



INDEXABLE MILLING

MIQOR
tools



**SMARTER
TOOLS FOR
MILLING**

LSAB Group has long and solid experience of the market's need for cutting tools for the wood and metal industry. We are now broadening our offering with our own brand and selected products.

SMART MILLING TOOLS

We have decided to look for quality and affordable products. And we find them, because we know what makes a difference. Now we launch a wide range of products for indexable milling. That range has passed the eye of the needle in terms of price and quality.

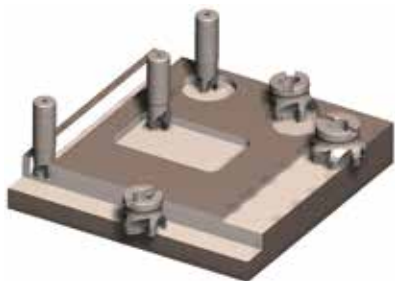










VALUABLE AND SMART TOOLS

The product price is based on performance and quality, not on brand. As for the quality of the product, it is neither too low nor too high, because you do not want to pay for something you do not need. We take part in the development, take advantage of innovations and improvements that make a difference in your production costs.

A handwritten signature in black ink, appearing to read 'Hans Ekholm'.


HANS EKHOLM
MIQOR TOOLS

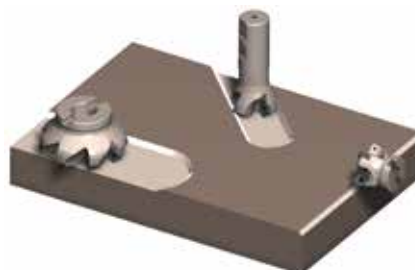


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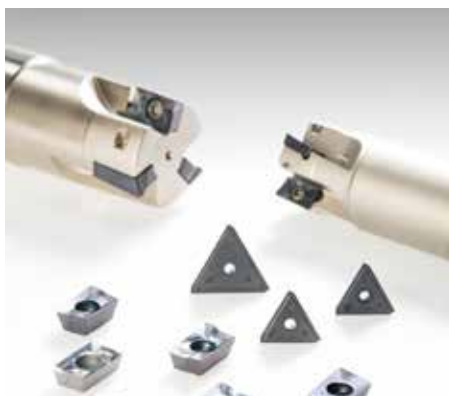
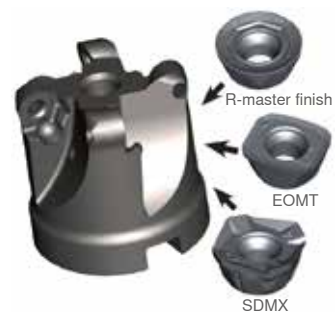
	Milling System	Page
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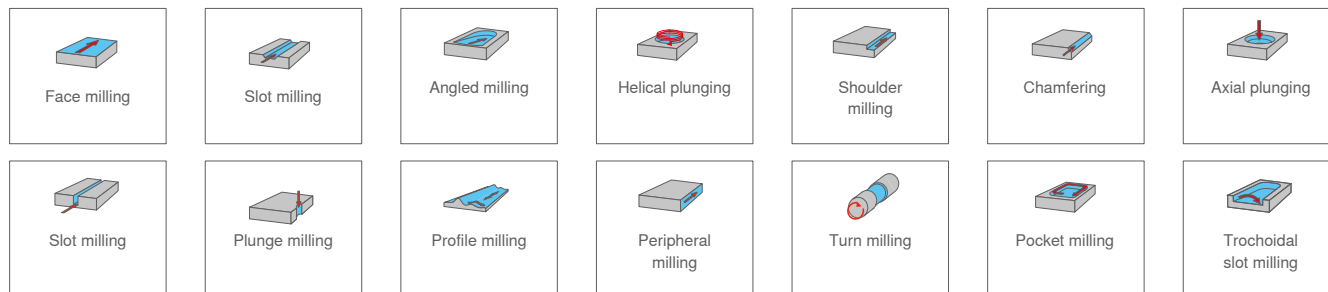
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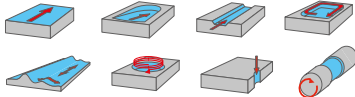



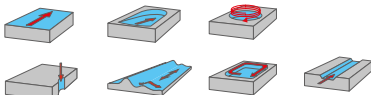

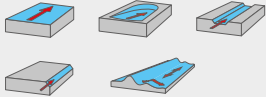
SHOULDERING/FACE MILLING

Possible applications



Application		Machining operations	Page
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FORM MILLING/HIGH FEED CUTTING/ MULTIPLE APPLICATIONS

Application	Machining operations		Page
Form milling			P 54 – P 63
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Multiple applications			P 80 – P 84

A large, light orange, semi-transparent letter 'Q' is centered on the page. The word 'PRODUCTS' is written in white, bold, sans-serif capital letters across the middle of the 'Q'.









PRODUCTS





OVERVIEW APKT... APHT...

Application

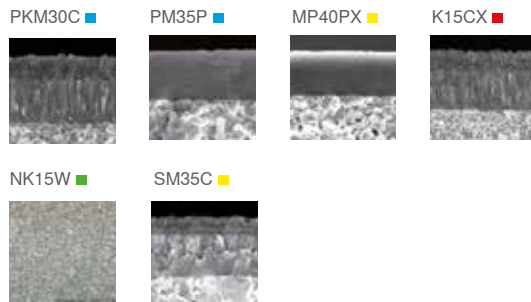
- | | |
|--|--|
| 1) Face milling
 | 2) Slot milling
 |
| 3) Peripheral milling
 | 4) Axial plunging
 |
| 5) Shoulder milling
 | 6) Helical plunge milling
 |
| 7) Pocket milling
 | 8) Helical plunging
 |

Geometry

RP: Steel
FU: Stainless Steel
GK: Cast iron
SN: Aluminium
SR: Specific radius

Grade

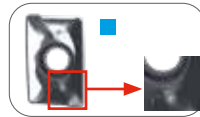
Standard grades



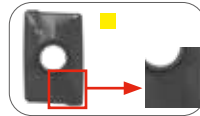
2 effective cutting edges



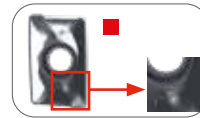
Which geometry to use?



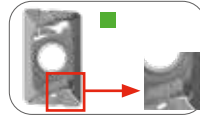
RP
 Strong cutting edge for general steel applications and tough conditions milling.



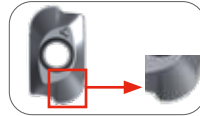
FU
 Sharp cutting edge for general stainless steel applications and for finishing in steels.



GK
 Strong cutting edge for cast iron applications.



SN
 Extremely sharp cutting edge for aluminium and non-ferrous metals.







SR
 Specific radius.

AVAILABLE RANGE APKT10

Insert	Designation	Grade	Geometry	Material number
	APKT1003PDERRP	PKM30C	...-RP	12384796
	APKT1003PDERRP	PM35P	...-RP	14534961
	APKT1003PDERFU	MP40PX	...-FU	14534962
	APKT1003PDERFU	SM35C	...-FU	11582506
	APKT1003PDERGK	K15CX	...-GK	14641285
	APHT100302FRSN	NK15W	...-SN	14617035
	APHT100304FRSN	NK15W	...-SN	14617031
	APHT100308FRSN	NK15W	...-SN	11348849
	APKT100308ERSR	PM35P	...-SR	12234997
	APKT100308ERSR	MP40PX	...-SR	14641330
	APKT100312ERSR	PM35P	...-SR	14652659
	APKT100312ERSR	MP40PX	...-SR	14652660
	APKT100316ERSR	PM35P	...-SR	14641303
	APKT100316ERSR	MP40PX	...-SR	14641333
	APKT100330ERSR	PM35P	...-SR	14641320
	APKT100330ERSR	MP40PX	...-SR	14641335

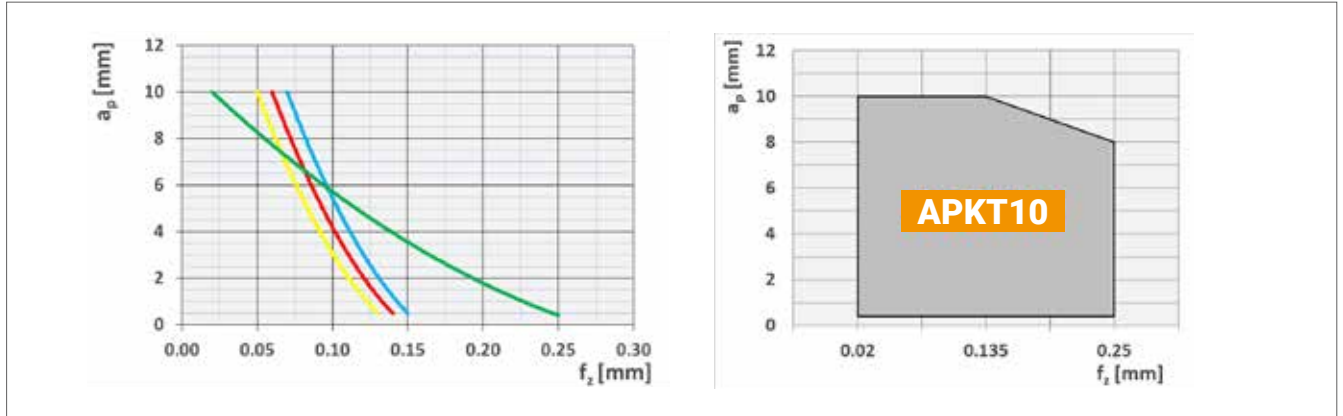


Body	Designation	∅ Milling cutter [mm]	z	Material number
	HQ2D012Z01B16A10L79-24	12	1	14655180
	HQ2D016Z02B16A10L80-25	16	2	12411773
	HQ2D020Z03B20A10L85-25	20	3	12411768
	HQ2D025Z04B25A10L95-32	25	4	12411777
	HQ2D032Z05B32A10L105-40	32	5	12411783
	HQ2D016Z02M08A10L25	16	2	14655181
	HQ2D020Z03M10A10L30	20	3	12411792
	HQ2D025Z04M12A10L35	25	4	12411797
	HQ2D032Z05M16A10L40	32	5	12411799
	HQ2D040Z04S16A10L40	40	4	14655178
	HQ2D040Z06S16A10L40	40	6	12630624
	HQ2D050Z05S22A10L40	50	5	14654216
	HQ2D050Z08S22A10L40	50	8	12630633
	HQ2D063Z06S22A10L40	63	6	14654218
	HQ2D063Z09S22A10L40	63	9	12630637
	HQ2D080Z07S27A10L50	80	7	14655179
	HQ2D080Z10S27A10L50	80	10	12630638
	HQ2D100Z12S32A10L50	100	12	12630640

Spare parts	Designation	Torque moment [Nm]	Material number
	M2.5 x 5.6 – T08+ (only for A/B + M)	1.6	11114238
	M2.5 x 7.3 – T08+ (only for S)	1.6	11114242

CUTTING DATA APKT10


Starting parameters:








Grades and materials:

Grades and materials:				Cutting data		
Material group		Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]
P	Steel	RP	PKM30C	220 – 60	0.07 – 0.15	10 – 0.5
		SR	PM35P		0.1 – 0.17	10 – 1.6
M	Stainless steel	FU	MP40PX	200 – 60	0.05 – 0.13	10 – 0.5
		SR	SM35C		0.1 – 0.17	10 – 1.6
K	Cast iron	GK	K15CX	320 – 100	0.1 – 0.17	10 – 0.5
		SR				
N	Non-ferrous	SN	NK15W	< 2000	0.02 – 0.14	10 – 0.2

AVAILABLE RANGE APKT16

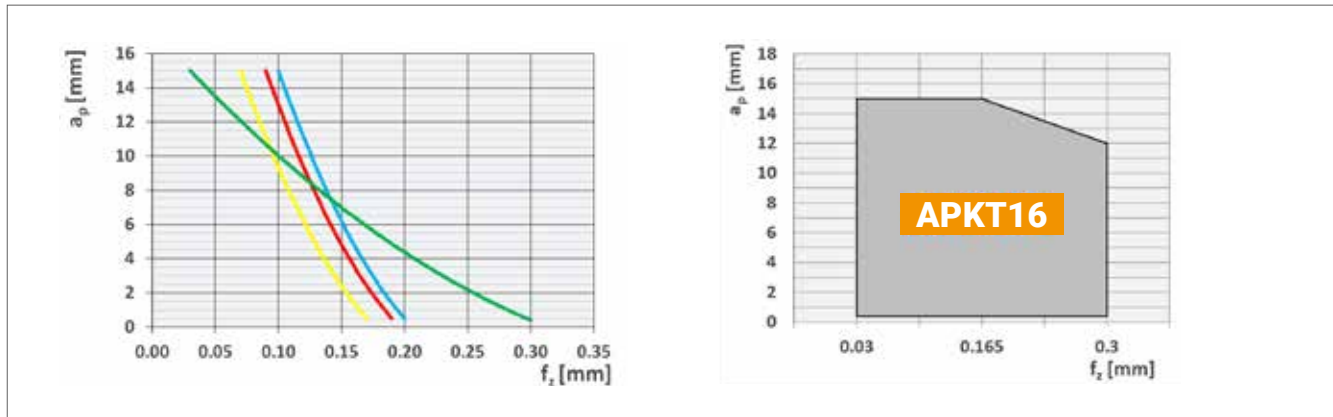
Insert	Designation	Grade	Geometry	Material number
	APKT1604PDERRP	PKM30C	...-RP	14641339
	APKT1604PDERRP	PM35P	...-RP	14534966
	APKT1604PDERFU	MP40PX	...-FU	14534968
	APKT1604PDERFU	SM35C	...-FU	11582503
	APKT1604PDERGK	K15CX	...-GK	14641345
	APHT1604PDFRSN	NK15W	...-SN	11348852
	APKT160416ERSR	PM35P	...-SR	12067441
	APKT160416ERSR	MP40PX	...-SR	14641347
	APKT160416ERSR	K15CX	...-SR	14652661
	APKT160424ERSR	PM35P	...-SR	12067437
	APKT160424ERSR	MP40PX	...-SR	14641349
	APKT160432ERSR	PM35P	...-SR	12067435
	APKT160432ERSR	MP40PX	...-SR	14641353
	APKT160440ERSR	MP40PX	...-SR	14677925
	APKT160448ERSR	PM35P	...-SR	12314049
	APKT160448ERSR	MP40PX	...-SR	14641361

Body	Designation	∅ Milling cutter [mm]	z	Material number
	HQ2D025Z02B25A16L95-40	25	2	14655187
	HQ2D032Z03B32A16L105-40	32	3	12630641
	HQ2D040Z04B40A16L125-50	40	4	12630643
	HQ2D025Z02M12A16L35	25	2	14655190
	HQ2D032Z03M16A16L40	32	3	14655192
	HQ2D040Z04M16A16L40	40	4	14655184
	HQ2D040Z04S16A16L40	40	4	12630644
	HQ2D050Z05S22A16L40	50	5	12630646
	HQ2D063Z06S22A16L40	63	6	12630647
	HQ2D080Z07S27A16L50	80	7	14655176
	HQ2D080Z08S27A16L50	80	8	12630648
	HQ2D100Z09S32A16L50	100	9	12630649
	HQ2D125Z09S40A16L63	125	9	14655183

Spare parts	Designation	Torque moment [Nm]	Material number
	M4.0 x 8.5 – T15 (only for ∅25 + ∅32)	5	11037484
	M4.0 x 11.0 – T15+	5	1345432
	Power screw M8.0 x 30.0 (only for HQ2D040Z04S16A16L40)	15	11036880

CUTTING DATA APKT16

Starting parameters:



Grades and materials:

Material group		Geometry	Grade	v_c [m/min]	Cutting data f_z [mm]	a_p [mm]
P	Steel	RP	PKM30C	220 – 60	0.1 – 0.2	15 – 0.5
		SR	PM35P		0.12 – 0.23	15 – 0.5
M	Stainless steel	FU	MP40PX	200 – 60	0.07 – 0.17	15 – 0.5
		SR	SM35C		0.12 – 0.23	15 – 0.5
K	Cast iron	GK	K15CX	320 – 100	0.12 – 0.23	15 – 0.5
		SR				
N	Non-ferrous	SN	NK15W	< 2000	0.03 – 0.30	15 – 0.8



OVERVIEW TOKX

Application

1) Face milling



2) Angled milling



3) Helical plunging



4) Shoulder milling



5) Slot milling



6) Pocket milling



Geometry

RP: Steel – Cast iron*

FU: Stainless Steel – Exotic* – Titanium*

3 effective cutting edges



Customer benefits

- ▶ High precision 90° milling
- ▶ Low power consumption, maximum chip removal rate
- ▶ Optimized geometry
- ▶ Soft cutting providing quiet machining and maximum spindle protection



Result: Workpieces with clean surface, close tolerances and reduced formation of burrs, maximum service life of tool and insert.

Which geometry to use?



RP

Strong cutting edge for general steel applications and tough conditions milling.



FU

Sharp cutting edge for general stainless steel applications and for finishing in steels.

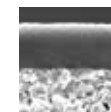
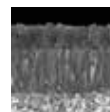
Grades

PKM30C

PM35P


MP40PX


SM35C




* secondary application

AVAILABLE RANGE TOKX07

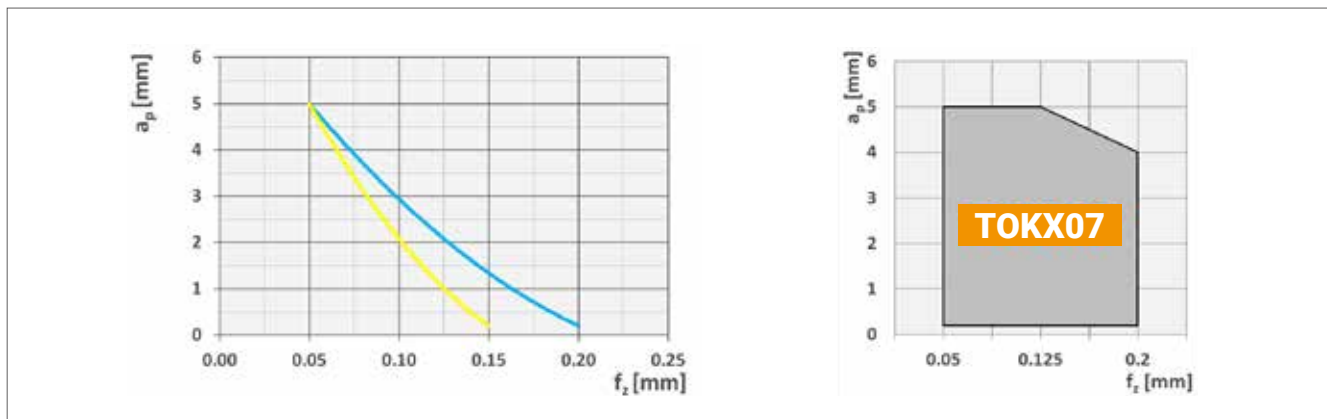
Insert	Designation	Grade	Geometry	Material number
	TOKX070305PDERRP	PKM30C	...-RP	12193325
	TOKX070305PDERRP	PM35P	...-RP	12069063
	TOKX070305PDERFU	MP40PX	...-FU	12120017
	TOKX070305PDERFU	SM35C	...-FU	12069061
	TOKX070308PDERRP	PKM30C	...-RP	12307051
	TOKX070308PDERRP	PM35P	...-RP	12143629
	TOKX070308PDERFU	MP40PX	...-FU	12143626
	TOKX070308PDERFU	SM35C	...-FU	12143628

Body	Designation	∅ Milling cutter [mm]	z	Material number
	MQ3D020Z03B20T07L77-25	20	3	12074285
	MQ3D025Z04B25T07L90-34	25	4	11998760
	MQ3D032Z05B32T07L102-40	32	5	12074282
	MQ3D020Z03M10T07L30	20	3	12152218
	MQ3D025Z04M12T07L35	25	4	12152220
	MQ3D032Z05M16T07L40	32	5	12152223
	MQ3D040Z05S16T07L40	40	5	12152214

Spare parts	Designation	Torque moment [Nm]	Material number
	M2.5x6.0 – T08	1.2	24645

CUTTING DATA TOKX07


Starting parameters:






Grades and materials:

Grades and materials:			Cutting data		
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]
P	Steel	RP	220 – 60	0.05 – 0.2	5 – 0.2
		PKM30C PM35P			
M	Stainless steel	FU	200 – 60	0.05 – 0.15	5 – 0.2
		MP40PX SM35C			

AVAILABLE RANGE TOKX09

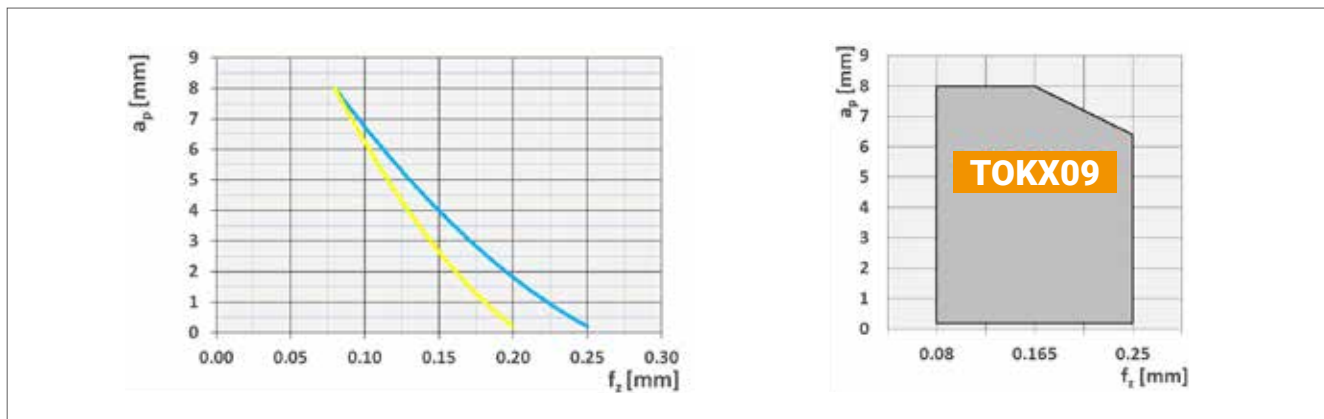
Insert	Designation	Grade	Geometry	Material number
	TOKX09T308PDERRP	PKM30C	...-RP	12324207
	TOKX09T308PDERRP	PM35P	...-RP	12262506
	TOKX09T308PDERFU	MP40PX	...-FU	12119996
	TOKX09T308PDERFU	SM35C	...-FU	12066590
	TOKX09T312PDERRP	PKM30C	...-RP	12378662
	TOKX09T312PDERRP	PM35P	...-RP	12376480
	TOKX09T312PDERFU	MP40PX	...-FU	12143645
	TOKX09T312PDERFU	SM35C	...-FU	12143648
	TOKX09T316PDERRP	PKM30C	...-RP	12378664
	TOKX09T316PDERRP	PM35P	...-RP	12376489
	TOKX09T316PDERFU	MP40PX	...-FU	12143637
	TOKX09T316PDERFU	SM35C	...-FU	12143639

Body	Designation	∅ Milling cutter	z	Material number
	MQ3D032Z03B32T09L102-40	32	3	11869624
	MQ3D040Z04S16T09L40	40	4	11987902
	MQ3D050Z05S22T09L40	50	5	11987903
	MQ3D063Z06S22T09L40	63	6	11987904

Spare parts	Designation	Torque moment [Nm]	Material number
	M3.0 x 7.3 – T08	1.2	77613
	Power screw M8.0 x 30.0 (only for MQ3D040Z04S16T09L40)	15	11036880

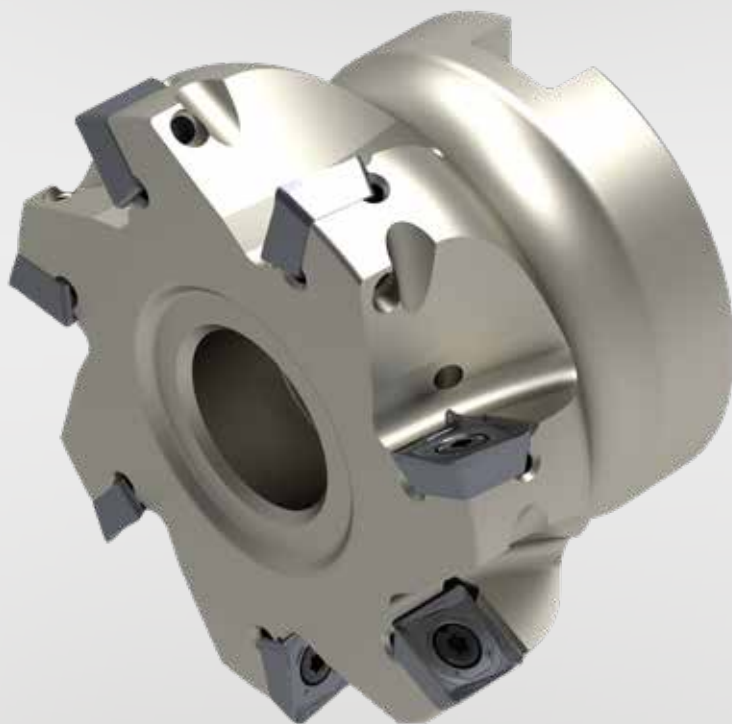
CUTTING DATA TOKX09

Starting parameters:



Grades and materials:

Grades and materials:			Cutting data			
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]	
P	Steel	RP	220 – 60	0.08 – 0.25	8 – 0.2	
		PKM30C PM35P				
M	Stainless steel	FU	200 – 60	0.08 – 0.2	8 – 0.2	
		MP40PX SM35C				



OVERVIEW SDKT

Application

1) Face milling



2) Angled milling



3) Helical plunging



4) Shoulder milling



5) Slot milling



6) Peripheral milling



7) Trochoidal slot milling



Geometry

RP: Steel

FU: Stainless Steel – Exotic* – Titanium*

GK: Cast iron

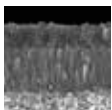
SN: Aluminium

4 effective cutting edges



Grades

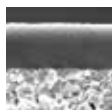
PKM30C ■



PM35P ■



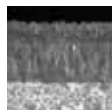
MP40PX ■



SM35C ■



K15CX ■



NK15W ■



S40C ■



Customer benefits

- ▶ High precision 90° milling
- ▶ Economic solution:
 - High chip volume on low power machines
 - Reduced cost per cutting edge compared to current insert solutions. (APKT and ADKT)
- ▶ Reduced machining costs:
 - Compared to APKT10: +20 % to +30 % in price
 - Advantage: up to 35 % cost reduction per cutting edge!

Which geometry to use?



RP

Strong cutting edge for general steel applications and tough conditions milling.



FU

Sharp cutting edge for general stainless steel applications and for finishing in steels.



GK

Strong cutting edge for cast iron applications.






SN



Extremely sharp cutting edge for aluminum and non-ferrous metals.

* secondary application

AVAILABLE RANGE SDKT09

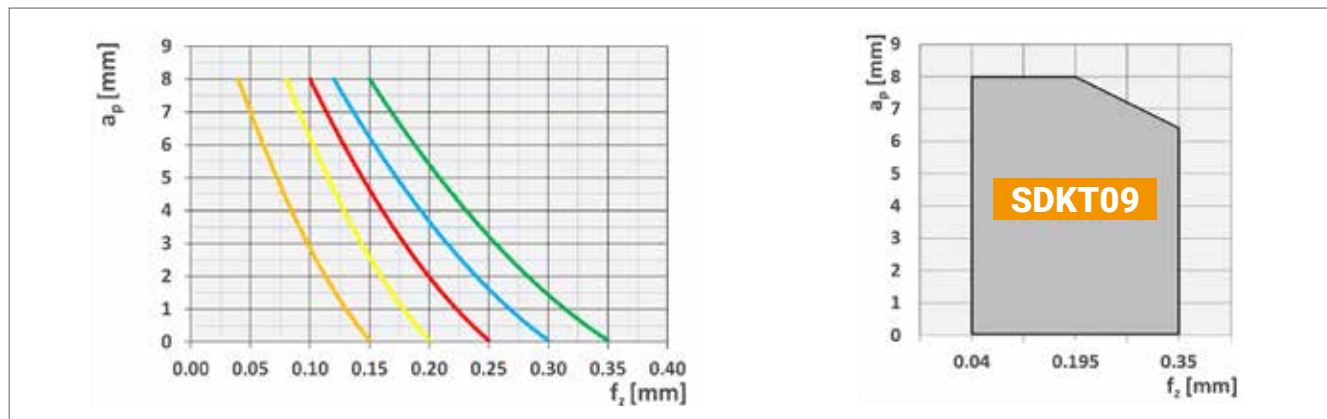
Insert	Designation	Grade	Geometry	Material number
	SDKT09T308SRRP	PKM30C	...-RP	11979028
	SDKT09T308SRRP	PM35P	...-RP	11979030
	SDKT09T308SRFU	MP40PX	...-FU	11979032
	SDKT09T308SRFU	SM35C	...-FU	11584645
	SDKT09T308SRFU	S40C	...-FU	11710895
	SDKT09T308SRGK	K15CX	...-GK	12193340
	SDHT09T308FRSN	NK15W	...-SN	14652621

Body	Designation	∅ Milling cutter [mm]	z	Material number
 	MQ4D025Z03B32S09L88-32	25	3	11596014
	MQ4D032Z04B32S09L100-40	32	4	11596009
	MQ4D040Z05S16S09L40	40	5	11596010
	MQ4D050Z06S22S09L40	50	6	11584233
	MQ4D063Z07S22S09L40	63	7	11596011
	MQ4D080Z09S27S09L50	80	9	11596013

Spare parts	Designation	Torque moment [Nm]	Material number
	M3.0 x 7.3 – T08	1.2	77613
	Power screw M8.0 x 30.0 (only for MQ4D040Z05S16S09L40)	15	1036880

CUTTING DATA SDKT09


Starting parameters:





Grades and materials:

Grades and materials:				Cutting data		
Material group		Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]
P	Steel	RP	PKM30C PM35P	220 – 60	0.12 – 0.3	8 – 0.05
M	Stainless steel	FU	MP40PX SM35C	200 – 60	0.08 – 0.2	8 – 0.05
K	Cast iron	GK	K15CX	320 – 100	0.1 – 0.25	8 – 0.05
N	Non-ferrous	SN	NK15W	< 2000	0.15 – 0.35	8 – 0.05
S	Heat resistant alloys	FU	SM35C	75 – 25	0.04 – 0.15	8 – 0.05
S	Titanium	FU	S40C			

AVAILABLE RANGE SDKT12

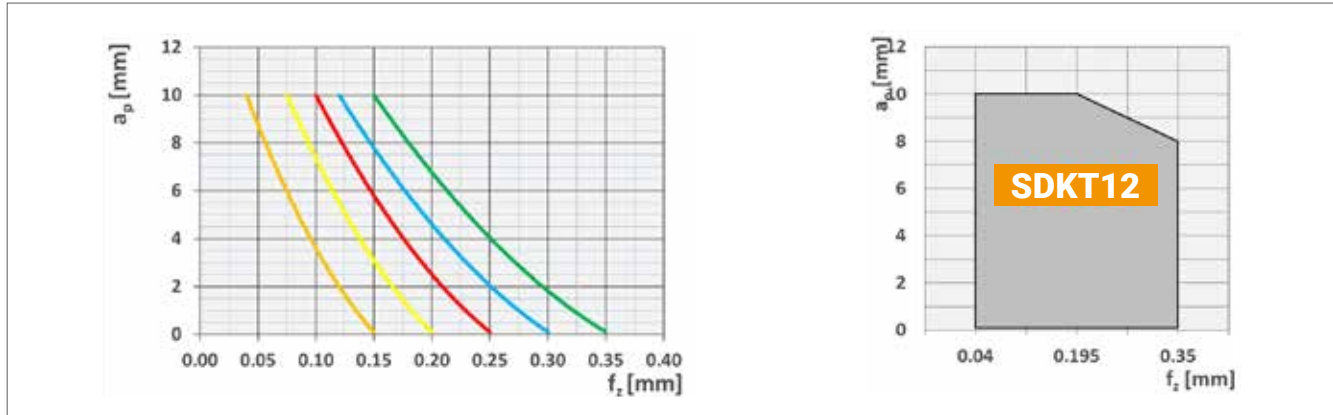
Insert	Designation	Grade	Geometry	Material number
	SDKT120508SRRP	PKM30C	...-RP	12154549
	SDKT120508SRRP	PM35P	...-RP	12062538
	SDKT120508SRFU	MP40PX	...-FU	12074525
	SDKT120508SRFU	SM35C	...-FU	12067263
	SDKT120508SRFU	S40C	...-FU	12071921
	SDKT120508SRGK	K15CX	...-GK	12154553
	SDHT120508FRSN	NK15W	...-SN	14652623

Body	Designation	∅ Milling cutter [mm]	z	Material number
	MQ4D032Z03B32S12L100-40	32	3	12138258
	MQ4D040Z04S16S12L40	40	4	11965069
	MQ4D050Z05S22S12L40	50	5	11981629
	MQ4D063Z06S22S12L40	63	6	12060728
	MQ4D080Z07S27S12L50	80	7	12060727

Spare parts	Designation	Torque moment [Nm]	Material number
	M4.0 x 8.5 – T15 (only for Ø32)	5	11037484
	M4.0 x 11 – T15+	5	1345432
	Power screw M8.0 x 30.0 (only for MQ4D040Z04S16S12L40)	15	11036880

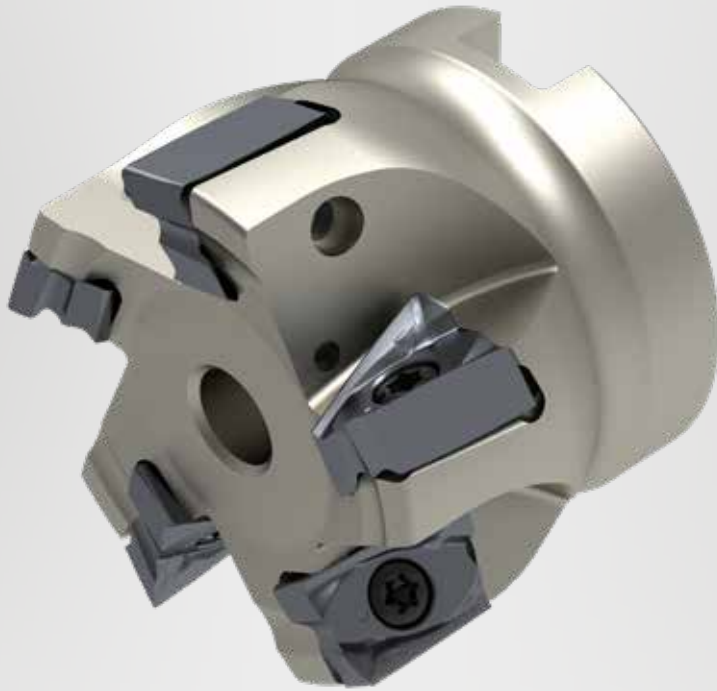
CUTTING DATA SDKT12

Starting parameters:



Grades and materials:

Material group		Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]
P	Steel	RP	PKM30C	220 – 60	0.12 – 0.3	10 – 0.1
			PM35P			
M	Stainless steel	FU	MP40PX	200 – 60	0.08 – 0.2	10 – 0.1
			SM35C			
K	Cast iron	GK	K15CX	320 – 100	0.1 – 0.25	10 – 0.1
N	Non-ferrous	SN	NK15W	< 2000	0.15 – 0.35	10 – 0.1
S	Heat resistant alloys	FU	SM35C	75 – 25	0.04 – 0.15	10 – 0.1
S	Titanium	FU	S40C			



OVERVIEW LNKU/LOKU

Application

1) Face milling



2) Angled milling



3) Helical plunging



4) Shoulder milling



5) Slot milling



6) Pocket milling



Geometry

RP: Steel – Cast iron*

FU: Stainless Steel – Exotic* – Titanium*

GK: Cast iron

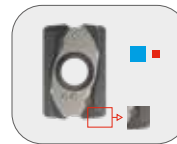
4 effective cutting edges



Customer benefits

- ▶ High precision 90° milling
- ▶ Low power consumption, maximum chip removal rate
- ▶ Optimized geometry
- ▶ Soft cutting providing quiet machining and maximum spindle protection

Which geometry to use?



RP

Strong cutting edge for general steel applications and tough conditions milling.



