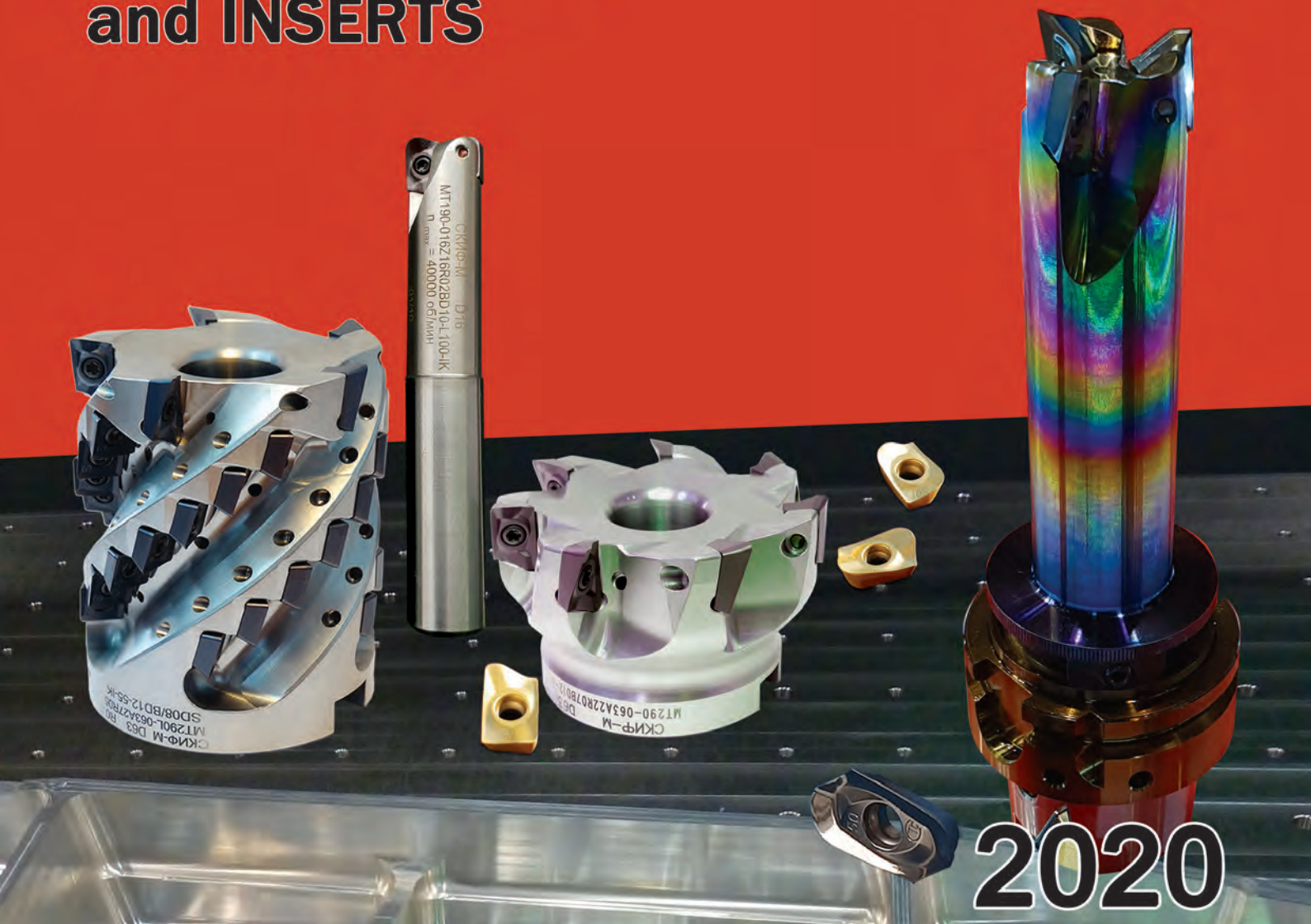
SKIF-M

INDEXABLE ROTATING TOOLS and INSERTS



2020

НАЦИОНАЛЬНАЯ ПРЕМИЯ В ОБЛАСТИ ПРЕДПРИНИМАТЕЛЬСКОЙ ЭСТЕТИЧНОСТИ
Золотой Меркурий

The best solution of customers problems in a field of milling - is the main goal of SKIF-M. Knowledge of our experts and constantly updated wide program of mills and inserts for milling - our tools for achievement of the main goal.
More than 75% of all produced tools and inserts SKIF-M sells in the aerospace industry.

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MT	1	90	L	–	040	W	32	R	03	SD	08	–	45

1 Type of the tool:

MT - Milling Tool;
DT - Drilling Tool;
ST - Core drill;
E - End cutter heads.

2 Perfomance of mills:

1 - with shank (endmills);
2 - with mounting bore (facemills or square shoulder facemills);
3 - with mounting bore (side and facemills or slitting cutters).

3 Cutting edge angle (approach angle):

00 - circle inserts
45 - 45°
90 - 90°
etc.

4 Special design (used only with special features mentioned below):

B - drilling endmills;
C - mills with clamp;
F - champfering milling tools;
K - mills with cartridges for centre screw clamping;
L - long edge design;
N - grooving tools;
S - for finishing;
T - for T-slots;
W - mills with clamping wedge;
Y - roughing;
Z - plunging;
P - fastening by toggle lever;
A - with adjustment possibility.

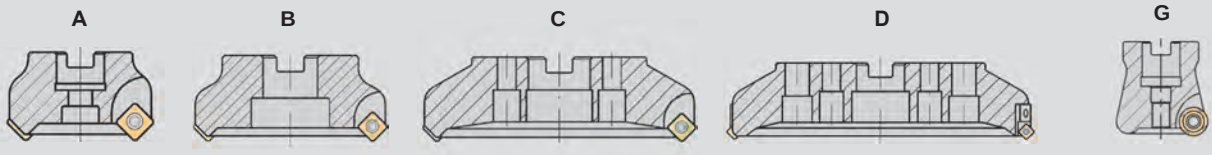
5 Cutting diameter, mm

6 Mounting system:

6.1 ***endmills***

W - Straight shank with drive flat (Weldon) (DIN 1835 B);
Z - Straight shank cylindrical (DIN 1835 A);
MK - Morse taper shank with draw-bar thread DIN 228 A;
G - Screw fit shank;;
SK - 7/24 taper shank to ISO 297 / DIN 2080;
NC - 7/24 taper shank to DIN 69871 A;
C - taper hollow polygonal shank Capto DIN 26623-1;
CV - 7/24 taper shank to USA-Norm (CAT-V flange);
BT - 7/24 taper shank to Japan-Norm (MAS BT 403);
H...A - Taper Hollow Shank HSK DIN 69893 Form A;
N - Straight shank with sloping clamping surface (Whistle Notch DIN 1835E);
WN - Complex sraight shank with drive flat (Weldon) and with sloping clamping surface Whistle Notch DIN 1835E;

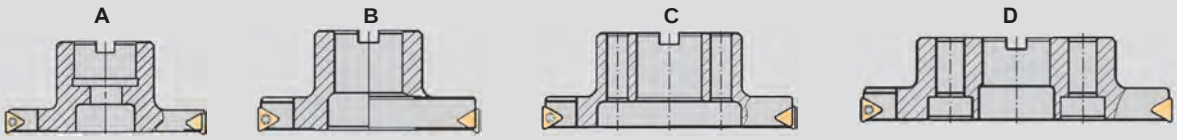
6.2 ***facemills and square shoulder facemills***



6.3 ***side and facemills***

S - mounting on shell mill holder to DIN 138.

A, B,C, D - cylindrical bore with drive slot to DIN 138;



Tool Nomenclature

1	2	3	4		5	6	7	8	9	10	11		12
MT	1	90	L	–	040	W	32	R	03	SD	08	–	45

7 **Diameter of matching bore for facemills, slitting cutters, side and facemills, shell mills, diameter of shank for endmills with straight shank, size of Morse taper shank with draw-bar thread, 7/24 taper shank and HSK, thread diameter for endmills with screw fit shank, mm**

8 **Cutting direction:**

R - right handed; L - left handed; N

9 **Number of teeth**

10 **Shape and clearance angle of insert to ISO 1832**

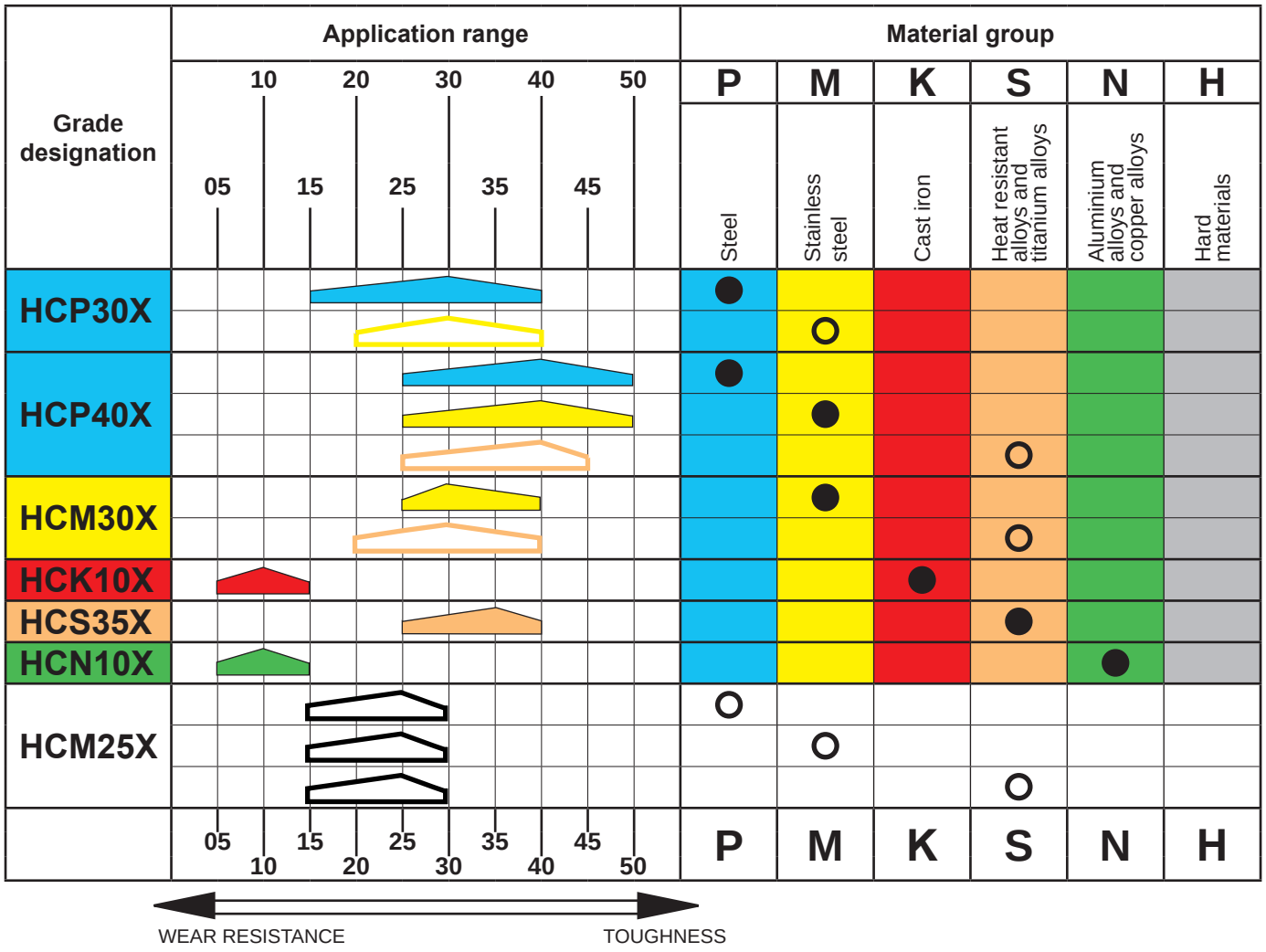
11 **Length of the cutting edge of insert, mm**

12 **Manufacturers option:**

- cutting length of long edge endmills, mm;
- min and max cutting width of adjustable full side and facemills,mm;
- cutting width of slitting cutters,mm;

IK - with internal coolant supply;
IK - B - 7/24 taper shank with internal coolant supply to DIN 69871 B;
IK - AD - 7/24 taper shank with internal coolant supply to DIN 69871 AD;
IK - ADB - 7/24 taper shank with internal coolant supply to DIN 69871 ADB;
A - long edge spiral flute endmills with front end cutter heads;
L... - overal length of long design endmills, mm;
H... - length endmills from face cutting point to base surface of input shank, mm;
h... - length endmills of working feature, mm;
S - sizes milling tools different from SKIF-M catalogue;
R - half side and facemills with right cartridges;
L - half side and facemills with left cartridges;
N - slitting cutters, adjustable full side and facemills with cartridges;
B - mills with mechanism of balancing;
HSC - for high speed cutting up to 5000 m/min.

Application fields carbide grades for milling

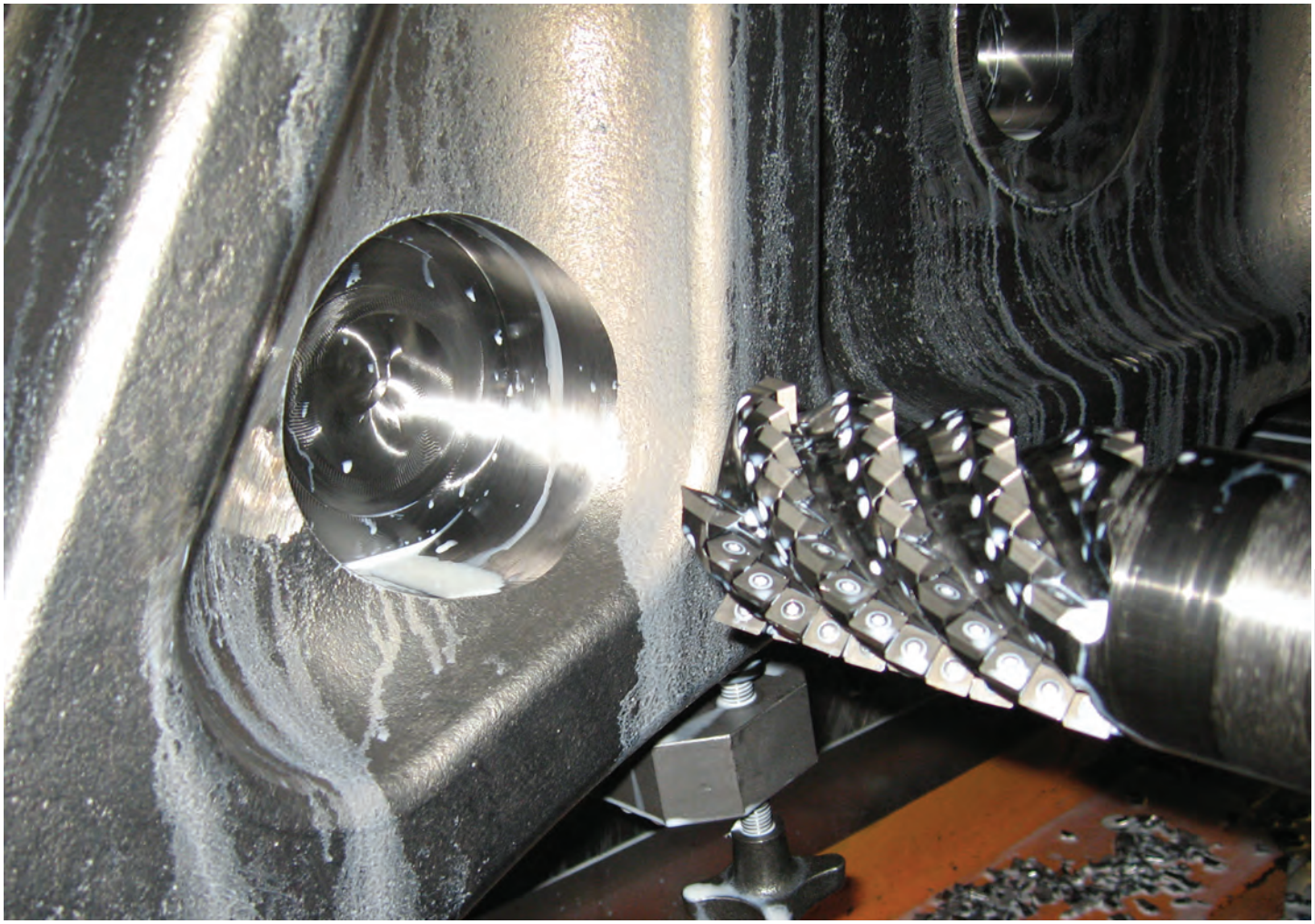


Type description coated carbide grades for milling

HCP30X *P15-P40* *M20-M40*	Universal high-production TiALN coated grade for all kinds of steel. Referable machining without coolant supply.
HCP40X *P25-P50* *M25-M50* *S25-S45*	Universal a PVD large thickness coated tough grade for milling steel and stainless steel. Suitable for milling in unstable conditions.
HCM30X *M25-M40* *S20-S40*	Universal high-production coated carbide grade for milling austenitic stainless steel and heat resistant alloys at medium to high cutting speeds.

Type description coated carbide grades for milling

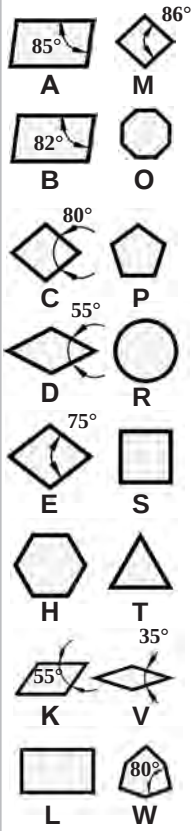
HCK10X *K05-K15*	Coated grade for milling grey cast iron, spheroidal cast iron, tempered iron. High wear resistance on high cutting speed. Preferable machining without coolant supply.
HCS35X *S25-S40*	New high-production coated carbide grade for milling titanium alloys. Use for wide range of cutting speed and various operating conditions.
HCN10X *N05-N15*	New coated carbide grade for milling aluminium and aluminium alloys. Combination of high wear resistance and tough allow using high and medium cutting speeds in wide range of feeds. Use with coolant supply, also as without it.
HCM25X *P15-P30* *M15-M30* *S15-S30*	Additional coated grade universal application for finishing.



Indexable insert designation according to ISO 1832

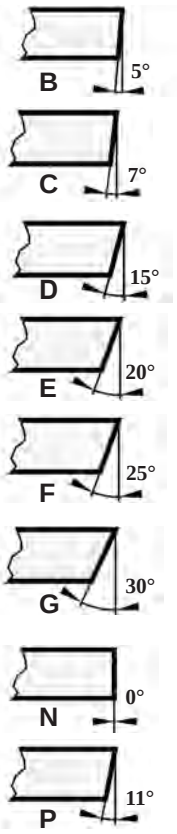
F	O	N	T	09

Shape of insert



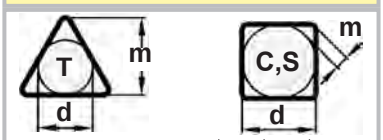
X - other shape of insert

Clearance angle



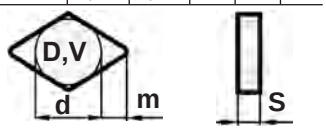
O - speciai version

Tolerances



Tolerances, mm +/-

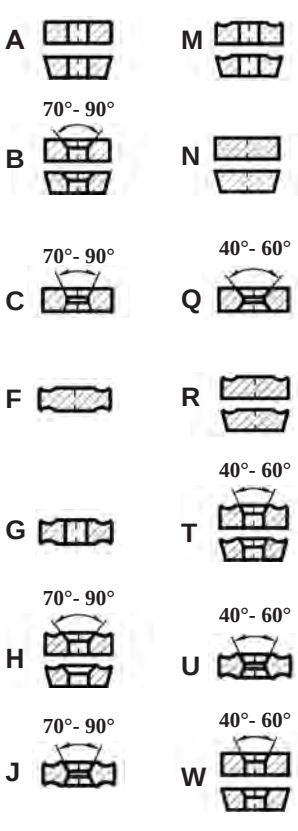
	d	m	s	d=6,35/9,52	d=12,7	d=15,8/19,05
A	0,025	0,005	0,025	●	●	●
C	0,025	0,013	0,025	●	●	●
E	0,025	0,025	0,025	●	●	●
F	0,013	0,005	0,025	●	●	●
G	0,025	0,025	0,13	●	●	●
H	0,013	0,013	0,025	●	●	●
J*	0,05	0,005	0,025	●		
	0,08	0,005	0,025		●	
	0,10	0,005	0,025			●
K*	0,05	0,013	0,025	●		
	0,08	0,013	0,025		●	
	0,10	0,013	0,025			●



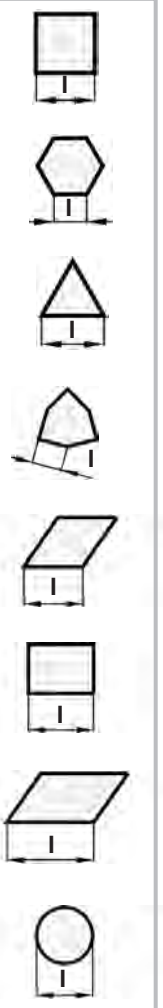
M	0,05	0,08	0,13	●		
	0,08	0,13	0,13		●	
	0,10	0,15	0,13			●
N	0,05	0,08	0,025	●		
	0,08	0,13	0,025		●	
	0,10	0,15	0,025			●
U	0,08	0,13	0,13	●		
	0,13	0,20	0,13		●	
	0,18	0,27	0,13			●

*Insert with ground secondary cutting edge

Type of insert



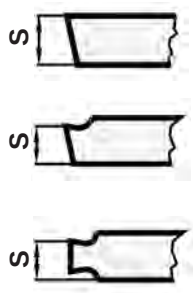
Length of the cutting edge, mm



Indexable insert designation according to ISO 1832

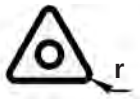
T3	08	S	R	-S

Thickness of insert, mm



	S, mm
01	1,59
T1	1,98
02	2,38
T2	2,78
M3	2,9
03	3,18
T3	3,97
04	4,76
05	5,56
06	6,35
M7	7,00
07	7,94
09	9,52

Corner radius and chamfer, mm

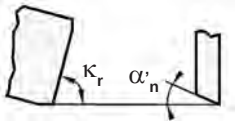


02	r = 0,2	**12**	r=1,2
04	r = 0,4	**16**	r=1,6
08	r = 0,8	**24**	r=2,4

Circle insert

00 - inscribed circle inch

MO - inscribed circle metric



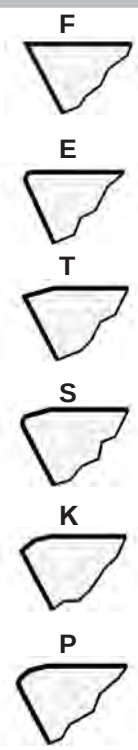
1st sign	
	κ_r
A	45°
D	60°
E	75°
F	85°
P	90°
Z	other

2nd sign	
	α'_n
A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°
Z	other

1 - Lead angle

2 - End relief angle

Type of cutting edge



Cutting direction

Manufacturers detail

AL
-for aluminium alloys and copper alloys

G
-for cast iron

H
-for stainless steel

S
-for steel

T
-for heat resistant alloys and titanium alloys

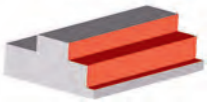
Working areas:

R - Rough

M - Medium

F - Fine

1st step Select application

			
Face milling	Square shoulder facemilling	Slot milling	Profiling

2nd step Determination of the workpiece material group

Define the workpiece material to be machined:

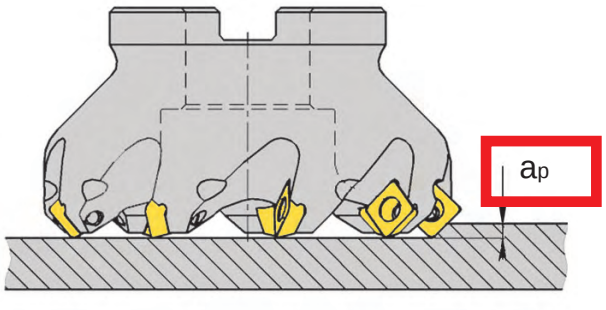
ISO	The workpiece material group		Material group
P	Steel:	Non-alloy steel, Low-alloy steel, High-alloy steel, stainless steel with martensitic and ferritic structure	1-13
M	Stainless steel:	Stainless steel with the austenitic structure and ferritic-martensitic	14
K	Cast iron:	Grey cast iron, Nodular cast iron and Malleable cast iron	15-20
N	Nonferrous metal:	Aluminium wrought alloys and Aluminium cast alloys, Brass, Copper alloys, electrolyte-Cu and Bronze	21-28
S	Titanium alloys:	Heat resisstant alloys and Titanium alloys	33-34, 37
H	Hard materials:	Tempered steel, chilled castings, tempered cast iron	38-40

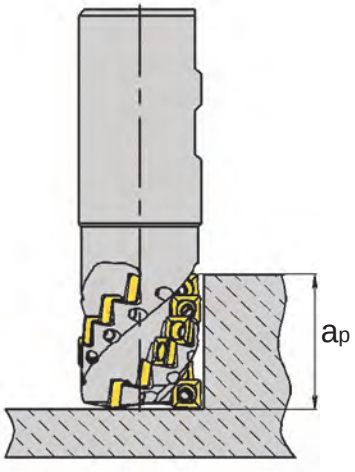
*Pages 243-247 material cross reference list

3rd step Select the machining conditions and a maximum axial depth of cut

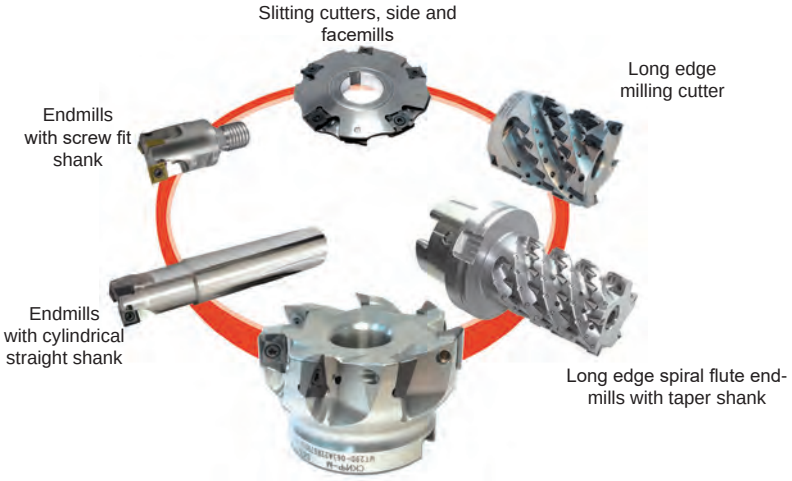
Machining	
Roughing	R
Semi-finishing	M
Finishing	F
Plunging	

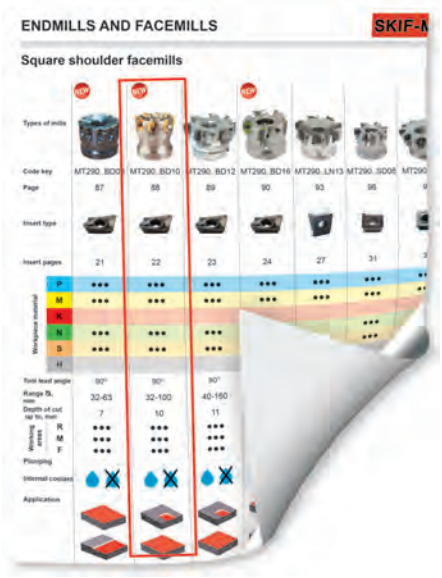
Applicability	
Moderate	●
Good	●●
Very good	●●●





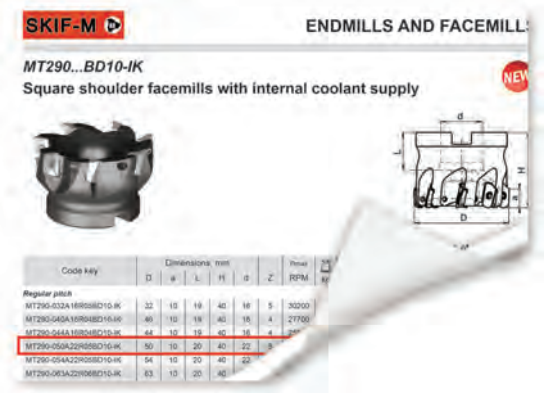
4th step Choice of type of a mill





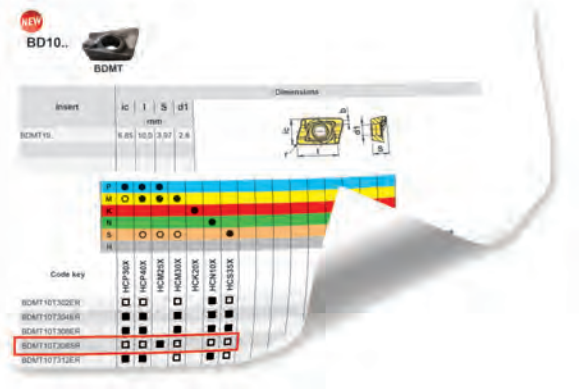
*See “Choice of milling tools” pages 44-45, 58, 63, 72, 78, 101, 103, 108, 129, 138, 153, 166, 184, 202.

5th step Select the cutter



*Select the necessary size of a mill.
*Select, being based on cutting conditions, a pitch of teeths:
- Regular pitch cutter should always be the first choice;
- Close pitch is used at machining of the materials giving discontinuous chips;
- Coarse pitch well approaches at work with the big tool extensions in unstable conditions.

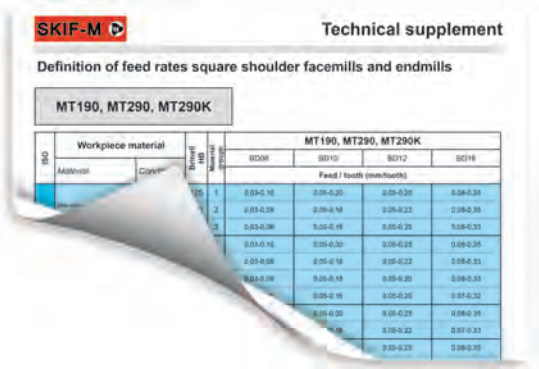
6th step Select of grade and geometry of insert



*Define geometry of insert, according to type of operation.
*Select necessary carbide grades, based on workpiece material.
*See “Indexable inserts” pages 16-38.

7th step Choice of cutting data

*See “Cutting speed” pages 233



*See “Definition of feed rates” pages 235

Overview of rotating tools

MT100-RD..	**MT200-RD..**	**MT100L-XO..**		
  page 47 page 25	  page 51 page 25	  page 57 page 36		
MT115-FO09	**MT215-FO09**	**MT119-FO12**	**MT219-FO12**	
  page 60 page 23	  page 62 page 23	  page 60 page 23	  page 62 page 23	
MT145-SD08	**MT245-SD08**	**MT245-SO12**	**MT245-SN13**	**MT250-XN10**
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MT260-SN12	**MT288-SN14**	**MT289-SO12**		
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MT190-BD..	**MT290-BD..**	**MT190-LN13**	**MT290-LN13**	
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MT190-SD08	**MT290-SD08**	**MT290-SO12**	**MT290-AX14**	
  page 98 page 27	page 99 page 27	page 100 page 34	page 101 page 19	
MT190T-SD08	**MT190T-SO12**	**MT190Z-AX14**	**MT290Z-AX14**	
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Overview of rotating tools

MT190L-BD..	**MT190L-LN13**	**MT190L-SD08**	**MT190L-SD08/BD12**
 	 	 	 
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MT190L-SO12	**MT290L-SO12/AX14**		
 	 		
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MT290L-BD..	**MT290L-LN13**	**MT290L-SD08**	**MT290L-SD08/BD12**
 	 	 	 
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MT290L-SO12	**MT290L-SO12/AX14**		
 	 		
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MT200K-RD..	**MT245K-SO12**	**MT245K-SN13**	**MT290K-SO12**
 	 	 	 
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MT260K-SN12	**MT290K-LN13**		
 	 		
page 148 page 31	page 149 page 24		
MT245-SO09	**MT290-BO12**	**MT190-BO12**	**MT190L-SO09/BO12**	**MT190L-SO09/BO12**
 	 			
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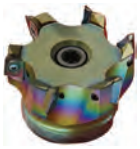
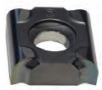
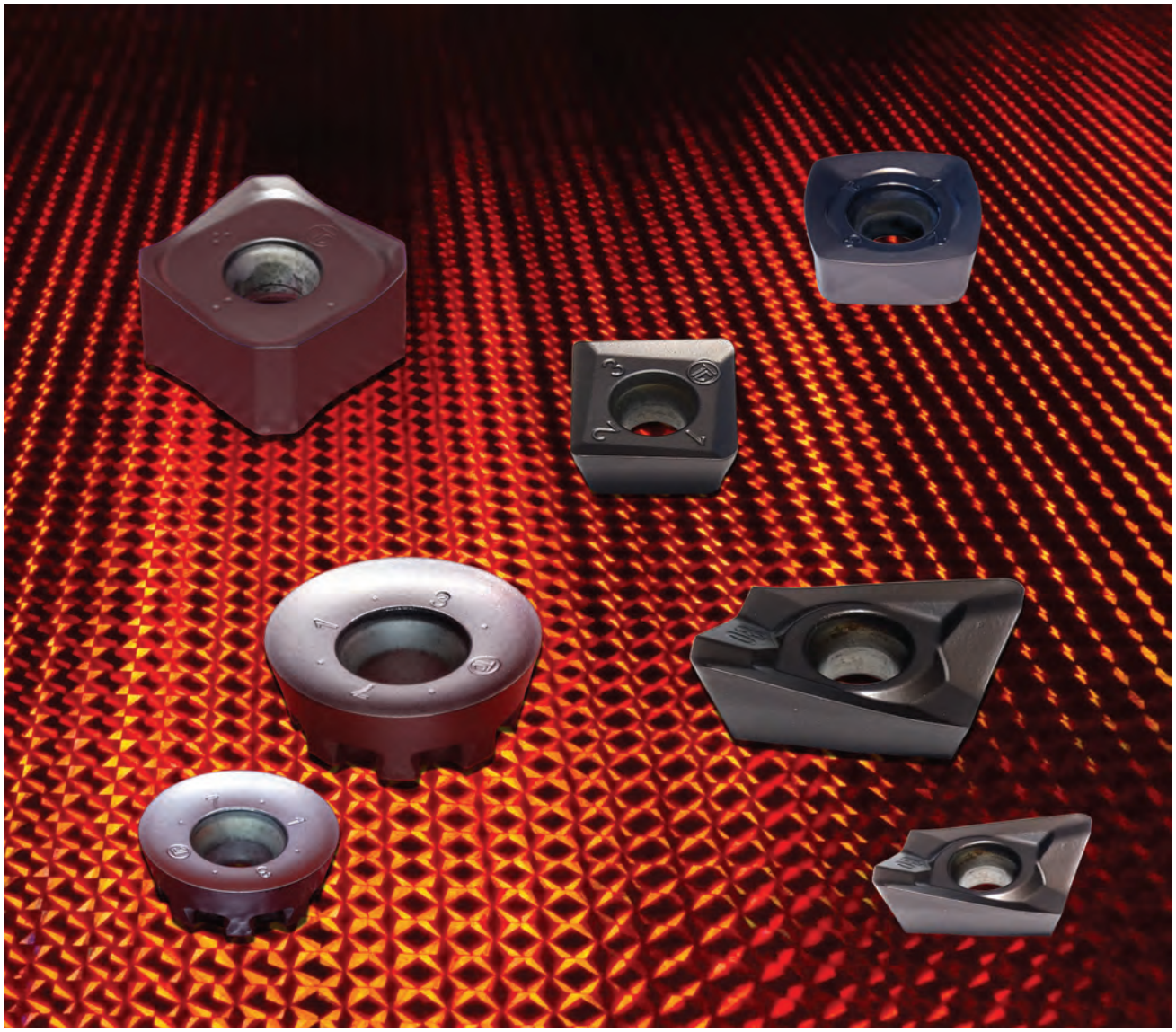
DT190-SO09   page 165 page 32	**DT190-SO12**   page 165 page 34			
MT290-BD10   page 168 page 19	**MT190-BD10**   page 170 page 19	**MT190B-BD10**   page 174 page 19		
MT290-XE17   page 176 page 35	**MT190-XE17**   page 177 page 35	**MT190B-XE17**   page 183 page 35		
MT390-TO10   page 189 page29-30	**MT190T-TO10**   page 201 page29-30	**MT390-SN12**   page 191 page29-30	**MT190T-SN12**   page 201 page29-30	
MT390K-SD08   page 206 page 27	**MT390K-SO12**   page 206 page 34	**MT390K-AX14**   page 207 page 17		

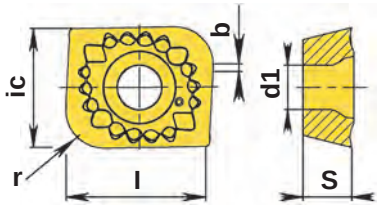


AX14..

AXGT..ER

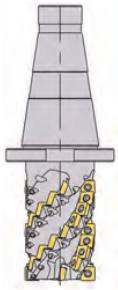
AXGT..EL

Insert	Dimensions ic	S	d1
		mm	
AXGT14...	12,7	5,4	4,7



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	Dimensions l	r	b
Code key									mm	
P	●	●	●							
M	○	●	●	●						
K					●					
N						●				
S		○	○	○			●			
H										
AXGT140508ER	■	■		■	□	■	■	14,9	0,8	1,4
AXGT140508EL	■	■		■	□	□	■	14,9	0,8	1,4
AXGT140512ER	■	□		■	□	■	■	14,9	1,2	0,9
AXGT140512EL	□	□		□	□	□	□	14,9	1,2	0,9
AXGT140516ER	■	■		□	□	□	□	14,9	1,6	1,4
AXGT140516EL	□	□		□	□	□	□	14,9	1,6	1,4
AXGT140520ER	■	■		□	□	■	□	14,9	2,0	1,0
AXGT140520EL	□	■		□	□	■	□	14,9	2,0	1,0
AXGT140525ER	■	□		□	□	□	□	14,8	2,5	0,6
AXGT140525EL	□	□		□	□	□	□	14,8	2,5	0,6
AXGT140530ER	■	■		■	□	□	■	14,8	3,0	0,8
AXGT140530EL	■	□		□	□	□	□	14,8	3,0	0,8
AXGT140540ER	■	■		■	□	□	■	14,8	4,0	0,5
AXGT140540EL	□	□		□	□	□	□	14,8	4,0	0,5
AXGT140550ER	■	■		□	□	■	■	14,7	5,0	0,4
AXGT140550EL	□	□		□	□	■	■	14,7	5,0	0,4
AXGT140563ER	□	■		□	□	□	■	14,7	6,3	0,4
AXGT140563EL	□	■		□	□	□	□	14,7	6,3	0,4

Inserts, marked ■ - are in stock. Order in any quantity.
□ - production position. Order from 200 pieces and more.

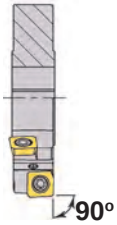


MT190L..SO12/AX14

Page 126-128

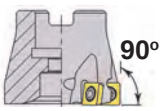
MT290L..SO12/AX14

Page 137



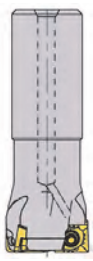
MT390K..AX14

Page 206



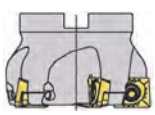
MT290..AX14

Page 101



MT190Z..AX14

Page 104



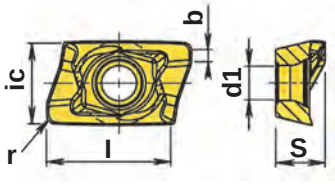
MT290Z..AX14

Page 105

BD08..

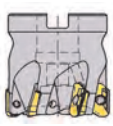
BDMT08

Insert	Dimensions			
	ic	l	S	d1
	mm			
BDMT08...	4,9	7,8	3,18	2,5



	Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	Dimensions r	Dimensions b
									mm	
P	BDMT080304ER	■	■		■		■	■	0,4	1,0
M	BDMT080304SR	□	□		■			□	0,4	1,0
K	BDMT080308ER	■	■		■		■	■	0,8	1,0
N	BDMT080308SR	■	□		■			□	0,8	1,0
S	BDMT080316SR	□	□		□			□	0,8	1,6
H										

Inserts, marked ■ - are in stock. Order in any quantity.
□ - production position. Order from 200 pieces and more.

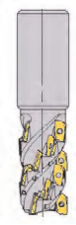


MT290

Page 90

MT190

Page 80



MT190L

Page 110

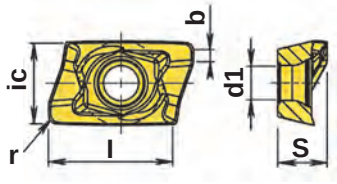
MT190-G

Page 81

BD10..

BDMT10

Insert	Dimensions ic	S	d1
		mm	
BDMT10...	6,85	3,97	2,8



Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	Dimensions l	r	b
								mm		
BDMT10T302ER	□	□		□		■	□	10,0	0,2	1,1
BDMT10T304ER	■	■		■		■	■	10,0	0,4	0,9
BDMT10T308ER	■	■		■		■	■	10,0	0,8	0,5
BDMT10T312ER	■	■		■		■	■	10,0	1,2	0,2
BDMT10T316ER	■	■		■		■	■	9,8	1,6	-
BDMT10T320ER	■	■		■		■	■	9,8	2,0	-
BDMT10T324ER	■	■		■		■	■	9,7	2,4	-
BDMT10T330ER	■	■		■		■	■	9,6	3,0	-
BDMT10T340ER	□	□		■		■	■	9,5	4,0	-
BDMT10T350ER	□	□		■		■	■	9,5	5,0	-

Inserts, marked ■ - are in stock. Order in any quantity.
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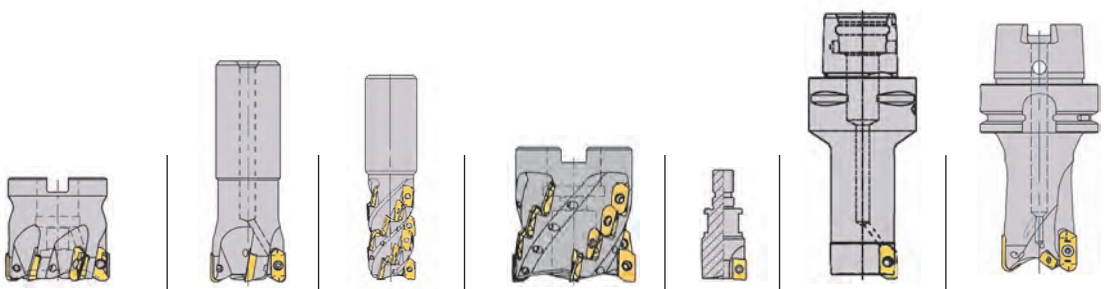
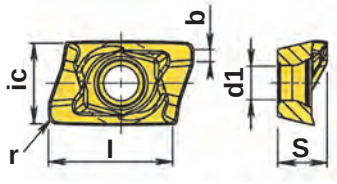


Page	MT290	MT190	MT190L	MT290L	MT190-G	MT190	MT190B
	91 168	82 170	111	131	84	85	174

BD12..

BDMT12

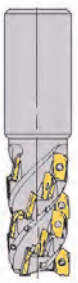
Insert	Dimensions		
	ic	S	d1
	mm		
BDMT12...	8,16	4,76	3,4



	Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	Dimensions l	r	b
									mm		
P	BDMT120408ER	■	■		■		■	■	12,0	0,8	1,2
M	BDMT120430ER	■	■		■		■	■	11,6	3,0	0,9
K	BDMT120440ER	□	■		■		■	■	11,4	4,0	-
N											
S											
H											

Inserts, marked ■ - are in stock. Order in any quantity.
□ - production position. Order from 200 pieces and more.





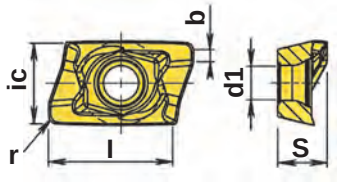
Page

MT290 92 | MT190 86 | MT190L 113, 116 | MT290L 132, 135 | MT190-G 88

BD16..

BDMT16

Insert	Dimensions			
	ic	l	S	d1
	mm			
BDMT16...	9,525	17,7	5,4	4,7

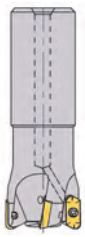


	Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	Dimensions r	Dimensions b
									mm	
BDMT160508ER		■	■		■		■	■	0,8	1,2
BDMT160508SR		■	□		□			□	0,8	1,2

P ● ● ● M ○ ● ● ● K ● N ● S ○ ○ ○ ● H

Inserts, marked ■ - are in stock. Order in any quantity.
□ - production position. Order from 200 pieces and more.

MT290
Page 93



MT190
Page 89

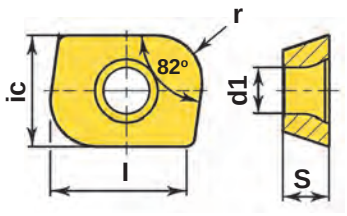
MT190-G
Page 89

BO12..

BONW

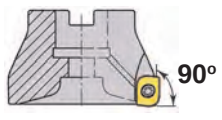
BOHW

Insert	Dimensions ic	l	S	d1
	mm			
BO..W12...	9,525	13,0	3,97	4,0



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	Dimensions r mm
P	●	●	●					
M	○	●	●	●				
K					●			
N						●		
S		○	○	○			●	
H								
Code key								
BONW12T308ER		■		□			■	0,8
BOHW12T330ER		□		□			■	3,0
BOHW12T340ER		□		□			■	4,0
BOHW12T363ER							■	6,3

Inserts, marked ■ - are in stock. Order in any quantity.
□ - production position. Order from 200 pieces and more.



MT290

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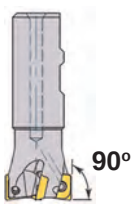
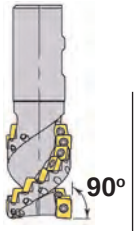


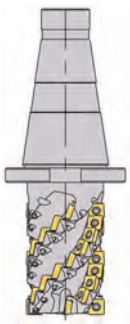
MT190

Page 157



MT190L

Page 158



MT190L

Page 161

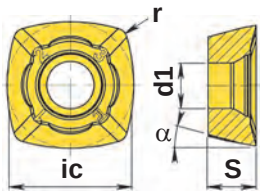
MT290L

Page 164

FO..

FONT

Insert	Dimensions				
	ic	S	d1	r	α
	mm				o
FONT09...	9,2	3,97	4,0	0,8	11
FONT12...	12,7	4,76	4,7	1,2	11



P	●	●	●													
M	○	●	●	●												
K					●											
N						●										
S		○	○	○			●									
H																
Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X									
FONT09T308ER	■	■		■			■									
FONT09T308SR-F	■	■					□									
FONT120412ER	■	□		■			■									
FONT120412SR-F	■	■					□									

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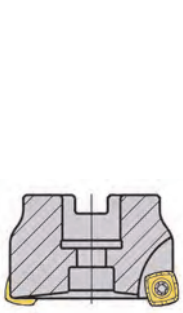
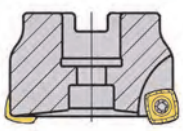


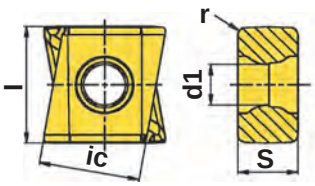



Page	MT215	MT115	MT219	MT119
	62	60	62	60

LN..

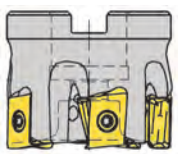
LNMU13

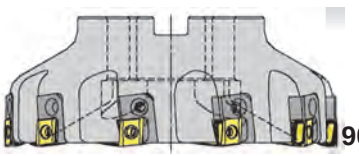
Insert	Dimensions				
	ic	l	S	d1	r
	mm				
LNMU13...	11,0	13,0	7,00	4,5	0,8

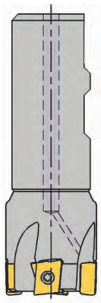


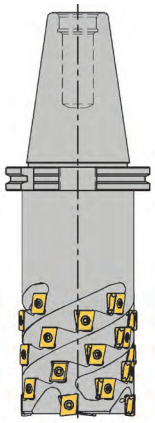
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X								
P	●	●	●												
M	○	●	●	●											
K					●										
N						●									
S		○	○	○			●								
H															
Code key															
LNMU13M708SR	■	■		■	□		□								

Inserts, marked ■ - are in stock. Order in any quantity.
□ - production position. Order from 200 pieces and more.









Page	MT290	MT290K	MT190	MT190L	MT290L
	96	149	95	114	133

SKIF-M

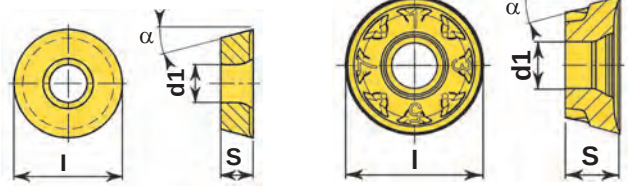
RD..

RDNT08

RDNT

RDNW

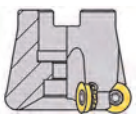
Insert	Dimensions			
	l	S	d1	α
	mm			o
RDNT08...	8,0	2,38	2,8	15
RDN.10...	10,0	3,97	3,4	15
RDN.12...	12,0	4,76	4,4	15
RDN.16...	16,0	5,56	5,5	15
RDN.20...	20,0	6,35	6,0	15



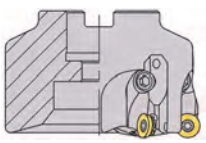
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
RDNT0802MOEN	■	■		■		□	■
RDNT0802MOSN-F	□	□	■	■			□
RDNT10T3MOEN	■	■		■		■	■
RDNT10T3MOSN-F	■	■	■	■			■
RDNW10T3MOSN	□	□			□		
RDNT1204MOEN	■	■		■		■	■
RDNT1204MOSN-F	■	■	■	■			■
RDNW1204MOSN	■	■			□		■
RDNT1605MOEN	■	□		■		■	■
RDNT1605MOSN-F	■	■	■	■			■
RDNW1605MOSN	■	■			□		
RDNT2006MOEN	■	□		□		■	■
RDNT2006MOSN-F	■	■	■	■			■
RDNW2006MOSN	□	■			□		

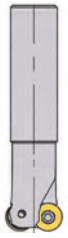
Inserts, marked ■ - are in stock. Order in any quantity.
□ - production position. Order from 200 pieces and more.



MT200
Page 51



MT200K
140

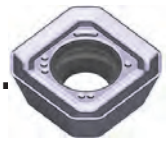


MT100
47

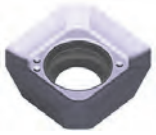
MT100-G
49

NEW

SD0803..

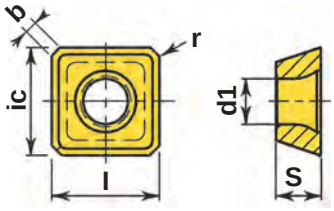


AESN-S



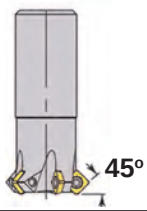
AEFN-AL

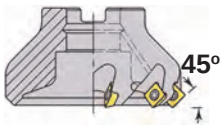
Insert	Dimensions					
	ic	l	S	d1	b	r
	mm					
SDMT08...	9,0	9,0	3,18	3,4	1,6	0,8



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							
Code key							
SDMT0803AESN-S	■	■			□		
SDMT0803AESN-H	□	■		■	□		
SDMT0803AEEN-T							■
SDHT0803AEFN-AL						■	

Inserts, marked ■ - are in stock. Order in any quantity.
□ - production position. Order from 200 pieces and more.



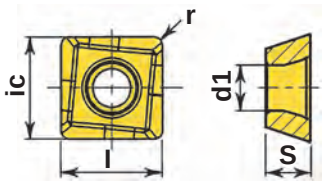


Page	MT145F	MT245
	65	67

SD08T3..

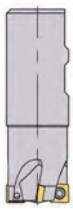
SD08

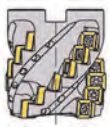
Insert	Dimensions					
	ic	l	S	d1	r	α
	mm					o
SDMT08...	9,0	9,0	3,97	3,4	0,8	15

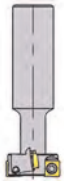


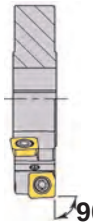
Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							
SDMT08T308ER	■	■		■	□	■	■
SDMT08T308EL	■	■		□	□	■	■
SDHT08T308FR-AL						■	

Inserts, marked ■ - are in stock. Order in any quantity.
□ - production position. Order from 200 pieces and more.







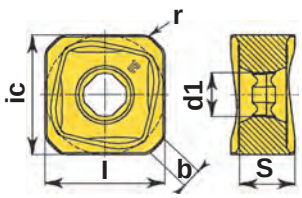


Page	MT290	MT190	MT190L	MT290	MT190T..	MT390K..SD08
	99	98	115	134	102	206

SN13..

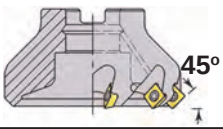
SNMU

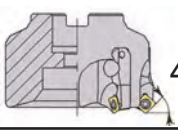
Insert	Dimensions					
	ic	l	S	d1	r	b
	mm					
SNMU13...	13,5	13,5	6,25	4,5	1,5	2,0



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							
Code key							
SNMU1306ANSR-F	■	■		■	■		■

Inserts, marked ■ - are in stock. Order in any quantity.
□ - production position. Order from 200 pieces and more.





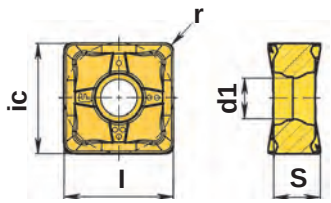
Page	MT245	MT245K
	69	144

NEW

SN14..

SNMU

Insert	Dimensions				
	ic	l	S	d1	r
	mm				
SNMU14...	14,0	14,0	6,36	4,7	1,2



Code key	P	M	K	N	S	H
HCP30X	●	○				
HCP40X	●	●			○	
HCM25X	●	●			○	
HCM30X	●	●			○	
HCK10X			●			
HCN10X				●		
HCS35X					●	
SNMU140612ER	■	■		■	■	

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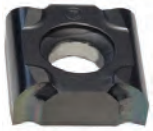
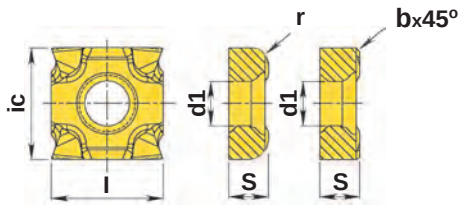
SN12..



SNEC

Insert	Dimensions			
	ic	l	S	d1
	mm			
SNEC1232...	12,7	12,7	3,2	5,0
SNEC1235...	12,7	12,7	3,5	5,0
SNEC1237...	12,7	12,7	3,7	5,0
SNEC1241...	12,7	12,7	4,1	5,0



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	Dimensions					
Code key								ic	l	S	d1	r	b
								mm					
P	●	●	●										
M	○	●	●	●									
K					●								
N						●							
S		○	○	○			●						
H													
SNEC1232ZZEN	■	■		□			■	12,7	12,7	3,2	5,0	-	0,2
SNEC123202EN	□	□		□		□	□	12,7	12,7	3,2	5,0	0,2	-
SNEC123205EN	■	■		□		□	□	12,7	12,7	3,2	5,0	0,5	-
SNEC123210EN	■	■		□		□	□	12,7	12,7	3,2	5,0	1,0	-
SNEC123216EN	■	□		■		□	□	12,7	12,7	3,2	5,0	1,6	-
SNEC123220EN	■	■		□		□	□	12,7	12,7	3,2	5,0	2,0	-
SNEC123225EN	■	■		□		□	□	12,7	12,7	3,2	5,0	2,5	-
SNEC123230EN	□	■		□		□	■	12,7	12,7	3,2	5,0	3,0	-
SNEC1235ZZEN	■	□		□			□	12,7	12,7	3,5	5,0	-	0,2
SNEC123502EN	□	□		□		□	□	12,7	12,7	3,5	5,0	0,2	-
SNEC123510EN	□	□		□		□	□	12,7	12,7	3,5	5,0	1,0	-
SNEC123515EN	□	□		□		□	□	12,7	12,7	3,5	5,0	1,5	-
SNEC123520EN	□	□		□		□	□	12,7	12,7	3,5	5,0	2,0	-
SNEC1237ZZEN	■	■		□			□	12,7	12,7	3,7	5,0	-	0,2
SNEC123702EN	□	■		□		□	□	12,7	12,7	3,7	5,0	0,2	-
SNEC123710EN	□	□		□		□	□	12,7	12,7	3,7	5,0	1,0	-
SNEC123715EN	□	□		□		□	□	12,7	12,7	3,7	5,0	1,5	-
SNEC123720EN	□	□		□		□	□	12,7	12,7	3,7	5,0	2,0	-
SNEC1241ZZEN	■	□		□			□	12,7	12,7	4,1	5,0	-	0,2
SNEC124102EN	□	□		□		□	□	12,7	12,7	4,1	5,0	0,2	-
SNEC124110EN	□	□		□		□	□	12,7	12,7	4,1	5,0	1,0	-
SNEC124115EN	□	□		□		□	□	12,7	12,7	4,1	5,0	1,5	-
SNEC124120EN	□	□		□		□	□	12,7	12,7	4,1	5,0	2,0	-
SNEC124125EN	□	□		□		□	□	12,7	12,7	4,1	5,0	2,5	-
SNEC1245ZZEN	■	■		■			■	12,7	12,7	4,5	5,0	-	0,2
SNEC124502EN	□	□		□	■	■	□	12,7	12,7	4,5	5,0	0,2	-
SNEC124508EN	□	■		□		□	□	12,7	12,7	4,5	5,0	0,8	-

Inserts, marked ■ - are in stock. Order in any quantity.
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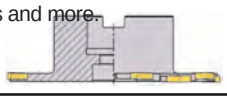
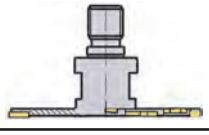
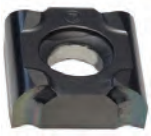




Page	MT390-S	MT390-R	MT190-G
	193	197	201

SN12..



SNEC

Insert	Dimensions			
	ic	l	S	d1
	mm			
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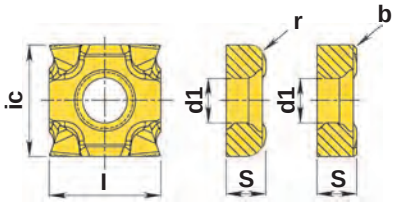
SNEC1254...	12,7	12,7	5,4	5,0
SNEC1264...	12,7	12,7	6,4	5,0
SNEC1274...	12,7	12,7	7,4	5,0



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	Dimensions					
Code key								ic	l	S	d1	r	b
								mm					
P	●	●	●										
M	○	●	●	●									
K					●								
N						●							
S		○	○	○			●						
H													
SNEC124510EN	■	■		□		□	□	12,7	12,7	4,5	5,0	1,0	-
SNEC124516EN	■	□		□		□	■	12,7	12,7	4,5	5,0	1,6	-
SNEC124520EN	■	■		□		□	□	12,7	12,7	4,5	5,0	2,0	-
SNEC124525EN	□	■		□		□	□	12,7	12,7	4,5	5,0	2,5	-
SNEC124530EN	□	□		□		□	□	12,7	12,7	4,5	5,0	3,0	-
SNEC1254ZZEN	■	■		□			■	12,7	12,7	5,4	5,0	-	0,2
SNEC125402EN	□	■		□		■	□	12,7	12,7	5,4	5,0	0,2	-
SNEC125410EN	□	□		□		□	□	12,7	12,7	5,4	5,0	1,0	-
SNEC125415EN	□	□		□		□	□	12,7	12,7	5,4	5,0	1,5	-
SNEC125420EN	□	□		□		□	□	12,7	12,7	5,4	5,0	2,0	-
SNEC125425EN	□	□		□		□	□	12,7	12,7	5,4	5,0	2,5	-
SNEC125430EN	■	■		□		■	□	12,7	12,7	5,4	5,0	3,0	-
SNEC1264ZZEN	■	■		□			■	12,7	12,7	6,4	5,0	-	0,2
SNEC126402EN	□	□		□		■	□	12,7	12,7	6,4	5,0	0,2	-
SNEC126405EN	□	□		■		□	□	12,7	12,7	6,4	5,0	0,5	-
SNEC126410EN	■	□		□		□	□	12,7	12,7	6,4	5,0	1,0	-
SNEC126415EN	■	□		□		□	□	12,7	12,7	6,4	5,0	1,5	-
SNEC126420EN	□	□		□		□	□	12,7	12,7	6,4	5,0	2,0	-
SNEC126425EN	□	□		□		□	□	12,7	12,7	6,4	5,0	2,5	-
SNEC126430EN	■	■		□		□	□	12,7	12,7	6,4	5,0	3,0	-
SNEC1274ZZEN	□	■		□			□	12,7	12,7	7,4	5,0	-	0,2
SNEC127402EN	□	□		□		■	□	12,7	12,7	7,4	5,0	0,2	-
SNEC127410EN	□	□		□		□	□	12,7	12,7	7,4	5,0	1,0	-
SNEC127415EN	□	□		□		□	□	12,7	12,7	7,4	5,0	1,5	-
SNEC127420EN	□	□		□		□	□	12,7	12,7	7,4	5,0	2,0	-
SNEC127425EN	□	□		□		□	□	12,7	12,7	7,4	5,0	2,5	-
SNEC127430EN	□	■		□		□	□	12,7	12,7	7,4	5,0	3,0	-

MT390-S

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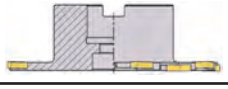

MT390-R

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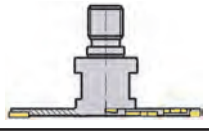

MT190-G

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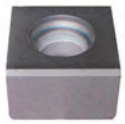
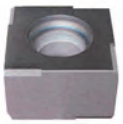
SN12..

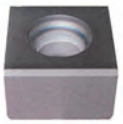


SNGQ



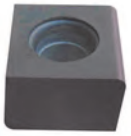
SN..DNTR

SNGQR13



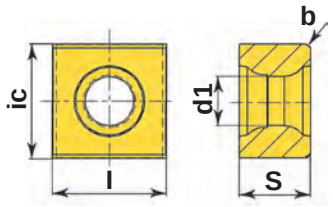
SNMQ

XN12..



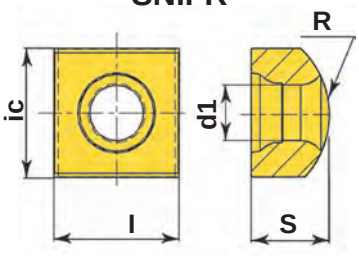
XNGQ

Insert	Dimensions			
	ic	l	S	d1
	mm			
SN....12...	12,7	12,7	7,94	5,4
SN....12...DNTR/L	12,7	9,0	7,94	5,4
XNGQ12...	12,7	12,7	7,94	5,4

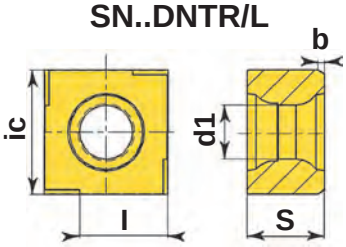


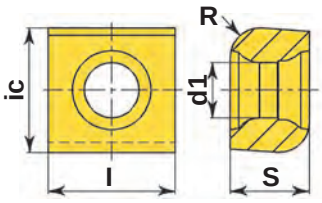
	HCP30X	HCP40X	HCK10X	Dimensions		
Code key				b	R	R1
				mm		
SNGQ1207DNT	■	■	□	0,7	-	-
SNGQ1207R06	■	□		-	6	-
SNGQ1207R10	■	□		-	10	-
SNGQ1207R12	■	□		-	12	-
SNGQ1207R13	■	□		-	13	-
SNGQ1207DNTR	■	□		0,7	-	-
SNGQ1207DNTL	□	□		0,7	-	-
SNMQ120702TN	■	■	□	0,2	-	-
XNGQ120712TN	■	□		-	1,2	-
XNGQ120730TN	□	□		-	3,0	-

SN..-R

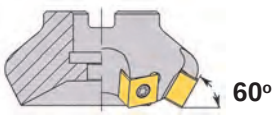


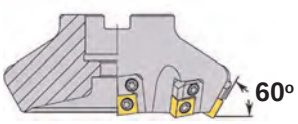
SN..DNTR/L





XNGQ



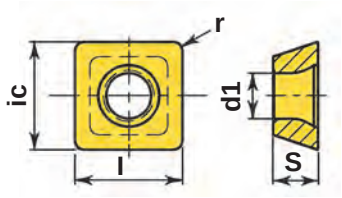


Page	MT260	MT260K
	75	148

SO09..

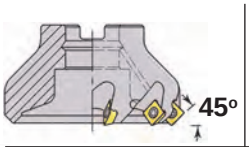
SONW

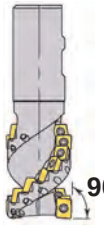
Insert	Dimensions				
	ic	l	S	d1	r
	mm				
SO..09...	9,525	9,525	3,97	4,0	0,8

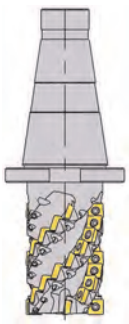


	HCP30X	HCP40X	HCM25X	HCM30X	HCS35X
P	●	●	●		
M	○	●	●	●	
K					
N					
S		○	○	○	●
H					
Code key					
SONW09T308EN	□	■		□	■

Inserts, marked ■ - are in stock. Order in any quantity.
□ - production position. Order from 200 pieces and more.





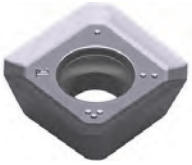


Page	MT245	MT190L	MT190L	MT290L	DT190
	155	158	158	164	165

NEW

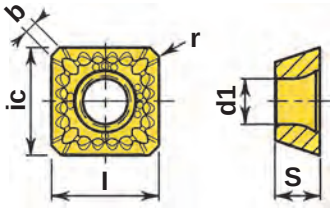
SO12..AE..

SOMT



SOHT-AL

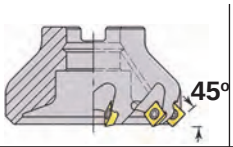
Insert	Dimensions					
	ic	l	S	d1	b	r
	mm					
SOMT12...	12,7	12,7	4,76	4,7	1,7	0,2



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
SOMT1204AESN-S	■	■			■		
SOMT1204AESN-H		□		■	□		□
SOMT1204AESN-T							■
SOHT1204AEFN-AL						■	

Inserts, marked ■ - are in stock. Order in any quantity.
□ - production position. Order from 200 pieces and more.



MT245

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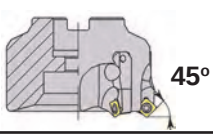

MT245K

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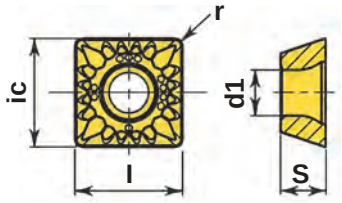
SO12..08..

SOMT

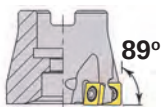
SOHT-AL

Insert	Dimensions				
	ic	l	S	d1	r
	mm				
SOMT12...	12,7	12,7	4,76	4,7	0,8



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							
Code key							
SOMT120408SN-S	■	■			■		
SOMT120408EN-T				■			■
SOHT120408FN-AL						■	

Inserts, marked ■ - are in stock. Order in any quantity.
□ - production position. Order from 200 pieces and more.



MT289..SO12

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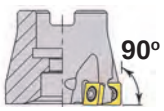

MT290..SO12

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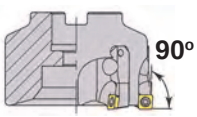

MT290K..SO12

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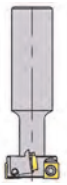

MT190T..

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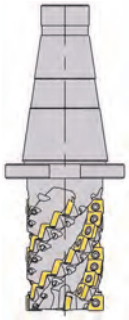

MT190L..SO12

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MT290L..SO12

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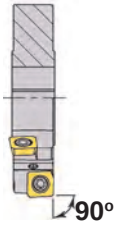

MT390K..SO12

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DT190

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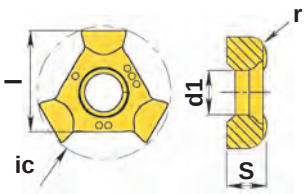
NEW

TO10..

TOGT

Insert	Dimensions			
	ic	l	S	d1
	mm			
TOGT1002..	10,43	8,1	2,31	3,15
TOGT10T2..	10,43	8,1	2,86	3,15
TOGT1003..	10,43	8,1	3,36	3,15



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	Dimensions				
Code key								ic	l	S	d1	r
								mm				
P	●	●	●									
M	○	●	●	●								
K					●							
N						●						
S		○	○	○			●					
H												
TOGT100202SN	■	■		□		□	■	10,43	8,1	2,31	3,15	0,2
TOGT100205SN	□	□		□		□	□	10,43	8,1	2,31	3,15	0,5
TOGT100208SN	□	□		□		□	□	10,43	8,1	2,31	3,15	0,8
TOGT100210SN	□	□		□		□	□	10,43	8,1	2,31	3,15	1,0
TOGT10T202SN	■	■		□		□	■	10,43	8,1	2,86	3,15	0,2
TOGT10T205SN	□	□		□		□	□	10,43	8,1	2,86	3,15	0,5
TOGT10T208SN	□	□		□		□	□	10,43	8,1	2,86	3,15	0,8
TOGT10T210SN	□	□		□		□	□	10,43	8,1	2,86	3,15	1,0
TOGT10T212SN	□	□		□		□	□	10,43	8,1	2,86	3,15	1,2
TOGT100302SN	■	■		□		□	■	10,43	8,1	3,36	3,15	0,2
TOGT100305SN	□	□		□		□	□	10,43	8,1	3,36	3,15	0,5
TOGT100308SN	□	□		□		□	□	10,43	8,1	3,36	3,15	0,8
TOGT100310SN	□	□		□		□	□	10,43	8,1	3,36	3,15	1,0
TOGT100312SN	□	□		□		□	□	10,43	8,1	3,36	3,15	1,2

Inserts, marked ■ - are in stock. Order in any quantity.
□ - production position. Order from 200 pieces and more.

