Catalogue

Version 2019

2019

EN

ZCC Cutting Tools Europe GmbH

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Solid carbide milling

Product overview B258-B265
Grade overview B266

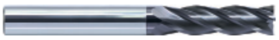
System code – DIN-ISO series B268
System code – JIS series B269
GM series B271-B328
PM series B329-B352
HM series B353-B376
NM series B377-B384
AL series B385-B406
HPC series B407-B414
UM series B415-B424
VSM series B425-B430
Deburring cutters – FM series B431-B435

Recommended cutting data B436-B462

Technical information B473-B476
Form nonstandard order B477

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	B330
PM-2EL		2	3.0-20.0	✔	✔	✔			✓	End mills	B331
PM-4E-G		4	1.0-20.0	✔	✔	✔			✓	End mills	B332
PM-4EL-G		4	3.0-20.0	✔	✔	✔			✓	End mills	B333
PM-4EX-G		4	3.0-20.0	✔	✔	✔			✓	End mills	B334
PM-4E		4	1.0-20.0	✔	✔	✔			✓	End mills	B335
PM-4EL		4	3.0-20.0	✔	✔	✔			✓	End mills	B336
PM-6E		6	6.0-20.0	✔	✔	✔			✓	End mills	B337
PM-6EL		6	6.0-20.0	✔	✔	✔			✓	End mills	B338
PM-2B		2	1.0-20.0	✔	✔	✔			✓	Ball nose cutters	B339
PM-2BL		2	2.0-20.0	✔	✔	✔			✓	Ball nose cutters	B340
PM-2BFP		2	1.0-20.0	✔	✔	✔			✓	Ball nose cutters	B341
PM-2BC		2	0.5-4.0	✔	✔	✔			✓	Ball nose cutter with conical neck	B342
PM-4B		4	3.0-20.0	✔	✔	✔			✓	Ball nose cutters	B345
PM-4BL		4	3.0-20.0	✔	✔	✔			✓	Ball nose cutters	B346
PM-2R		2	1.0-12.0	✔	✔	✔			✓	Torus mills	B347
PM-4R		4	3.0-12.0	✔	✔	✔			✓	Torus mills	B350
PM-4RL		4	6.0-16.0	✔	✔	✔			✓	Torus mills	B351
PM-4H		4	3.0-12.0	✔	✔	✔			✓	High-feed mills	B348
PM-4HL		4	4.0-12.0	✔	✔	✔			✓	High-feed mills	B349

✔ Very suitable ✓ Suitable

General machining

Products	Solid carbide cutters	Teeth	Ø	Application						Type	Page
				P	M	K	N	S	H		
5501R302GM		2	3.0-20.0	✓	✓	✓				End mills	B272
5601R302GM		2	3.0-20.0	✓	✓	✓				End mills	B273
5502R302GM		2	1.0-20.0	✓	✓	✓				End mills	B274
5602R302GM		2	2.0-20.0	✓	✓	✓				End mills	B275
GM-2E		2	1.0-20.0	✓	✓	✓				End mills	B276
GM-2EL		2	3.0-20.0	✓	✓	✓				End mills	B277
GM-2EX		2	3.0-20.0	✓	✓	✓				End mills	B278
GM-2EFP		2	6.0-16.0	✓	✓	✓				End mills	B279
GM-2F		2	1.0-20.0	✓	✓	✓				End mills	B280
GM-2FL		2	3.0-20.0	✓	✓	✓				End mills	B281
GM-2EP		2	0.5-5.0	✓	✓	✓				Mini end mills	B282
GM-2ES		2	0.3-3.0	✓	✓	✓				Mini end mills	B284
GM-3E		3	1.0-20.0	✓	✓	✓				End mills	B285
GM-3EL		3	3.0-20.0	✓	✓	✓				End mills	B286
5501R303GM		3	3.0-20.0	✓	✓	✓				End mills	B287
5601R303GM		3	3.0-20.0	✓	✓	✓				End mills	B288
5502R303GM		3	3.0-20.0	✓	✓	✓				End mills	B289
5602R303GM		3	3.0-20.0	✓	✓	✓				End mills	B290
5502R453GM		3	3.0-20.0	✓	✓	✓				End mills	B291
5602R453GM		3	3.0-20.0	✓	✓	✓				End mills	B292
GM-4E-G		4	1.0-20.0	✓	✓	✓				End mills	B298

✓ Very suitable ✓ Suitable

Solid carbide milling Product overview

General machining

Products	Solid carbide cutters	Teeth	Ø	Application						Type	Page
				P	M	K	N	S	H		
GM-4F-G		4	1.0-20.0	✓	✓	✓				End mills	B293
GM-4EL-G		4	3.0-20.0	✓	✓	✓				End mills	B294
GM-4FL-G		4	3.0-16.0	✓	✓	✓				End mills	B295
GM-4EX-G		4	3.0-20.0	✓	✓	✓				End mills	B296
GM-4E		4	1.0-20.0	✓	✓	✓				End mills	B297
GM-4EL		4	3.0-20.0	✓	✓	✓				End mills	B299
GM-4EFP		4	6.0-20.0	✓	✓	✓				End mills	B300
5501R304GF		4	3.0-20.0	✓	✓	✓				End mills	B301
5601R304GF		4	3.0-20.0	✓	✓	✓				End mills	B302
5502R304GF		4	3.0-20.0	✓	✓	✓				End mills	B303
5602R304GF		4	3.0-20.0	✓	✓	✓				End mills	B304
5508R454GM		4	3.0-20.0	✓	✓	✓				End mills	B305
5602R454GM		4	3.0-20.0	✓	✓	✓				End mills	B306
5589R45MGF		6-10	6.0-20.0	✓	✓	✓				End mills	B307
GM-6E		6	6.0-20.0	✓	✓	✓				End mills	B308
GM-6EL		6	6.0-20.0	✓	✓	✓				End mills	B309
5565R302GF		2	3.0-20.0	✓	✓	✓				Ball nose cutters	B310
5665R202GM		2	3.0-20.0	✓	✓	✓				Ball nose cutters	B311
5566R302GF		2	3.0-12.0	✓	✓	✓				Ball nose cutters	B312
GM-2B		2	1.0-20.0	✓	✓	✓				Ball nose cutters	B313
GM-2BL		2	2.0-20.0	✓	✓	✓				Ball nose cutters	B314

✓ Very suitable ✓ Suitable

General machining

Products	Solid carbide cutters	Teeth	Ø	Application						Type	Page
				P	M	K	N	S	H		
GM-2BFP		2	1.0-20.0	✓	✓	✓				Ball nose cutters	B315
GM-2BS		2	0.3-3.0	✓	✓	✓				Mini ball nose cutters	B316
GM-2BP		2	0.5-5.0	✓	✓	✓				Mini ball nose cutters	B317
GM-4B		4	3.0-20.0	✓	✓	✓				Ball nose cutters	B319
GM-4BL		4	3.0-20.0	✓	✓	✓				Ball nose cutters	B320
GM-2R		2	1.0-12.0	✓	✓	✓				Torus mills	B321
GM-4R		4	3.0-12.0	✓	✓	✓				Torus mills	B322
GM-4RL		4	6.0-16.0	✓	✓	✓				Torus mills	B323
5602R303GR		3	6.0-8.0	✓	✓	✓				Rippers	B324
5602R304GR		4	10.0-20.0	✓	✓	✓				Rippers	B325
5602R305GR		5	25.0	✓	✓	✓				Rippers	B326
GM-4W		4	6.0-20.0	✓	✓	✓				Rippers	B327

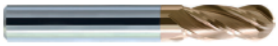
✓ Very suitable ✔ Suitable

Machining high hardness steel

HM-2E		2	1.0-20.0						✓	End mills	B354
HM-2EFP		2	6.0-20.0						✓	End mills	B355
HM-2EP		2	0.5-5.0						✓	Mini end mills	B356
HM-2ES		2	0.3-3.0						✓	Mini end mills	B358
HM-4E		4	1.0-20.0						✓	End mills	B359
HM-4EL		4	3.0-20.0						✓	End mills	B360
HM-4EFP		4	6.0-20.0						✓	End mills	B361
5502R55MHH		4-8	3.0-20.0						✓	End mills	B362

✓ Very suitable ✔ Suitable

Machining high hardness steel

Products	Solid carbide cutters	Teeth	Ø	Application						Type	Page
				P	M	K	N	S	H		
HM-6E		6	6.0-20.0						✓	End mills	B363
HM-6EL		6	6.0-20.0						✓	End mills	B364
HM-2B		2	1.0-20.0						✓	Ball nose cutters	B365
HM-2BL		2	2.0-20.0						✓	Ball nose cutters	B366
HM-2BFP		2	1.0-20.0						✓	Ball nose cutters	B367
HM-2BS		2	0.3-3.0						✓	Mini ball nose cutters	B368
HM-2BP		2	0.5-5.0						✓	Mini ball nose cutters	B369
HM-4B		4	3.0-20.0						✓	Ball nose cutters	B371
HM-4BL		4	3.0-20.0						✓	Ball nose cutters	B372
HM-4R		4	3.0-12.0						✓	Torus mills	B373
HM-4RF		4	6.0-12.0						✓	Torus mills	B374
HM-4RP		4	6.0-16.0						✓	Torus mills	B375

✓ Very suitable ✔ Suitable

Copper and copper alloys

5502R402NM		2	3.0-20.0				✓			End mills	B378
NM-2E		2	1.0-12.0				✓			End mills	B379
NM-2EP		2	0.5-5.0				✓			Mini end mills	B380
NM-4E		4	3.0-12.0				✓			End mills	B381
NM-2B		2	1.0-12.0				✓			Ball nose cutters	B382
NM-2BP		2	0.5-5.0				✓			Mini ball nose cutters	B383

✓ Very suitable ✔ Suitable

Aluminium and aluminium alloys

Products	Solid carbide cutters	Teeth	Ø	Application						Type	Page
				P	M	K	N	S	H		
AL-2E		2	1.0-20.0				✔			End mills	B386
AL-2EL		2	3.0-20.0				✔			End mills	B387
ALG-2E		2	1.0-20.0				✔			End mills	B388
ALG-2R		2	6.0-25.0				✔			Torus mills	B403
ALG-2R-W		2	6.0-25.0				✔			Torus mills	B404
AL-3E		3	1.0-20.0				✔			End mills	B389
AL-3EL		3	3.0-20.0				✔			End mills	B390
ALG-3E		3	1.0-20.0				✔			End mills	B391
ALG-3E-W		3	3.0-20.0				✔			End mills	B392
ALP-3E		3	1.0-20.0				✔			End mills	B393
ALP-3E-W		3	3.0-20.0				✔			End mills	B394
ALP-4E		4	3.0-20.0				✔			End mills	B395
ALP-4E-W		4	3.0-20.0				✔			End mills	B396
AL-3W		3	6.0-20.0				✔			Rippers	B397
5565R302NH		2	3.0-16.0				✔			Ball nose cutters	B398
5566R302NH		2	3.0-16.0				✔			Ball nose cutters	B399
AL-2B		2	2.0-12.0				✔			Ball nose cutters	B400
AL-2R-AIR		2	6.0-20.0				✔			High performance torus mills	B401
AL-2RL-AIR		2	6.0-20.0				✔			High performance torus mills	B402
AL-3R-AIR		3	12.0-20.0				✔			High performance torus mills	B405
AL-3RL-AIR		3	12.0-20.0				✔			High performance torus mills	B406

✔ Very suitable ✓ Suitable

HPC with unequal helix angle

Products	Solid carbide cutters	Teeth	Ø	Application						Type	Page
				P	M	K	N	S	H		
5501R38414GM		4	4.0-20.0	✔	✔	✔			✓	End mills	B408
5502R38414GM		4	4.0-20.0	✔	✔	✔			✓	End mills	B409
5601R38414GM		4	4.0-20.0	✔	✔	✔			✓	End mills	B410
5602R38414GM		4	3.0-20.0	✔	✔	✔			✓	End mills	B411
5502R38414GM-R		4	4.0-20.0	✔	✔	✔			✓	Torus mills	B412
5602R38414GM-R		4	4.0-20.0	✔	✔	✔			✓	Torus mills	B413
UM-4E		4	4.0-20.0	✔	✔	✔			✓	End mills	B416
UM-4E-W		4	4.0-20.0	✔	✔	✔			✓	End mills	B417
UM-4EL		4	4.0-20.0	✔	✔	✔			✓	End mills	B418
UM-4EL-W		4	4.0-20.0	✔	✔	✔			✓	End mills	B419
UM-4ELP-W		4	4.0-20.0	✔	✔	✔			✓	End mills	B420
UM-4EFP		4	6.0-20.0	✔	✔	✔			✓	End mills	B421
UM-4R		4	4.0-20.0	✔	✔	✔			✓	Torus mills	B422
UM-4RL		4	6.0-16.0	✔	✔	✔			✓	Torus mills	B423
UM-4RFP		4	6.0-16.0	✔	✔	✔			✓	Torus mills	B424
VSM-4E		4	4.0-20.0	✓	✔			✔		End mills	B426
VSM-4E-C		4	10.0-20.0	✓	✔			✔		End mills	B427
VSM-4R		4	4.0-20.0	✓	✔			✔		Torus mills	B428

✔ Very suitable ✓ Suitable

Deburring cutter

Products	Solid carbide cutters	Teeth	Ø	Application						Type	Page
				P	M	K	N	S	H		
5501/5601		3-4	0.2-0.7	✔	✔	✔	✔			Deburring cutters	B432
5501/5601		3-4	0.2-0.7	✔	✔	✔	✔			Deburring cutters	B433
5601		4	5.2-10.0	✔	✔	✔	✔			Deburring cutters	B434

✔ 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.
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.
YK40F	Uncoated K20–K30/N20–N30 carbide substrate for cast iron and non ferrous materials.