FU

Sharp cutting edge for general stainless steel applications and for finishing in steels.



GK

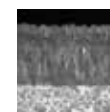
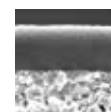
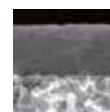
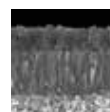
Strong cutting edge for cast iron applications.

PKM30C

MP40P


MP40PX


K15CX




* secondary application

AVAILABLE RANGE LNKU12/LOKU 12

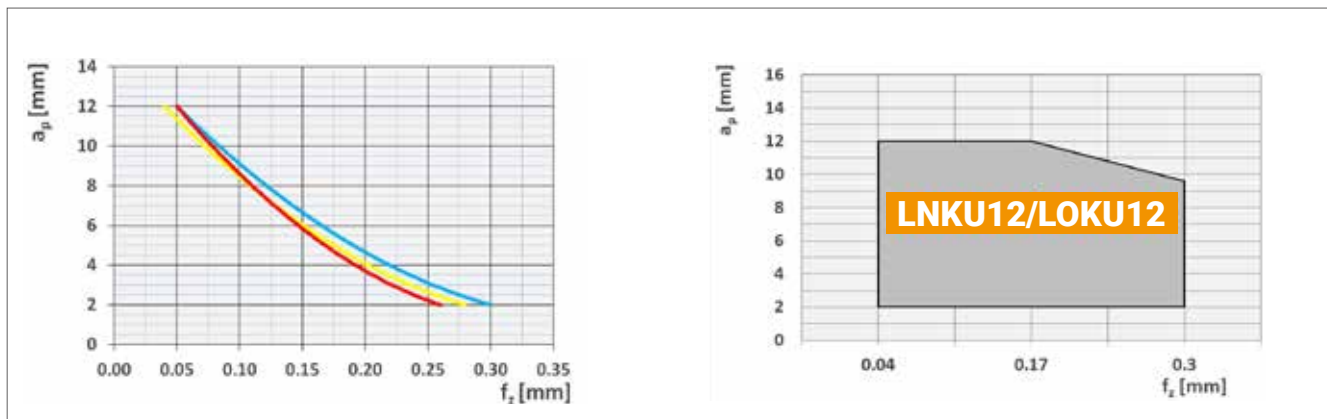
Insert	Designation	Grade	Geometry	Material number
	LNKU120608ERRP	PKM30C	...-RP	12434604
	LNKU120608ERRP	PM35P	...-RP	12158008
	LNKU120608ERFU	MP40PX	...-FU	12373789
	LNKU120608ERGK	K15CX	...-GK	14659156
	LOKU120608ERFU	MP40PX	...-FU	12373779

Body	Designation	∅ Milling cutter [mm]	z	Material number
	HQ4D040Z04S16L12L40	40	4	14549248
	HQ4D050Z05S22L12L40	50	5	12367555
	HQ4D063Z06S22L12L40	63	6	12645968
	HQ4D080Z07S27L12L50	80	7	12645971

Spare parts	Designation	Torque moment [Nm]	Material number
	M4.0 x 11 – T15	5	11042274
	Power screw M10.0 x 31.0	20	11040298

CUTTING DATA LNKU12/LOKU 12

Starting parameters:



Grades and materials:

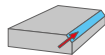
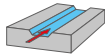
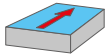
Grades and materials:			Cutting data		
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]
P	Steel	RP	220 – 60	0.05 – 0.30	12 – 2.0
		PKM30C PM35P			
M	Stainless steel	FU	200 – 60	0.04 – 0.28	12 – 2.0
K	Cast iron	GK	320 – 100	0.05 – 0.26	12 – 2.0



OVERVIEW HPKT... HPCT...

Application

- 1) Face milling 2) Slot milling 3) Chamfering



Geometry

RP: Steel – Cast iron*

FU: Stainless Steel – Exotic* – Titanium*

SN: Aluminium and non-ferrous metals

6 effective cutting edges



Grades

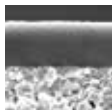
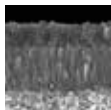
PKM30C ■

PM35P ■

MP40PX ■

SM35C ■

NK15W ■



* secondary application

Wiper

Extremely soft, spindle-friendly cut. The very positive cutting edge geometry paired with the new geometry designs revolutionizes milling on small to medium sized milling machines.



Wiper technology

Indexing 6 times



- ▶ Indexing of the insert without complete removal of the clamping screw is possible!
- ▶ Direct insert indexing saves valuable machine time.

Which geometry to use?



RP

Strong cutting edge for general steel applications and tough conditions milling.



FU


Sharp cutting edge for general stainless steel applications and for finishing in steels.





SN

Extremely sharp cutting edge for aluminum and non-ferrous metals.

AVAILABLE RANGE HPKT... HPCT...

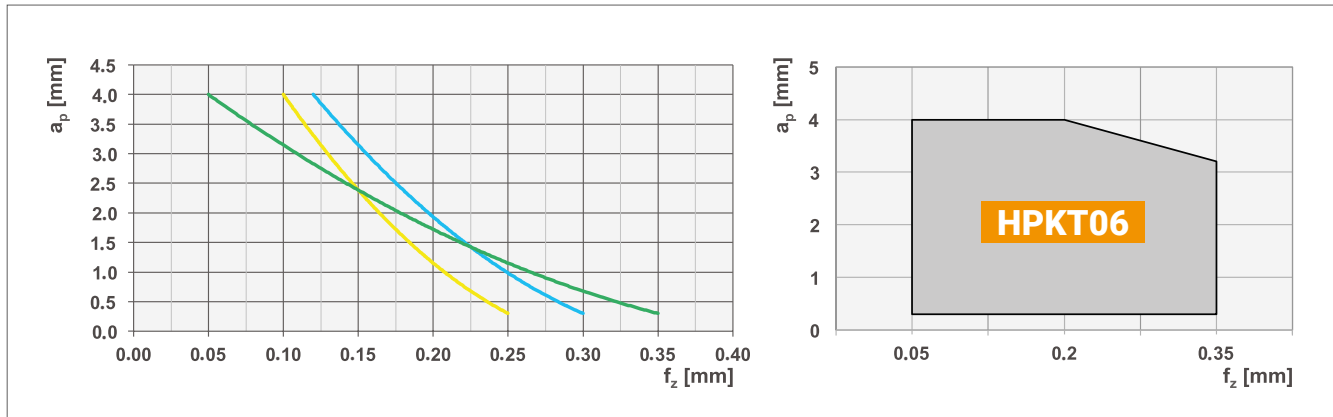
Insert	Designation	Grade	Geometry	Material number
	HPKT0604AZERRP	PKM30C	...-RP	12193366
	HPKT0604AZERRP	PM35P	...-RP	12193369
	HPKT0604AZERFU	SM35C	...-FU	11526389
	HPCT0604AZFRSN	NK15W	...-SN	14652610

Body	Designation	∅ Milling cutter [mm]	z	Material number
	HX6D040Z04B32H06L110-50	40	4	11520454
	HX6D040Z04S16H06L40	40	4	11520455
	HX6D050Z05S22H06L40	50	5	11520456
	HX6D063Z06S22H06L40	63	6	11520457
	HX6D080Z07S27H06L50	80	7	11520458
	HX6D100Z09S32H06L50	100	9	11520459
	HX6D125Z10S40H06L63	125	10	11520460

Spare parts	Designation	Torque moment [Nm]	Material number
	M4.0 x 11 – T15+	5	1345432
	Power screw M8.0 x 30.0 (only for HX6D040Z04S16H06L40)	15	11036880

CUTTING DATA HPKT... HPCT...

Starting parameters:



Grades and materials:

Grades and materials:				Cutting data		
Material group		Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]
P	Steel	RP	PKM30C	220 – 60	0.12 – 0.3	4 – 0.3
			PM35P			
M	Stainless steel	FU	SM35C	200 – 60	0.1 – 0.25	4 – 0.3
N	Non-ferrous	SN	NK15W	< 2000	0.05 – 0.35	4 – 0.3



OVERVIEW HOKT... HOCT...

Application

- 1) Face milling 2) Slot milling 3) Chamfering



Geometry

RP: Steel – Cast iron*

FU: Stainless Steel – Exotic* – Titanium*

6 effective cutting edges



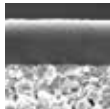
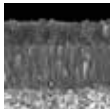
Grades

PKM30C ■

PM35P ■

MP40PX ■

SM35C ■



Wiper

- ▶ Extremely soft, spindle-friendly cut. The very positive cutting edge geometry paired with the new geometry designs revolutionizes milling on small to medium sized milling machines.



Wiper technology

Indexing 6 times



- ▶ Indexing of the insert without complete removal of the clamping screw is possible!
- ▶ Direct insert indexing saves valuable machine time.

Which geometry to use?



RP

Strong cutting edge for general steel applications and tough conditions milling.





FU


Sharp cutting edge for general stainless steel applications and for finishing in steels.

* secondary application

AVAILABLE RANGE HOKT... HOCT...

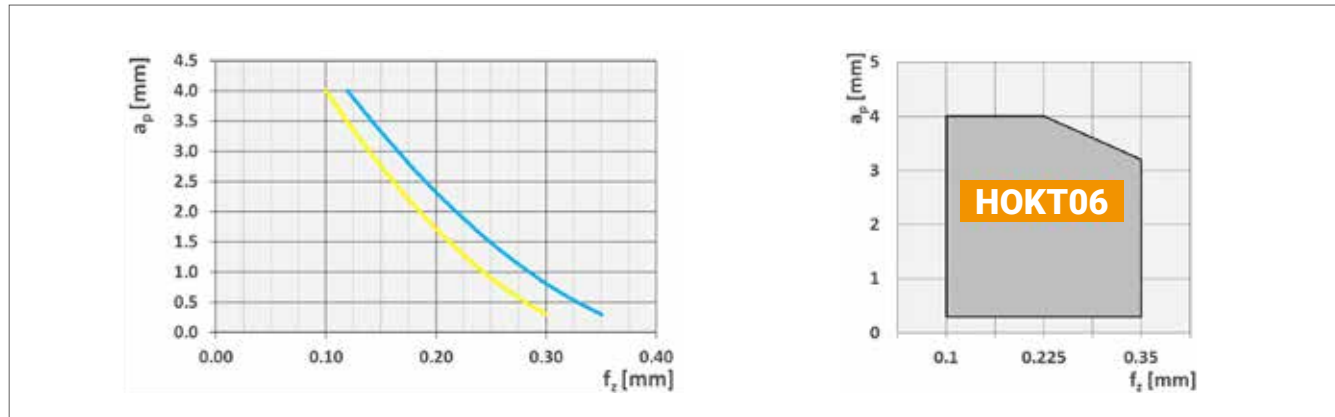
Insert	Designation	Grade	Geometry	Material number
	HOKT0604AZERRP	PKM30C	...-RP	11950674
	HOKT0604AZERRP	PM35P	...-RP	11943817
	HOCT0604AZERFU	MP40PX	...-FU	14652624
	HOCT0604AZERFU	SM35C	...-FU	12212264

Body	Designation	∅ Milling cutter [mm]	z	Material number
	HX6D040Z04B32H06L110-50	40	4	11520454
	HX6D040Z04S16H06L40	40	4	11520455
	HX6D050Z05S22H06L40	50	5	11520456
	HX6D063Z06S22H06L40	63	6	11520457
	HX6D080Z07S27H06L50	80	7	11520458
	HX6D100Z09S32H06L50	100	9	11520459
	HX6D125Z10S40H06L63	125	10	11520460

Spare parts	Designation	Torque moment [Nm]	Material number
	M4.0 x 11 – T15+	5	1345432
	Power screw M8.0 x 30.0 (only for HX6D040Z04S16H06L40)	15	11036880

CUTTING DATA HOKT... HOC T...

Starting parameters:



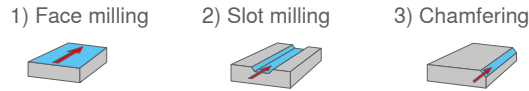
Grades and materials:

Grades and materials:				Cutting data		
Material group		Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]
P	Steel	RP	PKM30C	220 – 60	0.12 – 0.35	4 – 0.3
			PM35P			
M	Stainless steel	FU	MP40PX	200 – 60	0.1 – 0.3	4 – 0.3
			SM35C			



OVERVIEW SOKU

Application



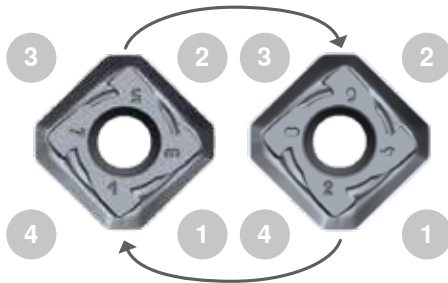
Geometry

RP: Steel / Medium & roughing operations

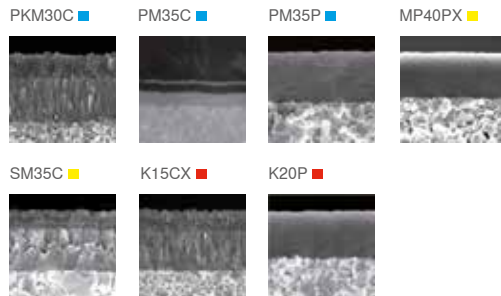
FU: Steel – Stainless Steel / Finishing

GK: Cast iron

Indexing 4 times and reversible



Grades



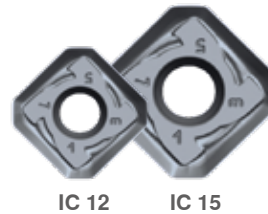
Customer benefits

- ▶ Wiper technology
- ▶ Double sided positive (positive rake angle)



Square double-sided insert!

Available in 2 dimensions

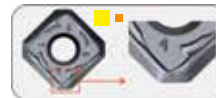


Which geometry to use?



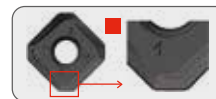
RP

Strong cutting edge for general steel applications and tough conditions milling.



FU


Sharp cutting edge for general stainless steel applications and for finishing in steels.




GK

Strong cutting edge for cast iron applications.

AVAILABLE RANGE SOKU12

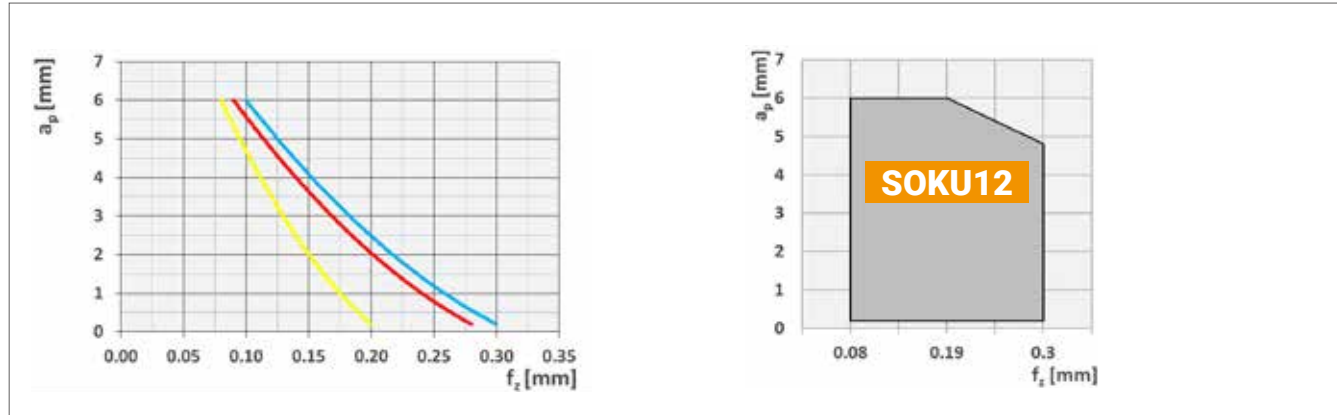
Insert	Designation	Grade	Geometry	Material number
	SOKU1205AZERRP	PKM30C	...-RP	12193374
	SOKU1205AZERRP	PM35C	...-RP	12219854
	SOKU1205AZERRP	PM35P	...-RP	12193377
	SOKU1205AZERFU	MP40PX	...-FU	11988963
	SOKU1205AZERFU	SM35C	...-FU	11906808

Body	Designation	∅ Milling cutter [mm]	z	Material number
	QF8D040Z04S16S12L45	40	4	11939775
	QF8D050Z05S22S12L45	50	5	11909357
	QF8D063Z06S22S12L45	63	6	11939774
	QF8D080Z08S27S12L50	80	8	11939772
	QF8D100Z10S32S12L50	100	10	11939771
	QF8D125Z12S40S12L63	125	12	11939769

Spare parts	Designation	Torque moment [Nm]	Material number
	M4.0 x 11.0 – T15	5	11042274

CUTTING DATA SOKU12


Starting parameters:





Grades and materials:

Grades and materials:			Cutting data			
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]	
P	Steel	RP	220 – 60	0.1 – 0.3	6 – 0.2	
		PKM30C				
		PM35C				
M	Stainless steel	FU	200 – 60	0.08 – 0.2	6 – 0.2	
		MP40PX				
K	Cast iron	GK	320 – 100	0.08 - 0.45	6 – 0.2	
		K15CX				
		K20P				

AVAILABLE RANGE SOKU15

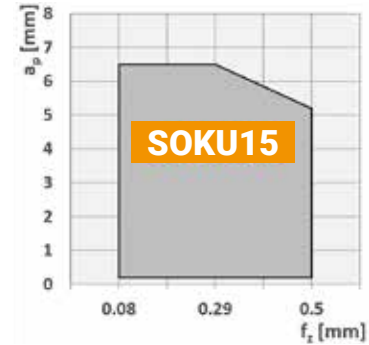
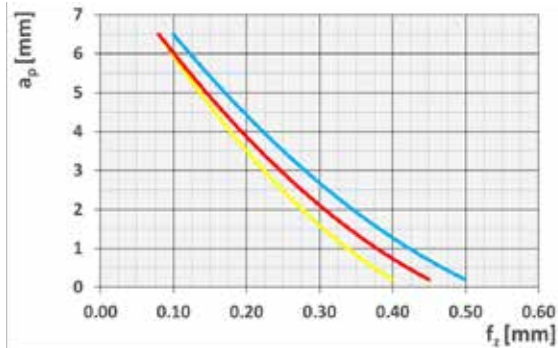
Insert	Designation	Grade	Geometry	Material number
	SOKU1505AZERRP	PKM30C	...-RP	12237265
	SOKU1505AZERRP	PM35P	...-RP	12193379
	SOKU1505AZERRP	PM35C	...-RP	12219850
	SOKU1505AZERFU	MP40PX	...-FU	11979060
	SOKU1505AZERFU	SM35C	...-FU	11526409
	SOKU1505AZERGK	K15CX	...-GK	12299379
	SOKU1505AZERGK	K20P	...-GK	12145626

Body	Designation	∅ Milling cutter [mm]	z	Material number
	QF8D040Z04S16S15L45	40	4	11520461
	QF8D050Z04S22S15L45	50	4	11520462
	QF8D063Z05S22S15L45	63	5	11520463
	QF8D080Z06S27S15L50	80	6	11520464
	QF8D100Z07S32S15L50	100	7	11520465
	QF8D125Z08S40S15L63	125	8	11520466
	QF8D160Z10S40S15L63	160	10	11567193

Spare parts	Designation	Torque moment [Nm]	Material number
	M4.5 x 13.0 – T20+	5	1345431
	Power screw M8.0 x 30.0 (only for QF8D040Z04S16S15L45)	15	11036880

CUTTING DATA SOKU15

Starting parameters:



Grades and materials

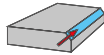
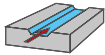
Grades and materials			Cutting data		
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]
P	Steel	RP	220 – 60	0.1 – 0.5	6.5 – 0.2
		PKM30C			
		PM35C			
M	Stainless steel	FU	200 – 60	0.08 – 0.4	6.5 – 0.2
		MP40PX			
		SM35C			
K	Cast iron	GK	320 – 100	0.08 – 0.45	6.5 – 0.2
		K15CX K20P			



OVERVIEW HNKU / HOKU

Application

- 1) Face milling 2) Slot milling 3) Chamfering

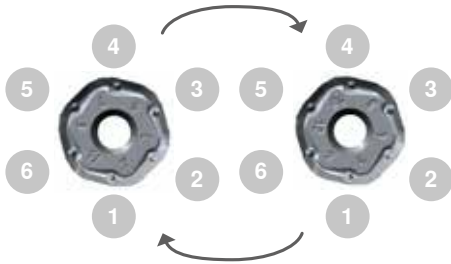


Geometry

RP: Steel – Cast iron*

FU: Stainless Steel – Exotic* – Titanium*

Indexing 6 times and reversible

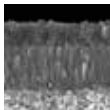


Grades

PKM30C ■

PM35P ■

SM35C ■



* secondary application

Customer benefits

- ▶ Wiper geometry
- ▶ Maximised economy thanks to 12 cutting edges.

Which geometry to use?



RP

Strong cutting edge for general steel applications and tough conditions milling.




FU

Sharp cutting edge for general stainless steel applications and for finishing in steels.

AVAILABLE RANGE HNKU

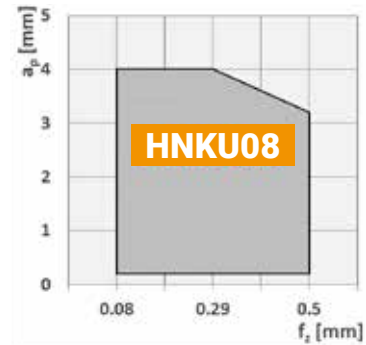
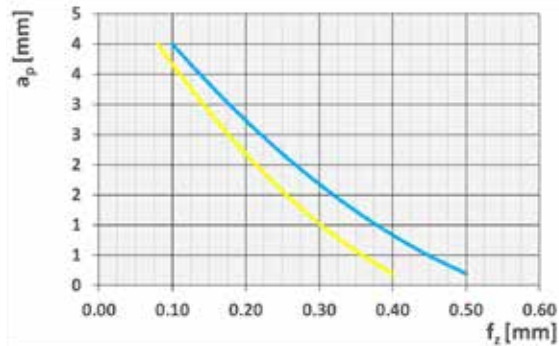
Insert	Designation	Grade	Geometry	Material number
	HNKU0806AZERRP	PKM30C	...-RP	12193383
	HNKU0806AZERRP	PM35P	...-RP	12193384
	HNKU0806AZERFU	SM35C	...-FU	11887368

Body	Designation	∅ Milling cutter [mm]	z	Material number
	SH12D040Z04S16H08L40	40	4	11590448
	SH12D050Z04S22H08L40	50	4	11561804
	SH12D063Z05S22H08L40	63	5	11561802
	SH12D080Z06S27H08L50	80	6	11561800
	SH12D100Z08S32H08L50	100	8	12152205
	SH12D125Z09S40H08L63	125	9	12152207

Spare parts	Designation	Torque moment [Nm]	Material number
	M4.0 x 11.0 – T15+	5	1345432

CUTTING DATA HNKU


Starting parameters:




Grades and materials:

Grades and materials:				Cutting data		
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]	
P	Steel	RP	220 – 60	0.1 – 0.5	4 – 0.2	
		PKM30C PM35P				
M	Stainless steel	FU	200 – 60	0.08 – 0.4	4 – 0.2	

AVAILABLE RANGE HOKU

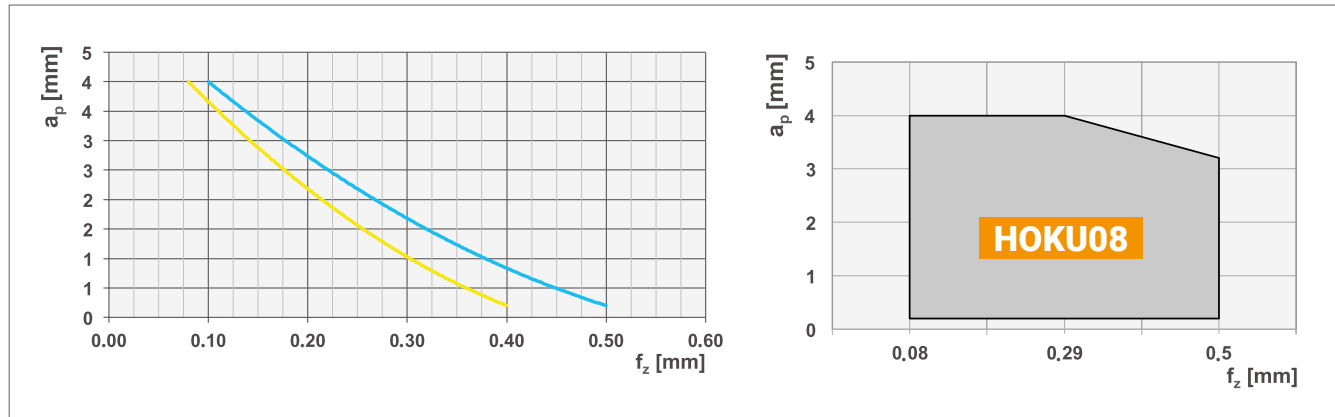
Insert	Designation	Grade	Geometry	Material number
	HOKU0806AZERRP	PKM30C	...-RP	12623510
	HOKU0806AZERRP	PM35P	...-RP	12623511
	HOKU0806AZERFU	MP40PX	...-FU	12630187
	HOKU0806AZERFU	SM35C	...-FU	12623507

Body	Designation	∅ Milling cutter [mm]	z	Material number
	SH12D040Z04S16H08L40	40	4	11590448
	SH12D050Z04S22H08L40	50	4	11561804
	SH12D063Z05S22H08L40	63	5	11561802
	SH12D080Z06S27H08L50	80	6	11561800
	SH12D100Z08S32H08L50	100	8	12152205
	SH12D125Z09S40H08L63	125	9	12152207

Spare parts	Designation	Torque moment [Nm]	Material number
	M4.0 x 11.0 – T15+	5	1345432

CUTTING DATA HOKU

Starting parameters:



Grades and materials:

Grades and materials:			Cutting data		
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]
P	Steel	RP	220 – 60	0.1 – 0.5	4 – 0.2
		PKM30C PM35P			
M	Stainless steel	FU	200 – 60	0.08 – 0.4	4 – 0.2
		MP40PX SM35C			



OVERVIEW RPMX... RDHX... RPHX... RDHW...

Application

1) Face milling



3) Slot milling



5) Profile milling



7) Plunge milling



2) Angled milling



4) Pocket milling



6) Helical plunging



8) Turn milling



Geometry

RP: Steel – Cast iron*

FU: Stainless Steel

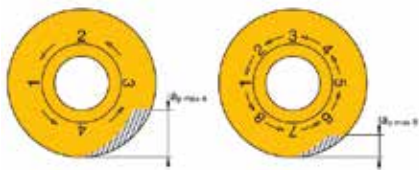
GS: Exotic – Titanium*

SN: Aluminium and non-ferrous metals

GH: Reinforced for hard materials

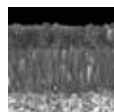
Indexing 4 or 8 times

8 facets for 4 or 8 indexing according to your d.o.c.



Grades

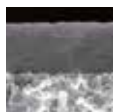
PKM30C ■



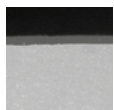
S40C ■



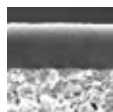
PM35P ■



HK15P □



MP40PX ■



NK15W ■



SM35C ■



Customer benefits

- ▶ Indexing of the insert without complete removal of the clamping screw is possible!
- ▶ Direct insert indexing saves valuable machine time.



Available in 3 dimensions



Which geometry to use?



RP

Strong cutting edge for general steel applications and tough conditions milling.



FU

Sharp cutting edge for general stainless steel applications and for finishing in steels.



SN

Extremely sharp cutting edge for aluminum and non-ferrous metals.



GS

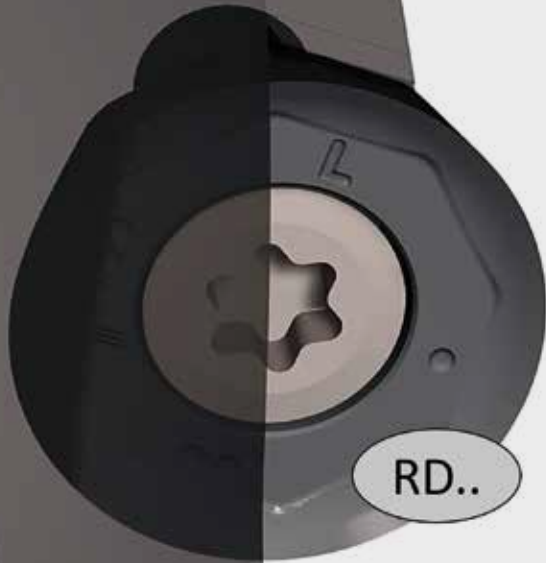
Stable cutting edge for dedicated exotic materials and titanium.



GH

Strong reinforced cutting edge for hard material.

* secondary application



OVERVIEW RPMX... RDHX... RPHX... RDHW...

Flexibility – One tool for several round inserts

Optimised clearance angles for high performance milling operations.

11° (RP...): for Steel. Stainless steel. Cast iron and Exotic materials

15° (RD...): for Hard materials and non-ferrous metals.



RP...



RD...

NEW! Two different clearances and only ONE milling tool

AVAILABLE RANGE R10

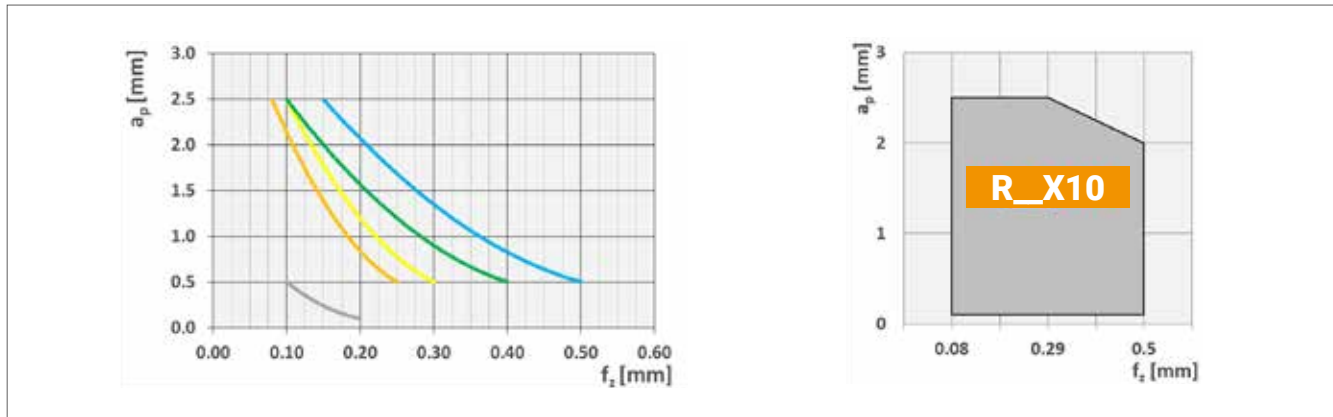
Insert	Designation	Grade	Geometry	Material number
	RPMX10T3MORP	PKM30C	...-RP	11978869
	RPMX10T3MORP	PM35P	...-RP	11978872
	RPMX10T3MOFU	MP40PX	...-FU	11978876
	RPMX10T3MOFU	SM35C	...-FU	12193387
	RDHX10T3MOSN	NK15W	...-SN	14652613
	RPHX10T3MOGS	SM35C	...-GS	11678477
	RPHX10T3MOGS	S40C	...-GS	11678481
	RDHW10T3GH	HK15P	...-GH	11716131

Body	Designation	∅ Milling cutter [mm]	z	Material number
   	RQ4D020Z02A20R10L102-50	20	2	11720312
	RQ4D020Z02A20R10L165-50	20	2	11720313
	RQ4D025Z03A25R10L116-60	25	3	11720314
	RQ4D025Z03A25R10L165-60	25	3	11720315
	RQ4D032Z04A32R10L130-70	32	4	11720318
	RQ4D032Z04A32R10L165-70	32	4	11720321
	RQ4D032Z04M16R10L40	32	4	11879532
	RQ4D035Z04M16R10L40	35	4	14653979
	RQ4D040Z04S16R10L40	40	4	11718403
	RQ4D042Z05S16R10L40	42	5	14653976
RQ4D050Z05S22R10L40	50	5	11720322	

Spare parts	Designation	Torque moment [Nm]	Material number
 	M3.0 x 7.5 – T10+	2	11689894
	Power screw M8.0 x 30.0 (for RQ4D040Z04S16R10L40 and RQ4D042Z05S16R10L40)	15	11036880

CUTTING DATA R10


Starting parameters:




Grades and materials:




Grades and materials:				Cutting data		
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]	
P Steel	RP	PKM30C PM35P	220 – 60	0.15 – 0.5	2.5 – 0.5	
M Stainless steel	FU	MP40PX SM35C	200 – 60	0.1 – 0.3	2.5 – 0.5	
N Non-ferrous	SN	NK15W	< 2000	0.1 – 0.4	2.5 – 0.5	
S Heat-resistant alloys	GS	SM35C	75 – 25	0.08 – 0.25	2.5 – 0.5	
S Titanium	GS	S40C	75 – 25	0.08 – 0.25	2.5 – 0.5	
H Hard materials	GH	HK15P	180 – 100	0.1 – 0.2	0.5 – 0.1	


Recommended!

 \varnothing [mm]	4 times		8 times
	a_p [mm]	$a_{p\ max}$ [mm]	$a_{p\ max}$ [mm]
10	2.5	4.5	1.4
12	3.0	5.5	1.7
16	4.0	7.5	2.3

AVAILABLE RANGE R12

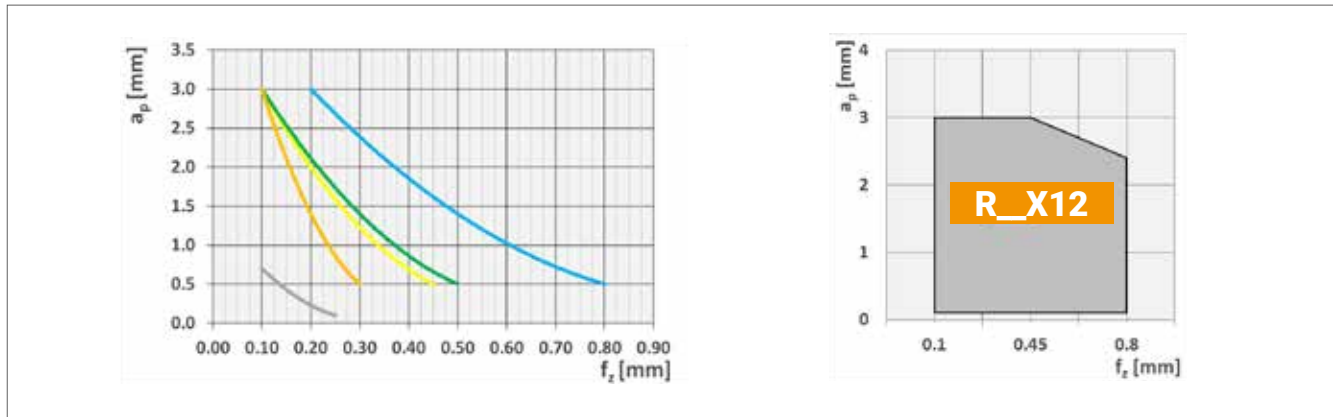
Insert	Designation	Grade	Geometry	Material number
	RPMX1204MORP	PKM30C	...-RP	11979003
	RPMX1204MORP	PM35P	...-RP	11979006
	RPMX1204MOFU	MP40PX	...-FU	11979015
	RPMX1204MOFU	SM35C	...-FU	12193389
	RDHX1204MOSN	NK15W	...-SN	14652616
	RPHX1204MOGS	SM35C	...-GS	11666768
	RPHX1204MOGS	S40C	...-GS	11666769
	RDHW1204GH	HK15P	...-GH	11716128

Body	Designation	∅ Milling cutter [mm]	z	Material number
  	RQ4D025Z02A25R12L86-30	25	2	11720305
	RQ4D025Z02A25R12L116-60	25	2	11720307
	RQ4D032Z03A32R12L100-40	32	3	11720308
	RQ4D032Z03A32R12L130-70	32	3	11720310
	RQ4D025Z02M12R12L35	25	2	12156946
	RQ4D035Z03M16R12L40	35	3	14653989
	RQ4D040Z04S16R12L40	40	4	11596003
	RQ4D042Z04S16R12L40	42	4	14653984
	RQ4D050Z05S22R12L40	50	5	11667287
	RQ4D052Z05S22R12L40	52	5	14427687
	RQ4D063Z06S22R12L40	63	6	11667291
	RQ4D066Z06S27R12L40	66	6	14653987
	RQ4D080Z08S27R12L50	80	8	11707446
	RQ4D100Z10S32R12L50	100	10	11707445

Spare parts	Designation	Torque moment [Nm]	Material number
	M4.0 x 8.5 – T15 (only for A/B + M)	5	11037484
	M4.0 x 11.0 – T15+ (only for S)	5	1345432
	Power screw M8.0 x 30.0 (for RQ4D040Z04S16R12L40 and RQ4D042Z04S16R12L40)	15	11036880

CUTTING DATA R12

Starting parameters:




Grades and materials:


				Cutting data		
Material group		Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]
P	Steel	RP	PKM30C PM35P	220 – 60	0.2 – 0.8	3 – 0.5
M	Stainless steel	FU	MP40PX SM35C	200 – 60	0.1 – 0.45	3 – 0.5
N	Non-ferrous	SN	NK15W	< 2000	0.1 – 0.5	3 – 0.5
S	Heat-resistant alloys	GS	SM35C	75 – 25	0.1 – 0.3	3 – 0.5
S	Titanium	GS	S40C			
H	Hard materials	GH	HK15P	180 – 100	0.1 – 0.25	0.7 – 0.1

Recommended!

