-025-XP25-AN11-02C	✻	●	25	25	32	100	11.2	2	0.31	ANGX1105
EMP13-032-XP32-AN11-03C	✻	●	32	32	40	115	11.2	3	0.61	
EMP13-040-XP32-AN11-04C	✻	●	40	32	40	125	11.2	4	0.75	
EMP13-032-XP32-AN15-02C	✻	●	32	32	40	125	11.2	2	0.66	ANGX1506
EMP13-040-XP32-AN15-03C	✻	●	40	32	40	125	11.2	3	0.76	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	ANGX1105	ANGX1506
	ØD	25-40	25-40
	Screw (insert)	I60M3×9 (1.8 Nm)	I60M4×12 (3.4 Nm)
	Wrench (insert)	WT09IS	WT15IS

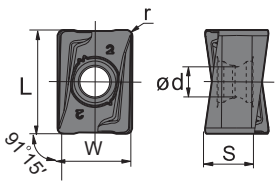


System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

ANGX	L	S	d
11 05	11.85	5.7	3.5
15 06	15.43	7.3	4.4



AN** milling insert				HC[1] (CVD)								HC[1] (PVD)										HT	HC[2]	HW	
				P																					
				M																					
				K																					
				N																					
				S																					
				H																					
ISO		W	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**ANGX110504PNR-GM**	8.4	0.4				●			●							●	●							
	ANGX110508PNR-GM	8.4	0.8	●			●			●	●						●	●							
	ANGX110520PNR-GM	8.4	2				●				●						●								
	ANGX150608PNR-GM	11	0.8	○			●			●	●						●	●							
	ANGX150616PNR-GM	11	1.6				●			●							●								
	ANGX150620PNR-GM	11	2							●	●						●								
	**ANGX110504PNR-LH**	8.4	0.4																					●	
	ANGX150608PNR-LH	11	0.8																					●	

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

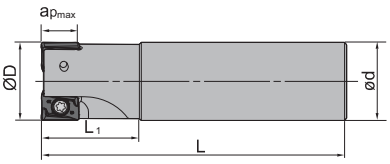
System code > B26 Grade selection > B24 Technical info > B527 Cutting data > B230

Square shoulder milling

EMP13 Kr: 90°







Straight shank

Article	✻	Stock	Dimensions [mm]						Teeth	kg	Inserts
			ØD	e	ød	L_1	L	$a_{p\,max}$			
EMP13-025-G25-AN11-02C	✻	●	25	11.2	25	32	100	11.2	2	0.31	ANGX1105
EMP13-032-G32-AN11-03C	✻	●	32	11.2	32	40	115	11.2	3	0.61	
EMP13-040-G32-AN11-04C	✻	●	40	11.2	32	40	125	11.2	4	0.75	
EMP13-032-G32-AN15-02C	✻	●	32	14.5	32	40	125	14.5	2	0.66	ANGX1506
EMP13-040-G32-AN15-03C	✻	●	40	14.5	32	40	125	14.5	3	0.76	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	ANGX1105	ANGX1506
	ØD	25-40	25-40
	Screw (insert)	I60M3×9 (1.8 Nm)	I60M4×12 (3.4 Nm)
	Wrench (insert)	WT09IS	WT15IS



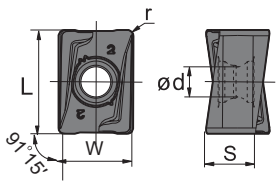
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

ANGX	L	S	d
11 05	11.85	5.7	3.5
15 06	15.43	7.3	4.4

AN** milling insert



	HC[1] (CVD)								HC[1] (PVD)								HT	HC[2]	HW	
P	◉	◉	◉	◉	◉	◉		◉			◉	◉		◉	◉	◉	◉	◉		
M		◉	◉	◉	◉	◉					◉	◉		◉	◉	◉	◉	◉		
K							◉	◉	●										◉	
N									◉										◉	◉
S				◉		◉			●	◉			◉	◉	◉					
H																				

ISO		W	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**ANGX110504PNR-GM**	8.4	0.4				●			●							●	●							
	ANGX110508PNR-GM	8.4	0.8	●			●			●	●						●	●							
	ANGX110520PNR-GM	8.4	2				●				●						●								
	ANGX150608PNR-GM	11	0.8	○			●			●	●						●	●							
	ANGX150616PNR-GM	11	1.6				●			●							●								
	ANGX150620PNR-GM	11	2							●	●						●								
	**ANGX110504PNR-LH**	8.4	0.4																					●	
	ANGX150608PNR-LH	11	0.8																					●	

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

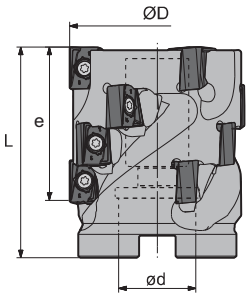
System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Square shoulder milling

EMP13 Kr: 90°







Article	✻	Stock	Dimensions [mm]				Teeth	No. of inserts	kg	Inserts
			ØD	e	ød	L				
EMP13-050x43-A22-AN11-03		●	50	43	22	60	3	12	0.52	ANGX1105
EMP13-063x64-A27-AN11-04		○	63	64	27	80	4	24	1.15	
EMP13-063x53-A27-AN15-03		○	63	53	27	75	3	12	1.14	ANGX1506
EMP13-080x53-A32-AN15-04		●	80	53	32	75	4	16	1.82	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**ANGX1105**	**ANGX1506**	
	ØD	**50-63**	**63-80**	
	Screw (insert)	I60M3×9 (1.8 Nm)	I60M4×12 (3.4 Nm)	
	Wrench (insert)	WT09IS	WT15IS	

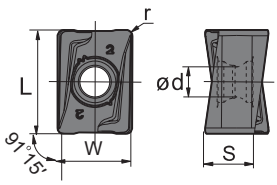
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

ANGX	L	S	d
11 05	11.85	5.7	3.5
15 06	15.43	7.3	4.4

AN** milling insert



	HC[1] (CVD)								HC[1] (PVD)									HT	HC[2]	HW	
P	◉	◉	◎	◉	◉	◎		◉			◉	◎		◉	◉	◎	◉	◉	◉		
M		◉	◎	◉	◉	◎					◉	◎		◉	◉	◎	◉	○	○		
K							◉	◉	●								●			◎	
N									◉											◎	◎
S				◎		◎				○	◉		◉	◉	◉		◎				
H																					

	ISO	W	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**ANGX110504PNR-GM**	8.4	0.4				●			●							●	●							
	ANGX110508PNR-GM	8.4	0.8	●			●			●	●						●	●							
	ANGX110520PNR-GM	8.4	2				●				●						●								
	ANGX150608PNR-GM	11	0.8	○			●			●	●						●	●							
	ANGX150616PNR-GM	11	1.6				●			●							●								
	ANGX150620PNR-GM	11	2							●	●						●								
	**ANGX110504PNR-LH**	8.4	0.4																					●	
	ANGX150608PNR-LH	11	0.8																					●	

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

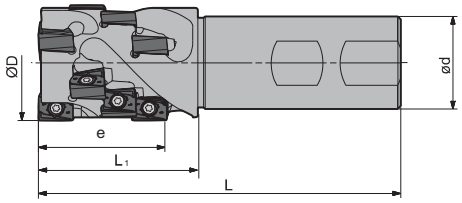
System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Square shoulder milling

EMP13 Kr: 90°







Weldon shank

Article	✻	Stock	Dimensions [mm] ØD	e	ød	L_1	L	Teeth	No. of inserts	kg	Inserts
EMP13-032x43-XP32-AN11-02		○	32	43	32	48	115	2	8	0.61	ANGX1105
EMP13-040x43-XP32-AN11-03		○	40	43	32	55	125	3	12	0.79	
EMP13-040x40-XP32-AN15-02		○	40	40	32	55	115	2	6	0.79	ANGX1506
EMP13-050x53-XP40-AN15-02		○	50	53	40	70	145	2	8	1.53	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	ANGX1105	ANGX1506	
	ØD	32-40	40-50	
	Screw (insert)	I60M3×9 (1.8 Nm)	I60M4×12 (3.4 Nm)	
	Wrench (insert)	WT09IS	WT15IS	

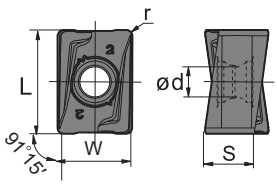
System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

ANGX	L	S	d
11 05	11.85	5.7	3.5
15 06	15.43	7.3	4.4

AN** milling insert



	HC[1] (CVD)								HC[1] (PVD)								HT	HC[2]	HW	
P	◉	◉	◉	◉	◉	◉		◉			◉	◉		◉	◉	◉	◉	◉		
M		◉	◉	◉	◉	◉					◉	◉		◉	◉	◉	◉	◉		
K							◉	◉	◉							◉			◉	
N									◉										◉	◉
S				◉		◉				◉	◉		◉	◉	◉		◉			
H																				

	ISO	W	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**ANGX110504PNR-GM**	8.4	0.4				●			●							●	●							
	ANGX110508PNR-GM	8.4	0.8	●			●			●	●						●	●							
	ANGX110520PNR-GM	8.4	2				●				●						●								
	ANGX150608PNR-GM	11	0.8	○			●			●	●						●	●							
	ANGX150616PNR-GM	11	1.6				●			●							●								
	ANGX150620PNR-GM	11	2							●	●						●								
	**ANGX110504PNR-LH**	8.4	0.4																					●	
	ANGX150608PNR-LH	11	0.8																					●	

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

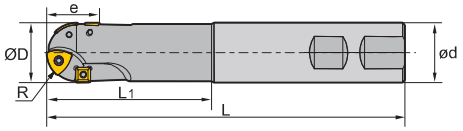
System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Profile milling

BMR01







Weldon shank

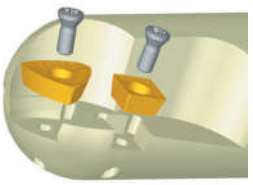
Article	✻	Stock	Dimensions [mm]						Teeth		kg	Inserts
			R	ØD	e	ød	L_1	L	ZDET	SPMT		
BMR01-020-XP20-S		○	10	20	20	20	50	125	2	2	0.3	ZDET08T2 & SPMT0603
BMR01-020-XP20-M		○	10	20	20	20	75	150	2	2	0.3	
BMR01-020-XP20-L		○	10	20	20	20	100	200	2	2	0.4	
BMR01-025-XP25-S		○	12.5	25	23	25	70	150	2	2	0.5	ZDET1103 & SPMT0603
BMR01-025-XP25-M		○	12.5	25	23	25	95	175	2	2	0.6	
BMR01-025-XP25-L		○	12.5	25	23	25	100	200	2	2	0.7	
BMR01-032-XP32-S		○	16	32	31	32	85	175	2	2	0.9	ZDET13T2 & SDMT0903
BMR01-032-XP32-M		○	16	32	31	32	100	200	2	2	1.1	
BMR01-032-XP32-L		○	16	32	31	32	150	250	2	2	1.4	
BMR01-040-XP40-S		○	20	40	41	40	85	175	3	2	1.4	ZPNT2204 & SPMT1204
BMR01-040-XP40-M		○	20	40	41	40	100	200	3	2	1.7	
BMR01-040-XP40-L		○	20	40	41	40	150	250	3	2	2.1	
BMR01-050-XP40-S		○	25	50	45	40	100	200	3	2	1.8	
BMR01-050-XP40-M		○	25	50	45	40	100	300	3	2	2.8	
BMR01-063-XP40-S		○	31.5	63	52	40	100	200	4	2	3	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	ZDET08T2 & SPMT0603	ZDET1103 & SPMT0603	ZDET13T2 & SDMT0903	ZPNT2204 & SPMT1204
	ØD	20	25	32	40-63
	Screw (insert)	I43M2.5×5.7 (1.0 Nm)	I43M2.5×5.7 (1.0 Nm)	I43M4×8 (3.4 Nm)	I43M5×11 (6.7 Nm)
	Wrench (insert)	WT07IP	WT07IP		
	Wrench (insert)			WT15IS	WT20IS

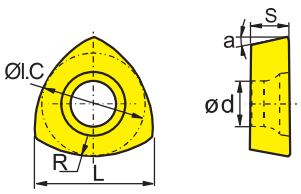


System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

ZDET	L	I.C	S	d
08 T2	8.4	6.75	2.78	2.8
11 03	10.6	8.5	3.18	2.8
13 T3	13.2	10.5	3.97	4.4
22 04	16.1	12.7	4.76	5.56



ZD** milling insert			HC[1] (CVD)							HC[1] (PVD)								HT	HC[2]	HW	
		P																			
		M																			
		K																			
		N																			
		S																			
		H																			
ISO		R	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**ZDET13T3CYR16-PM**	16					○					○												
	**ZDET08T2CYR10**	10					○																	
	ZDET1103CYR12.5	12.5					○																	
	**ZPNT2204CY(R20)**	20					○																	
	ZPNT2204CY(R25)	25					●																	
	ZPNT2204CY(R31)	31.5					○																	

● Ex stock ○ On demand

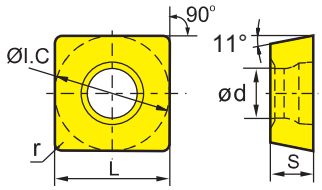
HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

SPMT	L	I.C	S	d
06 03	6.35	6.35	3.18	2.8
12 04	12.7	12.7	4.76	5.5

SP** milling insert			HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
	P																					
	M																					
	K																					
	N																					
	S																					
	H																					
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**SPMT060304-KT**			○																		
	**SPMT060304**	0.4					●											○					
	SPMT120408	0.8	○	●	○		●	○										○					

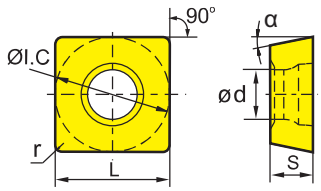
● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

SDMT	L	I.C	S	d
09 03	9.525	9.525	3.18	4.4

SD** milling insert			HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
	P																					
	M																					
	K																					
	N																					
	S																					
	H																					
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**SDMT090308**	0.8					●																	

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Profile milling

BMR02







Article	✻	Stock	Dimensions [mm]					kg	Inserts
			R	ØD	ød	L_1	L		
BMR02-012-G16-S		●	6	12	16	40	110	0.1	ROHX1203
BMR02-012-G16-M		●	6	12	16	50	130	0.2	
BMR02-012-G16-L		●	6	12	16	50	160	0.2	
BMR02-016-G20-S		●	8	16	20	45	140	0.3	ROHX1604
BMR02-016-G20-M		●	8	16	20	65	170	0.3	
BMR02-016-G20-L		●	8	16	20	65	200	0.4	
BMR02-020-G25-S		●	10	20	25	60	160	0.5	ROHX2005
BMR02-020-G25-M		●	10	20	25	80	200	0.6	
BMR02-020-G25-L		●	10	20	25	80	240	0.8	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	ROHX1203	ROHX1604	ROHX2005
	ØD	12	16	20
	Screw (insert)	I70M4×10TT (3.4 Nm)	I70M5×12TT (6.7 Nm)	I70M5×16TT (6.7 Nm)
	Wrench (insert)	WT15IS	WT20IS	WT20IS

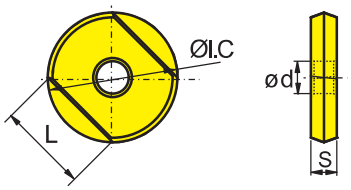


System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

ROHX	L	I.C	S	d
12 03	8.5	12	3	4
16 04	11.3	16	4	5
20 05	14.1	20	5	5



RO** positive insert		HC[1] (CVD)							HC[1] (PVD)									HT	HC[2]	HW	
P		●	●	●	●	●	●	●			●	●		●	●	●	●	●	●		
M			●	●	●	●	●	●			●	●		●	●	●	●	●	●		
K									●	●								●			●
N									●											●	●
S					●		●			●	●		●	●	●		●				
H																					
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**ROHX1604**											○							●				
	ROHX1203										○	○							●				
	ROHX2005											○							●				

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

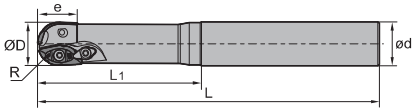
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Profile milling

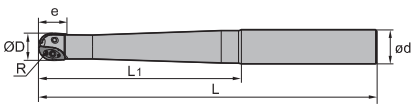
BMR03







A



B

Straight shank

Article	✻	Stock	Dimensions [mm]						Teeth	Coupling	kg	Inserts
			R	ØD	e	ød	L_1	L				
BMR03-016-G20-S		●	8	16	16	20	70	150	2	B	0.3	XPHT16
BMR03-016-G20-M		●	8	16	16	20	80	180	2	B	0.4	
BMR03-020-G25-S		●	10	20	20	25	80	180	2	B	0.5	XPHT20
BMR03-020-G25-M		●	10	20	20	25	100	200	2	B	0.6	
BMR03-020-G25-L		●	10	20	20	25	150	250	2	B	0.7	
BMR03-020-G25-XL		○	10	20	20	25	110	300	2	B	1	
BMR03-025-G25-S		●	12.5	25	25	25	80	180	2	B	0.6	XPHT25
BMR03-025-G25-M		●	12.5	25	25	25	100	200	2	B	0.7	
BMR03-025-G25-L		○	12.5	25	25	25	110	250	2	B	0.8	
BMR03-025-G25-XL		○	12.5	25	25	25	120	300	2	B	1	
BMR03-030-G32-S		○	15	30	30	32	120	200	2	A	1	XPHT30
BMR03-030-G32-M		●	15	30	30	32	150	250	2	A	1.3	
BMR03-030-G32-L		○	15	30	30	32	200	300	2	A	1.6	
BMR03-032-G32-S		●	16	32	32	32	120	200	2	A	1.1	XPHT32
BMR03-032-G32-M		●	16	32	32	32	150	250	2	A	1.4	
BMR03-032-G32-L		●	16	32	32	32	200	300	2	A	1.6	
BMR03-032-G32-XL		○	16	32	32	32	200	350	2	A	2	
BMR03-040-G40-S		○	20	40	40	40	120	200	2	A	1.6	XPHT40
BMR03-040-G40-M		○	20	40	40	40	150	250	2	A	2	
BMR03-040-G40-L		●	20	40	40	40	200	300	2	A	2.5	

● Ex stock ○ On demand

✻ With internal cooling

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Spare parts

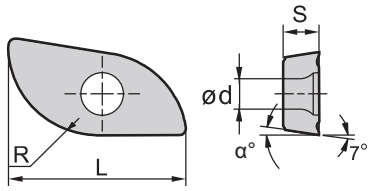
	Insert	XPHT16	XPHT20	XPHT25	XPHT30	XPHT32	XPHT40
	ØD	16	20	25	30	32	40
	Clamp						CBH5R1
	Clamp				WD-208	WD-208	
	Screw (clamp)				I60M5×13 (6.7 Nm)	I60M5×13 (6.7 Nm)	I43M6×16 (9.1 Nm)
	Screw (insert)	I60M2.5×6.5 (1.0 Nm)		I60M4×10 (3.4 Nm)	I60M5×13 (6.7 Nm)	I60M5×13 (6.7 Nm)	I43M6×16 (9.1 Nm)
	Screw (insert)		I60M3.5×08TT (2.7 Nm)				
	Wrench (clamp)				WT20IT	WT20IT	WT25IT
	Wrench (insert)		WT10IP				
	Wrench (insert)				WT20IT	WT20IT	WT25IT
	Wrench (insert)	WT07P					
	Wrench (insert)			WT15S			



XPHT	L	S	d
16	16	3.18	3.1
20	20	3.97	4
25	25	4.76	4.7
30	30	6.35	5.8
32	32	6.35	5.8
40	40	7.94	6.8

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions



XP** milling insert				HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
				P																		
				M																		
				K																		
				N																		
				S																		
				H																		
ISO		R	α	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**XPHT16R0803-GM**	8	9																●						
	XPHT20R10T3-GM	10	9																●						
	XPHT25R1204-GM	12.5	9																●						
	XPHT30R1506-GM	15	11																●						
	XPHT32R1606-GM	16	9																●						
	XPHT40R2007-GM	20	9																●						

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

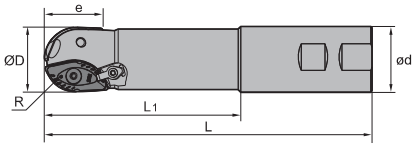
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Profile milling

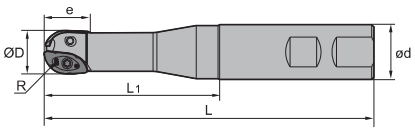
BMR03







A



B

Weldon shank

Article	*	Stock	Dimensions [mm]						Teeth	Coupling	kg	Inserts
			R	ØD	e	ød	L_1	L				
BMR03-016-XP20-M		●	8	16	16	20	60	111	2	B	0.2	XPHT16
BMR03-020-XP25-M		●	10	20	20	25	70	127	2	B	0.3	XPHT20
BMR03-020-XP25-L		●	10	20	20	25	80	150	2	B	0.4	
BMR03-025-XP25-M		●	12.5	25	25	25	80	137	2	B	0.4	XPHT25
BMR03-025-XP25-L		●	12.5	25	25	25	100	200	2	B	0.6	
BMR03-030-XP32-M		●	15	30	30	32	100	161	2	A	0.8	XPHT30
BMR03-030-XP32-L		●	15	30	30	32	150	250	2	A	1.3	
BMR03-032-XP32-M		●	16	32	32	32	100	161	2	A	0.8	XPHT32
BMR03-032-XP32-L		○	16	32	32	32	120	250	2	A	1.3	
BMR03-040-XP40-M		○	20	40	40	40	100	175	2	A	1.3	XPHT40
BMR03-040-XP40-L		●	20	40	40	40	120	250	2	A	2	
BMR03-050-XP50-M		○	25	50	50	50	100	200	2	A	2.5	XPHT50
BMR03-050-XP50-L		○	25	50	50	50	150	250	2	A	3.1	

● Ex stock ○ On demand

* With internal cooling

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Spare parts

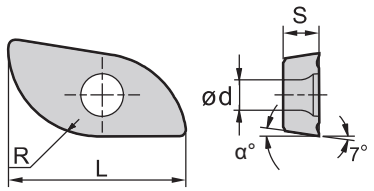
	Insert	XPHT16	XPHT20	XPHT25	XPHT30	XPHT32	XPHT40	XPHT50
	ØD	16	20	25	30	32	40	50
	Clamp						CBH5R1	CBH5R1
	Clamp				WD-208	WD-208		
	Screw (clamp)				I60M5×13 (6.7 Nm)	I60M5×13 (6.7 Nm)	I43M6×16 (9.1 Nm)	I43M6×16 (9.1 Nm)
	Screw (insert)	I60M2.5×6.5 (1.0 Nm)		I60M4×10 (3.4 Nm)	I60M5×13 (6.7 Nm)	I60M5×13 (6.7 Nm)	I43M6×16 (9.1 Nm)	I43M8×21 (16.2 Nm)
	Screw (insert)		I60M3.5×08TT (2.7 Nm)					
	Wrench (clamp)				WT20IT	WT20IT	WT25IT	WT25IT
	Wrench (insert)		WT10IP					
	Wrench (insert)				WT20IT	WT20IT	WT25IT	WT30IT
	Wrench (insert)	WT07P						
	Wrench (insert)			WT15S				



XPHT	L	S	d
16	16	3.18	3.1
20	20	3.97	4
25	25	4.76	4.7
30	30	6.35	5.8
32	32	6.35	5.8
40	40	7.94	6.8
50	50	7.94	9.2

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

Milling inserts



XP** milling insert		HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
P		●	●	●	●	●	●	●		●	●		●	●	●	●	●	●		
M			●	●	●	●	●	●		●	●		●	●	●	●	●	●		
K							●	●	●								●			●
N									●											● ●
S					●		●			●	●		●	●	●		●				
H																				

ISO		R	α	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**XPHT16R0803-GM**	8	9																●						
	XPHT20R10T3-GM	10	9																●						
	XPHT25R1204-GM	12.5	9																●						
	XPHT30R1506-GM	15	11																●						
	XPHT32R1606-GM	16	9																●						
	XPHT40R2007-GM	20	9																●						
	XPHT50R2507-GM	25	9																●						

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

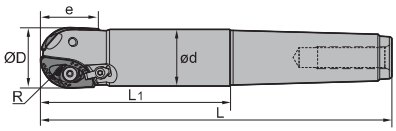
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Profile milling

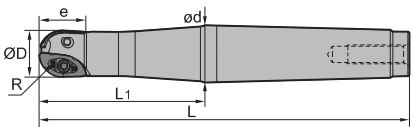
BMR03







A



B

Morse taper shank

Article	*	Stock	Dimensions [mm] R	ØD	e	ød	L_1	L	Teeth	Coupling	kg	Inserts
BMR03-020-MT3-M		○	10	20	20	18.7	70	156	2	B	0.4	XPHT20
BMR03-020-MT3-L		○	10	20	20	18.7	100	186	2	B	0.4	
BMR03-025-MT3-M		○	12.5	25	25	23.5	70	156	2	B	0.4	XPHT25
BMR03-025-MT3-L		○	12.5	25	25	23.5	100	186	2	B	0.4	
BMR03-030-MT4-M		○	15	30	30	28.2	70	189	2	A	0.8	XPHT30
BMR03-030-MT4-L		○	15	30	30	28.2	120	229	2	A	1	
BMR03-032-MT4-M		○	16	32	32	29.2	70	179	2	A	0.9	XPHT32
BMR03-032-MT4-L		●	16	32	32	29.2	100	209	2	A	0.9	
BMR03-040-MT5-L		○	20	40	40	36.9	90	226	2	A	1.8	XPHT40
BMR03-050-MT5-M		●	25	50	50	46.8	100	236	2	A	2.2	XPHT50
BMR03-050-MT5-L		○	25	50	50	46.8	150	286	2	A	2.9	

● Ex stock ○ On demand

* With internal cooling

System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Spare parts

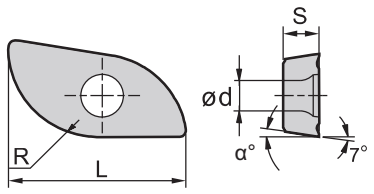
	Insert	XPHT20	XPHT25	XPHT30	XPHT32	XPHT40	XPHT50
	ØD	20	25	30	32	40	50
	Clamp					CBH5R1	CBH5R1
	Clamp			WD-208	WD-208		
	Screw (clamp)			I60M5×13 (6.7 Nm)	I60M5×13 (6.7 Nm)	I43M6×16 (9.1 Nm)	I43M6×16 (9.1 Nm)
	Screw (insert)		I60M4×10 (3.4 Nm)	I60M5×13 (6.7 Nm)	I60M5×13 (6.7 Nm)	I43M6×16 (9.1 Nm)	I43M8×21 (16.2 Nm)
	Screw (insert)	I60M3.5×08TT (2.7 Nm)					
	Wrench (clamp)			WT20IT	WT20IT	WT25IT	WT25IT
	Wrench (insert)	WT10IP					
	Wrench (insert)			WT20IT	WT20IT	WT25IT	WT30IT
	Wrench (insert)		WT15S				



XPHT	L	S	d
20	20	3.97	4
25	25	4.76	4.7
30	30	6.35	5.8
32	32	6.35	5.8
40	40	7.94	6.8
50	50	7.94	9.2

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions



XP** milling insert				HC¹ (CVD)								HC¹ (PVD)									HT	HC²	HW	
			P																					
			M																					
			K																					
			N																					
			S																					
			H																					
ISO		R	α	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	XPHT20R10T3-GM	10	9																●						
	XPHT25R1204-GM	12.5	9																●						
	XPHT30R1506-GM	15	11																●						
	XPHT32R1606-GM	16	9																●						
	XPHT40R2007-GM	20	9																●						
	XPHT50R2507-GM	25	9																●						

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

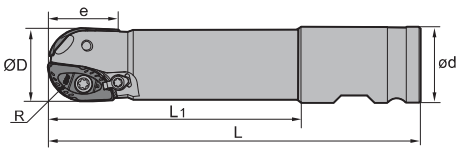
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Profile milling

BMR03







Compound shank

Article	✻	Stock	Dimensions [mm]						Teeth	kg	Inserts
			R	ØD	e	ød	L_1	L			
BMR03-040-XPX-M		○	20	40	40	50.8	170	250	2	1.3	
BMR03-040-XPX-L		○	20	40	40	50.8	220	300	2	3.1	XPHT40
BMR03-040-XPX-XL		○	20	40	40	50.8	270	350	2	3.5	
BMR03-050-XPX-M		○	25	50	50	50.8	170	250	2	3.1	
BMR03-050-XPX-L		○	25	50	50	50.8	200	300	2	3.8	XPHT50
BMR03-050-XPX-XL		○	25	50	50	50.8	270	350	2	4.4	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	XPHT40	XPHT50
	ØD	40	50
	Clamp	CBH5R1	CBH5R1
	Screw (clamp)	I43M6×16 (9.1 Nm)	I43M6×16 (9.1 Nm)
	Screw (insert)	I43M6×16 (9.1 Nm)	I43M8×21 (16.2 Nm)
	Wrench (clamp)	WT25IT	WT25IT
	Wrench (insert)	WT25IT	WT30IT

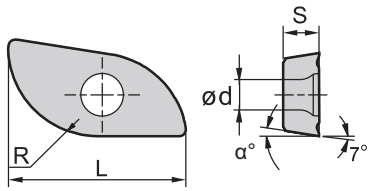


System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

XPHT	L	S	d
40	40	7.94	6.8
50	50	7.94	9.2



XP** milling insert				HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
				YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P				●	●	●	●	●	●		●			●	●		●	●	●		●	●	●		
M					●	●	●	●	●					●	●		●	●	●	●	●	●	●		
K										●	●	●									●				●
N												●												●	●
S							●		●				●	●		●	●	●		●					
H																									
ISO		R	α																						
	**XPHT40R2007-GM**	20	9																●						
	XPHT50R2507-GM	25	9																●						

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

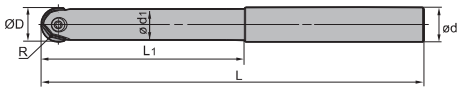
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Profile milling

BMR04







Straight shank

Article	✻	Stock	Dimensions [mm] R	ØD	ød	Ød1	L_1	L	kg	Inserts
BMR04-012-G12-M		●	6	12	12	11	35	125	0.1	ZOHX12
BMR04-012-G12-L		●	6	12	12	11	45	150	0.1	
BMR04-016-G16-M		●	8	16	16	14	40	150	0.2	ZOHX16
BMR04-016-G16-L		●	8	16	16	14	55	180	0.3	
BMR04-020-G20-M		●	10	20	20	18	65	180	0.4	ZOHX20
BMR04-020-G20-L		●	10	20	20	18	100	250	0.6	
BMR04-025-G25-M		●	12.5	25	25	23	70	200	0.7	ZOHX25
BMR04-025-G25-L		●	12.5	25	25	23	100	250	0.9	
BMR04-030-G32-M		●	15	30	32	27	80	250	1.2	ZOHX30
BMR04-030-G32-L		●	15	30	32	27	110	300	1.5	
BMR04-032-G32-M		●	16	32	32	29	80	250	1.4	ZOHX32
BMR04-032-G32-L		●	16	32	32	29	110	300	1.7	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	ZOHX12	ZOHX16	ZOHX20	ZOHX25	ZOHX30	ZOHX32
	ØD	12	16	20	25	30	32
	Screw (insert)	I70M4×10TT (3.4 Nm)	I70M5×12TT (6.7 Nm)	I70M5×16TT (6.7 Nm)	I70M6×20TT (9.1 Nm)	I70M8×25TT (16.2 Nm)	I70M8×25TT (16.2 Nm)
	Wrench (insert)	WT15IP	WT20IP	WT20IP	WT20IP		
	Wrench (insert)					WT30IT	WT30IT

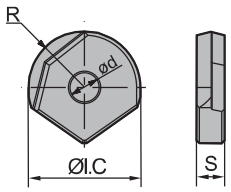


System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

ZOHX	I.C	S	d
12	12	1.5	4
16	16	4	5
20	20	5	5
25	25	6	6
30	30	7	8
32	32	7	8

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

Milling inserts



ZO** milling insert			HC[1] (CVD)								HC[1] (PVD)									HT		HC[2]		HW		
		P																								
		M																								
		K																								
		N																								
		S																								
		H																								
ISO		R	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C		YD101	YD201		
	**ZOHX1203-GF**	6																		●							
	ZOHX1604-GF	8																		●							
	ZOHX2005-GF	10																		●							
	ZOHX2506-GF	12.5																		○							
	ZOHX3007-GF	15																		●							
	ZOHX3207-GF	16																		●							
	**ZOHX1203-GM**	6																		●							
	ZOHX1604-GM	8																		●							
	ZOHX2005-GM	10																		●							
	ZOHX2506-GM	12.5																		○							
	ZOHX3007-GM	15																		●							
	ZOHX3207-GM	16																		●							

● Ex stock ○ On demand

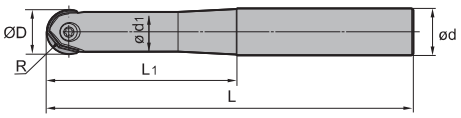
HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

System code B26 Grade selection B24 Technical info B527 Cutting data B230

Profile milling

BMR04





Straight shank

Article	✻	Stock	Dimensions [mm]						kg	Inserts
			R	ØD	ød	Ød1	L_1	L		
BMR04-012-G16-M		●	6	12	16	11	50	125	0.2	ZOHX12
BMR04-012-G16-L		●	6	12	16	11	70	150	0.2	
BMR04-016-G20-M		●	8	16	20	14	60	150	0.3	ZOHX16
BMR04-016-G20-L		●	8	16	20	14	80	180	0.3	
BMR04-020-G25-M		●	10	20	25	18	75	180	0.6	ZOHX20
BMR04-020-G25-L		●	10	20	25	18	95	200	0.6	
BMR04-025-G32-M		●	12.5	25	32	23	90	200	1	ZOHX25
BMR04-025-G32-L		●	12.5	25	32	23	110	250	1.3	
BMR04-030-G40-M		●	15	30	40	27	110	250	2	ZOHX30
BMR04-032-G40-L		●	16	32	40	29	125	300	2.4	ZOHX32

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

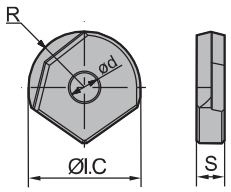
	Insert	ZOHX12	ZOHX16	ZOHX20	ZOHX25	ZOHX30	ZOHX32	
	ØD	12	16	20	25	30	32	
	Screw (insert)	I70M4×10TT (3.4 Nm)	I70M5×12TT (6.7 Nm)	I70M5×16TT (6.7 Nm)	I70M6×20TT (9.1 Nm)	I70M8×25TT (16.2 Nm)	I70M8×25TT (16.2 Nm)	
	Wrench (insert)	WT15IP	WT20IP	WT20IP	WT20IP			
	Wrench (insert)					WT30IT	WT30IT	

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

ZOHX	I.C	S	d
12	12	1.5	4
16	16	4	5
20	20	5	5
25	25	6	6
30	30	7	8
32	32	7	8

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

Milling inserts



ZO** milling insert			HC[1] (CVD)								HC[1] (PVD)									HT		HC[2]		HW	
		P																							
		M																							
		K																							
		N																							
		S																							
		H																							
ISO		R	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C		YD101	YD201	
	**ZOHX1203-GF**	6																		●						
	ZOHX1604-GF	8																		●						
	ZOHX2005-GF	10																		●						
	ZOHX2506-GF	12.5																		○						
	ZOHX3007-GF	15																		●						
	ZOHX3207-GF	16																		●						
	**ZOHX1203-GM**	6																		●						
	ZOHX1604-GM	8																		●						
	ZOHX2005-GM	10																		●						
	ZOHX2506-GM	12.5																		○						
	ZOHX3007-GM	15																		●						
	ZOHX3207-GM	16																		●						

● Ex stock ○ On demand

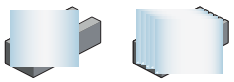
HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

System code B26 Grade selection B24 Technical info B527 Cutting data B230

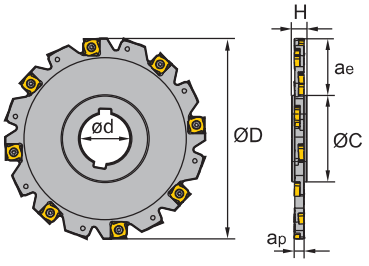
Notes

Slot milling

SMP01 Kr: 90°







K

Article	✻	Stock	Dimensions [mm]						Coupling	kg	Inserts
			ØD	ød	Øc	H	a_p	$a_{e\,max}$			
SMP01-100x4-K27-SN12-10		○	100	27	45	12	4	25	K	0.2	XSEQ1202
SMP01-125x4-K40-SN12-12		○	125	40	56	12	4	32	K	0.3	
SMP01-160x4-K40-SN12-16		●	160	40	67	12	4	44	K	0.5	
SMP01-100x5-K27-SN12-10		○	100	27	45	12	5	25	K	0.2	XSEQ1203
SMP01-125x5-K40-SN12-12		○	125	40	56	12	5	32	K	0.3	
SMP01-160x5-K40-SN12-16		○	160	40	67	12	5	44	K	0.6	
SMP01-100x7-K27-SN12-10		○	100	27	45	12	7	25	K	0.3	XSEQ1204
SMP01-125x7-K40-SN12-12		○	125	40	56	12	7	32	K	0.4	
SMP01-160x7-K40-SN12-16		○	160	40	67	12	7	44	K	0.8	
SMP01-200x7-K50-SN12-18		○	200	50	71	12	7	62	K	1.2	
SMP01-250x7-K50-SN12-24		○	250	50	71	12	7	87	K	1.9	
SMP01-100x6-K27-SN12-10		○	100	27	45	12	6	25	K	0.3	XSEQ12T3
SMP01-125x6-K40-SN12-12		○	125	40	56	12	6	32	K	0.4	
SMP01-160x6-K40-SN12-16		○	160	40	67	12	6	44	K	0.7	
SMP01-200x6-K50-SN12-18		○	200	50	71	12	6	62	K	1.1	
SMP01-250x6-K50-SN12-24		○	250	50	71	12	6	87	K	1.7	
SMP01-315x6-K50-SN12-32		○	315	50	72	11.15	6	119.6	K	2.9	
SMP01-100x8-K27-SN12-10		○	100	27	45	12	8	25	K	0.3	XSEQ12T4
SMP01-125x8-K40-SN12-12		○	125	40	56	12	8	32	K	0.5	
SMP01-160x8-K40-SN12-16		○	160	40	67	12	8	44	K	0.9	
SMP01-200x8-K50-SN12-18		○	200	50	71	12	8	62	K	1.4	
SMP01-250x8-K50-SN12-24		○	250	50	71	12	8	87	K	2.2	

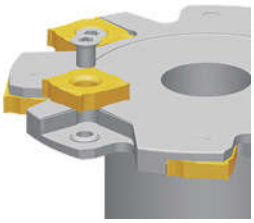
● Ex stock ○ On demand

✻ With internal cooling

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Spare parts

	Insert	XSEQ1202	XSEQ1203	XSEQ1204	XSEQ12T3	XSEQ12T4
	ØD	63-160	63-160	63-250	63-360	63-250
	Screw (insert)	I91M4×3.2X (3.4 Nm)	I91M4×3.2X (3.4 Nm)	I91M4×6.1X (3.4 Nm)	I91M4×5.1X (3.4 Nm)	I91M4×7.1X (3.4 Nm)
	Wrench (insert)	WT08IP	WT08IP	WT08IP	WT08IP	WT08IP

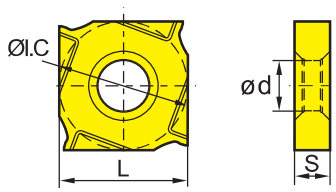


Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

XSEQ	L	I.C	S	d
12 02	12.7	12.7	2.3	5
12 03	12.7	12.7	3	5
12 T3	12.7	12.7	3.5	5
12 04	12.7	12.7	4	5
12 T4	12.7	12.7	4.5	5

XS** milling insert



	HC¹ (CVD)								HC¹ (PVD)								HT	HC²	HW	
P	◉	◉	◉	◉	◉	◉		◉			◉	◉		◉	◉	◉		●	●		
M		◉	◉	◉	◉	◉					◉	◉		◉	◉	◉	◉	●	●		
K							◉	◉		●							●			◉		
N									◉											◉	◉	
S				◉		◉				●	◉		◉	◉	◉		◉					
H																						
ISO	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
XSEQ1202																○						
XSEQ1203	○			●												●						
XSEQ1204																●						
XSEQ12T3		●														●					○	
XSEQ12T4																●						

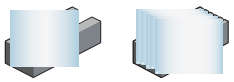
● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

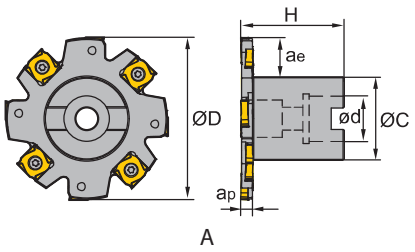
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

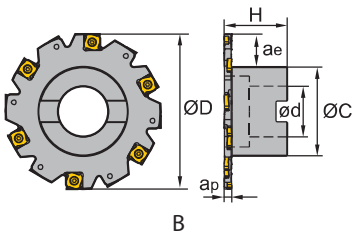
Slot milling

SMP01 Kr: 90°









Article	✻	Stock	Dimensions [mm]						Teeth	Coupling	kg	Inserts
			ØD	ød	Øc	H	a_p	$a_{e\,max}$				
SMP01-063x4-A22-SN12-06		○	63	22	32	40	4	14	6	A	0.2	
SMP01-080x4-A22-SN12-08		○	80	22	40	40	4	18	8	A	0.4	XSEQ1202
SMP01-100x4-A27-SN12-10		○	100	27	48	50	4	23	10	A	0.6	
SMP01-063x5-A22-SN12-06		○	63	22	32	40	5	14	6	A	0.2	
SMP01-080x5-A22-SN12-08		○	80	22	40	40	5	18	8	A	0.4	XSEQ1203
SMP01-100x5-A27-SN12-10		○	100	27	48	50	5	23	10	A	0.7	
SMP01-063x7-A22-SN12-06		○	63	22	32	40	7	14	6	A	0.2	
SMP01-080x7-A22-SN12-08		○	80	22	40	40	7	18	8	A	0.5	
SMP01-100x7-A27-SN12-10		○	100	27	48	50	7	23	10	A	0.7	XSEQ1204
SMP01-125x7-B40-SN12-12		○	125	40	72	50	7	23	12	B	1.1	
SMP01-160x7-B40-SN12-16		○	160	40	70	60	7	41	16	B	1.4	
SMP01-063x6-A22-SN12-06		○	63	22	32	40	6	14	6	A	0.2	
SMP01-080x6-A22-SN12-08		○	80	22	40	40	6	18	8	A	0.5	
SMP01-100x6-A27-SN12-10		○	100	27	48	50	6	23	10	A	0.7	XSEQ12T3
SMP01-125x6-B40-SN12-12		○	125	40	72	50	6	23	12	B	1	
SMP01-160x6-B40-SN12-16		○	160	40	70	60	6	41	16	B	1.3	
SMP01-063x8-A22-SN12-06		○	63	22	32	40	8	14	6	A	0.2	
SMP01-080x8-A22-SN12-08		○	80	22	40	40	8	18	8	A	0.5	
SMP01-100x8-A27-SN12-10		○	100	27	48	50	8	23	10	A	0.8	XSEQ12T4
SMP01-125x8-B40-SN12-12		○	125	40	72	50	8	23	12	B	1.1	
SMP01-160x8-B40-SN12-16		○	160	40	70	60	8	41	16	B	1.5	

● Ex stock ○ On demand

✻ With internal cooling

System code > B26 Grade selection > B24 Technical info > B527 Cutting data > B230

Spare parts

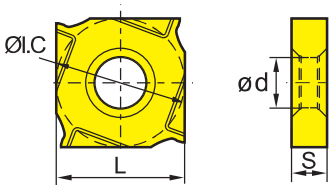
	Insert	XSEQ1202	XSEQ1203	XSEQ1204	XSEQ12T3	XSEQ12T4
	ØD	63-160	63-160	63-250	63-250	63-250
	Screw (insert)	I91M4×3.2X (3.4 Nm)	I91M4×3.2X (3.4 Nm)	I91M4×6.1X (3.4 Nm)	I91M4×5.1X (3.4 Nm)	I91M4×7.1X (3.4 Nm)
	Wrench (insert)	WT08IP	WT08IP	WT08IP	WT08IP	WT08IP



XSEQ	L	I.C	S	d
12 02	12.7	12.7	2.3	5
12 03	12.7	12.7	3	5
12 T3	12.7	12.7	3.5	5
12 04	12.7	12.7	4	5
12 T4	12.7	12.7	4.5	5

Milling inserts

● Ideal machining conditions
◐ Normal machining conditions
○ Unfavourable machining conditions



XS** milling insert		HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
P		◐	◐	◐	◐	◐	◐	●		◐	◐		◐	◐	◐	●	●	●		
M			◐	◐	◐	◐	◐			◐	◐		◐	◐	◐	◐	○	○		
K							◐	◐	●							●				◐
N									◐										◐	◐
S				◐		◐			○	◐		◐	◐	◐		◐				
H																				
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	XSEQ1202																○						
	XSEQ1203	○			●												●						
	XSEQ1204																●						
	XSEQ12T3		●														●					○	
	XSEQ12T4																●						

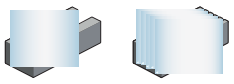
● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

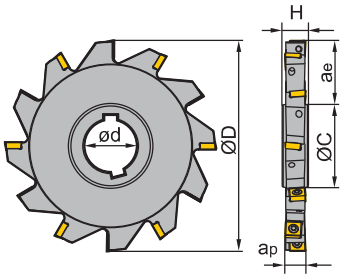
System code > B26 Grade selection > B24 Technical info > B527 Cutting data > B230

Slot milling

SMP03 Kr: 90°







K

Article	✻	Stock	Dimensions [mm]						Teeth	Coupling	kg	Inserts
			ØD	ød	Øc	H	a_p	$a_{e\,max}$				
SMP03-080x8-K27-MP06-10		○	80	27	44	12	8	17.6	10	K	0.2	
SMP03-100x8-K32-MP06-14		○	100	32	49	12	8	25.1	14	K	0.3	MPHT0603
SMP03-100x10-K32-MP06-14		○	100	32	49	14	10	25.1	14	K	0.4	
SMP03-125x10-K40-MP06-16		○	125	40	57	14	10	33.6	16	K	0.6	
SMP03-125x12-K40-MP08-12		○	125	40	58.3	16	12	32.6	12	K	0.7	MPHT0803
SMP03-160x12-K40-MP08-14		○	160	40	64.3	16	12	31.5	14	K	1.3	
SMP03-160x16-K40-MP12-12		○	160	40	64.6	20	16	47.6	12	K	1.6	
SMP03-160x18-K40-MP12-12		○	160	40	65.3	24	18	47.3	12	K	1.9	
SMP03-160x20-K40-MP12-12		○	160	40	65.3	26	20	47.3	12	K	2.1	MPHT1204
SMP03-200x16-K50-MP12-14		○	200	50	74.6	20	16	62.6	14	K	2.5	
SMP03-200x18-K50-MP12-14		○	200	50	75.3	24	18	62.3	14	K	2.9	
SMP03-200x20-K50-MP12-14		○	200	50	75.3	26	20	62.3	14	K	3.3	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	MPHT0603	MPHT0803	MPHT1204
	ØD	80-125	125 -160	160-200
	Screw (insert)	I60M2.5×6.5 (1.0 Nm)	I60M3×7 (1.8 Nm)	I60M5×13 (6.7 Nm)
	Wrench (insert)	WT07IP	WT09IP	
	Wrench (insert)			WT20IS

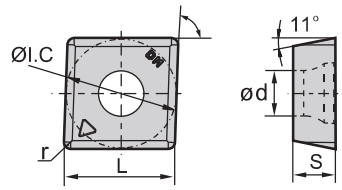


System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

MPHT	L	I.C	S	d
06 03	6.35	6.35	3.18	2.8
08 03	8.3	8.3	3.18	3.4
12 04	12.7	12.7	4.76	5.56

MP** milling insert			HC[1] (CVD)							HC[1] (PVD)								HT	HC[2]	HW	
		P																			
		M																			
		K																			
		N																			
		S																			
		H																			
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**MPHT060304-DM**	0.4	●				●											●						
	MPHT080305-DM	0.5	●				○											●						
	MPHT120408-DM	0.8	●				○		●									●						

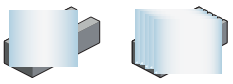
● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

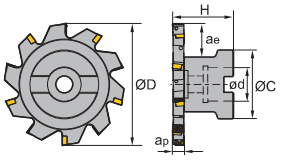
System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Slot milling

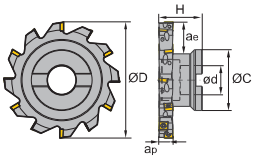
SMP03 Kr: 90°



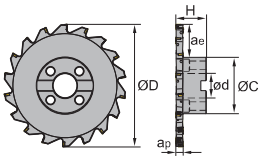




A



B



C

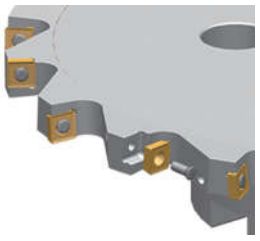
Article	✻	Stock	Dimensions [mm]						Teeth	Coupling	kg	Inserts
			ØD	ød	Øc	H	a_p	$a_{e\,max}$				
SMP03-080x8-A22-MP06-10		○	80	22	45	40	8	21	10	A	0.4	
SMP03-100x8-B27-MP06-14		○	100	27	55	40	8	24.5	14	B	0.6	MPHT0603
SMP03-100x10-B27-MP06-14		●	100	27	55	40	10	24.5	14	B	0.7	
SMP03-125x10-B32-MP06-16		○	125	32	65	45	10	33.3	16	B	1.1	
SMP03-125x12-B32-MP08-12		○	125	32	65	45	12	33	12	B	1.4	
SMP03-160x12-B40-MP08-14		○	160	40	80	50	12	44	14	B	1.9	MPHT0803
SMP03-200x12-C40-MP08-18		○	200	40	92	50	12	52	18	C	3.2	
SMP03-125x16-B32-MP12-10		○	125	32	65	50	16	33	10	B	2.3	
SMP03-160x16-B40-MP12-12		○	160	40	80	60	16	45	12	B	2.3	
SMP03-160x18-B40-MP12-12		○	160	40	80	60	18	45	12	B	2.4	MPHT1204
SMP03-200x16-C40-MP12-14		○	200	40	92	50	16	52	14	C	3.6	
SMP03-200x18-C40-MP12-14		○	200	40	92	50	18	52	14	C	3.9	
SMP03-200x20-C40-MP12-14		○	200	40	92	50	20	52	14	C	4.2	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	MPHT0603	MPHT0803	MPHT1204
	ØD	80-125	125 -200	125 -200
	Screw (insert)	I60M2.5×6.5 (1.0 Nm)	I60M3×7 (1.8 Nm)	I60M5×13 (6.7 Nm)
	Wrench (insert)	WT07IP	WT09IP	
	Wrench (insert)			WT20IS

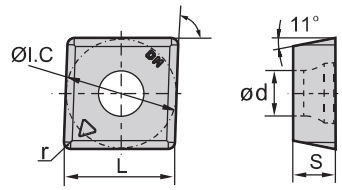


System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

MPHT	L	I.C	S	d
06 03	6.35	6.35	3.18	2.8
08 03	8.3	8.3	3.18	3.4
12 04	12.7	12.7	4.76	5.56

MP** milling insert			HC[1] (CVD)							HC[1] (PVD)								HT	HC[2]	HW	
		P	●	●	◉	●	●	◉	◉		◉	◉		◉	◉	◉	●	●	●		
		M		○	◉	○	○	◉			◉	◉		◉	◉	◉	◉	○	○		
		K						◉	◉	●							●			◉	
		N								◉										◉	◉
		S			◉		◉			●	◉		◉	◉	◉	◉					
		H																			
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**MPHT060304-DM**	0.4	●				●											●						
	MPHT080305-DM	0.5	●				○											●						
	MPHT120408-DM	0.8	●				○		●									●						

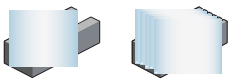
● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

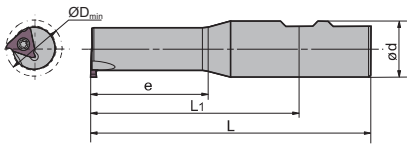
System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Slot milling

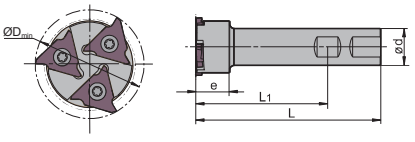
SMP05 Kr: 90°







A



B

Article	✻	Stock	Dimensions [mm]					Teeth	Coupling	Inserts
			e	ØDmin	ød	L_1	L			
SMP05-025x3.0-XP25-QC16-01		●	40	25	25	89	125	1	A	QC16L
SMP05-039x3.0-XP25-QC16-03		●	23	39	25	89	125	3	B	
SMP05-044x4.8-XP25-QC22-03		●	23	44	25	89	125	3	B	QC22L

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	QC16L	QC16L	QC22L	
	ØD	25	39	44	
	Screw (insert)	I60M3.5×10 (2.7 Nm)	I60M3.5×10 (2.7 Nm)	I60M5×13 (6.7 Nm)	
	Wrench (insert)	WT15IP	WT15IP	WT20IP	



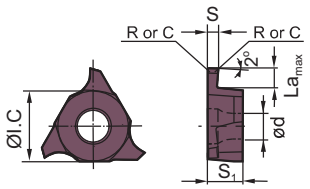
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

QC16	I.C	d
16	9.525	4.4
22	12.7	5.5

QC** turning/milling insert



	HC[1] (CVD)								HC[1] (PVD)								HT	HC[2]	HW	
P	◉	◉	◉	◉	◉	◉		◉			◉	◉	◉	◉	◉	◉	◉	◉		
M		◉	◉	◉	◉	◉					◉	◉	◉	◉	◉	◉	◉	◉		
K							◉	◉	◉							◉			◉	
N									◉										◉	◉
S				◉		◉			◉	◉		◉	◉	◉		◉				
H																				

ISO		S±0.025	La_{max}	R/C	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	QC16L075-R01	0.75	2	0.1														○								
	QC16L095-R01	0.95	2	0.1														○								
	QC16L100-R01	1	2	0.1														○								
	QC16L110-R01	1.1	2	0.1											○			●								
	QC16L120-R01	1.2	2	0.1														○								
	QC16L125-R02	1.25	2	0.2														●								
	QC16L130-R02	1.3	2	0.2														○								
	QC16L145-R02	1.45	2	0.2														●								
	QC16L150-R02	1.5	2	0.2														○								
	QC16L160-R02	1.6	2	0.2														●								
	QC16L165-R02	1.65	2	0.2														○								
	QC16L170-R02	1.7	2	0.2														○								
	QC16L175-R02	1.75	2	0.2														○								
	QC16L185-R02	1.85	2.5	0.2														○								
	QC16L200-R02	2	2.5	0.2														●								
	QC16L210-R02	2.1	2.5	0.2														○								
	QC16L210-R05	2.1	2.5	0.5														○								
	QC16L220-R02	2.2	2.5	0.2														○								
	QC16L250-R02	2.5	2.5	0.2														●								
	QC16L300-R02	3	3	0.2														●								

● Ex stock ○ On demand

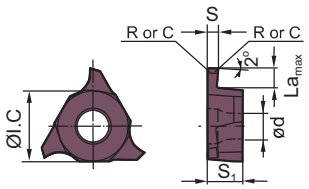
HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

System code > B26 Grade selection > B24 Technical info > B527 Cutting data > B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

QC16	I.C	d
16	9.525	4.4
22	12.7	5.5



	HC[1] (CVD)							HC[1] (PVD)									HT	HC[2]	HW	
P	⊛	⊛	⊛	⊛	⊛	⊛	⊛			⊛	⊛		⊛	⊛	⊛	●	●	●		
M		⊛	⊛	⊛	⊛	⊛				⊛	⊛		⊛	⊛	⊛	⊛	○	○		
K						⊛	⊛	●								●				⊛
N								⊛											⊛	⊛
S				⊛		⊛			○	⊛		⊛	⊛	⊛	⊛					
H																				

ISO		S±0.025	La_{max}	R/C	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	QC22L100-R02	1	2	0.2														○								
	QC22L125-R02	1.25	2	0.2														○								
	QC22L145-R02	1.45	2	0.2														○								
	QC22L150-R02	1.5	3.5	0.2														○								
	QC22L175-R02	1.75	3.5	0.2														○								
	QC22L185-R02	1.85	3.5	0.2														○								
	QC22L200-R02	2	3.5	0.2														○								
	QC22L230-R02	2.3	3.5	0.2														○								
	QC22L250-R03	2.5	4	0.3														○								
	**QC22L265-R03**	2.65	4	0.3														●								
	QC22L280-R03	2.8	4	0.3														○								
	QC22L300-R03	3	4	0.3														○								
	QC22L320-R03	3.2	4	0.3														○								
	QC22L330-R03	3.3	4	0.3														○								
	QC22L350-R03	3.5	5	0.3														○								
	QC22L400-R04	4	5	0.4														●								
	QC22L430-R04	4.3	5	0.4											○			○								
	QC22L450-R04	4.5	5	0.4														○							○	
	QC22L480-R04	4.8	5	0.4														○								

● Ex stock ○ On demand

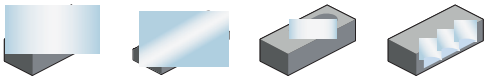
HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

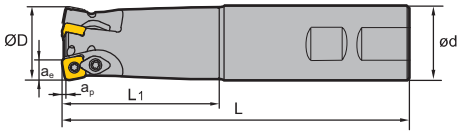
Notes

High feed milling

XMR01 Kr: 15°







S type insert, Weldon shank

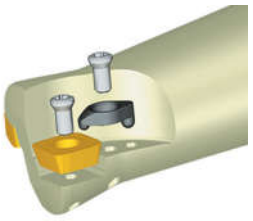
Article	✲	Stock	Dimensions [mm] ØD	ød	a_p	ae	L_1	L	Teeth	kg	Inserts
XMR01-020-XP20-SD06-04C	✲	○	20	20	0.8	5.8	50	130	4	0.24	SDMT06T2
XMR01-025-XP25-SD06-03C	✲	○	25	25	0.8	5.8	60	140	3	0.46	
XMR01-025-XP25-SD06-05C	✲	○	25	25	0.8	5.8	60	140	5	0.44	
XMR01-032-XP32-SD06-06C	✲	○	32	32	0.8	5.8	70	150	6		
XMR01-025-XP25-SD09-02		○	25	25	1.4	8.8	60	140	2	0.5	SDMT09T3
XMR01-032-XP32-SD09-03C	✲	○	32	32	1.4	8.8	70	150	3	0.8	
XMR01-035-XP32-SD09-03		○	35	32	1.4	8.8	70	150	3	0.8	
XMR01-040-XP40-SD12-03		○	40	40	1.8	11.7	70	150	3	1.3	SDMT1204
XMR01-040-XP40-SD12-03C	✲	○	40	40	1.8	11.7	70	150	3	1.2	
XMR01-040-XP40-SD15-02		○	40	40	2.2	14	70	200	2	1.6	SDMT1505

● Ex stock ○ On demand

✲ With internal cooling

Spare parts

	Insert	SDMT06T2	SDMT09T3	SDMT1204	SDMT1505
	ØD	20-63	25-63	32-100	40-160
	Clamp		WD-204	WD-204	WD-208
	Screw (clamp)		I60M4×8.4 (3.4 Nm)	I60M4×8.4 (3.4 Nm)	I60M5×13 (6.7 Nm)
	Screw (insert)	I60M2.2×5.5 (0.8 Nm)		I60M4×8.4 (3.4 Nm)	I60M5×13 (6.7 Nm)
	Screw (insert)		I60M3.5×08TT (2.7 Nm)		
	Wrench (clamp)		WT15IP	WT15IP	WT20IP
	Wrench (insert)	WT07IP	WT10IP	WT15IP	WT20IP

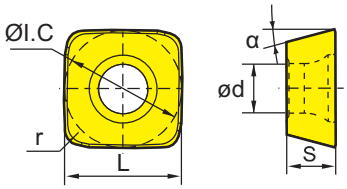


System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

SDMT	L	I.C	S	d
06 T2	6.35	6.35	2.58	5.5
09 T3	9.525	9.525	3.97	4
12 04	12.7	12.7	4.76	4.4
15 05	15.875	15.875	5.56	5.5

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

Milling inserts



				HC¹ (CVD)								HC¹ (PVD)								HT	HC²	HW	
	ISO	r	α	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**SDMT06T208-DM**	0.8	15						○					○		○				○					
	SDMT09T312-DM	1.2	15	●					●		○			○	○				●						
	SDMT120412-DM	1.2	15	●					●		●			○	○										
	SDMT150520-DM	2	15											○											
	**SDMT09T312-NM**						●								○	●				●					
	SDMT120412-NM						●								○	●		●		●					
	**SDMT06T208-PM**	0.8	15	●			●									○	●			○					
	SDMT09T312-PM	1.2	15				●				○			○			●								
	SDMT120412-PM	1.2	15				●							○			●								
	SDMT150520-PM	2	15				○										○								

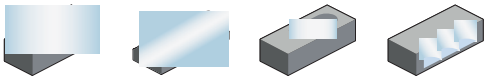
● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

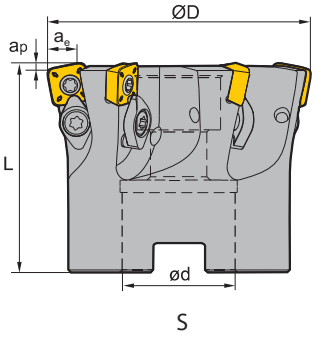
System code B26 Grade selection B24 Technical info B527 Cutting data B230

High feed milling

XMR01 Kr: 15°







Article	✲	Stock	Dimensions [mm] ØD	ød	a_p	ae	L	Teeth	Coupling	kg	Inserts
XMR01-040-A16-SD06-07C	✲	○	40	16	0.8	5.8	40	7	A	0.178	
XMR01-050-A22-SD06-07C	✲	○	50	22	0.8	5.8	40	7	A	0.36	
XMR01-050-A22-SD06-08C	✲	○	50	22	0.8	5.8	40	8	A	0.36	SDMT06T2
XMR01-063-A22-SD06-10C	✲	○	63	22	0.8	5.8	40	10	A	0.53	
XMR01-063-A27-SD06-10C	✲	○	63	27	0.8	5.8	50	10	A	0.57	
XMR01-040-A16-SD09-04		○	40	16	1.4	8.8	40	4	A	0.182	
XMR01-040-A16-SD09-04C	✲	○	40	16	1.4	8.8	40	4	A	0.182	
XMR01-040-A16-SD09-05		○	40	16	1.4	8.8	40	5	A	0.181	
XMR01-050-A22-SD09-04C	✲	●	50	22	1.4	8.8	40	4	A	0.3	
XMR01-050-A22-SD09-05C	✲	○	50	22	1.4	8.8	40	5	A	0.3	SDMT09T3
XMR01-063-A22-SD09-06C	✲	●	63	22	1.4	8.8	40	6	A	0.5	
XMR01-063-A27-SD09-06C	✲	○	63	27	1.4	8.8	50	6	A	0.6	
XMR01-063-A22-SD09-07C	✲	●	63	22	1.4	8.8	40	7	A	0.44	
XMR01-063-A27-SD09-07C	✲	○	63	27	1.4	8.8	50	7	A		
XMR01-050-A22-SD12-03C	✲	○	50	22	1.8	11.7	40	3	A		
XMR01-050-A22-SD12-04C	✲	●	50	22	1.8	11.7	40	4	A		
XMR01-052-A22-SD12-04C	✲	○	52	22	1.8	11.7	40	4	A		
XMR01-052-A22-SD12-05C	✲	○	52	22	1.8	11.7	40	5	A		
XMR01-063-A22-SD12-05C	✲	●	63	22	1.8	11.7	40	5	A	0.5	
XMR01-063-A27-SD12-05C	✲	●	63	27	1.8	11.7	50	5	A	0.6	
XMR01-063-A22-SD12-06C	✲	●	63	22	1.8	11.7	50	6	A	0.55	
XMR01-066-A27-SD12-05C	✲	○	66	27	1.8	11.7	50	5	A	0.56	SDMT1204
XMR01-080-A27-SD12-05C	✲	●	80	27	1.8	11.7	63	5	A	0.9	
XMR01-080-A27-SD12-06C	✲	●	80	27	1.8	11.7	50	6	A	0.9	
XMR01-080-A27-SD12-07C	✲	●	80	27	1.8	11.7	50	7	A	0.93	
XMR01-080-A27-SD12-08C	✲	●	80	27	1.8	11.7	50	8	A	0.92	
XMR01-100-B32-SD12-06		●	100	32	1.8	11.7	50	6	B	1.8	
XMR01-100-B32-SD12-06C	✲	●	100	32	1.8	11.7	50	6	B	1.8	

● Ex stock ○ On demand

✲ With internal cooling

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Indexable milling

Article	✻	Stock	Dimensions [mm] ØD	ød	a_p	ae	L	Teeth	Coupling	kg	Inserts
XMR01-100-B32-SD12-07C	✻	●	100	32	1.8	11.7	50	7	B		SDMT1204
XMR01-125-B40-SD12-08C	✻	●	125	40	1.8	11.7	63	8	B		
XMR01-125-B40-SD12-09C	✻	●	125	40	1.8	11.7	63	9	B		
XMR01-063-A22-SD15-04C	✻	○	63	22	2.2	14	40	4	A		SDMT1505
XMR01-100-B32-SD15-07		○	100	32	2.2	14	50	7	B	1.2	
XMR01-125-B40-SD15-09		○	125	40	2.2	14	63	9	B	2.9	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	SDMT06T2	SDMT09T3	SDMT1204	SDMT1505
	ØD	20-63	25-63	32-160	40-160
	Clamp		WD-204	WD-204	WD-208
	Screw (clamp)		I60M4×8.4 (3.4 Nm)	I60M4×8.4 (3.4 Nm)	I60M5×13 (6.7 Nm)
	Screw (insert)	I60M2.2×5.5 (0.8 Nm)		I60M4×8.4 (3.4 Nm)	I60M5×13 (6.7 Nm)
	Screw (insert)		I60M3.5×08TT (2.7Nm)		
	Wrench (clamp)		WT15IP	WT15IP	WT20IP
	Wrench (insert)	WT07IP	WT10IP	WT15IP	WT20IP



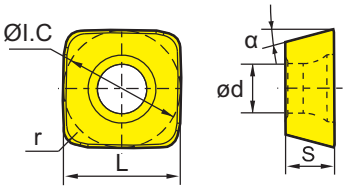
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

SDMT	L	I.C	S	d
06 T2	6.35	6.35	2.58	5.5
09 T3	9.525	9.525	3.97	4
12 04	12.7	12.7	4.76	4.4
15 05	15.875	15.875	5.56	5.5

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

Milling inserts

SD** milling insert



	ISO	r	α	HC¹ (CVD)								HC¹ (PVD)									HT		HC²		HW		
				YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C		YD101	YD201		
	**SDMT06T208-DM**	0.8	15						○					○		○				○								
	SDMT09T312-DM	1.2	15	●					●		○			○	○				●									
	SDMT120412-DM	1.2	15	●					●		●			○	○													
	SDMT150520-DM	2	15											○														
	**SDMT09T312-NM**						●								○	●				●								
	SDMT120412-NM						●								○	●		●		●								
	**SDMT06T208-PM**	0.8	15	●			●									○	●			○								
	SDMT09T312-PM	1.2	15				●				○			○			●											
	SDMT120412-PM	1.2	15				●							○			●											
	SDMT150520-PM	2	15				○										○											

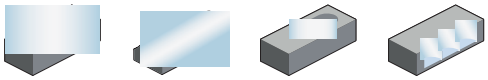
● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

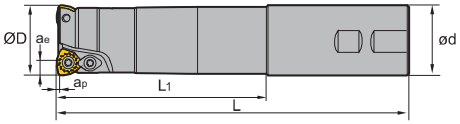
System code B26 Grade selection B24 Technical info B527 Cutting data B230

High feed milling

XMR01 Kr: 11°-22°







W type insert, Weldon shank

Article	✲	Stock	Dimensions [mm] ØD	ød	a_p	ae	L_1	L	Teeth	kg	Inserts
XMR01-020-XP20-WP05-02C-M	✲	○	20	20	1.5	3.8	50	130	2	0.2	WPGT0503
XMR01-020-XP20-WP05-02-L		○	20	20	1.5	3.8	100	180	2	0.3	
XMR01-020-XP20-WP05-02-XL		○	20	20	1.5	3.8	130	250	2	0.8	
XMR01-025-XP25-WP06-02C-M	✲	○	25	25	1.5	4.35	60	140	2	0.4	WPGT0604
XMR01-025-XP25-WP06-02-L		○	25	25	1.5	4.35	120	200	2	0.6	
XMR01-025-XP25-WP06-02-XL		○	25	25	1.5	4.35	180	300	2	1	
XMR01-032-XP32-WP06-03C-M	✲	○	32	32	1.5	4.35	70	150	3	0.8	
XMR01-032-XP32-WP06-03-L		○	32	32	1.5	4.35	120	200	3	1	
XMR01-032-XP32-WP06-03-XL		○	32	32	1.5	4.35	180	300	3	1.6	
XMR01-040-XP32-WP06-03C-M	✲	○	40	32	1.5	4.35	50	150	3	0.9	
XMR01-040-XP32-WP06-03-XL		○	40	32	1.5	4.35	50	300	3	1.8	

● Ex stock ○ On demand

✲ With internal cooling

Variable lead angle (lead angle ist hier dependent on size of inserts)
lead angle: WPGT05: 16°; WPGT06: 22°; WPGT08: 11°; WPGT09: 21°

Spare parts

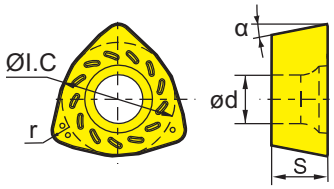
	Insert	WPGT0503	WPGT0604	
	ØD	20	25-40	
	Screw (insert)	I60M3.5×6.5 (2.7 Nm)	I60M4×8.4 (3.4 Nm)	
	Wrench (insert)	WT10IP	WT15IP	

System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

WPGT	I.C	S	d
05 03	7.94	3.5	4
06 04	9.525	4.2	4.4



WP** positive insert			HC[1] (CVD)							HC[1] (PVD)									HT	HC[2]	HW	
		P																				
		M																				
		K																				
		N																				
		S																				
		H																				
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**WPGT050315ZSR-PM**	1.5														●								
	WPGT060415ZSR-PM	1.5	●												●	●			●					
	**WPGT050315ZSR**	1.5	●					●						●										
	WPGT060415ZSR	1.5	●					●						●		●								

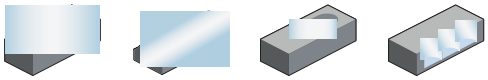
● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

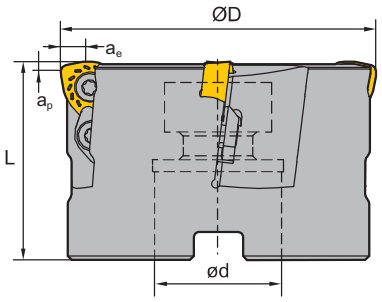
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

High feed milling

XMR01 Kr: 11°-22°







W type insert, Arbor mounting

Article	✻	Stock	Dimensions [mm] ØD	ød	a_p	ae	L	Teeth	Coupling	kg	Inserts
XMR01-050-A22-WP06-04		●	50	22	1.5	4.35	50	4	A	0.4	WPGT0604
XMR01-050-A22-WP06-04C	✻	●	50	22	1.5	4.35	50	4	A	0.4	
XMR01-050-A22-WP08-03		○	50	22	1.5	5.66	50	3	A	0.4	WPGT0806
XMR01-063-A27-WP08-04		●	63	27	1.5	5.66	50	4	A	0.7	
XMR01-063-A22-WP08-04C	✻	●	63	22	1.5	5.66	50	4	A	0.7	
XMR01-063-A27-WP08-04C	✻	○	63	27	1.5	5.66	50	4	A	0.7	
XMR01-080-A27-WP08-05C	✻	●	80	27	1.5	5.66	63	5	A	1.5	
XMR01-100-B32-WP08-06		●	100	32	1.5	5.66	63	6	B	2.2	
XMR01-125-B40-WP08-07		●	125	40	1.5	5.66	63	7	B	3.5	
XMR01-160-B40-WP08-08		○	160	40	1.5	5.66	63	8	B	6	
XMR01-063-A22-WP09-03C	✻	○	63	22	3	6.8	50	3	A	0.7	WPGT0907
XMR01-080-A27-WP09-04C	✻	○	80	27	3	6.8	63	4	A	1.4	
XMR01-100-B32-WP09-05		○	100	32	3	6.8	63	5	B	2.1	
XMR01-125-B40-WP09-06		○	125	40	3	6.8	63	6	B	3.7	
XMR01-160-B40-WP09-07		○	160	40	3	6.8	63	7	B	6.3	

● Ex stock ○ On demand

✻ With internal cooling

Variable lead angle (lead angle ist hier dependent on size of inserts)
lead angle: WPGT05: 16°; WPGT06: 22°; WPGT08: 11°; WPGT09: 21°

System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Spare parts

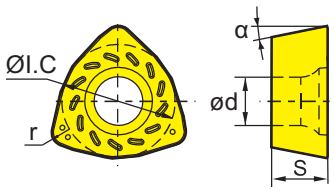
	Insert	WPGT0604	WPGT0806	WPGT0907
	ØD	50	50-160	3-160
	Clamp		WD-208	WD-208
	Screw (clamp)		I60M5×13 (6.7 Nm)	I60M5×13 (6.7 Nm)
	Screw (insert)	I60M4×8.4 (3.4 Nm)	I60M5×13 (6.7 Nm)	I60M5×13 (6.7 Nm)
	Wrench (clamp)		WT20IT	WT20IT
	Wrench (insert)	WT15IS		
	Wrench (insert)		WT20IT	WT20IT



Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

WPGT		l.C	S	d
06	04	9.525	4.2	4.4
08	06	12.85	6.35	5.5
09	07	15	7	5.5



WP** positive insert			HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
		P																				
		M																				
		K																				
		N																				
		S																				
		H																				
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**WPGT060415ZSR-PM**	1.5	●											●	●	●			●					
	WPGT080615ZSR-PM	1.5	●											●	●	●			●					
	WPGT090725ZSR-PM	2.5														●								
	**WPGT060415ZSR**	1.5	●					●						●		●								
	WPGT080615ZSR	1.5	●					●						●		●								
	WPGT090725ZSR	2.5						●						○		●								

● Ex stock ○ On demand

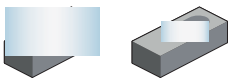
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

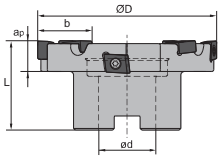
Notes

Bore milling

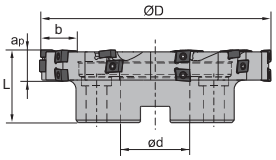
XMP01 Kr: 90°



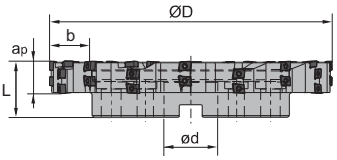




B



C



D

Article	✻	Stock	Dimensions [mm] ØD	ød	b	a_p	L	Teeth	Coupling	kg	Inserts
XMP01-080*18-B27-CNE1210-08		●	80	27	18	15	50	8	B	0.67	CNE12
XMP01-100*18-B32-CNE1210-08		●	100	32	18	20	50	8	B	0.99	
XMP01-125*27-B40-CNE1210-15		●	125	40	27	22.5	63	15	B	2.46	
XMP01-160*27-C40-CNE1210-18		●	160	40	27	25	63	18	C	3.7	
XMP01-200*27-C60-CNE1210-21		●	200	60	27	31.5	63	21	C	5.46	
XMP01-250*36-C60-CNE1210-32		●	250	40	36	56.5	63	32	C	9.79	
XMP01-315*36-D60-CNE1210-42		●	315	60	36	47.5	63	42	D	17.65	
XMP01-400*36-D60-CNE1210-52		●	400	60	36	36	63	52	D	27.36	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**CNE12**
	ØD	**80-400**
	Screw (insert)	I60M4×12 (3.4Nm)
	Wrench (insert)	WT15IP

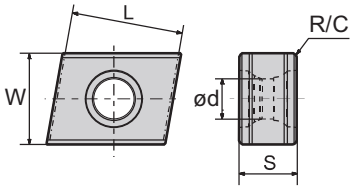


System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

CNE	L	S	d
12	12.8	6.35	4.4

Milling inserts



CN** milling insert				HC[1] (CVD)								HC[1] (PVD)									HT	HC[2]	HW	
			P																					
			M																					
			K																					
			N																					
			S																					
			H																					
ISO		R/C	W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**CNE121006A**	0.4	10				●																		
	**CNE121006B**	0.6	10				○			●															

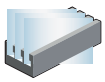
● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

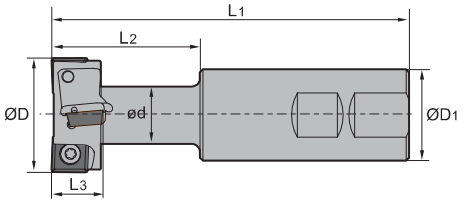
System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

T-slot milling

TMP01 Kr: 90°







Weldon shank

Article	✻	Stock	Dimensions [mm]						Teeth	No. of inserts	T-slot specification	Inserts
			ØD	$ØD_1$	ød	L_1	L_2	L_3				
TMP01-021-XP25-MP06-01		●	21	25	10	100	32	9	1	2	12	MPHT0603
TMP01-025-XP25-MP06-01		●	25	25	12	100	35	11	1	2	14	
TMP01-032-XP32-MP08-02		●	32	32	15	110	45	14	2	4	18	MPHT0803
TMP01-040-XP32-MP12-02C	✻	●	40	32	19	125	55	18	2	4	22	MPHT1204
TMP01-050-XP40-MP12-02C	✻	●	50	40	25	140	65	22	2	4	28	
TMP01-060-XP50-MP12-02		●	60	50	32	160	80	28	2	6	36	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	MPHT0603	MPHT0803	MPHT1204
	ØD	21-25	32	40-60
	Screw (insert)	I60M2.5×5.5 (1.0 Nm)	I60M3×7 (1.8 Nm)	I60M5×10 (6.7 Nm)
	Wrench (insert)	WT07IP	WT09IP	
	Wrench (insert)			WT20IT

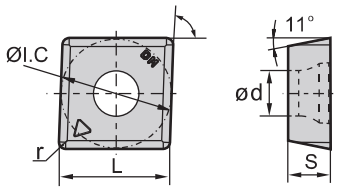


System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

MPHT	L	I.C	S	d
06 03	6.35	6.35	3.18	2.8
08 03	8.3	8.3	3.18	3.4
12 04	12.7	12.7	4.76	5.56



MP** milling insert			HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
		P																				
		M																				
		K																				
		N																				
		S																				
		H																				
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**MPHT060304-DM**	0.4	●				●											●						
	MPHT080305-DM	0.5	●				○											●						
	MPHT120408-DM	0.8	●				○		●									●						

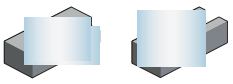
● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

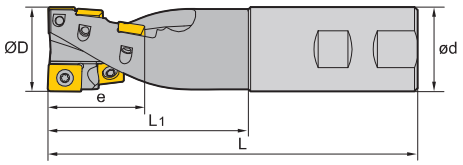
System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Helical milling

HMP01 Kr: 90°







Weldon shank

Article	✻	Stock	Dimensions [mm]					Teeth row	Teeth		Shank type	Inserts
			ØD	e	ød	L_1	L		APKT	SPMT		
HMP01-040x55-XP40-SP12-02		●	40	55	40	95	175	2	1	5	Weldon	APKT1504 & SPMT1204
HMP01-050x55-XP40-SP12-04		●	50	55	40	95	175	4	2	10	Weldon	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	APKT1504 & SPMT1204	APKT1504 & SPMT1204	
	ØD	40	50	
	Screw (insert)	I60M5×10 (6.7 Nm)	I60M5×13 (6.7 Nm)	
	Wrench (insert)	WT20T	WT20T	

System code B26 Grade selection B24 Technical info B527 Cutting data B230

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

APKT	L	S	d
15 04	16.33	4.76	5.4

Milling inserts

AP** milling insert				HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
			P																			
			M																			
			K																			
			N																			
			S																			
			H																			
ISO		r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**APKT150412-PM**	1.2	12.7				●												●						

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SPMT	L	I.C	S	d
12 04	12.7	12.7	4.76	5.5

Milling inserts

SP** milling insert				HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
			P																			
			M																			
			K																			
			N																			
			S																			
			H																			
ISO		r		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**SPMT120408-PM**	0.8					●												●						

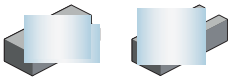
● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

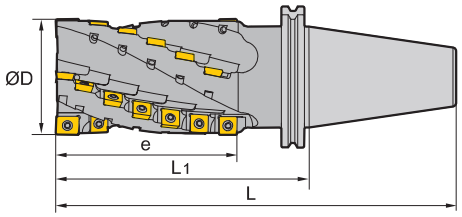
System code B26 Grade selection B24 Technical info B527 Cutting data B230

Helical milling

HMP01 Kr: 90°







Article	✻	Stock	Dimensions [mm]				Teeth row	Teeth		Shank type	Inserts
			ØD	e	L_1	L		APKT	SPMT		
HMP01-050x84-BT50-SP12-04		○	50	84	145	246.8	4	2	16	BT	APKT1504 & SPMT1204
HMP01-050x84-JT50-SP12-04		○	50	84	145	246.75	4	2	16	JT	
HMP01-063x74-BT50-SP12-04		○	63	74	135	236.8	4	2	14	BT	
HMP01-063x74-JT50-SP12-04		○	63	74	135	236.75	4	2	14	JT	
HMP01-063x104-BT50-SP12-04		○	63	104	165	266.8	4	2	20	BT	
HMP01-063x104-JT50-SP12-04		●	63	104	165	266.75	4	2	20	JT	
HMP01-063x134-BT50-SP12-04		○	63	134	195	296.8	4	2	26	BT	
HMP01-063x134-JT50-SP12-04		○	63	134	195	296.75	4	2	26	JT	
HMP01-080x104-BT50-SP12-04		○	80	104	165	266.8	4	2	20	BT	
HMP01-080x104-JT50-SP12-04		○	80	104	165	266.75	4	2	20	JT	
HMP01-080x144-BT50-SP12-04		○	80	144	205	306.8	4	2	28	BT	
HMP01-080x144-JT50-SP12-04		○	80	144	205	306.75	4	2	28	JT	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**APKT1504 & SPMT1204**
	ØD	**50-80**
	Screw (insert)	I60M5×10 (6.7 Nm)
	Wrench (insert)	WT20IS



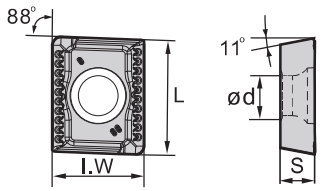
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

APKT	L	S	d
15 04	16.33	4.76	5.4

AP** milling insert



	ISO	r	l.W	HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
				YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P				◉	◉	◉	◉	◉	◉	◉	●		◉	◉		◉	◉	◉		◉	●	●	●		
M					◉	◉	◉	◉	◉				◉	◉		◉	◉	◉	◉	●	●	●	○		
K									◉	◉		●									●			◉	
N												◉												◉	◉
S							◉		◉				●	◉		◉	◉	◉		◉					
H																									
	APKT150412-PM	1.2	12.7				●												●						

● Ex stock ○ On demand

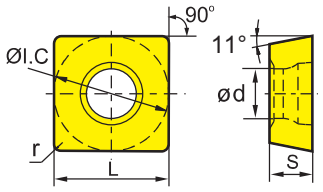
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SPMT	L	l.C	S	d
12 04	12.7	12.7	4.76	5.5

SP** milling insert



	ISO	r	HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
			YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
P			◉	◉	◉	◉	◉	◉	◉	●		◉	◉		◉	◉	◉		◉	●	●	●		
M				◉	◉	◉	◉	◉				◉	◉		◉	◉	◉	◉	●	●	●	○		
K								◉	◉		●									●			◉	
N											◉												◉	◉
S						◉		◉				●	◉		◉	◉	◉		◉					
H																								
	SPMT120408-PM	0.8				●												●						

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

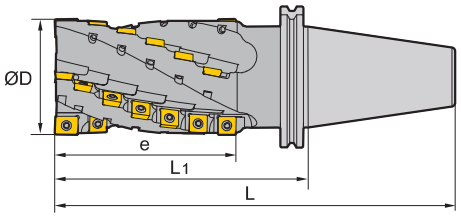
System code B26 Grade selection B24 Technical info B527 Cutting data B230