Notes

Solid carbide milling System code – DIN-ISO series

5	5	0	1	R	30	2	GM	R05	0800
1	2	3	4	5	6	7	8	9	10

Type

Code	Description
5	Milling cutter

1

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

2

Cutting edge type

Code	Description
0	Square shoulder mill
6	Ball nose cutter
8	Torus mill

3

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

4

Rotation direction

Code	Description
R	Right
L	Left

5

Helix angle

Code	Description
20	20°
30	30°
3841	38°/41°
45	45°
55	55°
60	60°

6

Number of teeth

Code	Description
2	2
...	
M	Indicated when different diameters have a different number of teeth

7

Application

Code	Description
GM	Semi-finishing
GF	Finishing
HM	Hard machining
MHH	High-speed hard machining
NH	High-performance machining of heat-resistant alloys

8

Radius [mm]

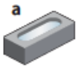
Code	Description
R03	0,3
R15	1,5
R30	3,0
...	

9

Diameter [mm]

Code	Description
0100	1,0
0800	8,0
2000	20,0
...	

10

a

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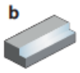
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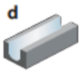
d

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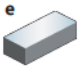

f

g

h


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	–	W
1		2	3	4	5		6	7		8		9

Application

Code	Description
GR	General roughing
GM	Semi-finishing
GF	Finishing
PM	High-performance machining
HM	Hard machining
HH	High-speed 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
VSM	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
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

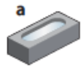
Features

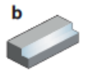
Code	Description
G	Spiral angle 30°
M	Neck length [mm]
S	Thin shank
AIR	For aerospace industry

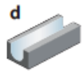
8

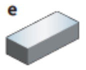
Weldon shank

9

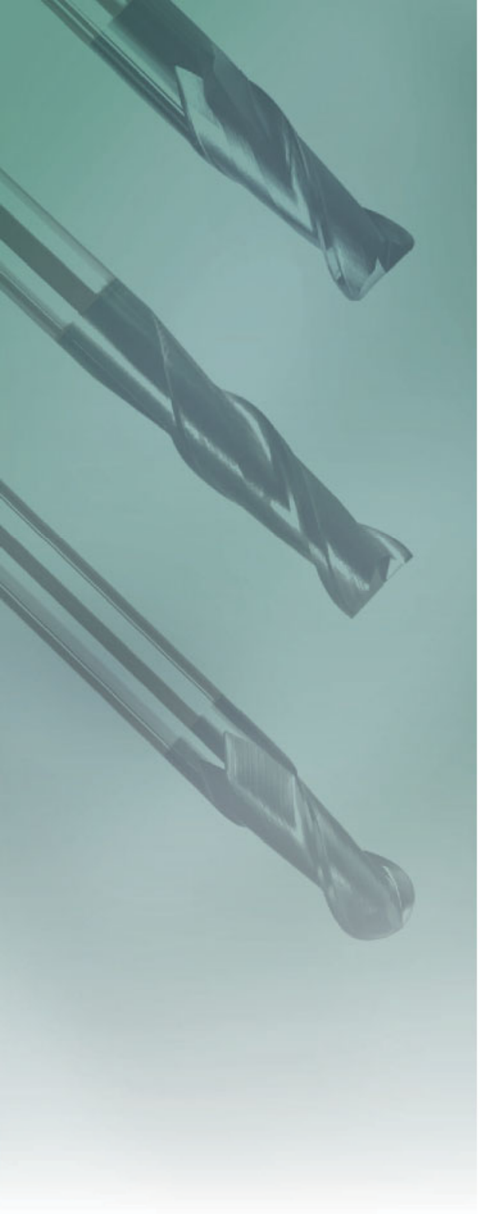








a Groove milling **b Square shoulder milling** **c Profile milling** **d Slot milling** **e Face milling** **f Chamfer milling** **g Plunge milling**
h Circular milling/Ramping

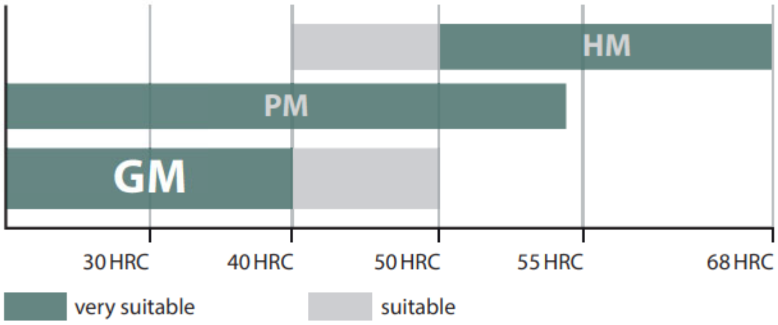


GM series

For general applications

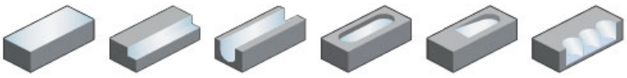
- For machining of steel to max. 50 HRC and cast iron to heat-resistant alloys.
- Sharp cutting edge with high edge stability. Roughing to finishing with long tool life.
- End mills, ball nose cutters, torus mills, rippers and mini cutters.
- Diameter range 0.3–20.0 mm

Application fields for machining of steel

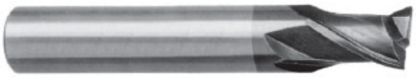


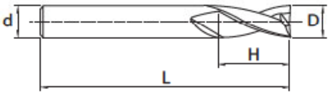
End mill **Semi-finishing**

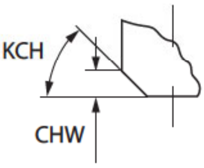
5501R302GM



- 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

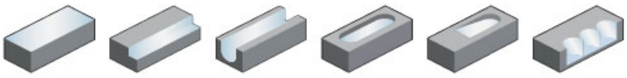
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✓ Suitable

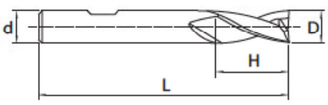
System code > B268 Cutting data > B436 Nonstandard order > B477

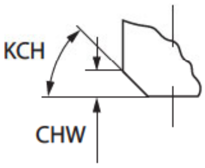
End mill Semi-finishing

5601R302GM



- Type of shank: DIN 6535HB
- Centre cutting
- Helix angle 30°





Article	✲	Dimensions [mm]						Teeth	Grade	
		D	d (h6)	H	L	KCH	CHW		KMG303	YK30F
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

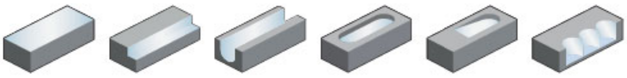
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

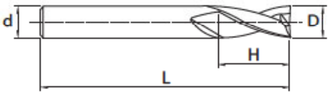
End mill long cutting edge

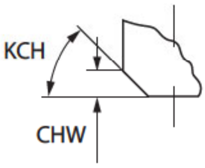
Semi-finishing

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

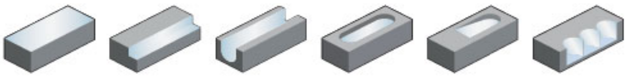
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✓ Suitable

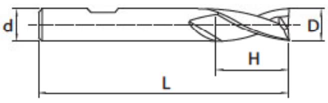
System code > B268
Cutting data > B436
Nonstandard order > B477

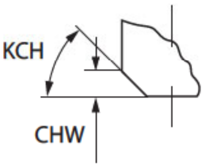
End mill long cutting edge Semi-finishing

5602R302GM



- Type of shank: DIN 6535HB
- Centre cutting
- Helix angle 30°





Article	✲	Dimensions [mm]						Teeth	Grade	
		D	d (h6)	H	L	KCH	CHW		KMG303	YK30F
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
✓	✓	✓			

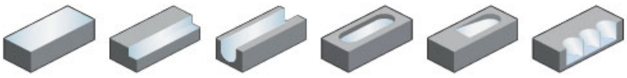
✓ Very suitable

✓ Suitable

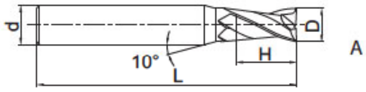
System code > B268 Cutting data > B436 Nonstandard order > B477

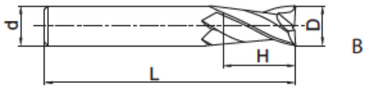
End mill Semi-finishing

GM-2E



- Factory standard
- Centre cutting
- Helix angle 35°





Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			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

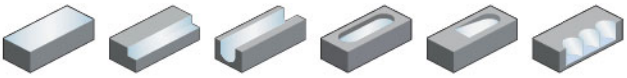
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✓ Suitable

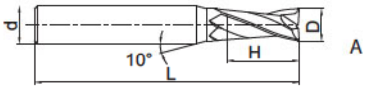
System code › B268 Cutting data › B436 Nonstandard order › B477

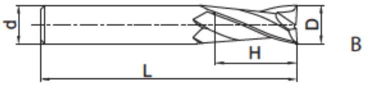
End mill long cutting edge **Semi-finishing**

GM-2EL



- Factory standard
- Centre cutting
- Helix angle 35°





Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			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
✓	✓	✓			

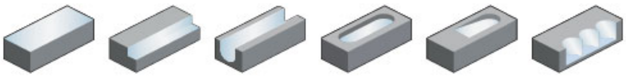
✓ Very suitable

✓ Suitable

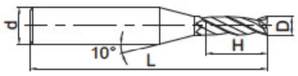
System code > B268
Cutting data > B436
Nonstandard order > B477

End mill extra long cutting edge **Semi-finishing**

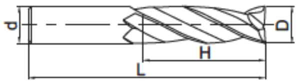
GM-2EX



- 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

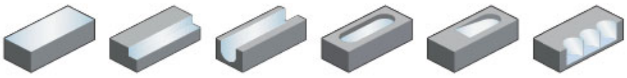
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✓ Suitable

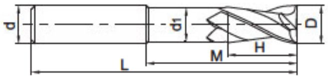
System code > B268 Cutting data > B436 Nonstandard order > B477

End mill short cutting edge Semi-finishing

GM-2EFP



- Factory standard
- Centre cutting
- Helix angle 35°



Article	✲	Dimensions [mm]						Teeth	Grade
		D	d (h6)	d_1	H	M	L		KMG303
GM-2EFP-D6.0		6	6	5.8	9	30	30	2	○
GM-2EFP-D8.0		8	8	7.8	12	40	40	2	○
GM-2EFP-D10.0		10	10	9.6	15	50	50	2	○
GM-2EFP-D12.0		12	12	11.5	18	50	50	2	○
GM-2EFP-D16.0		16	16	15.5	24	50	50	2	○

● Ex stock ○ On demand

✲ With internal cooling

Application field

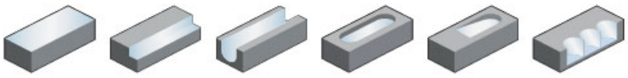
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✓ Suitable

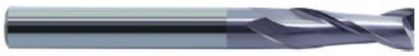
System code B268
Cutting data B436
Nonstandard order B477

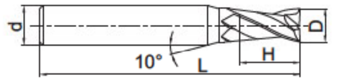
End mill **Semi-finishing**

GM-2F

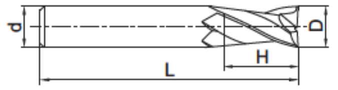


- Factory standard
- Centre cutting
- Helix angle 35°





A



B

Article	✻	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			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

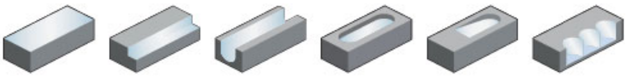
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✓ Suitable

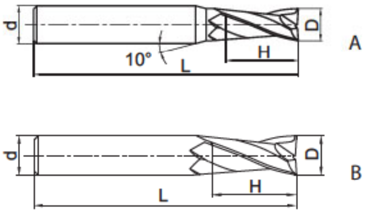
System code B268
Cutting data B436
Nonstandard order B477

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
✔	✔	✔			

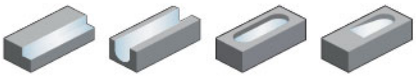
✔ Very suitable

✔ Suitable

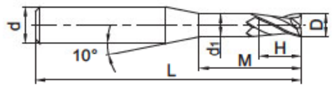
System code > B268 Cutting data > B436 Nonstandard order > B477

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
✓	✓	✓			

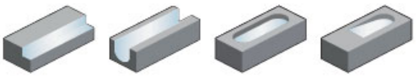
✓ Very suitable

✓ Suitable

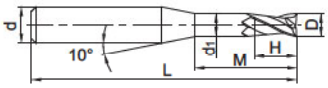
System code › B268 Cutting data › B436 Nonstandard order › B477

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-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

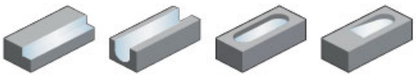
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✓ Suitable

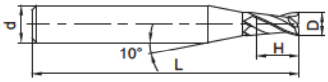
System code > B268 Cutting data > B436 Nonstandard order > B477

End mill **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

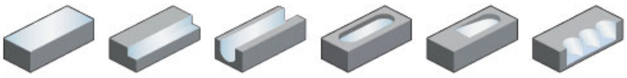
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✓ Suitable

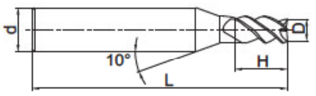
System code B268 Cutting data B436 Nonstandard order B477

End mill Semi-finishing

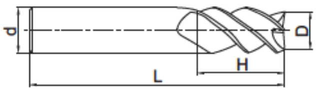
GM-3E



- Factory standard
- Centre cutting
- Helix angle 45°



A



B

Article	✻	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			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

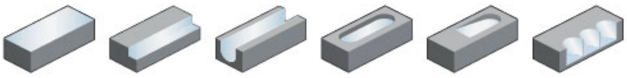
✓ Suitable

System code › B268 Cutting data › B436 Nonstandard order › B477

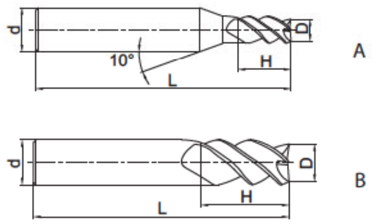
End mill long cutting edge

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

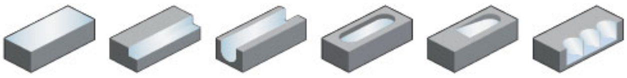
Application field

P	M	K	N	S	H
✔	✔	✔			

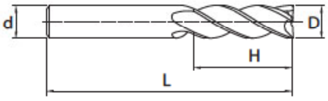
✔ Very suitable
✔ Suitable

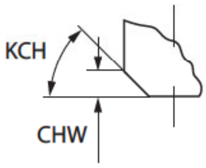
End mill **Semi-finishing**

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

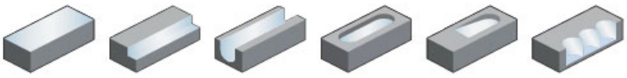
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✓ Suitable