 \varnothing [mm]	4 times		8 times
	a_p [mm]	$a_{p\ max}$ [mm]	$a_{p\ max}$ [mm]
10	2.5	4.5	1.4
12	3.0	5.5	1.7
16	4.0	7.5	2.3

AVAILABLE RANGE R16

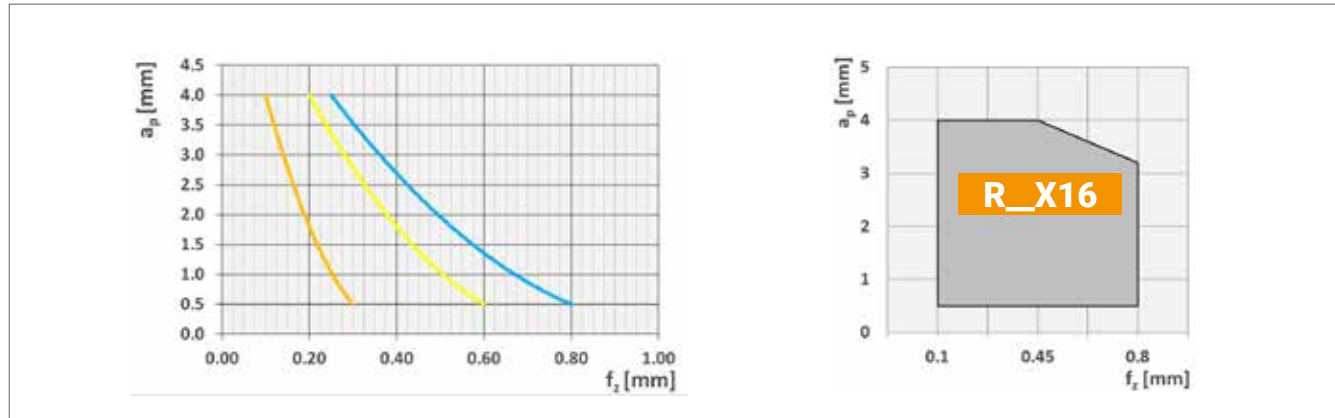
Insert	Designation	Grade	Geometry	Material number
	RPMX1605MORP	PHM30C	...-RP	11979017
	RPMX1605MORP	PM35P	...-RP	11979021
	RPMX1605MOFU	MP40PX	...-FU	11979026
	RPMX1605MOFU	SM35C	...-FU	12193449
	RPHX1605MOGS	SM35C	...-GS	11670391
	RPHX1605MOGS	S40C	...-GS	11670392

Body	Designation	∅ Milling cutter [mm]	z	Material number
	RQ4D050Z03S22R16L40	50	3	11739864
	RQ4D052Z04S22R16L40	52	4	14653992
	RQ4D063Z05S22R16L40	63	5	11739862
	RQ4D066Z05S22R16L40	66	5	14653995
	RQ4D080Z06S27R16L50	80	6	11739860
	RQ4D100Z07S32R16L50	100	7	11739857
	RQ4D125Z08S40R16L63	125	8	11739853

Spare parts	Designation	Torque moment [Nm]	Material number
	M4.5 x 13.0 – T20+	5	1345431
	Power screw M10.0 x 31.0 (for RQ4D050Z03S22R16L40 and RQ4D052Z04S22R16L40)	20	11040298

CUTTING DATA R16

Starting parameters:



Grades and materials:

			Cutting data		
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]
P	Steel	RP	220 – 60	0.25 – 0.8	4 – 0.5
		PKM30C PM35P			
M	Stainless steel	FU	200 – 60	0.2 – 0.6	4 – 0.5
		MP40PX SM35C			
S	Heat-resistant alloys	GS	75 – 25	0.1 – 0.3	4 – 0.5
S	Titanium	GS			



Recommended!

\emptyset [mm]	4 times		8 times
	a_p [mm]	$a_{p \max}$ [mm]	$a_{p \max}$ [mm]
10	2.5	4.5	1.4
12	3.0	5.5	1.7
16	4.0	7.5	2.3



OVERVIEW RNKU... ROHU...

Application

1) Face milling



2) Slot milling

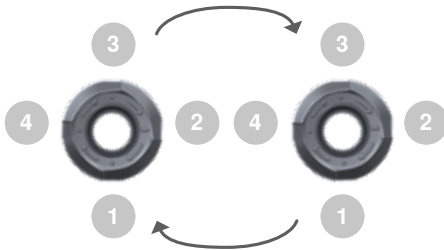


Geometry

RP: Steel – Cast iron*

FU: Stainless Steel

Indexing 4 times and reversible



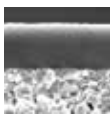
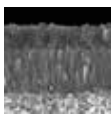
Grades

PKM30C ■

PM35P ■

MP40PX ■

SM35C ■



Customer benefits

- ▶ Indexing of the insert without complete removal of the clamping screw is possible!
- ▶ Direct insert indexing saves valuable machine time.



Available in 2 dimensions



Best finishing



Cutting parameters: v_c 280m/ min. f 0.4 mm. a_p 0.5 mm

- ▶ The alliance of a round insert for the robustness and a surfacing insert for the finishing. The double sided insert has 4 minor cutting edges per side for a best surface finish.
- ▶ For example
 - Ra with a standard round insert: 3 μ m
 - Ra with the double-sided round insert: 1 μ m

Which geometry to use?



RP


Strong cutting edge for general steel applications and tough conditions milling.






FU

Sharp cutting edge for general stainless steel applications and for finishing in steels.

AVAILABLE RANGE R12

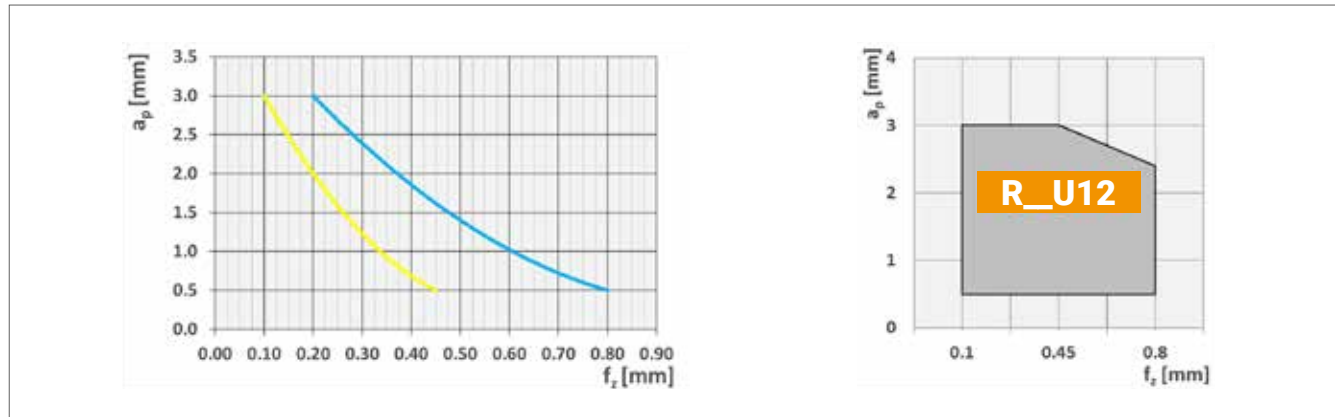
Insert	Designation	Grade	Geometry	Material number
	RNKU1204MOERRP	PKM30C	...-RP	11979067
	RNKU1204MOERRP	PM35P	...-RP	11979068
	ROHU1204MOERFU	MP40PX	...-FU	12376587
	ROHU1204MOERFU	SM35C	...-FU	12193450

Body	Designation	∅ Milling cutter [mm]	z	Material number
	RQ8D032Z03A32R12L131-70	32	3	11775976
	RQ8D032Z03A32R12L165-70	32	3	11984880
	RQ8D040Z04S16R12L40	40	4	11718939
	RQ8D050Z05S22R12L40	50	5	11775978
	RQ8D063Z06S22R12L40	63	6	11775977
	RQ8D080Z08S27R12L50	80	8	11984879
	RQ8D100Z10S32R12L50	100	10	11984878

Spare parts	Designation	Torque moment [Nm]	Material number
	Screw M4.0 x 11.0 – T15+	5	1345432
	Power screw M8.0 x 30.0 (only for RQ8D040Z04S16R12L40)	15	11036880

CUTTING DATA R12

Starting parameters:



Grades and materials:


Grades and materials:				Cutting data		
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]	
P	Steel	RP	220 – 60	0.2 – 0.8	3 – 0.5	
		PKM30C PM35P				
M	Stainless steel	FU	200 – 60	0.1 – 0.45	3 – 0.5	
		MP40PX SM35C				

Recommended!



\varnothing [mm]	a_p [mm]	4 times		8 times	
		$a_{p \max}$ [mm]	$a_{p \max}$ [mm]	$a_{p \max}$ [mm]	$a_{p \max}$ [mm]
12	3.0	5.5	1.7		
16	4.0	7.5	2.3		

AVAILABLE RANGE R16

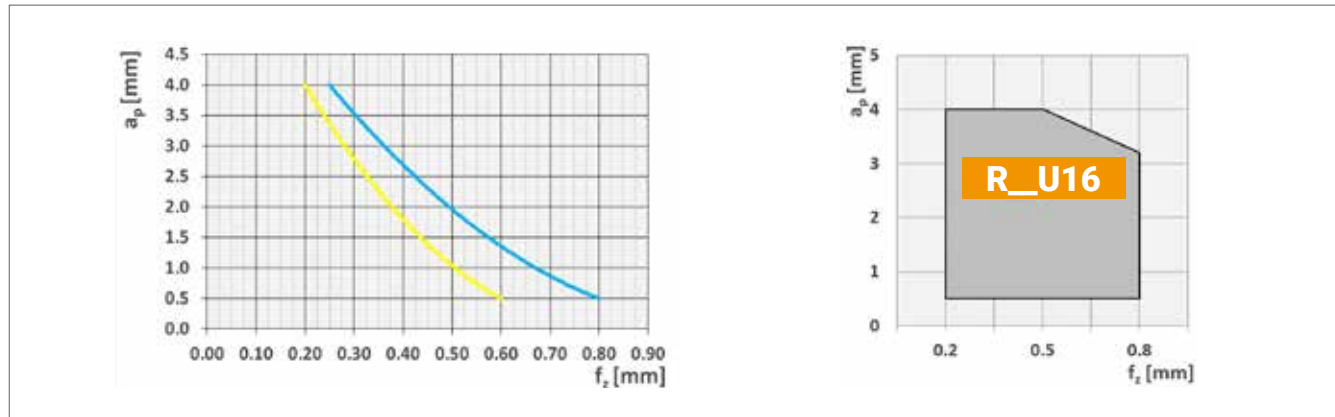
Insert	Designation	Grade	Geometry	Material number
	RNKU1605MOERRP	PKM30C	...-RP	12193454
	RNKU1605MOERRP	PM35P	...-RP	12193465
	ROHU1605MOERFU	MP40PX	...-FU	14652625
	ROHU1605MOERFU	SM35C	...-FU	12193480

Body	Designation	∅ Milling cutter [mm]	z	Material number
	RQ8D063Z05S22R16L40	63	5	11928824

Spare parts	Designation	Torque moment [Nm]	Material number
	M4.5 x 13.0 – T20	5	188399

CUTTING DATA R16

Starting parameters:



Grades and materials:

Grades and materials:				Cutting data		
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]	
P	Steel	RP	220 – 60	0.25 – 0.8	4 – 0.5	
		PKM30C PM35P				
M	Stainless steel	FU	200 – 60	0.2 – 0.6	4 – 0.5	
		MP40PX SM35C				

Recommended!



\varnothing [mm]	4 times		8 times
	a_p [mm]	$a_{p \max}$ [mm]	$a_{p \max}$ [mm]
12	3.0	5.5	1.7
16	4.0	7.5	2.3



OVERVIEW XPLT... XDLT... XDLX... XOLT...

Application

- 1) Face milling
- 2) Angled milling
- 3) Helical plunging
- 4) Plunge milling
- 5) Profile milling
- 6) Pocket milling
- 7) Slot milling

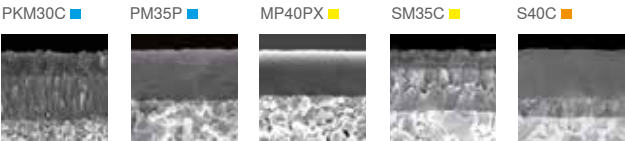
Geometry

RP: Steel – Cast iron*
FU: Stainless Steel – Titanium*

4 effective cutting edges



Grades



Customer benefits

- ▶ With feed rates up to 3 mm / tooth and closely pitched tools, very high chip removal rates are achieved.
- ▶ Maximal tool life thanks to HyperCoat coating.
- ▶ Maximised economy thanks to 4 cutting edges.
- ▶ Reduced machining noise and vibration. Light cutting geometries.
- ▶ Flexibility thanks to coolant holes with minimum quantity lubrication design.

Available in 3 dimensions



Which geometry to use?





RP
 Strong cutting edge for general steel applications and tough conditions milling.



FU
 Sharp cutting edge for general stainless steel applications and for finishing in steels.

AVAILABLE RANGE HFC07

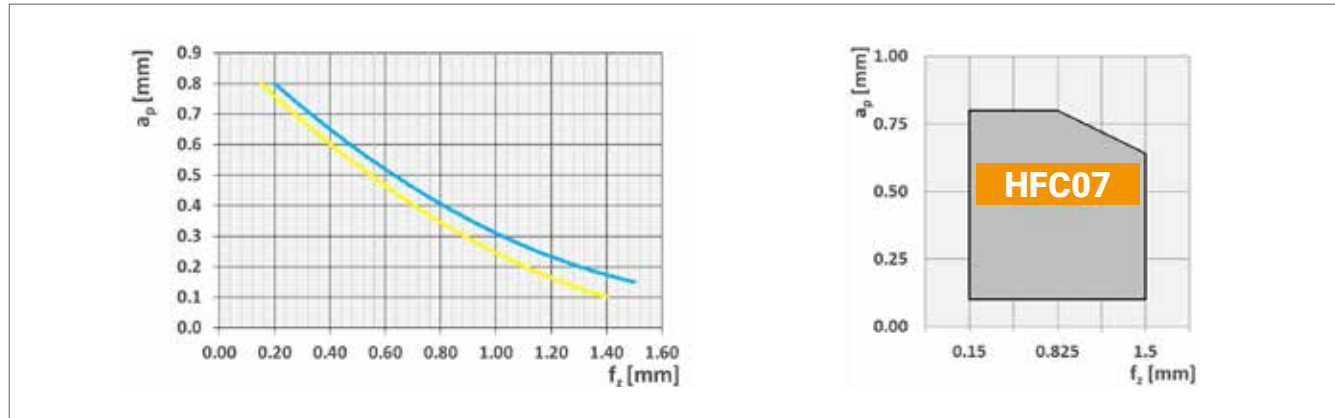
Insert	Designation	Grade	Geometry	Material number
	XPLT070305SRRP	PKM30C	...-RP	12193481
	XPLT070305SRRP	PM35P	...-RP	12193482
	XPLT070305ERFU	MP40PX	...-FU	14652649
	XPLT070305ERFU	SM35C	...-FU	11869773
	XPLT070305ERFU	S40C	...-FU	11869775

Body	Designation	∅ Milling cutter [mm]	z	Material number
	KF4D016Z02A16X07L200-50	16	2	11919179
	KF4D020Z03A20X07L200-50	20	3	11919180
	KF4D025Z04A25X07L200-50	25	4	11919182
	KF4D016Z02M08X07L25	16	2	11919183
	KF4D020Z03M10X07L30	20	3	11919184
	KF4D025Z04M12X07L35	25	4	11919185

Spare parts	Designation	Torque moment [Nm]	Material number
	M2.5x5.0 – T08	1.2	76913

CUTTING DATA HFC07


Starting parameters:





Grades and materials:

Grades and materials:				Cutting data		
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]	
P	Steel	RP	220 – 60	0.2 – 1.5	0.8 – 0.15	
		PKM30C PM35P				
M	Stainless steel	FU	200 – 60	0.15 – 1.4	0.8 – 0.1	
		MP40PX SM35C				
		S40C				

AVAILABLE RANGE HFC10 – XDLT

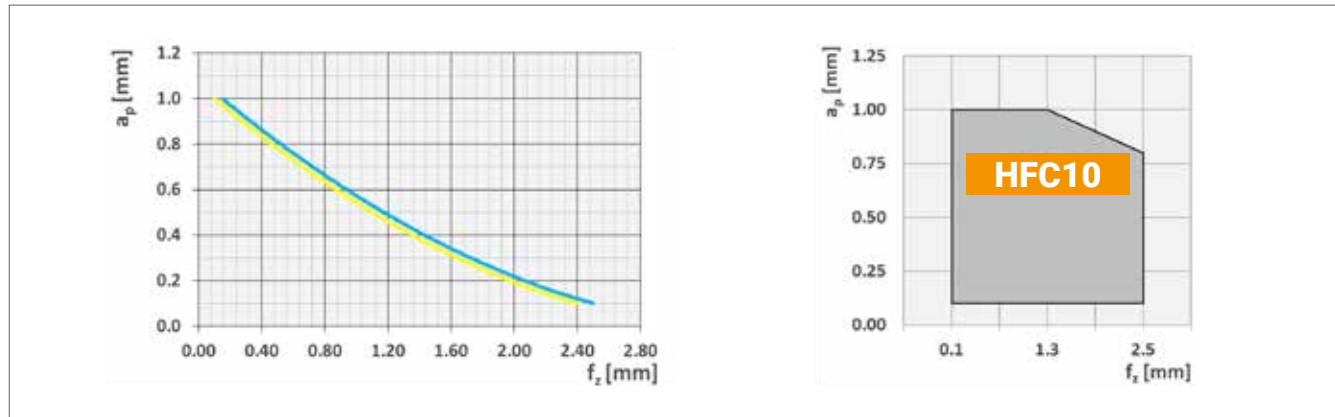
Insert	Designation	Grade	Geometry	Material number
	XDLT10T308SRRP	PKM30C	...-RP	12193485
	XDLT10T308SRRP	PM35P	...-RP	12193487
	XDLT10T308ERFU	MP40PX	...-FU	14652626
	XDLT10T308ERFU	SM35C	...-FU	11940752
	XDLT10T308ERFU	S40C	...-FU	11940753

Body	Designation	∅ Milling cutter [mm]	z	Material number
	KF4D025Z03A25X10L225-50	25	3	11536252
	KF4D040Z04S16X10L40	40	4	11536253
	KF4D050Z05S22X10L40	50	5	11536255
	KF4D063Z06S22X10L40	63	6	11536256

Spare parts	Designation	Torque moment [Nm]	Material number
	M3.5 x 7.2 – T15 (only for A/B)	3.2	54976
	M3.5 x 8.6 – T15 (only for S)	3.2	165795
	Power screw M8.0 x 30.0 (only for KF4D040Z04S16X10L40)	15	11036880

CUTTING DATA HFC10 – XDLT

Starting parameters:



Grades and materials:

Grades and materials:				Cutting data		
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]	
P	Steel	RP	220 – 60	0.15 – 2.5	1 – 0.1	
		PKM30C PM35P				
M	Stainless steel	FU	200 – 60	0.1 – 2.4	1 – 0.1	
		MP40PX				
		SM35C S40C				

AVAILABLE RANGE HFC10 – XDLX

Your advantages / benefits

- ▶ Reduced machining noise and vibration, light cutting geometry
- ▶ Maximized economy thanks to 4 cutting edges
- ▶ Same milling body as previous range
- ▶ Increased productivity
- ▶ Tool life increased



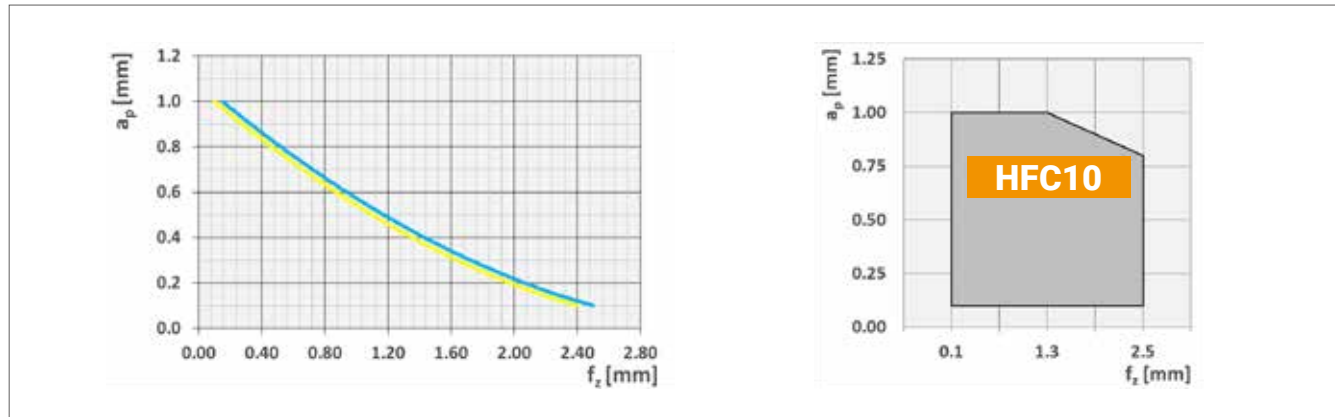
Insert	Designation	Grade	Geometry	Material number
	XDLX10T308SRRP	PKM30C	...-RP	12308829
	XDLX10T308SRRP	PM35P	...-RP	12248334
	XDLX10T308SRFU	MP40PX	...-FU	14652628
	XDLX10T308SRFU	SM35C	...-FU	12188504

Body	Designation	∅ Milling cutter [mm]	z	Material number
	KF4D025Z03A25X10L225-50	25	3	11536252
	KF4D040Z04S16X10L40	40	4	11536253
	KF4D050Z05S22X10L40	50	5	11536255
	KF4D063Z06S22X10L40	63	6	11536256

Spare parts	Designation	Torque moment [Nm]	Material number
	M3.5 x 7.2 – T15 (only for A/B)	3.2	54976
	M3.5 x 8.6 – T15 (only for S)	3.2	165795
	Power screw M8.0 x 30.0 (only for KF4D040Z04S16X10L40)	15	11036880

CUTTING DATA HFC10 – XDLX


Starting parameters:





Grades and materials:

Grades and materials:				Cutting data		
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]	
P	Steel	RP	220 – 60	0.15 – 2.5	1 – 0.1	
		PKM30C PM35P				
M	Stainless steel	FU	200 – 60	0.1 – 2.4	1 – 0.1	
		MP40PX				
		SM35C S40C				

AVAILABLE RANGE HFC13

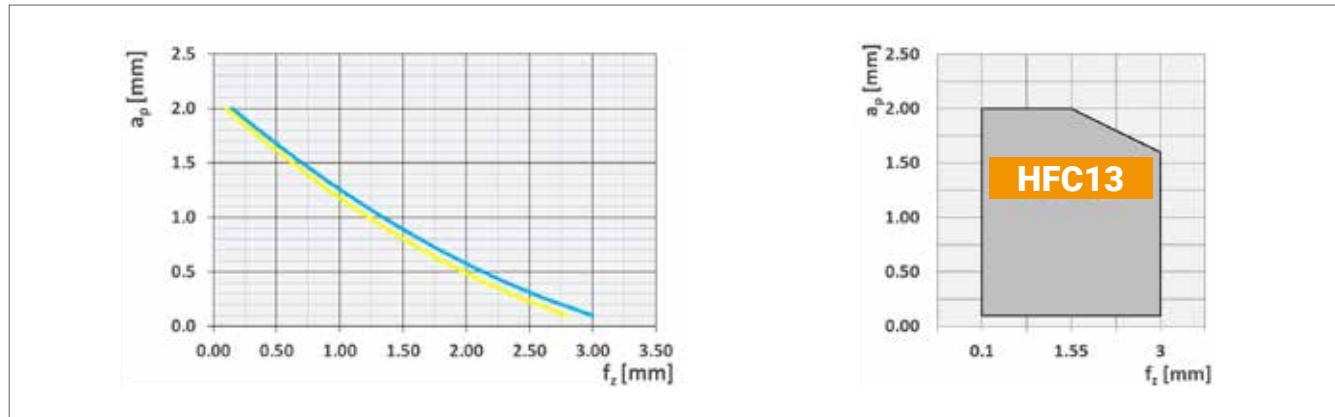
Insert	Designation	Grade	Geometry	Material number
	XOLT130410SRRP	PKM30C	...-RP	12193499
	XOLT130410SRRP	PM35P	...-RP	12193508
	XOLT130410ERFU	MP40PX	...-FU	14652630
	XOLT130410ERFU	SM35C	...-FU	11940763
	XOLT130410ERFU	S40C	...-FU	11940765

Body	Designation	∅ Milling cutter [mm]	z	Material number
 	KF4D035Z03A32X13L250-63	35	3	11536246
	KF4D050Z04S22X13L40	50	4	11536249
	KF4D063Z05S22X13L40	63	5	11536248
	KF4D080Z07S27X13L50	80	7	11536247

Spare parts	Designation	Torque moment [Nm]	Material number
	M4.5 x 10.5 – T20	5	106022

CUTTING DATA HFC13

Starting parameters:

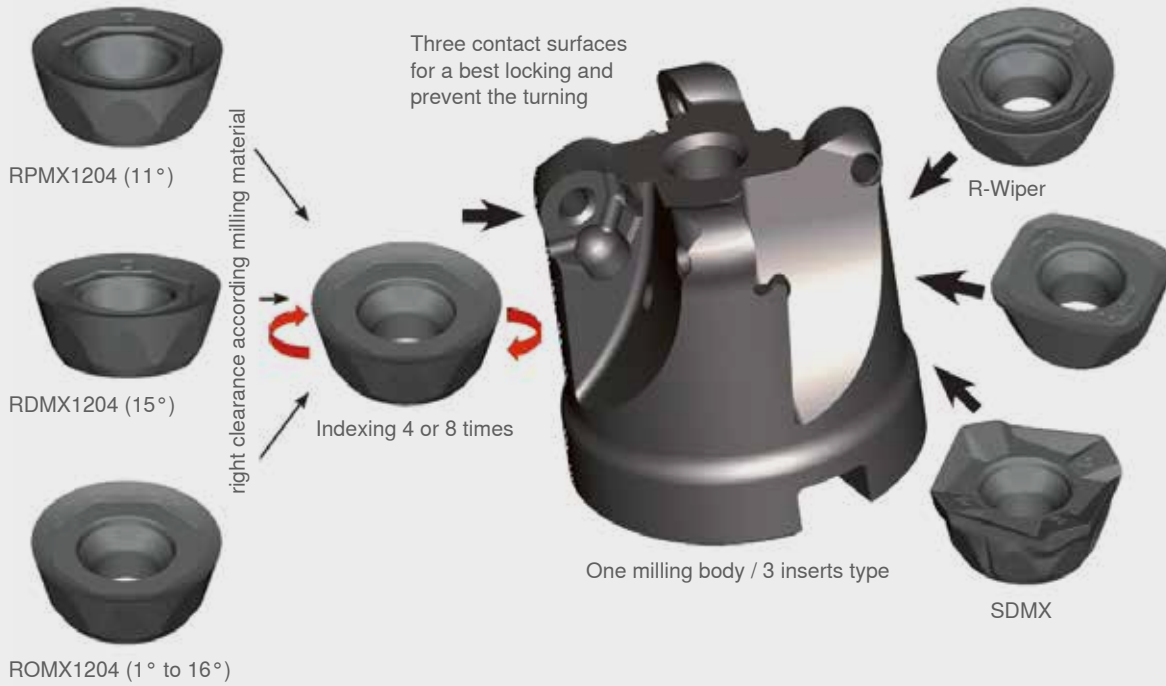


Grades and materials:

Grades and materials:				Cutting data		
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]	
P	Steel	RP	PKM30C	220 – 60	0.15 – 2.5	2 – 0.1
			PM35P			
M	Stainless steel	FU	MP40PX	200 – 60	0.1 – 2.4	2 – 0.1
			SM35C			
			S40C			

Standard application

Additional application



OVERVIEW SDMX

Application

1) Face milling



2) Angled milling



3) Slot milling



4) Chamfering



5) Profile milling



Geometry

RP: Steel – Cast iron*

FU: Stainless Steel

4 effective cutting edges



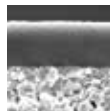
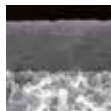
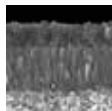
Grades

PKM30C ■

PM35P ■

MP40PX ■

SM35C ■

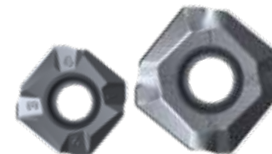


Customer benefits

- ▶ Indexing of the insert without complete removal of the clamping screw is possible!
- ▶ Direct insert indexing saves valuable machine time.



Available in 2 dimensions



IC 12

IC 16

Which geometry to use?



RP

Strong cutting edge for general steel applications and tough conditions milling.







FU


Sharp cutting edge for general stainless steel applications and for finishing in steels.

* secondary application

AVAILABLE RANGE SDM X11

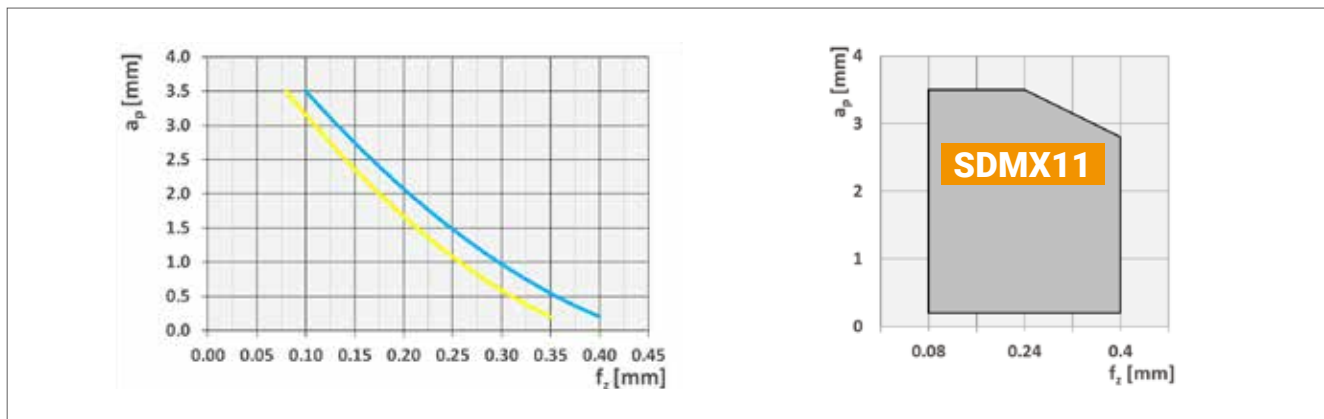
Insert	Designation	Grade	Geometry	Material number
	SDMX1105AEERRP	PKM30C	...-RP	12193911
	SDMX1105AEERRP	PM35P	...-RP	12193912
	SDMX1105AEERFU	MP40PX	...-FU	14652653
	SDMX1105AEERFU	SM35C	...-FU	12193916

Body	Designation	∅ Milling cutter [mm]	z	Material number
	RQ4D025Z02A25R12L86-30	25	2	11720305
	RQ4D025Z02A25R12L116-60	25	2	11720307
	RQ4D032Z03A32R12L100-40	32	3	11720308
	RQ4D032Z03A32R12L130-70	32	3	11720310
	RQ4D025Z02M12R12L35	25	2	12156946
	RQ4D035Z03M16R12L40	35	3	14653989
	RQ4D040Z04S16R12L40	40	4	11596003
	RQ4D042Z04S16R12L40	42	4	14653984
	RQ4D050Z05S22R12L40	50	5	11667287
	RQ4D052Z05S22R12L40	52	5	14427687
	RQ4D063Z06S22R12L40	63	6	11667291
	RQ4D066Z06S27R12L40	66	6	14653987
	RQ4D080Z08S27R12L50	80	8	11707446
	RQ4D100Z10S32R12L50	100	10	11707445

Spare parts	Designation	Torque moment [Nm]	Material number
	M4.0 x 8.5 – T15 (only for A/B + M)	5	11037484
	M4.0 x 11.0 – T15+ (only for S)	5	1345432
	Power screw M8.0 x 30.0 (for RQ4D040Z04S16R12L40 and RQ4D042Z04S16R12L40)	15	11036880

CUTTING DATA SDMX11


Starting parameters:





Grades and materials:

Grades and materials:				Cutting data		
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]	
P	Steel	RP	220 – 60	0.1 – 0.4	3.5 – 0.2	
		PKM30C PM35P				
M	Stainless steel	FU	200 – 60	0.08 – 0.35	3.5 – 0.2	
		MP40PX SM35C				

AVAILABLE RANGE SDMX15

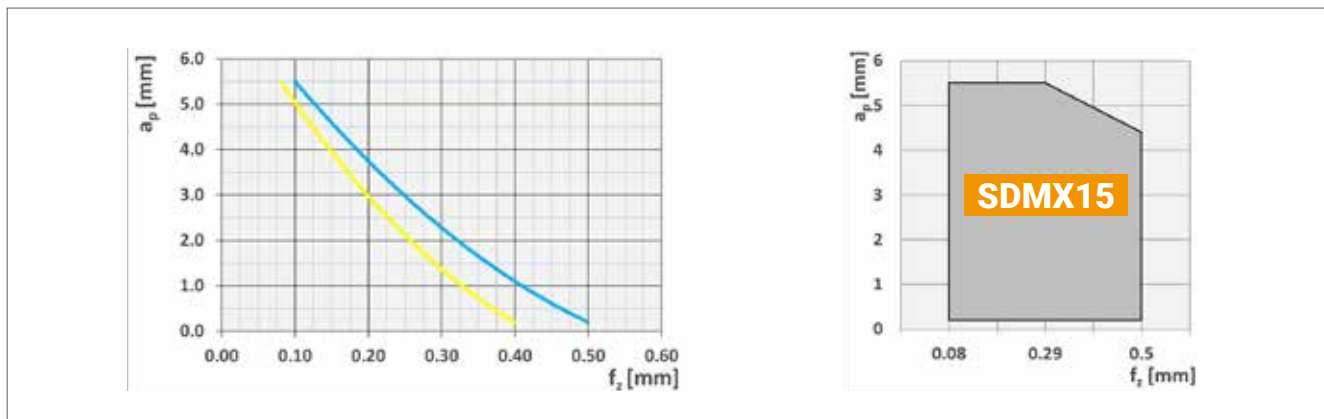
Insert	Designation	Grade	Geometry	Material number
	SDMX1506AEERRP	PKM30C	...-RP	12193917
	SDMX1506AEERRP	PM35P	...-RP	12212274
	SDMX1506AEERFU	MP40PX	...-FU	14652655
	SDMX1506AEERFU	SM35C	...-FU	12212268

Body	Designation	∅ Milling cutter [mm]	z	Material number
	RQ4D050Z03S22R16L40	50	3	11739864
	RQ4D052Z04S22R16L40	52	4	14653992
	RQ4D063Z05S22R16L40	63	5	11739862
	RQ4D066Z05S22R16L40	66	5	14653995
	RQ4D080Z06S27R16L50	80	6	11739860
	RQ4D100Z07S32R16L50	100	7	11739857
	RQ4D125Z08S40R16L63	125	8	11739853

Spare parts	Designation	Torque moment [Nm]	Material number
	M4.5 x 13.0 – T20+	5	1345431
	Power screw M10.0 x 31.0 (for RQ4D050Z03S22R16L40 and RQ4D052Z04S22R16L40)	20	11040298

CUTTING DATA SDMX15

Starting parameters:








Grades and materials:

Grades and materials:				Cutting data		
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]	
P	Steel	RP	220 – 60	0.1 – 0.5	5.5 – 0.2	
		PKM30C PM35P				
M	Stainless steel	FU	200 – 60	0.08 – 0.4	5.5 – 0.2	
		MP40PX SM35C				



OVERVIEW RPMX-MF

Application

- 1) Face milling 
- 2) Angled milling 
- 3) Slot milling 
- 4) Chamfering 
- 5) Profile milling 

Geometry

RP: Steel – Cast iron*

FU: Stainless Steel

Indexing 4 / Wiper

4 cutting edges Wiper for a best finishing.