MT390-S

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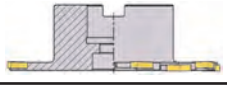

MT390-R

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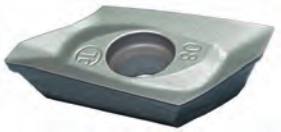
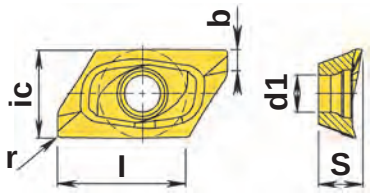
XE17..



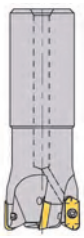
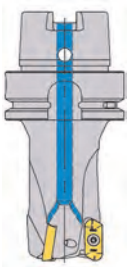
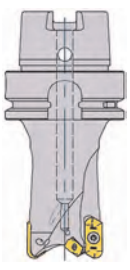
XEHX

Insert	Dimensions			
	ic	l	S	d1
	mm			
XEHX1705...	11,4	16,8	5,7	4,7



Code key	P	M	K	N	S	H	Dimensions	
	HCN10X						r	b
							mm	
XEHX170502FR-AL	■						0,2	2,1
XEHX170504FR-AL	■						0,4	1,7
XEHX170508FR-AL	■						0,8	1,3
XEHX170512FR-AL	■						1,2	1,4
XEHX170516FR-AL	■						1,6	1,4
XEHX170520FR-AL	■						2,0	0,6
XEHX170525FR-AL	■						2,5	0,6
XEHX170532FR-AL	■						3,2	0,6
XEHX170540FR-AL	■						4,0	0,5
XEHX170550FR-AL	■						5,0	0,4

Inserts, marked ■ - are in stock. Order in any quantity.
□ - production position. Order from 200 pieces and more.

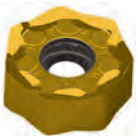





Page	MT290	MT190-Z, MT190-W	MT190-H..A..	MT190B
	176	177	179	183

NEW

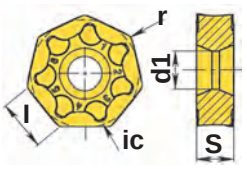
XN..

XNMU-S

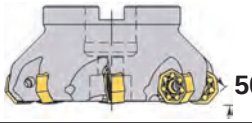


XNMU-H

Insert	Dimensions				
	ic	l	S	d1	r
	mm				
XNMU10...	21,5	10,0	8,32	6,7	1,2



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							
Code key							
XNMU100712SN-S	■	■		□	□		
XNMU100712SR-H	□	■		■			■



50°

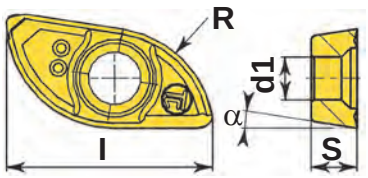
Page
MT250..XN10
71

NEW

XO..

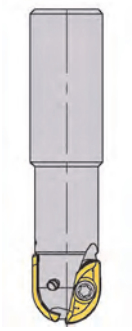
XOHW

Insert	Dimensions			
	ic	l	S	d1
	mm			
XOHW10...	4,58	9,86	1,7	2,3
XOH.12...	5,48	12,0	2,38	2,9
XOH.16...	7,29	16,0	3,18	2,9



	Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	Dimensions l	S	d1	R	α
									mm				o
P	XOHW100102ER-R50	■	■		■	□		■	9,86	1,7	2,3	5,0	10
M	XOHW120202ER-R60	■	□		□		□	■	12,0	2,38	2,9	6,0	10
K	XOHT120202SR-R60	■	■		■	□		□	12,0	2,38	2,9	6,0	10
N	XOHW160302ER-R80	■	□		□		□	■	16,0	3,18	2,9	8,0	10
S	XOHT160302SR-R80	■	■		■	□		□	16,0	3,18	2,9	8,0	10
H													

Inserts, marked ■ - are in stock. Order in any quantity.
□ - production position. Order from 200 pieces and more.



Page	MT100L..XO	MT100L-G..XO
	57	57


СКИФ-М D32
СКИФ-М D25
СКИФ-М
СКИФ-М D80
СКИФ-М D63
СКИФ-М D63

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Profiling 44

High feed 58

Endmills and Facemills 45° 63

Mills for heavy cutting and roughing 72

Square shoulder endmills and facemills 77

T-slot endmills 102

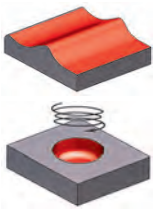
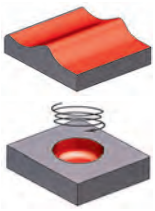
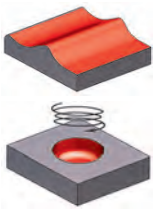
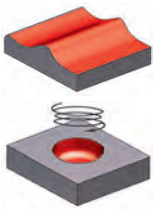
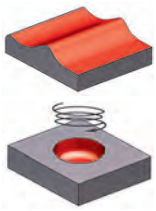
Plunge milling 104

Long edge spiral flute endmills 108

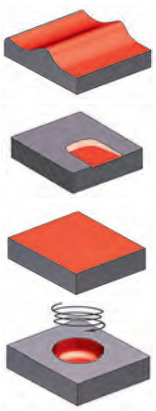
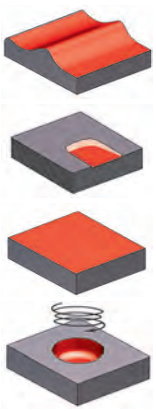
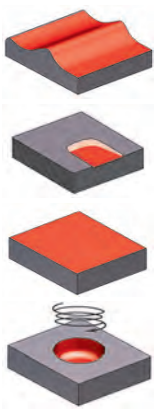
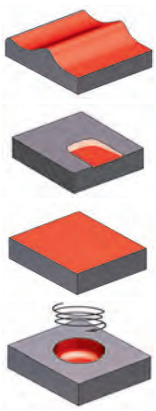
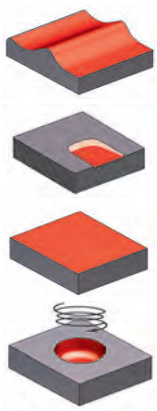
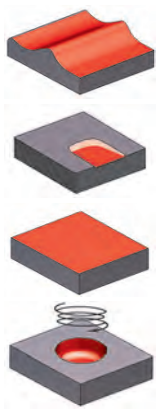
Long edge milling cutter 129

Facemills with cartridges 138

Endmills for profiling

Types of mills					
Code key	MT100..RD08	MT100..RD10	MT100..RD12	MT100..RD16	MT100..RD20
Page	47	47	47	47	47
Insert type					
Insert pages	27	27	27	27	27
Workpiece material P	●●●	●●●	●●●	●●●	●●●
M	●●●	●●●	●●●	●●●	●●●
K					
N	●●●	●●●	●●●	●●●	●●●
S	●●●	●●●	●●●	●●●	●●●
H					
Tool lead angle	00°	00°	00°	00°	00°
Range ⌀, mm	12-25	20-32	20-50	25-50	25-50
Depth of cut up to, mm	4	5	6	8	10
Working areas R	●●●	●●●	●●●	●●●	●●●
M	●●●	●●●	●●●	●●●	●●●
F	●●●	●●●	●●●	●●●	●●●
Plunging	●●	●●	●●	●●	●●
Internal coolant					
Application					

Facemills for profiling

Types of mills						NEW
Code key	MT200..RD08	MT200..RD10	MT200..RD12	MT200..RD16	MT200..RD20	MT100L..XO
Page	51	52	53	54	55	57
Insert type						
Insert pages	27	27	27	27	27	41
Workpiece material P	●●●	●●●	●●●	●●●	●●●	●●●
Workpiece material M	●●●	●●●	●●●	●●●	●●●	●●●
Workpiece material K						●
Workpiece material N	●●●	●●●	●●●	●●●	●●●	●
Workpiece material S	●●●	●●●	●●●	●●●	●●●	●●●
Workpiece material H						
Tool lead angle	00°	00°	00°	00°	00°	00°
Range ⌀, mm	35-80	40-100	40-125	50-160	80-160	10-12
Depth of cut up to, mm	4	5	6	8	10	4
Working areas R	●●●	●●●	●●●	●●●	●●●	●●●
Working areas M	●●●	●●●	●●●	●●●	●●●	●●●
Working areas F	●●●	●●●	●●●	●●●	●●●	●●●
Plunging	●	●	●	●	●	●
Internal coolant						
Application						

Endmills and Facemills for profiling

MT100/MT200...RD

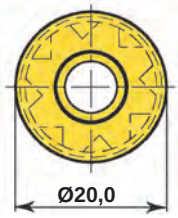
First choice - copy milling, contour milling of molds and dies.
Sutable for plunge milling.
Very economical for machining of thin layers on wear-resistant materials, tool steel, stainless steel.

RD08

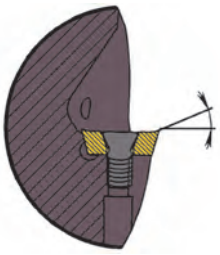
RD10

RD12

RD16



RD20


Positive geometry


internal supply of coolant for machining of titanium alloys and high-temperature materials


Depth of cut:
4 mm RD08
5 mm RD10
6 mm RD12
8 mm RD16
10 mm RD20


Regular pitch

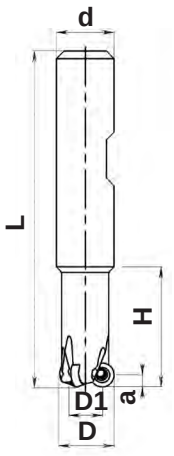

Close pitch


Extra close pitch

P	M	N	S

wide range of workpiece materials

MT100
Endmills with round inserts



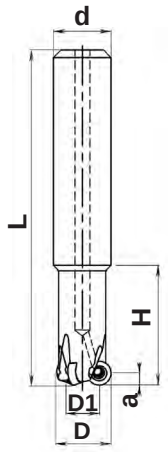
regular design

Straight shank with drive flat "Weldon" DIN 1835 B*

Code key	Dimensions, mm							nmax						
	D	a	D1	H	L	d	Z	RPM	kg		No.			
MT100-W...RD08														**Depth of cut up to 4 mm**
MT100-012W16R01RD08	12	4	4	45	90	16	1	30000	0,2	RDNT0802MO..N	1		T250555-08	7008-T 1,2 Nm
MT100-016W16R02RD08	16	4	8	50	110	16	2	28000	0,2		2			
MT100-020W20R03RD08	20	4	12	60	116	20	3	26000	0,4		3			
MT100-025W25R04RD08	25	4	17	80	142	25	4	22500	0,7		4			
MT100-W...RD10														**Depth of cut up to 5 mm**
MT100-020W20R02RD10	20	5	10	50	100	20	2	23000	0,4	RDN..10T3MO..N	2		T300755-09AP	7009-TP 2,2 Nm
MT100-025W25R03RD10	25	5	15	60	116	25	3	22000	0,7		3			
MT100-032W25R04RD10	32	5	22	84	140	25	4	17500	0,9		4			
MT100-W...RD12														**Depth of cut up to 6 mm**
MT100-020W20R01RD12	20	6	8	40	106	20	1	25000	0,4	RDN..1204MO..N	1		T400960-15P	7015-TP 5,5 Nm
MT100-025W25R02RD12	25	6	12	50	106	25	2	22000	0,7		2			
MT100-032W25R03RD12	32	6	20	50	140	25	3	15000	0,9		3			
MT100-040W32R04RD12	40	6	28	100	160	32	4	12000	1,1		4			
MT100-050W32R05RD12	50	6	38	109	180	32	5	10000	1,6		5			
MT100-W...RD16														**Depth of cut up to 8 mm**
MT100-025W25R01RD16	25	8	9	55	115	25	1	17000	0,7	RDN..1605MO..N	1		T451155-20P	7020-TP 7,0 Nm
MT100-032W25R02RD16	32	8	16	70	130	25	2	15600	0,9		2			
MT100-040W32R03RD16	40	8	24	70	140	32	3	12000	1,1		3			
MT100-050W32R04RD16	50	8	34	80	150	32	4	10000	1,4		4			
MT100-W...RD20														**Depth of cut up to 10 mm**
MT100-025W25R01RD20	25	10	5	50	110	25	1	10000	0,7	RDNT2006MO..N	1		T501155-20P	7020-T 9,0 Nm
MT100-040W32R02RD20	40	10	20	80	140	32	2	8000	1,1		2			
MT100-050W32R03RD20	50	10	30	80	140	32	3	5000	1,4		3			

**It is possible to design mills with straght shank cylindrical "Z"*

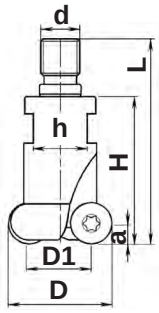
MT100
Endmills with round inserts



long design **Straight shank cylindrical DIN 1835 A**

Code key	Dimensions, mm							nmax						
	D	a	D1	H	L	d	Z	RPM	kg		No.			
MT100-Z...RD08-IK														**Depth of cut up to 4 mm**
MT100-016Z20R02RD08-IK	16	4	8	80	200	20	2	12700	0,2		2			
MT100-020Z25R03RD08-IK	20	4	12	80	250	25	3	10000	0,4	RDNT0802MO.N	3		T250555-08	7008-T 1,2 Nm
MT100-025Z32R04RD08-IK	25	4	17	80	250	32	4	8000	0,7		4			
MT100-Z...RD10-IK														**Depth of cut up to 5 mm**
MT100-020Z25R02RD10-IK	20	5	10	80	250	25	2	23000	0,4		2			
MT100-025Z32R03RD10-IK	25	5	15	80	250	32	3	22000	0,7	RDN..0T3MO..N	3		T300755-09AP	7009-TP 2,2 Nm
MT100-032Z32R04RD10-IK	32	5	22	80	250	32	4	17500	0,9		4			
MT100-Z...RD12-IK														**Depth of cut up to 6 mm**
MT100-020Z25R01RD12-IK	20	6	8	80	200	25	1	16500	1,0		1			
MT100-025Z32R02RD12-IK	25	6	12	80	250	32	2	15800	1,2		2			
MT100-032Z32R03RD12-IK	32	6	20	80	250	32	3	13000	1,3	RDN..1204MO..N	3		T400960-15P	7015-TP 5,5 Nm
MT100-040Z40R04RD12-IK	40	6	28	150	250	40	4	11400	1,7		4			
MT100-050Z40R05RD12-IK	50	6	38	70	300	40	5	10000	1,9		5			
MT100-Z...RD16-IK														**Depth of cut up to 8 mm**
MT100-025Z32R01RD16-IK	25	8	9	136	200	32	1	17000	1,0		1			
MT100-032Z32R02RD16-IK	32	8	16	160	220	32	2	15600	1,3	RDN..1605MO..N	2		T451155-20P	7020-TP 7,0 Nm
MT100-040Z40R03RD16-IK	40	8	24	160	250	40	3	12000	1,7		3			
MT100-050Z40R04RD16-IK	50	8	34	63	300	40	4	10000	1,9		4			
MT100-Z...RD20-IK														**Depth of cut up to 10 mm**
MT100-025Z32R01RD20-IK	25	10	5	136	200	32	1	10000	1,0		1			
MT100-040Z40R02RD20-IK	40	10	20	200	270	40	2	8000	1,7	RDNT2006MO..N	2		T501155-20P	7020-T 9,0 Nm
MT100-050Z40R03RD20-IK	50	10	30	63	300	40	3	5000	1,9		3			

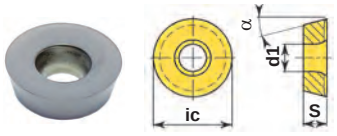
MT100
Endmills with round inserts



regular design

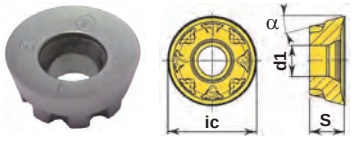
Shank fit screw SKIF-M

Code key	Dimensions, mm								kg		No.			
	D	a	D1	H	L	h	d	Z						
MT100-G...RD08														**Depth of cut up to 4 mm**
MT100-016G08R02RD08	16	4	8	26	44	10	M08	2	0,1		2			
MT100-020G10R03RD08	20	4	12	26	45	15	M10	3	0,2	RDNT0802MO.N	3		T250555-08	7008-T 1,2 Nm
MT100-025G12R04RD08	25	4	17	30	52	17	M12	4	0,2		4			
MT100-G...RD10														**Depth of cut up to 5 mm**
MT100-020G10R02RD10	20	5	10	30	49	12	M10	2	0,2		2			
MT100-025G12R03RD10	25	5	15	30	52	17	M12	3	0,2	RDN..10T3MO..N	3		T300755-09AP	7009-TP 2,2 Nm
MT100-032G16R04RD10	32	5	22	35	58	22	M16	4	0,3		4			
MT100-G...RD12														**Depth of cut up to 6 mm**
MT100-020G10R01RD12	20	6	8	35	54	15	M10	1	0,2		1			
MT100-025G12R02RD12	25	6	12	35	57	17	M12	2	0,2	RDN..1204MO..N	2		T400960-15P	7015-TP 5,5 Nm
MT100-032G16R03RD12	32	6	20	40	62	22	M16	3	0,3		3			
MT100-040G20R04RD12	40	6	28	40	72	30	M20	4	0,4		4			
MT100-G...RD16														**Depth of cut up to 8 mm**
MT100-025G12R01RD16	25	8	9	35	57	17	M12	1	0,2		1			
MT100-032G16R02RD16	32	8	16	40	63	22	M16	2	0,3	RDN..1605MO..N	2		T451155-20P	7020-TP 7,0 Nm
MT100-040G20R03RD16	40	8	24	40	72	30	M20	3	0,4		3			
MT100-G...RD20														**Depth of cut up to 10 mm**
MT100-025G12R01RD20	25	10	5	40	57	17	M12	1	0,2		1			
MT100-040G20R02RD20	40	10	20	40	72	30	M20	2	0,4	RDNT2006MO..N	2		T501155-20P	7020-T 9,0 Nm



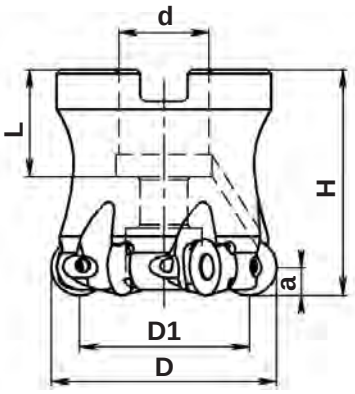
	P	M	K	N	S	H
HCP30X	●	○				
HCP40X	●	●			○	
HCM25X	●	●			○	
HCM30X		●			○	
HCK10X			●			
HCN10X				●		
HCS35X					●	

Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	S	d1	α
									mm		°
RDNT0802MOEN	■	■		■		□	■	8,0	2,38	2,8	15
RDNT0802MOSN-F	□	□	■	■			□	8,0	2,38	2,8	15



RDNT10T3MOEN	■	■		■		■	■	10,0	3,97	3,4	15
RDNT10T3MOSN-F	■	■	■	■			■	10,0	3,97	3,4	15
RDNW10T3MOSN	□	□			□			10,0	3,97	3,4	15
RDNT1204MOEN	■	■		■		■	■	12,0	4,76	4,4	15
RDNT1204MOSN-F	■	■	■	■			■	12,0	4,76	4,4	15
RDNW1204MOSN	■	■			□		■	12,0	4,76	4,4	15
RDNT1605MOEN	■	□		■		■	■	16,0	5,56	5,5	15
RDNT1605MOSN-F	■	■	■	■			■	16,0	5,56	5,5	15
RDNW1605MOSN	■	■			□			16,0	5,56	5,5	15
RDNT2006MOEN	■	□		□		■	■	20,0	6,35	6,0	15
RDNT2006MOSN-F	■	■	■	■			■	20,0	6,35	6,0	15
RDNW2006MOSN	□	■			□			20,0	6,35	6,0	15

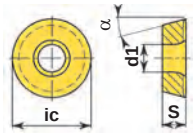
MT200...RD08
Facemills with round inserts



Depth of cut up to 4 mm

Code key	Dimensions, mm D	a	D1	L	H	d	Z	nmax RPM	kg		No.			
Regular pitch														
MT200-040A16R05RD08-IK	40	4	32	19	40	16	5	30800	0,4	RDNT0802MO..	5		T250555-08	7008-T 1,2 Nm
MT200-050A22R06RD08-IK	50	4	42	20	40	22	6	26700	0,7		6			
MT200-063A22R08RD08-IK	63	4	55	20	40	22	8	23700	0,8		8			
MT200-080A27R10RD08-IK	80	4	72	22	50	27	10	20500	1,2		10			
Close pitch														
MT200-035A16R05RD08-IK	35	4	27	19	40	16	5	30800	0,2	RDNT0802MO..	5		T250555-08	7008-T 1,2 Nm
MT200-040A16R06RD08-IK	40	4	32	19	40	16	6	30800	0,4		6			
MT200-042A16R06RD08-IK	42	4	34	19	40	16	6	29000	0,45		6			
MT200-050A22R08RD08-IK	50	4	42	20	40	22	8	26700	0,7		8			
MT200-052A22R08RD08-IK	52	4	44	20	40	22	8	26100	0,7		8			
MT200-063A22R10RD08-IK	63	4	55	20	40	22	10	23700	0,8		10			
MT200-080A27R12RD08-IK	80	4	72	22	50	27	12	20500	1,2		12			

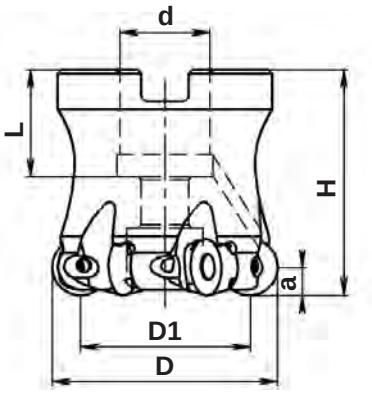
All mills can be delivered without internal coolant supply.



	P	M	K	N	S	H
HCP30X	●	○				
HCP40X	●	●			○	
HCM25X	●	●			○	
HCM30X		●			○	
HCK10X			●			
HCN10X				●		
HCS35X					●	

Code key	ic	S	d1	α
		mm		°
RDNT0802MOEN	8,0	2,38	2,8	15
RDNT0802MOSN-F	8,0	2,38	2,8	15

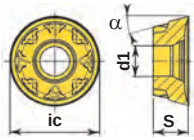
MT200...RD10
Facemills with round inserts



Depth of cut up to 5 mm

Code key	Dimensions, mm D	a	D1	L	H	d	Z	nmax RPM	kg		No.			
Regular pitch														
MT200-040A16R03RD10-IK	40	5	30	19	40	16	3	19300	0,2		3			
MT200-050A22R05RD10-IK	50	5	40	20	40	22	5	17300	0,3		5			
MT200-063A22R06RD10-IK	63	5	53	20	40	22	6	15000	0,3	RDN..10T3MO..N	6		T300755-09AP	7009-TP 2,2 Nm
MT200-080A27R08RD10-IK	80	5	70	22	50	27	8	13000	0,7		8			
MT200-100A32R10RD10-IK	100	5	90	25	50	32	10	10000	0,9		10			
Close pitch														
MT200-040A16R05RD10-IK	40	5	30	19	40	16	5	19300	0,2		5			
MT200-042A16R05RD10-IK	42	5	32	19	40	16	5	18500	0,2		5			
MT200-050A22R06RD10-IK	50	5	40	20	40	22	6	17300	0,3		6			
MT200-052A22R06RD10-IK	52	5	42	20	40	22	6	16800	0,3	RDN..10T3MO..N	6		T300755-09AP	7009-TP 2,2 Nm
MT200-063A22R07RD10-IK	63	5	53	20	40	22	7	15000	0,3		7			
MT200-080A27R10RD10-IK	80	5	70	22	50	27	10	13000	0,7		10			
MT200-100A32R12RD10-IK	100	5	90	25	50	32	12	10000	0,9		12			

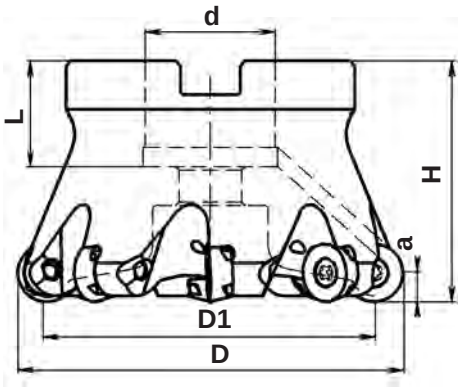
All mills can be delivered without internal coolant supply.



Code key	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	S	d1	α
															mm		o
RDNT10T3MOEN	●	●			○		■	■		■		■	■	10,0	3,97	3,4	15
RDNT10T3MOSN-F	●	●			○		■	■	■	■			■	10,0	3,97	3,4	15
RDNW10T3MOSN	●	●			○		□	□			□			10,0	3,97	3,4	15

MT200...RD12

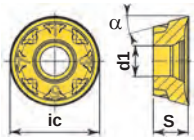
Facemills with round inserts



Depth of cut up to 6 mm

Code key	Dimensions, mm							nmax								
	D	a	D1	L	H	d	Z	RPM	kg		No.					
Regular pitch																
MT200-040G16R03RD12-IK	40	6	28	19	40	16	3	13000	0,1	RDN..1204MO..N	3		H082200-40P	T400960-15P	7015-TP 5,5 Nm
MT200-050A22R04RD12-IK	50	6	38	20	40	22	4	9000	0,2		4		-		
MT200-063A22R05RD12-IK	63	6	51	20	40	22	5	7500	0,3		5		-		
MT200-080A27R06RD12-IK	80	6	68	22	50	27	6	6500	0,7		6		-		
MT200-100A32R08RD12-IK	100	6	88	25	50	32	8	5500	0,9		8		-		
MT200-125A40R10RD12-IK	125	6	113	29	63	40	10	5000	2,3		10		-		
Close pitch																
MT200-040G16R04RD12-IK	40	6	28	19	40	16	4	13000	0,1	RDN..1204MO..N	4		H082200-40P	T400960-15P	7015-TP 5,5 Nm
MT200-042G16R04RD12-IK	42	6	30	19	40	16	4	13000	0,2		4		H082200-40P		
MT200-050A22R05RD12-IK	50	6	38	20	40	22	5	9000	0,2		5		-		
MT200-052A22R05RD12-IK	52	6	40	20	40	22	5	8800	0,2		5		-		
MT200-063A22R06RD12-IK	63	6	51	20	40	22	6	7500	0,3		6		-		
MT200-080A27R08RD12-IK	80	6	68	22	50	27	8	6500	0,7		8		-		
MT200-100A32R10RD12-IK	100	6	88	25	50	32	10	5500	0,9		10		-		
MT200-125A40R12RD12-IK	125	6	113	29	63	40	12	5000	2,3		12		-		
Extra close pitch																
MT200-063A22R07RD12-IK	63	6	51	20	40	22	7	7500	0,3	RDN..1204MO..N	7		-	T400960-15P	7015-TP 5,5 Nm
MT200-080A27R09RD12-IK	80	6	68	22	50	27	9	6500	0,7		9		-		
MT200-100A32R11RD12-IK	100	6	88	25	50	32	11	5500	0,9		11		-		
MT200-125A40R13RD12-IK	125	6	113	29	63	40	13	5000	2,3		13		-		

All mills can be delivered without internal coolant supply.

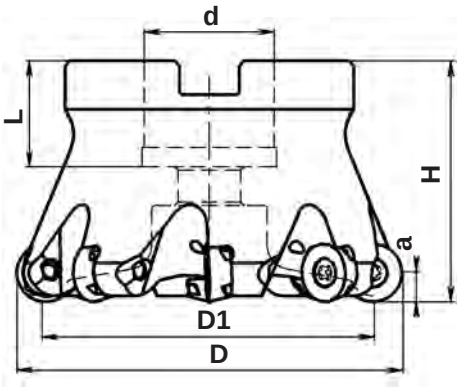


	P	M	K	N	S	H
HCP30X	●	○				
HCP40X	●	●			○	
HCM25X	●	●			○	
HCM30X	●	●			○	
HCK10X			●			
HCN10X				●		
HCS35X					●	

Code key	ic	S	d1	α
		mm		°
RDNT1204MOEN	12,0	4,76	4,4	15
RDNT1204MOSN-F	12,0	4,76	4,4	15
RDNW1204MOSN	12,0	4,76	4,4	15

MT200...RD16

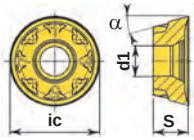
Facemills with round inserts



Depth of cut up to 8 mm

Code key	Dimensions, mm							nmax	kg		No.			
	D	a	D1	L	H	d	Z	RPM						
Regular pitch														
MT200-050A22R04RD16	50	8	31,4	20	40	22	4	6500	0,3	RDN..1605MO..N	4		T451155-20P	7020-TP 7,0 Nm
MT200-063A22R04RD16	63	8	44,4	20	40	22	4	5500	0,4		4			
MT200-080A27R05RD16	80	8	61,4	22	50	27	5	4500	0,7		5			
MT200-100B32R06RD16	100	8	81,4	25	50	32	6	4000	1,3		6			
MT200-125B40R08RD16	125	8	106,4	29	63	40	8	3500	2,3		8			
MT200-160C40R10RD16	160	8	141,4	31	63	40	10	3000	3,7		10			
Close pitch														
MT200-063A22R05RD16	63	8	44,4	20	40	22	5	5500	0,4	RDN..1605MO..N	5		T451155-20P	7020-TP 7,0 Nm
MT200-080A27R07RD16	80	8	61,4	22	50	27	7	4500	0,7		7			
MT200-100B32R08RD16	100	8	81,4	25	50	32	8	4000	1,3		8			
MT200-125B40R10RD16	125	8	106,4	29	63	40	10	3500	2,3		10			
MT200-160C40R12RD16	160	8	141,4	31	63	40	12	3000	3,7		12			
Extra close pitch														
MT200-080A27R08RD16	80	8	61,4	22	50	27	8	4500	0,7	RDN..1605MO..N	8		T451155-20P	7020-TP 7,0 Nm
MT200-100B32R09RD16	100	8	81,4	25	50	32	9	4000	1,3		9			
MT200-125B40R11RD16	125	8	106,4	29	63	40	11	3500	2,3		11			
MT200-160C40R13RD16	160	8	141,4	31	63	40	13	3000	3,7		13			

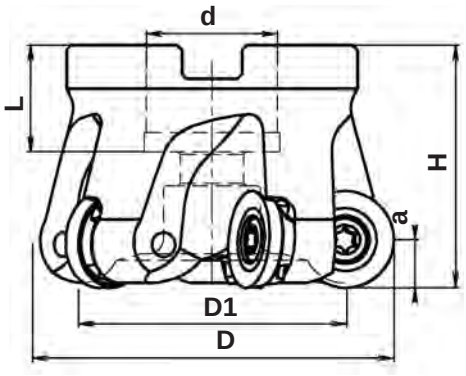
All mills can be delivered with internal coolant supply.
*Facemills a 100-125 mm with internal coolant supply are marked - MT200...**A**...RD16-IK.*
*Facemill a 160 mm with internal coolant supply are marked - MT200-160**C**40...RD16-IK.*
Mounting dimensions for mills see page 249.



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X							ic	S	d1	α
Code key															mm		o
RDNT1605MOEN	■	□		■		■	■							16,0	5,56	5,5	15
RDNT1605MOSN-F	■	■	■	■			■							16,0	5,56	5,5	15
RDNW1605MOSN	■	■			□									16,0	5,56	5,5	15

MT200...RD20

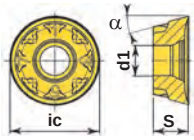
Facemills with round inserts



Depth of cut up to 10 mm

Code key	Dimensions, mm							nmax						
	D	a	D1	L	H	d	Z	RPM	kg		No.			
Regular pitch														
MT200-080A27R04RD20	80	10	60	22	50	27	4	4500	0,5	RDNT2006MO..N	4		T501155-20P	7020-TP 9,0 Nm
MT200-100B32R05RD20	100	10	80	25	50	32	5	4000	1,5		5			
MT200-125B40R06RD20	125	10	105	29	63	40	6	3500	2,3		6			
MT200-160C40R07RD20	160	10	140	31	63	40	7	3000	3,7		7			
Close pitch														
MT200-080A27R05RD20	80	10	60	22	50	27	5	4500	0,5	RDNT2006MO..N	5		T501155-20P	7020-TP 9,0 Nm
MT200-100B32R06RD20	100	10	80	25	50	32	6	4000	1,5		6			
MT200-125B40R07RD20	125	10	105	29	63	40	7	3500	2,3		7			
MT200-160C40R08RD20	160	10	140	31	63	40	8	3000	3,7		8			
Extra close pitch														
MT200-080A27R06RD20	80	10	60	22	50	27	6	4500	0,5	RDNT2006MO..N	6		T501155-20P	7020-TP 9,0 Nm
MT200-100B32R07RD20	100	10	80	25	50	32	7	4000	1,5		7			
MT200-125B40R09RD20	125	10	105	29	63	40	9	3500	2,3		9			
MT200-160C40R11RD20	160	10	140	31	63	40	11	3000	3,7		11			

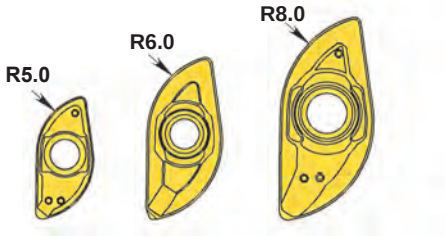
All mills can be delivered with internal coolant supply.
Facemills a 100-125 mm with internal coolant supply are marked - MT200...A...RD20-IK.
Facemill a 160 mm with internal coolant supply are marked - MT200-160C40...RD20-IK.
Mounting dimensions for mills see page 249.



Code key	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	S	d1	α
															mm		o
RDNT2006MOEN	●	○					■	□		□		■	■	20,0	6,35	6,0	15
RDNT2006MOSN-F	●	●			○		■	■	■	■			■	20,0	6,35	6,0	15
RDNW2006MOSN	●	●			○		□	■			□			20,0	6,35	6,0	15

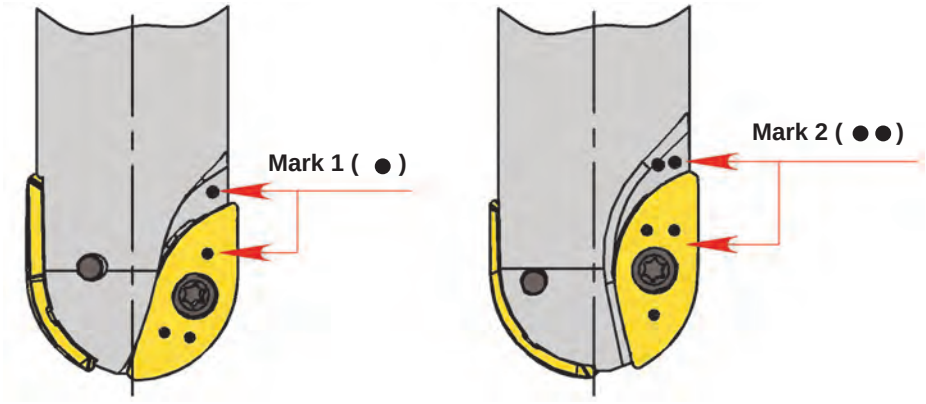
Ball nose endmills for profiling

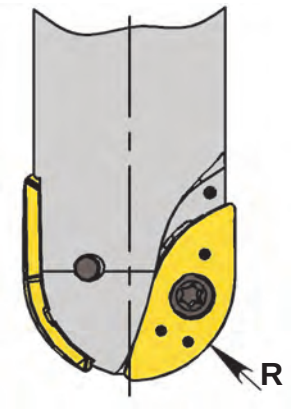
MT100L...XO
Best productivity for milling of moulds and dies.
Two effective teeth.



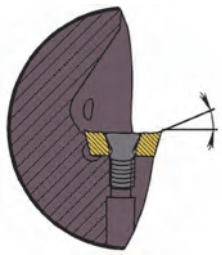
XO10 XO12 XO16

For correct assembly, the marks on the cutter body should match those on the insert (● with ●) and (●● with ●●)





Nominal diameter ⌀, mm	Nominal radius, mm	Cutting radius, mm
10,0	5,0	$5,0^{+0,04}_{-0,13}$
12,0	6,0	$6,0^{+0,04}_{-0,13}$
16,0	8,0	$8,0^{+0,04}_{-0,13}$



Positive geometry

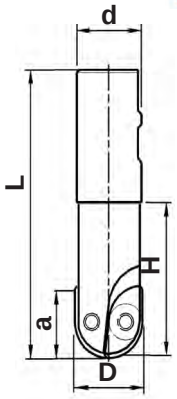
Regular pitch

P	M	K	N	S

wide range of workpiece materials

MT100L...XO
Ball nose endmills

NEW

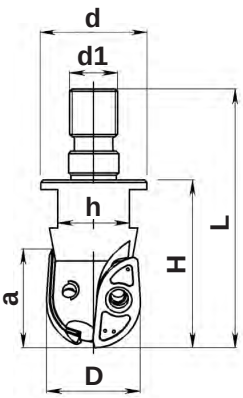


MT100L-W...XO

Straight shank with drive flat "Weldon" DIN 1835 B*

Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.			
MT100L-010W16R02XO10	10	8,9	45	90	16	2	24000	0,2	XOHW100102ER-R50	2		T200455-06P	7006-TP
MT100L-012W16R02XO12	12	14,4	45	100	16	2	23000	0,2	XOH.120202.R-R60	2		T250555-08P	7008-TP
MT100L-016W20R02XO16	16	17,9	60	125	20	2	21000	0,3	XOH.160302.R-R80	2		T250555-08P	7008-TP

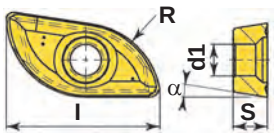
**It is possible to design mills with straight shank cylindrical "Z"*



MT100L-G...XO

Screw fit shank SKIF-M

Code key	Dimensions, mm D	a	H	L	h	d	d1	Z	kg		No.			
MT100L-010G08R02XO10	10	8,9	25	43	10	12,8	M08	2	0,15	XOHW100102ER-R50	2		T200455-06P	7006-TP
MT100L-012G08R02XO12	12	10,8	25	43	10	12,8	M08	2	0,2	XOH.120202ER-R60	2		T250555-08P	7008-TP
MT100L-016G08R02XO16	16	14,4	30	49	15	18,5	M10	2	0,3	XOH.160302.R-R80	2		T250555-08P	7008-TP

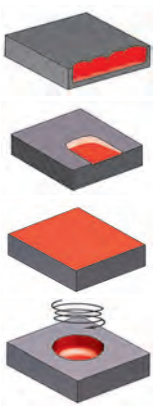
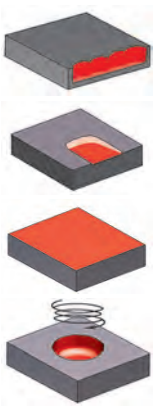


	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X									
P	●	●	●													
M	○	●	●	●												
K					●											
N						●										
S		○	○	○			●									
H																

Code key

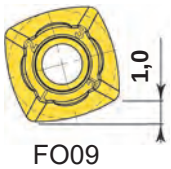
	l	S	d1	R	α
	mm				°
XOHW100102ER-R50	9,86	1,7	2,3	5,0	10
XOHW120202ER-R60	12,0	2,38	2,9	6,0	10
XOHT120202SR-R60	12,0	2,38	2,9	6,0	10
XOHW160302ER-R80	16,0	3,18	2,9	8,0	10
XOHT160302SR-R80	16,0	3,18	2,9	8,0	10

Endmills and facemills for high feed

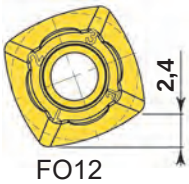
Types of mills					
Code key		MT115..FO09	MT119..FO12	MT215..FO09	MT219..FO12
Page		60	60	62	62
Insert type					
Insert pages		25	25	25	25
Workpiece material	P	●●●	●●●	●●●	●●●
	M	●●●	●●●	●●●	●●●
	K				
	N				
	S	●●●	●●●	●●●	●●●
	H				
Tool lead angle		15°	19°	15°	19°
Range ⌀, mm		25-32	32-50	32-66	40-125
Depth of cut up to, mm		1	2,4	1	2,4
Working areas	R	●●●	●●●	●●●	●●●
	M	●	●	●●●	●●●
	F				
Plunging		●●	●●	●●	●●
Internal coolant					
Application					

Endmills and facemills for high feed

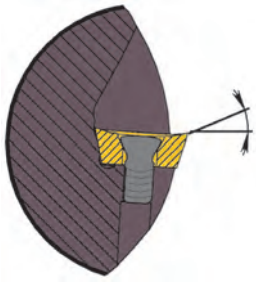
MT115/119...FO, MT215/219...FO
High feed milling.
Roughing with feed up to 3,2 mm/tooth.
Profitable machining steel, stainless steel, titanium alloys
Suitable for plunge milling.

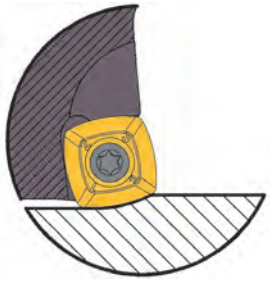


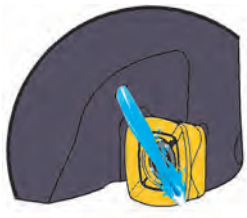
FO09



FO12


positive geometry

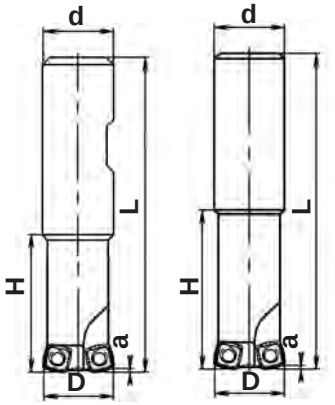

depth of cut up 1,0 to 2,4 mm


internal coolant supply for machining austenitic stainless steel


regular pitch

P M S
wide range of workpiece materials

MT115, MT119
Endmills 15° and 19° for high feed



regular design

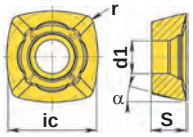
Straight shank with drive flat "Weldon" DIN 1835 B*

Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.			
MT115-W...FO09													**Depth of cut up to 1 mm**
MT115-025W25R02FO09	25	1	60	140	25	2	19800	0,6	FONT09T308..R	2		T350760-10P	7010-TP 3,5 Nm
MT115-025W25R03FO09	25	1	60	140	25	3	19800	0,5		3			
MT115-032W32R03FO09	32	1	90	150	32	3	16000	0,82		3			
MT115-032W32R04FO09	32	1	90	150	32	4	16000	0,8		4			
MT119-W...FO12													**Depth of cut up to 2,4 mm**
MT119-032W32R02FO12	32	1,8	90	150	32	2	13000	0,82	FONT120412..R	2		T401160-15P	7015-TP 7,0 Nm
MT119-040W32R03FO12	40	1,8	90	150	32	3	12100	0,89		3			
MT119-050W40R04FO12	50	1,8	80	150	40	4	10900	0,95		4			

Straight shank cylindrical DIN 1835 A

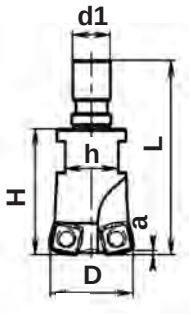
MT115-Z...FO09-L.. ***long design***													**Depth of cut up to 1 mm**
MT115-025Z25R02FO09-L200	25	1	50	200	25	2	9000	0,6	FONT09T308..R	2		T350760-10P	7010-TP 3,5 Nm
MT115-025Z25R03FO09-L200	25	1	50	200	25	3	9000	0,5		3			
MT115-032Z32R03FO09-L200	32	1	50	200	32	3	8100	0,82		3			
MT115-032Z32R04FO09-L200	32	1	50	200	32	4	8100	0,8		4			
MT119-Z...FO12-L..													**Depth of cut up to 2,4 mm**
MT119-032Z32R02FO12-L200	32	1,8	50	200	32	2	6480	0,82	FONT120412..R	2		T401160-15P	7015-TP 7,0 Nm
MT119-040Z32R03FO12-L250	40	1,8	50	250	32	3	5800	0,89		3			
MT119-050Z40R04FO12-L250	50	1,8	50	250	40	4	5450	0,95		4			

There is a possibility of performance of all mills with internal coolant supply.



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X					ic	S	d1	r	α
Code key												mm				o
FONT09T308ER	■	■		■			■					9,2	3,97	4,0	0,8	11
FONT09T308SR-F	■	■					□					9,2	3,97	4,0	0,8	11
FONT120412ER	■	□		■			■					12,5	4,76	4,7	1,2	11
FONT120412SR-F	■	■					□					12,5	4,76	4,7	1,2	11

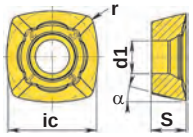
MT115, MT119
Endmills 15° and 19° for high feed



regular design

Shank fit screw SKIF-M

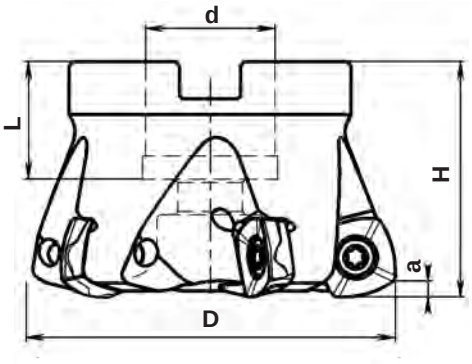
Code key	Dimensions, mm D	a	H	L	h	d	Z	kg		No.			
MT115-G...FO09													**Depth of cut up to 1 mm**
MT115-025G12R02FO09	25	1	35	57	17	M12	2	0,3	FONT09T308ER	2		T350760-10P	7010-TP 5,5 Nm
MT115-025G12R03FO09	25	1	35	57	17	M12	3	0,25		3			
MT115-032G16R03FO09	32	1	35	58	22	M16	3	0,5		3			
MT115-032G16R04FO09	32	1	35	58	22	M16	4	0,5		4			
MT119-G...FO12													**Depth of cut up to 2,4 mm**
MT119-032G16R02FO12	32	1,8	35	58	22	M16	2	0,5	FONT120412ER	2		T401160-15P	7015-TP 7,0 Nm
MT119-040G20R03FO12	40	1,8	40	72	30	M20	3	0,7		3			



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X				ic	S	d1	r	α
Code key											mm				°
FONT09T308ER	■	■		■			■				9,2	3,97	4,0	0,8	11
FONT09T308SR-F	■	■					□				9,2	3,97	4,0	0,8	11
FONT120412ER	■	□		■			■				12,5	4,76	4,7	1,2	11
FONT120412SR-F	■	■					□				12,5	4,76	4,7	1,2	11

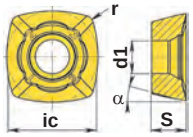
MT215, MT219

Facemills 15° and 19° for high feed



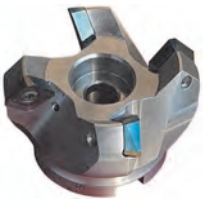
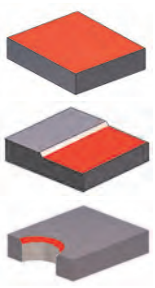
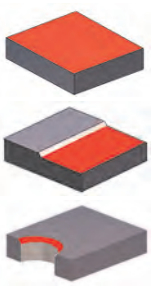
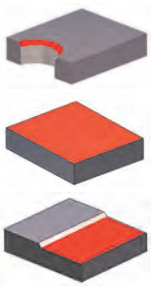
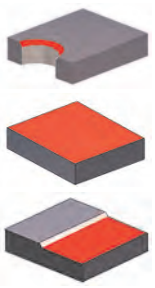
Depth of cut up to 1 mm

Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.				
Regular pitch														
MT215-032G16R03FO09	32	1	19	40	16	3	27000	0,1	FONT09T308..R	3		H082200-40P	T350760-10P	7010-TP 3,5 Nm
MT215-035G16R04FO09	35	1	19	40	16	4	26700	0,15		4		H082200-40P		
MT215-040A16R04FO09	40	1	19	40	16	4	26700	0,2		4		-		
MT215-042A16R05FO09	42	1	19	40	16	5	26100	0,22		5		-		
MT215-050A22R05FO09	50	1	20	40	22	5	23500	0,3		5		-		
MT215-052A22R06FO09	52	1	20	40	22	6	23000	0,35		6		-		
MT215-063A22R06FO09	63	1	20	40	22	6	20500	0,5		6		-		
MT215-066A22R07FO09	66	1	20	40	22	7	20000	0,55		7		-		
Regular pitch														**Depth of cut up to 2,4 mm**
MT219-040G16R03FO12	40	1,8	19	40	16	3	21120	0,2	FONT120412..R	3		H082200-40P	T401160-15P	7015-TP 5,0 Nm
MT219-042A16R04FO12	42	1,8	19	40	16	4	20880	0,22		4		-		
MT219-050A22R04FO12	50	1,8	19	40	22	4	18800	0,3		4		-		
MT219-052A22R05FO12	52	1,8	19	40	22	5	18400	0,35		5		-		
MT219-063A22R05FO12	63	1,8	20	40	22	5	16400	0,5		5		-		
MT219-066A22R06FO12	66	1,8	20	40	22	6	16000	0,55		6		-		
MT219-080B27R07FO12	80	1,8	22	50	27	7	14000	0,9		7		-		
MT219-100B32R08FO12	100	1,8	25	50	32	8	12000	1,3		8		-		
MT219-125B40R10FO12	125	1,8	29	63	40	10	10000	1,8		10		-		



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X					ic	S	d1	r	α
Code key												mm				o
FONT09T308ER	■	■		■			■					9,2	3,97	4,0	0,8	11
FONT09T308SR-F	■	■					□					9,2	3,97	4,0	0,8	11
FONT120412ER	■	□		■			■					12,5	4,76	4,7	1,2	11
FONT120412SR-F	■	■					□					12,5	4,76	4,7	1,2	11

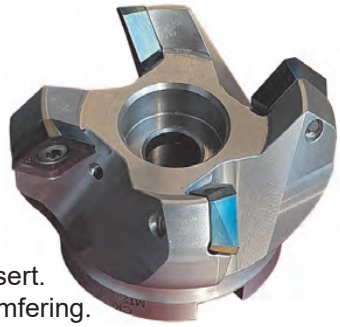
Endmills and Facemills 45° and 50°

Types of mills						NEW 
Code key		MT145F…SD08	MT245…SD08	MT245…SO12	MT245…SN13	MT250…ON21
Page		65	67	68	69	70
Insert type						
Insert pages		28	28	36	30	40
Workpiece material	P	●●●	●●●	●●●	●●●	●●●
	M	●●●	●●●	●●●	●●	●●●
	K	●	●	●●●	●●●	
	N	●●●	●●●	●●●		
	S	●●●	●●●	●●●	●	●●●
	H					
Tool lead angle		45°	45°	45°	45°	50°
Range ⌀, mm		16-32	32-125	32-160	40-250	63-200
Depth of cut up to, mm		4	4	6	6,5	7,2
Working areas	R	●●●	●	●	●●●	●●●
	M	●●●	●●●	●●●	●●●	●●●
	F	●●	●●●	●●●	●●●	●●
Plunging		●				
Internal coolant						
Application						

Endmills and Facemills 45° and 50°

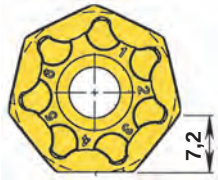
MT145...SD08
First choice - chamfering.
Can also be used for face milling and milling of V - shaped slots.
Four cutting edges per insert.

MT245...SD08
First choice - face milling.
Four cutting edges per insert.
Can also be used for chamfering.

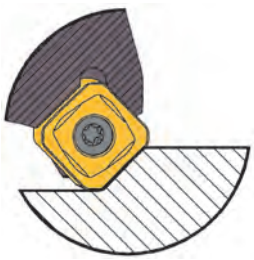


MT245...SO12
First choice - face milling.
Four cutting edges per insert.
Can also be used for chamfering.

MT245...SN13
Positive geometry.
Low cutting forces.
8 cutting edges per insert.



MT250...XN10
Positive geometry.
Low cutting forces.
14 cutting edges per insert.



Depth of cut up 2,5 to 6,5 mm

Internal coolant supply for machining austenitic stainless steel

A positive angle of inclination at small depths of cut offers a soft cutting

Regular pitch

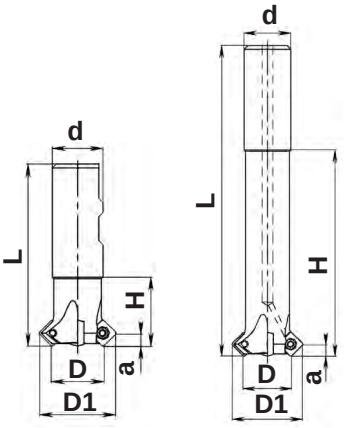
Close pitch

Extra close pitch

P	M	K	N	S

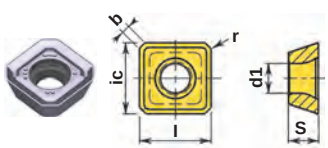
wide range of workpiece materials

MT145F...SD08
Chamfering endmills 45°



Code key	Dimensions, mm D	a	D1	H	L	d	Z	nmax RPM	kg		No.			
MT145F-W...SD08	***regular design***												**Straight shank with drive flat "Weldon" DIN 1835 B***	
MT145F-016W16R02SD08	16	4	24,4	27	75	16	2	33000	0,1	SD..T0803...	2		T300755-09AP	7009-TP 2,2 Nm
MT145F-020W20R03SD08	20	4	28,4	34	90	20	3	29000	0,2		3			
MT145F-025W25R04SD08	25	4	33,4	34	90	25	4	25500	0,3		4			
MT145F-032W32R05SD08	32	4	40,4	40	100	32	5	22000	0,4		5			
MT145F-Z...SD08	***long design***												**Straight shank cylindrical DIN 1835 A**	
MT145F-016Z16R02SD08-IK	16	4	24,4	23	150	16	2	12100	0,1	SD..T0803...	2		T300755-09AP	7009-TP 2,2 Nm
MT145F-020Z20R03SD08-IK	20	4	28,4	29	150	20	3	10900	0,2		3			
MT145F-025Z25R04SD08-IK	25	4	33,4	34	200	25	4	9000	0,3		4			
MT145F-032Z32R05SD08-IK	32	4	40,4	40	200	32	5	8100	0,4		5			

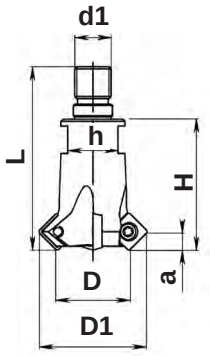
**It is possible to design mills with straght shank cylindrical "Z" .*



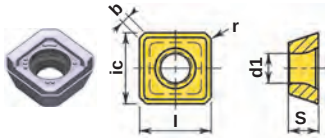
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X					
P	●	●	●									
M	○	●	●	●								
K					●							
N						●						
S		○	○	○			●					
H												

Code key	ic	l	S	d1	r	b
	mm					
SDMT0803AESN-S ■ ■ □	9,0	9,0	3,18	3,4	1,6	0,8
SDMT0803AESN-H □ ■ ■ □	9,0	9,0	3,18	3,4	1,6	0,8
SDMT0803AESN-T ■	9,0	9,0	3,18	3,4	1,6	0,8
SDHT0803AEFN-AL ■	9,0	9,0	3,18	3,4	1,6	0,8

MT145F...SD08
Chamfering endmills 45°



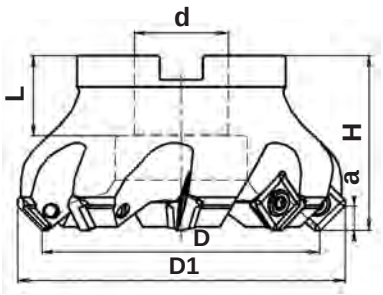
Code key	Dimensions, mm D	a	D1	H	L	h	d	Z	kg		No.			
MT145F-G...SD08													**Shank fit screw SKIF-M**	
MT145F-016G08R02SD08	16	4	24,4	28	46	10	M08	2	0,1	SD..T0803...	2		T300755-09AP	7009-TP 2,2 Nm
MT145F-020G10R03SD08	20	4	28,4	31,5	51	15	M10	3	0,1		3			
MT145F-025G12R04SD08	25	4	33,4	34	57	17	M12	4	0,2		4			
MT145F-032G16R05SD08	32	4	40,4	40	63	22	M16	5	0,3		5			



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X						ic	l	S	d1	r	b
Code key													mm					
SDMT0803AESN-S	■	■			□								9,0	9,0	3,18	3,4	1,6	0,8
SDMT0803AESN-H	□	■		■	□								9,0	9,0	3,18	3,4	1,6	0,8
SDMT0803AESN-T							■						9,0	9,0	3,18	3,4	1,6	0,8
SDHT0803AEFN-AL						■							9,0	9,0	3,18	3,4	1,6	0,8

MT245...SD08

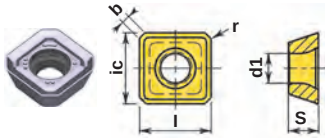
Facemills 45°



Depth of cut up to 4 mm

Code key	Dimensions, mm							nmax	kg		No.			
	D	a	D1	L	H	d	Z	RPM						
Regular pitch														
MT245-032A16R04SD08	32	4	40,4	19	40	16	4	22000	0,1		4			
MT245-040A16R05SD08	40	4	48,4	19	40	16	5	19500	0,2		5			
MT245-050A22R06SD08	50	4	58,4	20	40	22	6	17500	0,4		6			
MT245-063A22R07SD08	63	4	71,4	20	40	22	7	15500	0,6	SD..T0803...	7		T300755-09AP	7009-TP 2,2 Nm
MT245-080B27R09SD08	80	4	88,4	22	50	27	9	13500	0,8		9			
MT245-100B32R11SD08	100	4	108,4	25	50	32	11	12000	1,4		11			
MT245-125B40R14SD08	125	4	133,4	29	63	40	14	10500	2,8		14			
Close pitch														
MT245-032A16R05SD08	32	4	40,4	19	40	16	5	22000	0,1		5			
MT245-040A16R06SD08	40	4	48,4	19	40	16	6	19500	0,2		6			
MT245-050A22R08SD08	50	4	58,4	20	40	22	8	17500	0,4		8			
MT245-063A22R10SD08	63	4	71,4	20	40	22	10	15500	0,6	SD..T0803...	10		T300755-09AP	7009-TP 2,2 Nm
MT245-080B27R12SD08	80	4	88,4	22	50	27	12	13500	0,8		12			
MT245-100C32R14SD08	100	4	108,4	25	50	32	14	12000	1,4		14			
MT245-125C40R16SD08	125	4	133,4	29	63	40	16	10500	2,8		16			

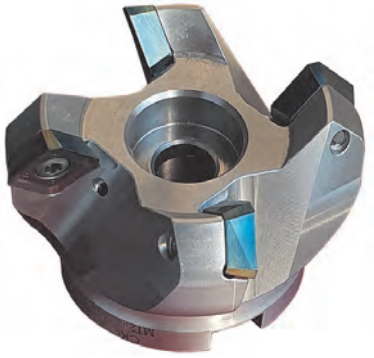
All mills can be delivered with internal coolant supply.
*Facemills a 32-100 mm with internal coolant supply are marked - MT245...**A**...SD08-IK.*
*Facemill a 125 mm with internal coolant supply are marked - MT245-125**C**40...SD09-IK.*
Mounting dimensions for mills see page 237.

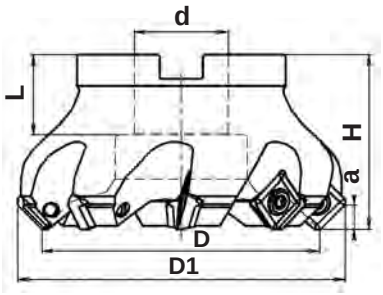


	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X						ic	l	S	d1	r	b
Code key													mm					
SDMT0803AESN-S	■	■			■								9,0	9,0	3,18	3,4	1,6	0,8
SDMT0803AESN-H		□		■	□		□						9,0	9,0	3,18	3,4	1,6	0,8
SDMT0803AESN-T							■						9,0	9,0	3,18	3,4	1,6	0,8
SDHT0803AEFN-AL						■							9,0	9,0	3,18	3,4	1,6	0,8

MT245...SO12

Facemills 45°

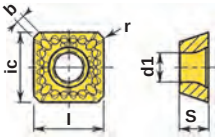




Depth of cut up to 6 mm

Code key	Dimensions, mm D	a	D1	L	H	d	Z	nmax RPM	kg		No.			
Regular pitch														
MT245-032A16R03SO12	32	6	46	19	40	16	3	21000	0,1	SO..T1204AE...	3		T401160-15P	7015-TP 5,5 Nm
MT245-040A16R03SO12	40	6	54	19	40	16	3	19500	0,2		3			
MT245-050A22R04SO12	50	6	64	20	40	22	4	16500	0,4		4			
MT245-063A22R05SO12	63	6	77	20	40	22	5	14000	0,6		5			
MT245-080B27R06SO12	80	6	97	22	50	27	6	12500	0,9		6			
MT245-100B32R07SO12	100	6	114	25	50	32	7	11000	1,8		7			
MT245-125B40R08SO12	125	6	139	29	63	40	8	9500	3,1		8			
MT245-160C40R09SO12	160	6	174	31	63	40	9	8500	3,6		9			
Close pitch														
MT245-050A22R05SO12	50	6	64	20	40	22	5	16500	0,4	SO..T1204AE...	5		T401160-15P	7015-TP 5,5 Nm
MT245-063A22R06SO12	63	6	77	20	40	22	6	14000	0,6		6			
MT245-080B27R08SO12	80	6	94	22	50	27	8	12500	1,0		8			
MT245-100B32R10SO12	100	6	114	25	50	32	10	11000	1,8		10			
MT245-125B40R12SO12	125	6	139	29	63	40	12	9500	3,1		12			
MT245-160C40R16SO12	160	6	174	31	63	40	16	8500	3,7		16			

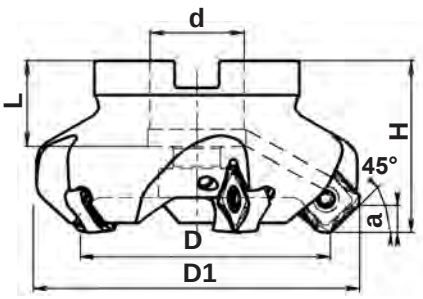
All mills can be delivered with internal coolant supply.
*Facemills a 32-125 mm with internal coolant supply are marked - MT245...**A**...SO12-IK.*
*Facemill a 160 mm with internal coolant supply are marked - MT245-160**C**40...SO12-IK.*
Mounting dimensions for mills see page 237.



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
Code key								mm					
SOMT1204AESN-S	■	■			■			12,7	12,7	4,76	4,7	0,2	1,7
SOMT1204AESN-H		□		■	□		□	12,7	12,7	4,76	4,7	0,2	1,7
SOMT1204AESN-T							■	12,7	12,7	4,76	4,7	0,2	1,7
SOHT1204AEFN-AL						■		12,7	12,7	4,76	4,7	0,2	1,7

MT245...SN13

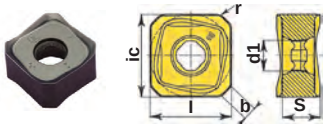
Facemills 45°



Depth of cut up to 6,5 mm

Code key	Dimensions, mm							nmax						
	D	a	D1	L	H	d	Z	RPM	kg		No.			
Coarse pitch														
MT245-040A22R03SN13-IK	40	6,5	53,9	20	45	22	3	12000	0,25	SNMU1306ANSR-F	3		T401160-15P-X	7015-TP 5,5 Nm
MT245-050A22R03SN13-IK	50	6,5	64,4	20	45	22	3	10500	0,42		3			
MT245-063A22R05SN13-IK	63	6,5	77,4	20	45	22	5	9000	0,58		5			
MT245-080A27R06SN13-IK	80	6,5	93,9	22	50	27	6	7500	0,96		6			
MT245-100A32R07SN13-IK	100	6,5	113,9	25	50	32	7	6500	1,65		7			
MT245-125A40R08SN13-IK	125	6,5	139,4	29	63	40	8	5500	2,87		8			
MT245-160C40R10SN13-IK	160	6,5	174,3	31	63	40	10	4500	4,35		10			
MT245-200C60R12SN13-IK	200	6,5	214,4	32	63	60	12	4000	7,26		12			
MT245-250C60R14SN13-IK	250	6,5	264,4	32	63	60	14	3500	13,6		14			
Regular pitch														
MT245-040A22R04SN13-IK	40	6,5	53,9	20	45	22	4	12000	0,25	SNMU1306ANSR-F	4		T401160-15P-X	7015-TP 5,5 Nm
MT245-050A22R04SN13-IK	50	6,5	64,4	20	45	22	4	10500	0,39		4			
MT245-063A22R06SN13-IK	63	6,5	77,4	20	45	22	6	9000	0,50		6			
MT245-080A27R08SN13-IK	80	6,5	93,9	22	50	27	8	7500	0,88		8			
MT245-100A32R10SN13-IK	100	6,5	113,9	25	50	32	10	6500	1,58		10			
MT245-125A40R12SN13-IK	125	6,5	139,4	29	63	40	12	5500	2,80		12			
MT245-160C40R12SN13-IK	160	6,5	174,3	31	63	40	12	4500	4,26		12			
MT245-200C60R16SN13-IK	200	6,5	214,4	32	63	60	16	4000	7,20		16			
MT245-250C60R18SN13-IK	250	6,5	264,4	32	63	60	18	3500	13,5		18			

All mills can be delivered without internal coolant supply.



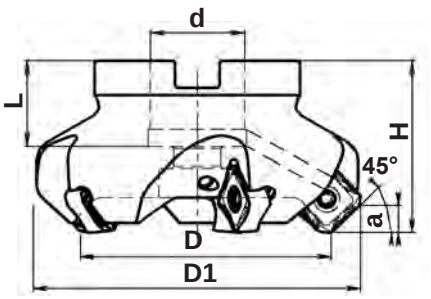
	P	M	K	N	S	H
HCP30X	●	○				
HCP40X	●	●			○	
HCM25X	●	●			○	
HCM30X	●	●			○	
HCK10X			●			
HCN10X				●		
HCS35X					●	

Code key

Code key	ic	l	S	d1	r	b
	mm					
SNMU1306ANSR-F	13,5	13,5	6,25	4,5	1,5	2,0

MT245...SN13

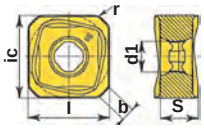
Facemills 45°



Depth of cut up to 6,5 mm

Code key	Dimensions, mm							nmax	kg		No.			
	D	a	D1	L	H	d	Z	RPM						
Close pitch														
MT245-050A22R05SN13-IK	50	6,5	64,4	20	45	22	5	10500	0,42	SNMU1306ANSR-F	5		T401160-15P-X	7015-TP 5,5 Nm
MT245-063A22R07SN13-IK	63	6,5	77,4	20	45	22	7	9000	0,58		7			
MT245-080A27R09SN13-IK	80	6,5	93,9	22	50	27	9	7500	0,96		9			
MT245-100A32R11SN13-IK	100	6,5	113,9	25	50	32	11	6500	1,65		11			
MT245-125A40R14SN13-IK	125	6,5	139,4	29	63	40	14	5500	2,87		14			
MT245-160C40R16SN13-IK	160	6,5	174,3	31	63	40	16	4500	4,35		16			
MT245-200C60R20SN13-IK	200	6,5	214,4	32	63	60	20	4000	7,26		20			
MT245-250C60R24SN13-IK	250	6,5	264,4	32	63	60	24	3500	13,5		24			

All mills can be delivered without internal coolant supply.

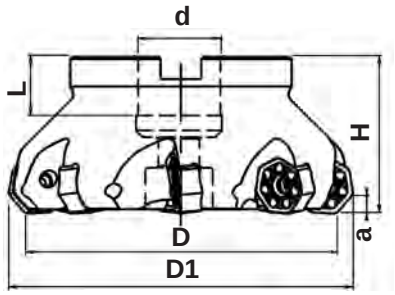


	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

Code key	ic	l	S	d1	r	b
	mm					
SNMU1306ANSR-F	13,5	13,5	6,25	4,5	1,5	2,0

MT250...XN10

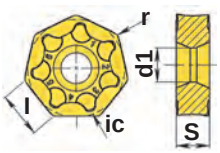
Facemills 50°



Depth of cut up to 7,2 mm

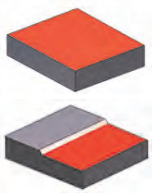
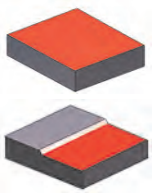
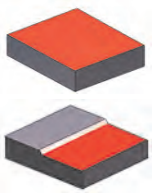
Code key	Dimensions, mm						Z	nmax	kg		No.			
	D	a	D1	L	H	d		RPM						
Regular pitch														
MT250-063A22R04XN10	63	7,2	76,2	20	50	22	4	13000	0,7	XNMU100712..	4		T601660-25P	7025-TP 9,0 Nm
MT250-080A27R04XN10	80	7,2	93,2	22	50	27	4	11400	1,1		4			
MT250-100B32R05XN10	100	7,2	113,2	25	50	32	5	10100	1,7		5			
MT250-125B40R06XN10	125	7,2	138,2	29	63	40	6	9000	3,1		6			
MT250-160C40R07XN10	160	7,2	173,2	31	63	40	7	7900	5,4		7			
MT250-200C60R08XN10	200	7,2	213,2	31	63	60	8	9000	7,8		8			
Close pitch														
MT250-063A22R05XN10	63	7,2	76,2	20	50	22	5	13000	0,6	XNMU100712..	5		T601660-25P	7025-TP 9,0 Nm
MT250-080A27R06XN10	80	7,2	93,2	22	50	27	6	11400	1,0		6			
MT250-100B32R07XN10	100	7,2	113,2	25	50	32	7	10100	1,6		7			
MT250-125B40R08XN10	125	7,2	138,2	29	63	40	8	9000	3,0		8			
MT250-160C40R10XN10	160	7,2	173,2	31	63	40	10	7900	5,2		10			
MT250-200C60R12XN10	200	7,2	213,2	31	63	60	12	9000	7,5		12			

All mills can be delivered with internal coolant supply.
*Facemills a 63-125 mm with internal coolant supply are marked - MT250...**A**...XN10-IK.*
*Facemill a 160 mm with internal coolant supply are marked - MT250-160**C**40...XN10-IK.*
Mounting dimensions for mills see page 237.