Helical milling

HMP01 EC Kr: 90°







Article	✻	Stock	Dimensions [mm]				Teeth row	Teeth		Shank type	Inserts
			ØD	e	L_1	L		APKT	SPMT		
HMP01-050x84EC-BT50-SP12-04		○	50	84	145	246.8	4	2	16	BT	APKT1504 & SPMT1204
HMP01-050x84EC-JT50-SP12-04		●	50	84	145	246.75	4	2	16	JT	
HMP01-063x74EC-BT50-SP12-04		○	63	74	135	236.8	4	2	14	BT	
HMP01-063x74EC-JT50-SP12-04		○	63	74	135	236.75	4	2	14	JT	
HMP01-063x104EC-BT50-SP12-04		○	63	104	165	266.8	4	2	20	BT	
HMP01-063x104EC-JT50-SP12-04		○	63	104	165	266.75	4	2	20	JT	
HMP01-063x134EC-BT50-SP12-04		○	63	134	195	296.8	4	2	26	BT	
HMP01-063x134EC-JT50-SP12-04		●	63	134	195	296.75	4	2	26	JT	
HMP01-080x104EC-BT50-SP12-04		○	80	104	165	266.8	4	2	20	BT	
HMP01-080x104EC-JT50-SP12-04		○	80	104	165	266.75	4	2	20	JT	
HMP01-080x144EC-BT50-SP12-04		○	80	144	205	306.8	4	2	28	BT	
HMP01-080x144EC-JT50-SP12-04		○	80	144	205	306.75	4	2	28	JT	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	APKT1504 & SPMT1204	APKT1504 & SPMT1204	APKT1504 & SPMT1204	
	ØD	**50**	**63**	**80**	
	Indexable head	050EC	063EC	080EC	
	Screw (head)	M10×50 (16.6 Nm)	M10×50 (16.6 Nm)	M12×55 (25.2 Nm)	
	Screw (insert)	I60M5×13 (6.7 Nm)	I60M5×13 (6.7 Nm)	I60M5×13 (6.7 Nm)	
	Wrench (head)	WH80L	WH80L	WH100L	
	Wrench (insert)	WT20IS	WT20IS	WT20IS	

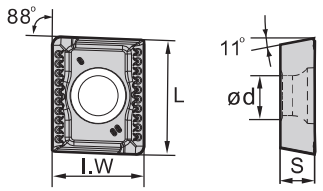
System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

APKT	L	S	d
15 04	16.33	4.76	5.4

AP** milling insert



				HC¹ (CVD)								HC¹ (PVD)								HT	HC²	HW	
			P																				
			M																				
			K																				
			N																				
			S																				
			H																				
ISO		r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**APKT150412-PM**	1.2	12.7				●												●						

● Ex stock ○ On demand

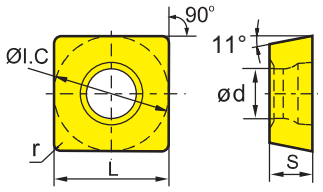
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SPMT	L	I.C	S	d
12 04	12.7	12.7	4.76	5.5

SP** milling insert



				HC¹ (CVD)								HC¹ (PVD)								HT	HC²	HW	
			P																				
			M																				
			K																				
			N																				
			S																				
			H																				
ISO		r		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**SPMT120408-PM**	0.8					●												●						

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 Grade selection B24 Technical info B527 Cutting data B230

Chamfer milling

CMZ01 Kr: 30°





Straight shank

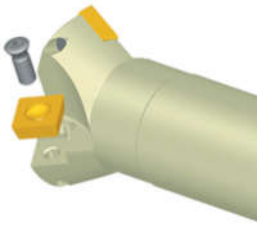
Article	✻	Stock	Dimensions [mm]				Teeth	kg	Inserts
			ØD	ød	L_1	L			
CMZ01-012-G20-SP12-01		●	12	20	40	100	1	0.2	SPMT1204
CMZ01-025-G25-SP12-02		●	25	25	40	120	2	0.8	
CMZ01-032-G32-SP12-03		●	32	32	40	180	3	1.1	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**SPMT1204**
	ØD	**12-32**
	Screw (insert)	I43M5×11 (6.7 Nm)
	Wrench (insert)	WT20IS

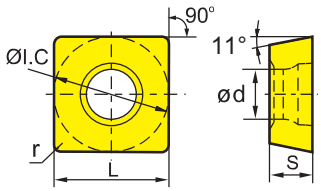


System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

SPMT	L	I.C	S	d
12 04	12.7	12.7	4.76	5.5



SP** milling insert			HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
		P																			
		M																			
		K																			
		N																			
		S																			
		H																			
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SPMT120408-HT-1	0.8												○										
	SPMT120408	0.8	○	●	○		●	○										○						

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 Grade selection B24 Technical info B527 Cutting data B230

Chamfer milling

CMZ01 Kr: 30°





Weldon shank

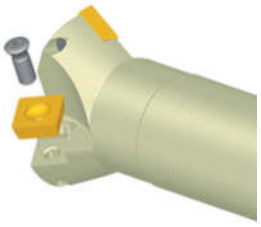
Article	✻	Stock	Dimensions [mm]				Teeth	kg	Inserts
			ØD	ød	L_1	L			
CMZ01-025-XP25-SP12-02		●	25	25	40	120	2	0.6	SPMT1204
CMZ01-032-XP32-SP12-03		●	32	32	40	180	3	1	
CMZ01-012-XP20-SP12-01		●	12	20	40	100	1	0.2	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**SPMT1204**
	ØD	**12-32**
	Screw (insert)	I43M5×11 (6.7 Nm)
	Wrench (insert)	WT20IS

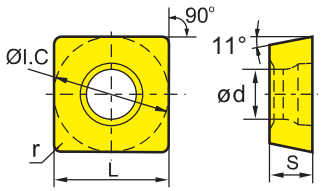


System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SPMT	L	I.C	S	d
12 04	12.7	12.7	4.76	5.5



SP** milling insert			HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
		P																				
		M																				
		K																				
		N																				
		S																				
		H																				
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**SPMT120408-HT-1**	0.8												○										
	**SPMT120408**	0.8	○	●	○		●	○										○						

● Ex stock ○ On demand

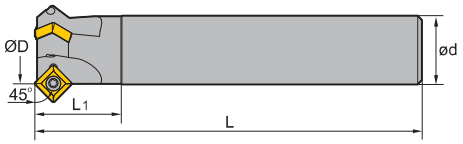
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 Grade selection B24 Technical info B527 Cutting data B230

Chamfer milling

CMA01 Kr: 45°





Straight shank

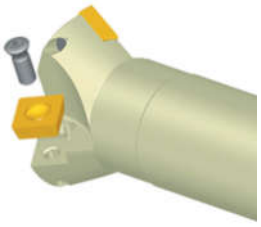
Article	✻	Stock	Dimensions [mm]				Teeth	kg	Inserts
			ØD	ød	L_1	L			
CMA01-012-G20-SP12-01		●	12	20	40	100	1	0.2	SPMT1204
CMA01-025-G25-SP12-02		●	25	25	40	120	2	0.8	
CMA01-032-G32-SP12-03		●	32	32	40	180	3	1.1	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**SPMT1204**
	ØD	**12-32**
	Screw (insert)	I43M5×11 (6.7 Nm)
	Wrench (insert)	WT20IS

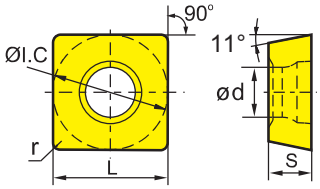


System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SPMT	L	I.C	S	d
12 04	12.7	12.7	4.76	5.5

SP** milling insert			HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
		P	●	●	◉	●	●	◉	●			◉	◉		◉	◉	◉	●	●	●		
		M		◎	◉	◎	◎	◉				◎	◉		◎	◎	◎	◎	◎	◎		
		K							◉	◉									●			◉
		N								◉											◉	◉
		S			◉		◉			●	◎		◎	◎	◎		◎					
		H																				
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**SPMT120408-HT-1**	0.8												○										
	**SPMT120408**	0.8	○	●	○		●	○										○						

● Ex stock ○ On demand

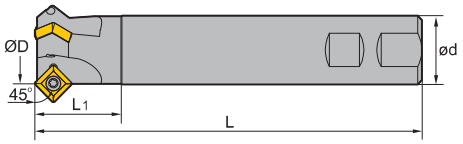
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 Grade selection B24 Technical info B527 Cutting data B230

Chamfer milling

CMA01 Kr: 45°





Weldon shank

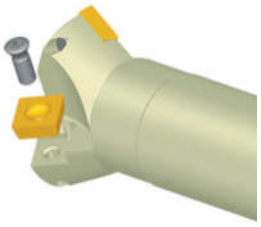
Article	✻	Stock	Dimensions [mm]				Teeth	kg	Inserts
			ØD	ød	L_1	L			
CMA01-012-XP20-SP12-01		●	12	20	40	100	1	0.2	SPMT1204
CMA01-025-XP25-SP12-02		●	25	25	40	120	2	0.6	
CMA01-032-XP32-SP12-03		●	32	32	40	100	3	1	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**SPMT1204**
	ØD	**12-32**
	Screw (insert)	I43M5×11 (6.7 Nm)
	Wrench (insert)	WT20IS

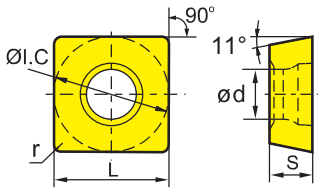


System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

SPMT	L	I.C	S	d
12 04	12.7	12.7	4.76	5.5



SP** milling insert			HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
		P																			
		M																			
		K																			
		N																			
		S																			
		H																			
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SPMT120408-HT-1	0.8												○										
	SPMT120408	0.8	○	●	○		●	○										○						

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

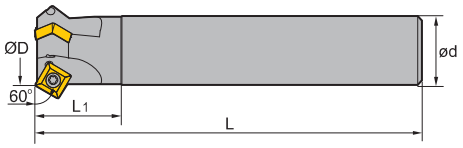
System code B26 Grade selection B24 Technical info B527 Cutting data B230

Chamfer milling

CMD01 Kr: 60°







Straight shank

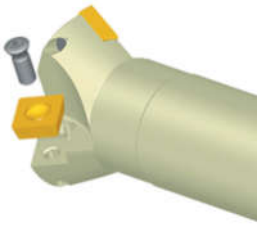
Article	✻	Stock	Dimensions [mm]				Teeth	kg	Inserts
			ØD	ød	L_1	L			
CMD01-012-G20-SP12-01		●	12	20	40	100	1	0.2	SPMT1204
CMD01-025-G25-SP12-02		●	25	25	40	120	2	0.8	
CMD01-036-G32-SP12-03		●	36	32	40	180	3	1	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**SPMT1204**
	ØD	**12-36**
	Screw (insert)	I43M5×11 (6.7 Nm)
	Wrench (insert)	WT20IS

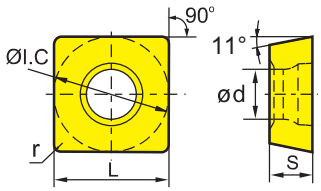


System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

SPMT	L	I.C	S	d
12 04	12.7	12.7	4.76	5.5

SP** milling insert			HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
		P																				
		M																				
		K																				
		N																				
		S																				
		H																				
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**SPMT120408-HT-1**	0.8												○										
	**SPMT120408**	0.8	○	●	○		●	○										○						

● Ex stock ○ On demand

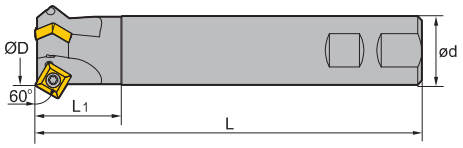
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code > B26 Grade selection > B24 Technical info > B527 Cutting data > B230

Chamfer milling

CMD01 Kr: 60°





Weldon shank

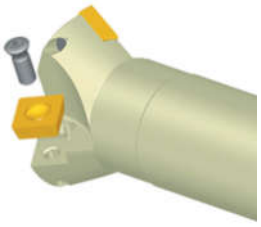
Article	✻	Stock	Dimensions [mm]				Teeth	kg	Inserts
			ØD	ød	L_1	L			
CMD01-012-XP20-SP12-01		●	12	20	40	100	1	0.2	SPMT1204
CMD01-025-XP25-SP12-02		●	25	25	40	120	2	0.6	
CMD01-036-XP32-SP12-03		●	36	32	40	180	3	1	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	**SPMT1204**
	ØD	**12-36**
	Screw (insert)	I43M5×11 (6.7 Nm)
	Wrench (insert)	WT20IS

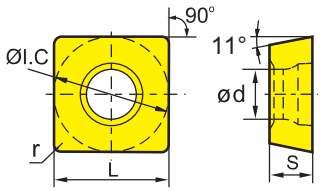


System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

SPMT	L	I.C	S	d
12 04	12.7	12.7	4.76	5.5



SP** milling insert			HC¹ (CVD)							HC¹ (PVD)								HT	HC²	HW	
		P	◉	◉	◎	◉	◉	◎		◉		◉	◎		◉	◉	◎	◉	◉	◉		
		M		◉	◎	◉	◉	◎				◉	◎		◉	◉	◎	◉	◉	◉		
		K							◎	◎	◉							◉				◎
		N								◎											◎	◎
		S			◎		◎				◉	◉		◉	◉	◉		◎				
		H																				
	ISO	r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**SPMT120408-HT-1**	0.8												○										
	**SPMT120408**	0.8	○	●	○		●	○										○						

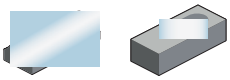
● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

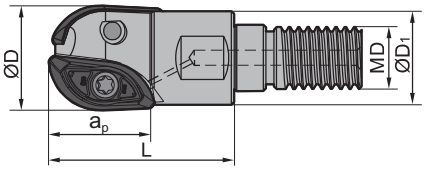
System code B26 Grade selection B24 Technical info B527 Cutting data B230

Profile milling

QCH - XPHT







Article	✻	Stock	Dimensions [mm]					Teeth	kg	Inserts
			ØD	ØD1	ap	L	MD			
QCH-16-XPHT16-M10		●	16	17	16	28	10	2	0.036	XPHT16
QCH-20-XPHT20-M12		○	20	19	20	30	12	2	0.051	XPHT20
QCH-25-XPHT25-M12		●	25	24	25	35	12	2	0.071	XPHT25
QCH-30-XPHT30-M16		●	30	29	30	45	16	2	0.14	XPHT30
QCH-32-XPHT32-M16		●	32	30	32	45	16	2	0.162	XPHT32

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	XPHT16	XPHT20	XPHT25	XPHT30	XPHT32
	ØD	**16**	**20**	**25**	**30**	**32**
	Screw (insert)	I60M2.5×6.5 (1.0 Nm)		I60M4×10 (3.4 Nm)	I60M5×13.2 (6.7 Nm)	I60M5×13.2 (6.7 Nm)
	Screw (insert)		I60M3.5×08TT (2.7 Nm)			
	Wrench (insert)		WT10IP			
	Wrench (insert)				WT20IT	WT20IT
	Wrench (insert)	WT07P				
	Wrench (insert)			WT15S		

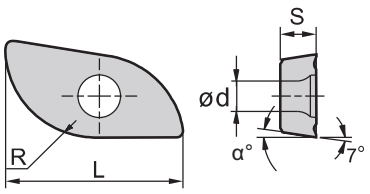


System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

XPHT	L	S	d
16	16	3.18	3.1
20	20	3.97	4
25	25	4.76	4.7
30	30	6.35	5.8
32	32	6.35	5.8

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

Milling inserts



XP** milling insert				HC[1] (CVD)								HC[1] (PVD)								HT	HC[2]	HW	
P				●	●	◕	●	●	◕		●		◕	◕		◕	◕	◕	●	●	●		
M					◕	◕	◕	◕	◕				◕	◕		◕	◕	◕	◕	●	●		
K										◕	◕	●								●			◕
N												◕											◕
S							◕		◕				●	◕		◕	◕	◕		◕				
H																							
ISO		R	α	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**XPHT16R0803-GM**	8	9																●						
	XPHT20R10T3-GM	10	9																●						
	XPHT25R1204-GM	12.5	9																●						
	XPHT30R1506-GM	15	11																●						
	XPHT32R1606-GM	16	9																●						

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

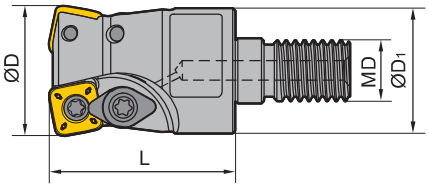
System code B26 Grade selection B24 Technical info B527 Cutting data B230

High-feed mills

QCH - SDMT Kr: 15°







Article	✻	Stock	Dimensions [mm]				Teeth	kg	Inserts
			ØD	ØD1	L	MD			
QCH-20-SDMT06-M10-03		●	20	19	30	10	3	0.058	SDMT06T2
QCH-25-SDMT06-M12-04		●	25	24	35	12	4	0.097	
QCH-32-SDMT06-M16-05		○	32	30	45	16	5	0.183	
QCH-25-SDMT09-M12-02		○	25	24	35	12	2	0.088	SDMT09T3
QCH-30-SDMT09-M16-03		●	30	29	45	16	3	0.176	
QCH-35-SDMT09-M16-03		○	35	30	45	16	3	0.216	
QCH-32-SDMT12-M16-02		●	32	30	45	16	2	0.175	SDMT1204
QCH-35-SDMT12-M16-02		○	35	30	45	16	2	0.2	
QCH-40-SDMT12-M16-03		○	40	30	45	16	3	0.3	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	SDMT06T2	SDMT09T3	SDMT1204
	ØD	20-35	25-35	32-40
	Clamp		WD-204	WD-204
	Screw (clamp)			I60M4×8.4 (3.4Nm)
	Screw (clamp)		I60M3.5×08TT (2.7Nm)	
	Screw (insert)	I60M2.2×5.5 (0.8 Nm)	I60M4×8.4 (3.4 Nm)	I60M4×8.4 (3.4 Nm)
	Wrench (clamp)		WT10IP	WT15IP
	Wrench (insert)	WT07IP	WT15IP	WT15IP



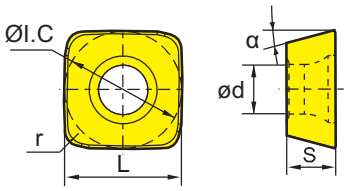
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SDMT	L	I.C	S	d
06 T2	6.35	6.35	2.58	5.5
09 T3	9.525	9.525	3.97	4
12 04	12.7	12.7	4.76	4.4

SD** milling insert



	HC[1] (CVD)								HC[1] (PVD)								HT	HC[2]	HW	
P	◉	◉	◉	◉	◉	◉		◉			◉	◉		◉	◉	◉		◉	◉		
M		◉	◉	◉	◉	◉					◉	◉		◉	◉	◉	◉	◉	◉		
K							◉	◉		◉								◉			◉
N									◉											◉	◉
S				◉		◉				◉	◉		◉	◉	◉		◉				
H																					

	ISO	r	α	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**SDMT06T208-DM**	0.8	15						○					○		○				○					
	SDMT09T312-DM	1.2	15	●					●		○			○	○				●						
	SDMT120412-DM	1.2	15	●					●		●			○	○										
	**SDMT09T312-NM**						●								○	●				●					
	SDMT120412-NM						●								○	●		●		●					
	**SDMT06T208-PM**	0.8	15	●			●									○	●			○					
	SDMT09T312-PM	1.2	15				●				○			○			●								
	SDMT120412-PM	1.2	15				●							○			●								

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

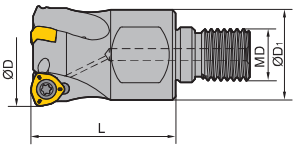
System code B26 Grade selection B24 Technical info B527 Cutting data B230

High-feed mills

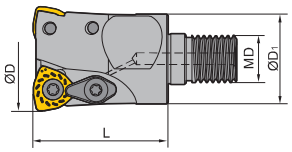
QCH - WPGT Kr: 11°-22°











Article	✻	Stock	Dimensions [mm]				Teeth	kg	Inserts
			ØD	$ØD_1$	L	MD			
QCH-20-WPGT05-M10-02		○	20	18	30	10	2	0.056	WPGT0503
QCH-25-WPGT06-M12-02		○	25	21	35	12	2	0.097	WPGT0604
QCH-32-WPGT06-M16-03		●	32	29	43	16	3	0.185	
QCH-35-WPGT06-M16-03		●	35	30	45	16	3	0.201	
QCH-42-WPGT06-M16-04		○	42	29	43	16	4		
QCH-35-WPGT08-M16-02		●	35	30	45	16	2	0.196	WPGT0806

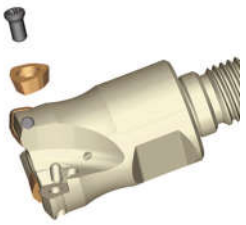
● Ex stock ○ On demand

✻ With internal cooling

Variable lead angle (lead angle ist hier dependent on size of inserts)
lead angle: WPGT05: 16°; WPGT06: 22°; WPGT08: 11°; WPGT09: 21°

Spare parts

	Insert	WPGT0503	WPGT0604	WPGT0806
	ØD	20	25-42	35
	Clamp			WD-208
	Screw (clamp)			I60M5×13 (6.7 Nm)
	Screw (insert)		I60M4×8.4 (3.4 Nm)	I60M5×13 (6.7 Nm)
	Screw (insert)	I60M3.5×08TT (2.7 Nm)		
	Wrench (clamp)			WT20IT
	Wrench (insert)			WT20IT
	Wrench (insert)	WT10P	WT15P	

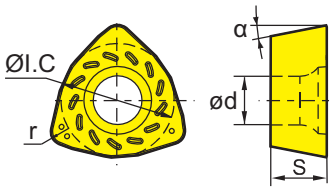


System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

WPGT	I.C	S	d
05 03	7.94	3.5	4
06 04	9.525	4.2	4.4
08 06	12.85	6.35	5.5



WP** positive insert			HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
P			○	○	◉	○	○	◉	○		○	○		○	○	◉	○	○	○	○			
M				○	◉	○	○	◉				○	○		○	○	◉	◉	○	○			
K									◉	○									○			◉	
N										◉												◉	◉
S					◉		◉				○	○		○	○	○		◉					
H																							
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	WPGT050315ZSR-PM	1.5														●								
	WPGT060415ZSR-PM	1.5	●												●	●			●					
	WPGT080615ZSR-PM	1.5	●												●	●			●					
	WPGT050315ZSR	1.5	●					●						●										
	WPGT060415ZSR	1.5	●					●						●		●								
	WPGT080615ZSR	1.5	●					●						●		●								

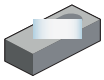
● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

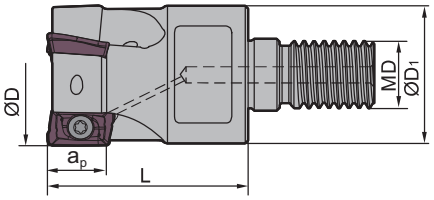
System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

QCH series

QCH - APKT Kr: 90°







Article	✻	Stock	Dimensions [mm]					Teeth	kg	Inserts
			ØD	ØD1	ap	L	MD			
QCH-16-APKT11-M8-02		●	16	12.5	10.5	25	8	2	0.028	
QCH-20-APKT11-M10-03		●	20	18	10.5	30	10	3	0.059	
QCH-25-APKT11-M12-04		●	25	21	10.5	35	12	4	0.104	APKT11T3
QCH-32-APKT11-M16-05		●	32	29	10.5	43	16	5		
QCH-40-APKT11-M16-06		●	40	29	10.5	43	16	6		
QCH-25-APKT16-M12-02		○	25	21	10.5	38	12	2	0.09	
QCH-32-APKT16-M16-03		●	32	29	10.5	46	16	3		APKT1604
QCH-40-APKT16-M16-04		○	40	29	10.5	46	16	4		

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

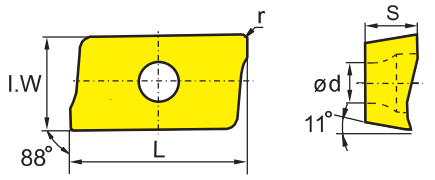
	Insert	APKT11T3	APKT1604	
	ØD	16-40	25-40	
	Screw (insert)		l60M4×8.4 (3.4 Nm)	
	Screw (insert)	l60M2.5×6.5T (1.0 Nm)		
	Wrench (insert)	WT08IP	WT15IP	

System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

APKT	L	S	d
11 T3	12.24	3.6	2.8
16 04	17.877	5.76	4.4



AP** milling insert				HC[1] (CVD)								HC[1] (PVD)									HT	HC[2]	HW	
				P																				
				M																				
				K																				
				N																				
				S																				
				H																				
	ISO		r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	APKT11T304-ALH		0.4	6.5									●											●	●
	APKT11T308-ALH		0.8	6.5									●											●	●
	APKT160408-ALH		0.8	9.33									●											●	●
	APKT11T304-APF		0.4	6.5															●						
	APKT11T308-APF		0.8	6.5													○		●		○				
	APKT160408-APF		0.8	9.33													○		●	○	○				
	APKT11T304-APM		0.4	6.5				●			●								●						
	APKT11T308-APM		0.8	6.5				●			●						○		●		○				
	APKT11T312-APM		1.2	6.5				●			●								●						
	APKT11T316-APM		1.6	6.5				●			●								●						
	APKT11T320-APM		2	6.5				●			●								●						
	APKT160408-APM		0.8	9.33				●			●	●					○		●		○				
	APKT160416-APM		1.6	9.33				●			●								●						
	APKT160420-APM		2	9.33				●			●								●						
	APKT160424-APM		2.4	9.33				●			●								●						
	APKT160430-APM		3	9.33				●											●						
	APKT11T304-LH		0.4	6.5																				○	○
	APKT11T308-LH		0.8	6.5																				○	●
	APKT160408-LH		0.8	9.33																				○	○
	APKT11T308-NM																●				●				
	APKT11T312-NM																●				●				
	APKT11T304-PF		0.4	6.5		○			○					○	○					○					
	APKT11T308-PF		0.8	6.5											○										
	APKT11T316-PF		1.6	6.5											○										
	APKT160408-PF		0.8	9.33		○				○					○					○					
	APKT160430-PF		3	9.33	○																				
	APKT11T304-PM		0.4	6.5	○	○	○		○	○				○	○					○					
	APKT11T308-PM		0.8	6.5	○	○		○	○	●	○	○		○	○			○		○					
	APKT11T312-PM		1.2	6.5					○					○	○					○					
	APKT11T316-PM		1.6	6.5					○					○	○					○					
	APKT160408-PM		0.8	9.33	○	○	○	●		●	○	○		○	○			○		●					
	APKT160416-PM		1.6	9.33	○										○										

● Ex stock ○ On demand

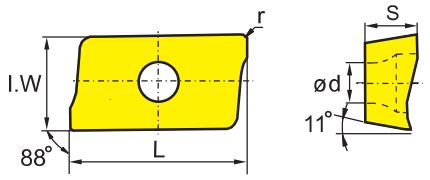
HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

APKT	L	S	d
11 T3	12.24	3.6	2.8
16 04	17.877	5.76	4.4



AP** milling insert				HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
			P																				
			M																				
			K																				
			N																				
			S																				
			H																				
ISO		r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**APKT11T304-PR**	0.4	6.5						○										○						
	APKT11T316-PR	1.6	6.5																○						
	**APKT11T3XR**										●							●							

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

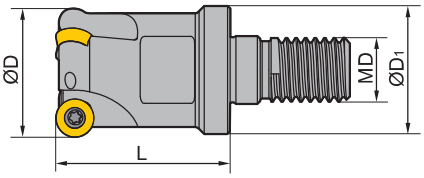
System code B26 Grade selection B24 Technical info B527 Cutting data B230

QCH series

QCH - RD







Article	✻	Stock	Dimensions [mm]				Teeth	kg	Inserts
			ØD	$ØD_1$	L	MD			
QCH-16-RD07-M8-02		●	16	15	25	8	2	0.027	
QCH-20-RD07-M10-03		○	20	18	30	10	3	0.058	RDKW0702
QCH-25-RD07-M12-03		○	25	21	35	12	3	0.093	
QCH-20-RD10-M10-02		○	20	19	30	10	2	0.054	
QCH-25-RD10-M12-02		○	25	24	35	12	2	0.097	RDKW10T3
QCH-32-RD10-M16-03		○	32	30	45	16	3	0.183	
QCH-32-RD16-M16-02		○	32	30	45	16	2	0.156	RDKW1605

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

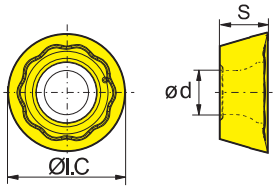
	Insert	RDKW0702	RDKW10T3	RDKW1605	
	ØD	16-25	20-32	32	
	Screw (insert)	I60M2.5×5.0 (1.0 Nm)	I60M4×8 (3.4 Nm)	I60M5×13 (6.7 Nm)	
	Wrench (insert)	WT08IP	WT15IP		
	Wrench (insert)			WT20IT	

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

RDKT
10 T3

RD** milling insert		HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
	P																				
	M																				
	K																				
	N																				
	S																				
	H																				
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**RDKT10T3MO-MM**																	○					

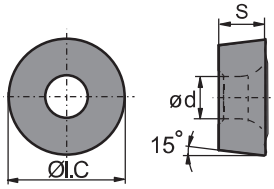
● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

RDKW	I.C	S	d
07 02	7	2.38	2.7
10 T3	10	3.97	4.4
16 05	16	5.56	5.5

Milling inserts

RD** milling insert		HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
	P																				
	M																				
	K																				
	N																				
	S																				
	H																				
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**RDKW10T3MO**	●	○				○			●	○						○						
	RDKW1605MO						○				○	○					○						
	**RDKW0702MO-1**						●				○				●								
	RDKW0702MO-2									●													

● Ex stock ○ On demand

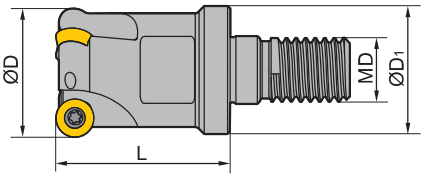
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

QCH series

QCH - RD





Article	*	Stock	Dimensions [mm]				Teeth	kg	Inserts
			ØD	ØD1	L	MD			
QCH-15-RDKW0702-M8-02		●	15	12.5	23	8	2		RDKW0702
QCH-15-RDKW0702-M8-03		●	15	12.5	23	8	3		
QCH-20-RDKW0702-M10-04		●	20	18	30	10	4		
QCH-25-RDKW0702-M12-05		●	25	21	35	12	5		
QCH-20-RDKW1003-M10-02		●	20	18	30	10	2		RDKW1003
QCH-25-RDKW1003-M12-02		●	25	21	35	12	2		
QCH-25-RDKW1003-M12-03		●	25	21	35	12	3		
QCH-30-RDKW1003-M16-04		●	30	29	43	16	4		
QCH-35-RDKW1003-M16-04		●	35	29	43	16	4		
QCH-42-RDKW1003-M16-05		●	42	29	43	16	5		
QCH-24-RDKW12T3-M12-02		●	24	21	35	12	2		RDKW12T3
QCH-35-RDKW12T3-M16-03		●	35	29	43	16	3		
QCH-42-RDKW12T3-M16-04		●	42	29	43	16	4		
QCH-32-RDKW1604-M16-02		●	32	29	43	16	2		RDKW1604

● Ex stock ○ On demand

* With internal cooling

Spare parts

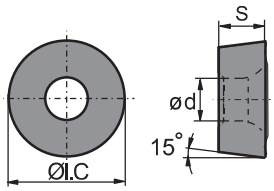
	Insert	RDKW0702	RDKW1003	RDKW12T3	RDKW1604
	ØD	15-25	20-42	24-42	32
	Clamp				WX16N
	Screw (clamp)				I60M4.5×10 (5.0 Nm)
	Screw (clamp)			LOM3.5×7.1	
	Screw (insert)	I60M2.5×5.0 (1.0 Nm)	I60M3.5×7.7 (2.7 Nm)	I60M3.5×7.7 (2.7 Nm)	I60M4.5×10 (5.0 Nm)
	Wrench (insert)	WT07P	WT15P	WT15P	
	Wrench (insert)				WT20T

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

RDKW	I.C	S	d
07 02	7	2.38	2.7
10 03	10	3.18	3.9
12 T3	12	3.97	3.9
16 04	16	4.76	5.2

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

Milling inserts



RD** milling insert		HC¹ (CVD)							HC¹ (PVD)									HT		HC²		HW	
	P																						
	M																						
	K																						
	N																						
	S																						
	H																						
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	RDKW0702MO-1						●				○				●								
	RDKW0702MO-2										●												
	RDKW1003MO-1					○	●					○			●	●							
	RDKW1003MO-2										●												
	RDKW1003MO-3				●										●								
	RDKW12T3MO-1					○	●					○			●	●							
	RDKW12T3MO-2										●				○								
	RDKW12T3MO-3				●										●								
	RDKW1604MO-1						●					○			●	●	●						
	RDKW1604MO-2										○												
	RDKW1604MO-3	○			●				●		○				●		●						

● Ex stock ○ On demand

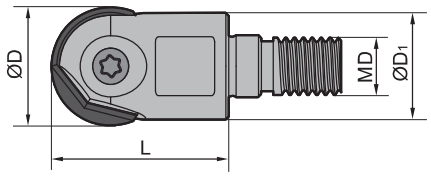
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

QCH series

QCH - ZOHX





Article	✻	Stock	Dimensions [mm]				kg	Inserts
			ØD	ØD1	L	MD		
QCH-16-ZOHX16-M8		●	16	15	28	8	0.029	ZOHX16
QCH-20-ZOHX20-M10		●	20	19	30	10	0.048	ZOHX20
QCH-25-ZOHX25-M12		●	25	24	35	12	0.087	ZOHX25
QCH-30-ZOHX30-M16		●	30	29	45	16	0.17	ZOHX30
QCH-32-ZOHX32-M16		●	32	30	45	16	0.18	ZOHX32

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

	Insert	ZOHX16	ZOHX20	ZOHX25	ZOHX30	ZOHX32
	ØD	16	20	25	30	32
	Screw (insert)	I70M5×12TT (6.7 Nm)	I70M5×16TT (6.7 Nm)	I70M6×20TT (9.1 Nm)	I70M8×25TT (16.2 Nm)	I70M8×25TT (16.2 Nm)
	Wrench (insert)	WT20IP	WT20IP	WT20IP		
	Wrench (insert)				WT30IT	WT30IT

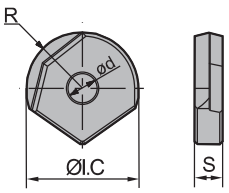


System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

ZOHX	I.C	S	d
16	16	4	5
20	20	5	5
25	25	6	6
30	30	7	8
32	32	7	8

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

Milling inserts



ZO** milling insert			HC[1] (CVD)								HC[1] (PVD)									HT	HC[2]	HW	
		P																					
		M																					
		K																					
		N																					
		S																					
		H																					
ISO		R	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	ZOHX1604-GF	8																		●				
	ZOHX2005-GF	10																		●				
	ZOHX2506-GF	12.5																		○				
	ZOHX3007-GF	15																		●				
	ZOHX3207-GF	16																		●				
	ZOHX1604-GM	8																		●				
	ZOHX2005-GM	10																		●				
	ZOHX2506-GM	12.5																		○				
	ZOHX3007-GM	15																		●				
	ZOHX3207-GM	16																		●				

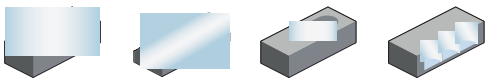
● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

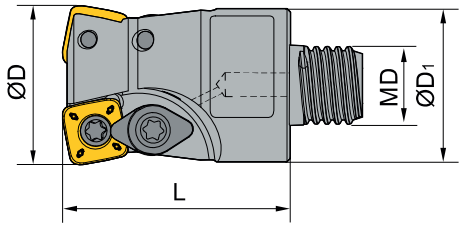
System code B26 Grade selection B24 Technical info B527 Cutting data B230

QCH series

QCH-SDMT-Q







Article	✻	Stock	Dimensions [mm]				Teeth	kg	Inserts
			ØD	ØD$_1$	L	MD			
QCH-25-SDMT09-Q14-02	✻	○	25	24	35	14	2	0.088	SDMT09T3
QCH-35-SDMT09-Q18-03	✻	○	35	30	45	18	3	0.216	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

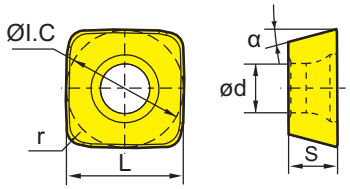
	Insert	**SDMT09T3**
	ØD	**25-35**
	Clamp	WD-204
	Screw (clamp)	I60M4×8.4 (3.4 Nm)
	Screw (insert)	I60M3.5×08TT (2.7 Nm)
	Wrench (insert)	WT10IP

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SDMT	L	I.C	S	d
09 T3	9.525	9.525	3.97	4



SD** milling insert				HC¹ (CVD)							HC¹ (PVD)									HT		HC²		HW	
			P	◉	◉	◉	◉	◉	◉	◉			◉	◉		◉	◉	◉		◉	○		○			
			M		◉	◉	◉	◉	◉				◉	◉		◉	◉	◉	◉	○	○		○			
			K						◉	◉	○									○					◉	
			N								◉														◉	◉
			S				◉		◉			○	◉		◉	◉	◉		◉							
			H																							
	ISO	r	α	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201		
	**SDMT09T312-DM**	1.2	15	●					●		○			○	○				●							
	**SDMT09T312-NM**						●								○	●				●						
	**SDMT09T312-PM**	1.2	15				●				○			○			●									

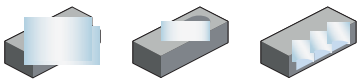
● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

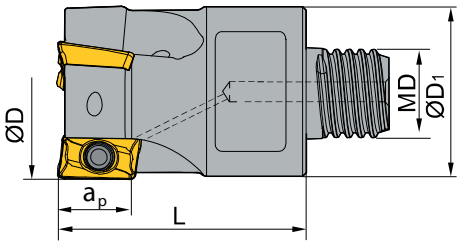
System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

QCH series

QCH-APKT-Q Kr: 90°







Article	✻	Stock	Dimensions [mm]					Teeth	kg	Inserts
			ØD	ØD1	ap	L	MD			
QCH-16-APKT11-Q10-02	✻	●	16	15.2	10.5	28	10	2	0.028	
QCH-20-APKT11-Q12-02	✻	○	20	19	10.5	30	12	2	0.059	APKT11T3
QCH-25-APKT11-Q14-03	✻	●	25	24	10.5	35	14	3	0.104	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

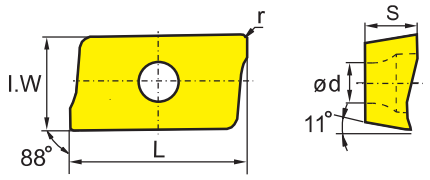
	Insert	APKT11T3
	ØD	16-25
	Screw (insert)	I60M2.5×5.5 (1.0 Nm)
	Wrench (insert)	WT07IP

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

APKT	L	S	d
11 T3	12.24	3.6	2.8



AP** milling insert				HC¹ (CVD)								HC¹ (PVD)									HT		HC²		HW	
			P																							
			M																							
			K																							
			N																							
			S																							
			H																							
ISO		r	I.W	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201		
	APKT11T304-ALH	0.4	6.5									●												●	●		
	APKT11T308-ALH	0.8	6.5									●												●	●		
	APKT11T304-APF	0.4	6.5															●									
	APKT11T308-APF	0.8	6.5													○		●		○							
	APKT11T304-APM	0.4	6.5				●			●								●									
	APKT11T308-APM	0.8	6.5				●			●						○		●		○							
	APKT11T312-APM	1.2	6.5				●			●								●									
	APKT11T316-APM	1.6	6.5				●			●								●									
	APKT11T320-APM	2	6.5				●			●								●									
	APKT11T304-LH	0.4	6.5																					○	○		
	APKT11T308-LH	0.8	6.5																					○	●		
	APKT11T308-NM															●				●							
	APKT11T312-NM															●				●							
	APKT11T304-PF	0.4	6.5		○			○					○	○					○								
	APKT11T308-PF	0.8	6.5											○													
	APKT11T316-PF	1.6	6.5											○													
	APKT11T304-PM	0.4	6.5	○	○	○		○	○				○	○					○								
	APKT11T308-PM	0.8	6.5	○	○		○	○	●	○	○		○	○			○		○								
	APKT11T312-PM	1.2	6.5					○					○	○					○								
	APKT11T316-PM	1.6	6.5					○					○	○					○								
	APKT11T304-PR	0.4	6.5						○										○								
	APKT11T316-PR	1.6	6.5																○								
	APKT11T3XR										●							●								

● Ex stock ○ On demand

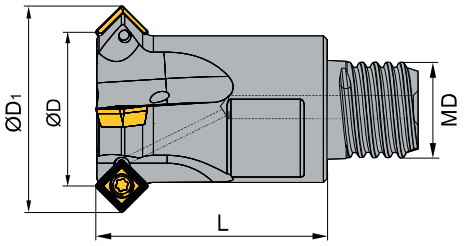
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

QCH series

QCH-SPGT-Q





Article	✻	Stock	Dimensions [mm] ØD	ØD1	L	MD	Teeth	kg	Inserts
QCH-16-SPGT05-Q10-45-03	✻	○	16	22.6	25	10	3	0.032	SPGT0502
QCH-20-SPGT05-Q12-45-04	✻	○	20	26.6	30	12	4	0.644	

● Ex stock ○ On demand

✻ With internal cooling

Spare parts

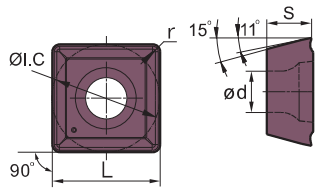
	Insert	**SPGT0502**
	ØD	**16-20**
	Screw (insert)	I60M2×4.3 (0.5 Nm)
	Wrench (insert)	WT06IP

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

SPGT
05 02



SP** drilling insert		HC[1] (CVD)							HC[1] (PVD)									HT	HC[2]	HW	
	P	◎	◎	◎	◎	◎	◎	◎			◎	◎		◎	◎	◎		○	○		
	M		◎	◎	◎	◎	◎				◎	◎		◎	◎	◎	◎	○	○		
	K							◎	○								○				◎
	N								◎											◎	◎
	S				◎		◎			○	◎		◎	◎	◎		◎					
	H																				
ISO		YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**SPGT050204-EM**												●		●								
	**SPGT050204-PM**												●		●								

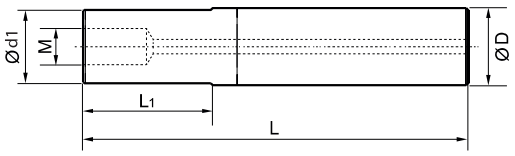
● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

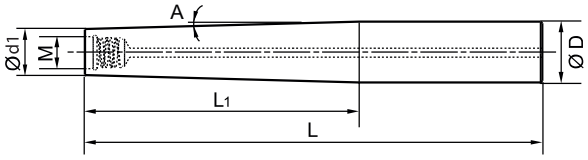
Indexable heads shanks

Solid carbide shank, stepped, Q thread



Article	Dimensions [mm]				Thread (M)	Stock
	D	d1	L	L1		
G12-QCH-Q08-80C	12	11,5	80	30	Q8	●
G12-QCH-Q08-100C	12	11,5	100	50	Q8	●
G12-QCH-Q08-120C	12	11,5	120	70	Q8	●
G16-QCH-Q10-90C	16	15,2	90	40	Q10	●
G16-QCH-Q10-120C	16	15,2	120	70	Q10	●
G16-QCH-Q10-150C	16	15,2	150	100	Q10	●
G20-QCH-Q12-100C	20	19	100	40	Q12	●
G20-QCH-Q12-140C	20	19	140	80	Q12	●
G20-QCH-Q12-180C	20	19	180	120	Q12	●
G25-QCH-Q14-120C	25	24	120	50	Q14	●
G25-QCH-Q14-170C	25	24	170	100	Q14	●
G25-QCH-Q14-220C	25	24	220	150	Q14	●
G32-QCH-Q18-140C	32	30	140	70	Q18	●
G32-QCH-Q18-200C	32	30	200	130	Q18	●
G32-QCH-Q18-260C	32	30	260	190	Q18	●
G32-QCH-Q18-320C	32	30	320	250	Q18	●

Solid carbide shank, tapered, Q thread



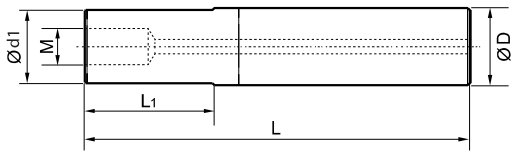
Article	Dimensions [mm]				Thread (M)	Angle (A)	Stock
	D	d1	L	L1			
G16-QCH-Q08-140C-ZJ90	16	11,5	140	90	Q8	1,0	●
G20-QCH-Q10-200C-ZJ140	20	15,2	200	140	Q8	0,8	●
G25-QCH-Q12-250C-ZJ180	25	19	250	180	Q8	0,8	●
G32-QCH-Q14-270C-ZJ200	32	30	270	200	Q10	0,8	●

Spare parts

	Thread	Q8 / Q10	Q12 / Q14	Q18
	Wrench	QCH-10×13	QCH-16×20	QCH-26

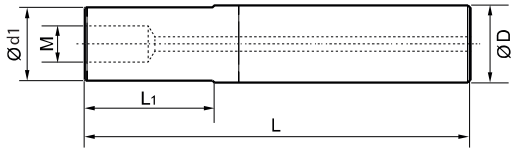
Indexable heads shanks

Steel shank, stepped, Q thread



Article	Dimensions [mm]				Thread (M)	Stock
	D	d1	L	L1		
G12-QCH-Q08-65S	12	11,5	65	19	Q08	●
G16-QCH-Q10-100S	16	15,2	100	42	Q10	●
G20-QCH-Q12-110S	20	19	110	54	Q12	●

Solid carbide shank, stepped, metric thread

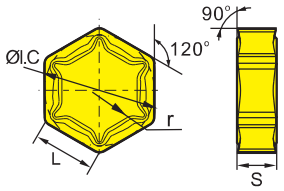


Article	Dimensions [mm]				Thread (M)	Stock
	D	d1	L	L1		
G16-QCH-M8-90C-125	16	12,5	90	35	M8	○
G16-QCH-M8-110C-125	16	12,5	110	55	M8	○
G16-QCH-M8-130C-125	16	12,5	130	75	M8	○
G16-QCH-M8-90C	16	15	90	35	M8	○
G16-QCH-M8-110C	16	15	110	55	M8	○
G16-QCH-M8-130C	16	15	130	75	M8	○
G16-QCH-M8-170C	16	15	170	115	M8	○
G16-QCH-M8-200C	16	15	200	145	M8	○
G20-QCH-M10-87C	20	18,5	87	30	M10	○
G20-QCH-M10-107C	20	18,5	107	50	M10	○
G20-QCH-M10-127C	20	18,5	127	70	M10	○
G20-QCH-M10-167C	20	18,5	167	110	M10	○
G20-QCH-M10-197C	20	18,5	197	140	M10	○
G25-QCH-M12-128C	25	23	128	65	M12	○
G25-QCH-M12-148C	25	23	148	85	M12	○
G25-QCH-M12-168C	25	23	168	105	M12	○
G25-QCH-M12-198C	25	23	198	135	M12	○
G25-QCH-M12-228C	25	23	228	165	M12	○
G32-QCH-M16-161C	32	29	161	95	M16	○
G32-QCH-M16-211C	32	29	211	145	M16	○
G32-QCH-M16-281C	32	29	281	215	M16	○
G32-QCH-M16-311C	32	29	311	245	M16	○
G32-QCH-M16-361C	32	29	361	295	M16	○

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

HNGX	L	I.C	S
09 05	9.16	15.875	5.56

Milling inserts



HN** milling insert			HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
		P																				
		M																				
		K																				
		N																				
		S																				
		H																				
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
HDR	**HNGX090530-HDR**	3							○	○														
MR	**HNGX090516-MR**	1.6							●															
	HNGX090520-MR	2							●															

● Ex stock ○ On demand

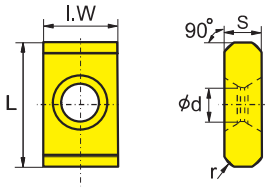
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

LNE3	L	I.W	S
2. 53	15.875	4.76	9.525

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

LN** milling insert			HC[1] (CVD)							HC[1] (PVD)									HT	HC[2]	HW	
		P																				
		M																				
		K																				
		N																				
		S																				
		H																				
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**LNE32.534**	1.6						○	○	○														

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

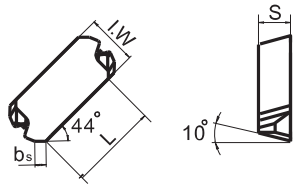
System code B26 Grade selection B24 Technical info B527 Cutting data B230

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

LNCX	L	I.W	S
18 06	24	10	6.4

Milling inserts

LN** milling insert			HC[1] (CVD)							HC[1] (PVD)								HT	HC[2]	HW	
		P	●	●	◐	●	●	◐		●		◐	◐		◐	◐	●	●	●		
		M		◑	◐	●	●	◐				◐	◐		◐	◐	◐	◑	◑			
		K							◐	●								●			◐	
		N									◐										◐	
		S				◐		◐			●	◐		◐	◐	◐		◐				
		H																				
ISO		bs	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**LNCX1806AZT11L**	2.0							○															
	LNCX1806AZT11R	2.0							○															



● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SNKN	L	I.C	S
12 04	12.7	12.7	4.76
15 04	15.875	15.875	4.76

SN** milling insert				HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
			P																				
			M																				
			K																				
			N																				
			S																				
			H																				
ISO		bs	be	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SNKN1204ENN	1.5	0.9	●					●	●															
	SNKN1504ENN	1.5	0.9	○																					

● Ex stock ○ On demand

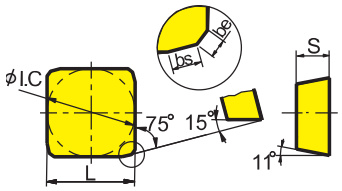
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SPCN	L	I.C	S
12 03	12.7	12.7	1.4
15 04	15.875	15.875	1.4



SP** milling insert		HC[1] (CVD)								HC[1] (PVD)								HT	HC[2]	HW	
P		◉	◉	◎	◉	◉	◎		◉			◉	◎		◉	◉	◎		●	●		
M			○	◎	◉	◉	◎					◉	◎		◉	◉	◎	◉	○	○		
K								◉	◎		●											◉
N										◉											◉	◎
S					◉		◎				●	◉		◉	◉	◉		◎				
H																						

ISO		bs	be	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	**SPCN1203EDSKR**	3.2	1.0	●																					
	SPCN1504EDSKR	4.8	1.0	●																					

● Ex stock ○ On demand

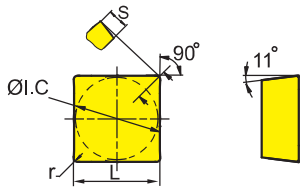
HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

SPMR	L	I.C	S
09 03	9.525	9.525	3.18
12 03	12.7	12.7	3.18



SP** milling insert			HC¹ (CVD)							HC¹ (PVD)										HT	HC²	HW	
		P																					
		M																					
		K																					
		N																					
		S																					
		H																					
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SPMR090304	0.4					○																	
	SPMR090308	0.8					○																	
	SPMR120304	0.4					●																	
	SPMR120308	0.8					●	○																
	SPMR120312	1.2						○																

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

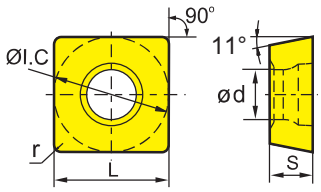
A Turning
B Milling
C Drilling
D Technical Information
E Index

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

SPMT	L	I.C	S	d
06 03	6.35	6.35	3.18	2.8
09 T3	9.525	9.525	3.97	4.4
12 04	12.7	12.7	4.76	5.5

SP** milling insert			HC¹ (CVD)								HC¹ (PVD)									HT	HC²	HW	
		P																					
		M																					
		K																					
		N																					
		S																					
		H																					
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
HT-1	**SPMT120408-HT-1**	0.8												○										
HT	**SPMT09T308-HT**	0.8					●		●				○											
KT	**SPMT060304-KT**	0.4		○																				

● Ex stock ○ On demand

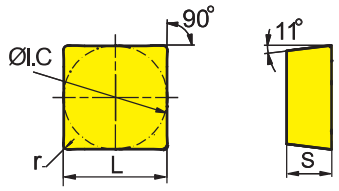
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code > B26 | Grade selection > B24 | Technical info > B527 | Cutting data > B230

Milling inserts

Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

SP**	L	I.C	S
12 03	12.7	12.7	3.18
15 04	15.875	15.875	4.76



SP** milling insert			HC¹ (CVD)							HC¹ (PVD)									HT	HC²	HW	
		P																				
		M																				
		K																				
		N																				
		S																				
		H																				
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	SPGN120304	0.4											○											
	SPGN120308	0.8											○											
	SPUN120308	0.8					●	○																○
	SPUN120312	1.2					●																	
	SPUN150408	0.8																						○
	SPUN150412	1.2																						○

● Ex stock ○ On demand

HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

TPKN	L	I.C	S
16 03	16.5	9.525	3.18

Milling inserts

TP** milling insert					HC¹ (CVD)								HC¹ (PVD)								HT	HC²	HW	
					YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	ISO	bs	be	an																						
	TPKN1603PDTKR	1.0	1.2	11																					○	
	TPKN1603PPER	1.0	1.2	11		●																				
	TPKN1603PPFR	1.0	1.2	11																					○	

● Ex stock ○ On demand

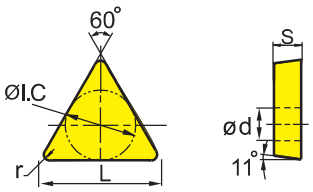
HC¹ Coated carbide
HT Uncoated cermet
HC² Coated cermet
HW Uncoated carbide

System code B26 Grade selection B24 Technical info B527 Cutting data B230

Milling inserts

- Ideal machining conditions
- Normal machining conditions
- Unfavourable machining conditions

TP**	L	I.C	S
11 03	11	6.35	3.18
16 03	16.5	9.525	3.18
22 04	22	12.7	4.76



TP** milling insert			HC[1] (CVD)							HC[1] (PVD)										HT	HC[2]	HW	
		P																					
		M																					
		K																					
		N																					
		S																					
		H																					
ISO		r	YBC302	YBC301	YBC401	YBM253	YBM251	YBM351	YBD152	YBD252	YBG101	YBG102	YBG202	YBG212	YBS203	YBG205	YB9320	YBG302	YBS303	YBG252	YNG151	YNG151C	YD101	YD201
	TPMR110304	0.4					●																	
	TPMR110308	0.8					●																	
	TPMR160304	0.4					●																	
	TPMR160308	0.8					●	●	○															
	TPMR160312	1.2					○																	
	TPMR220412	1.2					●																	
	TPUN110304	0.4					●																	
	TPUN110308	0.8					●																	
	TPUN160304	0.4					●																	○
	TPUN160308	0.8					●	○								○								○
	TPUN160312	1.2					●																	
	TPUN220408	0.8					●																	
	TPUN220412	1.2						○																

● Ex stock ○ On demand

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

System code B26 | Grade selection B24 | Technical info B527 | Cutting data B230

Notes

Notes

Guide for recommended cutting data – indexable milling

Indexable milling – group 1 (FMA07/11/12, FMD02, EMP09/13)

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min] HC (CVD) YBC302 a_e / D 1/1 | 3/4	YBC302 a_e / D 1/5	YBC401 a_e / D 1/1 | 3/4	YBC401 a_e / D 1/5	YBD152 a_e / D 1/1 | 3/4	YBD152 a_e / D 1/5	YBD252 a_e / D 1/1 | 3/4	YBD252 a_e / D 1/5
P	Unalloyed steel	ca. 0,15 % C	annealed	125	1	260	300	225	260				
		ca. 0,45 % C	annealed	190	2	225	255	195	225				
		ca. 0,45 % C	tempered	250	3	210	240	180	210				
		ca. 0,75 % C	annealed	270	4	185	210	160	185				
		ca. 0,75 % C	tempered	300	5	170	195	150	170				
	Low-alloyed steel		annealed	180	6	225	255	195	225				
			tempered	275	7	185	210	160	185				
			tempered	300	8	170	195	150	170				
			tempered	350	9	145	165	125	145				
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	130	150	115	130				
			hardened and tempered	325	11	95	105	80	95				
M	Stainless steel	ferritic/martensitic	annealed	200	12								
		martensitic	tempered	240	13								
		austenitic	quench hardened	180	14								
		austenitic-ferritic		230	15								
K	Grey cast iron	perlitic/ferritic		180	16					370	430	320	370
		perlitic (martensitic)		260	17					220	255	190	220
	Cast iron with spheroidal graphite	ferritic		160	18					255	295	220	255
		perlitic		250	19					170	200	145	170
	Malleable cast iron	ferritic		130	20					305	355	265	305
		perlitic		230	21					205	240	175	205
N	Aluminium wrought alloys	cannot be hardened		60	22								
		hardenable	hardened	100	23								
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24								
		≤ 12 % Si, hardenable	hardened	90	25								
		> 12 % Si, cannot be hardened		130	26								
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, Pb-free copper, electrolytic copper		100	29								
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37								
			hardened and tempered	60 HRC	38								
	Hard cast iron		cast	400	39								
	Hardened cast iron		hardened and tempered	55 HRC	40								
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B248
For examples of material for cutting tool groups view page D22.

Recommend feed rate

Indexable milling – group1 (FMA07/11/12, FMD02, EMP09/13)

	Material group	Feed rate per cutting edge [mm]																	
		EMP09			EMP13			EMP13			FMA07			FMA07			FMA11		
		LNKT12			ANGX11			ANGX15			ONHU06			ONHU08			SNEG12		
		Application																	
		F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R
P	Unalloyed steel		0,25	0,50		0,23			0,25		0,19	0,23		0,19	0,23			0,20	0,23
P	Low-alloyed steel		0,23	0,47		0,22			0,23		0,17	0,22		0,17	0,22			0,19	0,21
P	High-alloyed steel and high-alloyed tool steel		0,22	0,44		0,20			0,22		0,16	0,20		0,16	0,20			0,18	0,20
M	Stainless steel		0,18	0,35														0,14	0,16
K	Grey cast iron		0,28	0,55		0,26			0,28		0,20	0,26		0,20	0,26			0,22	0,25
K	Cast iron with spheroidal graphite		0,25	0,50		0,23			0,25		0,19	0,23		0,19	0,23			0,20	0,23
K	Malleable cast iron		0,25	0,50		0,23			0,25		0,19	0,23		0,19	0,23			0,20	0,23
N	Aluminium wrought alloys					0,20			0,21										
N	Aluminium-Gusslegierungen					0,20			0,21										
N	Copper and copper alloys(bronze/brass)					0,18			0,19										
S	Heat-resistant alloys																		
S	Titanium alloys																		
H	Hardened steel																		
H	Hard cast iron																		
H	Hardened cast iron																		
X	Non-metallic materials																		

1. Select the appropriate product family/cutting data group.
2. Select the used grade.
3. Determine the immersion.
4. Select the used material and read the cutting speed.
5. Please have a look at the detached feed rate recommendations.
6. Select the used tool, the machining mode and the used material.

Indexable milling – group 1 (FMA07/11/12, FMD02, FMP12, EMP09/13)

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						HC (CVD)							
						YBC302		YBC401		YBD152		YBD252	
						a_e / D		a_e / D		a_e / D		a_e / D	
						1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	260	300	225	260				
		approx. 0,45 % C	annealed	190	2	225	255	195	225				
		approx. 0,45 % C	tempered	250	3	210	240	180	210				
		approx. 0,75 % C	annealed	270	4	185	210	160	185				
		approx. 0,75 % C	tempered	300	5	170	195	150	170				
	Low-alloyed steel		annealed	180	6	225	255	195	225				
			tempered	275	7	185	210	160	185				
			tempered	300	8	170	195	150	170				
			tempered	350	9	145	165	125	145				
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	130	150	115	130				
			hardened and tempered	325	11	95	105	80	95				
M	Stainless steel	ferritic/martensitic	annealed	200	12								
		martensitic	tempered	240	13								
		austenitic	quench hardened	180	14								
		austenitic-ferritic		230	15								
K	Grey cast iron	perlitic/ferritic		180	16					370	430	320	370
		perlitic (martensitic)		260	17					220	255	190	220
	Cast iron with spheroidal graphite	ferritic		160	18					255	295	220	255
		perlitic		250	19					170	200	145	170
	Malleable cast iron	ferritic		130	20					305	355	265	305
		perlitic		230	21					205	240	175	205
N	Aluminium wrought alloys	cannot be hardened		60	22								
		hardenable	hardened	100	23								
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24								
		≤ 12 % Si, hardenable	hardened	90	25								
		> 12 % Si, cannot be hardened		130	26								
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, Pb-free copper, electrolytic copper		100	29								
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37								
			hardened and tempered	60 HRC	38								
	Hard cast iron		cast	400	39								
	Hardened cast iron		hardened and tempered	55 HRC	40								
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B254.
For examples of material for cutting tool groups view page D11.

Starting values for cutting speed v_c [m/min]																	
HC (CVD)			HC (PVD)										HW				
YBM253			YBG102		YB9320		YBG205		YBG252		YBG302		YD101		YD201		
a_e / D			a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		
1/1 | 3/4	1/5		1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	
260	300		270	315	245	285	235	275	230	265	225	260					
225	255		230	270	210	245	200	235	200	230	195	225					
210	240		220	255	200	230	190	220	185	215	180	210					
185	210		190	225	175	200	165	195	165	190	160	185					
170	195		180	205	160	190	155	180	150	175	150	170					
225	255		230	270	210	245	200	235	200	230	195	225					
185	210		190	225	175	200	165	195	165	190	160	185					
170	195		180	205	160	190	155	180	150	175	150	170					
145	165		150	175	135	160	130	155	130	150	125	145					
130	150		135	160	125	145	120	140	115	135	115	130					
95	105		95	115	90	100	85	100	85	95	80	95					
130	150		135	160	125	145	120	140	115	135	115	130					
110	130		115	135	105	120	100	120	100	115	95	110					
140	160		145	170	130	155	125	150	125	145	120	140					
110	130		115	135	105	120	100	120	100	115	95	110					
			300	345	270	315	260	300	255	295	250	290					
			180	205	160	190	155	180	150	175	150	170					
			205	240	185	215	180	210	175	200	170	195					
			135	160	125	145	120	140	115	135	115	130					
			245	285	225	260	215	250	210	240	205	235					
			165	190	150	175	145	165	140	160	135	160					
													1505	1735	1450	1670	
													1225	1420	1180	1370	
													540	620	515	600	
													435	505	420	485	
													220	255	215	250	
													170	195	160	190	
													210	245	205	235	
													385	445	370	430	

HC Coated carbide
HT Uncoated carbide, main component (TiC) o. (TiN), cermet
HC_1 Coated cermet
HW Uncoated carbide, main component (WC)

Indexable milling – group 2 (FMA01/02/03/04, FME01/02, FMP01/02, EMP01/02/03/04)

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min] HC (CVD) YBC302 a_e / D 1/1 | 3/4	YBC302 a_e / D 1/5	YBC401 a_e / D 1/1 | 3/4	YBC401 a_e / D 1/5	YBD152 a_e / D 1/1 | 3/4	YBD152 a_e / D 1/5	YBD252 a_e / D 1/1 | 3/4	YBD252 a_e / D 1/5
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	245	285	210	245				
		approx. 0,45 % C	annealed	190	2	210	245	180	210				
		approx. 0,45 % C	tempered	250	3	200	230	170	200				
		approx. 0,75 % C	annealed	270	4	175	200	150	175				
		approx. 0,75 % C	tempered	300	5	160	190	140	160				
	Low-alloyed steel		annealed	180	6	210	245	180	210				
			tempered	275	7	175	200	150	175				
			tempered	300	8	160	190	140	160				
			tempered	350	9	135	160	120	135				
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	125	145	105	125				
			hardened and tempered	325	11	90	100	75	90				
M	Stainless steel	ferritic/martensitic	annealed	200	12								
		martensitic	tempered	240	13								
		austenitic	quench hardened	180	14								
		austenitic-ferritic		230	15								
K	Grey cast iron	perlitic/ferritic		180	16					315	365	270	315
		perlitic (martensitic)		260	17					185	215	160	190
	Cast iron with spheroidal graphite	ferritic		160	18					215	250	185	215
		perlitic		250	19					145	170	125	145
	Malleable cast iron	ferritic		130	20					260	300	225	260
		perlitic		230	21					175	205	150	175
N	Aluminium wrought alloys	cannot be hardened		60	22								
		hardenable	hardened	100	23								
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24								
		≤ 12 % Si, hardenable	hardened	90	25								
		> 12 % Si, cannot be hardened		130	26								
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, Pb-free copper, electrolytic copper		100	29								
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37								
			hardened and tempered	60 HRC	38								
	Hard cast iron		cast	400	39								
	Hardened cast iron		hardened and tempered	55 HRC	40								
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B254.
For examples of material for cutting tool groups view page D11.

	Starting values for cutting speed v_c [m/min]																					
	HC (CVD)		HC (PVD)														HW				HT	
	YBM253		YBG101		YBG102		YBG152		YB9320		YBG205		YBG252		YBG302		YD101		YD201		YNG151	
	a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D	
	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5
	245	285			255	295	240	280	230	265	220	255	215	250	210	245					270	315
	210	245			220	255	205	240	200	230	190	220	185	215	180	210					235	270
	200	230			205	240	195	225	185	215	180	205	175	200	170	200					220	255
	175	200			180	210	170	200	165	190	155	180	155	175	150	175					195	220
	160	190			170	195	160	185	150	175	145	170	140	165	140	160					180	210
	210	245			220	255	205	240	200	230	190	220	185	215	180	210					235	270
	175	200			180	210	170	200	165	190	155	180	155	175	150	175					195	220
	160	190			170	195	160	185	150	175	145	170	140	165	140	160					180	210
	135	160			145	165	135	155	130	150	125	145	120	140	120	135					150	180
	125	145			130	150	120	140	115	135	110	130	110	125	105	125					140	160
	90	100			90	105	85	100	85	95	80	90	80	90	75	90					100	110
	125	145			130	150	120	140	115	135	110	130	110	125	105	125					135	160
	105	120			110	125	105	120	100	115	95	110	95	105	90	105					115	135
	130	155			140	160	130	150	125	145	120	140	115	135	115	130					145	170
	105	120			110	125	105	120	100	115	95	110	95	105	90	105					115	135
					285	330	265	305	255	295	245	285	240	280	235	275						
					170	195	160	185	150	175	145	170	140	165	140	160						
					195	225	180	210	175	200	165	195	165	190	160	185						
					130	150	120	140	115	135	110	130	110	125	105	125						
					230	270	220	255	210	240	200	230	195	225	190	225						
					155	180	145	170	140	160	135	155	130	150	130	150						
			1505	1735													1205	1390	1040	1200		
			1225	1420													980	1140	850	980		
			540	620													435	500	375	435		
			435	505													350	405	300	350		
			220	255													180	205	155	180		
			170	195													140	160	120	140		
			210	245													170	200	150	170		
			385	445													310	360	265	310		
					75	85	70	80	65	75	65	75	65	75	60	70						
					50	55	50	55	45	50	45	50	45	50	40	45						
					60	70	55	65	55	65	50	55	50	55	50	55						
					35	40	35	40	30	35	30	35	30	35	30	35						
					45	50	45	50	40	45	40	45	40	45	40	45						
					75	85	70	80	65	75	65	75	65	75	60	70						
					75	85	70	80	65	75	65	75	65	75	60	70						

HC Coated carbide
HT Uncoated carbide, main component (TiC) o. (TiN), cermet
HC_1 Coated cermet
HW Uncoated carbide, main component (WC)

Indexable milling – group 2 (FMA01/02/03/04, FME01/02, FMP01/02, EMP01/02/03/04)

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed vc [m/min]			
						HC_1			
						YNG151C			
						a_e / D			
						1/1 | 3/4	1/5		
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	285	335		
		approx. 0,45 % C	annealed	190	2	250	285		
		approx. 0,45 % C	tempered	250	3	235	270		
		approx. 0,75 % C	annealed	270	4	205	235		
		approx. 0,75 % C	tempered	300	5	190	225		
	Low-alloyed steel		annealed	180	6	250	285		
			tempered	275	7	205	235		
			tempered	300	8	190	225		
			tempered	350	9	160	190		
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	150	170		
			hardened and tempered	325	11	105	120		
M	Stainless steel	ferritic/martensitic	annealed	200	12	145	170		
		martensitic	tempered	240	13	120	145		
		austenitic	quench hardened	180	14	155	180		
		austenitic-ferritic		230	15	120	145		
K	Grey cast iron	perlitic/ferritic		180	16				
		perlitic (martensitic)		260	17				
	Cast iron with spheroidal graphite	ferritic		160	18				
		perlitic		250	19				
	Malleable cast iron	ferritic		130	20				
		perlitic		230	21				
N	Aluminium wrought alloys	cannot be hardened		60	22				
		hardenable	hardened	100	23				
	Cast aluminium alloys	≤ 12% Si, cannot be hardened		75	24				
		≤ 12% Si, hardenable	hardened	90	25				
		> 12% Si, cannot be hardened		130	26				
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27				
		CuZn, CuSnZn		90	28				
		CuSn, Pb-free copper, electrolytic copper		100	29				
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30				
			hardened	280	31				
		Ni or Co bass	annealed	250	32				
			hardened	350	33				
			cast	320	34				
	Titanium alloys	pure titanium		R_m 400	35				
		α and β alloys	hardened	R_m 1050	36				
H	Hardened steel		hardened and tempered	55 HRC	37				
			hardened and tempered	60 HRC	38				
	Hard cast iron		cast	400	39				
	Hardened cast iron		hardened and tempered	55 HRC	40				
X	Non-metallic materials	Thermoplasts			41				
		Thermosetting plastics			42				
		Plastic, glass-fibre reinforced GFRP			43				
		Plastic, carbon fibre reinforced CFRP			44				
		Graphite			45				
		Wood			46				

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B254.
For examples of material for cutting tool groups view page D11.



HC Coated carbide
HT Uncoated carbide, main component (TiC) o. (TiN), cermet
HC_1 Coated cermet
HW Uncoated carbide, main component (WC)

Indexable milling – group 3 (FMR01/02/03/04)

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]						
						HC (CVD)						
						YBC302			YBC401			
						a_e / D			a_e / D			
						1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	260	300	390	225	260	340	
		approx. 0,45 % C	annealed	190	2	225	255	335	195	225	295	
		approx. 0,45 % C	tempered	250	3	210	240	315	180	210	275	
		approx. 0,75 % C	annealed	270	4	185	210	275	160	185	245	
		approx. 0,75 % C	tempered	300	5	170	195	255	150	170	225	
	Low-alloyed steel		annealed	180	6	225	255	335	195	225	295	
			tempered	275	7	185	210	275	160	185	245	
			tempered	300	8	170	195	255	150	170	225	
			tempered	350	9	145	165	215	125	145	190	
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	130	150	195	115	130	170	
			hardened and tempered	325	11	95	105	140	80	95	125	
M	Stainless steel	ferritic/martensitic	annealed	200	12							
		martensitic	tempered	240	13							
		austenitic	quench hardened	180	14							
		austenitic-ferritic		230	15							
K	Grey cast iron	perlitic/ferritic		180	16							
		perlitic (martensitic)		260	17							
	Cast iron with spheroidal graphite	ferritic		160	18							
		perlitic		250	19							
	Malleable cast iron	ferritic		130	20							
		perlitic		230	21							
N	Aluminium wrought alloys	cannot be hardened		60	22							
		hardenable	hardened	100	23							
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24							
		≤ 12 % Si, hardenable	hardened	90	25							
		> 12 % Si, cannot be hardened		130	26							
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27							
		CuZn, CuSnZn		90	28							
		CuSn, Pb-free copper, electrolytic copper		100	29							
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30							
			hardened	280	31							
		Ni or Co bass	annealed	250	32							
			hardened	350	33							
			cast	320	34							
	Titanium alloys	pure titanium		R_m 400	35							
		α and β alloys	hardened	R_m 1050	36							
H	Hardened steel		hardened and tempered	55 HRC	37							
			hardened and tempered	60 HRC	38							
	Hard cast iron		cast	400	39							
	Hardened cast iron		hardened and tempered	55 HRC	40							
X	Non-metallic materials	Thermoplasts			41							
		Thermosetting plastics			42							
		Plastic, glass-fibre reinforced GFRP			43							
		Plastic, carbon fibre reinforced CFRP			44							
		Graphite			45							
		Wood			46							

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B254.
For examples of material for cutting tool groups view page D11.

	Starting values for cutting speed v_c [m/min]																				
	HC (CVD)									HC (PVD)											
	YBD152			YBD252			YBM253			YBG102			YBG152			YB9320			YBG205		
	a_e / D			a_e / D			a_e / D			a_e / D			a_e / D			a_e / D			a_e / D		
	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20
							260	300	390	270	315	410	255	295	385	245	285	375	235	275	360
							225	255	335	230	270	355	220	255	335	210	245	320	200	235	310
							210	240	315	220	255	335	205	240	315	200	230	300	190	220	290
							185	210	275	190	225	295	180	210	275	175	200	260	165	195	255
							170	195	255	180	205	270	170	195	255	160	190	250	155	180	235
							225	255	335	230	270	355	220	255	335	210	245	320	200	235	310
							185	210	275	190	225	295	180	210	275	175	200	260	165	195	255
							170	195	255	180	205	270	170	195	255	160	190	250	155	180	235
							145	165	215	150	175	230	145	165	215	135	160	210	130	155	205
							130	150	195	135	160	210	130	150	195	125	145	190	120	140	185
							95	105	140	95	115	150	90	105	140	90	100	130	85	100	130
							130	150	195	135	160	205	130	150	195	125	145	190	120	140	180
							110	130	165	115	135	175	110	125	165	105	120	160	100	120	155
							140	160	210	145	170	220	140	160	205	130	155	200	125	150	195
							110	130	165	115	135	175	110	125	165	105	120	160	100	120	155
	345	400	520	300	345	450				300	345	450	285	330	430	270	315	410	260	300	390
	210	245	320	180	205	270				180	205	270	170	195	255	160	190	250	155	180	235
	240	280	365	205	240	315				205	240	315	195	225	295	185	215	280	180	210	275
	160	185	245	135	160	210				135	160	210	130	150	195	125	145	190	120	140	185
	285	330	430	245	285	375				245	285	375	230	270	355	225	260	340	215	250	325
	190	220	290	165	190	250				165	190	250	155	180	235	150	175	230	145	165	215

HC Coated carbide
HT Uncoated carbide, main component (TiC) o. (TiN), cermet
HC_1 Coated cermet
HW Uncoated carbide, main component (WC)

Indexable milling – group 3 (FMR01/02/03/04)

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min] HC (PVD) YBG212 a_e / D 1/1 | 3/4	YBG212 a_e / D 1/5	YBG212 a_e / D 1/20	YBG252 a_e / D 1/1 | 3/4	YBG252 a_e / D 1/5	YBG252 a_e / D 1/20
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	240	280	365	230	265	345
		approx. 0,45 % C	annealed	190	2	205	240	315	200	230	300
		approx. 0,45 % C	tempered	250	3	195	225	295	185	215	280
		approx. 0,75 % C	annealed	270	4	170	200	260	165	190	250
		approx. 0,75 % C	tempered	300	5	160	185	245	150	175	230
	Low-alloyed steel		annealed	180	6	205	240	315	200	230	300
			tempered	275	7	170	200	260	165	190	250
			tempered	300	8	160	185	245	150	175	230
			tempered	350	9	135	155	205	130	150	195
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	120	140	185	115	135	180
			hardened and tempered	325	11	85	100	130	85	95	125
M	Stainless steel	ferritic/martensitic	annealed	200	12	120	140	185	115	135	175
		martensitic	tempered	240	13	105	120	155	100	115	145
		austenitic	quench hardened	180	14	130	150	195	125	145	185
		austenitic-ferritic		230	15	105	120	155	100	115	145
K	Grey cast iron	perlitic/ferritic		180	16	265	305	400	255	295	385
		perlitic (martensitic)		260	17	160	185	245	150	175	230
	Cast iron with spheroidal graphite	ferritic		160	18	180	210	275	175	200	260
		perlitic		250	19	120	140	185	115	135	180
	Malleable cast iron	ferritic		130	20	220	255	335	210	240	315
		perlitic		230	21	145	170	225	140	160	210
N	Aluminium wrought alloys	cannot be hardened		60	22						
		hardenable	hardened	100	23						
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24						
		≤ 12 % Si, hardenable	hardened	90	25						
		> 12 % Si, cannot be hardened		130	26						
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27						
		CuZn, CuSnZn		90	28						
		CuSn, Pb-free copper, electrolytic copper		100	29						
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30						
			hardened	280	31						
		Ni or Co bass	annealed	250	32						
			hardened	350	33						
			cast	320	34						
	Titanium alloys	pure titanium		R_m 400	35						
		α and β alloys	hardened	R_m 1050	36						
H	Hardened steel		hardened and tempered	55 HRC	37						
			hardened and tempered	60 HRC	38						
	Hard cast iron		cast	400	39						
	Hardened cast iron		hardened and tempered	55 HRC	40						
X	Non-metallic materials	Thermoplasts			41						
		Thermosetting plastics			42						
		Plastic, glass-fibre reinforced GFRP			43						
		Plastic, carbon fibre reinforced CFRP			44						
		Graphite			45						
		Wood			46						

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B254.
For examples of material for cutting tool groups view page D11.

	Starting values for cutting speed v_c [m/min]							
	HC (PVD)			HW				
	YBG302			YD101		YD201		
	a_e / D			a_e / D		a_e / D		
	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/1 | 3/4	1/5	
	225	260	340					
	195	225	295					
	180	210	275					
	160	185	245					
	150	170	225					
	195	225	295					
	160	185	245					
	150	170	225					
	125	145	190					
	115	130	170					
	80	95	125					
	115	130	170					
	95	110	145					
	120	140	185					
	95	110	145					
	250	290	380					
	150	170	225					
	170	195	255					
	115	130	170					
	205	235	310					
	135	160	210					
				1505	1735	1450	1670	
				1225	1420	1180	1370	
				540	620	515	600	
				435	505	420	485	
				220	255	215	250	
				170	195	160	190	
				210	245	205	235	
				385	445	370	430	

HC Coated carbide
HT Uncoated carbide, main component (TiC) o. (TiN), cermet
HC_1 Coated cermet
HW Uncoated carbide, main component (WC)

Indexable milling – group 4 (BMR01/02/03/04, TMP01, CMZ01, CMA01, CMD01)

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min] HC (CVD) YBC302 a_e / D 1/1 | 3/4	YBC302 a_e / D 1/5	YBC302 a_e / D 1/20	YBC401 a_e / D 1/1 | 3/4	YBC401 a_e / D 1/5	YBC401 a_e / D 1/20
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	235	275	360	200	230	300
		approx. 0,45 % C	annealed	190	2	200	235	310	170	200	260
		approx. 0,45 % C	tempered	250	3	190	220	290	160	185	245
		approx. 0,75 % C	annealed	270	4	165	195	255	140	165	215
		approx. 0,75 % C	tempered	300	5	155	180	235	130	150	195
	Low-alloyed steel		annealed	180	6	200	235	310	170	200	260
			tempered	275	7	165	195	255	140	165	215
			tempered	300	8	155	180	235	130	150	195
			tempered	350	9	130	155	205	110	130	170
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	120	140	185	100	115	150
			hardened and tempered	325	11	85	100	130	70	85	115
M	Stainless steel	ferritic/martensitic	annealed	200	12						
		martensitic	tempered	240	13						
		austenitic	quench hardened	180	14						
		austenitic-ferritic		230	15						
K	Grey cast iron	perlitic/ferritic		180	16						
		perlitic (martensitic)		260	17						
	Cast iron with spheroidal graphite	ferritic		160	18						
		perlitic		250	19						
	Malleable cast iron	ferritic		130	20						
		perlitic		230	21						
N	Aluminium wrought alloys	cannot be hardened		60	22						
		hardenable	hardened	100	23						
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24						
		≤ 12 % Si, hardenable	hardened	90	25						
		> 12 % Si, cannot be hardened		130	26						
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27						
		CuZn, CuSnZn		90	28						
		CuSn, Pb-free copper, electrolytic copper		100	29						
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30						
			hardened	280	31						
		Ni or Co bass	annealed	250	32						
			hardened	350	33						
			cast	320	34						
	Titanium alloys	pure titanium		R_m 400	35						
		α and β alloys	hardened	R_m 1050	36						
H	Hardened steel		hardened and tempered	55 HRC	37						
			hardened and tempered	60 HRC	38						
	Hard cast iron		cast	400	39						
	Hardened cast iron		hardened and tempered	55 HRC	40						
X	Non-metallic materials	Thermoplasts			41						
		Thermosetting plastics			42						
		Plastic, glass-fibre reinforced GFRP			43						
		Plastic, carbon fibre reinforced CFRP			44						
		Graphite			45						
		Wood			46						

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B254.
For examples of material for cutting tool groups view page D11.

	Starting values for cutting speed v_c [m/min]																				
	HC (CVD)									HC (PVD)											
	YBD152			YBD252			YBM253			YBG102			YBG152			YB9320			YBG205		
	a_e / D			a_e / D			a_e / D			a_e / D			a_e / D			a_e / D			a_e / D		
	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20
							235	275	360	245	285	375	230	265	345	220	255	335	210	245	320
							200	235	310	210	245	320	200	230	300	190	220	290	180	210	275
							190	220	290	200	230	300	185	215	280	180	205	270	170	200	260
							165	195	255	175	200	260	165	190	250	155	180	235	150	175	230
							155	180	235	160	190	250	150	175	230	145	170	225	140	160	210
							200	235	310	210	245	320	200	230	300	190	220	290	180	210	275
							165	195	255	175	200	260	165	190	250	155	180	235	150	175	230
							155	180	235	160	190	250	150	175	230	145	170	225	140	160	210
							130	155	205	135	160	210	130	150	195	125	145	190	120	135	180
							120	140	185	125	145	190	115	135	180	110	130	170	105	125	165
							85	100	130	90	100	130	85	95	125	80	90	120	75	90	120
							120	140	180	125	145	190	115	135	175	110	130	170	105	125	160
							100	120	155	105	120	160	100	115	145	95	110	145	90	105	135
							125	150	195	130	155	200	125	145	185	120	140	180	115	130	170
							100	120	155	105	120	160	100	115	145	95	110	145	90	105	135
	300	345	450	260	300	390				270	315	410	255	295	385	245	285	375	235	275	360
	180	210	275	155	180	235				160	190	250	150	175	230	145	170	225	140	160	210
	210	245	320	180	210	275				185	215	280	175	200	260	165	195	255	160	185	245
	140	165	215	120	140	185				125	145	190	115	135	180	110	130	170	105	125	165
	250	290	380	215	250	325				225	260	340	210	240	315	200	230	300	190	225	295
	170	200	260	145	165	215				150	175	230	140	160	210	135	155	205	130	150	195

HC Coated carbide
HT Uncoated carbide, main component (TiC) o. (TiN), cermet
HC_1 Coated cermet
HW Uncoated carbide, main component (WC)

Indexable milling – group 4 (BMR01/02/03/04, TMP01, CMZ01, CMA01, CMD01)

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min] HC (PVD) YBG212 a_e / D 1/1 | 3/4	1/5	1/20	YBG252 a_e / D 1/1 | 3/4	1/5	1/20
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	215	250	325	205	240	315
		approx. 0,45 % C	annealed	190	2	185	215	280	175	205	270
		approx. 0,45 % C	tempered	250	3	175	200	260	165	195	255
		approx. 0,75 % C	annealed	270	4	155	175	230	145	170	225
		approx. 0,75 % C	tempered	300	5	140	165	215	135	160	210
	Low-alloyed steel		annealed	180	6	185	215	280	175	205	270
			tempered	275	7	155	175	230	145	170	225
			tempered	300	8	140	165	215	135	160	210
			tempered	350	9	120	140	185	115	135	180
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	110	125	165	105	120	160
			hardened and tempered	325	11	80	90	120	75	85	115
M	Stainless steel	ferritic/martensitic	annealed	200	12	110	125	165	105	120	160
		martensitic	tempered	240	13	95	105	140	90	105	135
		austenitic	quench hardened	180	14	115	135	175	110	130	170
		austenitic-ferritic		230	15	95	105	140	90	105	135
K	Grey cast iron	perlitic/ferritic		180	16	240	280	365	230	265	345
		perlitic (martensitic)		260	17	140	165	215	135	160	210
	Cast iron with spheroidal graphite	ferritic		160	18	165	190	250	155	180	235
		perlitic		250	19	110	125	165	105	120	160
	Malleable cast iron	ferritic		130	20	195	225	295	185	220	290
		perlitic		230	21	130	150	195	125	145	190
N	Aluminium wrought alloys	cannot be hardened		60	22						
		hardenable	hardened	100	23						
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24						
		≤ 12 % Si, hardenable	hardened	90	25						
		> 12 % Si, cannot be hardened		130	26						
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27						
		CuZn, CuSnZn		90	28						
		CuSn, Pb-free copper, electrolytic copper		100	29						
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30						
			hardened	280	31						
		Ni or Co bass	annealed	250	32						
			hardened	350	33						
			cast	320	34						
	Titanium alloys	pure titanium		R_m 400	35						
		α and β alloys	hardened	R_m 1050	36						
H	Hardened steel		hardened and tempered	55 HRC	37						
			hardened and tempered	60 HRC	38						
	Hard cast iron		cast	400	39						
	Hardened cast iron		hardened and tempered	55 HRC	40						
X	Non-metallic materials	Thermoplasts			41						
		Thermosetting plastics			42						
		Plastic, glass-fibre reinforced GFRP			43						
		Plastic, carbon fibre reinforced CFRP			44						
		Graphite			45						
		Wood			46						

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B254.
For examples of material for cutting tool groups view page D11.