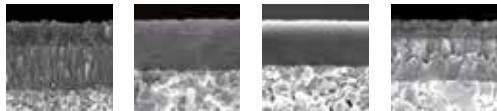
Grades

PKM30C 

PM35P 

MP40PX 

SM35C 



* secondary application

Customer benefits

- ▶ Indexing of the insert without complete removal of the clamping screw is possible!
- ▶ Direct insert indexing saves valuable machine time.



Available in 2 dimensions



Which geometry to use?



RP


Strong cutting edge for general steel applications and tough conditions milling.







FU

Sharp cutting edge for general stainless steel applications and for finishing in steels.

AVAILABLE RANGE R...X12-MF

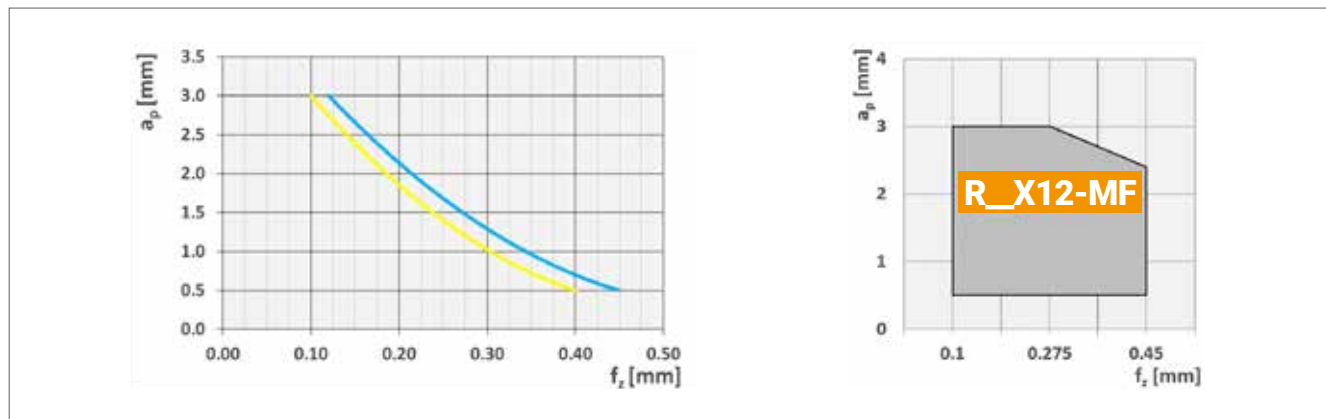
Insert	Designation	Grade	Geometry	Material number
	RPMX1204MOMFRP	PKM30C	...-RP	11988961
	RPMX1204MOMFRP	PM35P	...-RP	11988960
	RPMX1204MOMFFU	MP40PX	...-FU	11988957
	RPMX1204MOMFFU	SM35C	...-FU	12212285

Body	Designation	∅ Milling cutter [mm]	z	Material number
  	RQ4D025Z02A25R12L86-30	25	2	11720305
	RQ4D025Z02A25R12L116-60	25	2	11720307
	RQ4D032Z03A32R12L100-40	32	3	11720308
	RQ4D032Z03A32R12L130-70	32	3	11720310
	RQ4D025Z02M12R12L35	25	2	12156946
	RQ4D035Z03M16R12L40	35	3	14653989
	RQ4D040Z04S16R12L40	40	4	11596003
	RQ4D042Z04S16R12L40	42	4	14653984
	RQ4D050Z05S22R12L40	50	5	11667287
	RQ4D052Z05S22R12L40	52	5	14427687
	RQ4D063Z06S22R12L40	63	6	11667291
	RQ4D066Z06S27R12L40	66	6	14653987
	RQ4D080Z08S27R12L50	80	8	11707446
	RQ4D100Z10S32R12L50	100	10	11707445

Spare parts	Designation	Torque moment [Nm]	Material number
	M4.0 x 8.5 – T15 (only for A/B + M)	5	11037484
	M4.0 x 11.0 – T15+ (only for S)	5	1345432
	Power screw M8.0 x 30.0 (for RQ4D040Z04S16R12L40 and RQ4D042Z04S16R12L40)	15	11036880

CUTTING DATA R...X12-MF

Starting parameters:



Grades and materials:

Grades and materials:				Cutting data		
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]	
P	Steel	RP	220 – 60	0.12 – 0.45	3 – 0.5	
		PKM30C PM35P				
M	Stainless steel	FU	200 – 60	0.1 – 0.4	3 – 0.5	
		MP40PX SM35C				


Recommended!




4 times

\varnothing [mm]	a_p [mm]	$a_{p \max}$ [mm]
12	3.0	5.5
16	4.0	7.5

AVAILABLE RANGE R...X16-MF

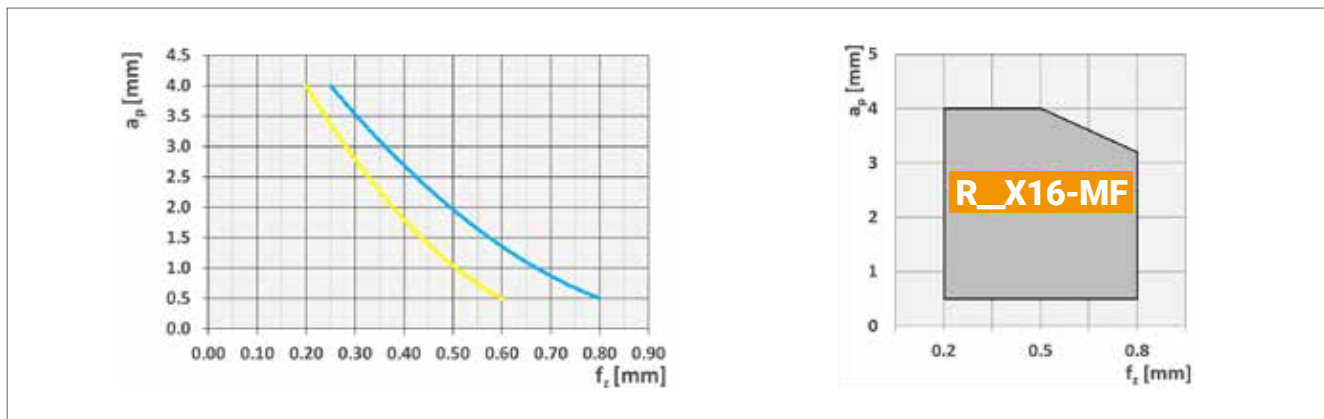
Insert	Designation	Grade	Geometry	Material number
	RPMX1605MOMFRP	PKM30C	...-RP	11988954
	RPMX1605MOMFRP	PM35P	...-RP	11988952
	RPMX1605MOMFFU	MP40PX	...-FU	11988950
	RPMX1605MOMFFU	SM35C	...-FU	12212286

Body	Designation	∅ Milling cutter [mm]	z	Material number
	RQ4D050Z03S22R16L40	50	3	11739864
	RQ4D052Z04S22R16L40	52	4	14653992
	RQ4D063Z05S22R16L40	63	5	11739862
	RQ4D066Z05S22R16L40	66	5	14653995
	RQ4D080Z06S27R16L50	80	6	11739860
	RQ4D100Z07S32R16L50	100	7	11739857
	RQ4D125Z08S40R16L63	125	8	11739853

Spare parts	Designation	Torque moment [Nm]	Material number
	M4.5 x 13.0 – T20+	5	1345431
	Power screw M10.0 x 31.0 (for RQ4D050Z03S22R16L40 and RQ4D052Z04S22R16L40)	20	11040298

CUTTING DATA R...X16-MF

Starting parameters:



Grades and materials:

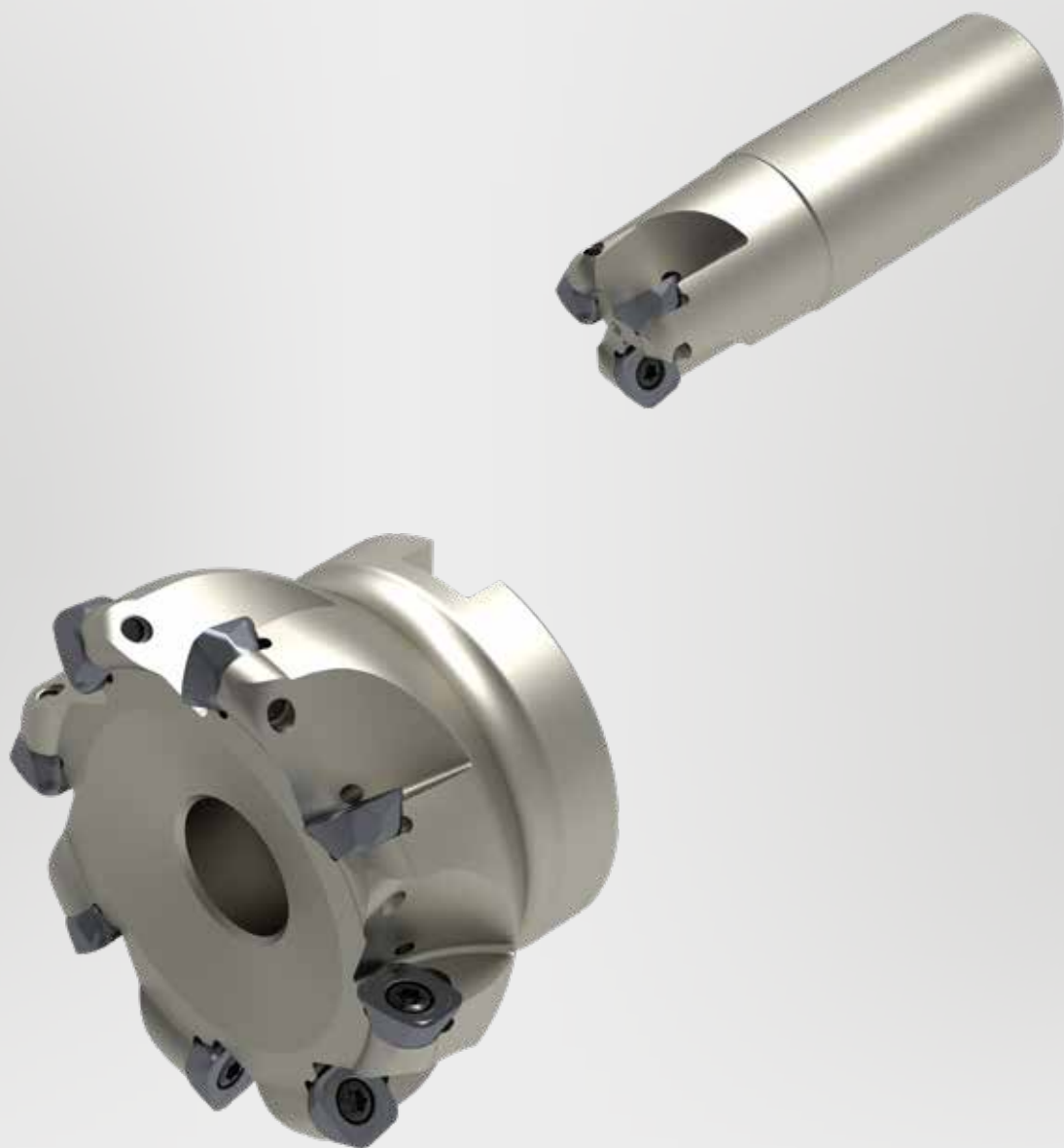
Grades and materials:				Cutting data		
Material group	Geometry	Grade	v_c [m/min]	f_z [mm]	a_p [mm]	
P	Steel	RP	220 – 60	0.25 – 0.8	4 – 0.5	
		PKM30C PM35P				
M	Stainless steel	FU	200 – 60	0.2 – 0.6	4 – 0.5	
		MP40PX SM35C				



4 times

Recommended!

\varnothing [mm]	a_p [mm]	$a_{p\ max}$ [mm]
12	3.0	5.5
16	4.0	7.5



OVERVIEW EOMT

Application

1) Face milling



2) Angled milling



3) Slot milling



4) Chamfering



5) Profile milling



Geometry

RP: Steel – Cast iron*

FU: Stainless Steel

Indexing 2 times



Customer benefits

- ▶ Indexing of the insert without complete removal of the clamping screw is possible!
- ▶ Direct insert indexing saves valuable machine time.



Which geometry to use?



RP

Strong cutting edge for general steel applications and tough conditions milling.



FU

Sharp cutting edge for general stainless steel applications and for finishing in steels.

Grades

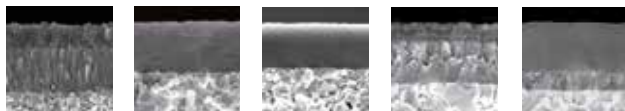
PKM30C ■

PM35P ■


MP40PX ■




SM35C ■


S40C ■



AVAILABLE RANGE EOMT12

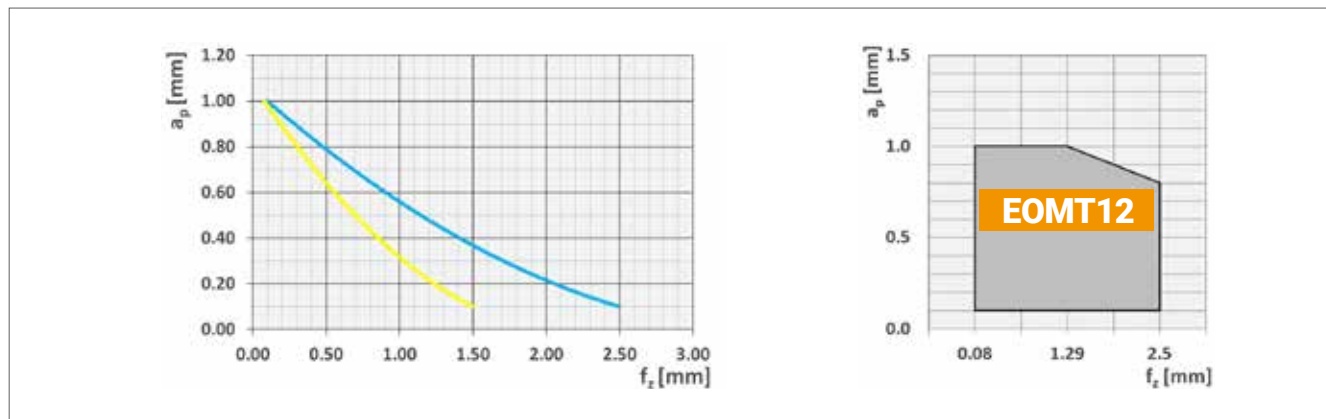
Insert	Designation	Grade	Geometry	Material number
	EOMT120416RP	PKM30C	...-RP	12212261
	EOMT120416RP	PM35P	...-RP	12212263
	EOMT120416FU	MP40PX	...-FU	14652658
	EOMT120416FU	SM35C	...-FU	12212295

Body	Designation	∅ Milling cutter [mm]	z	Material number
  	RQ4D025Z02A25R12L86-30	25	2	11720305
	RQ4D025Z02A25R12L116-60	25	2	11720307
	RQ4D032Z03A32R12L100-40	32	3	11720308
	RQ4D032Z03A32R12L130-70	32	3	11720310
	RQ4D025Z02M12R12L35	25	2	12156946
	RQ4D035Z03M16R12L40	35	3	14653989
	RQ4D040Z04S16R12L40	40	4	11596003
	RQ4D042Z04S16R12L40	42	4	14653984
	RQ4D050Z05S22R12L40	50	5	11667287
	RQ4D052Z05S22R12L40	52	5	14427687
	RQ4D063Z06S22R12L40	63	6	11667291
	RQ4D066Z06S27R12L40	66	6	14653987
RQ4D080Z08S27R12L50	80	8	11707446	
RQ4D100Z10S32R12L50	100	10	11707445	

Spare parts	Designation	Torque moment [Nm]	Material number
	M4.0 x 8.5 – T15 (only for A/B + M)	5	11037484
	M4.0 x 11.0 – T15+ (only for S)	5	1345432
	Power screw M8.0 x 30.0 (for RQ4D040Z04S16R12L40 and for RQ4D042Z04S16R12L40)	15	11036880

CUTTING DATA EOMT12

Starting parameters:



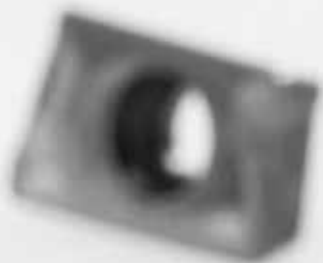
Grades and materials:

Material group		Geometry	Grade	v_c [m/min]	Cutting data f_z [mm]	a_p [mm]
P	Steel	RP	PKM30C	220 – 60	0.1 – 2.5	1 – 0.1
			PM35P			
M	Stainless steel	FU	MP40PX	200 – 60	0.08 – 1.5	1 – 0.1
			SM35C			



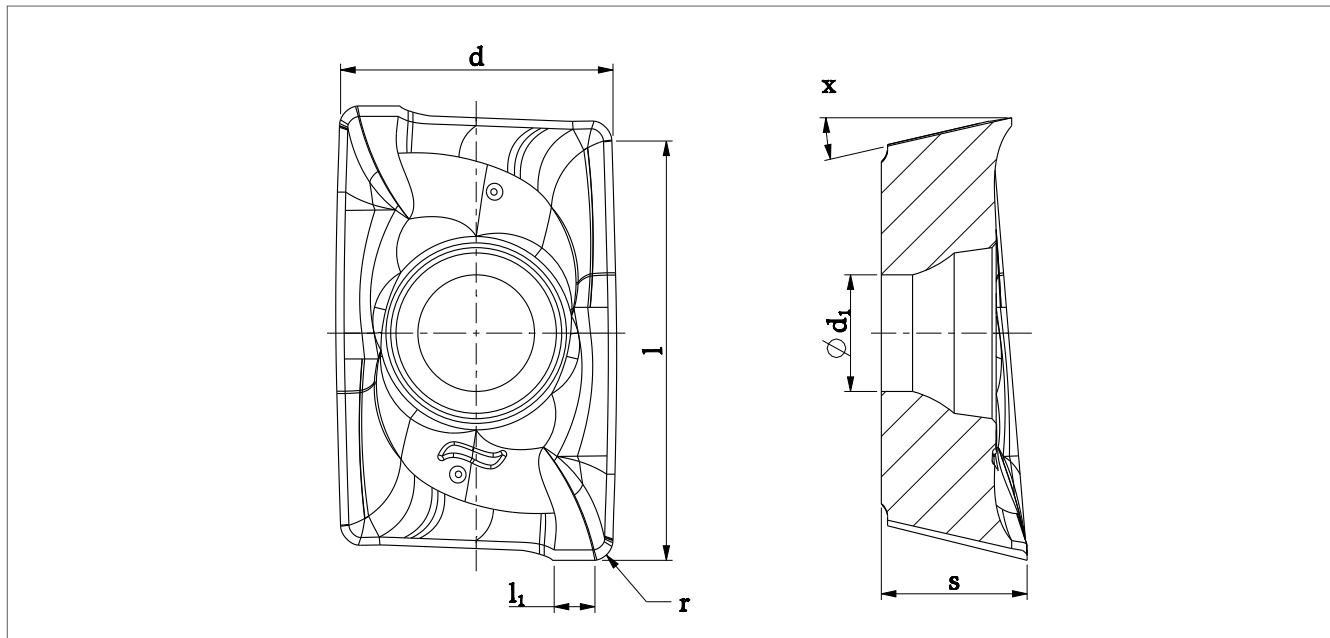
TECHNICAL DATA





SHOULDERING 2 x 90°

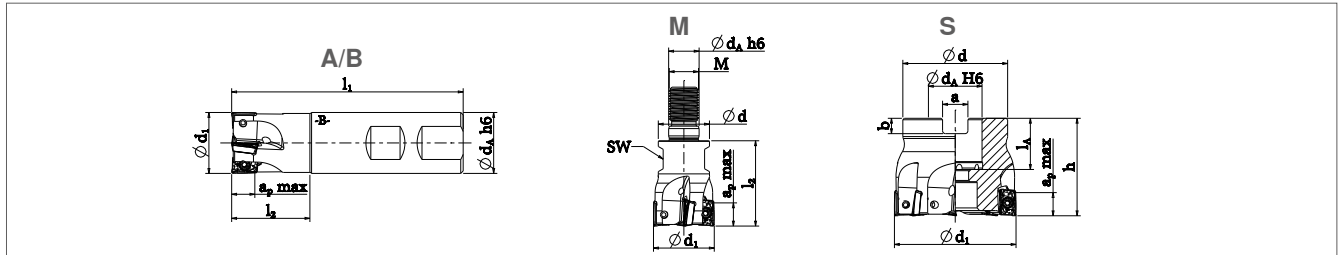
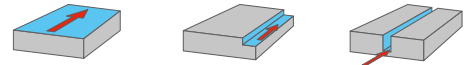
Insert (APKT / APHT 10)



Description	d [mm]	l [mm]	s [mm]	l ₁ [mm]	r [mm]	d ₁ [mm]	x [°]
APKT1003PDERRP	6.75	10	3.5	1	0.5	2.8	11
APKT1003PDERFU	6.75	10	3.5	1	0.5	2.8	11
APKT1003PDERGK	6.75	10	3.5	1	0.5	2.8	11
APHT100302FRSN	6.75	10	3	2.2	0.2	2.8	11
APHT100304FRSN	6.75	10	3	2.2	0.4	2.8	11
APHT100308FRSN	6.75	10	3	2.2	0.8	2.8	11
APKT100308ERSR	6.7	10	3.5	0.64	0.85	2.8	11
APKT100312ERSR	6.7	10	3.5	0.5	1.2	2.8	11
APKT100316ERSR	6.7	11.5	3.4	0	1.6	2.8	11
APKT100330ERSR	6.7	11.5	3.4	0.2	3	2.8	11

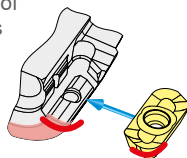
SHOULDERING 2 x 90°

Milling body (APKT10)

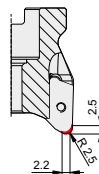


Description	Ø d ₁ [mm]	l ₁ [mm]	l ₂ [mm]	h [mm]	Ø d _A H6/h6 [mm]	a _p max [mm]	n _{max} [min ⁻¹]	z	Ø d [mm]	SW	M	l _A [mm]	a [mm]	b [mm]
HQ2D012Z01B16A10L79-24	12	79	24	-	16	10	55000	1	-	-	-	-	-	-
HQ2D016Z02B16A10L80-25	16	80	25	-	16	10	42000	2	-	-	-	-	-	-
HQ2D020Z03B20A10L85-25	20	85	25	-	20	10	36900	3	-	-	-	-	-	-
HQ2D025Z04B25A10L95-32	25	95	32	-	25	10	33200	4	-	-	-	-	-	-
HQ2D032Z05B32A10L105-40	32	105	40	-	32	10	30200	5	-	-	-	-	-	-
HQ2D016Z02M08A10L25	16	-	25	-	8.5	10	42000	2	13	SW10	M8	-	-	-
HQ2D020Z03M10A10L30	20	-	30	-	10.5	10	36900	3	18	SW15	M10	-	-	-
HQ2D025Z04M12A10L35	25	-	35	-	12.5	10	33200	4	21	SW17	M12	-	-	-
HQ2D032Z05M16A10L40	32	-	40	-	17	10	30200	5	29	SW24	M16	-	-	-
HQ2D040Z04S16A10L40	40	-	-	40	16	10	27700	4	38	-	-	19	8.4	5.6
HQ2D040Z06S16A10L40	40	-	-	40	16	10	27700	6	38	-	-	19	8.4	5.6
HQ2D050Z05S22A10L40	50	-	-	40	22	10	25400	5	43	-	-	21	10.4	6.3
HQ2D050Z08S22A10L40	50	-	-	40	22	10	25400	8	43	-	-	21	10.4	6.3
HQ2D063Z06S22A10L40	63	-	-	40	22	10	23300	6	48	-	-	21	10.4	6.3
HQ2D063Z09S22A10L40	63	-	-	40	22	10	23300	9	48	-	-	21	10.4	6.3
HQ2D080Z07S27A10L50	80	-	-	50	27	10	21300	7	58	-	-	23	12.4	7
HQ2D080Z10S27A10L50	80	-	-	50	27	10	21300	10	58	-	-	23	12.4	7
HQ2D100Z12S32A10L50	100	-	-	50	32	10	19600	12	78	-	-	26	14.4	8

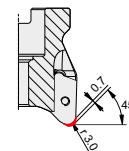
Modification of
cutter bodies



> r 1.6

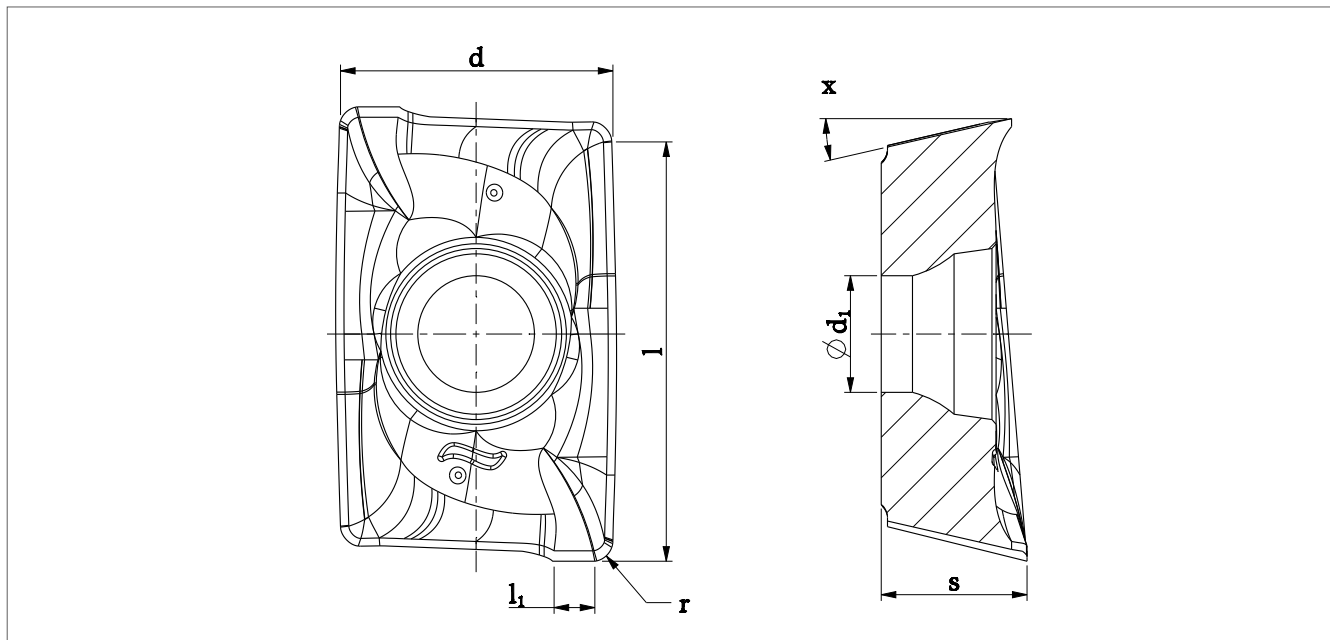


> r 3.0



SHOULDERING 2 x 90°

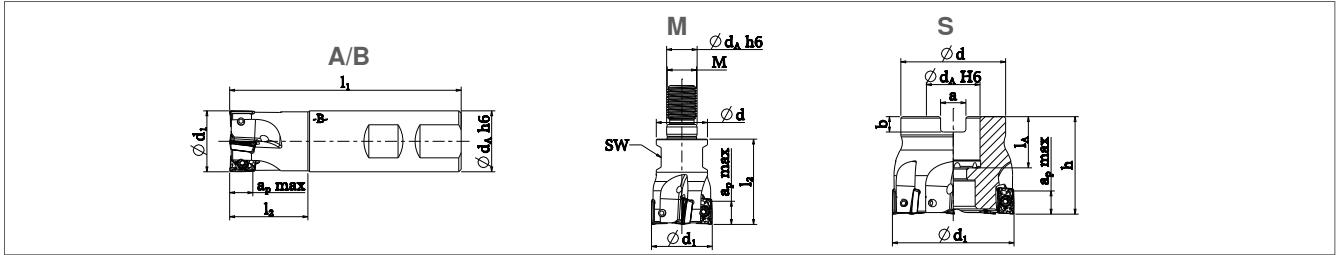
Insert (APKT / APHT 16)



Description	d [mm]	l [mm]	s [mm]	l_1 [mm]	r [mm]	d_1 [mm]	x [°]
APKT 1604PDER-RP	9.5	15.3	5.25	1.4	0.85	4.4	11.5
APKT 1604PDER-FU	9.5	15.3	5.25	1.4	0.85	4.4	11.5
APKT 1604PDER-GK	9.5	15.3	5.25	1.4	0.85	4.4	11.5
APHT 1604PDFR-SN	9.5	15.3	4.65	2	0.85	4.4	11.5
APKT 160416ER-SR	9.5	15.3	5.25	0.65	1.6	4.4	11.5
APKT 160424ER-SR	9.5	15.3	5.25	0.6	2.4	4.4	11.5
APKT 160432ER-SR	9.5	15.3	5.25	0.3	3.2	4.4	11.5
APKT 160440ER-SR	9.5	15.3	5.25	0.3	4.0	4.4	11.5
APKT 160448ER-SR	9.5	15.3	5.8	0.3	4.8	4.4	11.5

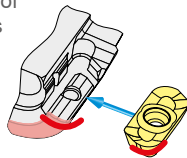
SHOULDERING 2 x 90°

Milling body (APKT16)

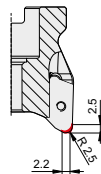


Description	$\varnothing d_1$ [mm]	l_1 [mm]	l_2 [mm]	h [mm]	$\varnothing d_A$ H6/h6 [mm]	$a_p \text{ max}$ [mm]	n_{max} [min ⁻¹]	z	$\varnothing d$ [mm]	SW	M	l_A [mm]	a [mm]	b [mm]
HQ2D025Z02B25A16L95-40	25	95	40	-	25	15.3	26560	2	-	-	-	-	-	-
HQ2D032Z03B32A16L105-40	32	105	40	-	32	15.3	24160	3	-	-	-	-	-	-
HQ2D040Z04B40A16L125-50	40	125	50	-	40	15.3	22160	4	-	-	-	-	-	-
HQ2D025Z02M12A16L35	25	-	35	-	12.5	15.3	26560	2	21	SW17	M12	-	-	-
HQ2D032Z03M16A16L40	32	-	40	-	17	15.3	20500	3	29	SW24	M15	-	-	-
HQ2D040Z04M16A16L40	40	-	40	-	17	15.3	16400	4	29	SW24	M16	-	-	-
HQ2D040Z04S16A16L40	40	-	-	40	16	15.3	22160	4	38	-	-	20	8.4	5.6
HQ2D050Z05S22A16L40	50	-	-	40	22	15.3	20320	5	43	-	-	21	10.4	6.3
HQ2D063Z06S22A16L40	63	-	-	40	22	15.3	18640	6	48	-	-	21	10.4	6.3
HQ2D080Z07S27A16L50	80	-	-	50	27	15.3	17040	7	58	-	-	23	12.4	7
HQ2D080Z08S27A16L50	80	-	-	50	27	15.3	17040	8	58	-	-	23	12.4	7
HQ2D100Z09S32A16L50	100	-	-	50	32	15.3	15680	9	78	-	-	26	14.4	8
HQ2D125Z09S40A16L63	125	-	-	63	40	15.3	12600	9	88	-	-	28	16.4	9

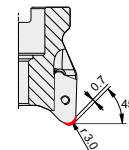
Modification of
cutter bodies



> r 1.6



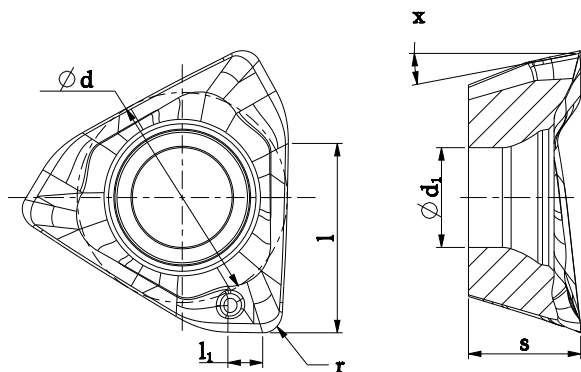
> r 3.0





SHOULDERING 3 x 90°

Insert (TOKX)



-RP



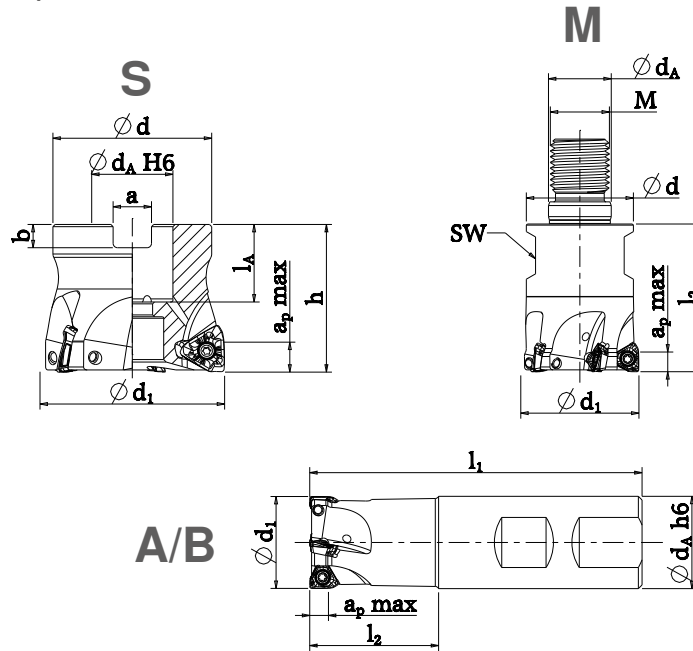
-FU

Description	d [mm]	l [mm]	s [mm]	l ₁ [mm]	r [mm]	d ₁ [mm]
TOKX070305PDERRP	5.9	5.5	3.15	1	0.5	2.8
TOKX070305PDERFU	5.9	5.5	3.15	1	0.5	2.8
TOKX070308PDERRP	5.9	5.5	3.15	1	0.8	2.8
TOKX070308PDERFU	5.9	5.5	3.15	1	0.8	2.8
TOKX09T308PDERRP	9.525	9.2	3.8	1.5	0.8	3.4
TOKX09T308PDERFU	9.525	9.2	3.8	1.5	0.8	3.4
TOKX09T312PDERRP	9.525	9.2	3.8	1.5	1.2	3.4
TOKX09T312PDERFU	9.525	9.2	3.8	1.5	1.2	3.4
TOKX09T316PDERRP	9.525	9.2	3.8	1.5	1.6	3.4
TOKX09T316PDERFU	9.525	9.2	3.8	1.5	1.6	3.4

SHOULDERING 3 x 90°

Milling body (TOKX07)

- ▶ Face milling
- ▶ Angled milling
- ▶ Helical plunging
- ▶ Shoulder milling
- ▶ Slot milling
- ▶ Pocket milling