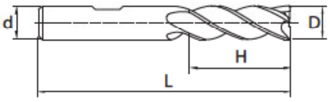
System code > B268 Cutting data > B436 Nonstandard order > B477

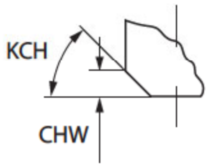
End mill **Semi-finishing**

5601R303GM



- Type of shank: DIN 6535HB
- Centre cutting
- Helix angle 30°





Article	✲	Dimensions [mm]						Teeth	Grade	
		D	d (h6)	H	L	KCH	CHW		KMG303	YK30F
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
✓	✓	✓			

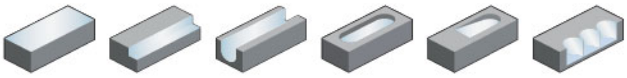
✓ Very suitable

✓ Suitable

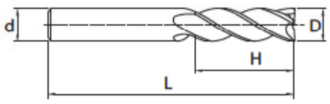
System code > B268 Cutting data > B436 Nonstandard order > B477

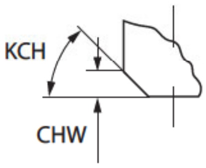
End mill long cutting edge Semi-finishing

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-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

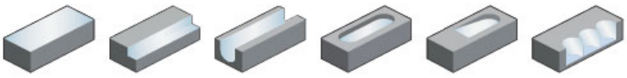
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

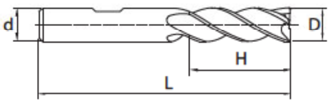
End mill long cutting edge

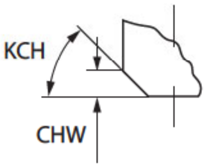
Semi-finishing

5602R303GM



- Type of shank: DIN 6535HB
- Centre cutting
- Helix angle 30°





Article	✲	Dimensions [mm]						Teeth	Grade	
		D	d (h6)	H	L	KCH	CHW		KMG303	YK30F
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
✓	✓	✓			

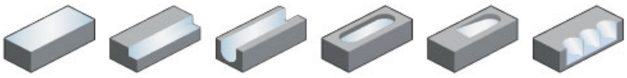
✓ Very suitable
✓ Suitable

System code B268 Cutting data B436 Nonstandard order B477

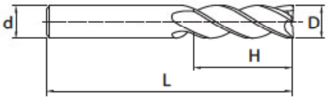
End mill long cutting edge

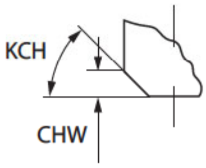
Semi-finishing

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

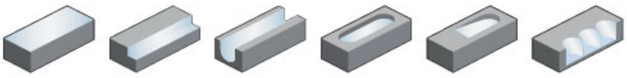
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✓ Suitable

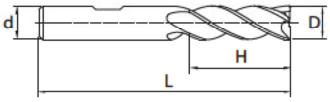
System code > B268 Cutting data > B436 Nonstandard order > B477

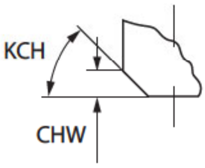
End mill long cutting edge **Semi-finishing**

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

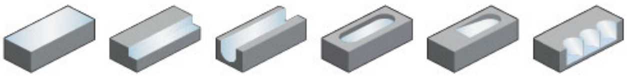
P	M	K	N	S	H
✔	✔	✔			

✔ Very suitable
✔ Suitable

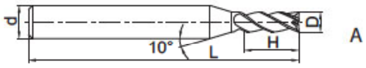
System code > B268 Cutting data > B436 Nonstandard order > B477

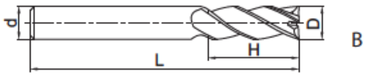
End mill **Semi-finishing**

GM-4F-G



- Factory standard
- Centre cutting
- Helix angle 30°





Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			KMG303
GM-4F-D2.0S-G		2	4	6	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

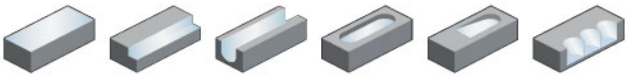
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

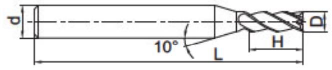
End mill long cutting edge

Semi-finishing

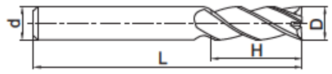
GM-4EL-G



- Factory standard
- Centre cutting
- Helix angle 30°



A



B

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
✓	✓	✓			

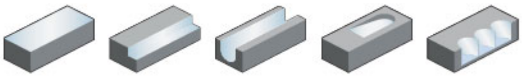
✓ Very suitable
✓ Suitable

System code > B268
Cutting data > B436
Nonstandard order > B477

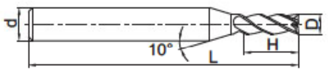
End mill long cutting edge

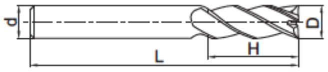
Semi-finishing

GM-4FL-G



- Factory standard
- Centre cutting
- Helix angle 30°





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	○
GM-4FL-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

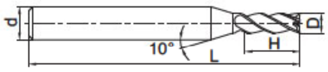
System code > B268 Cutting data > B436 Nonstandard order > B477

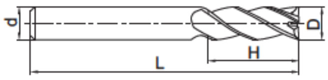
End mill extra long cutting edge

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
✓	✓	✓			

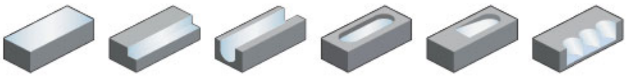
✓ Very suitable

✓ Suitable

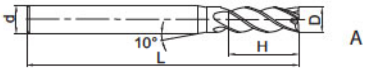
System code B268 Cutting data B436 Nonstandard order B477

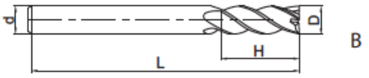
End mill **Semi-finishing**

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
✓	✓	✓			

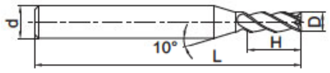
✓ Very suitable
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

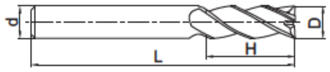
End mill **Semi-finishing**

GM-4E-G

- Factory standard
- Centre cutting
- Helix angle 30°



A



B

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
✓	✓	✓			

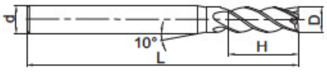
✓ Very suitable
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

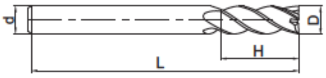
End mill long cutting edge **Semi-finishing**

GM-4EL

- Factory standard
- Centre cutting
- Helix angle 45°



A



B

Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			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
✓	✓	✓			

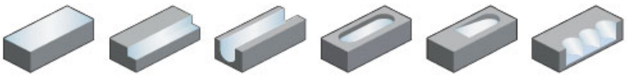
✓ Very suitable

✓ Suitable

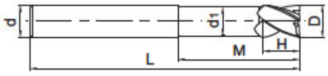
System code B268 Cutting data B436 Nonstandard order B477

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

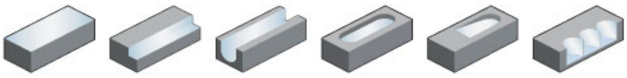
Application field

P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✓ Suitable

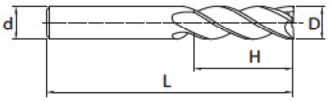
System code > B268 Cutting data > B436 Nonstandard order > B477

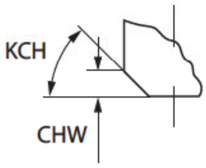
End mill Finishing



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

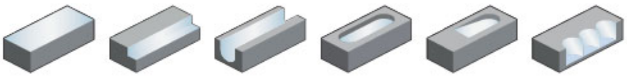
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✓ Suitable

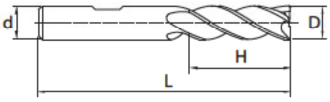
System code B268
Cutting data B436
Nonstandard order B477

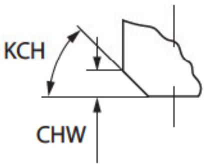
End mill **Finishing**

5601R304GF



- Type of shank: DIN 6535HB
- Centre cutting
- Helix angle 30°





Article	✻	Dimensions [mm]						Teeth	Grade	
		D	d (h6)	H	L	KCH	CHW		KMG303	YK30F
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
✔	✔	✔			

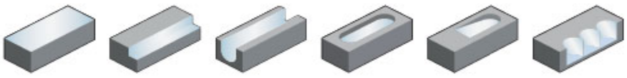
✔ Very suitable

✔ Suitable

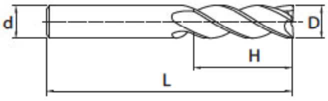
System code B268 Cutting data B436 Nonstandard order B477

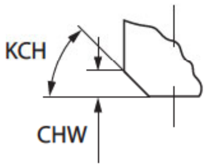
End mill long cutting edge **Finishing**

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

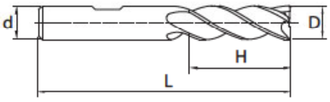
✓ Suitable

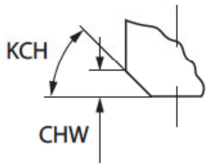
System code > B268 Cutting data > B436 Nonstandard order > B477

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

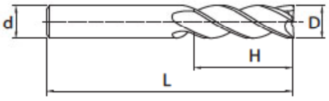
System code > B268 Cutting data > B436 Nonstandard order > B477

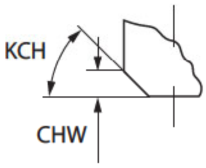
End mill long cutting edge

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-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
✓	✓	✓			

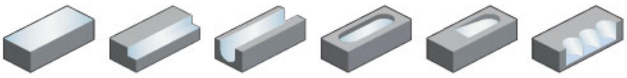
✓ Very suitable

✓ Suitable

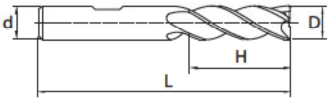
System code > B268 Cutting data > B436 Nonstandard order > B477

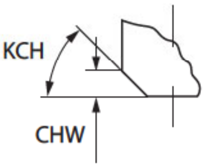
End mill long cutting edge **Semi-finishing**

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

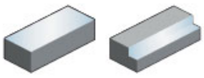
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable

✓ Suitable

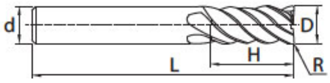
System code › B268 Cutting data › B436 Nonstandard order › B477

Torus mill long cutting edge **Finishing**



5589R45MGF

– 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	●
5589R45MGFR03-1600		16	0.3	16	48	108	8	○
5589R45MGFR03-2000		20	0.3	20	56	122	10	○

● Ex stock ○ On demand

✻ With internal cooling

Application field

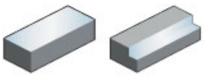
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✔ Suitable

System code › B268 Cutting data › B436 Nonstandard order › B477

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
✓	✓	✓			

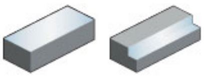
✓ Very suitable

✓ Suitable

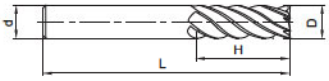
System code B268 Cutting data B436 Nonstandard order B477

End mill long cutting edge **Semi-finishing**

GM-6EL



- Factory standard
- Non-centre cutting
- Helix angle 45°



Article	✻	Dimensions [mm]				Teeth	Grade
		D	d (h6)	H	L		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

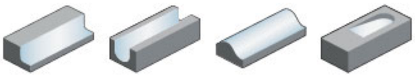
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable

✓ Suitable

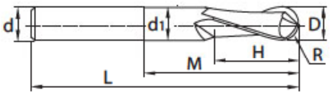
System code B268 Cutting data B436 Nonstandard order B477

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

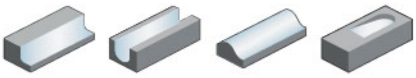
✓ Suitable

System code B268 Cutting data B436 Nonstandard order B477

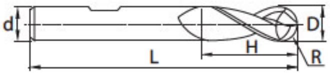
Ball nose cutter

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
✓	✓	✓			

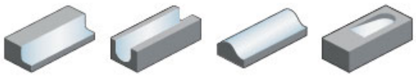
✓ Very suitable

✓ Suitable

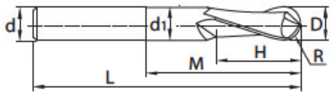
System code > B268 Cutting data > B436 Nonstandard order > B477

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	30	80	2	●
5566R302GF-0800		8	4	8	7.4	9	35	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
✓	✓	✓			

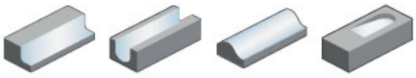
✓ Very suitable
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

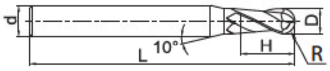
Ball nose cutter

Semi-finishing

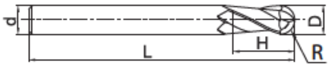
GM-2B



- Factory standard
- Centre cutting
- Helix angle 35°



A



B

Article	✲	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			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
✓	✓	✓			

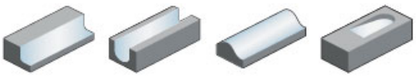
✓ Very suitable
✓ Suitable

System code › B268
Cutting data › B436
Nonstandard order › B477

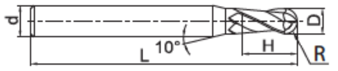
Ball nose cutter long shank

Semi-finishing

GM-2BL



- Factory standard
- Centre cutting
- Helix angle 35°



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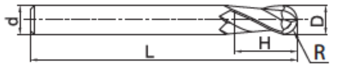


B

Article	✲	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			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

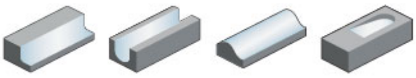
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✓ Suitable

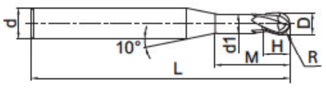
System code › B268
Cutting data › B436
Nonstandard order › B477