	Starting values for cutting speed v_c [m/min]			
	HC (PVD)			
	YBG302			
	a_e / D			
	1/1 | 3/4	1/5	1/20	
	200	230	300	
	170	200	260	
	160	185	245	
	140	165	215	
	130	150	195	
	170	200	260	
	140	165	215	
	130	150	195	
	110	130	170	
	100	115	150	
	70	85	115	
	100	115	150	
	85	100	130	
	110	125	160	
	85	100	130	
	220	255	335	
	130	150	195	
	150	175	230	
	100	115	150	
	180	210	275	
	120	140	185	

HC Coated carbide
HT Uncoated carbide, main component (TiC) o. (TiN), cermet
HC_1 Coated cermet
HW Uncoated carbide, main component (WC)

Indexable milling – group 5 (SMP01/03/05)

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]			
						HC (CVD)		HC (PVD)	
						YBC302	YBM253	YBG101	YB9320
						a_e / D 1/4	a_e / D 1/4	a_e / D 1/4	a_e / D 1/4
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	165	180	190	175
		approx. 0,45 % C	annealed	190	2	145	155	165	150
		approx. 0,45 % C	tempered	250	3	135	145	155	140
		approx. 0,75 % C	annealed	270	4	120	130	135	125
		approx. 0,75 % C	tempered	300	5	110	120	125	115
	Low-alloyed steel		annealed	180	6	145	155	165	150
			tempered	275	7	120	130	135	125
			tempered	300	8	110	120	125	115
			tempered	350	9	95	100	105	100
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	85	90	95	90
			hardened and tempered	325	11	60	65	70	65
M	Stainless steel	ferritic/martensitic	annealed	200	12		90	95	90
		martensitic	tempered	240	13		80	80	75
		austenitic	quench hardened	180	14		100	105	95
		austenitic-ferritic		230	15		80	80	75
K	Grey cast iron	perlitic/ferritic		180	16			215	190
		perlitic (martensitic)		260	17			125	115
	Cast iron with spheroidal graphite	ferritic		160	18			145	135
		perlitic		250	19			95	90
	Malleable cast iron	ferritic		130	20			175	160
		perlitic		230	21			115	105
N	Aluminium wrought alloys	cannot be hardened		60	22				
		hardenable	hardened	100	23				
	Cast aluminium alloys	≤ 12% Si, cannot be hardened		75	24				
		≤ 12% Si, hardenable	hardened	90	25				
		> 12% Si, cannot be hardened		130	26				
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27				
		CuZn, CuSnZn		90	28				
		CuSn, Pb-free copper, electrolytic copper		100	29				
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30				
			hardened	280	31				
		Ni or Co bass	annealed	250	32				
			hardened	350	33				
			cast	320	34				
	Titanium alloys	pure titanium		R_m 400	35				
		α and β alloys	hardened	R_m 1050	36				
H	Hardened steel		hardened and tempered	55 HRC	37				
			hardened and tempered	60 HRC	38				
	Hard cast iron		cast	400	39				
	Hardened cast iron		hardened and tempered	55 HRC	40				
X	Non-metallic materials	Thermoplasts			41				
		Thermosetting plastics			42				
		Plastic, glass-fibre reinforced GFRP			43				
		Plastic, carbon fibre reinforced CFRP			44				
		Graphite			45				
		Wood			46				

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B254.
For examples of material for cutting tool groups view page D11.

	Starting values for cutting speed v_c [m/min]		
	HC (PVD)		
	YBG205	YBG302	
	a_e / D	a_e / D	
	1/4	1/4	
	170	160	
	145	140	
	140	130	
	120	115	
	115	105	
	145	140	
	120	115	
	115	105	
	95	90	
	85	80	
	60	60	
	85	80	
	75	70	
	95	85	
	75	70	
	185	175	
	115	105	
	130	120	
	85	80	
	155	145	
	105	100	

HC Coated carbide
HT Uncoated carbide, main component (TiC) o. (TiN), cermet
HC_1 Coated cermet
HW Uncoated carbide, main component (WC)

Indexable milling – group 6 (FMD03, FME04, FMP03, HMP01)

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						HC (CVD)							
						YBC302		YBC401		YBD152		YBD252	
						a_e / D		a_e / D		a_e / D		a_e / D	
						1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	200	230	170	200				
		approx. 0,45 % C	annealed	190	2	170	200	145	170				
		approx. 0,45 % C	tempered	250	3	160	185	140	160				
		approx. 0,75 % C	annealed	270	4	140	165	120	140				
		approx. 0,75 % C	tempered	300	5	130	150	115	130				
	Low-alloyed steel		annealed	180	6	170	200	145	170				
			tempered	275	7	140	165	120	140				
			tempered	300	8	130	150	115	130				
			tempered	350	9	110	130	95	110				
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	100	115	85	100				
			hardened and tempered	325	11	70	85	60	70				
M	Stainless steel	ferritic/martensitic	annealed	200	12								
		martensitic	tempered	240	13								
		austenitic	quench hardened	180	14								
		austenitic-ferritic		230	15								
K	Grey cast iron	perlitic/ferritic		180	16					255	295	220	255
		perlitic (martensitic)		260	17					150	175	130	150
	Cast iron with spheroidal graphite	ferritic		160	18					175	205	150	175
		perlitic		250	19					115	135	100	115
	Malleable cast iron	ferritic		130	20					210	245	180	210
		perlitic		230	21					140	165	120	140
N	Aluminium wrought alloys	cannot be hardened		60	22								
		hardenable	hardened	100	23								
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24								
		≤ 12 % Si, hardenable	hardened	90	25								
		> 12 % Si, cannot be hardened		130	26								
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, Pb-free copper, electrolytic copper		100	29								
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37								
			hardened and tempered	60 HRC	38								
	Hard cast iron		cast	400	39								
	Hardened cast iron		hardened and tempered	55 HRC	40								
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B254.
For examples of material for cutting tool groups view page D11.

	Starting values for cutting speed v_c [m/min]																
	HC (CVD)		HC (PVD)														
	YBM253		YBG102		YBG152		YB9320		YBG205		YBG212		YBG252		YBG302		
	a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		a_e / D		
	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	1/1 | 3/4	1/5	
	200	230	205	240	195	225	190	220	185	215	185	215	180	210	175	205	
	170	200	175	205	170	195	165	190	160	185	160	185	155	180	150	175	
	160	185	165	195	160	180	155	180	150	175	150	175	145	170	140	165	
	140	165	145	170	140	160	135	155	130	155	130	155	130	150	125	145	
	130	150	135	160	130	150	125	145	125	140	125	140	120	140	115	135	
	170	200	175	205	170	195	165	190	160	185	160	185	155	180	150	175	
	140	165	145	170	140	160	135	155	130	155	130	155	130	150	125	145	
	130	150	135	160	130	150	125	145	125	140	125	140	120	140	115	135	
	110	130	115	135	110	125	105	125	105	120	105	120	100	120	100	115	
	100	115	105	120	100	115	95	110	95	110	95	110	90	105	90	105	
	70	85	75	85	70	80	70	80	65	80	65	80	65	75	65	75	
	100	115	105	120	100	115	95	110	95	110	95	110	90	105	90	105	
	85	100	90	105	85	95	80	95	80	95	80	95	80	90	75	90	
	110	125	110	130	105	120	105	120	100	115	100	115	100	115	95	110	
	85	100	90	105	85	95	80	95	80	95	80	95	80	90	75	90	
			230	265	215	250	210	245	205	240	205	240	200	230	195	225	
			135	160	130	150	125	145	125	140	125	140	120	140	115	135	
			155	180	150	170	145	165	140	165	140	165	135	160	135	155	
			105	120	100	115	95	110	95	110	95	110	90	105	90	105	
			185	220	180	205	175	200	170	195	170	195	165	190	160	185	
			125	145	120	135	115	135	115	130	115	130	110	130	105	125	

HC Coated carbide
HT Uncoated carbide, main component (TiC) o. (TiN), cermet
HC_1 Coated cermet
HW Uncoated carbide, main component (WC)

Indexable milling – group 7 (XMR01, XMP01)

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min] HC (CVD) YBC302 a_e / D 1/1 | 3/4	YBC302 a_e / D 1/5	YBC302 a_e / D 1/20	YBD152 a_e / D 1/1 | 3/4	YBD152 a_e / D 1/5	YBD152 a_e / D 1/20
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	260	300	390			
		approx. 0,45 % C	annealed	190	2	225	255	335			
		approx. 0,45 % C	tempered	250	3	210	240	315			
		approx. 0,75 % C	annealed	270	4	185	210	275			
		approx. 0,75 % C	tempered	300	5	170	195	255			
	Low-alloyed steel		annealed	180	6	225	255	335			
			tempered	275	7	185	210	275			
			tempered	300	8	170	195	255			
			tempered	350	9	145	165	215			
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	130	150	195			
			hardened and tempered	325	11	95	105	140			
M	Stainless steel	ferritic/martensitic	annealed	200	12						
		martensitic	tempered	240	13						
		austenitic	quench hardened	180	14						
		austenitic-ferritic		230	15						
K	Grey cast iron	perlitic/ferritic		180	16				335	390	510
		perlitic (martensitic)		260	17				200	230	300
	Cast iron with spheroidal graphite	ferritic		160	18				225	260	340
		perlitic		250	19				150	175	230
	Malleable cast iron	ferritic		130	20				275	320	420
		perlitic		230	21				185	215	280
N	Aluminium wrought alloys	cannot be hardened		60	22						
		hardenable	hardened	100	23						
	Cast aluminium alloys	≤ 12% Si, cannot be hardened		75	24						
		≤ 12% Si, hardenable	hardened	90	25						
		> 12% Si, cannot be hardened		130	26						
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27						
		CuZn, CuSnZn		90	28						
		CuSn, Pb-free copper, electrolytic copper		100	29						
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30						
			hardened	280	31						
		Ni or Co bass	annealed	250	32						
			hardened	350	33						
			cast	320	34						
	Titanium alloys	pure titanium		R_m 400	35						
		α and β alloys	hardened	R_m 1050	36						
H	Hardened steel		hardened and tempered	55 HRC	37						
			hardened and tempered	60 HRC	38						
	Hard cast iron		cast	400	39						
	Hardened cast iron		hardened and tempered	55 HRC	40						
X	Non-metallic materials	Thermoplasts			41						
		Thermosetting plastics			42						
		Plastic, glass-fibre reinforced GFRP			43						
		Plastic, carbon fibre reinforced CFRP			44						
		Graphite			45						
		Wood			46						

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B254.
For examples of material for cutting tool groups view page D11.

	Starting values for cutting speed v_c [m/min]																				
	HC (CVD)						HC (PVD)														
	YBD252			YBM253			YBG102			YBG152			YB9320			YBG205			YBG212		
	a_e / D			a_e / D			a_e / D			a_e / D			a_e / D			a_e / D			a_e / D		
	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20	1/1 | 3/4	1/5	1/20
				260	300	390	270	315	410	255	295	385	245	285	375	235	275	360	240	280	365
				225	255	335	230	270	355	220	255	335	210	245	320	200	235	310	205	240	315
				210	240	315	220	255	335	205	240	315	200	230	300	190	220	290	195	225	295
				185	210	275	190	225	295	180	210	275	175	200	260	165	195	255	170	200	260
				170	195	255	180	205	270	170	195	255	160	190	250	155	180	235	160	185	245
				225	255	335	230	270	355	220	255	335	210	245	320	200	235	310	205	240	315
				185	210	275	190	225	295	180	210	275	175	200	260	165	195	255	170	200	260
				170	195	255	180	205	270	170	195	255	160	190	250	155	180	235	160	185	245
				145	165	215	150	175	230	145	165	215	135	160	210	130	155	205	135	155	205
				130	150	195	135	160	210	130	150	195	125	145	190	120	140	185	120	140	185
				95	105	140	95	115	150	90	105	140	90	100	130	85	100	130	85	100	130
				130	150	195	135	160	205	130	150	195	125	145	190	120	140	180	120	140	185
				110	130	165	115	135	175	110	125	165	105	120	160	100	120	155	105	120	155
				140	160	210	145	170	220	140	160	205	130	155	200	125	150	195	130	150	195
				110	130	165	115	135	175	110	125	165	105	120	160	100	120	155	105	120	155
	290	335	440				300	345	450	285	330	430	270	315	410	260	300	390	265	305	400
	170	195	255				180	205	270	170	195	255	160	190	250	155	180	235	160	185	245
	195	225	295				205	240	315	195	225	295	185	215	280	180	210	275	180	210	275
	130	150	195				135	160	210	130	150	195	125	145	190	120	140	185	120	140	185
	235	270	355				245	285	375	230	270	355	225	260	340	215	250	325	220	255	335
	160	180	235				165	190	250	155	180	235	150	175	230	145	165	215	145	170	225

HC Coated carbide
HT Uncoated carbide, main component (TiC) o. (TiN), cermet
HC_1 Coated cermet
HW Uncoated carbide, main component (WC)

Indexable milling – group 7 (XMR01, XMP01)

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min] HC (PVD) YBG252 a_e / D 1/1 | 3/4	YBG252 a_e / D 1/5	YBG252 a_e / D 1/20	YBG302 a_e / D 1/1 | 3/4	YBG302 a_e / D 1/5	YBG302 a_e / D 1/20
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	230	265	345	225	260	340
		approx. 0,45 % C	annealed	190	2	200	230	300	195	225	295
		approx. 0,45 % C	tempered	250	3	185	215	280	180	210	275
		approx. 0,75 % C	annealed	270	4	165	190	250	160	185	245
		approx. 0,75 % C	tempered	300	5	150	175	230	150	170	225
	Low-alloyed steel		annealed	180	6	200	230	300	195	225	295
			tempered	275	7	165	190	250	160	185	245
			tempered	300	8	150	175	230	150	170	225
			tempered	350	9	130	150	195	125	145	190
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	115	135	180	115	130	170
			hardened and tempered	325	11	85	95	125	80	95	125
M	Stainless steel	ferritic/martensitic	annealed	200	12	115	135	175	115	130	170
		martensitic	tempered	240	13	100	115	145	95	110	145
		austenitic	quench hardened	180	14	125	145	185	120	140	185
		austenitic-ferritic		230	15	100	115	145	95	110	145
K	Grey cast iron	perlitic/ferritic		180	16	255	295	385	250	290	380
		perlitic (martensitic)		260	17	150	175	230	150	170	225
	Cast iron with spheroidal graphite	ferritic		160	18	175	200	260	170	195	255
		perlitic		250	19	115	135	180	115	130	170
	Malleable cast iron	ferritic		130	20	210	240	315	205	235	310
		perlitic		230	21	140	160	210	135	160	210
N	Aluminium wrought alloys	cannot be hardened		60	22						
		hardenable	hardened	100	23						
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24						
		≤ 12 % Si, hardenable	hardened	90	25						
		> 12 % Si, cannot be hardened		130	26						
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27						
		CuZn, CuSnZn		90	28						
		CuSn, Pb-free copper, electrolytic copper		100	29						
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30						
			hardened	280	31						
		Ni or Co bass	annealed	250	32						
			hardened	350	33						
			cast	320	34						
	Titanium alloys	pure titanium		R_m 400	35						
		α and β alloys	hardened	R_m 1050	36						
H	Hardened steel		hardened and tempered	55 HRC	37						
			hardened and tempered	60 HRC	38						
	Hard cast iron		cast	400	39						
	Hardened cast iron		hardened and tempered	55 HRC	40						
X	Non-metallic materials	Thermoplasts			41						
		Thermosetting plastics			42						
		Plastic, glass-fibre reinforced GFRP			43						
		Plastic, carbon fibre reinforced CFRP			44						
		Graphite			45						
		Wood			46						

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B254.
For examples of material for cutting tool groups view page D11.



HC Coated carbide
HT Uncoated carbide, main component (TiC) o. (TiN), cermet
HC_1 Coated cermet
HW Uncoated carbide, main component (WC)

Recommended feed rate

Indexable milling – group1 (FMA07/11/12, FMD02, EMP09/13)

Material group		Feed rate per cutting edge [mm]																	
		EMP09			EMP09			EMP13			EMP13			FMA07			FMA07		
		LNKT08/12			LNKT16			ANGX11			ANGX15			ONHU06			ONHU08		
		Application																	
		F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R
P	Unalloyed steel		0,25	0,50		0,28	0,55		0,23			0,25		0,19	0,23		0,19	0,23	
	Low-alloyed steel		0,23	0,47		0,26	0,51		0,22			0,23		0,17	0,22		0,17	0,22	
	High-alloyed steel and high-alloyed tool steel		0,22	0,44		0,24	0,48		0,20			0,22		0,16	0,20		0,16	0,20	
M	Stainless steel		0,18	0,35		0,19	0,39		0,16			0,18							
K	Grey cast iron		0,28	0,55		0,30	0,61		0,26			0,28		0,20	0,26		0,20	0,26	
	Cast iron with spheroidal graphite		0,25	0,50		0,28	0,55		0,23			0,25		0,19	0,23		0,19	0,23	
	Malleable cast iron		0,25	0,50		0,28	0,55		0,23			0,25		0,19	0,23		0,19	0,23	
N	Aluminum wrought alloys								0,20			0,21							
	Aluminum cast alloys								0,20			0,21							
	Copper and copper alloys (bronze/brass)								0,18			0,19							
S	Heat-resistant alloys																		
	Titanium alloys																		
H	Hardened steel																		
	Hard cast iron																		
	Hardened cast iron																		
X	Non-metallic materials																		

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

Indexable milling – group1 (FMA07/11/12, FMD02, EMP09/13)

Material group		Feed rate per cutting edge [mm]																	
		FMP12																	
		WNHU08																	
		Application																	
		F	M	R															
P	Unalloyed steel		0,25																
	Low-alloyed steel		0,23																
	High-alloyed steel and high-alloyed tool steel		0,22																
M	Stainless steel		0,18																
K	Grey cast iron		0,28																
	Cast iron with spheroidal graphite		0,25																
	Malleable cast iron		0,25																
N	Aluminium wrought alloys																		
	Aluminum cast alloys																		
	Copper and copper alloys (bronze/brass)																		
S	Heat-resistant alloys																		
	Titanium alloys																		
H	Hardened steel																		
	Hard cast iron																		
	Hardened cast iron																		
X	Non-metallic materials																		

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

	Feed rate per cutting edge [mm]																							
	FMA11			FMA11			FMA11			FMA12			FMA12			FMD02			FMD02			FMP12		
	SNEG12			SNEG15			SNEG19			ONHU06			ONHU08			PNEG11			HNEX09			WNHU06		
	Application																							
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R
		0,20	0,23		0,22	0,25			0,29	0,19	0,23			0,23		0,15	0,20	0,30					0,23	
		0,19	0,21		0,20	0,24			0,27	0,17	0,22			0,22		0,14	0,19	0,28					0,22	
		0,18	0,20		0,19	0,22			0,26	0,16	0,20			0,20		0,13	0,18	0,26					0,20	
		0,14	0,16		0,15	0,18			0,20					0,16									0,16	
		0,22	0,25		0,24	0,28			0,32	0,20	0,26			0,26		0,17	0,22	0,33	0,17	0,22	0,33		0,26	
		0,20	0,23		0,22	0,25			0,29	0,19	0,23			0,23		0,15	0,20	0,30	0,15	0,20	0,30		0,23	
		0,20	0,23		0,22	0,25			0,29	0,19	0,23			0,23		0,15	0,20	0,30	0,15	0,20	0,30		0,23	

F Finishing
M Medium machining
R Roughing

F Finishing
M Medium machining
R Roughing

Recommended feed rate

Indexable milling – group 2 (FMA01/02/03/04, FME01/02, FMP01/02, EMP01/02/03/04)

Material group		Feed rate per cutting edge [mm]																	
		FMA01 | FMA02			FMA03			FMA03			FMA04			FMA04			FMA04		
		SEET12			SEKN12			SEKN15			OFKT05			OFKR07			ODHT06		
		Application																	
		F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R
P	Unalloyed steel	0,15	0,20	0,25		0,18			0,20		0,20	0,25		0,20	0,25		0,20	0,25	
P	Low-alloyed steel	0,14	0,19	0,23		0,17			0,19		0,19	0,23		0,19	0,23		0,19	0,23	
P	High-alloyed steel and high-alloyed tool steel	0,13	0,18	0,22		0,16			0,18		0,18	0,22		0,18	0,22		0,18	0,22	
M	Stainless steel	0,11	0,14	0,18		0,13			0,14		0,14	0,18		0,14	0,18		0,14	0,18	
K	Grey cast iron	0,17	0,22	0,28		0,20			0,22		0,22	0,28		0,22	0,28		0,22	0,28	
K	Cast iron with spheroidal graphite	0,15	0,20	0,25		0,18			0,20		0,20	0,25		0,20	0,25		0,20	0,25	
K	Malleable cast iron	0,15	0,20	0,25		0,18			0,20		0,20	0,25		0,20	0,25		0,20	0,25	
N	Aluminium wrought alloys	0,13	0,17	0,21							0,17	0,21		0,17	0,21		0,17	0,21	
N	Aluminum cast alloys	0,13	0,17	0,21							0,17	0,21		0,17	0,21		0,17	0,21	
N	Copper and copper alloys (bronze/brass)	0,11	0,15	0,19							0,15	0,19		0,15	0,19		0,15	0,19	
S	Heat-resistant alloys	0,11	0,14	0,18							0,14	0,18		0,14	0,18		0,14	0,18	
S	Titanium alloys	0,11	0,14	0,18							0,14	0,18		0,14	0,18		0,14	0,18	
H	Hardened steel																		
H	Hard cast iron																		
H	Hardened cast iron																		
X	Non-metallic materials																		

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

Indexable milling – group 3 (FMR01/02/03/04) Face milling

Material group		Feed rate per cutting edge [mm]																	
		FMR01			FMR01			FMR02			FMR02			FMR02			FMR03		
		RCKT10			RC*12			RC*12			RCKT16			RCKT20			RDKW07		
		Application																	
		F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R
P	Unalloyed steel		0,20	0,25		0,20	0,25		0,20	0,25		0,23	0,29		0,26	0,33		0,17	
P	Low-alloyed steel		0,19	0,23		0,19	0,23		0,19	0,23		0,21	0,27		0,25	0,31		0,16	
P	High-alloyed steel and high-alloyed tool steel		0,18	0,22		0,18	0,22		0,18	0,22		0,20	0,25		0,23	0,29		0,15	
M	Stainless steel		0,14	0,18		0,14	0,18		0,14	0,18		0,16	0,20		0,19	0,23		0,12	
K	Grey cast iron		0,22	0,28		0,22	0,28		0,22	0,28		0,25	0,32		0,29	0,36		0,19	
K	Cast iron with spheroidal graphite		0,20	0,25		0,20	0,25		0,20	0,25		0,23	0,29		0,26	0,33		0,17	
K	Malleable cast iron		0,20	0,25		0,20	0,25		0,20	0,25		0,23	0,29		0,26	0,33		0,17	
N	Aluminum wrought alloys					0,17	0,21		0,17	0,21									
N	Aluminum cast alloys					0,17	0,21		0,17	0,21									
N	Copper and copper alloys (bronze/brass)					0,15	0,19		0,15	0,19									
S	Heat-resistant alloys																		
S	Titanium alloys																		
H	Hardened steel																		
H	Hard cast iron																		
H	Hardened cast iron																		
X	Non-metallic materials																		

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

	Feed rate per cutting edge [mm]																							
	FME02			FME03			FME03			FMP01			FMP02			EMP01 | EMP02			EMP01 | EMP02			EMP03 | EMP04		
	SPK*12			SPK*12			SPK*15			TPKN22			SEET12			APKT11			APKT16			APKT11		
	Application																							
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R
		0,20			0,19			0,20			0,20		0,15	0,20	0,25	0,10	0,15	0,20	0,12	0,17	0,23	0,10	0,20	0,25
		0,19			0,17			0,19			0,19		0,14	0,19	0,23	0,09	0,14	0,19	0,11	0,16	0,21	0,09	0,19	0,23
		0,18			0,16			0,18			0,18		0,13	0,18	0,22	0,09	0,13	0,18	0,10	0,15	0,20	0,09	0,18	0,22
		0,14			0,13			0,14			0,14		0,11	0,14	0,18	0,07	0,11	0,14	0,08	0,12	0,16	0,07	0,14	0,18
		0,22			0,20			0,22			0,22		0,17	0,22	0,28	0,11	0,17	0,22	0,13	0,19	0,25	0,11	0,22	0,28
		0,20			0,19			0,20			0,20		0,15	0,20	0,25	0,10	0,15	0,20	0,12	0,17	0,23	0,10	0,20	0,25
		0,20			0,19			0,20			0,20		0,15	0,20	0,25	0,10	0,15	0,20	0,12	0,17	0,23	0,10	0,20	0,25
													0,13	0,17	0,21	0,09	0,13	0,17	0,10	0,15	0,20	0,09	0,17	0,21
													0,13	0,17	0,21	0,09	0,13	0,17	0,10	0,15	0,20	0,09	0,17	0,21
													0,11	0,15	0,19	0,08	0,11	0,15	0,09	0,13	0,18	0,08	0,15	0,19

F Finishing
M Medium machining
R Roughing

	Feed rate per cutting edge [mm]															
	FMR03			FMR03			FMR04			FMR04			FMR04			
	RDKW08			RD*10			RD*12			RDKW16			RDKW20			
	Application															
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	
		0,17			0,20		0,15	0,20	0,25	0,17	0,23	0,29	0,2	0,26	0,33	
		0,16			0,19		0,14	0,19	0,23	0,16	0,21	0,27	0,19	0,25	0,31	
		0,15			0,18		0,13	0,18	0,22	0,15	0,20	0,25	0,18	0,23	0,29	
		0,12			0,14		0,11	0,14	0,18	0,12	0,16	0,20	0,14	0,19	0,23	
		0,19			0,22		0,17	0,22	0,28	0,19	0,25	0,32	0,22	0,29	0,36	
		0,17			0,20		0,15	0,20	0,25	0,17	0,23	0,29	0,20	0,26	0,33	
		0,17			0,20		0,15	0,20	0,25	0,17	0,23	0,29	0,20	0,26	0,33	
					0,17		0,13	0,17	0,21							
					0,17		0,13	0,17	0,21							
					0,15		0,11	0,15	0,19							

F Finishing
M Medium machining
R Roughing

Recommended feed rate

Indexable milling – group 3 (FMR01/02/03/04) Circular milling

Material group		Feed rate per cutting edge [mm]							
		FMR01	FMR01	FMR02	FMR02		FMR02		FMR03
		RCKT10	RC*12	RC*12	RCKT16		RCKT20		RDKW07
		Tool diameter [mm]							
		25-32	40-50	50-100	63-125	160-200	80-125	160-250	15
P	Unalloyed steel	0,12	0,16	0,18	0,24	0,32	0,26	0,35	0,07
P	Low-alloyed steel	0,11	0,14	0,16	0,21	0,28	0,23	0,31	0,06
P	High-alloyed steel and high-alloyed tool steel	0,10	0,13	0,14	0,19	0,26	0,21	0,28	0,06
M	Stainless steel	0,07	0,09	0,10	0,14	0,18	0,15	0,20	0,04
K	Grey cast iron	0,11	0,14	0,16	0,22	0,29	0,23	0,32	0,06
K	Cast iron with spheroidal graphite	0,10	0,13	0,14	0,19	0,26	0,21	0,28	0,06
K	Malleable cast iron	0,10	0,13	0,14	0,19	0,26	0,21	0,28	0,06
N	Aluminium wrought alloys								
N	Aluminum cast alloys								
N	Copper and copper alloys (bronze/brass)								
S	Heat-resistant alloys								
S	Titanium alloys								
H	Hardened steel								
H	Hard cast iron								
H	Hardened cast iron								
X	Non-metallic materials								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

Indexable milling – group 4 (BMR01/02/03/04, TMP01, CMZ01, CMA01, CMD01)

Material group		Feed rate per cutting edge [mm]								
		BMR01	BMR01	BMR01	BMR01	BMR02	BMR02	BMR02	BMR03	BMR03
		ZD*08 / SP*06	ZD*11 / SP*06	ZD*13 / SP*09	ZP*22 / SP*12	ROHX12	ROHX16	ROHX20	-	-
		Tool diameter [mm]								
		20	25	32	40-63	12	16	20	16	20
P	Unalloyed steel	0,14	0,21	0,26	0,32	0,10	0,13	0,14	0,13	0,14
P	Low-alloyed steel	0,10	0,15	0,18	0,22	0,07	0,09	0,10	0,09	0,10
P	High-alloyed steel and high-alloyed tool steel	0,09	0,14	0,17	0,21	0,07	0,08	0,09	0,08	0,09
M	Stainless steel	0,08	0,12	0,14	0,18	0,06	0,07	0,08	0,07	0,08
K	Grey cast iron	0,18	0,27	0,34	0,42	0,13	0,17	0,18	0,17	0,18
K	Cast iron with spheroidal graphite	0,13	0,20	0,25	0,30	0,10	0,12	0,13	0,12	0,13
K	Malleable cast iron	0,14	0,21	0,26	0,32	0,10	0,13	0,14	0,13	0,14
N	Aluminum wrought alloys									
N	Aluminum cast alloys									
N	Copper and copper alloys (bronze/brass)									
S	Heat-resistant alloys									
S	Titanium alloys									
H	Hardened steel									
H	Hard cast iron									
H	Hardened cast iron									
X	Non-metallic materials									

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

	Feed rate per cutting edge [mm]					
	FMR03	FMR03	FMR04	FMR04	FMR04	
	RDKW08	RD*10	RD*12	RDKW16	RDKW20	
	Tool diameter [mm]					
	16-25	32	50-63	80-100	125-160	
	0,07	0,12	0,17	0,24	0,30	
	0,06	0,11	0,15	0,21	0,26	
	0,06	0,10	0,14	0,19	0,24	
	0,04	0,07	0,10	0,14	0,17	
	0,06	0,11	0,15	0,22	0,27	
	0,06	0,10	0,14	0,19	0,24	
	0,06	0,10	0,14	0,19	0,24	
		0,10	0,11			
		0,10	0,11			
		0,10	0,11			

	Feed rate per cutting edge [mm]											
	BMR03	BMR03	BMR03	BMR04	BMR04	BMR04	BMR04	BMR04	CMZ01	CMA01	CMD01	
	-	-	-	ZOHX12	ZOHX16	ZOHX20	ZOHX25	ZOHX30	SPMT12	SPMT12	SPMT12	
	Tool diameter [mm]											
	25	30-32	40-50	12	16	20	25	30	12-32	12-32	12-36	
	0,21	0,26	0,30	0,10	0,13	0,14	0,16	0,17	0,23	0,23	0,23	
	0,15	0,18	0,21	0,07	0,09	0,10	0,11	0,12	0,16	0,16	0,16	
	0,14	0,17	0,20	0,07	0,08	0,09	0,10	0,11	0,15	0,15	0,15	
	0,12	0,14	0,17	0,06	0,07	0,08	0,09	0,09	0,13	0,13	0,13	
	0,27	0,34	0,39	0,13	0,17	0,18	0,21	0,22	0,30	0,30	0,30	
	0,20	0,25	0,29	0,10	0,12	0,13	0,15	0,16	0,22	0,22	0,22	
	0,21	0,26	0,30	0,10	0,13	0,14	0,16	0,17	0,23	0,23	0,23	

Recommended feed rate

Indexable milling – group 5 (SMP01/03/05)

Material group		Feed rate per cutting edge [mm]								
		SMP01	SMP01	SMP01	SMP01	SMP01	SMP03	SMP03	SMP03	SMP05
		XSEQ1202	XSEQ1203	XSEQ12T3	XSEQ1204	XSEQ12T4	MPHT06	MPHT08	MPHT12	QC16
		Tool diameter [mm]								
		63-100	63-100	63-160	63-160	63-160	80-125	125-200	120-200	25-39
P	Unalloyed steel	0,12	0,12	0,13	0,13	0,14	0,14	0,15	0,16	0,08
P	Low-alloyed steel	0,11	0,11	0,12	0,12	0,13	0,13	0,14	0,15	0,08
P	High-alloyed steel and high-alloyed tool steel	0,10	0,10	0,11	0,11	0,12	0,12	0,13	0,14	0,07
M	Stainless steel	0,10	0,10	0,11	0,11	0,12	0,12	0,13	0,14	0,07
K	Grey cast iron	0,11	0,11	0,12	0,12	0,13	0,13	0,14	0,15	0,08
K	Cast iron with spheroidal graphite	0,11	0,11	0,12	0,12	0,13	0,13	0,14	0,15	0,07
K	Malleable cast iron	0,11	0,11	0,12	0,12	0,13	0,13	0,14	0,15	0,07
N	Aluminium wrought alloys									
N	Aluminum cast alloys									
N	Copper and copper alloys (bronze/brass)									
S	Heat-resistant alloys									
S	Titanium alloys									
H	Hardened steel									
H	Hard cast iron									
H	Hardened cast iron									
X	Non-metallic materials									

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

Indexable milling – group 6 (FMD03, FME04, FMP03, HMP01)

Material group		Feed rate per cutting edge [mm]																	
		FMD03			FMD03			FME04			FMP03			FMP03			FMP03		
		LNKT20			LNKT25			LNKT15			LNKT12			LNKT15			LNKT20		
		Application																	
		F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R
P	Unalloyed steel			0,50			0,50			0,45			0,45			0,45			0,50
P	Low-alloyed steel			0,47			0,47			0,42			0,42			0,42			0,47
P	High-alloyed steel and high-alloyed tool steel			0,44			0,44			0,40			0,40			0,40			0,44
M	Stainless steel			0,45			0,45			0,40			0,40			0,40			0,45
K	Grey cast iron			0,55			0,55			0,50			0,50			0,50			0,55
K	Cast iron with spheroidal graphite			0,50			0,50			0,45			0,45			0,45			0,50
K	Malleable cast iron			0,50			0,50			0,45			0,45			0,45			0,50
N	Aluminum wrought alloys																		
N	Aluminum cast alloys																		
N	Copper and copper alloys (bronze/brass)																		
S	Heat-resistant alloys																		
S	Titanium alloys																		
H	Hardened steel																		
H	Hard cast iron																		
H	Hardened cast iron																		
X	Non-metallic materials																		

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

	Feed rate per cutting edge [mm]
	SMP05
	QC22
	Tool diameter [mm]
	44
	0,08
	0,08
	0,07
	0,07
	0,08
	0,07
	0,07

	Feed rate per cutting edge [mm]						
	FMP03			HMP01			
	LNKT25			SPMT-APKT			
	Application						
	F	M	R	F	M	R	
			0,55		0,25		
			0,51		0,23		
			0,48		0,22		
			0,47		0,15		
			0,61		0,28		
			0,55		0,25		
			0,55		0,25		

F Finishing
M Medium machining
R Roughing

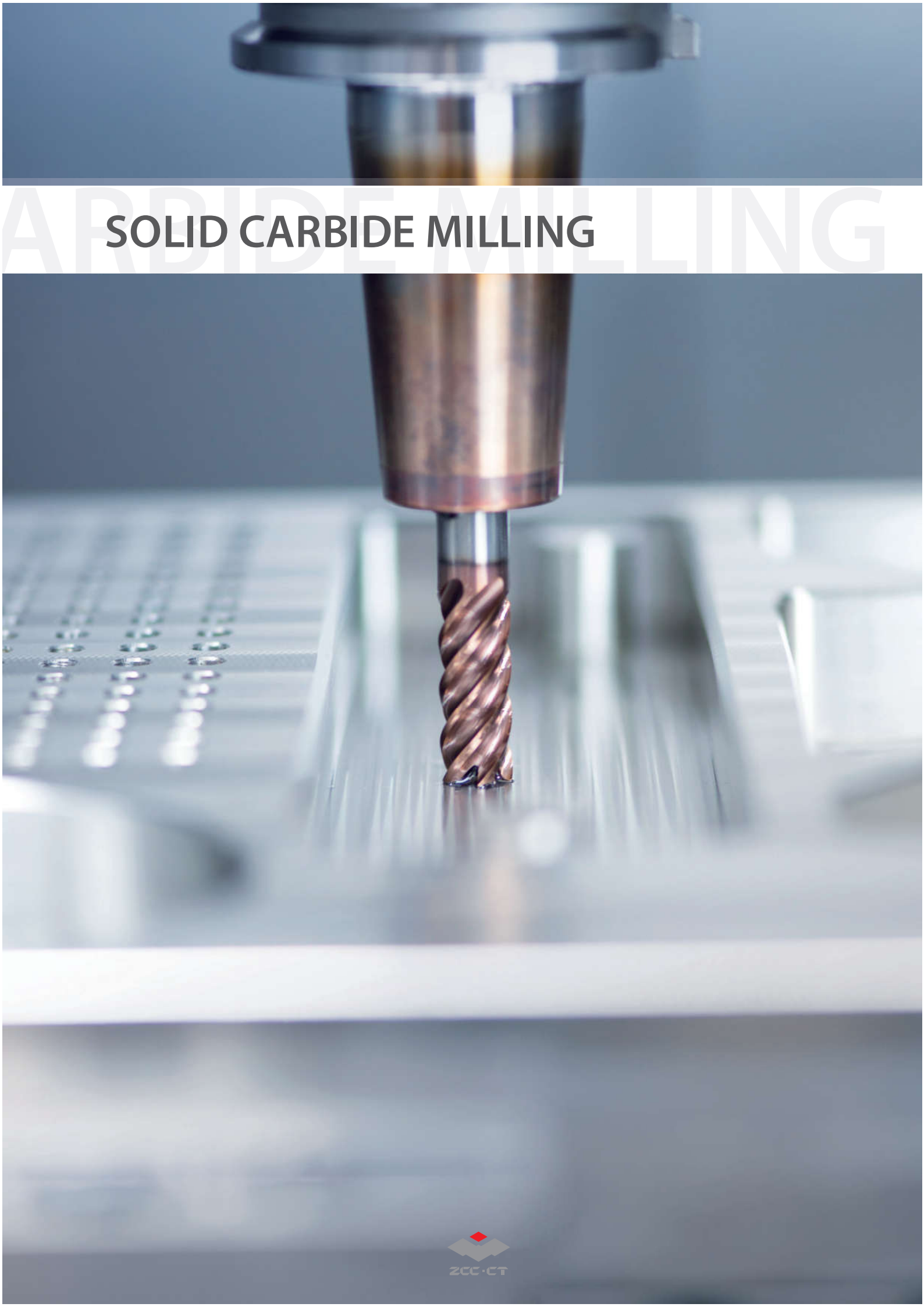
Recommended feed rate

Indexable milling – group7 (XMR01, XMP01, QCH)

Material group		Feed rate per cutting edge [mm]								
		XMR01 face milling			XMR01 plunge milling			XMR01 circular milling		
		SDMT/WPGT			SDMT/WPGT			SDMT/WPGT		
		Tool diameter [mm]								
		20-25	30-50	63-160	20-25	30-50	63-160	20-25	30-50	63-160
P	Unalloyed steel	1,00	1,20	2,00	0,20	0,25	0,30	0,80	0,96	1,40
	Low-alloyed steel	0,93	1,12	1,86	0,19	0,23	0,28	0,74	0,89	1,30
	High-alloyed steel and high-alloyed tool steel	0,70	0,84	1,40	0,18	0,22	0,26	0,70	0,84	1,23
M	Stainless steel	0,50	0,60	1,00	0,14	0,18	0,21	0,56	0,67	0,98
K	Grey cast iron	0,90	1,08	1,80	0,22	0,28	0,33	0,88	1,06	1,54
	Cast iron with spheroidal graphite	0,90	1,08	1,80	0,20	0,25	0,30	0,80	0,96	1,40
	Malleable cast iron	1,00	1,20	2,00	0,20	0,25	0,30	0,80	0,96	1,40
N	Aluminium wrought alloys									
	Aluminum cast alloys									
	Copper and copper alloys (bronze/brass)									
S	Heat-resistant alloys									
	Titanium alloys									
H	Hardened steel									
	Hard cast iron									
	Hardened cast iron									
X	Non-metallic materials									

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

	Feed rate per cutting edge [mm]							
	XMP01	QCH	QCH	QCH	QCH	QCH	QCH	
	CNE	ZOHX	RD*	APKT	WPGT	SDMT	XPHT	
	Tool diameter [mm]							
	80-400	16-32	15-32	16-40	20-42	20-40	16-32	
	0,20	0,20	0,20	0,15	1,00	1,00	0,20	
	0,20	0,19	0,19	0,14	0,93	0,93	0,19	
	0,20	0,18	0,18	0,13	0,70	0,70	0,18	
	0,20	0,14	0,14	0,11	0,50	0,50	0,14	
	0,20	0,22	0,22	0,17	0,90	0,90	0,22	
	0,20	0,20	0,20	0,15	0,90	0,90	0,20	
	0,20	0,20	0,20	0,15	1,00	1,00	0,20	
				0,13				
				0,13				
				0,11				



SOLID CARBIDE MILLING

Solid carbide milling

Product overview	**B266-B275**
Grade overview	**B276-B277**
System code – DIN-ISO series	**B278**
System code – JIS series	**B279**
System code – QCH series	**B280-B282**
GM series	**B283-B338**
PM series	**B339-B360**
PM Micro series	**B361-B370**
EPM series	**B371-B386**
VPM series	**B387-B388**
HM series	**B389-B410**
NM series	**B411-B416**
AL series	**B417-B428**
ALG/ALP series	**B429-B438**
TM series	**B439-B454**
HPC series	**B455-B460**
UM series	**B461-B470**
UMC series	**B471-B472**
VSM series	**B473-B476**
Deburring cutters – FM series	**B477-B480**
QCH series	**B481-B491**
Recommended cutting data	**B492-B526**
Technical information	**B537-B540**
Special tools	**B541**

B

High performance milling

Products	Solid carbide cutters	Teeth	Ø	Application						Type	Page
				P	M	K	N	S	H		
PM-2E		2	1.0-20.0	✓	✓	✓			✓	End mills	B339
PM-2EL		2	3.0-20.0	✓	✓	✓			✓	End mills	B340
PM-4E-G		4	1.0-20.0	✓	✓	✓			✓	End mills	B341
PM-4EL-G		4	3.0-20.0	✓	✓	✓			✓	End mills	B342
PM-4EX-G		4	3.0-20.0	✓	✓	✓			✓	End mills	B343
PM-4E		4	1.0-20.0	✓	✓	✓			✓	End mills	B344
PM-4EL		4	3.0-20.0	✓	✓	✓			✓	End mills	B345
PM-6E		6	6.0-20.0	✓	✓	✓			✓	End mills	B346
PM-6EL		6	6.0-20.0	✓	✓	✓			✓	End mills	B347
PM-2B		2	1.0-20.0	✓	✓	✓			✓	Ball nose cutters	B348
PM-2BL		2	2.0-20.0	✓	✓	✓			✓	Ball nose cutters	B349
PM-2BFP		2	1.0-20.0	✓	✓	✓			✓	Ball nose cutters	B350
PM-2BC		2	0.5-4.0	✓	✓	✓			✓	Ball nose cutter with conical neck	B351
PM-4B		4	3.0-20.0	✓	✓	✓			✓	Ball nose cutters	B354
PM-4BL		4	3.0-20.0	✓	✓	✓			✓	Ball nose cutters	B355
PM-2R		2	1.0-12.0	✓	✓	✓			✓	Torus mills	B356
PM-4H		4	3.0-12.0	✓	✓	✓			✓	High-feed mills	B357
PM-4HL		4	4.0-12.0	✓	✓	✓			✓	High-feed mills	B358
PM-4R		4	3.0-12.0	✓	✓	✓			✓	Torus mills	B359
PM-4RL		4	6.0-16.0	✓	✓	✓			✓	Torus mills	B360
PM-2EP		2	0.5-5.0	✓	✓	✓			✓	End mills	B362

✓ Very suitable ✓ Suitable

High performance milling

Products	Solid carbide cutters	Teeth	Ø	Application						Type	Page
				P	M	K	N	S	H		
PM-2ES		2	0.3-3.0	✔	✔	✔			✔	End mills	B361
PM-2BS		2	0.3-3.0	✔	✔	✔			✔	Ball nose cutters	B364
PM-2BP		2	0.5-5.0	✔	✔	✔			✔	Ball nose cutters	B365
PM-2RP		2	0.5-5.0	✔	✔	✔			✔	Torus mills	B367
EPM-2E		2	3.0-20.0	✔	✔	✔			✔	End mills	B371
EPM-2E-W		2	3.0-20.0	✔	✔	✔			✔	End mills	B372
EPM-2EL		2	3.0-20.0	✔	✔	✔			✔	End mills	B373
EPM-2EL-W		2	3.0-20.0	✔	✔	✔			✔	End mills	B374
EPM-4E		4	3.0-20.0	✔	✔	✔			✔	End mills	B375
EPM-4E-W		4	3.0-20.0	✔	✔	✔			✔	End mills	B376
EPM-4EL		4	3.0-20.0	✔	✔	✔			✔	End mills	B377
EPM-4EL-W		4	3.0-20.0	✔	✔	✔			✔	End mills	B378
EPM-2B		2	3.0-20.0	✔	✔	✔			✔	Ball nose cutters	B379
EPM-2B-W		2	3.0-20.0	✔	✔	✔			✔	Ball nose cutters	B380
EPM-2BL		2	3.0-20.0	✔	✔	✔			✔	Ball nose cutters	B381
EPM-2BL-W		2	3.0-20.0	✔	✔	✔			✔	Ball nose cutters	B382
EPM-4B		4	3.0-20.0	✔	✔	✔			✔	Ball nose cutters	B383
EPM-4B-W		4	3.0-20.0	✔	✔	✔			✔	Ball nose cutters	B384
EPM-4BL		4	3.0-20.0	✔	✔	✔			✔	Ball nose cutters	B385
EPM-4BL-W		4	3.0-20.0	✔	✔	✔			✔	Ball nose cutters	B386
VPM-4E		4	3.0-20.0	✔	✔	✔			✔	End mills	B387

✔ Very suitable ✔ Suitable

Solid carbide milling Product overview

High performance milling

Products	Solid carbide cutters	Teeth	Ø	Application						Type	Page
				P	M	K	N	S	H		
TM-4B		2	6.0-20.0		✔			✔		Ball nose cutters	B439
TM-4BL		2	6.0-20.0		✔			✔		Ball nose cutters	B440
TM-4BP		2	6.0-20.0		✔			✔		Ball nose cutters	B441
TM-5B		2	6.0-20.0		✔			✔		Ball nose cutters	B442
TM-5BL		2	6.0-20.0		✔			✔		Ball nose cutters	B443
TM-5BP		2	6.0-20.0		✔			✔		Ball nose cutters	B444
TM-4R		2	6.0-25.0		✔			✔		Torus mills	B445
TM-4RP		2	8.0-25.0		✔			✔		Torus mills	B447
TM-5R		2	6.0-10.0		✔			✔		Torus mills	B449
TM-7R		2	12.0-21.0		✔			✔		Torus mills	B450
TM-9R		2	25.0		✔			✔		Torus mills	B451
TM-5RP		2	8.0-10.0		✔			✔		Torus mills	B452
TM-7RP		2	12.0-20.0		✔			✔		Torus mills	B453
TM-9RP		2	25.0		✔			✔		Torus mills	B454

✔ Very suitable ✔ Suitable

General machining

5501R302GM		2	3.0-20.0	✔	✔	✔				End mills	B283
5601R302GM		2	3.0-20.0	✔	✔	✔				End mills	B284
5502R302GM		2	1.0-20.0	✔	✔	✔				End mills	B285
5602R302GM		2	2.0-20.0	✔	✔	✔				End mills	B286
GM-2E		2	1.0-20.0	✔	✔	✔				End mills	B287
GM-2EL		2	3.0-20.0	✔	✔	✔				End mills	B288

✔ Very suitable ✔ Suitable

General machining

Products	Solid carbide cutters	Teeth	Ø	Application						Type	Page
				P	M	K	N	S	H		
GM-2EX		2	3.0-20.0	✔	✔	✔				End mills	B289
GM-2EFP		2	6.0-16.0	✔	✔	✔				End mills	B290
GM-2F		2	1.0-20.0	✔	✔	✔				End mills	B291
GM-2FL		2	3.0-20.0	✔	✔	✔				End mills	B292
GM-2EP		2	0.5-5.0	✔	✔	✔				Mini end mills	B293
GM-2ES		2	0.3-3.0	✔	✔	✔				Mini end mills	B295
GM-3E		3	1.0-20.0	✔	✔	✔				End mills	B296
GM-3EL		3	3.0-20.0	✔	✔	✔				End mills	B297
5501R303GM		3	3.0-20.0	✔	✔	✔				End mills	B298
5601R303GM		3	3.0-20.0	✔	✔	✔				End mills	B299
5502R303GM		3	3.0-20.0	✔	✔	✔				End mills	B300
5602R303GM		3	3.0-20.0	✔	✔	✔				End mills	B301
5502R453GM		3	3.0-20.0	✔	✔	✔				End mills	B302
5602R453GM		3	3.0-20.0	✔	✔	✔				End mills	B303
GM-4F-G		4	1.0-20.0	✔	✔	✔				End mills	B304
GM-4EL-G		4	3.0-20.0	✔	✔	✔				End mills	B305
GM-4FL-G		4	3.0-16.0	✔	✔	✔				End mills	B306
GM-4EX-G		4	3.0-20.0	✔	✔	✔				End mills	B307
GM-4E		4	1.0-20.0	✔	✔	✔				End mills	B308
GM-4E-G		4	1.0-20.0	✔	✔	✔				End mills	B309
GM-4EL		4	3.0-20.0	✔	✔	✔				End mills	B310

✔ Very suitable ✔ Suitable

General machining

Products	Solid carbide cutters	Teeth	Ø	Application						Type	Page
				P	M	K	N	S	H		
GM-4EFP		4	6.0-20.0	✓	✓	✓				End mills	B311
5501R304GF		4	3.0-20.0	✓	✓	✓				End mills	B312
5601R304GF		4	3.0-20.0	✓	✓	✓				End mills	B313
5502R304GF		4	3.0-20.0	✓	✓	✓				End mills	B314
5602R304GF		4	3.0-20.0	✓	✓	✓				End mills	B315
5508R454GM		4	3.0-20.0	✓	✓	✓				End mills	B316
5602R454GM		4	3.0-20.0	✓	✓	✓				End mills	B317
5589R45MGFR		6-10	6.0-12.0	✓	✓	✓				End mills	B318
GM-6E		6	6.0-20.0	✓	✓	✓				End mills	B319
GM-6EL		6	6.0-20.0	✓	✓	✓				End mills	B320
5565R302GF		2	3.0-20.0	✓	✓	✓				Ball nose cutters	B321
5665R202GM		2	3.0-20.0	✓	✓	✓				Ball nose cutters	B322
5566R302GF		2	3.0-12.0	✓	✓	✓				Ball nose cutters	B323
GM-2B		2	1.0-20.0	✓	✓	✓				Ball nose cutters	B324
GM-2BL		2	2.0-20.0	✓	✓	✓				Ball nose cutters	B325
GM-2BFP		2	1.0-20.0	✓	✓	✓				Ball nose cutters	B326
GM-2BS		2	0.3-3.0	✓	✓	✓				Mini ball nose cutters	B327
GM-2BP		2	0.5-5.0	✓	✓	✓				Mini ball nose cutters	B328
GM-4B		4	3.0-20.0	✓	✓	✓				Ball nose cutters	B330
GM-4BL		4	3.0-20.0	✓	✓	✓				Ball nose cutters	B331
GM-2R		2	1.0-12.0	✓	✓	✓				Torus mills	B332

✓ Very suitable ✓ Suitable

General machining

Products	Solid carbide cutters	Teeth	Ø	Application						Type	Page
				P	M	K	N	S	H		
GM-4R		4	3.0-12.0	✔	✔	✔				Torus mills	B333
GM-4RL		4	6.0-16.0	✔	✔	✔				Torus mills	B334
5602R303GR		3	6.0-8.0	✔	✔	✔				Rippers	B335
5602R304GR		4	10.0-20.0	✔	✔	✔				Rippers	B336
5602R305GR		5	25.0	✔	✔	✔				Rippers	B337
GM-4W		4	6.0-20.0	✔	✔	✔				Rippers	B338

✔ Very suitable ✔ Suitable

Machining high hardness steel

HM-2E		2	1.0-20.0						✔	End mills	B389
HM-2EFP		2	6.0-20.0						✔	End mills	B390
HM-2EP		2	0.5-5.0						✔	Mini end mills	B391
HM-2ES		2	0.3-3.0						✔	Mini end mills	B393
HM-4E		4	1.0-20.0						✔	End mills	B394
HM-4EL		4	3.0-20.0						✔	End mills	B395
HM-4EFP		4	6.0-20.0						✔	End mills	B396
5502R55MHH		4-8	3.0-20.0						✔	End mills	B397
HM-6E		6	6.0-20.0						✔	End mills	B398
HM-6EL		6	6.0-20.0						✔	End mills	B399
HM-2B		2	1.0-20.0						✔	Ball nose cutters	B400
HM-2BL		2	2.0-20.0						✔	Ball nose cutters	B401
HM-2BFP		2	1.0-20.0						✔	Ball nose cutters	B402
HM-2BS		2	0.3-3.0						✔	Mini ball nose cutters	B403

✔ Very suitable ✔ Suitable

Solid carbide milling Product overview

Machining high hardness steel

Products	Solid carbide cutters	Teeth	Ø	Application						Type	Page
				P	M	K	N	S	H		
HM-2BP		2	0.5-5.0						✔	Mini ball nose cutters	B404
HM-4B		4	3.0-20.0						✔	Ball nose cutters	B406
HM-4BL		4	3.0-20.0						✔	Ball nose cutters	B407
HM-4R		4	3.0-12.0						✔	Torus mills	B408
HM-4RF		4	6.0-12.0						✔	Torus mills	B409
HM-4RP		4	6.0-16.0						✔	Torus mills	B410

✔ Very suitable ✔ Suitable

Copper and copper alloys

5502R402NM		2	3.0-20.0				✔			End mills	B411
NM-2E		2	1.0-12.0				✔			End mills	B412
NM-2EP		2	0.5-5.0				✔			Mini end mills	B413
NM-4E		4	3.0-12.0				✔			End mills	B414
NM-2B		2	1.0-12.0				✔			Ball nose cutters	B415
NM-2BP		2	0.5-5.0				✔			Mini ball nose cutters	B416

✔ Very suitable ✔ Suitable

Aluminium and aluminium alloys

AL-2E		2	1.0-20.0				✔			End mills	B417
AL-2EL		2	3.0-20.0				✔			End mills	B418
AL-3E		3	1.0-20.0				✔			End mills	B419
AL-3EL		3	3.0-20.0				✔			End mills	B420
AL-3W		3	6.0-20.0				✔			Rippers	B421
5565R302NH		2	3.0-16.0				✔			Ball nose cutters	B422
5566R302NH		2	3.0-16.0				✔			Ball nose cutters	B423

✔ Very suitable ✔ Suitable

Aluminium and aluminium alloys

Products	Solid carbide cutters	Teeth	Ø	Application						Type	Page
				P	M	K	N	S	H		
AL-2B		2	2.0-12.0				✔			Ball nose cutters	B424
AL-2R-AIR		2	6.0-20.0				✔			High performance torus mills	B425
AL-2RL-AIR		2	6.0-20.0				✔			High performance torus mills	B426
AL-3R-AIR		3	12.0-20.0				✔			High performance torus mills	B427
AL-3RL-AIR		3	12.0-20.0				✔			High performance torus mills	B428
ALG-2E		2	1.0-20.0				✔			End mills	B429
ALG-3E		3	1.0-20.0				✔			End mills	B430
ALG-3E-W		3	3.0-20.0				✔			End mills	B431
ALP-3E		3	1.0-20.0				✔			End mills	B432
ALP-3E-W		3	3.0-20.0				✔			End mills	B433
ALP-4E		4	3.0-20.0				✔			End mills	B434
ALP-4E-W		4	3.0-20.0				✔			End mills	B435
ALG-2R		2	6.0-25.0				✔			Torus mills	B436
ALG-2R-W		2	6.0-25.0				✔			Torus mills	B437

✔ Very suitable ✔ Suitable

HPC with unequal helix angle

5501R38414GM		4	4.0-20.0	✔	✔	✔			✔	End mills	B455
5502R38414GM		4	4.0-20.0	✔	✔	✔			✔	End mills	B456
5601R38414GM		4	4.0-20.0	✔	✔	✔			✔	End mills	B457
5602R38414GM		4	4.0-20.0	✔	✔	✔			✔	End mills	B458
5502R38414GM-R		4	4.0-20.0	✔	✔	✔			✔	Torus mills	B459
5602R38414GM-R		4	4.0-20.0	✔	✔	✔			✔	Torus mills	B460

✔ Very suitable ✔ Suitable

HPC with unequal helix angle

Products	Solid carbide cutters	Teeth	Ø	Application						Type	Page
				P	M	K	N	S	H		
UM-4E		4	4.0-20.0	✓	✓	✓			✓	End mills	B461
UM-4E-W		4	4.0-20.0	✓	✓	✓			✓	End mills	B462
UM-4EL		4	4.0-20.0	✓	✓	✓			✓	End mills	B463
UM-4EL-W		4	4.0-20.0	✓	✓	✓			✓	End mills	B464
UM-4ELP-W		4	4.0-20.0	✓	✓	✓			✓	End mills	B465
UM-4EFP		4	6.0-20.0	✓	✓	✓			✓	End mills	B466
UM-4R		4	4.0-20.0	✓	✓	✓			✓	Torus mills	B467
UM-4RL		4	6.0-16.0	✓	✓	✓			✓	Torus mills	B468
UM-4RFP		4	6.0-16.0	✓	✓	✓			✓	Torus mills	B469
UM-5EP-W		5	6.0-25.0	✓	✓	✓			✓	End mills	B470
UMC-4E		4	6.0-20.0	✓	✓	✓			✓	End mills	B471
UMC-4E-W		4	6.0-20.0	✓	✓	✓			✓	End mills	B472
VSM-4E		4	4.0-20.0	✓	✓			✓		End mills	B473
VSM-4E-C		4	10.0-20.0	✓	✓			✓		End mills	B474
VSM-4R		4	4.0-20.0	✓	✓			✓		Torus mills	B475

✓ Very suitable ✓ Suitable

Deburring cutter

5501/5601		3-4	0.2-0.7	✓	✓	✓	✓			Deburring cutters	B477
5501/5601		3-4	0.2-0.7	✓	✓	✓	✓			Deburring cutters	B478
5501/5601		3-4	0.2-0.7	✓	✓	✓	✓			Deburring cutters	B479
5601		4	5.2-10.0	✓	✓	✓	✓			Deburring cutters	B480

✓ Very suitable ✓ Suitable

QCH series

Products	Solid carbide cutters	Teeth	Ø	Application						Type	Page
				P	M	K	N	S	H		
PM-2B		2	12.0-32.0	✔	✔	✔			✔	Ball nose cutters	B481
PM-4B		4	12.0-32.0	✔	✔	✔			✔	Ball nose cutters	B482
PM-4E		4	12.0-32.0	✔	✔	✔			✔	End mills	B483
PM-4R		4	12.0-32.0	✔	✔	✔			✔	Torus mills	B484
HMX-2B		2	12.0-32.0						✔	Ball nose cutters	B486
HMX-4B		4	12.0-32.0						✔	Ball nose cutters	B487
HMX-4E		4	12.0-32.0						✔	End mills	B488
HMX-4R		4	12.0-32.0						✔	Torus mills	B489
VPM-4E		4	12.0-25.0	✔	✔	✔			✔	End mills	B485

✔ Very suitable ✔ Suitable

Coated cemented carbide PVD

Grade	Grade description
KMD401	PVD coated carbide substrate for high performance milling application of non-ferrous metals, CFRP and GFRP and organic materials. The DLC layer has very good wear protection and high thermal stability.
KMG303	PVD coated carbide substrate for universal milling application of steel (up to HRC<=48), stainless steel and cast iron.
KMG405	PVD coated carbide substrate for high performance milling application of steel (up to HRC <55), stainless steel, super alloy material and cast iron. High wear resistance and toughness for a wide application field.
KMG406	PVD coated carbide substrate for entry into high performance machining. Universal range of application for steel and cast materials up to 55 HRC as well as stainless steel.
KMG555	PVD coated carbide substrate for hard milling application of steel (HRC 55–68), highest wear resistance and toughness for best cutting result.
KMG309	PVD coated carbide substrate for non ferrous materials. High wear resistance even in abrasive materials.

Uncoated cemented carbide

Grade	Grade description
YK30F	Uncoated K30 carbide substrate for steel, stainless steel, cast iron and non ferrous materials.

Uncoated cemented carbide

Grade	Grade description
YK40F	Uncoated K20–K30/N20–N30 carbide substrate for cast iron and non ferrous materials.

Solid carbide milling System code – DIN-ISO

5	5	0	1	R	30	2	GM	R05	0800
1	2	3	4	5	6	7	8	9	10

1 Type

Code	Description
5	Milling cutter

2 Shank type

Code	Description
1	Shank
5	DIN 6535 HA
6	Weldon shank DIN 6535 HB
7	Whistle Notch DIN 6535 HE
9	Morse taper shank

3 Cutting edge type

Code	Description
0	Square shoulder mill
6	Ball nose cutter
8	Torus mill

4 Tool length

Code	Description
1	DIN 6527 K
2	DIN 6527 L
5	Factory standard ZCC-A
6	Factory standard ZCC-B
8	DIN 6528
9	Factory standard ZCC-D

5 Rotation direction

Code	Description
R	Right
L	Left

6 Helix angle

Code	Description
20	20°
30	30°
3841	38°/41°
45	45°
55	55°
60	60°

7 Number of teeth

Code	Description
2	2
...	
M	Indicated when different diameters have a different number of teeth

8 Application

Code	Description
GM	Semi-finishing
GF	Finishing
HM	Hard machining
MHH	High-speed hard machining
NH	High-performance machining of heat-resistant alloys

9 Radius [mm]

Code	Description
R03	0,3
R15	1,5
R30	3,0
...	

10 Diameter [mm]

Code	Description
0100	1,0
0800	8,0
2000	20,0
...	



a Groove milling
b Square shoulder milling
c Profile milling
d Slot milling
e Face milling
f Chamfer milling
g Plunge milling
h Circular milling/Ramping

GM – 2 E L P – D12 R0.5 – M08

1	2	3	4	5	6	7	8

Application	
Code	Description
GR	General roughing
GM	Semi-finishing
GF	Finishing
PM	High-performance machining
EPM	«Ecoline» – High-performance machining
VPM	Full-slot applications
HM	Hard machining
NM	General machining of non-ferrous metals
AL	General machining of Al and Al alloys
ALP	High-performance machining of Al and Al alloys
ALG	General machining of Al and Al alloys
UM	HSC/HPC machining
UMC	HSC machining with chip splitter geometry
VSM	General machining of heat-resistant alloys
TM	General machining of heat-resistant alloys

1

Number of teeth

2

Cutting edge type	
Code	Description
E	Square shoulder mill with protective chamfer
F	Square shoulder mill with sharp cutting edges
B	Ball nose cutter
R	Torus mill
W	Ripper
H	High-feed mill

3

Cutting edge length	
Code	Description
L	Long
X	Extra long
F	Short

4

Type	
Code	Description
S	Mini diameter
P	Ground neck
C	Conical neck

5

Diameter [mm]	
Code	Description
D3.0	3,0
D20.0	20,0
...	

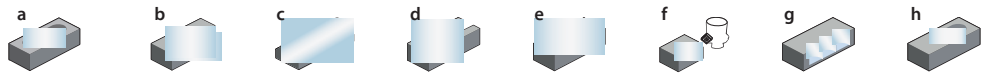
6

Radius [mm]	
Code	Description
R0.5	0,5
R3.0	3,0
...	

7

Features	
Code	Description
G	Spiral angle 30°
M	Neck length [mm]
S	Thin shank
AIR	For aerospace industry

8



a Groove milling **b** Square shoulder milling **c** Profile milling **d** Slot milling **e** Face milling **f** Chamfer milling **g** Plunge milling **h** Circular milling/Ramping

Solid carbide milling System code – QCH series

Q	08	–	PM	–	2	B	–	D12	R0.5
1	2		3		4	5		6	7

Thread type

1

Thread diametre [mm]	
Code	Description
08	8,0
10	10,0
12	12,0
14	14,0
18	18,0

2

Application	
Code	Description
PM	High-performance machining
HMX	Hard machining

3

Number of teeth

4

Cutting edge type	
Code	Description
E	Square shoulder mill with protective chamfer
B	Ball nose cutter
R	Torus mill

5

Diametre [mm]	
Code	Description
D3.0	3,0
D8.0	8,0
D20.0	20,0

6

Radius [mm]	
Code	Description
R0.5	0,5
R1.0	1,5
R3.0	3,0
...	

7



a Groove milling **b** Square shoulder milling **c** Profile milling **d** Slot milling **e** Face milling **f** Chamfer milling **g** Plunge milling **h** Circular milling/Ramping

G	25	–	QCH	–	Q	12	–	250	C	–	(ZJ)	(115)
1	2		3		4	5		6	7		8	9

Clamping form	
Code	Description
G	Cylindrical
XP	Weldon

1

Clamping diameter [mm]	
Code	Description
12	12
16	16
20	20
25	25
32	32

2

Series [mm]	
Code	Description
QCH	Indexable head system

3

Thread type	
Code	Description
M	Metric
Q	Q thread

4

Thread size [mm]	
Code	Description
8	8
10	10
12	12
14	14
...	

5

Total length [mm]	
Code	Description
85	85
150	150
200	200
...	

6

Material	
Code	Description
C	Solid carbide
S	Steel

7

Shank	
Code	Description
ZJ	Conical
–	Cylindrically stepped

8

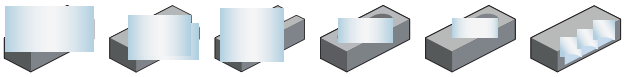
Taper length [mm]	
Code	Description
90	90
115	115
...	

9

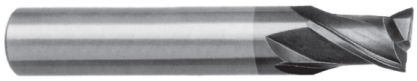
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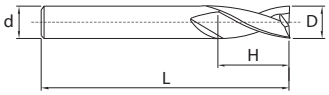
End mill Semi-finishing

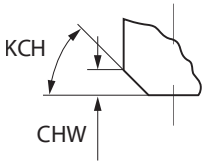
5501R302GM



– Type of shank DIN 6535HA
– Centre cutting
– Helix angle 30°







Article	✻	Dimensions [mm]						Teeth	Grade	
		D	d (h6)	H	L	KCH	CHW		KMG303	YK30F
5501R302GM-0300		3	6	4	50	0	0	2	●	○
5501R302GM-0400		4	6	5	54	0	0	2	●	○
5501R302GM-0500		5	6	6	54	0	0	2	●	○
5501R302GM-0600		6	6	7	54	45	0.1	2	●	○
5501R302GM-0800		8	8	9	58	45	0.1	2	●	○
5501R302GM-1000		10	10	11	66	45	0.1	2	●	○
5501R302GM-1200		12	12	12	73	45	0.1	2	●	○
5501R302GM-1400		14	14	14	75	45	0.15	2	●	○
5501R302GM-1600		16	16	16	82	45	0.15	2	●	○
5501R302GM-1800		18	18	18	84	45	0.15	2	●	○
5501R302GM-2000		20	20	20	92	45	0.15	2	●	○

● Ex stock ○ On demand

✻ With internal cooling

Application field

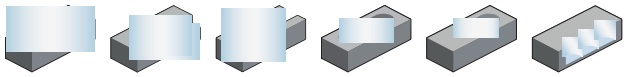
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

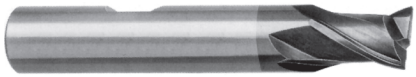
System code B278 Cutting data B492 Nonstandard order B541

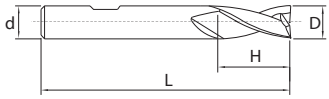
End mill Semi-finishing

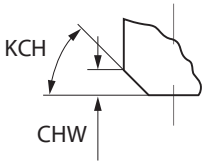
5601R302GM



– Type of shank: DIN 6535HB
– Centre cutting
– Helix angle 30°







Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	H	L	KCH	CHW		KMG303
5601R302GM-0300		3	6	4	50	0	0	2	●
5601R302GM-0400		4	6	5	54	0	0	2	●
5601R302GM-0500		5	6	6	54	0	0	2	●
5601R302GM-0600		6	6	7	54	45	0.1	2	●
5601R302GM-0800		8	8	9	58	45	0.1	2	●
5601R302GM-1000		10	10	11	66	45	0.1	2	●
5601R302GM-1200		12	12	12	73	45	0.1	2	●
5601R302GM-1400		14	14	14	75	45	0.15	2	●
5601R302GM-1600		16	16	16	82	45	0.15	2	●
5601R302GM-1800		18	18	18	84	45	0.15	2	●
5601R302GM-2000		20	20	20	92	45	0.15	2	●

● Ex stock ○ On demand
✻ With internal cooling

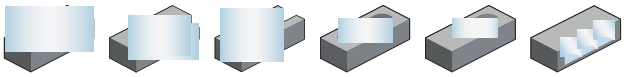
Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

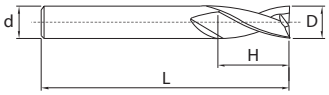
End mill long cutting edge — Semi-finishing

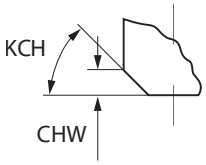


5502R302GM

– Type of shank DIN 6535HA
– Centre cutting
– Helix angle 30°







Article	✲	Dimensions [mm]						Teeth	Grade	
		D	d (h6)	H	L	KCH	CHW		KMG303	YK30F
5502R302GM-0100		1	3	2	38	0	0	2	●	○
5502R302GM-0150		1.5	3	3	38	0	0	2	●	○
5502R302GM-0200		2	6	6	57	0	0	2	●	○
5502R302GM-0250		2.5	6	7	57	0	0	2	●	○
5502R302GM-0280		2.8	6	7	57	0	0	2	●	○
5502R302GM-0300		3	6	7	57	0	0	2	●	○
5502R302GM-0350		3.5	6	7	57	0	0	2	●	○
5502R302GM-0380		3.8	6	8	57	0	0	2	●	○
5502R302GM-0400		4	6	8	57	0	0	2	●	○
5502R302GM-0450		4.5	6	8	57	0	0	2	●	○
5502R302GM-0480		4.8	6	8	57	0	0	2	●	○
5502R302GM-0500		5	6	10	57	0	0	2	●	○
5502R302GM-0550		5.5	6	10	57	0	0	2	●	○
5502R302GM-0575		5.75	6	10	57	0	0	2	●	○
5502R302GM-0600		6	6	10	57	45	0.1	2	●	○
5502R302GM-0675		6.75	8	13	63	45	0.1	2	○	○
5502R302GM-0700		7	8	13	63	45	0.1	2	●	○
5502R302GM-0750		7.5	8	16	63	45	0.1	2	●	○
5502R302GM-0775		7.75	8	16	63	45	0.1	2	●	○
5502R302GM-0800		8	8	16	63	45	0.1	2	●	○
5502R302GM-0870		8.7	10	16	72	45	0.1	2	●	○
5502R302GM-0900		9	10	16	72	45	0.1	2	●	○
5502R302GM-0950		9.5	10	16	72	45	0.1	2	○	○
5502R302GM-1000		10	10	19	72	45	0.1	2	●	○
5502R302GM-1100		11	12	22	83	45	0.1	2	●	○
5502R302GM-1170		11.7	12	22	83	45	0.1	2	●	○
5502R302GM-1200		12	12	22	83	45	0.1	2	●	○
5502R302GM-1370		13.7	14	22	83	45	0.1	2	●	○
5502R302GM-1400		14	14	22	83	45	0.15	2	●	○
5502R302GM-1500		15	16	26	92	45	0.15	2	●	○
5502R302GM-1570		15.7	16	26	92	45	0.15	2	●	○
5502R302GM-1600		16	16	26	92	45	0.15	2	●	○
5502R302GM-1700		17	18	26	92	45	0.15	2	○	○
5502R302GM-1800		18	18	26	92	45	0.15	2	●	○
5502R302GM-2000		20	20	32	104	45	0.15	2	●	○

● Ex stock ○ On demand
✲ With internal cooling

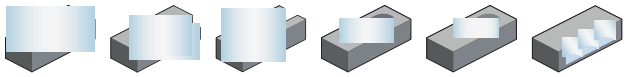
Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

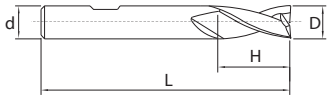
End mill long cutting edge — Semi-finishing

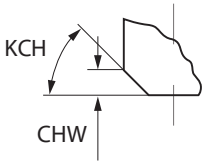


5602R302GM

– Type of shank: DIN 6535HB
– Centre cutting
– Helix angle 30°







Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	H	L	KCH	CHW		KMG303
5602R302GM-0200		2	6	6	57	0	0	2	●
5602R302GM-0250		2.5	6	7	57	0	0	2	●
5602R302GM-0280		2.8	6	7	57	0	0	2	●
5602R302GM-0300		3	6	7	57	0	0	2	●
5602R302GM-0350		3.5	6	7	57	0	0	2	●
5602R302GM-0380		3.8	6	8	57	0	0	2	●
5602R302GM-0400		4	6	8	57	0	0	2	●
5602R302GM-0450		4.5	6	8	57	0	0	2	●
5602R302GM-0480		4.8	6	8	57	0	0	2	●
5602R302GM-0500		5	6	10	57	0	0	2	●
5602R302GM-0550		5.5	6	10	57	0	0	2	●
5602R302GM-0575		5.75	6	10	57	0	0	2	●
5602R302GM-0600		6	6	10	57	45	0.1	2	●
5602R302GM-0675		6.75	8	13	63	45	0.1	2	○
5602R302GM-0700		7	8	13	63	45	0.1	2	●
5602R302GM-0750		7.5	8	16	63	45	0.1	2	●
5602R302GM-0775		7.75	8	16	63	45	0.1	2	○
5602R302GM-0800		8	8	16	63	45	0.1	2	●
5602R302GM-0870		8.7	10	16	72	45	0.1	2	●
5602R302GM-0900		9	10	16	72	45	0.1	2	●
5602R302GM-1000		10	10	19	72	45	0.1	2	●
5602R302GM-1170		11.7	12	22	83	45	0.1	2	●
5602R302GM-1200		12	12	22	83	45	0.1	2	●
5602R302GM-1370		13.7	14	22	83	45	0.1	2	●
5602R302GM-1400		14	14	22	83	45	0.15	2	●
5602R302GM-1570		15.7	16	26	92	45	0.15	2	●
5602R302GM-1600		16	16	26	92	45	0.15	2	●
5602R302GM-1800		18	18	26	92	45	0.15	2	●
5602R302GM-2000		20	20	32	104	45	0.15	2	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

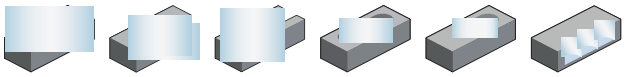
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

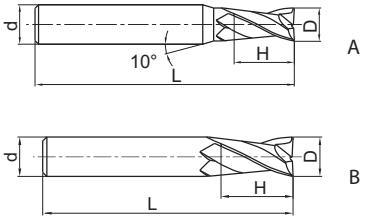
End mill Semi-finishing

GM-2E



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMG303
GM-2E-D1.0S		1	4	3	50	2	A	●
GM-2E-D1.5S		1.5	4	4	50	2	A	●
GM-2E-D2.0S		2	4	6	50	2	A	●
GM-2E-D2.5S		2.5	4	8	50	2	A	●
GM-2E-D3.0S		3	4	8	50	2	A	●
GM-2E-D4.0S		4	4	11	50	2	B	●
GM-2E-D1.0		1	6	3	50	2	A	●
GM-2E-D1.5		1.5	6	4	50	2	A	●
GM-2E-D2.0		2	6	6	50	2	A	●
GM-2E-D2.5		2.5	6	8	50	2	A	●
GM-2E-D3.0		3	6	8	50	2	A	●
GM-2E-D3.5		3.5	6	10	50	2	A	●
GM-2E-D4.0		4	6	11	50	2	A	●
GM-2E-D4.5		4.5	6	11	50	2	A	●
GM-2E-D5.0		5	6	13	50	2	A	●
GM-2E-D5.5		5.5	6	16	50	2	A	●
GM-2E-D6.0		6	6	16	50	2	B	●
GM-2E-D7.0		7	8	20	60	2	A	●
GM-2E-D8.0		8	8	20	60	2	B	●
GM-2E-D9.0		9	10	22	75	2	A	●
GM-2E-D10.0		10	10	25	75	2	B	●
GM-2E-D11.0		11	12	26	75	2	A	●
GM-2E-D12.0		12	12	30	75	2	B	●
GM-2E-D14.0		14	14	32	75	2	B	●
GM-2E-D16.0		16	16	45	100	2	B	●
GM-2E-D18.0		18	18	45	100	2	B	●
GM-2E-D20.0		20	20	45	100	2	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

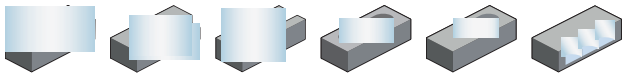
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

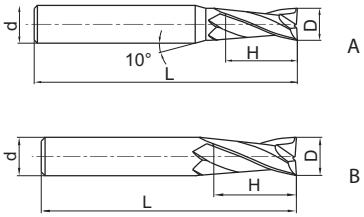
End mill long cutting edge Semi-finishing

GM-2EL



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMG303
GM-2EL-D3.0		3	6	12	75	2	A	●
GM-2EL-D4.0		4	6	15	75	2	A	●
GM-2EL-D5.0		5	6	20	75	2	A	●
GM-2EL-D6.0		6	6	20	75	2	B	●
GM-2EL-D8.0		8	8	25	100	2	B	●
GM-2EL-D10.0		10	10	30	100	2	B	●
GM-2EL-D12.0		12	12	35	100	2	B	●
GM-2EL-D14.0		14	14	40	100	2	B	●
GM-2EL-D16.0		16	16	50	150	2	B	●
GM-2EL-D20.0		20	20	55	150	2	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

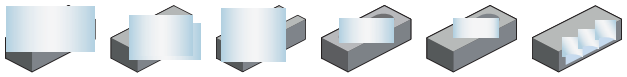
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

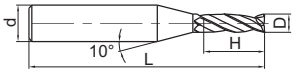
End mill extra long cutting edge **Semi-finishing**

GM-2EX

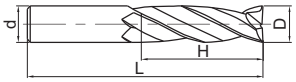


– Factory standard
– Centre cutting
– Helix angle 35°





A



B

Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG303
GM-2EX-D3.0		3	6	20	75	2	A	●
GM-2EX-D4.0		4	6	25	75	2	A	●
GM-2EX-D5.0		5	6	30	75	2	A	●
GM-2EX-D6.0		6	6	30	75	2	B	○
GM-2EX-D8.0		8	8	40	100	2	B	○
GM-2EX-D10.0		10	10	50	110	2	B	○
GM-2EX-D12.0		12	12	50	110	2	B	○
GM-2EX-D16.0		16	16	70	150	2	B	○
GM-2EX-D20.0		20	20	75	150	2	B	○

● Ex stock ○ On demand

✲ With internal cooling

Application field

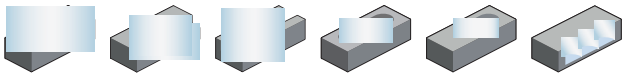
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

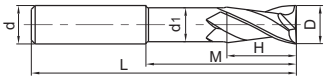
End mill short cutting edge Semi-finishing

GM-2EFP



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm] D	d (h6)	d_1	H	M	L	Teeth	Grade KMG303
GM-2EFP-D6.0		6	6	5.8	9	30	75	2	○
GM-2EFP-D8.0		8	8	7.8	12	40	100	2	○
GM-2EFP-D10.0		10	10	9.6	15	50	100	2	○
GM-2EFP-D12.0		12	12	11.5	18	50	100	2	○
GM-2EFP-D16.0		16	16	15.5	24	50	150	2	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

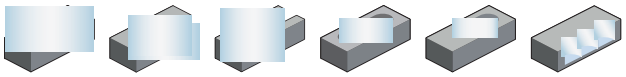
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

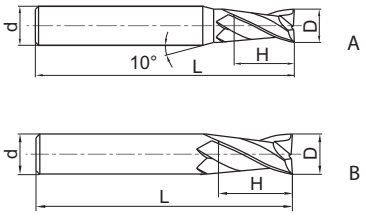
End mill Semi-finishing

GM-2F



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMG303
GM-2F-D1.0		1	6	3	50	2	A	○
GM-2F-D1.5		1.5	6	4	50	2	A	○
GM-2F-D2.0		2	6	6	50	2	A	○
GM-2F-D2.5		2.5	6	8	50	2	A	○
GM-2F-D3.0		3	6	8	50	2	A	●
GM-2F-D3.5		3.5	6	10	50	2	A	○
GM-2F-D4.0		4	6	11	50	2	A	●
GM-2F-D4.5		4.5	6	11	50	2	A	●
GM-2F-D5.0		5	6	13	50	2	A	●
GM-2F-D5.5		5.5	6	16	50	2	A	○
GM-2F-D6.0		6	6	16	50	2	B	●
GM-2F-D7.0		7	8	20	60	2	A	●
GM-2F-D8.0		8	8	20	60	2	B	●
GM-2F-D9.0		9	10	22	75	2	A	○
GM-2F-D10.0		10	10	25	75	2	B	○
GM-2F-D11.0		11	12	26	75	2	A	○
GM-2F-D12.0		12	12	30	75	2	B	●
GM-2F-D14.0		14	14	32	75	2	B	○
GM-2F-D16.0		16	16	45	100	2	B	○
GM-2F-D18.0		18	18	45	100	2	B	○
GM-2F-D20.0		20	20	45	100	2	B	○

● Ex stock ○ On demand
✻ With internal cooling

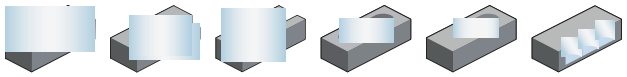
Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

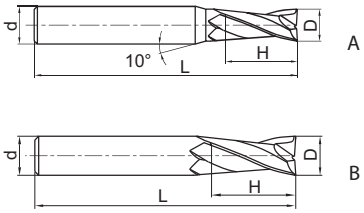
End mill long cutting edge Semi-finishing



GM-2FL

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG303
GM-2FL-D3.0		3	6	12	75	2	A	○
GM-2FL-D4.0		4	6	15	75	2	A	○
GM-2FL-D5.0		5	6	20	75	2	A	○
GM-2FL-D6.0		6	6	20	75	2	B	○
GM-2FL-D8.0		8	8	25	100	2	B	○
GM-2FL-D10.0		10	10	30	100	2	B	○
GM-2FL-D12.0		12	12	35	100	2	B	○
GM-2FL-D14.0		14	14	40	100	2	B	○
GM-2FL-D16.0		16	16	50	150	2	B	○
GM-2FL-D20.0		20	20	55	150	2	B	○

● Ex stock ○ On demand
✲ With internal cooling

Application field

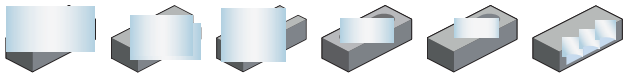
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