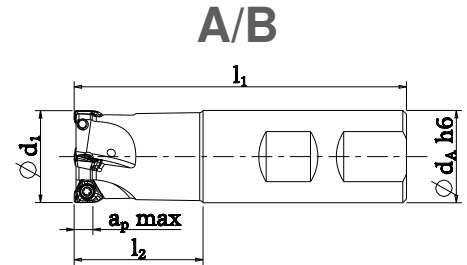
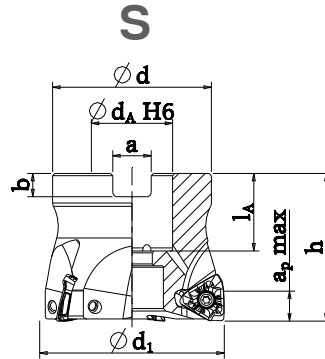


Description	ϕd_1 [mm]	l_1 [mm]	l_2 [mm]	h [mm]	ϕd_A H6/h6 [mm]	$a_p \max$ [mm]	n_{\max} [min ⁻¹]	z	ϕd [mm]	SW	M	l_A [mm]	a [mm]	b [mm]
MQ3D020Z03B20T07L77-25	20	77	25	-	20	5	22000	3	-	-	-	-	-	-
MQ3D025Z04B25T07L90-34	25	90	34	-	25	5	20000	4	-	-	-	-	-	-
MQ3D032Z05B32T07L102-40	32	102	40	-	32	5	19700	5	-	-	-	-	-	-
MQ3D020Z03M10T07L30	20	-	30	-	10.5	5	36900	3	18	SW15	M10	-	-	-
MQ3D025Z04M12T07L35	25	-	35	-	12.5	5	33200	4	21	SW17	M12	-	-	-
MQ3D032Z05M16T07L40	32	-	40	-	17	5	30200	5	29	SW24	M16	-	-	-
MQ3D040Z05S16T07L40	40	-	-	40	16	5	17000	5	38	-	-	20	8.4	5.6
MQ3D050Z06S22T07L40	50	-	-	40	22	5	14800	6	43	-	-	21	10.4	6.3

SHOULDERING 3 x 90°

Milling body (TOKX09)

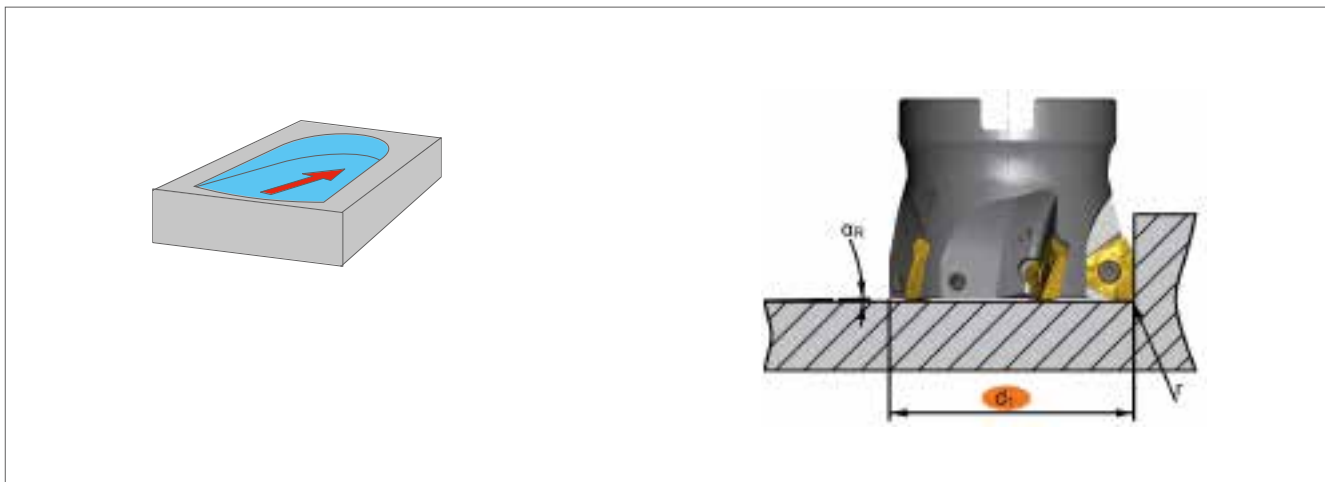
- ▶ Face milling
- ▶ Angled milling
- ▶ Helical plunging
- ▶ Shoulder milling
- ▶ Slot milling
- ▶ Pocket milling



Description	$\varnothing d_1$ [mm]	l_1 [mm]	l_2 [mm]	h [mm]	$\varnothing d_A$ H6/h6 [mm]	$a_p \max$ [mm]	n_{\max} [min ⁻¹]	z	$\varnothing d$ [mm]	l_A [mm]	a [mm]	b [mm]
MQ3D032Z03B32T09L102-40	32	102	40	-	32	8	19700	3	-	-	-	-
MQ3D040Z04S16T09L40	40	-	-	40	16	8	17000	4	38	20.5	8.4	5.6
MQ3D050Z05S22T09L40	50	-	-	40	22	8	14800	5	43	21	10.4	6.3
MQ3D063Z06S22T09L40	63	-	-	40	22	8	12850	6	48	21	10.4	6.3

SHOULDERING 3 x 90°

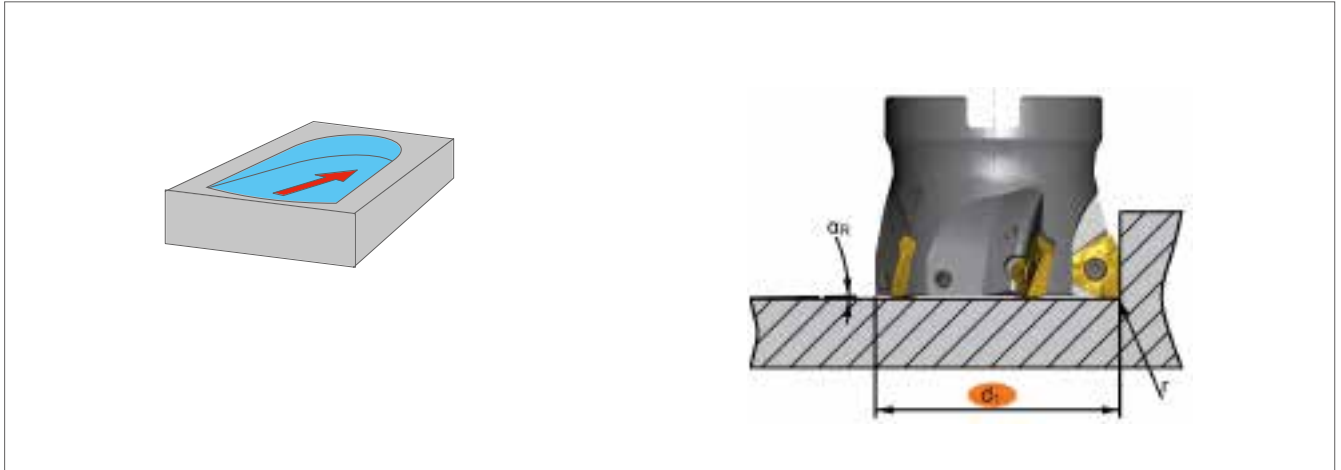
Application data (angled ramping TOKX07)



Description	d_1 [mm]	α_R [°]
MQ3D020Z03B20T07L77-25	20	1.4
MQ3D025Z04B25T07L90-34	25	1.2
MQ3D032Z05B32T07L102-40	32	0.8
MQ3D020Z03M10T07L30	20	1.4
MQ3D025Z04M12T07L35	25	1.2
MQ3D032Z05M16T07L40	32	0.8
MQ3D040Z05S16T07L40	40	0.6
MQ3D050Z06S22T07L40	50	0.5

SHOULDERING 3 x 90°

Application data (angled ramping TOKX09)

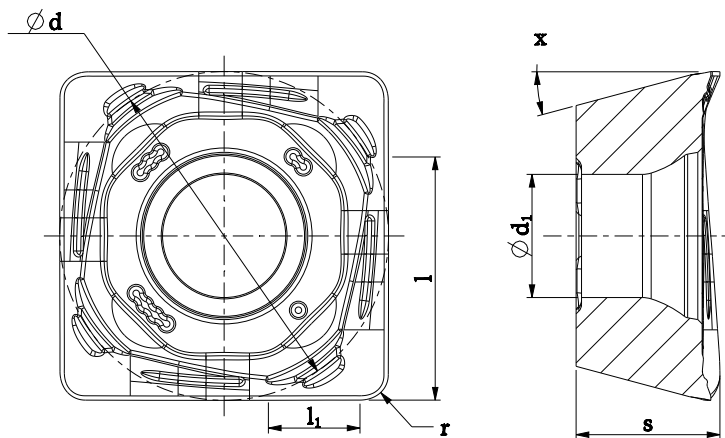


Description	d_r [mm]	α_r [°]
MQ3D032Z03B32T09L102-40	32	1.1
MQ3D040Z04S16T09L40	40	0.8
MQ3D050Z05S22T09L40	50	0.5
MQ3D063Z06S22T09L40	63	0.5



SHOULDERING 4 x 90°

Insert (SDKT)



-RP



-FU



-GK



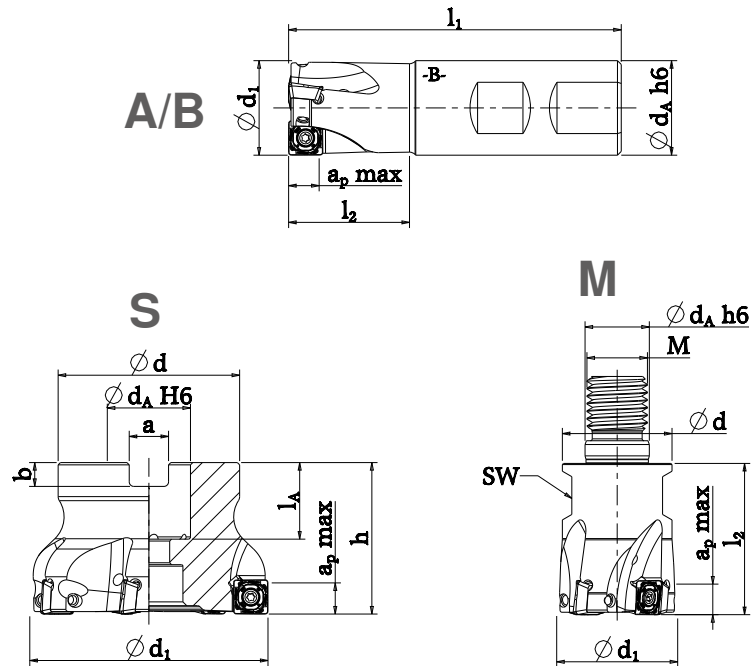
-SN

Description	d [mm]	l [mm]	s [mm]	l_1 [mm]	r [mm]	d_1 [mm]	x [°]
SDKT09T308SRRP	9.9	7.4	3.97	2.5	0.8	3.4	15
SDKT09T308SRFU	9.9	7.4	3.97	2.5	0.8	3.4	15
SDKT09T308SRGK	9.9	7.4	3.97	2.5	0.8	3.4	15
SDHT09T308FRSN	9.9	7.4	3.97	2.5	0.8	3.4	15
SDKT120508SRRP	12.3	9.8	5	2.5	0.8	4.7	15
SDKT120508SRFU	12.3	9.8	5	2.5	0.8	4.7	15
SDKT120508SRGK	12.3	9.8	5	2.5	0.8	4.7	15
SDHT120508FRSN	12.3	9.8	5	2.5	0.8	4.7	15

SHOULDERING 4 x 90°

Milling body (SDKT09)

- ▶ Face milling
- ▶ Angled milling
- ▶ Helical plunging
- ▶ Shoulder milling
- ▶ Slot milling
- ▶ Peripheral milling
- ▶ Trochoidal slot milling

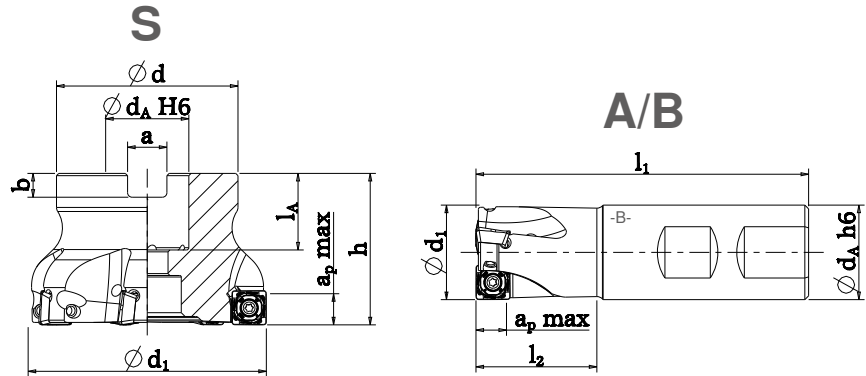


Description	$\varnothing d_1$ [mm]	l_1 [mm]	l_2 [mm]	h [mm]	$\varnothing d_A$ H6/h6 [mm]	a_p max [mm]	n_{max} [min ⁻¹]	z	$\varnothing d$ [mm]	SW	M	l_A [mm]	a [mm]	b [mm]
MQ4D025Z03B32S09L88-32	25	88	32	-	25	8	23700	3	-	-	-	-	-	-
MQ4D032Z04B32S09L100-40	32	100	40	-	32	8	19700	4	-	-	-	-	-	-
MQ4D025Z03M12S09L35	25	-	35	-	12.5	8	33200	3	21	SW17	M12	-	-	-
MQ4D032Z04M16S09L40	32	-	40	-	17	8	30200	4	29	SW24	M16	-	-	-
MQ4D040Z05S16S09L40	40	-	-	40	16	8	17000	5	38	-	-	20	8.4	5.6
MQ4D050Z06S22S09L40	50	-	-	40	22	8	14800	6	43	-	-	20	10.4	6.3
MQ4D063Z07S22S09L40	63	-	-	40	22	8	12855	7	48	-	-	20	10.4	6.3
MQ4D080Z09S27S09L50	80	-	-	50	27	8	11250	9	58	-	-	22	12.4	7

SHOULDERING 4 x 90°

Milling body (SDKT12)

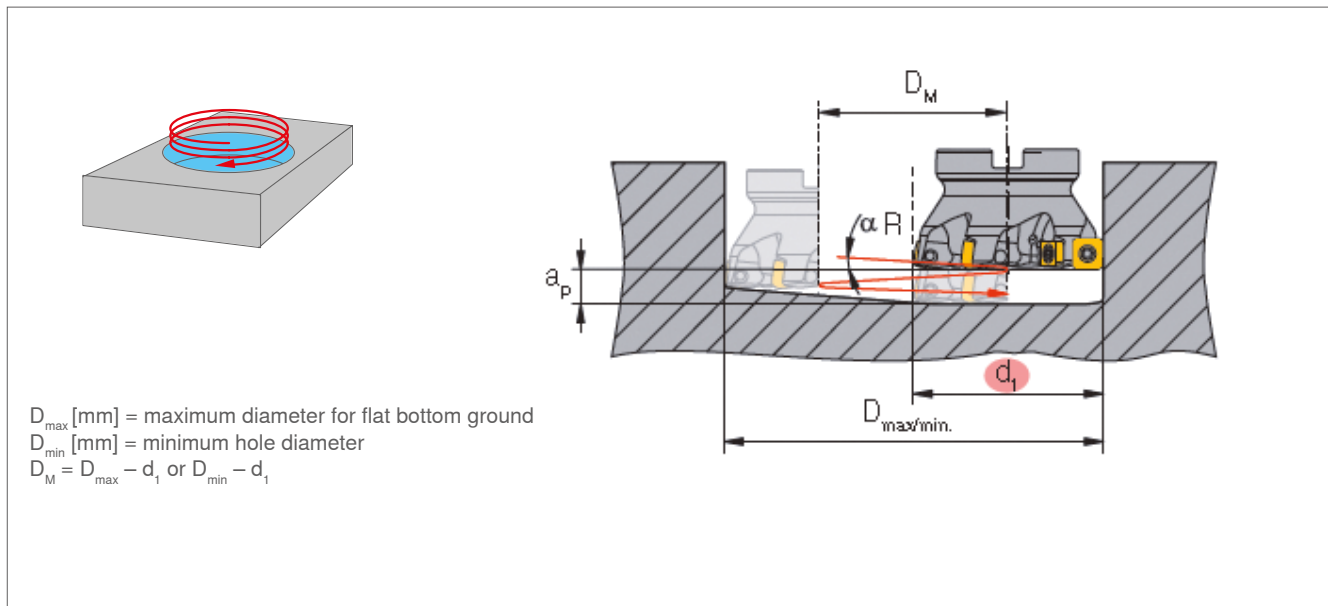
- ▶ Face milling
- ▶ Angled milling
- ▶ Helical plunging
- ▶ Shoulder milling
- ▶ Slot milling
- ▶ Peripheral milling
- ▶ Trochoidal slot milling



Description	Ød ₁ [mm]	l ₁ [mm]	l ₂ [mm]	h [mm]	Ø d _A H6/h6 [mm]	a _p max [mm]	n _{max} [min ⁻¹]	z	Ø d [mm]	l _A [mm]	a [mm]	b [mm]
MQ4D032Z03B32S12L100-40	32	100	40	-	32	10	19700	3	-	-	-	-
MQ4D040Z04S16S12L40	40	-	-	40	16	10	17000	4	38	20	8.4	5.6
MQ4D050Z05S22S12L40	50	-	-	40	22	10	14800	5	43	20	10.4	6.3
MQ4D063Z06S22S12L40	63	-	-	40	22	10	12850	6	48	21	10.4	6.3
MQ4D080Z07S27S12L50	80	-	-	50	27	10	11250	7	58	22	12.4	7

SHOULDERING 4 x 90°

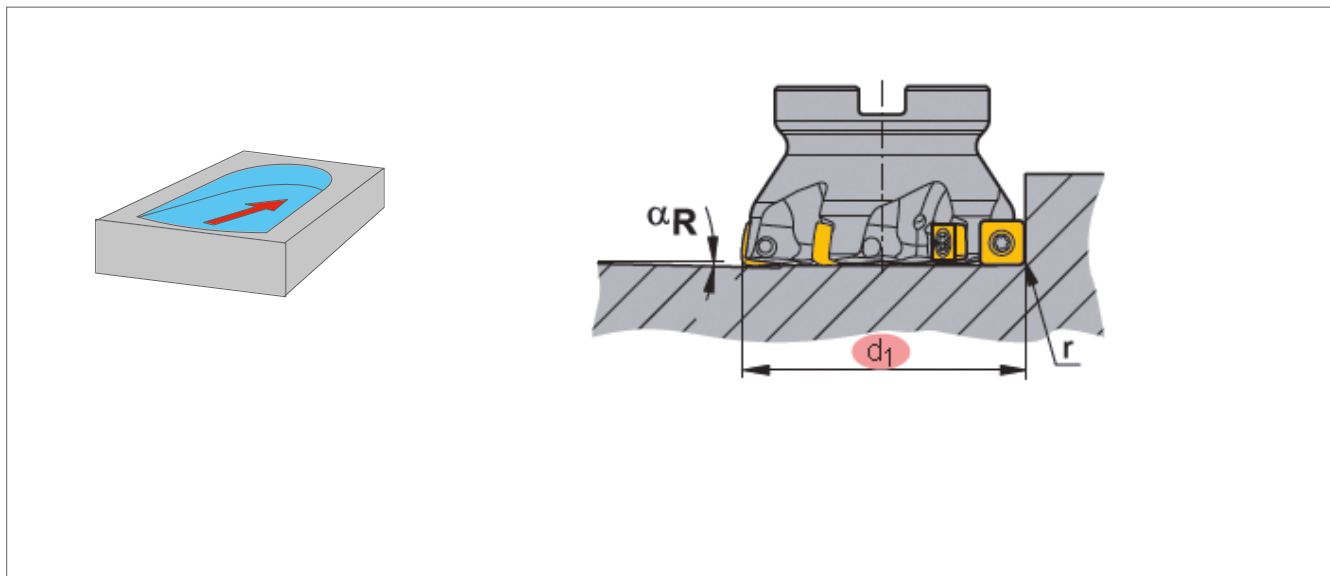
Application data (helical plunge milling SDKT09)



Description	d_1 [mm]	D_{max} [mm]	D_{min} [mm]	α_R [°]
MQ4D025Z03B32S09L88-32	25	48	37	4.4
MQ4D032Z04B32S09L100-40	32	62	47	2.2
MQ4D025Z03M12S09L35	25	48	37	4.4
MQ4D032Z04M16S09L40	32	62	47	2.2
MQ4D040Z05S16S09L40	40	78	63	0.75
MQ4D050Z06S22S09L40	50	98	83	0.5
MQ4D063Z07S22S09L40	63	124	109	0.35
MQ4D080Z09S27S09L50	80	158	143	0.25

SHOULDERING 4 x 90°

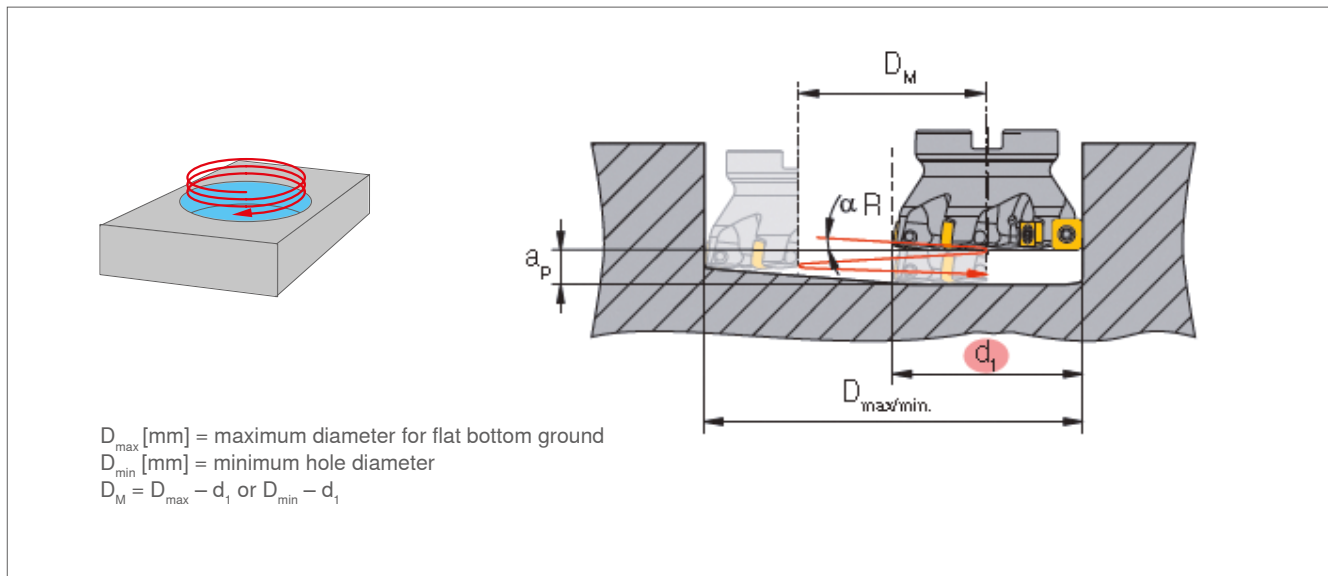
Application data (angled ramping SDKT09)



Description	d_1 [mm]	α_R [°]
MQ4D025Z03B32S09L88-32	25	4.4
MQ4D032Z04B32S09L100-40	32	2.2
MQ4D025Z03M12S09L35	25	4.4
MQ4D032Z04M16S09L40	32	2.2
MQ4D040Z05S16S09L40	40	0.75
MQ4D050Z06S22S09L40	50	0.5
MQ4D063Z07S22S09L40	63	0.35
MQ4D080Z09S27S09L50	80	0.25

SHOULDERING 4 x 90°

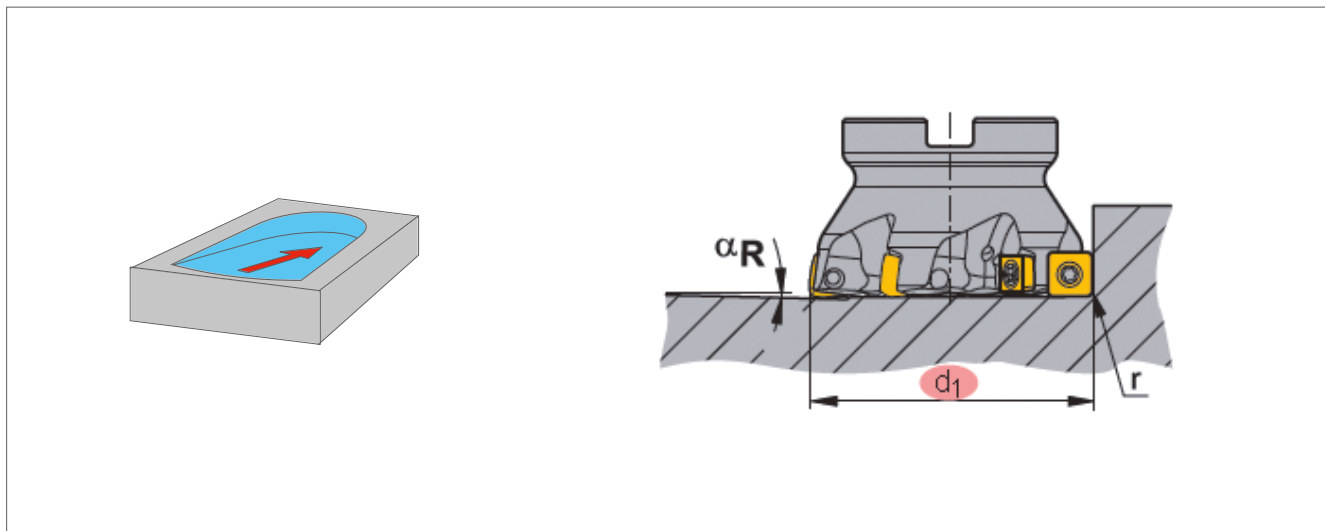
Application data (helical plunge milling SDKT12)



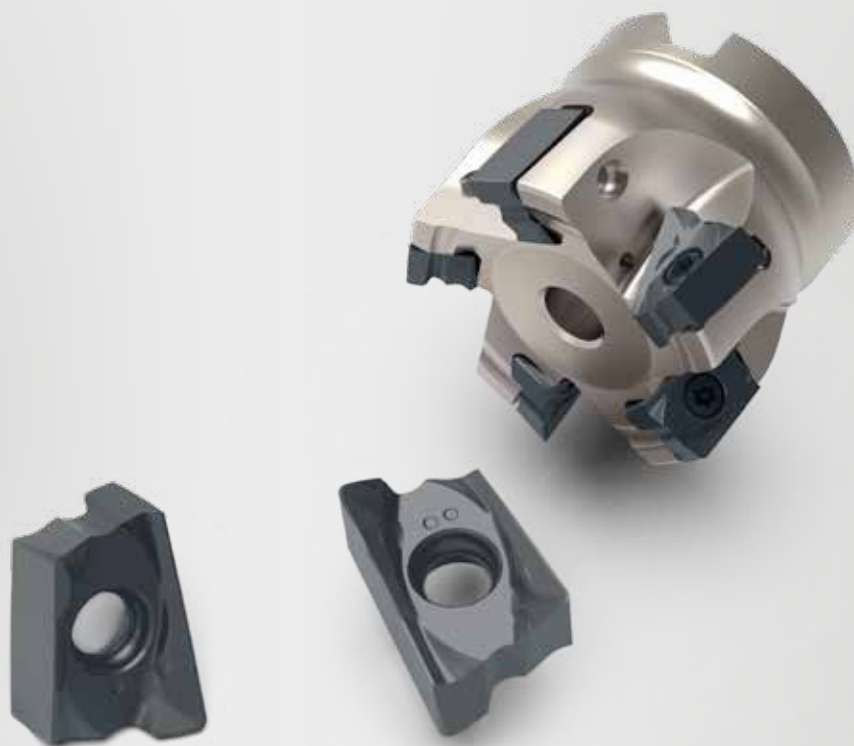
Description	d_1 [mm]	D_{max} [mm]	D_{min} [mm]	α_R [°]
MQ4D032Z03B32S12L100-40	32	62	41	2.0
MQ4D040Z04S16S12L40	40	78	57	2.0
MQ4D050Z05S22S12L40	50	98	77	1.2
MQ4D063Z06S22S12L40	63	124	103	0.7
MQ4D080Z07S27S12L50	80	158	137	0.6

SHOULDERING 4 x 90°

Application data (angled ramping SDKT12)

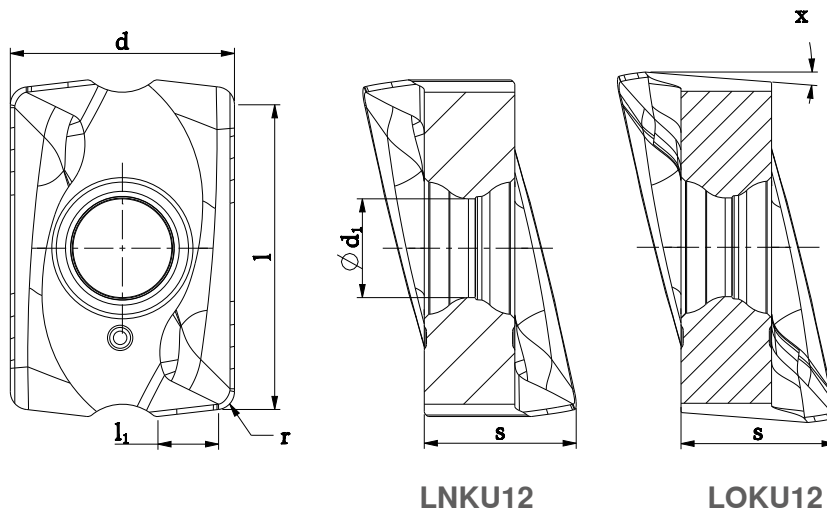


Description	d_1 [mm]	α_R [°]
MQ4D032Z03B32S12L100-40	32	2.0
MQ4D040Z04S16S12L40	40	2.0
MQ4D050Z05S22S12L40	50	1.2
MQ4D063Z06S22S12L40	63	0.7
MQ4D080Z07S27S12L50	80	0.6



SHOULDERING 4 x 90°

Insert (LNKU12 / LOKU12)



LNKU12

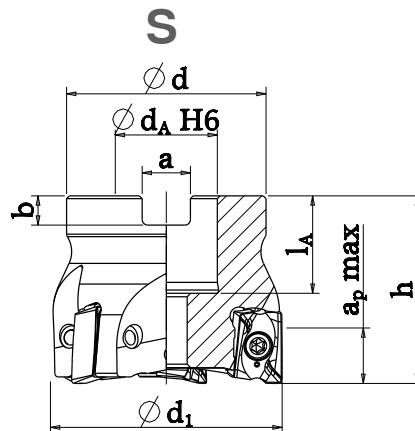
LOKU12

Description	d [mm]	l [mm]	s [mm]	l_1 [mm]	r [mm]	d_1 [mm]	x [°]
LNKU120608ERRP	10	13.4	6.78	2.7	0.8	4.4	0
LNKU120608ERFU	10	13.4	6.78	2.7	0.8	4.4	0
LNKU120608ERGK	10	13.4	6.78	2.7	0.8	4.4	0
LOKU120608ERFU	10	13.4	6.87	2.7	0.8	4.4	5

SHOULDERING 4 x 90°

Milling body (LNKU12 / LOKU12)

- ▶ Face milling
- ▶ Angled milling
- ▶ Helical plunging
- ▶ Shoulder milling
- ▶ Slot milling
- ▶ Pocket milling



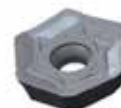
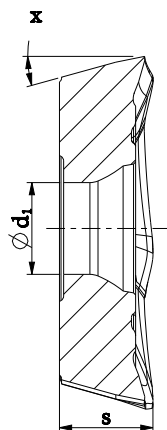
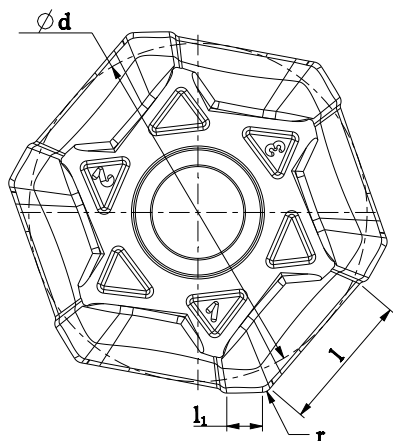
Description	$\varnothing d_1$ [mm]	h [mm]	$\varnothing d_A$ H6/h6 [mm]	$a_p \text{ max}$ [mm]	n_{max} [min ⁻¹]	z	$\varnothing d$ [mm]	l_A [mm]	a [mm]	b [mm]
HQ4D040Z04S16L12L40	40	40 / 40.44*	16	12	17000	4	38	20	8.4	5.6
HQ4D050Z05S22L12L40	50	40 / 40.44*	22	12	14800	5	43	20	10.4	6.3
HQ4D063Z06S22L12L40	63	40 / 40.44*	22	12	12850	6	48	21	10.4	6.3
HQ4D080Z07S27L12L50	80	50 / 50.44*	27	12	11250	7	58	22	12.4	7

*with LOKU insert



FACE MILLING 6 x 45°

Insert (HPKT, HOKT, HPCT and HOCT)



HPKT-RP



HOKT-RP



HPKT-FU



HOCT-FU



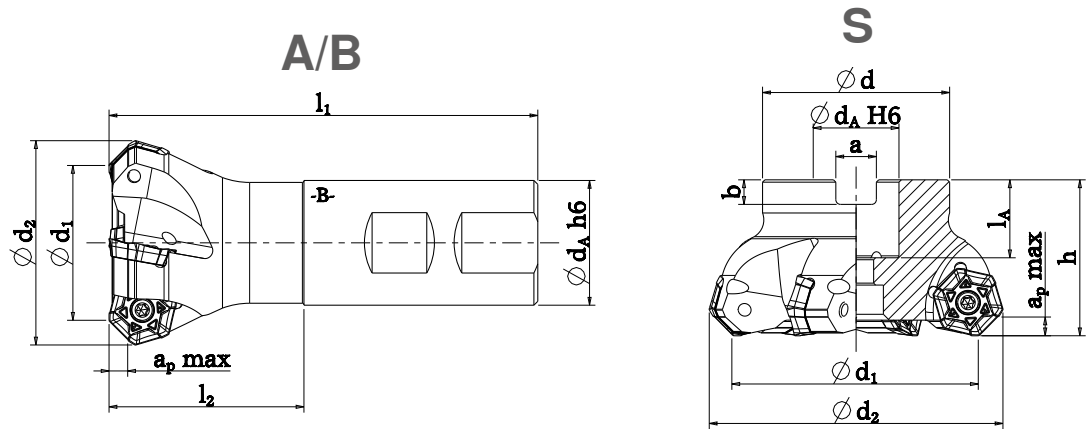
HPCT-SN

Description	d [mm]	l [mm]	s [mm]	l ₁ [mm]	r [mm]	d ₁ [mm]	x [°]
HPKT0604AZERRP	16.3	6.5	4.5	1.7	0.5	4.4	11
HPKT0604AZERFU	16.3	6.5	4.5	1.7	0.5	4.4	11
HPCT0604AZFRSN	16.3	6.5	4.5	1.7	0.4	4.4	11
HOKT0604AZERRP	16.3	6.5	4.5	1.7	0.5	4.4	10
HOCT0604AZERFU	16.3	6.5	4.5	1.7	0.4	4.4	10