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
Code key								mm				
P	●	●	●									
M	○	●	●	●								
K					●							
N						●						
S		○	○	○			●					
H												
XNMU100712SN-S	■	■		□	□			21,5	10,0	8,32	6,7	1,2
XNMU100712SR-H	□	■		■			■	21,5	10,0	8,32	6,7	1,2

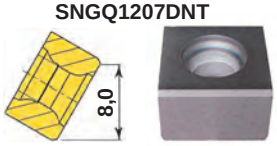
Facemills for heavy cutting and roughing

Types of mills		NEW 	
Code key	MT260..SN12	MT288..SN14	MT289..SO12
Page	74	75	76
Insert type			
Insert pages	34	31	37
Workpiece material P	●●●	●●●	●●●
Workpiece material M		●●●	●●●
Workpiece material K	●●●		●
Workpiece material N			
Workpiece material S		●●●	●●
Workpiece material H			
Tool lead angle	60°	88°	89°
Range ⌀, mm	50-250	50-250	40-160
Depth of cut up to, mm	8	12	11
Working areas R	●●●	●●●	●●●
Working areas M	●	●●●	
Working areas F		●	
Plunging			
Internal coolant			
Application			

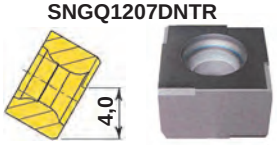
Facemills for heavy cutting and roughing

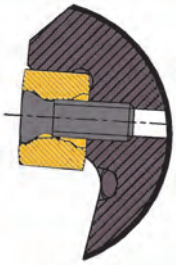
MT260...SN12
Tangentially arranged inserts, strongedge security.
Negative geometry.
Effective machining of casting on peel.
Close pitch for milling cast iron.
Inserts SNGQ1207DNTR, with 8 cutting edges for economic face milling up to ap = 4mm.

SNGQ1207DNT



SNGQ1207DNTR



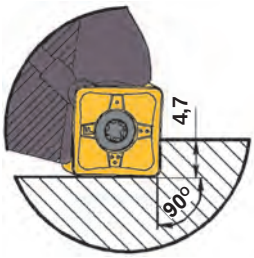


tangentially inserts

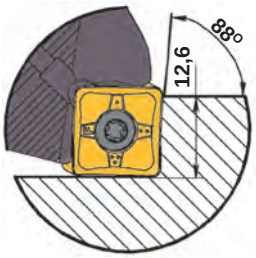
P K

wide range of workpiece materials

MT288...SN14
Economic construction.
8 cutting edges per insert.
Positive geometry
Close pitch for milling cast iron.



depth of cut to 4,7 mm

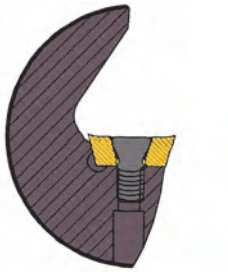


depth of cut up 4,7 to 12,6 mm

MT289...SO12
Positive geometry. Very light cutting.
Best productivity under stable conditions. Machining short chipping materials and steel under stable conditions. Facemilling in machining centers and general purpose milling machines.

P M S

wide range of workpiece materials



radial mounting inserts

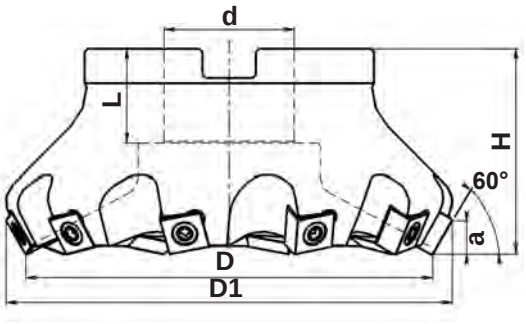
internal supply of coolant for machining austenitic stainless steel

Regular pitch

Close pitch

MT260...SN12

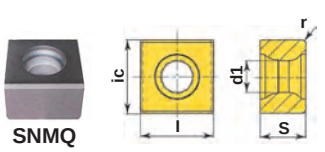
Facemills 60° *Heavy duty*

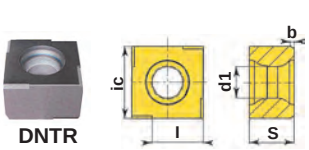


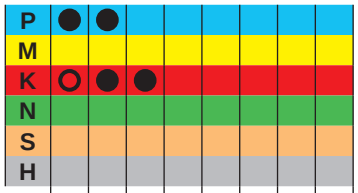
Depth of cut up to 8 mm

Code key	Dimensions, mm							nmax	kg		No.			
	D	a*	D1	L	H	d	Z	RPM						
Regular pitch														
MT260-050A22R04SN12	50	8	68	20	40	22	4	7500	0,5	SNMQ120702TN SNGQ1207DNTR	4		T451455-20P	7020-T 7,0 Nm
MT260-063A22R05SN12	63	8	81	20	40	22	5	6500	0,7		5			
MT260-080B27R06SN12	80	8	98	22	50	27	6	5500	1,2		6			
MT260-100B32R08SN12	100	8	118	25	50	32	8	5000	1,7		8			
MT260-125B40R10SN12	125	8	143	29	63	40	10	4500	3,2		10			
MT260-160C40R12SN12	160	8	178	31	63	40	12	4000	5,0		12			
MT260-200C60R16SN12	200	8	218	32	63	60	16	3500	7,7		16			
MT260-250C60R20SN12	250	8	268	32	63	60	20	3000	12,0		20			
Close pitch														
MT260-050A22R06SN12	50	8	68	20	40	22	6	7500	0,5	SNMQ120702TN SNGQ1207DNTR	6		T451455-20P	7020-T 7,0 Nm
MT260-063A22R07SN12	63	8	81	20	40	22	7	6500	0,7		7			
MT260-080B27R09SN12	80	8	98	22	50	27	9	5500	1,2		9			
MT260-100B32R12SN12	100	8	118	25	50	32	12	5000	1,7		12			
MT260-125B40R15SN12	125	8	143	29	63	40	15	4500	3,2		15			
MT260-160C40R18SN12	160	8	178	31	63	40	18	4000	5,0		18			
MT260-200C60R21SN12	200	8	218	32	63	60	21	3500	7,7		21			
MT260-250C60R25SN12	250	8	268	32	63	60	25	3000	12,0		25			

For insert* **SNGQ1207DNTR ap_{max} *= 4,0 mm*



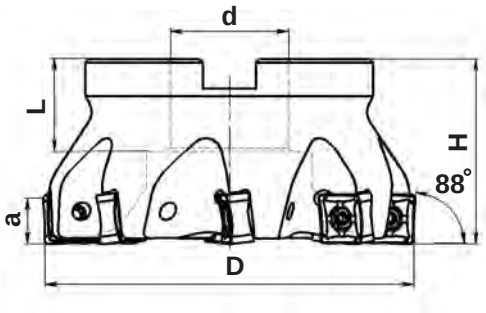




Code key	HCP30X	HCP40X	HCK10X						ic	l	S	d1	r/b
									mm				
SNMQ120702TN	■	■	□						12,7	12,7	7,94	5,4	0,2
SNGQ1207DNTR	■	□							12,7	9,0	7,94	5,4	0,7

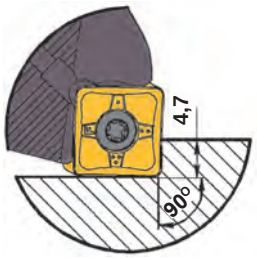
MT288...SN14

Facemills 88°

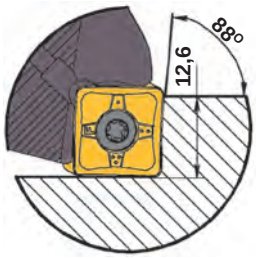


Depth of cut up to 12,6 mm

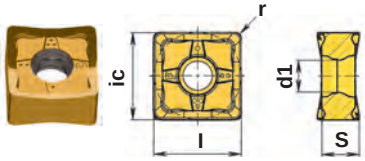
Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
Regular pitch													
MT288-050A22R05SN14-IK	50	12,6	20	40	22	5	9000	0,3	SNMU140612ER	5		T401460-15P	7015-TP 5,5 Nm
MT288-063A22R06SN14-IK	63	12,6	20	40	22	6	8500	0,5		6			
MT288-080A27R07SN14-IK	80	12,6	22	50	27	7	7500	0,9		7			
MT288-100A32R08SN14-IK	100	12,6	25	50	32	8	7000	1,6		8			
MT288-125A40R10SN14-IK	125	12,6	29	63	40	10	6000	3,0		10			



depth of cut
to 4,7 mm



depth of cut
up 4,7 to 12,6 mm

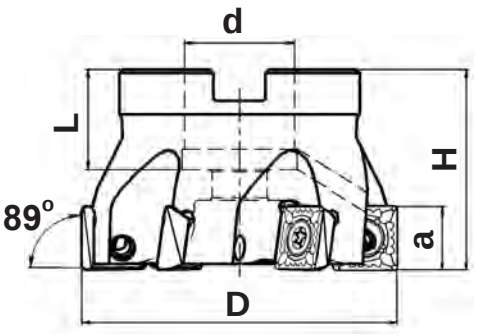


Code key

	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
								mm				
SNMU140612ER	■	■		■	■		■	14,0	14,0	6,36	4,7	0,8

MT289...SO12

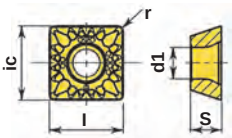
Facemills 89° *Roughing*
with internal coolant supply



Depth of cut up to 11 mm

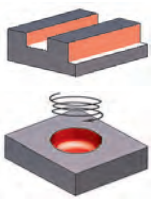
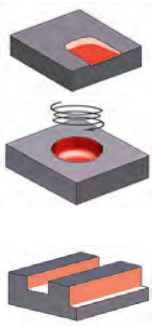
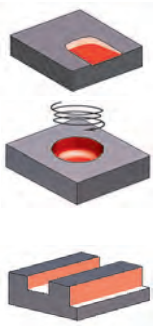
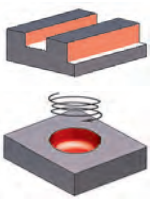
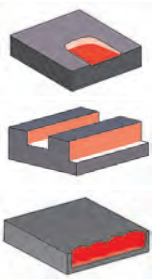
Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
Regular pitch													
MT289-040A16R03SO12-IK	40	11	19	40	16	3	20000	0,2		3			
MT289-050A22R04SO12-IK	50	11	20	40	22	4	18000	0,2		4			
MT289-063A22R05SO12-IK	63	11	20	40	22	5	15500	0,3		5			
MT289-080A27R06SO12-IK	80	11	22	50	27	6	13000	0,8	SOMT120408...	6		T401160-15P	7015-TP 5,5 Nm
MT289-100A32R07SO12-IK	100	11	25	50	32	7	11500	0,9		7			
MT289-125A40R09SO12-IK*	125	11	29	63	40	9	10000	2,3		9			
MT289-160C40R11SO12-IK*	160	11	31	63	40	11	8500	3,7		11			
Close pitch													
MT289-040A16R04SO12-IK	40	11	19	40	16	4	20000	0,2		4			
MT289-050A22R05SO12-IK	50	11	20	40	22	5	18000	0,2		5			
MT289-063A22R06SO12-IK	63	11	20	40	22	6	15500	0,3		6			
MT289-080A27R08SO12-IK	80	11	22	50	27	8	13000	0,8	SOMT120408...	8		T401160-15P	7015-TP 5,5 Nm
MT289-100A32R10SO12-IK	100	11	25	50	32	10	11500	0,9		10			
MT289-125A40R12SO12-IK*	125	11	29	63	40	12	10000	2,3		12			
MT289-160C40R14SO12-IK*	160	11	31	63	40	14	8500	3,7		14			

Mills additionally equipped with nozzles **F-M6x10x2*

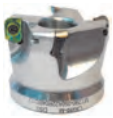
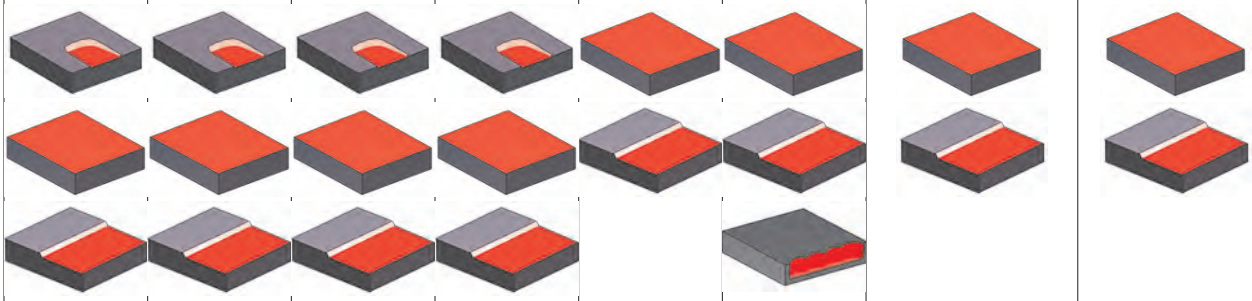


	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
Code key								mm				
SOMT120408SN-S	■	■			■			12,7	12,7	4,76	4,7	0,8
SOMT120408EN-T				■			■	12,7	12,7	4,76	4,7	0,8

Square shoulder endmills

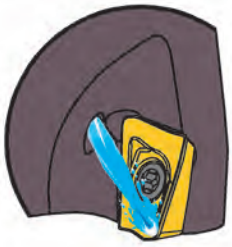
Types of mills						
Code key	MT190...BD08	MT190...BD10	MT190...BD12	MT190...BD16	MT190...LN13	MT190...SD08
Page	80	82	86	89	95	98
Insert type						
Insert pages	20	21	22	23	26	30
Workpiece material P	●●●	●●●	●●●	●●●	●●●	●●●
M	●●●	●●●	●●●	●●	●●●	●●●
K					●	
N	●●●	●●●	●●●	●●●		●●●
S	●●●	●●●	●●●	●●●		●●●
H						
Tool lead angle	90°	90°	90°	90°	90°	90°
Range ⌀, mm	10-40	16-54	20-40	25-40	25-50	20-40
Depth of cut up to, mm	7	10	11	14	12	8
Working areas R		●	●●	●	●●●	●●●
M	●●	●●●	●●●	●●●	●●●	●●
F	●●●	●●●	●●●	●●●	●	●
Plunging						●
Internal coolant						
Application						

Square shoulder facemills

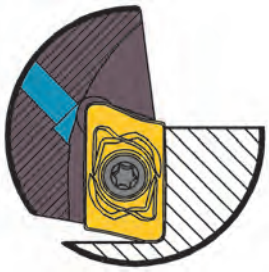
Types of mills								
Code key	MT290.. BD08	MT290.. BD10	MT290.. BD12	MT290.. BD16	MT290.. LN13	MT290.. SD08	MT290..SO12	MT290..AX14
Page	90	91	92	93	96	99	100	101
Insert type								
Insert pages	20	21	22	23	26	29	37	19
Workpiece material P	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●
M	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●
K					●		●	●
N	●●●	●●●	●●●	●●●		●●●	●●	●●
S	●●●	●●●	●●●	●●●		●●●	●●	●●●
H								
Tool lead angle	90°	90°	90°	90°	90°	90°	90°	90°
Range ⌀, mm	32-63	32-100	40-160	40-160	40-250	50-125	40-160	40-160
Depth of cut up to, mm	7	10	11	14	12	6,5	11	14
Working areas R	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●
M	●●●	●●●	●●●	●●●	●●●	●●	●●	●●
F	●●●	●●●	●●●	●●●	●	●	●	●
Plunging						●		
Internal coolant								
Application								

Square shoulder mills

MT190/MT290...BD..
Positive geometry.
Effective machining of steel, stainless steel, titanium and high-temperature alloys with lubricant.
Very light cutting.
Very low cutting forces.
Effecient production for low horsepower machines.



internal supply of coolant for machining austenitic stainless steel, titanium alloy



Depth of cut up 7 to 14 mm

	R0,2	R0,4	R0,8	R1,2	R1,6	R2,0	R2,4	R3,0	R4,0	R5,0
BD08 	-			-		-	-	-	-	-
BD10 										
BD12 	-	-		-	-	-	-			-
BD16 	-	-		-	-	-	-	-	-	-

Coarse pitch

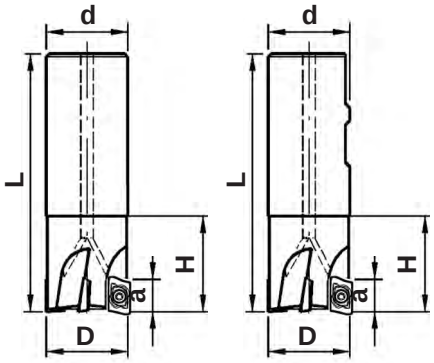
Regular pitch

Close pitch

P	M	K	N	S

wide range of workpiece materials

MT190...BD08
Endmills 90° with internal coolant supply

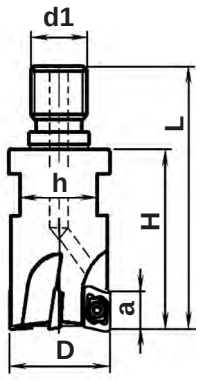


Depth of cut up to 7 mm

Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.			
MT190-Z...BD08-IK	***Coarse pitch***											**Straight shank cylindrical DIN 1835 A**	
MT190-010Z10R01BD08-IK	10	7	20	75	10	1	72000	0,1	BDMT08030..R	1		T220455-07P	7007-TP 1,0Nm
MT190-012Z12R02BD08-IK	12	7	20	75	12	2	66000	0,1		2			
MT190-016Z16R03BD08-IK	16	7	25	75	16	3	50000	0,1		3			
MT190-020Z20R04BD08-IK	20	7	25	77	20	4	44000	0,2		4			
	Close pitch												
MT190-016Z16R04BD08-IK	16	7	25	75	16	4	50000	0,1	BDMT08030..R	4		T220455-07P	7007-TP 1,0Nm
MT190-020Z20R05BD08-IK	20	7	25	77	20	5	44000	0,2		5			
MT190-025Z20R07BD08-IK	25	7	32	90	20	7	39000	0,2		7			
MT190-032Z25R08BD08-IK	32	7	40	102	25	8	36000	0,5		8			
MT190-040Z32R10BD08-IK	40	7	50	110	32	10	33000	0,9		10			
MT190-Z...BD08-L...IK	***Coarse pitch***												
MT190-010Z08R01BD08-L100-IK	10	7	32	100	8	1	30000	0,1	BDMT08030..R	1		T220455-07P	7007-TP 1,0Nm
MT190-012Z12R02BD08-L120-IK	12	7	32	120	12	2	21000	0,1		2			
MT190-014Z12R03BD08-L160-IK	14	7	32	160	12	3	19000	0,1		3			
MT190-016Z14R03BD08-L160-IK	16	7	32	160	14	3	17760	0,2		3			
MT190-018Z16R04BD08-L180-IK	18	7	32	180	16	4	15500	0,3		4			
MT190-020Z20R04BD08-L200-IK	20	7	40	200	20	4	12600	0,4		4			
MT190-W...BD08-IK	***Coarse pitch***											**Straight shank with drive flat "Weldon" DIN 1835 B***	
MT190-016W16R03BD08-IK	16	7	25	75	16	3	33000	0,1	BDMT08030..R	3		T220455-07P	7007-TP 1,0Nm
MT190-020W20R04BD08-IK	20	7	20	77	20	4	31000	0,1		4			
	Close pitch												
MT190-016W16R04BD08-IK	16	7	25	75	16	4	50000	0,1	BDMT08030..R	4		T220455-07P	7007-TP 1,0Nm
MT190-020W20R05BD08-IK	20	7	25	81	20	5	44000	0,2		5			
MT190-025W20R07BD08-IK	25	7	32	90	20	7	39000	0,2		7			
MT190-032W25R08BD08-IK	32	7	40	100	25	8	36000	0,5		8			
MT190-040W32R10BD08-IK	40	7	50	110	32	10	31000	0,9		10			

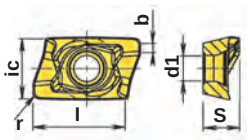
MT190...BD08

Endmills 90° with internal coolant supply



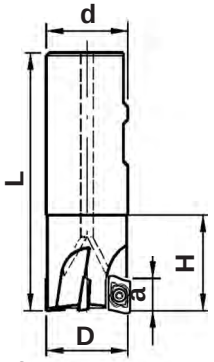
Depth of cut up to 7 mm

Code key	Dimensions, mm D	a	H	L	h	d1	Z	kg		No.			
MT190-G...BD08												**Shank fit screw SKIF-M**	
MT190-016G08R04BD08-IK	16	7	27	44	10	M08	4	0,1		4			
MT190-020G10R05BD08-IK	20	7	33	52	15	M10	5	0,1		5			
MT190-025G12R07BD08-IK	25	7	35	57	17	M12	7	0,1	BDMT08030..R	7		T220455-07P	7007-TP 1,0Nm
MT190-032G16R08BD08-IK	32	7	35	58	22	M16	8	0,1		8			
MT190-040G20R10BD08-IK	40	7	35	67	30	M20	10	0,2		10			



Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
								mm					
BDMT080308ER	■	■		■		■	■	4,9	7,8	3,18	2,5	0,8	1,0
BDMT080308SR	□	□		■			□	4,9	7,8	3,18	2,5	0,8	1,0
BDMT080304ER	■	■		■		■	■	4,9	7,8	3,18	2,5	0,4	1,0
BDMT080304SR	■	□		■			□	4,9	7,8	3,18	2,5	0,4	1,0
BDMT080316SR	□	□		□			□	4,9	7,8	3,18	2,5	1,6	1,0

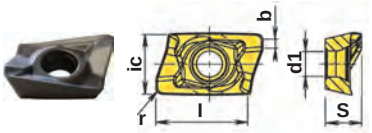
MT190...BD10
Endmills 90° with internal coolant supply



Depth of cut up to 10 mm

Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.			
MT190-W...BD10-IK									**Straight shank with drive flat "Weldon" DIN 1835 B***				
MT190-016W16R02BD10-IK	16	10	25	75	16	2	42000	0,1	BDMT10T3..	2			7008-TP 1,6 Nm
MT190-018W20R02BD10-IK	18	10	25	75	20	2	36900	0,2		2		T250555-08AP	
MT190-020W20R03BD10-IK	20	10	27	77	20	3	36900	0,2		3			
MT190-020W20R03BD10-L160-IK	20	10	110	160	20	3	19500	0,36		3			
MT190-022W25R03BD10-IK	22	10	34	90	25	3	33200	0,3		3		T250755-08AP	
MT190-025W25R04BD10-IK	25	10	34	90	25	4	33200	0,3		4			
MT190-025W25R04BD10-L170-IK	25	10	114	170	25	4	15400	0,3		4			
MT190-028W25R04BD10-IK	28	10	34	90	25	4	30200	0,32		4			
MT190-030W32R04BD10-IK	30	10	40	102	32	4	30200	0,33		4			
MT190-032W32R05BD10-IK	32	10	40	102	32	5	30200	0,32		5			
MT190-032W32R05BD10-L200-IK	32	10	160	200	32	5	16000	0,32		5			
MT190-040W32R06BD10-IK	40	10	40	122	32	6	27700	0,68		6			

**It is possible to design mills with straght shank cylindrical "Z"*
All mills can be delivered without internal coolant supply.

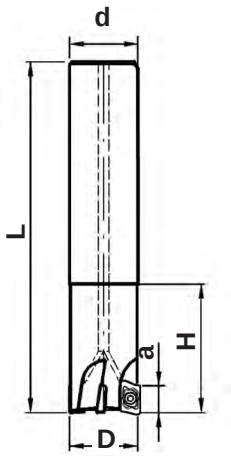


	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X						ic	l	S	d1	r	b
Code key													mm					
BDMT10T302ER	□	□		■		■	□						6,85	10,0	3,97	2,8	0,2	1,1
BDMT10T304ER	■	■		■		■	■						6,85	10,0	3,97	2,8	0,4	0,9
BDMT10T308ER	■	■		■		■	■						6,85	10,0	3,97	2,8	0,8	0,5
BDMT10T312ER	■	■		■		■	■						6,85	10,0	3,97	2,8	1,2	0,2
BDMT10T316ER	■	■		■		■	■						6,85	9,8	3,97	2,8	1,6	-
BDMT10T320ER	■	■		■		■	■						6,85	9,8	3,97	2,8	2,0	-
BDMT10T324ER	■	■		■		■	■						6,85	9,7	3,97	2,8	2,4	-
BDMT10T330ER	■	■		■		■	■						6,85	9,6	3,97	2,8	3,0	-
BDMT10T340ER	□	□		■		■	■						6,85	9,5	3,97	2,8	4,0	-
BDMT10T350ER	□	□		■		■	■						6,85	9,5	3,97	2,8	5,0	-

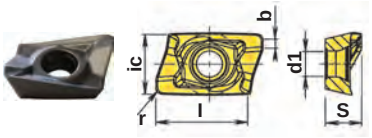
SKIF-M

MT190...BD10

Endmills 90° with internal coolant supply



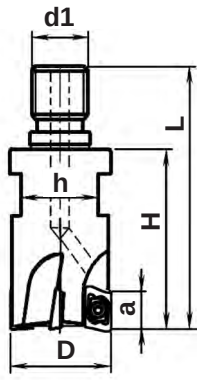
Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.			
MT190-Z...BD10-L...-IK												**Straight shank cylindrical**	**DIN 1835 A**
MT190-012Z16R01BD10-L095-IK	12	10	17	95	16	1	68600	0,16		1			
MT190-016Z16R02BD10-L090-IK	16	10	42	90	16	2	38500	0,2		2			
MT190-016Z16R02BD10-L110-IK	16	10	62	110	16	2	28900	0,2		2		T250555-08AP	
MT190-016Z16R02BD10-L130-IK	16	10	82	130	16	2	24200	0,2		2			
MT190-020Z20R03BD10-L090-IK	20	10	40	90	20	3	26900	0,28		2			
MT190-020Z20R03BD10-L130-IK	20	10	70	130	20	3	23900	0,4		3			
MT190-020Z20R03BD10-L160-IK	20	10	100	160	20	3	19500	0,36		3			
MT190-025Z25R04BD10-L110-IK	25	10	54	110	25	4	33200	0,4	BDMT10T3..	4			7008-TP 1,6 Nm
MT190-025Z25R05BD10-L110-IK	25	10	54	110	25	5	33200	0,4		5			
MT190-025Z25R04BD10-L140-IK	25	10	80	140	25	4	19900	0,7		4			
MT190-025Z25R04BD10-L170-IK	25	10	114	170	25	4	15400	0,7		4			
MT190-032Z32R05BD10-L120-IK	32	10	60	120	32	5	30200	0,7		5			
MT190-032Z32R06BD10-L120-IK	32	10	60	120	32	6	30200	0,7		6		T250755-08AP	
MT190-032Z32R05BD10-L160-IK	32	10	100	160	32	5	20900	0,85		5			
MT190-032Z32R05BD10-L200-IK	32	10	160	200	32	5	16000	1,0		5			



Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
								mm					
P	●	●	●										
M	○	●	●	●									
K					●								
N						●							
S		○	○	○			●						
H													
BDMT10T302ER	□	□		□		■	□	6,85	10,0	3,97	2,8	0,2	1,1
BDMT10T304ER	■	■		■		■	■	6,85	10,0	3,97	2,8	0,4	0,9
BDMT10T308ER	■	■		■		■	■	6,85	10,0	3,97	2,8	0,8	0,5
BDMT10T312ER	■	■		■		■	■	6,85	10,0	3,97	2,8	1,2	0,2
BDMT10T316ER	■	■		■		■	■	6,85	9,8	3,97	2,8	1,6	-
BDMT10T320ER	■	■		■		■	■	6,85	9,8	3,97	2,8	2,0	-
BDMT10T324ER	■	■		■		■	■	6,85	9,7	3,97	2,8	2,4	-
BDMT10T330ER	■	■		■		■	■	6,85	9,6	3,97	2,8	3,0	-
BDMT10T340ER	□	□		■		■	■	6,85	9,5	3,97	2,8	4,0	-
BDMT10T350ER	□	□		■		■	■	6,85	9,5	3,97	2,8	5,0	-

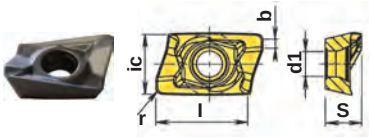
MT190...BD10

Endmills 90° with internal coolant supply



Depth of cut up to 10 mm

Code key	Dimensions, mm D	a	H	L	h	d1	Z	kg		No.			
MT190-G...BD10-IK												**Shank fit screw SKIF-M**	
MT190-016G08R02BD10-IK	16	10	27	45	10	M08	2	0,1	BDMT10T3..	2		T250555-08AP	7008-TP 1,6 Nm
MT190-020G10R03BD10-IK	20	10	33	52	15	M10	3	0,2		3			
MT190-025G12R04BD10-IK	25	10	35	57	17	M12	4	0,2		4		T250755-08AP	
MT190-025G12R05BD10-IK	25	10	35	57	17	M12	5	0,2		5			
MT190-032G16R05BD10-IK	32	10	35	58	22	M16	5	0,2		5			
MT190-032G16R06BD10-IK	32	10	35	58	22	M16	6	0,2		6			
MT190-040G20R06BD10-IK	40	10	35	67	30	M20	6	0,3		6			
MT190-040G20R08BD10-IK	40	10	35	67	30	M20	8	0,3		8			

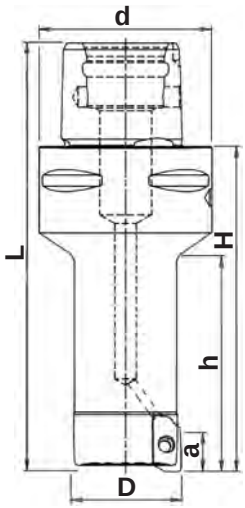


	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X						ic	l	S	d1	r	b
Code key													mm					
BDMT10T302ER	□	□		□		■	□						6,85	10,0	3,97	2,8	0,2	1,1
BDMT10T304ER	■	■		■		■	■						6,85	10,0	3,97	2,8	0,4	0,9
BDMT10T308ER	■	■		■		■	■						6,85	10,0	3,97	2,8	0,8	0,5
BDMT10T312ER	■	■		■		■	■						6,85	10,0	3,97	2,8	1,2	0,2
BDMT10T316ER	■	■		■		■	■						6,85	9,8	3,97	2,8	1,6	-
BDMT10T320ER	■	■		■		■	■						6,85	9,8	3,97	2,8	2,0	-
BDMT10T324ER	■	■		■		■	■						6,85	9,7	3,97	2,8	2,4	-
BDMT10T330ER	■	■		■		■	■						6,85	9,6	3,97	2,8	3,0	-
BDMT10T340ER	□	□		■		■	■						6,85	9,5	3,97	2,8	4,0	-
BDMT10T350ER	□	□		■		■	■						6,85	9,5	3,97	2,8	5,0	-

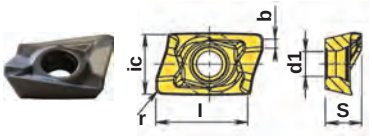
SKIF-M

MT190...BD10

Endmills 90° with internal coolant supply



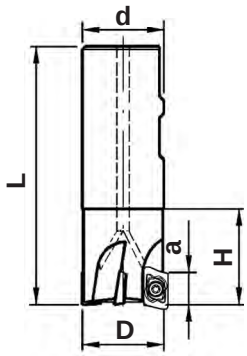
Code key	Dimensions, mm							nmax	kg		No.			
	D	a	H	h	L	d	Z	RPM						
MT190-C...BD10-h...H...-IK													**Taper Hollow Shank PSK DIN 26623-1**	
MT190-016C03R02BD10-h025-H050-IK	16	10	50	25	69	32	2	39000	0,28	BDMT10T3..	2		T250555-08AP	7008-TP 1,6 Nm
MT190-016C04R02BD10-h025-H050-IK	16	10	50	25	74	40	2	39000	0,41		2			
MT190-020C06R02BD10-h060-H165-IK	20	10	165	60	203	63	2	20000	1,5		2			
MT190-025C05R04BD10-h125-H150-IK	25	10	150	125	180	50	4	20000	0,8		4		T250755-08AP	
MT190-032C04R03BD10-h040-H065-IK	32	10	65	40	89	40	3	31000	0,54		3			
MT190-032C05R04BD10-h140-H165-IK	32	10	165	140	195	50	4	26000	1,2		4			
MT190-032C06R04BD10-h096-H165-IK	32	10	165	96	203	63	4	20000	1,8		4			
MT190-040C06R06BD10-h120-H165-IK	40	10	165	120	203	63	6	20000	2,0		6			
MT190-044C04R04BD10-H075-IK	44	10	75	-	99	40	4	25600	0,88		4			
MT190-054C05R05BD10-H080-IK	54	10	80	-	110	50	5	22700	1,6		5			



	P	M	K	N	S	H
HCP30X	●	○				
HCP40X	●	●			○	
HCM25X	●	●			○	
HCM30X		●			○	
HCK10X			●			
HCN10X				●		
HCS35X					●	

Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
								mm					
BDMT10T302ER	□	□		□		■	□	6,85	10,0	3,97	2,8	0,2	1,1
BDMT10T304ER	■	■		■		■	■	6,85	10,0	3,97	2,8	0,4	0,9
BDMT10T308ER	■	■		■		■	■	6,85	10,0	3,97	2,8	0,8	0,5
BDMT10T312ER	■	■		■		■	■	6,85	10,0	3,97	2,8	1,2	0,2
BDMT10T316ER	■	■		■		■	■	6,85	9,8	3,97	2,8	1,6	-
BDMT10T320ER	■	■		■		■	■	6,85	9,8	3,97	2,8	2,0	-
BDMT10T324ER	■	■		■		■	■	6,85	9,7	3,97	2,8	2,4	-
BDMT10T330ER	■	■		■		■	■	6,85	9,6	3,97	2,8	3,0	-
BDMT10T340ER	□	□		■		■	■	6,85	9,5	3,97	2,8	4,0	-
BDMT10T350ER	□	□		■		■	■	6,85	9,5	3,97	2,8	5,0	-

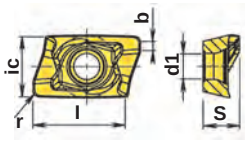
MT190...BD12
Endmills 90° with internal coolant supply



Depth of cut up to 11 mm

Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.			
MT190-W...BD12-IK												**Straight shank with drive flat "Weldon" DIN 1835 B***	
MT190-020W20R02BD12-IK	20	11	30	80	20	2	29000	0,3	BDMT1204...	2		T300755-09AP	7009-TP 2,2 Nm
MT190-022W25R02BD12-IK	22	11	38	94	25	2	27000	0,3		2			
MT190-025W25R02BD12-IK	25	11	43	100	25	2	25000	0,3		2			
MT190-025W25R03BD12-IK	25	11	43	100	25	3	25000	0,3		3			
MT190-032W32R03BD12-IK	32	11	49	110	32	3	22000	0,6		3			
MT190-032W32R04BD12-IK	32	11	49	110	32	4	22000	0,6		4			
MT190-040W32R04BD12-IK	40	11	49	120	32	4	19500	1,1		4			
MT190-040W32R05BD12-IK	40	11	49	120	32	5	19500	1,1		5			

**It is possible to design mills with straght shank cylindrical "Z"*



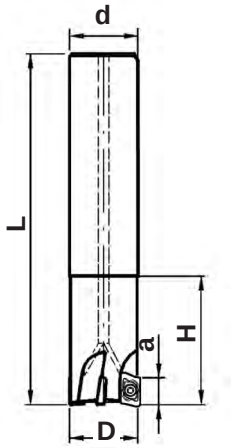
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
Code key								mm					
BDMT120408ER	■	■		■		■	■	8,16	12,0	4,76	3,4	0,8	1,2
BDMT120430ER	■	■		■		■	■	8,16	12,0	4,76	3,4	3,0	0,9
BDMT120440ER	□	■		■		■	■	8,16	12,0	4,76	3,4	4,0	-


22

233
237

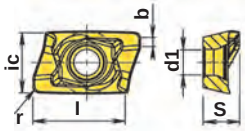
MT190...BD12

Endmills 90° with internal coolant supply



Depth of cut up to 11 mm

Code key	Dimensions, mm						nmax						
	D	a	H	L	d	Z	RPM	kg		No.			
MT190-Z...BD12-L...-IK											**Straight shank cylindrical**		**DIN 1835 A**
MT190-020Z20R02BD12-L200-IK	20	11	38	200	20	2	16400	0,5		2			
MT190-022Z20R02BD12-L200-IK	22	11	38	200	20	2	15400	0,5		2			
MT190-025Z25R02BD12-L200-IK	25	11	38	200	25	2	15400	0,7		2			
MT190-025Z25R03BD12-L200-IK	25	11	38	200	25	3	15400	0,7		3			
MT190-032Z32R03BD12-L250-IK	32	11	39	250	32	3	13000	1,5	BDMT1204...	3		T300755-09AP	7009-TP 2,2 Nm
MT190-032Z32R04BD12-L250-IK	32	11	39	250	32	4	13000	1,5		4			
MT190-040Z40R03BD12-L250-IK	40	11	44	250	40	3	11000	2,3		3			
MT190-040Z40R04BD12-L250-IK	40	11	44	250	40	4	11000	2,3		4			
MT190-040Z40R05BD12-L250-IK	40	11	44	250	40	5	11000	1,6		5			

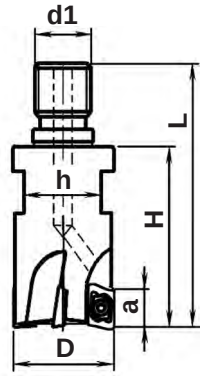


	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

Code key	ic	l	S	d1	r	b
	mm					
BDMT120408ER	8,16	12,0	4,76	3,4	0,8	1,2
BDMT120430ER	8,16	12,0	4,76	3,4	3,0	0,9
BDMT120440ER	8,16	12,0	4,76	3,4	4,0	-

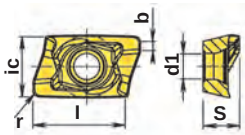
MT190...BD12

Endmills 90° with internal coolant supply



Depth of cut up to 11 mm

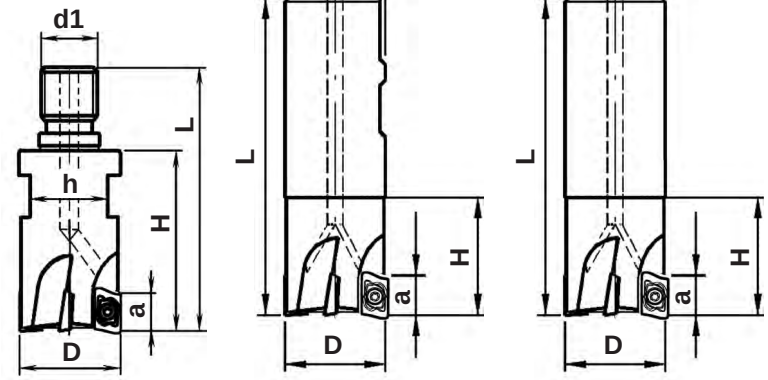
Code key	Dimensions, mm							kg		No.			
	D	a	H	L	d1	h	Z						
MT190-G...BD12-IK												**Shank fit screw SKIF-M**	
MT190-020G10R02BD12-IK	20	11	30	49	M10	15	2	0,1	BDMT1204...	2		T300755-09AP	7009-TP 2,2 Nm
MT190-022G10R02BD12-IK	22	11	30	49	M10	15	2	0,1		2			
MT190-025G12R02BD12-IK	25	11	35	57	M12	17	2	0,1		2			
MT190-025G12R03BD12-IK	25	11	35	57	M12	17	3	0,1		3			
MT190-032G16R03BD12-IK	32	11	40	63	M16	22	3	0,2		3			
MT190-032G16R04BD12-IK	32	11	40	63	M16	22	4	0,2		4			
MT190-040G20R04BD12-IK	40	11	40	72	M20	30	4	0,4		4			
MT190-040G20R05BD12-IK	40	11	40	72	M20	30	5	0,4		5			



Code key	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
														mm					
BDMT120408ER	●	●	●	●	○	●	■	■		■		■	■	8,16	12,0	4,76	3,4	0,8	1,2
BDMT120430ER	●	●	●	●	○	●	■	■		■		■	■	8,16	12,0	4,76	3,4	3,0	0,9
BDMT120440ER	●	●	●	●	○	●	□	■		■		■	■	8,16	12,0	4,76	3,4	4,0	-

MT190...BD16

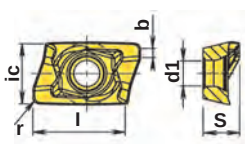
Endmills 90° with internal coolant supply



Depth of cut up to 14 mm

Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.			
MT190-W...BD16-IK ***regular design***												**Straight shank with drive flat "Weldon" DIN 1835 B***	
MT190-025W20R02BD16-IK	25	14	35	95	20	2	26560	0,3	BDMT160508.R	2		T400960-15P	7015-TP 5,5 Nm
MT190-032W32R03BD16-IK	32	14	40	110	32	3	24160	0,6		3			
MT190-040W32R04BD16-IK	40	14	50	110	32	4	22160	0,7		4			
MT190-Z...BD16-L...-IK ***long design***												**Straight shank cylindrical DIN 1835 A**	
MT190-025Z25R02BD16-L150-IK	25	14	50	150	25	2	27000	0,5	BDMT160508.R	2		T400960-15P	7015-TP 5,5 Nm
MT190-025Z25R02BD16-L200-IK	25	14	50	200	25	2	7520	0,72		2			
MT190-032Z32R03BD16-L160-IK	32	14	63	160	32	3	24160	0,93		3			
MT190-032Z32R03BD16-L250-IK	32	14	63	250	32	3	6800	1,5		3			
MT190-040Z32R04BD16-L130-IK	40	14	50	130	32	4	7200	0,86		4			
MT190-040Z32R03BD16-L250-IK	40	14	80	250	32	3	6120	2,33		3			

Code key	Dimensions, mm D	a	H	L	h	d1	Z	kg		No.			
MT190-G...BD16-IK												**Shank fit screw SKIF-M**	
MT190-025G12R02BD16-IK	25	14	35	57	17	M12	2	0,3	BDMT160508.R	2		T400960-15P	7015-TP 5,5 Nm
MT190-032G16R03BD16-IK	32	14	40	63	22	M16	3	0,6		3			
MT190-040G20R04BD16-IK	40	14	40	72	30	M20	4	0,7		4			



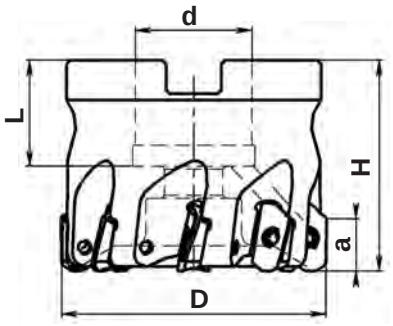
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

Code key

	ic	l	S	d1	r	b
	mm					
BDMT160508ER	9,525	17,7	5,4	4,7	0,8	1,2
BDMT160508SR	9,525	17,7	5,4	4,7	0,8	1,2

MT290...BD08-IK

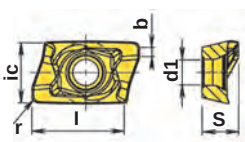
Square shoulder facemills with internal coolant supply



Depth of cut up to 7 mm

Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
Regular pitch													
MT290-032A16R06BD08-IK	32	7	19	40	16	6	36000	0,1	BDMT0803..R	6		T220455-07P	7007-TP 1,0 Nm
MT290-040A16R08BD08-IK	40	7	19	40	16	8	33000	0,2		8			
MT290-050A22R10BD08-IK	50	7	20	40	22	10	30400	0,2		10			
MT290-063A22R12BD08-IK	63	7	20	40	22	12	28000	0,4		12			
Close pitch													
MT290-032A16R08BD08-IK	32	7	19	40	16	8	36000	0,1	BDMT0803..R	8		T220455-07P	7007-TP 1,0 Nm
MT290-040A16R10BD08-IK	40	7	19	40	16	10	33000	0,2		10			
MT290-050A22R12BD08-IK	50	7	20	40	22	12	30400	0,2		12			
MT290-063A22R14BD08-IK	63	7	20	40	22	14	28000	0,4		14			

All mills can be delivered without internal coolant supply.

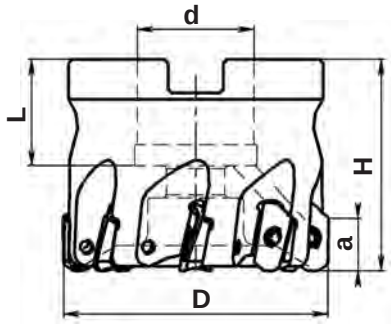


	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

Code key	ic	l	S	d1	r	b
	mm					
BDMT080308ER	4,9	7,8	3,18	2,5	0,8	1,0
BDMT080308SR	4,9	7,8	3,18	2,5	0,8	1,0
BDMT080304ER	4,9	7,8	3,18	2,5	0,4	1,0
BDMT080304SR	4,9	7,8	3,18	2,5	0,4	1,0
BDMT080316SR	4,9	7,8	3,18	2,5	1,6	1,0

MT290...BD10-IK

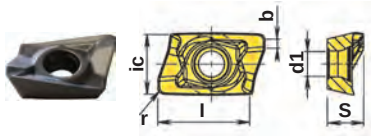
Square shoulder facemills with internal coolant supply



Depth of cut up to 10 mm

Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
Regular pitch													
MT290-032A16R05BD10-IK	32	10	19	40	16	5	30200	0,1	BDMT10T3...R	5		T250755-08AP	7008-TP 1,6Nm
MT290-040A16R04BD10-IK	40	10	19	40	16	4	27700	0,2		4			
MT290-044A16R04BD10-IK	44	10	19	40	16	4	25600	0,25		4			
MT290-050A22R05BD10-IK	50	10	20	40	22	5	25400	0,3		5			
MT290-054A22R05BD10-IK	54	10	20	40	22	5	22600	0,4		5			
MT290-063A22R06BD10-IK	63	10	20	40	22	6	23300	0,5		6			
MT290-066A22R06BD10-IK	66	10	20	40	22	6	20200	0,7		6			
MT290-080A27R08BD10-IK	80	10	22	50	27	8	21300	1,0		8			
MT290-084A27R07BD10-IK	84	10	22	50	27	7	17700	1,4		7			
Close pitch													
MT290-032A16R06BD10-IK	32	10	19	40	16	6	30200	0,1	BDMT10T3...R	6		T250755-08AP	7008-TP 1,6Nm
MT290-040A16R06BD10-IK	40	10	19	40	16	6	27700	0,2		6			
MT290-050A22R08BD10-IK	50	10	20	40	22	8	25400	0,3		8			
MT290-063A22R10BD10-IK	63	10	20	40	22	10	23300	0,5		10			
MT290-080A27R12BD10-IK	80	10	22	50	27	12	21300	0,9		12			
MT290-100A32R14BD10-IK	100	10	25	50	32	14	19600	1,3		14			

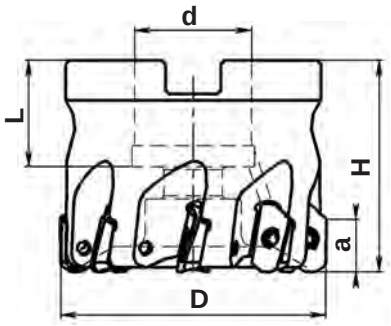
All mills can be delivered without internal coolant supply.



Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
								mm					
BDMT10T302ER	□	□		□		■	□	6,85	10,0	3,97	2,8	0,2	1,1
BDMT10T304ER	■	■		■		■	■	6,85	10,0	3,97	2,8	0,4	0,9
BDMT10T308ER	■	■		■		■	■	6,85	10,0	3,97	2,8	0,8	0,5
BDMT10T312ER	■	■		■		■	■	6,85	10,0	3,97	2,8	1,2	0,2
BDMT10T316ER	■	■		■		■	■	6,85	9,8	3,97	2,8	1,6	-
BDMT10T320ER	■	■		■		■	■	6,85	9,8	3,97	2,8	2,0	-
BDMT10T324ER	■	■		■		■	■	6,85	9,7	3,97	2,8	2,4	-
BDMT10T330ER	■	■		■		■	■	6,85	9,6	3,97	2,8	3,0	-
BDMT10T340ER	□	□		■		■	■	6,85	9,5	3,97	2,8	4,0	-
BDMT10T350ER	□	□		■		■	■	6,85	9,5	3,97	2,8	5,0	-

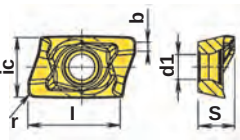
MT290...BD12-IK

Square shoulder facemills with internal coolant supply



Depth of cut up to 11 mm

Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
Coarse pitch													
MT290-040A16R03BD12-IK	40	11	19	40	16	3	19500	0,2	BDMT1204...	3		T300755-09AP	7009-TP 2,2 Nm
MT290-050A22R03BD12-IK	50	11	20	40	22	3	17500	0,4		3			
MT290-063A22R04BD12-IK	63	11	20	40	22	4	15500	0,6		4			
MT290-063A27R04BD12-IK	63	11	22	50	27	4	15500	0,6		4			
MT290-080A27R05BD12-IK	80	11	22	50	27	5	13500	1,1		5			
MT290-100A32R06BD12-IK	100	11	25	50	32	6	12000	1,5		6			
MT290-125A40R07BD12-IK	125	11	29	63	40	7	10500	2,5		7			
MT290-160A40R08BD12-IK	160	11	31	63	40	8	9000	3,7		8			
Regular pitch													
MT290-040A16R04BD12-IK	40	11	19	40	16	4	19500	0,2	BDMT1204...	4		T300755-09AP	7009-TP 2,2 Nm
MT290-050A22R04BD12-IK	50	11	20	40	22	4	17500	0,3		4			
MT290-063A22R05BD12-IK	63	11	20	40	22	5	15500	0,6		5			
MT290-063A27R05BD12-IK	63	11	22	50	27	5	15500	0,7		5			
MT290-080A27R06BD12-IK	80	11	22	50	27	6	13500	1,1		6			
MT290-100A32R07BD12-IK	100	11	25	50	32	7	12000	1,5		7			
MT290-125A40R08BD12-IK	125	11	29	63	40	8	10500	2,5		8			
MT290-160A40R10BD12-IK	160	11	31	63	40	10	9000	3,7		10			
Close pitch													
MT290-040A16R05BD12-IK	40	11	19	40	16	5	19500	0,2	BDMT1204...	5		T300755-09AP	7009-TP 2,2 Nm
MT290-050A22R06BD12-IK	50	11	20	40	22	6	17500	0,4		6			
MT290-063A22R07BD12-IK	63	11	20	40	22	7	15500	0,6		7			
MT290-063A27R07BD12-IK	63	11	22	50	27	7	15500	0,8		7			
MT290-080A27R08BD12-IK	80	11	22	50	27	8	13500	1,1		8			
MT290-100A32R12BD12-IK	100	11	25	50	32	12	12000	1,5		12			
MT290-125A40R14BD12-IK	125	11	29	63	40	14	10500	2,5		14			
MT290-160A40R18BD12-IK	160	11	31	63	40	18	9000	3,7		18			

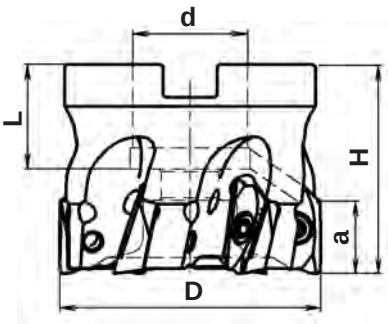


Code key	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
														mm					
BDMT120408ER	●	●	●	●	○		■	■		■		■	■	8,16	12,0	4,76	3,4	0,8	1,2
BDMT120430ER	●	●	●	●	○		■	■		■		■	■	8,16	12,0	4,76	3,4	3,0	0,9
BDMT120440ER	●	●	●	●	○		□	■		■		■	■	8,16	12,0	4,76	3,4	4,0	-

22 233 237

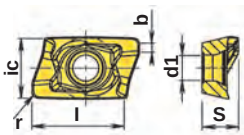
MT290...BD16-IK

Square shoulder facemills with internal coolant supply



Depth of cut up to 14 mm

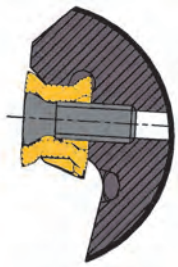
Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
Regular pitch													
MT290-040A16R03BD16-IK	40	14	19	40	16	3	22160	0,2		3			
MT290-050A22R04BD16-IK	50	14	20	40	22	4	20320	0,3		4			
MT290-063A22R05BD16-IK	63	14	20	40	22	5	18640	0,5		5		T400960-15P	
MT290-080A27R06BD16-IK	80	14	22	50	27	6	17040	0,9	BDMT160508ER	6			7015-TP 5,5 Nm
MT290-100A32R07BD16-IK	100	14	25	50	32	7	15680	1,3		7			
MT290-125A40R08BD16-IK	125	14	29	63	40	8	14320	2,5		8			
MT290-160C40R10BD16-IK	160	14	31	63	40	10	13200	3,7		10			
Close pitch													
MT290-040A16R04BD16-IK	40	14	19	40	16	4	22160	0,2		4			
MT290-050A22R06BD16-IK	50	14	20	40	22	6	20320	0,3		6			
MT290-063A22R07BD16-IK	63	14	20	40	22	7	18640	0,5		7		T400960-15P	
MT290-080A27R08BD16-IK	80	14	22	50	27	8	17040	0,9	BDMT160508ER	8			7015-TP 5,5 Nm
MT290-100A32R10BD16-IK	100	14	25	50	32	10	15680	1,3		10			
MT290-125A40R12BD16-IK	125	14	29	63	40	12	14320	2,5		12			
MT290-160C40R14BD16-IK	160	14	31	63	40	14	13200	3,7		14			



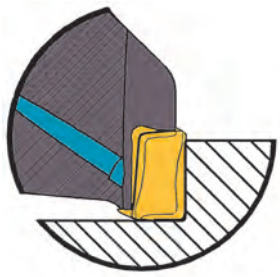
Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
								mm					
BDMT160508ER	■	■		■		■	■	9,525	17,7	5,4	4,7	0,8	1,2
BDMT160508SR	■	□		□			□	9,525	17,7	5,4	4,7	0,8	1,2

Square shoulder mills

MT190/290...LN13
Positive geometry.
Exclusively high efficiency machining.
Tangentially arranged inserts, strong edge security.
Four cutting edges per insert.
Close pitch for machines with increased rigidity.



Tangentially inserts



Depth of cut up to 12 mm

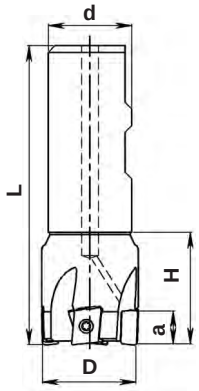
Regular pitch

Close pitch

P M K S

wide range of workpiece materials

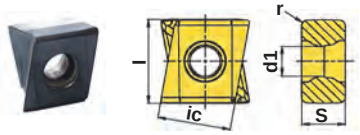
MT190...LN13
Endmills 90°



Depth of cut up to 12 mm

Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.			
MT190-W...LN13-IK													
MT190-025W25R02LN13-IK	25	12	35	95	25	2	11000	0,3		2			
MT190-032W32R03LN13-IK	32	12	40	110	32	3	10000	0,6		3			
MT190-040W32R04LN13-IK	40	12	40	115	32	4	9500	0,7	LNMU13M708SR	4		T401160-15P-X	7015-TP 5,5 Nm
MT190-050W32R04LN13-IK	50	12	36	130	32	4	9000	1,0		4			
MT190-050W32R05LN13-IK	50	12	36	130	32	5	9000	1,0		5			

**It is possible to design mills with straight shank cylindrical "Z"*

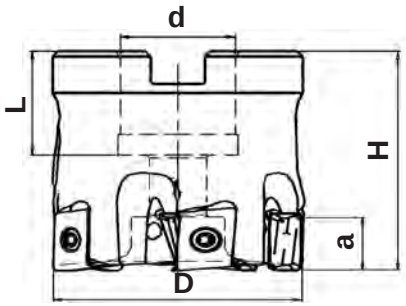


Code key

	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
								mm				
P	●	●	●									
M	○	●	●	●								
K					●							
N						●						
S		○	○	○			●					
H												
LNMU13M708SR	■	■		■	□		□	11,0	13,0	7,0	4,5	0,8

MT290...LN13

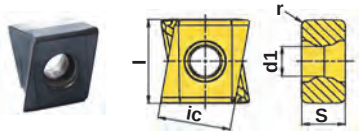
Square shoulder facemills



Depth of cut up to 12 mm

Code key	Dimensions, mm						nmax						
	D	a	L	H	d	Z	RPM	kg		No.			
Regular pitch													
MT290-040A16R04LN13	40	12	19	40	16	4	9500	0,2		4			
MT290-050A22R04LN13	50	12	20	40	22	4	9000	0,3		4			
MT290-063A22R05LN13	63	12	20	40	22	5	8500	0,5		5			
MT290-080B27R07LN13	80	12	22	50	27	7	7500	0,9		7			
MT290-100B32R08LN13	100	12	25	50	32	8	7000	1,6	LNMU13M708SR	8		T401160-15P-X	7015-TP 5,5 Nm
MT290-125B40R09LN13	125	12	29	63	40	9	6000	3,0		9			
MT290-160C40R10LN13	160	12	31	63	40	10	5000	4,4		10			
MT290-200C60R12LN13	200	12	32	63	60	12	4500	7,7		12			
MT290-250C60R15LN13	250	12	32	63	60	15	3200	12,0		15			
Close pitch													
MT290-040A16R05LN13	40	12	19	40	16	5	9500	0,2		5			
MT290-050A22R05LN13	50	12	20	40	22	5	9000	0,3		5			
MT290-063A22R08LN13	63	12	20	40	22	8	8500	0,5		8			
MT290-080B27R10LN13	80	12	22	50	27	10	7500	0,9		10			
MT290-100B32R12LN13	100	12	25	50	32	12	7000	1,6	LNMU13M708SR	12		T401160-15P-X	7015-TP 5,5 Nm
MT290-125B40R15LN13	125	12	29	63	40	15	6000	3,0		15			
MT290-160C40R20LN13	160	12	31	63	40	20	5000	4,4		20			
MT290-200C60R25LN13	200	12	32	63	60	25	4500	7,7		25			
MT290-250C60R30LN13	250	12	32	63	60	30	3200	12,0		30			

All mills except D=160 mm can be delivered with internal coolant supply.
*Facemills a 40-125 mm with internal coolant supply are marked - MT290...**A**...LN13-IK.*
*Facemill a 160 mm with internal coolant supply are marked - MT290-160**C**40...LN13-IK.*
Mounting dimensions for mills see page 237.

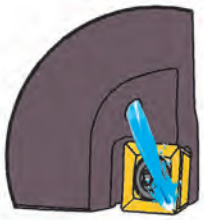


Code key

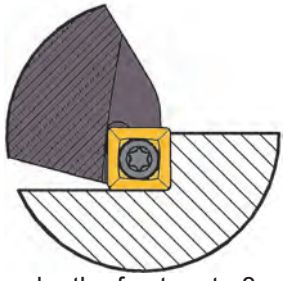
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
								mm				
LNMU13M708SR	■	■		■	□		□	11,0	13,0	7,0	4,5	0,8

Концевые и торцовые фрезы 90°

MT190/MT290...SD08
Especially effective in tool making.
Four cutting edges per insert. Low cutting forces.
Regular pitch: first choice for facemilling in small milling machines and machining centers. Light cutting mill for tool making in low power machines under unstable conditions.
Close pitch: primary use at facemilling planes of die and mould with thin-wall section or for small radial and axial depths of cut.



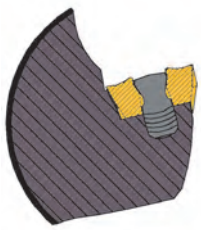
internal supply of coolant for machining austenitic stainless steel



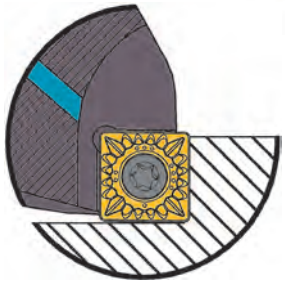
depth of cut up to 8 mm

MT290...SO12
Positive geometry.
Very light cutting.
Four cutting edges per insert.
Regular pitch: first choice for machining of steel, stainless steel and aluminium alloys. Facemilling in machining centers and small milling machines.
Close pitch: best productivity under stable conditions. Machining short chipping materials and steel under stable conditions. Facemilling in machining centers and general purpose milling machines.

internal supply of coolant for machining austenitic stainless steel, titanium and heat-resistant alloy



stronger crosssection of the insert



Depth of cut up to 11 mm

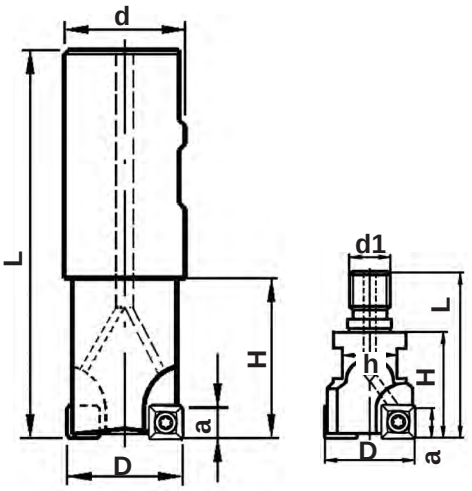
Regular pitch

Close pitch

P	M	K	N	S

wide range of workpiece materials

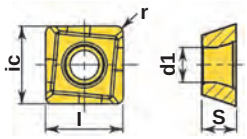
MT190...SD08
Endmills 90°



Depth of cut up to 8 mm

Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.			
MT190-W...SD08-IK													
MT190-020W20R02SD08-IK	20	8	30	80	20	2	25000	0,1	SD.T08T308.R	2		T300755-09AP	7009-TP 2,2 Nm
MT190-022W25R02SD08-IK	22	8	34	90	25	2	23700	0,2		2			
MT190-025W25R03SD08-IK	25	8	40	96	25	3	23700	0,3		3			
MT190-032W32R04SD08-IK	32	8	40	100	32	4	19700	0,5		4			
MT190-040W32R05SD08-IK	40	8	49	110	32	5	18000	0,7		5			

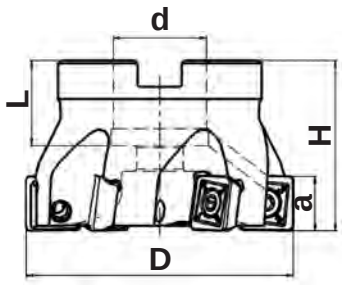
Code key	Dimensions, mm D	a	H	L	d1	h	Z	kg		No.			
MT190-G...SD08-IK													**Shank fit screw SKIF-M**
MT190-020G10R02SD08-IK	20	8	30	49	M10	15	2	0,1	SD.T08T308.R	2		T300755-09AP	7009-TP 2,2 Nm
MT190-022G10R02SD08-IK	22	8	30	49	M10	15	2	0,1		2			
MT190-025G12R03SD08-IK	25	8	35	57	M12	17	3	0,1		3			
MT190-032G16R04SD08-IK	32	8	40	58	M16	22	4	0,2		4			
MT190-040G20R05SD08-IK	40	8	40	67	M20	30	5	0,4		5			



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
Code key								mm				
P	●	●	●									
M	○	●	●	●								
K					●							
N						●						
S		○	○	○			●					
H												
SDMT08T308ER	■	■		■	□	■	■	9,0	9,0	3,97	3,4	0,8
SDHT08T308FR-AL						■		9,0	9,0	3,97	3,4	0,8

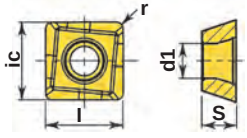
MT290...SD08

Square shoulder facemills with internal coolant supply



Depth of cut up to 8 mm

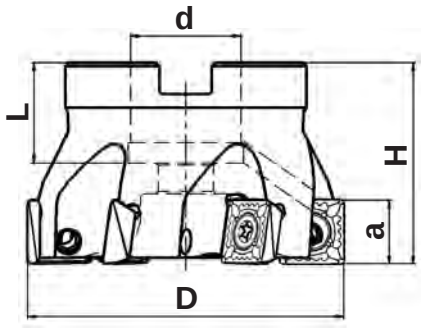
Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
Regular pitch													
MT290-050A22R06SD08-IK	50	8	20	40	22	6	19500	0,3	SD.T08T308.R	6		T300755-09AP	7009-TP 2,2 Nm
MT290-063A22R07SD08-IK	63	8	20	40	22	7	17000	0,6		7			
MT290-080A27R09SD08-IK	80	8	22	50	27	9	14500	1,4		9			
MT290-100A32R11SD08-IK	100	8	25	50	32	11	12500	1,7		11			
MT290-125A40R14SD08-IK	125	8	29	63	40	14	11000	2,6		14			
Close pitch													
MT290-050A22R07SD08-IK	50	8	20	40	22	7	19500	0,3	SD.T08T308.R	7		T300755-09AP	7009-TP 2,2 Nm
MT290-063A22R09SD08-IK	63	8	20	40	22	9	17000	0,6		9			
MT290-080A27R11SD08-IK	80	8	22	50	27	11	14500	1,4		11			
MT290-100A32R13SD08-IK	100	8	25	50	32	13	12500	1,7		13			
MT290-125A40R15SD08-IK	125	8	29	63	40	15	11000	2,6		15			



Code key	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
														mm				
SDMT08T308ER	●	○			○		■	■		■	□	■	■	9,0	9,0	3,97	3,4	0,8
SDHT08T308FR-AL												■		9,0	9,0	3,97	3,4	0,8

MT290...SO12

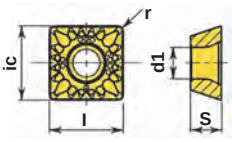
Square shoulder facemills with internal coolant supply



Depth of cut up to 11 mm

Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
Regular pitch													
MT290-040A16R03SO12-IK	40	11	19	40	16	3	20000	0,2	SO.T120408...	3		T401160-15P	7015-TP 5,5 Nm
MT290-050A22R04SO12-IK	50	11	20	40	22	4	18000	0,2		4			
MT290-063A22R05SO12-IK	63	11	20	40	22	5	15500	0,3		5			
MT290-080A27R06SO12-IK	80	11	22	50	27	6	13000	0,8		6			
MT290-100A32R07SO12-IK	100	11	25	50	32	7	11500	0,9		7			
MT290-125A40R09SO12-IK*	125	11	29	63	40	9	10000	2,3		9			
MT290-160A40R11SO12-IK*	160	11	31	63	40	11	8500	3,7		11			
Close pitch													
MT290-040A16R04SO12-IK	40	11	19	40	16	4	20000	0,2	SO.T120408...	4		T401160-15P	7015-TP 5,5 Nm
MT290-050A22R05SO12-IK	50	11	20	40	22	5	18000	0,2		5			
MT290-063A22R06SO12-IK	63	11	20	40	22	6	15500	0,3		6			
MT290-080A27R08SO12-IK	80	11	22	50	27	8	13000	0,8		8			
MT290-100A32R10SO12-IK	100	11	25	50	32	10	11500	0,9		10			
MT290-125A40R12SO12-IK*	125	11	29	63	40	12	10000	2,3		12			
MT290-160A40R14SO12-IK*	160	11	31	63	40	14	8500	3,7		14			

Mills additionally equipped with nozzles **F-M6x10x2*

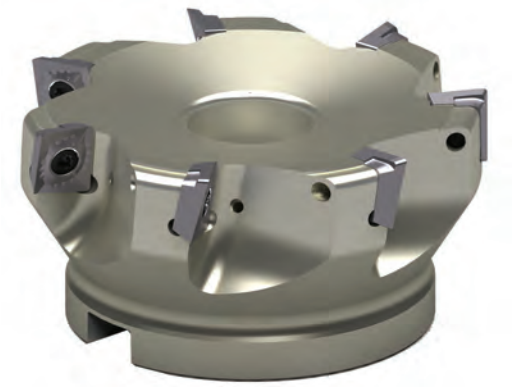


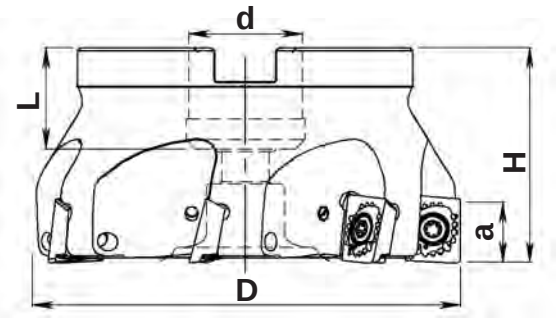
Code key	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
														mm				
SOMT120408SN-S	●	○					■	■			■			12,7	12,7	4,76	4,7	0,8
SOMT120408EN-T	●	●			○					■			■	12,7	12,7	4,76	4,7	0,8
SOHT120408FN-AL	●	●			○							■		12,7	12,7	4,76	4,7	0,8

37 233 238

MT290...AX14

Square shoulder facemills with internal coolant supply

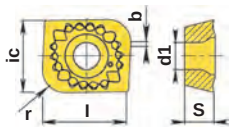




Depth of cut up to 14 mm

Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
Regular pitch													
MT290-040A16R03AX14-IK	40	11	19	40	16	3	20000	0,2		3			
MT290-050A22R04AX14-IK	50	11	20	40	22	4	18000	0,2		4			
MT290-063A22R05AX14-IK	63	11	20	40	22	5	15500	0,3		5			
MT290-080A27R06AX14-IK	80	11	22	50	27	6	13000	0,8	AXGT1405..ER	6		T401160-15P	7015-TP 5,5 Nm
MT290-100A32R07AX14-IK	100	11	25	50	32	7	11500	0,9		7			
MT290-125A40R09AX14-IK*	125	11	29	63	40	9	10000	2,3		9			
MT290-160A40R11AX14-IK*	160	11	31	63	40	11	8500	3,7		11			
Close pitch													
MT290-040A16R04AX14-IK	40	11	19	40	16	4	20000	0,2		4			
MT290-050A22R05AX14-IK	50	11	20	40	22	5	18000	0,2		5			
MT290-063A22R06AX14-IK	63	11	20	40	22	6	15500	0,3		6			
MT290-080A27R08AX14-IK	80	11	22	50	27	8	13000	0,8	AXGT1405..ER	8		T401160-15P	7015-TP 5,5 Nm
MT290-100A32R10AX14-IK	100	11	25	50	32	10	11500	0,9		10			
MT290-125A40R12AX14-IK*	125	11	29	63	40	12	10000	2,3		12			
MT290-160A40R14AX14-IK*	160	11	31	63	40	14	8500	3,7		14			

Mills additionally equipped with nozzles **F-M6x10x2*

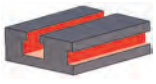
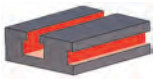


	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

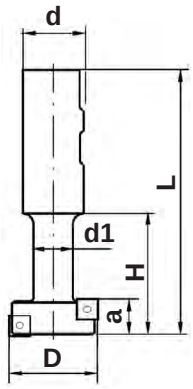
Code key	ic	l	S	d1	r	b
	mm					
AXGT140508ER	12,7	14,9	5,4	4,7	0,8	1,4
AXGT140512ER	12,7	14,9	5,4	4,7	1,2	0,9
AXGT140516ER	12,7	14,9	5,4	4,7	1,6	1,4
AXGT140520ER	12,7	14,9	5,4	4,7	2,0	1,0
AXGT140525ER	12,7	14,8	5,4	4,7	2,5	0,6
AXGT140530ER	12,7	14,8	5,4	4,7	3,0	0,8
AXGT140540ER	12,7	14,8	5,4	4,7	4,0	0,5
AXGT140550ER	12,7	14,7	5,4	4,7	5,0	0,4
AXGT140563ER	12,7	14,7	5,4	4,7	6,3	0,4

T-slott endmills

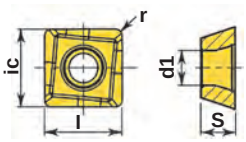
MT190...SD08, SO12 **Ø28-50**
First choice - T-Slot operations.
Four cutting edges per insert.
Milling of groove in holes.