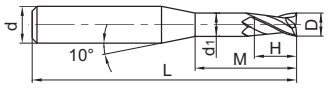
End mill Semi-finishing

GM-2EP



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	d_1	H	M	L		KMG303
GM-2EP-D0.5-M04		0.5	4	0.45	0.7	4	50	2	●
GM-2EP-D0.5-M06		0.5	4	0.45	0.7	6	50	2	●
GM-2EP-D0.5-M08		0.5	4	0.45	0.7	8	50	2	●
GM-2EP-D0.8-M04		0.8	4	0.75	1.2	4	50	2	●
GM-2EP-D0.8-M06		0.8	4	0.75	1.2	6	50	2	●
GM-2EP-D0.8-M08		0.8	4	0.75	1.2	8	50	2	●
GM-2EP-D0.8-M10		0.8	4	0.75	1.2	10	50	2	●
GM-2EP-D1.0-M04		1	4	0.95	1.5	4	50	2	●
GM-2EP-D1.0-M06		1	4	0.95	1.5	6	50	2	●
GM-2EP-D1.0-M08		1	4	0.95	1.5	8	50	2	●
GM-2EP-D1.0-M10		1	4	0.95	1.5	10	50	2	●
GM-2EP-D1.0-M12		1	4	0.95	1.5	12	50	2	●
GM-2EP-D1.0-M14		1	4	0.95	1.5	14	50	2	●
GM-2EP-D1.2-M06		1.2	4	1.15	1.8	6	50	2	●
GM-2EP-D1.2-M08		1.2	4	1.15	1.8	8	50	2	●
GM-2EP-D1.2-M10		1.2	4	1.15	1.8	10	50	2	●
GM-2EP-D1.2-M12		1.2	4	1.15	1.8	12	50	2	○
GM-2EP-D1.5-M06		1.5	4	1.45	2.3	6	50	2	●
GM-2EP-D1.5-M08		1.5	4	1.45	2.3	8	50	2	●
GM-2EP-D1.5-M10		1.5	4	1.45	2.3	10	50	2	●
GM-2EP-D1.5-M12		1.5	4	1.45	2.3	12	50	2	●
GM-2EP-D1.5-M14		1.5	4	1.45	2.3	14	50	2	●
GM-2EP-D2.0-M06		2	4	1.95	3	6	50	2	●
GM-2EP-D2.0-M08		2	4	1.95	3	8	50	2	●
GM-2EP-D2.0-M10		2	4	1.95	3	10	50	2	●
GM-2EP-D2.0-M12		2	4	1.95	3	12	50	2	●
GM-2EP-D2.0-M14		2	4	1.95	3	14	50	2	●
GM-2EP-D2.0-M16		2	4	1.95	3	16	50	2	●
GM-2EP-D2.5-M08		2.5	4	2.4	3.7	8	50	2	●
GM-2EP-D2.5-M10		2.5	4	2.4	3.7	10	50	2	●
GM-2EP-D2.5-M12		2.5	4	2.4	3.7	12	50	2	●
GM-2EP-D2.5-M14		2.5	4	2.4	3.7	14	50	2	●
GM-2EP-D2.5-M16		2.5	4	2.4	3.7	16	60	2	●
GM-2EP-D2.5-M18		2.5	4	2.4	3.7	18	60	2	●
GM-2EP-D2.5-M20		2.5	4	2.4	3.7	20	60	2	●
GM-2EP-D3.0-M06		3	6	2.85	4.5	6	50	2	●
GM-2EP-D3.0-M08		3	6	2.85	4.5	8	50	2	●

● Ex stock ○ On demand

✻ With internal cooling

Application field

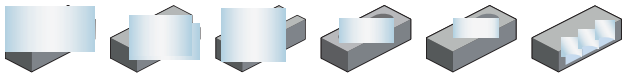
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

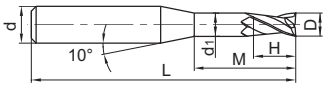
End mill Semi-finishing

GM-2EP



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm] D	d (h6)	d_1	H	M	L	Teeth	Grade KMG303
GM-2EP-D3.0-M10		3	6	2.85	4.5	10	50	2	●
GM-2EP-D3.0-M12		3	6	2.85	4.5	12	50	2	●
GM-2EP-D3.0-M14		3	6	2.85	4.5	14	60	2	●
GM-2EP-D3.0-M16		3	6	2.85	4.5	16	60	2	●
GM-2EP-D3.0-M18		3	6	2.85	4.5	18	60	2	●
GM-2EP-D3.0-M20		3	6	2.85	4.5	20	60	2	●
GM-2EP-D4.0-M12		4	6	3.85	6	12	50	2	●
GM-2EP-D4.0-M14		4	6	3.85	6	14	60	2	●
GM-2EP-D4.0-M16		4	6	3.85	6	16	60	2	●
GM-2EP-D4.0-M20		4	6	3.85	6	20	60	2	●
GM-2EP-D4.0-M25		4	6	3.85	6	25	60	2	●
GM-2EP-D5.0-M16		5	6	4.85	7.5	16	60	2	●
GM-2EP-D5.0-M25		5	6	4.85	7.5	25	70	2	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

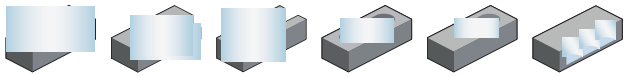
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

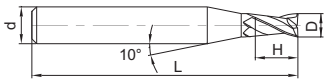
Schaftfräser Semi-finishing

GM-2ES



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]				Teeth	Grade
		D	d (h6)	H	L		KMG303
GM-2ES-D0.3		0.3	4	0.6	50	2	●
GM-2ES-D0.4		0.4	4	0.8	50	2	●
GM-2ES-D0.5		0.5	4	1	50	2	●
GM-2ES-D0.6		0.6	4	1.2	50	2	●
GM-2ES-D0.7		0.7	4	1.4	50	2	●
GM-2ES-D0.8		0.8	4	1.6	50	2	●
GM-2ES-D0.9		0.9	4	1.8	50	2	●
GM-2ES-D1.0		1	4	2	50	2	●
GM-2ES-D1.1		1.1	4	2	50	2	●
GM-2ES-D1.2		1.2	4	2.5	50	2	●
GM-2ES-D1.3		1.3	4	2.5	50	2	●
GM-2ES-D1.4		1.4	4	3	50	2	●
GM-2ES-D1.5		1.5	4	3	50	2	●
GM-2ES-D1.6		1.6	4	3.5	50	2	●
GM-2ES-D1.7		1.7	4	3.5	50	2	●
GM-2ES-D1.8		1.8	4	4	50	2	●
GM-2ES-D1.9		1.9	4	4	50	2	●
GM-2ES-D2.0		2	4	4	50	2	●
GM-2ES-D2.1		2.1	4	4	50	2	●
GM-2ES-D2.2		2.2	4	4.5	50	2	●
GM-2ES-D2.3		2.3	4	4.5	50	2	●
GM-2ES-D2.4		2.4	4	5	50	2	●
GM-2ES-D2.5		2.5	4	5	50	2	●
GM-2ES-D2.6		2.6	4	5	50	2	●
GM-2ES-D2.7		2.7	4	5.5	50	2	●
GM-2ES-D2.8		2.8	4	5.5	50	2	●
GM-2ES-D2.9		2.9	4	6	50	2	●
GM-2ES-D3.0		3	4	6	50	2	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

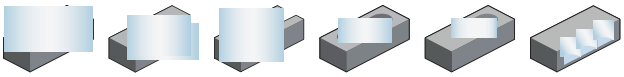
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

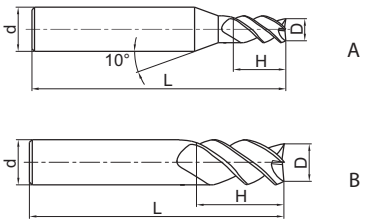
End mill Semi-finishing

GM-3E



– Factory standard
– Centre cutting
– Helix angle 45°





Article	✻	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMG303
GM-3E-D1.0S		1	4	3	50	3	A	○
GM-3E-D1.5S		1.5	4	4	50	3	A	○
GM-3E-D2.0S		2	4	6	50	3	A	○
GM-3E-D2.5S		2.5	4	8	50	3	A	○
GM-3E-D3.0S		3	4	8	50	3	A	○
GM-3E-D4.0S		4	4	11	50	3	B	○
GM-3E-D1.0		1	6	3	50	3	A	○
GM-3E-D1.5		1.5	6	4	50	3	A	○
GM-3E-D2.0		2	6	6	50	3	A	○
GM-3E-D2.5		2.5	6	8	50	3	A	○
GM-3E-D3.0		3	6	8	50	3	A	○
GM-3E-D3.5		3.5	6	10	50	3	A	○
GM-3E-D4.0		4	6	11	50	3	A	○
GM-3E-D4.5		4.5	6	11	50	3	A	○
GM-3E-D5.0		5	6	13	50	3	A	○
GM-3E-D5.5		5.5	6	16	50	3	A	○
GM-3E-D6.0		6	6	16	50	3	B	○
GM-3E-D7.0		7	8	20	60	3	A	○
GM-3E-D8.0		8	8	20	60	3	B	○
GM-3E-D9.0		9	10	22	75	3	A	○
GM-3E-D10.0		10	10	25	75	3	B	○
GM-3E-D11.0		11	12	26	75	3	A	○
GM-3E-D12.0		12	12	30	75	3	B	○
GM-3E-D14.0		14	14	32	75	3	B	○
GM-3E-D16.0		16	16	45	100	3	B	○
GM-3E-D18.0		18	18	45	100	3	B	○
GM-3E-D20.0		20	20	45	100	3	B	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

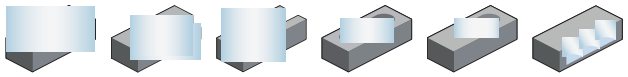
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

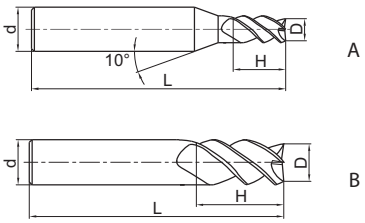
End mill long cutting edge Semi-finishing

GM-3EL



– Factory standard
– Centre cutting
– Helix angle 45°





Article	✻	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG303
GM-3EL-D3.0		3	6	12	75	3	A	●
GM-3EL-D4.0		4	6	15	75	3	A	●
GM-3EL-D5.0		5	6	20	75	3	A	●
GM-3EL-D6.0		6	6	20	75	3	B	●
GM-3EL-D8.0		8	8	25	100	3	B	●
GM-3EL-D10.0		10	10	30	100	3	B	●
GM-3EL-D12.0		12	12	35	100	3	B	●
GM-3EL-D14.0		14	14	40	100	3	B	●
GM-3EL-D16.0		16	16	50	150	3	B	●
GM-3EL-D20.0		20	20	55	150	3	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

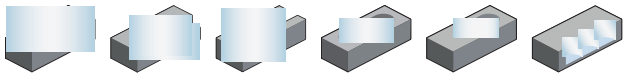
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

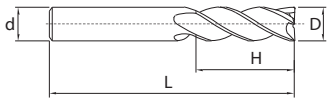
End mill Semi-finishing

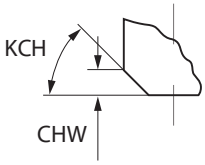
5501R303GM



– Type of shank DIN 6535HA
– Centre cutting
– Helix angle 30°







Article	✻	Dimensions [mm]						Teeth	Grade	
		D	d (h6)	H	L	KCH	CHW		KMG303	YK30F
5501R303GM-0300		3	6	4	50	0	0	3	●	○
5501R303GM-0400		4	6	5	54	0	0	3	●	○
5501R303GM-0500		5	6	6	54	0	0	3	●	○
5501R303GM-0600		6	6	7	54	45	0.1	3	●	○
5501R303GM-0800		8	8	9	58	45	0.1	3	●	○
5501R303GM-1000		10	10	11	66	45	0.1	3	●	○
5501R303GM-1200		12	12	12	73	45	0.1	3	●	○
5501R303GM-1400		14	14	14	75	45	0.15	3	●	○
5501R303GM-1600		16	16	16	82	45	0.15	3	●	○
5501R303GM-1800		18	18	18	84	45	0.15	3	●	○
5501R303GM-2000		20	20	20	92	45	0.15	3	●	○

● Ex stock ○ On demand
✻ With internal cooling

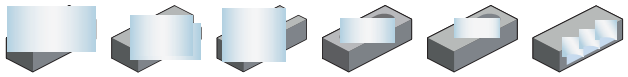
Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

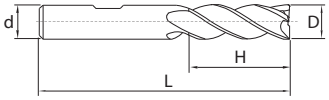
End mill Semi-finishing

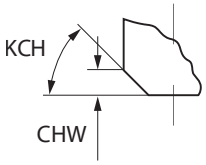


5601R303GM

– Type of shank: DIN 6535HB
– Centre cutting
– Helix angle 30°







Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	H	L	KCH	CHW		KMG303
5601R303GM-0300		3	6	4	50	0	0	3	●
5601R303GM-0400		4	6	5	54	0	0	3	●
5601R303GM-0500		5	6	6	54	0	0	3	●
5601R303GM-0600		6	6	7	54	45	0.1	3	●
5601R303GM-0800		8	8	9	58	45	0.1	3	●
5601R303GM-1000		10	10	11	66	45	0.1	3	●
5601R303GM-1200		12	12	12	73	45	0.1	3	●
5601R303GM-1400		14	14	14	75	45	0.15	3	●
5601R303GM-1600		16	16	16	82	45	0.15	3	●
5601R303GM-1800		18	18	18	84	45	0.15	3	●
5601R303GM-2000		20	20	20	92	45	0.15	3	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

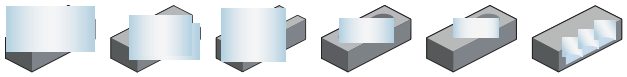
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

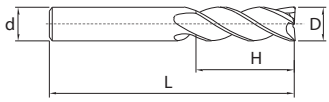
End mill long cutting edge — Semi-finishing

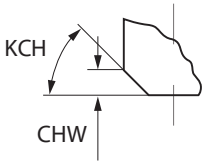
5502R303GM



– Type of shank DIN 6535HA
– Centre cutting
– Helix angle 30°







Article	✻	Dimensions [mm]						Teeth	Grade	
		D	d (h6)	H	L	KCH	CHW		KMG303	YK30F
5502R303GM-0300		3	6	7	57	0	0	3	●	○
5502R303GM-0400		4	6	8	57	0	0	3	●	○
5502R303GM-0500		5	6	10	57	0	0	3	●	○
5502R303GM-0600		6	6	10	57	45	0.1	3	●	○
5502R303GM-0800		8	8	16	63	45	0.1	3	●	○
5502R303GM-1000		10	10	19	72	45	0.1	3	●	○
5502R303GM-1200		12	12	22	83	45	0.1	3	●	○
5502R303GM-1300		13	14	22	83	45	0.1	3	○	
5502R303GM-1400		14	14	22	83	45	0.15	3	●	○
5502R303GM-1600		16	16	26	92	45	0.15	3	●	○
5502R303GM-1800		18	18	26	92	45	0.15	3	●	○
5502R303GM-2000		20	20	32	104	45	0.15	3	●	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

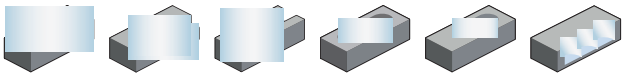
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

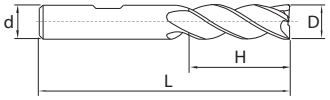
End mill long cutting edge — Semi-finishing

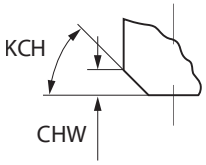
5602R303GM



– Type of shank: DIN 6535HB
– Centre cutting
– Helix angle 30°







Article	✲	Dimensions [mm]						Teeth	Grade
		D	d (h6)	H	L	KCH	CHW		KMG303
5602R303GM-0300		3	6	7	57	0	0	3	●
5602R303GM-0400		4	6	8	57	0	0	3	●
5602R303GM-0500		5	6	10	57	0	0	3	●
5602R303GM-0600		6	6	10	57	45	0.1	3	●
5602R303GM-0800		8	8	16	63	45	0.1	3	●
5602R303GM-1000		10	10	19	72	45	0.1	3	●
5602R303GM-1200		12	12	22	83	45	0.1	3	●
5602R303GM-1400		14	14	22	83	45	0.15	3	●
5602R303GM-1600		16	16	26	92	45	0.15	3	●
5602R303GM-1800		18	18	26	92	45	0.15	3	●
5602R303GM-2000		20	20	32	104	45	0.15	3	●

● Ex stock ○ On demand

✲ With internal cooling

Application field

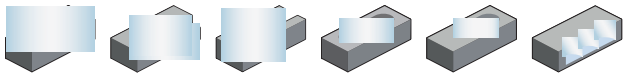
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

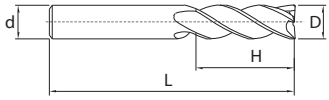
End mill long cutting edge — Semi-finishing

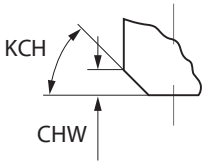
5502R453GM



– Type of shank DIN 6535HA
– Centre cutting
– Helix angle 45°







Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	H	L	KCH	CHW		KMG405
5502R453GM-0300		3	6	7	57	0	0	3	●
5502R453GM-0400		4	6	8	57	0	0	3	●
5502R453GM-0500		5	6	10	57	0	0	3	●
5502R453GM-0600		6	6	10	57	45	0.1	3	●
5502R453GM-0800		8	8	16	63	45	0.1	3	●
5502R453GM-1000		10	10	19	72	45	0.1	3	●
5502R453GM-1200		12	12	22	83	45	0.1	3	●
5502R453GM-1400		14	14	22	83	45	0.15	3	●
5502R453GM-1600		16	16	26	92	45	0.15	3	●
5502R453GM-1800		18	18	26	92	45	0.15	3	●
5502R453GM-2000		20	20	32	104	45	0.15	3	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

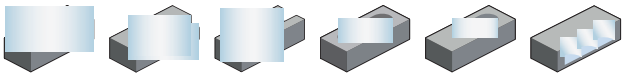
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

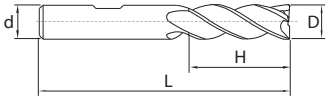
End mill long cutting edge Semi-finishing

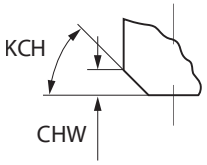
5602R453GM



– Type of shank: DIN 6535HB
– Centre cutting
– Helix angle 45°







Article	✲	Dimensions [mm]						Teeth	Grade	
		D	d (h6)	H	L	KCH	CHW		KMG303	KMG405
5602R453GM-0300		3	6	7	57	0	0	3	○	●
5602R453GM-0400		4	6	8	57	0	0	3	○	●
5602R453GM-0500		5	6	10	57	0	0	3	○	●
5602R453GM-0600		6	6	10	57	45	0.1	3	○	●
5602R453GM-0800		8	8	16	63	45	0.1	3	○	●
5602R453GM-1000		10	10	19	72	45	0.1	3	○	●
5602R453GM-1200		12	12	22	83	45	0.1	3	○	●
5602R453GM-1400		14	14	22	83	45	0.15	3	○	●
5602R453GM-1600		16	16	26	92	45	0.15	3	○	●
5602R453GM-1800		18	18	26	92	45	0.15	3	○	●
5602R453GM-2000		20	20	32	104	45	0.15	3	○	●

● Ex stock ○ On demand

✲ With internal cooling

Application field

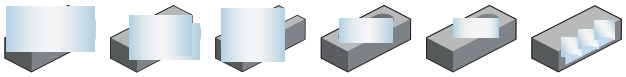
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

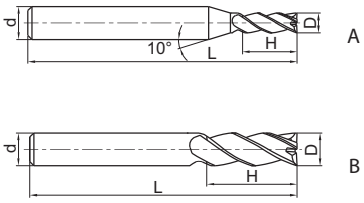
End mill Semi-finishing

GM-4F-G



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMG303
GM-4F-D2.0S-G		2	4	6	50	4	A	○
GM-4F-D2.5S-G		2.5	4	8	50	4	A	○
GM-4F-D4.0S-G		4	4	11	50	4	B	○
GM-4F-D1.0-G		1	6	3	50	4	A	○
GM-4F-D1.5-G		1.5	6	4	50	4	A	○
GM-4F-D2.0-G		2	6	6	50	4	A	○
GM-4F-D2.5-G		2.5	6	8	50	4	A	○
GM-4F-D3.0-G		3	6	8	50	4	A	○
GM-4F-D3.5-G		3.5	6	10	50	4	A	○
GM-4F-D4.0-G		4	6	11	50	4	A	○
GM-4F-D4.5-G		4.5	6	11	50	4	A	○
GM-4F-D5.0-G		5	6	13	50	4	A	○
GM-4F-D5.5-G		5.5	6	16	50	4	A	○
GM-4F-D6.0-G		6	6	16	50	4	B	○
GM-4F-D7.0-G		7	8	20	60	4	A	○
GM-4F-D8.0-G		8	8	20	60	4	B	○
GM-4F-D9.0-G		9	10	22	75	4	A	○
GM-4F-D10.0-G		10	10	25	75	4	B	○
GM-4F-D11.0-G		11	12	26	75	4	A	○
GM-4F-D12.0-G		12	12	30	75	4	B	○
GM-4F-D14.0-G		14	14	32	75	4	B	○
GM-4F-D16.0-G		16	16	45	100	4	B	○
GM-4F-D18.0-G		18	18	45	100	4	B	○
GM-4F-D20.0-G		20	20	45	100	4	B	○

● Ex stock ○ On demand
✲ With internal cooling

Application field

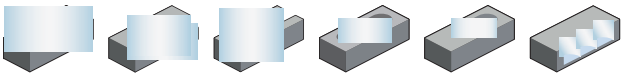
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

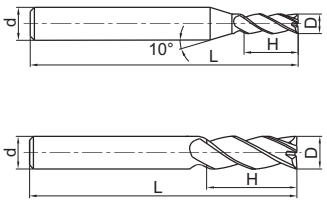
End mill long cutting edge Semi-finishing

GM-4EL-G



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG303
GM-4EL-D3.0-G		3	6	12	75	4	A	○
GM-4EL-D4.0-G		4	6	15	75	4	A	○
GM-4EL-D5.0-G		5	6	20	75	4	A	○
GM-4EL-D6.0-G		6	6	20	75	4	B	○
GM-4EL-D8.0-G		8	8	25	100	4	B	○
GM-4EL-D10.0-G		10	10	30	100	4	B	○
GM-4EL-D12.0-G		12	12	35	100	4	B	○
GM-4EL-D14.0-G		14	14	40	100	4	B	○
GM-4EL-D16.0-G		16	16	50	150	4	B	○
GM-4EL-D20.0-G		20	20	55	150	4	B	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

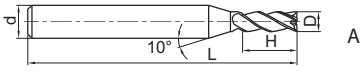
End mill long cutting edge Semi-finishing



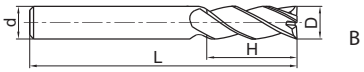
GM-4FL-G

– Factory standard
– Centre cutting
– Helix angle 30°





A



B

Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG303
GM-4FL-D3.0-G		3	6	12	75	4	A	○
GM-4FL-D4.0-G		4	6	15	75	4	A	○
GM-4FL-D5.0-G		5	6	20	75	4	A	●
GM-4FL-D6.0-G		6	6	20	75	4	B	●
GM-4FL-D8.0-G		8	8	25	100	4	B	●
GM-4FL-D10.0-G		10	10	30	100	4	B	●
GM-4FL-D12.0-G		12	12	35	100	4	B	●
GM-4FL-D14.0-G		14	14	40	100	4	B	○
GM-4FL-D16.0-G		16	16	50	150	4	B	○

● Ex stock ○ On demand

✲ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

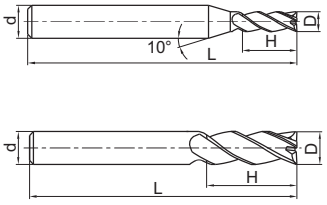
End mill extra long cutting edge **Semi-finishing**

GM-4EX-G



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG303
GM-4EX-D3.0-G		3	6	20	75	4	A	●
GM-4EX-D4.0-G		4	6	25	75	4	A	●
GM-4EX-D5.0-G		5	6	30	75	4	A	●
GM-4EX-D6.0-G		6	6	30	75	4	B	●
GM-4EX-D8.0-G		8	8	40	100	4	B	●
GM-4EX-D10.0-G		10	10	50	110	4	B	●
GM-4EX-D12.0-G		12	12	50	110	4	B	●
GM-4EX-D16.0-G		16	16	70	150	4	B	●
GM-4EX-D20.0-G		20	20	75	150	4	B	●

● Ex stock ○ On demand

✲ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			

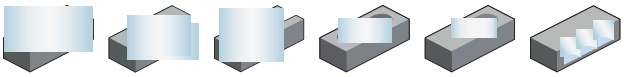
✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

Solid carbide milling GM series

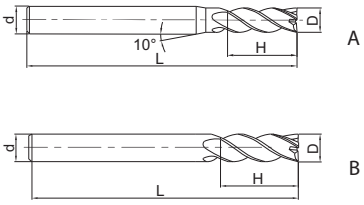
End mill Semi-finishing

GM-4E



– Factory standard
– Centre cutting
– Helix angle 45°





Article	✻	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG303
GM-4E-D1.0S		1	4	3	50	4	A	●
GM-4E-D1.5S		1.5	4	4	50	4	A	●
GM-4E-D2.0S		2	4	6	50	4	A	●
GM-4E-D2.5S		2.5	4	8	50	4	A	●
GM-4E-D3.0S		3	4	8	50	4	A	●
GM-4E-D4.0S		4	4	11	50	4	B	●
GM-4E-D1.0		1	6	3	50	4	A	●
GM-4E-D1.5		1.5	6	4	50	4	A	●
GM-4E-D2.0		2	6	6	50	4	A	●
GM-4E-D2.5		2.5	6	8	50	4	A	●
GM-4E-D3.0		3	6	8	50	4	A	●
GM-4E-D3.5		3.5	6	10	50	4	A	●
GM-4E-D4.0		4	6	11	50	4	A	●
GM-4E-D4.5		4.5	6	11	50	4	A	●
GM-4E-D5.0		5	6	13	50	4	A	●
GM-4E-D5.5		5.5	6	16	50	4	A	●
GM-4E-D6.0		6	6	16	50	4	B	●
GM-4E-D7.0		7	8	20	60	4	A	●
GM-4E-D8.0		8	8	20	60	4	B	●
GM-4E-D9.0		9	10	22	75	4	A	●
GM-4E-D10.0		10	10	25	75	4	B	●
GM-4E-D11.0		11	12	26	75	4	A	●
GM-4E-D12.0		12	12	30	75	4	B	●
GM-4E-D14.0		14	14	32	75	4	B	●
GM-4E-D16.0		16	16	45	100	4	B	●
GM-4E-D18.0		18	18	45	100	4	B	●
GM-4E-D20.0		20	20	45	100	4	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

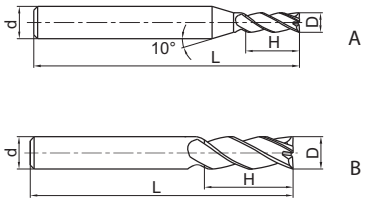
End mill Semi-finishing

GM-4E-G



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG303
GM-4E-D1.0S-G		1	4	3	50	4	A	●
GM-4E-D1.5S-G		1.5	4	4	50	4	A	●
GM-4E-D2.0S-G		2	4	6	50	4	A	●
GM-4E-D2.5S-G		2.5	4	8	50	4	A	●
GM-4E-D3.0S-G		3	4	8	50	4	A	●
GM-4E-D4.0S-G		4	4	11	50	4	B	●
GM-4E-D1.0-G		1	6	3	50	4	A	●
GM-4E-D1.5-G		1.5	6	4	50	4	A	●
GM-4E-D2.0-G		2	6	6	50	4	A	●
GM-4E-D2.5-G		2.5	6	8	50	4	A	●
GM-4E-D3.0-G		3	6	8	50	4	A	●
GM-4E-D3.5-G		3.5	6	10	50	4	A	●
GM-4E-D4.0-G		4	6	11	50	4	A	●
GM-4E-D4.5-G		4.5	6	11	50	4	A	○
GM-4E-D5.0-G		5	6	13	50	4	A	●
GM-4E-D5.5-G		5.5	6	16	50	4	A	●
GM-4E-D6.0-G		6	6	16	50	4	B	●
GM-4E-D7.0-G		7	8	20	60	4	A	●
GM-4E-D8.0-G		8	8	20	60	4	B	●
GM-4E-D9.0-G		9	10	22	75	4	A	●
GM-4E-D10.0-G		10	10	25	75	4	B	●
GM-4E-D11.0-G		11	12	26	75	4	A	●
GM-4E-D12.0-G		12	12	30	75	4	B	●
GM-4E-D14.0-G		14	14	32	75	4	B	●
GM-4E-D16.0-G		16	16	45	100	4	B	●
GM-4E-D18.0-G		18	18	45	100	4	B	●
GM-4E-D20.0-G		20	20	45	100	4	B	●

● Ex stock ○ On demand

✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

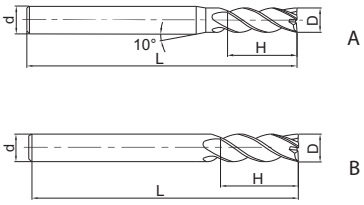
End mill long cutting edge Semi-finishing

GM-4EL



– Factory standard
– Centre cutting
– Helix angle 45°





Article	✲	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMG303
GM-4EL-D3.0		3	6	12	75	4	A	●
GM-4EL-D4.0		4	6	15	75	4	A	●
GM-4EL-D5.0		5	6	20	75	4	A	●
GM-4EL-D6.0		6	6	20	75	4	B	●
GM-4EL-D8.0		8	8	25	100	4	B	●
GM-4EL-D10.0		10	10	30	100	4	B	●
GM-4EL-D12.0		12	12	35	100	4	B	●
GM-4EL-D14.0		14	14	40	100	4	B	●
GM-4EL-D16.0		16	16	50	150	4	B	●
GM-4EL-D20.0		20	20	55	150	4	B	●

● Ex stock ○ On demand
✲ With internal cooling

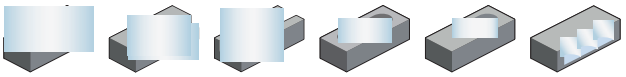
Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

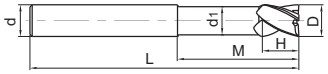
End mill short cutting edge — Semi-finishing



GM-4EFP

– Factory standard
– Centre cutting
– Helix angle 45°





Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	d_1	H	M	L		KMG303
GM-4EFP-D6.0		6	6	5.8	9	30	75	4	○
GM-4EFP-D8.0		8	8	7.8	12	40	100	4	○
GM-4EFP-D10.0		10	10	9.6	15	50	100	4	○
GM-4EFP-D12.0		12	12	11.5	18	50	100	4	○
GM-4EFP-D16.0		16	16	15.5	24	50	150	4	○
GM-4EFP-D20.0		20	20	19.5	30	60	150	4	○

● Ex stock ○ On demand
✻ With internal cooling

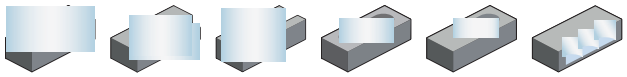
Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

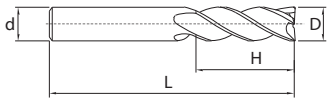
End mill Finishing

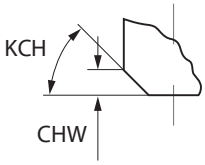


5501R304GF

– Type of shank DIN 6535HA
– Centre cutting
– Helix angle 30°







Article	✻	Dimensions [mm]						Teeth	Grade	
		D	d (h6)	H	L	KCH	CHW		KMG303	YK30F
5501R304GF-0300		3	6	5	50	0	0	4	●	○
5501R304GF-0400		4	6	8	54	0	0	4	●	○
5501R304GF-0500		5	6	9	54	0	0	4	●	○
5501R304GF-0600		6	6	10	54	45	0.1	4	●	○
5501R304GF-0800		8	8	12	58	45	0.1	4	●	○
5501R304GF-1000		10	10	14	66	45	0.1	4	●	○
5501R304GF-1200		12	12	16	73	45	0.1	4	●	○
5501R304GF-1400		14	14	18	75	45	0.15	4	●	○
5501R304GF-1600		16	16	22	82	45	0.15	4	●	○
5501R304GF-1800		18	18	24	84	45	0.15	4	●	○
5501R304GF-2000		20	20	26	92	45	0.15	4	●	○

● Ex stock ○ On demand
✻ With internal cooling

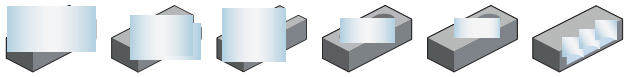
Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

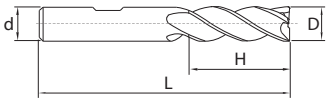
End mill Finishing

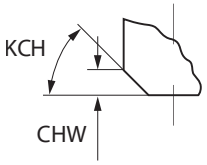


5601R304GF

– Type of shank: DIN 6535HB
– Centre cutting
– Helix angle 30°







Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	H	L	KCH	CHW		KMG303
5601R304GF-0300		3	6	5	50	0	0	4	●
5601R304GF-0400		4	6	8	54	0	0	4	●
5601R304GF-0500		5	6	9	54	0	0	4	●
5601R304GF-0600		6	6	10	54	45	0.1	4	●
5601R304GF-0800		8	8	12	58	45	0.1	4	●
5601R304GF-1000		10	10	14	66	45	0.1	4	●
5601R304GF-1200		12	12	16	73	45	0.1	4	●
5601R304GF-1400		14	14	18	75	45	0.15	4	●
5601R304GF-1600		16	16	22	82	45	0.15	4	●
5601R304GF-1800		18	18	24	84	45	0.15	4	●
5601R304GF-2000		20	20	26	92	45	0.15	4	●

● Ex stock ○ On demand
✻ With internal cooling

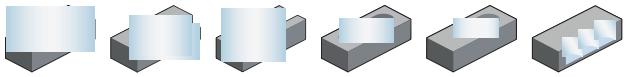
Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

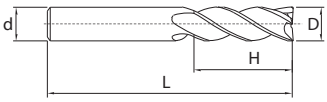
End mill long cutting edge Finishing

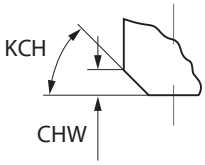


5502R304GF

– Type of shank DIN 6535HA
– Centre cutting
– Helix angle 30°







Article	✻	Dimensions [mm]						Teeth	Grade	
		D	d (h6)	H	L	KCH	CHW		KMG303	YK30F
5502R304GF-0300		3	6	8	57	0	0	4	●	○
5502R304GF-0400		4	6	11	57	0	0	4	●	○
5502R304GF-0500		5	6	13	57	0	0	4	●	○
5502R304GF-0600		6	6	13	57	45	0.1	4	●	○
5502R304GF-0800		8	8	19	63	45	0.1	4	●	○
5502R304GF-1000		10	10	22	72	45	0.1	4	●	○
5502R304GF-1200		12	12	26	83	45	0.1	4	●	○
5502R304GF-1400		14	14	26	83	45	0.15	4	●	○
5502R304GF-1600		16	16	32	92	45	0.15	4	●	○
5502R304GF-1800		18	18	32	92	45	0.15	4	●	○
5502R304GF-2000		20	20	38	104	45	0.15	4	●	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

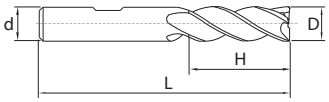
End mill long cutting edge **Finishing**

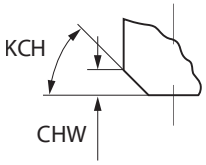


5602R304GF

– Type of shank: DIN 6535HB
– Centre cutting
– Helix angle 30°







Article	✻	Dimensions [mm]						Teeth	Grade	
		D	d (h6)	H	L	KCH	CHW		KMG303	YK30F
5602R304GF-0300		3	6	8	57	0	0	4	●	○
5602R304GF-0400		4	6	11	57	0	0	4	●	○
5602R304GF-0500		5	6	13	57	0	0	4	●	○
5602R304GF-0600		6	6	13	57	45	0.1	4	●	○
5602R304GF-0800		8	8	19	63	45	0.1	4	●	○
5602R304GF-1000		10	10	22	72	45	0.1	4	●	○
5602R304GF-1200		12	12	26	83	45	0.1	4	●	○
5602R304GF-1400		14	14	26	83	45	0.15	4	●	○
5602R304GF-1600		16	16	32	92	45	0.15	4	●	○
5602R304GF-1800		18	18	32	92	45	0.15	4	●	
5602R304GF-2000		20	20	38	104	45	0.15	4	●	

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

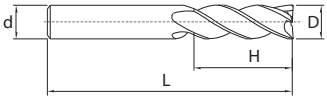
End mill long cutting edge — Semi-finishing

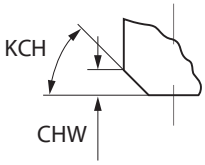
5508R454GM



– Type of shank DIN 6535HA
– Centre cutting
– Helix angle 45°







Article	✻	Dimensions [mm]						Teeth	Grade	
		D	d (h6)	H	L	KCH	CHW		KMG303	YK30F
5508R454GM-0300		3	3	8	45	0	0	4	●	○
5508R454GM-0400		4	4	11	50	0	0	4	●	○
5508R454GM-0500		5	5	13	50	0	0	4	●	○
5508R454GM-0600		6	6	13	57	45	0.1	4	●	○
5508R454GM-0800		8	8	19	63	45	0.1	4	●	○
5508R454GM-1000		10	10	22	72	45	0.1	4	●	○
5508R454GM-1200		12	12	26	83	45	0.1	4	●	○
5508R454GM-1400		14	14	26	83	45	0.15	4	●	○
5508R454GM-1500		15	16	32	92	0	0	4	○	
5508R454GM-1600		16	16	32	92	45	0.15	4	●	○
5508R454GM-1800		18	18	32	92	45	0.15	4	●	○
5508R454GM-2000		20	20	38	104	45	0.15	4	●	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

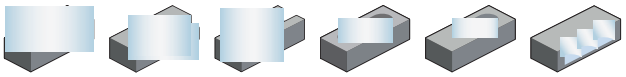
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 | Cutting data B492 | Nonstandard order B541

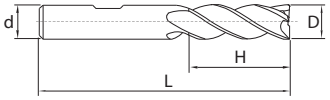
End mill long cutting edge — Semi-finishing

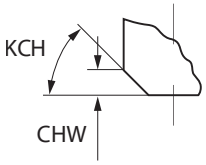
5602R454GM



– Type of shank: DIN 6535HB
– Centre cutting
– Helix angle 45°







Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	H	L	KCH	CHW		KMG303
5602R454GM-0300		3	6	8	57	0	0	4	●
5602R454GM-0400		4	6	11	57	0	0	4	●
5602R454GM-0500		5	6	13	57	0	0	4	●
5602R454GM-0600		6	6	13	57	45	0.1	4	●
5602R454GM-0800		8	8	19	63	45	0.1	4	●
5602R454GM-1000		10	10	22	72	45	0.1	4	●
5602R454GM-1200		12	12	26	83	45	0.1	4	●
5602R454GM-1400		14	14	26	83	45	0.15	4	●
5602R454GM-1600		16	16	32	92	45	0.15	4	●
5602R454GM-1800		18	18	32	92	45	0.15	4	●
5602R454GM-2000		20	20	38	104	45	0.15	4	●

● Ex stock ○ On demand

✻ With internal cooling

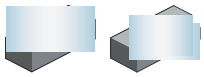
Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

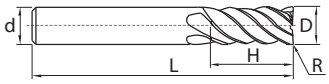
Torus mill long cutting edge Finishing



5589R45MGFR

– Type of shank DIN 6535HA
– Helix angle 45°





Article	✻	Dimensions [mm]					Teeth	Grade
		D	R	d (h6)	H	L		KMG405
5589R45MGFR02-0600		6	0.2	6	19	63	6	●
5589R45MGFR02-0800		8	0.2	8	28	72	6	●
5589R45MGFR02-1000		10	0.2	10	34	84	6	●
5589R45MGFR02-1200		12	0.2	12	40	97	6	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

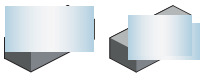
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

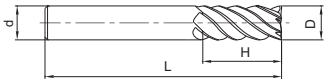
End mill Semi-finishing

GM-6E



– Factory standard
– Non-centre cutting
– Helix angle 45°





Article	✻	Dimensions [mm]				Teeth	Grade
		D	d (h6)	H	L		KMG303
GM-6E-D6.0		6	6	18	60	6	●
GM-6E-D8.0		8	8	20	60	6	●
GM-6E-D10.0		10	10	30	75	6	●
GM-6E-D12.0		12	12	32	75	6	●
GM-6E-D16.0		16	16	40	100	6	●
GM-6E-D20.0		20	20	45	100	6	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

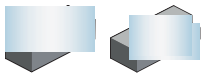
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

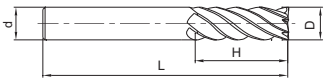
End mill long cutting edge Semi-finishing

GM-6EL



– Factory standard
– Non-centre cutting
– Helix angle 45°





Article	✻	Dimensions [mm] D	d (h6)	H	L	Teeth	Grade KMG303
GM-6EL-D6.0		6	6	24	75	6	●
GM-6EL-D8.0		8	8	32	75	6	●
GM-6EL-D10.0		10	10	40	100	6	●
GM-6EL-D12.0		12	12	45	100	6	●
GM-6EL-D16.0		16	16	64	150	6	●
GM-6EL-D20.0		20	20	75	150	6	●

● Ex stock ○ On demand
✻ With internal cooling

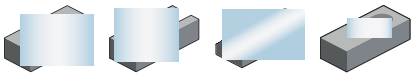
Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

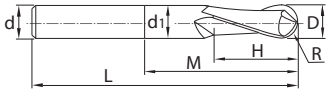
Ball nose cutter **Finishing**



5565R302GF

– Type of shank DIN 6535HA
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm]							Teeth	Grade
		D	R	d (h6)	d_1	H	M	L		KMG303
5565R302GF-0300		3	1.5	6	2.8	4	9	57	2	●
5565R302GF-0400		4	2	6	3.7	5	12	57	2	●
5565R302GF-0500		5	2.5	6	4.6	6	15	57	2	●
5565R302GF-0600		6	3	6	5.5	7	20	57	2	●
5565R302GF-0800		8	4	8	7.4	9	26	63	2	●
5565R302GF-1000		10	5	10	9.2	11	31	72	2	●
5565R302GF-1200		12	6	12	11	12	37	83	2	●
5565R302GF-1600		16	8	16	15	16	43	92	2	●
5565R302GF-2000		20	10	20	19	20	50	104	2	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

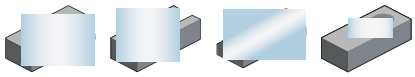
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

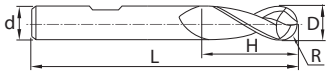
Ball nose cutter Semi-finishing

5665R202GM



– Type of shank: DIN 6535HB
– Centre cutting
– Helix angle 20°





Article	✻	Dimensions [mm]						Teeth	Grade
		D	R	d (h6)	d_1	H	L		KMG303
5665R202GM-0300		3	1.5	6	2.8	4	57	2	●
5665R202GM-0400		4	2	6	3.7	5	57	2	●
5665R202GM-0500		5	2.5	6	4.6	6	57	2	●
5665R202GM-0600		6	3	6	5.5	7	57	2	●
5665R202GM-0800		8	4	8	7.4	9	63	2	●
5665R202GM-1000		10	5	10	9.2	11	72	2	●
5665R202GM-1200		12	6	12	11	12	83	2	●
5665R202GM-1600		16	8	16	15	16	92	2	●
5665R202GM-2000		20	10	20	19	20	104	2	●

● Ex stock ○ On demand
✻ With internal cooling

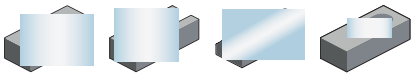
Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

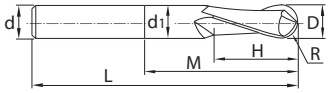
Ball nose cutter long shank Finishing



5566R302GF

– Type of shank DIN 6535HA
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm]							Teeth	Grade
		D	R	d (h6)	d_1	H	M	L		KMG303
5566R302GF-0300		3	1.5	6	2.8	4	15	75	2	●
5566R302GF-0400		4	2	6	3.7	5	20	75	2	●
5566R302GF-0500		5	2.5	6	4.6	6	25	80	2	●
5566R302GF-0600		6	3	6	5.5	7	60	80	2	●
5566R302GF-0800		8	4	8	7.4	9	65	90	2	●
5566R302GF-1000		10	5	10	9.2	11	40	100	2	●
5566R302GF-1200		12	6	12	11	12	50	120	2	●

● Ex stock ○ On demand
✲ With internal cooling

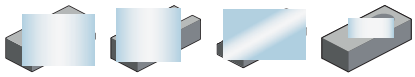
Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

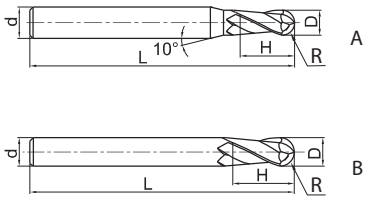
Ball nose cutter Semi-finishing



GM-2B

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade KMG303
GM-2B-R0.5S		0.5	1	4	2	50	2	A	●
GM-2B-R0.75S		0.75	1.5	4	3	50	2	A	●
GM-2B-R1.0S		1	2	4	4	50	2	A	●
GM-2B-R1.25S		1.25	2.5	4	5	50	2	A	●
GM-2B-R1.5S		1.5	3	4	6	50	2	A	●
GM-2B-R2.0S		2	4	4	8	50	2	B	●
GM-2B-R0.5		0.5	1	6	2	50	2	A	○
GM-2B-R0.75		0.75	1.5	6	3	50	2	A	○
GM-2B-R1.0		1	2	6	4	50	2	A	●
GM-2B-R1.25		1.25	2.5	6	5	50	2	A	○
GM-2B-R1.5		1.5	3	6	6	50	2	A	●
GM-2B-R1.75		1.75	3.5	6	8	50	2	A	○
GM-2B-R2.0		2	4	6	8	50	2	A	●
GM-2B-R2.5		2.5	5	6	10	50	2	A	●
GM-2B-R2.75		2.75	5.5	6	12	50	2	A	○
GM-2B-R3.0		3	6	6	12	50	2	B	●
GM-2B-R3.5		3.5	7	8	14	60	2	A	○
GM-2B-R4.0		4	8	8	16	60	2	B	●
GM-2B-R4.5		4.5	9	10	18	75	2	A	○
GM-2B-R5.0		5	10	10	20	75	2	B	●
GM-2B-R6.0		6	12	12	24	75	2	B	●
GM-2B-R7.0		7	14	14	28	75	2	B	●
GM-2B-R8.0		8	16	16	32	100	2	B	●
GM-2B-R10.0		10	20	20	40	100	2	B	●

● Ex stock ○ On demand
✲ With internal cooling

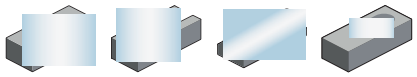
Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

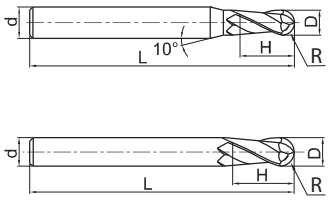
Ball nose cutter long shank Semi-finishing



GM-2BL

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade KMG303
GM-2BL-R1.0		1	2	6	4	75	2	A	●
GM-2BL-R1.25		1.25	2.5	6	5	75	2	A	●
GM-2BL-R1.5		1.5	3	6	6	75	2	A	●
GM-2BL-R1.75		1.75	3.5	6	8	75	2	A	●
GM-2BL-R2.0		2	4	6	8	75	2	A	●
GM-2BL-R2.5		2.5	5	6	10	75	2	A	●
GM-2BL-R2.75		2.75	5.5	6	12	75	2	A	●
GM-2BL-R3.0		3	6	6	12	75	2	B	●
GM-2BL-R3.5		3.5	7	8	14	75	2	A	●
GM-2BL-R4.0		4	8	8	16	100	2	B	●
GM-2BL-R4.5		4.5	9	10	18	100	2	A	●
GM-2BL-R5.0		5	10	10	20	100	2	B	●
GM-2BL-R6.0		6	12	12	24	100	2	B	●
GM-2BL-R7.0		7	14	14	28	100	2	B	●
GM-2BL-R8.0		8	16	16	32	150	2	B	●
GM-2BL-R10.0		10	20	20	40	150	2	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

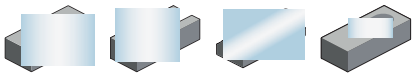
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

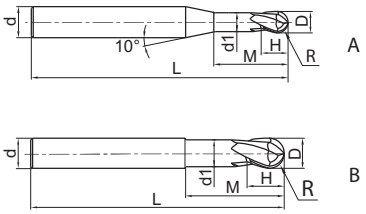
Ball nose cutter short cutting edge Semi-finishing

GM-2BFP



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm]							Teeth	Geometry	Grade
		R	D	d (h6)	d_1	H	M	L			KMG303
GM-2BFP-R0.5		0.5	1	6	0.95	1	2.5	75	2	A	○
GM-2BFP-R0.75		0.75	1.5	6	1.45	1	3	75	2	A	○
GM-2BFP-R1.0		1	2	6	1.95	2	4	75	2	A	●
GM-2BFP-R1.5		1.5	3	6	2.85	3	6	75	2	A	○
GM-2BFP-R2.0		2	4	6	3.85	4	8	75	2	A	○
GM-2BFP-R2.5		2.5	5	6	4.85	5	10	75	2	A	○
GM-2BFP-R3.0		3	6	6	5.8	6	12	75	2	B	○
GM-2BFP-R4.0		4	8	8	7.8	8	16	100	2	B	○
GM-2BFP-R5.0		5	10	10	9.6	10	20	100	2	B	○
GM-2BFP-R6.0		6	12	12	11.5	12	24	100	2	B	○
GM-2BFP-R8.0		8	16	16	15.5	16	32	150	2	B	○
GM-2BFP-R10.0		10	20	20	19.5	20	40	150	2	B	○

● Ex stock ○ On demand
✲ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

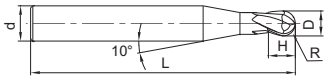
Ball nose cutter Semi-finishing



GM-2BS

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]					Teeth	Grade
		R	D	d (h6)	H	L		KMG303
GM-2BS-R0.15		0.15	0.3	4	0.5	50	2	●
GM-2BS-R0.20		0.2	0.4	4	0.6	50	2	●
GM-2BS-R0.25		0.25	0.5	4	0.8	50	2	●
GM-2BS-R0.30		0.3	0.6	4	0.9	50	2	●
GM-2BS-R0.35		0.35	0.7	4	1	50	2	●
GM-2BS-R0.40		0.4	0.8	4	1.2	50	2	●
GM-2BS-R0.45		0.45	0.9	4	1.3	50	2	●
GM-2BS-R0.50		0.5	1	4	1.5	50	2	●
GM-2BS-R0.60		0.6	1.2	4	1.8	50	2	●
GM-2BS-R0.70		0.7	1.4	4	2	50	2	●
GM-2BS-R0.75		0.75	1.5	4	2.3	50	2	●
GM-2BS-R0.80		0.8	1.6	4	2.5	50	2	●
GM-2BS-R0.90		0.9	1.8	4	2.7	50	2	●
GM-2BS-R1.00		1	2	4	3	50	2	●
GM-2BS-R1.25		1.25	2.5	4	3.7	50	2	●
GM-2BS-R1.50		1.5	3	4	4.5	50	2	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

Solid carbide milling GM series

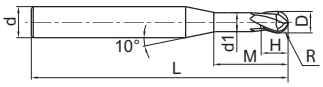
Ball nose cutter Semi-finishing



GM-2BP

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		KMG303
GM-2BP-R0.25-M04		0.25	0.5	4	0.45	0.7	4	50	2	●
GM-2BP-R0.25-M06		0.25	0.5	4	0.45	0.7	6	50	2	●
GM-2BP-R0.3-M04		0.3	0.6	4	0.55	0.9	4	50	2	●
GM-2BP-R0.3-M06		0.3	0.6	4	0.55	0.9	6	50	2	●
GM-2BP-R0.3-M08		0.3	0.6	4	0.55	0.9	8	50	2	●
GM-2BP-R0.4-M04		0.4	0.8	4	0.75	1.2	4	50	2	●
GM-2BP-R0.4-M06		0.4	0.8	4	0.75	1.2	6	50	2	●
GM-2BP-R0.4-M08		0.4	0.8	4	0.75	1.2	8	50	2	●
GM-2BP-R0.4-M10		0.4	0.8	4	0.75	1.2	10	50	2	●
GM-2BP-R0.5-M04		0.5	1	4	0.95	1.5	4	50	2	●
GM-2BP-R0.5-M06		0.5	1	4	0.95	1.5	6	50	2	●
GM-2BP-R0.5-M08		0.5	1	4	0.95	1.5	8	50	2	●
GM-2BP-R0.5-M10		0.5	1	4	0.95	1.5	10	50	2	●
GM-2BP-R0.5-M12		0.5	1	4	0.95	1.5	12	50	2	●
GM-2BP-R0.6-M06		0.6	1.2	4	1.15	1.8	6	50	2	●
GM-2BP-R0.6-M08		0.6	1.2	4	1.15	1.8	8	50	2	●
GM-2BP-R0.6-M12		0.6	1.2	4	1.15	1.8	12	50	2	●
GM-2BP-R0.6-M16		0.6	1.2	4	1.15	1.8	16	50	2	●
GM-2BP-R0.75-M08		0.75	1.5	4	1.45	2.3	8	50	2	●
GM-2BP-R0.75-M12		0.75	1.5	4	1.45	2.3	12	50	2	●
GM-2BP-R0.75-M16		0.75	1.5	4	1.45	2.3	16	50	2	●
GM-2BP-R1.0-M06		1	2	4	1.95	3	6	50	2	●
GM-2BP-R1.0-M08		1	2	4	1.95	3	8	50	2	●
GM-2BP-R1.0-M10		1	2	4	1.95	3	10	50	2	●
GM-2BP-R1.0-M12		1	2	4	1.95	3	12	50	2	●
GM-2BP-R1.0-M16		1	2	4	1.95	3	16	50	2	●
GM-2BP-R1.0-M20		1	2	4	1.95	3	20	50	2	●
GM-2BP-R1.25-M08		1.25	2.5	4	2.4	3.7	8	50	2	●
GM-2BP-R1.25-M12		1.25	2.5	4	2.4	3.7	12	50	2	●
GM-2BP-R1.25-M16		1.25	2.5	4	2.4	3.7	16	60	2	●
GM-2BP-R1.25-M20		1.25	2.5	4	2.4	3.7	20	60	2	●
GM-2BP-R1.5-M08		1.5	3	6	2.85	4.5	8	50	2	●
GM-2BP-R1.5-M10		1.5	3	6	2.85	4.5	10	50	2	●
GM-2BP-R1.5-M12		1.5	3	6	2.85	4.5	12	50	2	●
GM-2BP-R1.5-M16		1.5	3	6	2.85	4.5	16	60	2	●
GM-2BP-R1.5-M20		1.5	3	6	2.85	4.5	20	60	2	●
GM-2BP-R2.0-M10		2	4	6	3.85	6	10	60	2	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

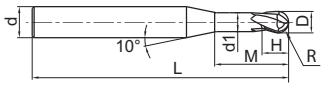
Ball nose cutter Semi-finishing

GM-2BP



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		KMG303
GM-2BP-R2.0-M16		2	4	6	3.85	6	16	60	2	●
GM-2BP-R2.0-M20		2	4	6	3.85	6	20	60	2	●
GM-2BP-R2.0-M25		2	4	6	3.85	6	25	60	2	●
GM-2BP-R2.5-M16		2.5	5	6	4.85	7.5	16	60	2	●
GM-2BP-R2.5-M25		2.5	5	6	4.85	7.5	25	70	2	●

● Ex stock ○ On demand
✲ With internal cooling

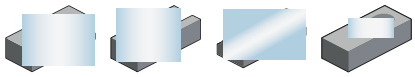
Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

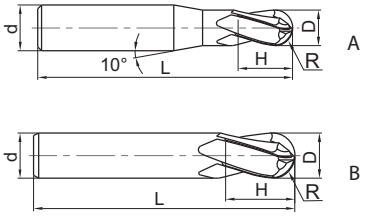
Ball nose cutter Semi-finishing



GM-4B

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade KMG303
GM-4B-R1.5		1.5	3	6	6	50	4	A	●
GM-4B-R2.0		2	4	6	8	50	4	A	●
GM-4B-R2.5		2.5	5	6	10	50	4	A	●
GM-4B-R3.0		3	6	6	12	50	4	B	●
GM-4B-R4.0		4	8	8	16	60	4	B	●
GM-4B-R5.0		5	10	10	20	75	4	B	●
GM-4B-R6.0		6	12	12	24	75	4	B	●
GM-4B-R7.0		7	14	14	28	75	4	B	●
GM-4B-R8.0		8	16	16	32	100	4	B	●
GM-4B-R9.0		9	18	18	36	100	4	B	●
GM-4B-R10.0		10	20	20	40	100	4	B	●

● Ex stock ○ On demand
✲ With internal cooling

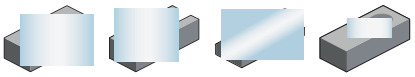
Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

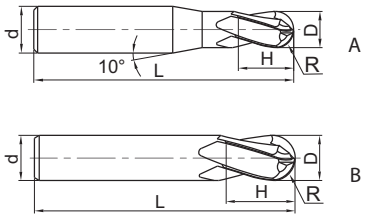
Ball nose cutter long shank Semi-finishing



GM-4BL

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade KMG303
GM-4BL-R1.5		1.5	3	6	6	75	4	A	○
GM-4BL-R2.0		2	4	6	8	75	4	A	○
GM-4BL-R2.5		2.5	5	6	10	75	4	A	○
GM-4BL-R3.0		3	6	6	12	75	4	B	○
GM-4BL-R4.0		4	8	8	16	100	4	B	○
GM-4BL-R5.0		5	10	10	20	100	4	B	○
GM-4BL-R6.0		6	12	12	24	100	4	B	○
GM-4BL-R7.0		7	14	14	28	100	4	B	○
GM-4BL-R8.0		8	16	16	32	150	4	B	○
GM-4BL-R10.0		10	20	20	40	150	4	B	○

● Ex stock ○ On demand
✲ With internal cooling

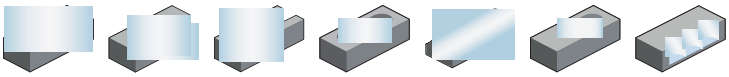
Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

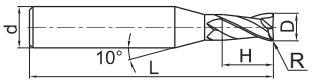
Torus mill Semi-finishing



GM-2R

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]					Teeth	Grade
		R	D	d (h6)	H	L		KMG303
GM-2R-D1.0R0.2		0.2	1	4	3	50	2	○
GM-2R-D1.5R0.2		0.2	1.5	4	4	50	2	○
GM-2R-D2.0R0.2		0.2	2	4	6	50	2	○
GM-2R-D2.0R0.5		0.5	2	4	6	50	2	○
GM-2R-D2.5R0.2		0.2	2.5	4	8	50	2	○
GM-2R-D2.5R0.5		0.5	2.5	4	8	50	2	○
GM-2R-D3.0R0.2		0.2	3	4	8	50	2	○
GM-2R-D3.0R0.3		0.3	3	4	8	50	2	○
GM-2R-D3.0R0.5		0.5	3	4	8	50	2	○
GM-2R-D4.0R0.2		0.2	4	4	11	50	2	○
GM-2R-D4.0R0.3		0.3	4	4	11	50	2	○
GM-2R-D4.0R0.5		0.5	4	4	11	50	2	○
GM-2R-D4.0R1.0		1	4	4	11	50	2	○
GM-2R-D5.0R0.3		0.3	5	6	13	50	2	○
GM-2R-D5.0R0.5		0.5	5	6	13	50	2	○
GM-2R-D5.0R1.0		1	5	6	13	50	2	○
GM-2R-D6.0R0.3		0.3	6	6	16	50	2	○
GM-2R-D6.0R0.5		0.5	6	6	16	50	2	○
GM-2R-D6.0R1.0		1	6	6	16	50	2	○
GM-2R-D8.0R0.3		0.3	8	8	20	60	2	○
GM-2R-D8.0R0.5		0.5	8	8	20	60	2	○
GM-2R-D8.0R1.0		1	8	8	20	60	2	○
GM-2R-D10.0R0.5		0.5	10	10	25	75	2	○
GM-2R-D10.0R1.0		1	10	10	25	75	2	○
GM-2R-D10.0R1.5		1.5	10	10	25	75	2	●
GM-2R-D10.0R2.0		2	10	10	25	75	2	○
GM-2R-D12.0R0.5		0.5	12	12	30	75	2	○
GM-2R-D12.0R1.0		1	12	12	30	75	2	○
GM-2R-D12.0R1.5		1.5	12	12	30	75	2	○
GM-2R-D12.0R2.0		2	12	12	30	75	2	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

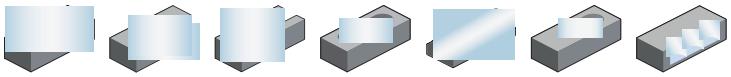
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

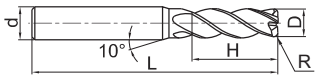
Torus mill Semi-finishing

GM-4R

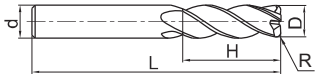


– Factory standard
– Centre cutting
– Helix angle 35°





A



B

Article	✻	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade KMG303
GM-4R-D3.0R0.2		0.2	3	4	8	50	4	A	●
GM-4R-D4.0R0.3		0.3	4	4	10	50	4	B	○
GM-4R-D4.0R0.5		0.5	4	4	10	50	4	B	●
GM-4R-D5.0R0.5		0.5	5	6	13	50	4	A	●
GM-4R-D5.0R1.0		1	5	6	13	50	4	A	●
GM-4R-D6.0R0.5		0.5	6	6	16	50	4	B	●
GM-4R-D6.0R1.0		1	6	6	16	50	4	B	●
GM-4R-D8.0R0.5		0.5	8	8	20	60	4	B	●
GM-4R-D8.0R1.0		1	8	8	20	60	4	B	●
GM-4R-D10.0R0.5		0.5	10	10	25	75	4	B	●
GM-4R-D10.0R1.0		1	10	10	25	75	4	B	●
GM-4R-D10.0R2.0		2	10	10	25	75	4	B	●
GM-4R-D10.0R3.0		3	10	10	25	75	4	B	●
GM-4R-D12.0R0.5		0.5	12	12	30	75	4	B	●
GM-4R-D12.0R1.0		1	12	12	30	75	4	B	●
GM-4R-D12.0R2.0		2	12	12	30	75	4	B	●
GM-4R-D12.0R3.0		3	12	12	30	75	4	B	●

● Ex stock ○ On demand
✻ With internal cooling

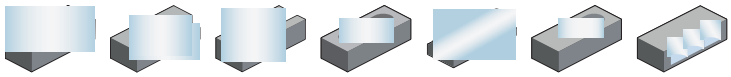
Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

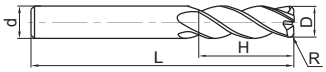
Torus mill long shank Semi-finishing



GM-4RL

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Grade KMG303
GM-4RL-D6.0R0.5		0.5	6	6	16	75	4	●
GM-4RL-D6.0R1.0		1	6	6	16	75	4	●
GM-4RL-D8.0R0.5		0.5	8	8	20	100	4	●
GM-4RL-D8.0R1.0		1	8	8	20	100	4	●
GM-4RL-D10.0R0.5		0.5	10	10	25	100	4	●
GM-4RL-D10.0R1.0		1	10	10	25	100	4	●
GM-4RL-D10.0R2.0		2	10	10	25	100	4	●
GM-4RL-D12.0R0.5		0.5	12	12	30	100	4	○
GM-4RL-D12.0R1.0		1	12	12	30	100	4	●
GM-4RL-D12.0R2.0		2	12	12	30	100	4	●
GM-4RL-D16.0R1.0		1	16	16	45	150	4	●
GM-4RL-D16.0R2.0		2	16	16	45	150	4	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

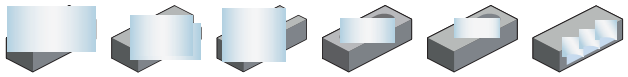
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

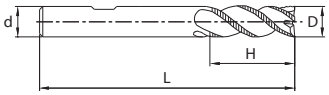
End mill long cutting edge | General roughing

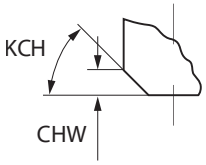
5602R303GR



– Type of shank: DIN 6535HB
– Centre cutting
– Helix angle 30°







Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	H	L	KCH	CHW		KMG303
5602R303GR-0600		6	6	13	57	45	0.25	3	●
5602R303GR-0800		8	8	19	63	45	0.25	3	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

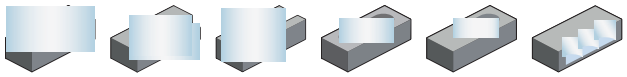
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 | Cutting data B492 | Nonstandard order B541

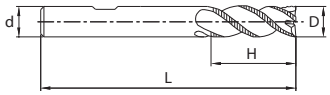
End mill long cutting edge | General roughing

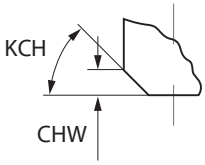
5602R304GR



– Type of shank: DIN 6535HB
– Centre cutting
– Helix angle 30°







Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	H	L	KCH	CHW		KMG303
5602R304GR-1000		10	10	22	72	45	0.5	4	●
5602R304GR-1200		12	12	26	83	45	0.5	4	●
5602R304GR-1400		14	14	30	90	45	0.5	4	○
5602R304GR-1600		16	16	32	92	45	0.5	4	●
5602R304GR-2000		20	20	38	104	45	0.5	4	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

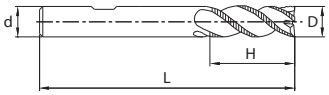
End mill long cutting edge | General roughing

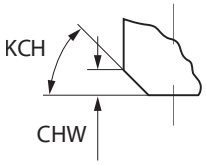
5602R305GR



– Type of shank: DIN 6535HB
– Centre cutting
– Helix angle 30°







Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	H	L	KCH	CHW		KMG303
5602R305GR-2500		25	25	45	121	45	0.5	5	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

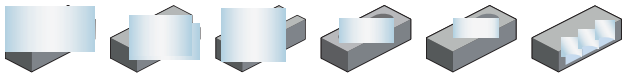
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code B278 | Cutting data B492 | Nonstandard order B541

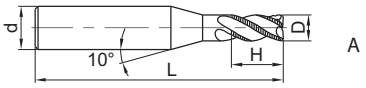
End mill serrated teeth Semi-finishing

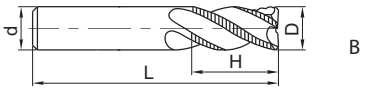
GM-4W



– Factory standard
– Centre cutting
– Helix angle 30°







Article	✻	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG405
GM-4W-D6.0		6	6	16	50	4	B	●
GM-4W-D7.0		7	8	20	60	4	A	●
GM-4W-D8.0		8	8	20	60	4	B	●
GM-4W-D9.0		9	10	22	75	4	A	●
GM-4W-D10.0		10	10	25	75	4	B	●
GM-4W-D11.0		11	12	26	75	4	A	●
GM-4W-D12.0		12	12	30	75	4	B	●
GM-4W-D16.0		16	16	45	100	4	B	●
GM-4W-D20.0		20	20	45	100	4	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

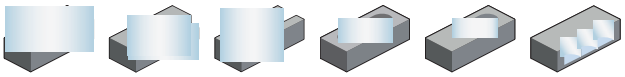
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

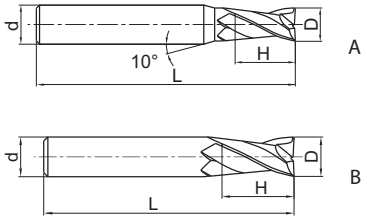
End mill High-performance machining

PM-2E



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMG405
PM-2E-D1.0S		1	4	3	50	2	A	●
PM-2E-D1.5S		1.5	4	4	50	2	A	●
PM-2E-D2.0S		2	4	6	50	2	A	●
PM-2E-D2.5S		2.5	4	8	50	2	A	●
PM-2E-D3.0S		3	4	8	50	2	A	●
PM-2E-D4.0S		4	4	11	50	2	B	●
PM-2E-D1.0		1	6	3	50	2	A	●
PM-2E-D1.5		1.5	6	4	50	2	A	●
PM-2E-D2.0		2	6	6	50	2	A	●
PM-2E-D2.5		2.5	6	8	50	2	A	●
PM-2E-D3.0		3	6	8	50	2	A	●
PM-2E-D3.5		3.5	6	10	50	2	A	●
PM-2E-D4.0		4	6	11	50	2	A	●
PM-2E-D4.5		4.5	6	11	50	2	A	●
PM-2E-D5.0		5	6	13	50	2	A	●
PM-2E-D5.5		5.5	6	16	50	2	A	●
PM-2E-D6.0		6	6	16	50	2	B	●
PM-2E-D7.0		7	8	20	60	2	A	●
PM-2E-D8.0		8	8	20	60	2	B	●
PM-2E-D9.0		9	10	22	75	2	A	●
PM-2E-D10.0		10	10	25	75	2	B	●
PM-2E-D11.0		11	12	26	75	2	A	○
PM-2E-D12.0		12	12	30	75	2	B	●
PM-2E-D14.0		14	14	32	75	2	B	●
PM-2E-D16.0		16	16	45	100	2	B	●
PM-2E-D18.0		18	18	45	100	2	B	○
PM-2E-D20.0		20	20	45	100	2	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

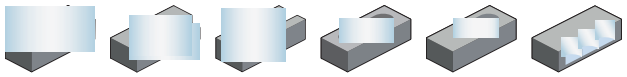
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

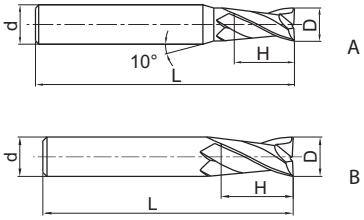
End mill long cutting edge | High-performance machining

PM-2EL



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG405
PM-2EL-D3.0		3	6	12	75	2	A	●
PM-2EL-D4.0		4	6	15	75	2	A	●
PM-2EL-D5.0		5	6	20	75	2	A	●
PM-2EL-D6.0		6	6	20	75	2	B	●
PM-2EL-D8.0		8	8	25	100	2	B	●
PM-2EL-D10.0		10	10	30	100	2	B	●
PM-2EL-D12.0		12	12	35	100	2	B	●
PM-2EL-D14.0		14	14	40	100	2	B	○
PM-2EL-D16.0		16	16	50	150	2	B	●
PM-2EL-D20.0		20	20	55	150	2	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

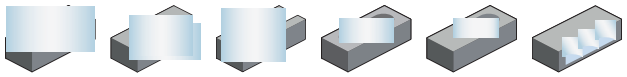
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

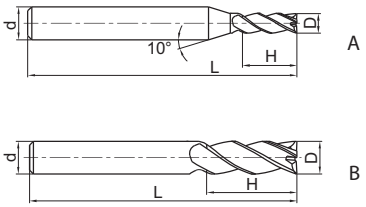
End mill High-performance machining

PM-4E-G



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG405
PM-4E-D1.0S-G		1	4	3	50	4	A	●
PM-4E-D1.5S-G		1.5	4	4	50	4	A	●
PM-4E-D2.0S-G		2	4	6	50	4	A	●
PM-4E-D2.5S-G		2.5	4	8	50	4	A	●
PM-4E-D3.0S-G		3	4	8	50	4	A	●
PM-4E-D4.0S-G		4	4	11	50	4	B	●
PM-4E-D1.0-G		1	6	3	50	4	A	●
PM-4E-D1.5-G		1.5	6	4	50	4	A	●
PM-4E-D2.0-G		2	6	6	50	4	A	●
PM-4E-D2.5-G		2.5	6	8	50	4	A	●
PM-4E-D3.0-G		3	6	8	50	4	A	●
PM-4E-D3.5-G		3.5	6	10	50	4	A	●
PM-4E-D4.0-G		4	6	11	50	4	A	●
PM-4E-D4.5-G		4.5	6	11	50	4	A	●
PM-4E-D5.0-G		5	6	13	50	4	A	●
PM-4E-D5.5-G		5.5	6	16	50	4	A	●
PM-4E-D6.0-G		6	6	16	50	4	B	●
PM-4E-D7.0-G		7	8	20	60	4	A	●
PM-4E-D8.0-G		8	8	20	60	4	B	●
PM-4E-D9.0-G		9	10	22	75	4	A	●
PM-4E-D10.0-G		10	10	25	75	4	B	●
PM-4E-D11.0-G		11	12	26	75	4	A	●
PM-4E-D12.0-G		12	12	30	75	4	B	●
PM-4E-D14.0-G		14	14	32	75	4	B	●
PM-4E-D16.0-G		16	16	45	100	4	B	●
PM-4E-D18.0-G		18	18	45	100	4	B	●
PM-4E-D20.0-G		20	20	45	100	4	B	●

● Ex stock ○ On demand
✻ With internal cooling

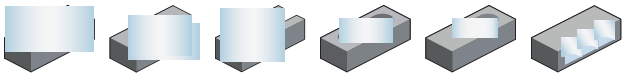
Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

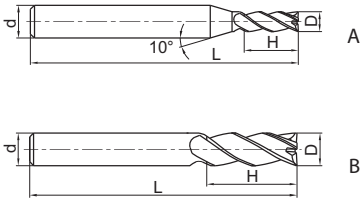
End mill long cutting edge | High-performance machining



PM-4EL-G

– Factory standard
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG405
PM-4EL-D3.0-G		3	6	12	75	4	A	○
PM-4EL-D4.0-G		4	6	15	75	4	A	○
PM-4EL-D5.0-G		5	6	20	75	4	A	○
PM-4EL-D6.0-G		6	6	20	75	4	B	○
PM-4EL-D8.0-G		8	8	25	100	4	B	○
PM-4EL-D10.0-G		10	10	30	100	4	B	○
PM-4EL-D12.0-G		12	12	35	100	4	B	○
PM-4EL-D14.0-G		14	14	40	100	4	B	○
PM-4EL-D16.0-G		16	16	50	150	4	B	○
PM-4EL-D20.0-G		20	20	55	150	4	B	○

● Ex stock ○ On demand
✲ With internal cooling

Application field

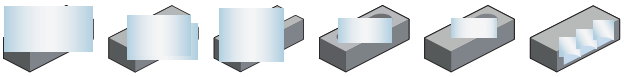
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

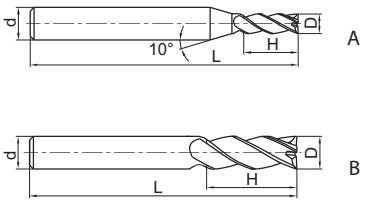
End mill extra long cutting edge | High-performance machining

PM-4EX-G



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG405
PM-4EX-D3.0-G		3	6	20	75	4	A	●
PM-4EX-D4.0-G		4	6	25	75	4	A	●
PM-4EX-D5.0-G		5	6	30	75	4	A	●
PM-4EX-D6.0-G		6	6	30	75	4	B	●
PM-4EX-D8.0-G		8	8	40	100	4	B	●
PM-4EX-D10.0-G		10	10	50	110	4	B	●
PM-4EX-D12.0-G		12	12	50	110	4	B	●
PM-4EX-D16.0-G		16	16	70	150	4	B	●
PM-4EX-D20.0-G		20	20	75	150	4	B	●

● Ex stock ○ On demand

✲ With internal cooling

Application field

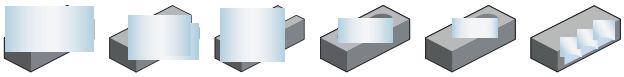
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 | Cutting data B492 | Nonstandard order B541

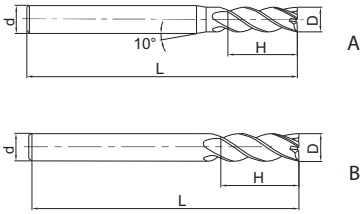
End mill High-performance machining

PM-4E



– Factory standard
– Centre cutting
– Helix angle 45°





Article	✻	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMG405
PM-4E-D1.0S		1	4	3	50	4	A	●
PM-4E-D1.5S		1.5	4	4	50	4	A	●
PM-4E-D2.0S		2	4	6	50	4	A	●
PM-4E-D2.5S		2.5	4	8	50	4	A	●
PM-4E-D3.0S		3	4	8	50	4	A	●
PM-4E-D4.0S		4	4	11	50	4	B	●
PM-4E-D1.0		1	6	3	50	4	A	●
PM-4E-D1.5		1.5	6	4	50	4	A	●
PM-4E-D2.0		2	6	6	50	4	A	●
PM-4E-D2.5		2.5	6	8	50	4	A	●
PM-4E-D3.0		3	6	8	50	4	A	●
PM-4E-D3.5		3.5	6	10	50	4	A	●
PM-4E-D4.0		4	6	11	50	4	A	●
PM-4E-D4.5		4.5	6	11	50	4	A	●
PM-4E-D5.0		5	6	13	50	4	A	●
PM-4E-D5.5		5.5	6	16	50	4	A	●
PM-4E-D6.0		6	6	16	50	4	B	●
PM-4E-D7.0		7	8	20	60	4	A	●
PM-4E-D8.0		8	8	20	60	4	B	●
PM-4E-D9.0		9	10	22	75	4	A	●
PM-4E-D10.0		10	10	25	75	4	B	●
PM-4E-D11.0		11	12	26	75	4	A	●
PM-4E-D12.0		12	12	30	75	4	B	●
PM-4E-D14.0		14	14	32	75	4	B	●
PM-4E-D16.0		16	16	45	100	4	B	●
PM-4E-D18.0		18	18	45	100	4	B	●
PM-4E-D20.0		20	20	45	100	4	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

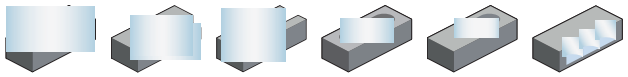
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

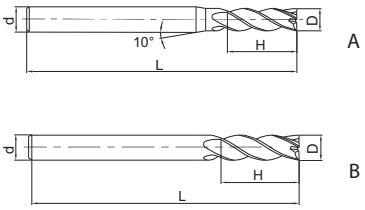
End mill long cutting edge | High-performance machining

PM-4EL



– Factory standard
– Centre cutting
– Helix angle 45°





Article	✻	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG405
PM-4EL-D3.0		3	6	12	75	4	A	●
PM-4EL-D4.0		4	6	15	75	4	A	●
PM-4EL-D5.0		5	6	20	75	4	A	●
PM-4EL-D6.0		6	6	20	75	4	B	●
PM-4EL-D8.0		8	8	25	100	4	B	●
PM-4EL-D10.0		10	10	30	100	4	B	●
PM-4EL-D12.0		12	12	35	100	4	B	●
PM-4EL-D14.0		14	14	40	100	4	B	●
PM-4EL-D16.0		16	16	50	150	4	B	●
PM-4EL-D20.0		20	20	55	150	4	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

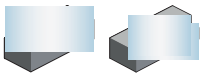
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

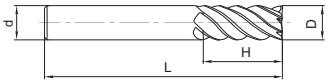
End mill High-performance machining

PM-6E



– Factory standard
– Non-centre cutting
– Helix angle 45°





Article	✻	Dimensions [mm] D	d (h6)	H	L	Teeth	Grade KMG405
PM-6E-D6.0		6	6	18	60	6	●
PM-6E-D8.0		8	8	20	60	6	●
PM-6E-D10.0		10	10	30	75	6	●
PM-6E-D12.0		12	12	32	75	6	●
PM-6E-D16.0		16	16	40	100	6	●
PM-6E-D20.0		20	20	45	100	6	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

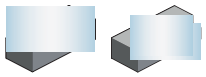
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

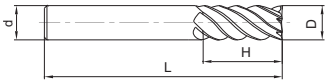
End mill long cutting edge | High-performance machining

PM-6EL



– Factory standard
– Non-centre cutting
– Helix angle 45°





Article	✻	Dimensions [mm]				Teeth	Grade
		D	d (h6)	H	L		KMG405
PM-6EL-D6.0		6	6	24	75	6	●
PM-6EL-D8.0		8	8	32	75	6	●
PM-6EL-D10.0		10	10	40	100	6	●
PM-6EL-D12.0		12	12	45	100	6	●
PM-6EL-D16.0		16	16	64	150	6	●
PM-6EL-D20.0		20	20	75	150	6	●

● Ex stock ○ On demand

✻ With internal cooling

Application field

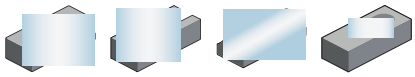
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

Ball nose cutter

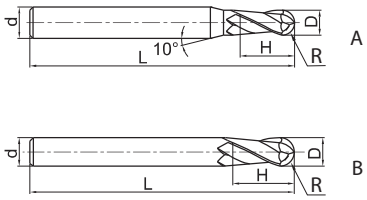
High-performance machining



PM-2B

– Factory standard
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade KMG405
PM-2B-R0.5S		0.5	1	4	2	50	2	A	●
PM-2B-R0.75S		0.75	1.5	4	3	50	2	A	●
PM-2B-R1.0S		1	2	4	4	50	2	A	●
PM-2B-R1.25S		1.25	2.5	4	5	50	2	A	●
PM-2B-R1.5S		1.5	3	4	6	50	2	A	●
PM-2B-R2.0S		2	4	4	8	50	2	B	●
PM-2B-R0.5		0.5	1	6	2	50	2	A	●
PM-2B-R0.75		0.75	1.5	6	3	50	2	A	●
PM-2B-R1.0		1	2	6	4	50	2	A	●
PM-2B-R1.25		1.25	2.5	6	5	50	2	A	●
PM-2B-R1.5		1.5	3	6	6	50	2	A	●
PM-2B-R1.75		1.75	3.5	6	8	50	2	A	●
PM-2B-R2.0		2	4	6	8	50	2	A	●
PM-2B-R2.5		2.5	5	6	10	50	2	A	●
PM-2B-R2.75		2.75	5.5	6	12	50	2	A	●
PM-2B-R3.0		3	6	6	12	50	2	B	●
PM-2B-R3.5		3.5	7	8	14	60	2	A	●
PM-2B-R4.0		4	8	8	16	60	2	B	●
PM-2B-R4.5		4.5	9	10	18	75	2	A	●
PM-2B-R5.0		5	10	10	20	75	2	B	●
PM-2B-R6.0		6	12	12	24	75	2	B	●
PM-2B-R7.0		7	14	14	28	75	2	B	●
PM-2B-R8.0		8	16	16	32	100	2	B	●
PM-2B-R10.0		10	20	20	40	100	2	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

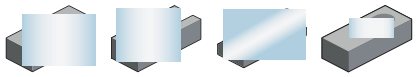
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

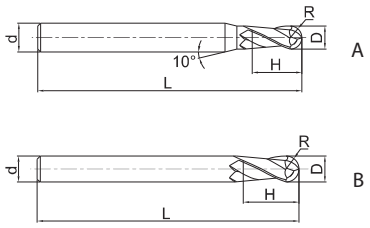
Ball nose cutter long shank | High-performance machining

PM-2BL



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade KMG405
PM-2BL-R1.0		1	2	6	4	75	2	A	●
PM-2BL-R1.25		1.25	2.5	6	5	75	2	A	●
PM-2BL-R1.5		1.5	3	6	6	75	2	A	●
PM-2BL-R1.75		1.75	3.5	6	8	75	2	A	●
PM-2BL-R2.0		2	4	6	8	75	2	A	●
PM-2BL-R2.5		2.5	5	6	10	75	2	A	●
PM-2BL-R2.75		2.75	5.5	6	12	75	2	A	●
PM-2BL-R3.0		3	6	6	12	75	2	B	●
PM-2BL-R3.5		3.5	7	8	14	75	2	A	●
PM-2BL-R4.0		4	8	8	16	100	2	B	●
PM-2BL-R4.5		4.5	9	10	18	100	2	A	●
PM-2BL-R5.0		5	10	10	20	100	2	B	●
PM-2BL-R6.0		6	12	12	24	100	2	B	●
PM-2BL-R7.0		7	14	14	28	100	2	B	●
PM-2BL-R8.0		8	16	16	32	150	2	B	●
PM-2BL-R10.0		10	20	20	40	150	2	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

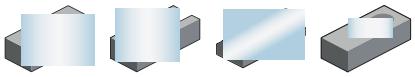
✔ Very suitable
✔ Suitable

System code B278 | Cutting data B492 | Nonstandard order B541

Ball nose cutter short cutting edge

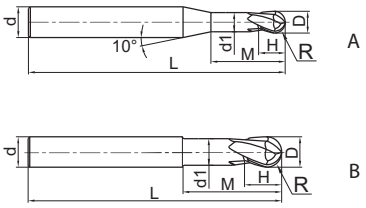
High-performance machining

PM-2BFP



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm]							Teeth	Geometry	Grade
		R	D	d (h6)	d_1	H	M	L			KMG405
PM-2BFP-R0.5		0.5	1	6	0.95	1	2.5	75	2	A	●
PM-2BFP-R0.75		0.75	1.5	6	1.45	1.5	3	75	2	A	●
PM-2BFP-R1.0		1	2	6	1.95	2	4	75	2	A	●
PM-2BFP-R1.5		1.5	3	6	2.85	3	6	75	2	A	●
PM-2BFP-R2.0		2	4	6	3.85	4	8	75	2	A	●
PM-2BFP-R2.5		2.5	5	6	4.85	5	10	75	2	A	●
PM-2BFP-R3.0		3	6	6	5.8	6	12	75	2	B	●
PM-2BFP-R4.0		4	8	8	7.8	8	16	100	2	B	●
PM-2BFP-R5.0		5	10	10	9.6	10	20	100	2	B	●
PM-2BFP-R6.0		6	12	12	11.5	12	24	100	2	B	●
PM-2BFP-R8.0		8	16	16	15.5	16	32	150	2	B	●
PM-2BFP-R10.0		10	20	20	19.5	20	40	150	2	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