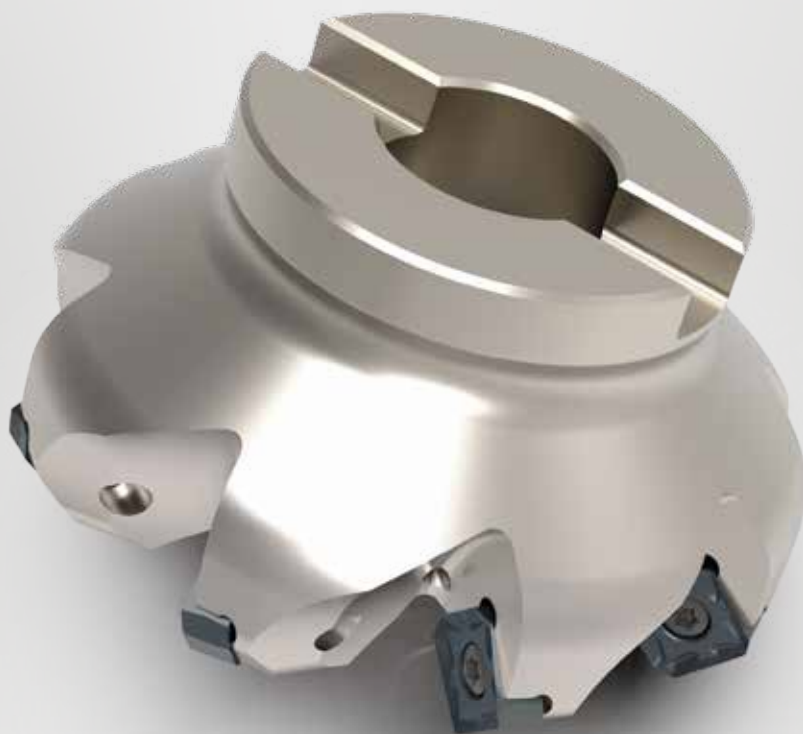
FACE MILLING 6 x 45°

Milling body (HPKT, HOKT, HPCT and HOCT)

- ▶ Face milling
- ▶ Slot milling
- ▶ Chamfering

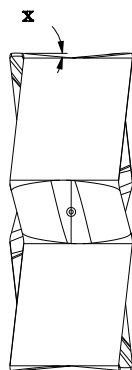
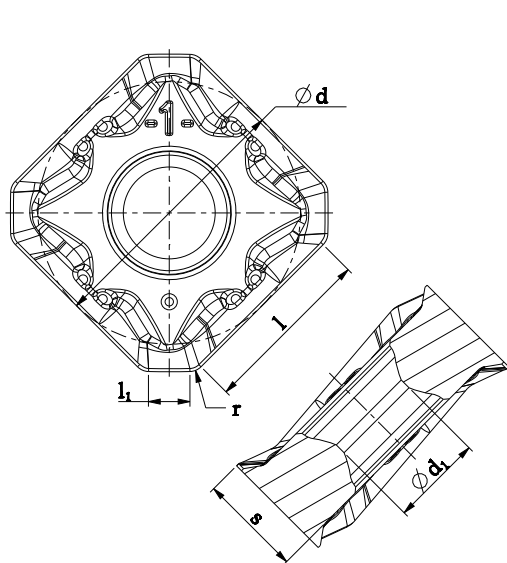


Description	Ø d ₁ [mm]	Ø d ₂ [mm]	l ₁ [mm]	l ₂ [mm]	h [mm]	Ø d _A H6/h6 [mm]	a _p max [mm]	n _{max} [min ⁻¹]	z	Ød [mm]	l _A [mm]	a [mm]	b [mm]
HX6D040Z04B32H06L110-50	40	52.2	110	50	-	32	4.5	17000	4	-	-	-	-
HX6D040Z04S16H06L40	40	52.2	-	-	40	16	4.5	19900	4	38	19	8.4	5.6
HX6D050Z05S22H06L40	50	62.2	-	-	40	22	4.5	15900	5	43	20	10.4	6.3
HX6D063Z06S22H06L40	63	75.2	-	-	40	22	4.5	12600	6	48	20	10.4	6.3
HX6D080Z07S27H06L50	80	92.2	-	-	50	27	4.5	9900	7	58	22	12.4	7
HX6D100Z09S32H06L50	100	112.2	-	-	50	32	4.5	7900	9	78	25	14.4	8
HX6D125Z10S40H06L63	125	137.2	-	-	63	40	4.5	6300	10	88	33	16.4	9



FACE MILLING 8 x 45°

Insert (SOKU)



-RP



-FU



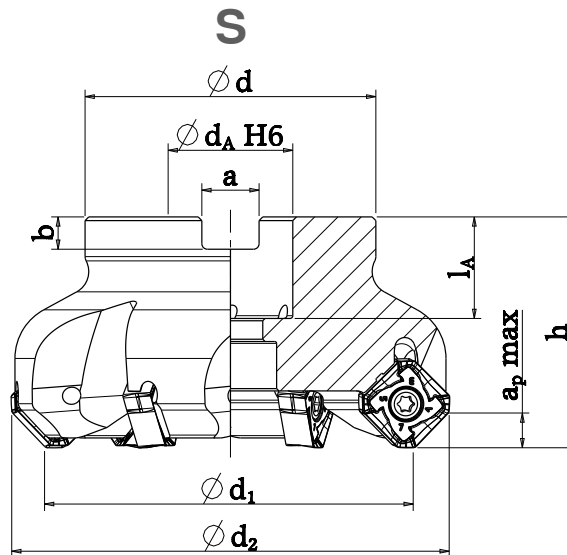
-GK

Description	d [mm]	l [mm]	s [mm]	l ₁ [mm]	r [mm]	d ₁ [mm]	x [°]
SOKU1205AZERRP	13	8.5	5.1	2	0.8	4.55	6
SOKU1205AZERFU	13	8.5	5.1	2	0.8	4.55	6
SOKU1505AZERRP	15.875	10.5	6	2.7	1	5.74	6
SOKU1505AZERFU	15.875	10.5	6	2.7	1	5.74	6
SOKU1505AZERGK	15.875	10.5	6	2.7	1	5.74	6

FACE MILLING 8 x 45°

Milling body (SOKU12)

- ▶ Face milling
- ▶ Slot milling
- ▶ Chamfering

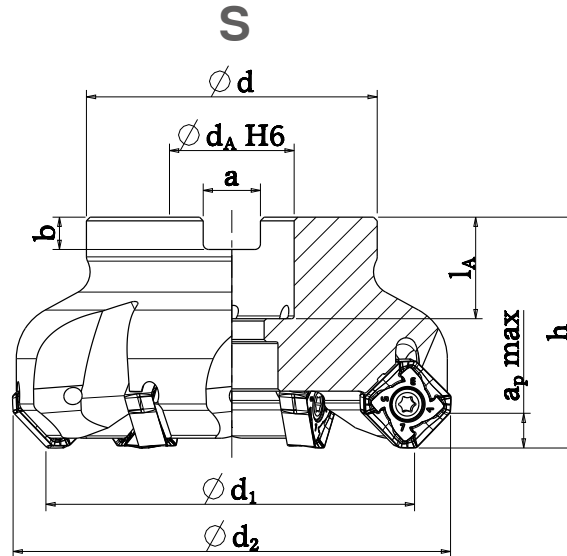


Description	Ø d ₁ [mm]	Ø d ₂ [mm]	h [mm]	Ø d _A H6/h6 [mm]	a _{p max} [mm]	n _{max} [min ⁻¹]	z	Ø d [mm]	l _A [mm]	a [mm]	b [mm]
QF8D040Z04S16S12L45	40	52.4	45	16	6	19900	4	38	19	8.4	5.6
QF8D050Z05S22S12L45	50	62.4	45	22	6	15900	5	43	20	10.4	6.3
QF8D063Z06S22S12L45	63	75.4	45	22	6	12600	6	48	20	10.4	6.3
QF8D080Z08S27S12L50	80	92.4	50	27	6	9900	8	58	23	12.4	7
QF8D100Z10S32S12L50	100	112.4	50	32	6	7900	10	78	25	14.4	8
QF8D125Z12S40S12L63	125	137.4	63	40	6	6300	12	88	28	16.4	9

FACE MILLING 8 x 45°

Milling body (SOKU15)

- ▶ Face milling
- ▶ Slot milling
- ▶ Chamfering

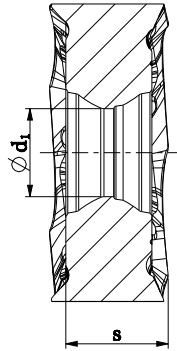
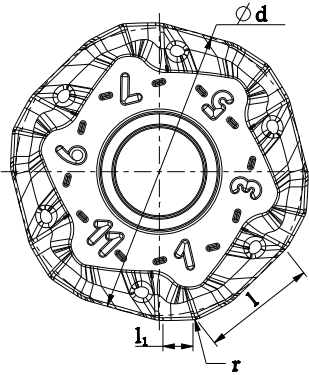


Description	Ø d ₁ [mm]	Ø d ₂ [mm]	h [mm]	Ø d _A H6/h6 [mm]	a _{p max} [mm]	n _{max} [min ⁻¹]	z	Ø d [mm]	l _A [mm]	a [mm]	b [mm]
QF8D040Z04S16S15L45	40	55	45	16	6.5	15900	4	38	19	8.4	5.6
QF8D050Z04S22S15L45	50	65	45	22	6.5	12700	4	43	20	10.4	6.3
QF8D063Z05S22S15L45	63	78	45	22	6.5	10100	5	48	20	10.4	6.3
QF8D080Z06S27S15L50	80	95	50	27	6.5	7900	6	58	22	12.4	7
QF8D100Z07S32S15L50	100	115	50	32	6.5	6300	7	78	25	14.4	8
QF8D125Z08S40S15L63	125	140	63	40	6.5	5000	8	88	28	16.4	9
QF8D160Z10S40S15L63	160	175	63	40	6.5	3800	10	93.4	29	16.4	9

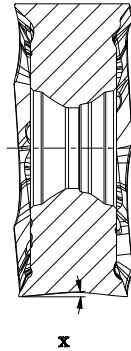


FACE MILLING 12 x 45°

Insert (HNKU / HOKU)



HNKU08



HOKU08



-RP



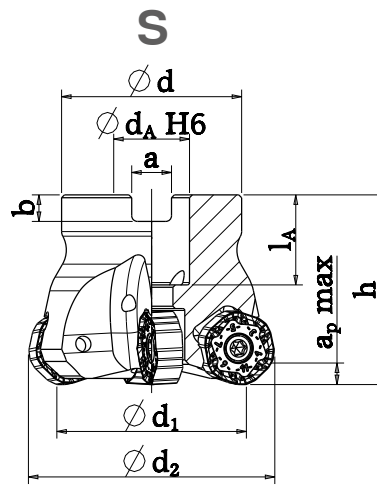
-FU

Description	d [mm]	l [mm]	s [mm]	r [mm]	l ₁ [mm]	d ₁ [mm]	x [°]
HNKU0806AZERRP	14.7	7.5	5.19	1	1.5	4.5	-
HNKU0806AZERFU	14.7	7.5	5.19	1	1.5	4.5	-
HOKU0806AZERRP	14.7	7.5	5.23	1	1.5	4.5	4.5
HOKU0806AZERFU	14.7	7.5	5.23	1	1.5	4.5	4.5

FACE MILLING 12 x 45°

Milling body (HNKU / HOKU)

- ▶ Face milling
- ▶ Slot milling
- ▶ Chamfering

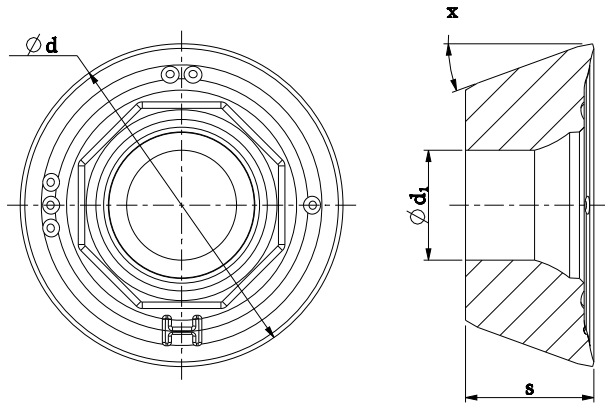


Description	$\varnothing d_1$ [mm]	$\varnothing d_2$ [mm]	h [mm]	$\varnothing d_A$ H6/h6 [mm]	$a_p \text{ max}$ [mm]	n_{max} [min ⁻¹]	z	$\varnothing d$ [mm]	l_A [mm]	a [mm]	b [mm]
SH12D040Z04S16H08L40	40	52	40	16	4	15900	4	38	19	8.4	5.6
SH12D050Z04S22H08L40	50	62	40	22	4	12700	4	43	20	10.4	6.3
SH12D063Z05S22H08L40	63	75	40	22	4	10100	5	48	20	10.4	6.3
SH12D080Z06S27H08L50	80	92	50	27	4	7900	6	58	22	12.4	7
SH12D100Z08S32H08L50	100	112	50	32	4	6400	8	78	25	14.4	8
SH12D125Z09S40H08L63	125	137	63	40	4	5100	9	88	28	16.4	9



FORM MILLING

Insert (RPMX, RPHX, RDHW and RDHX)



-RP



-FU



-GS



-GH



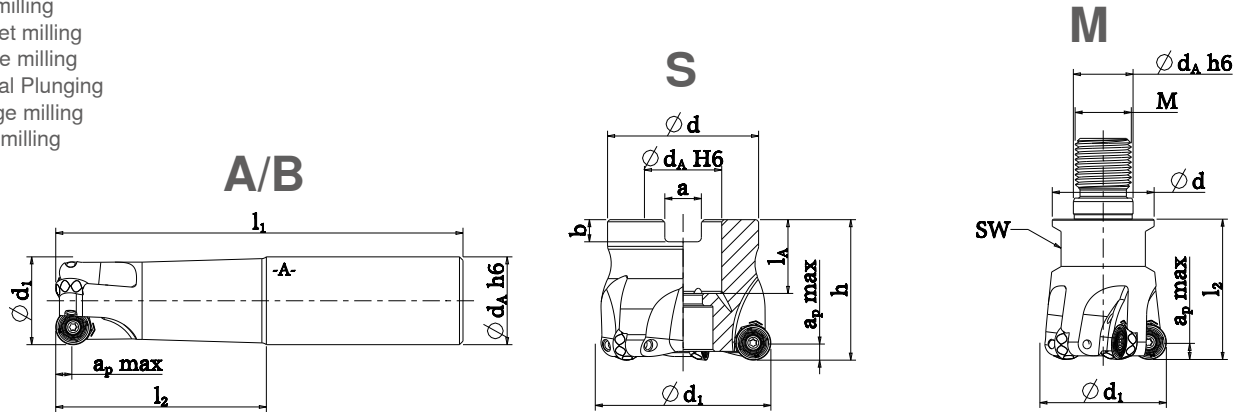
-SN

Description	d [mm]	s [mm]	d ₁ [mm]	x [°]
RPMX10T3MORP	10	3.97	3.4	11
RPMX10T3MOFU	10	3.97	3.4	11
RDHX10T3MOSN	10	3.97	3.4	15
RPHX10T3MOGS	10	3.97	3.4	11
RDHW10T3GH	10	3.97	3.4	15
RPMX1204MORP	12	4.76	4.4	11
RPMX1204MOFU	12	4.76	4.4	11
RDHX1204MOSN	12	4.76	4.4	15
RPHX1204MOGS	12	4.76	4.4	11
RDHW1204GH	12	4.76	4.4	15
RPMX1605MORP	16	5.56	5.5	11
RPMX1605MOFU	16	5.56	5.5	11
RPHX1605MOGS	16	5.56	5.5	11

FORM MILLING

Milling body (RP/RD10)

- ▶ Face milling
- ▶ Angled milling
- ▶ Slot milling
- ▶ Pocket milling
- ▶ Profile milling
- ▶ Helical Plunging
- ▶ Plunge milling
- ▶ Turn milling

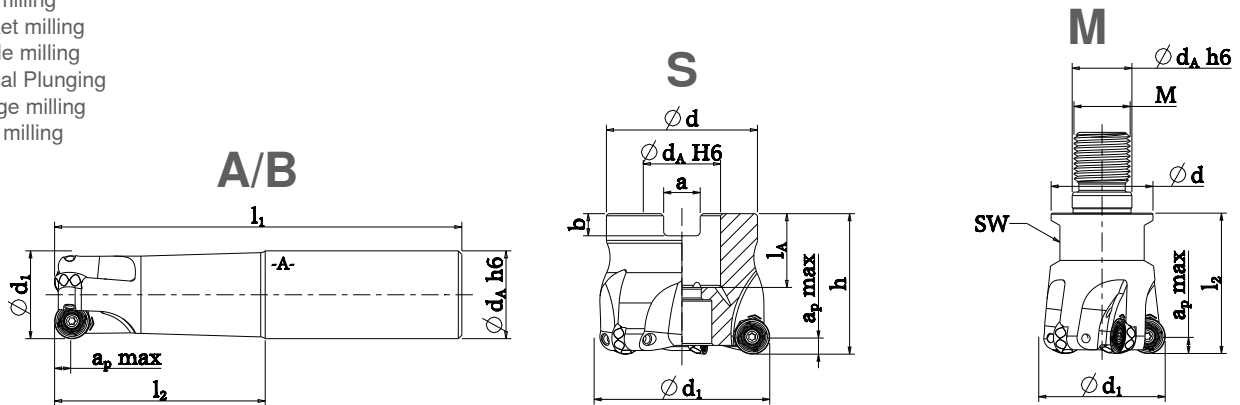


Description	$\varnothing d_1$ [mm]	l_1 [mm]	l_2 [mm]	h [mm]	$\varnothing d_A$ H6/h6 [mm]	$a_{p \max}$ [mm]	n_{\max} [min ⁻¹]	z	$\varnothing d$ [mm]	SW	M	l_A [mm]	a [mm]	b [mm]
RQ4D020Z02A20R10L102-50	20	102	50	-	20	5	31800	2	-	-	-	-	-	-
RQ4D020Z02A20R10L165-50	20	165	50	-	20	5	22260	2	-	-	-	-	-	-
RQ4D025Z03A25R10L116-60	25	116	60	-	25	5	20000	3	-	-	-	-	-	-
RQ4D025Z03A25R10L165-60	25	165	60	-	25	5	20000	3	-	-	-	-	-	-
RQ4D032Z04A32R10L130-70	32	130	70	-	32	5	19000	4	-	-	-	-	-	-
RQ4D032Z04A32R10L165-70	32	165	70	-	32	5	18000	4	-	-	-	-	-	-
RQ4D020Z02M10R10L30	20	-	30	-	10.5	5	36900	2	18	SW15	M10	-	-	-
RQ4D025Z03M12R10L35	25	-	35	-	12.5	5	33200	3	21	SW17	M12	-	-	-
RQ4D032Z04M16R10L40	32	-	40	-	17	5	30200	4	29	SW24	M16	-	-	-
RQ4D035Z04M16R10L40	35	-	40	-	17	5	30200	4	29	SW24	M16	-	-	-
RQ4D040Z04S16R10L40	40	-	-	40	16	5	15900	4	38	-	-	20	8.4	5.6
RQ4D042Z05S16R10L40	42	-	-	40	16	5	15900	5	38	-	-	20	8.4	5.6
RQ4D050Z05S22R10L40	50	-	-	40	22	5	12700	5	43	-	-	21	10.4	7.6

FORM MILLING

Milling body (RP/RD12)

- ▶ Face milling
- ▶ Angled milling
- ▶ Slot milling
- ▶ Pocket milling
- ▶ Profile milling
- ▶ Helical Plunging
- ▶ Plunge milling
- ▶ Turn milling

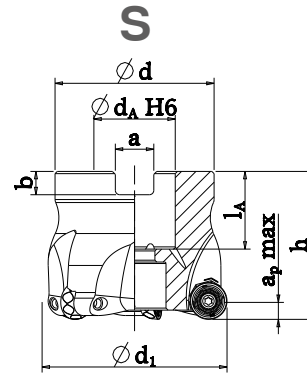


Description	$\varnothing d_1$ [mm]	l_1 [mm]	l_2 [mm]	h [mm]	$\varnothing d_A$ H6/h6 [mm]	$a_p \max$ [mm]	n_{\max} [min ⁻¹]	z	$\varnothing d$ [mm]	l_A [mm]	a [mm]	b [mm]
RQ4D025Z02A25R12L86-30	25	86	30	-	25	6	25000	2	-	-	-	-
RQ4D025Z02A25R12L116-60	25	116	60	-	25	6	18000	2	-	-	-	-
RQ4D032Z03A32R12L100-40	32	100	40	-	32	6	19000	3	-	-	-	-
RQ4D032Z03A32R12L130-70	32	130	70	-	32	6	17000	3	-	-	-	-
RQ4D025Z02M12R12L35	25	-	35	-	12.5	6	25000	2	21	-	-	-
RQ4D035Z03M16R12L40	35	-	40	-	17	6	15900	3	29	-	-	-
RQ4D040Z04S16R12L40	40	-	-	40	16	6	15900	4	38	20	8.4	5.6
RQ4D042Z04S16R12L40	42	-	-	40	16	6	15900	4	38	20	8.4	5.6
RQ4D050Z05S22R12L40	50	-	-	40	22	6	12700	5	43	21	10.4	6.3
RQ4D052Z05S22R12L40	52	-	-	40	22	6	12700	5	43	21	10.4	6.3
RQ4D063Z06S22R12L40	63	-	-	40	22	6	10100	6	48	21	10.4	6.3
RQ4D066Z06S27R12L40	66	-	-	40	27	6	10100	6	58	23	12.4	7
RQ4D080Z08S27R12L50	80	-	-	50	27	6	7950	8	58	22	12.4	7
RQ4D100Z10S32R12L50	100	-	-	50	32	6	6350	10	78	26	14.4	8

FORM MILLING

Milling body (RP16)

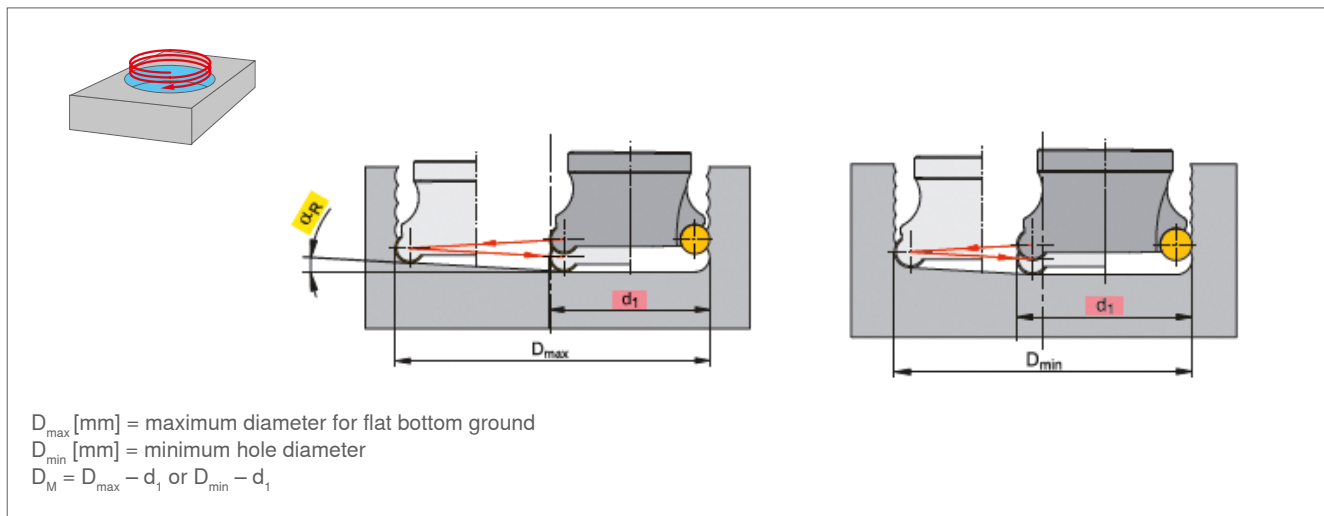
- ▶ Face milling
- ▶ Angled milling
- ▶ Slot milling
- ▶ Pocket milling
- ▶ Profile milling
- ▶ Helical Plunging
- ▶ Plunge milling
- ▶ Turn milling



Description	$\varnothing d_1$ [mm]	h [mm]	$\varnothing d_A$ H6/h6 [mm]	$a_p \max$ [mm]	n_{\max} [min ⁻¹]	z	$\varnothing d$ [mm]	l_A [mm]	a [mm]	b [mm]
RQ4D050Z03S22R16L40	50	40	22	8	12700	3	48	22	10.4	6.3
RQ4D052Z04S22R16L40	52	40	22	8	12700	4	48	21	10.4	6.3
RQ4D063Z05S22R16L40	63	40	22	8	10100	5	48	21	10.4	6.3
RQ4D066Z05S22R16L40	66	40	22	8	10100	5	48	21	10.4	6.3
RQ4D080Z06S27R16L50	80	50	27	8	7950	6	58	23	12.4	7
RQ4D100Z07S32R16L50	100	50	32	8	6350	7	78	26	14.4	8
RQ4D125Z08S40R16L63	125	63	40	8	5050	8	88	28	16.4	9

FORM MILLING

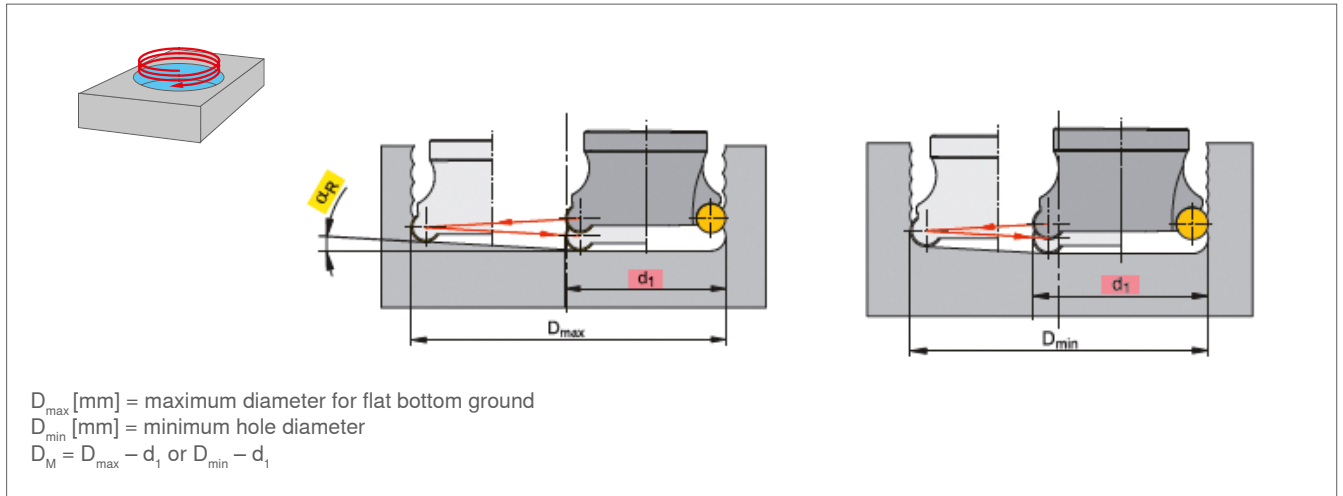
Application data (helical plunge milling RP/RD10)



Description	d_1 [mm]	D_{max} [mm]	D_{min} [mm]	R_{max} [°]
RQ4D020Z02A20R10L102-50	20	30	26	1.3
RQ4D020Z02A20R10L165-50	20	30	26	1.3
RQ4D025Z03A25R10L116-60	25	40	37	1.8
RQ4D025Z03A25R10L165-60	25	40	37	1.8
RQ4D032Z04A32R10L130-70	32	54	50	1.5
RQ4D032Z04A32R10L165-70	32	54	50	1.5
RQ4D032Z04M16R10L40	32	54	50	1.5
RQ4D035Z04M16R10L40	35	54	50	1.5
RQ4D040Z04S16R10L40	40	70	64	1.1
RQ4D042Z05S16R10L40	42	70	64	1.1
RQ4D050Z05S22R10L40	50	74	68	1.1

FORM MILLING

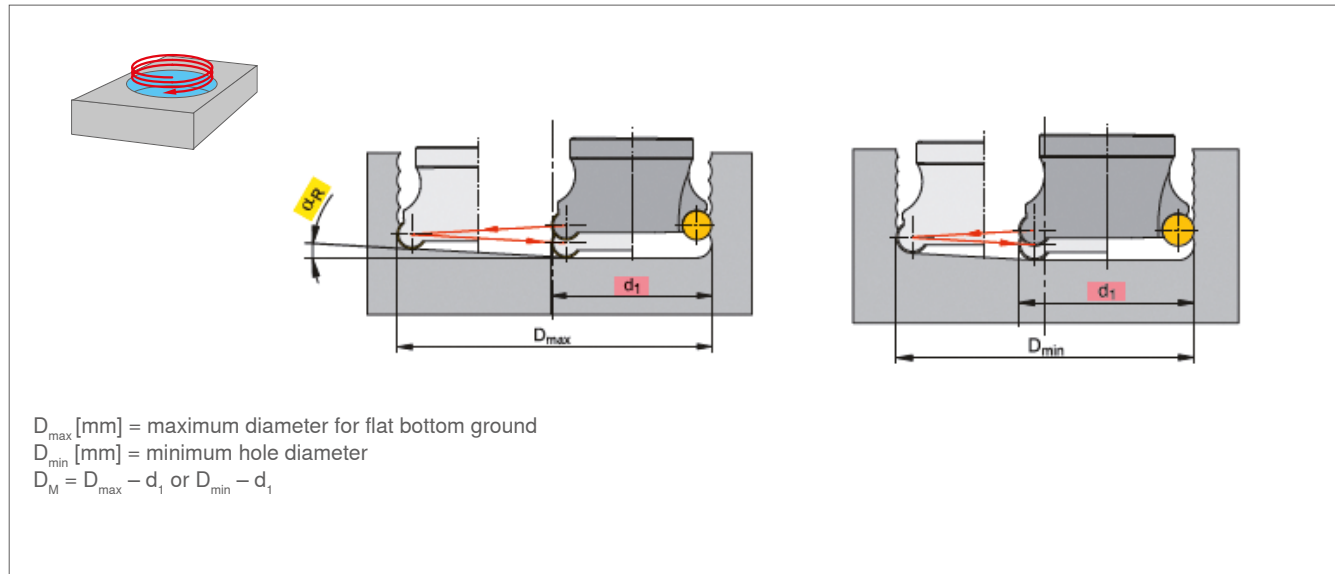
Application data (helical plunge milling RP/RD12)



Description	d_1 [mm]	D_{max} [mm]	D_{min} [mm]	α_R [°]
RQ4D025Z02A25R12L86-30	25	38	31	2.2
RQ4D025Z02A25R12L116-60	25	38	31	2.2
RQ4D032Z03A32R12L100-40	32	52	46	1.7
RQ4D032Z03A32R12L130-70	32	52	46	1.7
RQ4D025Z02M12R12L35	25	38	31	2.2
RQ4D035Z03M16R12L40	35	52	46	1.7
RQ4D040Z04S16R12L40	40	68	62	1.4
RQ4D042Z04S16R12L40	42	68	62	1.4
RQ4D050Z05S22R12L40	50	88	81	1.1
RQ4D052Z05S22R12L40	52	88	81	1.1
RQ4D063Z06S22R12L40	63	114	107	0.9
RQ4D066Z06S27R12L40	66	114	107	0.9
RQ4D080Z08S27R12L50	80	148	142	0.7
RQ4D100Z10S32R12L50	100	188	181	0.5

FORM MILLING

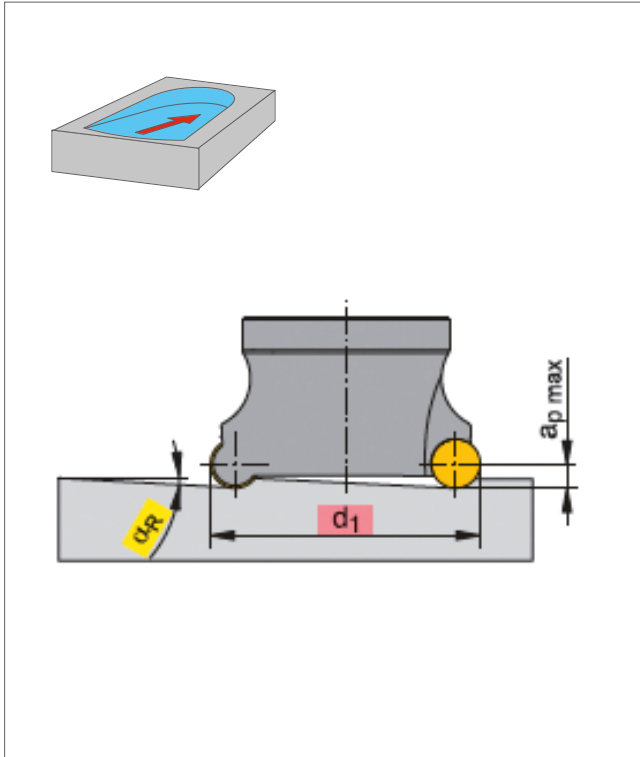
Application data (helical plunge milling RP16)



Description	d_1 [mm]	D_{max} [mm]	D_{min} [mm]	α_R [°]
RQ4D050Z03S22R16L40	50	84	75	1.5
RQ4D052Z04S22R16L40	52	84	75	1.5
RQ4D063Z05S22R16L40	63	110	101	1.1
RQ4D066Z05S22R16L40	66	110	101	1.1
RQ4D080Z06S27R16L50	80	144	135	0.9
RQ4D100Z07S32R16L50	100	184	175	0.7
RQ4D125Z08S40R16L63	125	234	225	0.5

FORM MILLING

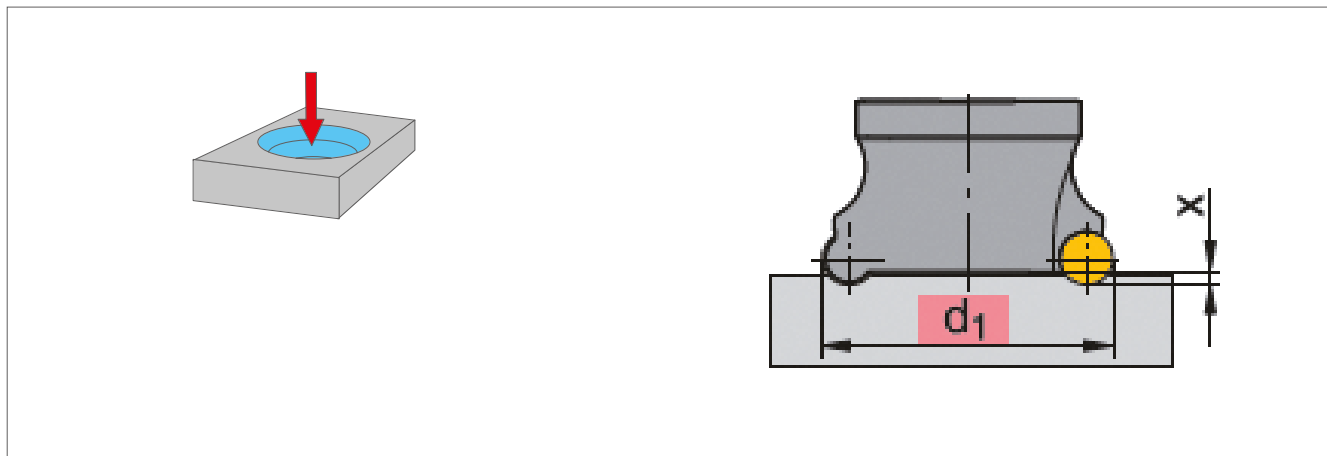
Application data (angled ramping)