Types of mills			
Code key		MT190T...SD08	MT190T...SO12
Page		103	103
Insert type			
Insert pages		29	37
Workpiece material	**P**	●●●	●●●
	M	●●●	●●●
	K		●
	N	●●●	●●●
	S	●●●	●●●
	H		
Tool lead angle		90°	90°
Range Ø, mm		28-32	40-50
Depth of cut up to, mm		12-14	18-22
Working areas	**R**	●●●	●●●
	M	●●●	●●●
	F	●●	●●
Plunging			
Internal coolant			
Application			

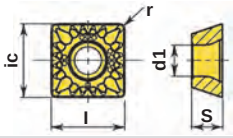
MT190T
T-slot endmills



Code key	Dimensions, mm D	a	H	L	d	d1	Z	nmax RPM	kg			No.			
MT190T-W...SD08															**Straight shank with drive flat "Weldon" DIN 1835 B***
MT190T-028W16R01SD08	28	12	38	86	16	13	1	30500	0,1	SDMT08T308ER + SDMT08T308EL		1+1		T300755-09AP	7009-TP 2,2 Nm
MT190T-032W16R02SD08	32	14	42	90	16	15	2	27000	0,2			2+2			
MT190T-W...SO12															
MT190T-040W25R02SO12	40	18	52	108	25	19	2	23000	0,5	SOMT120408SN-S		4		T401160-15P	7015-TP 5,5 Nm
MT190T-050W32R02SO12	50	22	64	124	32	25	2	19500	0,8			4			



Code key	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
														mm				
SDMT08T308ER	●	○					■	■		■	□	■	■	9,0	9,0	3,97	3,4	0,8
SDMT08T308EL	●	○					■	■		□	□	■	■	9,0	9,0	3,97	3,4	0,8



SOMT120408SN-S	●	○					■	■			■			12,7	12,7	4,76	4,7	0,8
SOMT120408EN-T	●	○								■			■	12,7	12,7	4,76	4,7	0,8
SOHT120408FN-AL	●	○										■		12,7	12,7	4,76	4,7	0,8

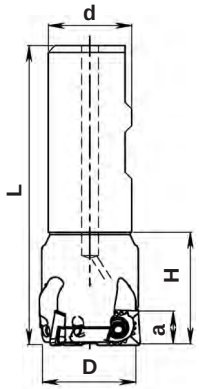
Plunge endmills and facemills

Types of mills	NEW 	NEW 
Code key	MT190Z...AX14	MT290Z...AX14
Page	105	106
Insert type		
Insert pages	19	19
Workpiece material P	●●●	●●●
M	●●●	●●●
K	●●●	●●●
N		
S	●●●	●●●
H		
Tool lead angle	90°	90°
Range ⌀, mm	40-50	50-125
Depth of cut up to, mm	12	12
Working areas R	●●●	●●●
M	●●	●●
F		
Plunging	●●●	●●●
Internal coolant	✕	✕
Application		

MT190Z...AX14, MT290Z...AX14 Ø40-125
Best solution for deep pocket.

P M K S
wide range of workpiece materials

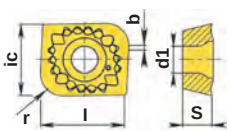
MT190Z...AX14
Plunge Endmills



Depth of cut up to 12 mm

Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.			
MT190Z-W...AX14-IK											**Straight shank with drive flat "Weldon" DIN 1835 B***		
MT190Z-040W32R02AX14-IK	40	12	40	115	32	3	9500	0,7	AXGT140508EL	3		T401160-15P	7015-TP 5,5 Nm
MT190Z-050W32R03AX14-IK	50	12	36	130	32	4	9000	1,0		4			

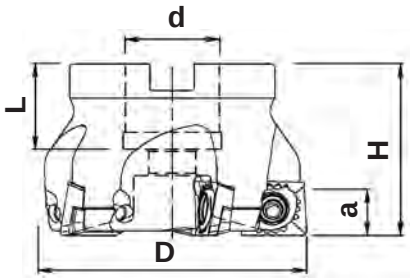
**It is possible to design mills with straght shank cylindrical "Z"*



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
Code key								mm				
P	●	●	●									
M	○	●	●	●								
K					●							
N						●						
S		○	○	○			●					
H												
AXGT140508EL	■	■		■	■		■	12,7	14,9	5,4	4,7	0,8

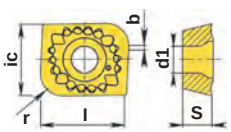
MT290Z...AX14

Plunge Facemills



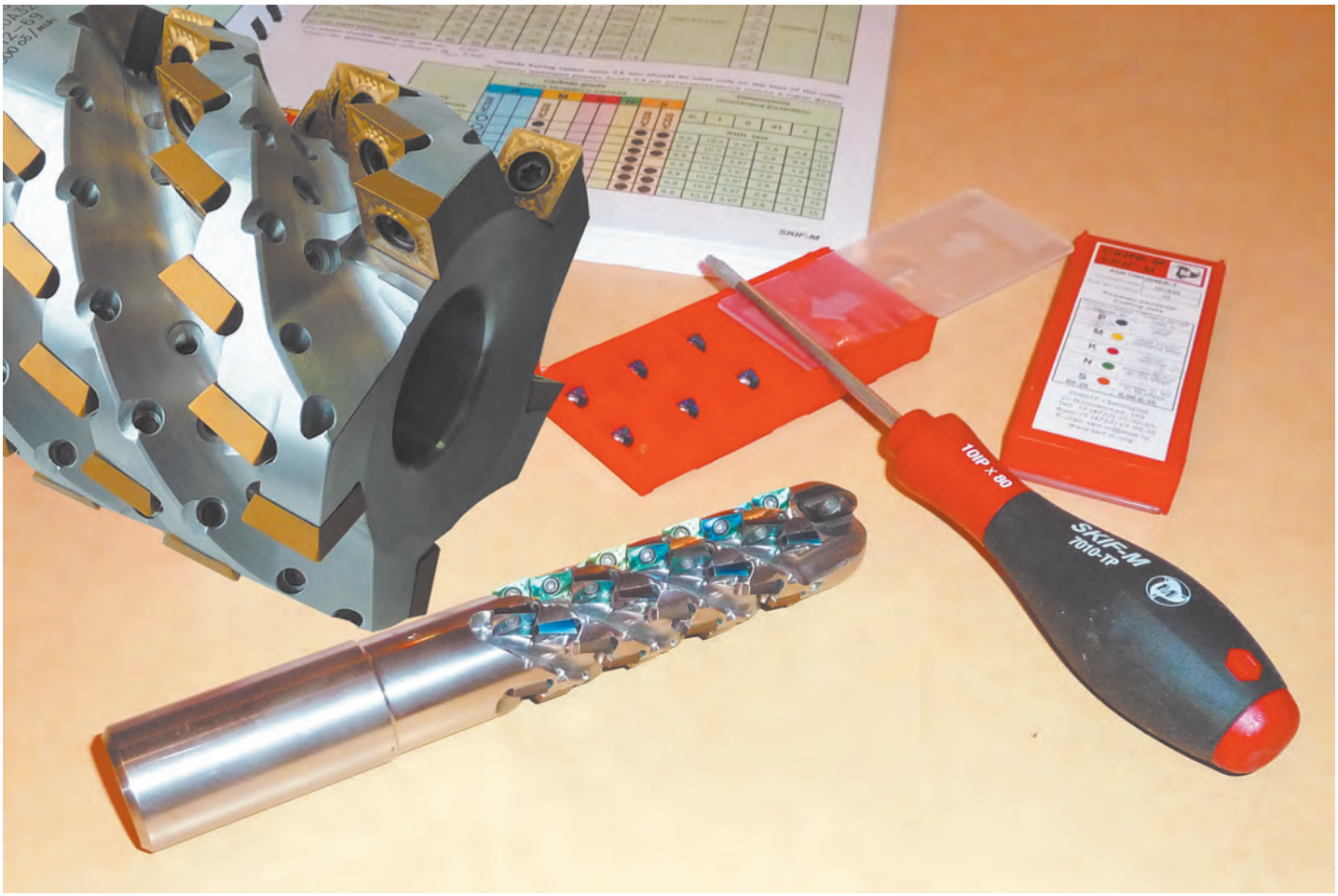
Depth of cut up to 12 mm

Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
Regular pitch													
MT290Z-063A22R05AX14	63	12	20	40	22	5	8500	0,5	AXGT140508EL	5		T401160-15P	7015-TP 5,5 Nm
MT290Z-080A27R07AX14	80	12	22	50	27	7	7500	0,9		7			
MT290Z-100A32R08AX14	100	12	25	50	32	8	7000	1,6		8			
MT290Z-125A40R09AX14	125	12	29	63	40	9	6000	3,0		9			

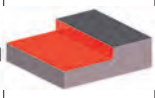
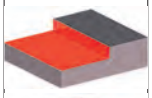
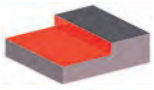


	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
								mm				
P	●	●	●									
M	○	●	●	●								
K					●							
N						●						
S		○	○	○			●					
H												
AXGT140508EL	■	■		■	■		■	12,7	14,9	5,4	4,7	0,8

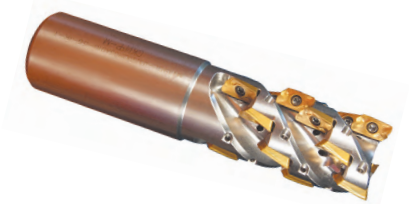
Code key


10IP x 80
SKIF-M
7010-TP

Long edge spiral flute endmills

Types of mills								
Code key	MT190L... BD08	MT190L... BD10	MT190L... BD12	MT190L... LN13	MT190L... SD08	MT190L... SD08/BD12	MT190L... SO12	MT190L...SO12/ AX14
Page	110	111	112	114	115	117	123	126
Insert type								
Insert pages	20	21	22	26	29	22, 29	37	37, 19
Workpiece material P	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●
M	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●
K				●			●	●
N	●●●	●●●	●●●		●	●	●●●	●
S	●●●	●●●	●●●	●●	●●●	●●●	●●●	●●●
H								
Tool lead angle	90°	90°	90°	90°	90°	90°	90°	90°
Range ⌀, mm	16-25	25-50	32-50	50-80	32-50	40-80	50-100	50-100
Depth of cut up to, mm	20-36	36-83	51-71	64-127	26-76	55-150	51-178	76-155
Working areas R	●●●	●●●	●●●	●●●	●●●	●●●	●●●	●●●
M	●	●	●●	●	●	●	●	●
F								
Plunging								
Internal coolant								
Application								
								

Long edge spiral flute endmills



MT190L...BD08, BD10 **Ø16-40**

High spiral flute long edge endmills with fully overlapping inserts.
For excellent full slotting performance and high performance sidemilling.
It is necessary continuous feed coolant supply at milling maximum depth of cut up.
Each cutting spiral-one effective teeth.

MT190L...BD12 **Ø32-50**

High spiral flute long edge endmills with fully overlapping inserts.
For excellent full slotting performance and high performance side milling.
Roughing slots and peripheral cutting with lubricant for output chip.
Smooth surfaces, minimum mismatch.
Radius inserts of range 0.8; 3.0 and 4.0 mm.
When using inserts with a radius larger than 0,8 mm, standard cutter bodies have to be modified.

MT190L...LN13 **Ø50-80**

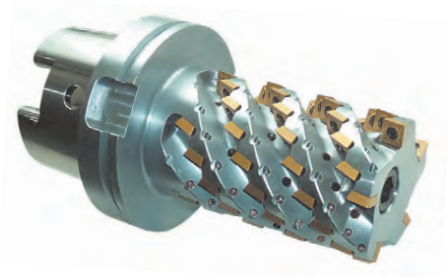
High spiral flute long edge endmills with fully overlapping inserts.
Each cutting spiral - one effective teeth.
High-performance side milling.
Positive geometry.
Exclusively high efficiency machining.
Tangentially arranged inserts, strong edge security.
*Four cutting edges per insert.

MT190L...SD08 **Ø32-50**

High spiral flute long edge endmills with fully overlapping inserts.
For excellent full slotting performance and high performance sidemilling.
It is necessary continuous feed coolant supply at milling maximum depth of cut up.
Each cutting spiral-one effective teeth.

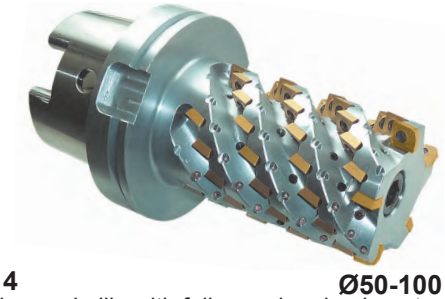
MT190L...SD08/BD12 **Ø40-80**

High spiral flute long edge endmills with fully overlapping inserts.
For excellent full slotting performance and high performance side milling.
Roughing slots and peripheral cutting with lubricant for output chip.
Smooth surfaces, minimum mismatch.
Radius inserts of range 0.8; 3.0 and 4.0 mm.
When using inserts with a radius larger than 0,8 mm, standard cutter bodies have to be modified.



MT190L...SO12 **Ø50-100**

High spiral flute long edge endmills with fully overlapping inserts.
For excellent full slotting performance and high performance side milling.
Interchangeable front end section for quick and easy restart after damage.
High helix angle for smooth cutting action.
Milling in general purpose milling machines.
Close pitch: high performance sidemilling.
Coarse pitch: excellent full slotting performance.



MT190L...SO12/AX14 **Ø50-100**

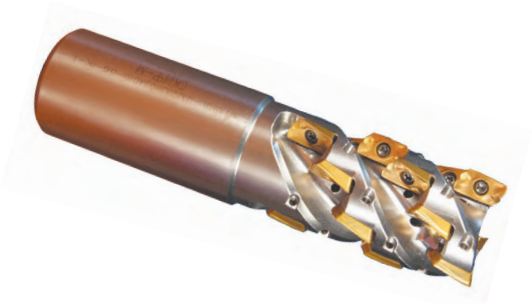
High spiral flute long edge endmills with fully overlapping inserts.
For excellent full slotting performance and high performance side milling.
Interchangeable front end section for quick and easy restart after damage.
High helix angle for smooth cutting action.
Milling in general purpose milling machines.
Close pitch: high performance sidemilling.
Coarse pitch: excellent full slotting performance.

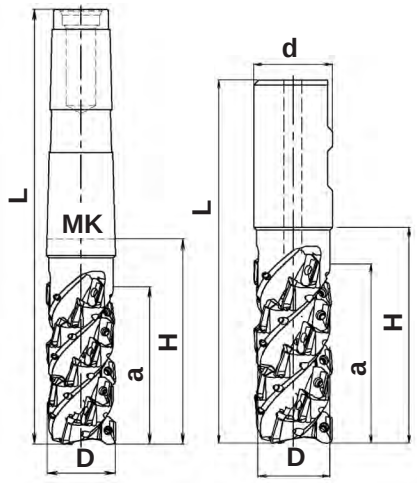
P	M	K	N	S

wide range of
workpiece materials

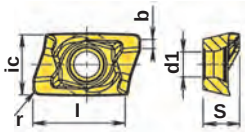
MT190L...BD08

Long edge spiral flute endmills





Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.			
MT190L-W...BD08-IK									**Straight shank with drive flat "Weldon" DIN 1835 B***				
MT190L-016W16R02BD08-20-IK	16	20	28	80	16	2	28000	0,1		6			
MT190L-020W20R03BD08-25-IK	20	25	36	86	20	3	25000	0,2	BDMT0803...R	12		T220455-07P	7007-TP 1,0 Nm
MT190L-025W25R04BD08-36-IK	25	36	50	106	25	4	23000	0,3		24			
MT190L-MK...BD08									**Morse taper shank with draw-bar thread DIN 228A / ISO 296**				
MT190L-016MK2R02BD08-20	16	20	32	96	MK2	2	28000	0,1		6			
MT190L-020MK3R03BD08-25	20	25	45	126	MK3	3	25000	0,2	BDMT0803...R	12		T220455-07P	7007-TP 1,0 Nm
MT190L-025MK3R04BD08-36	25	36	54	135	MK3	4	23000	0,3		24			



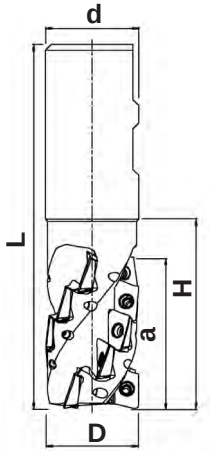
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

Code key	ic	l	S	d1	r	b
	mm					
BDMT080308ER	4,9	7,8	3,18	2,5	0,8	1,0
BDMT080308SR	4,9	7,8	3,18	2,5	0,8	1,0
BDMT080304ER	4,9	7,8	3,18	2,5	0,4	1,0
BDMT080304SR	4,9	7,8	3,18	2,5	0,4	1,0
BDMT080316SR	4,9	7,8	3,18	2,5	1,6	1,0

SKIF-M

MT190L...BD10

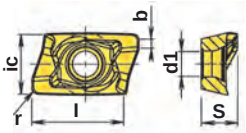
Long edge spiral flute endmills with internal coolant supply



Code key	Dimensions, mm						nmax						
	D	a	H	L	d	Z	RPM	kg		No.			
MT190L-W...BD10-IK									**Straight shank with drive flat "Weldon" DIN 1835 B***				
MT190L-025W25R02BD10-36-IK	25	36	50	105	25	2	33200	0,3		8			
MT190L-030W32R03BD10-36-IK	30	36	50	110	32	3	30200	0,51		12			
MT190L-030W32R03BD10-53-IK	30	53	68	128	32	3	26000	0,56		18			
MT190L-032W32R03BD10-36-IK	32	36	55	115	32	3	30200	0,4		12			
MT190L-032W32R03BD10-53-IK	32	53	68	128	32	3	26000	0,4		18			
MT190L-036W40R03BD10-36-IK	36	36	55	125	40	3	28700	0,7	BDMT10T3..	12		T250555-08AP	7008-TP 1,6 Nm
MT190L-036W40R04BD10-36-IK	36	36	55	125	40	4	28700	0,7		16			
MT190L-036W40R04BD10-53-IK	36	53	68	138	40	4	27700	0,7		24			
MT190L-040W40R03BD10-53-IK	40	53	68	138	40	3	27700	0,75		18			
MT190L-040W40R04BD10-53-IK	40	53	68	138	40	4	27700	0,7		24			
MT190L-040W40R04BD10-83-IK*	40	83	105	175	40	4	23000	1,8		36			

**For square shoulder milling only with ae ≤ 0.3xD*

**It is possible to design mills with straght shank cylindrical "Z"*
Inserts having radius more 0.8 mm should be used only on the face of the cutter

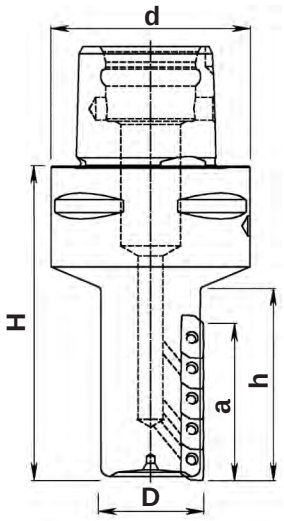


	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

Code key												ic	l	S	d1	r	b
												mm					
BDMT10T302ER	□	□		□		■	□					6,85	10,0	3,97	2,8	0,2	1,1
BDMT10T304ER	■	■		■		■	■					6,85	10,0	3,97	2,8	0,4	0,9
BDMT10T308ER	■	■		■		■	■					6,85	10,0	3,97	2,8	0,8	0,5
BDMT10T312ER	■	■		■		■	■					6,85	10,0	3,97	2,8	1,2	0,2
BDMT10T316ER	■	■		■		■	■					6,85	9,8	3,97	2,8	1,6	-
BDMT10T320ER	■	■		■		■	■					6,85	9,8	3,97	2,8	2,0	-
BDMT10T324ER	■	■		■		■	■					6,85	9,7	3,97	2,8	2,4	-
BDMT10T330ER	■	■		■		■	■					6,85	9,6	3,97	2,8	3,0	-
BDMT10T340ER	□	□		■		■	■					6,85	9,5	3,97	2,8	4,0	-

MT190L...BD10

Long edge spiral flute endmills with internal coolant supply

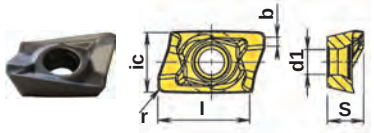


MT190L-C...BD10-h...H...-IK

Taper Hollow Shank PSK DIN 26623-1

Code key	Dimensions, mm D	a	h	H	d	Z	nmax RPM	kg		No.			
MT190L-025C03R02BD10-36-h050-H065-IK	25	36	50	65	32	2	25600	0,3	BDMT10T3..	8		T250555-08AP	7008-TP 1,6 Nm
MT190L-030C05R03BD10-36-h045-H072-IK	30	36	45	72	50	3	23000	0,51		12			
MT190L-030C05R03BD10-53-h063-H089-IK	30	53	63	89	50	3	23000	0,56		18			
MT190L-032C05R03BD10-36-h045-H072-IK	32	36	45	72	50	3	21700	0,4		12			
MT190L-032C05R03BD10-53-h063-H089-IK	32	53	63	89	50	3	21700	0,4		18			
MT190L-036C03R03BD10-36-H066-IK	36	36	-	66	32	3	20200	0,7		12			
MT190L-036C03R04BD10-36-H066-IK	36	36	-	66	32	4	20200	0,7		16			
MT190L-036C03R04BD10-53-H086-IK	36	53	-	86	32	4	20200	0,7		24			
MT190L-040C05R03BD10-53-h063-H089-IK	40	53	63	89	50	3	18900	0,75		18			
MT190L-040C05R04BD10-53-h063-H089-IK	40	53	63	89	50	4	18900	0,7		24			
MT190L-050C05R05BD10-36-h050-H072-IK	50	36	50	72	50	5	16600	1,3		20			
MT190L-050C05R05BD10-65-h072-H100-IK	50	65	72	100	50	5	16600	2,0		35			

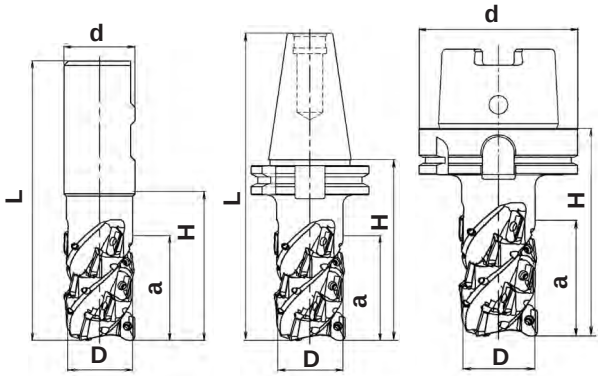
Inserts having radius more 0.8 mm should be used only on the face of the cutter



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X					
P	●	●	●									
M	○	●	●	●								
K					●							
N						●						
S		○	○	○			●					
H												

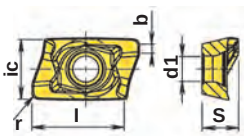
Code key	ic	l	S	d1	r	b
	mm					
BDMT10T302ER	6,85	10,0	3,97	2,8	0,2	1,1
BDMT10T304ER	6,85	10,0	3,97	2,8	0,4	0,9
BDMT10T308ER	6,85	10,0	3,97	2,8	0,8	0,5
BDMT10T312ER	6,85	10,0	3,97	2,8	1,2	0,2
BDMT10T316ER	6,85	9,8	3,97	2,8	1,6	-
BDMT10T320ER	6,85	9,8	3,97	2,8	2,0	-
BDMT10T324ER	6,85	9,7	3,97	2,8	2,4	-
BDMT10T330ER	6,85	9,6	3,97	2,8	3,0	-
BDMT10T340ER	6,85	9,5	3,97	2,8	4,0	-

MT190L...BD12
Long edge spiral flute endmills



Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
MT190L-W...BD12...-IK												**Straight shank with drive flat "Weldon" DIN 1835 B***	
MT190L-032W32R02BD12-41-IK	32	41	125	64	32	2	13200	0,6	BDMT1204...	8		T300755-09AP	7009-TP 2,2 Nm
MT190L-040W40R03BD12-51-IK	40	51	150	79	40	3	11300	1,0		15			
MT190L-NC...BD12...-IK												**7/24 taper shank to DIN 69871A**	
MT190L-040NC40R03BD12-51-IK	40	51	168	100	NC40	3	11300	1,3	BDMT1204...	15		T300755-09AP	7009-TP 2,2 Nm
MT190L-040NC50R03BD12-61-IK	40	61	222	120	NC50	3	11300	3,4		18			
MT190L-H..A...BD12...-IK												**Taper Hollow Shank HSK DIN 69893 Form A**	
MT190L-040H063AR03BD12-51-IK	40	51	164	101	63	3	11300	1,1	BDMT1204...	15		T300755-09AP	7009-TP 2,2 Nm
MT190L-050H063AR04BD12-41-IK	50	41	153	90	63	4	9900	1,3		16			
MT190L-050H100AR04BD12-41-IK	50	41	200	100	100	4	9900	2,7		16			

Inserts having radius more 0.8 mm should be used only on the face of the cutter



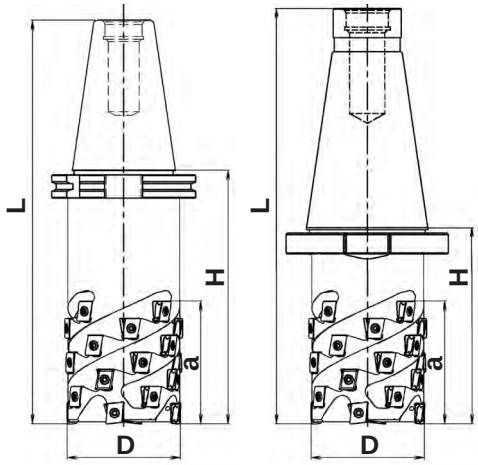
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

Code key	ic	l	S	d1	r	b
	mm					
BDMT120408ER	8,16	12,0	4,76	3,4	0,8	1,2
BDMT120430ER	8,16	12,0	4,76	3,4	0,8	0,9
BDMT120440ER	8,16	12,0	4,76	3,4	0,8	-

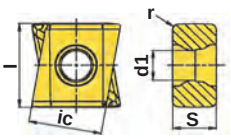
22 233 240

MT190L...LN13

Long edge spiral flute endmills

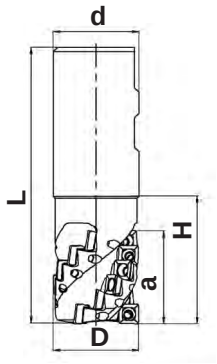


Code key	Dimensions, mm D	a	H	L	d	Z	kg		No.			
MT190L-NC50...LN13...												**7/24 taper shank to DIN 69871A**
MT190L-050NC50R03LN13-064-H100	50	64	100	202	NC50	3	4,3		18			
MT190L-050NC50R03LN13-085-H126	50	85	126	228	NC50	3	4,5		24			
MT190L-050NC50R03LN13-117-H149	50	117	149	251	NC50	3	4,9		33			
MT190L-063NC50R04LN13-085-H126	63	85	126	228	NC50	4	4,3	LNMU13M708SR	32		T401160-15P	7015-TP 5,5 Nm
MT190L-063NC50R04LN13-117-H188	63	117	188	290	NC50	4	5,4		44			
MT190L-080NC50R05LN13-085-H173	80	85	173	275	NC50	5	7,6		40			
MT190L-080NC50R05LN13-127-H200	80	127	200	302	NC50	5	7,9		60			
MT190L-SK50...LN13...												**7/24 taper shank to ISO 297/ DIN 2080**
MT190L-050SK50R03LN13-064-H085	50	64	85	212	SK50	3	4,3		18			
MT190L-050SK50R03LN13-085-H111	50	85	111	238	SK50	3	4,5		24			
MT190L-050SK50R03LN13-117-H134	50	117	134	261	SK50	3	4,9		33			
MT190L-063SK50R04LN13-085-H111	63	85	111	238	SK50	4	4,3	LNMU13M708SR	32		T401160-15P	7015-TP 5,5 Nm
MT190L-063SK50R04LN13-117-H173	63	117	173	300	SK50	4	5,4		44			
MT190L-080SK50R05LN13-085-H158	80	85	158	285	NC50	5	7,6		40			
MT190L-080SK50R05LN13-127-H185	80	127	185	312	NC50	5	7,9		60			

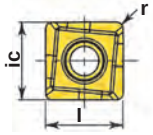


	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X										
P	●	●	●														
M	○	●	●	●													
K					●												
N						●											
S		○	○	○			●										
H																	
Code key														ic	l	S	d1	r
														mm				
LNMU13M708SR	■	■		■	■		■							11,0	13,0	7,0	4,5	0,8

MT190L...SD08
Long edge spiral flute endmills

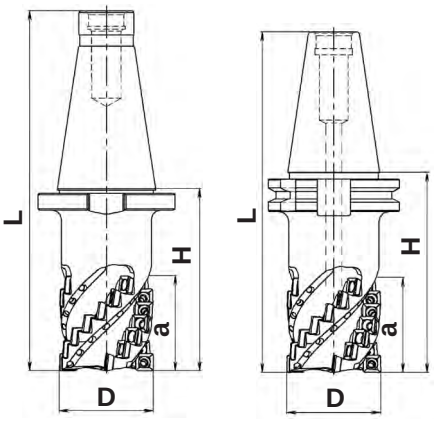


Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
MT190L-W...SD08													**Straight shank with drive flat "Weldon" DIN 1835 B***
MT190L-032W32R02SD08-26	32	26	110	50	32	2	13200	0,6	SD.T08T308.R	8		T300755-09AP	7009-TP 2,2 Nm
MT190L-032W32R02SD08-38	32	38	110	50	32	2	13200	0,5		12			
MT190L-040W32R03SD08-45	40	45	120	60	32	3	11300	0,7		21			
MT190L-050W40R04SD08-51	50	51	140	70	40	4	9900	1,5		32			

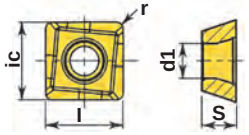


Code key	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
														mm				
SDMT08T308ER	●	○			○		■	■		■	□	■	■	9,0	9,0	3,97	3,4	0,8
SDHT08T308FR-AL												■		9,0	9,0	3,97	3,4	0,8

MT190L...SD08
Long edge spiral flute endmills

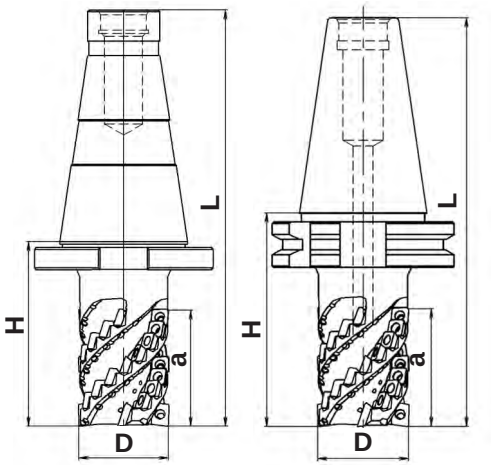


Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
MT190L-SK...SD08													**7/24 taper shank to ISO 297/ DIN 2080**
MT190L-040SK40R03SD08-45	40	45	180	87	SK40	3	13200	1,3	SD.T08T308.R	21		T300755-09AP	7009-TP 2,2 Nm
MT190L-040SK40R02SD08-57	40	57	180	87	SK40	2	13200	1,3		18			
MT190L-040SK40R03SD08-57	40	57	180	87	SK40	3	13200	1,3		27			
MT190L-050SK50R04SD08-51	50	51	255	128	SK50	4	11300	3,7		32			
MT190L-050SK50R03SD08-76	50	76	255	128	SK50	3	9900	3,7		36			
MT190L-050SK50R04SD08-76	50	76	255	128	SK50	4	9900	3,7		48			
MT190L-NC...SD08-IK													**7/24 taper shank to DIN 69871A**
MT190L-040NC40R03SD08-45-IK	40	45	163	95	NC40	3	13200	1,3	SD.T08T308.R	21	💧	T300755-09AP	7009-TP 2,2 Nm
MT190L-040NC40R02SD08-57-IK	40	57	163	95	NC40	2	13200	1,3		18	💧		
MT190L-040NC40R03SD08-57-IK	40	57	163	95	NC40	3	13200	1,3		27	💧		
MT190L-050NC50R04SD08-51-IK	50	51	230	128	NC50	4	11300	3,7		32	💧		
MT190L-050NC50R03SD08-76-IK	50	76	230	128	NC50	3	9900	3,7		36	💧		
MT190L-050NC50R04SD08-76-IK	50	76	230	128	NC50	4	9900	3,7		48	💧		

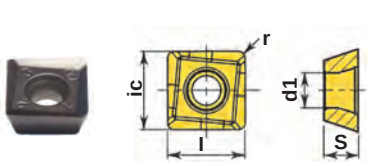


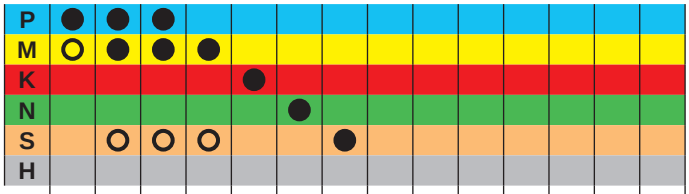
Code key	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
														mm				
SDMT08T308ER	●	○			○		■	■		■	□	■	■	9,0	9,0	3,97	3,4	0,8
SDHT08T308FR-AL												■		9,0	9,0	3,97	3,4	0,8

MT190L...SD08/BD12
Long edge spiral flute endmills



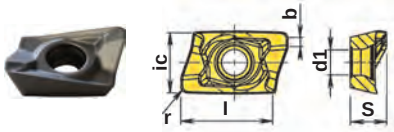
Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.			
MT190L-SK...SD08/BD12													**7/24 taper shank to ISO 297/ DIN 2080**
MT190L-040SK50R03SD08/BD12-055	40	55	103	230	SK50	3	17000	2,4	BDMT1204.. + SD.T08T308.R	3+21		T300755-09AP	7009-TP 2,2 Nm
MT190L-040SK50R03SD08/BD12-087	40	87	133	260	SK50	3	16500	2,7		3+36			
MT190L-040SK50R03SD08/BD12-099	40	99	143	270	SK50	3	16500	2,7		3+42			
MT190L-050SK50R04SD08/BD12-074	50	74	123	250	SK50	4	15500	3,7		4+40			
MT190L-050SK50R04SD08/BD12-087	50	87	133	260	SK50	4	15000	3,9		4+48			
MT190L-050SK50R04SD08/BD12-099	50	99	143	270	SK50	4	15000	3,9		4+56			
MT190L-NC...SD08/BD12-IK													**7/24 taper shank to DIN 69871A**
MT190L-040NC50R03SD08/BD12-055-IK	40	55	103	205	NC50	3	17000	2,4	BDMT1204.. + SD.T08T308.R	3+21		T300755-09AP	7009-TP 2,2 Nm
MT190L-040NC50R03SD08/BD12-087-IK	40	87	133	235	NC50	3	16500	2,7		3+36			
MT190L-040NC50R03SD08/BD12-099-IK	40	99	143	245	NC50	3	16500	2,7		3+42			
MT190L-050NC50R04SD08/BD12-074-IK	50	74	123	225	NC50	4	15500	3,7		4+40			
MT190L-050NC50R04SD08/BD12-087-IK	50	87	133	235	NC50	4	15000	3,9		4+48			
MT190L-050NC50R04SD08/BD12-099-IK	50	99	143	245	NC50	4	15000	3,9		4+56			





Code key

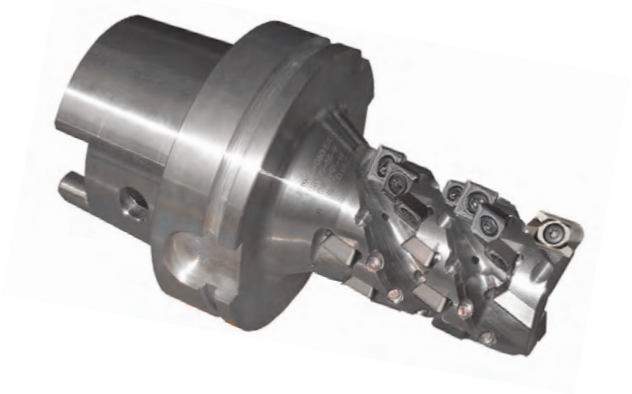
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
								mm					
SDMT08T308ER	■	■		■	□	■	■	9,0	9,0	3,97	3,4	0,8	-
SDHT08T308FR-AL						■		9,0	9,0	3,97	3,4	0,8	-

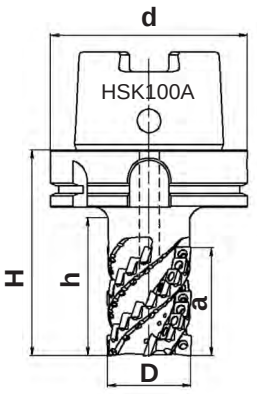


BDMT120408ER	■	■		■		■	■	8,16	12,0	4,76	3,4	0,8	1,2
BDMT120430ER	■	■		■		■	■	8,16	12,0	4,76	3,4	3,0	0,9
BDMT120440ER	□	■		■		■	■	8,16	12,0	4,76	3,4	4,0	-

MT190L...SD08/BD12

Long edge spiral flute endmills with internal coolant supply

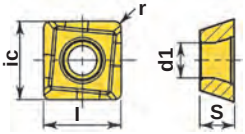




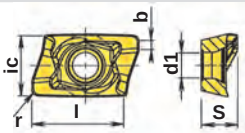
MT190L-H100A...SD08/BD12-IK

Taper Hollow Shank HSK DIN 69893 Form A

Code key	Dimensions, mm D	a	H	h	d	Z	nmax RPM	kg	+	No.			
MT190L-040H100AR03SD08/BD12-055-IK	40	55	114	70	100	3	17000	2,4	BDMT1204.. + SD.T08T308.R	3+21		T300755-09AP	7009-TP 2,2 Nm
MT190L-040H100AR03SD08/BD12-087-IK	40	87	144	100	100	3	16500	2,7		3+36			
MT190L-040H100AR03SD08/BD12-099-IK	40	99	154	110	100	3	16500	2,7		3+42			
MT190L-050H100AR04SD08/BD12-074-IK	50	74	129	85	100	4	15500	3,7		4+40			
MT190L-050H100AR04SD08/BD12-087-IK	50	87	131	87	100	4	15000	3,9		4+48			
MT190L-050H100AR04SD08/BD12-099-IK	50	99	154	125	100	4	15000	3,9		4+56			

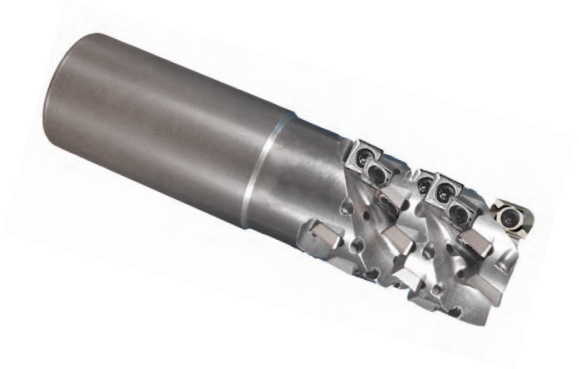


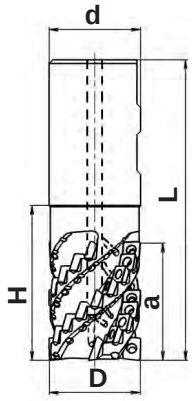
Code key	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
														mm					
SDMT08T308ER	●	●	●	●	○	○	■	■		■	□	■	■	9,0	9,0	3,97	3,4	0,8	-
SDHT08T308FR-AL	●	○	●	●	○	○						■		9,0	9,0	3,97	3,4	0,8	-



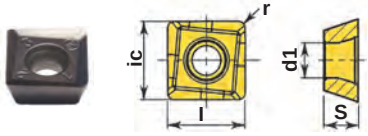
BDMT120408ER	●	○	●	●	○	○	■	■		■		■	■	8,16	12,0	4,76	3,4	0,8	1,2
BDMT120430ER	●	○	●	●	○	○	■	■		■		■	■	8,16	12,0	4,76	3,4	3,0	0,9
BDMT120440ER	●	○	●	●	○	○	□	■		■		■	■	8,16	12,0	4,76	3,4	4,0	-

MT190L...SD08/BD12
Long edge spiral flute endmills

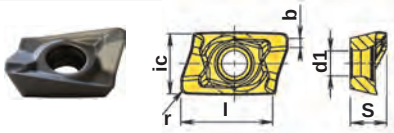




Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.					
MT190L-W...SD08/BD12...IK												**Straight shank with drive flat "Weldon" DIN 1835 B***			
MT190L-040W40R03SD08/BD12-055-IK	40	55	80	150	40	3	17000	1,0	BDMT1204.. + SD.T08T308.R	3+21		-	-	T300755-09AP	7009-TP 2,2 Nm
MT190L-040W40R03SD08/BD12-087-IK	40	87	110	180	40	3	17000	1,2		3+36		-	-		
MT190L-040W40R03SD08/BD12-099-IK	40	99	120	190	40	3	17000	1,3		3+42		-	-		
MT190L-050W50R04SD08/BD12-074-IK	50	74	100	180	50	4	13500	2,2		4+40		-	-		
MT190L-050W50R04SD08/BD12-087-IK	50	87	115	195	50	4	13500	2,3		4+48		-	-		
MT190L-050W50R04SD08/BD12-100-IK	50	99	125	205	50	4	13500	2,4		4+56		-	-		
MT190L-W...SD08/BD12...+18A-IK															
MT190L-050W50R04SD08/BD12-56+18A-IK	50	74	100	180	50	4	13500	2,0	BDMT1204.. + SD.T08T308.R	4+40		E290L-X050R04SD08/BD12-IK	H103500-08S-IK	T300755-09AP	7009-TP 2,2 Nm
MT190L-050W50R04SD08/BD12-69+18A-IK	50	87	115	195	50	4	13500	2,2		4+48					
MT190L-050W50R04SD08/BD12-81+18A-IK	50	99	125	205	50	4	13500	2,3		4+56					



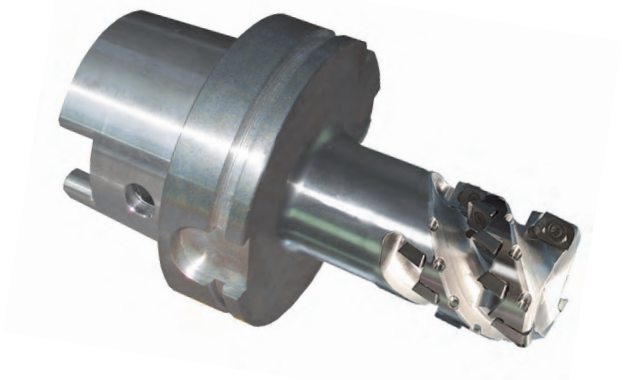
Code key	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
														mm					
SDMT08T308ER	●	●					■	■		■	□	■	■	9,0	9,0	3,97	3,4	0,8	-
SDHT08T308FR-AL												■		9,0	9,0	3,97	3,4	0,8	-

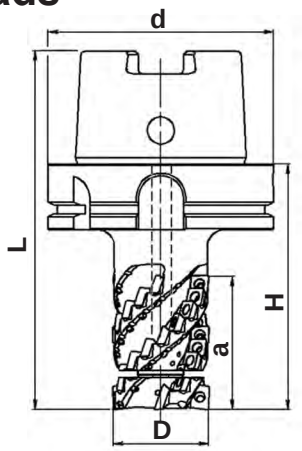


BDMT120408ER	●	●		●		●	■	■		■		■	■	8,16	12,0	4,76	3,4	0,8	1,2
BDMT120430ER	●	●		●		●	■	■		■		■	■	8,16	12,0	4,76	3,4	3,0	0,9
BDMT120440ER	●	●		●		●	□	■		■		■	■	8,16	12,0	4,76	3,4	4,0	-

MT190L...SD08/BD12

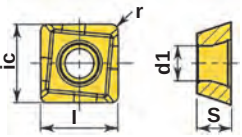
Long edge spiral flute endmills with front end cutter heads with internal coolant supply



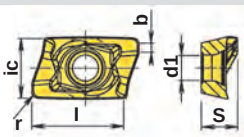


MT190L..H.A..SD08/BD12..+18A-IK — *Regular pitch* — Taper Hollow Shank HSK DIN 69893 Form A

Code key	D	a	H	L	d	Z	nmax RPM	kg	+	No.				
MT190L-050H100AR04SD08/BD12-056+18A-IK	50	74	109	159	100	4	15000	3,1	BDMT1204.. + SD.T08T308.R	4+40				
MT190L-050H100AR04SD08/BD12-069+18A-IK	50	87	144	194	100	4	14500	3,6		4+48		E290L-X050R04SD08/BD12-IK	H103500-08S-IK	
MT190L-050H100AR04SD08/BD12-081+18A-IK	50	99	154	204	100	4	14500	3,7		4+56				
MT190L-063H100AR05SD08/BD12-069+18A-IK	63	87	144	194	100	5	14000	4,1		5+60				T300755-09AP
MT190L-063H100AR05SD08/BD12-081+18A-IK	63	99	154	204	100	5	14000	4,3		5+70				
MT190L-063H100AR05SD08/BD12-094+18A-IK	63	112	172	222	100	5	13500	4,7		5+80		E290L-X063R05SD08/BD12-IK	H123600-10S-IK	
MT190L-063H125AR05SD08/BD12-069+18A-IK	63	87	144	207	125	5	12500	4,7		5+60				
MT190L-063H125AR05SD08/BD12-094+18A-IK	63	112	172	235	125	5	11500	4,7		5+80				
MT190L-080H125AR06SD08/BD12-094+18A-IK	80	112	172	235	125	6	10500	6,3		6+96		E290L-X080R06SD08/BD12-IK	H164500-14S-IK	
MT190L-080H125AR06SD08/BD12-132+18A-IK	80	150	186	249	125	6	10500	8,0		6+132				
Close pitch														
MT190L-063H100AR06SD08/BD12-069+18A-IK	63	87	144	194	100	6	14500	4,1	BDMT1204.. + SD.T08T308.R	6+72				
MT190L-063H100AR06SD08/BD12-081+18A-IK	63	99	154	204	100	6	14500	4,2		6+84				
MT190L-063H100AR06SD08/BD12-094+18A-IK	63	112	172	222	100	6	13500	4,7		6+96		E290L-X063R06SD08/BD12-IK	H123600-10S-IK	T300755-09AP
MT190L-063H125AR06SD08/BD12-069+18A-IK	63	87	144	207	125	6	13500	4,8		6+72				
MT190L-063H125AR06SD08/BD12-094+18A-IK	63	112	172	235	125	6	12500	5,0		6+96				
MT190L-080H125AR07SD08/BD12-094+18A-IK	80	112	172	235	125	7	10500	6,3		7+112		E290L-X080R07SD08/BD12-IK	H164500-14S-IK	
MT190L-080H125AR07SD08/BD12-132+18A-IK	80	150	200	263	125	7	10500	8,0		7+154				



Code key	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
														mm					
SDMT08T308ER	●	○					■	■		■	□	■	■	9,0	9,0	3,97	3,4	0,8	-
SDHT08T308FR-AL												■		9,0	9,0	3,97	3,4	0,8	-

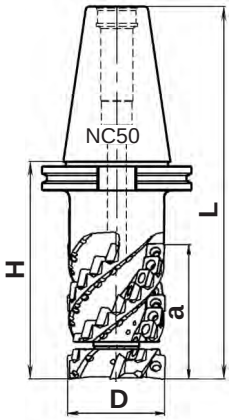


BDMT120408ER	●	○					■	■		■		■	■	8,16	12,0	4,76	3,4	0,8	1,2
BDMT120430ER	●	○					■	■		■		■	■	8,16	12,0	4,76	3,4	3,0	0,9
BDMT120440ER	●	○					□	■		■		■	■	8,16	12,0	4,76	3,4	4,0	-

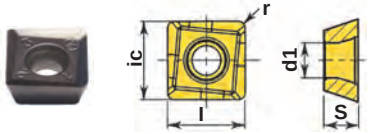
SKIF-M

MT190L...SD08/BD12

Long edge spiral flute endmills with front end cutter heads with internal coolant supply

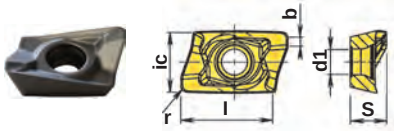


Code key	Dimensions, mm D	a	H	L	Z	nmax RPM	kg	+	No.					
MT190L..NC50..SD08/BD12..+18A-IK	***Regular pitch***												**7/24 taper shank to DIN 69871A**	
MT190L-050NC50R04SD08/BD12-056+18A-IK	50	74	119	221	4	15000	3,1	BDMT1204.. + SD.T08T308.R	4+40		E290L-X050R04SD08/BD12-IK	H103500-08S-IK	T300755-09AP	7009-TP 2,2 Nm
MT190L-050NC50R04SD08/BD12-069+18A-IK	50	87	133	235	4	14500	3,6		4+48					
MT190L-050NC50R04SD08/BD12-081+18A-IK	50	99	143	245	4	14500	3,7		4+56					
MT190L-063NC50R05SD08/BD12-069+18A-IK	63	87	133	235	5	14000	4,1		5+60		E290L-X063R05SD08/BD12-IK	H123600-10S-IK		
MT190L-063NC50R05SD08/BD12-081+18A-IK	63	99	143	245	5	14000	4,3		5+70					
MT190L-063NC50R05SD08/BD12-094+18A-IK	63	112	163	265	5	13500	4,7		5+80					
MT190L-080NC50R06SD08/BD12-094+18A-IK	80	112	163	265	6	10500	6,3		6+96		E290L-X080R06SD08/BD12-IK	H164500-14S-IK		
MT190L-080NC50R06SD08/BD12-132+18A-IK	80	150	186	288	6	10500	8,0		6+132					
	Close pitch												**7/24 taper shank to DIN 69871A**	
MT190L-063NC50R06SD08/BD12-069+18A-IK	63	87	133	235	6	14500	4,1	BDMT1204.. + SD.T08T308.R	6+72		E290L-X063R06SD08/BD12-IK	H123600-10S-IK	T300755-09AP	7009-TP 2,2 Nm
MT190L-063NC50R06SD08/BD12-081+18A-IK	63	99	143	245	6	14500	4,2		6+84					
MT190L-063NC50R06SD08/BD12-094+18A-IK	63	112	163	265	6	13500	4,7		6+96					
MT190L-080NC50R07SD08/BD12-094+18A-IK	80	112	163	265	7	10500	6,3		7+112		E290L-X080R07SD08/BD12-IK	H164500-14S-IK		
MT190L-080NC50R07SD08/BD12-132+18A-IK	80	150	186	288	7	10500	8,0		7+154					



	P	M	K	N	S	H
HCP30X	●	○				
HCP40X	●	●			○	
HCM25X	●	●			○	
HCM30X	●	●			○	
HCK10X			●			
HCN10X				●		
HCS35X					●	

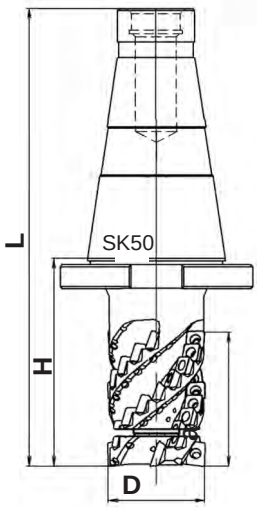
Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
								mm					
SDMT08T308ER	■	■		■	□	■	■	9,0	9,0	3,97	3,4	0,8	-
SDHT08T308FR-AL						■		9,0	9,0	3,97	3,4	0,8	-



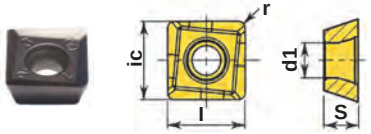
BDMT120408ER	■	■		■		■	■	8,16	12,0	4,76	3,4	0,8	1,2
BDMT120430ER	■	■		■		■	■	8,16	12,0	4,76	3,4	3,0	0,9
BDMT120440ER	□	■		■		■	■	8,16	12,0	4,76	3,4	4,0	-

MT190L...SD08/BD12

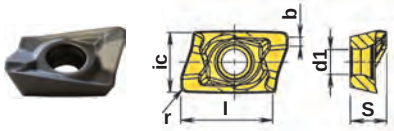
Long edge spiral flute endmills with front end cutter heads



Code key	Dimensions, mm D	a	H	L	Z	nmax RPM	kg	+	No.					
MT190L..SK50..SD08/BD12..+18A											**7/24 taper shank to ISO 297/ DIN 2080**			
MT190L-050SK50R04SD08/BD12-056+18A	50	74	119	236	4	15000	3,1	BDMT1204.. + SD.T08T308.R	4+40		E290L-X050R04SD08/BD12	H10350008S	T300755-09AP	7009-TP 2,2 Nm
MT190L-050SK50R04SD08/BD12-069+18A	50	87	133	260	4	14500	3,6		4+48					
MT190L-050SK50R04SD08/BD12-081+18A	50	99	143	270	4	14500	3,7		4+56					
MT190L-063SK50R05SD08/BD12-069+18A	63	87	133	260	5	14000	4,1		5+60		E290L-X063R05SD08/BD12	H12360010S		
MT190L-063SK50R05SD08/BD12-081+18A	63	99	143	270	5	14000	4,3		5+70					
MT190L-063SK50R05SD08/BD12-094+18A	63	112	163	290	5	13500	4,7		5+80					
MT190L-080SK50R06SD08/BD12-094+18A	80	112	163	290	6	10500	6,3		6+96		E290L-X080R06SD08/BD12	H16450014S		
MT190L-080SK50R06SD08/BD12-132+18A	80	150	186	313	6	10500	8,0		6+132					



	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
Code key														mm					
SDMT08T308ER	●	○					■	■		■	□	■	■	9,0	9,0	3,97	3,4	0,8	-
SDHT08T308FR-AL												■		9,0	9,0	3,97	3,4	0,8	-

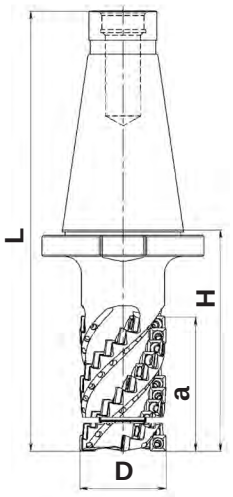


BDMT120408ER			■	■		■		■	■					8,16	12,0	4,76	3,4	0,8	1,2
BDMT120430ER			■	■		■		■	■					8,16	12,0	4,76	3,4	3,0	0,9
BDMT120440ER			□	■		■		■	■					8,16	12,0	4,76	3,4	4,0	-

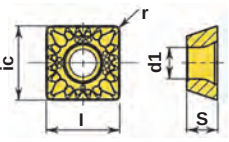
29 22 233 240

MT190L...SO12

Long edge spiral flute endmills with front end cutter heads



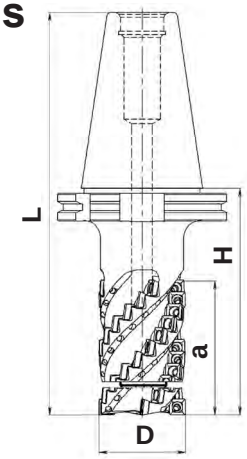
Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.					
MT190L-SK..SO12+21A	***Regular pitch***											**7/24 taper shank to ISO 297/ DIN 2080**			
MT190L-050SK50R02SO12-053+21A	50	74	128	255	SK50	2	14500	3,7	SO.T120408...	16		E289L-X050R02SO12	H103500-08S	T401160-15P	7015-TP 5,5 Nm
MT190L-063SK50R03SO12-070+21A	63	91	138	265	SK50	3	12000	4,3		27		E289L-X063R03SO12	H124000-10S		
MT190L-080SK50R03SO12-088+21A	80	109	158	285	SK50	3	10500	6,0		33		E289L-X080R03SO12	H165000-14S		
MT190L-100SK50R04SO12-095+21A	100	116	168	295	SK50	4	9000	8,8		48		E289L-X100R04SO12	H165000-14S		
	Close pitch														
MT190L-050SK50R03SO12-053+21A	50	74	128	255	SK50	3	14500	3,7		24		E289L-X050R03SO12	H103500-08S		
MT190L-063SK50R04SO12-070+21A	63	91	138	265	SK50	4	12000	4,3		36		E289L-X063R04SO12	H124000-10S		
MT190L-080SK50R05SO12-088+21A	80	109	158	285	SK50	5	10500	6,0		55		E289L-X080R05SO12	H165000-14S		
MT190L-080SK50R05SO12-132+21A	80	153	190	315	SK50	5	10500	7,6		80		E289L-X080R05SO12	H165000-14S		



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
Code key								mm				
SOMT120408SN-S	■	■			■			12,7	12,7	4,76	4,7	0,8
SOMT120408EN-T				■			■	12,7	12,7	4,76	4,7	0,8
SOHT120408FN-AL						■		12,7	12,7	4,76	4,7	0,8

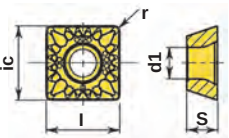
MT190L...SO12

Long edge spiral flute endmills with front end cutter heads with internal coolant supply



Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.						
MT190L-NC..SO12+21A-IK ***Regular pitch***																**7/24 taper shank to DIN 69871A**
MT190L-050NC50R02SO12-053+21A-IK	50	74	128	230	NC50	2	14500	3,7	SO.T120408...	16		E289L-X050R02SO12-IK	H103500-08S-IK	T401160-15P	7015-TP 5,5 Nm	
MT190L-063NC50R03SO12-070+21A-IK*	63	91	138	240	NC50	3	12000	4,3		27		E289L-X063R03SO12-IK	H124000-10S-IK			
MT190L-080NC50R03SO12-088+21A-IK*	80	109	158	260	NC50	3	10500	6,0		33		E289L-X080R03SO12-IK	H165000-14S-IK			
MT190L-100NC50R04SO12-095+21A-IK*	100	116	168	270	NC50	4	9000	8,8		48		E289L-X100R04SO12-IK	H165000-14S-IK			
Close pitch																
MT190L-050NC50R03SO12-053+21A-IK	50	74	128	230	NC50	3	14500	3,7		24		E289L-X050R03SO12-IK	H103500-08S-IK			
MT190L-063NC50R04SO12-070+21A-IK*	63	91	138	265	NC50	4	12000	4,3		36		E289L-X063R04SO12-IK	H124000-10S-IK			
MT190L-080NC50R05SO12-088+21A-IK*	80	109	158	285	NC50	5	10500	6,0		55		E289L-X080R05SO12-IK	H165000-14S-IK			
MT190L-080NC50R05SO12-132+21A-IK*	80	153	190	315	NC50	5	10500	7,6		80		E289L-X080R05SO12-IK	H165000-14S-IK			
MT190L-080NC50R06SO12-088+21A-IK*	80	109	158	285	NC50	6	10500	6,0		66		E289L-X080R06SO12-IK	H165000-14S-IK			

Mills additionally equipped with nozzles **F-M4x5.5x1K*

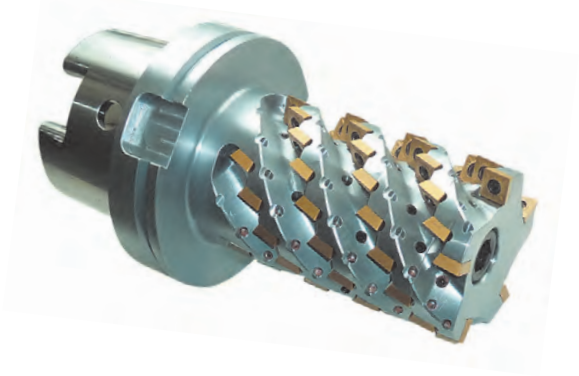


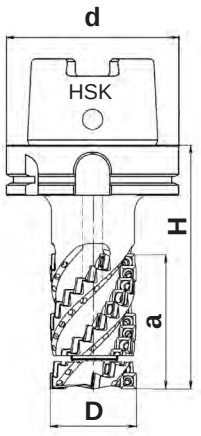
Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
								mm				
SOMT120408SN-S	■	■			■			12,7	12,7	4,76	4,7	0,8
SOMT120408EN-T				■			■	12,7	12,7	4,76	4,7	0,8
SOHT120408FN-AL						■		12,7	12,7	4,76	4,7	0,8

SKIF-M

MT190L...SO12

Long edge spiral flute endmills with front end cutter heads with internal coolant supply





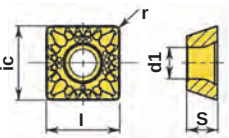
Code key	Dimensions, mm D	a	H	d	Z	nmax RPM	kg		No.					
MT190L-H.A..SO12+21A-IK	***Regular pitch***										**Taper Hollow Shank HSK DIN 69893 Form A**			
MT190L-050H100AR02SO12-053+21A-IK	50	74	140	100	2	14500	3,7		16		E289L-X050R02SO12-IK	H103500-08S-IK		
MT190L-063H100AR03SO12-070+21A-IK*	63	91	150	100	3	12000	4,3		27		E289L-X063R03SO12-IK	H124000-10S-IK		
MT190L-063H125AR03SO12-088+21A-IK*	63	109	150	125	3	12000	6,0		33		E289L-X063R03SO12-IK	H124000-10S-IK		
MT190L-080H125AR03SO12-095+21A-IK*	80	116	170	125	3	10500	8,8		48		E289L-X080R03SO12-IK	H165000-14S-IK		
	Close pitch													
MT190L-050H100AR03SO12-053+21A-IK	50	74	140	100	3	14500	3,7		24					
MT190L-050H125AR03SO12-039+21A-H130-IK	50	60	130	125	3	14000	3,7		18		E289L-X050R03SO12-IK	H103500-08S-IK		
MT190L-050H125AR03SO12-039+21A-H160-IK	50	60	160	125	3	14000	3,8		18					
MT190L-050.8H125AR03SO12-059+21A-H164-IK	50.8	80	164	125	3	11300	3,7		24		E289L-X050.8R03SO12-IK	H103500-08S-IK		
MT190L-050.8H125AR03SO12-059+21A-H215-IK	50.8	80	215	125	3	10300	4,3		24					
MT190L-063H100AR04SO12-070+21A-IK*	63	91	150	100	4	12000	4,3		36					
MT190L-063H125AR04SO12-049+21A-IK*	63	70	160	125	4	12000	6,0		28		E289L-X063R04SO12-IK	H124000-10S-IK		
MT190L-063H125AR04SO12-088+21A-IK*	63	109	150	125	4	12000	7,6		55					
MT190L-080H125AR05SO12-049+21A-H190-IK*	80	70	190	125	5	10500	7,6		35					
MT190L-080H125AR05SO12-095+21A-IK*	80	116	168	125	5	10500	6,0		60		E289L-X080R05SO12-IK	H165000-14S-IK		
MT190L-080H125AR05SO12-093+21A-H250-IK*	80	114	250	125	5	10500	8,8		60					
MT190L-080H125AR05SO12-126+21A-IK*	80	147	194	125	5	10500	7,7		75					
MT190L-080H125AR05SO12-137+41A-H194-IK*	80	178	320	125	5	10500	7,7		90		E289L-X080R05SO12-41-IK	H167000-14S-IK		
MT190L-080H125AR06SO12-049+21A-H190-IK*	80	70	190	125	6	10500	7,6		42		E289L-X080R06SO12-IK	H165000-14S-IK		

SO.T120408...