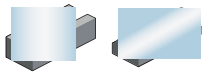
✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

Ball nose cutter conical neck

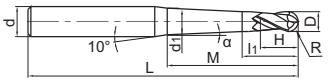
High-performance machining

PM-2BC



– Straight shank
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm]									Teeth	Grade
		R	D	d (h6)	d_1	M	H	L	α	l_1		KMG405
PM-2BC05-R0.25-M03		0.25	0.5	4	0.49	3	0.5	50	0.5	1.5	2	○
PM-2BC05-R0.25-M05		0.25	0.5	4	0.53	5	0.5	50	0.5	1.5	2	○
PM-2BC10-R0.25-M03		0.25	0.5	4	0.52	3	0.5	50	1	1.5	2	○
PM-2BC10-R0.25-M05		0.25	0.5	4	0.59	5	0.5	50	1	1.5	2	○
PM-2BC15-R0.25-M03		0.25	0.5	4	0.54	3	0.5	50	1.5	1.5	2	○
PM-2BC15-R0.25-M05		0.25	0.5	4	0.65	5	0.5	50	1.5	1.5	2	○
PM-2BC05-R0.30-M05		0.3	0.6	4	0.62	5	0.6	50	0.5	1.6	2	○
PM-2BC05-R0.30-M08		0.3	0.6	4	0.68	8	0.6	50	0.5	1.6	2	○
PM-2BC10-R0.30-M05		0.3	0.6	4	0.68	5	0.6	50	1	1.6	2	○
PM-2BC10-R0.30-M08		0.3	0.6	4	0.79	8	0.6	50	1	1.6	2	○
PM-2BC10-R0.30-M10		0.3	0.6	4	0.86	10	0.6	50	1	1.6	2	○
PM-2BC10-R0.30-M12		0.3	0.6	4	0.93	12	0.6	50	1	1.6	2	○
PM-2BC10-R0.30-M15		0.3	0.6	4	1.03	15	0.6	50	1	1.6	2	○
PM-2BC15-R0.30-M05		0.3	0.6	4	0.74	5	0.6	50	1.5	1.6	2	○
PM-2BC15-R0.30-M08		0.3	0.6	4	0.9	8	0.6	50	1.5	1.6	2	○
PM-2BC05-R0.40-M08		0.4	0.8	4	0.87	8	0.8	50	0.5	1.8	2	○
PM-2BC10-R0.40-M08		0.4	0.8	4	0.98	8	0.8	50	1	1.8	2	○
PM-2BC15-R0.40-M08		0.4	0.8	4	1.09	8	0.8	50	1.5	1.8	2	○
PM-2BC05-R0.40-M12		0.4	0.8	4	0.94	12	0.8	60	0.5	1.8	2	○
PM-2BC10-R0.40-M12		0.4	0.8	4	1.12	12	0.8	60	1	1.8	2	○
PM-2BC15-R0.40-M12		0.4	0.8	4	1.3	12	0.8	60	1.5	1.8	2	○
PM-2BC05-R0.50-M10		0.5	1	6	1.08	10	1	60	0.5	2.5	2	○
PM-2BC05-R0.50-M15		0.5	1	6	1.16	15	1	60	0.5	2.5	2	○
PM-2BC10-R0.50-M10		0.5	1	6	1.21	10	1	60	1	2.5	2	○
PM-2BC10-R0.50-M15		0.5	1	6	1.38	15	1	60	1	2.5	2	○
PM-2BC15-R0.50-M10		0.5	1	6	1.34	10	1	60	1.5	2.5	2	○
PM-2BC15-R0.50-M15		0.5	1	6	1.6	15	1	60	1.5	2.5	2	○
PM-2BC20-R0.50-M15		0.5	1	6	1.82	15	1	60	2	2.5	2	○
PM-2BC05-R0.50-M20		0.5	1	6	1.25	20	1	70	0.5	2.5	2	○
PM-2BC05-R0.50-M25		0.5	1	6	1.34	25	1	70	0.5	2.5	2	○
PM-2BC05-R0.50-M30		0.5	1	6	1.42	30	1	70	0.5	2.5	2	○
PM-2BC10-R0.50-M20		0.5	1	6	1.56	20	1	70	1	2.5	2	○
PM-2BC10-R0.50-M25		0.5	1	6	1.73	25	1	70	1	2.5	2	○
PM-2BC10-R0.50-M30		0.5	1	6	1.91	30	1	70	1	2.5	2	○
PM-2BC15-R0.50-M20		0.5	1	6	1.86	20	1	70	1.5	2.5	2	○
PM-2BC20-R0.50-M20		0.5	1	6	2.17	20	1	70	2	2.5	2	○
PM-2BC30-R0.50-M20		0.5	1	6	2.78	20	1	70	3	2.5	2	○

● Ex stock ○ On demand

✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

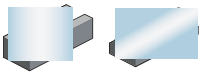
✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

Ball nose cutter conical neck

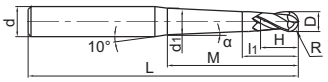
High-performance machining

PM-2BC



– Straight shank
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm] R	D	d (h6)	d_1	M	H	L	α	l_1	Teeth	Grade KMG405
PM-2BC50-R0.50-M20		0.5	1	6	4.01	20	1	70	5	2.5	2	○
PM-2BC10-R0.50-M35		0.5	1	6	2.08	35	1	80	1	2.5	2	○
PM-2BC05-R0.60-M12		0.6	1.2	6	1.31	12	1.2	60	0.5	2.7	2	○
PM-2BC10-R0.60-M12		0.6	1.2	6	1.47	12	1.2	60	1	2.7	2	○
PM-2BC15-R0.60-M12		0.6	1.2	6	1.63	12	1.2	60	1.5	2.7	2	○
PM-2BC05-R0.60-M24		0.6	1.2	6	1.52	24	1.2	70	0.5	2.7	2	○
PM-2BC10-R0.60-M24		0.6	1.2	6	1.89	24	1.2	70	1	2.7	2	○
PM-2BC15-R0.60-M24		0.6	1.2	6	2.26	24	1.2	70	1.5	2.7	2	○
PM-2BC05-R0.75-M10		0.75	1.5	6	1.57	10	1.5	60	0.5	3	2	○
PM-2BC05-R0.75-M15		0.75	1.5	6	1.65	15	1.5	60	0.5	3	2	○
PM-2BC10-R0.75-M10		0.75	1.5	6	1.69	10	1.5	60	1	3	2	○
PM-2BC10-R0.75-M15		0.75	1.5	6	1.86	15	1.5	60	1	3	2	○
PM-2BC15-R0.75-M10		0.75	1.5	6	1.81	10	1.5	60	1.5	3	2	○
PM-2BC15-R0.75-M15		0.75	1.5	6	2.07	15	1.5	60	1.5	3	2	○
PM-2BC05-R0.75-M30		0.75	1.5	6	1.92	30	1.5	70	0.5	3	2	○
PM-2BC10-R0.75-M20		0.75	1.5	6	2.04	20	1.5	70	1	3	2	○
PM-2BC10-R0.75-M30		0.75	1.5	6	2.39	30	1.5	70	1	3	2	○
PM-2BC15-R0.75-M30		0.75	1.5	6	2.86	30	1.5	70	1.5	3	2	○
PM-2BC05-R1.0-M20		1	2	6	2.18	20	2	60	0.5	4	2	○
PM-2BC10-R1.0-M20		1	2	6	2.46	20	2	60	1	4	2	○
PM-2BC10-R1.0-M25		1	2	6	2.64	25	2	60	1	4	2	○
PM-2BC15-R1.0-M20		1	2	6	2.74	20	2	60	1.5	4	2	○
PM-2BC05-R1.0-M30		1	2	6	2.36	30	2	70	0.5	4	2	○
PM-2BC10-R1.0-M30		1	2	6	2.81	30	2	70	1	4	2	○
PM-2BC15-R1.0-M30		1	2	6	3.27	30	2	70	1.5	4	2	○
PM-2BC20-R1.0-M30		1	2	6	3.72	30	2	70	2	4	2	○
PM-2BC30-R1.0-M30		1	2	6	4.63	30	2	70	3	4	2	○
PM-2BC05-R1.0-M40		1	2	6	2.53	40	2	80	0.5	4	2	○
PM-2BC10-R1.0-M35		1	2	6	2.99	35	2	80	1	4	2	○
PM-2BC10-R1.0-M40		1	2	6	3.16	40	2	80	1	4	2	○
PM-2BC15-R1.0-M40		1	2	6	3.79	40	2	80	1.5	4	2	○
PM-2BC20-R1.0-M40		1	2	6	4.42	40	2	80	2	4	2	○
PM-2BC30-R1.0-M40		1	2	6	5.68	40	2	80	3	4	2	○
PM-2BC10-R1.0-M50		1	2	6	3.51	50	2	90	1	4	2	○
PM-2BC05-R1.5-M30		1.5	3	6	3.32	30	3	70	0.5	6	2	○
PM-2BC10-R1.5-M30		1.5	3	6	3.74	30	3	70	1	6	2	○
PM-2BC15-R1.5-M30		1.5	3	6	4.16	30	3	70	1.5	6	2	○

● Ex stock ○ On demand

✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

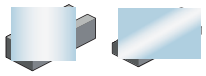
✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

Ball nose cutter conical neck

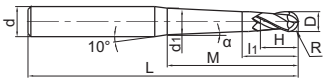
High-performance machining

PM-2BC



– Straight shank
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm]									Teeth	Grade
		R	D	d (h6)	d_1	M	H	L	α	l_1		KMG405
PM-2BC05-R1.5-M40		1.5	3	6	3.5	40	3	80	0.5	6	2	○
PM-2BC10-R1.5-M40		1.5	3	6	4.09	40	3	80	1	6	2	○
PM-2BC15-R1.5-M40		1.5	3	6	4.69	40	3	80	1.5	6	2	○
PM-2BC05-R1.5-M50		1.5	3	6	3.67	50	3	90	0.5	6	2	○
PM-2BC10-R1.5-M50		1.5	3	6	4.44	50	3	90	1	6	2	○
PM-2BC15-R1.5-M50		1.5	3	6	5.21	50	3	90	1.5	6	2	○
PM-2BC05-R2.0-M60		2	4	6	4.83	60	4	110	0.5	7	2	○
PM-2BC10-R2.0-M60		2	4	6	5.76	60	4	110	1	7	2	○

● Ex stock ○ On demand

✲ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

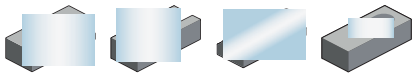
✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

Ball nose cutter

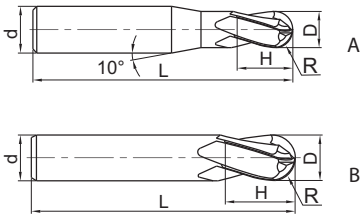
High-performance machining

PM-4B



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade KMG405
PM-4B-R1.5		1.5	3	6	6	50	4	A	●
PM-4B-R2.0		2	4	6	8	50	4	A	●
PM-4B-R2.5		2.5	5	6	10	50	4	A	●
PM-4B-R3.0		3	6	6	12	50	4	B	●
PM-4B-R4.0		4	8	8	16	60	4	B	●
PM-4B-R5.0		5	10	10	20	75	4	B	●
PM-4B-R6.0		6	12	12	24	75	4	B	●
PM-4B-R7.0		7	14	14	28	75	4	B	●
PM-4B-R8.0		8	16	16	32	100	4	B	●
PM-4B-R9.0		9	18	18	36	100	4	B	●
PM-4B-R10.0		10	20	20	40	100	4	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

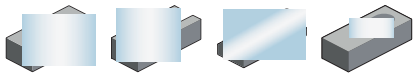
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

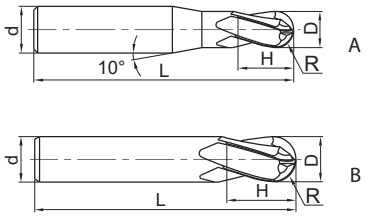
Ball nose cutter long shank | High-performance machining

PM-4BL



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade KMG405
PM-4BL-R1.5		1.5	3	6	6	75	4	A	●
PM-4BL-R2.0		2	4	6	8	75	4	A	●
PM-4BL-R2.5		2.5	5	6	10	75	4	A	●
PM-4BL-R3.0		3	6	6	12	75	4	B	●
PM-4BL-R4.0		4	8	8	16	100	4	B	●
PM-4BL-R5.0		5	10	10	20	100	4	B	●
PM-4BL-R6.0		6	12	12	24	100	4	B	●
PM-4BL-R7.0		7	14	14	28	100	4	B	●
PM-4BL-R8.0		8	16	16	32	150	4	B	●
PM-4BL-R9.0		9	18	18	36	150	4	B	●
PM-4BL-R10.0		10	20	20	40	150	4	B	●

● Ex stock ○ On demand
✲ With internal cooling

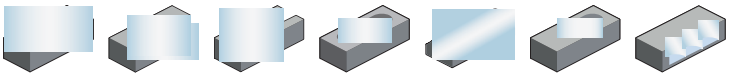
Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

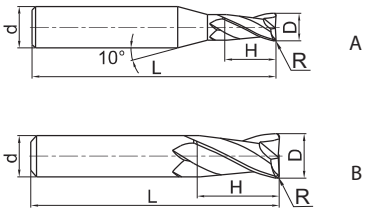
Torus mill High-performance machining



PM-2R

– Factory standard
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade KMG405
PM-2R-D1.0R0.2		0.2	1	4	3	50	2	A	●
PM-2R-D1.5R0.2		0.2	1.5	4	4	50	2	A	●
PM-2R-D2.0R0.2		0.2	2	4	6	50	2	A	●
PM-2R-D2.0R0.5		0.5	2	4	6	50	2	A	●
PM-2R-D2.5R0.2		0.2	2.5	4	8	50	2	A	●
PM-2R-D2.5R0.5		0.5	2.5	4	8	50	2	A	●
PM-2R-D3.0R0.2		0.2	3	4	8	50	2	A	●
PM-2R-D3.0R0.3		0.3	3	4	8	50	2	A	○
PM-2R-D3.0R0.5		0.5	3	4	8	50	2	A	●
PM-2R-D4.0R0.2		0.2	4	4	11	50	2	B	●
PM-2R-D4.0R0.3		0.3	4	4	11	50	2	B	●
PM-2R-D4.0R0.5		0.5	4	4	11	50	2	B	●
PM-2R-D4.0R1.0		1	4	4	11	50	2	B	●
PM-2R-D5.0R0.3		0.3	5	6	13	50	2	A	○
PM-2R-D5.0R0.5		0.5	5	6	13	50	2	A	●
PM-2R-D5.0R1.0		1	5	6	13	50	2	A	●
PM-2R-D6.0R0.3		0.3	6	6	16	50	2	B	●
PM-2R-D6.0R0.5		0.5	6	6	16	50	2	B	●
PM-2R-D6.0R1.0		1	6	6	16	50	2	B	●
PM-2R-D8.0R0.3		0.3	8	8	20	60	2	B	○
PM-2R-D8.0R0.5		0.5	8	8	20	60	2	B	●
PM-2R-D8.0R1.0		1	8	8	20	60	2	B	●
PM-2R-D10.0R0.5		0.5	10	10	25	75	2	B	●
PM-2R-D10.0R1.0		1	10	10	25	75	2	B	●
PM-2R-D10.0R1.5		1.5	10	10	25	75	2	B	●
PM-2R-D10.0R2.0		2	10	10	25	75	2	B	●
PM-2R-D12.0R0.5		0.5	12	12	30	75	2	B	●
PM-2R-D12.0R1.0		1	12	12	30	75	2	B	●
PM-2R-D12.0R1.5		1.5	12	12	30	75	2	B	●
PM-2R-D12.0R2.0		2	12	12	30	75	2	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

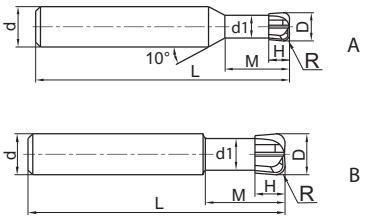
End mill High-performance machining

PM-4H



– Factory standard
– Centre cutting
– Helix angle 0°





Article	✻	Dimensions [mm]							Teeth	Geometry	Grade
		R	D	d (h6)	d_1	H	M	L			KMG405
PM-4H-D3.0R0.8		0.8	3	6	2.7	1.2	8	50	4	A	●
PM-4H-D4.0R1.0		1	4	6	3.6	1.6	10	50	4	A	●
PM-4H-D5.0R1.2		1.2	5	6	4.5	2	12.5	50	4	A	●
PM-4H-D6.0R1.0		1	6	6	5.4	2.5	12	50	4	B	●
PM-4H-D6.0R1.5		1.5	6	6	5.4	2.5	12	50	4	B	●
PM-4H-D6.0R2.0		2	6	6	5.4	2.5	12	50	4	B	●
PM-4H-D8.0R1.0		1	8	8	7	3.5	16	60	4	B	●
PM-4H-D8.0R2.0		2	8	8	7	3.5	16	60	4	B	●
PM-4H-D10.0R1.0		1	10	10	9	4	20	75	4	B	●
PM-4H-D10.0R2.0		2	10	10	9	4	20	75	4	B	●
PM-4H-D10.0R3.0		3	10	10	9	4	20	75	4	B	●
PM-4H-D12.0R2.0		2	12	12	11	5	24	75	4	B	●
PM-4H-D12.0R3.0		3	12	12	11	5	24	75	4	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

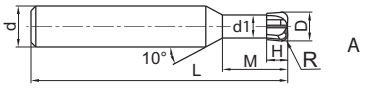
End mill long shank High-performance machining

PM-4HL

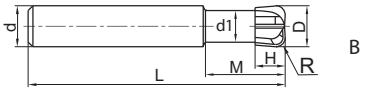


– Factory standard
– Centre cutting
– Helix angle 0°





A



B

Article	✻	Dimensions [mm]							Teeth	Geometry	Grade
		R	D	d (h6)	d_1	H	M	L			KMG405
PM-4HL-D4.0R1.0		1	4	6	3.6	1.6	10	75	4	A	●
PM-4HL-D5.0R1.2		1.2	5	6	4.5	2	12.5	75	4	A	●
PM-4HL-D6.0R1.0		1	6	6	5.4	2.5	12	75	4	B	●
PM-4HL-D6.0R1.5		1.5	6	6	5.4	2.5	12	75	4	B	●
PM-4HL-D6.0R2.0		2	6	6	5.4	2.5	12	75	4	B	●
PM-4HL-D8.0R1.0		1	8	8	7	3.5	16	100	4	B	●
PM-4HL-D8.0R2.0		2	8	8	7	3.5	16	100	4	B	●
PM-4HL-D10.0R1.0		1	10	10	9	4	20	100	4	B	●
PM-4HL-D10.0R2.0		2	10	10	9	4	20	100	4	B	●
PM-4HL-D10.0R3.0		3	10	10	9	4	20	100	4	B	●
PM-4HL-D12.0R2.0		2	12	12	11	5	24	100	4	B	●
PM-4HL-D12.0R3.0		3	12	12	11	5	24	100	4	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

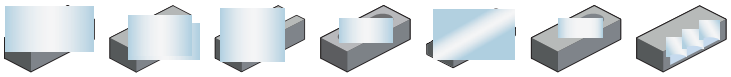
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

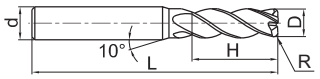
Torus mill High-performance machining

PM-4R

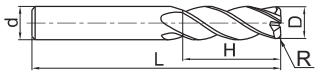


– Factory standard
– Centre cutting
– Helix angle 30°





A



B

Article	✻	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade KMG405
PM-4R-D3.0R0.2		0.2	3	6	8	50	4	A	●
PM-4R-D4.0R0.3		0.3	4	6	10	50	4	A	●
PM-4R-D4.0R0.5		0.5	4	6	10	50	4	A	●
PM-4R-D5.0R0.5		0.5	5	6	13	50	4	A	●
PM-4R-D5.0R1.0		1	5	6	13	50	4	A	●
PM-4R-D6.0R0.5		0.5	6	6	16	50	4	B	●
PM-4R-D6.0R1.0		1	6	6	16	50	4	B	●
PM-4R-D8.0R0.5		0.5	8	8	20	60	4	B	●
PM-4R-D8.0R1.0		1	8	8	20	60	4	B	●
PM-4R-D10.0R0.5		0.5	10	10	25	75	4	B	●
PM-4R-D10.0R1.0		1	10	10	25	75	4	B	●
PM-4R-D10.0R2.0		2	10	10	25	75	4	B	●
PM-4R-D10.0R3.0		3	10	10	25	75	4	B	●
PM-4R-D12.0R0.5		0.5	12	12	30	75	4	B	●
PM-4R-D12.0R1.0		1	12	12	30	75	4	B	●
PM-4R-D12.0R2.0		2	12	12	30	75	4	B	●
PM-4R-D12.0R3.0		3	12	12	30	75	4	B	●

● Ex stock ○ On demand
✻ With internal cooling

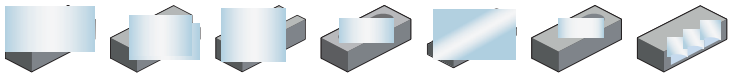
Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

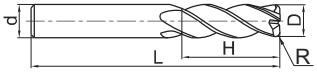
Torus mill long shank | High-performance machining



PM-4RL

– Factory standard
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm]					Teeth	Grade
		R	D	d (h6)	H	L		KMG405
PM-4RL-D6.0R0.5		0.5	6	6	16	75	4	●
PM-4RL-D6.0R1.0		1	6	6	16	75	4	●
PM-4RL-D8.0R0.5		0.5	8	8	20	100	4	●
PM-4RL-D8.0R1.0		1	8	8	20	100	4	○
PM-4RL-D10.0R0.5		0.5	10	10	25	100	4	○
PM-4RL-D10.0R1.0		1	10	10	25	100	4	●
PM-4RL-D10.0R2.0		2	10	10	25	100	4	●
PM-4RL-D12.0R0.5		0.5	12	12	30	100	4	●
PM-4RL-D12.0R1.0		1	12	12	30	100	4	●
PM-4RL-D12.0R2.0		2	12	12	30	100	4	●
PM-4RL-D16.0R1.0		1	16	16	45	150	4	●
PM-4RL-D16.0R2.0		2	16	16	45	150	4	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

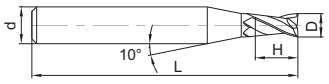
End mill High-performance machining

PM-2ES



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]				Teeth	Grade
		D	d (h6)	H	L		KMG405
PM-2ES-D0.3		0.3	4	0.6	50	2	●
PM-2ES-D0.4		0.4	4	0.8	50	2	●
PM-2ES-D0.5		0.5	4	1	50	2	●
PM-2ES-D0.6		0.6	4	1.2	50	2	●
PM-2ES-D0.7		0.7	4	1.4	50	2	●
PM-2ES-D0.8		0.8	4	1.6	50	2	●
PM-2ES-D0.9		0.9	4	1.8	50	2	○
PM-2ES-D1.0		1	4	2	50	2	●
PM-2ES-D1.1		1.1	4	2	50	2	○
PM-2ES-D1.2		1.2	4	2.5	50	2	●
PM-2ES-D1.3		1.3	4	2.5	50	2	●
PM-2ES-D1.4		1.4	4	3	50	2	●
PM-2ES-D1.5		1.5	4	3	50	2	●
PM-2ES-D1.6		1.6	4	3.5	50	2	●
PM-2ES-D1.7		1.7	4	3.5	50	2	●
PM-2ES-D1.8		1.8	4	4	50	2	●
PM-2ES-D1.9		1.9	4	4	50	2	○
PM-2ES-D2.0		2	4	4	50	2	●
PM-2ES-D2.1		2.1	4	4	50	2	●
PM-2ES-D2.2		2.2	4	4.5	50	2	●
PM-2ES-D2.3		2.3	4	4.5	50	2	●
PM-2ES-D2.4		2.4	4	5	50	2	●
PM-2ES-D2.5		2.5	4	5	50	2	●
PM-2ES-D2.6		2.6	4	5	50	2	○
PM-2ES-D2.7		2.7	4	5.5	50	2	○
PM-2ES-D2.8		2.8	4	5.5	50	2	○
PM-2ES-D2.9		2.9	4	6	50	2	○
PM-2ES-D3.0		3	4	6	50	2	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

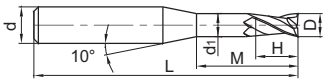
End mill High-performance machining

PM-2EP



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	d_1	H	M	L		KMG405
PM-2EP-D0.5-M06		0.5	4	0.45	0.7	6	50	2	●
PM-2EP-D0.5-M04		0.5	4	0.45	0.6	4	50	2	●
PM-2EP-D0.5-M08		0.5	4	0.45	0.7	8	50	2	○
PM-2EP-D0.8-M04		0.8	4	0.75	1.2	4	50	2	●
PM-2EP-D0.8-M08		0.8	4	0.75	1.2	8	50	2	○
PM-2EP-D0.8-M10		0.8	4	0.75	1.2	10	50	2	○
PM-2EP-D0.8-M06		0.8	4	0.75	1.2	6	50	2	○
PM-2EP-D1.0-M20		1	4	0.95	1.5	20	50	2	●
PM-2EP-D1.0-M14		1	4	0.95	1.5	14	50	2	●
PM-2EP-D1.0-M16		1	4	0.95	1.5	16	50	2	●
PM-2EP-D1.0-M04		1	4	0.95	1.5	4	50	2	●
PM-2EP-D1.0-M06		1	4	0.95	1.5	6	50	2	●
PM-2EP-D1.0-M10		1	4	0.95	1.5	10	50	2	●
PM-2EP-D1.0-M12		1	4	0.95	1.5	12	50	2	●
PM-2EP-D1.0-M08		1	4	0.95	1.5	8	50	2	●
PM-2EP-D1.2-M10		1.2	4	1.15	1.8	10	50	2	○
PM-2EP-D1.2-M06		1.2	4	1.15	1.8	6	50	2	●
PM-2EP-D1.2-M08		1.2	4	1.15	1.8	8	50	2	○
PM-2EP-D1.2-M16		1.2	4	1.15	1.8	16	50	2	○
PM-2EP-D1.2-M12		1.2	4	1.15	1.8	12	50	2	○
PM-2EP-D1.5-M18		1.5	4	1.45	2.3	18	50	2	●
PM-2EP-D1.5-M16		1.5	4	1.45	2.3	16	50	2	●
PM-2EP-D1.5-M10		1.5	4	1.45	2.3	10	50	2	●
PM-2EP-D1.5-M12		1.5	4	1.45	2.3	12	50	2	●
PM-2EP-D1.5-M14		1.5	4	1.45	2.3	14	50	2	●
PM-2EP-D1.5-M20		1.5	4	1.45	2.3	20	50	2	●
PM-2EP-D1.5-M08		1.5	4	1.45	2.3	8	50	2	●
PM-2EP-D1.5-M06		1.5	4	1.45	2.3	6	50	2	●
PM-2EP-D2.0-M20		2	4	1.95	3	20	50	2	●
PM-2EP-D2.0-M12		2	4	1.95	3	12	50	2	●
PM-2EP-D2.0-M10		2	4	1.95	3	10	50	2	●
PM-2EP-D2.0-M18		2	4	1.95	3	18	50	2	●
PM-2EP-D2.0-M16		2	4	1.95	3	16	50	2	●
PM-2EP-D2.0-M08		2	4	1.95	3	8	50	2	●
PM-2EP-D2.0-M14		2	4	1.95	3	14	50	2	●
PM-2EP-D2.0-M06		2	4	1.95	3	6	50	2	●
PM-2EP-D2.5-M08		2.5	4	2.4	3.7	8	50	2	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

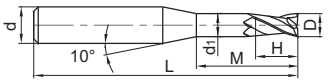
End mill High-performance machining

PM-2EP



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	d_1	H	M	L		KMG405
PM-2EP-D2.5-M10		2.5	4	2.4	3.7	10	50	2	○
PM-2EP-D2.5-M16		2.5	4	2.4	3.7	16	60	2	○
PM-2EP-D2.5-M20		2.5	4	2.4	3.7	20	60	2	○
PM-2EP-D2.5-M14		2.5	4	2.4	3.7	14	50	2	○
PM-2EP-D2.5-M12		2.5	4	2.4	3.7	12	50	2	○
PM-2EP-D2.5-M18		2.5	4	2.4	3.7	18	60	2	○
PM-2EP-D3.0-M18		3	6	2.85	4.5	18	60	2	○
PM-2EP-D3.0-M10		3	6	2.85	4.5	10	50	2	●
PM-2EP-D3.0-M20		3	6	2.85	4.5	20	60	2	●
PM-2EP-D3.0-M16		3	6	2.85	4.5	16	60	2	●
PM-2EP-D3.0-M06		3	6	2.85	4.5	6	50	2	○
PM-2EP-D3.0-M14		3	6	2.85	4.5	14	60	2	○
PM-2EP-D3.0-M12		3	6	2.85	4.5	12	50	2	●
PM-2EP-D3.0-M08		3	6	2.85	4.5	8	50	2	○
PM-2EP-D4.0-M20		4	6	3.85	6	20	60	2	●
PM-2EP-D4.0-M14		4	6	3.85	6	14	60	2	○
PM-2EP-D4.0-M16		4	6	3.85	6	16	60	2	○
PM-2EP-D4.0-M25		4	6	3.85	6	25	60	2	●
PM-2EP-D4.0-M12		4	6	3.85	6	12	50	2	●
PM-2EP-D5.0-M25		5	6	4.85	7.5	25	70	2	●
PM-2EP-D5.0-M12		5	6	4.85	7.5	12	60	2	●
PM-2EP-D5.0-M14		5	6	4.85	7.5	14	60	2	●
PM-2EP-D5.0-M20		5	6	4.85	7.5	20	70	2	●
PM-2EP-D5.0-M16		5	6	4.85	7.5	16	60	2	●

● Ex stock ○ On demand

✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

Ball nose cutter

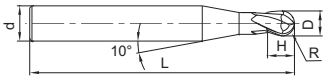
High-performance machining

PM-2BS



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]					Teeth	Grade
		R	D	d (h6)	H	L		KMG405
PM-2BS-R0.15		0.15	0.3	4	0.5	50	2	●
PM-2BS-R0.20		0.2	0.4	4	0.6	50	2	●
PM-2BS-R0.25		0.25	0.5	4	0.8	50	2	●
PM-2BS-R0.30		0.3	0.6	4	0.9	50	2	●
PM-2BS-R0.35		0.35	0.7	4	1	50	2	○
PM-2BS-R0.40		0.4	0.8	4	1.2	50	2	●
PM-2BS-R0.45		0.45	0.9	4	1.3	50	2	○
PM-2BS-R0.50		0.5	1	4	1.5	50	2	●
PM-2BS-R0.60		0.6	1.2	4	1.8	50	2	●
PM-2BS-R0.70		0.7	1.4	4	2	50	2	○
PM-2BS-R0.75		0.75	1.5	4	2.3	50	2	●
PM-2BS-R0.80		0.8	1.6	4	2.5	50	2	○
PM-2BS-R0.90		0.9	1.8	4	2.7	50	2	○
PM-2BS-R1.00		1	2	4	3	50	2	●
PM-2BS-R1.25		1.25	2.5	4	3.7	50	2	○
PM-2BS-R1.50		1.5	3	4	4.5	50	2	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

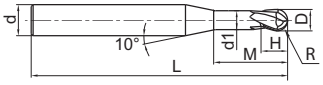
Ball nose cutter | High-performance machining



PM-2BP

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		KMG405
PM-2BP-R0.25-M04		0.25	0.5	4	0.45	0.7	4	50	2	●
PM-2BP-R0.25-M06		0.25	0.5	4	0.45	0.7	6	50	2	●
PM-2BP-R0.3-M06		0.3	0.6	4	0.55	0.9	6	50	2	●
PM-2BP-R0.3-M08		0.3	0.6	4	0.55	0.9	8	50	2	●
PM-2BP-R0.3-M04		0.3	0.6	4	0.55	0.9	4	50	2	●
PM-2BP-R0.4-M04		0.4	0.8	4	0.75	1.2	4	50	2	●
PM-2BP-R0.4-M10		0.4	0.8	4	0.75	1.2	10	50	2	●
PM-2BP-R0.4-M06		0.4	0.8	4	0.75	1.2	6	50	2	●
PM-2BP-R0.4-M08		0.4	0.8	4	0.75	1.2	8	50	2	●
PM-2BP-R0.5-M06		0.5	1	4	0.95	1.5	6	50	2	●
PM-2BP-R0.5-M15		0.5	1	4	0.95	1.5	15	50	2	○
PM-2BP-R0.5-M04		0.5	1	4	0.95	1.5	4	50	2	●
PM-2BP-R0.5-M08		0.5	1	4	0.95	1.5	8	50	2	●
PM-2BP-R0.5-M10		0.5	1	4	0.95	1.5	10	50	2	●
PM-2BP-R0.5-M12		0.5	1	4	0.95	1.5	12	50	2	●
PM-2BP-R0.6-M16		0.6	1.2	4	1.15	1.8	16	50	2	○
PM-2BP-R0.6-M06		0.6	1.2	4	1.15	1.8	6	50	2	●
PM-2BP-R0.6-M12		0.6	1.2	4	1.15	1.8	12	50	2	○
PM-2BP-R0.6-M08		0.6	1.2	4	1.15	1.8	8	50	2	○
PM-2BP-R0.75-M08		0.75	1.5	4	1.45	2.3	8	50	2	●
PM-2BP-R0.75-M06		0.75	1.5	4	1.45	2.3	6	50	2	○
PM-2BP-R0.75-M12		0.75	1.5	4	1.45	2.3	12	50	2	●
PM-2BP-R0.75-M16		0.75	1.5	4	1.45	2.3	16	50	2	●
PM-2BP-R1.0-M16		1	2	4	1.95	3	16	50	2	●
PM-2BP-R1.0-M06		1	2	4	1.95	3	6	50	2	●
PM-2BP-R1.0-M20		1	2	4	1.95	3	20	50	2	●
PM-2BP-R1.0-M10		1	2	4	1.95	3	10	50	2	●
PM-2BP-R1.0-M12		1	2	4	1.95	3	12	50	2	●
PM-2BP-R1.0-M08		1	2	4	1.95	3	8	50	2	●
PM-2BP-R1.25-M08		1.25	2.5	4	2.4	3.7	8	50	2	○
PM-2BP-R1.25-M10		1.25	2.5	4	2.4	3.7	10	50	2	○
PM-2BP-R1.25-M16		1.25	2.5	4	2.4	3.7	16	60	2	○
PM-2BP-R1.25-M12		1.25	2.5	4	2.4	3.7	12	50	2	●
PM-2BP-R1.25-M20		1.25	2.5	4	2.4	3.7	20	60	2	○
PM-2BP-R1.5-M10		1.5	3	6	2.85	4.5	10	50	2	●
PM-2BP-R1.5-M20		1.5	3	6	2.85	4.5	20	60	2	●
PM-2BP-R1.5-M08		1.5	3	6	2.85	4.5	8	50	2	●

● Ex stock ○ On demand

✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

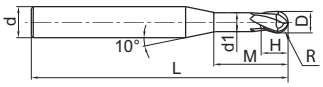
Ball nose cutter High-performance machining

PM-2BP



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		KMG405
PM-2BP-R1.5-M12		1.5	3	6	2.85	4.5	12	50	2	●
PM-2BP-R1.5-M16		1.5	3	6	2.85	4.5	16	60	2	●
PM-2BP-R2.0-M10		2	4	6	3.85	6	10	60	2	●
PM-2BP-R2.0-M16		2	4	6	3.85	6	16	60	2	●
PM-2BP-R2.0-M20		2	4	6	3.85	6	20	60	2	●
PM-2BP-R2.0-M25		2	4	6	3.85	6		60	2	○
PM-2BP-R2.5-M16		2.5	5	6	4.85	7.5	16	60	2	●
PM-2BP-R2.5-M25		2.5	5	6	4.85	7.5	25	70	2	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

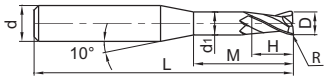
Torus mill High-performance machining

PM-2RP



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		KMG405
PM-2RP-D0.5-R0.1-M04		0.1	0.5	4	0.45	0.6	4	50	2	●
PM-2RP-D0.5-R0.1-M08		0.1	0.5	4	0.45	0.7	8	50	2	○
PM-2RP-D0.5-R0.1-M06		0.1	0.5	4	0.45	0.7	6	50	2	●
PM-2RP-D0.5-R0.05-M06		0.05	0.5	4	0.45	0.7	6	50	2	●
PM-2RP-D0.5-R0.05-M08		0.05	0.5	4	0.45	0.7	8	50	2	○
PM-2RP-D0.5-R0.05-M04		0.05	0.5	4	0.45	0.6	4	50	2	●
PM-2RP-D0.8-R0.1-M04		0.1	0.8	4	0.75	1.2	4	50	2	●
PM-2RP-D0.8-R0.1-M08		0.1	0.8	4	0.75	1.2	8	50	2	●
PM-2RP-D0.8-R0.2-M04		0.2	0.8	4	0.75	1.2	4	50	2	●
PM-2RP-D0.8-R0.1-M10		0.1	0.8	4	0.75	1.2	10	50	2	○
PM-2RP-D0.8-R0.2-M08		0.2	0.8	4	0.75	1.2	8	50	2	●
PM-2RP-D0.8-R0.2-M10		0.2	0.8	4	0.75	1.2	10	50	2	○
PM-2RP-D0.8-R0.1-M06		0.1	0.8	4	0.75	1.2	6	50	2	●
PM-2RP-D0.8-R0.2-M06		0.2	0.8	4	0.75	1.2	6	50	2	●
PM-2RP-D1.0-R0.3-M12		0.3	1	4	0.95	1.5	12	50	2	●
PM-2RP-D1.0-R0.3-M08		0.3	1	4	0.95	1.5	8	50	2	●
PM-2RP-D1.0-R0.2-M16		0.2	1	4	0.95	1.5	16	60	2	●
PM-2RP-D1.0-R0.2-M14		0.2	1	4	0.95	1.5	14	50	2	○
PM-2RP-D1.0-R0.1-M20		0.1	1	4	0.95	1.5	20	60	2	●
PM-2RP-D1.0-R0.3-M10		0.3	1	4	0.95	1.5	10	50	2	●
PM-2RP-D1.0-R0.1-M10		0.1	1	4	0.95	1.5	10	50	2	●
PM-2RP-D1.0-R0.1-M12		0.1	1	4	0.95	1.5	12	50	2	●
PM-2RP-D1.0-R0.3-M04		0.3	1	4	0.95	1.5	4	50	2	●
PM-2RP-D1.0-R0.2-M04		0.2	1	4	0.95	1.5	4	50	2	●
PM-2RP-D1.0-R0.2-M12		0.2	1	4	0.95	1.5	12	50	2	●
PM-2RP-D1.0-R0.1-M14		0.1	1	4	0.95	1.5	14	50	2	○
PM-2RP-D1.0-R0.2-M08		0.2	1	4	0.95	1.5	8	50	2	●
PM-2RP-D1.0-R0.1-M06		0.1	1	4	0.95	1.5	6	50	2	●
PM-2RP-D1.0-R0.2-M20		0.2	1	4	0.95	1.5	20	60	2	●
PM-2RP-D1.0-R0.1-M04		0.1	1	4	0.95	1.5	4	50	2	●
PM-2RP-D1.0-R0.3-M06		0.3	1	4	0.95	1.5	6	50	2	●
PM-2RP-D1.0-R0.1-M16		0.1	1	4	0.95	1.5	16	60	2	●
PM-2RP-D1.0-R0.2-M06		0.2	1	4	0.95	1.5	6	50	2	●
PM-2RP-D1.0-R0.2-M10		0.2	1	4	0.95	1.5	10	50	2	●
PM-2RP-D1.0-R0.1-M08		0.1	1	4	0.95	1.5	8	50	2	●
PM-2RP-D1.2-R0.2-M16		0.2	1.2	4	1.5	1.8	16	60	2	○
PM-2RP-D1.2-R0.1-M08		0.1	1.2	4	1.15	1.8	8	50	2	●

● Ex stock ○ On demand

✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

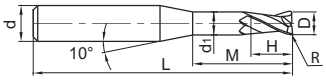
Torus mill High-performance machining



PM-2RP

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm] R	D	d (h6)	d_1	H	M	L	Teeth	Grade KMG405
PM-2RP-D1.2-R0.1-M16		0.1	1.2	4	1.5	1.8	16	60	2	○
PM-2RP-D1.2-R0.2-M12		0.2	1.2	4	1.15	1.8	12	50	2	●
PM-2RP-D1.2-R0.1-M06		0.1	1.2	4	1.15	1.8	6	50	2	●
PM-2RP-D1.2-R0.2-M10		0.2	1.2	4	1.15	1.8	10	50	2	●
PM-2RP-D1.2-R0.1-M12		0.1	1.2	4	1.15	1.8	12	50	2	●
PM-2RP-D1.2-R0.2-M06		0.2	1.2	4	1.15	1.8	6	50	2	●
PM-2RP-D1.2-R0.2-M08		0.2	1.2	4	1.15	1.8	8	50	2	●
PM-2RP-D1.2-R0.1-M10		0.1	1.2	4	1.15	1.8	10	50	2	●
PM-2RP-D1.5-R0.3-M12		0.3	1.5	4	1.45	2.3	12	50	2	●
PM-2RP-D1.5-R0.3-M10		0.3	1.5	4	1.45	2.3	10	50	2	●
PM-2RP-D1.5-R0.2-M12		0.2	1.5	4	1.45	2.3	12	50	2	●
PM-2RP-D1.5-R0.3-M08		0.3	1.5	4	1.45	2.3	8	50	2	●
PM-2RP-D1.5-R0.2-M06		0.2	1.5	4	1.45	2.3	6	50	2	●
PM-2RP-D1.5-R0.2-M10		0.2	1.5	4	1.45	2.3	10	50	2	●
PM-2RP-D1.5-R0.2-M14		0.2	1.5	4	1.45	2.3	14	50	2	○
PM-2RP-D1.5-R0.2-M20		0.2	1.5	4	1.45	2.3	20	50	2	○
PM-2RP-D1.5-R0.3-M18		0.3	1.5	4	1.45	2.3	18	50	2	○
PM-2RP-D1.5-R0.3-M20		0.3	1.5	4	1.45	2.3	20	50	2	○
PM-2RP-D1.5-R0.3-M06		0.3	1.5	4	1.45	2.3	6	50	2	●
PM-2RP-D1.5-R0.2-M08		0.2	1.5	4	1.45	2.3	8	50	2	●
PM-2RP-D1.5-R0.2-M18		0.2	1.5	4	1.45	2.3	18	50	2	○
PM-2RP-D1.5-R0.2-M16		0.2	1.5	4	1.45	2.3	16	50	2	●
PM-2RP-D1.5-R0.3-M16		0.3	1.5	4	1.45	2.3	16	50	2	●
PM-2RP-D1.5-R0.3-M14		0.3	1.5	4	1.45	2.3	14	50	2	○
PM-2RP-D2.0-R0.5-M06		0.5	2	4	1.95	3	6	50	2	●
PM-2RP-D2.0-R0.2-M10		0.2	2	4	1.95	3	10	50	2	●
PM-2RP-D2.0-R0.5-M20		0.5	2	4	1.97	3	20	50	2	●
PM-2RP-D2.0-R0.5-M08		0.5	2	4	1.95	3	8	50	2	●
PM-2RP-D2.0-R0.5-M16		0.5	2	4	1.95	3	16	50	2	●
PM-2RP-D2.0-R0.2-M08		0.2	2	4	1.95	3	8	50	2	●
PM-2RP-D2.0-R0.2-M16		0.2	2	4	1.95	3	16	50	2	●
PM-2RP-D2.0-R0.5-M12		0.5	2	4	1.95	3	12	50	2	●
PM-2RP-D2.0-R0.5-M14		0.5	2	4	1.95	3	14	50	2	○
PM-2RP-D2.0-R0.5-M10		0.5	2	4	1.95	3	10	50	2	●
PM-2RP-D2.0-R0.2-M18		0.2	2	4	1.96	3	18	50	2	○
PM-2RP-D2.0-R0.2-M12		0.2	2	4	1.95	3	12	50	2	●
PM-2RP-D2.0-R0.5-M18		0.5	2	4	1.96	3	18	50	2	○

● Ex stock ○ On demand

✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

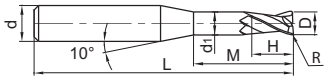
Torus mill | High-performance machining

PM-2RP



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		KMG405
PM-2RP-D2.0-R0.2-M20		0.2	2	4	1.97	3	20	50	2	●
PM-2RP-D2.0-R0.2-M06		0.2	2	4	1.95	3	6	50	2	●
PM-2RP-D2.0-R0.2-M14		0.2	2	4	1.95	3	14	50	2	○
PM-2RP-D2.5-R0.2-M16		0.2	2.5	4	2.4	3.7	16	60	2	○
PM-2RP-D2.5-R0.2-M18		0.2	2.5	4	2.4	3.7	18	60	2	○
PM-2RP-D2.5-R0.2-M08		0.2	2.5	4	2.4	3.7	8	50	2	●
PM-2RP-D2.5-R0.2-M20		0.2	2.5	4	2.4	3.7	20	60	2	●
PM-2RP-D2.5-R0.5-M14		0.5	2.5	4	2.4	3.7	14	50	2	○
PM-2RP-D2.5-R0.5-M20		0.5	2.5	4	2.4	3.7	20	60	2	●
PM-2RP-D2.5-R0.5-M10		0.5	2.5	4	2.4	3.7	10	50	2	●
PM-2RP-D2.5-R0.5-M18		0.5	2.5	4	2.4	3.7	18	60	2	○
PM-2RP-D2.5-R0.2-M10		0.2	2.5	4	2.4	3.7	10	50	2	●
PM-2RP-D2.5-R0.5-M08		0.5	2.5	4	2.4	3.7	8	50	2	●
PM-2RP-D2.5-R0.5-M12		0.5	2.5	4	2.4	3.7	12	50	2	○
PM-2RP-D2.5-R0.5-M16		0.5	2.5	4	2.4	3.7	16	60	2	○
PM-2RP-D2.5-R0.2-M14		0.2	2.5	4	2.4	3.7	14	50	2	○
PM-2RP-D2.5-R0.2-M12		0.2	2.5	4	2.4	3.7	12	50	2	○
PM-2RP-D3.0-R0.5-M18		0.5	3	6	2.85	4.5	18	60	2	○
PM-2RP-D3.0-R0.2-M18		0.2	3	6	2.85	4.5	18	60	2	○
PM-2RP-D3.0-R0.5-M08		0.5	3	6	2.85	4.5	8	50	2	●
PM-2RP-D3.0-R0.2-M08		0.2	3	6	2.85	4.5	8	50	2	●
PM-2RP-D3.0-R0.2-M06		0.2	3	6	2.85	4.5	6	50	2	○
PM-2RP-D3.0-R0.2-M20		0.2	3	6	2.85	4.5	20	60	2	●
PM-2RP-D3.0-R0.5-M10		0.5	3	6	2.85	4.5	10	50	2	●
PM-2RP-D3.0-R0.2-M10		0.2	3	6	2.85	4.5	10	50	2	●
PM-2RP-D3.0-R0.5-M14		0.5	3	6	2.85	4.5	14	60	2	○
PM-2RP-D3.0-R0.5-M06		0.5	3	6	2.85	4.5	6	50	2	○
PM-2RP-D3.0-R0.2-M16		0.2	3	6	2.85	4.5	16	60	2	●
PM-2RP-D3.0-R0.2-M12		0.2	3	6	2.85	4.5	12	50	2	●
PM-2RP-D3.0-R0.5-M20		0.5	3	6	2.85	4.5	20	60	2	●
PM-2RP-D3.0-R0.5-M12		0.5	3	6	2.85	4.5	12	50	2	●
PM-2RP-D3.0-R0.2-M14		0.2	3	6	2.85	4.5	14	60	2	○
PM-2RP-D3.0-R0.5-M16		0.5	3	6	2.85	4.5	16	60	2	●
PM-2RP-D4.0-R0.2-M12		0.2	4	6	3.85	6	12	50	2	●
PM-2RP-D4.0-R0.5-M20		0.5	4	6	3.85	6	20	60	2	●
PM-2RP-D4.0-R0.5-M12		0.5	4	6	3.85	6	12	50	2	●
PM-2RP-D4.0-R0.5-M14		0.5	4	6	3.85	6	14	60	2	○

● Ex stock ○ On demand

✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 | Cutting data B492 | Nonstandard order B541

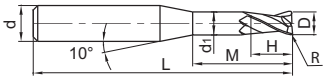
Torus mill High-performance machining



PM-2RP

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		KMG405
PM-2RP-D4.0-R0.2-M20		0.2	4	6	3.85	6	20	60	2	●
PM-2RP-D4.0-R0.2-M16		0.2	4	6	3.85	6	16	60	2	●
PM-2RP-D4.0-R0.5-M25		0.5	4	6	3.85	6	25	60	2	●
PM-2RP-D4.0-R0.5-M16		0.5	4	6	3.85	6	16	60	2	●
PM-2RP-D4.0-R0.2-M25		0.2	4	6	3.85	6	25	60	2	●
PM-2RP-D4.0-R0.2-M14		0.2	4	6	3.85	6	14	60	2	○
PM-2RP-D5.0-R0.5-M14		0.5	5	6	4.85	7.5	14	60	2	○
PM-2RP-D5.0-R0.5-M12		0.5	5	6	4.85	7.5	12	60	2	●
PM-2RP-D5.0-R1.0-M12		1	5	6	4.85	7.5	12	60	2	●
PM-2RP-D5.0-R0.5-M20		0.5	5	6	4.85	7.5	20	70	2	●
PM-2RP-D5.0-R1.0-M14		1	5	6	4.85	7.5	14	60	2	○
PM-2RP-D5.0-R0.5-M25		0.5	5	6	4.85	7.5	25	70	2	●
PM-2RP-D5.0-R1.0-M20		1	5	6	4.85	7.5	20	70	2	●
PM-2RP-D5.0-R1.0-M25		1	5	6	4.85	7.5	25	70	2	●
PM-2RP-D5.0-R0.5-M16		0.5	5	6	4.85	7.5	16	60	2	●
PM-2RP-D5.0-R1.0-M16		1	5	6	4.85	7.5	16	60	2	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

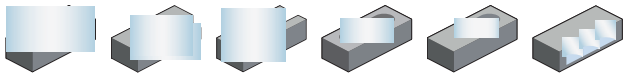
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

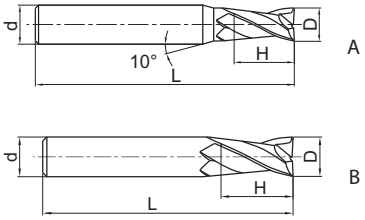
End mill High-performance machining

EPM-2E



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG406
EPM-2E-D3.0		3	6	8	50	2	A	●
EPM-2E-D4.0		4	6	11	50	2	A	●
EPM-2E-D5.0		5	6	13	50	2	A	●
EPM-2E-D6.0		6	6	16	50	2	B	●
EPM-2E-D8.0		8	8	20	60	2	B	●
EPM-2E-D10.0		10	10	25	75	2	B	●
EPM-2E-D12.0		12	12	30	75	2	B	●
EPM-2E-D14.0		14	14	32	75	2	B	●
EPM-2E-D16.0		16	16	45	100	2	B	●
EPM-2E-D18.0		18	18	45	100	2	B	●
EPM-2E-D20.0		20	20	45	100	2	B	●

● Ex stock ○ On demand
✲ With internal cooling

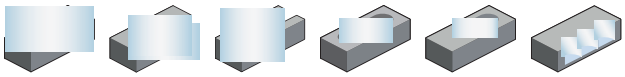
Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

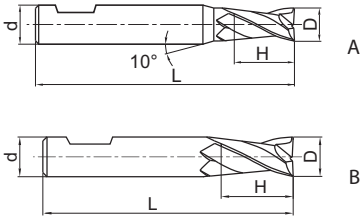
End mill High-performance machining



EPM-2E-W

– Type of shank DIN 6535HB
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMG406
EPM-2E-D3.0-W		3	6	4	50	2	A	●
EPM-2E-D4.0-W		4	6	5	54	2	A	●
EPM-2E-D5.0-W		5	6	6	54	2	A	●
EPM-2E-D6.0-W		6	6	7	54	2	B	●
EPM-2E-D8.0-W		8	8	9	58	2	B	●
EPM-2E-D10.0-W		10	10	11	66	2	B	●
EPM-2E-D12.0-W		12	12	12	73	2	B	●
EPM-2E-D14.0-W		14	14	14	75	2	B	●
EPM-2E-D16.0-W		16	16	16	82	2	B	●
EPM-2E-D18.0-W		18	18	18	84	2	B	●
EPM-2E-D20.0-W		20	20	20	92	2	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

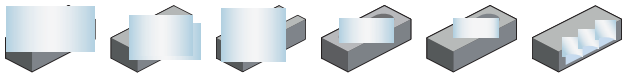
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

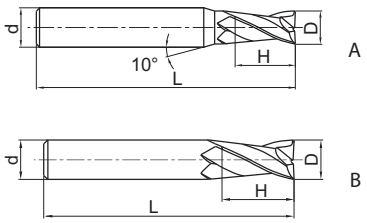
End mill long cutting edge | High-performance machining

EPM-2EL



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG406
EPM-2EL-D3.0		3	6	12	75	2	A	●
EPM-2EL-D4.0		4	6	15	75	2	A	●
EPM-2EL-D5.0		5	6	20	75	2	A	●
EPM-2EL-D6.0		6	6	20	75	2	B	●
EPM-2EL-D8.0		8	8	25	100	2	B	●
EPM-2EL-D10.0		10	10	30	100	2	B	●
EPM-2EL-D12.0		12	12	35	100	2	B	●
EPM-2EL-D14.0		14	14	40	100	2	B	●
EPM-2EL-D16.0		16	16	50	150	2	B	●
EPM-2EL-D20.0		20	20	55	150	2	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

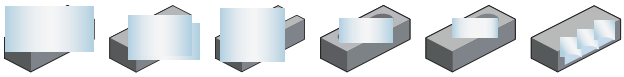
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 | Cutting data B492 | Nonstandard order B541

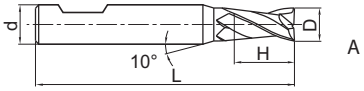
End mill long cutting edge | High-performance machining

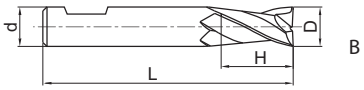
EPM-2EL-W



– Type of shank DIN 6535HB
– Centre cutting
– Helix angle 30°







Article	✲	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMG406
EPM-2EL-D3.0-W		3	6	6	57	2	A	●
EPM-2EL-D4.0-W		4	6	8	57	2	A	●
EPM-2EL-D5.0-W		5	6	10	57	2	A	●
EPM-2EL-D6.0-W		6	6	10	57	2	B	●
EPM-2EL-D8.0-W		8	8	16	63	2	B	●
EPM-2EL-D10.0-W		10	10	19	72	2	B	●
EPM-2EL-D12.0-W		12	12	22	83	2	B	●
EPM-2EL-D14.0-W		14	14	22	83	2	B	●
EPM-2EL-D16.0-W		16	16	26	92	2	B	●
EPM-2EL-D18.0-W		18	18	26	92	2	B	●
EPM-2EL-D20.0-W		20	20	32	104	2	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

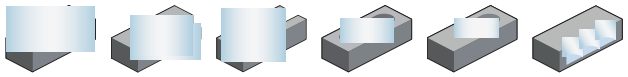
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

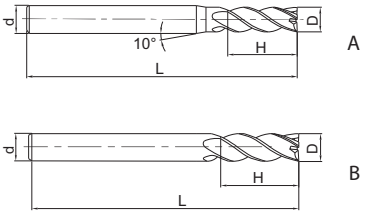
End mill High-performance machining

EPM-4E



– Factory standard
– Centre cutting
– Helix angle 45°





Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG406
EPM-4E-D3.0		3	6	8	50	4	A	●
EPM-4E-D4.0		4	6	11	50	4	A	●
EPM-4E-D5.0		5	6	13	50	4	A	●
EPM-4E-D6.0		6	6	16	50	4	B	●
EPM-4E-D8.0		8	8	20	60	4	B	●
EPM-4E-D10.0		10	10	25	75	4	B	●
EPM-4E-D12.0		12	12	30	75	4	B	●
EPM-4E-D14.0		14	14	32	75	4	B	●
EPM-4E-D16.0		16	16	45	100	4	B	●
EPM-4E-D18.0		18	18	45	100	4	B	●
EPM-4E-D20.0		20	20	45	100	4	B	●

● Ex stock ○ On demand
✲ With internal cooling

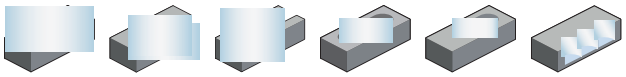
Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

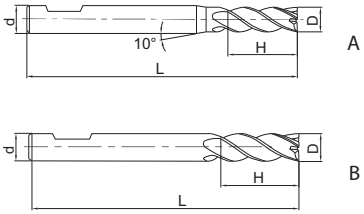
End mill High-performance machining



EPM-4E-W

– Type of shank DIN 6535HB
– Centre cutting
– Helix angle 45°





Article	✲	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMG406
EPM-4E-D3.0-W		3	6	4	50	4	A	●
EPM-4E-D4.0-W		4	6	5	54	4	A	●
EPM-4E-D5.0-W		5	6	6	54	4	A	●
EPM-4E-D6.0-W		6	6	7	54	4	B	●
EPM-4E-D8.0-W		8	8	9	58	4	B	●
EPM-4E-D10.0-W		10	10	11	66	4	B	●
EPM-4E-D12.0-W		12	12	12	73	4	B	●
EPM-4E-D14.0-W		14	14	14	75	4	B	●
EPM-4E-D16.0-W		16	16	16	82	4	B	●
EPM-4E-D18.0-W		18	18	18	84	4	B	●
EPM-4E-D20.0-W		20	20	20	92	4	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

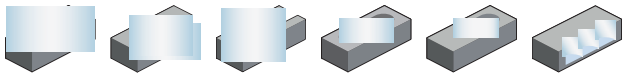
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

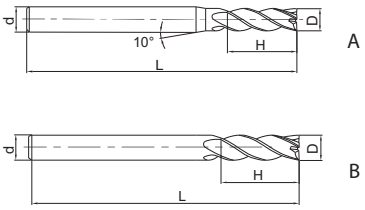
End mill long cutting edge | High-performance machining

EPM-4EL



– Factory standard
– Centre cutting
– Helix angle 45°





Article	✻	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG406
EPM-4EL-D3.0		3	6	12	75	4	A	●
EPM-4EL-D4.0		4	6	15	75	4	A	●
EPM-4EL-D5.0		5	6	20	75	4	A	●
EPM-4EL-D6.0		6	6	20	75	4	B	●
EPM-4EL-D8.0		8	8	25	100	4	B	●
EPM-4EL-D10.0		10	10	30	100	4	B	●
EPM-4EL-D12.0		12	12	35	100	4	B	●
EPM-4EL-D14.0		14	14	40	100	4	B	●
EPM-4EL-D16.0		16	16	50	150	4	B	●
EPM-4EL-D20.0		20	20	55	150	4	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

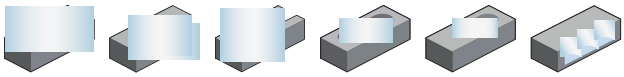
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

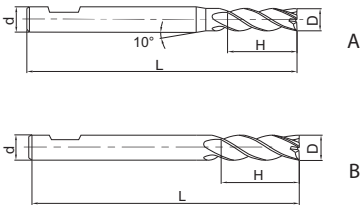
End mill long cutting edge | High-performance machining

EPM-4EL-W



– Type of shank DIN 6535HB
– Centre cutting
– Helix angle 45°





Article	✲	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMG406
EPM-4EL-D3.0-W		3	6	8	57	4	A	●
EPM-4EL-D4.0-W		4	6	11	57	4	A	●
EPM-4EL-D5.0-W		5	6	13	57	4	A	●
EPM-4EL-D6.0-W		6	6	13	57	4	B	●
EPM-4EL-D8.0-W		8	8	19	63	4	B	●
EPM-4EL-D10.0-W		10	10	22	72	4	B	●
EPM-4EL-D12.0-W		12	12	26	83	4	B	●
EPM-4EL-D14.0-W		14	14	26	83	4	B	●
EPM-4EL-D16.0-W		16	16	32	92	4	B	●
EPM-4EL-D18.0-W		18	18	32	92	4	B	●
EPM-4EL-D20.0-W		20	20	38	104	4	B	●

● Ex stock ○ On demand
✲ With internal cooling

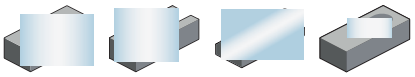
Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

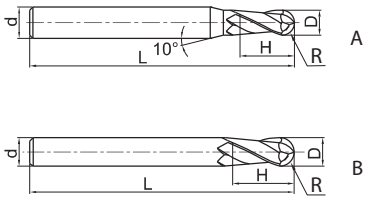
Ball nose cutter | High-performance machining



EPM-2B

– Factory standard
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			KMG406
EPM-2B-R1.5		1.5	3	6	6	50	2	A	●
EPM-2B-R2.0		2	4	6	8	50	2	A	●
EPM-2B-R2.5		2.5	5	6	10	50	2	A	●
EPM-2B-R3.0		3	6	6	12	50	2	B	●
EPM-2B-R4.0		4	8	8	16	60	2	B	●
EPM-2B-R5.0		5	10	10	20	75	2	B	●
EPM-2B-R6.0		6	12	12	24	75	2	B	●
EPM-2B-R7.0		7	14	14	28	75	2	B	●
EPM-2B-R8.0		8	16	16	32	100	2	B	●
EPM-2B-R10.0		10	20	20	40	100	2	B	●

● Ex stock ○ On demand
✻ With internal cooling

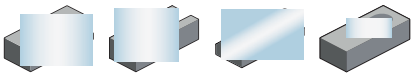
Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

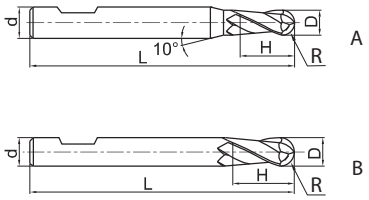
Ball nose cutter High-performance machining



EPM-2B-W

– Type of shank DIN 6535HB
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade KMG406
EPM-2B-R1.5-W		1.5	3	6	4	50	2	A	●
EPM-2B-R2.0-W		2	4	6	5	54	2	A	●
EPM-2B-R2.5-W		2.5	5	6	6	54	2	A	●
EPM-2B-R3.0-W		3	6	6	7	54	2	B	●
EPM-2B-R4.0-W		4	8	8	9	58	2	B	●
EPM-2B-R5.0-W		5	10	10	11	66	2	B	●
EPM-2B-R6.0-W		6	12	12	12	73	2	B	●
EPM-2B-R8.0-W		8	16	16	16	83	2	B	●
EPM-2B-R10.0-W		10	20	20	20	92	2	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

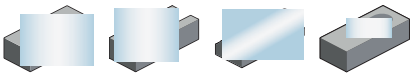
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

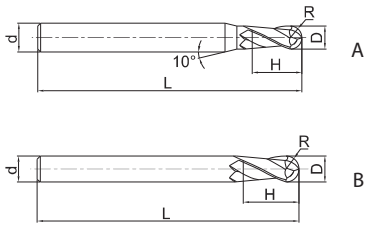
Ball nose cutter long shank | High-performance machining

EPM-2BL



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			KMG406
EPM-2BL-R1.5		1.5	3	6	6	75	2	A	●
EPM-2BL-R2.0		2	4	6	8	75	2	A	●
EPM-2BL-R2.5		2.5	5	6	10	75	2	A	●
EPM-2BL-R3.0		3	6	6	12	75	2	B	●
EPM-2BL-R4.0		4	8	8	16	100	2	B	●
EPM-2BL-R5.0		5	10	10	20	100	2	B	●
EPM-2BL-R6.0		6	12	12	24	100	2	B	●
EPM-2BL-R7.0		7	14	14	28	100	2	B	●
EPM-2BL-R8.0		8	16	16	32	150	2	B	●
EPM-2BL-R10.0		10	20	20	40	150	2	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

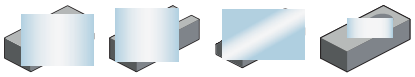
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

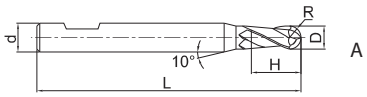
Ball nose cutter long shank High-performance machining

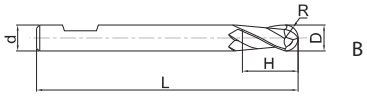
EPM-2BL-W



– Type of shank DIN 6535HB
– Centre cutting
– Helix angle 30°







Article	✲	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade KMG406
EPM-2BL-R1.5-W		1.5	3	6	4	57	2	A	●
EPM-2BL-R2.0-W		2	4	6	5	57	2	A	●
EPM-2BL-R2.5-W		2.5	5	6	6	57	2	A	●
EPM-2BL-R3.0-W		3	6	6	7	57	2	B	●
EPM-2BL-R4.0-W		4	8	8	9	63	2	B	●
EPM-2BL-R5.0-W		5	10	10	11	72	2	B	●
EPM-2BL-R6.0-W		6	12	12	12	83	2	B	●
EPM-2BL-R8.0-W		8	16	16	16	92	2	B	●
EPM-2BL-R10.0-W		10	20	20	20	104	2	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

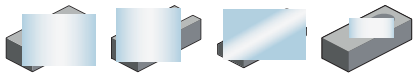
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

Ball nose cutter

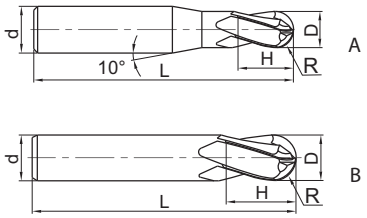
High-performance machining



EPM-4B

– Factory standard
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			KMG406
EPM-4B-R1.5		1.5	3	6	6	50	4	A	●
EPM-4B-R2.0		2	4	6	8	50	4	A	●
EPM-4B-R2.5		2.5	5	6	10	50	4	A	●
EPM-4B-R3.0		3	6	6	12	50	4	B	●
EPM-4B-R4.0		4	8	8	16	60	4	B	●
EPM-4B-R5.0		5	10	10	20	75	4	B	●
EPM-4B-R6.0		6	12	12	24	75	4	B	●
EPM-4B-R7.0		7	14	14	28	75	4	B	●
EPM-4B-R8.0		8	16	16	32	100	4	B	●
EPM-4B-R9.0		9	18	18	36	100	4	B	●
EPM-4B-R10.0		10	20	20	40	100	4	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

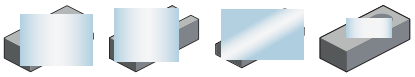
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

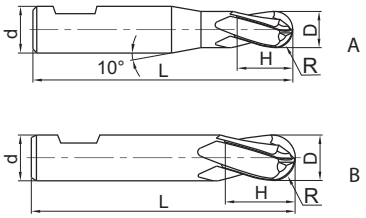
Ball nose cutter High-performance machining

EPM-4B-W



– Type of shank DIN 6535HB
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade KMG406
EPM-4B-R1.5-W		1.5	3	6	4	50	4	A	●
EPM-4B-R2.0-W		2	4	6	5	54	4	A	●
EPM-4B-R2.5-W		2.5	5	6	6	54	4	A	●
EPM-4B-R3.0-W		3	6	6	7	54	4	B	●
EPM-4B-R4.0-W		4	8	8	9	58	4	B	●
EPM-4B-R5.0-W		5	10	10	11	66	4	B	●
EPM-4B-R6.0-W		6	12	12	12	73	4	B	●
EPM-4B-R7.0-W		7	14	14	14	75	4	B	●
EPM-4B-R8.0-W		8	16	16	16	83	4	B	●
EPM-4B-R9.0-W		9	18	18	18	84	4	B	●
EPM-4B-R10.0-W		10	20	20	20	92	4	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

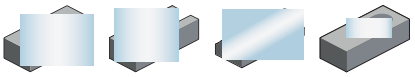
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

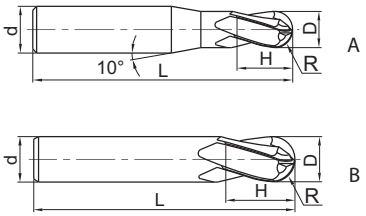
Ball nose cutter long shank | High-performance machining

EPM-4BL



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			KMG406
EPM-4BL-R1.5		1.5	3	6	6	75	4	A	●
EPM-4BL-R2.0		2	4	6	8	75	4	A	●
EPM-4BL-R2.5		2.5	5	6	10	75	4	A	●
EPM-4BL-R3.0		3	6	6	12	75	4	B	●
EPM-4BL-R4.0		4	8	8	16	100	4	B	●
EPM-4BL-R5.0		5	10	10	20	100	4	B	●
EPM-4BL-R6.0		6	12	12	24	100	4	B	●
EPM-4BL-R7.0		7	14	14	28	100	4	B	●
EPM-4BL-R8.0		8	16	16	32	150	4	B	●
EPM-4BL-R10.0		10	20	20	40	150	4	B	●

● Ex stock ○ On demand
✲ With internal cooling

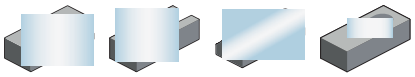
Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

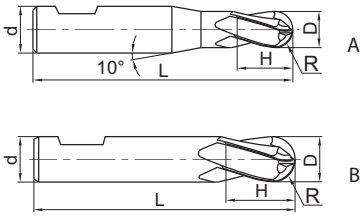
Ball nose cutter long shank High-performance machining



EPM-4BL-W

– Type of shank DIN 6535HB
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade KMG406
EPM-4BL-R1.5-W		1.5	3	6	4	57	4	A	●
EPM-4BL-R2.0-W		2	4	6	5	57	4	A	●
EPM-4BL-R2.5-W		2.5	5	6	6	57	4	A	●
EPM-4BL-R3.0-W		3	6	6	7	57	4	B	●
EPM-4BL-R4.0-W		4	8	8	9	63	4	B	●
EPM-4BL-R5.0-W		5	10	10	11	72	4	B	●
EPM-4BL-R6.0-W		6	12	12	12	83	4	B	●
EPM-4BL-R8.0-W		8	16	16	16	92	4	B	●
EPM-4BL-R10.0-W		10	20	20	20	104	4	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

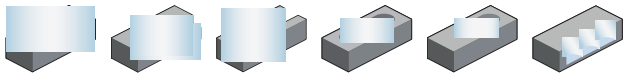
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

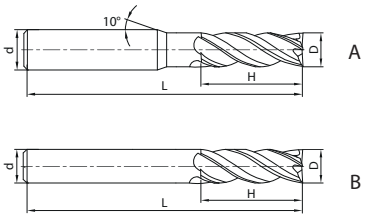
End mill High-performance machining

VPM-4E



– Factory standard
– Centre cutting
– Helix angle 36°/38°





Article	✻	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG406
VPM-4E-D3.0		3	6	8	50	4	A	●
VPM-4E-D4.0		4	6	11	50	4	A	●
VPM-4E-D5.0		5	6	13	50	4	A	●
VPM-4E-D6.0		6	6	16	50	4	B	●
VPM-4E-D7.0		7	8	20	60	4	A	●
VPM-4E-D8.0		8	8	20	60	4	B	●
VPM-4E-D9.0		9	10	22	75	4	A	●
VPM-4E-D10.0		10	10	25	75	4	B	●
VPM-4E-D11.0		11	12	26	75	4	A	●
VPM-4E-D12.0		12	12	30	75	4	B	●
VPM-4E-D14.0		14	14	32	75	4	B	●
VPM-4E-D16.0		16	16	45	100	4	B	●
VPM-4E-D18.0		18	18	45	100	4	B	●
VPM-4E-D20.0		20	20	45	100	4	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

Notes

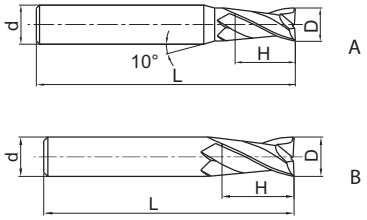
End mill | Hard machining

HM-2E



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMG555
HM-2E-D1.0S		1	4	3	50	2	A	●
HM-2E-D1.5S		1.5	4	4	50	2	A	●
HM-2E-D2.0S		2	4	6	50	2	A	●
HM-2E-D2.5S		2.5	4	8	50	2	A	●
HM-2E-D3.0S		3	4	8	50	2	A	●
HM-2E-D4.0S		4	4	11	50	2	B	●
HM-2E-D1.0		1	6	3	50	2	A	●
HM-2E-D1.5		1.5	6	4	50	2	A	●
HM-2E-D2.0		2	6	6	50	2	A	●
HM-2E-D2.5		2.5	6	8	50	2	A	●
HM-2E-D3.0		3	6	8	50	2	A	●
HM-2E-D3.5		3.5	6	10	50	2	A	●
HM-2E-D4.0		4	6	11	50	2	A	●
HM-2E-D4.5		4.5	6	11	50	2	A	●
HM-2E-D5.0		5	6	13	50	2	A	●
HM-2E-D5.5		5.5	6	16	50	2	A	●
HM-2E-D6.0		6	6	16	50	2	B	●
HM-2E-D7.0		7	8	20	60	2	A	●
HM-2E-D8.0		8	8	20	60	2	B	●
HM-2E-D9.0		9	10	22	75	2	A	●
HM-2E-D10.0		10	10	25	75	2	B	●
HM-2E-D11.0		11	12	26	75	2	A	○
HM-2E-D12.0		12	12	30	75	2	B	●
HM-2E-D14.0		14	14	32	100	2	B	●
HM-2E-D16.0		16	16	45	100	2	B	●
HM-2E-D18.0		18	18	45	100	2	B	○
HM-2E-D20.0		20	20	45	100	2	B	●

● Ex stock ○ On demand
✻ With internal cooling

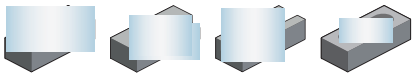
Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

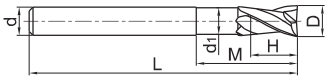
End mill short cutting edge | Hard machining



HM-2EFP

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	d_1	H	M	L		KMG555
HM-2EFP-D6.0		6	6	5.8	9	30	75	2	○
HM-2EFP-D8.0		8	8	7.8	12	40	100	2	○
HM-2EFP-D10.0		10	10	9.6	15	50	100	2	○
HM-2EFP-D12.0		12	12	11.5	18	50	100	2	○
HM-2EFP-D16.0		16	16	15.5	24	50	150	2	○
HM-2EFP-D20.0		20	20	19.5	30	60	150	2	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

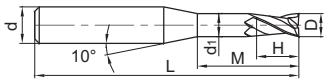
End mill | Hard machining



HM-2EP

– Straight shank
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	d_1	H	M	L		KMG555
HM-2EP-D0.5-M04		0.5	4	0.45	0.7	4	50	2	●
HM-2EP-D0.5-M06		0.5	4	0.45	0.7	6	50	2	●
HM-2EP-D0.5-M08		0.5	4	0.45	0.7	8	50	2	●
HM-2EP-D0.8-M04		0.8	4	0.75	1.2	4	50	2	●
HM-2EP-D0.8-M06		0.8	4	0.75	1.2	6	50	2	●
HM-2EP-D0.8-M08		0.8	4	0.75	1.2	8	50	2	●
HM-2EP-D0.8-M10		0.8	4	0.75	1.2	10	50	2	●
HM-2EP-D1.0-M04		1	4	0.95	1.5	4	50	2	●
HM-2EP-D1.0-M06		1	4	0.95	1.5	6	50	2	●
HM-2EP-D1.0-M08		1	4	0.95	1.5	8	50	2	●
HM-2EP-D1.0-M10		1	4	0.95	1.5	10	50	2	●
HM-2EP-D1.0-M12		1	4	0.95	1.5	12	50	2	●
HM-2EP-D1.0-M14		1	4	0.95	1.5	14	50	2	●
HM-2EP-D1.2-M06		1.2	4	1.15	1.8	6	50	2	●
HM-2EP-D1.2-M08		1.2	4	1.15	1.8	8	50	2	●
HM-2EP-D1.2-M10		1.2	4	1.15	1.8	10	50	2	●
HM-2EP-D1.2-M12		1.2	4	1.15	1.8	12	50	2	●
HM-2EP-D1.5-M06		1.5	4	1.45	2.3	6	50	2	●
HM-2EP-D1.5-M08		1.5	4	1.45	2.3	8	50	2	●
HM-2EP-D1.5-M10		1.5	4	1.45	2.3	10	50	2	●
HM-2EP-D1.5-M12		1.5	4	1.45	2.3	12	50	2	●
HM-2EP-D1.5-M14		1.5	4	1.45	2.3	14	50	2	●
HM-2EP-D2.0-M06		2	4	1.95	3	6	50	2	●
HM-2EP-D2.0-M08		2	4	1.95	3	8	50	2	●
HM-2EP-D2.0-M10		2	4	1.95	3	10	50	2	●
HM-2EP-D2.0-M12		2	4	1.95	3	12	50	2	●
HM-2EP-D2.0-M14		2	4	1.95	3	14	50	2	●
HM-2EP-D2.0-M16		2	4	1.95	3	16	50	2	●
HM-2EP-D2.5-M08		2.5	4	2.4	3.7	8	50	2	●
HM-2EP-D2.5-M10		2.5	4	2.4	3.7	10	50	2	●
HM-2EP-D2.5-M12		2.5	4	2.4	3.7	12	50	2	●
HM-2EP-D2.5-M14		2.5	4	2.4	3.7	14	50	2	●
HM-2EP-D2.5-M16		2.5	4	2.4	3.7	16	60	2	●
HM-2EP-D2.5-M18		2.5	4	2.4	3.7	18	60	2	●
HM-2EP-D2.5-M20		2.5	4	2.4	3.7	20	60	2	●
HM-2EP-D3.0-M06		3	6	2.85	4.5	6	50	2	●
HM-2EP-D3.0-M08		3	6	2.85	4.5	8	50	2	●

● Ex stock ○ On demand

✻ With internal cooling

Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

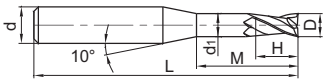
End mill Hard machining

HM-2EP



– Straight shank
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	d_1	H	M	L		KMG555
HM-2EP-D3.0-M10		3	6	2.85	4.5	10	50	2	●
HM-2EP-D3.0-M12		3	6	2.85	4.5	12	50	2	●
HM-2EP-D3.0-M14		3	6	2.85	4.5	14	60	2	●
HM-2EP-D3.0-M16		3	6	2.85	4.5	16	60	2	●
HM-2EP-D3.0-M18		3	6	2.85	4.5	18	60	2	●
HM-2EP-D3.0-M20		3	6	2.85	4.5	20	60	2	●
HM-2EP-D4.0-M12		4	6	3.85	6	12	60	2	●
HM-2EP-D4.0-M16		4	6	3.85	6	16	60	2	●
HM-2EP-D4.0-M20		4	6	3.85	6	20	60	2	●
HM-2EP-D4.0-M25		4	6	3.85	6	25	60	2	●
HM-2EP-D5.0-M16		5	6	4.85	7.5	16	60	2	●
HM-2EP-D5.0-M25		5	6	4.85	7.5	25	70	2	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

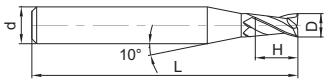
End mill Hard machining



HM-2ES

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]				Teeth	Grade
		D	d (h6)	H	L		KMG555
HM-2ES-D0.3		0.3	4	0.6	50	2	●
HM-2ES-D0.4		0.4	4	0.8	50	2	●
HM-2ES-D0.5		0.5	4	1	50	2	●
HM-2ES-D0.6		0.6	4	1.2	50	2	●
HM-2ES-D0.7		0.7	4	1.4	50	2	●
HM-2ES-D0.8		0.8	4	1.6	50	2	●
HM-2ES-D0.9		0.9	4	1.8	50	2	●
HM-2ES-D1.0		1	4	2	50	2	●
HM-2ES-D1.1		1.1	4	2	50	2	●
HM-2ES-D1.2		1.2	4	2.5	50	2	●
HM-2ES-D1.3		1.3	4	2.5	50	2	●
HM-2ES-D1.4		1.4	4	3	50	2	●
HM-2ES-D1.5		1.5	4	3	50	2	●
HM-2ES-D1.6		1.6	4	3.5	50	2	●
HM-2ES-D1.7		1.7	4	3.5	50	2	●
HM-2ES-D1.8		1.8	4	4	50	2	●
HM-2ES-D1.9		1.9	4	4	50	2	●
HM-2ES-D2.0		2	4	4	50	2	●
HM-2ES-D2.1		2.1	4	4	50	2	●
HM-2ES-D2.2		2.2	4	4.5	50	2	●
HM-2ES-D2.3		2.3	4	4.5	50	2	●
HM-2ES-D2.4		2.4	4	5	50	2	●
HM-2ES-D2.5		2.5	4	5	50	2	●
HM-2ES-D2.6		2.6	4	5	50	2	●
HM-2ES-D2.7		2.7	4	5.5	50	2	●
HM-2ES-D2.8		2.8	4	5.5	50	2	●
HM-2ES-D2.9		2.9	4	6	50	2	●
HM-2ES-D3.0		3	4	6	50	2	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

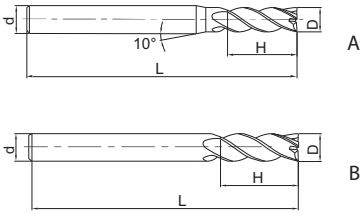
End mill | Hard machining



HM-4E

– Factory standard
– Centre cutting
– Helix angle 45°





Article	✻	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMG555
HM-4E-D1.0S		1	4	3	50	4	A	●
HM-4E-D1.5S		1.5	4	4	50	4	A	●
HM-4E-D2.0S		2	4	6	50	4	A	●
HM-4E-D2.5S		2.5	4	8	50	4	A	●
HM-4E-D3.0S		3	4	8	50	4	A	●
HM-4E-D4.0S		4	4	11	50	4	B	●
HM-4E-D1.0		1	6	3	50	4	A	●
HM-4E-D1.5		1.5	6	4	50	4	A	●
HM-4E-D2.0		2	6	6	50	4	A	●
HM-4E-D2.5		2.5	6	8	50	4	A	●
HM-4E-D3.0		3	6	8	50	4	A	●
HM-4E-D3.5		3.5	6	10	50	4	A	●
HM-4E-D4.0		4	6	11	50	4	A	●
HM-4E-D4.5		4.5	6	11	50	4	A	●
HM-4E-D5.0		5	6	13	50	4	A	●
HM-4E-D5.5		5.5	6	16	50	4	A	●
HM-4E-D6.0		6	6	16	50	4	B	●
HM-4E-D7.0		7	8	20	60	4	A	●
HM-4E-D8.0		8	8	20	60	4	B	●
HM-4E-D9.0		9	10	22	75	4	A	●
HM-4E-D10.0		10	10	25	75	4	B	●
HM-4E-D11.0		11	12	26	75	4	A	●
HM-4E-D12.0		12	12	30	75	4	B	●
HM-4E-D14.0		14	14	32	75	4	B	●
HM-4E-D16.0		16	16	45	100	4	B	●
HM-4E-D18.0		18	18	45	100	4	B	●
HM-4E-D20.0		20	20	45	100	4	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

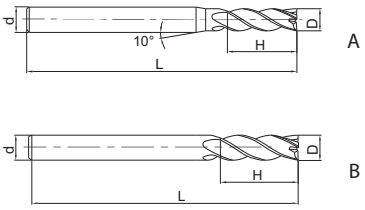
End mill long shank | Hard machining

HM-4EL



– Factory standard
– Centre cutting
– Helix angle 45°





Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG555
HM-4EL-D3.0		3	6	12	75	4	A	●
HM-4EL-D4.0		4	6	15	75	4	A	●
HM-4EL-D5.0		5	6	20	75	4	A	●
HM-4EL-D6.0		6	6	20	75	4	B	●
HM-4EL-D8.0		8	8	25	100	4	B	●
HM-4EL-D10.0		10	10	30	100	4	B	●
HM-4EL-D12.0		12	12	35	100	4	B	●
HM-4EL-D14.0		14	14	40	100	4	B	●
HM-4EL-D16.0		16	16	50	150	4	B	●
HM-4EL-D20.0		20	20	55	150	4	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code B278 | Cutting data B492 | Nonstandard order B541