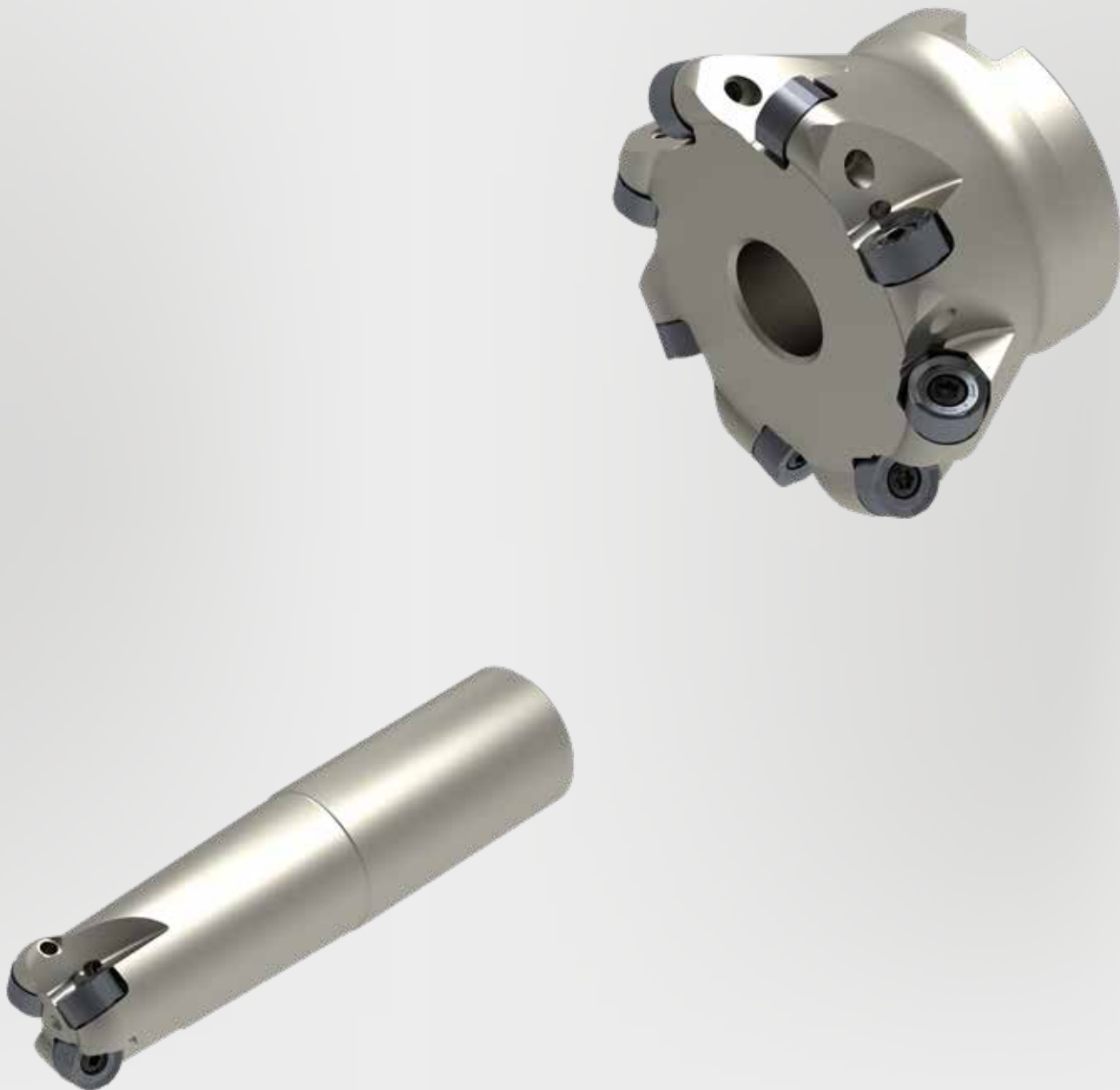
Description	d_1 [mm]	α_R [°]
RQ4D020Z02A20R10L102-50	20	1.3
RQ4D020Z02A20R10L165-50	20	1.3
RQ4D025Z03A25R10L116-60	25	2.0
RQ4D025Z03A25R10L165-60	25	2.0
RQ4D032Z04A32R10L130-70	32	3.0
RQ4D032Z04A32R10L165-70	32	3.0
RQ4D032Z04M16R10L40	32	3.0
RQ4D035Z04M16R10L40	35	3.0
RQ4D040Z04S16R10L40	40	3.3
RQ4D042Z05S16R10L40	42	3.3
RQ4D050Z05S22R10L40	50	2.4
RQ4D025Z02A25R12L86-30	25	6.4
RQ4D025Z02A25R12L116-60	25	6.4
RQ4D032Z03A32R12L100-40	32	4.0
RQ4D032Z03A32R12L130-70	32	4.0
RQ4D040Z04S16R12L40	40	2.8
RQ4D042Z04S16R12L40	42	2.8
RQ4D050Z05S22R12L40	50	2.6
RQ4D052Z05S22R12L40	52	2.6
RQ4D063Z06S22R12L40	63	1.9
RQ4D066Z06S27R12L40	66	1.9
RQ4D080Z08S27R12L50	80	1.3
RQ4D100Z10S32R12L50	100	1.0
RQ4D050Z03S22R16L40	50	4.0
RQ4D052Z04S22R16L40	52	4.0
RQ4D063Z05S22R16L40	63	2.8
RQ4D066Z05S22R16L40	66	2.8
RQ4D080Z06S27R16L50	80	2.0
RQ4D100Z07S32R16L50	100	1.5
RQ4D125Z08S40R16L63	125	1.0

FORM MILLING

Application data (axial plunging)

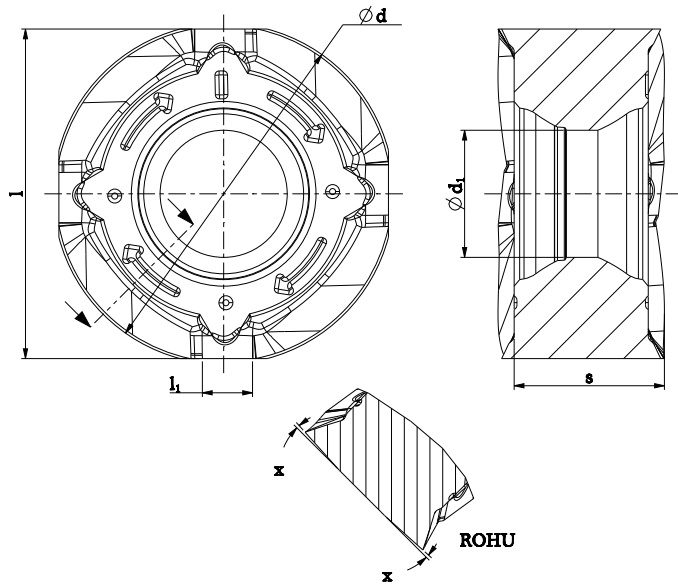


\varnothing [mm]	d_1 [mm]	X_{max} [mm]
10	20	0.2
	25	0.4
	32 – 35	0.8
	40 – 50	1.5
12	25	1.0
	32 – 35	1.1
	40 – 50	1.2
	50 – 100	1.5
16	50 – 52	1.1
	63 – 125	1.0



FORM MILLING

Insert (RNKU and ROHU)



-RP



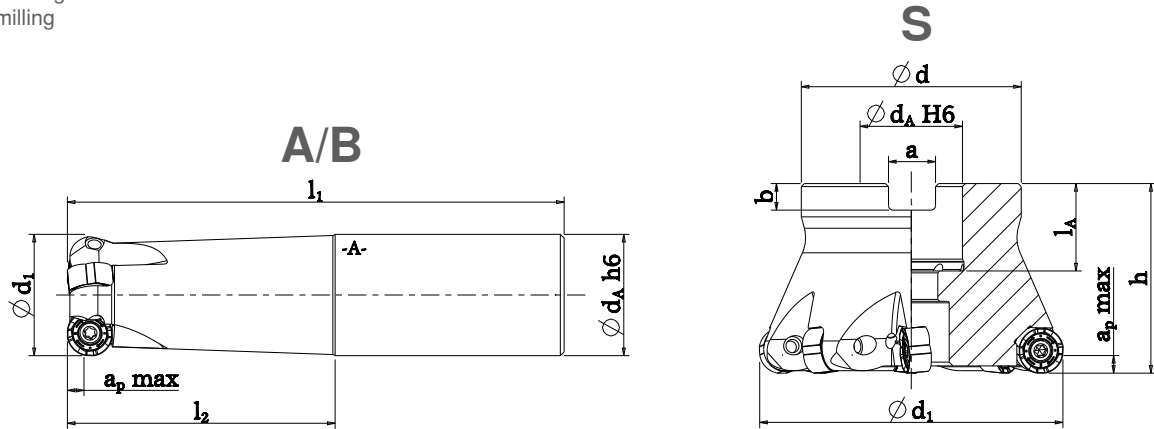
-FU

Description	d [mm]	l [mm]	s [mm]	l_1 [mm]	d_1 [mm]	x [°]
RNKU1204MOERRP	12	-	5.9	2.3	4.5	0
ROHU1204MOERFU	12	-	5.9	2.3	4.5	3
RNKU1605MOERRP	16	-	6.7	2.7	5.8	0
ROHU1605MOERFU	16	-	6.7	2.7	5.8	3

FORM MILLING

Milling body (RNKU12 and ROHU12)

- ▶ Face milling
- ▶ Slot milling

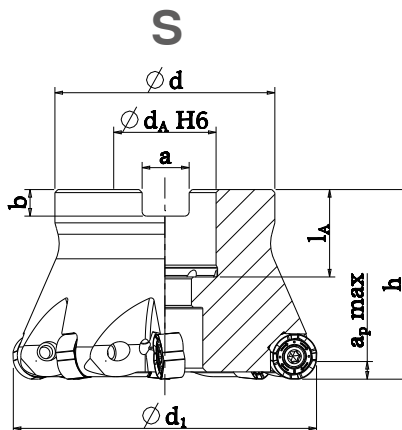


Description	Ø d ₁ [mm]	l ₁ [mm]	l ₂ [mm]	h [mm]	Ø d _A H6/h6 [mm]	a _{p max} [mm]	n _{max} [min ⁻¹]	z	Ø d [mm]	l _A [mm]	a [mm]	b [mm]
RQ8D032Z03A32R12L131-70	32	131	70	-	32	4.5	19000	3	-	-	-	-
RQ8D032Z03A32R12L165-70	32	165	70	-	32	4.5	17000	3	-	-	-	-
RQ8D040Z04S16R12L40	40	-	-	40	16	4.5	15900	4	38	20	8.4	5.6
RQ8D050Z05S22R12L40	50	-	-	40	22	4.5	12700	5	43	21	10.4	6.3
RQ8D063Z06S22R12L40	63	-	-	40	22	4.5	10100	6	48	21	10.4	6.3
RQ8D080Z08S27R12L50	80	-	-	50	27	4.5	7950	8	58	23	12.4	7
RQ8D100Z10S32R12L50	100	-	-	50	32	4.5	6350	10	78	26	14.4	8

FORM MILLING

Milling body (RNKU16 and ROHU16)

- ▶ Face milling
- ▶ Slot milling

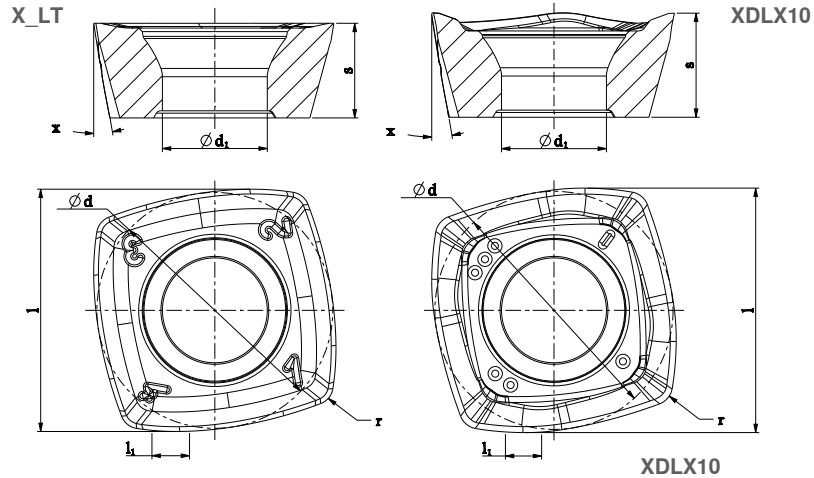


Description	$\varnothing d_1$ [mm]	h [mm]	$\varnothing d_A$ H6/h6 [mm]	$a_p \max$ [mm]	n_{\max} [min ⁻¹]	z	$\varnothing d$ [mm]	l_A [mm]	a [mm]	b [mm]
RQ8D063Z05S22R16L40	63	40	22	6	10100	5	48	21	10.4	6.3



HIGH FEED CUTTING

Insert (XPLT, XDLT, XDLX and XOLT)



-RP



-FU



-RP



-FU

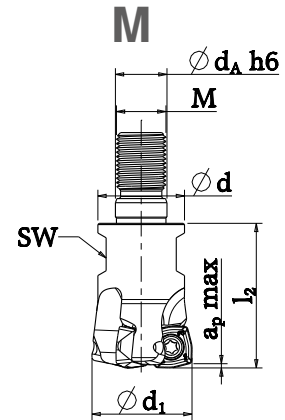
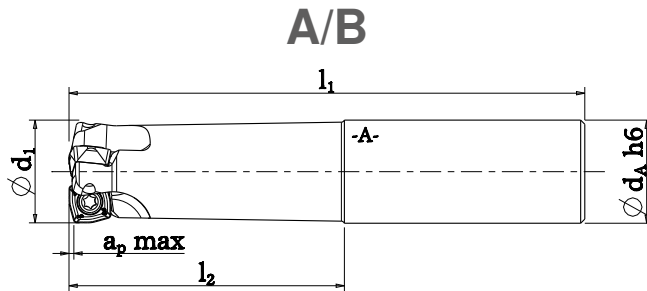
Description	d [mm]	s [mm]	d ₁ [mm]	x [°]
XPLT070305SRRP	6.9	2.75	2.8	11
XPLT070305ERFU	6.9	2.75	2.8	11
XDLT10T308SRRP	9.9	3.97	4.4	15
XDLT10T308ERFU	9.9	3.97	4.4	15

Description	d [mm]	s [mm]	d ₁ [mm]	x [°]
XDLX10T308SRRP	9.9	4.38	4.4	15
XDLX10T308SRFU	9.9	4.38	4.4	15
XOLT130410SRRP	13.1	4.76	5.5	9
XOLT130410ERFU	13.1	4.76	5.5	9

HIGH FEED CUTTING

Milling body (XPLT07)

- ▶ Face milling
- ▶ Angled milling
- ▶ Helical plunging
- ▶ Plunge milling
- ▶ Profile milling
- ▶ Pocket milling
- ▶ Slot milling

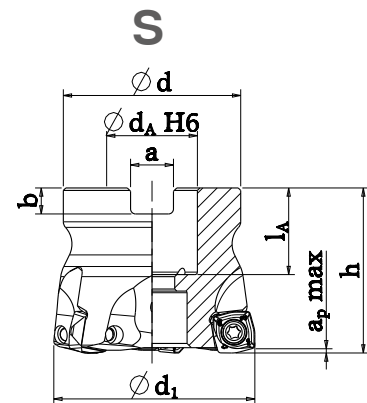
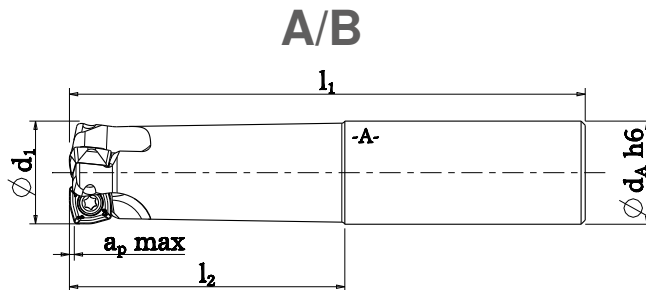


Description	$\varnothing d_1$ [mm]	l_1 [mm]	l_2 [mm]	$\varnothing d_A$ H6/h6 [mm]	$a_p \max$ [mm]	n_{\max} [min ⁻¹]	z	$\varnothing d$ [mm]	SW	M
KF4D016Z02A16X07L200-50	16	200	50	16	0.8	4600	2	–	–	–
KF4D020Z03A20X07L200-50	20	200	50	20	0.8	4200	3	–	–	–
KF4D025Z04A25X07L200-50	25	200	50	25	0.8	3900	4	–	–	–
KF4D016Z02M08X07L25	16	–	25	8.5	0.8	20800	2	13.8	SW10	M8
KF4D020Z03M10X07L30	20	–	30	10.5	0.8	19800	3	18	SW15	M10
KF4D025Z04M12X07L35	25	–	35	12.5	0.8	18700	4	21	SW17	M12

HIGH FEED CUTTING

Milling body (XDLT10 and XDLX10)

- ▶ Face milling
- ▶ Angled milling
- ▶ Helical plunging
- ▶ Plunge milling
- ▶ Profile milling
- ▶ Pocket milling
- ▶ Slot milling

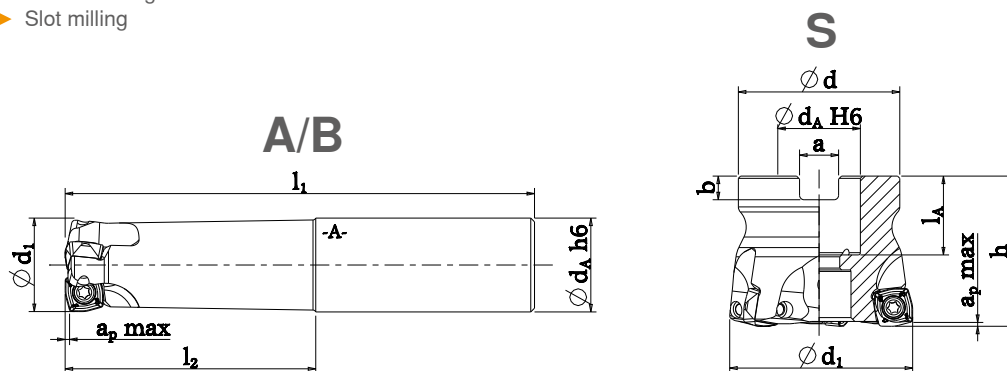


Description	$\varnothing d_1$ [mm]	l_1 [mm]	l_2 [mm]	h [mm]	$\varnothing d_A$ H6/h6 [mm]	$a_p \text{ max}$ [mm]	n_{max} [min ⁻¹]	z	$\varnothing d$ [mm]	l_A [mm]	a [mm]	b [mm]
KF4D025Z03A25X10L225-50	25	225	50	-	25	1	9000	3	-	-	-	-
KF4D040Z04S16X10L40	40	-	-	40	16	1	26400	4	38	20	8.4	5.6
KF4D050Z05S22X10L40	50	-	-	40	22	1	23500	5	43	21	10.4	6.3
KF4D063Z06S22X10L40	63	-	-	40	22	1	20500	6	48	21	10.4	6.3

HIGH FEED CUTTING

Milling body (XOLT13)

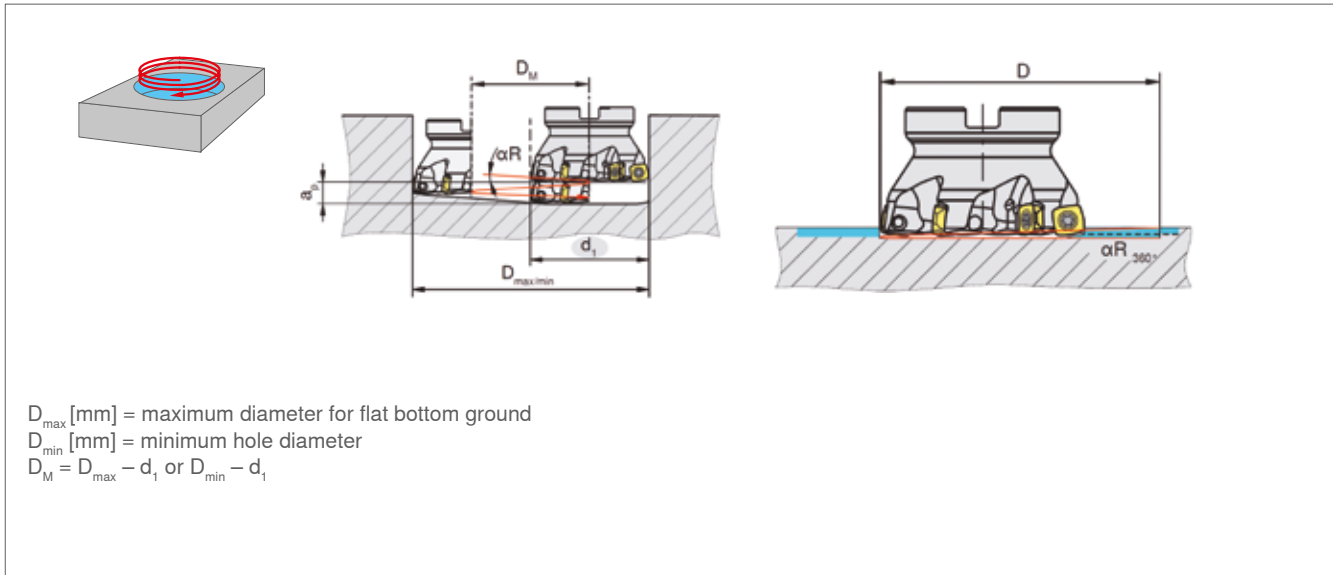
- ▶ Face milling
- ▶ Angled milling
- ▶ Helical plunging
- ▶ Plunge milling
- ▶ Profile milling
- ▶ Pocket milling
- ▶ Slot milling



Description	$\varnothing d_1$ [mm]	l_1 [mm]	l_2 [mm]	h [mm]	$\varnothing d_A$ H6/h6 [mm]	$a_p \max$ [mm]	n_{\max} [min ⁻¹]	z	$\varnothing d$ [mm]	SW	M	l_A [mm]	a [mm]	b [mm]
KF4D035Z03A32X13L250-63	35	250	63	-	32	2	6400	3	-	-	-	-	-	-
KF4D050Z04S22X13L40	50	-	-	40	22	2	18800	4	43	-	-	21	10.4	6.3
KF4D063Z05S22X13L40	63	-	-	40	22	2	16400	5	48	-	-	21	10.4	6.3
KF4D080Z07S27X13L50	80	-	-	50	27	2	14000	7	58	-	-	23	12.4	7

HIGH FEED CUTTING

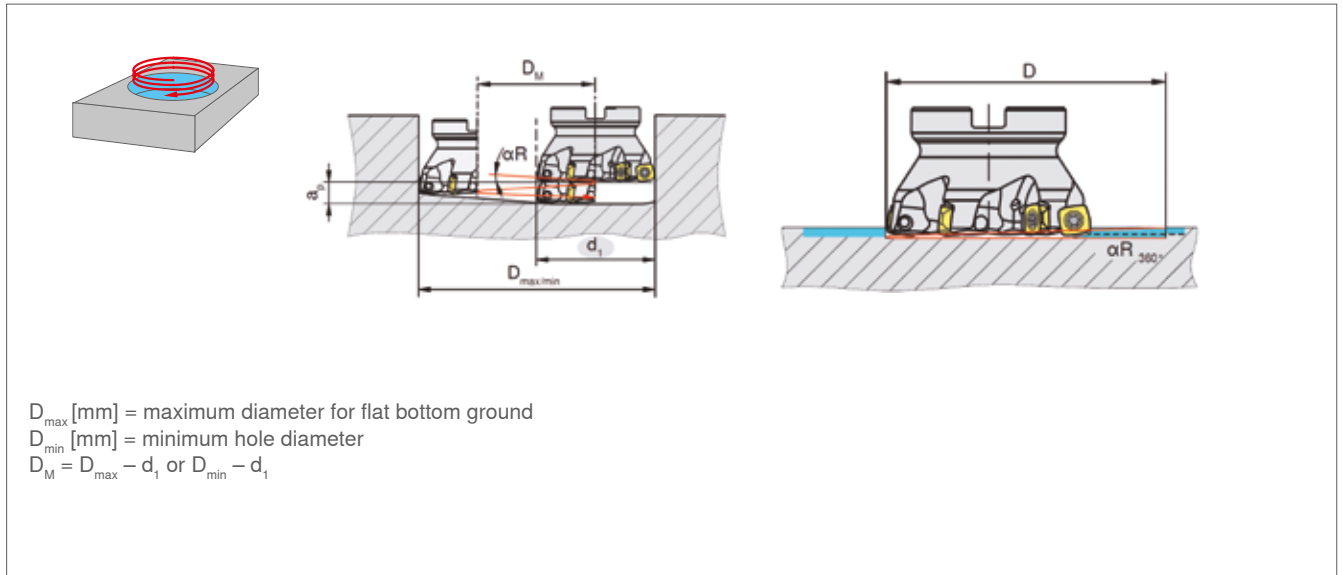
Application data (helical plunge milling XPLT07)



Description	d_1 [mm]	D_{\max} [mm]	D_{\min} [mm]	α_R [°]
KF4D016Z02A16X07L200-50	16	31	22	4.5
KF4D020Z03A20X07L200-50	20	39	30	2.3
KF4D025Z04A25X07L200-50	25	49	40	1.3
KF4D016Z02M08X07L25	16	31	22	4.5
KF4D020Z03M10X07L30	20	39	30	2.3
KF4D025Z04M12X07L35	25	49	40	1.3

HIGH FEED CUTTING

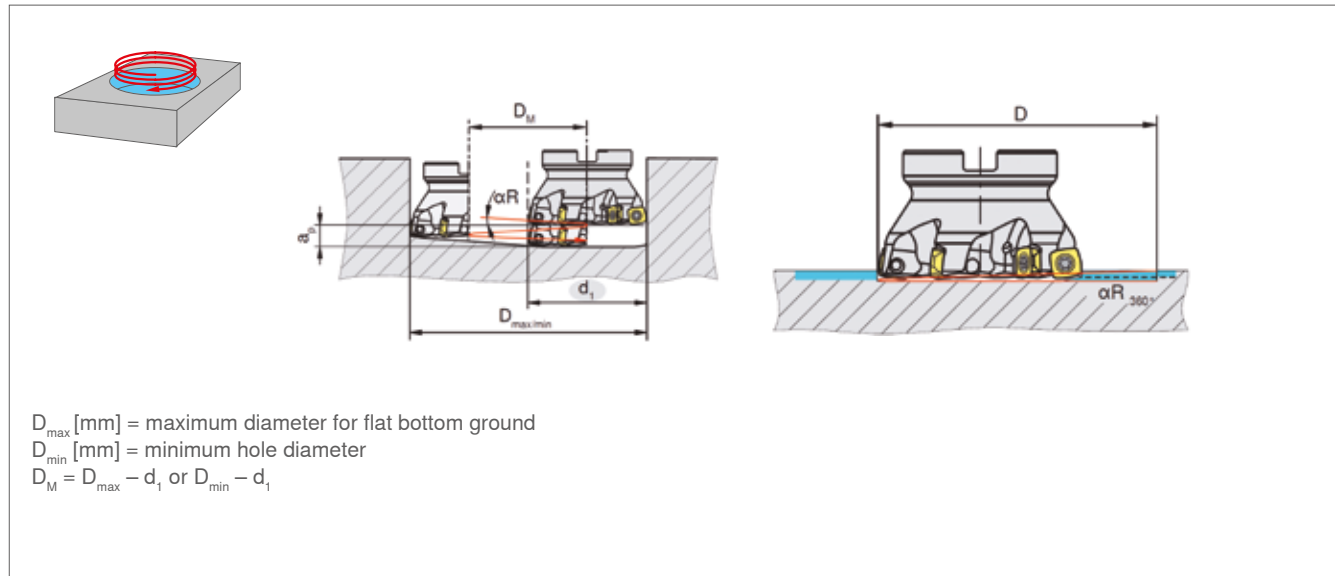
Application data (helical plunge milling XDLT10, XDLX10)



Description	d_1 [mm]	D_{max} [mm]	D_{min} [mm]	α_R [°]
KF4D025Z03A25X10L225-50	25	48	35	3.1
KF4D040Z04S16X10L40	40	78	65	1.0
KF4D050Z05S22X10L40	50	98	85	0.8
KF4D063Z06S22X10L40	63	124	111	0.7

HIGH FEED CUTTING

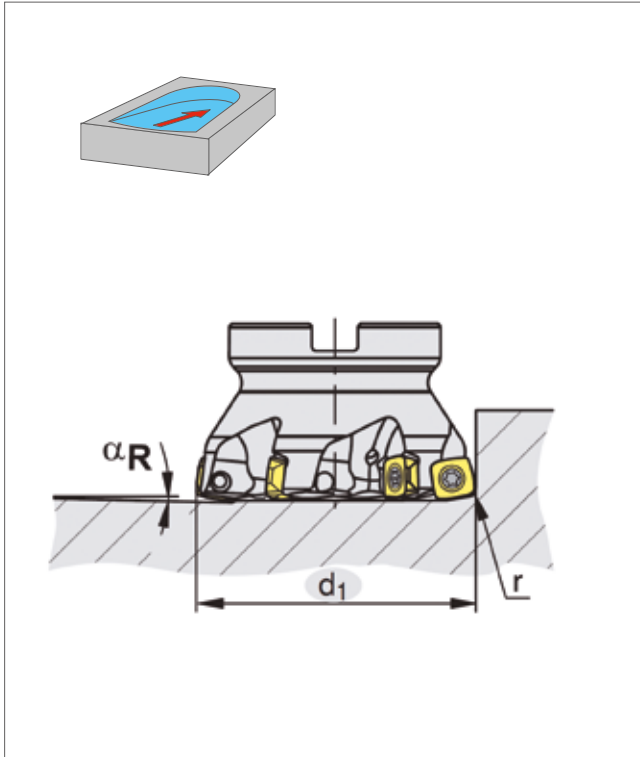
Application data (helical plunge milling XOLT13)



Description	d_1 [mm]	D_{\max} [mm]	D_{\min} [mm]	α_R [°]
KF4D035Z03A32X13L250-63	35	68	50	3.7
KF4D050Z04S22X13L40	50	98	80	1.3
KF4D063Z05S22X13L40	63	124	106	0.9
KF4D080Z07S27X13L50	80	158	140	1.1

HIGH FEED CUTTING

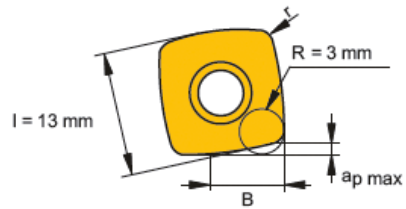
Application data (angled ramping)



Description	d_1 [mm]	α_R [°]
KF4D016Z02A16X07L200-50	16	5.9
KF4D020Z03A20X07L200-50	20	3.2
KF4D025Z04A25X07L200-50	25	2.0
KF4D016Z02M08X07L25	16	5.9
KF4D020Z03M10X07L30	20	3.2
KF4D025Z04M12X07L35	25	2.0
KF4D025Z03A25X10L225-50	25	3.6
KF4D040Z04S16X10L40	40	1.2
KF4D050Z05S22X10L40	50	0.9
KF4D063Z06S22X10L40	63	0.8
KF4D035Z03A32X13L250-63	35	4.4
KF4D050Z04S22X13L40	50	1.5
KF4D063Z05S22X13L40	63	1.1
KF4D080Z07S27X13L50	80	1.3

HIGH FEED CUTTING

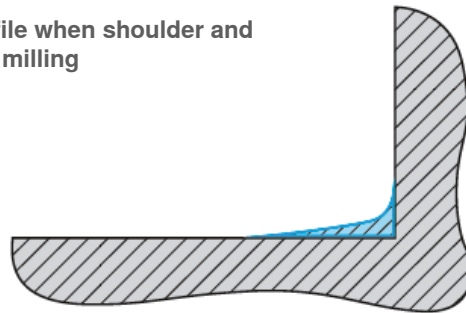
Depth of cut and remaining material



R = programmed radius

Recommended $f_z \geq 0.5 / \text{tooth}$

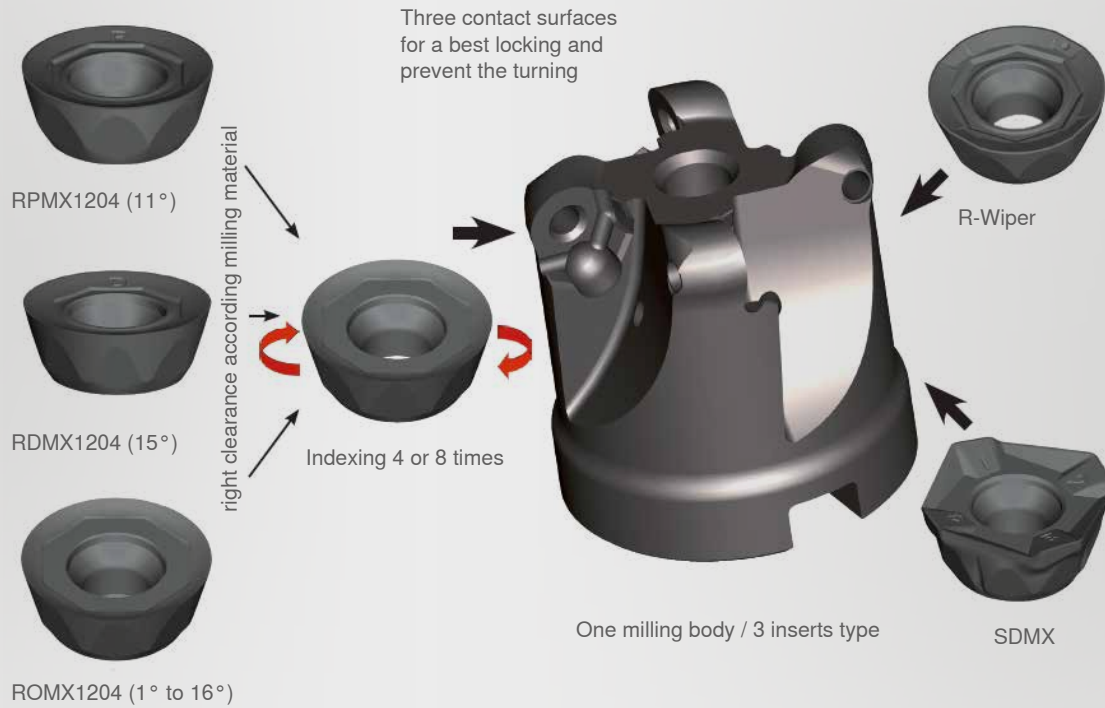
Profile when shoulder and slot milling



Insert	l [mm]	R [mm]	B [mm]	r [mm]	$a_p \text{ max}$ [mm]
XPLT07	7.15	1.2	4.3	0.5	0.8
XDLT10	10.2	2.0	5.9	0.8	1.0
XDLX10	10.2	2.0	5.9	0.8	1.0
XOLT13	13.5	3.0	8.5	1.0	2.0

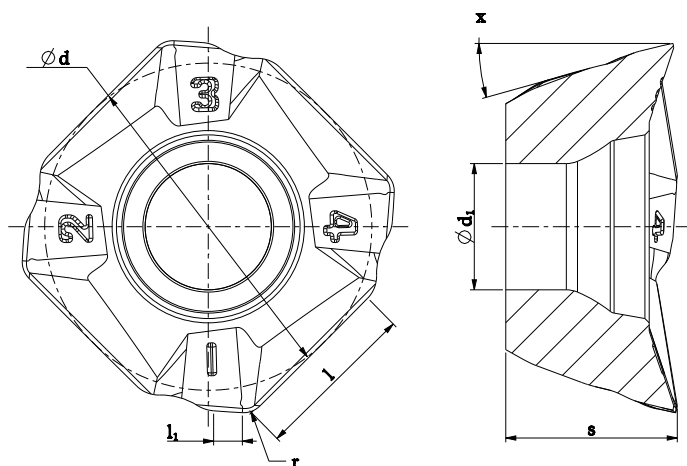
Standard application

Additional application



MULTIPLE APPLICATIONS

Insert (SDMX)



-RP



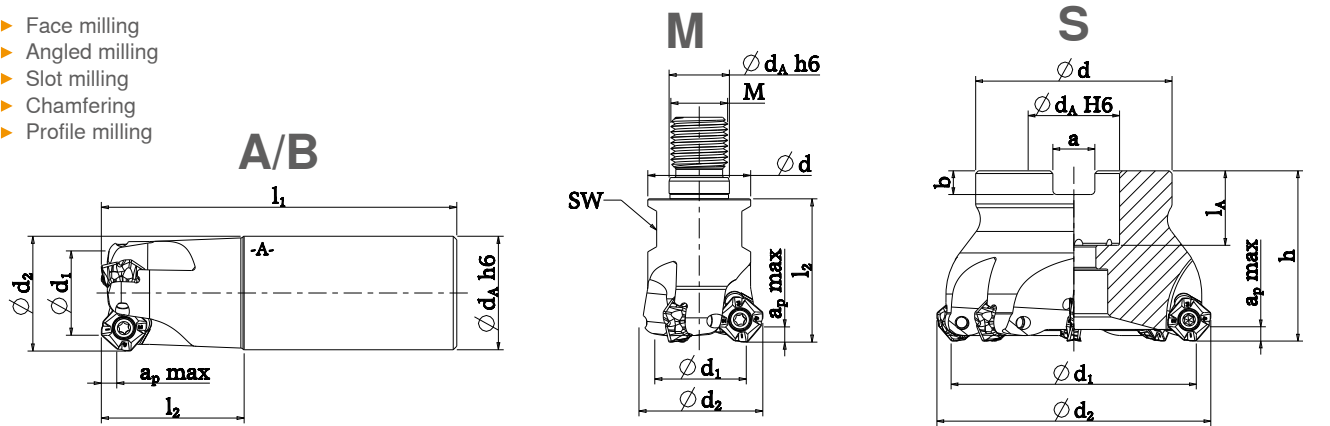
-FU

Description	d [mm]	l [mm]	s [mm]	l ₁ [mm]	d ₁ [mm]	r [mm]	x [°]
SDMX1105AEERRP	11.4	5.8	5.9	1	4.4	0.8	15
SDMX1105AEERFU	11.4	5.8	5.9	1	4.4	0.8	15
SDMX1506AEERRP	15	8	6.5	1.5	5.5	0.8	15
SDMX1506AEERFU	15	8	6.5	1.5	5.5	0.8	15