T401160-15P

7015-TP 5,5 Nm

Mills additionally equipped with nozzles **F-M4x5.5x1K*

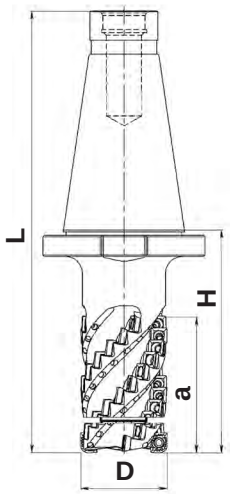


	P	M	K	N	S	H
HCP30X	●	●				
HCP40X	●	●				
HCM25X	●	●			○	
HCM30X	●	●			○	
HCK10X			●			
HCN10X				●		
HCS35X					●	

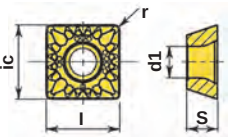
Code key	ic	l	S	d1	r
	mm				
SOMT120408SN-S	12,7	12,7	4,76	4,7	0,8
SOMT120408EN-T	12,7	12,7	4,76	4,7	0,8
SOHT120408FN-AL	12,7	12,7	4,76	4,7	0,8

MT190L...SO12/AX14

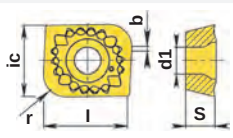
Long edge spiral flute endmills with front end cutter heads



Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.					
MT190L-SK..SO12/AX14+23A	***Regular pitch***												**7/24 taper shank to ISO 297/ DIN 2080**		
MT190L-050SK50R02SO12/AX14-053+23A	50	76	128	255	SK50	2	14500	3,7	SO.T120408... + AXGT1405..ER	14+2		E290L-X050R02SO12/AX14	H103500-08S	T401160-15P	7015-TP 5,5 Nm
MT190L-063SK50R03SO12/AX14-070+23A	63	93	138	265	SK50	3	12000	4,3		24+3		E290L-X063R03SO12/AX14	H124000-10S		
MT190L-080SK50R03SO12/AX14-088+23A	80	111	158	285	SK50	3	10500	6,0		30+3		E290L-X080R03SO12/AX14	H165000-14S		
MT190L-100SK50R04SO12/AX14-095+23A	100	118	168	295	SK50	4	9000	8,8		45+3		E290L-X100R04SO12/AX14	H165000-14S		
	Close pitch														
MT190L-050SK50R03SO12/AX14-053+23A	50	76	128	255	SK50	3	14500	3,7		21+3		E290L-X050R03SO12/AX14	H103500-08S		
MT190L-063SK50R04SO12/AX14-070+23A	63	93	138	265	SK50	4	12000	4,3		32+4		E290L-X063R04SO12/AX14	H124000-10S		
MT190L-080SK50R05SO12/AX14-088+23A	80	111	158	285	SK50	5	10500	6,0		50+5		E290L-X080R05SO12/AX14	H165000-14S		
MT190L-080SK50R05SO12/AX14-132+23A	80	155	190	315	SK50	5	10500	7,6		75+5		E290L-X080R05SO12/AX14	H165000-14S		



	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
Code key														mm					
SOMT120408SN-S	●	●	●		●		■	■			■			12,7	12,7	4,76	4,7	0,8	-
SOMT120408EN-T	●	●	●	●						■			■	12,7	12,7	4,76	4,7	0,8	-
SOHT120408FN-AL	○	●	●	●								■		12,7	12,7	4,76	4,7	0,8	-

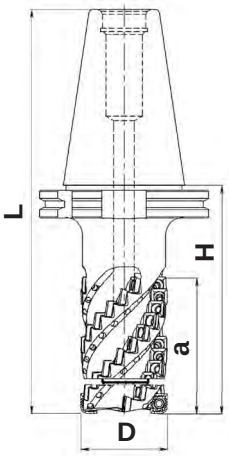


AXGT140508ER	●	●	●	■	□	■	■							12,7	14,9	5,4	4,7	0,8	1,4
AXGT140512ER	●	○	●	■	□	■	■							12,7	14,9	5,4	4,7	1,2	0,9
AXGT140516ER	●	●	●	□	□	□	□							12,7	14,9	5,4	4,7	1,6	1,4
AXGT140520ER	●	●	●	□	□	■	□							12,7	14,9	5,4	4,7	2,0	1,0
AXGT140525ER	●	○	●	□	□	□	□							12,7	14,8	5,4	4,7	2,5	0,6
AXGT140530ER	●	●	●	■	□	□	■							12,7	14,8	5,4	4,7	3,0	0,8
AXGT140540ER	●	●	●	■	□	□	■							12,7	14,8	5,4	4,7	4,0	0,5
AXGT140550ER	●	●	●	□	□	■	■							12,7	14,7	5,4	4,7	5,0	0,4
AXGT140563ER	○	●	●	□	□	□	■							12,7	14,7	5,4	4,7	6,3	0,4

SKIF-M

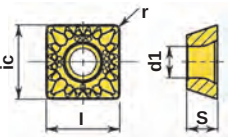
MT190L...SO12/AX14

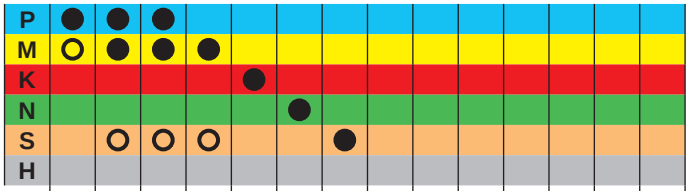
Long edge spiral flute endmills with front end cutter heads with internal coolant supply



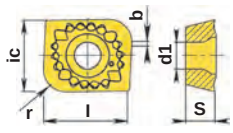
Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg	SO.T120408... + AXGT1405..ER	No.				T401160-15P	7015-TP 5,5 Nm
MT190L-NC..SO12/AX14+23A-IK ***Regular pitch***													**7/24 taper shank to DIN 69871A**		
MT190L-050NC50R02SO12/AX14-053+23A-IK	50	76	128	230	NC50	2	14500	3,7		14+2		E290L-X050R02SO12/AX14-IK	H103500-08S-IK		
MT190L-063NC50R03SO12/AX14-070+23A-IK*	63	93	138	240	NC50	3	12000	4,3		24+3		E290L-X063R03SO12/AX14-IK	H124000-10S-IK		
MT190L-080NC50R03SO12/AX14-088+23A-IK*	80	111	158	260	NC50	3	10500	6,0		30+3		E290L-X080R03SO12/AX14-IK	H165000-14S-IK		
MT190L-100NC50R04SO12/AX14-095+23A-IK*	100	118	168	270	NC50	4	9000	8,8		45+3		E290L-X100R04SO12/AX14-IK	H165000-14S-IK		
Close pitch															
MT190L-050NC50R03SO12/AX14-053+23A-IK	50	76	128	230	NC50	3	14500	3,7		21+3		E290L-X050R03SO12/AX14-IK	H103500-08S-IK		
MT190L-063NC50R04SO12/AX14-070+23A-IK*	63	93	138	265	NC50	4	12000	4,3		32+4		E290L-X063R04SO12/AX14-IK	H124000-10S-IK		
MT190L-080NC50R05SO12/AX14-088+23A-IK*	80	111	158	285	NC50	5	10500	6,0		50+5		E290L-X080R05SO12/AX14-IK	H165000-14S-IK		
MT190L-080NC50R05SO12/AX14-132+23A-IK*	80	155	190	315	NC50	5	10500	7,6		75+5		E290L-X080R05SO12/AX14-IK	H165000-14S-IK		
MT190L-080NC50R06SO12/AX14-088+23A-IK*	80	111	158	285	NC50	6	10500	6,0		60+6		E290L-X080R06SO12/AX14-IK	H165000-14S-IK		

Mills additionally equipped with nozzles **F-M4x5.5x1K*



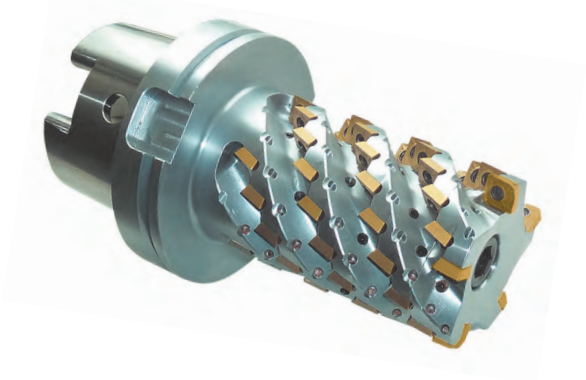


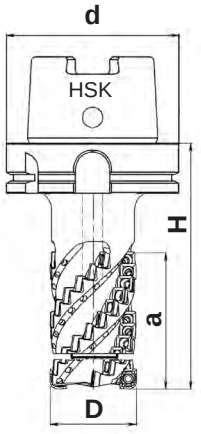
Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
								mm					
SOMT120408SN-S	■	■			■			12,7	12,7	4,76	4,7	0,8	-
SOMT120408EN-T				■			■	12,7	12,7	4,76	4,7	0,8	-
SOHT120408FN-AL						■		12,7	12,7	4,76	4,7	0,8	-
AXGT140508ER	■	■		■	□	■	■	12,7	14,9	5,4	4,7	0,8	1,4
AXGT140512ER	■	□		■	□	■	■	12,7	14,9	5,4	4,7	1,2	0,9
AXGT140516ER	■	■		□	□	□	□	12,7	14,9	5,4	4,7	1,6	1,4
AXGT140520ER	■	■		□	□	■	□	12,7	14,9	5,4	4,7	2,0	1,0
AXGT140525ER	■	□		□	□	□	□	12,7	14,8	5,4	4,7	2,5	0,6
AXGT140530ER	■	■		■	□	□	■	12,7	14,8	5,4	4,7	3,0	0,8
AXGT140540ER	■	■		■	□	□	■	12,7	14,8	5,4	4,7	4,0	0,5
AXGT140550ER	■	■		□	□	■	■	12,7	14,7	5,4	4,7	5,0	0,4
AXGT140563ER	□	■		□	□	□	■	12,7	14,7	5,4	4,7	6,3	0,4



MT190L...SO12/AX14

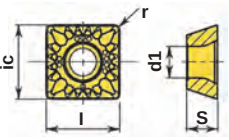
Long edge spiral flute endmills with front end cutter heads with internal coolant supply



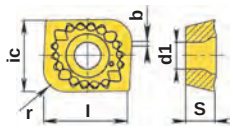


Code key	Dimensions, mm D	a	H	d	Z	nmax RPM	kg		No.					
MT190L-H.A..SO12/AX14+23A-IK	***Regular pitch***										**Taper Hollow Shank HSK DIN 69893 Form A**			
MT190L-050H100AR02SO12/AX14-053+23A-IK	50	76	140	100	2	14500	3,7	SO.T120408... + AXGT1405..ER	14+2		E290L-X050R02SO12/AX14/AX14-IK	H103500-08S-IK	T401160-15P	7015-TP 5,5 Nm
MT190L-063H100AR03SO12/AX14-070+23A-IK*	63	93	150	100	3	12000	4,3		24+3		E290L-X063R03SO12/AX14/AX14-IK	H124000-10S-IK		
MT190L-063H125AR03SO12/AX14-088+23A-IK*	63	111	150	125	3	12000	6,0		30+3		E290L-X063R03SO12/AX14/AX14-IK	H124000-10S-IK		
MT190L-080H125AR03SO12/AX14-095+23A-IK*	80	118	170	125	3	10500	8,8		45+3		E290L-X080R03SO12/AX14/AX14-IK	H165000-14S-IK		
	Close pitch													
MT190L-050H100AR03SO12/AX14-053+23A-IK	50	76	140	100	3	14500	3,7		21+3		E290L-X050R03SO12/AX14/AX14-IK	H103500-08S-IK		
MT190L-063H100AR04SO12/AX14-070+23A-IK*	63	93	150	100	4	12000	4,3		32+4					
MT190L-063H125AR04SO12/AX14-049+23A-IK*	63	72	160	125	4	12000	6,0		24+4		E290L-X063R04SO12/AX14/AX14-IK	H124000-10S-IK		
MT190L-063H125AR04SO12/AX14-088+23A-IK*	63	111	150	125	4	12000	7,6		40+4					
MT190L-080H125AR05SO12/AX14-095+23A-IK*	80	118	168	125	5	10500	6,0		55+5		E290L-X080R05SO12/AX14/AX14-IK	H165000-14S-IK		
MT190L-080H125AR05SO12/AX14-126+23A-IK*	80	149	194	125	5	10500	7,7		70+5					

Mills additionally equipped with nozzles **F-M4x5.5x1K*

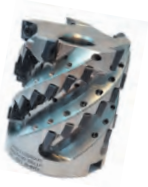
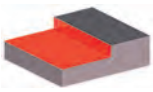
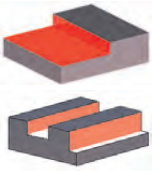
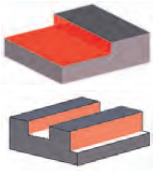


	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
Code key								mm					
SOMT120408SN-S	■	■			■			12,7	12,7	4,76	4,7	0,8	-
SOMT120408EN-T				■			■	12,7	12,7	4,76	4,7	0,8	-
SOHT120408FN-AL						■		12,7	12,7	4,76	4,7	0,8	-



AXGT140508ER	■	■		■	□	■	■	12,7	14,9	5,4	4,7	0,8	1,4
AXGT140512ER	■	□		■	□	■	■	12,7	14,9	5,4	4,7	1,2	0,9
AXGT140516ER	■	■		□	□	□	□	12,7	14,9	5,4	4,7	1,6	1,4
AXGT140520ER	■	■		□	□	■	□	12,7	14,9	5,4	4,7	2,0	1,0
AXGT140525ER	■	□		□	□	□	□	12,7	14,8	5,4	4,7	2,5	0,6
AXGT140530ER	■	■		■	□	□	■	12,7	14,8	5,4	4,7	3,0	0,8
AXGT140540ER	■	■		■	□	□	■	12,7	14,8	5,4	4,7	4,0	0,5
AXGT140550ER	■	■		□	□	■	■	12,7	14,7	5,4	4,7	5,0	0,4
AXGT140563ER	□	■		□	□	□	■	12,7	14,7	5,4	4,7	6,3	0,4

Long edge milling cutter

Types of mills							
Code key	MT290L...BD10	MT290L...BD12	MT290L...LN13	MT290L...SD08	MT290L...SD08/ BD12	MT290L...SO12	MT290L...SO12/ AX14
Page	131	132	133	134	135	136	137
Insert type							
Insert pages	21	22	26	29	29, 22	37	37, 19
Workpiece material P	●●●	●●●	●●●	●●●	●●●	●●●	●●●
M	●●●	●●●	●●●	●●●	●●●	●	
K			●			●●●	●
N							
S	●●●	●●●	●●	●●●	●●●	●●●	●●●
H							
Tool lead angle	90°	90°	90°	90°	90°	90°	90°
Range ⌀, mm	40-54	40-80	63-125	40-63	50-100	63-125	63-125
Depth of cut up to, mm	36-54	31-61	33-75	45-57	30-68	60-90	63-93
Working areas R	●●●	●●●	●●●	●●●	●●●	●●●	●●●
M	●●	●●	●	●	●	●	●
F							
Plunging							
Internal coolant							
Application							

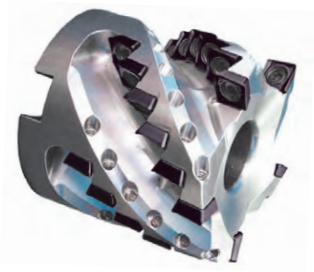
Long edge milling cutter

MT290L...BD10, BD12 **Ø40-80**

High spiral flute long edge endmills with fully overlapping inserts.
Effective roughing slots cutting (Coarse pitch) and peripheral cutting (Close pitch).
Roughing slots and peripheral cutting with lubricant for output chip.
Smooth surfaces, minimum mismatch.
Radius inserts of range 0.8 for peripherie and everyone else is at the end, if necessary.
When using inserts with a radius larger than 0,8 mm, standard cutter bodies have to be modified.

MT290L...LN13 **Ø63-125**

High spiral flute long edge endmills with fully overlapping inserts.
Each cutting spiral - one effective teeth.
High-performance side milling.
Positive geometry. Very light cutting.
Exclusively high efficiency machining.
Tangentially arranged inserts, strong edge security.
Four cutting edges per insert.



MT290L...SD08 **Ø40-63**

High spiral flute long edge endmills with fully overlapping inserts.
For excellent full slotting performance and high performance sidemilling.
It is necessary continuous feed coolant supply at milling maximum depth of cut up.
Each cutting spiral-one effective teeth.

MT290L...SD08/BD12 **Ø50-100**

High spiral flute long edge endmills with fully overlapping inserts.
Effective roughing slots cutting (Coarse pitch) and peripheral cutting (Close pitch).
Roughing slots and peripheral cutting with lubricant for output chip.
Smooth surfaces, minimum mismatch.
Radius inserts of range 0.8 for peripherie and everyone else is at the end, if necessary.
When using inserts with a radius larger than 0,8 mm, standard cutter bodies have to be modified.

MT290L...SO12 **Ø63-125**

High spiral flute long edge endmills with fully overlapping inserts.
One size insert of increased thickness at the periphery and end of the mill with four cutting edges.
For excellent full slotting performance and high performance side milling titanium and heat resistant alloys.
Especially important plentiful internal cooling under pressure.
Each cutting spiral - one effective teeth.
Increased reliability of fastening peripheral insert.

MT290L...SO12/AX14 **Ø63-125**

High spiral flute long edge endmills with fully overlapping inserts.
One size insert of increased thickness at the periphery and end of the mill with four cutting edges.
For excellent full slotting performance and high performance side milling titanium and heat resistant alloys.
Especially important plentiful internal cooling under pressure.
Each cutting spiral - one effective teeth.
Increased reliability of fastening peripheral insert.

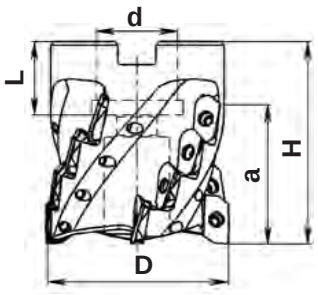
P	M	K	N	S

wide range of
workpiece materials

SKIF-M

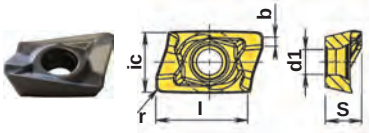
MT290L..BD10

Long edge milling cutter with internal coolant supply



Code key	Dimensions, mm					Z	nmax	kg		No.			
	D	a	H	L	d		RPM						
MT290L-..BD10..-IK													
MT290L-040A16R03BD10-36-IK	40	36	57	19	16	3	18900	0,8		12			
MT290L-040A16R04BD10-36-IK	40	36	57	19	16	4	18900	0,8		16			
MT290L-044A16R03BD10-45-IK	44	45	65	19	16	3	17800	1,0		15			
MT290L-050A22R04BD10-36-IK	50	36	57	20	22	4	16600	1,0	BDMT10T3..	16		T250555-08AP	7008-TP 1,6 Nm
MT290L-050A22R03BD10-54-IK	50	54	75	20	22	3	16600	1,1		18			
MT290L-050A22R05BD10-36-IK	50	36	57	20	22	5	16600	1,0		20			
MT290L-054A22R04BD10-36-IK	54	36	57	20	22	4	16000	1,1		16			

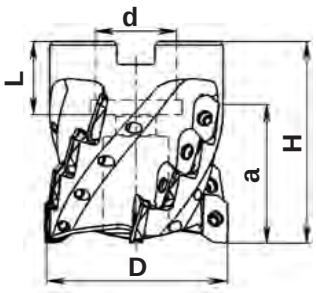
All mills can be delivered without internal coolant supply.



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X						ic	l	S	d1	r	b
Code key													mm					
P	●	●	●															
M	○	●	●	●														
K					●													
N						●												
S		○	○	○			●											
H																		
BDMT10T302ER	□	□		□		■	□						6,85	10,0	3,97	2,8	0,2	1,1
BDMT10T304ER	■	■		■		■	■						6,85	10,0	3,97	2,8	0,4	0,9
BDMT10T308ER	■	■		■		■	■						6,85	10,0	3,97	2,8	0,8	0,5
BDMT10T312ER	■	■		■		■	■						6,85	10,0	3,97	2,8	1,2	0,2
BDMT10T316ER	■	■		■		■	■						6,85	9,8	3,97	2,8	1,6	-
BDMT10T320ER	■	■		■		■	■						6,85	9,8	3,97	2,8	2,0	-
BDMT10T324ER	■	■		■		■	■						6,85	9,7	3,97	2,8	2,4	-
BDMT10T330ER	■	■		■		■	■						6,85	9,6	3,97	2,8	3,0	-
BDMT10T340ER	□	□		■		■	■						6,85	9,5	3,97	2,8	4,0	-

MT290L..BD12

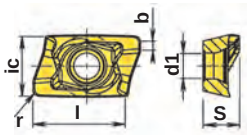
Long edge milling cutter with internal coolant supply



Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
MT290L-..BD12..-IK													
MT290L-040A16R03BD12-31-IK	40	31	19	55	16	3	14000	0,3	BDMT1204...	9		T300755-09AP	7009-TP 2,2 Nm
MT290L-040A16R03BD12-41-IK	40	41	19	65	16	3	14000	0,3		12			
MT290L-050A22R04BD12-41-IK	50	41	20	65	22	4	12500	0,5		16			
MT290L-050A22R04BD12-51-IK	50	51	20	75	22	4	12500	0,6		20			
MT290L-063A27R05BD12-41-IK	63	41	22	70	27	5	11500	1,0		20			
MT290L-063A27R05BD12-51-IK	63	51	22	80	27	5	11500	1,0		25			
MT290L-080A32R06BD12-51-IK	80	51	25	85	32	6	10500	2,1		30			
MT290L-080A32R06BD12-61-IK	80	61	25	95	32	6	10500	2,4		36			

All mills can be delivered without internal coolant supply.

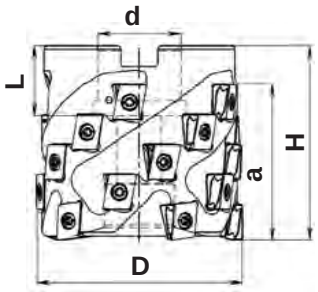
Inserts having radius more 0.8 mm should be used only on the face of the cutter



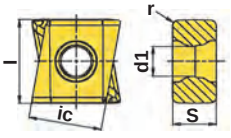
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

Code key	ic	l	S	d1	r	b
	mm					
BDMT120408ER	8,16	12,0	4,76	3,4	0,8	1,2
BDMT120430ER	8,16	12,0	4,76	3,4	0,8	0,9
BDMT120440ER	8,16	12,0	4,76	3,4	0,8	-

MT290L..LN13
Long edge milling cutter



Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
MT290L-...LN13													
MT290L-063A27R04LN13-33	63	33	22	60	27	4	11500	0,7	LNMU13M708SR	12		T401160-15P	7015-TP 5,5 Nm
MT290L-063A27R04LN13-64	63	64	22	77	27	4	10500	1,1		24			
MT290L-080A32R05LN13-64	80	64	25	75	32	5	10000	1,7		30			
MT290L-080A32R05LN13-75	80	75	25	111	32	5	9500	2,6		35			
MT290L-100A40R06LN13-64	100	64	29	86	40	6	9000	3,1		36			
MT290L-125A40R07LN13-43	125	43	29	68	40	7	8000	4,0		28			

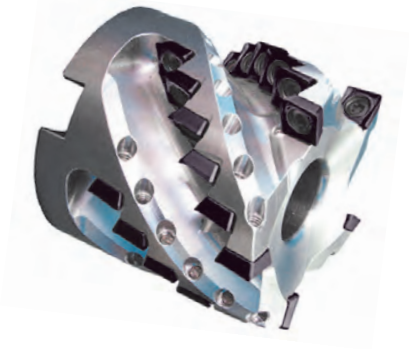


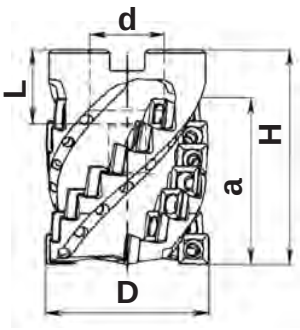
Code key

	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
								mm				
P	●	●	●									
M	○	●	●	●								
K					●							
N						●						
S		○	○	○			●					
H												
LNMU13M708SR	■	■		■	□		□	11,0	13,0	7,0	4,5	0,8

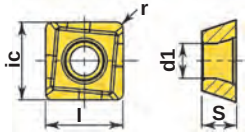
MT290L..SD08

Long edge milling cutter with internal coolant supply





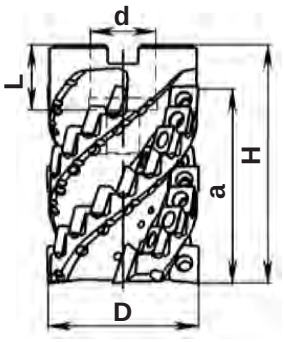
Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
MT290L-...SD08-IK													
MT290L-040A16R03SD08-45-IK	40	45	22	60	16	3	11300	0,25	SD.T08T308.R	21		T300755-09AP	7009-TP 2,2 Nm
MT290L-050A22R04SD08-51-IK	50	51	22	65	22	4	9900	0,37		32			
MT290L-063A27R05SD08-57-IK	63	57	28	75	27	5	8600	0,78		45			



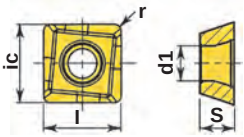
Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
								mm				
SDMT08T308ER	■	■		■	□	■	■	9,0	9,0	3,97	3,4	0,8
SDHT08T308FR-AL						■		9,0	9,0	3,97	3,4	0,8

SKIF-M

MT290L..SD08/BD12
Long edge milling cutter with internal coolant supply



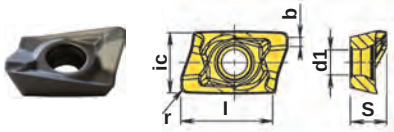
Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg	+	No.			
MT290L...SD08/BD12-IK	***Regular pitch***												
MT290L-050A22R04SD08/BD12-30-IK	50	30	44	22	22	4	15500	0,4	BDMT1204.. + SD.T08T308.R	4+12		T300755-09AP	7009-TP 2,2 Nm
MT290L-050A22R04SD08/BD12-43-IK	50	43	55	22	22	4	13000	0,4		4+20			
MT290L-063A27R05SD08/BD12-36-IK	63	36	55	25	27	5	11000	0,7		5+20			
MT290L-063A27R05SD08/BD12-55-IK	63	55	75	28	27	5	10000	0,7		5+35			
MT290L-080A32R06SD08/BD12-43-IK	80	43	61,6	34	32	6	6800	1,3		6+30			
MT290L-080A32R06SD08/BD12-68-IK	80	68	88	34	32	6	5900	1,3		6+54			
MT290L-084A32R06SD08/BD12-68-IK	84	68	88	34	32	6	5500	1,5		6+54			
MT290L-100A40R07SD08/BD12-49-IK	100	49	70	40	40	7	5200	1,9		7+42			
MT290L-100A40R07SD08/BD12-68-IK	100	68	88	40	40	7	4600	1,9		7+63			
	Close pitch												
MT290L-063A27R06SD08/BD12-36-IK	63	36	55	25	27	6	11000	0,7	BDMT1204.. + SD.T08T308.R	6+24		T300755-09AP	7009-TP 2,2 Nm
MT290L-063A27R06SD08/BD12-55-IK	63	55	75	28	27	6	10000	0,7		6+40			
MT290L-080A32R07SD08/BD12-43-IK	80	43	61,6	34	32	7	6800	1,3		7+35			
MT290L-080A32R07SD08/BD12-68-IK	80	68	88	34	32	7	5900	1,3		7+63			
MT290L-084A32R07SD08/BD12-68-IK	84	68	88	34	32	7	5500	1,5		7+63			
MT290L-100A40R08SD08/BD12-49-IK	100	49	70	40	40	8	5200	1,9		8+48			
MT290L-100A40R08SD08/BD12-68-IK	100	68	88	40	40	8	4600	1,9		8+72			



	P	M	K	N	S	H
HCP30X	●	○				
HCP40X	●	●			○	
HCM25X	●	●			○	
HCM30X		●			○	
HCK10X			●			
HCN10X				●		
HCS35X					●	

Code key

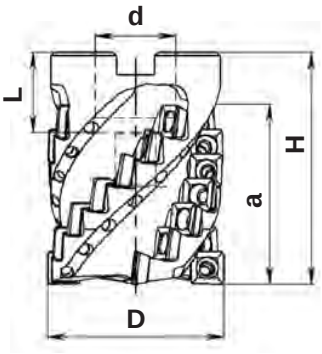
Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
								mm					
SDMT08T308ER	■	■		■	□	■	■	9,0	9,0	3,97	3,4	0,8	-
SDHT08T308FR-AL						■		9,0	9,0	3,97	3,4	0,8	-



BDMT120408ER	■	■		■		■	■	8,16	12,0	4,76	3,4	0,8	1,2
BDMT120430ER	■	■		■		■	■	8,16	12,0	4,76	3,4	3,0	0,9
BDMT120440ER	□	■		■		■	■	8,16	12,0	4,76	3,4	4,0	-

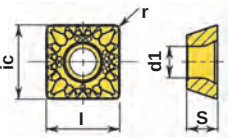
MT290L..SO12

Long edge milling cutter with internal coolant supply



Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.			
MT290L...SO12-IK													
MT290L-063A27R04SO12-60-IK	63	28	60	77	27	4	11500	1,3	SO.T120408...	24		T401160-15P	7015-TP 5,5 Nm
MT290L-080A32R05SO12-71-IK	80	34	71	88	32	5	10500	1,7		35			
MT290L-080A32R06SO12-71-IK	80	34	71	88	32	6	10000	1,5		42			
MT290L-100A40R06SO12-81-IK	100	40	81	98	40	6	9000	3,4		48			
MT290L-125A50R07SO12-90-IK	125	45	90	110	50	7	8000	5,2		63			

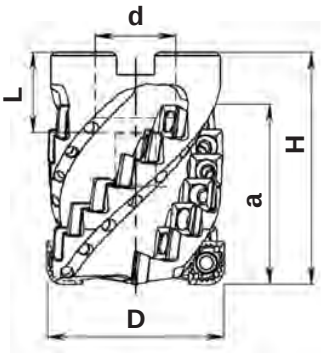
Mills additionally equipped with nozzles **F-M4x5.5x1K*



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
Code key								mm				
SOMT120408SN-S	■	■			■			12,7	12,7	4,76	4,7	0,8
SOMT120408EN-T				■			■	12,7	12,7	4,76	4,7	0,8
SOHT120408FN-AL						■		12,7	12,7	4,76	4,7	0,8

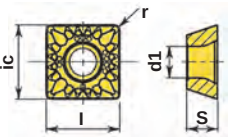
MT290L..SO12/AX14

Long edge milling cutter with internal coolant supply

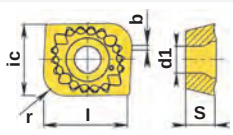


Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg	+	No.			
MT290L...SO12/AX14-IK													
MT290L-063A27R04SO12/AX14-63-IK	63	28	63	77	27	4	11500	1,3	SO.T120408... + AXGT1405..ER	20+4		T401160-15P	7015-TP 5,5 Nm
MT290L-080A32R05SO12/AX14-73-IK	80	34	73	88	32	5	10500	1,7		30+5			
MT290L-080A32R06SO12/AX14-73-IK	80	34	73	88	32	6	10000	1,5		36+6			
MT290L-100A40R06SO12/AX14-83-IK	100	40	83	98	40	6	9000	3,4		42+6			
MT290L-125A50R07SO12/AX14-93-IK	125	45	93	110	50	7	8000	5,2		56+7			

Mills additionally equipped with nozzles **F-M4x5.5x1K*

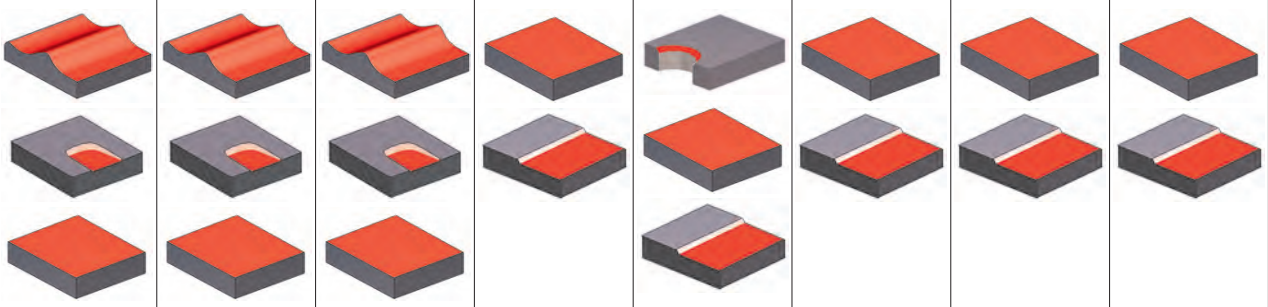


Code key	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
														mm					
SOMT120408SN-S	●	●					■	■			■			12,7	12,7	4,76	4,7	0,8	-
SOMT120408EN-T	○	●			○					■			■	12,7	12,7	4,76	4,7	0,8	-
SOHT120408FN-AL	●	●			○							■		12,7	12,7	4,76	4,7	0,8	-



AXGT140508ER	■	□		■	□	□	■							12,7	14,9	5,4	4,7	0,8	1,4
AXGT140512ER	■	□		■	□	□	■							12,7	14,9	5,4	4,7	1,2	0,9
AXGT140516ER	■	□		□	□	□	□							12,7	14,9	5,4	4,7	1,6	1,4
AXGT140520ER	■	□		□	□	□	□							12,7	14,9	5,4	4,7	2,0	1,0
AXGT140525ER	■	□		□	□	□	□							12,7	14,8	5,4	4,7	2,5	0,6
AXGT140530ER	■	□		■	□	□	■							12,7	14,8	5,4	4,7	3,0	0,8
AXGT140540ER	■	□		■	□	□	■							12,7	14,8	5,4	4,7	4,0	0,5
AXGT140550ER	■	□		□	□	□	□							12,7	14,7	5,4	4,7	5,0	0,4
AXGT140563ER	■	□		□	□	□	□							12,7	14,7	5,4	4,7	6,3	0,4

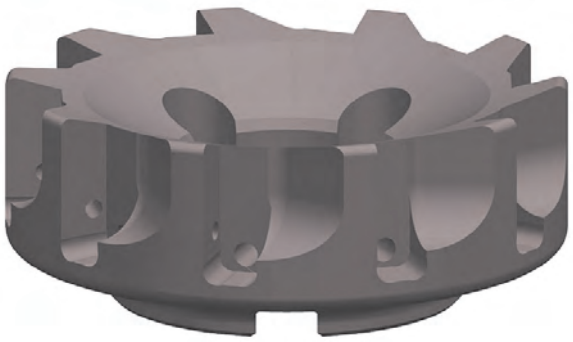
FACEMILLS with cartridges

Types of mills								
Code key	MT200K.. RD12	MT200K.. RD16	MT200K.. RD20	MT245K.. SO12	MT245K.. SN13	MT290K.. SO12	MT260K.. SN12	MT290K.. LN13
Page	140	141	142	143	144	145	148	149
Insert type								
Insert pages	27	27	27	36	30	37	34	26
Workpiece material								
P	●●●	●●●	●	●●●	●●●	●●●	●●●	●●●
M	●●●	●●●	●●●	●●●	●●	●●●	●	●
K				●	●●●	●	●	●
N				●●●		●●●		
S	●●●	●●●	●●●	●●●	●	●●		●●
H								
Tool lead angle	00°	00°	00°	45°	45°	90°	60°	90°
Range ⌀, mm	100-500	100-500	100-500	100-500	100-500	100-500	125-500	125-500
Depth of cut up to, mm	6	8	10	6	6	11	8	12
Working areas R	●●●	●●●	●●●	●	●●●	●●●	●●●	●●●
M	●●●	●●●	●●●	●●●	●●●	●●	●	●
F	●●●	●●●	●●●	●●●	●●●	●●		
Plunging	●●	●●	●●					
Internal coolant	✕	✕	✕	✕	✕	✕	✕	✕
Application								

FACEMILLS with cartridges

MT2..K...

System of facemills with cartridges of type MT2..K.. provides possibility of application of any cartridges of type K2.. in any cutter body.
Modular-style with different cartridges.
Axial micro-adjustment.
For machining heat resistant steel, tool steel, stainless steel and aluminium alloys.



Ø100-500

MT260K...SN12
Heavy duty.
Tangentially arranged inserts, strong edge security.
Negative geometry.
Effective machining of casting on peel.
Close pitch for milling cast iron.
Inserts SNGQ1207DNTR, with 8 cutting edges for economic face milling up to ap = 4mm.

Ø125-500

MT290K...LN13
Pozitive geometry.
Tangentially arranged inserts, strong edge security.
Regular pitch: best productivity for facemilling of cast iron and steel in stable condition.
Coarse pitch: best productivity for facemilling of steel.

Ø125-500

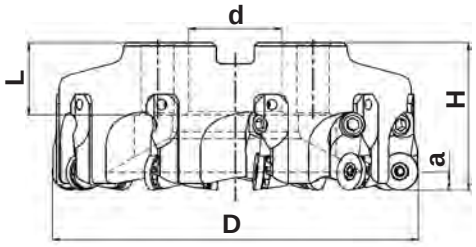
Coarse pitch Regular pitch Close pitch

P	M	K	N	S	H

wide range of workpiece materials

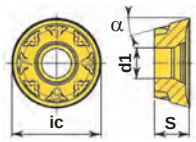
MT200K...RD12

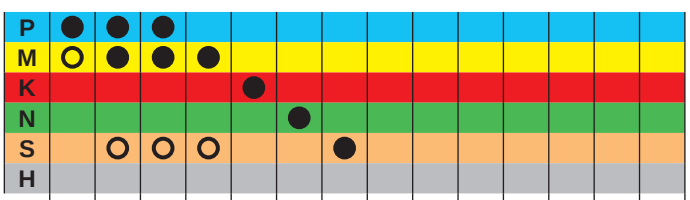
Facemills with cartridges with round inserts



Depth of cut up to 6 mm

Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.	Accessories Design	Code key
Regular pitch												
MT200K-100A32R06RD12	100	6	25	63	32	6	1600	2,6		6		
MT200K-125A40R08RD12	125	6	29	63	40	8	1400	3,4		8		
MT200K-160C40R10RD12	160	6	31	63	40	10	1200	6,6		10		K200RD12R
MT200K-200C60R12RD12	200	6	32	63	60	12	1100	9,9		12		
MT200K-250C60R16RD12	250	6	32	63	60	16	1000	15,3	RDN..1204MO..N	16		Insert locking screw T400960-15P
MT200K-315D60R20RD12	315	6	32	80	60	20	850	24,5		20		
MT200K-400D60R26RD12	400	6	32	80	60	26	770	39,6		26		Insert locking screwdriver 7015-TP 5,5 Nm
MT200K-500D60R32RD12	500	6	32	80	60	32	700	61,9		32		
Coarse pitch												
MT200K-100A32R05RD12	100	6	25	63	32	5	1600	2,6		5		Cartridge screw H602000-50
MT200K-125A40R06RD12	125	6	29	63	40	6	1400	3,4		6		
MT200K-160C40R08RD12	160	6	31	63	40	8	1200	6,6		8		Cartridge locking screwdriver 7005-H
MT200K-200C60R10RD12	200	6	32	63	60	10	1100	9,9		10		
MT200K-250C60R12RD12	250	6	32	63	60	12	1000	15,3	RDN..1204MO..N	12		Adjusting screw H80..30-30S Page 146
MT200K-315D60R16RD12	315	6	32	80	60	16	850	24,5		16		
MT200K-400D60R18RD12	400	6	32	80	60	18	770	39,6		18		Adjusting locking screwdriver 7003-H
MT200K-500D60R22RD12	500	6	32	80	60	22	700	61,9		22		

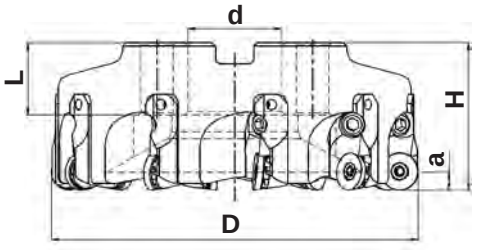




Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	S	d1	α
									mm		o
RDNT1204MOEN	■	■		■		■	■	12,0	4,76	4,4	15
RDNT1204MOSN-F	■	■	■	■			■	12,0	4,76	4,4	15
RDNW1204MOSN	■	■			□		■	12,0	4,76	4,4	15

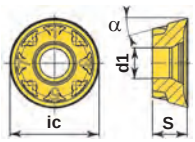
MT200K...RD16

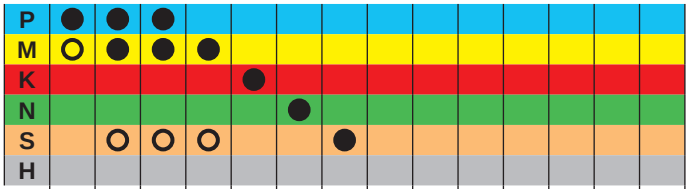
Facemills with cartridges with round inserts



Depth of cut up to 8 mm

Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.	Accessories Design	Code key
Regular pitch												
MT200K-100A32R06RD16	100	8	25	63	32	6	1600	2,6	RDNT1605.. RDNW1605..	6		
MT200K-125A40R08RD16	125	8	29	63	40	8	1400	3,4		8		
MT200K-160C40R10RD16	160	8	31	63	40	10	1200	6,6		10		
MT200K-200C60R12RD16	200	8	32	63	60	12	1100	9,9		12		
MT200K-250C60R16RD16	250	8	32	63	60	16	1000	15,3		16		
MT200K-315D60R20RD16	315	8	32	80	60	20	850	24,5		20		
MT200K-400D60R26RD16	400	8	32	80	60	26	770	39,6		26		
MT200K-500D60R32RD16	500	8	32	80	60	32	700	61,9		32		
Coarse pitch												
MT200K-100A32R05RD16	100	8	25	63	32	5	1600	2,6	RDNT1605.. RDNW1605..	5		
MT200K-125A40R06RD16	125	8	29	63	40	6	1400	3,4		6		
MT200K-160C40R08RD16	160	8	31	63	40	8	1200	6,6		8		
MT200K-200C60R10RD16	200	8	32	63	60	10	1100	9,9		10		
MT200K-250C60R12RD16	250	8	32	63	60	12	1000	15,3		12		
MT200K-315D60R16RD16	315	8	32	80	60	16	850	24,5		16		
MT200K-400D60R18RD16	400	8	32	80	60	18	770	39,6		18		
MT200K-500D60R22RD16	500	8	32	80	60	22	700	61,9		22		

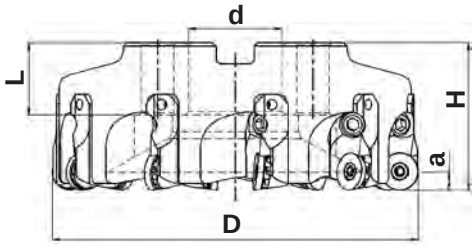




Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	S	d1	α
								mm			o
RDNT1605MOEN	■	□		■		■	■	16,0	5,56	5,5	15
RDNT1605MOSN-F	■	■	■	■			■	16,0	5,56	5,5	15
RDNW1605MOSN	■	■			□			16,0	5,56	5,5	15

MT200K...RD20

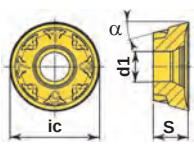
Facemills with cartridges with round inserts

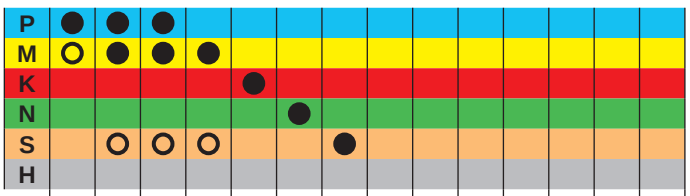


Depth of cut up to 10 mm

Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.	Accessories Design	Code key
Regular pitch												
MT200K-100A32R06RD20	100	10	25	63	32	6	1600	2,6	RDNT2006MO..N	6		
MT200K-125A40R08RD20	125	10	29	63	40	8	1400	3,4		8		
MT200K-160C40R10RD20	160	10	31	63	40	10	1200	6,6		10		
MT200K-200C60R12RD20	200	10	32	63	60	12	1100	9,9		12		
MT200K-250C60R16RD20	250	10	32	63	60	16	1000	15,3		16		
MT200K-315D60R20RD20	315	10	32	80	60	20	850	24,5		20		
MT200K-400D60R26RD20	400	10	32	80	60	26	770	39,6		26		
MT200K-500D60R32RD20	500	10	32	80	60	32	700	61,9		32		
Coarse pitch												
MT200K-100A32R05RD20	100	10	25	63	32	5	1600	2,6	RDNT2006MO..N	5		
MT200K-125A40R06RD20	125	10	29	63	40	6	1400	3,4		6		
MT200K-160C40R08RD20	160	10	31	63	40	8	1200	6,6		8		
MT200K-200C60R10RD20	200	10	32	63	60	10	1100	9,9		10		
MT200K-250C60R12RD20	250	10	32	63	60	12	1000	15,3		12		
MT200K-315D60R16RD20	315	10	32	80	60	16	850	24,5		16		
MT200K-400D60R18RD20	400	10	32	80	60	18	770	39,6		18		
MT200K-500D60R22RD20	500	10	32	80	60	22	700	61,9		22		

Design	Code key
	K200RD20R
	Insert locking screw T501155-20P
	Insert locking screwdriver 7020-T 9,0 Nm
	Cartridge screw H602000-50
	Cartridge locking screwdriver 7005-H
	Adjusting screw H80..30-30S Page 146
	Adjusting locking screwdriver 7003-H

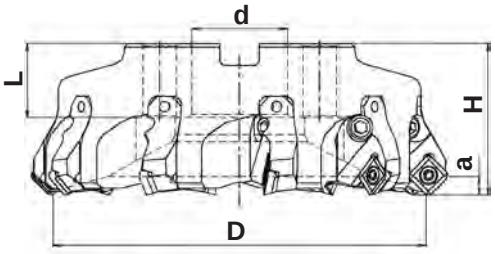




Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	S	d1	α
									mm		°
RDNT2006MOEN	■	□		□		■	■	20,0	6,35	6,0	15
RDNT2006MOSN-F	■	■	■	■			■	20,0	6,35	6,0	15
RDNW2006MOSN	□	■			□			20,0	6,35	6,0	15

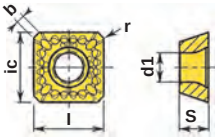
MT245K...SO12

Facemills 45° with cartridges



Depth of cut up to 6 mm

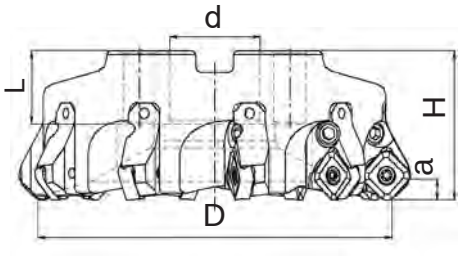
Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.	Accessories Design	Code key
Regular pitch												
MT245K-100A32R06SO12	100	6	25	63	32	6	1600	2,6		6		
MT245K-125A40R08SO12	125	6	29	63	40	8	1400	3,4		8		
MT245K-160C40R10SO12	160	6	31	63	40	10	1200	6,6		10		K245SO12R
MT245K-200C60R12SO12	200	6	32	63	60	12	1100	9,9	SOMT1204.. SOHT1204..	12		
MT245K-250C60R16SO12	250	6	32	63	60	16	1000	15,3		16		Insert locking screw T401160-15P
MT245K-315D60R20SO12	315	6	32	80	60	20	850	24,5		20		
MT245K-400D60R26SO12	400	6	32	80	60	26	770	39,6		26		Insert locking screwdriver 7015-TP 5,5 Nm
MT245K-500D60R32SO12	500	6	32	80	60	32	700	61,9		32		
Coarse pitch												
MT245K-100A32R05SO12	100	6	25	63	32	5	1600	2,6		5		Cartridge screw H602000-50
MT245K-125A40R06SO12	125	6	29	63	40	6	1400	3,4		6		
MT245K-160C40R08SO12	160	6	31	63	40	8	1200	6,6		8		Cartridge locking screwdriver 7005-H
MT245K-200C60R10SO12	200	6	32	63	60	10	1100	9,9	SOMT1204.. SOHT1204..	10		
MT245K-250C60R12SO12	250	6	32	63	60	12	1000	15,3		12		Adjusting screw H80..30-30S Page 146
MT245K-315D60R16SO12	315	6	32	80	60	16	850	24,5		16		
MT245K-400D60R18SO12	400	6	32	80	60	18	770	39,6		18		Adjusting locking screwdriver 7003-H
MT245K-500D60R22SO12	500	6	32	80	60	22	700	61,9		22		



	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
Code key								mm					
SOMT1204AESN-S	■	■			■			12,7	12,7	4,76	4,7	0,2	1,7
SOMT1204AESN-H		□		■	□		□	12,7	12,7	4,76	4,7	0,2	1,7
SOMT1204AESN-T							■	12,7	12,7	4,76	4,7	0,2	1,7
SOHT1204AEFN-AL						■		12,7	12,7	4,76	4,7	0,2	1,7

MT245K...SN13

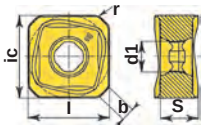
Facemills 45° with cartridges



Depth of cut up to 6,5 mm

Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.	Accessories Design	Code key
Regular pitch												
MT245K-100A32R06SN13	100	6,5	25	63	32	6	1600	2,6		6		
MT245K-125A40R08SN13	125	6,5	29	63	40	8	1400	3,4		8		
MT245K-160C40R10SN13	160	6,5	31	63	40	10	1200	6,6		10		
MT245K-200C60R12SN13	200	6,5	32	63	60	12	1100	9,9		12		
MT245K-250C60R16SN13	250	6,5	32	63	60	16	1000	15,3	SNMU1306ANSR-F	16		
MT245K-315D60R20SN13	315	6,5	32	80	60	20	850	24,5		20		
MT245K-400D60R26SN13	400	6,5	32	80	60	26	770	39,6		26		
MT245K-500D60R32SN13	500	6,5	32	80	60	32	700	61,9		32		
Coarse pitch												
MT245K-100A32R05SN13	100	6,5	25	63	32	5	1600	2,6		5		
MT245K-125A40R06SN13	125	6,5	29	63	40	6	1400	3,4		6		
MT245K-160C40R08SN13	160	6,5	31	63	40	8	1200	6,6		8		
MT245K-200C60R10SN13	200	6,5	32	63	60	10	1100	9,9		10		
MT245K-250C60R12SN13	250	6,5	32	63	60	12	1000	15,3	SNMU1306ANSR-F	12		
MT245K-315D60R16SN13	315	6,5	32	80	60	16	850	24,5		16		
MT245K-400D60R18SN13	400	6,5	32	80	60	18	770	39,6		18		
MT245K-500D60R22SN13	500	6,5	32	80	60	22	700	61,9		22		

Accessories Design	Code key
	K245SN13R
	Insert locking screw T401160-15P-X
	Insert locking screwdriver 7015-TP 5,5 Nm
	Cartridge screw H602000-50
	Cartridge locking screwdriver 7005-H
	Adjusting screw H80..30-30S Page 146
	Adjusting locking screwdriver 7003-H

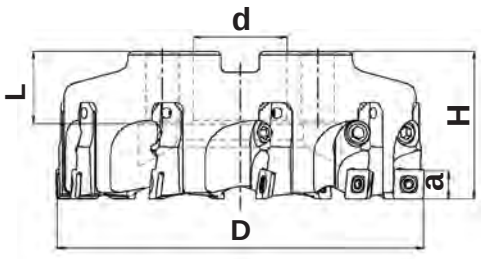


Code key

	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
														mm					
SNMU1306ANSR-F	●	●	●	●	○		■	■		■	■		■	13,5	13,5	6,25	4,5	1,5	2,0

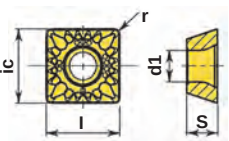
MT290K...SO12

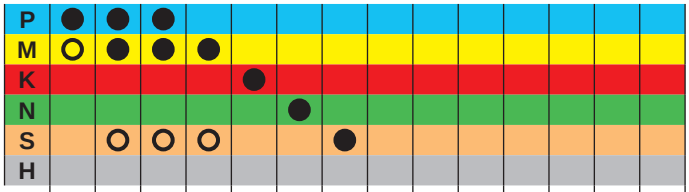
Square shoulder facemills with cartridges



Depth of cut up to 11 mm

Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.	Accessories Design	Code key
Regular pitch												
MT290K-100A32R06SO12	100	11	25	63	32	6	1600	2,6	SO.T120408.N...	6		
MT290K-125A40R08SO12	125	11	29	63	40	8	1400	3,4		8		
MT290K-160C40R10SO12	160	11	31	63	40	10	1200	6,6		10		
MT290K-200C60R12SO12	200	11	32	63	60	12	1100	9,9		12		
MT290K-250C60R16SO12	250	11	32	63	60	16	1000	15,3		16		
MT290K-315D60R20SO12	315	11	32	80	60	20	850	24,5		20		
MT290K-400D60R26SO12	400	11	32	80	60	26	770	39,6		26		
MT290K-500D60R32SO12	500	11	32	80	60	32	700	61,9		32		
Coarse pitch												
MT290K-100A32R05SO12	100	11	25	63	32	5	1600	2,6	SO.T120408.N...	5		
MT290K-125A40R06SO12	125	11	29	63	40	6	1400	3,4		6		
MT290K-160C40R08SO12	160	11	31	63	40	8	1200	6,6		8		
MT290K-200C60R10SO12	200	11	32	63	60	10	1100	9,9		10		
MT290K-250C60R12SO12	250	11	32	63	60	12	1000	15,3		12		
MT290K-315D60R16SO12	315	11	32	80	60	16	850	24,5		16		
MT290K-400D60R18SO12	400	11	32	80	60	18	770	39,6		18		
MT290K-500D60R22SO12	500	11	32	80	60	22	700	61,9		22		

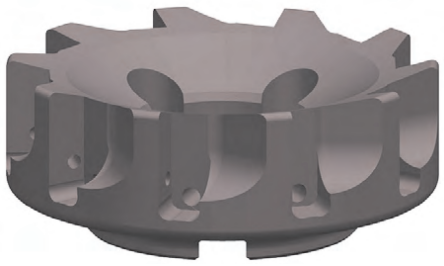


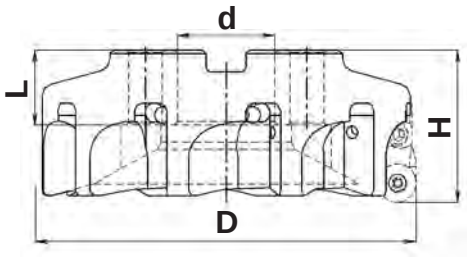


Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
								mm				
SOMT120408SN-S	■	■			■			12,7	12,7	4,76	4,7	0,8
SOMT120408EN-T				■			■	12,7	12,7	4,76	4,7	0,8
SOHT120408FN-AL						■		12,7	12,7	4,76	4,7	0,8

MT2...K...

Cutter bodyes of facemills with cartridges





Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg			No.
Regular pitch										Adjusting screw	
MT2..K-100A32R06..	100	-	25	63	32	6	1600	2,6	Cartridge screw H602000-50	H801030-30S	6
MT2..K-125A40R08..	125	-	29	63	40	8	1400	3,4		H801330-30S	8
MT2..K-160C40R10..	160	-	31	63	40	10	1200	6,6		H801330-30S	10
MT2..K-200C60R12..	200	-	32	63	60	12	1100	9,9		H801330-30S	12
MT2..K-250C60R16..	250	-	32	63	60	16	1000	15,3		H801430-30S	16
MT2..K-315D60R20..	315	-	32	80	60	20	850	24,5		H801530-30S	20
MT2..K-400D60R26..	400	-	32	80	60	26	770	39,6		H801530-30S	26
MT2..K-500D60R32..	500	-	32	80	60	32	700	61,9		H801530-30S	32
Coarse pitch										Adjusting screw	
MT2..K-100A32R05..	100	-	25	63	32	5	1600	2,5	Cartridge screw H602000-50	H801030-30S	5
MT2..K-125A40R06..	125	-	29	63	40	6	1400	3,3		H801330-30S	6
MT2..K-160C40R08..	160	-	31	63	40	8	1200	6,5		H801330-30S	8
MT2..K-200C60R10..	200	-	32	63	60	10	1100	9,7		H801330-30S	10
MT2..K-250C60R12..	250	-	32	63	60	12	1000	14,8		H801430-30S	12
MT2..K-315D60R16..	315	-	32	80	60	16	850	23,6		H801530-30S	16
MT2..K-400D60R18..	400	-	32	80	60	18	770	39,2		H801530-30S	18
MT2..K-500D60R22..	500	-	32	80	60	22	700	60,8		H801530-30S	22

Cartridges for facemills with cartridges

K200RD12R
a = **6 mm**

K245SO12R
a = **6 mm**
φ = **45°**

K200RD16R
a = **8 mm**

K245SN13R
a = **6,5 mm**
φ = **45°**

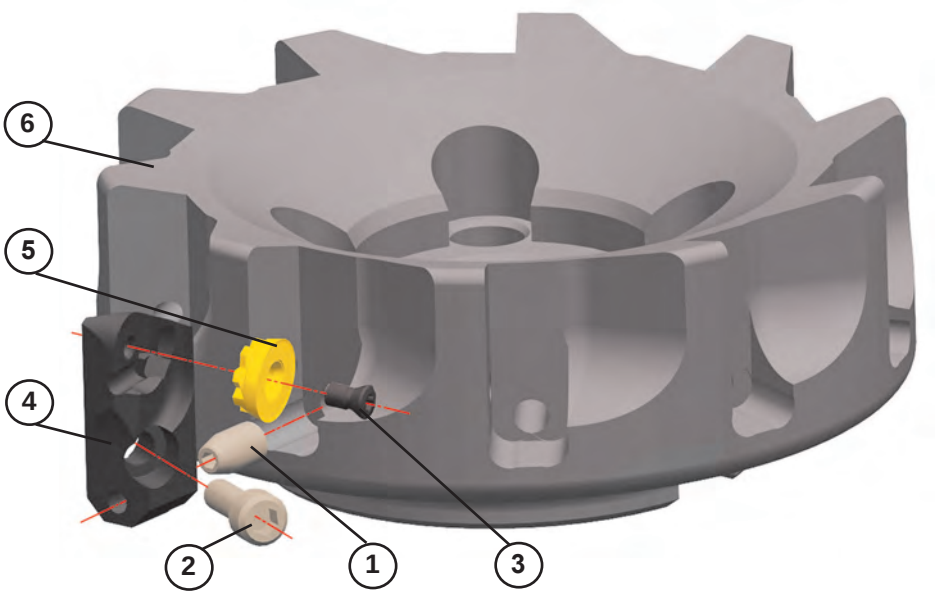
K200RD20R
a = **10 mm**

K290SO12R
a = **11 mm**
φ = **90°**

Accessories

Cartridge locking screwdriver	Adjusting locking screwdriver
	
7005-H	7003-H

Guidelines for axial micro adjustment SKIF-M milling tools MT2…K



1. Adjusting screw.
2. Cartridge screw.
3. Insert locking screw.
4. Cartridge.
5. Insert.
6. Cutter body.

The mechanism of adjustment

In the cutter body each groove under the cartridge has a hole with a thread, where established the adjusting screw with the conic head. By the conic surface the screw contacts with the appropriate surface of the cartridge. During rotation of the screw to the left party it moves the cartridge in an axial direction, that allows to receive an especially exact arrangement of an insert.

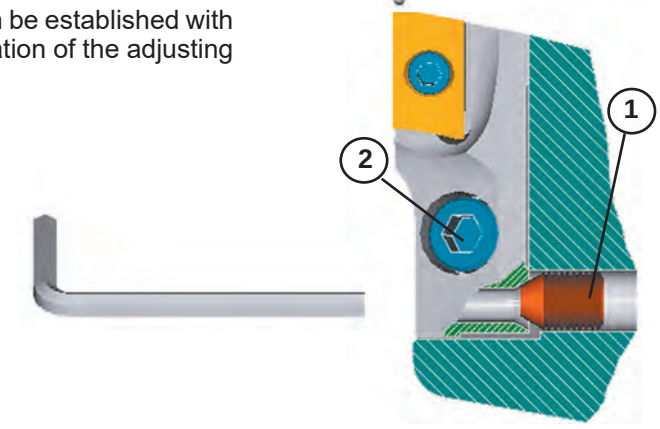
Axial micro adjustment of mills

1. Before installation of the cartridge the adjusting screw 1 is put in such a manner that his cone acts above a basic surface of a groove on 0,1-0,3 mm.

2. The cartridge is established and is fixed by the screw 2. Necessary to pay attention, that the cartridge has to press the base face surface of a groove of the cutter body, and the adjusting screw was not loaded.

3. By means of rotation of the adjusting screw 1 the cartridge can be established with necessary accuracy in an axial direction. Counterclockwise rotation of the adjusting screw raises the cartridge.

4. Clockwise rotation of the adjusting screw 1 lowers the cartridge and eliminates the need to remove the cartridge clamping screw.

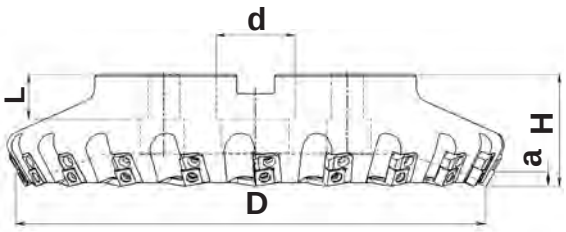


Such installation of mill is necessary only in case of high requirements to the surface by finishing with little allowances for machining. In all other cases remain the basic installation of cartridges with support on the face surface of cutter body produced by manufacturer.

MT260K...SN12

Facemills 60° with cartridges

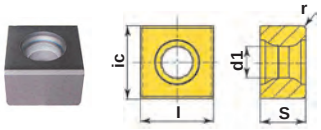
Heavy duty



Depth of cut up to 8 mm

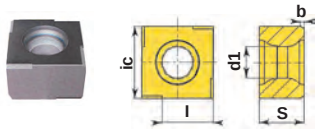
Code key	Dimensions, mm D	a*	L	H	d	Z	nmax RPM	kg		No.				
Regular pitch														
MT260K-125A40R08SN12	125	8	29	63	40	8	4500	3,4	SNMQ120702TN SNGQ1207DNTR	8		K260SN12R	T451455-20P	7020-TP 7,0 Nm
MT260K-160C40R10SN12	160	8	31	63	40	10	4000	6,6		10				
MT260K-200C60R12SN12	200	8	32	63	60	12	3500	9,9		12				
MT260K-250C60R16SN12	250	8	32	63	60	16	3000	15,3		16				
MT260K-315D60R20SN12	315	8	32	80	60	20	2500	24,5		20				
MT260K-400D60R26SN12	400	8	32	80	60	26	2000	39,6		26				
MT260K-500D60R32SN12	500	8	32	80	60	32	1500	61,8		32				
Coarse pitch														
MT260K-125A40R06SN12	125	8	29	63	40	6	4500	3,3	SNMQ120702TN SNGQ1207DNTR	6		K260SN12R	T451455-20P	7020-TP 7,0 Nm
MT260K-160C40R08SN12	160	8	31	63	40	8	4000	6,5		8				
MT260K-200C60R10SN12	200	8	32	63	60	10	3500	9,7		10				
MT260K-250C60R12SN12	250	8	32	63	60	12	3000	14,8		12				
MT260K-315D60R16SN12	315	8	32	80	60	16	2500	23,6		16				
MT260K-400D60R18SN12	400	8	32	80	60	18	2000	39,2		18				
MT260K-500D60R22SN12	500	8	32	80	60	22	1500	60,8		22				

For inserts* **SNGQ1207DNTR ap_{max} *= 4,0 mm*



Code key

	HCP30X	HCP40X	HCK10X	ic	l	S	d1	r
				mm				
SNMQ120702TN	■	■	□	12,7	12,7	7,94	5,4	0,2

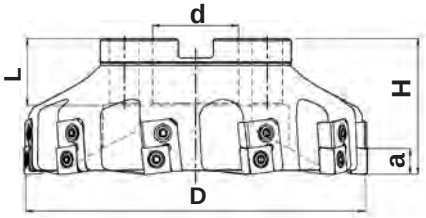


	HCP30X	HCP40X	HCK10X	ic	l	S	d1	b
				mm				
SNGQ1207DNTR	■	□		12,7	9,0	7,94	5,4	0,7

MT290K...LN13

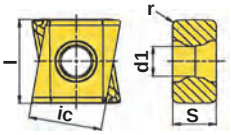
Square shoulder facemills with cartridges

Heavy duty



Depth of cut up to 12 mm

Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.				
Regular pitch														
MT290K-125A40R08LN13	125	12	29	63	40	8	4500	3,4		8				
MT290K-160C40R10LN13	160	12	31	63	40	10	4000	6,6		10				
MT290K-200C60R12LN13	200	12	32	63	60	12	3500	9,9		12				
MT290K-250C60R16LN13	250	12	32	63	60	16	3000	15,3	LNMU13M708SR	16		K290LN13R	T401160-15P-X	7015-TP 5,5 Nm
MT290K-315D60R20LN13	315	12	32	80	60	20	2500	24,5		20				
MT290K-400D60R26LN13	400	12	32	80	60	26	2000	39,6		26				
MT290K-500D60R32LN13	500	12	32	80	60	32	1500	61,8		32				
Coarse pitch														
MT290K-125A40R06LN13	125	12	29	63	40	6	4500	3,3		6				
MT290K-160C40R08LN13	160	12	31	63	40	8	4000	6,5		8				
MT290K-200C60R10LN13	200	12	32	63	60	10	3500	9,7		10				
MT290K-250C60R12LN13	250	12	32	63	60	12	3000	14,8	LNMU13M708SR	12		K290LN13R	T401160-15P-X	7015-TP 5,5 Nm
MT290K-315D60R16LN13	315	12	32	80	60	16	2500	23,6		16				
MT290K-400D60R18LN13	400	12	32	80	60	18	2000	39,2		18				
MT290K-500D60R22LN13	500	12	32	80	60	22	1500	60,8		22				



Code key

	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
								mm				
LNMU13M708SR	■	■		■	□		□	11,0	13,0	7,0	4,5	0,8

Pages

Rotation tools for machining Titanium alloys 153

Facemills 45° 155

Square shoulder facemills and endmills 156

Long edge spiral flute endmills 158

Long edge milling cutters 164

Drills 165

Milling tools for machining Aluminium alloys 166

Square shoulder facemills 168

Endmills 90° 170

Drilling endmills 174

Rotating Tools for aerospace industry

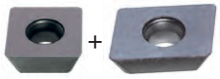
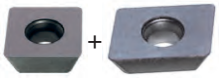
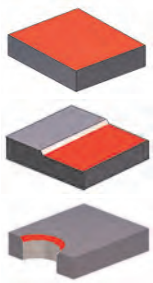
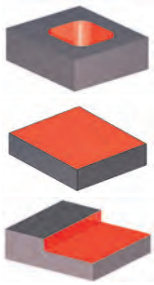
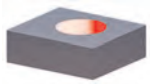
More than 75% of all produced tools and inserts SKIF-M sells in the aerospace industry. Special milling and drilling tools for machining titanium, heat resistant and aluminum alloys are located in a separate section of the catalog - **“Rotation Tools for aerospace industry”**

For high-performance effective milling of aerospace materials general-purpose mills are also recommended when using inserts from the appropriate carbide grades.
Information on these mills is indicated on the pages according to the table.

Code key		Insert	Page
Facemills and square shoulder facemills	MT200	RD08, RD10, RD12, RD16, RD20	51-55
	MT215	FO09, FO12	61-62
	MT245	SD08, SO12, SN13, ON21	67-71
	MT289	SO12	76
	MT290	BD08, BD10, BD12, BD16	90-93
	MT290	SD08	95
	MT290	SO12	100
Endmills	MT100	RD08, RD10, RD12, RD16, RD20	47-49
	MT115	FO09, FO12	60
	MT145	SD08	65
	MT190	BD08, BD10, BD12, BD16	80-89
	MT190	SD08	98
Long edge milling cutters	MT190L	BD08, BD10, BD12	110-113
	MT190L	SD08	115
	MT190L	SD08/BD12	117
	MT190L	SO12	123
	MT190L	SO12/AX14	126
	MT290L	BD10, BD12	131-132
	MT290L	SD08	134
	MT290L	SD08/BD12	135
	MT290L	SO12	136
	MT290L	SO12/AX14	137

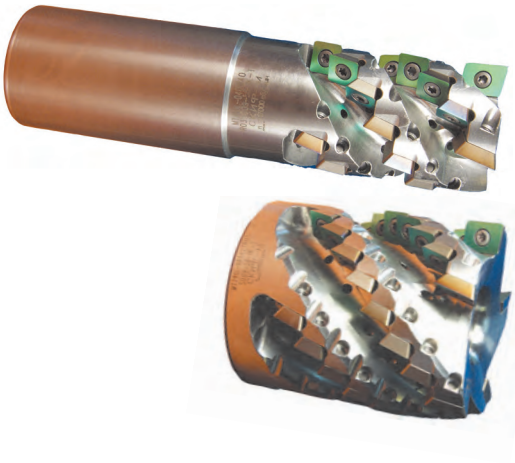
General purpose mills, recommended for machining aerospace materials

Rotation tools for machining Titanium alloys

	Milling tools				Drills
Types of mills					
Code key	MT245...SO09	MT290...BO12 MT190...BO12	MT190L...SO/BO	MT290L...SO/BO	DT190
Page	155	156	158	164	165
Insert type					
Insert pages	35	24	24, 35	24, 35	35, 37
Workpiece material P	●	●	●	●	●●●
M					
K					
N					
S	●●●	●●●	●●●	●●●	●●●
H					
Tool lead angle	45°	90°	90°	90°	90°
Range ⌀, mm	32-125	25-160	40-80	50-100	26-82
Depth of cut up to, mm	5	10	56-149	51	68-100
Working areas R	●●●	●	●●●	●●●	
M	●●●	●●●	●	●	
F	●●	●●●			
Plunging					●●●
Internal coolant					
Application					

Rotation tools for machining Titanium alloys

MT245...SO09
Depth of cut up to 5 mm.
Range of diameters from 80 mm up to 125 mm.
Special design for roughing titanium alloys.
The maximal productivity for titanium makes 180 cubic centimetres per minute.



MT190L...SO09, MT290L...SO09
First choice for machining titanium alloys.
High spiral flute long edge endmills with fully overlapping inserts.
The permanent feed of lubricoolant at millingis necessary.
Regular pitch for roughing slots.
Close pitch for peripheral cutting.

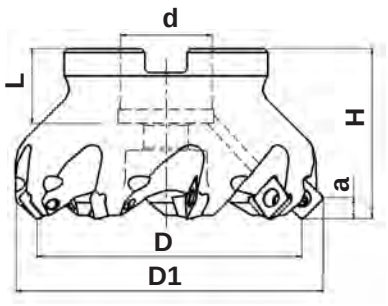
DT190...SO09, SO12
Size of inserts identical with long edge mills.
Four cutting edges per insert.
Special design for titanium.
The maximal productivity for titanium makes 100cubic centimeter per minute.
Range of diameters from 26 mm up to 82 mm.

MT290/190...BO12
Positive geometry.
Best productivity for machining of titanium alloys in machining centers.
Verylight cutting.
Low cutting forces.