Ball nose cutter short cutting edge **Semi-finishing**

GM-2BFP



- Factory standard
- Centre cutting
- Helix angle 35°



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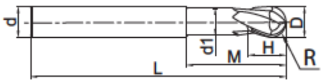


B

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
✓	✓	✓			

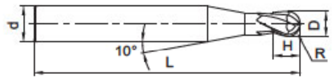
✓ Very suitable
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

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

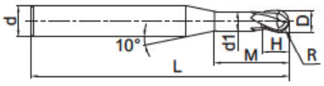
✓ Suitable

System code B268
Cutting data B436
Nonstandard order B477

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
✓	✓	✓			

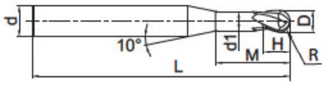
✓ Very suitable
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

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

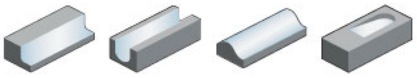
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✓ Suitable

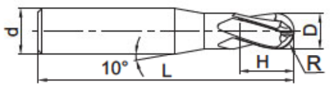
System code > B268 Cutting data > B436 Nonstandard order > B477

Ball nose cutter Semi-finishing

GM-4B



- Factory standard
- Centre cutting
- Helix angle 35°



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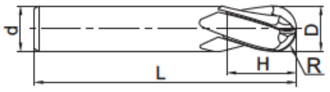


B

Article	✲	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			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
✓	✓	✓			

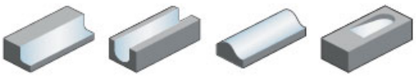
✓ Very suitable

✓ Suitable

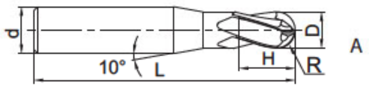
System code > B268 Cutting data > B436 Nonstandard order > B477

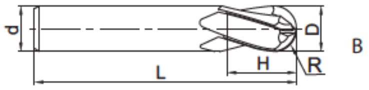
Ball nose cutter long shank **Semi-finishing**

GM-4BL



- Factory standard
- Centre cutting
- Helix angle 35°





Article	✲	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			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-R9.0		9	18	18	36	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
✓	✓	✓			

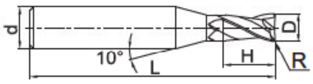
✓ Very suitable
✓ Suitable

System code › B268 Cutting data › B436 Nonstandard order › B477

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

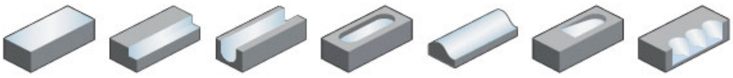
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✓ Suitable

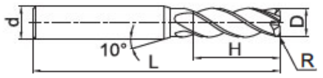
System code > B268
Cutting data > B436
Nonstandard order > B477

Torus mill **Semi-finishing**

GM-4R



- Factory standard
- Centre cutting
- Helix angle 35°



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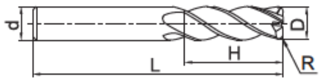


B

Article	✼	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			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

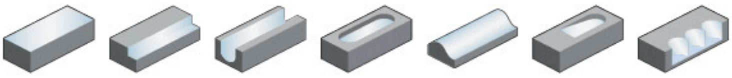
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✓ Suitable

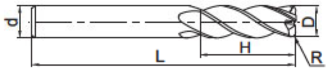
System code > B268　Cutting data > B436　Nonstandard order > B477

Torus mill long shank Semi-finishing

GM-4RL



- Factory standard
- Centre cutting
- Helix angle 35°



Article	✲	Dimensions [mm]					Teeth	Grade
		R	D	d (h6)	H	L		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
✓	✓	✓			

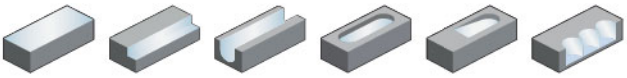
✓ Very suitable
✓ Suitable

System code > B268
Cutting data > B436
Nonstandard order > B477

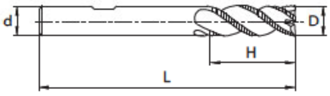
End mill long cutting edge

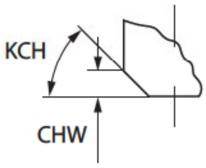
General roughing

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

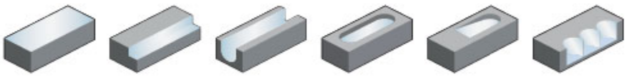
P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✓ Suitable

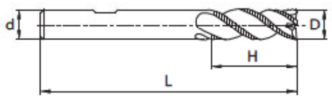
System code > B268 Cutting data > B436 Nonstandard order > B477

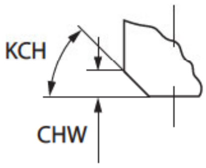
End mill long cutting edge **General roughing**

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

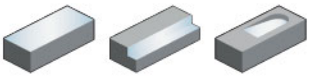
Application field

P	M	K	N	S	H
✓	✓	✓			

✓ Very suitable
✓ Suitable

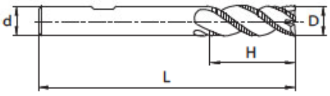
System code B268 Cutting data B436 Nonstandard order B477

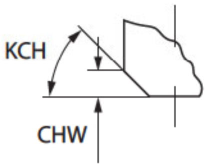
End mill long cutting edge General roughing



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
✓	✓	✓			

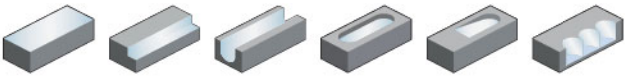
✓ Very suitable

✓ Suitable

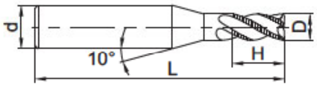
System code > B268 Cutting data > B436 Nonstandard order > B477

End mill serrated teeth **Semi-finishing**

GM-4W



- Factory standard
- Centre cutting
- Helix angle 30°



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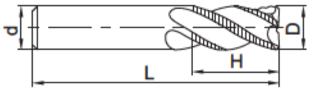


B

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 > B268 Cutting data > B436 Nonstandard order > B477

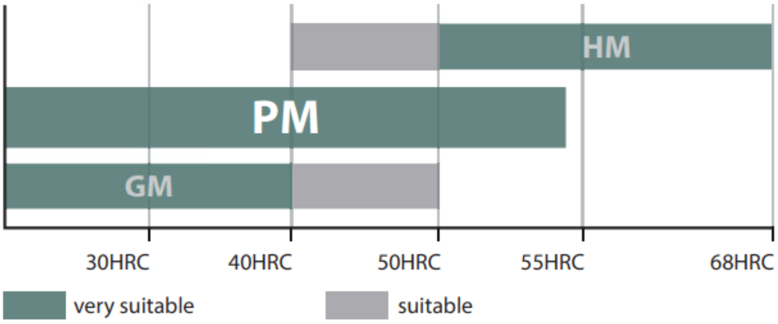
Notes

PM series

For demanding applications

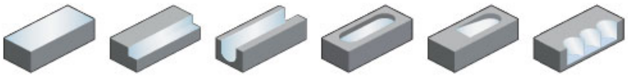
- For machining of steel to max. 55 HRC and cast iron to heat-resistant alloys.
- Very solid cutting edge with high stiffness for higher cutting speeds and feed rates.
- End mills, ball nose cutters, torus mills and high feed mills
- Diameter range 3.0–20.0 mm

Application fields for machining of steel

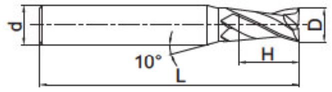


End mill **High-performance machining**

PM-2E



- Factory standard
- Centre cutting
- Helix angle 30°



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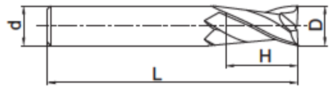


B

Article	✻	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			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

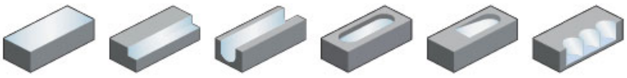
✓ Suitable

System code B268 Cutting data B436 Nonstandard order B477

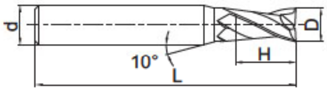
End mill long cutting edge

High-performance machining

PM-2EL



- Factory standard
- Centre cutting
- Helix angle 30°



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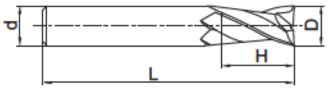


B

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

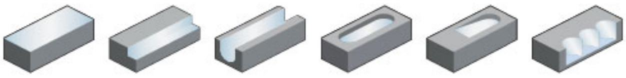
✓ Suitable

System code > B268

Cutting data > B436

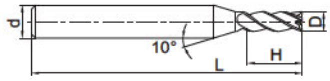
Nonstandard order > B477

End mill High-performance machining



PM-4E-G

- Factory standard
- Centre cutting
- Helix angle 30°



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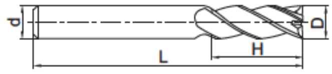


B

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
✓	✓	✓			✓

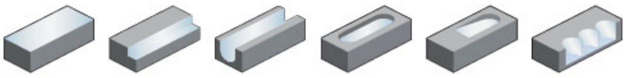
✓ Very suitable

✓ Suitable

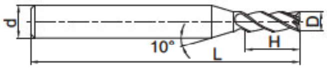
System code B268 Cutting data B436 Nonstandard order B477

End mill long cutting edge | High-performance machining

PM-4EL-G



- Factory standard
- Centre cutting
- Helix angle 30°



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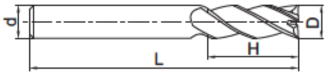


B

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

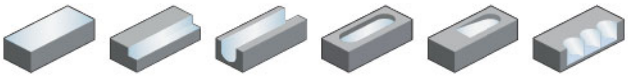
System code > B268
Cutting data > B436
Nonstandard order > B477

A Turning
B Milling
C Drilling
D Technical Information
E Index

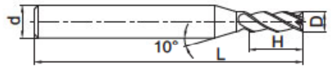
End mill extra long cutting edge

High-performance machining

PM-4EX-G



- Factory standard
- Centre cutting
- Helix angle 30°



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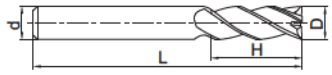


B

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
✓	✓	✓			✓

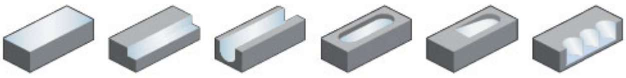
✓ Very suitable

✓ Suitable

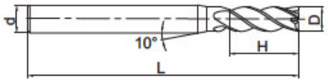
System code > B268 Cutting data > B436 Nonstandard order > B477

End mill High-performance machining

PM-4E



- Factory standard
- Centre cutting
- Helix angle 45°



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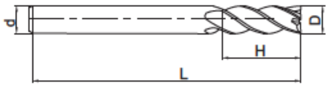


B

Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			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

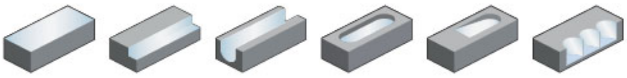
✓ Suitable

System code › B268 Cutting data › B436 Nonstandard order › B477

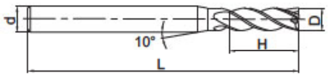
End mill long cutting edge

High-performance machining

PM-4EL



- Factory standard
- Centre cutting
- Helix angle 45°



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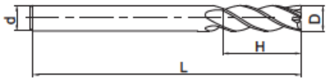


B

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
✓	✓	✓			✓

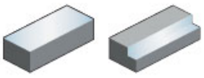
✓ Very suitable

✓ Suitable

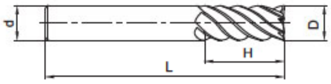
System code > B268 Cutting data > B436 Nonstandard order > B477

End mill High-performance machining

PM-6E



- Factory standard
- Non-centre cutting
- Helix angle 45°



Article	✲	Dimensions [mm]				Teeth	Grade
		D	d (h6)	H	L		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

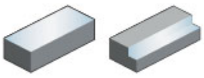
✓ Suitable

System code › B268 Cutting data › B436 Nonstandard order › B477

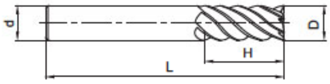
End mill long cutting edge

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

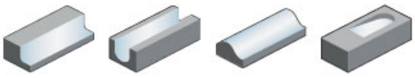
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

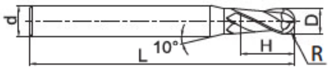
Ball nose cutter

High-performance machining

PM-2B



- Factory standard
- Centre cutting
- Helix angle 30°



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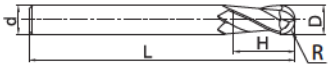


B

Article	✲	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			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

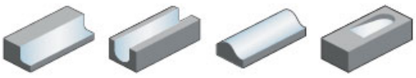
P	M	K	N	S	H
✓	✓	✓			✓

✓ Very suitable
✓ Suitable

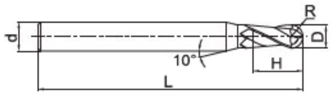
System code > B268
Cutting data > B436
Nonstandard order > B477

Ball nose cutter long shank High-performance machining

PM-2BL



- Factory standard
- Centre cutting
- Helix angle 30°



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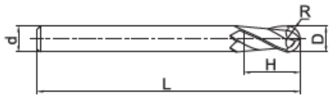


B

Article	✲	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			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

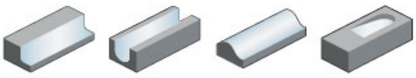
P	M	K	N	S	H
✓	✓	✓			✓

✓ Very suitable
✓ Suitable

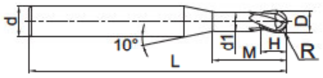
System code › B268 Cutting data › B436 Nonstandard order › B477

Ball nose cutter short cutting edge | High-performance machining

PM-2BFP



- Factory standard
- Centre cutting
- Helix angle 30°



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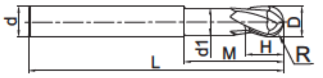


B

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

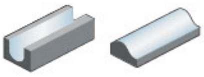
System code > B268 | Cutting data > B436 | Nonstandard order > B477

Solid carbide milling PM series

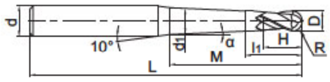
Ball nose cutter conical neck

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

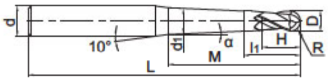
System code B268 Cutting data B436 Nonstandard order B477