MULTIPLE APPLICATIONS

Milling body (SDMX11)

- ▶ Face milling
- ▶ Angled milling
- ▶ Slot milling
- ▶ Chamfering
- ▶ Profile milling

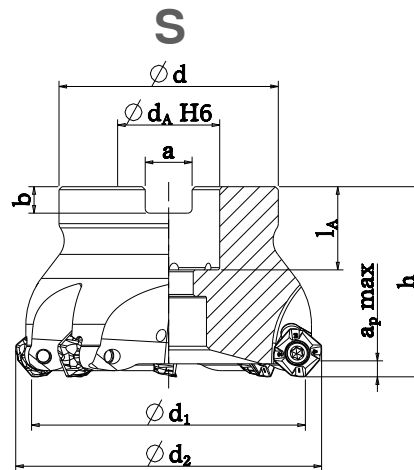


Description	Ø d ₁ [mm]	Ø d ₂ [mm]	l ₁ [mm]	l ₂ [mm]	h [mm]	Ø d _A H6/h6 [mm]	a _{p max} [mm]	n _{max} [min ⁻¹]	z	Ø d [mm]	SW	M	l _A [mm]	a [mm]	b [mm]
RQ4D025Z02A25R12L86-30	17.5	25	86.3	30.3	-	25	6	25000	2	-	-	-	-	-	-
RQ4D025Z02A25R12L116-60	17.5	25	116.3	60.3	-	25	6	18000	2	-	-	-	-	-	-
RQ4D032Z03A32R12L100-40	24.5	32	100.3	40.3	-	32	6	19000	3	-	-	-	-	-	-
RQ4D032Z03A32R12L130-70	24.5	32	130.3	70.3	-	32	6	17000	3	-	-	-	-	-	-
RQ4D025Z02M12R12L35	17.5	25	-	35.3	-	12.5	6	25000	2	21	SW17	M12	-	-	-
RQ4D035Z03M16R12L40	27.5	35	-	40.3	-	17	6	15900	3	29	SW24	M16	-	-	-
RQ4D040Z04S16R12L40	32.5	40	-	-	40.3	16	6	15900	4	38	-	-	20	8.4	5.6
RQ4D042Z04S16R12L40	34.5	42	-	-	40.3	16	6	15900	4	38	-	-	20	8.4	5.6
RQ4D050Z05S22R12L40	42.5	50	-	-	40.3	22	6	12700	5	43	-	-	21	10.4	6.3
RQ4D052Z05S22R12L40	44.5	52	-	-	40.3	22	6	12700	5	43	-	-	21	10.4	6.3
RQ4D063Z06S22R12L40	55.5	63	-	-	40.3	22	6	10100	6	48	-	-	21	10.4	6.3
RQ4D066Z06S27R12L40	58.5	66	-	-	40.3	27	6	10100	6	58	-	-	23	12.4	7
RQ4D080Z08S27R12L50	72.5	80	-	-	50.3	27	6	7950	8	58	-	-	22	12.4	7
RQ4D100Z10S32R12L50	92.5	100	-	-	50.3	32	6	6350	10	78	-	-	26	14.4	8

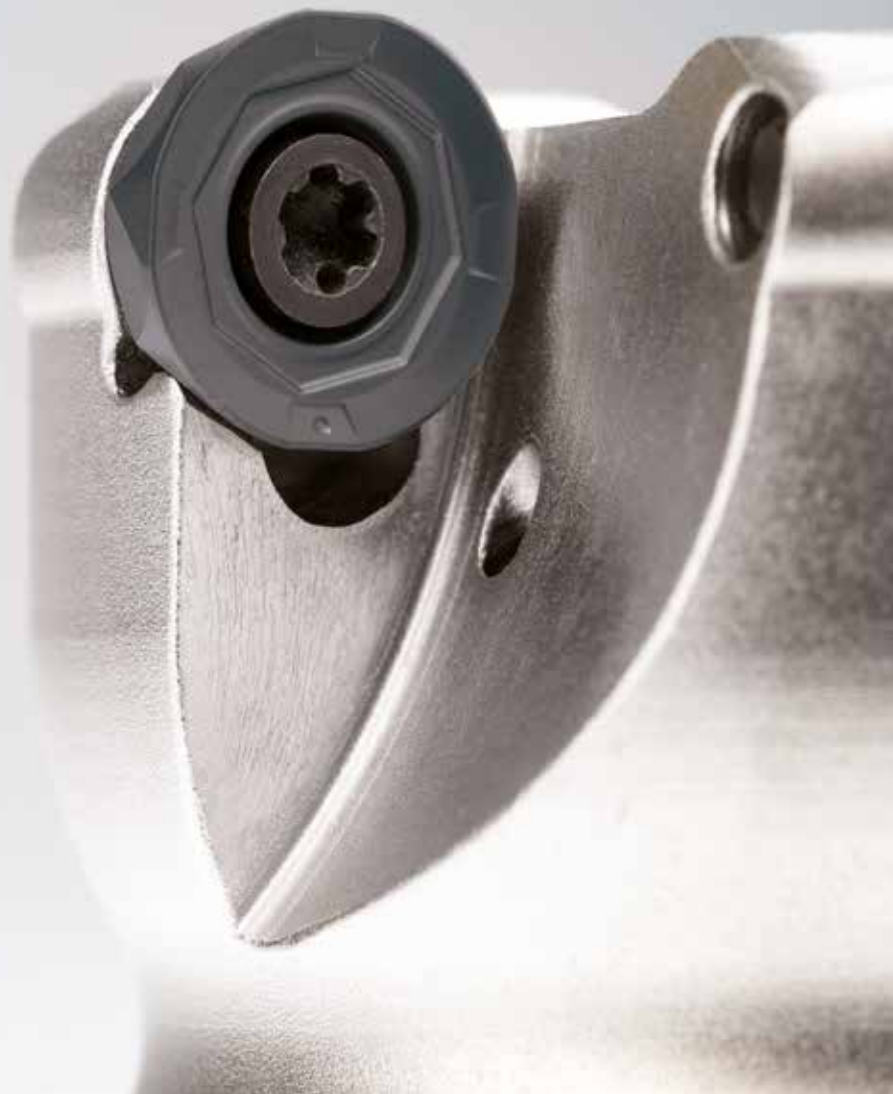
MULTIPLE APPLICATIONS

Milling body (SDMX15)

- ▶ Face milling
- ▶ Angled milling
- ▶ Slot milling
- ▶ Chamfering
- ▶ Profile milling

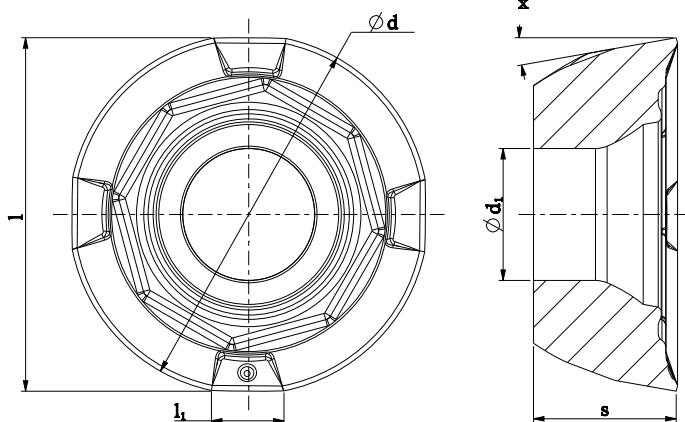


Description	Ø d ₁ [mm]	Ø d ₂ [mm]	h [mm]	Ø d _A H6/h6 [mm]	a _p max [mm]	n _{max} [min ⁻¹]	z	Ø d [mm]	l _A [mm]	a [mm]	b [mm]
RQ4D050Z03S22R16L40	39.8	50	40.5	22	8	12700	3	48	22	10.4	6.3
RQ4D052Z04S22R16L40	41.8	52	40.5	22	8	12700	4	48	21	10.4	6.3
RQ4D063Z05S22R16L40	52.8	63	40.5	22	8	10100	5	48	21	10.4	6.3
RQ4D066Z05S22R16L40	55.8	66	40.5	22	8	10100	5	48	21	10.4	6.3
RQ4D080Z06S27R16L50	69.8	80	50.5	27	8	7950	6	58	23	12.4	7
RQ4D100Z07S32R16L50	89.8	100	50.5	32	8	6350	7	78	26	14.4	8
RQ4D125Z08S40R16L63	114.8	125	63.5	40	8	5050	8	88	28	16.4	9



MULTIPLE APPLICATIONS

Insert (RPMX)



-RP



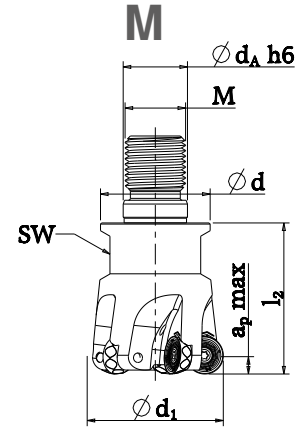
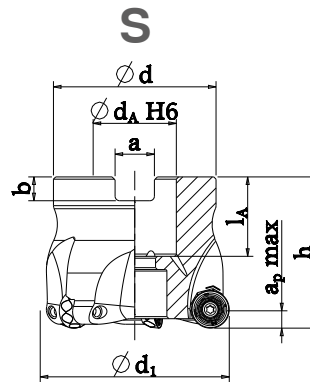
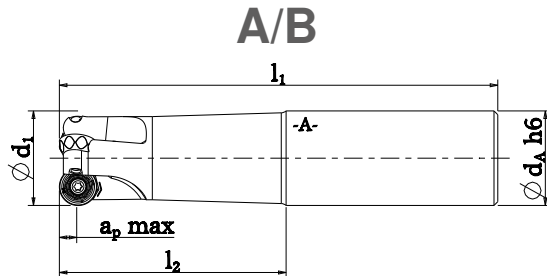
-FU

Description	d [mm]	l [mm]	s [mm]	l_1 [mm]	d_1 [mm]	X [°]
RPMX1204MOMFRP	12	11.75	4.76	2.4	4.4	11
RPMX1204MOMFFU	12	11.75	4.76	2.4	4.4	11
RPMX1605MOMFRP	16	15.8	5.56	2.5	5.5	11
RPMX1605MOMFFU	16	15.8	5.56	2.5	5.5	11

MULTIPLE APPLICATIONS

Milling body (RP12)

- ▶ Face milling
- ▶ Angled milling
- ▶ Slot milling
- ▶ Chamfering
- ▶ Profile milling

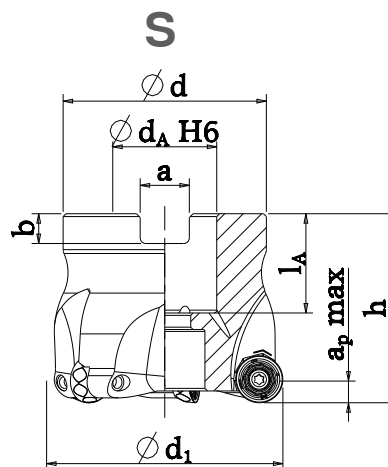


Description	$\varnothing d_1$ [mm]	l_1 [mm]	l_2 [mm]	h [mm]	$\varnothing d_A$ H6/h6 [mm]	$a_p \max$ [mm]	n_{\max} [min ⁻¹]	z	$\varnothing d$ [mm]	SW	M	l_A [mm]	a [mm]	b [mm]
RQ4D025Z02A25R12L86-30	24.75	85.87	29.87	-	25	6	25000	2	-	-	-	-	-	-
RQ4D025Z02A25R12L116-60	24.75	115.87	59.87	-	25	6	18000	2	-	-	-	-	-	-
RQ4D032Z03A32R12L100-40	31.75	99.87	39.87	-	32	6	19000	3	-	-	-	-	-	-
RQ4D032Z03A32R12L130-70	31.75	129.87	69.87	-	32	6	17000	3	-	-	-	-	-	-
RQ4D025Z02M12R12L35	24.75	-	34.87	-	12.5	6	25000	2	21	SW17	M12	-	-	-
RQ4D035Z03M16R12L40	34.75	-	39.87	-	17	6	15900	3	29	SW24	M16	-	-	-
RQ4D040Z04S16R12L40	39.75	-	-	39.87	16	6	15900	4	38	-	-	20	8.4	5.6
RQ4D042Z04S16R12L40	41.75	-	-	39.87	16	6	15900	4	38	-	-	20	8.4	5.6
RQ4D050Z05S22R12L40	49.75	-	-	39.87	22	6	12700	5	43	-	-	21	10.4	6.3
RQ4D052Z05S22R12L40	51.75	-	-	39.87	22	6	12700	5	43	-	-	21	10.4	6.3
RQ4D063Z06S22R12L40	62.75	-	-	39.87	22	6	10100	6	48	-	-	21	10.4	6.3
RQ4D066Z06S27R12L40	65.75	-	-	39.87	27	6	10100	6	58	-	-	23	12.4	7
RQ4D080Z08S27R12L50	79.75	-	-	49.87	27	6	7950	8	58	-	-	22	12.4	7
RQ4D100Z10S32R12L50	99.75	-	-	49.87	32	6	6350	10	78	-	-	26	14.4	8

MULTIPLE APPLICATIONS

Milling body (RP16)

- ▶ Face milling
- ▶ Angled milling
- ▶ Slot milling
- ▶ Chamfering
- ▶ Profile milling

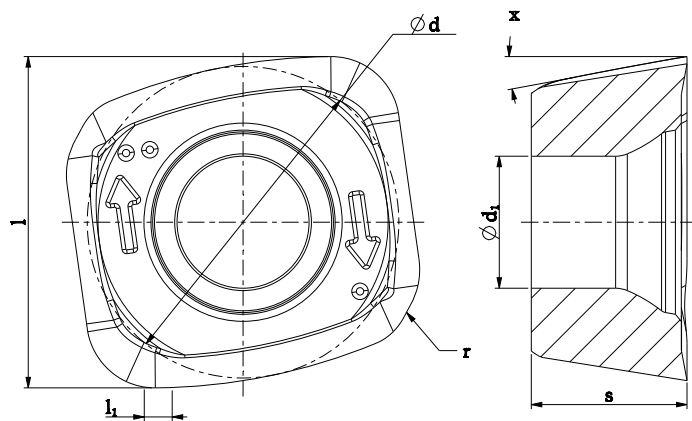


Description	$\varnothing d_1$ [mm]	h [mm]	$\varnothing d_A$ H6/h6 [mm]	$a_p \max$ [mm]	n_{\max} [min ⁻¹]	z	$\varnothing d$ [mm]	l_A [mm]	a [mm]	b [mm]
RQ4D050Z03S22R16L40	49.8	39.9	22	8	12700	3	48	22	10.4	6.3
RQ4D052Z04S22R16L40	51.8	39.9	22	8	12700	4	48	21	10.4	6.3
RQ4D063Z05S22R16L40	62.8	39.9	22	8	10100	5	48	21	10.4	6.3
RQ4D066Z05S22R16L40	65.8	39.9	22	8	10100	5	48	21	10.4	6.3
RQ4D080Z06S27R16L50	79.8	49.9	27	8	7950	6	58	23	12.4	7
RQ4D100Z07S32R16L50	99.8	49.9	32	8	6350	7	78	26	14.4	8
RQ4D125Z08S40R16L63	124.8	62.9	40	8	5050	8	88	28	16.4	9



MULTIPLE APPLICATIONS

Insert (EOMT)

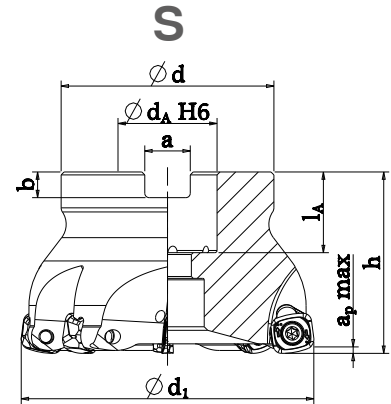
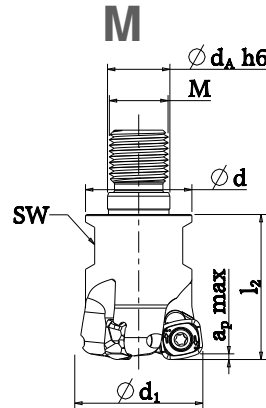
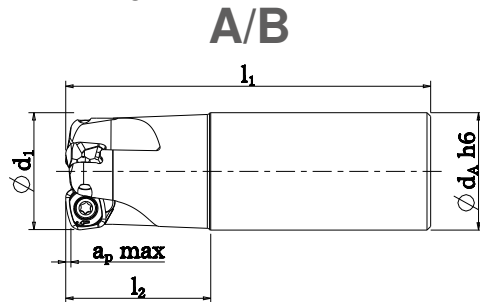


Description	d [mm]	s [mm]	l [mm]	d_1 [mm]	l_1 [mm]	r [mm]	x [°]
EOMT120416RP	11.3	5.2	11	4.4	1	1.6	9
EOMT120416FU	11.3	5.2	11	4.4	1	1.6	9

MULTIPLE APPLICATIONS

Milling body (SSM-A.R / EOMT12)

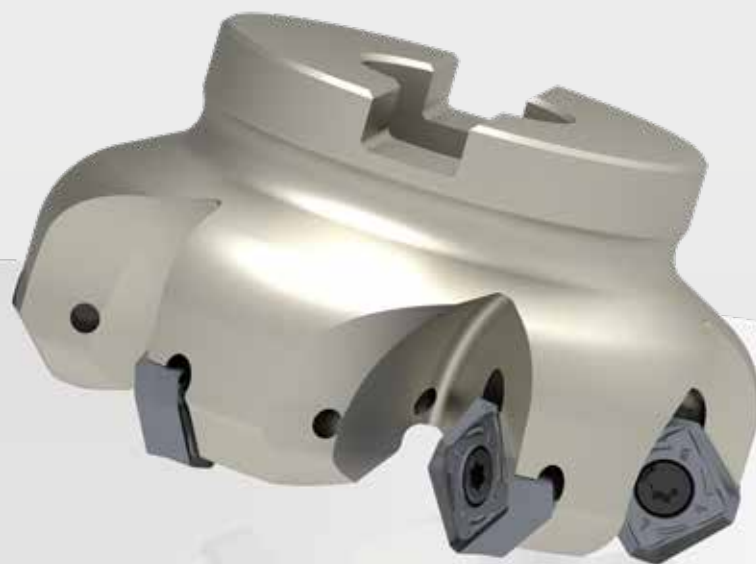
- ▶ Face milling
- ▶ Angled milling
- ▶ Slot milling
- ▶ Chamfering
- ▶ Profile milling



Description	Ø d ₁ [mm]	l ₁ [mm]	l ₂ [mm]	h [mm]	Ø d _A H6/h6 [mm]	a _{p max} [mm]	n _{max} [min ⁻¹]	z	Ø d [mm]	SW	M	l _A [mm]	a [mm]	b [mm]
RQ4D025Z02A25R12L86-30	24.75	85.87	29.87	-	25	6	25000	2	-	-	-	-	-	-
RQ4D025Z02A25R12L116-60	24.75	115.87	59.87	-	25	6	18000	2	-	-	-	-	-	-
RQ4D032Z03A32R12L100-40	31.75	99.87	39.87	-	32	6	19000	3	-	-	-	-	-	-
RQ4D032Z03A32R12L130-70	31.75	129.87	69.87	-	32	6	17000	3	-	-	-	-	-	-
RQ4D025Z02M12R12L35	24.75	-	34.87	-	12.5	6	25000	2	21	SW17	M12	-	-	-
RQ4D035Z03M16R12L40	34.75	-	39.87	-	17	6	15900	3	29	SW24	M16	-	-	-
RQ4D040Z04S16R12L40	39.75	-	-	39.87	16	6	15900	4	38	-	-	20	8.4	5.6
RQ4D042Z04S16R12L40	41.75	-	-	39.87	16	6	15900	4	38	-	-	20	8.4	5.6
RQ4D050Z05S22R12L40	49.75	-	-	39.87	22	6	12700	5	43	-	-	21	10.4	6.3
RQ4D052Z05S22R12L40	51.75	-	-	39.87	22	6	12700	5	43	-	-	21	10.4	6.3
RQ4D063Z06S22R12L40	62.75	-	-	39.87	22	6	10100	6	48	-	-	21	10.4	6.3
RQ4D066Z06S27R12L40	65.75	-	-	39.87	27	6	10100	6	58	-	-	23	12.4	7
RQ4D080Z08S27R12L50	79.75	-	-	49.87	27	6	7950	8	58	-	-	22	12.4	7
RQ4D100Z10S32R12L50	99.75	-	-	49.87	32	6	6350	10	78	-	-	26	14.4	8



TECHNICAL INFORMATION



DESIGNATION SYSTEM / MILLING INSERT

S	D	K	T	09	T3	08	S	R	FU
1	2	3	4	5	6	7	8	9	10

T	O	K	X	07	03	05PD	E	R	RP
1	2	3	4	5	6	7	8	9	10

1

Insert shape

Included angle	35°	V	
	55°	D	
	75°	E	
	80°	C	
	86°	M	
	82°	B	
	85°	A	
Other shapes	90°	L	
		108°	P
		120°	H
		135°	O
		-	R
		90°	S
		60°	T
		80°	W
	Special shapes	X Z	

2

Clearance angle

3°	A	25°	F
5°	B	30°	G
7°	C	0°	N
15°	D	11°	P
20°	E		*O

3

Tolerances

	d ± (mm)	m ± (mm)	s ± (mm)
A	0,025	0,005	0,025
F	0,013	0,005	0,025
C	0,025	0,013	0,025
H	0,013	0,013	0,025
E	0,025	0,025	0,025
G	0,025	0,025	0,13
J	0,05-0,015*	0,005	0,025
K	0,05-0,015*	0,013	0,025
L	0,05-0,015*	0,025	0,025
M	0,05-0,015*	0,05-0,2*	0,13
N	0,05-0,015*	0,05-0,2*	0,025
U	0,08-0,25*	0,13-0,38*	0,13

*depends on insert size

4

Form of topsurface

A		
F		
G		
M		
N		
Q		
R		
T		
U		
W		
X	Special version	

5

Cutting edge length

A	T	C/S	H	R

6

Insert thickness

Index	(mm)
01	1,59
T1	1,98
02	2,38
03	3,18
T3	3,97
04	4,76
05	5,56
06	6,35
07	7,94
09	9,52

7

Facet corner radius

Index (mm)		1st sign		2nd sign	
M0		A	45°	A	3°
02	0,2	D	60°	B	5°
04	0,4	E	75°	C	7°
08	0,8	F	85°	D	15°
12	1,2	P	90°	E	20°
16	1,6	Z	Other	F	25°
24	2,4			G	30°
32	3,2			N	0°
				P	11°
				Z	Other
				O	

8

Cutting edge

- F sharp
- E honed
- S chamfered and honed
- T chamfered

9

Cutting direction

- R
- L
- N





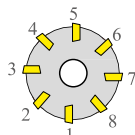
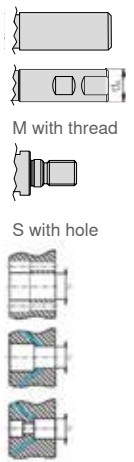
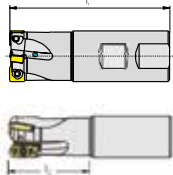
10

Geometry

RP	Roughing Steel
FU	Finishing Universal
GK	General Cast Iron
SN	Sharp/Non-Ferrous
GS	General Superalloys
GH	General Hardened
SR	Specific Radius

DESIGNATION SYSTEM / MILLING BODY

MQ4	D063	Z06	S22	S12	L40
1	2	3	4	5	6
RQ8	D032	Z03	A32	R12	L165-70
1	2	3	4	5	6

<p>1</p> <p>Milling Platform</p>  <p>No.=Cutting edges/insert</p>	<p>2</p> <p>Diameter</p> <p>shoulder/slot cutters</p>  <p>face milling cutters</p>  <p>round insert cutters</p> 	<p>3</p> <p>Effective # of cutting edges</p> 	<p>4</p> <p>Connection and size Shank</p>  <p>A</p> <p>B</p> <p>M with thread</p> <p>S with hole</p>	<p>5</p> <p>Insert shape and size</p> <table border="1"> <tr><td>D</td><td></td></tr> <tr><td>E</td><td></td></tr> <tr><td>C</td><td></td></tr> <tr><td>M</td><td></td></tr> <tr><td>K</td><td></td></tr> <tr><td>B</td><td></td></tr> <tr><td>A</td><td></td></tr> <tr><td>L</td><td></td></tr> <tr><td>P</td><td></td></tr> <tr><td>H</td><td></td></tr> <tr><td>O</td><td></td></tr> <tr><td>R</td><td></td></tr> <tr><td>S</td><td></td></tr> <tr><td>T</td><td></td></tr> <tr><td>W</td><td></td></tr> <tr><td>X Z</td><td>Special shapes</td></tr> </table>	D		E		C		M		K		B		A		L		P		H		O		R		S		T		W		X Z	Special shapes	<p>6</p> <p>Overall length and Working length</p> 
D																																					
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APPLICATION

P	Steel	M	Stainless steel	K	Cast iron
N	Non-ferrous metals and non-metals	S	Heat-resistant alloys, titanium	H	Hard materials

Machining application types



RP
Strong cutting edge for general steel applications and tough conditions milling.



GS
Stable cutting edge for dedicated exotic materials and titanium.



FU
Sharp cutting edge for general stainless steel applications and for finishing in steels.



GK
Strong cutting edge for cast iron applications.



SN
Sharp cutting edge for aluminium and non-ferrous metals.



GH
Strong reinforced cutting edge for hard material.



GRADE OVERVIEW

DESIGNATION SYSTEM

M	P	35	P
11	12	13	14

P	KM	30	C
11	12	13	14

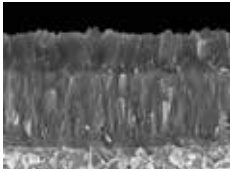
11	12												
Primary workpiece material	Secondary workpiece material (optional)												
<table border="1"> <tr><td>P</td><td>Steel</td></tr> <tr><td>M</td><td>Stainless Steel</td></tr> <tr><td>K</td><td>Cast Iron</td></tr> <tr><td>N</td><td>Non-ferrous</td></tr> <tr><td>S</td><td>High-Temp Alloys</td></tr> <tr><td>H</td><td>Hardened Materials</td></tr> </table>	P	Steel	M	Stainless Steel	K	Cast Iron	N	Non-ferrous	S	High-Temp Alloys	H	Hardened Materials	
P	Steel												
M	Stainless Steel												
K	Cast Iron												
N	Non-ferrous												
S	High-Temp Alloys												
H	Hardened Materials												

13																	
Application Range																	
<table border="1"> <tr> <td rowspan="2">HARDEST</td> <td>5</td> <td>Fine Finishing</td> </tr> <tr> <td>10</td> <td rowspan="2">Finishing</td> </tr> <tr> <td>15</td> <td rowspan="4">Medium</td> </tr> <tr> <td>20</td> </tr> <tr> <td>25</td> </tr> <tr> <td>30</td> <td rowspan="2">Roughing</td> </tr> <tr> <td>35</td> </tr> <tr> <td rowspan="3">TOUGHEST</td> <td>40</td> <td rowspan="3">Heavy roughing</td> </tr> <tr> <td>45</td> </tr> <tr> <td>50</td> </tr> </table>	HARDEST	5	Fine Finishing	10	Finishing	15	Medium	20	25	30	Roughing	35	TOUGHEST	40	Heavy roughing	45	50
HARDEST		5	Fine Finishing														
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25																	
30		Roughing															
35																	
TOUGHEST	40	Heavy roughing															
	45																
	50																

14														
Insert Material														
<table border="1"> <tr><td>P</td><td>PVD-coated carbide</td></tr> <tr><td>C</td><td>CVD-coated carbide</td></tr> <tr><td>T</td><td>Cermet</td></tr> <tr><td>CBN</td><td>CBN</td></tr> <tr><td>PCBN</td><td>Coated CBN</td></tr> <tr><td>PCD</td><td>PCD/Diamond</td></tr> <tr><td>CVD</td><td>CVD Diamond</td></tr> </table>	P	PVD-coated carbide	C	CVD-coated carbide	T	Cermet	CBN	CBN	PCBN	Coated CBN	PCD	PCD/Diamond	CVD	CVD Diamond
P	PVD-coated carbide													
C	CVD-coated carbide													
T	Cermet													
CBN	CBN													
PCBN	Coated CBN													
PCD	PCD/Diamond													
CVD	CVD Diamond													

PKM30C

P30 | K25 | M25

**Specification:**

Composition: Co 10.5%; mixed carbides 2.0%; WC balance | Grain size: 1-2 μm | Hardness: HV₃₀ 1400 |
Coating specification: CVD TiCN-Al₂O₃

Recommended application:

First choice for dry machining of steels at high cutting speeds.

PM35C

P35 | M30

**Specification:**

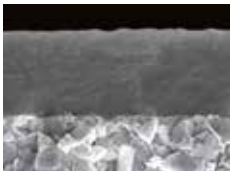
Composition: Co 12.5%; mixed carbides 2.0%; WC balance | Grain size: fine
Hardness: HV₃₀ 1380 | Coating specification: CVD TiCN-Al₂O₃ + TiN; 7 μm

Recommended application:

Milling Grade designed for Alloyed Steel cutting.

PM35P

P35 | M30

**Specification:**

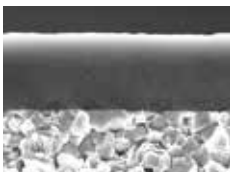
Composition: Co 10.5%; mixed carbide 2.0%; WC balance | Grain size: 1-2 μm | Hardness: HV₃₀ 1400 |
Coating specification: PVD TiAlTaN

Recommended application:

Particularly suitable for the wet machining of steels.

MP40PX

M40 | P40

**Specification:**

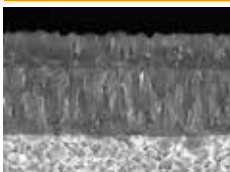
Composition: Co 12.5%; mixed carbides 2.0%; WC balance | Grain size: 1 μm | Hardness: HV₃₀ 1380 |
Coating specification: PVD TiAlTaN

Recommended application:

The first choice for the machining of austenitic steels.

K15CX

K15

**Specification:**

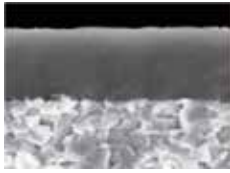
Composition: Co 6.0%; mixed carbides 2.0%; WC balance | Grain size: 1 μm | Hardness: HV₃₀ 1600 |
Coating specification: CVD TiN, MT-TiCN; Al₂O₃

Recommended application:

The first choice for the machining of cast iron at high cutting speeds.

K20P

K20



Specification:

Composition: Co 6.0%; mixed carbides 2.0%, WC balance | Grain size: 1 µm | Hardness: HV₃₀ 1630 | Coating specification: PVD TiAlTaN

Recommended application:

Optimal for the machining of high-tensile cast iron materials when toughness is required.



NK15W

N15 | K15



Specification:

Composition: Co 6.0 %; WC balance | Grain size: 1 µm | Hardness: HV₃₀ 1630

Recommended application:

The uncoated carbide grade for the machining of aluminium. It's an high wear and high heat resistant carbide with a low tendency to adhesion.



SM35C

S35 | M35



Specification:

Composition: 10.0 % binder; WC balance | Grain size: 2 µm | Hardness: HV₃₀ 1330 | Coating specification: CVD TiCN-Al₂O₃ multi-layer

Recommended application:

Particularly suitable for the machining of heat-resistant steels and iron-based alloys.



S40C

S35



Specification:

Composition: Co 10.0 %; WC balance | Grain size: 2 µm | Hardness: HV 1330 | Coating specification: CVD TiN + TiB₂; 4 µm

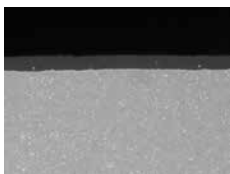
Recommended application:

Recommended for the machining of titanium materials.



HK15P

H15 | K15



Specification:

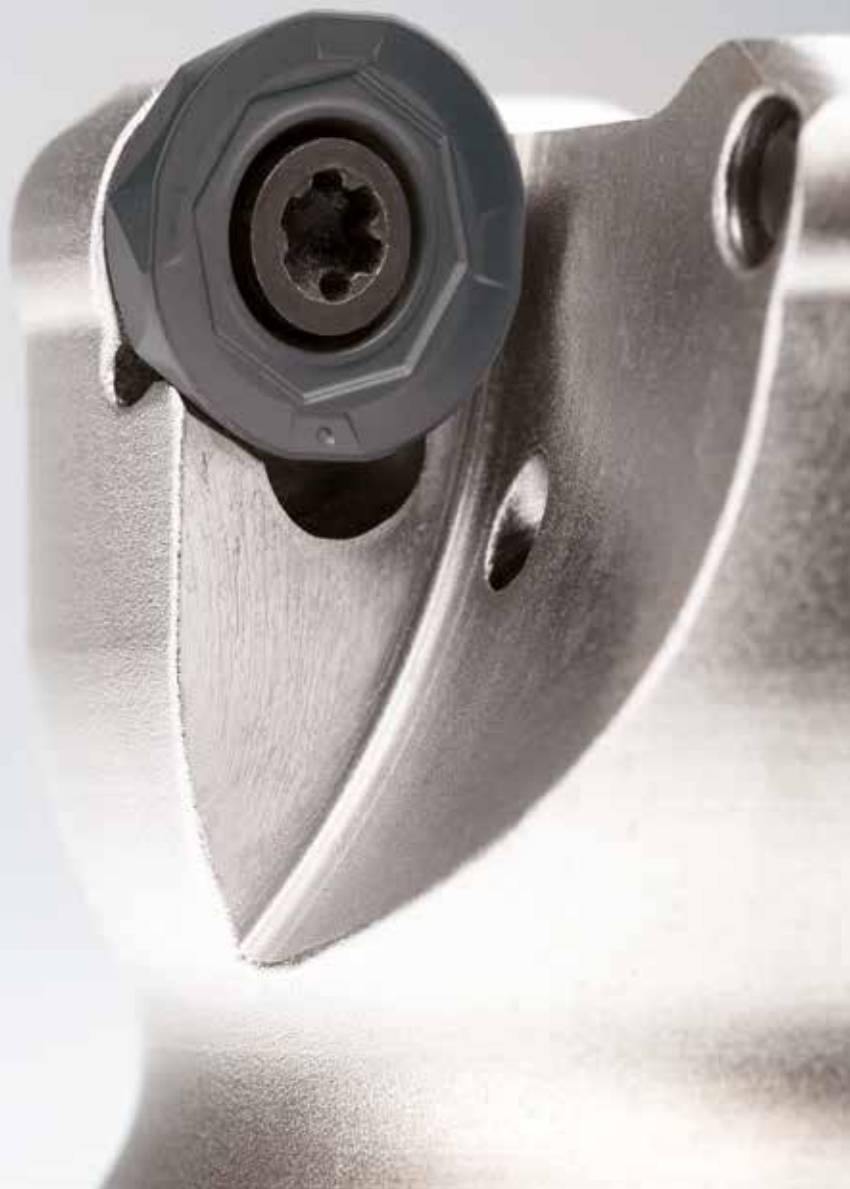
Composition: Co 12.0 %; WC balance | Grain size: 4 µm | Hardness: HV 1730 | Coating specification: PVD (Ti)N; 4 µm

Recommended application:

Particularly suitable for the machining of hardened steels.









LSAB Group has long and solid experience of the market's need for cutting tools for the wood and metal industry. We are now broadening our offering with our own brand Miqor Tools and selected products.

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