P	M	S

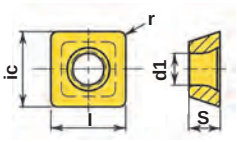
wide range of workpiece materials

MT245...SO09
Facemills 45°



Depth of cut up to 5 mm

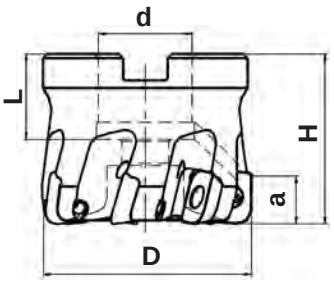
Code key	Dimensions, mm							nmax						
	D	a	D1	L	H	d	Z	RPM	kg		No.			
Regular pitch														
MT245-032A16R04SO09-IK	32	5	42,5	19	40	16	4	22000	0,1		4			
MT245-040A16R05SO09-IK	40	5	50,5	19	40	16	5	19500	0,2		5			
MT245-050A22R06SO09-IK	50	5	60,5	20	40	22	6	17500	0,4		6		T350760-10P	
MT245-063A22R07SO09-IK	63	5	73,5	20	40	22	7	15500	0,6	SONW09T308EN	7			7010-TP 3,0 Nm
MT245-080A27R09SO09-IK	80	5	92,5	22	50	27	9	13500	0,8		9			
MT245-100A32R11SO09-IK	100	5	110,5	25	50	32	11	12000	1,4		11			
MT245-125A40R14SO09-IK	125	5	135,5	29	63	40	14	10500	2,8		14			
Close pitch														
MT245-032A16R05SO09-IK	32	5	42,5	19	40	16	5	22000	0,1		5			
MT245-040A16R06SO09-IK	40	5	50,5	19	40	16	6	19500	0,2		6			
MT245-050A22R07SO09-IK	50	5	60,5	20	40	22	7	17500	0,4		7		T350760-10P	
MT245-063A22R09SO09-IK	63	5	73,5	20	40	22	9	15500	0,6	SONW09T308EN	9			7010-TP 3,0 Nm
MT245-080A27R11SO09-IK	80	5	92,5	22	50	27	11	13500	0,8		11			
MT245-100A32R13SO09-IK	100	5	110,5	25	50	32	13	12000	1,4		13			
MT245-125A40R16SO09-IK	125	5	135,5	29	63	40	16	10500	2,8		16			



Code key

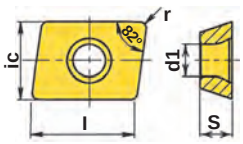
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
								mm				
SONW09T308EN	□	■		□			■	9,525	9,525	3,97	4,0	0,8

MT290...BO12
Square shoulder facemills



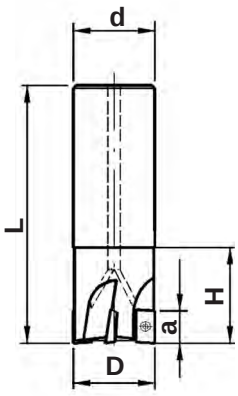
Depth of cut up to 10 mm

Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
Regular pitch													
MT290-040A16R03BO12-IK	40	10	19	40	16	3	13500	0,2	BO..12T3..	3		T350760-10P	7010-TP 3,0 Nm
MT290-050A22R04BO12-IK	50	10	20	40	22	4	11500	0,3		4			
MT290-063A22R05BO12-IK	63	10	20	40	22	5	10000	0,6		5			
MT290-080A27R06BO12-IK	80	10	22	50	27	6	8500	1,1		6			
MT290-100A32R07BO12-IK	100	10	25	50	32	7	7500	1,5		7			
MT290-125A40R08BO12-IK	125	10	29	63	40	8	6500	2,5		8			
MT290-160A40R10BO12-IK	160	10	31	63	40	10	5500	3,7		10			
Close pitch													
MT290-040A16R05BO12-IK	40	10	19	40	16	5	13500	0,2	BO..12T3..	5		T350760-10P	7010-TP 3,0 Nm
MT290-050A22R07BO12-IK	50	10	20	40	22	7	11500	0,4		7			
MT290-063A22R08BO12-IK	63	10	20	40	22	8	10000	0,6		8			
MT290-080A27R10BO12-IK	80	10	22	50	27	10	8500	1,1		10			
MT290-100A32R12BO12-IK	100	10	25	50	32	12	7500	1,5		12			
MT290-125A40R14BO12-IK	125	10	29	63	40	14	6500	2,5		14			
MT290-160A40R18BO12-IK	160	10	31	63	40	18	5500	3,7		18			



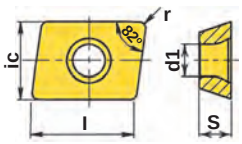
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
Code key								mm				
P	●	●	●									
M	○	●	●	●								
K					●							
N						●						
S		○	○	○			●					
H												
BONW12T308ER		■		□			■	9,525	13,0	3,97	4,0	0,8
BOHW12T330ER		□		□			■	9,525	13,0	3,97	4,0	3,0
BOHW12T340ER		□		□			■	9,525	13,0	3,97	4,0	4,0
BOHW12T363ER							■	9,525	13,0	3,97	4,0	6,3

MT190...BO12
Endmills 90°



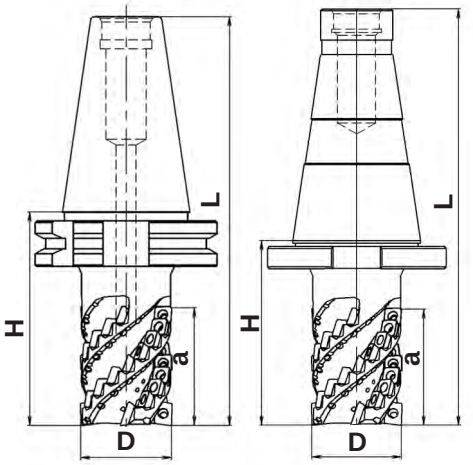
Depth of cut up to 10 mm

Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.			
MT190-W...BO12													**Straight shank with drive flat "Weldon" DIN 1835 B***
MT190-025W25R02BO12-IK	25	10	39	95	25	2	20000	0,2	BO..12T3..	2		T350760-10P	7010-TP 3,0 Nm
MT190-025W25R03BO12-IK	25	10	39	95	25	3	20000	0,2		3			
MT190-032W32R04BO12-IK	32	10	37	97	32	4	16000	0,4		4			
MT190-040W32R05BO12-IK	40	10	50	110	32	5	13500	0,6		5			
MT190-050W40R06BO12-IK	50	10	70	140	40	6	10000	0,7		6			
MT190-Z...BO12													**Straight shank cylindrical DIN 1835 A**
MT190-025Z25R02BO12-IK	25	10	100	200	25	2	20000	0,4	BO..12T3..	2		T350760-10P	7010-TP 3,0 Nm
MT190-025Z25R03BO12-IK	25	10	100	200	25	3	20000	0,4		3			
MT190-032Z32R04BO12-IK	32	10	100	200	32	4	16000	0,6		4			
MT190-040Z32R05BO12-IK	40	10	50	250	32	5	13500	0,9		5			
MT190-050Z40R06BO12-IK	50	10	70	250	40	6	10000	1,2		6			

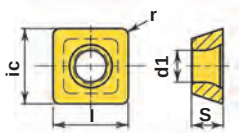


	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
Code key								mm				
BONW12T308ER		■		□			■	9,525	13,0	3,97	4,0	0,8
BOHW12T330ER		□		□			■	9,525	13,0	3,97	4,0	3,0
BOHW12T340ER		□		□			■	9,525	13,0	3,97	4,0	4,0
BOHW12T363ER							■	9,525	13,0	3,97	4,0	6,3

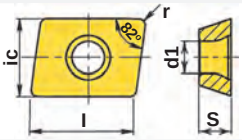
MT190L...SO09...
Long edge spiral flute endmills



Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg	+	No.			
MT190L-SK...SO09													**7/24 taper shank to ISO 297/ DIN 2080**
MT190L-040SK50R03SO09-056	40	56	103	230	SK50	3	17000	2,4	BO..12T3.. + SO..09T308..	3+21		T350760-10P	7010-TP 3,0 Nm
MT190L-040SK50R03SO09-090	40	90	133	260	SK50	3	16500	2,7		3+36			
MT190L-040SK50R03SO09-100	40	100	143	270	SK50	3	16500	2,7		3+42			
MT190L-050SK50R04SO09-076	50	76	123	250	SK50	4	15500	3,7		4+40			
MT190L-050SK50R04SO09-090	50	90	133	260	SK50	4	15000	3,9		4+48			
MT190L-050SK50R04SO09-100	50	100	143	270	SK50	4	15000	3,9		4+56			
MT190L-NC...SO09-IK													**7/24 taper shank to DIN 69871A**
MT190L-040NC50R03SO09-056-IK	40	56	103	205	NC50	3	17000	2,4	BO..12T3.. + SO..09T308..	3+21	●	T350760-10P	7010-TP 3,0 Nm
MT190L-040NC50R03SO09-090-IK	40	90	133	235	NC50	3	16500	2,7		3+36	●		
MT190L-040NC50R03SO09-100-IK	40	100	143	245	NC50	3	16500	2,7		3+42	●		
MT190L-050NC50R04SO09-076-IK	50	76	123	225	NC50	4	15500	3,7		4+40	●		
MT190L-050NC50R04SO09-090-IK	50	90	133	235	NC50	4	15000	3,9		4+48	●		
MT190L-050NC50R04SO09-100-IK	50	100	143	245	NC50	4	15000	3,9		4+56	●		

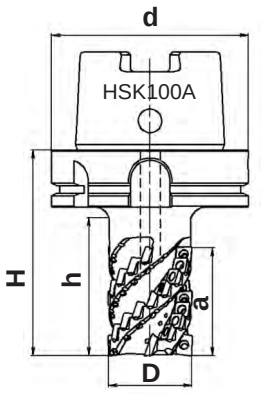


	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
Code key														mm				
SONW09T308EN							□	■		□			■	9,525	9,525	3,97	4,0	0,8

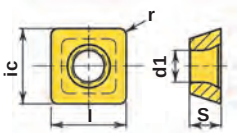


BONW12T308ER								■		□			■	9,525	13,0	3,97	4,0	0,8
BOHW12T330ER								□		□			■	9,525	13,0	3,97	4,0	3,0
BOHW12T340ER								□		□			■	9,525	13,0	3,97	4,0	4,0
BOHW12T363ER													■	9,525	13,0	3,97	4,0	6,3

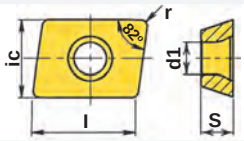
MT190L...SO09...
Long edge spiral flute endmills



Code key	Dimensions, mm D	a	H	h	d	Z	nmax RPM	kg	+	No.			
MT190L-H100A...SO09...IK										**Taper Hollow Shank HSK DIN 69893 Form A**			
MT190L-040H100AR03SO09-056-IK	40	56	114	70	100	3	17000	2,4	BO..12T3.. + SO..09T308..	3+21		T350760-10P	7010-TP 3,0 Nm
MT190L-040H100AR03SO09-090-IK	40	90	144	100	100	3	16500	2,7		3+36			
MT190L-040H100AR03SO09-100-IK	40	100	154	110	100	3	16500	2,7		3+42			
MT190L-050H100AR04SO09-076-IK	50	76	129	85	100	4	15500	3,7		4+40			
MT190L-050H100AR04SO09-090-IK	50	90	131	99	100	4	15000	3,9		4+48			
MT190L-050H100AR04SO09-100-IK	50	100	154	125	100	4	15000	3,9		4+56			

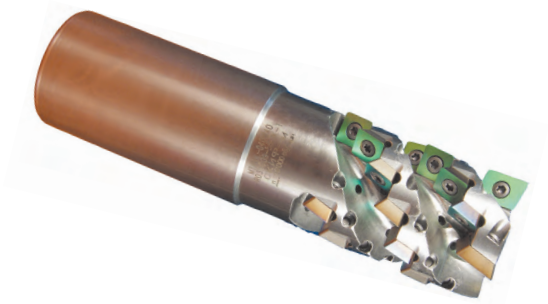


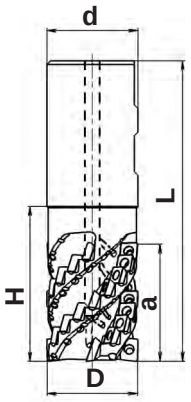
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
Code key								mm				
SONW09T308EN	□	■		□			■	9,525	9,525	3,97	4,0	0,8



BONW12T308ER		■		□			■	9,525	13,0	3,97	4,0	0,8
BOHW12T330ER		□		□			■	9,525	13,0	3,97	4,0	3,0
BOHW12T340ER		□		□			■	9,525	13,0	3,97	4,0	4,0
BOHW12T363ER							■	9,525	13,0	3,97	4,0	6,3

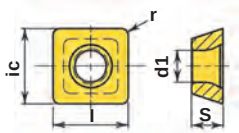
MT190L...SO09...
Long edge spiral flute endmills



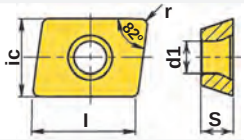


Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.					
MT190L-W...SO09...IK													**Straight shank with drive flat "Weldon" DIN 1835 B***		
MT190L-040W40R03SO09-056-IK	40	56	80	150	40	3	17000	1,0	BO..12T3.. + SO..09T308..	3+21		-	-	T350760-10P	7010-TP 3,0 Nm
MT190L-040W40R03SO09-090-IK	40	90	110	180	40	3	17000	1,2		3+36		-	-		
MT190L-040W40R03SO09-100-IK	40	100	120	190	40	3	17000	1,3		3+42		-	-		
MT190L-050W50R04SO09-076-IK	50	76	100	180	50	4	13500	2,2		4+40		-	-		
MT190L-050W50R04SO09-090-IK	50	90	115	195	50	4	13500	2,3		4+48		-	-		
MT190L-050W50R04SO09-100-IK	50	100	125	205	50	4	13500	2,4		4+56		-	-		
MT190L-W...SO09...+18A...													**Straight shank with drive flat "Weldon" DIN 1835 B***		
MT190L-050W50R04SO09-58+18A-IK	50	76	100	180	50	4	13500	2,0	BO..12T3.. + SO..09T308..	4+40		E290L-X050R04SO09	H103500-08S-IK	T350760-10P	7010-TP 3,0 Nm
MT190L-050W50R04SO09-72+18A-IK	50	90	115	195	50	4	13500	2,2		4+48					
MT190L-050W50R04SO09-82+18A-IK	50	100	125	205	50	4	13500	2,3		4+56					

**It is possible to design mills with drive flat (Weldon) and with sloping clamping surface Whistle Notch DIN 1835E*



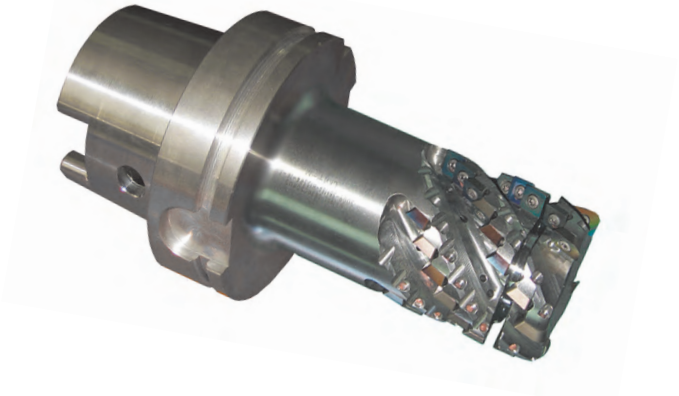
Code key	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
														mm				
SONW09T308EN	●	●	●				□	■		□			■	9,525	9,525	3,97	4,0	0,8

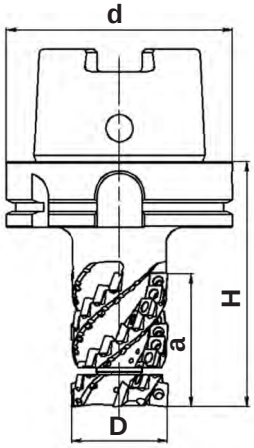


BONW12T308ER								■		□			■	9,525	13,0	3,97	4,0	0,8
BOHW12T330ER								□		□			■	9,525	13,0	3,97	4,0	3,0
BOHW12T340ER								□		□			■	9,525	13,0	3,97	4,0	4,0
BOHW12T363ER													■	9,525	13,0	3,97	4,0	6,3

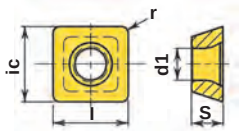
MT190L...SO09+18A...

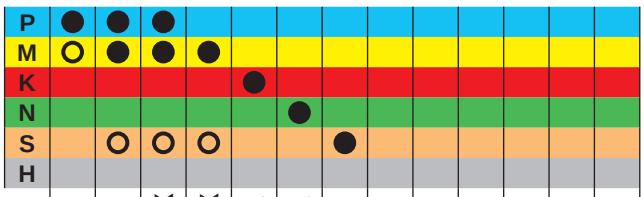
Long edge spiral flute endmills with front end cutter heads





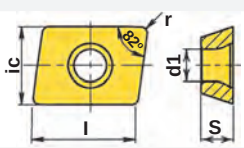
Code key	Dimensions, mm D	a	H	d	Z	nmax RPM	kg	+	No.					
MT190L..H.A..SO09..+18A-IK	***Regular pitch***												**Taper Hollow Shank HSK DIN 69893 Form A**	
MT190L-050H100AR04SO09-058+18A-IK	50	76	109	100	4	15000	3,1		4+40					
MT190L-050H100AR04SO09-072+18A-IK	50	90	144	100	4	14500	3,6		4+48		E290L-X050R04SO09	H103500-08S-IK		
MT190L-050H100AR04SO09-082+18A-IK	50	100	154	100	4	14500	3,7		4+56					
MT190L-063H100AR05SO09-072+18A-IK	63	90	144	100	5	14000	4,1		5+60					
MT190L-063H100AR05SO09-082+18A-IK	63	100	154	100	5	14000	4,3	BO..12T3.. + SO..09T308..	5+70					
MT190L-063H100AR05SO09-098+18A-IK	63	116	172	100	5	13500	4,7		5+80		E290L-X063R05SO09	H123600-10S-IK	T350760-10P	7010-TP 3,0 Nm
MT190L-063H125AR05SO09-072+18A-IK	63	90	144	125	5	12500	4,7		5+60					
MT190L-063H125AR05SO09-098+18A-IK	63	116	172	125	5	11500	4,7		5+80					
MT190L-080H125AR06SO09-098+18A-IK	80	116	172	125	6	10500	6,3		6+96		E290L-X080R06SO09	H164500-14S-IK		
MT190L-080H125AR06SO09-131+18A-IK	80	149	186	125	6	10500	8,0		6+126					
	Close pitch												**Taper Hollow Shank HSK DIN 69893 Form A**	
MT190L-063H100AR06SO09-072+18A-IK	63	90	144	100	6	14500	4,1		6+72					
MT190L-063H100AR06SO09-082+18A-IK	63	100	154	100	6	14500	4,2		6+84					
MT190L-063H100AR06SO09-098+18A-IK	63	116	172	100	6	13500	4,7	BO..12T3.. + SO..09T308..	6+96		E290L-X063R06SO09	H123600-10S-IK	T350760-10P	7010-TP 3,0 Nm
MT190L-063H125AR06SO09-072+18A-IK	63	90	144	125	6	13500	4,8		6+72					
MT190L-063H125AR06SO09-098+18A-IK	63	116	172	125	6	12500	5,0		6+96					
MT190L-080H125AR07SO09-098+18A-IK	80	116	172	125	7	10500	6,3		7+112		E290L-X080R07SO09	H164500-14S-IK		
MT190L-080H125AR07SO09-131+18A-IK	80	149	200	125	7	10500	8,0		7+147					





Code key

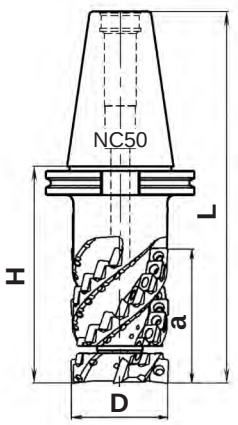
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
								mm				
SONW09T308EN	□	■		□			■	9,525	9,525	3,97	4,0	0,8



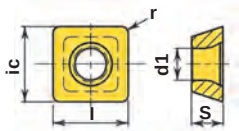
BONW12T308ER		■		□			■	9,525	13,0	3,97	4,0	0,8
BOHW12T330ER		□		□			■	9,525	13,0	3,97	4,0	3,0
BOHW12T340ER		□		□			■	9,525	13,0	3,97	4,0	4,0
BOHW12T363ER							■	9,525	13,0	3,97	4,0	6,3

MT190L...SO09+18A...

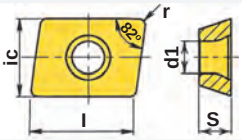
Long edge spiral flute endmills with front end cutter heads



Code key	Dimensions, mm D	a	H	L	Z	nmax RPM	kg	+	No.					
MT190L..NC50..SO09..+18A-IK	***Regular pitch***												**7/24 taper shank to DIN 69871A**	
MT190L-050NC50R04SO09-058+18A-IK	50	76	119	221	4	15000	3,1	BO..12T3.. + SO..09T308..	4+40					
MT190L-050NC50R04SO09-072+18A-IK	50	90	133	235	4	14500	3,6		4+48		E290L-X050R04SO09	H103500-08S-IK	T350760-10P	7010-TP 3,0 Nm
MT190L-050NC50R04SO09-082+18A-IK	50	100	143	245	4	14500	3,7		4+56					
MT190L-063NC50R05SO09-072+18A-IK	63	90	133	235	5	14000	4,1		5+60					
MT190L-063NC50R05SO09-082+18A-IK	63	100	143	245	5	14000	4,3		5+70		E290L-X063R05SO09	H123600-10S-IK		
MT190L-063NC50R05SO09-098+18A-IK	63	116	163	265	5	13500	4,7		5+80					
MT190L-080NC50R06SO09-098+18A-IK	80	116	163	265	6	10500	6,3		6+96		E290L-X080R06SO09	H164500-14S-IK		
MT190L-080NC50R06SO09-131+18A-IK	80	149	186	288	6	10500	8,0		6+126					
	Close pitch													
MT190L-063NC50R06SO09-072+18A-IK	63	90	133	235	6	14500	4,1	BO..12T3.. + SO..09T308..	6+72		E290L-X063R06SO09	H123600-10S-IK	T350760-10P	7010-TP 3,0 Nm
MT190L-063NC50R06SO09-082+18A-IK	63	100	143	245	6	14500	4,2		6+84					
MT190L-063NC50R06SO09-098+18A-IK	63	116	163	265	6	13500	4,7		6+96					
MT190L-080NC50R07SO09-098+18A-IK	80	116	163	265	7	10500	6,3		7+112		E290L-X080R07SO09	H164500-14S-IK		
MT190L-080NC50R07SO09-131+18A-IK	80	149	186	288	7	10500	8,0		7+147					

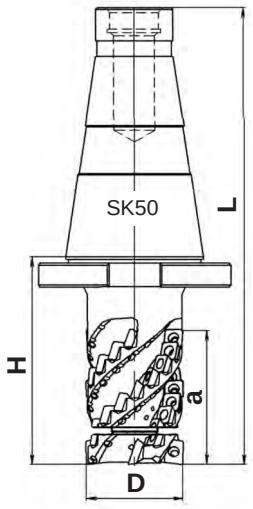


	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
Code key														mm				
SONW09T308EN							□	■		□			■	9,525	9,525	3,97	4,0	0,8

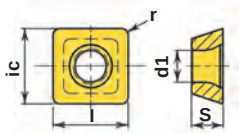


BONW12T308ER								■		□			■	9,525	13,0	3,97	4,0	0,8
BOHW12T330ER								□		□			■	9,525	13,0	3,97	4,0	3,0
BOHW12T340ER								□		□			■	9,525	13,0	3,97	4,0	4,0
BOHW12T363ER													■	9,525	13,0	3,97	4,0	6,3

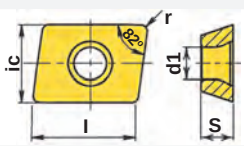
MT190L...SO09 +18A...
Long edge spiral flute endmills with front end cutter heads



Code key	Dimensions, mm D	a	H	L	Z	nmax RPM	kg	+	No.					
MT190L..SK50..SO09..+18A								***Regular pitch***					**7/24 taper shank to ISO 297/ DIN 2080**	
MT190L-050SK50R04SO09-058+18A	50	76	119	236	4	15000	3,1		4+40					
MT190L-050SK50R04SO09-072+18A	50	90	133	260	4	14500	3,6		4+48		E290L-X050R04SO09	H103500-08S		
MT190L-050SK50R04SO09-082+18A	50	100	143	270	4	14500	3,7		4+56					
MT190L-063SK50R05SO09-072+18A	63	90	133	260	5	14000	4,1	BO..12T3.. + SO..09T308..	5+60					
MT190L-063SK50R05SO09-082+18A	63	100	143	270	5	14000	4,3		5+70		E290L-X063R05SO09	H123600-10S	T350760-10P	7010-TP 3,0 Nm
MT190L-063SK50R05SO09-098+18A	63	116	163	290	5	13500	4,7		5+80					
MT190L-080SK50R06SO09-098+18A	80	116	163	290	6	10500	6,3		6+96		E290L-X080R06SO09	H164500-14S		
MT190L-080SK50R06SO09-131+18A	80	149	186	313	6	10500	8,0		6+126					
								Close pitch						
MT190L-063SK50R06SO09-072+18A	63	90	133	260	6	14500	4,1		6+72					
MT190L-063SK50R06SO09-082+18A	63	100	143	270	6	14500	4,2		6+84		E290L-X063R06SO09	H123600-10S		
MT190L-063SK50R06SO09-098+18A	63	116	163	290	6	13500	4,7	BO..12T3.. + SO..09T308..	6+96				T350760-10P	7010-TP 3,0 Nm
MT190L-080SK50R07SO09-098+18A	80	116	163	290	7	10500	6,3		7+112		E290L-X080R07SO09	H164500-14S		
MT190L-080SK50R07SO09-131+18A	80	149	186	313	7	10500	8,0		7+147					

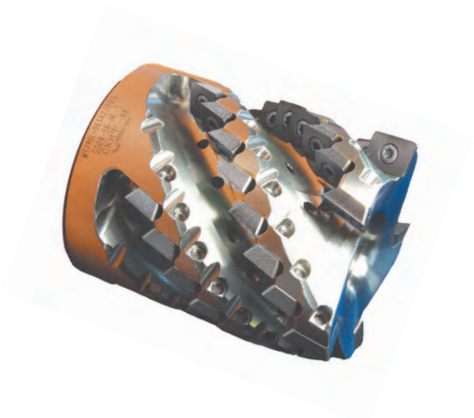


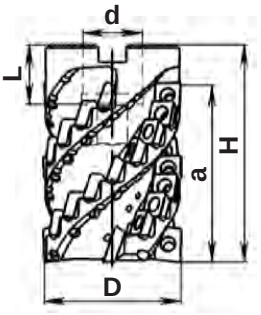
	P	M	K	N	S	H	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
Code key														mm				
SONW09T308EN							□	■		□			■	9,525	9,525	3,97	4,0	0,8



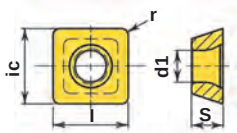
BONW12T308ER								■		□			■	9,525	13,0	3,97	4,0	0,8
BOHW12T330ER								□		□			■	9,525	13,0	3,97	4,0	3,0
BOHW12T340ER								□		□			■	9,525	13,0	3,97	4,0	4,0
BOHW12T363ER													■	9,525	13,0	3,97	4,0	6,3

MT290L...SO09...
Long edge milling cutters

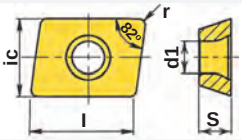




Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg	+	No.			
Regular pitch													
MT290L-050A22R04SO09-30-IK	50	30	44	22	22	4	15500	0,4	BO..12T3.. + SO..09T308..	4+12		T350760-10P	7010-TP 3,0 Nm
MT290L-050A22R04SO09-44-IK	50	44	55	22	22	4	13000	0,4		4+20			
MT290L-063A27R05SO09-38-IK	63	38	55	25	27	5	11000	0,7		5+20			
MT290L-063A27R05SO09-56-IK	63	56	75	28	27	5	10000	0,7		5+35			
MT290L-080A32R06SO09-45-IK	80	45	61,6	34	32	6	6800	1,3		6+30			
MT290L-080A32R06SO09-70-IK	80	70	88	34	32	6	5900	1,3		6+54			
MT290L-084A32R06SO09-70-IK	84	70	88	34	32	6	5500	1,5		6+54			
MT290L-100A40R07SO09-50-IK	100	50	70	40	40	7	5200	1,9		7+42			
MT290L-100A40R07SO09-70-IK	100	70	88	40	40	7	4600	1,9		7+63			
Close pitch													
MT290L-063A27R06SO09-38-IK	63	38	55	25	27	6	11000	0,7	BO..12T3.. + SO..09T308..	6+24		T350760-10P	7010-TP 3,0 Nm
MT290L-063A27R06SO09-56-IK	63	56	75	28	27	6	10000	0,7		6+40			
MT290L-080A32R07SO09-44-IK	80	44	61,6	34	32	7	6800	1,3		7+35			
MT290L-080A32R07SO09-70-IK	80	70	88	34	32	7	5900	1,3		7+63			
MT290L-084A32R07SO09-70-IK	84	70	88	34	32	7	5500	1,5		7+63			
MT290L-100A40R08SO09-50-IK	100	50	70	40	40	8	5200	1,9		8+48			
MT290L-100A40R08SO09-70-IK	100	70	88	40	40	8	4600	1,9		8+72			

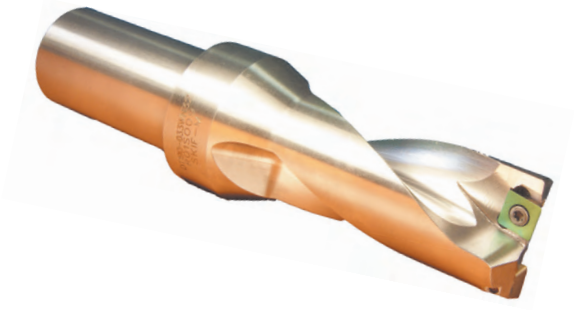


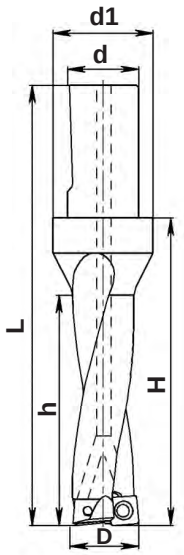
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
Code key								mm				
P	●	●	●									
M	○	●	●	●								
K					●							
N						●						
S		○	○	○			●					
H												
SONW09T308EN	□	■		□			■	9,525	9,525	3,97	4,0	0,8



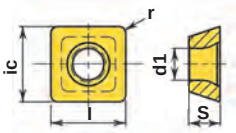
BONW12T308ER		■		□			■	9,525	13,0	3,97	4,0	0,8
BOHW12T330ER		□		□			■	9,525	13,0	3,97	4,0	3,0
BOHW12T340ER		□		□			■	9,525	13,0	3,97	4,0	4,0
BOHW12T363ER							■	9,525	13,0	3,97	4,0	6,3

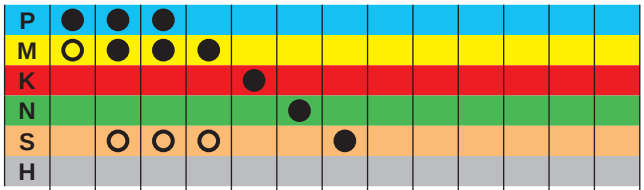
DT190...-T
Drills for machining titanium alloys



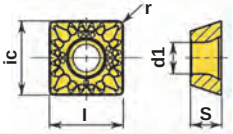


Code key	Dimensions, mm D	h	H	L	d	d1	kg		No.			
DT190-WN...SO09...-IK								**Straight shank with sloping clamping surface DIN 1835E**				
DT190-026WN32R01SO09-IK	26	68	100	160	32	42	0,7	SONW09T308EN	2		T350760-10P	7010-TP 3,0 Nm
DT190-033WN32R01SO09-IK	33	68	100	160	32	42	0,8		2			
DT190-041WN40R01SO09-IK	41	70	110	180	40	50	1,4		3			
DT190-051WN40R01SO09-IK	51	70	110	180	40	61	1,7		3			
DT190-063WN50R01SO09-IK	63	100	130	210	50	62	3,0		4			
DT190-WN...SO12...-T								**Straight shank with sloping clamping surface DIN 1835E**				
DT190-063WN50R01SO12-IK-T	63	100	130	210	50	62	3,0	SOMT120408EN-T	3		T401160-15P	7015-TP 5,5 Nm
DT190-082WN50R01SO12-IK-T	82	100	140	220	50	84	4,3		6			



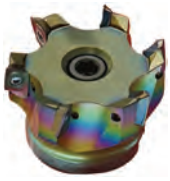
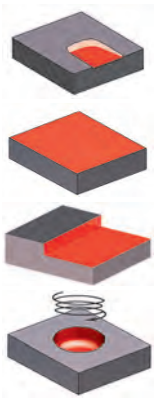
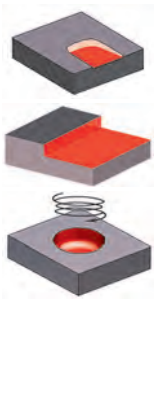
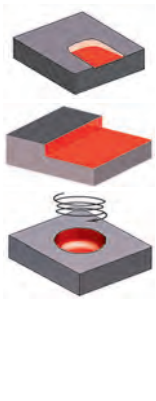
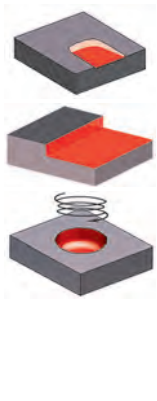
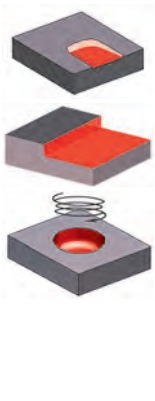
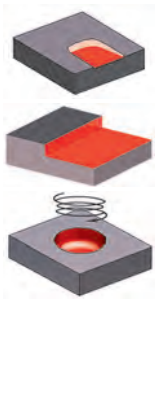


Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
								mm				
SONW09T308EN	□	■		□			■	9,525	9,525	3,97	4,0	0,8



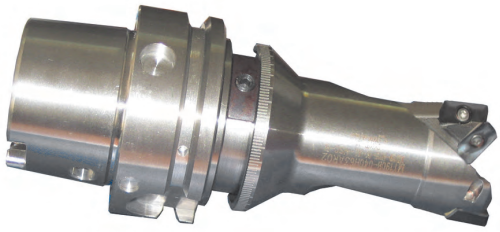
SOMT120408EN-T				■			■	12,7	12,7	4,76	4,7	0,8

Milling tools for machining Aluminium alloys

Types of mills							
Code key	MT290... BD10-AL	MT190..Z.. BD10-AL	MT190..H.A.. BD10-AL	MT190B... BD10-AL	MT290... XE17-AL	MT190... XE17-AL	MT190... XE17-AL-B
Page	168	170	172	174	176	177	179
Insert type							
Insert pages	21	21	21	21	39	39	39
Workpiece material P							
M							
K							
N	●●●	●●●	●●●	●●●	●●●	●●●	●●●
S							
H							
Tool lead angle	90°	90°	90°	90°	90°	90°	90°
Range ⌀, mm	32-100	16-40	25-50	30-32	40-125	25-50	25-50
Depth of cut up to, mm	10	10	10	10	16,5	16,5	16,5
Working areas R	●●●	●●●	●●●	●●●			
M	●●●	●●●	●●●	●			
F	●●●	●●●	●●●		●●●	●●●	●●●
Plunging				●●●	●●●	●●●	●●●
Internal coolant							
Application							

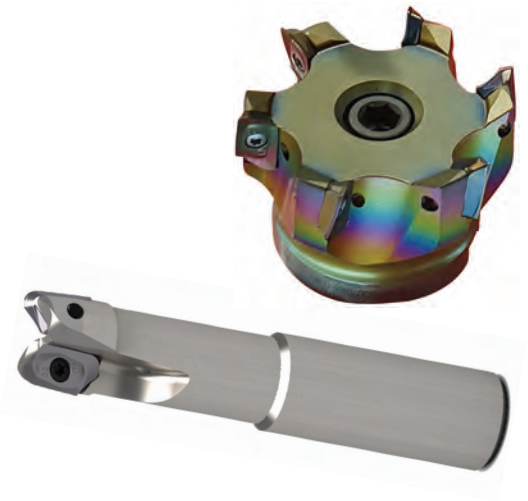
Milling tools for machining Aluminium alloys

MT290...BD10, MT190...BD10
Cutter body is adapted for inserts with corner radius from 0,4 to 3,0 mm.
For insert with corner radius 4,0 mm applies another cutter body.
Suitable for ramping.
It offers a wide range of corner radius options, especially for aerospace details.
Cutting speed up to 3500 m/min.
Over 1000 m/min it is necessary a complete system, mounting tool and cutting tool, as one unit according the G2,5 nach

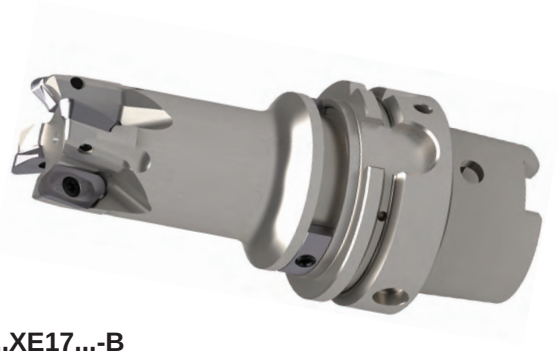


MT190B...BD10
Suitable for ramping.
Best productivity in machining Aluminium alloys from aerospace details.
Over 1000 m/min it is necessary a complete system, tool mounting and cutting tool, as one unit according the G2,5 class ISO 1940 is balanced.

MT190...BD10...-B
Cutter body is adapted for inserts with corner radius from 0,4 to 3,0 mm.
For insert with corner radius 4,0 mm applies another cutter body.
Suitable for ramping.
Best productivity in machining Aluminium alloys from aerospace details.
Over 1000 m/min it is necessary a complete system, tool mounting and cutting tool, as one unit according the G2,5 class ISO 1940 is balanced.



MT290...XE17, MT190...XE17
Cutter body is adapted for inserts with corner radius from 0,4 to 3,2 mm.
For insert with corner radius 4,0 and 5,0 mm applies another cutter body.
Suitable for ramping.
Best productivity in machining Aluminium alloys from aerospace details.
Over 1000 m/min it is necessary a complete system, tool mounting and cutting tool, as one unit according the G2,5 class ISO 1940 is balanced.

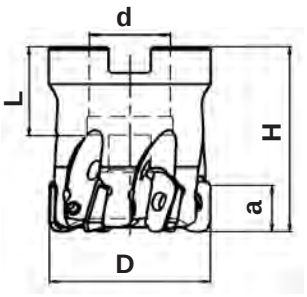


MT190...XE17...-B
Cutter body is adapted for inserts with corner radius from 0,4 to 3,2 mm.
For insert with corner radius 4,0 and 5,0 mm applies another cutter body.
Suitable for ramping.
Best productivity in machining Aluminium alloys from aerospace details.
Over 1000 m/min it is necessary a complete system, tool mounting and cutting tool, as one unit according the G2,5 class ISO 1940 is balanced.

N

range of workpiece materials

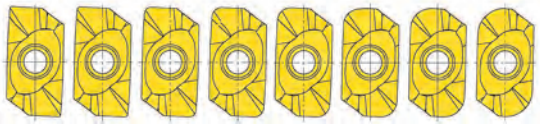
MT290...BD10-AL
Square shoulder facemills for machining aluminium alloys

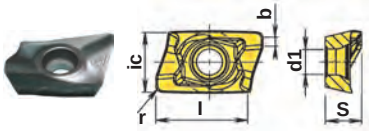


Depth of cut up to 10 mm

Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
MT290...BD10-IK-AL	***for high speed cutting up to 3500 m/min***												
MT290-032A16R04BD10-IK-AL	32	10	19	40	16	4	39800	0,2	BDMT10T3..ER	4		T250755-08AP	7008-TP 1,8 Nm
MT290-040A16R04BD10-IK-AL	40	10	19	40	16	4	35500	0,2		4			
MT290-050A22R05BD10-IK-AL	50	10	20	40	22	5	31800	0,3		5			
MT290-063A22R06BD10-IK-AL	63	10	20	40	22	6	28300	0,5		6			
MT290-080A27R08BD10-IK-AL	80	10	22	50	27	8	25100	0,9		8			
MT290-100A32R10BD10-IK-AL	100	10	25	50	32	10	22500	1,3		10			

R0,2 0,4 0,8 1,2 1,6 2,0 2,4 R3,0

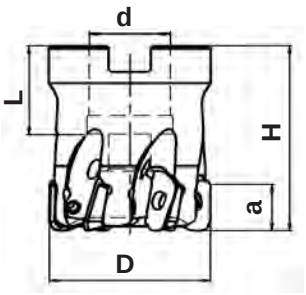




Code key	HCN10X	ic	l	S	d1	r	b
		mm					
BDMT10T302ER	■	6,85	10,0	3,97	2,8	0,2	1,1
BDMT10T304ER	■	6,85	10,0	3,97	2,8	0,4	0,9
BDMT10T308ER	■	6,85	10,0	3,97	2,8	0,8	0,5
BDMT10T312ER	■	6,85	10,0	3,97	2,8	1,2	0,2
BDMT10T316ER	■	6,85	9,8	3,97	2,8	1,6	-
BDMT10T320ER	■	6,85	9,8	3,97	2,8	2,0	-
BDMT10T324ER	■	6,85	9,7	3,97	2,8	2,4	-
BDMT10T330ER	■	6,85	9,6	3,97	2,8	3,0	-

MT290...BD10-R5...-AL

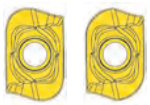
Square shoulder facemills for machining aluminium alloys

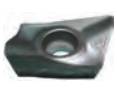


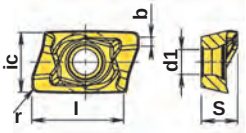
Depth of cut up to 10 mm

Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
MT290...BD10-R5-IK-AL	***for high speed cutting up to 3500 m/min***												
MT290-032A16R04BD10-R5-IK-AL	32	10	19	40	16	4	39800	0,2	BDMT10T340ER BDMT10T350FR-AL	4		T250755-08AP	7008-TP 1,8 Nm
MT290-040A16R04BD10-R5-IK-AL	40	10	19	40	16	4	35500	0,2		4			
MT290-050A22R05BD10-R5-IK-AL	50	10	20	40	22	5	31800	0,3		5			
MT290-063A22R06BD10-R5-IK-AL	63	10	20	40	22	6	28300	0,5		6			
MT290-080A27R08BD10-R5-IK-AL	80	10	22	50	27	8	25100	0,9		8			
MT290-100A32R10BD10-R5-IK-AL	100	10	25	50	32	10	22500	1,3		10			

R4,0 R5,0

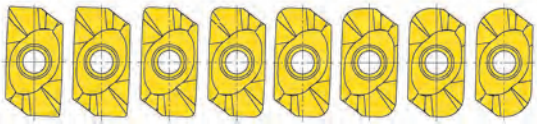


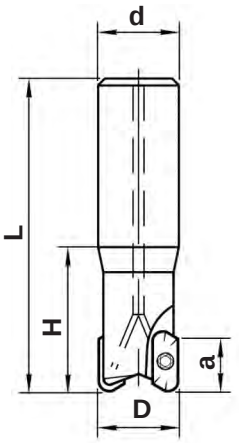




Code key	HCN10X	ic	l	S	d1	r	b
		mm					
BDMT10T340ER	■	6,85	9,5	3,97	2,8	4,0	-
BDMT10T350ER	■	6,85	9,5	3,97	2,8	5,0	-

MT190...BD10-AL
Endmills for machining aluminium alloys



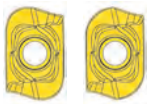


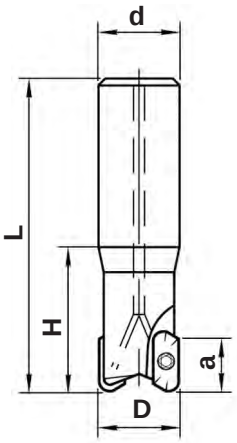
Depth of cut up to 10 mm

Code key	Dimensions, mm						nmax	kg		No.			
	D	a	H	L	d	Z	RPM						
MT190-Z...BD10-IK-AL	***for high speed cutting up to 3500 m/min***											**Straight shank cylindrical**	**DIN 1835 A**
MT190-016Z16R02BD10-L075-IK-AL	16	10	27	75	16	2	56200	0,1	BDMT10T3..ER	2		T250555-08AP	7008-TP 1,8 Nm
MT190-016Z16R02BD10-L090-IK-AL	16	10	42	90	16	2	49200	0,1		2			
MT190-016Z16R02BD10-L110-IK-AL	16	10	62	110	16	2	42200	0,1		2			
MT190-016Z16R02BD10-L130-IK-AL	16	10	82	130	16	2	35100	0,1		2			
MT190-018Z18R02BD10-L075-IK-AL	18	10	25	75	18	2	53100	0,1		2			
MT190-018Z18R02BD10-L110-IK-AL	18	10	60	110	18	2	40000	0,1		2			
MT190-019Z18R02BD10-L078-IK-AL	19	10	27	78	18	2	51700	0,2		2			
MT190-019Z18R02BD10-L110-IK-AL	19	10	60	110	18	2	40000	0,3		2			
MT190-020Z20R02BD10-L090-IK-AL	20	10	40	90	20	2	50100	0,2		2			
MT190-020Z20R02BD10-L110-IK-AL	20	10	60	110	20	2	43900	0,3		2			
MT190-020Z20R02BD10-L130-IK-AL	20	10	80	130	20	2	37600	0,3		2			
MT190-020Z20R02BD10-L160-IK-AL	20	10	100	160	20	2	31300	0,36		2			
MT190-022Z25R02BD10-L090-IK-AL	22	10	34	90	25	2	47900	0,2		2		T250755-08AP	
MT190-022Z25R02BD10-L110-IK-AL	22	10	54	110	25	2	42000	0,3		2			
MT190-025Z25R02BD10-L110-IK-AL	25	10	54	110	25	2	45000	0,3		2			
MT190-025Z25R02BD10-L140-IK-AL	25	10	84	140	25	2	39000	0,4		2			
MT190-025Z25R02BD10-L170-IK-AL	25	10	114	170	25	2	28000	0,5		2			
MT190-025Z25R03BD10-L110-IK-AL	25	10	54	110	25	3	45000	0,3		3			
MT190-025Z25R03BD10-L140-IK-AL	25	10	84	140	25	3	30000	0,4		3			
MT190-030Z32R03BD10-L110-IK-AL	30	10	50	110	32	3	39300	0,5		3			
MT190-032Z32R04BD10-L120-IK-AL	32	10	60	120	32	4	39800	0,5		4			
MT190-032Z25R04BD10-L120-IK-AL	32	10	60	120	25	4	39800	0,5		4			
MT190-032Z32R04BD10-L160-IK-AL	32	10	100	160	32	4	34800	0,6		4			
MT190-032Z32R04BD10-L200-IK-AL	32	10	130	200	32	4	29800	0,6		4			
MT190-040Z32R04BD10-L110-IK-AL	40	10	50	110	32	4	35500	0,7		4			
MT190-040Z32R04BD10-L140-IK-AL	40	10	80	140	32	4	33300	0,8		4			
MT190-040Z32R04BD10-L170-IK-AL	40	10	110	170	32	4	31100	0,9		4			
MT190-040Z32R05BD10-L110-IK-AL	40	10	50	110	32	5	35500	0,7		5			
MT190-040Z32R05BD10-L140-IK-AL	40	10	80	140	32	5	33300	0,8		5			
MT190-040Z32R05BD10-L170-IK-AL	40	10	110	170	32	5	31100	0,9		5			
MT190-040Z32R06BD10-L110-IK-AL	40	10	50	110	32	6	35500	0,7		6			
MT190-040Z32R06BD10-L140-IK-AL	40	10	80	140	32	6	33300	0,8		6			
MT190-040Z32R06BD10-L170-IK-AL	40	10	110	170	32	6	31100	0,9		6			

MT190...BD10-R5...-AL
Endmills for machining aluminium alloys

R4,0 **R5,0**

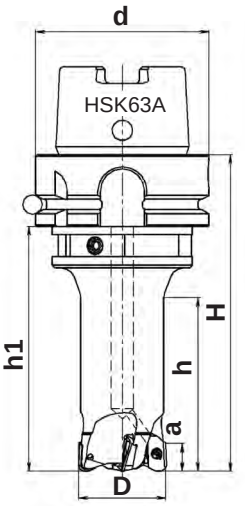




Depth of cut up to 10 mm

Code key	Dimensions, mm						nmax	kg		No.			
	D	a	H	L	d	Z	RPM						
MT190-Z...BD10-R5-IK-AL	***for high speed cutting up to 3500 m/min***										**Straight shank cylindrical**		**DIN 1835 A**
MT190-016Z16R02BD10-R5-L075-IK-AL	16	10	27	75	16	2	56200	0,1	BDMT10T340ER BDMT10T350FR-AL	2		T250555-08AP	7008-TP 1,8 Nm
MT190-016Z16R02BD10-R5-L090-IK-AL	16	10	42	90	16	2	49200	0,1		2			
MT190-016Z16R02BD10-R5-L110-IK-AL	16	10	62	110	16	2	42200	0,1		2			
MT190-016Z16R02BD10-R5-L130-IK-AL	16	10	82	130	16	2	35100	0,1		2			
MT190-018Z18R02BD10-R5-L075-IK-AL	18	10	25	75	18	2	53100	0,1		2			
MT190-018Z18R02BD10-R5-L110-IK-AL	18	10	60	110	18	2	40000	0,1		2			
MT190-019Z18R02BD10-R5-L078-IK-AL	19	10	27	78	18	2	51700	0,2		2			
MT190-019Z18R02BD10-R5-L110-IK-AL	19	10	60	110	18	2	40000	0,3		2			
MT190-020Z20R02BD10-R5-L090-IK-AL	20	10	40	90	20	2	50100	0,2		2			
MT190-020Z20R02BD10-R5-L110-IK-AL	20	10	60	110	20	2	43900	0,3		2			
MT190-020Z20R02BD10-R5-L130-IK-AL	20	10	80	130	20	2	37600	0,3		2			
MT190-020Z20R02BD10-R5-L160-IK-AL	20	10	100	160	20	2	31300	0,36		2			
MT190-022Z25R02BD10-R5-L090-IK-AL	22	10	34	90	25	2	47900	0,2		2		T250755-08AP	
MT190-022Z25R02BD10-R5-L110-IK-AL	22	10	54	110	25	2	42000	0,3		2			
MT190-025Z25R02BD10-R5-L110-IK-AL	25	10	54	110	25	2	45000	0,3		2			
MT190-025Z25R02BD10-R5-L140-IK-AL	25	10	84	140	25	2	39000	0,4		2			
MT190-025Z25R02BD10-R5-L170-IK-AL	25	10	114	170	25	2	28000	0,5		2			
MT190-025Z25R03BD10-R5-L110-IK-AL	25	10	54	110	25	3	45000	0,3		3			
MT190-025Z25R03BD10-R5-L140-IK-AL	25	10	84	140	25	3	30000	0,4		3			
MT190-030Z32R03BD10-R5-L110-IK-AL	30	10	50	110	32	3	39300	0,5		3			
MT190-032Z32R04BD10-R5-L120-IK-AL	32	10	60	120	32	4	39800	0,5		4			
MT190-032Z25R04BD10-R5-L120-IK-AL	32	10	60	120	25	4	39800	0,5		4			
MT190-032Z32R04BD10-R5-L160-IK-AL	32	10	100	160	32	4	34800	0,6		4			
MT190-032Z32R04BD10-R5-L200-IK-AL	32	10	130	200	32	4	29800	0,6		4			
MT190-040Z32R04BD10-R5-L110-IK-AL	40	10	50	110	32	4	35500	0,7		4			
MT190-040Z32R04BD10-R5-L140-IK-AL	40	10	80	140	32	4	33300	0,8		4			
MT190-040Z32R04BD10-R5-L170-IK-AL	40	10	110	170	32	4	31100	0,9		4			
MT190-040Z32R05BD10-R5-L110-IK-AL	40	10	50	110	32	5	35500	0,7		5			
MT190-040Z32R05BD10-R5-L140-IK-AL	40	10	80	140	32	5	33300	0,8		5			
MT190-040Z32R05BD10-R5-L170-IK-AL	40	10	110	170	32	5	31100	0,9		5			
MT190-040Z32R06BD10-R5-L110-IK-AL	40	10	50	110	32	6	35500	0,7		6			
MT190-040Z32R06BD10-R5-L140-IK-AL	40	10	80	140	32	6	33300	0,8		6			
MT190-040Z32R06BD10-R5-L170-IK-AL	40	10	110	170	32	6	31100	0,9		6			

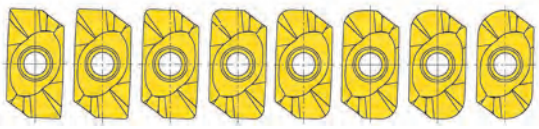
MT190...BD10-AL-B
Balanced endmills for machining aluminium alloys



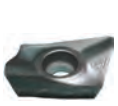
Depth of cut up to 10 mm

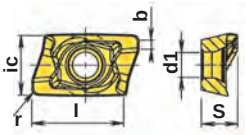
Code key	Dimensions, mm D	a	H	h	h1	d	Z	nmax RPM	kg		No.			
MT190-H63A...BD10-IK-AL-B	*for high speed cutting up to 3500 m/min*									**Taper Hollow Shank HSK DIN 69893 Form A**				
MT190-025H63AR02BD10-H115-IK-AL-B	25	10	115	50	79	63	2	39000	0,48	BDMT10T3..ER	2		T250755-08AP	7008-TP 1,8 Nm
MT190-025H63AR03BD10-H105-IK-AL-B	25	10	105	63	89	63	3	42000	0,45		3			
MT190-025H63AR03BD10-H115-IK-AL-B	25	10	115	63	79	63	3	39000	0,48		3			
MT190-032H63AR03BD10-H115-IK-AL-B	32	10	115	80	109	63	3	37200	0,57		3			
MT190-032H63AR04BD10-H115-IK-AL-B	32	10	115	63	89	63	4	37200	0,50		4			
MT190-032H63AR04BD10-H135-IK-AL-B	32	10	135	80	109	63	4	34000	0,63		4			
MT190-040H63AR03BD10-H115-IK-AL-B	40	10	115	63	89	63	3	35500	0,62		3			
MT190-040H63AR04BD10-H115-IK-AL-B	40	10	115	80	109	63	4	35500	0,60		4			
MT190-040H63AR04BD10-H135-IK-AL-B	50	10	135	63	89	63	4	33000	0,70		4			
MT190-050H63AR03BD10-H115-IK-AL-B	50	10	115	100	129	63	3	31800	1,94		3			
MT190-050H63AR05BD10-H115-IK-AL-B	50	10	115	63	89	63	5	31800	0,90		5			
MT190-050H63AR05BD10-H155-IK-AL-B	50	10	155	100	129	63	5	30000	1,03		5			

R0,2 0,4 0,8 1,2 1,6 2,0 2,4 R3,0



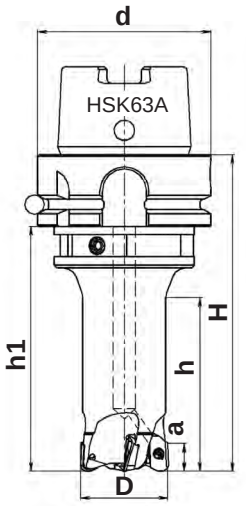
Balancing equipment	Balancing screw	Balancing screwdriver
		
B510805	H600500-30	7003H





Code key	HCN10X	ic	l	S	d1	r	b
		mm					
BDMT10T302ER	■	6,85	10,0	3,97	2,8	0,2	1,1
BDMT10T304ER	■	6,85	10,0	3,97	2,8	0,4	0,9
BDMT10T308ER	■	6,85	10,0	3,97	2,8	0,8	0,5
BDMT10T312ER	■	6,85	10,0	3,97	2,8	1,2	0,2
BDMT10T316ER	■	6,85	9,8	3,97	2,8	1,6	-
BDMT10T320ER	■	6,85	9,8	3,97	2,8	2,0	-
BDMT10T324ER	■	6,85	9,7	3,97	2,8	2,4	-
BDMT10T330ER	■	6,85	9,6	3,97	2,8	3,0	-

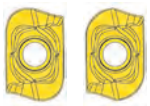
MT190...BD10-R5...-AL-B
Balanced endmills for machining aluminium alloys



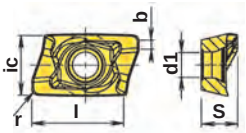
Depth of cut up to 10 mm

Code key	Dimensions, mm D	a	H	h	h1	d	Z	nmax RPM	kg		No.			
MT190-H63A...BD10-R5-IK-AL-B	***for high speed cutting up to 3500 m/min***									**Taper Hollow Shank HSK DIN 69893 Form A**				
MT190-025H63AR02BD10-R5-H115-IK-AL-B	25	10	115	50	79	63	2	39000	0,48	BDMT10T340ER BDMT10T350FR-AL	2		T250755-08AP	7008-TP 1,8 Nm
MT190-025H63AR03BD10-R5-H105-IK-AL-B	25	10	105	63	89	63	3	42000	0,45		3			
MT190-025H63AR03BD10-R5-H115-IK-AL-B	32	10	115	63	79	63	3	39000	0,48		3			
MT190-032H63AR03BD10-R5-H115-IK-AL-B	32	10	115	80	109	63	3	37200	0,57		3			
MT190-032H63AR04BD10-R5-H115-IK-AL-B	32	10	115	63	89	63	4	37200	0,50		4			
MT190-032H63AR04BD10-R5-H135-IK-AL-B	32	10	135	80	109	63	4	34000	0,63		4			
MT190-040H63AR03BD10-R5-H115-IK-AL-B	40	10	115	63	89	63	3	35500	0,62		3			
MT190-040H63AR04BD10-R5-H115-IK-AL-B	40	10	115	80	109	63	4	35500	0,60		4			
MT190-040H63AR04BD10-R5-H135-IK-AL-B	50	10	135	63	89	63	4	33000	0,70		4			
MT190-050H63AR03BD10-R5-H115-IK-AL-B	50	10	115	100	129	63	3	31800	1,94		3			
MT190-050H63AR05BD10-R5-H115-IK-AL-B	50	10	115	63	89	63	5	31800	0,90		5			
MT190-050H63AR05BD10-R5-H155-IK-AL-B	50	10	155	100	129	63	5	30000	1,03		5			

R4,0 **R5,0**



Balancing equipment	Balancing screw	Balancing screwdriver
		
B510805	H600500-30	7003H

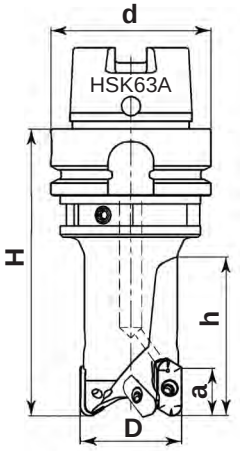


Code key	HCN10X	ic	l	S	d1	r	b
		mm					
BDMT10T340ER	■	6,85	9,5	3,97	2,8	4,0	-
BDMT10T350ER	■	6,85	9,5	3,97	2,8	5,0	-

P M K N S H

MT190B...-AL-B

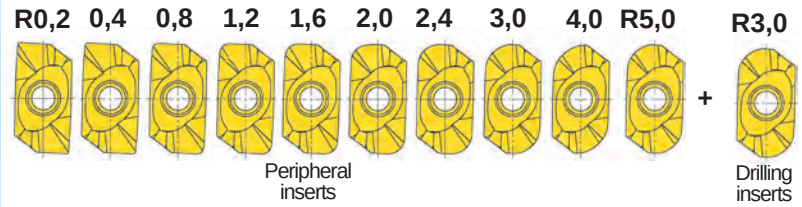
Balanced drilling endmills for machining aluminium alloys



Code key	Dimensions, mm D	a	H	h	d	Z	nmax RPM	kg		No.			
MT190B-H63A...BD10-IK-AL-B	***for cutting speed up to 2000 m/min***								**Taper Hollow Shank HSK DIN 69893 Form A**				
MT190B-030H63AR02BD10-H115-IK-AL-B	30	10	115	63	63	2	37200	0,9	BDMT10T3..ER + BDMT10T330ER	2+1		T250755-08AP	7008-TP 1,8 Nm
MT190B-032H63AR02BD10-H115-IK-AL-B	32	10	115	63	63	2	34000	0,9		2+1			
MT190B-H63A...BD10-R5-IK-AL-B													
MT190B-030H63AR02BD10-R5-H115-IK-AL-B	30	10	115	63	63	2	37200	0,9	BDMT10T3...R + BDMT10T330ER	2+1		T250755-08AP	7008-TP 1,8 Nm
MT190B-032H63AR02BD10-R5-H115-IK-AL-B	32	10	115	63	63	2	34000	0,9		2+1			

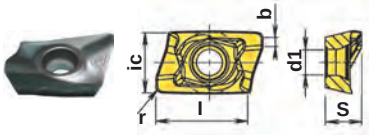
Peripheral inserts + Drilling inserts

Balancing equipment	Balancing screw	Balancing screwdriver
B510805	H600500-30	7003H



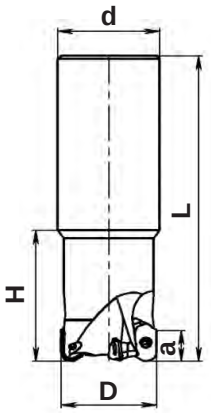
Peripheral inserts

Drilling inserts

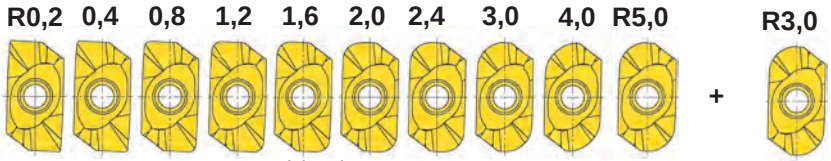


Code key	HCN10X	ic	l	S	d1	r	b
		mm					
BDMT10T302ER	■	6,85	10,0	3,97	2,8	0,2	1,1
BDMT10T304ER	■	6,85	10,0	3,97	2,8	0,4	0,9
BDMT10T308ER	■	6,85	10,0	3,97	2,8	0,8	0,5
BDMT10T312ER	■	6,85	10,0	3,97	2,8	1,2	0,2
BDMT10T316ER	■	6,85	9,8	3,97	2,8	1,6	-
BDMT10T320ER	■	6,85	9,8	3,97	2,8	2,0	-
BDMT10T324ER	■	6,85	9,7	3,97	2,8	2,4	-
BDMT10T330ER	■	6,85	9,6	3,97	2,8	3,0	-
BDMT10T340ER	■	6,85	9,5	3,97	2,8	4,0	-
BDMT10T350ER	■	6,85	9,5	3,97	2,8	5,0	-

MT190B...-AL
Drilling endmills for machining aluminium alloys



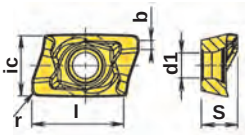
Code key	Dimensions, mm D	a	H	h	d	Z	nmax RPM	kg		No.			
MT190B-W...BD10-IK-AL	***for cutting speed up to 2000 m/min***								**Straight shank with drive flat "Weldon" DIN 1835 B***				
MT190B-030W25R02BD10-L125-IK-AL	30	10	69	125	25	2	37200	0,6	BDMT10T3..ER + BDMT10T330ER	2+1		T250755-08AP	7008-TP 1,8 Nm
MT190B-032W25R02BD10-L125-IK-AL	32	10	69	125	25	2	34000	0,6		2+1			
MT190B-Z...BD10-IK-AL									**Straight shank cylindrical DIN 1835 A**				
MT190B-030Z25R02BD10-L125-IK-AL	30	10	69	125	25	2	37200	0,6	BDMT10T3..ER + BDMT10T330ER	2+1		T250755-08AP	7008-TP 1,8 Nm
MT190B-032Z25R02BD10-L125-IK-AL	32	10	69	125	25	2	34000	0,6		2+1			
MT190B-W...BD10-R5-IK-AL									**Straight shank with drive flat "Weldon" DIN 1835 B***				
MT190B-030W25R02BD10-R5-L125-IK-AL	30	10	69	125	25	2	37200	0,6	BDMT10T3....R + BDMT10T330ER	2+1		T250755-08AP	7008-TP 1,8 Nm
MT190B-032W25R02BD10-R5-L125-IK-AL	32	10	69	125	25	2	34000	0,6		2+1			
MT190B-Z...BD10-R5-IK-AL									**Straight shank cylindrical DIN 1835 A**				
MT190B-030Z25R02BD10-R5-L125-IK-AL	30	10	69	125	25	2	37200	0,6	BDMT10T3...R + BDMT10T330ER	2+1		T250755-08AP	7008-TP 1,8 Nm
MT190B-032Z25R02BD10-R5-L125-IK-AL	32	10	69	125	25	2	34000	0,6		2+1			



Peripheral inserts

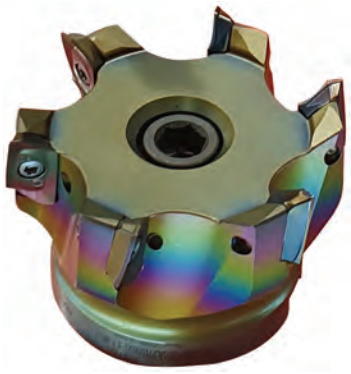
Drilling inserts

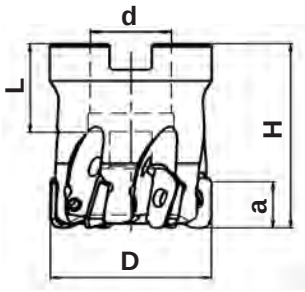
Peripheral inserts + Drilling inserts



Code key	HCN10X	ic	l	S	d1	r	b
		mm					
BDMT10T302ER	■	6,85	10,0	3,97	2,8	0,2	1,1
BDMT10T304ER	■	6,85	10,0	3,97	2,8	0,4	0,9
BDMT10T308ER	■	6,85	10,0	3,97	2,8	0,8	0,5
BDMT10T312ER	■	6,85	10,0	3,97	2,8	1,2	0,2
BDMT10T316ER	■	6,85	9,8	3,97	2,8	1,6	-
BDMT10T320ER	■	6,85	9,8	3,97	2,8	2,0	-
BDMT10T324ER	■	6,85	9,7	3,97	2,8	2,4	-
BDMT10T330ER	■	6,85	9,6	3,97	2,8	3,0	-
BDMT10T340ER	■	6,85	9,5	3,97	2,8	4,0	-
BDMT10T350ER	■	6,85	9,5	3,97	2,8	5,0	-

MT290...XE17-AL
Square shoulder facemills for machining aluminium alloys

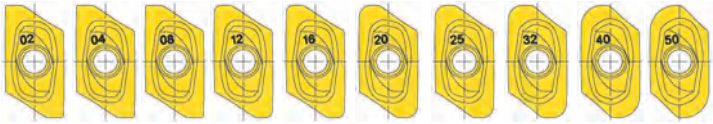


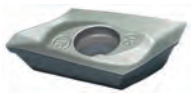


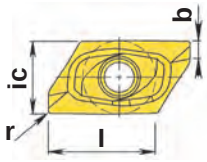
Depth of cut up to 16,5 mm

Code key	Dimensions, mm D	a	L	H	d	Z	nmax RPM	kg		No.			
MT290...XE17-IK-AL	***for high speed cutting up to 5000 m/min***												
MT290-040A16R03XE17-IK-AL	40	16,5	19	50	16	3	36000	0,3		3			
MT290-040A16R04XE17-IK-AL	40	16,5	19	50	16	4	36000	0,3		4			
MT290-050A22R04XE17-IK-AL	50	16,5	20	50	22	4	32000	0,3		4			
MT290-063A22R05XE17-IK-AL	63	16,5	20	50	22	5	25300	0,5	XEHX1705..FR-AL	5		T401160-15P	7015-TP 5,5 Nm
MT290-080A27R06XE17-IK-AL	80	16,5	22	50	27	6	20000	0,9		6			
MT290-100A32R07XE17-IK-AL	100	16,5	25	50	32	7	16000	1,3		7			
MT290-125A40R08XE17-IK-AL	125	16,5	29	69	40	8	12800	2,5		8			

R0,2 0,4 0,8 1,2 1,6 2,0 2,5 3,2 4,0 5,0

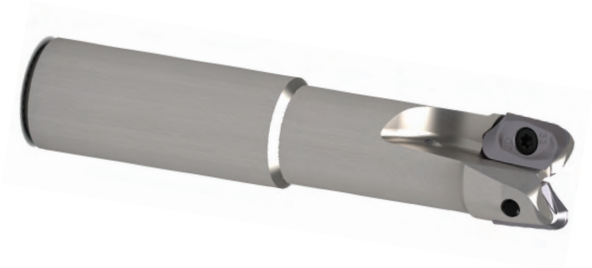


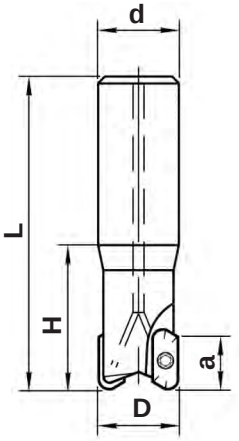




Code key	HCN10X	ic	l	S	d1	r	b
		mm					
XEHX170502FR-AL	■	11,4	16,8	5,7	4,7	0,2	2,1
XEHX170504FR-AL	■	11,4	16,8	5,7	4,7	0,4	1,7
XEHX170508FR-AL	■	11,4	16,8	5,7	4,7	0,8	1,3
XEHX170512FR-AL	■	11,4	16,8	5,7	4,7	1,2	1,4
XEHX170516FR-AL	■	11,4	16,8	5,7	4,7	1,6	1,4
XEHX170520FR-AL	■	11,4	16,8	5,7	4,7	2,0	0,6
XEHX170525FR-AL	■	11,4	16,8	5,7	4,7	2,5	0,6
XEHX170532FR-AL	■	11,4	16,8	5,7	4,7	3,2	0,6
XEHX170540FR-AL	■	11,4	16,8	5,7	4,7	4,0	0,5
XEHX170550FR-AL	■	11,4	16,8	5,7	4,7	5,0	0,4