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-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

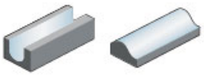
System code > B268 Cutting data > B436 Nonstandard order > B477

ZCC·CT

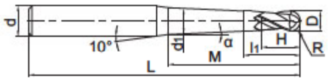
Ball nose cutter conical neck

High-performance machining

PM-2BC



– Straight shank
– Centre cutting
– Helix angle 30°



		Dimensions [mm]										Grade
Article	✲	R	D	d (h6)	d_1	M	H	L	α	l_1	Teeth	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

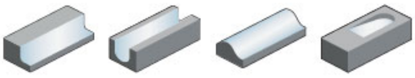
P	M	K	N	S	H
✓	✓	✓			✓

✓ Very suitable
✓ Suitable

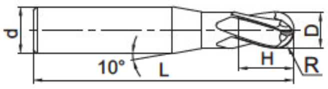
System code B268 Cutting data B436 Nonstandard order B477

Ball nose cutter High-performance machining

PM-4B



- Factory standard
- Centre cutting
- Helix angle 30°



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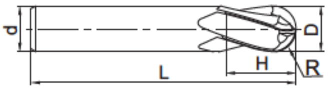


B

Article	✻	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			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
✔	✔	✔			✓

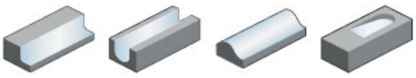
✔ Very suitable

✓ Suitable

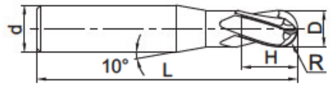
System code > B268 Cutting data > B436 Nonstandard order > B477

Ball nose cutter long shank High-performance machining

PM-4BL



- Factory standard
- Centre cutting
- Helix angle 30°



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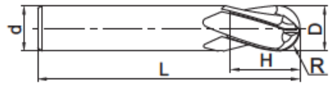


B

Article	✻	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			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
✔	✔	✔			✓

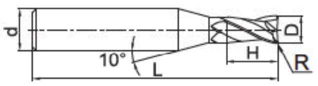
✔ Very suitable
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

Torus mill **High-performance machining**

PM-2R

- Factory standard
- Centre cutting
- Helix angle 30°



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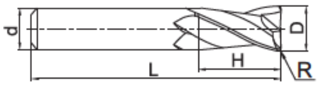


B

Article	✲	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			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

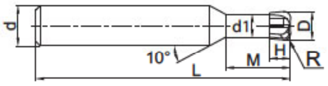
System code > B268 Cutting data > B436 Nonstandard order > B477

Solid carbide milling PM series

End mill High-performance machining

PM-4H

- Factory standard
- Centre cutting
- Helix angle 0°



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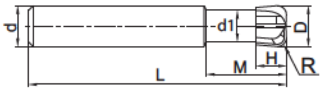


B

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

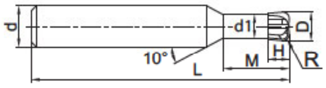
System code B268 Cutting data B436 Nonstandard order B477

End mill long shank

High-performance machining

PM-4HL

- Factory standard
- Centre cutting
- Helix angle 0°



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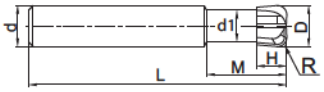


B

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

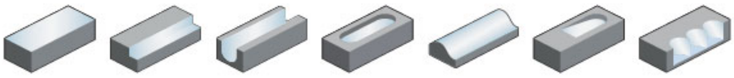
System code > B268 Cutting data > B436 Nonstandard order > B477

A Turning
B Milling
C Drilling
D Technical Information
E Index

Torus mill

High-performance machining

PM-4R



- Factory standard
- Centre cutting
- Helix angle 30°

Article	✲	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			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
✔	✔	✔			✓

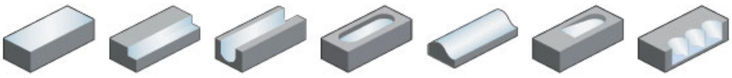
✔ Very suitable

✓ Suitable

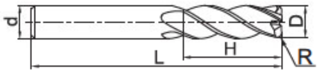
System code › B268 Cutting data › B436 Nonstandard order › B477

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 > B268 Cutting data > B436 Nonstandard order > B477

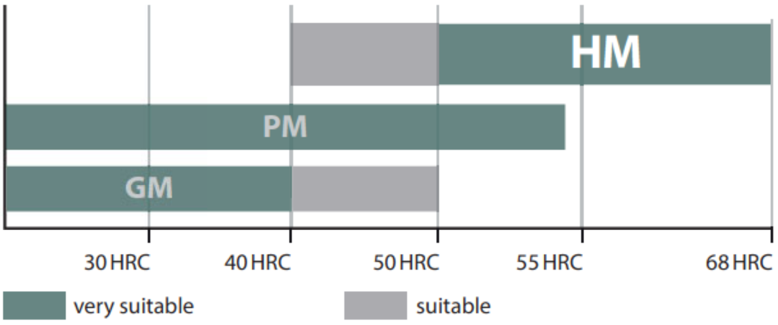
Notes

HM series

For machining of hardened materials

- For machining of steel up to 68 HRC.
- Very stable cutting edge with high stiffness and newest coating technology for high cutting speeds and feed rates.
- End mills, ball nose cutters, torus mills and mini cutters
- Diameter range 0.3–20.0 mm

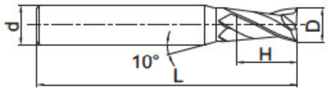
Application fields for machining of steel



End mill **Hard machining**

HM-2E

- Factory standard
- Centre cutting
- Helix angle 35°



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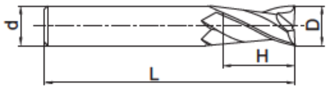


B

Article	✻	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			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

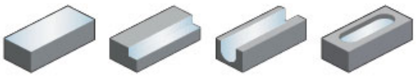
P	M	K	N	S	H
					✓

✓ Very suitable
✓ Suitable

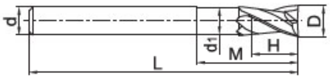
System code B268
Cutting data B436
Nonstandard order B477

End mill short cutting edge **Hard machining**

HM-2EFP



- Factory standard
- Centre cutting
- Helix angle 35°



Article	✲	Dimensions [mm] D	d (h6)	d_1	H	M	L	Teeth	Grade 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
					✓

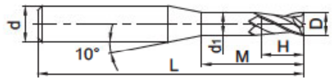
✓ Very suitable

✓ Suitable

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

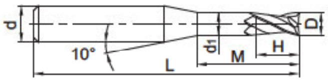
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

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
					✓

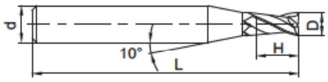
✓ Very suitable
✔ Suitable

System code › B268 Cutting data › B436 Nonstandard order › B477

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
					✓

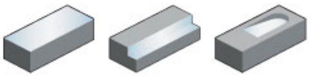
✓ Very suitable

✓ Suitable

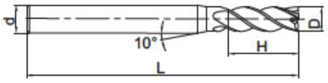
System code B268 Cutting data B436 Nonstandard order B477

End mill **Hard machining**

HM-4E



- Factory standard
- Centre cutting
- Helix angle 45°



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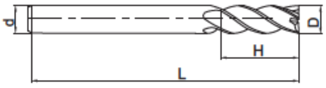


B

Article	✻	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			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
					✓

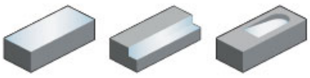
✓ Very suitable
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

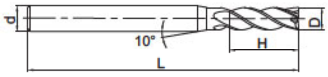
End mill long shank

Hard machining

HM-4EL



- Factory standard
- Centre cutting
- Helix angle 45°



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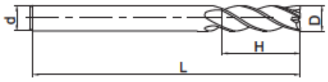


B

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

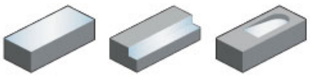
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

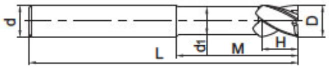
End mill short cutting edge

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
					✓

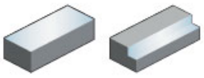
✓ Very suitable
✓ Suitable

System code B268 Cutting data B436 Nonstandard order B477

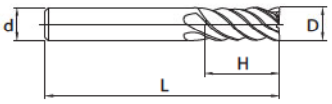
End mill long cutting edge

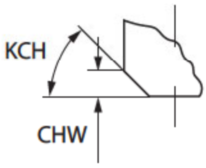
High-speed hard machining

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
					✓

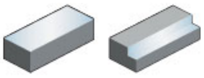
✓ Very suitable

✓ Suitable

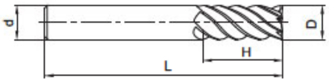
System code > B268 Cutting data > B436 Nonstandard order > B477

End mill **Hard machining**

HM-6E



- Factory standard
- Non-centre cutting
- Helix angle 45°



Article	✲	Dimensions [mm]				Teeth	Grade
		D	d (h6)	H	L		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
					✓

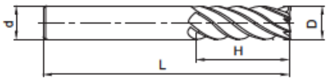
✓ Very suitable
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

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
					✓

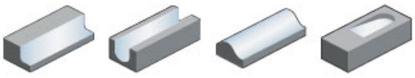
✓ Very suitable
✓ Suitable

System code B268 Cutting data B436 Nonstandard order B477

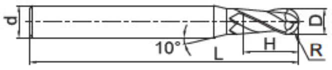
Ball nose cutter

Hard machining

HM-2B



- Factory standard
- Centre cutting
- Helix angle 35°



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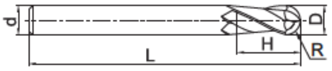


B

Article	✲	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			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
					✔

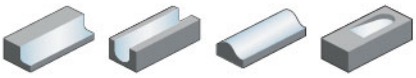
✔ Very suitable

✔ Suitable

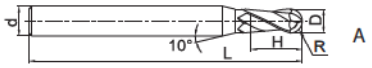
System code › B268 Cutting data › B436 Nonstandard order › B477

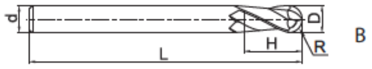
Ball nose cutter long shank **Hard machining**

HM-2BL



- Factory standard
- Centre cutting
- Helix angle 35°





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
					✔

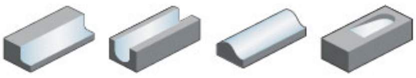
✔ Very suitable
✔ Suitable

System code B268 | Cutting data B436 | Nonstandard order B477

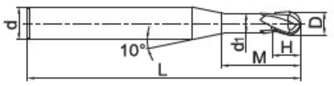
Ball nose cutter short cutting edge

Hard machining

HM-2BFP



- Factory standard
- Centre cutting
- Helix angle 35°



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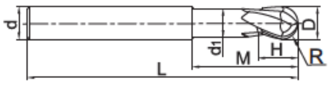


B

Article	✻	Dimensions [mm]							Teeth	Geometry	Grade
		R	D	d (h6)	d_1	H	M	L			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

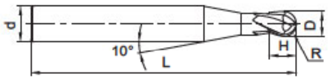
✓ Suitable

System code B268 Cutting data B436 Nonstandard order B477

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
					✓

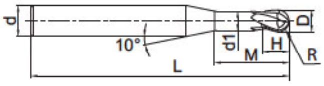
✓ Very suitable
✓ Suitable

System code B268 Cutting data B436 Nonstandard order B477

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
					✓

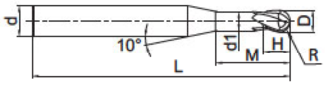
✓ Very suitable
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

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
					✓

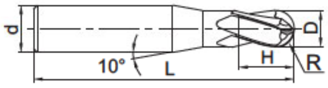
✓ Very suitable
✓ Suitable

System code › B268 Cutting data › B436 Nonstandard order › B477

Ball nose cutter **Hard machining**

HM-4B

- Factory standard
- Centre cutting
- Helix angle 35°



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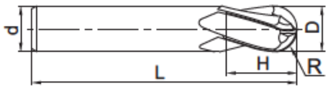


B

Article	✻	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			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
					✓

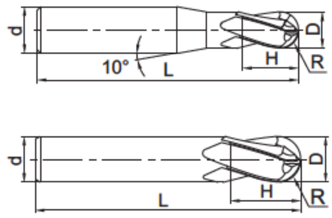
✓ Very suitable
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

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
					✓

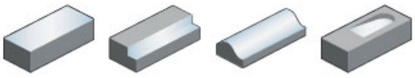
✓ Very suitable

✓ Suitable

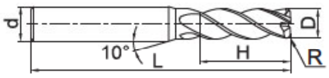
System code B268 Cutting data B436 Nonstandard order B477

Torus mill **Hard machining**

HM-4R



- Factory standard
- Centre cutting
- Helix angle 35°



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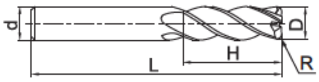


B

Article	✲	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			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

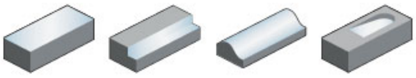
P	M	K	N	S	H
					✓

✓ Very suitable
✓ Suitable

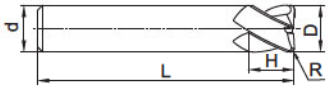
System code > B268 Cutting data > B436 Nonstandard order > B477

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
					✓

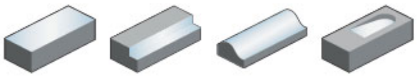
✓ Very suitable

✓ Suitable

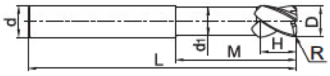
System code > B268 Cutting data > B436 Nonstandard order > B477