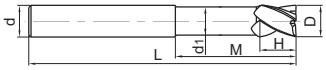
End mill short cutting edge | Hard machining



HM-4EFP

– Factory standard
– Centre cutting
– Helix angle 45°





Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	d_1	H	M	L		KMG555
HM-4EFP-D6.0		6	6	5.8	9	30	75	4	●
HM-4EFP-D8.0		8	8	7.8	12	40	100	4	●
HM-4EFP-D10.0		10	10	9.6	15	50	100	4	●
HM-4EFP-D12.0		12	12	11.5	18	50	100	4	●
HM-4EFP-D16.0		16	16	15.5	24	50	150	4	●
HM-4EFP-D20.0		20	20	19.5	30	60	150	4	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

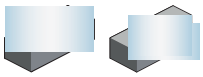
P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

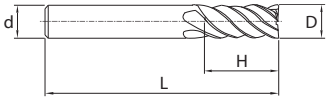
End mill long cutting edge | High-speed hard machining

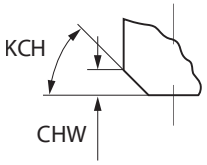
5502R55MHH



– Type of shank DIN 6535HA
– Non-centre cutting
– Helix angle 55°







Article	✲	Dimensions [mm]						Teeth	Grade	
		D	d (h6)	H	L	KCH	CHW		KMG405	KMG555
5502R55MHH-0300		3	6	8	57	0	0	4	●	●
5502R55MHH-0400		4	6	11	57	0	0	4	●	●
5502R55MHH-0500		5	6	13	57	0	0	5	●	●
5502R55MHH-0600		6	6	13	57	45	0.1	6	●	●
5502R55MHH-0800		8	8	19	63	45	0.1	6	●	●
5502R55MHH-1000		10	10	22	72	45	0.1	6	●	●
5502R55MHH-1200		12	12	26	83	45	0.1	6	●	●
5502R55MHH-1600		16	16	32	92	45	0.1	6	●	●
5502R55MHH-2000		20	20	38	104	45	0.1	8	●	●

● Ex stock ○ On demand
✲ With internal cooling

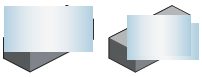
Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code B278 | Cutting data B492 | Nonstandard order B541

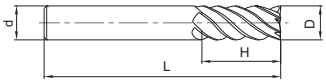
End mill Hard machining



HM-6E

– Factory standard
– Non-centre cutting
– Helix angle 45°





Article	✻	Dimensions [mm] D	d (h6)	H	L	Teeth	Grade KMG555
HM-6E-D6.0		6	6	18	60	6	○
HM-6E-D8.0		8	8	20	60	6	○
HM-6E-D10.0		10	10	30	75	6	○
HM-6E-D12.0		12	12	32	75	6	○
HM-6E-D16.0		16	16	40	100	6	○
HM-6E-D20.0		20	20	45	100	6	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

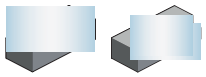
P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

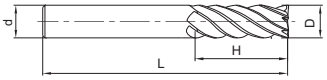
End mill long shank **Hard machining**

HM-6EL



– Factory standard
– Non-centre cutting
– Helix angle 45°





Article	✻	Dimensions [mm]				Teeth	Grade
		D	d (h6)	H	L		KMG555
HM-6EL-D6.0		6	6	24	75	6	●
HM-6EL-D8.0		8	8	32	75	6	●
HM-6EL-D10.0		10	10	40	100	6	●
HM-6EL-D12.0		12	12	45	100	6	●
HM-6EL-D16.0		16	16	64	150	6	●
HM-6EL-D20.0		20	20	75	150	6	●

● Ex stock ○ On demand

✻ With internal cooling

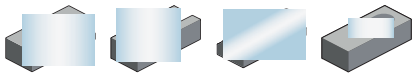
Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

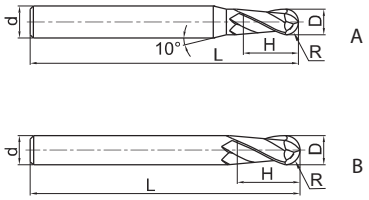
Ball nose cutter Hard machining



HM-2B

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade KMG555
HM-2B-R0.5S		0.5	1	4	2	50	2	A	●
HM-2B-R0.75S		0.75	1.5	4	3	50	2	A	●
HM-2B-R1.0S		1	2	4	4	50	2	A	●
HM-2B-R1.25S		1.25	2.5	4	5	50	2	A	●
HM-2B-R1.5S		1.5	3	4	6	50	2	A	●
HM-2B-R2.0S		2	4	4	8	50	2	B	●
HM-2B-R0.5		0.5	1	6	2	50	2	A	●
HM-2B-R0.75		0.75	1.5	6	3	50	2	A	●
HM-2B-R1.0		1	2	6	4	50	2	A	●
HM-2B-R1.25		1.25	2.5	6	5	50	2	A	●
HM-2B-R1.5		1.5	3	6	6	50	2	A	●
HM-2B-R1.75		1.75	3.5	6	8	50	2	A	●
HM-2B-R2.0		2	4	6	8	50	2	A	●
HM-2B-R2.5		2.5	5	6	10	50	2	A	●
HM-2B-R2.75		2.75	5.5	6	12	50	2	A	●
HM-2B-R3.0		3	6	6	12	50	2	B	●
HM-2B-R3.5		3.5	7	8	14	60	2	A	●
HM-2B-R4.0		4	8	8	16	60	2	B	●
HM-2B-R4.5		4.5	9	10	18	75	2	A	●
HM-2B-R5.0		5	10	10	20	75	2	B	●
HM-2B-R6.0		6	12	12	24	75	2	B	●
HM-2B-R7.0		7	14	14	28	75	2	B	●
HM-2B-R8.0		8	16	16	32	100	2	B	●
HM-2B-R10.0		10	20	20	40	100	2	B	●

● Ex stock ○ On demand
✲ With internal cooling

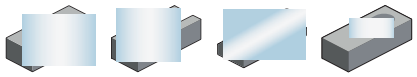
Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

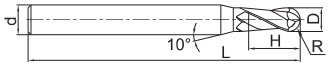
Ball nose cutter long shank | Hard machining



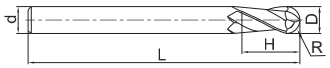
HM-2BL

– Factory standard
– Centre cutting
– Helix angle 35°





A



B

Article	✻	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			KMG555
HM-2BL-R1.0		1	2	6	4	75	2	A	●
HM-2BL-R1.25		1.25	2.5	6	6	75	2	A	●
HM-2BL-R1.5		1.5	3	6	6	75	2	A	●
HM-2BL-R1.75		1.75	3.5	6	8	75	2	A	●
HM-2BL-R2.0		2	4	6	8	75	2	A	●
HM-2BL-R2.5		2.5	5	6	10	75	2	A	●
HM-2BL-R2.75		2.75	5.5	6	12	75	2	A	●
HM-2BL-R3.0		3	6	6	12	75	2	B	●
HM-2BL-R3.5		3.5	7	8	14	75	2	A	●
HM-2BL-R4.0		4	8	8	16	100	2	B	●
HM-2BL-R4.5		4.5	9	10	18	100	2	A	●
HM-2BL-R5.0		5	10	10	20	100	2	B	●
HM-2BL-R6.0		6	12	12	24	100	2	B	●
HM-2BL-R7.0		7	14	14	28	100	2	B	●
HM-2BL-R8.0		8	16	16	32	150	2	B	●
HM-2BL-R10.0		10	20	20	40	150	2	B	●

● Ex stock ○ On demand

✻ With internal cooling

Application field

P	M	K	N	S	H
					✔

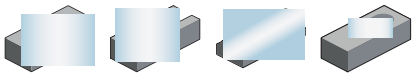
✔ Very suitable
✔ Suitable

System code B278 | Cutting data B492 | Nonstandard order B541

Ball nose cutter short cutting edge

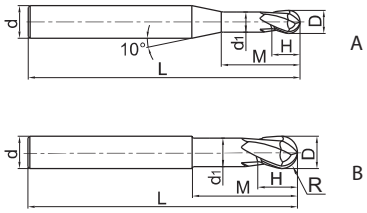
Hard machining

HM-2BFP



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm] R	D	d (h6)	d_1	H	M	L	Teeth	Geometry	Grade KMG555
HM-2BFP-R0.5		0.5	1	6	0.95	1	2.5	75	2	A	●
HM-2BFP-R0.75		0.75	1.5	6	1.45	1.5	3	75	2	A	●
HM-2BFP-R1.0		1	2	6	1.95	2	4	75	2	A	●
HM-2BFP-R1.5		1.5	3	6	2.85	3	6	75	2	A	●
HM-2BFP-R2.0		2	4	6	3.85	4	8	75	2	A	●
HM-2BFP-R2.5		2.5	5	6	4.85	5	10	75	2	A	●
HM-2BFP-R3.0		3	6	6	5.8	6	12	75	2	B	●
HM-2BFP-R4.0		4	8	8	7.8	8	16	100	2	B	●
HM-2BFP-R5.0		5	10	10	9.6	10	20	100	2	B	●
HM-2BFP-R6.0		6	12	12	11.5	12	24	100	2	B	●
HM-2BFP-R8.0		8	16	16	15.5	16	32	150	2	B	●
HM-2BFP-R10.0		10	20	20	19.5	20	40	150	2	B	○

● Ex stock ○ On demand
✲ With internal cooling

Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

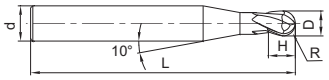
Ball nose cutter | Hard machining



HM-2BS

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]					Teeth	Grade
		R	D	d (h6)	H	L		KMG555
HM-2BS-R0.15		0.15	0.3	4	0.5	50	2	●
HM-2BS-R0.20		0.2	0.4	4	0.6	50	2	●
HM-2BS-R0.25		0.25	0.5	4	0.8	50	2	●
HM-2BS-R0.30		0.3	0.6	4	0.9	50	2	●
HM-2BS-R0.35		0.35	0.7	4	1	50	2	●
HM-2BS-R0.40		0.4	0.8	4	1.2	50	2	●
HM-2BS-R0.45		0.45	0.9	4	1.3	50	2	●
HM-2BS-R0.50		0.5	1	4	1.5	50	2	●
HM-2BS-R0.60		0.6	1.2	4	1.8	50	2	●
HM-2BS-R0.70		0.7	1.4	4	2	50	2	●
HM-2BS-R0.75		0.75	1.5	4	2.3	50	2	●
HM-2BS-R0.80		0.8	1.6	4	2.5	50	2	●
HM-2BS-R0.90		0.9	1.8	4	2.7	50	2	●
HM-2BS-R1.00		1	2	4	3	50	2	●
HM-2BS-R1.25		1.25	2.5	4	3.7	50	2	●
HM-2BS-R1.50		1.5	3	4	4.5	50	2	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code B278 | Cutting data B492 | Nonstandard order B541

Solid carbide milling HM series

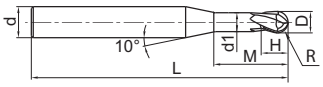
End mill Hard machining



HM-2BP

– Straight shank
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		KMG555
HM-2BP-R0.25-M04		0.25	0.5	4	0.45	0.7	4	50	2	●
HM-2BP-R0.25-M06		0.25	0.5	4	0.45	0.7	6	50	2	●
HM-2BP-R0.3-M04		0.3	0.6	4	0.55	0.9	4	50	2	●
HM-2BP-R0.3-M06		0.3	0.6	4	0.55	0.9	6	50	2	●
HM-2BP-R0.3-M08		0.3	0.6	4	0.55	0.9	8	50	2	●
HM-2BP-R0.4-M04		0.4	0.8	4	0.75	1.2	4	50	2	●
HM-2BP-R0.4-M06		0.4	0.8	4	0.75	1.2	6	50	2	●
HM-2BP-R0.4-M08		0.4	0.8	4	0.75	1.2	8	50	2	●
HM-2BP-R0.4-M10		0.4	0.8	4	0.75	1.2	10	50	2	●
HM-2BP-R0.5-M04		0.5	1	4	0.95	1.5	4	50	2	●
HM-2BP-R0.5-M06		0.5	1	4	0.95	1.5	6	50	2	●
HM-2BP-R0.5-M08		0.5	1	4	0.95	1.5	8	50	2	●
HM-2BP-R0.5-M10		0.5	1	4	0.95	1.5	10	50	2	●
HM-2BP-R0.5-M12		0.5	1	4	0.95	1.5	12	50	2	●
HM-2BP-R0.6-M06		0.6	1.2	4	1.15	1.8	6	50	2	●
HM-2BP-R0.6-M08		0.6	1.2	4	1.15	1.8	8	50	2	●
HM-2BP-R0.6-M12		0.6	1.2	4	1.15	1.8	12	50	2	●
HM-2BP-R0.6-M16		0.6	1.2	4	1.15	1.8	16	50	2	●
HM-2BP-R0.75-M08		0.75	1.5	4	1.45	2.3	8	50	2	●
HM-2BP-R0.75-M12		0.75	1.5	4	1.45	2.3	12	50	2	●
HM-2BP-R0.75-M16		0.75	1.5	4	1.45	2.3	16	50	2	●
HM-2BP-R1.0-M06		1	2	4	1.95	3	6	50	2	●
HM-2BP-R1.0-M08		1	2	4	1.95	3	8	50	2	●
HM-2BP-R1.0-M10		1	2	4	1.95	3	10	50	2	●
HM-2BP-R1.0-M12		1	2	4	1.95	3	12	50	2	●
HM-2BP-R1.0-M16		1	2	4	1.95	3	16	50	2	●
HM-2BP-R1.0-M20		1	2	4	1.95	3	20	50	2	●
HM-2BP-R1.25-M08		1.25	2.5	4	2.4	3.7	8	50	2	●
HM-2BP-R1.25-M12		1.25	2.5	4	2.4	3.7	12	50	2	●
HM-2BP-R1.25-M16		1.25	2.5	4	2.4	3.7	16	60	2	●
HM-2BP-R1.25-M20		1.25	2.5	4	2.4	3.7	20	60	2	●
HM-2BP-R1.5-M08		1.5	3	6	2.85	4.5	8	50	2	●
HM-2BP-R1.5-M10		1.5	3	6	2.85	4.5	10	50	2	●
HM-2BP-R1.5-M12		1.5	3	6	2.85	4.5	12	50	2	●
HM-2BP-R1.5-M16		1.5	3	6	2.85	4.5	16	60	2	●
HM-2BP-R1.5-M20		1.5	3	6	2.85	4.5	20	60	2	●
HM-2BP-R2.0-M10		2	4	6	3.85	6	10	60	2	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

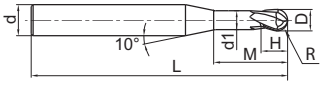
End mill Hard machining

HM-2BP



– Straight shank
– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		KMG555
HM-2BP-R2.0-M16		2	4	6	3.85	6	16	60	2	●
HM-2BP-R2.0-M20		2	4	6	3.85	6	20	60	2	●
HM-2BP-R2.0-M25		2	4	6	3.85	6	25	60	2	●
HM-2BP-R2.5-M16		2.5	5	6	4.85	7.5	16	60	2	●
HM-2BP-R2.5-M25		2.5	5	6	4.85	7.5	25	70	2	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

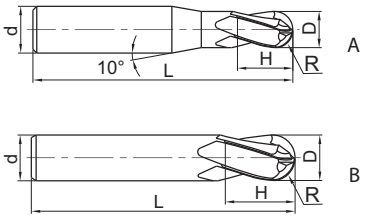
Ball nose cutter Hard machining



HM-4B

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade KMG555
HM-4B-R1.5		1.5	3	6	6	50	4	A	●
HM-4B-R2.0		2	4	6	8	50	4	A	●
HM-4B-R2.5		2.5	5	6	10	50	4	A	●
HM-4B-R3.0		3	6	6	12	50	4	B	●
HM-4B-R4.0		4	8	8	16	60	4	B	●
HM-4B-R5.0		5	10	10	20	75	4	B	●
HM-4B-R6.0		6	12	12	24	75	4	B	●
HM-4B-R7.0		7	14	14	28	75	4	B	●
HM-4B-R8.0		8	16	16	32	100	4	B	●
HM-4B-R9.0		9	18	18	36	100	4	B	●
HM-4B-R10.0		10	20	20	40	100	4	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

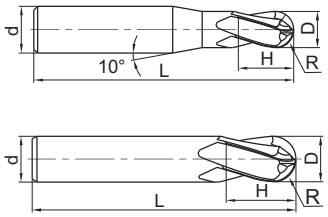
Ball nose cutter long shank | Hard machining

HM-4BL



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			KMG555
HM-4BL-R1.5		1.5	3	6	6	75	4	A	●
HM-4BL-R2.0		2	4	6	8	75	4	A	●
HM-4BL-R2.5		2.5	5	6	10	75	4	A	●
HM-4BL-R3.0		3	6	6	12	75	4	B	●
HM-4BL-R4.0		4	8	8	16	100	4	B	●
HM-4BL-R5.0		5	10	10	20	100	4	B	●
HM-4BL-R6.0		6	12	12	24	100	4	B	●
HM-4BL-R7.0		7	14	14	28	100	4	B	●
HM-4BL-R8.0		8	16	16	32	150	4	B	●
HM-4BL-R9.0		9	18	18	36	150	4	B	●
HM-4BL-R10.0		10	20	20	40	150	4	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

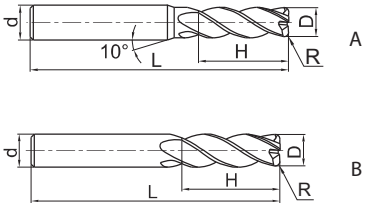
Torus mill | Hard machining



HM-4R

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade KMG555
HM-4R-D3.0R0.2		0.2	3	4	8	50	4	A	●
HM-4R-D4.0R0.3		0.3	4	4	10	50	4	B	●
HM-4R-D4.0R0.5		0.5	4	4	10	50	4	B	●
HM-4R-D5.0R0.5		0.5	5	6	13	50	4	A	●
HM-4R-D5.0R1.0		1	5	6	13	50	4	A	●
HM-4R-D6.0R0.5		0.5	6	6	16	50	4	B	●
HM-4R-D6.0R1.0		1	6	6	16	50	4	B	●
HM-4R-D8.0R0.5		0.5	8	8	20	60	4	B	●
HM-4R-D8.0R1.0		1	8	8	20	60	4	B	●
HM-4R-D10.0R0.5		0.5	10	10	25	75	4	B	●
HM-4R-D10.0R1.0		1	10	10	25	75	4	B	●
HM-4R-D10.0R2.0		2	10	10	25	75	4	B	●
HM-4R-D10.0R3.0		3	10	10	25	75	4	B	●
HM-4R-D12.0R0.5		0.5	12	12	30	75	4	B	●
HM-4R-D12.0R1.0		1	12	12	30	75	4	B	●
HM-4R-D12.0R2.0		2	12	12	30	75	4	B	●
HM-4R-D12.0R3.0		3	12	12	30	75	4	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

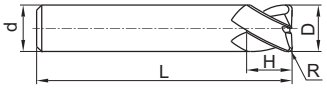
Torus mill short cutting edge | Hard machining



HM-4RF

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm]					Teeth	Grade
		R	D	d (h6)	H	L		KMG555
HM-4RF-D6.0R0.5		0.5	6	6	6	50	4	○
HM-4RF-D6.0R1.0		1	6	6	6	50	4	○
HM-4RF-D8.0R0.5		0.5	8	8	8	60	4	○
HM-4RF-D8.0R1.0		1	8	8	8	60	4	○
HM-4RF-D10.0R1.0		1	10	10	10	75	4	○
HM-4RF-D10.0R2.0		2	10	10	10	75	4	○
HM-4RF-D12.0R0.5		0.5	12	12	12	75	4	○
HM-4RF-D12.0R1.0		1	12	12	12	75	4	○
HM-4RF-D12.0R2.0		2	12	12	12	75	4	○

● Ex stock ○ On demand
✲ With internal cooling

Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code B278 | Cutting data B492 | Nonstandard order B541

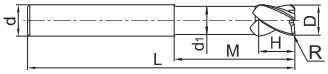
Torus mill long shank | Hard machining



HM-4RP

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		KMG555
HM-4RP-D6.0R0.5		0.5	6	6	5.8	6	18	75	4	○
HM-4RP-D6.0R1.0		1	6	6	5.8	6	18	75	4	○
HM-4RP-D8.0R0.5		0.5	8	8	7.8	8	24	100	4	○
HM-4RP-D8.0R1.0		1	8	8	7.8	8	24	100	4	○
HM-4RP-D10.0R0.5		0.5	10	10	9.6	10	30	100	4	○
HM-4RP-D10.0R1.0		1	10	10	9.6	10	30	100	4	○
HM-4RP-D10.0R2.0		2	10	10	9.6	10	30	100	4	○
HM-4RP-D12.0R0.5		0.5	12	12	11.5	12	36	100	4	○
HM-4RP-D12.0R1.0		1	12	12	11.5	12	36	100	4	○
HM-4RP-D12.0R2.0		2	12	12	11.5	12	36	100	4	○
HM-4RP-D16.0R1.0		1	16	16	15.5	16	40	150	4	●
HM-4RP-D16.0R2.0		2	16	16	15.5	16	40	150	4	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

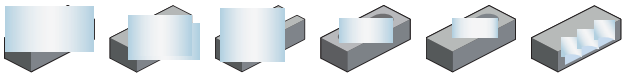
P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

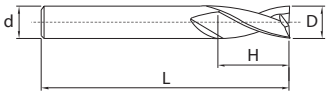
End mill General machining of non-ferrous metals

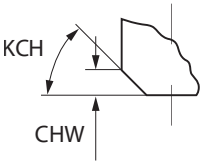
5502R402NM



– Type of shank DIN 6535HA
– Centre cutting
– Helix angle 40°







Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	H	L	KCH	CHW		YK30F
5502R402NM-0300		3	6	8	57	0	0	2	●
5502R402NM-0400		4	6	11	57	0	0	2	●
5502R402NM-0500		5	6	13	57	0	0	2	●
5502R402NM-0600		6	6	13	57	45	0.1	2	●
5502R402NM-0800		8	8	19	63	45	0.1	2	●
5502R402NM-1000		10	10	22	72	45	0.1	2	●
5502R402NM-1200		12	12	26	83	45	0.1	2	●
5502R402NM-1400		14	14	26	83	45	0.15	2	●
5502R402NM-1600		16	16	32	92	45	0.15	2	●
5502R402NM-1800		18	18	32	92	45	0.15	2	●
5502R402NM-2000		20	20	38	104	45	0.15	2	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

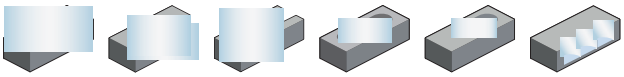
P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

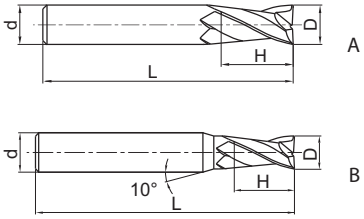
End mill General machining of non-ferrous metals

NM-2E



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMG309
NM-2E-D1.0		1	4	3	50	2	A	●
NM-2E-D2.0		2	4	6	50	2	A	●
NM-2E-D3.0		3	6	8	50	2	A	●
NM-2E-D4.0		4	6	11	50	2	A	●
NM-2E-D5.0		5	6	13	50	2	A	●
NM-2E-D6.0		6	6	16	50	2	B	●
NM-2E-D8.0		8	8	20	60	2	B	●
NM-2E-D10.0		10	10	25	75	2	B	●
NM-2E-D12.0		12	12	30	75	2	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

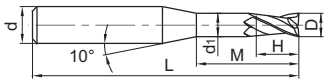
End mill General machining of non-ferrous metals



NM-2EP

– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	d_1	H	M	L		KMG309
NM-2EP-D0.5-M04		0.5	4	0.45	0.7	4	50	2	●
NM-2EP-D0.5-M08		0.5	4	0.45	0.7	8	50	2	●
NM-2EP-D0.5-M06		0.5	4	0.45	0.7	6	50	2	●
NM-2EP-D0.8-M10		0.8	4	0.75	1.2	10	50	2	●
NM-2EP-D0.8-M04		0.8	4	0.75	1.2	4	50	2	●
NM-2EP-D0.8-M08		0.8	4	0.75	1.2	8	50	2	●
NM-2EP-D0.8-M06		0.8	4	0.75	1.2	6	50	2	●
NM-2EP-D1.0-M08		1	4	0.95	1.5	8	50	2	●
NM-2EP-D1.0-M10		1	4	0.95	1.5	10	50	2	●
NM-2EP-D1.0-M14		1	4	0.95	1.5	14	50	2	●
NM-2EP-D1.0-M12		1	4	0.95	1.5	12	50	2	●
NM-2EP-D1.0-M06		1	4	0.95	1.5	6	50	2	●
NM-2EP-D1.0-M04		1	4	0.95	1.5	4	50	2	●
NM-2EP-D1.5-M08		1.5	4	1.45	2.3	8	50	2	●
NM-2EP-D1.5-M16		1.5	4	1.45	2.3	16	50	2	●
NM-2EP-D2.0-M16		2	4	1.95	3	16	50	2	●
NM-2EP-D2.0-M14		2	4	1.95	3	14	50	2	●
NM-2EP-D2.0-M08		2	4	1.95	3	8	50	2	●
NM-2EP-D2.0-M10		2	4	1.95	3	10	50	2	●
NM-2EP-D2.0-M12		2	4	1.95	3	12	50	2	●
NM-2EP-D2.0-M06		2	4	1.95	3	6	50	2	●
NM-2EP-D2.5-M10		2.5	4	2.4	3.7	10	50	2	●
NM-2EP-D2.5-M20		2.5	4	2.4	3.7	20	60	2	●
NM-2EP-D3.0-M20		3	6	2.85	4.5	20	60	2	●
NM-2EP-D3.0-M10		3	6	2.85	4.5	10	50	2	●
NM-2EP-D4.0-M25		4	6	3.85	6	25	60	2	●
NM-2EP-D4.0-M16		4	6	3.85	6	16	60	2	●
NM-2EP-D5.0-M25		5	6	4.85	7.5	25	70	2	●
NM-2EP-D5.0-M16		5	6	4.85	7.5	16	60	2	●

● Ex stock ○ On demand

✻ With internal cooling

Application field

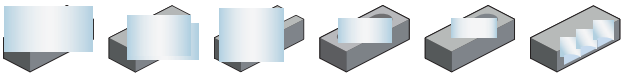
P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

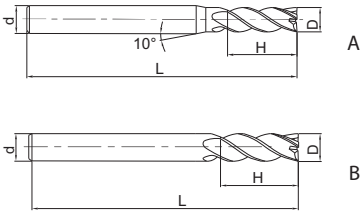
End mill General machining of non-ferrous metals

NM-4E



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMG309
NM-4E-D3.0		3	6	8	50	4	A	●
NM-4E-D4.0		4	6	11	50	4	A	●
NM-4E-D5.0		5	6	13	50	4	A	●
NM-4E-D6.0		6	6	16	50	4	B	●
NM-4E-D8.0		8	8	20	60	4	B	●
NM-4E-D10.0		10	10	25	75	4	B	●
NM-4E-D12.0		12	12	30	75	4	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

Ball nose cutter

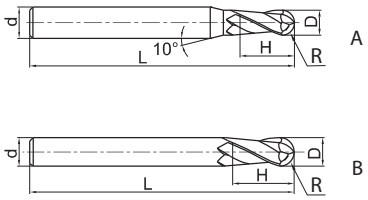
General machining of non-ferrous metals

NM-2B



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			KMG309
NM-2B-R0.5		0.5	1	4	2	50	2	A	●
NM-2B-R0.75		0.75	1.5	4	3	50	2	A	●
NM-2B-R1.0		1	2	4	4	50	2	A	●
NM-2B-R1.25		1.25	2.5	4	5	50	2	A	●
NM-2B-R1.5		1.5	3	6	6	50	2	A	●
NM-2B-R1.75		1.75	3.5	6	8	50	2	A	●
NM-2B-R2.0		2	4	6	8	50	2	A	●
NM-2B-R2.5		2.5	5	6	10	50	2	A	●
NM-2B-R3.0		3	6	6	12	50	2	B	●
NM-2B-R4.0		4	8	8	16	60	2	B	●
NM-2B-R5.0		5	10	10	20	75	2	B	●
NM-2B-R6.0		6	12	12	24	75	2	B	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

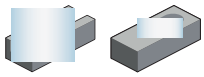
System code B278 Cutting data B492 Nonstandard order B541

Solid carbide milling NM series

Ball nose cutter

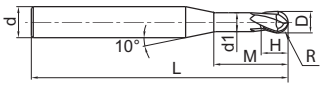
General machining of non-ferrous metals

NM-2BP



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		KMG309
NM-2BP-R0.25-M04		0.25	0.5	4	0.45	0.7	4	50	2	●
NM-2BP-R0.25-M06		0.25	0.5	4	0.45	0.7	6	50	2	●
NM-2BP-R0.3-M04		0.3	0.6	4	0.55	0.9	4	50	2	●
NM-2BP-R0.3-M06		0.3	0.6	4	0.55	0.9	6	50	2	●
NM-2BP-R0.3-M08		0.3	0.6	4	0.55	0.9	8	50	2	●
NM-2BP-R0.4-M04		0.4	0.8	4	0.75	1.2	4	50	2	●
NM-2BP-R0.4-M06		0.4	0.8	4	0.75	1.2	6	50	2	●
NM-2BP-R0.4-M08		0.4	0.8	4	0.75	1.2	8	50	2	●
NM-2BP-R0.4-M10		0.4	0.8	4	0.75	1.2	10	50	2	●
NM-2BP-R0.5-M04		0.5	1	4	0.95	1.5	4	50	2	●
NM-2BP-R0.5-M06		0.5	1	4	0.95	1.5	6	50	2	●
NM-2BP-R0.5-M08		0.5	1	4	0.95	1.5	8	50	2	●
NM-2BP-R0.5-M10		0.5	1	4	0.95	1.5	10	50	2	●
NM-2BP-R0.5-M12		0.5	1	4	0.95	1.5	12	50	2	●
NM-2BP-R0.75-M08		0.75	1.5	4	1.45	2.3	8	50	2	●
NM-2BP-R0.75-M16		0.75	1.5	4	1.45	2.3	16	50	2	●
NM-2BP-R1.0-M06		1	2	4	1.95	3	6	50	2	●
NM-2BP-R1.0-M08		1	2	4	1.95	3	8	50	2	●
NM-2BP-R1.0-M10		1	2	4	1.95	3	10	50	2	●
NM-2BP-R1.0-M12		1	2	4	1.95	3	12	50	2	●
NM-2BP-R1.0-M16		1	2	4	1.95	3	16	50	2	●
NM-2BP-R1.0-M20		1	2	4	1.95	3	20	60	2	●
NM-2BP-R1.5-M10		1.5	3	6	2.85	4.5	10	50	2	●
NM-2BP-R1.5-M20		1.5	3	6	2.85	4.5	20	60	2	●
NM-2BP-R2.0-M10		2	4	6	3.85	6	10	60	2	●
NM-2BP-R2.0-M16		2	4	6	3.85	6	16	60	2	●
NM-2BP-R2.0-M20		2	4	6	3.85	6	20	60	2	●
NM-2BP-R2.0-M25		2	4	6	3.85	6	25	60	2	●
NM-2BP-R2.5-M16		2.5	5	6	4.85	7.5	16	60	2	●
NM-2BP-R2.5-M25		2.5	5	6	4.85	7.5	25	70	2	●

● Ex stock ○ On demand

✻ With internal cooling

Application field

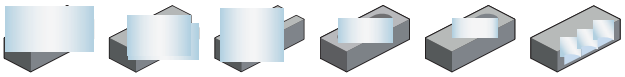
P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

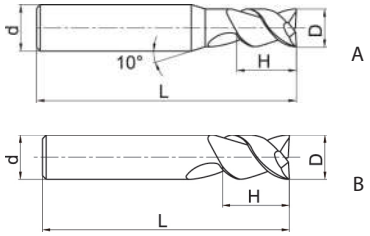
End mill General machining of Al and Al alloys

AL-2E



– Factory standard
– Centre cutting
– Helix angle 55°





Article	✻	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade YK30F
AL-2E-D1.0		1	4	3	50	2	A	●
AL-2E-D1.5		1.5	4	4	50	2	A	●
AL-2E-D2.0		2	4	6	50	2	A	●
AL-2E-D2.5		2.5	4	7	50	2	A	●
AL-2E-D3.0		3	6	9	50	2	A	●
AL-2E-D4.0		4	6	12	50	2	A	●
AL-2E-D5.0		5	6	15	50	2	A	●
AL-2E-D6.0		6	6	18	60	2	B	●
AL-2E-D8.0		8	8	20	60	2	B	●
AL-2E-D10.0		10	10	30	75	2	B	●
AL-2E-D12.0		12	12	32	75	2	B	●
AL-2E-D16.0		16	16	45	100	2	B	●
AL-2E-D20.0		20	20	45	100	2	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
			✔		

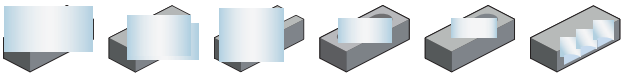
✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

End mill long cutting edge

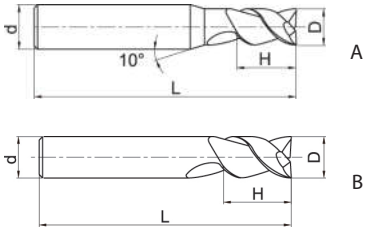
General machining of Al and Al alloys

AL-2EL



– Factory standard
– Centre cutting
– Helix angle 55°





Article	✲	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade YK30F
AL-2EL-D3.0		3	6	12	60	2	A	●
AL-2EL-D4.0		4	6	16	60	2	A	●
AL-2EL-D5.0		5	6	20	60	2	A	●
AL-2EL-D6.0		6	6	25	75	2	B	●
AL-2EL-D8.0		8	8	32	75	2	B	●
AL-2EL-D10.0		10	10	45	100	2	B	●
AL-2EL-D12.0		12	12	45	100	2	B	●
AL-2EL-D16.0		16	16	65	150	2	B	●
AL-2EL-D20.0		20	20	75	150	2	B	●

● Ex stock ○ On demand

✲ With internal cooling

Application field

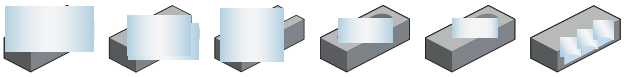
P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

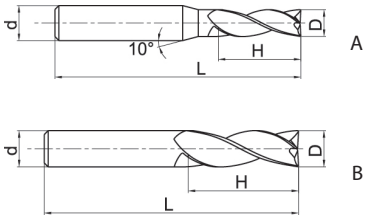
End mill General machining of Al and Al alloys

AL-3E



– Factory standard
– Centre cutting
– Helix angle 45°





Article	✻	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			YK30F
AL-3E-D1.0		1	4	3	50	3	A	●
AL-3E-D1.5		1.5	4	4	50	3	A	●
AL-3E-D2.0		2	4	6	50	3	A	●
AL-3E-D2.5		2.5	4	7	50	3	A	●
AL-3E-D3.0		3	6	9	50	3	A	●
AL-3E-D4.0		4	6	12	50	3	A	●
AL-3E-D5.0		5	6	15	50	3	A	●
AL-3E-D6.0		6	6	18	60	3	B	●
AL-3E-D8.0		8	8	20	60	3	B	●
AL-3E-D10.0		10	10	30	75	3	B	●
AL-3E-D12.0		12	12	32	75	3	B	●
AL-3E-D16.0		16	16	45	100	3	B	●
AL-3E-D20.0		20	20	45	100	3	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
			✔		

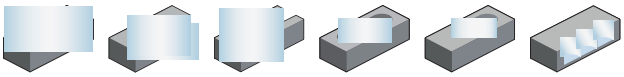
✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

End mill long cutting edge

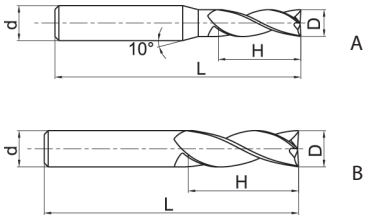
General machining of Al and Al alloys

AL-3EL



– Factory standard
– Centre cutting
– Helix angle 45°





Article	✲	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade YK30F
AL-3EL-D3.0		3	6	12	60	3	A	●
AL-3EL-D4.0		4	6	16	60	3	A	●
AL-3EL-D5.0		5	6	20	60	3	A	●
AL-3EL-D6.0		6	6	25	75	3	B	●
AL-3EL-D8.0		8	8	32	75	3	B	●
AL-3EL-D10.0		10	10	45	100	3	B	●
AL-3EL-D12.0		12	12	45	100	3	B	●
AL-3EL-D16.0		16	16	65	150	3	B	●
AL-3EL-D20.0		20	20	75	150	3	B	●

● Ex stock ○ On demand

✲ With internal cooling

Application field

P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

End mill serrated teeth

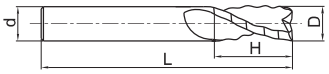
General machining of Al and Al alloys

AL-3W



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm]				Teeth	Grade
		D	d (h6)	H	L		YK30F
AL-3W-D6.0		6	6	16	50	3	●
AL-3W-D8.0		8	8	20	60	3	●
AL-3W-D10.0		10	10	25	75	3	●
AL-3W-D12.0		12	12	30	75	3	●
AL-3W-D16.0		16	16	45	100	3	●
AL-3W-D18.0		18	18	45	100	3	○
AL-3W-D20.0		20	20	45	100	3	●

● Ex stock ○ On demand

✻ With internal cooling

Application field

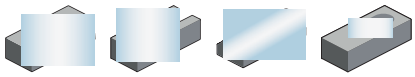
P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

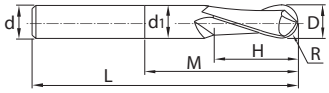
Ball nose cutter — High performance machining of non-ferrous metals

5565R302NH



– Type of shank DIN 6535HA
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm]							Teeth	Grade
		D	R	d (h6)	d_1	H	M	L		YK40F
5565R302NH-0300		3	1.5	6	2.8	6	9	57	2	●
5565R302NH-0400		4	2	6	3.7	8	12	57	2	●
5565R302NH-0500		5	2.5	6	4.6	10	15	57	2	●
5565R302NH-0600		6	3	6	5.5	12	20	57	2	●
5565R302NH-0800		8	4	8	7.4	16	26	63	2	●
5565R302NH-1000		10	5	10	9.2	20	31	72	2	●
5565R302NH-1200		12	6	12	11	24	37	83	2	●
5565R302NH-1600		16	8	16	15	32	43	92	2	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

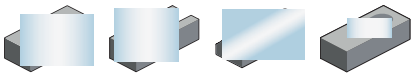
P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

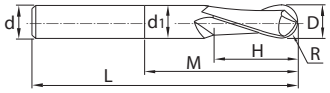
Ball nose cutter long shank | High performance machining of non-ferrous metals

5566R302NH



– Type of shank DIN 6535HA
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm]							Teeth	Grade
		D	R	d (h6)	d_1	H	M	L		YK40F
5566R302NH-0300		3	1.5	6	2.8	6	9	75	2	●
5566R302NH-0400		4	2	6	3.7	8	12	75	2	●
5566R302NH-0500		5	2.5	6	4.6	10	15	80	2	●
5566R302NH-0600		6	3	6	5.5	12	20	80	2	●
5566R302NH-0800		8	4	8	7.4	16	26	90	2	●
5566R302NH-1000		10	5	10	9.2	20	31	100	2	●
5566R302NH-1200		12	6	12	11	24	37	120	2	●
5566R302NH-1600		16	8	16	15	32	43	140	2	●

● Ex stock ○ On demand

✲ With internal cooling

Application field

P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code B278 | Cutting data B492 | Nonstandard order B541

Ball nose cutter

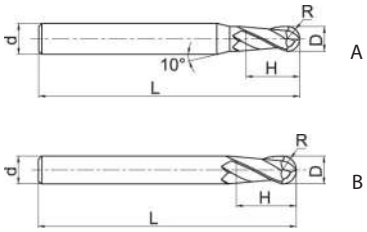
General machining of Al and Al alloys

AL-2B



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Geometry	Grade YK30F
AL-2B-R1.0		1	2	6	4	60	2	A	○
AL-2B-R1.5		1.5	3	6	6	60	2	A	○
AL-2B-R2.0		2	4	6	8	60	2	A	○
AL-2B-R2.5		2.5	5	6	10	60	2	A	○
AL-2B-R3.0		3	6	6	12	60	2	B	○
AL-2B-R4.0		4	8	8	16	75	2	B	○
AL-2B-R5.0		5	10	10	20	75	2	B	○
AL-2B-R6.0		6	12	12	24	75	2	B	○

● Ex stock ○ On demand
✲ With internal cooling

Application field

P	M	K	N	S	H
			✔		

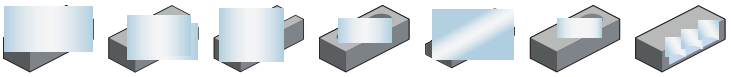
✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

Torus mill

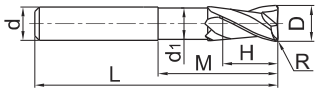
General machining of Al and Al alloys

AL-2R-AIR



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		YK40F
AL-2R-D6.0R1.0-AIR		1	6	6	5.5	7	20	57	2	●
AL-2R-D8.0R1.0-AIR		1	8	8	7.4	9	26	63	2	●
AL-2R-D10.0R1.0-AIR		1	10	10	9.2	11	31	72	2	○
AL-2R-D10.0R2.0-AIR		2	10	10	9.2	11	31	72	2	○
AL-2R-D12.0R1.0-AIR		1	12	12	11	12	37	83	2	●
AL-2R-D12.0R2.0-AIR		2	12	12	11	12	37	83	2	○
AL-2R-D12.0R3.0-AIR		3	12	12	11	12	37	83	2	○
AL-2R-D16.0R1.0-AIR		1	16	16	15	16	43	92	2	○
AL-2R-D16.0R2.0-AIR		2	16	16	15	16	43	92	2	○
AL-2R-D16.0R3.0-AIR		3	16	16	15	16	43	92	2	○
AL-2R-D16.0R4.0-AIR		4	16	16	15	16	43	92	2	○
AL-2R-D20.0R1.0-AIR		1	20	20	19	20	53	104	2	●
AL-2R-D20.0R2.0-AIR		2	20	20	19	20	53	104	2	○
AL-2R-D20.0R3.0-AIR		3	20	20	19	20	53	104	2	○
AL-2R-D20.0R4.0-AIR		4	20	20	19	20	53	104	2	○
AL-2R-D20.0R5.0-AIR		5	20	20	19	20	53	104	2	●
AL-2R-D20.0R6.0-AIR		6	20	20	19	20	53	104	2	○

● Ex stock ○ On demand

✻ With internal cooling

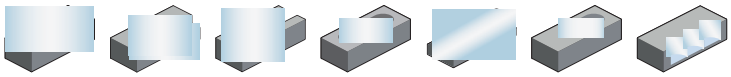
Application field

P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

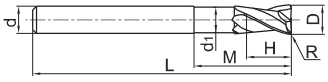
Torus mill long shank — General machining of Al and Al alloys



AL-2RL-AIR

– Factory standard
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm] R	D	d (h6)	d_1	H	M	L	Teeth	Grade YK40F
AL-2RL-D6.0R1.0-AIR		1	6	6	5.5	7	43	80	2	●
AL-2RL-D8.0R1.0-AIR		1	8	8	7.4	9	53	90	2	●
AL-2RL-D10.0R1.0-AIR		1	10	10	9.2	11	59	100	2	●
AL-2RL-D10.0R2.0-AIR		2	10	10	9.2	11	59	100	2	●
AL-2RL-D12.0R1.0-AIR		1	12	12	11	12	74	120	2	●
AL-2RL-D12.0R2.0-AIR		2	12	12	11	12	74	120	2	●
AL-2RL-D12.0R3.0-AIR		3	12	12	11	12	74	120	2	●
AL-2RL-D16.0R1.0-AIR		1	16	16	15	16	84	140	2	●
AL-2RL-D16.0R2.0-AIR		2	16	16	15	16	84	140	2	●
AL-2RL-D16.0R3.0-AIR		3	16	16	15	16	84	140	2	●
AL-2RL-D16.0R4.0-AIR		4	16	16	15	16	84	140	2	●
AL-2RL-D20.0R1.0-AIR		1	20	20	19	20	89	140	2	○
AL-2RL-D20.0R2.0-AIR		2	20	20	19	20	89	140	2	●
AL-2RL-D20.0R3.0-AIR		3	20	20	19	20	89	140	2	●
AL-2RL-D20.0R4.0-AIR		4	20	20	19	20	89	140	2	●
AL-2RL-D20.0R5.0-AIR		5	20	20	19	20	89	140	2	○
AL-2RL-D20.0R6.0-AIR		6	20	20	19	20	89	140	2	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
			✔		

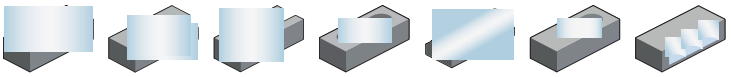
✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

Torus mill

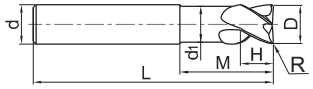
General machining of Al and Al alloys

AL-3R-AIR



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		YK40F
AL-3R-D12.0R1.0-AIR		1	12	12	11	12	37	83	3	●
AL-3R-D12.0R2.0-AIR		2	12	12	11	12	37	83	3	●
AL-3R-D12.0R3.0-AIR		3	12	12	11	12	37	83	3	●
AL-3R-D16.0R1.0-AIR		1	16	16	15	16	43	92	3	●
AL-3R-D16.0R2.0-AIR		2	16	16	15	16	43	92	3	●
AL-3R-D16.0R3.0-AIR		3	16	16	15	16	43	92	3	●
AL-3R-D16.0R4.0-AIR		4	16	16	15	16	43	92	3	●
AL-3R-D20.0R1.0-AIR		1	20	20	19	20	53	104	3	●
AL-3R-D20.0R2.0-AIR		2	20	20	19	20	53	104	3	○
AL-3R-D20.0R3.0-AIR		3	20	20	19	20	53	104	3	○
AL-3R-D20.0R4.0-AIR		4	20	20	19	20	53	104	3	○
AL-3R-D20.0R5.0-AIR		5	20	20	19	20	53	104	3	●
AL-3R-D20.0R6.0-AIR		6	20	20	19	20	53	104	3	○

● Ex stock ○ On demand
✲ With internal cooling

Application field

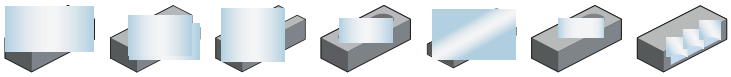
P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

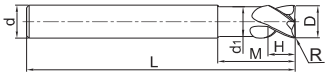
Torus mill long shank — General machining of Al and Al alloys

AL-3RL-AIR



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm] R	D	d (h6)	d_1	H	M	L	Teeth	Grade YK40F
AL-3RL-D12.0R1.0-AIR		1	12	12	11	12	74	120	3	●
AL-3RL-D12.0R2.0-AIR		2	12	12	11	12	74	120	3	●
AL-3RL-D12.0R3.0-AIR		3	12	12	11	12	74	120	3	●
AL-3RL-D16.0R1.0-AIR		1	16	16	15	16	84	140	3	●
AL-3RL-D16.0R2.0-AIR		2	16	16	15	16	84	140	3	○
AL-3RL-D16.0R3.0-AIR		3	16	16	15	16	84	140	3	●
AL-3RL-D16.0R4.0-AIR		4	16	16	15	16	84	140	3	●
AL-3RL-D20.0R1.0-AIR		1	20	20	19	20	89	140	3	●
AL-3RL-D20.0R2.0-AIR		2	20	20	19	20	89	140	3	○
AL-3RL-D20.0R3.0-AIR		3	20	20	19	20	89	140	3	○
AL-3RL-D20.0R4.0-AIR		4	20	20	19	20	89	140	3	○
AL-3RL-D20.0R5.0-AIR		5	20	20	19	20	89	140	3	○
AL-3RL-D20.0R6.0-AIR		6	20	20	19	20	89	140	3	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

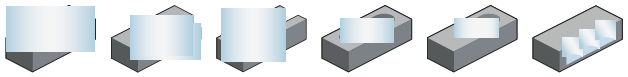
P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

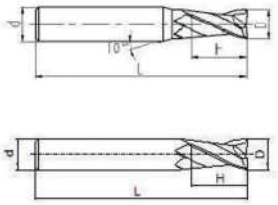
End mill General machining of Al and Al alloys

ALG-2E



– Factory standard
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			YK40F
ALG-2E-D1.0		1	4	3	50	2	A	●
ALG-2E-D1.5		1.5	4	4	50	2	A	○
ALG-2E-D2.0		2	4	6	50	2	A	●
ALG-2E-D2.5		2.5	4	8	50	2	A	○
ALG-2E-D3.0S		3	4	8	50	2	A	●
ALG-2E-D3.5S		3.5	4	10	50	2	A	○
ALG-2E-D4.0S		4	4	11	50	2	B	○
ALG-2E-D3.0		3	6	8	50	2	A	●
ALG-2E-D3.5		3.5	6	10	50	2	A	○
ALG-2E-D4.0		4	6	11	50	2	A	●
ALG-2E-D4.5		4.5	6	11	50	2	A	○
ALG-2E-D5.0		5	6	13	50	2	A	●
ALG-2E-D5.5		5.5	6	16	50	2	A	○
ALG-2E-D6.0		6	6	16	50	2	B	●
ALG-2E-D7.0		7	8	20	60	2	A	○
ALG-2E-D8.0		8	8	20	60	2	B	●
ALG-2E-D9.0		9	10	22	75	2	A	○
ALG-2E-D10.0		10	10	25	75	2	B	●
ALG-2E-D11.0		11	12	26	75	2	A	○
ALG-2E-D12.0		12	12	30	75	2	B	●
ALG-2E-D14.0		14	14	32	75	2	B	●
ALG-2E-D16.0		16	16	45	100	2	B	●
ALG-2E-D18.0		18	18	45	100	2	B	○
ALG-2E-D20.0		20	20	45	100	2	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

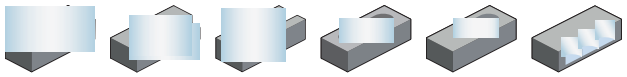
P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

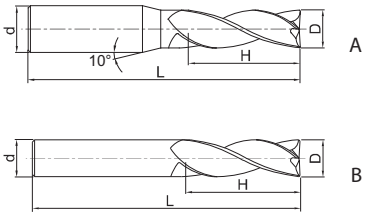
End mill General machining of Al and Al alloys

ALG-3E



– Factory standard
– Centre cutting
– Helix angle 45°





Article	✲	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMD401	YK40F
ALG-3E-D1.0		1	4	3	50	3	A	○	●
ALG-3E-D1.5		1.5	4	4	50	3	A	○	●
ALG-3E-D2.0		2	4	6	50	3	A	○	●
ALG-3E-D2.5		2.5	4	8	50	3	A	○	○
ALG-3E-D3.0S		3	4	8	50	3	A	○	●
ALG-3E-D3.5S		3.5	4	10	50	3	A	○	○
ALG-3E-D4.0S		4	4	11	50	3	B	○	●
ALG-3E-D3.0		3	6	8	50	3	A	●	●
ALG-3E-D3.5		3.5	6	10	50	3	A	●	○
ALG-3E-D4.0		4	6	11	50	3	A	●	●
ALG-3E-D4.5		4.5	6	11	50	3	A	●	○
ALG-3E-D5.0		5	6	13	50	3	A	●	●
ALG-3E-D5.5		5.5	6	16	50	3	A	●	○
ALG-3E-D6.0		6	6	16	50	3	B	●	●
ALG-3E-D7.0		7	8	20	60	3	A	●	○
ALG-3E-D8.0		8	8	20	60	3	B	●	●
ALG-3E-D9.0		9	10	22	75	3	A	●	○
ALG-3E-D10.0		10	10	25	75	3	B	●	●
ALG-3E-D11.0		11	12	26	75	3	A	●	○
ALG-3E-D12.0		12	12	30	75	3	B	●	●
ALG-3E-D14.0		14	14	32	75	3	B	●	●
ALG-3E-D16.0		16	16	45	100	3	B	●	●
ALG-3E-D18.0		18	18	45	100	3	B	●	○
ALG-3E-D20.0		20	20	45	100	3	B	○	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

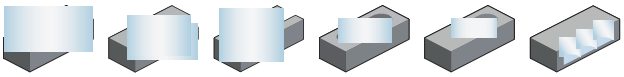
P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

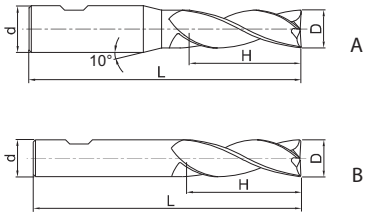
End mill General machining of Al and Al alloys

ALG-3E-W



– Factory standard with weldon clamping surface
– Centre cutting
– Helix angle 45°





Article	✻	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMD401
ALG-3E-D3.0-W		3	6	8	50	3	A	●
ALG-3E-D3.5-W		3.5	6	10	50	3	A	●
ALG-3E-D4.0-W		4	6	11	50	3	A	●
ALG-3E-D4.5-W		4.5	6	11	50	3	A	●
ALG-3E-D5.0-W		5	6	13	50	3	A	●
ALG-3E-D5.5-W		5.5	6	16	50	3	A	●
ALG-3E-D6.0-W		6	6	16	50	3	B	●
ALG-3E-D7.0-W		7	8	20	60	3	A	●
ALG-3E-D8.0-W		8	8	20	60	3	B	●
ALG-3E-D9.0-W		9	10	22	75	3	A	●
ALG-3E-D10.0-W		10	10	25	75	3	B	●
ALG-3E-D11.0-W		11	12	26	75	3	A	●
ALG-3E-D12.0-W		12	12	30	75	3	B	●
ALG-3E-D14.0-W		14	14	32	75	3	B	●
ALG-3E-D16.0-W		16	16	45	100	3	B	●
ALG-3E-D18.0-W		18	18	45	100	3	B	●
ALG-3E-D20.0-W		20	20	45	100	3	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

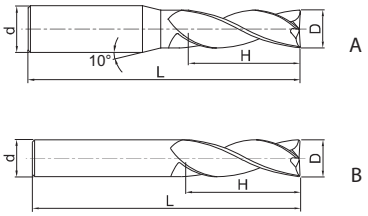
End mill High-performance machining of Al and Al alloys

ALP-3E



– Factory standard
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMD401	YK40F
ALP-3E-D1.0		1	4	3	50	3	A	○	○
ALP-3E-D1.5		1.5	4	4	50	3	A	○	●
ALP-3E-D2.0		2	4	6	50	3	A	○	●
ALP-3E-D2.5		2.5	4	8	50	3	A	○	○
ALP-3E-D3.0S		3	4	8	50	3	A	○	●
ALP-3E-D4.0S		4	4	11	50	3	B	○	●
ALP-3E-D3.0		3	6	8	50	3	A	●	●
ALP-3E-D4.0		4	6	11	50	3	A	●	●
ALP-3E-D4.5		4.5	6	11	50	3	A	●	○
ALP-3E-D5.0		5	6	13	50	3	A	●	●
ALP-3E-D5.5		5.5	6	16	50	3	A	●	○
ALP-3E-D6.0		6	6	16	50	3	B	●	●
ALP-3E-D7.0		7	8	20	60	3	B	●	○
ALP-3E-D8.0		8	8	20	60	3	B	●	●
ALP-3E-D9.0		9	10	22	75	3	B	●	○
ALP-3E-D10.0		10	10	25	75	3	B	●	●
ALP-3E-D11.0		11	12	26	75	3	B	●	●
ALP-3E-D12.0		12	12	30	75	3	B	●	●
ALP-3E-D14.0		14	14	32	75	3	B	●	●
ALP-3E-D16.0		16	16	45	100	3	B	●	●
ALP-3E-D20.0		20	20	45	100	3	B	●	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

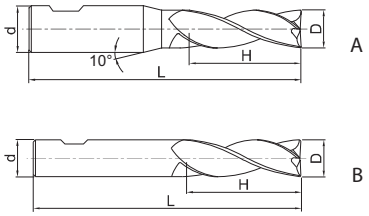
End mill High-performance machining of Al and Al alloys

ALP-3E-W



– Factory standard with weldon clamping surface
– Centre cutting
– Helix angle 35°





Article	✻	Dimensions [mm] D	d (h6)	H	L	Teeth	Geometry	Grade KMD401
ALP-3E-D3.0-W		3	6	8	50	3	A	●
ALP-3E-D4.0-W		4	6	11	50	3	A	●
ALP-3E-D4.5-W		4.5	6	11	50	3	A	●
ALP-3E-D5.0-W		5	6	13	50	3	A	●
ALP-3E-D5.5-W		5.5	6	16	50	3	A	●
ALP-3E-D6.0-W		6	6	16	50	3	B	●
ALP-3E-D7.0-W		7	8	20	60	3	B	●
ALP-3E-D8.0-W		8	8	20	60	3	B	●
ALP-3E-D9.0-W		9	10	22	75	3	B	●
ALP-3E-D10.0-W		10	10	25	75	3	B	●
ALP-3E-D11.0-W		11	12	26	75	3	B	●
ALP-3E-D12.0-W		12	12	30	75	3	B	●
ALP-3E-D14.0-W		14	14	32	75	3	B	●
ALP-3E-D16.0-W		16	16	45	100	3	B	●
ALP-3E-D20.0-W		20	20	45	100	3	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

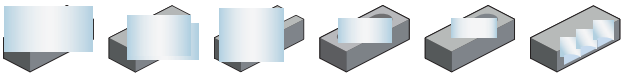
P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

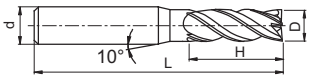
End mill High-performance machining of Al and Al alloys

ALP-4E

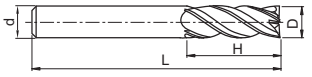


– Factory standard
– Centre cutting
– Helix angle 38°





A



B

Article	✲	Dimensions [mm]				Teeth	Geometry	Grade	
		D	d (h6)	H	L			KMD401	YK40F
ALP-4E-D3.0S		3	4	9	50	4	A	○	●
ALP-4E-D4.0S		4	4	11	50	4	B	○	●
ALP-4E-D3.0		3	6	9	50	4	A	●	●
ALP-4E-D4.0		4	6	11	50	4	A	●	●
ALP-4E-D5.0		5	6	13	50	4	A	●	●
ALP-4E-D6.0		6	6	16	50	4	B	●	●
ALP-4E-D8.0		8	8	20	60	4	B	●	●
ALP-4E-D10.0		10	10	25	75	4	B	●	●
ALP-4E-D12.0		12	12	30	75	4	B	●	●
ALP-4E-D16.0		16	16	45	100	4	B	●	●
ALP-4E-D18.0		18	18	45	100	4	B	●	○
ALP-4E-D20.0		20	20	45	100	4	B	●	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

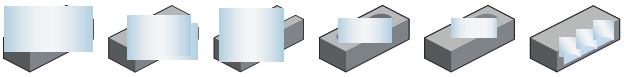
P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

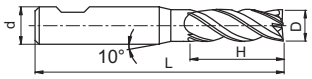
End mill High-performance machining of Al and Al alloys

ALP-4E-W

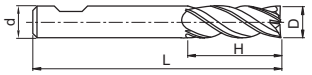


– Factory standard with weldon clamping surface
– Centre cutting
– Helix angle 38°





A



B

Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMD401
ALP-4E-D3.0-W		3	6	9	50	4	A	●
ALP-4E-D4.0-W		4	6	11	50	4	A	●
ALP-4E-D5.0-W		5	6	13	50	4	A	●
ALP-4E-D6.0-W		6	6	16	50	4	B	●
ALP-4E-D8.0-W		8	8	20	60	4	B	●
ALP-4E-D10.0-W		10	10	25	75	4	B	●
ALP-4E-D12.0-W		12	12	30	75	4	B	●
ALP-4E-D16.0-W		16	16	45	100	4	B	●
ALP-4E-D18.0-W		18	18	45	100	4	B	●
ALP-4E-D20.0-W		20	20	45	100	4	B	●

● Ex stock ○ On demand
✲ With internal cooling

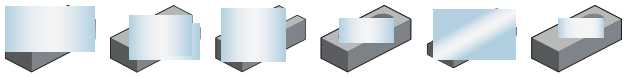
Application field

P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

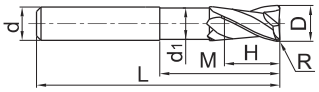
Torus mill — General machining of Al and Al alloys



ALG-2R

– Straight shank
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm]							Teeth	Grade	
		R	D	d (h6)	d_1	H	M	L		KMD401	YK40F
ALG-2R-D6.0R0.3		0.3	6	6	5,7	8	16	75	2	●	●
ALG-2R-D6.0R0.5		0.5	6	6	5,7	8	16	75	2	●	●
ALG-2R-D6.0R1.0		1	6	6	5,7	8	16	75	2	●	●
ALG-2R-D8.0R0.3		0.3	8	8	7,4	10	20	75	2	●	●
ALG-2R-D8.0R0.5		0.5	8	8	7,4	10	20	75	2	●	●
ALG-2R-D8.0R1.0		1	8	8	7,4	10	20	75	2	●	●
ALG-2R-D10.0R0.5		0.5	10	10	9,4	12	35	100	2	●	●
ALG-2R-D10.0R1.0		1	10	10	9,4	12	35	100	2	●	●
ALG-2R-D10.0R1.6		1.6	10	10	9,4	12	35	100	2	●	●
ALG-2R-D10.0R2.5		2.5	10	10	9,4	12	35	100	2	●	●
ALG-2R-D12.0R0.5		0.5	12	12	11,4	15	35	100	2	●	●
ALG-2R-D12.0R1.0		1	12	12	11,4	15	35	100	2	●	●
ALG-2R-D12.0R1.6		1.6	12	12	11,4	15	35	100	2	●	●
ALG-2R-D12.0R2.5		2.5	12	12	11,4	15	35	100	2	●	●
ALG-2R-D12.0R3.2		3.2	12	12	11,4	15	35	100	2	●	●
ALG-2R-D12.0R4.0		4	12	12	11,4	15	35	100	2	●	●
ALG-2R-D16.0R1.0		1	16	16	15,4	15	45	125	2	●	●
ALG-2R-D16.0R1.6		1.6	16	16	15,4	15	45	125	2	●	●
ALG-2R-D16.0R2.5		2.5	16	16	15,4	15	45	125	2	●	●
ALG-2R-D16.0R3.2		3.2	16	16	15,4	15	45	125	2	●	●
ALG-2R-D16.0R4.0		4	16	16	15,4	15	45	125	2	●	●
ALG-2R-D16.0R6.3		6.3	16	16	15,4	15	45	125	2	○	○
ALG-2R-D20.0R1.0		1	20	20	18	20	50	125	2	●	●
ALG-2R-D20.0R1.6		1.6	20	20	18	20	50	125	2	●	●
ALG-2R-D20.0R2.5		2.5	20	20	18	20	50	125	2	●	●
ALG-2R-D20.0R3.2		3.2	20	20	18	20	50	125	2	●	●
ALG-2R-D20.0R4.0		4	20	20	18	20	50	125	2	●	●
ALG-2R-D20.0R6.3		6.3	20	20	18	20	50	125	2	○	○
ALG-2R-D25.0R6.3		6.3	25	25	23	25	75	150	2	○	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

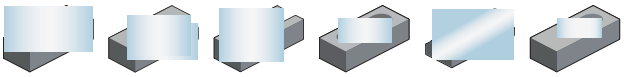
P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

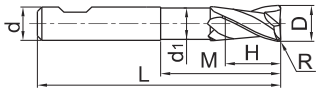
Torus mill — General machining of Al and Al alloys

ALG-2R-W



– Factory standard with weldon clamping surface
– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		KMD401
ALG-2R-D6.0R0.3-W		0.3	6	6	5,7	8	16	75	2	●
ALG-2R-D6.0R0.5-W		0.5	6	6	5,7	8	16	75	2	●
ALG-2R-D6.0R1.0-W		1	6	6	5,7	8	16	75	2	●
ALG-2R-D8.0R0.3-W		0.3	8	8	7,4	10	20	75	2	●
ALG-2R-D8.0R0.5-W		0.5	8	8	7,4	10	20	75	2	●
ALG-2R-D8.0R1.0-W		1	8	8	7,4	10	20	75	2	●
ALG-2R-D10.0R0.5-W		0.5	10	10	9,4	12	35	100	2	●
ALG-2R-D10.0R1.0-W		1	10	10	9,4	12	35	100	2	●
ALG-2R-D10.0R1.6-W		1.6	10	10	9,4	12	35	100	2	●
ALG-2R-D10.0R2.5-W		2.5	10	10	9,4	12	35	100	2	●
ALG-2R-D12.0R0.5-W		0.5	12	12	11,4	15	35	100	2	●
ALG-2R-D12.0R1.0-W		1	12	12	11,4	15	35	100	2	●
ALG-2R-D12.0R1.6-W		1.6	12	12	11,4	15	35	100	2	●
ALG-2R-D12.0R2.5-W		2.5	12	12	11,4	15	35	100	2	●
ALG-2R-D12.0R3.2-W		3.2	12	12	11,4	15	35	100	2	●
ALG-2R-D12.0R4.0-W		4	12	12	11,4	15	35	100	2	●
ALG-2R-D16.0R1.0-W		1	16	16	15,4	15	45	125	2	●
ALG-2R-D16.0R1.6-W		1.6	16	16	15,4	15	45	125	2	●
ALG-2R-D16.0R2.5-W		2.5	16	16	15,4	15	45	125	2	●
ALG-2R-D16.0R3.2-W		3.2	16	16	15,4	15	45	125	2	●
ALG-2R-D16.0R4.0-W		4	16	16	15,4	15	45	125	2	●
ALG-2R-D16.0R6.3-W		6.3	16	16	15,4	15	45	125	2	○
ALG-2R-D20.0R1.0-W		1	20	20	18	20	50	125	2	●
ALG-2R-D20.0R1.6-W		1.6	20	20	18	20	50	125	2	●
ALG-2R-D20.0R2.5-W		2.5	20	20	18	20	50	125	2	●
ALG-2R-D20.0R3.2-W		3.2	20	20	18	20	50	125	2	●
ALG-2R-D20.0R4.0-W		4	20	20	18	20	50	125	2	●
ALG-2R-D20.0R6.3-W		6.3	20	20	18	20	50	125	2	○
ALG-2R-D25.0R6.3-W		6.3	25	25	23	25	75	150	2	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
			✔		

✔ Very suitable
✔ Suitable

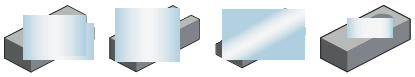
System code B278 Cutting data B492 Nonstandard order B541

Notes

Ball nose cutter

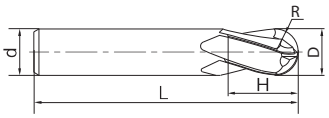
High-performance machining

TM-4B



– Factory standard
– Centre cutting
– Helix angle 38°





Article	✻	Dimensions [mm]					Teeth	Grade
		R	D	d (h6)	H	L		KMS405
TM-4B-R3.0		3	6	6	9	50	4	●
TM-4B-R4.0		4	8	8	12	60	4	●
TM-4B-R5.0		5	10	10	15	75	4	●
TM-4B-R6.0		6	12	12	18	75	4	●
TM-4B-R8.0		8	16	16	24	85	4	●
TM-4B-R10.0		10	20	20	30	100	4	●

● Ex stock ○ On demand

✻ With internal cooling

Application field

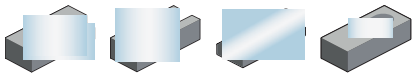
P	M	K	N	S	H
	✔			✔	

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

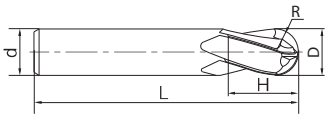
Ball nose cutter High-performance machining

TM-4BL



– Type of shank DIN 6535HA
– Centre cutting
– Helix angle 38°





Article	✲	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Grade KMS405
TM-4BL-R3.0		3	6	6	16	57	4	●
TM-4BL-R4.0		4	8	8	20	63	4	●
TM-4BL-R5.0		5	10	10	22	72	4	●
TM-4BL-R6.0		6	12	12	25	83	4	●
TM-4BL-R8.0		8	16	16	32	92	4	●
TM-4BL-R10.0		10	20	20	38	104	4	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

P	M	K	N	S	H
	✔			✔	

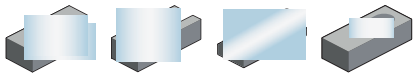
✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

Ball nose cutter

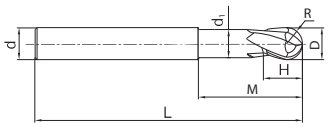
High-performance machining

TM-4BP



– Factory standard
– Centre cutting
– Helix angle 38°





Article	✻	Dimensions [mm]							Teeth	Grade KMS405
		R	D	d (h6)	d_1	H	M	L		
TM-4BP-R3.0		3	6	6	5.5	9	18	60	4	●
TM-4BP-R4.0		4	8	8	7.4	12	24	75	4	●
TM-4BP-R5.0		5	10	10	9.4	15	30	75	4	●
TM-4BP-R6.0		6	12	12	11.4	18	35	90	4	●
TM-4BP-R8.0		8	16	16	15.4	24	40	90	4	●
TM-4BP-R10.0		10	20	20	19.4	35	50	110	4	●

● Ex stock ○ On demand

✻ With internal cooling

Application field

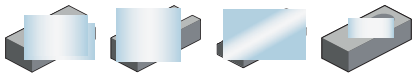
P	M	K	N	S	H
	✔			✔	

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

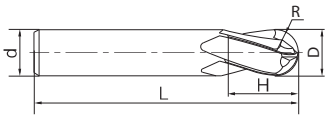
Ball nose cutter High-performance machining

TM-5B



– Factory standard
– Helix angle 38°





Article	✲	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Grade KMS405
TM-5B-R3.0		3	6	6	9	50	5	●
TM-5B-R4.0		4	8	8	12	60	5	●
TM-5B-R5.0		5	10	10	15	75	5	●
TM-5B-R6.0		6	12	12	18	75	5	●
TM-5B-R8.0		8	16	16	24	85	5	●
TM-5B-R10.0		10	20	20	35	100	5	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

P	M	K	N	S	H
	✔			✔	

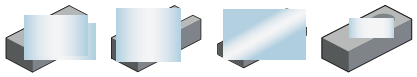
✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

Ball nose cutter

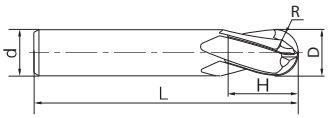
High-performance machining

TM-5BL



– Type of shank DIN 6535HA
– Helix angle 38°





Article	✲	Dimensions [mm]					Teeth	Grade
		R	D	d (h6)	H	L		KMS405
TM-5BL-R3.0		3	6	6	16	57	5	●
TM-5BL-R4.0		4	8	8	20	63	5	●
TM-5BL-R5.0		5	10	10	22	72	5	●
TM-5BL-R6.0		6	12	12	25	83	5	●
TM-5BL-R8.0		8	16	16	32	92	5	●
TM-5BL-R10.0		10	20	20	38	104	5	●

● Ex stock ○ On demand

✲ With internal cooling

Application field

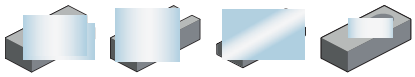
P	M	K	N	S	H
	✔			✔	

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

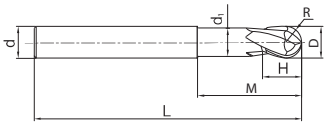
Ball nose cutter High-performance machining

TM-5BP



– Factory standard
– Helix angle 38°





Article	✲	Dimensions [mm] R	D	d (h6)	d_1	H	M	L	Teeth	Grade KMS405
TM-5BP-R3.0		3	6	6	5.5	9	18	60	5	●
TM-5BP-R4.0		4	8	8	7.4	12	24	75	5	●
TM-5BP-R5.0		5	10	10	9.4	15	30	75	5	●
TM-5BP-R6.0		6	12	12	11.4	18	35	90	5	●
TM-5BP-R8.0		8	16	16	15.4	24	40	90	5	●
TM-5BP-R10.0		10	20	20	19.4	35	50	110	5	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

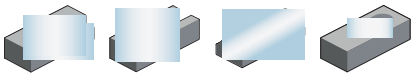
P	M	K	N	S	H
	✔			✔	

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

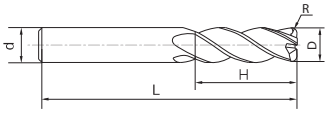
Torus mill | High-performance machining

TM-4R



– Factory standard
– Centre cutting
– Helix angle 38°





Article	✻	Dimensions [mm]					Teeth	Grade
		R	D	d (h6)	H	L		KMS405
TM-4R-D6R0.5		0.5	6	6	16	50	4	●
TM-4R-D6R0.3		0.3	6	6	16	50	4	●
TM-4R-D6R1.0		1	6	6	16	50	4	●
TM-4R-D6R 0.75		0.75	6	6	16	50	4	○
TM-4R-D8R0.5		0.5	8	8	20	60	4	●
TM-4R-D8R0.3		0.3	8	8	20	60	4	●
TM-4R-D8R1.0		1	8	8	20	60	4	●
TM-4R-D8R0.75		0.75	8	8	20	60	4	○
TM-4R-D10R0.75		0.75	10	10	25	75	4	○
TM-4R-D10R1.6		1.6	10	10	25	75	4	●
TM-4R-D10R2.0		2	10	10	25	75	4	●
TM-4R-D10R0.5		0.5	10	10	25	75	4	●
TM-4R-D10R2.5		2.5	10	10	25	75	4	○
TM-4R-D10R1.0		1	10	10	25	75	4	●
TM-4R-D10R3.0		3	10	10	25	75	4	●
TM-4R-D10R1.25		1.25	10	10	25	75	4	○
TM-4R-D10R1.5		1.5	10	10	25	75	4	●
TM-4R-D12R1.5		1.5	12	12	30	75	4	●
TM-4R-D12R0.5		0.5	12	12	30	75	4	●
TM-4R-D12R1.0		1	12	12	30	75	4	●
TM-4R-D12R4.0		4	12	12	30	75	4	●
TM-4R-D12R1.6		1.6	12	12	30	75	4	●
TM-4R-D12R2.5		2.5	12	12	30	75	4	●
TM-4R-D12R1.25		1.25	12	12	30	75	4	○
TM-4R-D12R0.75		0.75	12	12	30	75	4	○
TM-4R-D12R3.0		3	12	12	30	75	4	●
TM-4R-D12R3.2		3.2	12	12	30	75	4	●
TM-4R-D12R2.0		2	12	12	30	75	4	●
TM-4R-D16R1.25		1.25	16	16	35	90	4	●
TM-4R-D16R4.0		4	16	16	35	90	4	●
TM-4R-D16R1.0		1	16	16	35	90	4	●
TM-4R-D16R3.0		3	16	16	35	90	4	●
TM-4R-D16R2.0		2	16	16	35	90	4	●
TM-4R-D16R6.3		6.3	16	16	35	90	4	○
TM-4R-D16R5.0		5	16	16	35	90	4	●
TM-4R-D16R1.5		1.5	16	16	35	90	4	●
TM-4R-D16R2.5		2.5	16	16	35	90	4	●

● Ex stock ○ On demand

✻ With internal cooling

Application field

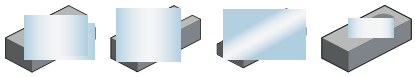
P	M	K	N	S	H
	✔			✔	

✔ Very suitable
✔ Suitable

System code B278 | Cutting data B492 | Nonstandard order B541

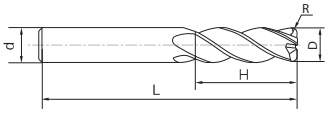
Torus mill High-performance machining

TM-4R



– Factory standard
– Centre cutting
– Helix angle 38°





Article	✻	Dimensions [mm]					Teeth	Grade
		R	D	d (h6)	H	L		KMS405
TM-4R-D16R1.6		1.6	16	16	35	90	4	●
TM-4R-D16R3.2		3.2	16	16	35	90	4	●
TM-4R-D20R1.5		1.5	20	20	45	100	4	●
TM-4R-D20R2.0		2	20	20	45	100	4	●
TM-4R-D20R2.5		2.5	20	20	45	100	4	●
TM-4R-D20R1.0		1	20	20	45	100	4	●
TM-4R-D20R4.0		4	20	20	45	100	4	●
TM-4R-D20R1.6		1.6	20	20	45	100	4	●
TM-4R-D20R5.0		5	20	20	45	100	4	●
TM-4R-D20R3.0		3	20	20	45	100	4	●
TM-4R-D20R3.2		3.2	20	20	45	100	4	●
TM-4R-D20R6.3		6.3	20	20	45	100	4	●
TM-4R-D20R1.25		1.25	21	20	45	100	4	●
TM-4R-D25R1.0		1	25	25	50	110	4	●
TM-4R-D25R3.0		3	25	25	50	110	4	●
TM-4R-D25R2.0		2	25	25	50	110	4	●
TM-4R-D25R2.5		2.5	25	25	50	110	4	○
TM-4R-D25R4.0		4	25	25	50	110	4	●
TM-4R-D25R3.2		3.2	25	25	50	110	4	●
TM-4R-D25R1.5		1.5	25	25	50	110	4	●
TM-4R-D25R5.0		5	25	25	50	110	4	●
TM-4R-D25R6.3		6.3	25	25	50	110	4	●
TM-4R-D25R1.6		1.6	25	25	50	110	4	●
TM-4R-D25R1.25		1.25	25	25	50	110	4	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

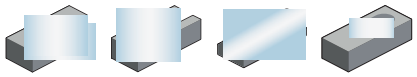
P	M	K	N	S	H
	✔			✔	

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

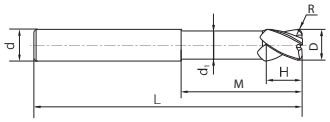
Torus mill High-performance machining

TM-4RP



– Factory standard
– Centre cutting
– Helix angle 38°





Article	✻	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		KMS405
TM-4RP-D8R0.75		0.75	8	8	7.4	16	25	75	4	○
TM-4RP-D8R1.0		1	8	8	7.4	16	25	75	4	●
TM-4RP-D8R0.3		0.3	8	8	7.4	16	25	75	4	●
TM-4RP-D8R0.5		0.5	8	8	7.4	16	25	75	4	●
TM-4RP-D10R2.0		2	10	10	9.4	20	32	75	4	●
TM-4RP-D10R1.6		1.6	10	10	9.4	20	32	75	4	●
TM-4RP-D10R1.5		1.5	10	10	9.4	20	32	75	4	●
TM-4RP-D10R1.25		1.25	10	10	9.4	20	32	75	4	●
TM-4RP-D10R3.0		3	10	10	9.4	20	32	75	4	●
TM-4RP-D10R0.5		0.5	10	10	9.4	20	32	75	4	●
TM-4RP-D10R0.75		0.75	10	10	9.4	20	32	75	4	○
TM-4RP-D10R2.5		2.5	10	10	9.4	20	32	75	4	○
TM-4RP-D10R1.0		1	10	10	9.4	20	32	75	4	●
TM-4RP-D12R1.25		1.25	12	12	11.4	24	40	90	4	●
TM-4RP-D12R1.0		1	12	12	11.4	24	40	90	4	●
TM-4RP-D12R2.0		2	12	12	11.4	24	40	90	4	●
TM-4RP-D12R0.5		0.5	12	12	11.4	24	40	90	4	●
TM-4RP-D12R3.0		3	12	12	11.4	24	40	90	4	●
TM-4RP-D12R4.0		4	12	12	11.4	24	40	90	4	●
TM-4RP-D12R3.2		3.2	12	12	11.4	24	40	90	4	●
TM-4RP-D12R1.5		1.5	12	12	11.4	24	40	90	4	●
TM-4RP-D12R2.5		2.5	12	12	11.4	24	40	90	4	○
TM-4RP-D12R0.75		0.75	12	12	11.4	24	40	90	4	○
TM-4RP-D12R1.6		1.6	12	12	11.4	24	40	90	4	●
TM-4RP-D16R6.3		6.3	16	16	15	32	50	100	4	○
TM-4RP-D16R4.0		4	16	16	15	32	50	100	4	●
TM-4RP-D16R5.0		5	16	16	15	32	50	100	4	●
TM-4RP-D16R3.2		3.2	16	16	15	32	50	100	4	●
TM-4RP-D16R1.25		1.25	16	16	15	32	50	100	4	●
TM-4RP-D16R2.5		2.5	16	16	15	32	50	100	4	○
TM-4RP-D16R1.0		1	16	16	15	32	50	100	4	●
TM-4RP-D16R3.0		3	16	16	14	32	50	100	4	●
TM-4RP-D16R1.6		1.6	16	16	15	32	50	100	4	●
TM-4RP-D16R1.5		1.5	16	16	15	32	50	100	4	●
TM-4RP-D16R2.0		2	16	16	15	32	50	100	4	●
TM-4RP-D20R1.6		1.6	20	20	19	35	60	110	4	●
TM-4RP-D20R4.0		4	20	20	19	35	60	110	4	●

● Ex stock ○ On demand

✻ With internal cooling

Application field

P	M	K	N	S	H
	✔			✔	

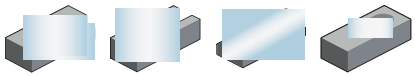
✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

Solid carbide milling TM series

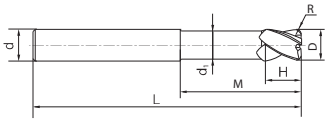
Torus mill High-performance machining

TM-4RP



– Factory standard
– Centre cutting
– Helix angle 38°





Article	✻	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		KMS405
TM-4RP-D20R1.0		1	20	20	19	35	60	110	4	●
TM-4RP-D20R1.5		1.5	20	20	19	35	60	110	4	●
TM-4RP-D20R1.25		1.25	20	20	19	35	60	110	4	●
TM-4RP-D20R2.5		2.5	20	20	19	35	60	110	4	○
TM-4RP-D20R2.0		2	20	20	19	35	60	110	4	●
TM-4RP-D20R3.0		3	20	20	19	35	60	110	4	●
TM-4RP-D20R5.0		5	20	20	19	35	60	110	4	●
TM-4RP-D20R6.3		6.3	20	20	19	35	60	110	4	●
TM-4RP-D20R3.2		3.2	20	20	19	35	60	110	4	●
TM-4RP-D25R3.0		3	25	25	24	45	75	150	4	●
TM-4RP-D25R6.3		6.3	25	25	24	45	75	150	4	●
TM-4RP-D25R2.5		2.5	25	25	24	45	75	150	4	●
TM-4RP-D25R4.0		4	25	25	24	45	75	150	4	●
TM-4RP-D25R3.2		3.2	25	25	24	45	75	150	4	●
TM-4RP-D25R1.5		1.5	25	25	24	45	75	150	4	●
TM-4RP-D25R2.0		2	25	25	24	45	75	150	4	●
TM-4RP-D25R1.25		1.25	25	25	24	45	75	150	4	○
TM-4RP-D25R5.0		5	25	25	24	45	75	150	4	●
TM-4RP-D25R1.0		1	25	25	24	45	75	150	4	●
TM-4RP-D25R1.6		1.6	25	25	24	45	75	150	4	●

● Ex stock ○ On demand

✻ With internal cooling

Application field

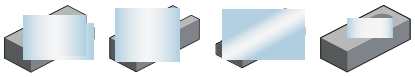
P	M	K	N	S	H
	✔			✔	

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

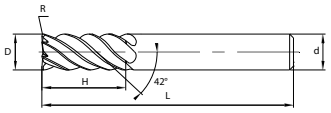
Torus mill High-performance machining

TM-5R



– Factory standard
– Helix angle 42°





Article	✲	Dimensions [mm]					Teeth	Grade
		R	D	d (h6)	H	L		KMS405
TM-5R-D6R1.0		1	6	6	16	50	5	●
TM-5R-D6R0.5		0.5	6	6	16	50	5	●
TM-5R-D6R0.3		0.3	6	6	16	50	5	●
TM-5R-D6R0.75		0.75	6	6	16	50	5	○
TM-5R-D8R0.5		0.5	8	8	20	60	5	●
TM-5R-D8R0.3		0.3	8	8	20	60	5	●
TM-5R-D8R0.75		0.75	8	8	20	60	5	○
TM-5R-D8R1.0		1	8	8	20	60	5	●
TM-5R-D10R3.0		3	10	10	25	75	5	●
TM-5R-D10R1.6		1.6	10	10	25	75	5	●
TM-5R-D10R2.5		2.5	10	10	25	75	5	○
TM-5R-D10R1.5		1.5	10	10	25	75	5	●
TM-5R-D10R2.0		2	10	10	25	75	5	●
TM-5R-D10R0.75		0.75	10	10	25	75	5	○
TM-5R-D10R1.0		1	10	10	25	75	5	●
TM-5R-D10R1.25		1.25	10	10	25	75	5	○
TM-5R-D10R0.5		0.5	10	10	25	75	5	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