MT190...XE17-AL
Square shoulder facemills for machining aluminium alloys

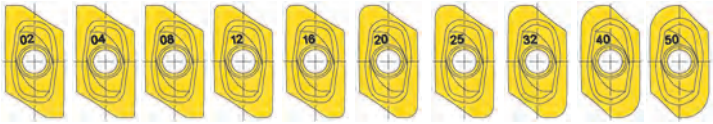


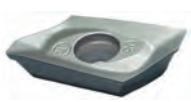


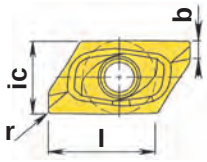
Depth of cut up to 16,5 mm

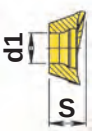
Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.			
MT190-Z...XE17-IK-AL	***for high speed cutting up to 5000 m/min***											**Straight shank cylindrical**	**DIN 1835 A**
MT190-025Z25R02XE17-L125-IK-AL	25	16,5	50	125	25	2	40000	0,3		2		T401060-15P	
MT190-025Z25R02XE17-L200-IK-AL	25	16,5	65	200	25	2	18000	0,6		2			
MT190-032Z32R03XE17-L150-IK-AL	32	16,5	50	150	32	3	33500	0,6		3			
MT190-032Z32R02XE17-L200-IK-AL	32	16,5	80	200	32	2	20000	0,8	XEHX1705..FR-AL	2		T401160-15P	7015-TP 5,5 Nm
MT190-040Z32R03XE17-L150-IK-AL	40	16,5	50	150	32	3	31300	1,0		3			
MT190-040Z32R03XE17-L200-IK-AL	40	16,5	65	200	32	3	26800	1,2		3			
MT190-040Z32R03XE17-L250-IK-AL	40	16,5	80	250	32	3	22300	1,5		3			

R0,2 0,4 0,8 1,2 1,6 2,0 2,5 3,2 4,0 5,0



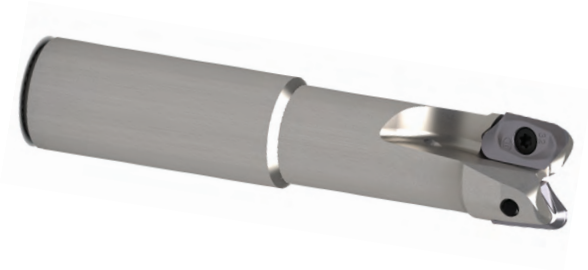


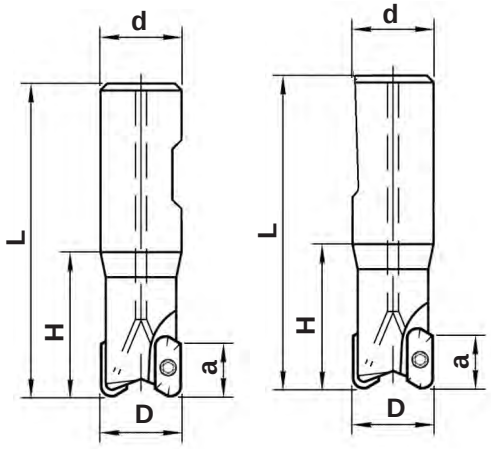




Code key	HCN10X	ic	l	S	d1	r	b
		mm					
XEHX170502FR-AL	■	11,4	16,8	5,7	4,7	0,2	2,1
XEHX170504FR-AL	■	11,4	16,8	5,7	4,7	0,4	1,7
XEHX170508FR-AL	■	11,4	16,8	5,7	4,7	0,8	1,3
XEHX170512FR-AL	■	11,4	16,8	5,7	4,7	1,2	1,4
XEHX170516FR-AL	■	11,4	16,8	5,7	4,7	1,6	1,4
XEHX170520FR-AL	■	11,4	16,8	5,7	4,7	2,0	0,6
XEHX170525FR-AL	■	11,4	16,8	5,7	4,7	2,5	0,6
XEHX170532FR-AL	■	11,4	16,8	5,7	4,7	3,2	0,6
XEHX170540FR-AL	■	11,4	16,8	5,7	4,7	4,0	0,5
XEHX170550FR-AL	■	11,4	16,8	5,7	4,7	5,0	0,4

MT190...XE17-AL
Endmills for machining aluminium alloys

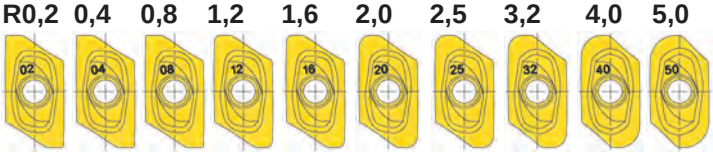




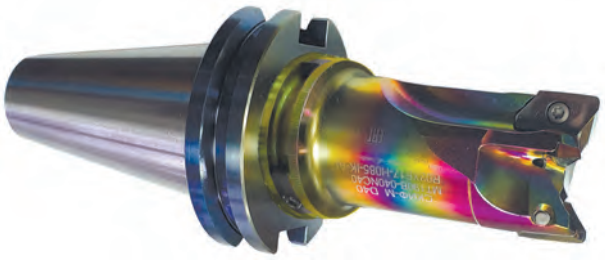
Depth of cut up to 16,5 mm

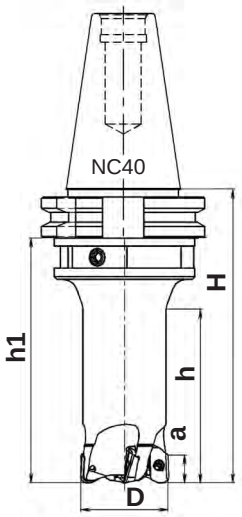
Code key	Dimensions, mm D	a	H	L	d	Z	nmax RPM	kg		No.			
MT190-W...XE17-IK-AL	***for high speed cutting up to 5000 m/min***											**Straight shank with drive flat "Weldon" DIN 1835 B***	
MT190-025W25R02XE17-L125-IK-AL	25	16,5	50	125	25	2	32000	0,3		2		T401060-15P	
MT190-025W25R02XE17-L200-IK-AL	25	16,5	65	200	25	2	15000	0,6		2			
MT190-032W32R03XE17-L150-IK-AL	32	16,5	50	150	32	3	25000	0,6		3			
MT190-032W32R02XE17-L200-IK-AL	32	16,5	80	200	32	2	16600	0,8	XEHX1705..FR-AL	2		T401160-15P	7015-TP 5,5 Nm
MT190-040W32R03XE17-L150-IK-AL	40	16,5	50	150	32	3	21800	1,0		3			
MT190-040W32R03XE17-L200-IK-AL	40	16,5	65	200	32	3	18700	1,2		3			
MT190-040W32R03XE17-L250-IK-AL	40	16,5	80	250	32	3	15600	1,5		3			
MT190-WN...XE17-IK-AL	***for high speed cutting up to 5000 m/min***											**Straight shank with sloping clamping surface DIN 1835E**	
MT190-025WN25R02XE17-L125-IK-AL	25	16,5	50	125	25	2	32000	0,3		2		T401060-15P	
MT190-025WN25R02XE17-L200-IK-AL	25	16,5	65	200	25	2	15000	0,6		2			
MT190-032WN32R03XE17-L150-IK-AL	32	16,5	50	150	32	3	25000	0,6		3			
MT190-032WN32R02XE17-L200-IK-AL	32	16,5	80	200	32	2	16600	0,8	XEHX1705..FR-AL	2		T401160-15P	7015-TP 5,5 Nm
MT190-040WN32R03XE17-L150-IK-AL	40	16,5	50	150	32	3	21800	1,0		3			
MT190-040WN32R03XE17-L200-IK-AL	40	16,5	65	200	32	3	18700	1,2		3			
MT190-040WN32R03XE17-L250-IK-AL	40	16,5	80	250	32	3	15600	1,5		3			

R0,2 0,4 0,8 1,2 1,6 2,0 2,5 3,2 4,0 5,0



MT190...XE17-AL-B
Balanced endmills for machining aluminium alloys

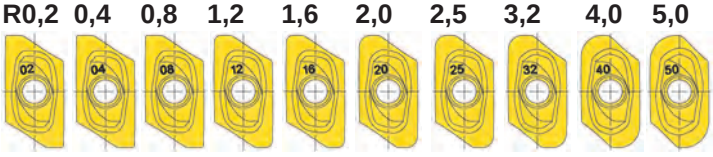




Depth of cut up to 16,5 mm

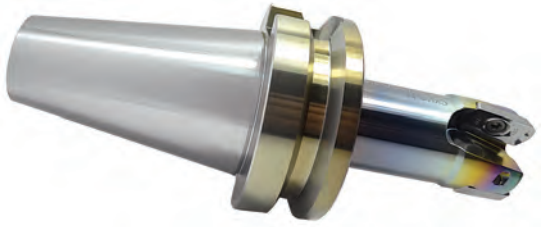
Code key	Dimensions, mm							nmax						
	D	a	H	h	h1	d	Z	RPM	kg		No.			
MT190-NC40...XE17-IK-AL-B	***for high speed cutting up to 5000 m/min***										**7/24 taper shank to DIN 69871A**			
MT190-025NC40R02XE17-H100-IK-AL-B	25	16,5	100	50	81	NC40	2	42000	0,45	XEHX1705..FR-AL	2		T401060-15P	7015-TP 5,5 Nm
MT190-025NC40R02XE17-H110-IK-AL-B	25	16,5	110	63	91	NC40	2	38400	0,48		2			
MT190-025NC40R02XE17-H130-IK-AL-B	25	16,5	130	80	111	NC40	2	34000	0,56		2			
MT190-025NC40R02XE17-H150-IK-AL-B	25	16,5	150	100	131	NC40	2	29000	0,64		2			
MT190-032NC40R02XE17-H110-IK-AL-B	32	16,5	110	63	81	NC40	2	37500	0,50		2		T401160-15P	
MT190-032NC40R02XE17-H130-IK-AL-B	32	16,5	130	80	111	NC40	2	34300	0,63		2			
MT190-032NC40R02XE17-H150-IK-AL-B	32	16,5	150	100	131	NC40	2	30000	0,75		2			
MT190-032NC40R03XE17-H110-IK-AL-B	32	16,5	110	63	91	NC40	3	37500	0,50		3			
MT190-032NC40R03XE17-H130-IK-AL-B	32	16,5	130	80	111	NC40	3	34300	0,63		3			
MT190-040NC40R03XE17-H110-IK-AL-B	40	16,5	110	63	91	NC40	3	35700	0,50		3			
MT190-040NC40R03XE17-H130-IK-AL-B	40	16,5	130	80	111	NC40	3	33500	0,53		3			
MT190-040NC40R03XE17-H150-IK-AL-B	40	16,5	150	100	131	NC40	3	31000	0,73		3			
MT190-050NC40R03XE17-H110-IK-AL-B	50	16,5	110	63	91	NC40	3	31900	0,78		3			
MT190-050NC40R03XE17-H130-IK-AL-B	50	16,5	130	80	111	NC40	3	31900	1,10		3			
MT190-050NC40R03XE17-H150-IK-AL-B	50	16,5	150	100	131	NC40	3	31900	1,40		3			
MT190-050NC40R04XE17-H110-IK-AL-B	50	16,5	110	63	91	NC40	4	31900	0,72		4			
MT190-050NC40R04XE17-H130-IK-AL-B	50	16,5	130	80	111	NC40	4	31900	1,02		4			
MT190-050NC40R04XE17-H150-IK-AL-B	50	16,5	150	100	131	NC40	4	30000	1,33		4			

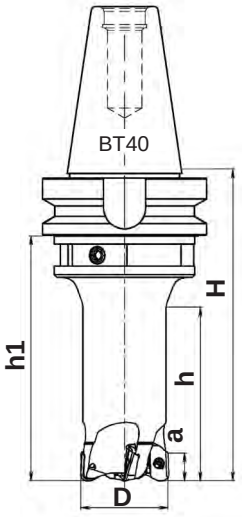
R0,2 0,4 0,8 1,2 1,6 2,0 2,5 3,2 4,0 5,0



Balancing equipment	Balancing screw	Balancing screwdriver
		
B510805	H600500-30	7003H

MT190...XE17-AL-B
Balanced endmills for machining aluminium alloys

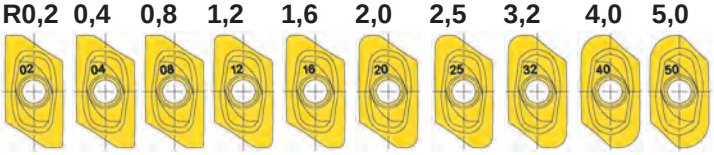




Depth of cut up to 16,5 mm

Code key	Dimensions, mm							nmax							
	D	a	H	h	h1	d	Z	RPM	kg		No.				
MT190-BT40...XE17-IK-AL-B	***for high speed cutting up to 5000 m/min***													**7/24 taper shank to MAS BT 403**	
MT190-025BT40R02XE17-H110-IK-AL-B	25	16,5	110	50	83	BT40	2	42000	0,45	XEHX1705..FR-AL	2		T401060-15P	7015-TP 5,5 Nm	
MT190-025BT40R02XE17-H120-IK-AL-B	25	16,5	120	63	93	BT40	2	38400	0,48		2				
MT190-025BT40R02XE17-H140-IK-AL-B	25	16,5	140	80	113	BT40	2	34000	0,56		2				
MT190-025BT40R02XE17-H160-IK-AL-B	25	16,5	160	100	133	BT40	2	29000	0,64		2				
MT190-032BT40R02XE17-H120-IK-AL-B	32	16,5	120	63	93	BT40	2	37500	0,50		2		T401160-15P		
MT190-032BT40R02XE17-H140-IK-AL-B	32	16,5	140	80	113	BT40	2	34300	0,63		2				
MT190-032BT40R02XE17-H160-IK-AL-B	32	16,5	160	100	133	BT40	2	30000	0,75		2				
MT190-032BT40R03XE17-H120-IK-AL-B	32	16,5	120	63	93	BT40	3	37500	0,50		3				
MT190-032BT40R03XE17-H140-IK-AL-B	32	16,5	140	80	113	BT40	3	34300	0,63		3				
MT190-040BT40R03XE17-H120-IK-AL-B	40	16,5	120	63	93	BT40	3	35700	0,50		3				
MT190-040BT40R03XE17-H140-IK-AL-B	40	16,5	140	80	113	BT40	3	33500	0,53		3				
MT190-040BT40R03XE17-H160-IK-AL-B	40	16,5	160	100	133	BT40	3	31000	0,73		3				
MT190-050BT40R03XE17-H120-IK-AL-B	50	16,5	120	63	93	BT40	3	31900	0,78		3				
MT190-050BT40R03XE17-H140-IK-AL-B	50	16,5	140	80	113	BT40	3	31900	1,10		3				
MT190-050BT40R03XE17-H160-IK-AL-B	50	16,5	160	100	133	BT40	3	31900	1,40		3				
MT190-050BT40R04XE17-H120-IK-AL-B	50	16,5	120	63	93	BT40	4	31900	0,72		4				
MT190-050BT40R04XE17-H140-IK-AL-B	50	16,5	140	80	113	BT40	4	31900	1,02		4				
MT190-050BT40R04XE17-H160-IK-AL-B	50	16,5	160	100	133	BT40	4	30000	1,33		4				

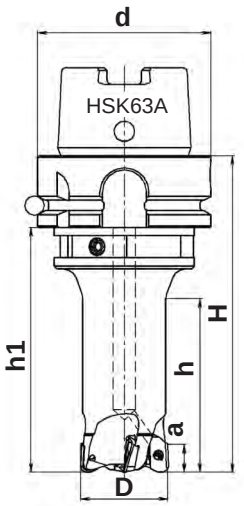
R0,2 0,4 0,8 1,2 1,6 2,0 2,5 3,2 4,0 5,0



Balancing equipment	Balancing screw	Balancing screwdriver
		
B510805	H600500-30	7003H

39 233 238

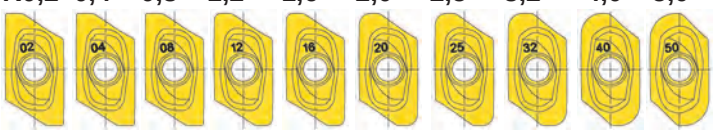
MT190...XE17-AL-B
Balanced endmills for machining aluminium alloys



Depth of cut up to 16,5 mm

Code key	Dimensions, mm							nmax						
	D	a	H	h	h1	d	Z	RPM	kg		No.			
MT190-H63A...XE17-IK-AL-B	***for high speed cutting up to 5000 m/min***									**Taper Hollow Shank HSK DIN 69893 Form A**				
MT190-025H63AR02XE17-H105-IK-AL-B	25	16,5	105	50	79	63	2	42000	0,45	XEHX1705..FR-AL	2		T401060-15P	7015-TP 5,5 Nm
MT190-025H63AR02XE17-H115-IK-AL-B	25	16,5	115	63	89	63	2	38400	0,48		2			
MT190-025H63AR02XE17-H135-IK-AL-B	25	16,5	135	80	109	63	2	34000	0,56		2			
MT190-025H63AR02XE17-H155-IK-AL-B	25	16,5	155	100	129	63	2	29000	0,64		2			
MT190-032H63AR02XE17-H115-IK-AL-B	32	16,5	115	63	79	63	2	37500	0,50		2		T401160-15P	
MT190-032H63AR02XE17-H135-IK-AL-B	32	16,5	135	80	109	63	2	34300	0,63		2			
MT190-032H63AR02XE17-H155-IK-AL-B	32	16,5	155	100	129	63	2	30000	0,75		2			
MT190-032H63AR03XE17-H115-IK-AL-B	32	16,5	115	63	89	63	3	37500	0,50		3			
MT190-032H63AR03XE17-H135-IK-AL-B	32	16,5	135	80	109	63	3	34300	0,63		3			
MT190-040H63AR03XE17-H155-IK-AL-B	40	16,5	115	63	89	63	3	35700	0,50		3			
MT190-040H63AR03XE17-H115-IK-AL-B	40	16,5	135	80	109	63	3	33500	0,53		3			
MT190-040H63AR03XE17-H135-IK-AL-B	40	16,5	155	100	129	63	3	31000	0,73		3			
MT190-050H63AR03XE17-H115-IK-AL-B	50	16,5	115	63	89	63	3	31900	0,78		3			
MT190-050H63AR03XE17-H135-IK-AL-B	50	16,5	135	80	109	63	3	31900	1,10		3			
MT190-050H63AR03XE17-H155-IK-AL-B	50	16,5	155	100	129	63	3	31900	1,40		3			
MT190-050H63AR04XE17-H115-IK-AL-B	50	16,5	115	63	89	63	4	31900	0,72		4			
MT190-050H63AR04XE17-H135-IK-AL-B	50	16,5	135	80	109	63	4	31900	1,02		4			
MT190-050H63AR04XE17-H155-IK-AL-B	50	16,5	155	100	129	63	4	30000	1,33		4			

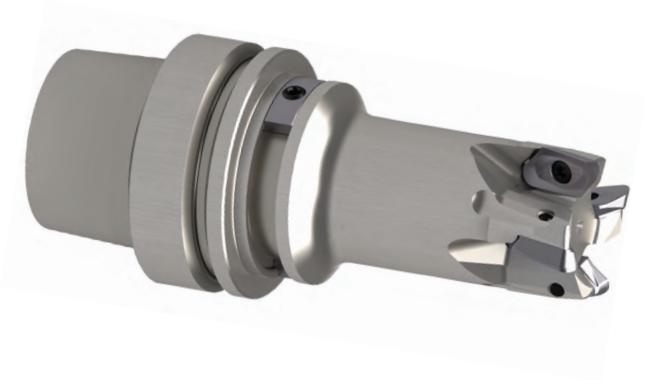
R0,2 0,4 0,8 1,2 1,6 2,0 2,5 3,2 4,0 5,0

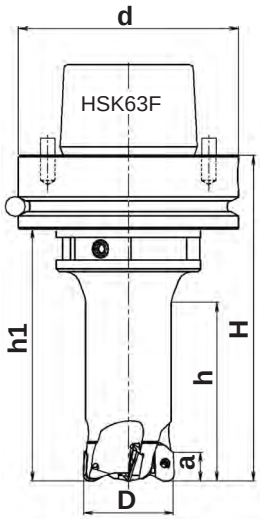


Balancing equipment	Balancing screw	Balancing screwdriver
		
B510805	H600500-30	7003H

MT190...XE17-AL-B

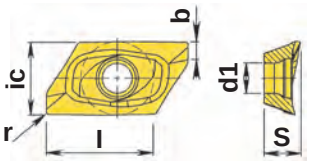
Balanced endmills for machining aluminium alloys





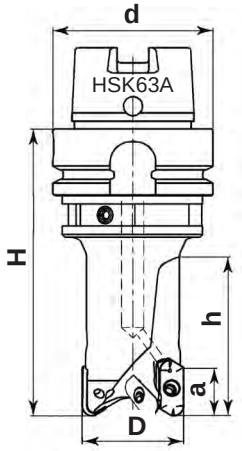
Depth of cut up to 16,5 mm

Code key	Dimensions, mm							nmax						
	D	a	H	h	h1	d	Z	RPM	kg		No.			
MT190-H63F...XE17-IK-AL-B		***for high speed cutting up to 5000 m/min***								**Taper Hollow Shank HSK DIN 69893 Form F**				
MT190-025H63FR02XE17-H105-IK-AL-B	25	16,5	105	50	79	63	2	42000	0,45	XEHX1705..FR-AL	2		T401060-15P	7015-TP 5,5 Nm
MT190-025H63FR02XE17-H115-IK-AL-B	25	16,5	115	63	89	63	2	38400	0,48		2			
MT190-025H63FR02XE17-H135-IK-AL-B	25	16,5	135	80	109	63	2	34000	0,56		2			
MT190-025H63FR02XE17-H155-IK-AL-B	25	16,5	155	100	129	63	2	29000	0,64		2			
MT190-032H63FR02XE17-H115-IK-AL-B	32	16,5	115	63	79	63	2	37500	0,50		2		T401160-15P	
MT190-032H63FR02XE17-H135-IK-AL-B	32	16,5	135	80	109	63	2	34300	0,63		2			
MT190-032H63FR02XE17-H155-IK-AL-B	32	16,5	155	100	129	63	2	30000	0,75		2			
MT190-032H63FR03XE17-H115-IK-AL-B	32	16,5	115	63	89	63	3	37500	0,50		3			
MT190-032H63FR03XE17-H135-IK-AL-B	32	16,5	135	80	109	63	3	34300	0,63		3			
MT190-040H63FR03XE17-H155-IK-AL-B	40	16,5	115	63	89	63	3	35700	0,50		3			
MT190-040H63FR03XE17-H115-IK-AL-B	40	16,5	135	80	109	63	3	33500	0,53		3			
MT190-040H63FR03XE17-H135-IK-AL-B	40	16,5	155	100	129	63	3	31000	0,73		3			
MT190-050H63FR03XE17-H115-IK-AL-B	50	16,5	115	63	89	63	3	31900	0,78		3			
MT190-050H63FR03XE17-H135-IK-AL-B	50	16,5	135	80	109	63	3	31900	1,10		3			
MT190-050H63FR03XE17-H155-IK-AL-B	50	16,5	155	100	129	63	3	31900	1,40		3			
MT190-050H63FR04XE17-H115-IK-AL-B	50	16,5	115	63	89	63	4	31900	0,72		4			
MT190-050H63FR04XE17-H135-IK-AL-B	50	16,5	135	80	109	63	4	31900	1,02		4			
MT190-050H63FR04XE17-H155-IK-AL-B	50	16,5	155	100	129	63	4	30000	1,33		4			



Code key	HCN10X	P	M	K	N	S	H	ic	l	S	d1	r	b
								mm					
XEHX170502FR-AL	■							11,4	16,8	5,7	4,7	0,2	2,1
XEHX170504FR-AL	■							11,4	16,8	5,7	4,7	0,4	1,7
XEHX170508FR-AL	■							11,4	16,8	5,7	4,7	0,8	1,3
XEHX170512FR-AL	■							11,4	16,8	5,7	4,7	1,2	1,4
XEHX170516FR-AL	■							11,4	16,8	5,7	4,7	1,6	1,4
XEHX170520FR-AL	■							11,4	16,8	5,7	4,7	2,0	0,6
XEHX170525FR-AL	■							11,4	16,8	5,7	4,7	2,5	0,6
XEHX170532FR-AL	■							11,4	16,8	5,7	4,7	3,2	0,6
XEHX170540FR-AL	■							11,4	16,8	5,7	4,7	4,0	0,5
XEHX170550FR-AL	■							11,4	16,8	5,7	4,7	5,0	0,4

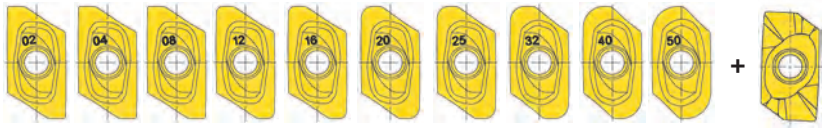
MT190B...-AL
Balanced drilling endmills for machining aluminium alloys



Code key	Dimensions, mm D	a	H	h	d	Z	nmax RPM	kg		No.			
MT190B-H63A...XE17-IK-AL-B	***for cutting speed up to 2000 m/min***											**Taper Hollow Shank HSK DIN 69893 Form A**	
MT190B-040H63AR02XE17-H115-IK-AL-B	40	16,5	115	63	63	2	35700	1,0	XEHX1705..FR-AL + BDMT10T304ER	2+1		T400955-15A + T250555-08AP	7015-T 5,0 Nm + 7008-TP 1,8 Nm
MT190B-040H63AR02XE17-H135-IK-AL-B	40	16,5	135	80	63	2	33500	1,1		2+1			
MT190B-040H63AR02XE17-H155-IK-AL-B	40	16,5	155	100	63	2	31300	1,2		2+1			
MT190B-Z...XE17-IK-AL	***for cutting speed up to 5000 m/min***											**Straight shank cylindrical DIN 1835 A**	
MT190B-040Z32R02XE17-L125-IK-AL	40	16,5	65	125	32	2	24900	0,7	XEHX1705..FR-AL + BDMT10T304ER	2+1		T401160-15P + T250555-08AP	7015-TP 5,5 Nm + 7008-TP 1,8 Nm
MT190B-040Z32R02XE17-L135-IK-AL	40	16,5	75	135	32	2	23400	0,75		2+1			
MT190B-NC...XE17-IK-AL	***for cutting speed up to 5000 m/min***											**7/24 taper shank to DIN 69871A**	
MT190B-040NC40R02XE17-L178-IK-AL	40	16,5	93	178	NC40	2	24900	2,0	XEHX1705..FR-AL + BDMT10T304ER	2+1		T401160-15P + T250555-08AP	7015-TP 5,5 Nm + 7008-TP 1,8 Nm
MT190B-040NC40R02XE17-L192-IK-AL	40	16,5	123	192	NC40	2	21800	2,7		2+1			
MT190B-040NC40R02XE17-L282-IK-AL	40	16,5	213	282	NC40	2	15600	3,7		2+1			

Peripheral inserts + Drilling inserts

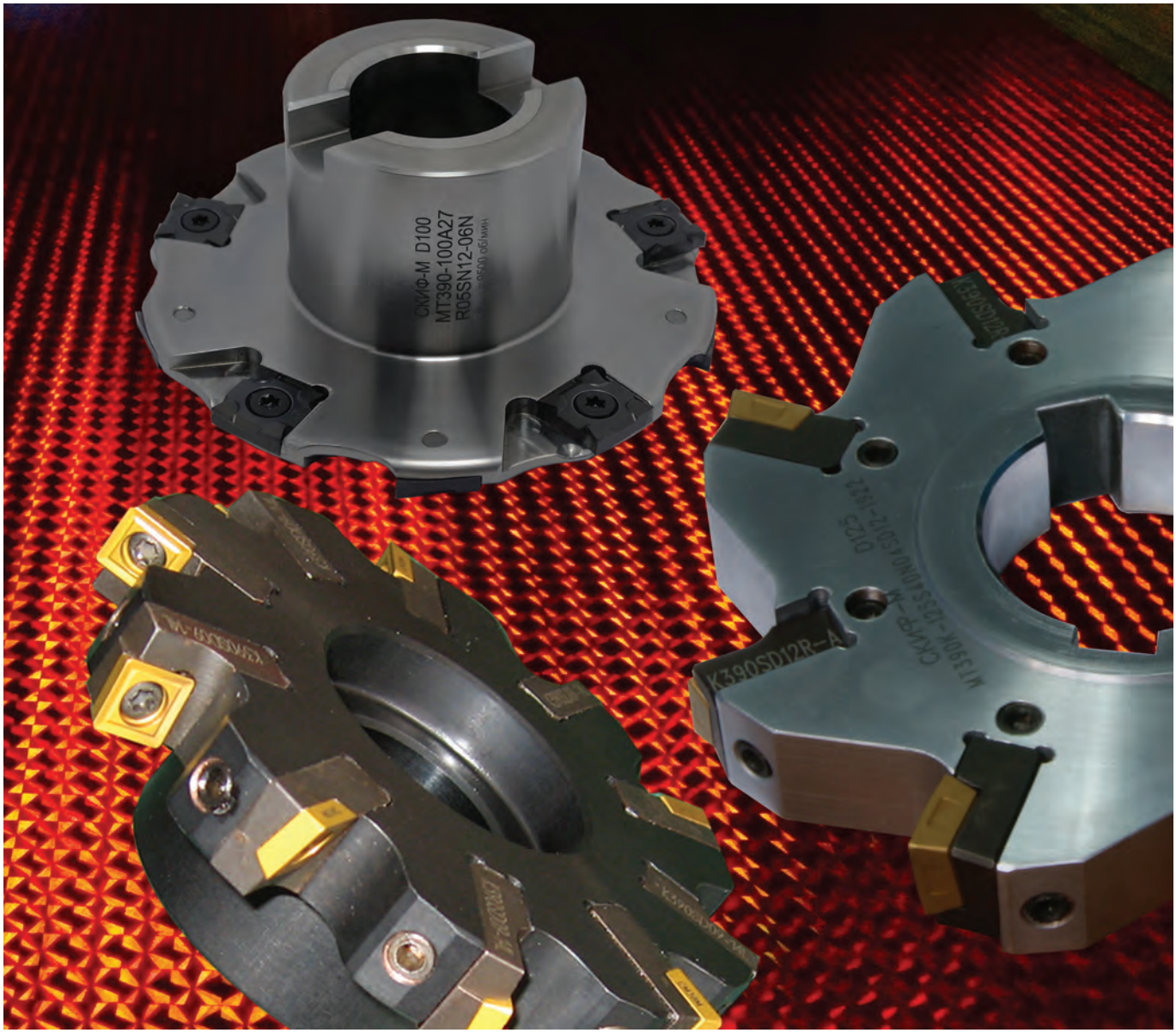
R0,2 0,4 0,8 1,2 1,6 2,0 2,5 3,2 4,0 5,0 + R0,4



Peripheral inserts

Drilling inserts

Balancing equipment	Balancing screw	Balancing screwdriver
		
B510805	H600500-30	7003H


СКИФ-М D100
MT390-100A27
R05SN12-06N
K390SD12R-A

Page

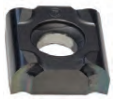
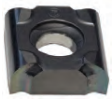
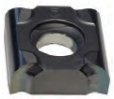
Slotting mills 186

Full side and facemills with cartridges 206

Half side and facemills with cartridges 216

Special mills 223

Screw-on slotting mills

Types of mills	NEW 	NEW 				
Code key	MT390...TO	MT390...TO	MT190T...TO	MT390...SNEC	MT390...SNEC	MT190T...SNEC
Page	189	190	201	191	197	201
Insert type						
Insert pages	38	38	38	32-33	32-33	32-33
Workpiece material P	●●●	●●●	●●●	●●●	●●●	●●●
Workpiece material M	●●●	●●●	●●●	●●●	●●●	●●●
Workpiece material K						
Workpiece material N	●	●	●	●	●	●
Workpiece material S	●●●	●●●	●●●	●●●	●●●	●●●
Workpiece material H						
Tool lead angle	90°	90°	90°	90°	90°	90°
Range ⌀, mm	63-250	63-160	40-80	63-1010	63-160	50-80
Slot width, mm	4-5	4-5	6-12	6-14	6-14	6-12
Working areas R	●●●	●●●	●●●	●●●	●●●	●●●
Working areas M	●●	●●	●●	●●	●●	●●
Working areas F	●	●	●	●	●	●
Plunging						
Internal coolant	✕	✕	✕	✕	✕	✕
Application						

Screw-on slotting mills

MT390...SN12, MT190T...SN12 **Ø50-1010**

For slitting and grooving.
Excellent productivity.
Tangentially arranged inserts with four cutting edges per insert, embedded in the basic cutter body.
Standard insert SNEC12...ZZEN have chamfer 0,2x45° mm.
Also a wide range of standard insert with corner radius - 0,2; 0,5; 1,0; 1,5; 2,0; 2,5; 3,0 mm. Same sized inserts with different cutting edge radius have the same thickness.
It is possible to obtain any radius in the range up 0,2 to 3 mm by order.

Slot width, mm	6	6,5	7	7,5	8	8,5	9	9,5	10	10,5	11	11,5	12	12,5	13	13,5	14
Thickness insert, mm	3,2	3,5	4,1		4,5		5,4			6,4				7,4			
Corner radius or chamfer, mm																	
0,2x45°	■ SNEC1232ZZEN	■ SNEC1237ZZEN	■ SNEC1241ZZEN		■ SNEC1245ZZEN		■ SNEC1254ZZEN			■ SNEC1264ZZEN				■ SNEC1274ZZEN			
R0,2	□ SNEC123202EN	□ SNEC123702EN	□ SNEC124102EN		□ SNEC124502EN		□ SNEC125402EN			□ SNEC126402EN				□ SNEC127402EN			
R1,0	□ SNEC123210EN	□ SNEC123710EN	□ SNEC124110EN		□ SNEC124510EN		□ SNEC125410EN			□ SNEC126410EN				□ SNEC127410EN			
R1,5	□ SNEC123215EN	□ SNEC123715EN	□ SNEC124115EN		□ SNEC124515EN		□ SNEC125415EN			□ SNEC126415EN				□ SNEC127415EN			
R2,0	□ SNEC123220EN	□ SNEC123720EN	□ SNEC124120EN		□ SNEC124520EN		□ SNEC125420EN			□ SNEC126420EN				□ SNEC127420EN			
R2,5	-	-	-		□ SNEC124525EN		□ SNEC125425EN			□ SNEC126425EN				□ SNEC127425EN			
R3,0	-	-	-		□ SNEC124530EN		□ SNEC125430EN			□ SNEC126430EN				□ SNEC127430EN			

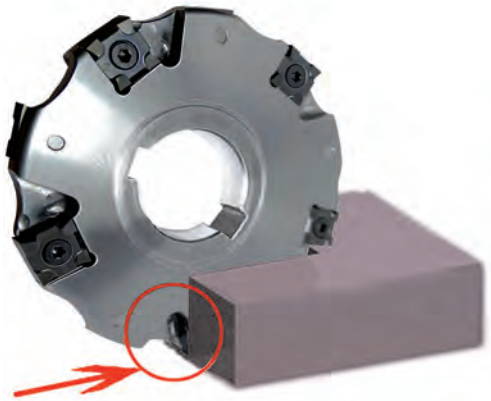
Inserts, marked ■ - are in stock, □ - are made to order.

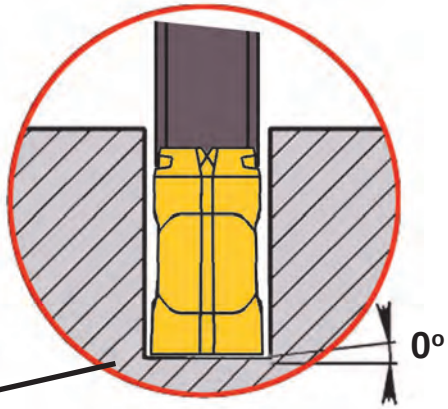
P	M	N	S

wide range of workpiece materials

Screw-on slotting mills

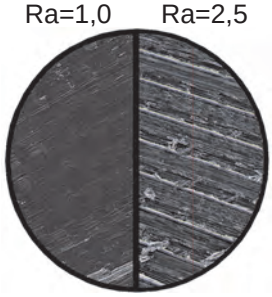
MT390...SN12, MT190T...SN12



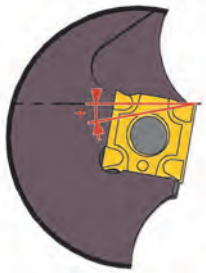


Wide range of grooves

SNEC12 SNEX12
Ra=1,0 Ra=2,5



Surface quality



Positive geometry

For mills with a thickness of up to 8 mm, it is possible to install in the cutter body a larger insert and to receive a groove of the necessary width. It is necessary to observe the condition that the protrusion from the body is not more than 1,5 mm. To the right is a table that facilitates inserts selection.

Example: When the insert SNEC1245...EN is installed in cutter body MT390-125S40N06SN12-07, width of the machining groove will be 7,8 mm.

When using insert with different thickness, use a screw of the required length.

Code key	MT390...SN12-[...] / MT190T...SN12-[...]				
	-06	-6.5	-07	-7.5	-08
	Width of cut, mm				
SNEC1232...EN	6				
SNEC1235...EN	*6,6*	6,5			
SNEC1237...EN	*7,0*	*6,9*			
SNEC1241...EN	*7,8*	*7,7*	7,0	7,5	
SNEC1245...EN			*7,8*	*8,3*	8,0
SNEC1254...EN					*9,4*

MT390...TO10, MT190T...TO10

For slitting and grooving. Excellent productivity.
Tangentially arranged inserts with six cutting edges per insert, embedded in the basic cutter body.
Standard insert TOGT10..have corner radius 0,2 mm.
Also a wide range of standard insert with corner radius - 0,2; 0,5; 0,8; 1,0; 1,2 mm. Same sized inserts with different cutting edge radius have the same thickness.
It is possible to obtain any radius in the range up 0,2 to 1,2 mm by order.
It is possible to produce mills of any thickness in the range from 4 to 6 mm by order.

Slot width, mm	**4**	**5**
Thickness insert, mm	2,31	2,86
R0,2	■ TOGT100202SN	■ TOGT10T202SN
R0,5	□ TOGT100205SN	□ TOGT10T205SN
R0,8	□ TOGT100208SN	□ TOGT10T208SN
R1,0	□ TOGT100210SN	□ TOGT10T210SN
R1,2	-	□ TOGT10T212SN

P	M	N	S

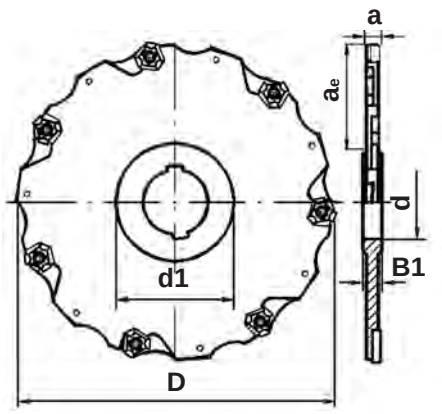
wide range of workpiece materials

SKIF-M

MT390...TO10

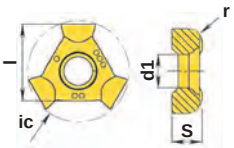
Slotting mills, mounting bore and keyway

NEW



Code key	Dimensions, mm						Z	nmax RPM	kg		No.		
	D	a	ae	d	d1	B1							
MT390-S...N...TO10-04													**Width of cut 4 mm**
MT390-063S22N05TO10-04	63	4	14	22	35	12	2x5	11500	0,1		10		
MT390-080S27N07TO10-04	80	4	21	27	38	12	2x7	10500	0,2		14		
MT390-100S32N09TO10-04	100	4	26	32	48	12	2x9	9500	0,3		18		
MT390-125S40N11TO10-04	125	4	33,5	40	58	12	2x11	8500	0,6	TOGT1002...	22	T250560-06	7006-T 0,6 Nm
MT390-160S40N14TO10-04	160	4	51	40	58	12	2x14	7500	0,8		28		
MT390-200S50N18TO10-04	200	4	64	50	72	12	2x18	6500	1,2		36		
MT390-250S50N22TO10-04	250	4	89	50	72	12	2x22	5500	1,7		44		
MT390-S...N...TO10-05													**Width of cut 5 mm**
MT390-063S22N05TO10-05	63	5	14	22	35	12	2x5	11500	0,1		10		
MT390-080S27N07TO10-05	80	5	21	27	38	12	2x7	10500	0,2		14		
MT390-100S32N09TO10-05	100	5	26	32	48	12	2x9	9500	0,3		18		
MT390-125S40N11TO10-05	125	5	33,5	40	58	12	2x11	8500	0,6	TOGT10T2...	22	T250560-06	7006-T 0,6 Nm
MT390-160S40N14TO10-05	160	5	51	40	58	12	2x14	7500	0,8		28		
MT390-200S50N18TO10-05	200	5	64	50	72	12	2x18	6500	1,2		36		
MT390-250S50N22TO10-05	250	5	89	50	72	12	2x22	5500	1,7		44		

Inserts dimensions with different corner radius, see page 38.

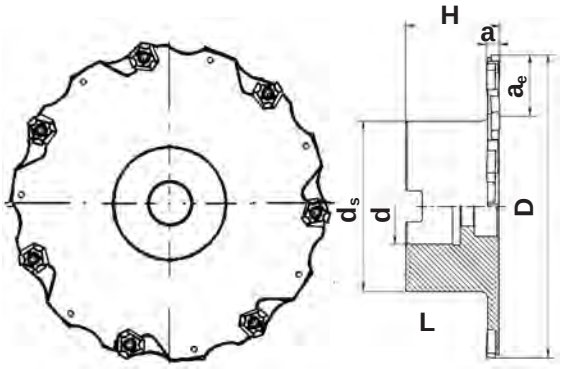


Code key

	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
								mm				
TOGT100202SN	■	■		□		□	■	10,43	8,1	2,31	3,15	0,2
TOGT10T202SN	■	■		□		□	■	10,43	8,1	2,86	3,15	0,2

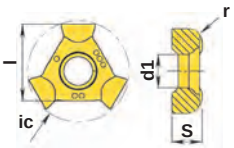
MT390...TO10

Slotting mills, arbor mounting



Code key	Dimensions, mm						Z	nmax RPM	kg		No.		
	D	a	a_e	d	H	d_s							
MT390-A...R...TO10-04													**Width of cut 4 mm**
MT390-063A16N05TO10-04	63	4	15	16	35	30	2x5	11500	0,1		10		
MT390-080A22N07TO10-04	80	4	20	22	40	40	2x7	10500	0,2		14		
MT390-100A27N09TO10-04	100	4	26	27	40	48	2x9	9500	0,3	TOGT1002...	18	T250560-06	7006-T 0,6 Nm
MT390-125A32N11TO10-04	125	4	33,5	32	50	58	2x11	8500	0,6		22		
MT390-160A40N14TO10-04	160	4	45	40	50	70	2x14	7500	0,8		28		
MT390-A...R...TO10-05													**Width of cut 5 mm**
MT390-063A16N05TO10-05	63	5	15	16	35	30	2x5	11500	0,1		10		
MT390-080A22N07TO10-05	80	5	20	22	40	40	2x7	10500	0,2		14		
MT390-100A27N09TO10-05	100	5	26	27	40	48	2x9	9500	0,3	TOGT10T2...	18	T250560-06	7006-T 0,6 Nm
MT390-125A32N11TO10-05	125	5	33,5	32	50	58	2x11	8500	0,6		22		
MT390-160A40N14TO10-05	160	5	45	40	50	70	2x14	7500	0,8		28		

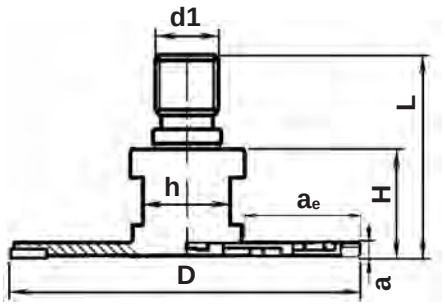
Inserts dimensions with different corner radius, see page 38.



Code key

	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
								mm				
P	●	●	●									
M	○	●	●	●								
K					●							
N						●						
S		○	○	○			●					
TOGT100202SN	■	■		□		□	■	10,43	8,1	2,31	3,15	0,2
TOGT10T202SN	■	■		□		□	■	10,43	8,1	2,86	3,15	0,2

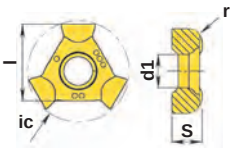
MT190T...TO10
Slotting mills with threaded shank



Screw fit shank SKIF-M

Code key	Dimensions, mm										No.		
	D	a	a_e	H	L	h	d1	Z	kg				
MT190-G...R...TO10-04													**Width of cut 4 mm**
MT190T-040G08R03TO10-04	40	4	12,5	20	38	12	M08	2x3	0,1	TOGT1002...	6	T250560-06	7006-T 0,6 Nm
MT190T-050G10R04TO10-04	50	4	15,5	25	44	13	M10	2x4	0,1		8		
MT190T-063G12R05TO10-04	63	4	20,5	35	58	17	M12	2x5	0,1		10		
MT190T-080G16R07TO10-04	80	4	26	35	58	22	M16	2x7	0,2		14		
MT190-G...R...TO10-05													**Width of cut 5 mm**
MT190T-040G08R03TO10-05	40	5	12,5	20	38	12	M08	2x3	0,1	TOGT10T2...	6	T250560-06	7006-T 0,6 Nm
MT190T-050G10R04TO10-05	50	5	15,5	25	44	13	M10	2x4	0,1		8		
MT190T-063G12R05TO10-05	63	5	20,5	35	58	17	M12	2x5	0,1		10		
MT190T-080G16R07TO10-05	80	5	26	35	58	22	M16	2x7	0,2		14		

Inserts dimensions with different corner radius, see page 38.

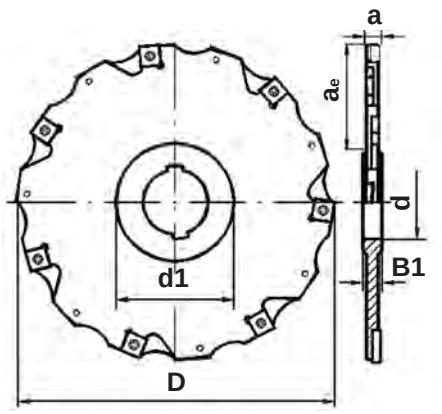


Code key

	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r
								mm				
P	●	●	●									
M	○	●	●	●								
K					●							
N						●						
S		○	○	○			●					
TOGT100202SN	■	■		□		□	■	10,43	8,1	2,31	3,15	0,2
TOGT10T202SN	■	■		□		□	■	10,43	8,1	2,86	3,15	0,2

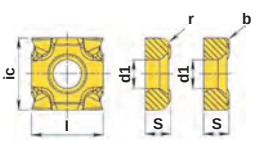
MT390...SN12

Slotting mills, mounting bore and keyway



Code key	Dimensions, mm						Z	nmax RPM	kg		No.		
	D	a	ae	d	d1	B1							
MT390-S...N...SN12-06													**Width of cut 6 mm**
MT390-063S22N03SN12-06	63	6	14	22	35	12	2x3	11500	0,1		6		
MT390-080S27N04SN12-06	80	6	21	27	38	12	2x4	10500	0,2		8		
MT390-100S32N05SN12-06	100	6	26	32	48	12	2x5	9500	0,3		10		
MT390-125S40N06SN12-06	125	6	33,5	40	58	12	2x6	8500	0,6	SNEC1232...	12	T40T490-15	7015-T 5,5 Nm
MT390-160S40N07SN12-06	160	6	51	40	58	12	2x7	7500	0,8		14		
MT390-200S50N08SN12-06	200	6	64	50	72	12	2x8	6500	1,2		16		
MT390-250S50N11SN12-06	250	6	89	50	72	12	2x11	5500	1,7		22		
MT390-S...N...SN12-6.5													**Width of cut 6,5 mm**
MT390-063S22N03SN12-6.5	63	6,5	14	22	35	12	2x3	11500	0,1		6		
MT390-080S27N04SN12-6.5	80	6,5	21	27	38	12	2x4	10500	0,2		8		
MT390-100S32N05SN12-6.5	100	6,5	26	32	48	12	2x5	9500	0,3		10		
MT390-125S40N06SN12-6.5	125	6,5	33,5	40	58	12	2x6	8500	0,6	SNEC1237...	12	T400590-15	7015-T 5,5 Nm
MT390-160S40N07SN12-6.5	160	6,5	51	40	58	12	2x7	7500	0,8		14		
MT390-200S50N08SN12-6.5	200	6,5	64	50	72	12	2x8	6500	1,2		16		
MT390-250S50N11SN12-6.5	250	6,5	89	50	72	12	2x11	5500	1,7		22		
MT390-S...N...SN12-07													**Width of cut 7 mm**
MT390-063S22N03SN12-07	63	7	14	22	35	12	2x3	11500	0,1		6		
MT390-080S27N04SN12-07	80	7	21	27	38	12	2x4	10500	0,2		8		
MT390-100S32N05SN12-07	100	7	26	32	48	12	2x5	9500	0,3		10		
MT390-125S40N06SN12-07	125	7	33,5	40	58	12	2x6	8500	0,6	SNEC1241...	12	T400590-15	7015-T 5,5 Nm
MT390-160S40N07SN12-07	160	7	51	40	68	12	2x7	7500	0,8		14		
MT390-200S50N08SN12-07	200	7	64	50	72	12	2x8	6500	1,2		16		
MT390-250S50N11SN12-07	250	7	89	50	72	12	2x11	5500	1,7		22		

Inserts dimensions with different corner radius, see page 32-33.



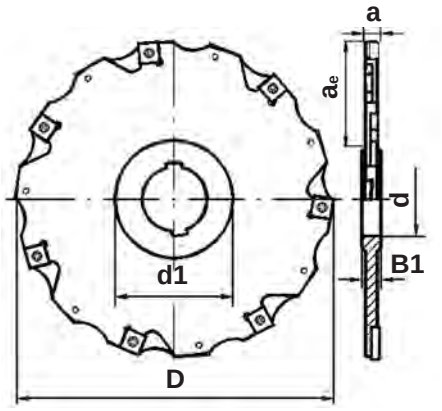
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
								mm					
SNEC1232ZZEN	■	■		□			■	12,7	12,7	3,2	5,0	-	0,2
SNEC1237ZZEN	■	■		□			□	12,7	12,7	3,5	5,0	-	0,2
SNEC1241ZZEN	■	□		□			□	12,7	12,7	4,1	5,0	-	0,2

Code key

32 233
33 242

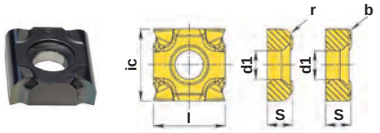
MT390...SN12

Slotting mills, mounting bore and keyway



Code key	Dimensions, mm							nmax	kg		No.		
	D	a	ae	d	d1	B1	Z	RPM					
MT390-S...N...SN12-7.5													**Width of cut 7,5 mm**
MT390-063S22N03SN12-7.5	63	7,5	14	22	35	12	2x3	11500	0,1		6		
MT390-080S27N04SN12-7.5	80	7,5	21	27	38	12	2x4	10500	0,2		8		
MT390-100S32N05SN12-7.5	100	7,5	26	32	48	12	2x5	9500	0,3		10		
MT390-125S40N06SN12-7.5	125	7,5	33,5	40	58	12	2x6	8500	0,6	SNEC1241...	12	T400690-15	7015-T 5,5 Nm
MT390-160S40N07SN12-7.5	160	7,5	51	40	68	12	2x7	7500	0,8		14		
MT390-200S50N08SN12-7.5	200	7,5	64	50	72	12	2x8	6500	1,2		16		
MT390-250S50N11SN12-7.5	250	7,5	89	50	72	12	2x11	5500	1,7		22		
MT390-S...N...SN12-08													**Width of cut 8 mm**
MT390-063S22N03SN12-08	63	8	14	22	35	12	2x3	11500	0,1		6		
MT390-080S27N04SN12-08	80	8	21	27	38	12	2x4	10500	0,2		8		
MT390-100S32N05SN12-08	100	8	26	32	48	12	2x5	9500	0,4		10		
MT390-125S40N06SN12-08	125	8	33,5	40	58	12	2x6	8500	0,6		12		
MT390-160S40N07SN12-08	160	8	51	40	68	12	2x7	7500	0,8		14		
MT390-200S50N08SN12-08	200	8	64	50	72	12	2x8	6500	1,2	SNEC1245...	16	T400690-15	7015-T 5,5 Nm
MT390-250S50N11SN12-08	250	8	89	50	72	12	2x11	5500	1,7		22		
MT390-315S50N13SN12-08	315	8	121,5	50	72	12	2x13	4500	6,0		26		
MT390-400S50N17SN12-08	400	8	164	50	72	12	2x17	4500	8,0		34		
MT390-630S80N30SN12-08	630	8	195	80	240	12	2x30	2500	19,0		60		
MT390-630S80N21SN12-08	630	8	195	80	240	12	2x21	2500	19,0		42		
MT390-710S80N23SN12-08	710	8	235	80	240	16	2x23	2000	19,0		46		
MT390-S...N...SN12-8.5													**Width of cut 8,5 mm**
MT390-063S22N03SN12-8.5	63	8,5	14	22	35	12	2x3	11500	0,1		6		
MT390-080S27N04SN12-8.5	80	8,5	21	27	38	12	2x4	10500	0,2		8		
MT390-100S32N05SN12-8.5	100	8,5	26	32	48	12	2x5	9500	0,4		10		
MT390-125S40N06SN12-8.5	125	8,5	33,5	40	58	12	2x6	8500	0,6	SNEC1245...	12	T400690-15	7015-T 5,5 Nm
MT390-160S40N07SN12-8.5	160	8,5	51	40	68	12	2x7	7500	0,8		14		
MT390-200S50N08SN12-8.5	200	8,5	64	50	72	12	2x8	6500	1,2		16		
MT390-250S50N11SN12-8.5	250	8,5	89	50	72	12	2x11	5500	1,7		22		

Inserts dimensions with different corner radius, see page 32-33.

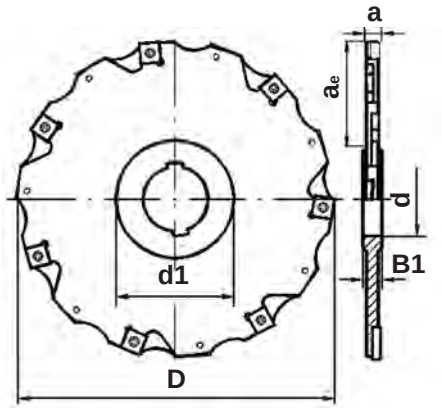


	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
Code key								mm					
SNEC1241ZZEN	■	□		□			□	12,7	12,7	4,1	5,0	-	0,2
SNEC1245ZZEN	■	■		■			■	12,7	12,7	4,5	5,0	-	0,2

32
33
233
242

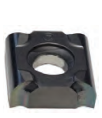
MT390...SN12

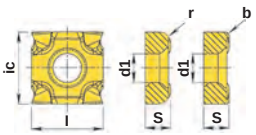
Slotting mills, mounting bore and keyway



Code key	Dimensions, mm						Z	nmax RPM	kg		No.		
	D	a	ae	d	d1	B1							
MT390-S...N...SN12-09													**Width of cut 9 mm**
MT390-063S22N03SN12-09	63	9	14	22	35	12	2x3	11500	0,1		6		
MT390-080S27N04SN12-09	80	9	21	27	38	12	2x4	10500	0,2		8		
MT390-100S32N05SN12-09	100	9	26	32	48	12	2x5	7500	0,4		10		
MT390-125S40N06SN12-09	125	9	33,5	40	58	12	2x6	6500	0,6	SNEC1254...	12	T400790-15	7015-T 5,5 Nm
MT390-160S40N07SN12-09	160	9	51	40	68	12	2x7	6000	0,9		14		
MT390-200S50N08SN12-09	200	9	64	50	72	12	2x8	5000	1,3		16		
MT390-250S50N11SN12-09	250	9	89	50	72	12	2x11	4500	1,9		22		
MT390-S...N...SN12-9.5													**Width of cut 9,5 mm**
MT390-063S22N03SN12-9.5	63	9,5	14	22	35	12	2x3	11500	0,1				
MT390-080S27N04SN12-9.5	80	9,5	21	27	38	12	2x4	10500	0,2				
MT390-100S32N05SN12-9.5	100	9,5	26	32	48	12	2x5	7500	0,4		10		
MT390-125S40N06SN12-9.5	125	9,5	33,5	40	58	12	2x6	6500	0,6	SNEC1254...	12	T400890-15	7015-T 5,5 Nm
MT390-160S40N07SN12-9.5	160	9,5	51	40	68	12	2x7	6000	0,9		14		
MT390-200S50N08SN12-9.5	200	9,5	64	50	72	12	2x8	5000	1,3		16		
MT390-250S50N11SN12-9.5	250	9,5	89	50	72	12	2x11	4500	1,9		22		
MT390-S...N...SN12-10													**Width of cut 10 mm**
MT390-063S22N03SN12-10	63	10	14	22	35	12	2x3	11500	0,1		6		
MT390-080S27N04SN12-10	80	10	21	27	38	12	2x4	10500	0,2		8		
MT390-100S32N05SN12-10	100	10	26	32	48	12	2x5	7500	0,4		10		
MT390-125S40N06SN12-10	125	10	33,5	40	58	12	2x6	6500	0,6		12		
MT390-160S40N07SN12-10	160	10	51	40	68	12	2x7	6000	0,9		14		
MT390-200S50N08SN12-10	200	10	64	50	72	12	2x8	5000	1,3		16		
MT390-250S50N11SN12-10	250	10	89	50	72	12	2x11	4500	2,0	SNEC1254...	22	T400890-15	7015-T 5,5 Nm
MT390-315S50N13SN12-10	315	10	121,5	50	72	12	2x13	4500	6,0		26		
MT390-400S50N17SN12-10	400	10	164	50	72	12	2x17	4500	8,0		32		
MT390-510S80N24SN12-10	513	10	135	80	240	12	2x24	3000	12,4		48		
MT390-630S80N30SN12-10	630	10	195	80	240	12	2x30	2500	19,0		60		
MT390-800S80N27SN12-10	800	10	280	80	240	12	2x27	1600	19,0		54		
MT390-1010S120N34SN12-10	1010	10	385	120	240	12	2x34	625	19,0		68		

Inserts dimensions with different corner radius, see page 32-33.

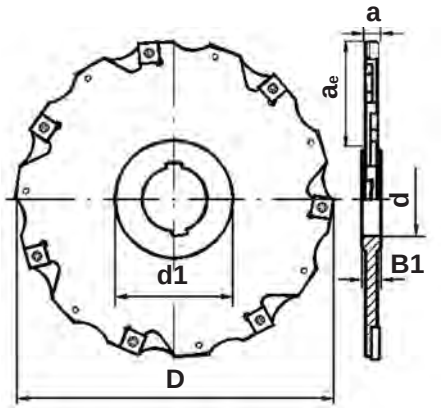




Code key	P	M	K	N	S	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
													mm					
SNEC1254ZZEN						■	■		□			■	12,7	12,7	5,4	5,0	-	0,2

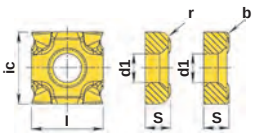
32 233
33 242

MT390...SN12
Slotting mills, mounting bore and keyway



Code key	Dimensions, mm							nmax	kg				
	D	a	ae	d	d1	B1	Z	RPM			No.		
MT390-S...N...SN12-10.5													**Width of cut 10,5 mm**
MT390-063S22N03SN12-10.5	63	10,5	14	22	35	12	2x3	11500	0,1		6		
MT390-080S27N04SN12-10.5	80	10,5	21	27	38	12	2x4	10500	0,2		8		
MT390-100S32N05SN12-10.5	100	10,5	26	32	48	12	2x5	7500	0,4		10		
MT390-125S40N06SN12-10.5	125	10,5	33,5	40	58	12	2x6	6500	0,6	SNEC1264...	12	T400890-15	7015-T 5,5 Nm
MT390-160S40N07SN12-10.5	160	10,5	51	40	68	12	2x7	6000	0,9		14		
MT390-200S50N08SN12-10.5	200	10,5	64	50	72	12	2x8	5000	1,3		16		
MT390-250S50N11SN12-10.5	250	10,5	89	50	72	12	2x11	4500	2,0		22		
MT390-S...N...SN12-11													**Width of cut 11 mm**
MT390-063S22N03SN12-11	63	11	14	22	35	12	2x3	11500	0,1		6		
MT390-080S27N04SN12-11	80	11	21	27	38	12	2x4	10500	0,2		8		
MT390-100S32N05SN12-11	100	11	26	32	48	12	2x5	7500	0,4		10		
MT390-125S40N06SN12-11	125	11	33,5	40	58	12	2x6	6500	0,6	SNEC1264...	12	T400890-15	7015-T 5,5 Nm
MT390-160S40N07SN12-11	160	11	51	40	68	12	2x7	6000	0,9		14		
MT390-200S50N08SN12-11	200	11	64	50	72	12	2x8	5000	1,4		16		
MT390-250S50N11SN12-11	250	11	89	50	72	12	2x11	4500	2,0		22		
MT390-S...N...SN12-11.5													**Width of cut 11,5 mm**
MT390-063S22N03SN12-11.5	63	11,5	14	22	35	12	2x3	11500	0,1		6		
MT390-080S27N04SN12-11.5	80	11,5	21	27	38	12	2x4	10500	0,2		8		
MT390-100S32N05SN12-11.5	100	11,5	26	32	48	12	2x5	7500	0,4		10		
MT390-125S40N06SN12-11.5	125	11,5	33,5	40	58	12	2x6	6500	0,6	SNEC1264...	12	T400890-15	7015-T 5,5 Nm
MT390-160S40N07SN12-11.5	160	11,5	51	40	68	12	2x7	6000	0,9		14		
MT390-200S50N08SN12-11.5	200	11,5	64	50	72	12	2x8	5000	1,4		16		
MT390-250S50N11SN12-11.5	250	11,5	89	50	72	12	2x11	4500	2,0		22		

Inserts dimensions with different corner radius, see page 32-33.



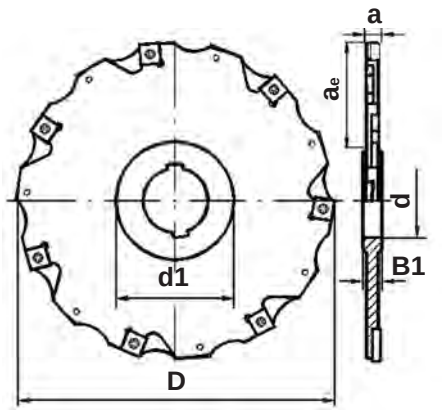
Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
								mm					
SNEC1264ZZEN	■	■		□			■	12,7	12,7	6,4	5,0	-	0,2

P ● ● ●
M ○ ● ● ●
K ●
N ●
S ○ ○ ○ ●

32 33 233 242

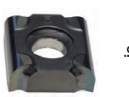
MT390...SN12

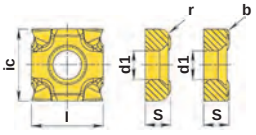
Slotting mills, mounting bore and keyway



Code key	Dimensions, mm							nmax	kg		No.		
	D	a	ae	d	d1	B1	Z	RPM					
MT390-S...N...SN12-12													**Width of cut 12 mm**
MT390-063S22N03SN12-12	63	12	14	22	35	12	2x3	11500	0,1		6		
MT390-080S27N04SN12-12	80	12	21	27	38	12	2x4	10500	0,2		8		
MT390-100S32N05SN12-12	100	12	26	32	48	12	2x5	7500	0,4		10		
MT390-125S40N06SN12-12	125	12	33,5	40	58	12	2x6	6500	0,6	SNEC1264...	12	T401090-15	7015-T 5,5 Nm
MT390-160S40N07SN12-12	160	12	51	40	68	12	2x7	6000	0,9		14		
MT390-200S50N08SN12-12	200	12	64	50	72	12	2x8	5000	1,3		16		
MT390-250S50N11SN12-12	250	12	89	50	72	12	2x11	4500	2,0		22		
MT390-S...N...SN12-12.5													**Width of cut 12,5 mm**
MT390-063S22N03SN12-12.5	63	12,5	14	22	35	14	2x3	11500	0,1		6		
MT390-080S27N04SN12-12.5	80	12,5	21	27	38	14	2x4	10500	0,2		8		
MT390-100S32N05SN12-12.5	100	12,5	26	32	48	14	2x5	7500	0,4		10		
MT390-125S40N06SN12-12.5	125	12,5	33,5	40	58	14	2x6	6500	0,6	SNEC1274...	12	T401190-15	7015-T 5,5 Nm
MT390-160S40N07SN12-12.5	160	12,5	51	40	68	14	2x7	6000	0,9		14		
MT390-200S50N08SN12-12.5	200	12,5	64	50	72	14	2x8	5000	1,3		16		
MT390-250S50N11SN12-12.5	250	12,5	89	50	72	14	2x11	4500	2,0		22		
MT390-S...N...SN12-13													**Width of cut 13 mm**
MT390-063S22N03SN12-13	63	13	14	22	35	14	2x3	11500	0,1		6		
MT390-080S27N04SN12-13	80	13	21	27	38	14	2x4	10500	0,2		8		
MT390-100S32N05SN12-13	100	13	26	32	48	14	2x5	7500	0,4		10		
MT390-125S40N06SN12-13	125	13	33,5	40	58	14	2x6	6500	0,6	SNEC1274...	12	T401190-15	7015-T 5,5 Nm
MT390-160S40N07SN12-13	160	13	51	40	68	14	2x7	6000	0,9		14		
MT390-200S50N08SN12-13	200	13	64	50	72	14	2x8	5000	1,3		16		
MT390-250S50N11SN12-13	250	13	89	50	72	14	2x11	4500	2,0		22		

Inserts dimensions with different corner radius, see page 32-33.





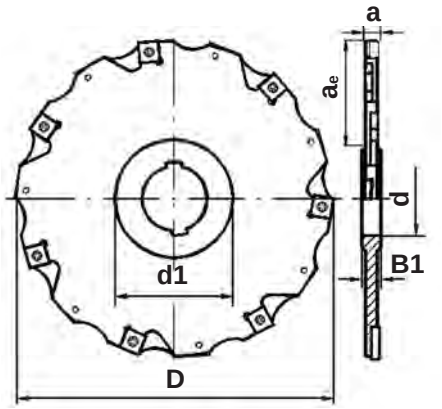
Code key

	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
								mm					
SNEC1264ZZEN	■	■		□			■	12,7	12,7	6,4	5,0	-	0,2
SNEC1274ZZEN	□	■		□			□	12,7	12,7	7,4	5,0	-	0,2

32
33
233
242

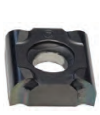
MT390...SN12

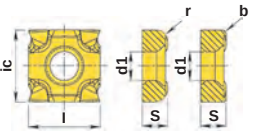
Slotting mills, mounting bore and keyway



Code key	Dimensions, mm						Z	nmax RPM	kg		No.		
	D	a	ae	d	d1	B1							
MT390-S...N...SN12-13.5													**Width of cut 13,5 mm**
MT390-063S22N03SN12-13.5	63	13,5	14	22	35	14	2x3	11500	0,1		6		
MT390-080S27N04SN12-13.5	80	13,5	21	27	38	14	2x4	10500	0,2		8		
MT390-100S32N05SN12-13.5	100	13,5	26	32	48	14	2x5	7500	0,4		10		
MT390-125S40N06SN12-13.5	125	13,5	33,5	40	58	14	2x6	6500	0,6	SNEC1274...	12	T401290-15	7015-T 5,5 Nm
MT390-160S40N07SN12-13.5	160	13,5	51	40	68	14	2x7	6000	0,9		14		
MT390-200S50N08SN12-13.5	200	13,5	64	50	72	14	2x8	5000	1,3		16		
MT390-250S50N11SN12-13.5	250	13,5	89	50	72	14	2x11	4500	2,0		22		
MT390-S...N...SN12-14													**Width of cut 14 mm**
MT390-063S22N03SN12-14	63	14	14	22	35	14	2x3	11500	0,1		6		
MT390-080S27N04SN12-14	80	14	21	27	38	14	2x4	10500	0,2		8		
MT390-100S32N05SN12-14	100	14	26	32	48	14	2x5	7500	0,4		10		
MT390-125S40N06SN12-14	125	14	33,5	40	58	14	2x6	6500	0,6	SNEC1274...	12	T401290-15	7015-T 5,5 Nm
MT390-160S40N07SN12-14	160	14	51	40	68	14	2x7	6000	0,9		14		
MT390-200S50N08SN12-14	200	14	64	50	72	14	2x8	5000	1,3		16		
MT390-250S50N11SN12-14	250	14	89	50	72	14	2x11	4500	2,0		22		

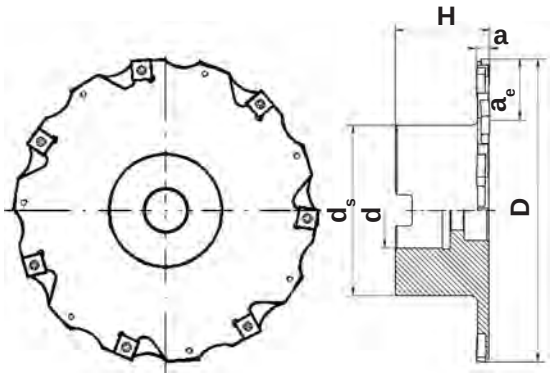
Inserts dimensions with different corner radius, see page 32-33.