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

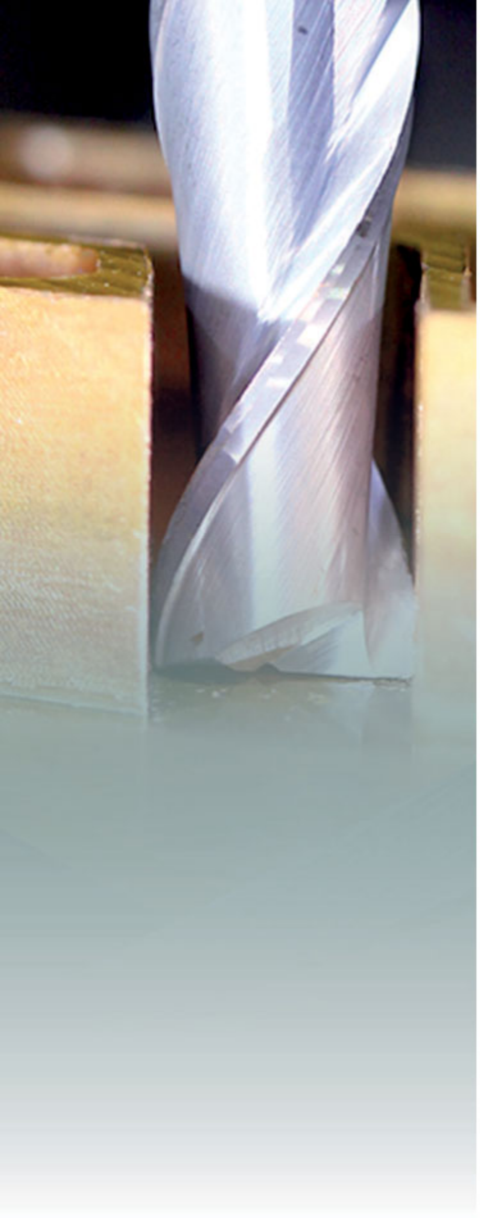
P	M	K	N	S	H
					✔

✔ Very suitable

✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

Notes



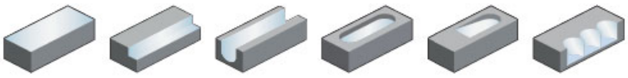
NM series

For machining of copper

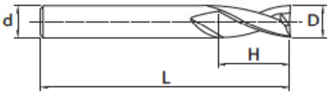
- For machining of copper and copper alloys (brass, bronze).
- Excellent sharpness of cutting edge for very good surface quality.
- End mills, ball nose cutters and mini cutters.
- Diameter range 0.5–20.0 mm

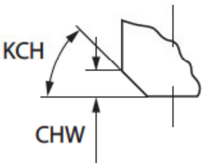
End mill **General machining of non-ferrous metals**

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
			✓		

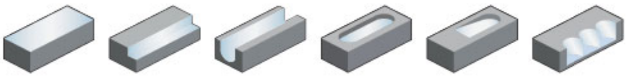
✓ Very suitable

✓ Suitable

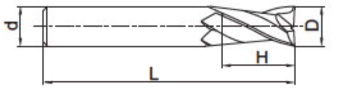
System code › B268 Cutting data › B436 Nonstandard order › B477

End mill — General machining of non-ferrous metals

NM-2E



- Factory standard
- Centre cutting
- Helix angle 35°



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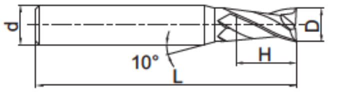


B

		Dimensions [mm]						Grade
Article	✲	D	d (h6)	H	L	Teeth	Geometry	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
			✓		

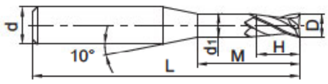
✓ Very suitable
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

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)	dd_1	H	M	L		KMG309
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-D0.5-M04		0.5	4	0.45	0.7	4	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-M06		0.8	4	0.75	1.2	6	50	2	●
NM-2EP-D0.8-M08		0.8	4	0.75	1.2	8	50	2	●
NM-2EP-D1.0-M08		1	4	0.95	1.5	8	50	2	●
NM-2EP-D1.0-M14		1	4	0.95	1.5	14	50	2	●
NM-2EP-D1.0-M04		1	4	0.95	1.5	4	50	2	●
NM-2EP-D1.0-M12		1	4	0.95	1.5	12	50	2	●
NM-2EP-D1.0-M10		1	4	0.95	1.5	10	50	2	●
NM-2EP-D1.0-M06		1	4	0.95	1.5	6	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-M14		2	4	1.95	3	14	50	2	●
NM-2EP-D2.0-M12		2	4	1.95	3	12	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-M06		2	4	1.95	3	6	50	2	●
NM-2EP-D2.0-M16		2	4	1.95	3	16	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-M10		3	6	2.85	4.5	10	50	2	●
NM-2EP-D3.0-M20		3	6	2.85	4.5	20	60	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
			✓		

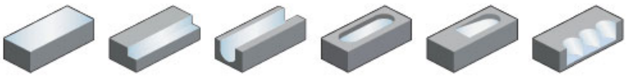
✓ Very suitable

✓ Suitable

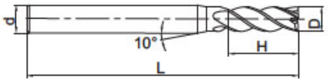
System code B268 Cutting data B436 Nonstandard order B477

End mill **General machining of non-ferrous metals**

NM-4E



- Factory standard
- Centre cutting
- Helix angle 35°



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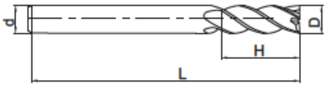


B

Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			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

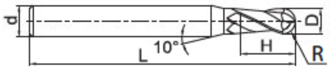
System code > B268
Cutting data > B436
Nonstandard order > B477

A Turning
B Milling
C Drilling
D Technical Information
E Index

Ball nose cutter General machining of non-ferrous metals

NM-2B

- Factory standard
- Centre cutting
- Helix angle 35°



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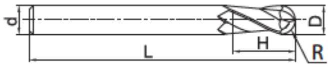


B

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

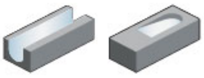
✔ Suitable

System code › B268 Cutting data › B436 Nonstandard order › B477

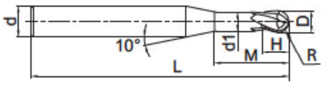
Ball nose cutter

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 > B268 Cutting data > B436 Nonstandard order > B477

Notes

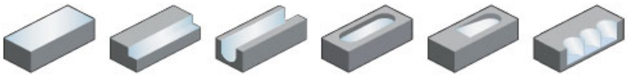
AL series

For machining of aluminium alloys

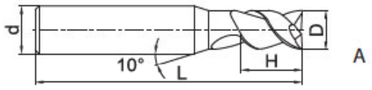
- **Newly developed geometries expand our standard program:**
  - **ALP for high-speed roughing**
  - **ALG for finishing with very good surface quality**
  - **AIR torus mills for ultra high-speed machining**
- **With our diamond-like carbon grade KMD401, tool life is significantly increased.**
- **End mills, ball nose cutters, torus mills and rippers**
- **Diameter range 1.0–20.0 mm**

End mill General machining of Al and Al alloys

AL-2E



- Factory standard
- Centre cutting
- Helix angle 55°



Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			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

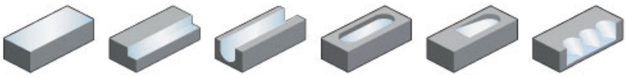
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

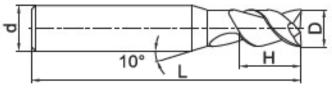
End mill long cutting edge

General machining of Al and Al alloys

AL-2EL



- Factory standard
- Centre cutting
- Helix angle 55°



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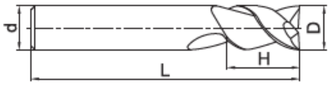


B

Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			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

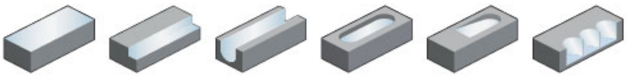
P	M	K	N	S	H
			✓		

✓ Very suitable
✓ Suitable

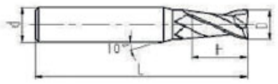
System code > B268 Cutting data > B436 Nonstandard order > B477

End mill General machining of Al and Al alloys

ALG-2E



- Factory standard
- Centre cutting
- Helix angle 30°



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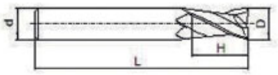


B

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

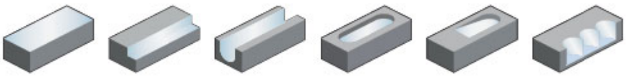
Application field

P	M	K	N	S	H
			✓		

✓ Very suitable
✓ Suitable

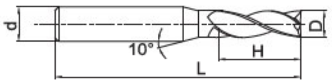
System code B268 Cutting data B436 Nonstandard order B477

End mill General machining of Al and Al alloys



AL-3E

- Factory standard
- Centre cutting
- Helix angle 45°



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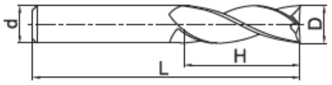


B

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

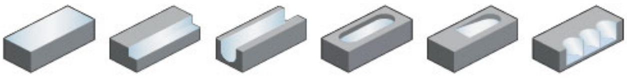
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

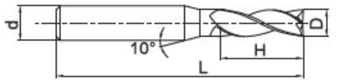
End mill long cutting edge

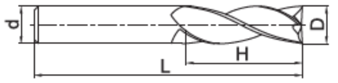
General machining of Al and Al alloys

AL-3EL



- Factory standard
- Centre cutting
- Helix angle 45°





Article	✲	Dimensions [mm]				Teeth	Geometry	Grade
		D	d (h6)	H	L			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
			✓		

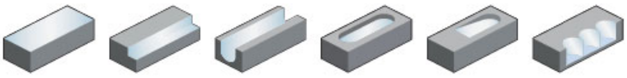
✓ Very suitable

✓ Suitable

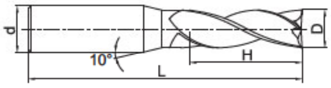
System code B268 Cutting data B436 Nonstandard order B477

End mill General machining of Al and Al alloys

ALG-3E



- Factory standard
- Centre cutting
- Helix angle 45°



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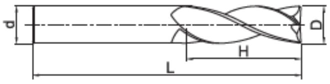


B

Article	✲	Dimensions [mm]				Teeth	Geometry	Grade	
		D	d (h6)	H	L			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 B268

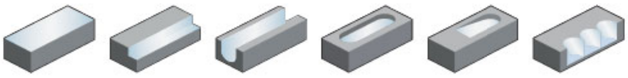
Cutting data B436

Nonstandard order B477

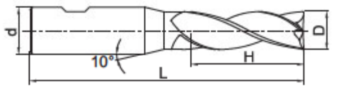
A Turning
B Milling
C Drilling
D Technical Information
E Index

End mill General machining of Al and Al alloys

ALG-3E-W



- Factory standard with weldon clamping surface
- Centre cutting
- Helix angle 45°



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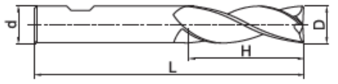


B

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

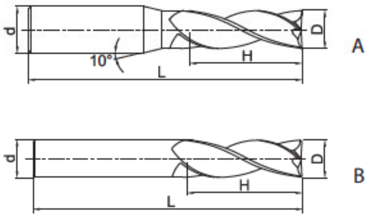
✓ Suitable

System code B268 Cutting data B436 Nonstandard order B477

End mill High-performance machining of Al and Al alloys

ALP-3E

- Factory standard
- Centre cutting
- Helix angle 35°



Article	✻	Dimensions [mm]				Teeth	Geometry	Grade	
		D	d (h6)	H	L			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

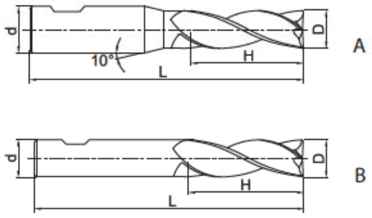
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

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]				Teeth	Geometry	Grade
		D	d (h6)	H	L			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
			✓		

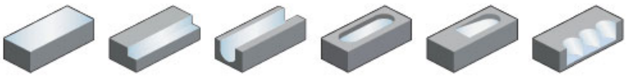
✓ Very suitable

✓ Suitable

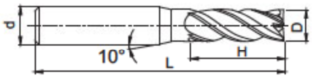
System code > B268 Cutting data > B436 Nonstandard order > B477

End mill **High-performance machining of Al and Al alloys**

ALP-4E



- Factory standard
- Centre cutting
- Helix angle 38°



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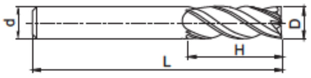


B

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

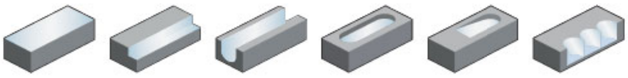
P	M	K	N	S	H
			✓		

✓ Very suitable
✓ Suitable

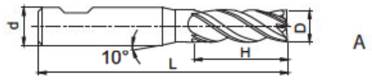
System code › B268   Cutting data › B436   Nonstandard order › B477

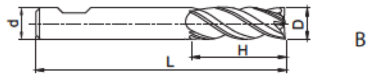
End mill High-performance machining of Al and Al alloys

ALP-4E-W



- Factory standard with weldon clamping surface
- Centre cutting
- Helix angle 38°





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

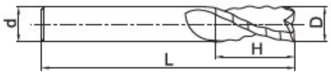
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

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-D20.0		20	20	45	100	3	●

● Ex stock ○ On demand

✲ With internal cooling

Application field

P	M	K	N	S	H
			✓		

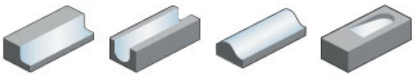
✓ Very suitable
✔ Suitable

System code B268 Cutting data B436 Nonstandard order B477

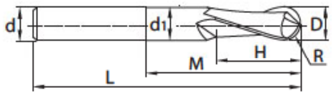
Ball nose cutter

High performance machining of heat-resistant alloys

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

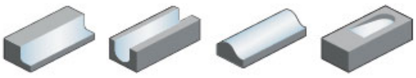
✓ Suitable

System code B268 Cutting data B436 Nonstandard order B477

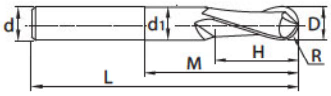
Ball nose cutter long shank

High performance machining of heat-resistant alloys

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

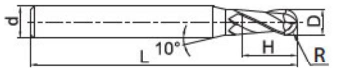
System code › B268 Cutting data › B436 Nonstandard order › B477