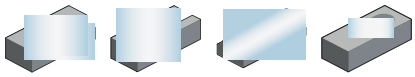
P	M	K	N	S	H
	✔			✔	

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

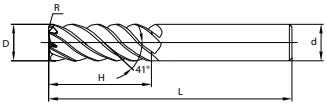
Torus mill High-performance machining

TM-7R



– Factory standard
– Helix angle 41°





Article	✲	Dimensions [mm] R	D	d (h6)	H	L	Teeth	Grade KMS405
TM-7R-D12R2.0		2	12	12	30	75	7	●
TM-7R-D12R1.5		1.5	12	12	30	75	7	●
TM-7R-D12R1.0		1	12	12	30	75	7	●
TM-7R-D12R3.2		3.2	12	12	30	75	7	●
TM-7R-D12R1.6		1.6	12	12	30	75	7	●
TM-7R-D12R3.0		3	12	12	30	75	7	●
TM-7R-D12R0.75		0.75	12	12	30	75	7	○
TM-7R-D12R2.5		2.5	12	12	30	75	7	●
TM-7R-D12R4.0		4	12	12	30	75	7	●
TM-7R-D12R0.5		0.5	12	12	30	75	7	●
TM-7R-D12R1.25		1.25	12	12	30	75	7	○
TM-7R-D16R1.25		1.25	16	16	35	90	7	○
TM-7R-D16R5.0		5	16	16	35	90	7	●
TM-7R-D16R6.3		6.3	16	16	35	90	7	○
TM-7R-D16R1.0		1	16	16	35	90	7	●
TM-7R-D16R3.0		3	16	16	35	90	7	●
TM-7R-D16R2.0		2	16	16	35	90	7	●
TM-7R-D16R2.5		2.5	16	16	35	90	7	●
TM-7R-D16R3.2		3.2	16	16	35	90	7	●
TM-7R-D16R1.5		1.5	16	16	35	90	7	●
TM-7R-D16R1.6		1.6	16	16	35	90	7	●
TM-7R-D16R4.0		4	16	16	35	90	7	●
TM-7R-D20R4.0		4	20	20	45	100	7	●
TM-7R-D20R6.3		6.3	20	20	45	100	7	●
TM-7R-D20R1.5		1.5	20	20	45	100	7	●
TM-7R-D20R3.0		3	20	20	45	100	7	●
TM-7R-D20R5.0		5	20	20	45	100	7	●
TM-7R-D20R2.0		2	20	20	45	100	7	●
TM-7R-D20R1.6		1.6	20	20	45	100	7	●
TM-7R-D20R3.2		3.2	20	20	45	100	7	●
TM-7R-D20R2.5		2.5	20	20	45	100	7	●
TM-7R-D20R1.0		1	20	20	45	100	7	●
TM-7R-D20R1.25		1.25	21	20	45	100	7	○

● Ex stock ○ On demand
✲ With internal cooling

Application field

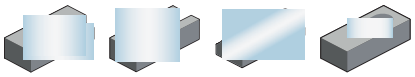
P	M	K	N	S	H
	✔			✔	

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

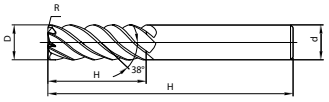
Torus mill | High-performance machining

TM-9R



– Factory standard
– Helix angle 38°





Article	✲	Dimensions [mm]					Teeth	Grade
		R	D	d (h6)	H	L		KMS405
TM-9R-D25R2.0		2	25	25	50	110	9	●
TM-9R-D25R3.2		3.2	25	25	50	110	9	●
TM-9R-D25R1.6		1.6	25	25	50	110	9	●
TM-9R-D25R5.0		5	25	25	50	110	9	●
TM-9R-D25R1.25		1.25	25	25	50	110	9	○
TM-9R-D25R1.0		1	25	25	50	110	9	●
TM-9R-D25R1.5		1.5	25	25	50	110	9	●
TM-9R-D25R3.0		3	25	25	50	110	9	●
TM-9R-D25R6.3		6.3	25	25	50	110	9	●
TM-9R-D25R4.0		4	25	25	50	110	9	●
TM-9R-D25R2.5		2.5	25	25	50	110	9	○

● Ex stock ○ On demand
✲ With internal cooling

Application field

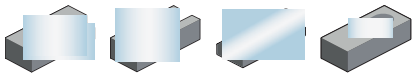
P	M	K	N	S	H
	✔			✔	

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

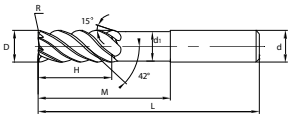
Torus mill High-performance machining

TM-5RP



– Factory standard
– Helix angle 42°





Article	✲	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		KMS405
TM-5RP-D8R0.5		0.5	8	8	7.4	16	25	75	5	●
TM-5RP-D8R1.0		1	8	8	7.4	16	25	75	5	●
TM-5RP-D8R0.3		0.3	8	8	7.4	16	25	75	5	●
TM-5RP-D8R0.75		0.75	8	8	7.4	16	25	75	5	○
TM-5RP-D10R1.6		1.6	10	10	9.4	20	32	75	5	●
TM-5RP-D10R1.5		1.5	10	10	9.4	20	32	75	5	●
TM-5RP-D10R3.0		3	10	10	9.4	20	32	75	5	●
TM-5RP-D10R0.5		0.5	10	10	9.4	20	32	75	5	●
TM-5RP-D10R1.25		1.25	10	10	9.4	20	32	75	5	○
TM-5RP-D10R2.0		2	10	10	9.4	20	32	75	5	●
TM-5RP-D10R1.0		1	10	10	9.4	20	32	75	5	●
TM-5RP-D10R0.75		0.75	10	10	9.4	20	32	75	5	○
TM-5RP-D10R2.5		2.5	10	10	9.4	20	32	75	5	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

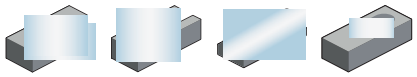
P	M	K	N	S	H
	✔			✔	

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

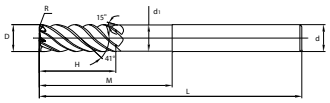
Torus mill | High-performance machining

TM-7RP



– Factory standard
– Helix angle 41°





Article	✲	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		KMS405
TM-7RP-D12R1.6		1.6	12	12	11.4	24	40	90	7	●
TM-7RP-D12R1.5		1.5	12	12	11.4	24	40	90	7	●
TM-7RP-D12R2.0		2	12	12	11.4	24	40	90	7	●
TM-7RP-D12R2.5		2.5	12	12	11.4	24	40	90	7	●
TM-7RP-D12R4.0		4	12	12	11.4	24	40	90	7	●
TM-7RP-D12R0.5		0.5	12	12	11.4	24	40	90	7	●
TM-7RP-D12R1.0		1	12	12	11.4	24	40	90	7	●
TM-7RP-D12R3.0		3	12	12	11.4	24	40	90	7	●
TM-7RP-D12R0.75		0.75	12	12	11.4	24	40	90	7	○
TM-7RP-D12R3.2		3.2	12	12	11.4	24	40	90	7	●
TM-7RP-D12R1.25		1.25	12	12	11.4	24	40	90	7	○
TM-7RP-D16R2.0		2	16	16	15	32	50	100	7	●
TM-7RP-D16R3.2		3.2	16	16	15	32	50	100	7	●
TM-7RP-D16R1.5		1.5	16	16	15	32	50	100	7	●
TM-7RP-D16R1.6		1.6	16	16	15	32	50	100	7	●
TM-7RP-D16R4.0		4	16	16	15	32	50	100	7	●
TM-7RP-D16R3.0		3	16	16	15	32	50	100	7	●
TM-7RP-D16R1.0		1	16	16	15	32	50	100	7	●
TM-7RP-D16R5.0		5	16	16	15	32	50	100	7	●
TM-7RP-D16R6.3		6.3	16	16	15	32	50	100	7	○
TM-7RP-D16R1.25		1.25	16	16	15	32	50	100	7	○
TM-7RP-D16R2.5		2.5	16	16	15	32	50	100	7	●
TM-7RP-D20R3.0		3	20	20	19	35	60	110	7	●
TM-7RP-D20R1.5		1.5	20	20	19	35	60	110	7	●
TM-7RP-D20R6.3		6.3	20	20	19	35	60	110	7	●
TM-7RP-D20R2.5		2.5	20	20	19	35	60	110	7	●
TM-7RP-D20R5.0		5	20	20	19	35	60	110	7	●
TM-7RP-D20R1.25		1.25	20	20	19	35	60	110	7	○
TM-7RP-D20R1.0		1	20	20	19	35	60	110	7	●
TM-7RP-D20R3.2		3.2	20	20	19	35	60	110	7	●
TM-7RP-D20R1.6		1.6	20	20	19	35	60	110	7	●
TM-7RP-D20R2.0		2	20	20	19	35	60	110	7	●
TM-7RP-D20R4.0		4	20	20	19	35	60	110	7	●

● Ex stock ○ On demand

✲ With internal cooling

Application field

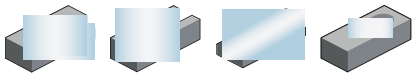
P	M	K	N	S	H
	✔			✔	

✔ Very suitable
✔ Suitable

System code B278 | Cutting data B492 | Nonstandard order B541

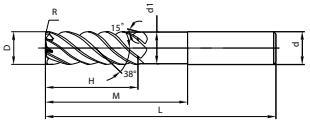
Torus mill High-performance machining

TM-9RP



– Factory standard
– Helix angle 38°





Article	✲	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		KMS405
TM-9RP-D25R3.0		3	25	25	24	45	75	150	9	●
TM-9RP-D25R3.2		3.2	25	25	24	45	75	150	9	●
TM-9RP-D25R6.3		6.3	25	25	24	45	75	150	9	●
TM-9RP-D25R1.0		1	25	25	24	45	75	150	9	●
TM-9RP-D25R1.6		1.6	25	25	24	45	75	150	9	●
TM-9RP-D25R1.5		1.5	25	25	24	45	75	150	9	●
TM-9RP-D25R2.0		2	25	25	24	45	75	150	9	●
TM-9RP-D25R4.0		4	25	25	24	45	75	150	9	●
TM-9RP-D25R5.0		5	25	25	24	45	75	150	9	●
TM-9RP-D25R1.25		1.25	25	25	24	45	75	150	9	○
TM-9RP-D25R2.5		2.5	25	25	24	45	75	150	9	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

P	M	K	N	S	H
	✔			✔	

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

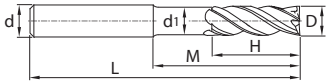
End mill HSC/HPC machining

5501R38414GM



– Type of shank DIN 6535HA
– Centre cutting
– Helix angle 38°/41°





Article	✲	Dimensions [mm]						Teeth	Grade
		D	d (h6)	d_1	H	M	L		KMG405
5501R38414GM-0400		4	6	3.7	8	16	54	4	●
5501R38414GM-0500		5	6	4.7	9	17	54	4	●
5501R38414GM-0600		6	6	5.7	10	18	54	4	●
5501R38414GM-0800		8	8	7.7	12	22	58	4	●
5501R38414GM-1000		10	10	9.5	14	26	66	4	●
5501R38414GM-1200		12	12	11.5	16	28	73	4	●
5501R38414GM-1400		14	14	13.5	18	30	75	4	●
5501R38414GM-1600		16	16	15.5	22	34	82	4	●
5501R38414GM-1800		18	18	17.5	24	36	84	4	●
5501R38414GM-2000		20	20	19.5	26	42	92	4	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

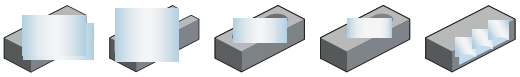
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

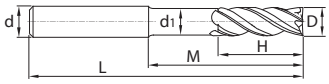
End mill long cutting edge HSC/HPC machining

5502R38414GM



– Type of shank DIN 6535HA
– Centre cutting
– Helix angle 38°/41°





Article	✻	Dimensions [mm]						Teeth	Grade	
		D	d (h6)	d_1	H	M	L		KMG405	KMG406
5502R38414GM-0400		4	6	3.7	11	19	57	4	●	●
5502R38414GM-0500		5	6	4.7	13	21	57	4	●	●
5502R38414GM-0600		6	6	5.7	13	21	57	4	●	●
5502R38414GM-0800		8	8	7.7	19	27	63	4	●	●
5502R38414GM-1000		10	10	9.5	22	32	72	4	●	●
5502R38414GM-1200		12	12	11.5	26	38	83	4	●	●
5502R38414GM-1400		14	14	13.5	26	38	83	4	●	●
5502R38414GM-1600		16	16	15.5	32	44	92	4	●	●
5502R38414GM-1800		18	18	17.5	32	44	92	4	●	●
5502R38414GM-2000		20	20	19.5	38	54	104	4	●	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

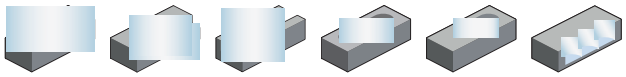
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

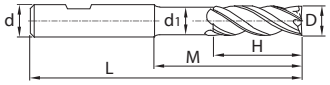
End mill HSC/HPC machining

5601R38414GM



– Type of shank: DIN 6535HB
– Centre cutting
– Helix angle 38°/41°





Article	✲	Dimensions [mm]						Teeth	Grade
		D	d (h6)	d_1	H	M	L		KMG405
5601R38414GM-0400		4	6	3.7	8	16	54	4	●
5601R38414GM-0500		5	6	4.7	9	17	54	4	●
5601R38414GM-0600		6	6	5.7	10	18	54	4	●
5601R38414GM-0800		8	8	7.7	12	22	58	4	●
5601R38414GM-1000		10	10	9.5	14	26	66	4	●
5601R38414GM-1200		12	12	11.5	16	28	73	4	●
5601R38414GM-1400		14	14	13.5	18	30	75	4	●
5601R38414GM-1600		16	16	15.5	22	34	82	4	●
5601R38414GM-1800		18	18	17.5	24	36	84	4	●
5601R38414GM-2000		20	20	19.5	26	42	92	4	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

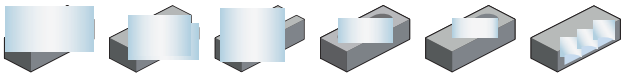
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

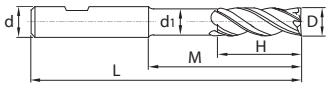
End mill long cutting edge HSC/HPC machining

5602R38414GM



– Type of shank: DIN 6535HB
– Centre cutting
– Helix angle 38°/41°





Article	✻	Dimensions [mm]						Teeth	Grade	
		D	d (h6)	d_1	H	M	L		KMG405	KMG406
5602R38414GM-0400		4	6	3.7	11	19	57	4	●	●
5602R38414GM-0500		5	6	4.7	13	21	57	4	●	●
5602R38414GM-0600		6	6	5.7	13	21	57	4	●	●
5602R38414GM-0800		8	8	7.7	19	27	63	4	●	●
5602R38414GM-1000		10	10	9.5	22	32	72	4	●	●
5602R38414GM-1200		12	12	11.5	26	38	83	4	●	●
5602R38414GM-1400		14	14	13.5	26	38	83	4	●	●
5602R38414GM-1600		16	16	15.5	32	44	92	4	●	●
5602R38414GM-1800		18	18	17.5	32	44	92	4	●	●
5602R38414GM-2000		20	20	19.5	38	54	104	4	●	●

● Ex stock ○ On demand
✻ With internal cooling

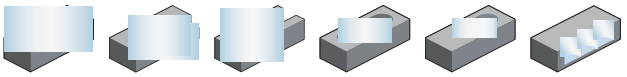
Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

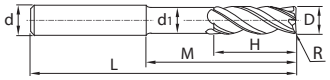
Torus mill long cutting edge HSC/HPC machining



5502R38414GM-R

– Type of shank DIN 6535HA
– Centre cutting
– Helix angle 38°/41°





Article	✻	Dimensions [mm]							Teeth	Grade
		D	R	d (h6)	d_1	H	M	L		KMG405
5502R38414GM-R02-0400		4	0.2	6	3.7	11	19	57	4	●
5502R38414GM-R05-0400		4	0.5	6	3.7	11	19	57	4	●
5502R38414GM-R02-0500		5	0.2	6	4.7	13	21	57	4	●
5502R38414GM-R05-0500		5	0.5	6	4.7	13	21	57	4	●
5502R38414GM-R02-0600		6	0.2	6	5.7	13	21	57	4	●
5502R38414GM-R05-0600		6	0.5	6	5.7	13	21	57	4	●
5502R38414GM-R10-0600		6	1	6	5.7	13	21	57	4	●
5502R38414GM-R02-0800		8	0.2	8	7.7	19	27	63	4	●
5502R38414GM-R05-0800		8	0.5	8	7.7	19	27	63	4	●
5502R38414GM-R10-0800		8	1	8	7.7	19	27	63	4	●
5502R38414GM-R15-0800		8	1.5	8	7.7	19	27	63	4	●
5502R38414GM-R20-0800		8	2	8	7.7	19	27	63	4	●
5502R38414GM-R02-1000		10	0.2	10	9.5	22	32	72	4	●
5502R38414GM-R05-1000		10	0.5	10	9.5	22	32	72	4	●
5502R38414GM-R10-1000		10	1	10	9.5	22	32	72	4	●
5502R38414GM-R15-1000		10	1.5	10	9.5	22	32	72	4	●
5502R38414GM-R20-1000		10	2	10	9.5	22	32	72	4	●
5502R38414GM-R05-1200		12	0.5	12	11.5	26	38	83	4	●
5502R38414GM-R10-1200		12	1	12	11.5	26	38	83	4	●
5502R38414GM-R15-1200		12	1.5	12	11.5	26	38	83	4	●
5502R38414GM-R20-1200		12	2	12	11.5	26	38	83	4	●
5502R38414GM-R10-1600		16	1	16	15.5	32	44	92	4	●
5502R38414GM-R15-1600		16	1.5	16	15.5	32	44	92	4	●
5502R38414GM-R20-1600		16	2	16	15.5	32	44	92	4	●
5502R38414GM-R30-1600		16	3	16	15.5	32	44	92	4	●
5502R38414GM-R10-2000		20	1	20	19.5	38	54	104	4	●
5502R38414GM-R15-2000		20	1.5	20	19.5	38	54	104	4	●
5502R38414GM-R20-2000		20	2	20	19.5	38	54	104	4	●
5502R38414GM-R30-2000		20	3	20	19.5	38	54	104	4	●

● Ex stock ○ On demand

✻ With internal cooling

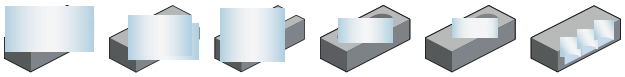
Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

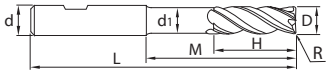
Torus mill long cutting edge HSC/HPC machining



5602R38414GM-R

– Type of shank: DIN 6535HB
– Centre cutting
– Helix angle 38°/41°





Article	✻	Dimensions [mm]							Teeth	Grade
		D	R	d (h6)	d_1	H	M	L		KMG405
5602R38414GM-R02-0400		4	0.2	6	3.7	11	19	57	4	●
5602R38414GM-R05-0400		4	0.5	6	3.7	11	19	57	4	●
5602R38414GM-R02-0500		5	0.2	6	4.7	13	21	57	4	●
5602R38414GM-R05-0500		5	0.5	6	4.7	13	21	57	4	●
5602R38414GM-R02-0600		6	0.2	6	5.7	13	21	57	4	●
5602R38414GM-R05-0600		6	0.5	6	5.7	13	21	57	4	●
5602R38414GM-R10-0600		6	1	6	5.7	13	21	57	4	●
5602R38414GM-R02-0800		8	0.2	8	7.7	19	27	63	4	●
5602R38414GM-R05-0800		8	0.5	8	7.7	19	27	63	4	●
5602R38414GM-R10-0800		8	1	8	7.7	19	27	63	4	●
5602R38414GM-R15-0800		8	1.5	8	7.7	19	27	63	4	●
5602R38414GM-R20-0800		8	2	8	7.7	19	27	63	4	●
5602R38414GM-R02-1000		10	0.2	10	9.5	22	32	72	4	●
5602R38414GM-R05-1000		10	0.5	10	9.5	22	32	72	4	●
5602R38414GM-R10-1000		10	1	10	9.5	22	32	72	4	●
5602R38414GM-R15-1000		10	1.5	10	9.5	22	32	72	4	●
5602R38414GM-R20-1000		10	2	10	9.5	22	32	72	4	●
5602R38414GM-R05-1200		12	0.5	12	11.5	26	38	83	4	●
5602R38414GM-R10-1200		12	1	12	11.5	26	38	83	4	●
5602R38414GM-R15-1200		12	1.5	12	11.5	26	38	83	4	●
5602R38414GM-R20-1200		12	2	12	11.5	26	38	83	4	●
5602R38414GM-R10-1600		16	1	16	15.5	32	44	92	4	●
5602R38414GM-R15-1600		16	1.5	16	15.5	32	44	92	4	●
5602R38414GM-R20-1600		16	2	16	15.5	32	44	92	4	●
5602R38414GM-R30-1600		16	3	16	15.5	32	44	92	4	●
5602R38414GM-R10-2000		20	1	20	19.5	38	54	104	4	●
5602R38414GM-R15-2000		20	1.5	20	19.5	38	54	104	4	●
5602R38414GM-R20-2000		20	2	20	19.5	38	54	104	4	●
5602R38414GM-R30-2000		20	3	20	19.5	38	54	104	4	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

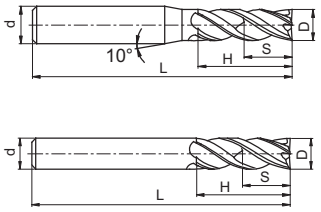
End mill HSC/HPC machining

UM-4E



– Factory standard
– Centre cutting
– Helix angle 38°/41°





Article	✻	Dimensions [mm]					Teeth	Geometry	Grade	
		D	d (h6)	H	L	S			KMG405	YK40F
UM-4E-D4.0S		4	4	11	50	6	4	B	●	
UM-4E-D4.0		4	6	11	50	6	4	A	●	
UM-4E-D4.5		4.5	6	11	50	6.75	4	A	●	
UM-4E-D5.0		5	6	13	50	7.5	4	A	●	
UM-4E-D5.5		5.5	6	16	50	8.25	4	A	●	
UM-4E-D6.0		6	6	16	50	9	4	B	●	○
UM-4E-D7.0		7	8	20	60	10.5	4	A	●	
UM-4E-D8.0		8	8	20	60	12	4	B	●	○
UM-4E-D9.0		9	10	22	75	13.5	4	A	●	
UM-4E-D10.0		10	10	25	75	15	4	B	●	○
UM-4E-D11.0		11	12	26	75	16.5	4	A	●	
UM-4E-D12.0		12	12	30	75	18	4	B	●	○
UM-4E-D14.0		14	14	32	75	21	4	B	●	
UM-4E-D16.0		16	16	45	100	24	4	B	●	○
UM-4E-D18.0		18	18	45	100	27	4	B	●	
UM-4E-D20.0		20	20	45	100	30	4	B	●	

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

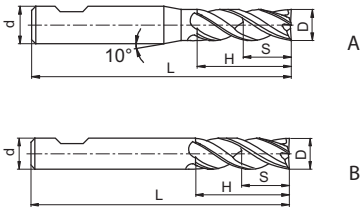
End mill HSC/HPC machining

UM-4E-W



– Factory standard with weldon clamping surface
– Centre cutting
– Helix angle 38°/41°





Article	✻	Dimensions [mm]					Teeth	Geometry	Grade	
		D	d (h6)	H	L	S			KMG405	YK40F
UM-4E-D4.0-W		4	6	11	50	6	4	A	●	
UM-4E-D4.5-W		4.5	6	11	50	6.75	4	A	●	
UM-4E-D5.0-W		5	6	13	50	7.5	4	A	●	
UM-4E-D5.5-W		5.5	6	16	50	8.25	4	A	●	
UM-4E-D6.0-W		6	6	16	50	9	4	B	●	○
UM-4E-D7.0-W		7	8	20	60	10.5	4	A	●	
UM-4E-D8.0-W		8	8	20	60	12	4	B	●	○
UM-4E-D9.0-W		9	10	22	75	13.5	4	A	●	
UM-4E-D10.0-W		10	10	25	75	15	4	B	●	○
UM-4E-D11.0-W		11	12	26	75	16.5	4	A	●	
UM-4E-D12.0-W		12	12	30	75	18	4	B	●	○
UM-4E-D14.0-W		14	14	32	75	21	4	B	●	
UM-4E-D16.0-W		16	16	45	100	24	4	B	●	○
UM-4E-D18.0-W		18	18	45	100	27	4	B	●	
UM-4E-D20.0-W		20	20	45	100	30	4	B	●	

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

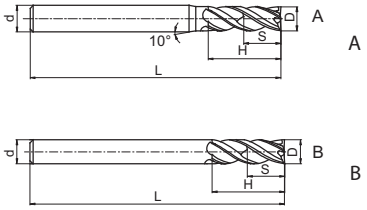
End mill long cutting edge HSC/HPC machining

UM-4EL



– Factory standard
– Centre cutting
– Helix angle 38°/41°





Article	✻	Dimensions [mm]					Teeth	Geometry	Grade
		D	d (h6)	H	L	S			KMG405
UM-4EL-D4.0		4	6	15	75	6	4	A	●
UM-4EL-D5.0		5	6	20	75	7.5	4	A	●
UM-4EL-D6.0		6	6	20	75	9	4	B	●
UM-4EL-D8.0		8	8	25	100	12	4	B	●
UM-4EL-D10.0		10	10	30	100	15	4	B	●
UM-4EL-D12.0		12	12	35	100	18	4	B	●
UM-4EL-D14.0		14	14	40	100	21	4	B	●
UM-4EL-D16.0		16	16	50	150	24	4	B	●
UM-4EL-D20.0		20	20	55	150	30	4	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

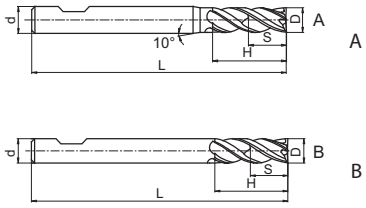
End mill long cutting edge HSC/HPC machining

UM-4EL-W



– Factory standard with weldon clamping surface
– Centre cutting
– Helix angle 38°/41°





Article	✻	Dimensions [mm]					Teeth	Geometry	Grade
		D	d (h6)	H	L	S			KMG405
UM-4EL-D4.0-W		4	6	15	75	6	4	A	●
UM-4EL-D5.0-W		5	6	20	75	7.5	4	A	●
UM-4EL-D6.0-W		6	6	20	75	9	4	B	●
UM-4EL-D8.0-W		8	8	25	100	12	4	B	●
UM-4EL-D10.0-W		10	10	30	100	15	4	B	●
UM-4EL-D12.0-W		12	12	35	100	18	4	B	●
UM-4EL-D14.0-W		14	14	40	100	21	4	B	●
UM-4EL-D16.0-W		16	16	50	150	24	4	B	●
UM-4EL-D20.0-W		20	20	55	150	30	4	B	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

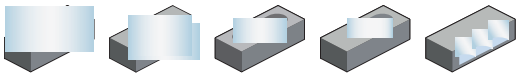
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

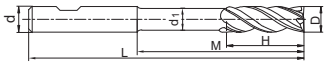
End mill reduced neck HSC/HPC machining

UM-4ELP-W



– Factory standard with weldon clamping surface
– Centre cutting
– Helix angle 38°/41°





Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	d_1	H	M	L		KMG405
UM-4ELP-D4.0-W		4	6	3.8	15	36	75	4	●
UM-4ELP-D5.0-W		5	6	4.8	20	36	75	4	●
UM-4ELP-D6.0-W		6	6	5.7	20	36	75	4	●
UM-4ELP-D8.0-W		8	8	7.7	25	60	100	4	●
UM-4ELP-D10.0-W		10	10	9.5	30	55	100	4	●
UM-4ELP-D12.0-W		12	12	11.5	35	50	100	4	●
UM-4ELP-D14.0-W		14	14	13.5	40	50	100	4	●
UM-4ELP-D16.0-W		16	16	15.5	50	100	150	4	●
UM-4ELP-D20.0-W		20	20	19.5	55	98	150	4	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

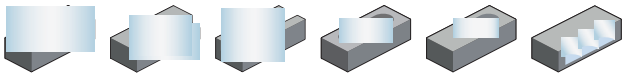
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

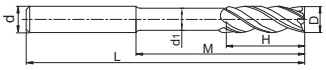
End mill short cutting edge HSC/HPC machining

UM-4EFP



– Factory standard
– Centre cutting
– Helix angle 38°/41°





Article	✻	Dimensions [mm]						Teeth	Grade
		D	d (h6)	d_1	H	M	L		KMG405
UM-4EFP-D6.0		6	6	5.8	9	30	75	4	●
UM-4EFP-D8.0		8	8	7.8	12	40	100	4	●
UM-4EFP-D10.0		10	10	9.6	15	50	100	4	●
UM-4EFP-D12.0		12	12	11.5	18	50	100	4	●
UM-4EFP-D16.0		16	16	15.5	24	50	150	4	●
UM-4EFP-D20.0		20	20	19.5	30	60	150	4	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

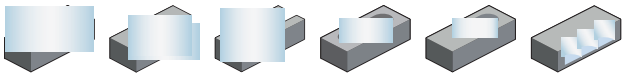
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

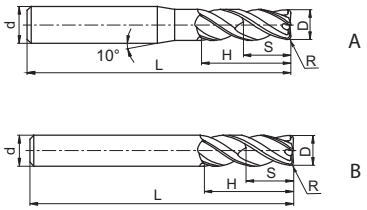
End mill HSC/HPC machining

UM-4R



– Factory standard
– Centre cutting
– Helix angle 38°/41°





Article	✻	Dimensions [mm] R	D	d (h6)	H	L	S	Teeth	Geometry	Grade KMG405
UM-4R-D4.0R0.3		0.3	4	6	10	50	6	4	A	●
UM-4R-D4.0R0.5		0.5	4	6	10	50	6	4	A	●
UM-4R-D5.0R0.5		0.5	5	6	13	50	7.5	4	A	●
UM-4R-D5.0R1.0		1	5	6	13	50	7.5	4	A	●
UM-4R-D6.0R0.5		0.5	6	6	16	50	9	4	B	●
UM-4R-D6.0R1.0		1	6	6	16	50	9	4	B	●
UM-4R-D8.0R0.5		0.5	8	8	20	60	12	4	B	●
UM-4R-D8.0R1.0		1	8	8	20	60	12	4	B	●
UM-4R-D10.0R0.5		0.5	10	10	25	75	15	4	B	●
UM-4R-D10.0R1.0		1	10	10	25	75	15	4	B	●
UM-4R-D10.0R2.0		2	10	10	25	75	15	4	B	●
UM-4R-D10.0R3.0		3	10	10	25	75	15	4	B	●
UM-4R-D12.0R0.5		0.5	12	12	30	75	18	4	B	●
UM-4R-D12.0R1.0		1	12	12	30	75	18	4	B	●
UM-4R-D12.0R2.0		2	12	12	30	75	18	4	B	●
UM-4R-D12.0R3.0		3	12	12	30	75	18	4	B	●
UM-4R-D16.0R0.5		0.5	16	16	45	100	24	4	B	●
UM-4R-D16.0R1.0		1	16	16	45	100	24	4	B	●
UM-4R-D16.0R2.0		2	16	16	45	100	24	4	B	●
UM-4R-D16.0R3.0		3	16	16	45	100	24	4	B	●
UM-4R-D20.0R1.0		1	20	20	45	100	30	4	B	●
UM-4R-D20.0R2.0		2	20	20	45	100	30	4	B	●
UM-4R-D20.0R3.0		3	20	20	45	100	30	4	B	●

● Ex stock ○ On demand
✻ With internal cooling

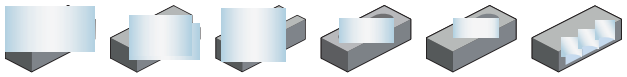
Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

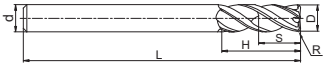
Torus mill long shank HSC/HPC machining



UM-4RL

– Factory standard
– Centre cutting
– Helix angle 38°/41°





Article	✻	Dimensions [mm]						Teeth	Grade
		R	D	d (h6)	H	L	S		KMG405
UM-4RL-D6.0R0.5		0.5	6	6	16	75	9	4	●
UM-4RL-D6.0R1.0		1	6	6	16	75	9	4	●
UM-4RL-D8.0R0.5		0.5	8	8	20	100	12	4	●
UM-4RL-D8.0R1.0		1	8	8	20	100	12	4	●
UM-4RL-D10.0R0.5		0.5	10	10	25	100	15	4	●
UM-4RL-D10.0R1.0		1	10	10	25	100	15	4	●
UM-4RL-D10.0R2.0		2	10	10	25	100	15	4	●
UM-4RL-D12.0R0.5		0.5	12	12	30	100	18	4	●
UM-4RL-D12.0R1.0		1	12	12	30	100	18	4	●
UM-4RL-D12.0R2.0		2	12	12	30	100	18	4	●
UM-4RL-D16.0R1.0		1	16	16	45	150	24	4	●
UM-4RL-D16.0R2.0		2	16	16	45	150	24	4	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

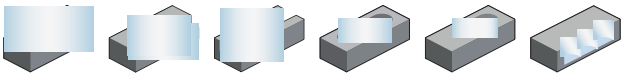
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

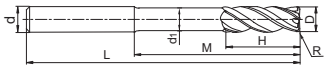
Torus mill short cutting edge HSC/HPC machining

UM-4RFP



– Factory standard
– Centre cutting
– Helix angle 38°/41°





Article	✻	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		KMG405
UM-4RFP-D6.0R0.5		0.5	6	6	5.8	6	18	75	4	●
UM-4RFP-D6.0R1.0		1	6	6	5.8	6	18	75	4	●
UM-4RFP-D8.0R0.5		0.5	8	8	7.7	8	24	100	4	●
UM-4RFP-D8.0R1.0		1	8	8	7.7	8	24	100	4	●
UM-4RFP-D10.0R0.5		0.5	10	10	9.6	10	30	100	4	●
UM-4RFP-D10.0R1.0		1	10	10	9.6	10	30	100	4	●
UM-4RFP-D10.0R2.0		2	10	10	9.6	10	30	100	4	●
UM-4RFP-D12.0R0.5		0.5	12	12	11.5	12	36	100	4	●
UM-4RFP-D12.0R1.0		1	12	12	11.5	12	36	100	4	●
UM-4RFP-D12.0R2.0		2	12	12	11.5	12	36	100	4	●
UM-4RFP-D16.0R1.0		1	16	16	15.5	16	40	150	4	●
UM-4RFP-D16.0R2.0		2	16	16	15.5	16	40	150	4	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

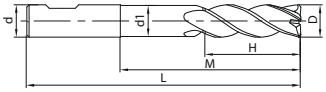
End mill HSC/HPC machining

UM-5EP-W



– Factory standard with weldon clamping surface
– Non-centre cutting
– Helix angle 38°/39°/40°





Article	✻	Dimensions [mm]						Grade
		D	d (h6)	d_1	H	M	L	KMG405
UM-5EP-D6.0-W		6	6	5.7	16	22	58	●
UM-5EP-D8.0-W		8	8	7.7	21	27	63	●
UM-5EP-D10.0-W		10	10	9.5	24	35	75	●
UM-5EP-D12.0-W		12	12	11.5	31	43	88	●
UM-5EP-D16.0-W		16	16	15.5	36	52	100	●
UM-5EP-D20.0-W		20	20	19.5	41	72	126	●
UM-5EP-D25.0-W		25	25	24	51	102	160	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

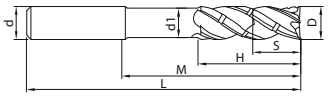
End mill HSC/HPC machining

UMC-4E



– Factory standard
– Centre cutting
– Helix angle 38°/40°





Article	✻	Dimensions [mm]							Grade
		D	d (h6)	d_1	H	M	L	S	KMG405
UMC-4E-D6.0		6	6	5.8	18	24	60	9	○
UMC-4E-D8.0		8	8	7.8	24	34	70	12	○
UMC-4E-D10.0		10	10	9.6	30	40	80	15	○
UMC-4E-D12.0		12	12	11.5	36	45	90	18	○
UMC-4E-D16.0		16	16	15.5	48	62	110	24	○
UMC-4E-D20.0		20	20	19.5	60	80	130	30	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

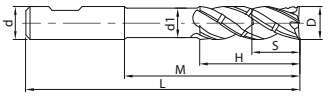
End mill HSC/HPC machining

UMC-4E-W



– Factory standard with weldon clamping surface
– Centre cutting
– Helix angle 38°/40°





Article	✻	Dimensions [mm]							Grade
		D	d (h6)	d_1	H	M	L	S	KMG405
UMC-4E-D6.0-W		6	6	5.8	18	24	60	9	○
UMC-4E-D8.0-W		8	8	7.8	24	34	70	12	○
UMC-4E-D10.0-W		10	10	9.6	30	40	80	15	○
UMC-4E-D12.0-W		12	12	11.5	36	45	90	18	○
UMC-4E-D16.0-W		16	16	15.5	48	62	110	24	○
UMC-4E-D20.0-W		20	20	19.5	60	80	130	30	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

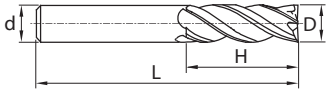
End mill General machining of heat-resistant alloys

VSM-4E



– Factory standard
– Centre cutting
– Helix angle 38°/41°





Article	✻	Dimensions [mm]				Teeth	Grade
		D	d (h6)	H	L		KMG405
VSM-4E-D4.0		4	6	11	50	4	●
VSM-4E-D5.0		5	6	13	50	4	●
VSM-4E-D6.0		6	6	16	50	4	●
VSM-4E-D8.0		8	8	20	60	4	●
VSM-4E-D10.0		10	10	25	75	4	●
VSM-4E-D12.0		12	12	30	75	4	●
VSM-4E-D16.0		16	16	45	100	4	●
VSM-4E-D20.0		20	20	45	100	4	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔			✔	

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

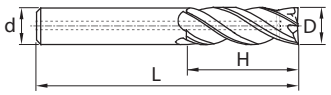
End mill General machining of heat-resistant alloys

VSM-4E-C



– Factory standard
– Coolant exit, radial
– Centre cutting
– Helix angle 38°/41°





Article	✻	Dimensions [mm] D	d (h6)	H	L	Teeth	Grade KMG405
VSM-4E-C-D10.0	✻	10	10	25	75	4	○
VSM-4E-C-D12.0	✻	12	12	30	75	4	○
VSM-4E-C-D16.0	✻	16	16	45	100	4	○
VSM-4E-C-D20.0	✻	20	20	45	100	4	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔			✔	

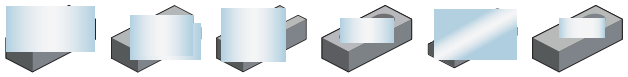
✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

Torus mill

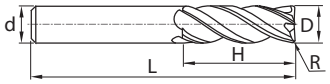
General machining of heat-resistant alloys

VSM-4R



– Factory standard
– Centre cutting
– Helix angle 38°/41°





Article	✻	Dimensions [mm]					Teeth	Grade
		D	R	d (h6)	H	L		KMG405
VSM-4R-D4.0R0.2		4	0.2	6	11	50	4	●
VSM-4R-D4.0R0.5		4	0.5	6	11	50	4	●
VSM-4R-D5.0R0.2		5	0.2	6	13	50	4	●
VSM-4R-D5.0R0.5		5	0.5	6	13	50	4	●
VSM-4R-D6.0R0.2		6	0.2	6	16	50	4	●
VSM-4R-D6.0R0.5		6	0.5	6	16	50	4	●
VSM-4R-D6.0R1.0		6	1	6	16	50	4	●
VSM-4R-D6.0R1.5		6	1.5	6	16	50	4	●
VSM-4R-D8.0R0.5		8	0.5	8	20	63	4	●
VSM-4R-D8.0R0.8		8	0.8	8	20	63	4	●
VSM-4R-D8.0R1.0		8	1	8	20	63	4	●
VSM-4R-D8.0R1.5		8	1.5	8	20	63	4	●
VSM-4R-D8.0R2.0		8	2	8	20	63	4	●
VSM-4R-D10.0R0.5		10	0.5	10	25	75	4	●
VSM-4R-D10.0R0.8		10	0.8	10	25	75	4	●
VSM-4R-D10.0R1.0		10	1	10	25	75	4	●
VSM-4R-D10.0R1.5		10	1.5	10	25	75	4	●
VSM-4R-D10.0R2.0		10	2	10	25	75	4	●
VSM-4R-D12.0R0.5		12	0.5	12	30	75	4	●
VSM-4R-D12.0R0.8		12	0.8	12	30	75	4	●
VSM-4R-D12.0R1.0		12	1	12	30	75	4	●
VSM-4R-D12.0R1.5		12	1.5	12	30	75	4	●
VSM-4R-D12.0R2.0		12	2	12	30	75	4	●
VSM-4R-D12.0R2.5		12	2.5	12	30	75	4	●
VSM-4R-D12.0R3.0		12	3	12	30	75	4	●
VSM-4R-D12.0R4.0		12	4	12	30	75	4	●
VSM-4R-D16.0R0.5		16	0.5	16	45	100	4	●
VSM-4R-D16.0R0.8		16	0.8	16	45	100	4	●
VSM-4R-D16.0R1.0		16	1	16	45	100	4	●
VSM-4R-D16.0R1.5		16	1.5	16	45	100	4	●
VSM-4R-D16.0R2.0		16	2	16	45	100	4	●
VSM-4R-D16.0R2.5		16	2.5	16	45	100	4	●
VSM-4R-D16.0R3.0		16	3	16	45	100	4	●
VSM-4R-D16.0R4.0		16	4	16	45	100	4	●
VSM-4R-D20.0R0.5		20	0.5	20	45	100	4	●
VSM-4R-D20.0R1.0		20	1	20	45	100	4	●
VSM-4R-D20.0R1.5		20	1.5	20	45	100	4	●

● Ex stock ○ On demand

✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔			✔	

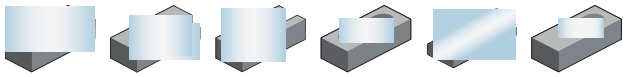
✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

Torus mill

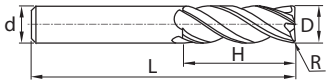
General machining of heat-resistant alloys

VSM-4R



– Factory standard
– Centre cutting
– Helix angle 38°/41°





Article	✻	Dimensions [mm] D	R	d (h6)	H	L	Teeth	Grade KMG405
VSM-4R-D20.0R2.0		20	2	20	45	100	4	●
VSM-4R-D20.0R2.5		20	2.5	20	45	100	4	●
VSM-4R-D20.0R3.0		20	3	20	45	100	4	●
VSM-4R-D20.0R4.0		20	4	20	45	100	4	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔			✔	

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

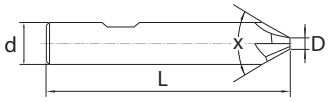
Deburring cutter 60° General machining

5501/5601R60*FM



– Type of shank DIN 6535HA
– Type of shank: DIN 6535HB
– Non-centre cutting
– Helix angle 0°





Article	✻	Dimensions [mm]					Teeth	Grade
		d(h6)	L	D	Shank	X		KMG303
5501R603FM-0300		3	48	0.2	HA	60	3	●
5501R604FM-0400		4	48	0.2	HA	60	4	●
5601R604FM-0600		6	55	0.2	HB	60	4	●
5601R604FM-0800		8	58	0.5	HB	60	4	●
5601R604FM-1000		10	65	0.5	HB	60	4	●
5601R606FM-1000		10	65	0.7	HB	60	6	○
5601R604FM-1200		12	75	0.5	HB	60	4	●
5601R606FM-1200		12	75	0.7	HB	60	6	○
5601R604FM-1600		16	85	0.7	HB	60	4	●
5601R606FM-1600		16	85	0.7	HB	60	6	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔	✔		

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

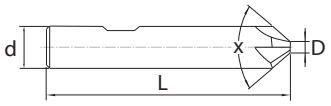
Deburring cutter 90° General machining

5501/5601R90*FM



– Type of shank DIN 6535HA
– Type of shank: DIN 6535HB
– Non-centre cutting
– Helix angle 0°





Article	✻	Dimensions [mm]					Teeth	Grade
		d(h6)	L	D	Shank	X		KMG303
5501R903FM-0300		3	48	0.2	HA	90	3	●
5501R904FM-0400		4	48	0.2	HA	90	4	●
5601R904FM-0600		6	55	0.2	HB	90	4	●
5601R904FM-0800		8	58	0.5	HB	90	4	●
5601R904FM-1000		10	65	0.5	HB	90	4	●
5601R906FM-1000		10	65	0.7	HB	90	6	○
5601R904FM-1200		12	75	0.5	HB	90	4	●
5601R906FM-1200		12	75	0.7	HB	90	6	○
5501R904FM-1600		16	85	0.7	HA	90	4	○
5601R904FM-1600		16	85	0.7	HB	90	4	●
5601R906FM-1600		16	85	0.7	HB	90	6	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔	✔		

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

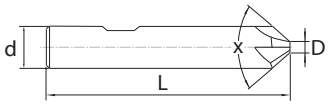
Deburring cutter General machining

5501/5601R120*FM



– Type of shank DIN 6535HA
– Type of shank: DIN 6535HB
– Non-centre cutting
– Helix angle 0°





Article	✻	Dimensions [mm]					Teeth	Grade
		d(h6)	L	D	Shank	X		KMG406
5501R1203FM-0300		3	48	0.2	HA	120	3	○
5501R1204FM-0400		4	48	0.2	HA	120	4	○
5501R1204FM-0600		6	55	0.2	HA	120	4	○
5601R1204FM-0600		6	55	0.2	HB	120	4	○
5501R1204FM-0800		8	58	0.5	HA	120	4	○
5601R1204FM-0800		8	58	0.5	HB	120	4	○
5501R1204FM-1000		10	65	0.5	HA	120	4	○
5601R1204FM-1000		10	65	0.5	HB	120	4	○
5601R1206FM-1000		10	65	0.7	HB	120	6	○
5501R1206FM-1000		10	65	0.7	HA	120	6	○
5501R1204FM-1200		12	75	0.5	HA	120	4	○
5601R1204FM-1200		12	75	0.5	HB	120	4	○
5601R1206FM-1200		12	75	0.7	HB	120	6	○
5501R1206FM-1200		12	75	0.7	HA	120	6	○
5501R1206FM-1600		16	85	0.7	HA	120	6	○
5601R1204FM-1600		16	85	0.7	HB	120	4	○
5501R1204FM-1600		16	85	0.7	HA	120	4	○
5601R1206FM-1600		16	85	0.7	HB	120	6	○

● Ex stock ○ On demand
✻ With internal cooling

Application field

P	M	K	N	S	H
✔	✔	✔	✔		

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

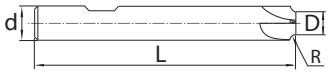
Quarter round profile mill General machining

5601R90*FM-R



– Type of shank: DIN 6535HB
– Non-centre cutting
– Helix angle 0°





Article	✻	Dimensions [mm]				Teeth	Grade
		d(h6)	L	D	R		KMG303
5601R904FM-R02-0600		6	60	5.6	0.2	4	●
5601R904FM-R03-0600		6	60	5.4	0.3	4	●
5601R904FM-R04-0600		6	60	5.2	0.4	4	●
5601R904FM-R05-0800		8	70	7	0.5	4	●
5601R904FM-R06-0800		8	70	6.8	0.6	4	●
5601R904FM-R075-0800		8	70	6.5	0.75	4	●
5601R904FM-R08-0800		8	70	6.4	0.8	4	●
5601R904FM-R10-0800		8	70	6	1	4	●
5601R904FM-R15-1000		10	75	7	1.5	4	●
5601R904FM-R20-1000		10	75	6	2	4	●
5601R904FM-R25-1200		12	75	7	2.5	4	●
5601R904FM-R30-1200		12	75	6	3	4	●
5601R904FM-R40-1600		16	80	8	4	4	●
5601R904FM-R50-2000		20	80	10	5	4	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

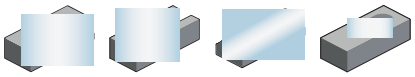
P	M	K	N	S	H
✔	✔	✔	✔		

✔ Very suitable
✔ Suitable

System code > B278 Cutting data > B492 Nonstandard order > B541

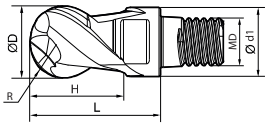
Ball nose cutter | High-performance machining

PM-2B



– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm]						Teeth	Grade
		R	D	d1	H	L	MD		KMG405
Q08-PM-2B-D12.0		6	12	11.5	7	17	8	2	●
Q10-PM-2B-D16.0		8	16	15.2	9	21.5	10	2	●
Q12-PM-2B-D20.0		10	20	19	11	25.5	12	2	●
Q14-PM-2B-D25.0		12.5	25	24	13.5	31.5	14	2	●
Q18-PM-2B-D32.0		16	32	30	17	36	18	2	●

● Ex stock ○ On demand

✲ With internal cooling

Application field

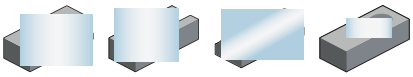
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 | Cutting data B492 | Nonstandard order B541

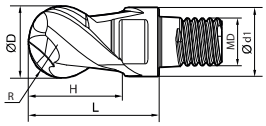
Ball nose cutter High-performance machining

PM-4B



– Centre cutting
– Helix angle 30°





Article	✲	Dimensions [mm]						Teeth	Grade
		R	D	d1	H	L	MD		KMG405
Q08-PM-4B-D12.0		6	12	11.5	7	17	8	4	●
Q10-PM-4B-D16.0		8	16	15.2	9	21.5	10	4	●
Q12-PM-4B-D20.0		10	20	19	11	25.5	12	4	●
Q14-PM-4B-D25.0		12.5	25	24	13.5	31.5	14	4	●
Q18-PM-4B-D32.0		16	32	30	17	36	18	4	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

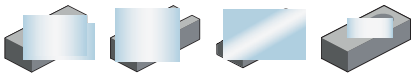
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

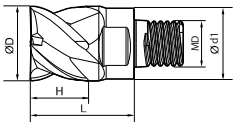
Square shoulder mill | High-performance machining

PM-4E



– Centre cutting
– Helix angle 45°





Article	✲	Dimensions [mm]					Teeth	Grade
		D	d1	H	L	MD		KMG405
Q08-PM-4E-D12.0		12	11.5	7	17	8	4	●
Q10-PM-4E-D16.0		16	15.2	9	21.5	10	4	●
Q12-PM-4E-D20.0		20	19	11	25.5	12	4	●
Q14-PM-4E-D25.0		25	24	13.5	31.5	14	4	●
Q18-PM-4E-D32.0		32	30	17	36	18	4	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

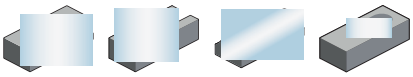
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

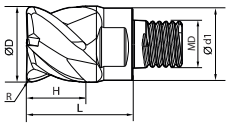
Torus mill High-performance machining

PM-4R



– Centre cutting
– Helix angle 30°





Article	✻	Dimensions [mm]						Teeth	Grade
		R	D	d1	H	L	MD		KMG405
Q08-PM-4R-D12.0R1.0		1	12	11.5	7	17	8	4	●
Q08-PM-4R-D12.0R2.0		2	12	11.5	7	17	8	4	●
Q10-PM-4R-D16.0R1.0		1	16	15.2	9	21.5	10	4	●
Q10-PM-4R-D16.0R1.5		1.5	16	15.2	9	21.5	10	4	●
Q10-PM-4R-D16.0R2.0		2	16	15.2	9	21.5	10	4	●
Q12-PM-4R-D20.0R1.0		1	20	19	11	25.5	12	4	●
Q12-PM-4R-D20.0R2.0		2	20	19	11	25.5	12	4	●
Q14-PM-4R-D25.0R1.0		1	25	24	13.5	31.5	14	4	●
Q14-PM-4R-D25.0R2.0		2	25	24	13.5	31.5	14	4	●
Q14-PM-4R-D25.0R2.5		2.5	25	24	13.5	31.5	14	4	●
Q18-PM-4R-D32.0R1.0		1	32	30	17	36	18	4	●
Q18-PM-4R-D32.0R2.0		2	32	30	17	36	18	4	●
Q18-PM-4R-D32.0R3.0		3	32	30	17	36	18	4	●

● Ex stock ○ On demand
✻ With internal cooling

Application field

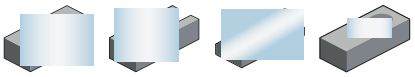
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

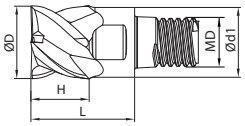
Square shoulder mill | High-performance machining

VPM-4E



– Centre cutting
– Helix angle 38°





Article	✲	Dimensions [mm]					Teeth	Grade
		D	d1	H	L	MD		KMG406
Q08-VPM-4E-D12.0		12	11.5	7	17	8	4	●
Q10-VPM-4E-D16.0		16	15.2	9	21.5	10	4	●
Q12-VPM-4E-D20.0		20	19	11	25.5	12	4	●
Q14-VPM-4E-D25.0		25	24	13.5	31.5	14	4	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

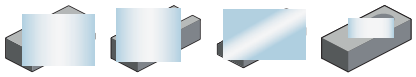
P	M	K	N	S	H
✔	✔	✔			✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

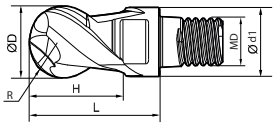
Ball nose cutter Hard machining

HMX-2B



– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm] R	D	d1	H	L	MD	Teeth	Grade KMG5515
Q08-HMX-2B-D12.0		6	12	11.5	7	17	8	2	●
Q10-HMX-2B-D16.0		8	16	15.2	9	21.5	10	2	●
Q12-HMX-2B-D20.0		10	20	19	11	25.5	12	2	●
Q14-HMX-2B-D25.0		12.5	25	24	13.5	31.5	14	2	●
Q18-HMX-2B-D32.0		16	32	30	17	36	18	2	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

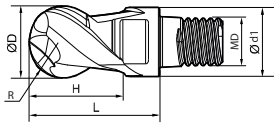
Ball nose cutter Hard machining

HMX-4B



– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm]						Teeth	Grade
		R	D	d1	H	L	MD		KMG5515
Q08-HMX-4B-D12.0		6	12	11.5	7	17	8	4	●
Q10-HMX-4B-D16.0		8	16	15.2	9	21.5	10	4	●
Q12-HMX-4B-D20.0		10	20	19	11	25.5	12	4	●
Q14-HMX-4B-D25.0		12.5	25	24	13.5	31.5	14	4	●
Q18-HMX-4B-D32.0		16	32	30	17	36	18	4	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

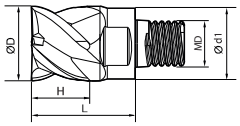
Square shoulder mill Hard machining



HMX-4E

– Centre cutting
– Helix angle 45°





Article	✻	Dimensions [mm]					Teeth	Grade
		D	d1	H	L	MD		KMG5515
Q08-HMX-4E-D12.0		12	11.5	7	17	8	4	●
Q10-HMX-4E-D16.0		16	15.2	9	21.5	10	4	●
Q12-HMX-4E-D20.0		20	19	11	25.5	12	4	●
Q14-HMX-4E-D25.0		25	24	13.5	31.5	14	4	●
Q18-HMX-4E-D32.0		32	30	17	36	18	4	●

● Ex stock ○ On demand

✻ With internal cooling

Application field

P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

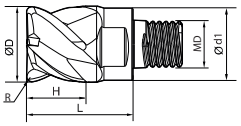
Torus mill Hard machining

HMX-4R



– Centre cutting
– Helix angle 35°





Article	✲	Dimensions [mm]						Teeth	Grade
		R	D	d1	H	L	MD		KMG405
Q08-HMX-4R-D12.0R1.0		1	12	11.5	7	17	8	4	●
Q08-HMX-4R-D12.0R2.0		2	12	11.5	7	17	8	4	●
Q10-HMX-4R-D16.0R1.0		1	16	15.2	9	21.5	10	4	●
Q10-HMX-4R-D16.0R1.5		1.5	16	15.2	9	21.5	10	4	●
Q10-HMX-4R-D16.0R2.0		2	16	15.2	9	21.5	10	4	●
Q12-HMX-4R-D20.0R1.0		1	20	19	11	25.5	12	4	●
Q12-HMX-4R-D20.0R2.0		2	20	19	11	25.5	12	4	●
Q14-HMX-4R-D25.0R1.0		1	25	24	13.5	31.5	14	4	●
Q14-HMX-4R-D25.0R2.0		2	25	24	13.5	31.5	14	4	●
Q14-HMX-4R-D25.0R2.5		2.5	25	24	13.5	31.5	14	4	●
Q18-HMX-4R-D32.0R1.0		1	32	30	17	36	18	4	●
Q18-HMX-4R-D32.0R2.0		2	32	30	17	36	18	4	●
Q18-HMX-4R-D32.0R3.0		3	32	30	17	36	18	4	●

● Ex stock ○ On demand
✲ With internal cooling

Application field

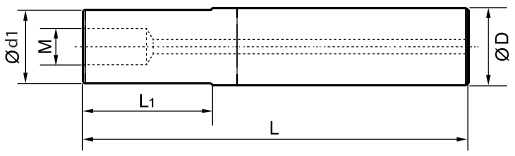
P	M	K	N	S	H
					✔

✔ Very suitable
✔ Suitable

System code B278 Cutting data B492 Nonstandard order B541

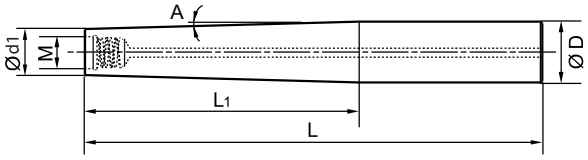
Indexable heads shanks

Solid carbide shank, stepped, Q thread



Article	Dimensions [mm]				Thread (M)	Stock
	D	d1	L	L1		
G12-QCH-Q08-80C	12	11,5	80	30	Q8	●
G12-QCH-Q08-100C	12	11,5	100	50	Q8	●
G12-QCH-Q08-120C	12	11,5	120	70	Q8	●
G16-QCH-Q10-90C	16	15,2	90	40	Q10	●
G16-QCH-Q10-120C	16	15,2	120	70	Q10	●
G16-QCH-Q10-150C	16	15,2	150	100	Q10	●
G20-QCH-Q12-100C	20	19	100	40	Q12	●
G20-QCH-Q12-140C	20	19	140	80	Q12	●
G20-QCH-Q12-180C	20	19	180	120	Q12	●
G25-QCH-Q14-120C	25	24	120	50	Q14	●
G25-QCH-Q14-170C	25	24	170	100	Q14	●
G25-QCH-Q14-220C	25	24	220	150	Q14	●
G32-QCH-Q18-140C	32	30	140	70	Q18	●
G32-QCH-Q18-200C	32	30	200	130	Q18	●
G32-QCH-Q18-260C	32	30	260	190	Q18	●
G32-QCH-Q18-320C	32	30	320	250	Q18	●

Solid carbide shank, tapered, Q thread



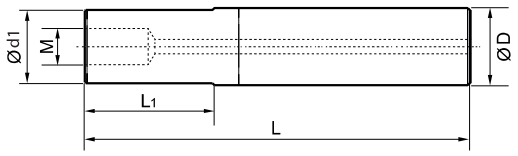
Article	Dimensions [mm]				Thread (M)	Angle (A)	Stock
	D	d1	L	L1			
G16-QCH-Q08-140C-ZJ90	16	11,5	140	90	Q8	1,0	●
G20-QCH-Q10-200C-ZJ140	20	15,2	200	140	Q8	0,8	●
G25-QCH-Q12-250C-ZJ180	25	19	250	180	Q8	0,8	●
G32-QCH-Q14-270C-ZJ200	32	30	270	200	Q10	0,8	●

Spare parts

	Thread	Q8 / Q10	Q12 / Q14	Q18
	Wrench	QCH-10×13	QCH-16×20	QCH-26

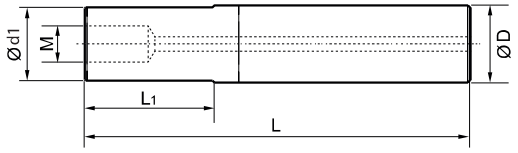
Indexable heads shanks

Steel shank, stepped, Q thread



Article	Dimensions [mm]				Thread (M)	Stock
	D	d1	L	L1		
G12-QCH-Q08-65S	12	11,5	65	19	Q08	●
G16-QCH-Q10-100S	16	15,2	100	42	Q10	●
G20-QCH-Q12-110S	20	19	110	54	Q12	●

Solid carbide shank, stepped, metric thread



Article	Dimensions [mm]				Thread (M)	Stock
	D	d1	L	L1		
G16-QCH-M8-90C-125	16	12,5	90	35	M8	○
G16-QCH-M8-110C-125	16	12,5	110	55	M8	○
G16-QCH-M8-130C-125	16	12,5	130	75	M8	○
G16-QCH-M8-90C	16	15	90	35	M8	○
G16-QCH-M8-110C	16	15	110	55	M8	○
G16-QCH-M8-130C	16	15	130	75	M8	○
G16-QCH-M8-170C	16	15	170	115	M8	○
G16-QCH-M8-200C	16	15	200	145	M8	○
G20-QCH-M10-87C	20	18,5	87	30	M10	○
G20-QCH-M10-107C	20	18,5	107	50	M10	○
G20-QCH-M10-127C	20	18,5	127	70	M10	○
G20-QCH-M10-167C	20	18,5	167	110	M10	○
G20-QCH-M10-197C	20	18,5	197	140	M10	○
G25-QCH-M12-128C	25	23	128	65	M12	○
G25-QCH-M12-148C	25	23	148	85	M12	○
G25-QCH-M12-168C	25	23	168	105	M12	○
G25-QCH-M12-198C	25	23	198	135	M12	○
G25-QCH-M12-228C	25	23	228	165	M12	○
G32-QCH-M16-161C	32	29	161	95	M16	○
G32-QCH-M16-211C	32	29	211	145	M16	○
G32-QCH-M16-281C	32	29	281	215	M16	○
G32-QCH-M16-311C	32	29	311	245	M16	○
G32-QCH-M16-361C	32	29	361	295	M16	○

Guide for recommended cutting data – solid carbide milling

End mill – GM series

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						5501R302GM 5601R302GM 5502R302GM 5602R302GM				GM-2E GM-2EFP GM-2F			
						Slot milling		Shoulder milling		Slot milling		Shoulder milling	
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
						0<x<3	0,1 x D	0<x≤20	<0,5 x D	0<x<3	0,1 x D	0<x≤20	<0,5 x D
						3≤x≤20	0,8 x D			3≤x≤20	0,8 x D		
						KMG303				KMG303			
						a_e / D				a_e / D			
						1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group
P	Unalloyed steel	ca. 0,15 % C	annealed	125	1	150	200	270	2	150	200	270	2
		ca. 0,45 % C	annealed	190	2	145	190	260	2	145	190	260	2
		ca. 0,45 % C	tempered	250	3	105	140	190	2	105	140	190	2
		ca. 0,75 % C	annealed	270	4	90	120	165	2	90	120	165	2
		ca. 0,75 % C	tempered	300	5	85	110	150	2	85	110	150	2
	Low-alloyed steel		annealed	180	6	115	150	205	2	115	150	205	2
			tempered	275	7	90	120	165	2	90	120	165	2
			tempered	300	8	85	110	150	2	85	110	150	2
			tempered	350	9	80	105	145	2	80	105	145	2
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	105	140	190	2	105	140	190	2
			hardened and tempered	325	11	80	110	145	2	80	110	145	2
M	Stainless steel	ferritic/martensitic	annealed	200	12	50	65	90	2	50	65	90	2
		martensitic	tempered	240	13	45	60	80	2	45	60	80	2
		austenitic	quench hardened	180	14	55	70	95	2	55	70	95	2
		austenitic-ferritic		230	15	45	60	80	2	45	60	80	2
K	Grey cast iron	perlitic/ferritic		180	16	110	150	200	2	110	150	200	2
		perlitic (martensitic)		260	17	90	120	165	2	90	120	165	2
	Cast iron with spheroidal graphite	ferritic		160	18	135	180	245	2	135	180	245	2
		perlitic		250	19	105	140	190	2	105	140	190	2
	Malleable cast iron	ferritic		130	20	150	200	270	2	150	200	270	2
		perlitic		230	21	120	160	220	2	120	160	220	2
N	Aluminium wrought alloys	cannot be hardened		60	22								
		hardenable	hardened	100	23								
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24								
		≤ 12 % Si, hardenable	hardened	90	25								
		> 12 % Si, cannot be hardened		130	26								
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, Pb-free copper, electrolytic copper		100	29								
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37								
			hardened and tempered	60 HRC	38								
	Hard cast iron		cast	400	39								
	Hardened cast iron		hardened and tempered	55 HRC	40								
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B460
For examples of material for cutting tool groups view page D22.

Recommend feed rate

Solid carbide milling group 2 – Square shoulder mills GM series

	a_e / D	Feed rate per cutting edge (f_z) [mm]																	
		Ø0,5	Ø0,8	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20			
P	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,06	0,07	0,07	0,08	0,08	0,09			
	1/2	0,01	0,03	0,03	0,03	0,03	0,03	0,04	0,04	0,05	0,08	0,09	0,09	0,10	0,10	0,12			
	1/10	0,02	0,04	0,04	0,04	0,04	0,04	0,06	0,06	0,08	0,12	0,14	0,14	0,16	0,16	0,18			
M	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,02	0,02	0,03	0,05	0,06	0,06	0,06	0,06	0,07			
	1/2	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,06	0,07	0,07	0,08	0,08	0,09			
	1/10	0,02	0,03	0,03	0,03	0,03	0,03	0,05	0,05	0,06	0,10	0,11	0,11	0,13	0,13	0,15			
K	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,06	0,07	0,07	0,08	0,08	0,09			
	1/2	0,01	0,03	0,03	0,03	0,03	0,03	0,04	0,04	0,05	0,08	0,09	0,09	0,10	0,10	0,12			
	1/10	0,02	0,04	0,04	0,04	0,04	0,04	0,06	0,06	0,08	0,12	0,14	0,14	0,16	0,16	0,18			

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

1. Select the appropriate product series.
2. Determine the immersion.
3. Select the used material and read the cutting speed.
4. Determine the feed rate group and have a look at the appropriate feed rate recommendations.
5. Select the diameter of tool and determine the immersion.

End mill – GM series

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						5501R302GM 5601R302GM 5502R302GM 5602R302GM				GM-2E GM-2EFP GM-2F			
						Slot milling		Shoulder milling		Slot milling		Shoulder milling	
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
						0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D
						3 ≤ x ≤ 20	0,8 x D			3 ≤ x ≤ 20	0,8 x D		
						KMG303				KMG303			
						a_e / D				a_e / D			
						1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	150	200	270	2	150	200	270	2
		approx. 0,45 % C	annealed	190	2	145	190	260	2	145	190	260	2
		approx. 0,45 % C	tempered	250	3	105	140	190	2	105	140	190	2
		approx. 0,75 % C	annealed	270	4	90	120	165	2	90	120	165	2
		approx. 0,75 % C	tempered	300	5	85	110	150	2	85	110	150	2
	Low-alloyed steel		annealed	180	6	115	150	205	2	115	150	205	2
			tempered	275	7	90	120	165	2	90	120	165	2
			tempered	300	8	85	110	150	2	85	110	150	2
			tempered	350	9	80	105	145	2	80	105	145	2
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	105	140	190	2	105	140	190	2
			hardened and tempered	325	11	80	110	145	2	80	110	145	2
M	Stainless steel	ferritic/martensitic	annealed	200	12	50	65	90	2	50	65	90	2
		martensitic	tempered	240	13	45	60	80	2	45	60	80	2
		austenitic	quench hardened	180	14	55	70	95	2	55	70	95	2
		austenitic-ferritic		230	15	45	60	80	2	45	60	80	2
K	Grey cast iron	perlitic/ferritic		180	16	110	150	200	2	110	150	200	2
		perlitic (martensitic)		260	17	90	120	165	2	90	120	165	2
	Cast iron with spheroidal graphite	ferritic		160	18	135	180	245	2	135	180	245	2
		perlitic		250	19	105	140	190	2	105	140	190	2
	Malleable cast iron	ferritic		130	20	150	200	270	2	150	200	270	2
		perlitic		230	21	120	160	220	2	120	160	220	2
N	Aluminium wrought alloys	cannot be hardened		60	22								
		hardenable	hardened	100	23								
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24								
		≤ 12 % Si, hardenable	hardened	90	25								
		> 12 % Si, cannot be hardened		130	26								
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, Pb-free copper, electrolytic copper		100	29								
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37								
			hardened and tempered	60 HRC	38								
	Hard cast iron		cast	400	39								
	Hardened cast iron		hardened and tempered	55 HRC	40								
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B522.
For examples of material for cutting tool groups view page D11.

	Starting values for cutting speed v_c [m/min]																			
	GM-2EL GM-2EX GM-2FL				GM-2EP GM-2ES				GM-3E GM-4E GM-4E-G				GM-2EL GM-4EL-G				5501R303GM 5601R303GM 5502R303GM 5602R303GM			
	Slot milling		Shoulder milling		Slot milling		Shoulder milling		Slot milling		Shoulder milling		Slot milling		Shoulder milling		Slot milling		Shoulder milling	
	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D
	3 ≤ x ≤ 20	0,8 x D			3 ≤ x ≤ 20	0,8 x D			3 ≤ x ≤ 20	0,8 x D			3 ≤ x ≤ 20	0,8 x D			3 ≤ x ≤ 20	0,8 x D		
	KMG303				KMG303				KMG303				KMG303				KMG303			
	a_e / D				a_e / D				a_e / D				a_e / D				a_e / D			
	1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group
	130	170	230	2	150	200	270	2	150	200	270	2	130	170	230	2	140	185	245	2
	125	165	220	2	145	190	260	2	145	190	260	2	125	165	220	2	135	180	235	2
	95	120	165	2	105	140	190	2	105	140	190	2	95	120	165	2	100	130	175	2
	80	105	140	2	90	120	165	2	90	120	165	2	80	105	140	2	85	115	150	2
	75	95	130	2	85	110	150	2	85	110	150	2	75	95	130	2	80	105	135	2
	100	130	175	2	115	150	205	2	115	150	205	2	100	130	175	2	105	140	185	2
	80	105	140	2	90	120	165	2	90	120	165	2	80	105	140	2	85	115	150	2
	75	95	130	2	85	110	150	2	85	110	150	2	75	95	130	2	80	105	135	2
	70	90	120	2	80	105	145	2	80	105	145	2	70	90	120	2	75	100	130	2
	95	120	165	2	105	140	190	2	105	140	190	2	95	120	165	2	100	130	175	2
	70	95	125	2	80	110	145	2	80	110	145	2	70	95	125	2	75	100	130	2
	45	55	75	2	50	65	90	2	50	65	90	2	45	55	75	2	45	60	80	2
	40	50	65	2	45	60	80	2	45	60	80	2	40	50	65	2	40	55	70	2
	45	60	80	2	55	70	95	2	55	70	95	2	45	60	80	2	50	65	85	2
	40	50	65	2	45	60	80	2	45	60	80	2	40	50	65	2	40	55	70	2
	95	125	170	2	110	150	200	2	110	150	200	2	95	125	170	2	105	140	180	2
	80	105	140	2	90	120	165	2	90	120	165	2	80	105	140	2	85	115	150	2
	120	155	210	2	135	180	245	2	135	180	245	2	120	155	210	2	130	170	225	2
	95	120	165	2	105	140	190	2	105	140	190	2	95	120	165	2	100	130	175	2
	130	170	230	2	150	200	270	2	150	200	270	2	130	170	230	2	140	185	245	2
	105	140	185	2	120	160	220	2	120	160	220	2	105	140	185	2	115	150	200	2

End mill – GM series

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						5501R304GF 5601R304GF 5502R304GF 5602R304GF				GM-4F-G GM-4EFP			
						Slot milling		Shoulder milling		Slot milling		Shoulder milling	
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
						0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D
						3 ≤ x ≤ 20	0,8 x D			3 ≤ x ≤ 20	0,8 x D		
						KMG303				KMG303			
						a_e / D				a_e / D			
						1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	155	200	265	2	150	200	270	2
		approx. 0,45 % C	annealed	190	2	150	190	255	2	145	190	260	2
		approx. 0,45 % C	tempered	250	3	110	140	190	2	105	140	190	2
		approx. 0,75 % C	annealed	270	4	95	120	160	2	90	120	165	2
		approx. 0,75 % C	tempered	300	5	90	110	150	2	85	110	150	2
	Low-alloyed steel		annealed	180	6	120	150	200	2	115	150	205	2
			tempered	275	7	95	120	160	2	90	120	165	2
			tempered	300	8	90	110	150	2	85	110	150	2
			tempered	350	9	85	105	140	2	80	105	145	2
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	110	140	190	2	105	140	190	2
			hardened and tempered	325	11	85	110	145	2	80	110	145	2
M	Stainless steel	ferritic/martensitic	annealed	200	12	50	65	85	2	50	65	90	2
		martensitic	tempered	240	13	45	60	75	2	45	60	80	2
		austenitic	quench hardened	180	14	55	70	95	2	55	70	95	2
		austenitic-ferritic		230	15	45	60	75	2	45	60	80	2
K	Grey cast iron	perlitic/ferritic		180	16	115	150	195	2	110	150	200	2
		perlitic (martensitic)		260	17	95	120	160	2	90	120	165	2
	Cast iron with spheroidal graphite	ferritic		160	18	140	180	240	2	135	180	245	2
		perlitic		250	19	110	140	190	2	105	140	190	2
	Malleable cast iron	ferritic		130	20	155	200	265	2	150	200	270	2
		perlitic		230	21	125	160	215	2	120	160	220	2
N	Aluminium wrought alloys	cannot be hardened		60	22								
		hardenable	hardened	100	23								
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24								
		≤ 12 % Si, hardenable	hardened	90	25								
		> 12 % Si, cannot be hardened		130	26								
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, Pb-free copper, electrolytic copper		100	29								
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37								
			hardened and tempered	60 HRC	38								
	Hard cast iron		cast	400	39								
	Hardened cast iron		hardened and tempered	55 HRC	40								
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B522.
For examples of material for cutting tool groups view page D11.

	Starting values for cutting speed v_c [m/min]																			
	GM-4FL-G GM-4EX-G				GM-6E				GM-6E 5589R45MGFR				5565R302GF 5565R302GM 5566R302GF				GM-2B GM-4B GM-2BS GM-2BP			
	Slot milling		Shoulder milling				Shoulder milling				Shoulder milling		Slot milling		Shoulder milling					
	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$			Ø [mm]	$a_{e\,max}$			Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$				
	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D			0 < x ≤ 20	< 0,5 x D			0 < x ≤ 20	< 0,5 x D	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D				
	3 ≤ x ≤ 20	0,8 x D											3 ≤ x ≤ 20	0,8 x D						
	KMG303				KMG303				KMG303				KMG303				KMG303			
	a_e / D				a_e / D				a_e / D				a_e / D				a_e / D			
	1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group	1/1	1/10	1/20	f-group	1/1	1/10	1/20	f-group
	130	170	230	2	–	–	270	2	–	–	230	2	–	250	280	5	–	250	280	5
	125	165	220	2	–	–	260	2	–	–	220	2	–	240	270	5	–	240	270	5
	95	120	165	2	–	–	190	2	–	–	165	2	–	175	200	5	–	175	200	5
	80	105	140	2	–	–	165	2	–	–	140	2	–	150	170	5	–	150	170	5
	75	95	130	2	–	–	150	2	–	–	130	2	–	140	155	5	–	140	155	5
	100	130	175	2	–	–	205	2	–	–	175	2	–	190	210	5	–	190	210	5
	80	105	140	2	–	–	165	2	–	–	140	2	–	150	170	5	–	150	170	5
	75	95	130	2	–	–	150	2	–	–	130	2	–	140	155	5	–	140	155	5
	70	90	120	2	–	–	145	2	–	–	120	2	–	130	150	5	–	130	150	5
	95	120	165	2	–	–	190	2	–	–	165	2	–	175	200	5	–	175	200	5
	70	95	125	2	–	–	145	2	–	–	125	2	–	135	150	5	–	135	150	5
	45	55	75	2	–	–	90	2	–	–	75	2	–	80	90	5	–	80	90	5
	40	50	65	2	–	–	80	2	–	–	65	2	–	70	80	5	–	70	80	5
	45	60	80	2	–	–	95	2	–	–	80	2	–	85	100	5	–	85	100	5
	40	50	65	2	–	–	80	2	–	–	65	2	–	70	80	5	–	70	80	5
	95	125	170	2	–	–	200	2	–	–	170	2	–	185	205	5	–	185	205	5
	80	105	140	2	–	–	165	2	–	–	140	2	–	150	170	5	–	150	170	5
	120	155	210	2	–	–	245	2	–	–	210	2	–	225	255	5	–	225	255	5
	95	120	165	2	–	–	190	2	–	–	165	2	–	175	200	5	–	175	200	5
	130	170	230	2	–	–	270	2	–	–	230	2	–	250	280	5	–	250	280	5
	105	140	185	2	–	–	220	2	–	–	185	2	–	200	225	5	–	200	225	5

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End mill – GM series

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						GM-2BL GM-4BL GM-2BFP				GM-2R GM-4R			
										Slot milling		Shoulder milling	
										Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
										0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D
										3 ≤ x ≤ 20	0,8 x D		
						KMG303				KMG303			
						a_e / D				a_e / D			
						1/1	1/10	1/20	f-group	1/1	1/2	1/10	f-group
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	–	220	250	5	160	215	275	2
		approx. 0,45 % C	annealed	190	2	–	210	240	5	155	205	265	2
		approx. 0,45 % C	tempered	250	3	–	155	175	5	115	155	195	2
		approx. 0,75 % C	annealed	270	4	–	135	150	5	100	130	165	2
		approx. 0,75 % C	tempered	300	5	–	125	140	5	90	120	155	2
	Low-alloyed steel		annealed	180	6	–	165	190	5	120	165	210	2
			tempered	275	7	–	135	150	5	100	130	165	2
			tempered	300	8	–	125	140	5	90	120	155	2
			tempered	350	9	–	115	130	5	85	115	145	2
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	–	155	175	5	115	155	195	2
			hardened and tempered	325	11	–	120	135	5	85	115	150	2
M	Stainless steel	ferritic/martensitic	annealed	200	12	–	75	80	5	55	70	90	2
		martensitic	tempered	240	13	–	65	70	5	45	65	80	2
		austenitic	quench hardened	180	14	–	75	85	5	55	75	95	2
		austenitic-ferritic		230	15	–	65	70	5	45	65	80	2
K	Grey cast iron	perlitic/ferritic		180	16	–	165	185	5	120	160	205	2
		perlitic (martensitic)		260	17	–	135	150	5	100	130	165	2
	Cast iron with spheroidal graphite	ferritic		160	18	–	200	225	5	145	195	250	2
		perlitic		250	19	–	155	175	5	115	155	195	2
	Malleable cast iron	ferritic		130	20	–	220	250	5	160	215	275	2
		perlitic		230	21	–	180	200	5	130	175	220	2
N	Aluminium wrought alloys	cannot be hardened		60	22								
		hardenable	hardened	100	23								
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24								
		≤ 12 % Si, hardenable	hardened	90	25								
		> 12 % Si, cannot be hardened		130	26								
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, Pb-free copper, electrolytic copper		100	29								
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37								
			hardened and tempered	60 HRC	38								
	Hard cast iron		cast	400	39								
	Hardened cast iron		hardened and tempered	55 HRC	40								
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B522.
For examples of material for cutting tool groups view page D11.

	Starting values for cutting speed v_c [m/min]							
	GM-4RL				5602R303GR 5602R304GR 5602R305GR GM-4W			
	Slot milling		Shoulder milling		Slot milling		Shoulder milling	
	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D	0 < x < 3	0,1 x D	0 < x ≤ 20	< 0,5 x D
	3 ≤ x ≤ 20	0,8 x D			3 ≤ x ≤ 20	0,8 x D		
	KMG303				KMG303			
	a_e / D				a_e / D			
	1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group
	145	200	240	2	135	180	240	2
	140	190	230	2	130	175	230	2
	105	140	170	2	95	130	170	2
	90	120	145	2	85	110	145	2
	80	110	135	2	75	100	135	2
	110	150	180	2	105	135	180	2
	90	120	145	2	85	110	145	2
	80	110	135	2	75	100	135	2
	80	105	125	2	75	95	125	2
	105	140	170	2	95	130	170	2
	80	110	130	2	75	100	130	2
	50	65	80	2	45	60	80	2
	45	60	70	2	40	55	70	2
	50	70	85	2	50	65	85	2
	45	60	70	2	40	55	70	2
	110	150	180	2	100	135	180	2
	90	120	145	2	85	110	145	2
	135	180	220	2	125	165	220	2
	105	140	170	2	95	130	170	2
	145	200	240	2	135	180	240	2
	120	160	195	2	110	145	195	2

End mill – HM series

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						HM-2E HM-2EP HM-2ES HM-4E				HM-2EFP HM-4EL HM-4EFP			
								Shoulder milling				Shoulder milling	
								Ø [mm]	$a_{e\,max}$			Ø [mm]	$a_{e\,max}$
								0 < x ≤ 20	0,05 x D			0 < x ≤ 20	0,05 x D
						KMG555				KMG555			
						a_e / D				a_e / D			
						1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1								
		approx. 0,45 % C	annealed	190	2								
		approx. 0,45 % C	tempered	250	3								
		approx. 0,75 % C	annealed	270	4								
		approx. 0,75 % C	tempered	300	5								
	Low-alloyed steel		annealed	180	6								
			tempered	275	7								
			tempered	300	8								
			tempered	350	9								
	High-alloyed steel and high-alloyed tool steel		annealed	200	10								
			hardened and tempered	325	11								
M	Stainless steel	ferritic/martensitic	annealed	200	12								
		martensitic	tempered	240	13								
		austenitic	quench hardened	180	14								
		austenitic-ferritic		230	15								
K	Grey cast iron	perlitic/ferritic		180	16								
		perlitic (martensitic)		260	17								
	Cast iron with spheroidal graphite	ferritic		160	18								
		perlitic		250	19								
	Malleable cast iron	ferritic		130	20								
		perlitic		230	21								
N	Aluminium wrought alloys	cannot be hardened		60	22								
		hardenable	hardened	100	23								
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24								
		≤ 12 % Si, hardenable	hardened	90	25								
		> 12 % Si, cannot be hardened		130	26								
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, Pb-free copper, electrolytic copper		100	29								
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37	55	100	125	3	50	95	115	3
			hardened and tempered	60 HRC	38	55	95	120	3	50	95	110	3
	Hard cast iron		cast	400	39	70	125	160	3	65	120	145	3
	Hardened cast iron		hardened and tempered	55 HRC	40	55	100	125	3	50	95	115	3
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
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Feed rate recommendations on page B522.
For examples of material for cutting tool groups view page D11.