Ball nose cutter

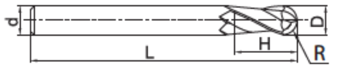
General machining of Al and Al alloys

AL-2B

- Factory standard
- Centre cutting
- Helix angle 35°



A



B

Article	✲	Dimensions [mm]					Teeth	Geometry	Grade
		R	D	d (h6)	H	L			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

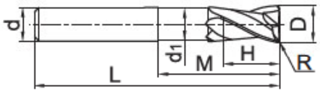
System code > B268   Cutting data > B436   Nonstandard order > B477

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

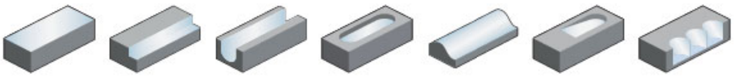
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

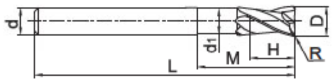
Torus mill long shank

General machining of Al and Al alloys

AL-2RL-AIR



- Factory standard
- Centre cutting
- Helix angle 30°



Article	✻	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		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

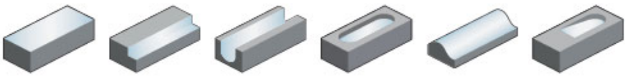
P	M	K	N	S	H
			✓		

✓ Very suitable
✓ Suitable

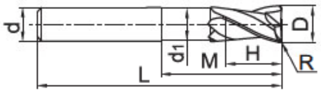
System code > B268 Cutting data > B436 Nonstandard order > B477

End 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

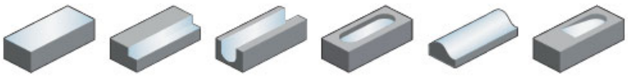
P	M	K	N	S	H
			✓		

✓ Very suitable
✓ Suitable

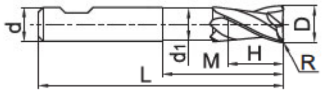
System code B268 Cutting data B436 Nonstandard order B477

End 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		8		75	2	●
ALG-2R-D6.0R0.5-W		0.5	6	6		8		75	2	●
ALG-2R-D6.0R1.0-W		1	6	6		8		75	2	●
ALG-2R-D8.0R0.3-W		0.3	8	8		10		75	2	●
ALG-2R-D8.0R0.5-W		0.5	8	8		10		75	2	●
ALG-2R-D8.0R1.0-W		1	8	8		10		75	2	●
ALG-2R-D10.0R0.5-W		0.5	10	10		12		100	2	●
ALG-2R-D10.0R1.0-W		1	10	10		12		100	2	●
ALG-2R-D10.0R1.6-W		1.6	10	10		12		100	2	●
ALG-2R-D10.0R2.5-W		2.5	10	10		12		100	2	●
ALG-2R-D12.0R0.5-W		0.5	12	12		15		100	2	●
ALG-2R-D12.0R1.0-W		1	12	12		15		100	2	●
ALG-2R-D12.0R1.6-W		1.6	12	12		15		100	2	●
ALG-2R-D12.0R2.5-W		2.5	12	12		15		100	2	●
ALG-2R-D12.0R3.2-W		3.2	12	12		15		100	2	●
ALG-2R-D12.0R4.0-W		4	12	12		15		100	2	●
ALG-2R-D16.0R1.0-W		1	16	16		15		125	2	●
ALG-2R-D16.0R1.6-W		1.6	16	16		15		125	2	●
ALG-2R-D16.0R2.5-W		2.5	16	16		15		125	2	●
ALG-2R-D16.0R3.2-W		3.2	16	16		15		125	2	●
ALG-2R-D16.0R4.0-W		4	16	16		15		125	2	●
ALG-2R-D16.0R6.3-W		6.3	16	16		15		125	2	○
ALG-2R-D20.0R1.0-W		1	20	20		20		125	2	●
ALG-2R-D20.0R1.6-W		1.6	20	20		20		125	2	●
ALG-2R-D20.0R2.5-W		2.5	20	20		20		125	2	●
ALG-2R-D20.0R3.2-W		3.2	20	20		20		125	2	●
ALG-2R-D20.0R4.0-W		4	20	20		20		125	2	●
ALG-2R-D20.0R6.3-W		6.3	20	20		20		125	2	○
ALG-2R-D25.0R6.3-W		6.3	25	25		25		150	2	○

● Ex stock ○ On demand

✲ With internal cooling

Application field

P	M	K	N	S	H
			✓		

✓ Very suitable

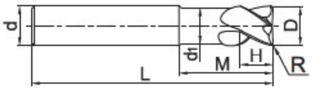
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

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
			✓		

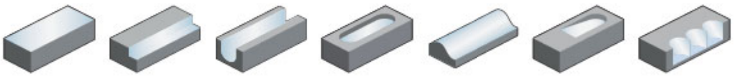
✓ Very suitable
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

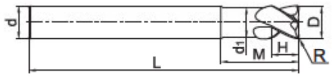
Torus mill long shank

General machining of Al and Al alloys

AL-3RL-AIR



- Factory standard
- Centre cutting
- Helix angle 30°



Article	✻	Dimensions [mm]							Teeth	Grade
		R	D	d (h6)	d_1	H	M	L		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 > B268
Cutting data > B436
Nonstandard order > B477

HPC series

High Performance Cutter (HPC)

- For roughing and finishing of steel up to 55 HRC, stainless steel and cast iron.
- Geometry with unequal helix angle (38°/41°) and unequal pitch for smooth machining without vibrations.
- End mills and torus mills
- Diameter range 4.0–20.0 mm

5501R38414GM

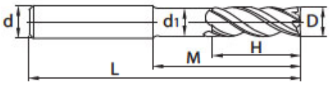
5502R38414GM

5502R38414GM-R

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
✓	✓	✓			✓

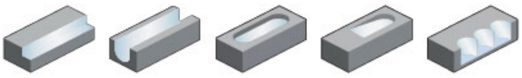
✓ Very suitable

✓ Suitable

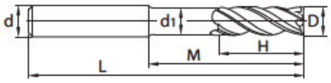
System code B268 Cutting data B436 Nonstandard order B477

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
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

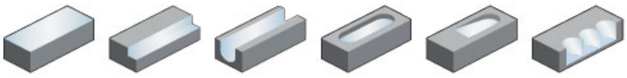
Application field

P	M	K	N	S	H
✔	✔	✔			✓

✔ Very suitable
✓ Suitable

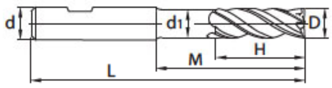
System code > B268 Cutting data > B436 Nonstandard order > B477

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

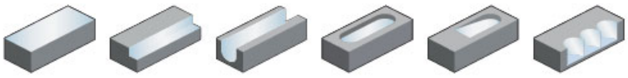
✓ Suitable

System code › B268 Cutting data › B436 Nonstandard order › B477

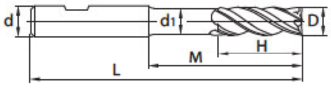
End mill long cutting edge

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
5602R38414GM-0300L		3	6	2.7	6.5	15	58	4	○
5602R38414GM-0400L		4	6	3.7	8.5	20	62	4	○
5602R38414GM-0400		4	6	3.7	11	19	57	4	●
5602R38414GM-0500		5	6	4.7	13	21	57	4	●
5602R38414GM-0500L		5	6	4.7	10.5	25	70	4	○
5602R38414GM-0600L		6	6	5.7	13	30	70	4	○
5602R38414GM-0600		6	6	5.7	13	21	57	4	●
5602R38414GM-0800		8	8	7.7	19	27	63	4	●
5602R38414GM-0800L		8	8	7.7	17	40	80	4	○
5602R38414GM-1000		10	10	9.5	22	32	72	4	●
5602R38414GM-1000L		10	10	9.5	21	50	94	4	○
5602R38414GM-1200		12	12	11.5	26	38	83	4	●
5602R38414GM-1200L		12	12	11.5	25	60	109	4	○
5602R38414GM-1400		14	14	13.5	26	38	83	4	●
5602R38414GM-1600L		16	16	15.5	33	80	132	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
✔	✔	✔			✓

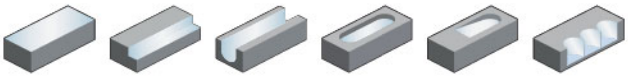
✔ Very suitable
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

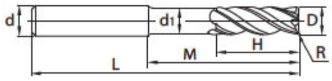
Torus mill long cutting edge

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

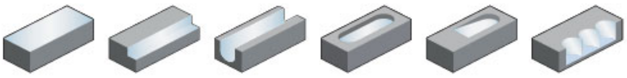
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

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 > B268
Cutting data > B436
Nonstandard order > B477

Notes

UM series

High Speed Cutter (HSC)

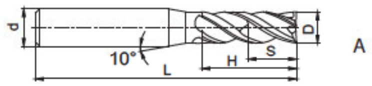
- For roughing and finishing of steel up to 55 HRC, stainless steel and cast iron with high metal removal rate.
- Optimised geometry with unequal helix angle (38°/41°) and unequal pitch.
- End mills and torus mills
- Diameter range 4.0–20.0 mm

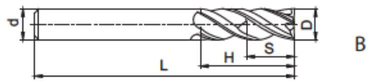
Solid carbide milling UM series

End mill HSC/PHC machining

UM-4E

- Factory standard
- Centre cutting
- Helix angle 38°/41°





Article	✲	Dimensions [mm]					Teeth	Geometry	Grade
		D	d (h6)	H	L	S			KMG405
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
✓	✓	✓			✓

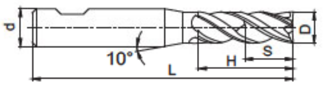
✓ Very suitable
✓ Suitable

System code › B268
Cutting data › B436
Nonstandard order › B477

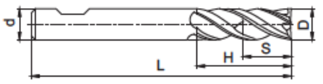
End mill HSC/HPC machining

UM-4E-W

- Factory standard with weldon clamping surface
- Centre cutting
- Helix angle 38°/41°



A



B

Article	✻	Dimensions [mm]					Teeth	Geometry	Grade
		D	d (h6)	H	L	S			KMG405
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

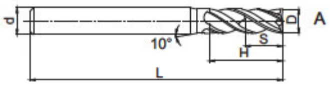
System code > B268 Cutting data > B436 Nonstandard order > B477

End mill long cutting edge

HSC/HPC machining

UM-4EL

- Factory standard
- Centre cutting
- Helix angle 38°/41°



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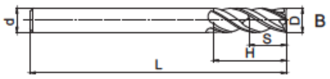


B

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

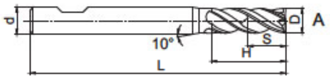
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

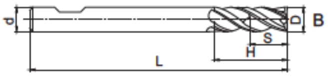
End mill long cutting edge HSC/HPC machining

UM-4EL-W

- Factory standard with weldon clamping surface
- Centre cutting
- Helix angle 38°/41°



A



B

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

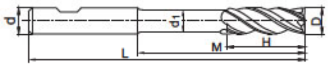
System code > B268 Cutting data > B436 Nonstandard order > B477

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
✓	✓	✓			✓

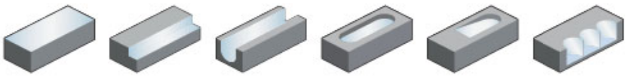
✓ Very suitable
✓ Suitable

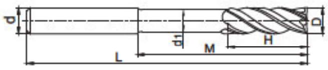
System code B268
Cutting data B436
Nonstandard order B477

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

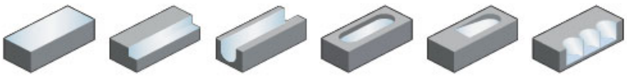
✓ Suitable

System code › B268 Cutting data › B436 Nonstandard order › B477

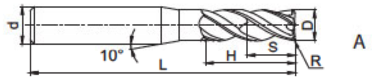
Torus mill

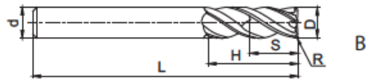
HSC/HPC machining

UM-4R



- Factory standard
- Centre cutting
- Helix angle 38°/41°





Article	✲	Dimensions [mm]						Teeth	Geometry	Grade
		R	D	d (h6)	H	L	S			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-D16.0R1.0		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

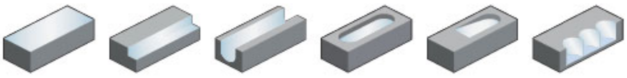
✓ Suitable

System code > B268 Cutting data > B436 Nonstandard order > B477

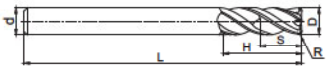
Torus mill long shank

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
✔	✔	✔			✓

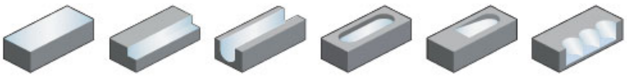
✔ Very suitable

✓ Suitable

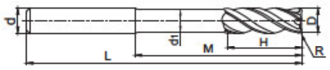
System code > B268 Cutting data > B436 Nonstandard order > B477

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 › B268 Cutting data › B436 Nonstandard order › B477

VSM series

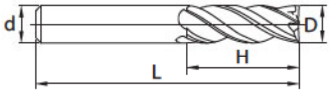
With sharp cutting edge for heat-resistant alloys

- For roughing and finishing of steel, stainless steel and heat-resistant alloys with high metal removal rates.
- Sharp cutting edge with unequal helix angle (38°/41°) and unequal pitch.
- Smooth machining without vibrations.
- End mills and torus mills
- Diameter range 4.0–20.0 mm

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

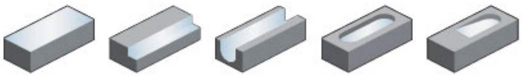
Application field

P	M	K	N	S	H
✓	✓			✓	

✓ Very suitable
✓ Suitable

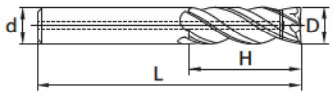
System code > B268 Cutting data > B436 Nonstandard order > B477

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]				Teeth	Grade
		D	d (h6)	H	L		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
✓	✔			✔	

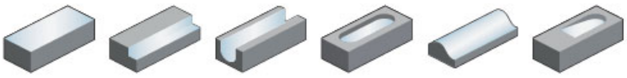
✔ Very suitable

✓ Suitable

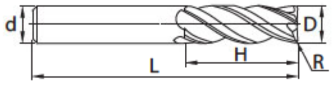
Torus mill

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
✓	✓			✓	

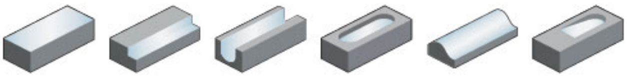
✓ Very suitable

✓ Suitable

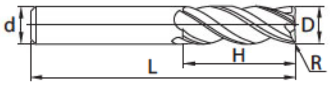
System code > B268 Cutting data > B436 Nonstandard order > B477

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-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 > B268 Cutting data > B436 Nonstandard order > B477

Notes

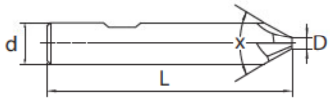
FM series

Deburring Cutter

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
✓	✓	✓	✓		

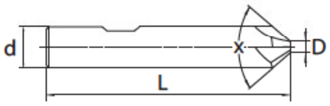
✓ Very suitable
✓ Suitable

System code B268 Cutting data B436 Nonstandard order B477

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	○
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

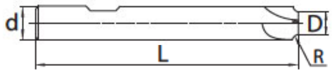
System code B268 Cutting data B436 Nonstandard order B477

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 › B268 Cutting data › B436 Nonstandard order › B477

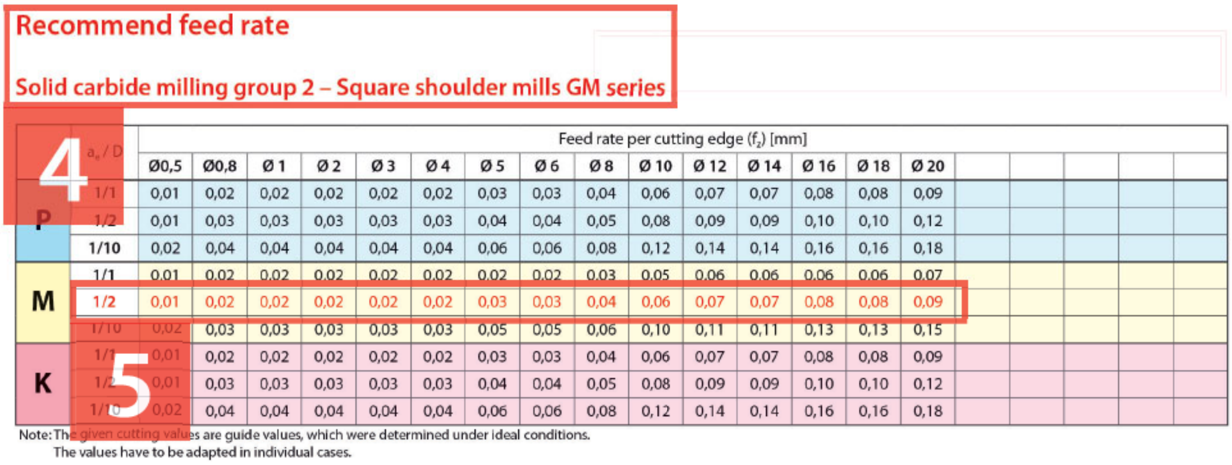
Notes

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	$0<x\leq 20$	<0,5 x D	$0<x<3$	0,1 x D	$0<x\leq 20$	<0,5 x D
						$3\leq x\leq 20$	0,8 x D			$3\leq x\leq 20$	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]	$a_{e\,max}$
						$0<x<3$	0,1xD	$0<x\leq20$	<0,5xD	$0<x<3$	0,1xD	$0<x\leq20$	<0,5xD
						$3\leq x\leq20$	0,8xD			$3\leq x\leq20$	0,8xD		
						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 B460.
For examples of material for cutting tool groups view page D22.

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]	$a_{e\,max}$
$0<x<3$	0,1xD	$0<x\leq20$	<0,5xD	$0<x<3$	0,1xD	$0<x\leq20$	<0,5xD	$0<x<3$	0,1xD	$0<x\leq20$	<0,5xD	$0<x<3$	0,1xD	$0<x\leq20$	<0,5xD	$0<x<3$	0,1xD	$0<x\leq20$	<0,5xD
$3\leq x\leq20$	0,8xD			$3\leq x\leq20$	0,8xD			$3\leq x\leq20$	0,8xD			$3\leq x\leq20$	0,8xD			$3\leq x\leq20$	0,8xD		
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

Solid carbide milling Recommended cutting data

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]	$a_{e\,max}$
						$0<x<3$	0,1xD	$0<x\leq20$	<0,5xD	$0<x<3$	0,1xD	$0<x\leq20$	<0,5xD
						$3\leq x\leq20$	0,8xD			$3\leq x\leq20$	0,8xD		
						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 B460.
For examples of material for cutting tool groups view page D22.

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	0,1xD	0<x≤20	<0,5xD			0<x≤20	<0,5xD			0<x≤20	<0,5xD	0<x<3	0,1xD	0<x≤20	<0,5xD				
3≤x≤20	0,8xD											3≤x≤20	0,8xD						
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

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	0,1xD	0<x≤20	<0,5xD
										3≤x≤20	0,8xD		
						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								

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Feed rate recommendations on page B460.
For examples of material for cutting tool groups view page D22.

	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]	$a_{e\,max}$
								$0 < x \leq 20$	0,05xD			$0 < x \leq 20$	0,05xD
						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								

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Feed rate recommendations on page B460.
For examples of material for cutting tool groups view page D22.

	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	0,05xD			0<x≤20	0,05xD											0<x≤20	0,05xD
	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]							
						NM-2E 5502R402NM 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 B460.
For examples of material for cutting tool groups view page D22.

End mill – AL series

	Material group	Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						AL-1E AL-2E AL-3E (W) ALG-2E				AL-2EL AL-3EL			
						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		
						YK30F / YK40F				YK30F			
						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	920	1100	1200	4	830	990	1080	4
		hardenable	hardened	100	23	555	660	720	4	500	595	650	4
	Cast aluminium alloys	≤ 12 % Si, cannot be hardened		75	24	370	440	480	4	335	400	435	4
		≤ 12 % Si, hardenable	hardened	90	25	460	550	600	4	415	495	540	4
		> 12 % Si, cannot be hardened		130	26	140	165	180	4	125	150	165	4
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27	280	330	360	4	250	300	325	4
		CuZn, CuSnZn		90	28	325	385	420	4	295	350	380	4
		CuSn, Pb-free copper, electrolytic copper		100	29	280	330	360	4	250	300	325	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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Starting values for cutting speed v_c [m/min]																			
ALG-3E ALP-3E ALP-4E				ALG-3E (W) ALP-3E (W) ALP-4E (W)				5566R302NH AL-2B				AL-2R-AIR AL-3R-AIR				ALG-2R (W)			
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		
YK40F				KMD401				YK30F / YK40F				YK40F				KMD401			
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
920	1100	1200	4	1200	1430	1560	4		1400	1550	4	1150	1380	1500	8	1495	1795	1950	8
555	660	720	4	725	860	940	4		840	930	4	690	830	900	8	900	1080	1170	8
370	440	480	4	485	575	625	4		560	620	4	460	555	600	8	600	725	780	8
460	550	600	4	600	715	780	4		700	775	4	575	690	750	8	750	900	975	8
140	165	180	4	185	215	235	4		210	235	4	175	210	225	8	230	275	295	8
280	330	360	4	365	430	470	4		420	465	4	345	415	450	8	450	540	585	8
325	385	420	4	425	505	550	4		490	545	4	405	485	525	8	530	635	685	8
280	330	360	4	365	430	470	4		420	465	4	345	415	450	8	450	540	585	8

End mill – AL series

	Material group	Composition / structure / heat treatment		Brinell hardness HB	Machining group	Starting values for cutting speed v_c [m/min]							
						AL-2RL-AIR AL-3RL-AIR							
						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						
						YK40F							
						a_e / D							
						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	1035	1250	1350	8				
		hardenable	hardened	100	23	625	750	810	8				
	Cast aluminium alloys	≤ 12% Si, cannot be hardened		75	24	415	500	540	8				
		≤ 12% Si, hardenable	hardened	90	25	520	625	675	8				
		> 12% Si, cannot be hardened		130	26	160	190	205	8				
	Copper and copper alloys (bronze/brass)	machining steel, PB> 1%		110	27	315	375	405	8				
		CuZn, CuSnZn		90	28	365	440	475	8				
		CuSn, Pb-free copper, electrolytic copper		100	29	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.
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Feed rate recommendations on page B460.
For examples of material for cutting tool groups view page D22.

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-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]	$a_{e\,max}$
						$0<x<3$	0,15xD	$0<x\le20$	0,15xD	$0<x<3$	0,15xD	$0<x\le20$	0,15xD
						$3\le x<6$	0,3xD			$3\le x<6$	0,3xD		
						$6\le x\le20$	0,5xD			$6\le x\le20$	0,5xD		
						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.
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Feed rate recommendations on page B460.
For examples of material for cutting tool groups view page D22.

	Starting values for cutting speed v_c [m/min]																			
	PM-6E				PM-6EL				PM-2B 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	0.15xD			0<x≤20	0.15xD												
	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

Solid carbide milling Recommended cutting data

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-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 5xD	0<x≤20	0.15xD	0<x<3	0,1 5xD	0<x≤20	0.15xD
						3≤x<6	0,3xD			3≤x<6	0,3xD		
						6≤x≤20	0,5xD			6≤x≤20	0,5xD		
						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								

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Feed rate recommendations on page B460.
For examples of material for cutting tool groups view page D22.

	Starting values for cutting speed v_c [m/min]			
	PM-4H PM-4HL			
			Shoulder milling	
			Ø [mm]	$a_{e\,max}$
			0<x≤20	0.15xD
	KMG405			
	a_e / D			
	1/1	1/2	1/10	f-group
		210	270	6
		200	260	6
		150	190	6
		130	165	6
		120	150	6
		160	205	6
		130	165	6
		120	150	6
		110	145	6
		150	190	6
		115	145	6
		70	90	6
		60	80	6
		75	95	6
		60	80	6
		155	200	6
		130	165	6
		190	245	6
		150	190	6
		210	270	6
		170	220	6
		100	125	1
		130	165	1

Solid carbide milling

Recommended cutting data

End mill – UM/HPC/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 (-R) long series 5502R38414GM (-R) long series 5602R38414GM (-R) long series			
						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				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	250	300	380	9	190	225	285	9
		approx. 0,45 % C	annealed	190	2	240	285	365	9	185	215	275	9
		approx. 0,45 % C	tempered	250	3	175	210	270	9	135	160	200	9
		approx. 0,75 % C	annealed	270	4	150	180	230	9	115	135	175	9
		approx. 0,75 % C	tempered	300	5	140	165	210	9	105	125	160	9
	Low-alloyed steel		annealed	180	6	190	225	285	9	145	170	215	9
			tempered	275	7	150	180	230	9	115	135	175	9
			tempered	300	8	140	165	210	9	105	125	160	9
			tempered	350	9	130	160	200	9	100	120	150	9
	High-alloyed steel and high-alloyed tool steel		annealed	200	10	175	210	270	9	135	160	200	9
			hardened and tempered	325	11	135	160	205	9	105	120	155	9
M	Stainless steel	ferritic/martensitic	annealed	200	12	80	100	125	9	65	75	95	9
		martensitic	tempered	240	13	70	85	110	9	55	65	80	9
		austenitic	quench hardened	180	14	85	105	130	9	65	80	100	9
		austenitic-ferritic		230	15	70	85	110	9	55	65	80	9
K	Grey cast iron	perlitic/ferritic		180	16	185	220	280	9	140	165	210	9
		perlitic (martensitic)		260	17	150	180	230	9	115	135	175	9
	Cast iron with spheroidal graphite	ferritic		160	18	225	270	345	9	175	205	260	9
		perlitic		250	19	175	210	270	9	135	160	200	9
	Malleable cast iron	ferritic		130	20	250	300	380	9	190	225	285	9
		perlitic		230	21	200	240	305	9	155	180	230	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				
			hardened and tempered	60 HRC	38								
	Hard cast iron		cast	400	39	135	165	205	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								

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Feed rate recommendations on page B460.
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Starting values for cutting speed v_c [m/min]															
UM-4E UM-4E-W UM-4R				UM-4EL UM-4EL-W UM-4ELP UM-4EFP				UM-4RL UM-4RFP				VSM-4E VSM-4R			
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]	$a_{e\,max}$				
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
12≤x≤20	1,5xD			12≤x≤20	1,5xD			12≤x≤20	1,5xD			12≤x≤20	1,5xD		
KMG405				KMG405				KMG405				KMG405			
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
250	300	380	9	150	180	230	9	150	180	230	9	145	180	250	10
240	285	365	9	145	175	220	9	145	175	220	9	140	175	240	10
175	210	270	9	105	130	165	9	105	130	165	9	105	130	175	10
150	180	230	9	90	110	140	9	90	110	140	9	90	110	150	10
140	165	210	9	85	100	130	9	85	100	130	9	80	100	140	10
190	225	285	9	115	135	175	9	115	135	175	9	110	135	190	10
150	180	230	9	90	110	140	9	90	110	140	9	90	110	150	10
140	165	210	9	85	100	130	9	85	100	130	9	80	100	140	10
130	160	200	9	80	95	120	9	80	95	120	9	80	95	130	10
175	210	270	9	105	130	165	9	105	130	165	9	105	130	175	10
135	160	205	9	80	100	125	9	80	100	125	9	80	100	135	10
80	100	125	9	50	60	75	9	50	60	75	9	50	60	80	10
70	85	110	9	45	55	65	9	45	55	65	9	45	55	70	10
85	105	130	9	55	65	80	9	55	65	80	9	50	65	85	10
70	85	110	9	45	55	65	9	45	55	65	9	45	55	70	10
185	220	280	9	110	135	170	9	110	135	170	9				
150	180	230	9	90	110	140	9	90	110	140	9				
225	270	345	9	135	165	210	9	135	165	210	9				
175	210	270	9	105	130	165	9	105	130	165	9				
250	300	380	9	150	180	230	9	150	180	230	9				
200	240	305	9	120	145	185	9	120	145	185	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 B460.
For examples of material for cutting tool groups view page D22.

Recommended feed rate

Solid carbide milling group 1 – Square shoulder mills PM 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

	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/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

	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

	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

	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 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

	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.