	Starting values for cutting speed v_c [m/min]																			
	HM-6E				HM-6EL				HM-2B HM-2BP HM-2BS HM-4B				HM-2BL HM-4BL				HM-4R HM-4RP HM-4RF			
			Shoulder milling				Shoulder milling												Shoulder milling	
			Ø [mm]	$a_{e\,max}$			Ø [mm]	$a_{e\,max}$											Ø [mm]	$a_{e\,max}$
			0 < x ≤ 20	0,05 x D			0 < x ≤ 20	0,05 x D											0 < x ≤ 20	0,05 x D
	KMG555				KMG555				KMG555				KMG555				KMG555			
	a_e / D				a_e / D				a_e / D				a_e / D				a_e / D			
	1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group	1/1	1/10	1/20	f-group	1/1	1/10	1/20	f-group	1/1	1/2	1/10	f-group
	–	–	125	3	–	–	115	3	–	130	145	7	–	125	140	7	55	100	125	3
	–	–	120	3	–	–	110	3	–	80	90	7	–	80	90	7	55	95	120	3
	–	–	160	3	–	–	145	3	–	163	181	7	–	156	175	7	70	125	160	3
	–	–	125	3	–	–	115	3	–	109	145	7	–	105	140	7	55	100	125	3

Solid carbide milling Recommended cutting data

End mill – NM series

	Material group	Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]								
						5502R402NM NM-2E NM-4E NM-2EP				NM-2B NM-4BP				
						Slot milling		Shoulder milling						
						Ø [mm]	$a_{p\ max}$	Ø [mm]	$a_{e\ max}$					
						0<x<12	0,5xD	0<x≤20	<0,5xD					
						12≤x≤20	1,0xD							
						KMG309				KMG309				
						a_e / D				a_e / D				
						1/1	1/2	1/10	f-group	1/1	1/10	1/20	f-group	
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1									
		approx. 0,45 % C	annealed	190	2									
		approx. 0,45 % C	tempered	250	3									
		approx. 0,75 % C	annealed	270	4									
		approx. 0,75 % C	tempered	300	5									
	Low-alloyed steel		annealed	180	6									
			tempered	275	7									
			tempered	300	8									
			tempered	350	9									
	High-alloyed steel and high-alloyed tool steel		annealed	200	10									
			hardened and tempered	325	11									
M	Stainless steel	ferritic/martensitic	annealed	200	12									
		martensitic	tempered	240	13									
		austenitic	quench hardened	180	14									
		austenitic-ferritic		230	15									
K	Grey cast iron	perlitic/ferritic		180	16									
		perlitic (martensitic)		260	17									
	Cast iron with spheroidal graphite	ferritic		160	18									
		perlitic		250	19									
	Malleable cast iron	ferritic		130	20									
		perlitic		230	21									
N	Aluminium wrought alloys	cannot be hardened		60	22	920	1100	1200	4	–	1400	1550	4	
		hardenable	hardened	100	23	555	660	720	4	–	840	930	4	
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24	370	440	480	4	–	560	620	4	
		≤ 12 % Si, hardenable	hardened	90	25	460	550	600	4	–	700	775	4	
		> 12 % Si, cannot be hardened		130	26	140	165	180	4	–	210	235	4	
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27	280	330	360	4	–	420	465	4	
		CuZn, CuSnZn		90	28	325	385	420	4	–	490	545	4	
		CuSn, Pb-free copper, electrolytic copper		100	29	280	330	360	4	–	420	465	4	
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30									
			hardened	280	31									
		Ni or Co bass	annealed	250	32									
			hardened	350	33									
			cast	320	34									
	Titanium alloys	pure titanium		R_m 400	35									
		α and β alloys	hardened	R_m 1050	36									
H	Hardened steel		hardened and tempered	55 HRC	37									
			hardened and tempered	60 HRC	38									
	Hard cast iron		cast	400	39									
	Hardened cast iron		hardened and tempered	55 HRC	40									
X	Non-metallic materials	Thermoplasts			41									
		Thermosetting plastics			42									
		Plastic, glass-fibre reinforced GFRP			43									
		Plastic, carbon fibre reinforced CFRP			44									
		Graphite			45									
		Wood			46									

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Feed rate recommendations on page B522.
For examples of material for cutting tool groups view page D11.

End mill – AL series, ALP/ALG series

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						ALP-1EP				AL-1E, AL-2E, AL-3E (W), ALG-2E			
						Slot milling		Shoulder milling		Slot milling		Shoulder milling	
						Ø [mm]	$a_{p\ max}$	Ø [mm]	$a_{e\ max}$	Ø [mm]	$a_{p\ max}$	Ø [mm]	$a_{e\ max}$
						0<x<12	0,5xD	0<x≤20	<0,5xD	0<x<12	0,5xD	0<x≤20	<0,5xD
						12≤x≤20	1,0xD			12≤x≤20	1,0xD		
						YK40F / KMD401				YK30F / YK40F			
						a_e / D				a_e / D			
						1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1								
		approx. 0,45 % C	annealed	190	2								
		approx. 0,45 % C	tempered	250	3								
		approx. 0,75 % C	annealed	270	4								
		approx. 0,75 % C	tempered	300	5								
	Low-alloyed steel		annealed	180	6								
			tempered	275	7								
			tempered	300	8								
			tempered	350	9								
	High-alloyed steel and high-alloyed tool steel		annealed	200	10								
			hardened and tempered	325	11								
M	Stainless steel	ferritic/martensitic	annealed	200	12								
		martensitic	tempered	240	13								
		austenitic	quench hardened	180	14								
		austenitic-ferritic		230	15								
K	Grey cast iron	perlitic/ferritic		180	16								
		perlitic (martensitic)		260	17								
	Cast iron with spheroidal graphite	ferritic		160	18								
		perlitic		250	19								
	Malleable cast iron	ferritic		130	20								
		perlitic		230	21								
N	Aluminium wrought alloys	cannot be hardened		60	22	300	345	375	12	920	1100	1200	4
		hardenable	hardened	100	23	250	290	315	12	555	660	720	4
	Cast aluminium alloys	≤ 12% Si, cannot be hardened		75	24	250	280	315	12	370	440	480	4
		≤ 12% Si, hardenable	hardened	90	25	210	240	265	12	460	550	600	4
		> 12% Si, cannot be hardened		130	26	180	210	225	12	140	165	180	4
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27	280	320	350	12	280	330	360	4
		CuZn, CuSnZn		90	28	310	360	390	12	325	385	420	4
		CuSn, Pb-free copper, electrolytic copper		100	29	280	320	350	12	280	330	360	4
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37								
			hardened and tempered	60 HRC	38								
	Hard cast iron		cast	400	39								
	Hardened cast iron		hardened and tempered	55 HRC	40								
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

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Feed rate recommendations on page B522.
For examples of material for cutting tool groups view page D11.

	Starting values for cutting speed v_c [m/min]																			
	AL-2EL AL-3EL				ALG-3E ALP-3E ALP-4E				ALG-3E (W) ALP-3E (W) ALP-4E (W)				5566R302NH AL-2B				AL-2R-AIR AL-3R-AIR			
	Slot milling		Shoulder milling		Slot milling		Shoulder milling		Slot milling		Shoulder milling		Slot milling		Shoulder milling		Slot milling		Shoulder milling	
	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
	0<x<12	0,5xD	0<x≤20	<0,5xD	0<x<12	0,5xD	0<x≤20	<0,5xD	0<x<12	0,5xD	0<x≤20	<0,5xD	0<x<12	0,5xD	0<x≤20	<0,5xD	0<x<12	0,5xD	0<x≤20	<0,5xD
	12≤x≤20	1,0xD			12≤x≤20	1,0xD			12≤x≤20	1,0xD			12≤x≤20	1,0xD			12≤x≤20	1,0xD		
	YK30F				YK40F				KMD401				YK30F / YK40F				YK40F			
	a_e / D				ae / D				a_e / D				a_e / D				ae / D			
	1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group	1/1	1/10	1/20	f-group	1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group
	830	990	1080	4	920	1100	1200	4	1200	1430	1560	4	–	1400	1550	4	1150	1380	1500	8
	500	595	650	4	555	660	720	4	725	860	940	4	–	840	930	4	690	830	900	8
	335	400	435	4	370	440	480	4	485	575	625	4	–	560	620	4	460	555	600	8
	415	495	540	4	460	550	600	4	600	715	780	4	–	700	775	4	575	690	750	8
	125	150	165	4	140	165	180	4	185	215	235	4	–	210	235	4	175	210	225	8
	250	300	325	4	280	330	360	4	365	430	470	4	–	420	465	4	345	415	450	8
	295	350	380	4	325	385	420	4	425	505	550	4	–	490	545	4	405	485	525	8
	250	300	325	4	280	330	360	4	365	430	470	4	–	420	465	4	345	415	450	8

End mill – AL series, ALP/ALG series

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						ALG-2R (W)				AL-2RL-AIR AL-3RL-AIR			
						Slot milling		Shoulder milling		Slot milling		Shoulder milling	
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
						0<x<12	0,5xD	0<x≤20	<0,5xD	0<x<12	0,5xD	0<x≤20	<0,5xD
						12≤x≤20	1,0xD			12≤x≤20	1,0xD		
						KMD401				YK40F			
						a_e / D				a_e / D			
						1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1								
		approx. 0,45 % C	annealed	190	2								
		approx. 0,45 % C	tempered	250	3								
		approx. 0,75 % C	annealed	270	4								
		approx. 0,75 % C	tempered	300	5								
	Low-alloyed steel		annealed	180	6								
			tempered	275	7								
			tempered	300	8								
			tempered	350	9								
	High-alloyed steel and high-alloyed tool steel		annealed	200	10								
			hardened and tempered	325	11								
M	Stainless steel	ferritic/martensitic	annealed	200	12								
		martensitic	tempered	240	13								
		austenitic	quench hardened	180	14								
		austenitic-ferritic		230	15								
K	Grey cast iron	perlitic/ferritic		180	16								
		perlitic (martensitic)		260	17								
	Cast iron with spheroidal graphite	ferritic		160	18								
		perlitic		250	19								
	Malleable cast iron	ferritic		130	20								
		perlitic		230	21								
N	Aluminium wrought alloys	cannot be hardened		60	22	1495	1795	1950	8	1035	1250	1350	8
		hardenable	hardened	100	23	900	1080	1170	8	625	750	810	8
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24	600	725	780	8	415	500	540	8
		≤ 12 % Si, hardenable	hardened	90	25	750	900	975	8	520	625	675	8
		> 12 % Si, cannot be hardened		130	26	230	275	295	8	160	190	205	8
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27	450	540	585	8	315	375	405	8
		CuZn, CuSnZn		90	28	530	635	685	8	365	440	475	8
		CuSn, Pb-free copper, electrolytic copper		100	29	450	540	585	8	315	375	405	8
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37								
			hardened and tempered	60 HRC	38								
	Hard cast iron		cast	400	39								
	Hardened cast iron		hardened and tempered	55 HRC	40								
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B522.
For examples of material for cutting tool groups view page D11.

Solid carbide milling Recommended cutting data

End mill – TM series

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						TM-4R / TM-4RP TM-5R / TM-5RP TM-7R / TM-7RP TM-9R / TM-9RP				TM-4B / TM-4BP TM-5B / TM-5BP			
						Slot milling		Shoulder milling					
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$				
						0 < x < 3	0,3 x D	0 < x < 3					
						3 ≤ x < 12	0,7 x D	3 ≤ x < 20	0,3 x D				
						12 ≤ x ≤ 20	1,5 x D						
						KMS405				KMS405			
						a_e / D				a_e / D			
						1/1	1/2	1/10	f-group	1/1	1/10	1/20	f-group
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1								
		approx. 0,45 % C	annealed	190	2								
		approx. 0,45 % C	tempered	250	3								
		approx. 0,75 % C	annealed	270	4								
		approx. 0,75 % C	tempered	300	5								
	Low-alloyed steel		annealed	180	6								
			tempered	275	7								
			tempered	300	8								
			tempered	350	9								
	High-alloyed steel and high-alloyed tool steel		annealed	200	10								
			hardened and tempered	325	11								
M	Stainless steel	ferritic/martensitic	annealed	200	12								
		martensitic	tempered	240	13								
		austenitic	quench hardened	180	14								
		austenitic-ferritic		230	15								
K	Grey cast iron	perlitic/ferritic		180	16								
		perlitic (martensitic)		260	17								
	Cast iron with spheroidal graphite	ferritic		160	18								
		perlitic		250	19								
	Malleable cast iron	ferritic		130	20								
		perlitic		230	21								
N	Aluminium wrought alloys	cannot be hardened		60	22								
		hardenable	hardened	100	23								
	Cast aluminium alloys	≤ 12% Si, cannot be hardened		75	24								
		≤ 12% Si, hardenable	hardened	90	25								
		> 12% Si, cannot be hardened		130	26								
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, Pb-free copper, electrolytic copper		100	29								
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30	45	55	85	10	–	85	90	10
			hardened	280	31	25	30	45	10	–	45	50	10
		Ni or Co bass	annealed	250	32	45	55	85	10	–	85	90	10
			hardened	350	33	25	30	45	10	–	45	50	10
			cast	320	34	25	30	45	10	–	45	50	10
	Titanium alloys	pure titanium		R_m 400	35	75	90	135	10	–	135	145	10
		α and β alloys	hardened	R_m 1050	36	45	55	85	10	–	85	90	10
H	Hardened steel		hardened and tempered	55 HRC	37								
			hardened and tempered	60 HRC	38								
	Hard cast iron		cast	400	39								
	Hardened cast iron		hardened and tempered	55 HRC	40								
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B522.
For examples of material for cutting tool groups view page D11.

End mill – PM series

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						PM-2E PM-2ES / PM-2EP / PM-2RP PM-4E PM-4E-G				PM-4EL PM-4EL-G PM-4EX-G			
						Slot milling		Shoulder milling		Slot milling		Shoulder milling	
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
						0 < x < 3	0,1 5x D	0 < x ≤ 20	0,15 x D	0 < x < 3	0,1 5 x D	0 < x ≤ 20	0,15 x D
						3 ≤ x < 6	0,3 x D			3 ≤ x < 6	0,3 x D		
						6 ≤ x ≤ 20	0,5 x D			6 ≤ x ≤ 20	0,5 x D		
						KMG405				KMG405			
						a_e / D				a_e / D			
						1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	165	220	300	1	140	190	255	1
		approx. 0,45 % C	annealed	190	2	160	210	285	1	135	185	245	1
		approx. 0,45 % C	tempered	250	3	120	155	210	1	100	135	180	1
		approx. 0,75 % C	annealed	270	4	100	135	180	1	85	115	155	1
		approx. 0,75 % C	tempered	300	5	95	125	165	1	80	105	145	1
	Low-alloyed steel		annealed	180	6	125	165	225	1	110	145	195	1
			tempered	275	7	100	135	180	1	85	115	155	1
			tempered	300	8	95	125	165	1	80	105	145	1
			tempered	350	9	90	115	160	1	75	100	135	1
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	120	155	210	1	100	135	180	1
			hardened and tempered	325	11	90	120	160	1	75	105	140	1
M	Stainless steel	ferritic/martensitic	annealed	200	12	55	75	100	1	45	65	85	1
		martensitic	tempered	240	13	50	65	85	1	40	55	75	1
		austenitic	quench hardened	180	14	60	75	105	1	50	65	90	1
		austenitic-ferritic		230	15	50	65	85	1	40	55	75	1
K	Grey cast iron	perlitic/ferritic		180	16	125	165	220	1	105	140	190	1
		perlitic (martensitic)		260	17	100	135	180	1	85	115	155	1
	Cast iron with spheroidal graphite	ferritic		160	18	150	200	270	1	130	175	230	1
		perlitic		250	19	120	155	210	1	100	135	180	1
	Malleable cast iron	ferritic		130	20	165	220	300	1	145	190	255	1
		perlitic		230	21	135	180	240	1	115	155	205	1
N	Aluminium wrought alloys	cannot be hardened		60	22								
		hardenable	hardened	100	23								
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24								
		≤ 12 % Si, hardenable	hardened	90	25								
		> 12 % Si, cannot be hardened		130	26								
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, Pb-free copper, electrolytic copper		100	29								
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37	80	105	140	1	65	90	120	1
			hardened and tempered	60 HRC	38	–	–	–	–	–	–	–	–
	Hard cast iron		cast	400	39	105	140	185	1	85	120	160	1
	Hardened cast iron		hardened and tempered	55 HRC	40	–	–	–	–	–	–	–	–
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B522.
For examples of material for cutting tool groups view page D11.

	Starting values for cutting speed v_c [m/min]																			
	PM-6E				PM-6EL				PM-2B PM-2BS / PM-2BP PM-4B				PM-2BL PM-2BFP PM-4BL				PM-2BC			
			Shoulder milling				Shoulder milling													
			Ø [mm]	$a_{p\,max}$			Ø [mm]	$a_{p\,max}$												
			0 < x ≤ 20	0.15 x D			0 < x ≤ 20	0.15 x D												
	KMG405				KMG405				KMG405				KMG405				KMG405			
	a_e / D				a_e / D				a_e / D				a_e / D				a_e / D			
	1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group	1/1	1/10	1/20	f-group	1/1	1/10	1/20	f-group	1/1	1/10	1/20	f-group
	–	220	300	1	–	190	255	1	–	270	300	5	–	230	255	5	–	230	255	5
	–	210	285	1	–	185	245	1	–	260	285	5	–	220	245	5	–	220	245	5
	–	155	210	1	–	135	180	1	–	190	210	5	–	165	180	5	–	165	180	5
	–	135	180	1	–	115	155	1	–	165	180	5	–	140	155	5	–	140	155	5
	–	125	165	1	–	105	145	1	–	150	165	5	–	130	145	5	–	130	145	5
	–	165	225	1	–	145	195	1	–	205	225	5	–	175	195	5	–	175	195	5
	–	135	180	1	–	115	155	1	–	165	180	5	–	140	155	5	–	140	155	5
	–	125	165	1	–	105	145	1	–	150	165	5	–	130	145	5	–	130	145	5
	–	115	160	1	–	100	135	1	–	145	160	5	–	120	135	5	–	120	135	5
	–	155	210	1	–	135	180	1	–	190	210	5	–	165	180	5	–	165	180	5
	–	120	160	1	–	105	140	1	–	145	160	5	–	125	140	5	–	125	140	5
	–	75	100	1	–	65	85	1	–	90	100	5	–	75	85	5	–	75	85	5
	–	65	85	1	–	55	75	1	–	80	85	5	–	65	75	5	–	65	75	5
	–	75	105	1	–	65	90	1	–	95	105	5	–	80	90	5	–	80	90	5
	–	65	85	1	–	55	75	1	–	80	85	5	–	65	75	5	–	65	75	5
	–	165	220	1	–	140	190	1	–	200	220	5	–	170	190	5	–	170	190	5
	–	135	180	1	–	115	155	1	–	165	180	5	–	140	155	5	–	140	155	5
	–	200	270	1	–	175	230	1	–	245	270	5	–	210	230	5	–	210	230	5
	–	155	210	1	–	135	180	1	–	190	210	5	–	165	180	5	–	165	180	5
	–	220	300	1	–	190	255	1	–	270	300	5	–	230	255	5	–	230	255	5
	–	180	240	1	–	155	205	1	–	220	240	5	–	185	205	5	–	185	205	5
	–	105	140	1	–	90	120	1	–	125	140	5	–	110	120	5	–	110	120	5
	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	–	140	185	1	–	120	160	1	–	165	185	1	–	145	160	1	–	145	160	1
	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

End mill – PM series, VPM series

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						PM-2R PM-4R				PM-4RL			
						Slot milling		Shoulder milling		Slot milling		Shoulder milling	
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
						0 < x < 3	0,1 5x D	0 < x ≤ 20	0.15 x D	0 < x < 3	0,1 5x D	0 < x ≤ 20	0.15 x D
						3 ≤ x < 6	0,3 x D			3 ≤ x < 6	0,3 x D		
						6 ≤ x ≤ 20	0,5 x D			6 ≤ x ≤ 20	0,5 x D		
						KMG405				KMG405			
						a_e / D				a_e / D			
						1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	165	220	300	1	150	200	265	1
		approx. 0,45 % C	annealed	190	2	160	210	285	1	145	190	255	1
		approx. 0,45 % C	tempered	250	3	120	155	210	1	105	140	190	1
		approx. 0,75 % C	annealed	270	4	100	135	180	1	90	120	160	1
		approx. 0,75 % C	tempered	300	5	95	125	165	1	85	110	150	1
	Low-alloyed steel		annealed	180	6	125	165	225	1	115	150	200	1
			tempered	275	7	100	135	180	1	90	120	160	1
			tempered	300	8	95	125	165	1	85	110	150	1
			tempered	350	9	90	115	160	1	80	105	140	1
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	120	155	210	1	105	140	190	1
			hardened and tempered	325	11	90	120	160	1	80	110	145	1
M	Stainless steel	ferritic/martensitic	annealed	200	12	55	75	100	1	50	65	85	1
		martensitic	tempered	240	13	50	65	85	1	45	60	75	1
		austenitic	quench hardened	180	14	60	75	105	1	55	70	95	1
		austenitic-ferritic		230	15	50	65	85	1	45	60	75	1
K	Grey cast iron	perlitic/ferritic		180	16	125	165	220	1	110	150	195	1
		perlitic (martensitic)		260	17	100	135	180	1	90	120	160	1
	Cast iron with spheroidal graphite	ferritic		160	18	150	200	270	1	135	180	240	1
		perlitic		250	19	120	155	210	1	105	140	190	1
	Malleable cast iron	ferritic		130	20	165	220	300	1	150	200	265	1
		perlitic		230	21	135	180	240	1	120	160	215	1
N	Aluminium wrought alloys	cannot be hardened		60	22								
		hardenable	hardened	100	23								
	Cast aluminium alloys	≤ 12% Si, cannot be hardened		75	24								
		≤ 12% Si, hardenable	hardened	90	25								
		> 12% Si, cannot be hardened		130	26								
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, Pb-free copper, electrolytic copper		100	29								
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37	85	110	145	1	70	95	125	1
			hardened and tempered	60 HRC	38	–	–	–	–	–	–	–	–
	Hard cast iron		cast	400	39	115	145	190	1	95	125	165	1
	Hardened cast iron		hardened and tempered	55 HRC	40	–	–	–	–	–	–	–	–
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B522.
For examples of material for cutting tool groups view page D11.

	Starting values for cutting speed v_c [m/min]								
	PM-4H PM-4HL				VPM-4E				
			Shoulder milling						
			Ø [mm]	$a_{e\,max}$					
			0 < x ≤ 20	0.15 x D	0 < x < 3	0,5x D	0 < x < 3	0.15 x D	
					3 ≤ x < 12	1,5x D	3 ≤ x < 20	0,5 x D	
					12≤x≤20	20x D			
	KMG405				KMG406				
	a_e / D				a_e / D				
	1/1	1/2	1/10	f-group	1/1	1/2	1/10		
	–	210	270	6	230	280	350	9	
	–	200	260	6	220	270	340	9	
	–	150	190	6	160	190	250	9	
	–	130	165	6	140	160	210	9	
	–	120	150	6	130	150	200	9	
	–	160	205	6	180	215	270	9	
	–	130	165	6	130	170	220	9	
	–	120	150	6	125	150	190	9	
	–	110	145	6	120	150	190	9	
	–	150	190	6	160	190	250	9	
	–	115	145	6	115	140	190	9	
	–	70	90	6	70	90	110	9	
	–	60	80	6	60	80	100	9	
	–	75	95	6	75	90	120	9	
	–	60	80	6	65	80	100	9	
	–	155	200	6	160	200	260	9	
	–	130	165	6	140	170	220	9	
	–	190	245	6	215	250	330	9	
	–	150	190	6	160	200	250	9	
	–	210	270	6	230	280	360	9	
	–	170	220	6	180	230	290	9	
	–	100	125	1	100	120	150	9	
	–	–	–	–	–	–	–	–	
	–	130	165	1	110	150	180	9	
	–	–	–	–	–	–	–	–	

End mills – EPM series

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						EPM-2E EPM-4E				EPM-2EL EPM-4EL			
						Slot milling		Shoulder milling		Slot milling		Shoulder milling	
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
						0 < x < 3	0,1 5x D	0 < x ≤ 20	0,15 x D	0 < x < 3	0,1 5 x D	0 < x ≤ 20	0,15 x D
						3 ≤ x < 6	0,3 x D			3 ≤ x < 6	0,3 x D		
						6 ≤ x ≤ 20	0,5 x D			6 ≤ x ≤ 20	0,5 x D		
						KMG406				KMG406			
						a_e / D				a_e / D			
						1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	165	220	300	1	140	190	255	1
		approx. 0,45 % C	annealed	190	2	160	210	285	1	135	185	245	1
		approx. 0,45 % C	tempered	250	3	120	155	210	1	100	135	180	1
		approx. 0,75 % C	annealed	270	4	100	135	180	1	85	115	155	1
		approx. 0,75 % C	tempered	300	5	95	125	165	1	80	105	145	1
	Low-alloyed steel		annealed	180	6	125	165	225	1	110	145	195	1
			tempered	275	7	100	135	180	1	85	115	155	1
			tempered	300	8	95	125	165	1	80	105	145	1
			tempered	350	9	90	115	160	1	75	100	135	1
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	120	155	210	1	100	135	180	1
			hardened and tempered	325	11	90	120	160	1	75	105	140	1
M	Stainless steel	ferritic/martensitic	annealed	200	12	55	75	100	1	45	65	85	1
		martensitic	tempered	240	13	50	65	85	1	40	55	75	1
		austenitic	quench hardened	180	14	60	75	105	1	50	65	90	1
		austenitic-ferritic		230	15	50	65	85	1	40	55	75	1
K	Grey cast iron	perlitic/ferritic		180	16	125	165	220	1	105	140	190	1
		perlitic (martensitic)		260	17	100	135	180	1	85	115	155	1
	Cast iron with spheroidal graphite	ferritic		160	18	150	200	270	1	130	175	230	1
		perlitic		250	19	120	155	210	1	100	135	180	1
	Malleable cast iron	ferritic		130	20	165	220	300	1	145	190	255	1
		perlitic		230	21	135	180	240	1	115	155	205	1
N	Aluminium wrought alloys	cannot be hardened		60	22								
		hardenable	hardened	100	23								
	Cast aluminium alloys	≤ 12% Si, cannot be hardened		75	24								
		≤ 12% Si, hardenable	hardened	90	25								
		> 12% Si, cannot be hardened		130	26								
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, Pb-free copper, electrolytic copper		100	29								
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37	80	105	140	1	65	90	120	1
			hardened and tempered	60 HRC	38	–	–	–	–	–	–	–	–
	Hard cast iron		cast	400	39	105	140	185	1	85	120	160	1
	Hardened cast iron		hardened and tempered	55 HRC	40								
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B522.
For examples of material for cutting tool groups view page D11.

	Starting values for cutting speed v_c [m/min]																			
	EPM-2B EPM-4B				EPM-2BL EPM-4BL															
	KMG406				KMG406															
	a_e / D				a_e / D															
	1/1	1/10	1/20	f-group	1/1	1/10	1/20	f-group												
	–	270	300	5	–	230	255	5												
	–	260	285	5	–	220	245	5												
	–	190	210	5	–	165	180	5												
	–	165	180	5	–	140	155	5												
	–	150	165	5	–	130	145	5												
	–	205	225	5	–	175	195	5												
	–	165	180	5	–	140	155	5												
	–	150	165	5	–	130	145	5												
	–	145	160	5	–	120	135	5												
	–	190	210	5	–	165	180	5												
	–	145	160	5	–	125	140	5												
	–	90	100	5	–	75	85	5												
	–	80	85	5	–	65	75	5												
	–	95	105	5	–	80	90	5												
	–	80	85	5	–	65	75	5												
	–	200	220	5	–	170	190	5												
	–	165	180	5	–	140	155	5												
	–	245	270	5	–	210	230	5												
	–	190	210	5	–	165	180	5												
	–	270	300	5	–	230	255	5												
	–	220	240	5	–	185	205	5												
	–	125	140	5	–	110	120	5												
	–	–	–	–	–	–	–	–												
	–	165	185	1	–	145	160	1												

End mill – HPC series, UM/UMC series, VSM series

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						5501R38414GM (-R) 5502R38414GM (-R) 5602R38414GM (-R)				5501R38414GM 5502R38414GM 5602R38414GM			
						Slot milling		Shoulder milling		Slot milling		Shoulder milling	
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
						0 < x < 3	0,3xD	0 < x < 3	0.15xD	0 < x < 3	0,3xD	0 < x < 3	0.15xD
						3 ≤ x < 12	0,7xD	3 ≤ x < 20	0,3xD	3 ≤ x < 12	0,7xD	3 ≤ x < 20	0,3xD
						12 ≤ x ≤ 20	1,5xD			12 ≤ x ≤ 20	1,5xD		
						KMG405				KMG406			
						a_e / D				a_e / D			
						1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	250	300	380	9	230	280	350	9
		approx. 0,45 % C	annealed	190	2	240	285	365	9	220	270	340	9
		approx. 0,45 % C	tempered	250	3	175	210	270	9	160	190	250	9
		approx. 0,75 % C	annealed	270	4	150	180	230	9	140	160	210	9
		approx. 0,75 % C	tempered	300	5	140	165	210	9	130	150	200	9
	Low-alloyed steel		annealed	180	6	190	225	285	9	180	215	270	9
			tempered	275	7	150	180	230	9	130	170	220	9
			tempered	300	8	140	165	210	9	125	150	190	9
			tempered	350	9	130	160	200	9	120	150	190	9
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	175	210	270	9	160	190	250	9
			hardened and tempered	325	11	135	160	205	9	115	140	190	9
M	Stainless steel	ferritic/martensitic	annealed	200	12	80	100	125	9	70	90	110	9
		martensitic	tempered	240	13	70	85	110	9	60	80	100	9
		austenitic	quench hardened	180	14	85	105	130	9	75	90	120	9
		austenitic-ferritic		230	15	70	85	110	9	65	80	100	9
K	Grey cast iron	perlitic/ferritic		180	16	185	220	280	9	160	200	260	9
		perlitic (martensitic)		260	17	150	180	230	9	140	170	220	9
	Cast iron with spheroidal graphite	ferritic		160	18	225	270	345	9	215	250	330	9
		perlitic		250	19	175	210	270	9	160	200	250	9
	Malleable cast iron	ferritic		130	20	250	300	380	9	230	280	360	9
		perlitic		230	21	200	240	305	9	180	230	290	9
N	Aluminium wrought alloys	cannot be hardened		60	22								
		hardenable	hardened	100	23								
	Cast aluminium alloys	≤ 12% Si, cannot be hardened		75	24								
		≤ 12% Si, hardenable	hardened	90	25								
		> 12% Si, cannot be hardened		130	26								
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, Pb-free copper, electrolytic copper		100	29								
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37	115	140	175	9	100	120	150	9
			hardened and tempered	60 HRC	38	–	–	–	–	–	–	–	–
	Hard cast iron		cast	400	39	135	165	205	9	110	150	180	9
	Hardened cast iron		hardened and tempered	55 HRC	40	–	–	–	–	–	–	–	–
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B522.
For examples of material for cutting tool groups view page D11.

	Starting values for cutting speed v_c [m/min]																			
	UM-4E UM-4E-W UM-4R UM-5EP				UM-4EL UM-4EL-W UM-4ELP UM-4EFP				UM-4RL UM-4RFP				UMC-4E UMC-4E-W				VSM-4E VSM-4R			
	Slot milling		Shoulder milling		Slot milling		Shoulder milling		Slot milling		Shoulder milling		Slot milling		Shoulder milling		Slot milling		Shoulder milling	
	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$
	0 < x < 3	0,3xD	0 < x < 3	0.15xD	0 < x < 3	0,3xD	0 < x < 3	0.15xD	0 < x < 3	0,3xD	0 < x < 3	0.15xD	0 < x < 3	0,3xD	0 < x < 3	0.15xD	0 < x < 3	0,3xD	0 < x < 3	0.15xD
	3 ≤ x < 12	0,7xD	3 ≤ x < 20	0,3xD	3 ≤ x < 12	0,7xD	3 ≤ x < 20	0,3xD	3 ≤ x < 12	0,7xD	3 ≤ x < 20	0,3xD	3 ≤ x < 12	0,7xD	3 ≤ x < 20	0,3xD	3 ≤ x < 12	0,7xD	3 ≤ x < 20	0,3xD
	12 ≤ x ≤ 20	1,5xD			12 ≤ x ≤ 20	1,5xD			12 ≤ x ≤ 20	1,5xD			12 ≤ x ≤ 20	1,5xD			12 ≤ x ≤ 20	1,5xD		
	KMG405				KMG405				KMG405				KMG405				KMG405			
	a_e / D				a_e / D				a_e / D				a_e / D				a_e / D			
	1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group	1/1	1/2	1/10	
	250	300	380	9	150	180	230	9	150	180	230	9	–	–	300	9	145	180	250	10
	240	285	365	9	145	175	220	9	145	175	220	9	–	–	285	9	140	175	240	10
	175	210	270	9	105	130	165	9	105	130	165	9	–	–	210	9	105	130	175	10
	150	180	230	9	90	110	140	9	90	110	140	9	–	–	180	9	90	110	150	10
	140	165	210	9	85	100	130	9	85	100	130	9	–	–	165	9	80	100	140	10
	190	225	285	9	115	135	175	9	115	135	175	9	–	–	225	9	110	135	190	10
	150	180	230	9	90	110	140	9	90	110	140	9	–	–	180	9	90	110	150	10
	140	165	210	9	85	100	130	9	85	100	130	9	–	–	165	9	80	100	140	10
	130	160	200	9	80	95	120	9	80	95	120	9	–	–	160	9	80	95	130	10
	175	210	270	9	105	130	165	9	105	130	165	9	–	–	210	9	105	130	175	10
	135	160	205	9	80	100	125	9	80	100	125	9	–	–	160	9	80	100	135	10
	80	100	125	9	50	60	75	9	50	60	75	9	–	–	100	9	50	60	80	10
	70	85	110	9	45	55	65	9	45	55	65	9	–	–	85	9	45	55	70	10
	85	105	130	9	55	65	80	9	55	65	80	9	–	–	105	9	50	65	85	10
	70	85	110	9	45	55	65	9	45	55	65	9	–	–	85	9	45	55	70	10
	185	220	280	9	110	135	170	9	110	135	170	9	–	–	220	9				
	150	180	230	9	90	110	140	9	90	110	140	9	–	–	180	9				
	225	270	345	9	135	165	210	9	135	165	210	9	–	–	270	9				
	175	210	270	9	105	130	165	9	105	130	165	9	–	–	210	9				
	250	300	380	9	150	180	230	9	150	180	230	9	–	–	300	9				
	200	240	305	9	120	145	185	9	120	145	185	9	–	–	240	9				
																	45	55	85	10
																	25	30	45	10
																	45	55	85	10
																	25	30	45	10
																	25	30	45	10
																	75	90	135	10
																	45	55	85	10
	115	140	175	9	70	85	110	9	70	85	110	9								
	–	–	–	–	–	–	–	–	–	–	–	–								
	135	165	205	9	85	100	130	9	85	100	130	9								
	–	–	–	–	–	–	–	–	–	–	–	–								

Deburring cutters – FM series

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min] 5501 / 5601 5501 / 5601 5601 KMG303 a_e / D 1/1	1/2	1/10	f-group
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1	–	–	230	11
		approx. 0,45 % C	annealed	190	2	–	–	220	11
		approx. 0,45 % C	tempered	250	3	–	–	165	11
		approx. 0,75 % C	annealed	270	4	–	–	140	11
		approx. 0,75 % C	tempered	300	5	–	–	130	11
	Low-alloyed steel		annealed	180	6	–	–	175	11
			tempered	275	7	–	–	140	11
			tempered	300	8	–	–	130	11
			tempered	350	9	–	–	120	11
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	–	–	165	11
			hardened and tempered	325	11	–	–	125	11
M	Stainless steel	ferritic/martensitic	annealed	200	12	–	–	75	11
		martensitic	tempered	240	13	–	–	65	11
		austenitic	quench hardened	180	14	–	–	80	11
		austenitic-ferritic		230	15	–	–	65	11
K	Grey cast iron	perlitic/ferritic		180	16	–	–	170	11
		perlitic (martensitic)		260	17	–	–	140	11
	Cast iron with spheroidal graphite	ferritic		160	18	–	–	210	11
		perlitic		250	19	–	–	165	11
	Malleable cast iron	ferritic		130	20	–	–	230	11
		perlitic		230	21	–	–	185	11
N	Aluminium wrought alloys	cannot be hardened		60	22	–	–	1200	11
		hardenable	hardened	100	23	–	–	720	11
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24	–	–	480	11
		≤ 12 % Si, hardenable	hardened	90	25	–	–	600	11
		> 12 % Si, cannot be hardened		130	26	–	–	180	11
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27	–	–	360	11
		CuZn, CuSnZn		90	28	–	–	420	11
		CuSn, Pb-free copper, electrolytic copper		100	29	–	–	360	11
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30				
			hardened	280	31				
		Ni or Co bass	annealed	250	32				
			hardened	350	33				
			cast	320	34				
	Titanium alloys	pure titanium		R_m 400	35				
		α and β alloys	hardened	R_m 1050	36				
H	Hardened steel		hardened and tempered	55 HRC	37				
			hardened and tempered	60 HRC	38				
	Hard cast iron		cast	400	39				
	Hardened cast iron		hardened and tempered	55 HRC	40				
X	Non-metallic materials	Thermoplasts			41				
		Thermosetting plastics			42				
		Plastic, glass-fibre reinforced GFRP			43				
		Plastic, carbon fibre reinforced CFRP			44				
		Graphite			45				
		Wood			46				

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B522.
For examples of material for cutting tool groups view page D11.

End mills – QCH series

Material group		Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						Q**-PM-4E Q**-PM-4R Q**-VPM-4E				Q**PM-2B Q**PM-4B			
						Slot milling		Shoulder milling					
						Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$				
						0 < x < 3	0,3 x D	0 < x < 20	0,15xD				
						3 ≤ x < 6	0,3 x D						
						6 ≤ x ≤ 20	0,5 x D						
						KMG405 a_e / D				KMG405 a_e / D			
						1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group
P	Unalloyed steel	approx. 0,15 % C	annealed	125	1								
		approx. 0,45 % C	annealed	190	2	165	220	300	1	–	270	300	5
		approx. 0,45 % C	tempered	250	3	160	210	285	1	–	260	285	5
		approx. 0,75 % C	annealed	270	4	120	155	210	1	–	190	210	5
		approx. 0,75 % C	tempered	300	5	100	135	180	1	–	165	180	5
	Low-alloyed steel		annealed	180	6	95	125	165	1	–	150	165	5
			tempered	275	7	125	165	225	1	–	205	225	5
			tempered	300	8	100	135	180	1	–	165	180	5
			tempered	350	9	95	125	165	1	–	150	165	5
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	90	115	160	1	–	145	160	5
			hardened and tempered	325	11	120	155	210	1	–	190	210	5
M	Stainless steel	ferritic/martensitic	annealed	200	12	90	120	160	1	–	145	160	5
		martensitic	tempered	240	13	55	75	100	1	–	90	100	5
		austenitic	quench hardened	180	14	50	65	85	1	–	80	85	5
		austenitic-ferritic		230	15	60	75	105	1	–	95	105	5
K	Grey cast iron	perlitic/ferritic		180	16	50	65	85	1	–	80	85	5
		perlitic (martensitic)		260	17	125	165	220	1	–	200	220	5
	Cast iron with spheroidal graphite	ferritic		160	18	100	135	180	1	–	165	180	5
		perlitic		250	19	150	200	270	1	–	245	270	5
	Malleable cast iron	ferritic		130	20	120	155	210	1	–	190	210	5
		perlitic		230	21	165	220	300	1	–	270	300	5
N	Aluminium wrought alloys	cannot be hardened		60	22	135	180	240	1	–	220	240	5
		hardenable	hardened	100	23								
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24								
		≤ 12 % Si, hardenable	hardened	90	25								
		> 12 % Si, cannot be hardened		130	26								
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27								
		CuZn, CuSnZn		90	28								
		CuSn, Pb-free copper, electrolytic copper		100	29								
S	Heat-resistant alloys	Fe-based alloys	annealed	200	30								
			hardened	280	31								
		Ni or Co bass	annealed	250	32								
			hardened	350	33								
			cast	320	34								
	Titanium alloys	pure titanium		R_m 400	35								
		α and β alloys	hardened	R_m 1050	36								
H	Hardened steel		hardened and tempered	55 HRC	37	–	–	–	–				
			hardened and tempered	60 HRC	38	80	105	140	1				
	Hard cast iron		cast	400	39	–	–	–	–				
	Hardened cast iron		hardened and tempered	55 HRC	40	105	140	185	1				
X	Non-metallic materials	Thermoplasts			41								
		Thermosetting plastics			42								
		Plastic, glass-fibre reinforced GFRP			43								
		Plastic, carbon fibre reinforced CFRP			44								
		Graphite			45								
		Wood			46								

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.
Feed rate recommendations on page B522.
For examples of material for cutting tool groups view page D11.

	Starting values for cutting speed v_c [m/min]																			
	Q**-HMX-4E Q**-HMX-4R				Q**-HMX-2B Q**-HMX-4B															
			Shoulder milling																	
	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$	Ø [mm]	$a_{p\,max}$	Ø [mm]	$a_{e\,max}$												
			0 < x ≤ 20	0.15 x D																
	KMG5515 a_e / D				KMG5515 a_e / D															
	1/1	1/2	1/10	f-group	1/1	1/2	1/10	f-group												
	–	–	–	–	–	–	–	–												
	55	100	125	3	–	130	145	7												
	55	95	120	3	–	80	90	7												
	70	125	160	3	–	163	181	7												
	55	100	125	3	–	109	145	7												

Recommended feed rate

Solid carbide milling group 1 – Square shoulder mills PM series, QCH series, EPM series

	a_e / D	Feed rate per cutting edge (f_z) [mm]																			
		Ø0,5	Ø0,8	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20					
P	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,05	0,07	0,08	0,08	0,09	0,09	0,10					
	1/2	0,01	0,03	0,03	0,03	0,03	0,03	0,04	0,04	0,06	0,09	0,10	0,10	0,12	0,12	0,13					
	1/10	0,02	0,05	0,05	0,05	0,05	0,05	0,07	0,07	0,09	0,14	0,16	0,16	0,18	0,18	0,20					
M	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,06	0,07	0,07	0,08					
	1/2	0,01	0,02	0,02	0,02	0,02	0,02	0,04	0,04	0,05	0,07	0,08	0,08	0,10	0,10	0,11					
	1/10	0,02	0,04	0,04	0,04	0,04	0,04	0,05	0,05	0,07	0,11	0,13	0,13	0,15	0,15	0,16					
K	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,05	0,07	0,08	0,08	0,09	0,09	0,10					
	1/2	0,01	0,03	0,03	0,03	0,03	0,03	0,04	0,04	0,06	0,09	0,10	0,10	0,12	0,12	0,13					
	1/10	0,02	0,05	0,05	0,05	0,05	0,05	0,07	0,07	0,09	0,14	0,16	0,16	0,18	0,18	0,20					
H	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,05	0,06	0,06	0,07	0,07	0,08					
	1/2	0,01	0,02	0,02	0,02	0,02	0,02	0,04	0,04	0,05	0,07	0,08	0,08	0,10	0,10	0,11					
	1/10	0,02	0,04	0,04	0,04	0,04	0,04	0,05	0,05	0,07	0,11	0,13	0,13	0,15	0,15	0,16					

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

Solid carbide milling group 2 – Square shoulder mills GM series

	a_e / D	Feed rate per cutting edge (f_z) [mm]																			
		Ø0,5	Ø0,8	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20					
P	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,06	0,07	0,07	0,08	0,08	0,09					
	1/2	0,01	0,03	0,03	0,03	0,03	0,03	0,04	0,04	0,05	0,08	0,09	0,09	0,10	0,10	0,12					
	1/10	0,02	0,04	0,04	0,04	0,04	0,04	0,06	0,06	0,08	0,12	0,14	0,14	0,16	0,16	0,18					
M	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,02	0,02	0,03	0,05	0,06	0,06	0,06	0,06	0,07					
	1/2	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,06	0,07	0,07	0,08	0,08	0,09					
	1/10	0,02	0,03	0,03	0,03	0,03	0,03	0,05	0,05	0,06	0,10	0,11	0,11	0,13	0,13	0,15					
K	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,06	0,07	0,07	0,08	0,08	0,09					
	1/2	0,01	0,03	0,03	0,03	0,03	0,03	0,04	0,04	0,05	0,08	0,09	0,09	0,10	0,10	0,12					
	1/10	0,02	0,04	0,04	0,04	0,04	0,04	0,06	0,06	0,08	0,12	0,14	0,14	0,16	0,16	0,18					

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

Solid carbide milling group 3 – Square shoulder mills HM series, QCH series

	a_e / D	Feed rate per cutting edge (f_z) [mm]																			
		Ø0,5	Ø0,8	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20					
H	1/1	0,01	0,02	0,02	0,02	0,02	0,02	0,02	0,02	0,03	0,05	0,06	0,06	0,06	0,06	0,07					
	1/2	0,01	0,02	0,02	0,02	0,02	0,02	0,03	0,03	0,04	0,06	0,07	0,07	0,08	0,08	0,09					
	1/10	0,02	0,03	0,03	0,03	0,03	0,03	0,05	0,05	0,06	0,10	0,11	0,11	0,13	0,13	0,15					

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

Solid carbide milling group 4 – Square shoulder mills AL series, NM series

	a_e / D	Feed rate per cutting edge (f_z) [mm]																			
		Ø0,5	Ø0,8	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20					
N	1/1	0,02	0,03	0,03	0,03	0,03	0,03	0,05	0,05	0,06	0,09	0,11	0,11	0,12	0,12	0,14					
	3/4	0,02	0,04	0,04	0,04	0,04	0,04	0,06	0,06	0,08	0,12	0,14	0,14	0,16	0,16	0,18					
	1/10	0,03	0,06	0,06	0,06	0,06	0,06	0,09	0,09	0,12	0,19	0,22	0,22	0,25	0,25	0,28					
	1/20	0,04	0,08	0,08	0,08	0,08	0,08	0,12	0,12	0,16	0,23	0,27	0,27	0,31	0,31	0,35					

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

Recommended feed rate

Solid carbide milling group 5 – Ball nose cutters GM series, QCH series, EPM series

	a_e / D	Feed rate per cutting edge (f_z) [mm]																			
		Ø0,5	Ø0,8	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20					
P	1/1																				
	1/10	0,02	0,05	0,05	0,05	0,05	0,05	0,07	0,07	0,09	0,14	0,16	0,16	0,18	0,18	0,20					
	1/20	0,03	0,06	0,06	0,06	0,06	0,06	0,08	0,08	0,11	0,17	0,20	0,20	0,23	0,23	0,25					
M	1/1																				
	1/10	0,02	0,04	0,04	0,04	0,04	0,04	0,05	0,05	0,07	0,11	0,13	0,13	0,15	0,15	0,16					
	1/20	0,02	0,05	0,05	0,05	0,05	0,05	0,07	0,07	0,09	0,14	0,16	0,16	0,18	0,18	0,21					
K	1/1																				
	1/10	0,02	0,05	0,05	0,05	0,05	0,05	0,07	0,07	0,09	0,14	0,16	0,16	0,18	0,18	0,20					
	1/20	0,03	0,06	0,06	0,06	0,06	0,06	0,08	0,08	0,11	0,17	0,20	0,20	0,23	0,23	0,25					
H	1/1																				
	1/10	0,02	0,04	0,04	0,04	0,04	0,04	0,05	0,05	0,07	0,11	0,13	0,13	0,15	0,15	0,16					
	1/20	0,02	0,05	0,05	0,05	0,05	0,05	0,07	0,07	0,09	0,14	0,16	0,16	0,18	0,18	0,21					

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

Solid carbide milling group 6 – High feed mills PM series

	a_e / D	Feed rate per cutting edge (f_z) [mm]																			
		Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12													
P	1/1																				
	1/10																				
	1/20	0,15	0,25	0,28	0,33	0,44	0,55	0,66													
M	1/1																				
	1/10																				
	1/20	0,12	0,22	0,25	0,30	0,41	0,52	0,63													
K	1/1																				
	1/10																				
	1/20	0,15	0,25	0,28	0,33	0,44	0,55	0,66													
H	1/1																				
	1/10																				
	1/20	0,12	0,22	0,25	0,30	0,41	0,52	0,63													

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

Solid carbide milling group 7 – Ball nose cutters HM series, QCH series

	a_e / D	Feed rate per cutting edge (f_z) [mm]																			
		Ø0,5	Ø0,8	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20					
H	1/1																				
	1/2	0,02	0,04	0,04	0,04	0,04	0,04	0,05	0,05	0,07	0,11	0,13	0,13	0,15	0,15	0,16					
	1/10	0,02	0,05	0,05	0,05	0,05	0,05	0,07	0,07	0,09	0,14	0,16	0,16	0,18	0,18	0,21					

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

Solid carbide milling group 8 – High feed mills AL series, ALP/ALG series

	a_e / D	Feed rate per cutting edge (f_z) [mm]																			
		Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20												
N	1/1	0,04	0,05	0,08	0,09	0,11	0,13	0,16	0,18												
	3/4	0,05	0,07	0,10	0,12	0,14	0,16	0,20	0,23												
	1/10	0,08	0,11	0,16	0,19	0,22	0,25	0,31	0,36												

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

Recommended feed rate

Solid carbide milling group 9 – Square shoulder mills UM/UMC series, VPM series HSC/HPC

	a_e / D	Feed rate per cutting edge (f_z) [mm]																			
		Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20										
P	1/1	0,06	0,06	0,06	0,07	0,07	0,07	0,07	0,08	0,08	0,08										
	1/2	0,08	0,08	0,08	0,09	0,09	0,09	0,09	0,10	0,10	0,10										
	1/10	0,14	0,14	0,16	0,18	0,22	0,25	0,27	0,3	0,32	0,36										
M	1/1	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,06	0,06	0,06										
	1/2	0,06	0,06	0,06	0,07	0,07	0,07	0,07	0,08	0,08	0,08										
	1/10	0,10	0,10	0,10	0,12	0,12	0,14	0,16	0,16	0,18	0,18										
K	1/1	0,06	0,06	0,06	0,07	0,07	0,07	0,07	0,08	0,08	0,08										
	1/2	0,08	0,08	0,08	0,09	0,09	0,09	0,09	0,10	0,10	0,10										
	1/10	0,14	0,14	0,16	0,18	0,22	0,25	0,27	0,3	0,32	0,36										
H	1/1	0,045	0,045	0,045	0,053	0,053	0,053	0,053	0,06	0,06	0,06										
	1/2	0,06	0,06	0,06	0,07	0,07	0,07	0,07	0,08	0,08	0,08										
	1/10	0,10	0,10	0,10	0,12	0,12	0,14	0,16	0,16	0,18	0,18										

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

Solid carbide milling group 10 – Square shoulder mills VSM series, TM series

	a_e / D	Feed rate per cutting edge (f_z) [mm]																			
		Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20										
P	1/1	0,03	0,04	0,05	0,05	0,05	0,05	0,06	0,06	0,07	0,08										
	1/2	0,04	0,06	0,07	0,07	0,07	0,07	0,08	0,09	0,10	0,11										
	1/10	0,05	0,08	0,09	0,09	0,09	0,09	0,11	0,12	0,14	0,15										
M	1/1	0,02	0,03	0,04	0,04	0,04	0,04	0,04	0,05	0,05	0,06										
	1/2	0,03	0,05	0,05	0,05	0,05	0,05	0,06	0,07	0,08	0,08										
	1/10	0,04	0,06	0,07	0,07	0,07	0,07	0,08	0,09	0,10	0,11										
S	1/1	0,02	0,03	0,04	0,04	0,04	0,04	0,04	0,05	0,05	0,06										
	1/2	0,03	0,05	0,05	0,05	0,05	0,05	0,06	0,07	0,08	0,08										
	1/10	0,04	0,06	0,07	0,07	0,07	0,07	0,08	0,09	0,10	0,11										

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

Solid carbide milling group 11 – Deburring cutters FM series

	a_e / D	Feed rate per cutting edge (f_z) [mm]																			
		Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20									
P	1/1																				
	1/2																				
	1/10	0,02	0,02	0,03	0,03	0,04	0,06	0,07	0,07	0,08	0,08	0,09									
M	1/1																				
	1/2																				
	1/10	0,02	0,02	0,02	0,02	0,03	0,05	0,06	0,06	0,06	0,06	0,07									
K	1/1																				
	1/2																				
	1/10	0,02	0,02	0,03	0,03	0,04	0,06	0,07	0,07	0,08	0,08	0,09									
N	1/1																				
	1/2																				
	1/10	0,03	0,03	0,05	0,05	0,06	0,09	0,11	0,11	0,12	0,12	0,14									

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

Recommended feed rate

Solid carbide milling group 12 – ALP-1EP single-edged cutters

	a_e / D	Feed rate per cutting edge (f_z) [mm]																			
		Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10													
N	1/1	0,03	0,05	0,07	0,09	0,11	0,14	0,18													
	1/2	0,04	0,07	0,10	0,13	0,15	0,20	0,25													
	1/10	0,06	0,11	0,15	0,19	0,23	0,29	0,38													

Note: The given cutting values are guide values, which were determined under ideal conditions.
The values have to be adapted in individual cases.

Notes

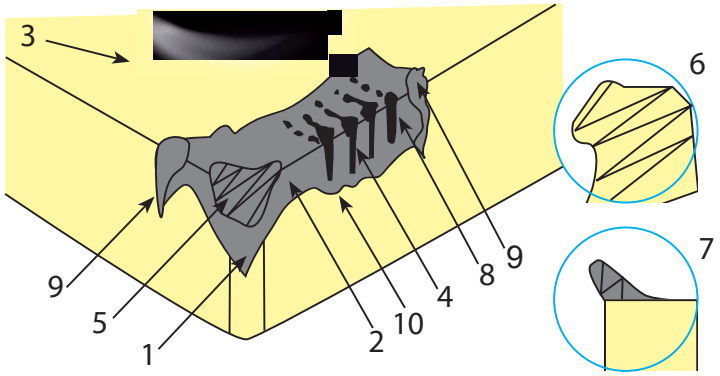
Technical information

Trouble shooting – milling	**B528**
Technical information – milling	**B529-B540**
Special tools – milling	**B541**

B

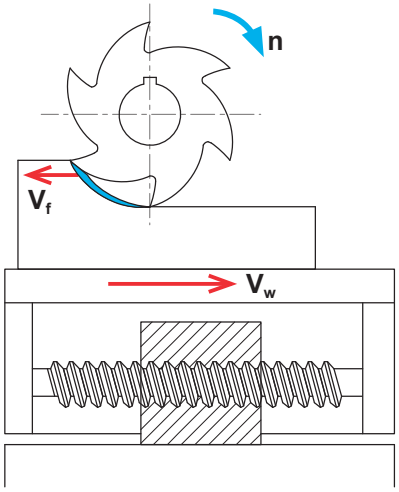
Trouble shooting – indexable milling

Fig.	Type of wear	Effects	Reason	Countermeasure
1+2	Flank wear	– Bad surface quality and dimensional stability – Increase of cutting force	– Grade not wear-resistant enough – Cutting speed too high – Clearance angle too small – Feed rate too low	– Grade with higher wear-resistance – Reduce cutting speed – Increase clearance angle – Reduce feed rate
3	Crater wear	– Bad surface quality and chip control	– Grade not wear-resistant enough – Cutting speed too high – Feed rate too low	– Grade with higher wear-resistance – Reduce cutting speed – Reduce feed rate
4	Chipping	– Unstable tool life – Sudden breakage of cutting edge	– Grade too hard – Feed rate too high – Cutting edge not stable enough – Stability of the holder or tension insuf-ficient	– Grade with higher toughness – Reduce feed rate – Change honing of cutting edge – Use a more stable tool holder
5	Breakage	– Increase of cutting force – Bad surface quality and dimensional stability	– Grade too hard – Feed rate too high – Cutting edge not stable enough – Stability of the holder or tension insuf-ficient	– Grade with higher toughness – Reduce feed rate – Change honing of cutting edge – Use a more stable tool holder
6	Plastic deformation	– Bad dimensional stability – Damage to cutting edge	– Grade not wear-resistant enough – Cutting speed too high – Cutting depth and/or feed rate too high – Temperature on the cutting edge too high	– Grade with higher toughness – Reduce cutting speed – Reduce cutting depth and feed rate – Grade with higher heat-resistance
7	Welding	– Increase of cutting force – Bad surface quality	– Cutting speed too low – Cutting edge not sharp enough – Grade not suitable	– Increase cutting speed – Increase rake angle – Use a more suitable grade
8	Thermal cracks	– Breakage due to thermal interaction, often caused when cutting is interrupted (milling)	– Temperature fluctuation when machining – Grade too hard	– Dry machining – Grade with higher toughness
9	Notch wear	– Burr formation – Increase of cutting force	– Damage through chips (jagged edges) – Feed rate and cutting speed too high	– Grade with higher wear-resistance – Increase rake angle to get a sharper cutting edge – Reduce cutting speed
10	Flaking (coating)	– Often appears when ma-chining hardened materials or caused by vibration	– Cutting edge adhesion and chipping – Bad chip removal	– Increase rake angle to get a sharper cutting edge – Chip breaker with bigger chip space

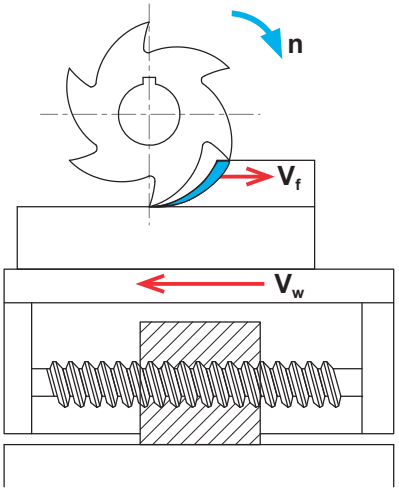


Indexable milling

Difference between up-milling and down-milling



Up-milling



Down-milling

V_f Feed rate tool
V_w Feed rate work piece
n Rotation

Up-milling: the feed direction of the work piece is opposite to that of the milling rotation at the connecting position.

Down-milling: the feed direction of the work piece is the same as that of the milling rotation at the connecting position.

Advantages and disadvantages

Direction	Advantages	Disadvantages
Up-milling	– Prevents hooking of tool – More smooth cut	– Bigger stress on cutting edge – Shorter tool life
Down-milling	– Higher tool life – Less thermal stress	– Hooking of tool possible

Indexable milling

Pitch selection

The pitch is the distance between one point on one cutting edge and the same point on the next edge.
Milling cutters are mainly classified into wide, normal and fine pitches.

Operational stability		
L (low)	M (medium)	H (high)
Wide pitch	Normal pitch	Fine pitch
		
When the milling width is equal to the diameter of the cutter, the machining system is stable and main power of machine is sufficient, selecting a wide pitch can achieve high productive efficiency.	General milling function and multiple mixed productions.	When the milling width is less than the diameter of cutter, cutting by maximum edges can achieve high productive efficiency.

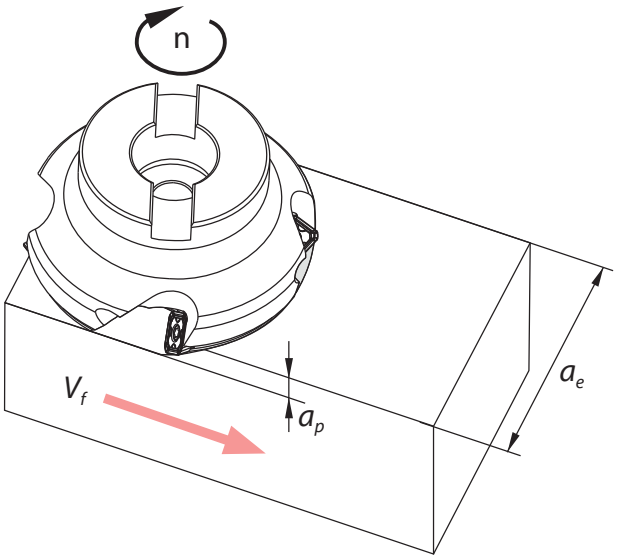
Approach angle

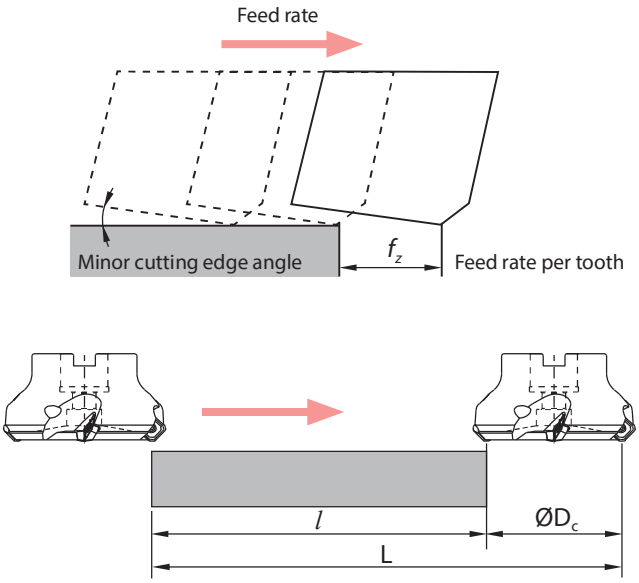
The approach angle is composed by insert. Tool body, chip thickness, cutting forces and tool life are affected especially by the approach angle. Decreasing the approach angle reduces chip thickness and spreads the cutting area between cutting edge and work piece for a given feed rate.
A smaller approach angle also guarantees stable entering or exiting the work piece, to protect the cutting edge and extend tool life. However this will increase higher axial cutting forces on the work piece, thus it is not suitable for machining thin work piecees such as thin plates.

Approach angle	Feed rate per tooth	Max. cutting depth
90°	f_z	$h_{ex} = f_z \times sin_{kr}$
75°		$h_{ex} = 0{,}96 \times f_z$
60°		$h_{ex} = 0{,}86 \times f_z$
45°		$h_{ex} = 0{,}707 \times f_z$
Round		$h_{ex} = \frac{\sqrt{iC^2 \times (iC - 2a_p)^2}}{iC} \times f_z$

Indexable milling

General formulas





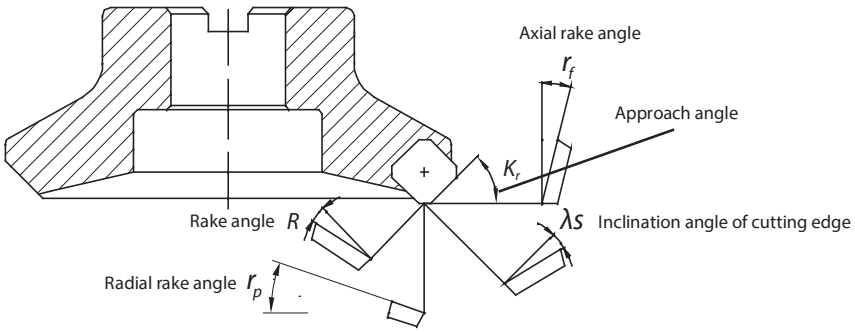
V_c: Feed rate [m/min]
D_c: Nominal diameter of milling tool [mm]
n: Spindle speed [u/min]
z_n: Number of teeth
Q: Metal removal rate [cm^3/min]

V_f: Feed rate of worktable (feed speed) [mm/min]
f_z: Feed rate per tooth [mm/z]
π: ~3,14
T_c: Machining time [min]
f_n: Feed rate per revolution [mm/u]

Cutting speed	$V_c = \frac{\pi \times D_c \times n}{1000}$ [m/min]
Spindle speed	$n = \frac{1000 \times V_c}{\pi \times D_c}$ [rev/min]
Feed rate of work table	$V_f = f_z \times n \times z_n$ [mm/min]
Feed rate per tooth	$f_z = \frac{V_f}{n \times Z_n}$ [mm/z]
Feed rate per revolution	$f_n = \frac{V_f}{n}$ [mm/rev]
Machining time	$T_c = \frac{1000 \times V_c}{\pi \times D_c}$ [min]
Metal removal rate	$Q = \frac{a_p \times a_e \times V_f}{1000}$ [cm^3/min]

Indexable milling

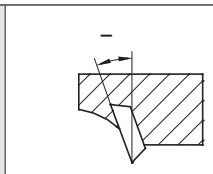
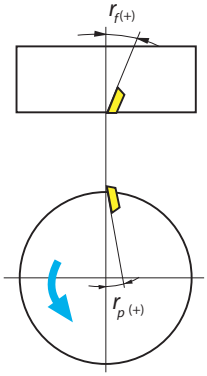
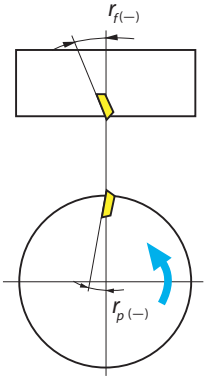
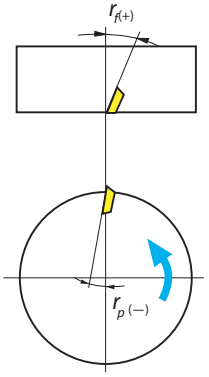
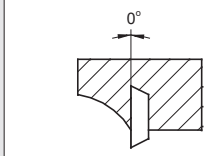
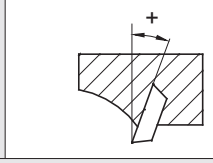
Function of angles when face milling



Main angles

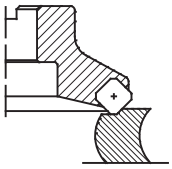
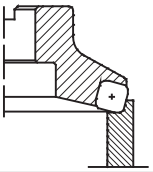
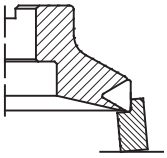
Angle	Feature	Effet		
Axial rake angle r_f	Influences chip direction	Negative angle, good chip removal		
Radial rake angle r_p	Influences cutting edge sharpness	Positive angle, good cutting performance		
Approach angle ***Kr***	Influences chip thickness	Kr↑, chip thickness↑, Kr↓, chip thickness↓;		
Rake angle ***R***	Influences cutting force	Poor cutting performance, stable cutting edge	(−)←0→(+)	Good cutting performance, unstable cutting edge
Inclination angle ***λs***	Influences chip flow direction	Poor cutting performance, stable cutting edge	(−)←0→(+)	Good cutting performance, unstable cutting edge

Combination of different rake angles

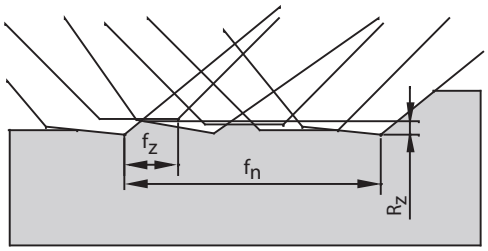
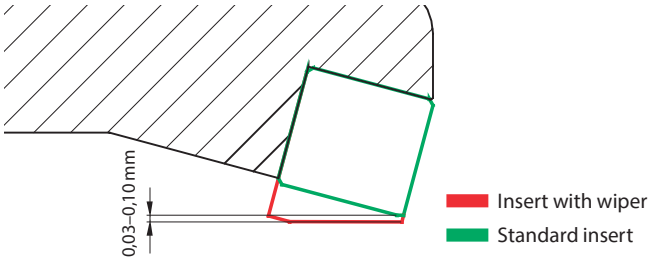
		Double positive	Double negative	Positive/Negative
Negative rake angle				
Neutral angle				
Positive angle				
Axial rake angle r_f		+	−	+
Radial rake angle r_p		+	−	−
Application field	**P**	√		√
	M	√		√
	K		√	√
	N	√		
	S	√		√

Indexable milling

Cutting performances of different approach angles

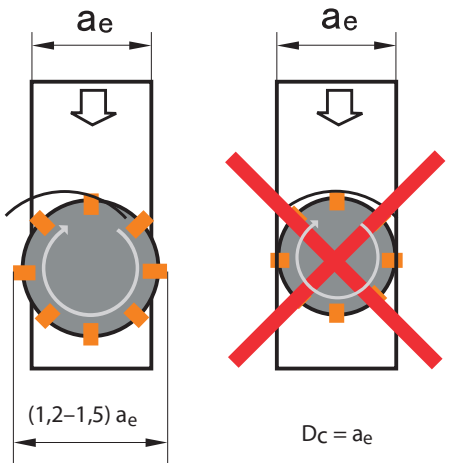
Approach angle	Depiction	Explanation
45°		Axial force is largest. It will bend when machining thin-wall work piece, and reduces the precision of work piece. It is benefit to avoid fringe breakage of work piece when machining cast iron.
75°		The main purpose is to resolve the radial cutting force, it is often used for general face milling.
90°		The axial force is zero in theory, suitable for milling thin plate workpiece.

Inserts with wiper

Using standard inserts	Using inserts with wiper
	
Normal surface quality	High surface quality

The wiper insert must protrude below the other inserts by 0.03–0.10 mm at axial direction, only that the wiping function can take into effect. Generally speaking, a cutter can assemble only one wiper insert. If the diameter of cutter is much bigger or cutter's feed rate per revolution is bigger than the length of wiper edge, 2 to 3 wiper inserts can be assembled.

Cutting width



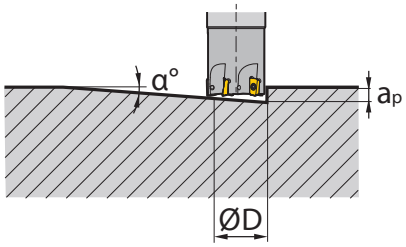
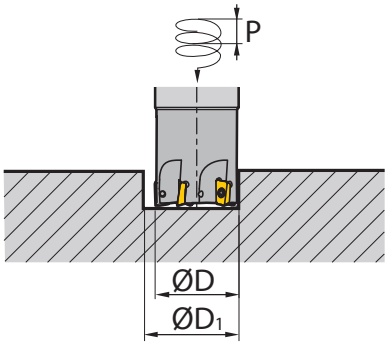
Generally speaking, the relation between cutting width and tool cutting diameter is $D_c = (1.2–1.5)\ a_e$.

In the machining practice, it needs to avoid coincidence of tool center and workpiece center as much as possible.

D_C: Tool diameter
a_e: Lateral infeed

Indexable milling

Plunging and circular milling with insert APKT

	Plunging	Circular milling
		
	$L_m = \frac{a_p}{\tan_\alpha}$	$P = \tan_\alpha \times \pi \times D_1$
	α : Angle de plongée	α : Angle d'hélice

Insert	Diameter ØD [mm]	Max. cutting depth a_p [mm]	Max. plunge angle α°	Min. diameter $ØD_1$ [mm]	Max. diameter [mm]
AP**11**	16	10	10	20	30
	20	10	5	28	38
	25	10	4	40	48
	32	10	3	56	60
	40	10	2	70	76

Reduce the feed rate when plunging and circular milling.
For drilling operations (axial) set the feed rate under 0.2 mm.
„Attention" – drilling can form long chips.

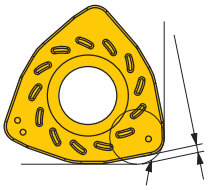
Indexable milling

Plunging and circular milling with insert WPGT or SDMT

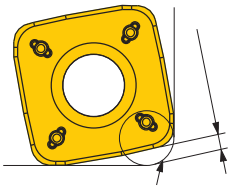
Approx. programmed radius

Insert	approx. R [mm]	Residual material K [mm]
WPGT050315ZSR	2	0,5
WPGT060415ZSR	2,5	0,7
WPGT080615ZSR	2,5	0,7
WPGT090725ZSR	4,5	1,2
SDMT06T208	1,6	0,5
SDMT09T312	2,5	0,87
SDMT120412	4,0	0,93
SDMT150620	4,0	1,38

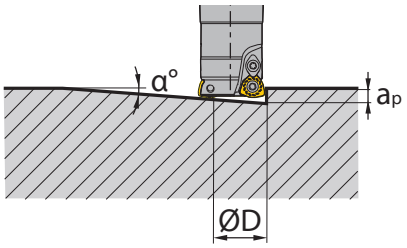
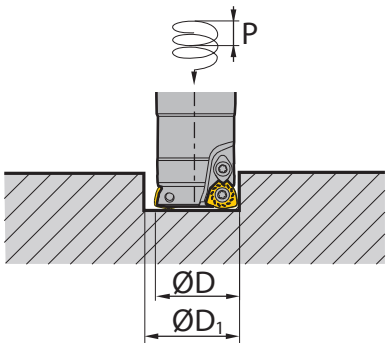
WPGT



SDMT



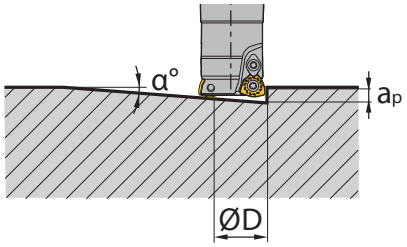
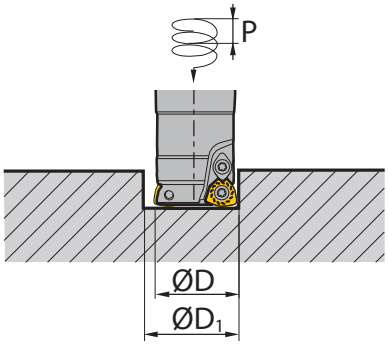
Insert WPGT

		Plunging		Circular milling	
		 $L_m = \frac{a_p}{\tan_\alpha}$ α : Angle de plongée		 $P = \tan_\alpha \times \pi \times D_1$ α : Angle d'hélice	
Insert	Diameter ØD [mm]	Max. cutting depth a_p [mm]	Max. plunge angle α°	Min. diameter $ØD_1$ [mm]	Max. diameter [mm]
WP**05**	20	1,5	12	24	37
WP**06**	25	1,5	8,8	31	47
	32	1,5	5	45	61
	40	1,5	3,2	61	77
	50	1,5	2,8	81	97
WP**08**	40	1,5	9	52	77
	50	1,5	5,4	71	97
	63	1,5	4,3	97	123
	80	1,5	2,9	131	157
	100	1,5	2,1	171	197
	125	1,5	1,3	221	247
	160	1,5	1,1	291	317
WP**09**	50	3,0	7,2	70	96
	63	3,0	4,5	96	122
	80	3,0	2,8	130	156
	100	3,0	2,2	170	196
	125	3,0	1,6	220	246
	160	3,0	1,2	290	316

Reduce the feed rate when plunging and circular milling.
For drilling operations (axial) set the feed rate under 0.2 mm.
„Attention" – drilling can form long chips.

Indexable milling

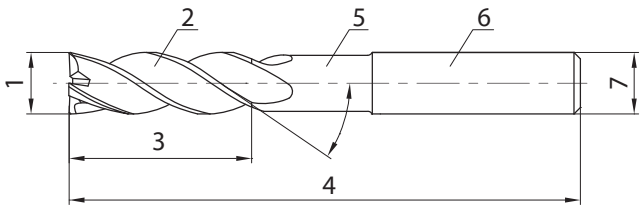
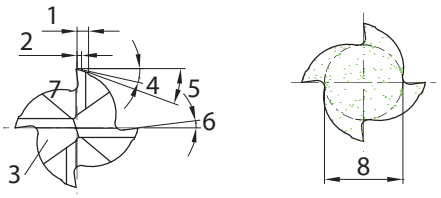
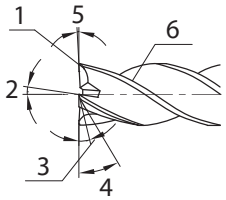
Insert SDMT

		Plunging		Circular milling	
		 $L_m = \frac{a_p}{\tan_\alpha}$ α: Plunge angle		 $P = \tan_\alpha \times \pi \times D_1$ α: Helix angle	
Insert	Diameter ØD (mm)	Max. cutting depth a_p [mm]	Max. plunge angle α°	Min. diameter $ØD_1$ [mm]	Max. diameter [mm]
SD**06**	20	0,8	3,6	30	38
	25	0,8	2,8	40	48
	32	0,8	1,6	52	60
	40	0,8	1,1	70	78
	50	0,8	0,8	90	98
	63	0,8	0,7	114	122
SD**09**	25	1,4	6,5	34	48
	32	1,4	4,5	48	62
	35	1,4	3,6	54	68
	50	1,4	1,8	84	98
	63	1,4	1,3	110	124
SD**12**	32	1,8	10,4	44	60
	40	1,8	5,7	60	76
	50	1,8	3,5	80	96
	63	1,8	2,5	106	122
	80	1,8	1,6	140	156
	100	1,8	1,2	180	196
SD**15**	40	2,2	7,3	54	76
	80	2,2	1,4	134	156
	100	2,2	1,0	174	196
	125	2,2	0,9	234	246
	160	2,2	0,6	304	316

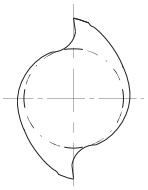
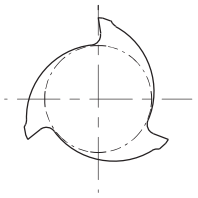
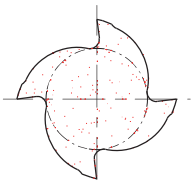
Reduce the feed rate when plunging and circular milling.
For drilling operations (axial) set the feed rate under 0,2 mm.
„Attention" – drilling can form long chips.

Solid carbide mills

Terminology

A		1. Cutting edge diameter 2. Chip pocket 3. Length of cutting edge 4. Total length 5. Neck 6. Shank 7. Shank diameter
B		1. Chamfer width, main cutting edge 2. Chamfer width, diameter 3. Neck, front side 4. Primary radial clearance angle 5. Secondary radial clearance angle 6. Radial rake angle 7. Axial main cutting edge 8. Core diameter
C		1. Cutting edge 2. Axial rake angle 3. Primary axial clearance angle 4. Secondary axial clearance angle 5. Inclination angle 6. Radial cutting edge

Teeth, chip pocket and tool rigidity

Teeth	2 flutes	3 flutes	4 flutes
Cross section			
Cutting edge ratio	54 %	56 %	60 %
Advantages	– Large chip pocket – Good chip removal	– Good chip removal – Good surface quality	– Good rigidity – Good surface
Application	– Slot milling – Square shoulder milling – Drilling	– Slot milling – Square shoulder milling – Finishing	– Slot milling (flat) – Square shoulder milling – Finishing

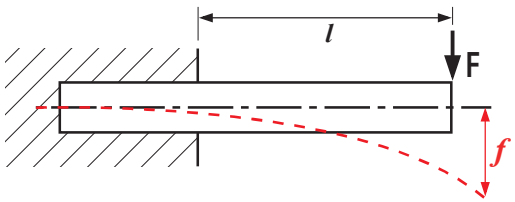
Length of cutting edge (overhang) and cutting diameter

The shorter the overhang, the stronger the rigidity. Thus isn't easy to generate. Bend and vibration in the cutting process may occur.

Length (overhang) increases by 1 time, the deflection degree (f) will be 8 times of the former one.

Reduce the overhang by 20 %
the deflection degree (f) will decrease by 50 %

Increase the diameter by 20 %
the deflection degree (f) will decrease by 50 %

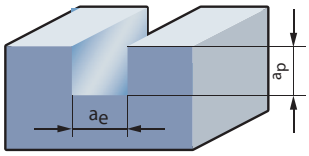


$$f = \frac{F \times l^3}{3 \times E \times I} = \frac{F \times l^3 \times 64}{3 \times E \times I}$$

Solid carbide mills

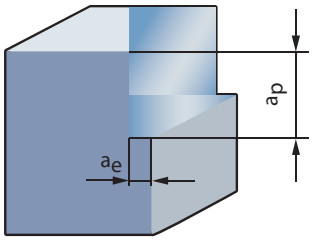
Machining strategy – HPC/UM (HSC) milling cutters

HPC = High Performance Cutting
Machining with significantly increased metal removal rate through higher cutting speeds and feed rates compared with conventional machine cutting processes.

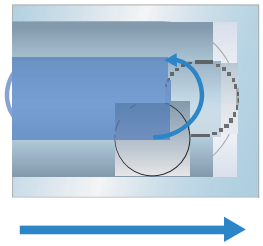


Full-slot milling

HSC (UM) = High Speed Cutting
High cutting speeds and feed rates in combination with low cutting depths lead to lower chip thickness as in normal machining.

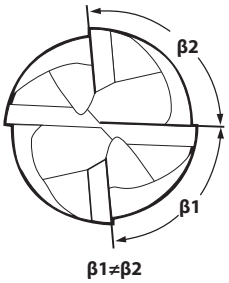


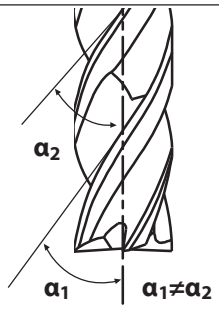
Profiling



Trochoidal milling

The UM milling cutter is specifically optimised for HSC machining.



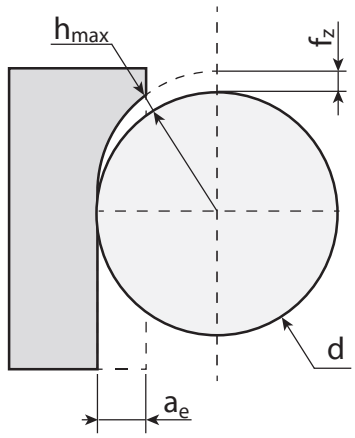


High metal removal rates can be realised with this tool.
Especially on highly dynamic machines with optimised tool paths this milling cutter shows its full potential.

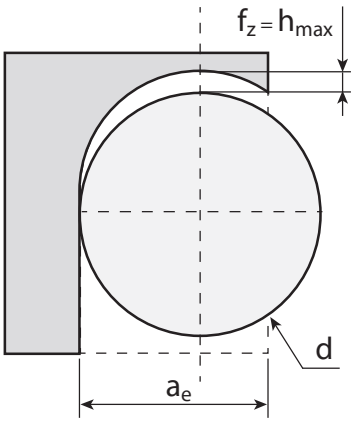
Solid carbide mills

HSC strategy

It's important to use the right strategy. When programming make sure the width of cut is kept. The width of cut is usually not higher than 15 %. Regarding the depth of cut, the total length of the cutting edge can be used.



$a_e < d/2 \quad h_{max} < f_z$

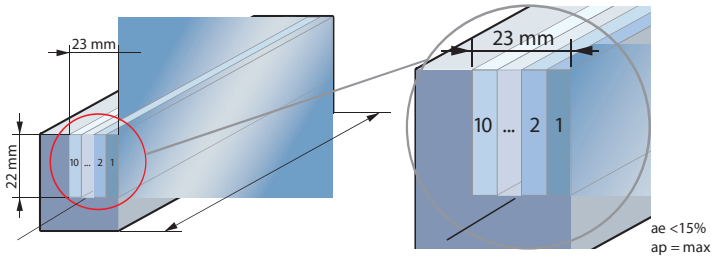


$a_e \geq d/2 \quad h_{max} = f_z$

$$h_{max} = 2f_z\sqrt{\frac{a_e}{d}\left(1-\frac{a_e}{d}\right)}$$

When changing the width of cut the cutting data needs to be adjusted.
As calculatory size applies a chip thickness from approx. 0.15 –0.2 mm on basis of the usual steel types.

Example

Tool	Machining
	
UM-4E-D20.0-W KMG405	HSC strategy

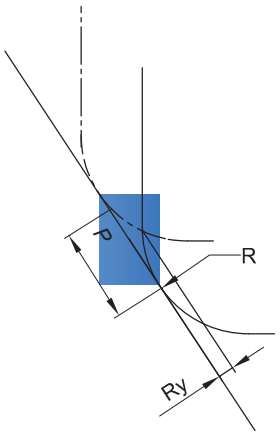
Workpiece material
16MnCr5 (1.7131) ca. 700 N/mm³

Cutting data	
V_c	550 m/min
n	8750 1/min
f_z	0,3 mm (**h_{max} = 0,19 mm**)
V_f	10500 mm/min
a_p	22 mm
a_e	2,3 mm

Result
Chip removal rate **530 cm³/min**! Machining time 58 seconds! The maximum chip thickness is 0.19 mm.

Solid carbide mills

Feed rate selecting table for profile machining with ball nose cutters and torus mills



$$Ry = R \times \{1-\cos[\arcsin(fr/2R)]\}$$

Ry: Theoretical values of surface quality
P: Feed rate
R: Radius of the ball nose cutter or torus mill

R \ Ry	Feed rate									
	0,1	0,2	0,3	0,4	0,5	0,6	0,7	0,8	0,9	1,0
0,5	0,003	0,010	0,023	0,042	0,067	0,100				
1,0	0,001	0,005	0,011	0,020	0,032	0,046	0,063	0,083	0,107	
1,5	0,001	0,003	0,008	0,013	0,021	0,030	0,041	0,054	0,069	0,086
2,0	0,001	0,003	0,006	0,010	0,015	0,023	0,031	0,040	0,051	0,064
2,5	0,001	0,002	0,005	0,008	0,013	0,018	0,025	0,032	0,041	0,051
3,0		0,001	0,004	0,007	0,010	0,015	0,020	0,027	0,034	0,042
4,0		0,001	0,003	0,005	0,008	0,011	0,015	0,020	0,025	0,031
5,0		0,001	0,002	0,004	0,006	0,009	0,012	0,016	0,020	0,025
6,0			0,002	0,003	0,005	0,008	0,010	0,013	0,017	0,021
8,0			0,001	0,003	0,004	0,006	0,008	0,010	0,013	0,016
10,0			0,001	0,002	0,003	0,005	0,006	0,008	0,010	0,013
12,5			0,001	0,002	0,003	0,004	0,005	0,006	0,008	0,010

R \ Ry	Feed rate									
	1,1	1,2	1,3	1,4	1,5	1,6	1,7	1,8	1,9	2,0
0,5										
1,0										
1,5	0,104									
2,0	0,077	0,092	0,109							
2,5	0,061	0,073	0,086	0,100						
3,0	0,051	0,061	0,071	0,083	0,095	0,109				
4,0	0,038	0,045	0,053	0,062	0,071	0,081	0,091	0,103		
5,0	0,030	0,036	0,042	0,049	0,057	0,064	0,073	0,082	0,091	0,101
6,0	0,025	0,030	0,035	0,041	0,047	0,054	0,061	0,068	0,076	0,084
8,0	0,019	0,023	0,026	0,031	0,035	0,040	0,045	0,051	0,057	0,063
10,0	0,015	0,018	0,021	0,025	0,028	0,032	0,036	0,041	0,045	0,050
12,5	0,012	0,014	0,017	0,020	0,023	0,026	0,029	0,032	0,036	0,040