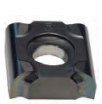
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
Code key								mm					
P	●	●	●										
M	○	●	●	●									
K					●								
N						●							
S		○	○	○			●						
SNEC1274ZZEN	□	■		□			□	12,7	12,7	7,4	5,0	-	0,2

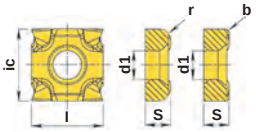
MT390...SN12
Slotting mills, arbor mounting



Code key	Dimensions, mm						Z	nmax RPM	kg		No.		
	D	a	a_e	d	H	d_s							
MT390-A...R...SN12-06N													**Width of cut 6 mm**
MT390-063A16R03SN12-06N	63	6	15	16	35	30	2x3	11500	0,1		6		
MT390-080A22R04SN12-06N	80	6	20	22	40	40	2x4	10500	0,2		8		
MT390-100A27R05SN12-06N	100	6	26	27	40	48	2x5	9500	0,3	SNEC1232...	10	T40T490-15	7015-T 5,5 Nm
MT390-125A32R06SN12-06N	125	6	33,5	32	50	58	2x6	8500	0,6		12		
MT390-160A40R07SN12-06N	160	6	45	40	50	70	2x7	7500	0,8		14		
MT390-A...R...SN12-6.5N													**Width of cut 6,5 mm**
MT390-063A16R03SN12-6.5N	63	6,5	15	16	35	30	2x3	11500	0,1		6		
MT390-080A22R04SN12-6.5N	80	6,5	20	22	40	40	2x4	10500	0,2		8		
MT390-100A27R05SN12-6.5N	100	6,5	26	27	40	48	2x5	9500	0,3	SNEC1237...	10	T400590-15	7015-T 5,5 Nm
MT390-125A32R06SN12-6.5N	125	6,5	33,5	32	50	58	2x6	8500	0,6		12		
MT390-160A40R07SN12-6.5N	160	6,5	45	40	50	70	2x7	7500	0,8		14		
MT390-A...R...SN12-07N													**Width of cut 7 mm**
MT390-063A16R03SN12-07N	63	7	15	16	35	30	2x3	11500	0,1		6		
MT390-080A22R04SN12-07N	80	7	20	22	40	40	2x4	10500	0,2		8		
MT390-100A27R05SN12-07N	100	7	26	27	40	48	2x5	9500	0,3	SNEC1241...	10	T400590-15	7015-T 5,5 Nm
MT390-125A32R06SN12-07N	125	7	33,5	32	50	58	2x6	8500	0,6		12		
MT390-160A40R07SN12-07N	160	7	45	40	50	70	2x7	7500	0,8		14		
MT390-A...R...SN12-7.5N													**Width of cut 7,5 mm**
MT390-063A16R03SN12-7.5N	63	7,5	15	16	35	30	2x3	11500	0,1		6		
MT390-080A22R04SN12-7.5N	80	7,5	20	22	40	40	2x4	10500	0,2		8		
MT390-100A27R05SN12-7.5N	100	7,5	26	27	40	48	2x5	9500	0,3	SNEC1241...	10	T400690-15	7015-T 5,5 Nm
MT390-125A32R06SN12-7.5N	125	7,5	33,5	32	50	58	2x6	8500	0,6		12		
MT390-160A40R07SN12-7.5N	160	7,5	45	40	50	70	2x7	7500	0,8		14		

Inserts dimensions with different corner radius, see page 32-33.

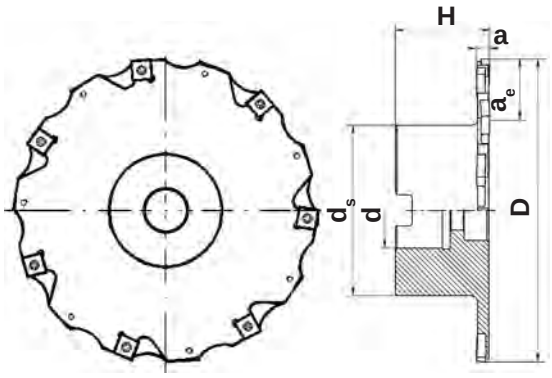




Code key	P	M	K	N	S	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
													mm					
SNEC1232ZZEN	●	●	●			■	■		□			■	12,7	12,7	3,2	5,0	-	0,2
SNEC1237ZZEN	●	●	●			■	■		□			□	12,7	12,7	3,5	5,0	-	0,2
SNEC1241ZZEN	●	○	●			■	□		□			□	12,7	12,7	4,1	5,0	-	0,2

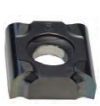
32
33
233
242

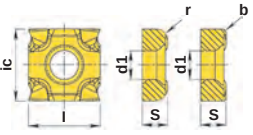
MT390...SN12
Slotting mills, arbor mounting



Code key	Dimensions, mm							n_{max}					
	D	a	a_e	d	H	d_s	Z	RPM	kg		No.		
MT390-A...R...SN12-08N													**Width of cut 8 mm**
MT390-063A16R03SN12-08N	63	8	15	16	35	30	2x3	11500	0,1		6		
MT390-080A22R04SN12-08N	80	8	20	22	40	40	2x4	10500	0,2		8		
MT390-100A27R05SN12-08N	100	8	26	27	40	48	2x5	9500	0,4	SNEC1245...	10	T400690-15	7015-T 5,5 Nm
MT390-125A32R06SN12-08N	125	8	33,5	32	50	58	2x6	8500	0,6		12		
MT390-160A40R07SN12-08N	160	8	45	40	50	70	2x7	7500	0,8		14		
MT390-A...R...SN12-8.5N													**Width of cut 8,5 mm**
MT390-063A16R03SN12-8.5N	63	8,5	15	16	35	30	2x3	11500	0,1		6		
MT390-080A22R04SN12-8.5N	80	8,5	20	22	40	40	2x4	10500	0,2		8		
MT390-100A27R05SN12-8.5N	100	8,5	26	27	40	48	2x5	9500	0,4	SNEC1245...	10	T400690-15	7015-T 5,5 Nm
MT390-125A32R06SN12-8.5N	125	8,5	33,5	32	50	58	2x6	8500	0,6		12		
MT390-160A40R07SN12-8.5N	160	8,5	45	40	50	70	2x7	7500	0,8		14		
MT390-A...R...SN12-09N													**Width of cut 9 mm**
MT390-063A16R03SN12-09N	63	9	15	16	35	30	2x3	11500	0,1		6		
MT390-080A22R04SN12-09N	80	9	20	22	40	40	2x4	10500	0,2		8		
MT390-100A27R05SN12-09N	100	9	26	27	40	48	2x5	7500	0,4	SNEC1254...	10	T400790-15	7015-T 5,5 Nm
MT390-125A32R06SN12-09N	125	9	33,5	32	50	58	2x6	6500	0,6		12		
MT390-160A40R07SN12-09N	160	9	45	40	50	70	2x7	6000	0,9		14		
MT390-A...R...SN12-9.5N													**Width of cut 9,5 mm**
MT390-063A16R03SN12-9.5N	63	9,5	15	16	35	30	2x3	11500	0,1		6		
MT390-080A22R04SN12-9.5N	80	9,5	20	22	40	40	2x4	10500	0,2		8		
MT390-100A27R05SN12-9.5N	100	9,5	26	27	40	48	2x5	7500	0,4	SNEC1254...	10	T400890-15	7015-T 5,5 Nm
MT390-125A32R06SN12-9.5N	125	9,5	33,5	32	50	58	2x6	6500	0,6		12		
MT390-160A40R07SN12-9.5N	160	9,5	45	40	50	70	2x7	6000	0,9		14		

Inserts dimensions with different corner radius, see page 32-33.

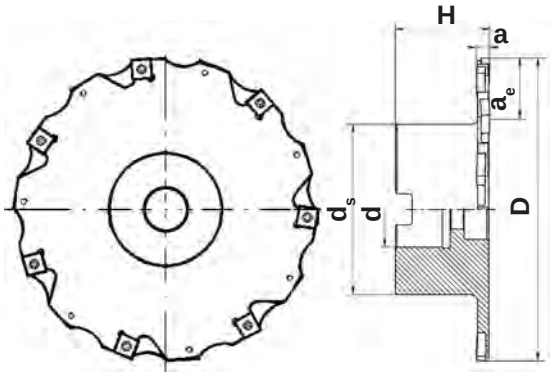




Code key

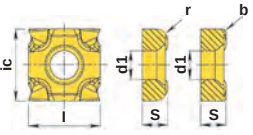
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
								mm					
SNEC1245ZZEN	■	■		■			■	12,7	12,7	4,5	5,0	-	0,2
SNEC1254ZZEN	■	■		□			■	12,7	12,7	5,4	5,0	-	0,2

MT390...SN12
Slotting mills, arbor mounting



Code key	Dimensions, mm						Z	nmax RPM	kg		No.		
	D	a	a_e	d	H	d_s							
MT390-A...R...SN12-10N													**Width of cut 10 mm**
MT390-063A16R03SN12-10N	63	10	15	16	35	30	2x3	11500	0,1		6		
MT390-080A22R04SN12-10N	80	10	20	22	40	40	2x4	10500	0,2		8		
MT390-100A27R05SN12-10N	100	10	26	27	40	48	2x5	7500	0,4	SNEC1254...	10	T400890-15	7015-T 5,5 Nm
MT390-125A32R06SN12-10N	125	10	33,5	32	50	58	2x6	6500	0,6		12		
MT390-160A40R07SN12-10N	160	10	45	32	50	70	2x7	6000	0,9		14		
MT390-A...R...SN12-10.5N													**Width of cut 10,5 mm**
MT390-063A16R03SN12-10.5N	63	10,5	15	16	35	30	2x3	11500	0,1		6		
MT390-080A22R04SN12-10.5N	80	10,5	20	22	40	40	2x4	10500	0,2		8		
MT390-100A27R05SN12-10.5N	100	10,5	26	27	40	48	2x5	7500	0,4	SNEC1264...	10	T400890-15	7015-T 5,5 Nm
MT390-125A32R06SN12-10.5N	125	10,5	33,5	32	50	58	2x6	6500	0,6		12		
MT390-160A40R07SN12-10.5N	160	10,5	45	40	50	70	2x7	6000	0,9		14		
MT390-A...R...SN12-11N													**Width of cut 11 mm**
MT390-063A16R03SN12-11N	63	11	15	16	35	30	2x3	11500	0,1		6		
MT390-080A22R04SN12-11N	80	11	20	22	40	40	2x4	10500	0,2		8		
MT390-100A27R05SN12-11N	100	11	26	27	40	48	2x5	7500	0,4	SNEC1264...	10	T400890-15	7015-T 5,5 Nm
MT390-125A32R06SN12-11N	125	11	33,5	32	50	58	2x6	6500	0,6		12		
MT390-160A40R07SN12-11N	160	11	45	32	50	70	2x7	6000	0,9		14		
MT390-A...R...SN12-11.5N													**Width of cut 11,5 mm**
MT390-063A16R03SN12-11.5N	63	11,5	15	16	35	30	2x3	11500	0,1		6		
MT390-080A22R04SN12-11.5N	80	11,5	20	22	40	40	2x4	10500	0,2		8		
MT390-100A27R05SN12-11.5N	100	11,5	26	27	40	48	2x5	7500	0,4	SNEC1264...	10	T400890-15	7015-T 5,5 Nm
MT390-125A32R06SN12-11.5N	125	11,5	33,5	32	50	58	2x6	6500	0,6		12		
MT390-160A40R07SN12-11.5N	160	11,5	45	40	50	70	2x7	6000	0,9		14		

Inserts dimensions with different corner radius, see page 32-33.

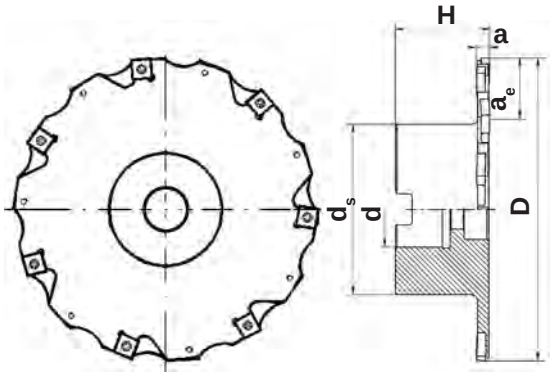


Code key

	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
								mm					
P	●	●	●										
M	○	●	●	●									
K					●								
N						●							
S		○	○	○			●						
SNEC1254ZZEN	■	■		□			■	12,7	12,7	5,4	5,0	-	0,2
SNEC1264ZZEN	■	■		□			■	12,7	12,7	6,4	5,0	-	0,2

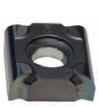
32
33
233
242

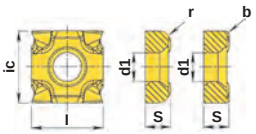
MT390...SN12
Slotting mills, arbor mounting



Code key	Dimensions, mm							nmax					
	D	a	a_e	d	H	d_s	Z	RPM	kg		No.		
MT390-A...R...SN12-12N													**Width of cut 12 mm**
MT390-063A16R03SN12-12N	63	12	15	16	35	30	2x3	11500	0,1		6		
MT390-080A22R04SN12-12N	80	12	20	22	40	40	2x4	10500	0,2		8		
MT390-100A27R05SN12-12N	100	12	26	27	40	48	2x5	7500	0,4	SNEC1264...	10	T401090-15	7015-T 5,5 Nm
MT390-125A32R06SN12-12N	125	12	33,5	32	50	58	2x6	6500	0,6		12		
MT390-160A40R07SN12-12N	160	12	45	40	50	70	2x7	6000	0,9		14		
MT390-A...R...SN12-12.5N													**Width of cut 12,5 mm**
MT390-063A16R03SN12-12.5N	63	12,5	15	16	35	30	2x3	11500	0,1		6		
MT390-080A22R04SN12-12.5N	80	12,5	20	22	40	40	2x4	10500	0,2		8		
MT390-100A27R05SN12-12.5N	100	12,5	26	27	40	48	2x5	7500	0,4	SNEC1274...	10	T401190-15	7015-T 5,5 Nm
MT390-125A32R06SN12-12.5N	125	12,5	33,5	32	50	58	2x6	6500	0,6		12		
MT390-160A40R07SN12-12.5N	160	12,5	45	40	50	70	2x7	6000	0,9		14		
MT390-A...R...SN12-13N													**Width of cut 13 mm**
MT390-063A16R03SN12-13N	63	13	15	16	35	30	2x3	11500	0,1		6		
MT390-080A22R04SN12-13N	80	13	20	22	40	40	2x4	10500	0,2		8		
MT390-100A27R05SN12-13N	100	13	26	27	40	48	2x5	7500	0,4	SNEC1274...	10	T401190-15	7015-T 5,5 Nm
MT390-125A32R06SN12-13N	125	13	33,5	32	50	58	2x6	6500	0,6		12		
MT390-160A40R07SN12-13N	160	13	45	40	50	70	2x7	6000	0,9		14		
MT390-A...R...SN12-13.5N													**Width of cut 13,5 mm**
MT390-063A16R03SN12-13.5N	63	13,5	15	16	35	30	2x3	11500	0,1		6		
MT390-080A22R04SN12-13.5N	80	13,5	20	22	40	40	2x4	10500	0,2		8		
MT390-100A27R05SN12-13.5N	100	13,5	26	27	40	48	2x5	7500	0,4	SNEC1274...	10	T401290-15	7015-T 5,5 Nm
MT390-125A32R06SN12-13.5N	125	13,5	33,5	32	50	58	2x6	6500	0,6		12		
MT390-160A40R07SN12-13.5N	160	13,5	45	40	50	70	2x7	6000	0,9		14		
MT390-A...R...SN12-14N													**Width of cut 14 mm**
MT390-063A16R03SN12-14N	63	14	15	16	35	30	2x3	11500	0,1		6		
MT390-080A22R04SN12-14N	80	14	20	22	40	40	2x4	10500	0,2		8		
MT390-100A27R05SN12-14N	100	14	26	27	40	48	2x5	7500	0,4	SNEC1274...	10	T401290-15	7015-T 5,5 Nm
MT390-125A32R06SN12-14N	125	14	33,5	32	50	58	2x6	6500	0,6		12		
MT390-160A40R07SN12-14N	160	14	45	40	50	70	2x7	6000	0,9		14		

Inserts dimensions with different corner radius, see page 32-33.

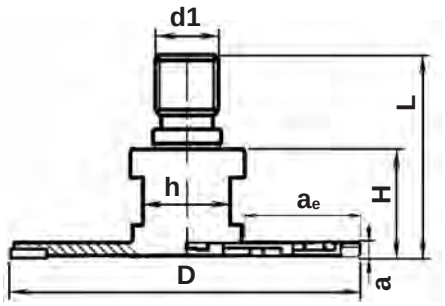




Code key	P	M	K	N	S	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
													mm					
SNEC1264ZZEN	●	○				■	■		□			■	12,7	12,7	6,4	5,0	-	0,2
SNEC1274ZZEN	●	●				□	■		□			□	12,7	12,7	7,4	5,0	-	0,2

MT190T...SN12

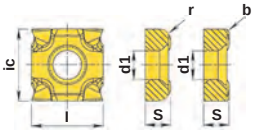
Slotting mills with threaded shank



Screw fit shank SKIF-M

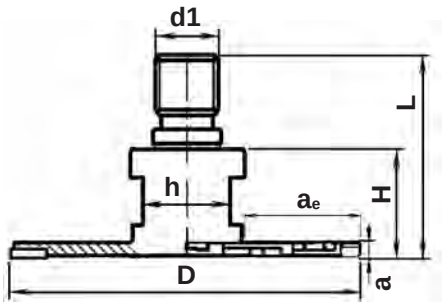
Code key	Dimensions, mm								kg		No.		
	D	a	a_e	H	L	h	d1	Z					
MT190-G...R...SN12-06													**Width of cut 6 mm**
MT190T-050G10R02SN12-06	50	6	15,5	25	44	13	M10	2x2	0,1	SNEC1232...	4	T40T490-15	7015-T 5,5 Nm
MT190T-063G12R03SN12-06	63	6	20,5	35	58	17	M12	2x3	0,1		6		
MT190T-063G16R03SN12-06	63	6	17,5	35	58	22	M16	2x3	0,1		6		
MT190T-080G16R04SN12-06	80	6	26	35	58	22	M16	2x4	0,2		8		
MT190-G...R...SN12-6.5													**Width of cut 6,5 mm**
MT190T-050G10R02SN12-6.5	50	6,5	15,5	25	44	13	M10	2x2	0,1	SNEC1237...	4	T400590-15	7015-T 5,5 Nm
MT190T-063G12R03SN12-6.5	63	6,5	20,5	35	58	17	M12	2x3	0,1		6		
MT190T-063G16R03SN12-6.5	63	6,5	17,5	35	58	22	M16	2x3	0,1		6		
MT190T-080G16R04SN12-6.5	80	6,5	26	35	58	22	M16	2x4	0,2		8		
MT190-G...R...SN12-07													**Width of cut 7 mm**
MT190T-050G10R02SN12-07	50	7	15,5	25	44	13	M10	2x2	0,1	SNEC1241...	4	T400590-15	7015-T 5,5 Nm
MT190T-063G12R03SN12-07	63	7	20,5	35	58	17	M12	2x3	0,1		6		
MT190T-063G16R03SN12-07	63	7	17,5	35	58	22	M16	2x3	0,1		6		
MT190T-080G16R04SN12-07	80	7	26	35	58	22	M16	2x4	0,2		8		
MT190-G...R...SN12-7.5													**Width of cut 7,5 mm**
MT190T-050G10R02SN12-7.5	50	7,5	15,5	25	44	13	M10	2x2	0,1	SNEC1241...	4	T400690-15	7015-T 5,5 Nm
MT190T-063G12R03SN12-7.5	63	7,5	20,5	35	58	17	M12	2x3	0,1		6		
MT190T-063G16R03SN12-7.5	63	7,5	17,5	35	58	22	M16	2x3	0,1		6		
MT190T-080G16R04SN12-7.5	80	7,5	26	35	58	22	M16	2x4	0,2		8		
MT190-G...R...SN12-08													**Width of cut 8 mm**
MT190T-050G10R02SN12-08	50	8	15,5	25	44	13	M10	2x2	0,1	SNEC1245...	4	T400690-15	7015-T 5,5 Nm
MT190T-063G12R03SN12-08	63	8	20,5	35	58	17	M12	2x3	0,1		6		
MT190T-063G16R03SN12-08	63	8	17,5	35	58	22	M16	2x3	0,1		6		
MT190T-080G16R04SN12-08	80	8	26	35	58	22	M16	2x4	0,2		8		

Inserts dimensions with different corner radius, see page 32-33.



Code key	P	M	K	N	S	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
													mm					
SNEC1232ZZEN	●	○				■	■		□			■	12,7	12,7	3,2	5,0	-	0,2
SNEC1237ZZEN	●	●				■	■		□			□	12,7	12,7	3,5	5,0	-	0,2
SNEC1241ZZEN	●	●				■	□		□			□	12,7	12,7	4,1	5,0	-	0,2
SNEC1245ZZEN	●	●				■	■		■			■	12,7	12,7	4,5	5,0	-	0,2

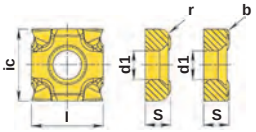
MT190T...SN12
Slotting mills with threaded shank



Screw fit shank SKIF-M

Code key	Dimensions, mm								kg		No.		
	D	a	a_e	H	L	h	d1	Z					
MT190-G...R...SN12-8.5													**Width of cut 8,5 mm**
MT190T-050G10R02SN12-8.5	50	8,5	15,5	25	44	13	M10	2x2	0,1	SNEC1245...	4	T400690-15	7015-T 5,5 Nm
MT190T-063G12R03SN12-8.5	63	8,5	20,5	35	58	17	M12	2x3	0,1		6		
MT190T-063G16R03SN12-8.5	63	8,5	17,5	35	58	22	M16	2x3	0,1		6		
MT190T-080G16R04SN12-8.5	80	8,5	26	35	58	22	M16	2x4	0,2		8		
MT190-G...R...SN12-09													**Width of cut 9 mm**
MT190T-050G10R02SN12-09	50	9	15,5	25	44	13	M10	2x2	0,1	SNEC1254...	4	T400790-15	7015-T 5,5 Nm
MT190T-063G12R03SN12-09	63	9	20,5	35	58	17	M12	2x3	0,1		6		
MT190T-063G16R03SN12-09	63	9	17,5	35	58	22	M16	2x3	0,1		6		
MT190T-080G16R04SN12-09	80	9	26	35	58	22	M16	2x4	0,2		8		
MT190-G...R...SN12-9.5													**Width of cut 9,5 mm**
MT190T-050G10R02SN12-9.5	50	9,5	15,5	25	44	13	M10	2x2	0,1	SNEC1254...	4	T400890-15	7015-T 5,5 Nm
MT190T-063G12R03SN12-9.5	63	9,5	20,5	35	58	17	M12	2x3	0,1		6		
MT190T-063G16R03SN12-9.5	63	9,5	17,5	35	58	22	M16	2x3	0,1		6		
MT190T-080G16R04SN12-9.5	80	9,5	26	35	58	22	M16	2x4	0,2		8		
MT190-G...R...SN12-10													**Width of cut 10 mm**
MT190T-050G10R02SN12-10	50	10	15,5	25	44	13	M10	2x2	0,1	SNEC1254...	4	T400890-15	7015-T 5,5 Nm
MT190T-063G12R03SN12-10	63	10	20,5	35	58	17	M12	2x3	0,1		6		
MT190T-063G16R03SN12-10	63	10	17,5	35	58	22	M16	2x3	0,1		6		
MT190T-080G16R04SN12-10	80	10	26	35	58	22	M16	2x4	0,2		8		
MT190-G...R...SN12-10.5													**Width of cut 10,5 mm**
MT190T-050G10R02SN12-10.5	50	10,5	15,5	25	44	13	M10	2x2	0,1	SNEC1264...	4	T400890-15	7015-T 5,5 Nm
MT190T-063G12R03SN12-10.5	63	10,5	20,5	35	58	17	M12	2x3	0,1		6		
MT190T-063G16R03SN12-10.5	63	10,5	17,5	35	58	22	M16	2x3	0,1		6		
MT190T-080G16R04SN12-10.5	80	10,5	26	35	58	22	M16	2x4	0,2		8		

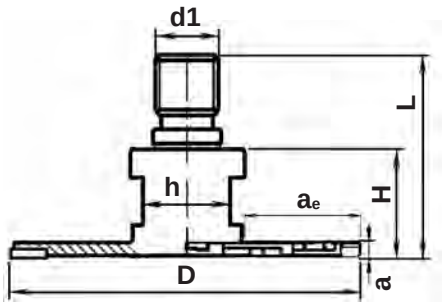
Inserts dimensions with different corner radius, see page 32-33.



Code key	P	M	K	N	S	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
													mm					
SNEC1245ZZEN	●	●	●			■	■		■			■	12,7	12,7	4,5	5,0	-	0,2
SNEC1254ZZEN	●	●	●			■	■		□			■	12,7	12,7	5,4	5,0	-	0,2
SNEC1264ZZEN	●	●	●			■	■		□			■	12,7	12,7	6,4	5,0	-	0,2

MT190T...SN12

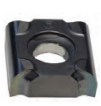
Slotting mills with threaded shank

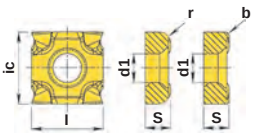


Screw fit shank SKIF-M

Code key	Dimensions, mm D	a	a_e	H	L	h	d1	Z	kg		No.		
MT190-G...R...SN12-11													**Width of cut 11 mm**
MT190T-050G10R02SN12-11	50	11	15,5	25	44	13	M10	2x2	0,1	SNEC1264...	4	T400890-15	7015-T 5,5 Nm
MT190T-063G12R03SN12-11	63	11	20,5	35	58	17	M12	2x3	0,1		6		
MT190T-063G16R03SN12-11	63	11	17,5	35	58	22	M16	2x3	0,1		6		
MT190T-080G16R04SN12-11	80	11	26	35	58	22	M16	2x4	0,2		8		
MT190-G...R...SN12-11.5													**Width of cut 11,5 mm**
MT190T-050G10R02SN12-11.5	50	11,5	15,5	25	44	13	M10	2x2	0,1	SNEC1264...	4	T400890-15	7015-T 5,5 Nm
MT190T-063G12R03SN12-11.5	63	11,5	20,5	35	58	17	M12	2x3	0,1		6		
MT190T-063G16R03SN12-11.5	63	11,5	17,5	35	58	22	M16	2x3	0,1		6		
MT190T-080G16R04SN12-11.5	80	11,5	26	35	58	22	M16	2x4	0,2		8		
MT190-G...R...SN12-12													**Width of cut 12 mm**
MT190T-050G10R02SN12-12	50	12	15,5	25	44	13	M10	2x2	0,1	SNEC1264...	4	T401090-15	7015-T 5,5 Nm
MT190T-063G12R03SN12-12	63	12	20,5	35	58	17	M12	2x3	0,1		6		
MT190T-063G16R03SN12-12	63	12	17,5	35	58	22	M16	2x3	0,1		6		
MT190T-080G16R04SN12-12	80	12	26	35	58	22	M16	2x4	0,2		8		

Inserts dimensions with different corner radius, see page 32-33.





Code key

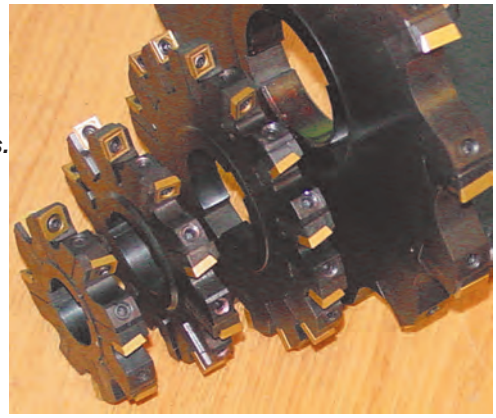
	P	M	K	N	S	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
													mm					
SNEC1264ZZEN	●	○				■	■		□			■	12,7	12,7	6,4	5,0	-	0,2

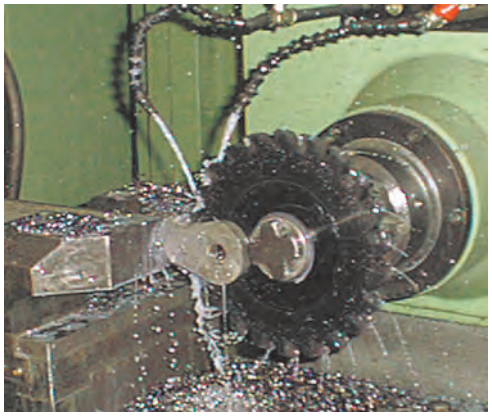
Adjustable full and half side and facemills with cartridges

		Full side			Half side		
Types of mills							
Code key		MT390K...SD08	MT390K...SO12	MT390K...AX14	MT390K...SD08	MT390K...SO12	MT390K...AX14
Page		198-205	198-205	198-205	206-213	206-213	206-213
Insert type							
Insert pages		27	34	17	27	34	17
Workpiece material	P	●●●	●●●	●●●	●●●	●●●	●●●
	M	●●●	●●●	●●●	●●●	●●●	●●●
	K		●	●		●	●
	N						
	S	●●●	●●●	●●●	●●●	●●●	●●●
	H						
Tool lead angle		90°	90°	90°	90°	90°	90°
Range ⌀, mm		80-200	100-315	100-315	80-200	100-315	100-315
Max Width of cut, mm		12-16	16-22	22-27	7	9	14
Working areas	R	●●●	●●●	●●●	●●●	●●●	●●●
	M	●●●	●●●	●●●	●●●	●●●	●●●
	F	●●●	●●●	●●●	●●●	●●●	●●●
Plunging							
Internal coolant		✕	✕	✕	✕	✕	✕
Application							

SKIF-M adjustable full side and facemills with cartridges for steel, stainless steel, cast iron and aluminium alloys

***highly reliable cartridges design**
***range of adjustment of the cutting width up to 3 mm.**
*** high effective milling of narrow details such as brackets, levers by sets of mills.**
* deep grooves in one run.
* fast reequipment of a full side and facemill in half side and facemill.
* regular and close pitch.





Adjustment procedures of adjustable full side and facemills

Ideally, insert adjustment can be carried out on a shadowgraph. Alternately, the side and facemill can be mounted on a set-up turntable or other device having a flat-button indicator point. If no other means is available, an indicator may be used in conjuction with the machine spindle.

Install the indicator on adjusted size, which depends on adjusted widths of cut and value thickness hubs of the facemill. Calculation value adjusted size on formula:

$$L = C + \left(B1 - \frac{B1 - a}{2}\right)$$, where

B1 – thickness hubs of the mill;
a – adjusted widths;
C – heiqht of the mounting disk.

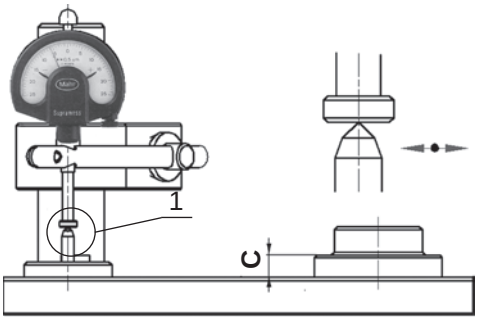
Example MT390K-S200N11SD08-1214: C=10 mm, B1=12 mm, a=13,5 mm, then

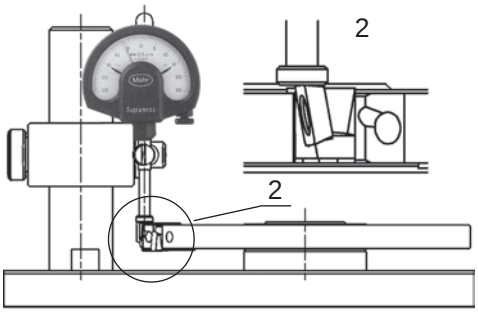
$$L = 10 + \left(12 - \frac{12 - 13{,}5}{2}\right) = 22{,}75$$ mm.

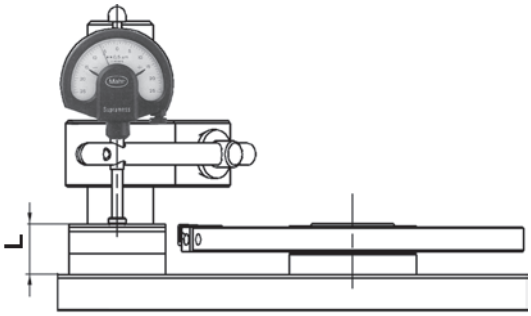
Before installing the side and facemill on mounting disk necessary to check the condition of the base surfaces facemill on absence mechanical damages.

1. Loosen the cartridge screw 1/4 turn.
2. The moving cartridge is on base surface facemill to obtain zero of the indicator on adjusted size.
3. Fasten the screw and tightening torque to 9 Nm.
4. Remove the reference insert and do the same for the following cartridge. By adjustment pay attention to the similar position of marked peak in pockets of all cartridges.

After adjusting first sides to go to adjustment second sides, repeating actions described above.

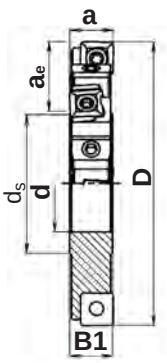


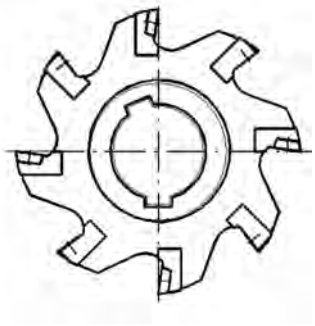




SKIF-M

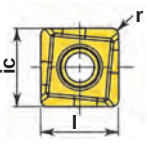
MT390K-S...N
Adjustable full side and facemills with cartridges

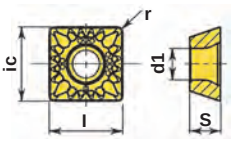




Regular pitch

Code key	Dimensions, mm							nmax					Cartrige			
	D	a	a_e	d	d_s	B1	Z	RPM	kg		No.					
MT390K-S...N...SD08												**Width of cut от 12 to 16 mm**				
MT390K-080S27N03SD08-1214	80	12-14	20	27	40	12	2x3	14500	0,2	SDMT08T308ER + SDMT08T308EL	3+3	K390SD08R + K390SD08L	H601400-30	T300755-09AP	7009-TP 2,2 Nm + 7003H	
MT390K-100S32N04SD08-1214	100	12-14	26	32	48	12	2x4	12500	0,5		4+4					
MT390K-125S40N05SD08-1214	125	12-14	33,5	40	58	12	2x5	11000	0,7		5+5		H601500-30			
MT390K-160S40N06SD08-1214	160	12-14	51	40	58	12	2x6	10000	1,4		6+6					
MT390K-200S50N07SD08-1214	200	12-14	64	50	72	12	2x7	8500	2,1		7+7					
MT390K-100S32N04SD08-1416	100	14-16	26	32	48	14	2x4	12500	0,6		4+4					
MT390K-125S40N05SD08-1416	125	14-16	33,5	40	58	14	2x5	11000	0,8		5+5					
MT390K-160S40N06SD08-1416	160	14-16	51	40	58	14	2x6	10000	1,6		6+6					
MT390K-200S50N07SD08-1416	200	14-16	64	50	72	14	2x7	8500	2,5		7+7					
MT390K-S...N...SO12												**Width of cut от 16 to 22 mm**				
MT390K-100S32N03SO12-1619	100	16-19	26	32	48	16	2x3	9000	0,7	SOMT120408..N...	6	K390SO12R + K390SO12L	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H	
MT390K-125S40N04SO12-1619	125	16-19	33,5	40	58	16	2x4	8000	0,9		8					
MT390K-160S40N05SO12-1619	160	16-19	51	40	58	16	2x5	7000	1,8		10					
MT390K-200S50N06SO12-1619	200	16-19	64	50	72	16	2x6	6000	2,8		12					
MT390K-250S60N08SO12-1619	250	16-19	83	60	84	16	2x8	5500	4,8		16					
MT390K-315S60N10SO12-1619	315	16-19	115,5	60	84	16	2x10	4500	8,1		20					
MT390K-100S32N03SO12-1922	100	19-22	26	32	48	19	2x3	9000	0,8		6					
MT390K-125S40N04SO12-1922	125	19-22	33,5	40	58	19	2x4	8000	1,1		8					
MT390K-160S40N05SO12-1922	160	19-22	51	40	58	19	2x5	7000	2,0		10					
MT390K-200S50N06SO12-1922	200	19-22	64	50	72	19	2x6	6000	3,3		12					
MT390K-250S60N08SO12-1922	250	19-22	83	60	84	19	2x8	5500	5,5		16					
MT390K-315S60N10SO12-1922	315	19-22	115,5	60	84	19	2x10	4500	9,4		20					



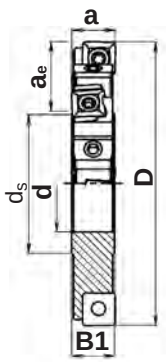


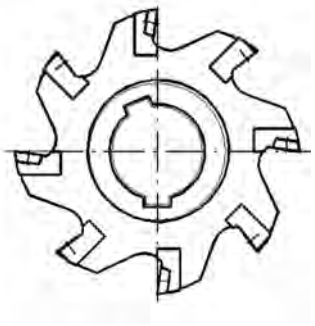
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

Code key	ic	l	S	d1	r	b
	mm					
SDMT08T308ER	9,0	9,0	3,97	3,4	0,8	
SDMT08T308EL	9,0	9,0	3,97	3,4	0,8	
SOMT120408SN-S	12,7	12,7	4,76	4,7	0,8	-
SOMT120408EN-T	12,7	12,7	4,76	4,7	0,8	-
SOHT120408FN-AL	12,7	12,7	4,76	4,7	0,8	-

MT390K-S...N

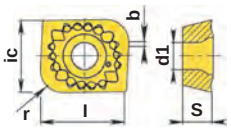
Adjustable full side and facemills with cartridges





Regular pitch

Code key	Dimensions, mm D	a	ae	d	ds	B1	Z	nmax RPM	kg		 No.	Cartrige			
MT390K-S...N...AX14															**Width of cut от 22 to 27 mm**
MT390K-100S32N03AX14-2225	100	22-25	26	32	48	22	2x3	9000	0,9	AXGT1405..ER + AXGT1405..EL	3+3	KA390AX14R + KA390AX14L	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-125S40N04AX14-2225	125	22-25	33,5	40	58	22	2x4	8000	1,3		4+4				
MT390K-160S40N05AX14-2225	160	22-25	51	40	58	22	2x5	7000	2,3		5+5				
MT390K-200S50N06AX14-2225	200	22-25	64	50	72	22	2x6	6000	3,8		6+6				
MT390K-250S60N08AX14-2225	250	22-25	83	60	84	22	2x8	5500	6,2		8+8				
MT390K-315S60N10AX14-2225	315	22-25	115,5	60	84	22	2x10	4500	10,7		10+10				
MT390K-125S40N04AX14-2527	125	25-27	33,5	40	58	25	2x4	8000	1,6		4+4				
MT390K-160S40N05AX14-2527	160	25-27	51	40	58	25	2x5	7000	2,6		5+5				
MT390K-200S50N06AX14-2527	200	25-27	64	50	72	25	2x6	6500	4,3		6+6				
MT390K-250S60N08AX14-2527	250	25-27	83	60	84	25	2x8	5500	6,9		8+8				
MT390K-315S60N10AX14-2527	315	25-27	115,5	60	84	25	2x10	5000	12,0		10+10				

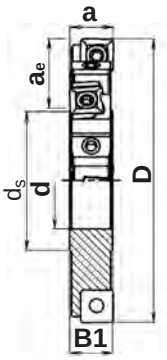


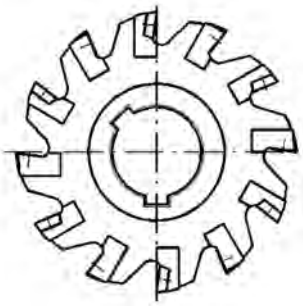
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
Code key								mm					
P	●	●	●										
M	○	●	●	●									
K					●								
N						●							
S		○	○	○			●						
H													
AXGT140508ER	■	■		■	□	■	■	12,7	14,9	5,4	4,7	0,8	1,4
AXGT140508EL	■	■		■	□	□	■	12,7	14,9	5,4	4,7	0,8	1,4
AXGT140512ER	■	□		■	□	■	■	12,7	14,9	5,4	4,7	1,2	0,9
AXGT140512EL	□	□		□	□	□	□	12,7	14,9	5,4	4,7	1,2	0,9
AXGT140516ER	■	■		□	□	□	□	12,7	14,9	5,4	4,7	1,6	1,4
AXGT140516EL	□	□		□	□	□	□	12,7	14,9	5,4	4,7	1,6	1,4
AXGT140520ER	■	■		□	□	■	□	12,7	14,9	5,4	4,7	2,0	1,0
AXGT140520EL	□	■		□	□	■	□	12,7	14,9	5,4	4,7	2,0	1,0
AXGT140525ER	■	□		□	□	□	□	12,7	14,8	5,4	4,7	2,5	0,6
AXGT140525EL	□	□		□	□	□	□	12,7	14,8	5,4	4,7	2,5	0,6
AXGT140530ER	■	■		■	□	□	■	12,7	14,8	5,4	4,7	3,0	0,8
AXGT140530EL	■	□		□	□	□	□	12,7	14,8	5,4	4,7	3,0	0,8
AXGT140540ER	■	■		■	□	□	■	12,7	14,8	5,4	4,7	4,0	0,5
AXGT140540EL	□	□		□	□	□	□	12,7	14,8	5,4	4,7	4,0	0,5
AXGT140550ER	■	■		□	□	■	■	12,7	14,7	5,4	4,7	5,0	0,4
AXGT140550EL	□	□		□	□	■	■	12,7	14,7	5,4	4,7	5,0	0,4
AXGT140563ER	□	■		□	□	□	■	12,7	14,7	5,4	4,7	6,3	0,4
AXGT140563EL	□	■		□	□	□	□	12,7	14,7	5,4	4,7	6,3	0,4

SKIF-M

MT390K-S...N

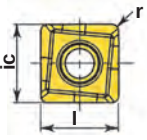
Adjustable full side and facemills with cartridges

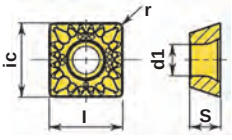




Close pitch

Code key	Dimensions, mm							nmax				Cartrige			
	D	a	a_e	d	d_s	B1	Z	RPM	kg		No.				
MT390K-S...N...SD08															**Width of cut от 12 to 16 mm**
MT390K-080S27N04SD08-1214	80	12-14	20	27	40	12	2x4	14500	0,2	SDMT08T308ER + SDMT08T308EL	4+4	K390SD08R + K390SD08L	H601400-30	T300755-09AP	7009-TP 2,2 Nm + 7003H
MT390K-100S32N05SD08-1214	100	12-14	26	32	48	12	2x5	12500	0,5		5+5				
MT390K-125S40N07SD08-1214	125	12-14	33,5	40	58	12	2x7	11000	0,7		7+7		H601500-30		
MT390K-160S40N09SD08-1214	160	12-14	51	40	58	12	2x9	10000	1,4		9+9				
MT390K-200S50N11SD08-1214	200	12-14	64	50	72	12	2x11	8500	2,1		11+11				
MT390K-100S32N05SD08-1416	100	14-16	26	32	48	14	2x5	12500	0,6		5+5				
MT390K-125S40N07SD08-1416	125	14-16	33,5	40	58	14	2x7	11000	0,8		7+7				
MT390K-160S40N09SD08-1416	160	14-16	51	40	58	14	2x9	10000	1,6		9+9				
MT390K-200S50N11SD08-1416	200	14-16	64	50	72	14	2x11	8500	2,5		11+11				
MT390K-S...N...SO12															**Width of cut от 16 to 22 mm**
MT390K-125S40N06SO12-1619	125	16-19	33,5	40	58	16	2x6	8000	0,9	SOMT120408..N...	12	K390SO12R + K390SO12L	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-160S40N07SO12-1619	160	16-19	51	40	58	16	2x7	7000	1,8		14				
MT390K-200S50N10SO12-1619	200	16-19	64	50	72	16	2x10	6000	2,8		20				
MT390K-250S60N11SO12-1619	250	16-19	83	60	84	16	2x11	5500	4,8		22				
MT390K-315S60N12SO12-1619	315	16-19	115,5	60	84	16	2x12	4500	8,1		24				
MT390K-125S40N06SO12-1922	125	19-22	33,5	40	58	19	2x6	8000	1,1		12				
MT390K-160S40N07SO12-1922	160	19-22	51	40	58	19	2x7	7000	2,0		14				
MT390K-200S50N10SO12-1922	200	19-22	64	50	72	19	2x10	6000	3,3		20				
MT390K-250S60N11SO12-1922	250	19-22	83	60	84	19	2x11	5500	5,5		22				
MT390K-315S60N12SO12-1922	315	19-22	115,5	60	84	19	2x12	4500	9,4		24				

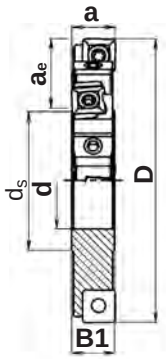


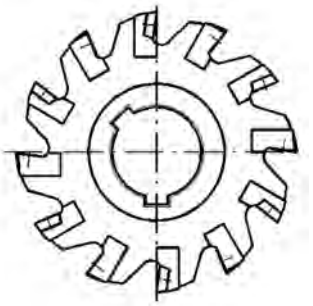


Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
								mm					
P	●	●	●										
M	○	●	●	●									
K					●								
N						●							
S		○	○	○			●						
H													
SDMT08T308ER	■	■		■	□	■	■	9,0	9,0	3,97	3,4	0,8	
SDMT08T308EL						■		9,0	9,0	3,97	3,4	0,8	
SOMT120408SN-S	■	■			■			12,7	12,7	4,76	4,7	0,8	-
SOMT120408EN-T				□			■	12,7	12,7	4,76	4,7	0,8	-
SOHT120408FN-AL						■		12,7	12,7	4,76	4,7	0,8	-

MT390K-S...N

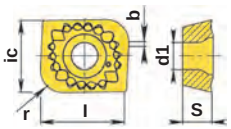
Adjustable full side and facemills with cartridges





Close pitch

Code key	Dimensions, mm						Z	nmax RPM	kg		No.	Cartrige			
	D	a	a_e	d	d_s	B1									
MT390K-S...N...AX14															**Width of cut от 22 to 27 mm**
MT390K-160S40N07AX14-2225	160	22-25	51	40	58	22	2x7	7000	2,3	AXGT1405..ER + AXGT1405..EL	7+7	KA390AX14R + KA390AX14L	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-200S50N10AX14-2225	200	22-25	64	50	72	22	2x10	6000	3,8		10+10				
MT390K-250S60N11AX14-2225	250	22-25	83	60	84	22	2x11	5500	6,2		11+11				
MT390K-315S60N12AX14-2225	315	22-25	115,5	60	84	22	2x12	4500	10,7		12+12				
MT390K-160S40N07AX14-2527	160	25-27	51	40	58	25	2x7	7000	2,6		7+7				
MT390K-200S50N10AX14-2527	200	25-27	64	50	72	25	2x10	6500	4,3		10+10				
MT390K-250S60N11AX14-2527	250	25-27	83	60	84	25	2x11	5500	6,9		11+11				
MT390K-315S60N12AX14-2527	315	25-27	115,5	60	84	25	2x12	5000	12,0		12+12				

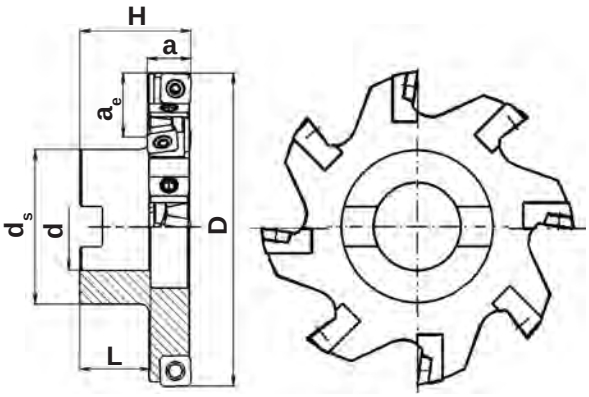


	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
Code key								mm					
P	●	●	●										
M	○	●	●	●									
K					●								
N						●							
S		○	○	○			●						
H													
AXGT140508ER	■	■		■	□	■	■	12,7	14,9	5,4	4,7	0,8	1,4
AXGT140508EL	■	■		■	□	□	■	12,7	14,9	5,4	4,7	0,8	1,4
AXGT140512ER	■	□		■	□	■	■	12,7	14,9	5,4	4,7	1,2	0,9
AXGT140512EL	□	□		□	□	□	□	12,7	14,9	5,4	4,7	1,2	0,9
AXGT140516ER	■	■		□	□	□	□	12,7	14,9	5,4	4,7	1,6	1,4
AXGT140516EL	□	□		□	□	□	□	12,7	14,9	5,4	4,7	1,6	1,4
AXGT140520ER	■	■		□	□	■	□	12,7	14,9	5,4	4,7	2,0	1,0
AXGT140520EL	□	■		□	□	■	□	12,7	14,9	5,4	4,7	2,0	1,0
AXGT140525ER	■	□		□	□	□	□	12,7	14,8	5,4	4,7	2,5	0,6
AXGT140525EL	□	□		□	□	□	□	12,7	14,8	5,4	4,7	2,5	0,6
AXGT140530ER	■	■		■	□	□	■	12,7	14,8	5,4	4,7	3,0	0,8
AXGT140530EL	■	□		□	□	□	□	12,7	14,8	5,4	4,7	3,0	0,8
AXGT140540ER	■	■		■	□	□	■	12,7	14,8	5,4	4,7	4,0	0,5
AXGT140540EL	□	□		□	□	□	□	12,7	14,8	5,4	4,7	4,0	0,5
AXGT140550ER	■	■		□	□	■	■	12,7	14,7	5,4	4,7	5,0	0,4
AXGT140550EL	□	□		□	□	■	■	12,7	14,7	5,4	4,7	5,0	0,4
AXGT140563ER	□	■		□	□	□	■	12,7	14,7	5,4	4,7	6,3	0,4
AXGT140563EL	□	■		□	□	□	□	12,7	14,7	5,4	4,7	6,3	0,4

SKIF-M

MT390K-...R...N

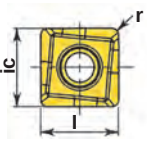
Adjustable full side and facemills with cartridges with flange

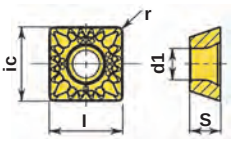


Regular pitch

Code key	Dimensions, mm								nmax							
	D	a	d	a_e	H	d_s	L	Z	RPM	kg		No.	Cartrige			
MT390K-...R...SD08...N														**Width of cut от 12 to 16 mm**		
MT390K-080A22R03SD08-1214N	80	12-14	22	15	40	38	20	2x3	14500	0,4	SDMT08T308ER + SDMT08T308EL	3+3	K390SD08R + K390SD08L	*	T300755-09AP	7009-TP 2,2 Nm + 7003H
MT390K-100B27R04SD08-1214N	100	12-14	27	23	34	48	22	2x4	12500	0,7		4+4		H601500-30		
MT390K-125B32R05SD08-1214N	125	12-14	32	30	38	58	25	2x5	11000	1,0		5+5				
MT390K-160B40R06SD08-1214N	160	12-14	40	42	43	70	29	2x6	10000	1,8		6+6				
MT390K-200C40R07SD08-1214N	200	12-14	40	49	47	96	31	2x7	8500	2,6		7+7				
MT390K-100B27R04SD08-1416N	100	14-16	27	23	34	48	22	2x4	12500	0,8		4+4				
MT390K-125B32R05SD08-1416N	125	14-16	32	30	38	58	25	2x5	11000	1,1		5+5				
MT390K-160B40R06SD08-1416N	160	14-16	40	42	43	70	29	2x6	10000	2,0		6+6				
MT390K-200C40R07SD08-1416N	200	14-16	40	49	47	96	31	2x7	8500	3,0		7+7				
MT390K-...R...SO12...N														**Width of cut от 16 to 22 mm**		
MT390K-100B27R03SO12-1619N	100	16-19	27	23	34	48	22	2x3	9000	0,9	SOMT120408..N...	6	K390SO12R + K390SO12L	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-125B32R04SO12-1619N	125	16-19	32	30	38	58	25	2x4	8000	1,2		8				
MT390K-160B40R05SO12-1619N	160	16-19	40	42	43	70	29	2x5	7000	2,2		10				
MT390K-200C40R06SO12-1619N	200	16-19	40	49	47	96	31	2x6	6000	3,3		12				
MT390K-250D60R08SO12-1619N	250	16-19	60	54	50	130	32	2x8	5500	5,7		16				
MT390K-315D60R10SO12-1619N	315	16-19	60	86	50	130	32	2x10	4500	9,0		20				
MT390K-100B27R03SO12-1922N	100	19-22	27	23	34	48	22	2x3	9000	1,0		6				
MT390K-125B32R04SO12-1922N	125	19-22	32	30	38	58	25	2x4	8000	1,4		8				
MT390K-160B40R05SO12-1922N	160	19-22	40	42	43	70	29	2x5	7000	2,4		10				
MT390K-200C40R06SO12-1922N	200	19-22	40	49	47	96	31	2x6	6000	3,8		12				
MT390K-250D60R08SO12-1922N	250	19-22	60	59	50	130	32	2x8	5500	6,4		16				
MT390K-315D60R10SO12-1922N	315	19-22	60	86	50	130	32	2x10	4500	10,3		20				

**In the mills MT390K-080*A22R03SD08-1214N cartridge screw has a "H601400-30" name.*





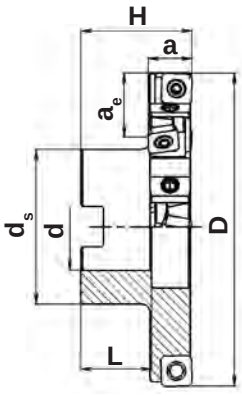
	P	M	K	N	S	H
HCP30X	●	○				
HCP40X	●	●			○	
HCM25X	●	●			○	
HCM30X		●			○	
HCK10X			●			
HCN10X				●		
HCS35X					●	

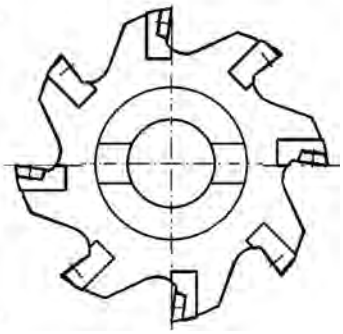
Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
								mm					
SDMT08T308ER	■	■		■	□	■	■	9,0	9,0	3,97	3,4	0,8	
SDMT08T308EL						■		9,0	9,0	3,97	3,4	0,8	
SOMT120408SN-S	■	■			■			12,7	12,7	4,76	4,7	0,8	-
SOMT120408EN-T				□			■	12,7	12,7	4,76	4,7	0,8	-
SOHT120408FN-AL						■		12,7	12,7	4,76	4,7	0,8	-

MT390K-...R...N

Adjustable full side and facemills with cartridges with flange

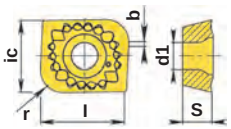
NEW





Regular pitch

Code key	Dimensions, mm D	a	d	a_e	H	d_s	L	Z	nmax RPM	kg		No.	Cartrige			
MT390K-...R...AX14...N																**Width of cut от 22 to 27 mm**
MT390K-100B27R03AX14-2225N	100	22-25	27	23	34	48	22	2x3	9000	0,9	AXGT1405..ER + AXGT1405..EL	3+3	KA390AX14R + KA390AX14L	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-125B32R04AX14-2225N	125	22-25	32	30	38	58	25	2x4	8000	1,3		4+4				
MT390K-160B40R05AX14-2225N	160	22-25	40	42	43	70	29	2x5	7000	2,3		5+5				
MT390K-200C40R06AX14-2225N	200	22-25	40	49	47	96	31	2x6	6000	3,8		6+6				
MT390K-250D60R08AX14-2225N	250	22-25	60	54	50	130	32	2x8	5500	6,2		8+8				
MT390K-315D60R10AX14-2225N	315	22-25	60	86	50	130	32	2x10	4500	10,7		10+10				
MT390K-125B32R04AX14-2527N	125	25-27	32	30	38	58	25	2x4	8000	1,6		4+4				
MT390K-160B40R05AX14-2527N	160	25-27	40	42	43	70	29	2x5	7000	2,6		5+5				
MT390K-200C40R06AX14-2527N	200	25-27	40	49	47	96	31	2x6	6500	4,3		6+6				
MT390K-250D60R08AX14-2527N	250	25-27	60	54	50	130	32	2x8	5500	6,9		8+8				
MT390K-315D60R10AX14-2527N	315	25-27	60	86	50	130	32	2x10	5000	12,0		10+10				



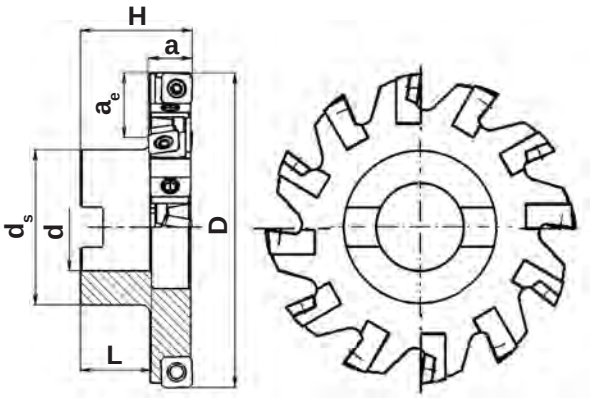
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

Code key	ic	l	S	d1	r	b
	mm					
AXGT140508ER	12,7	14,9	5,4	4,7	0,8	1,4
AXGT140508EL	12,7	14,9	5,4	4,7	0,8	1,4
AXGT140512ER	12,7	14,9	5,4	4,7	1,2	0,9
AXGT140512EL	12,7	14,9	5,4	4,7	1,2	0,9
AXGT140516ER	12,7	14,9	5,4	4,7	1,6	1,4
AXGT140516EL	12,7	14,9	5,4	4,7	1,6	1,4
AXGT140520ER	12,7	14,9	5,4	4,7	2,0	1,0
AXGT140520EL	12,7	14,9	5,4	4,7	2,0	1,0
AXGT140525ER	12,7	14,8	5,4	4,7	2,5	0,6
AXGT140525EL	12,7	14,8	5,4	4,7	2,5	0,6
AXGT140530ER	12,7	14,8	5,4	4,7	3,0	0,8
AXGT140530EL	12,7	14,8	5,4	4,7	3,0	0,8
AXGT140540ER	12,7	14,8	5,4	4,7	4,0	0,5
AXGT140540EL	12,7	14,8	5,4	4,7	4,0	0,5
AXGT140550ER	12,7	14,7	5,4	4,7	5,0	0,4
AXGT140550EL	12,7	14,7	5,4	4,7	5,0	0,4
AXGT140563ER	12,7	14,7	5,4	4,7	6,3	0,4
AXGT140563EL	12,7	14,7	5,4	4,7	6,3	0,4

SKIF-M

MT390K-R...N...

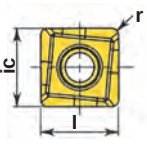
Adjustable full side and facemills with cartridges with flange

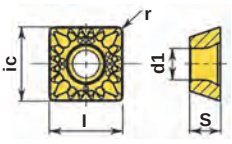


Close pitch

Code key	Dimensions, mm D	a	d	a_e	H	d_s	L	Z	nmax RPM	kg		No.	Cartrige			
MT390K-...R...SD08...N																**Width of cut от 12 to 16 mm**
MT390K-080A22R04SD08-1214N	80	12-14	22	15	40	38	20	2x4	14500	0,4	SDMT08T308ER + SDMT08T308EL	4+4	K390SD08R + K390SD08L	*	T300755-09AP	7009-TP 2,2 Nm + 7003H
MT390K-100B27R05SD08-1214N	100	12-14	27	23	34	48	22	2x5	12500	0,7		5+5		H601500-30		
MT390K-125B32R07SD08-1214N	125	12-14	32	30	38	58	25	2x7	11000	1,0		7+7				
MT390K-160B40R09SD08-1214N	160	12-14	40	42	43	70	29	2x9	10000	1,8		9+9				
MT390K-200C40R11SD08-1214N	200	12-14	40	49	47	96	31	2x11	8500	2,6		11+11				
MT390K-100B27R05SD08-1416N	100	14-16	27	23	34	48	22	2x5	12500	0,8		5+5				
MT390K-125B32R07SD08-1416N	125	14-16	32	30	38	58	25	2x7	11000	1,1		7+7				
MT390K-160B40R09SD08-1416N	160	14-16	40	42	43	70	29	2x9	10000	2,0		9+9				
MT390K-200C40R11SD08-1416N	200	14-16	40	49	47	96	31	2x11	8500	3,0		11+11				
MT390K-...R...SO12...N																**Width of cut от 16 to 22 mm**
MT390K-125B32R06SO12-1619N	125	16-19	32	30	38	58	25	2x6	8000	1,2	SOMT120408..N...	12	K390SO12R + K390SO12L	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-160B40R07SO12-1619N	160	16-19	40	42	43	70	29	2x7	7000	2,2		14				
MT390K-200C40R10SO12-1619N	200	16-19	40	49	47	96	31	2x10	6000	3,3		20				
MT390K-250D60R11SO12-1619N	250	16-19	60	54	50	130	32	2x11	5500	5,7		22				
MT390K-315D60R12SO12-1619N	315	16-19	60	86	50	130	32	2x12	4500	9,0		24				
MT390K-125B32R06SO12-1922N	125	19-22	32	30	38	58	25	2x6	8000	1,6		12				
MT390K-160B40R07SO12-1922N	160	19-22	40	42	43	70	29	2x7	7000	2,5		14				
MT390K-200C40R10SO12-1922N	200	19-22	40	49	47	96	31	2x10	6000	3,8		20				
MT390K-250D60R11SO12-1922N	250	19-22	60	59	50	130	32	2x11	5500	6,4		22				
MT390K-315D60R12SO12-1922N	315	19-22	60	86	50	130	32	2x12	4500	10,3		24				

**In the mills MT390K-080*A22R03SD08-1214N cartridge screw has a "H601400-30" name.*





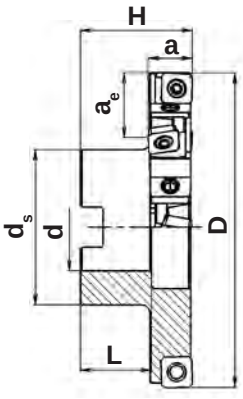
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

Code key								ic	l	S	d1	r	b
								mm					
SDMT08T308ER	■	■		■	□	■	■	9,0	9,0	3,97	3,4	0,8	
SDMT08T308EL						■		9,0	9,0	3,97	3,4	0,8	
SOMT120408SN-S	■	■			■			12,7	12,7	4,76	4,7	0,8	-
SOMT120408EN-T				□			■	12,7	12,7	4,76	4,7	0,8	-
SOHT120408FN-AL						■		12,7	12,7	4,76	4,7	0,8	-

MT390K-...R...N

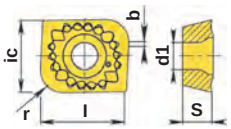
Adjustable full side and facemills with cartridges with flange

NEW



Close pitch

Code key	Dimensions, mm								nmax					Cartrige			
	D	a	d	a_e	H	d_s	L	Z	RPM	kg		No.					
MT390K-...R...AX14...N																	**Width of cut от 22 to 27 mm**
MT390K-160B40R07AX14-2225N	160	22-25	40	42	43	70	29	2x7	7000	2,8	AXGT1405..ER + AXGT1405..EL	7+7		KA390AX14R + KA390AX14L	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-200C40R10AX14-2225N	200	22-25	40	49	47	96	31	2x10	6000	4,3		10+10					
MT390K-250D60R11AX14-2225N	250	22-25	60	54	50	130	32	2x11	5500	7,1		11+11					
MT390K-315D60R12AX14-2225N	315	22-25	60	86	50	130	32	2x12	4500	11,7		12+12					
MT390K-160B40R07AX14-2527N	160	25-27	40	42	43	70	29	2x7	7000	3,0		7+7					
MT390K-200C40R10AX14-2527N	200	25-27	40	49	47	96	31	2x10	6500	4,8		10+10					
MT390K-250D60R11AX14-2527N	250	25-27	60	54	50	130	32	2x11	5500	7,8		11+11					
MT390K-315D60R12AX14-2527N	315	25-27	60	86	50	130	32	2x12	5000	12,9		12+12					

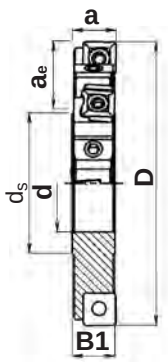


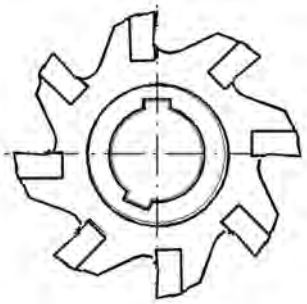
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
Code key								mm					
P	●	●	●										
M	○	●	●	●									
K					●								
N						●							
S		○	○	○			●						
H													
AXGT140508ER	■	■		■	□	■	■	12,7	14,9	5,4	4,7	0,8	1,4
AXGT140508EL	■	■		■	□	□	■	12,7	14,9	5,4	4,7	0,8	1,4
AXGT140512ER	■	□		■	□	■	■	12,7	14,9	5,4	4,7	1,2	0,9
AXGT140512EL	□	□		□	□	□	□	12,7	14,9	5,4	4,7	1,2	0,9
AXGT140516ER	■	■		□	□	□	□	12,7	14,9	5,4	4,7	1,6	1,4
AXGT140516EL	□	□		□	□	□	□	12,7	14,9	5,4	4,7	1,6	1,4
AXGT140520ER	■	■		□	□	■	□	12,7	14,9	5,4	4,7	2,0	1,0
AXGT140520EL	□	■		□	□	■	□	12,7	14,9	5,4	4,7	2,0	1,0
AXGT140525ER	■	□		□	□	□	□	12,7	14,8	5,4	4,7	2,5	0,6
AXGT140525EL	□	□		□	□	□	□	12,7	14,8	5,4	4,7	2,5	0,6
AXGT140530ER	■	■		■	□	□	■	12,7	14,8	5,4	4,7	3,0	0,8
AXGT140530EL	■	□		□	□	□	□	12,7	14,8	5,4	4,7	3,0	0,8
AXGT140540ER	■	■		■	□	□	■	12,7	14,8	5,4	4,7	4,0	0,5
AXGT140540EL	□	□		□	□	□	□	12,7	14,8	5,4	4,7	4,0	0,5
AXGT140550ER	■	■		□	□	■	■	12,7	14,7	5,4	4,7	5,0	0,4
AXGT140550EL	□	□		□	□	■	■	12,7	14,7	5,4	4,7	5,0	0,4
AXGT140563ER	□	■		□	□	□	■	12,7	14,7	5,4	4,7	6,3	0,4
AXGT140563EL	□	■		□	□	□	□	12,7	14,7	5,4	4,7	6,3	0,4

SKIF-M

MT390K-S...R...

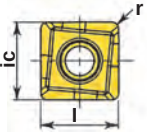
Half side and facemills with cartridges right handed

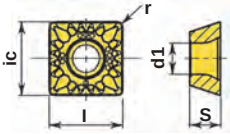




Regular pitch

Code key	Dimensions, mm D	a	a_e	d	d_s	B1	Z	nmax RPM	kg		 No.	Cartrige			
MT390K-S...R...SD08															**Width of cut to 7 mm**
MT390K-080S27R06SD08	80	7	20	27	40	12	6	14500	0,2	SDMT08T308ER	6	K390SD08R	H601400-30	T300755-09AP	7009-TP 2,2 Nm + 7003H
MT390K-100S32R08SD08	100	7	26	32	48	12	8	12500	0,5		8		H601500-30		
MT390K-125S40R10SD08	125	7	33,5	40	58	12	10	11000	0,9		10				
MT390K-160S40R12SD08	160	7	51	40	58	12	12	10000	1,4		12				
MT390K-200S50R14SD08	200	7	64	50	72	12	14	8500	2,1		14				
MT390K-S...R...SO12															**Width of cut to 9 mm**
MT390K-100S32R06SO12	100	9	26	32	48	19	6	9000	0,7	SOMT120408..N...	6	K390SO12R	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-125S40R08SO12	125	9	33,5	40	58	19	8	8000	0,9		8				
MT390K-160S40R10SO12	160	9	51	40	58	19	10	7000	1,8		10				
MT390K-200S50R12SO12	200	9	64	50	72	19	12	6000	2,8		12				
MT390K-250S60R16SO12	250	9	83	60	84	19	16	5500	4,8		16				
MT390K-315S60R20SO12	315	9	115,5	60	84	19	20	4500	8,1		20				
MT390K-S...R...AX14															**Width of cut to 14 mm**
MT390K-100S32R06AX14	100	14	26	32	48	20	6	9000	0,7	AXGT1405..ER	6	K390AX14R	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-125S40R08AX14	125	14	33,5	40	58	20	8	8000	0,9		8				
MT390K-160S40R10AX14	160	14	51	40	58	20	10	7000	1,8		10				
MT390K-200S50R12AX14	200	14	64	50	72	20	12	6000	2,8		12				
MT390K-250S60R16AX14	250	14	83	60	84	20	16	5500	4,8		16				
MT390K-315S60R20AX14	315	14	115,5	60	84	20	20	4500	8,1		20				



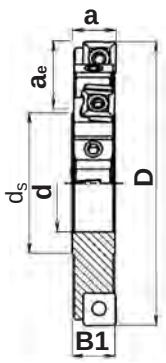


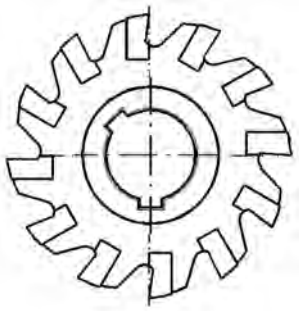
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

Code key	ic	l	S	d1	r	b
	mm					
SDMT08T308ER	9,0	9,0	3,97	3,4	0,8	
SDMT08T308EL	9,0	9,0	3,97	3,4	0,8	
SOMT120408SN-S	12,7	12,7	4,76	4,7	0,8	-
SOMT120408EN-T	12,7	12,7	4,76	4,7	0,8	-
SOHT120408FN-AL	12,7	12,7	4,76	4,7	0,8	-

MT390K-S...R...

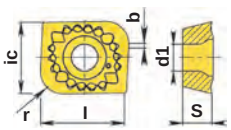
Half side and facemills with cartridges right handed

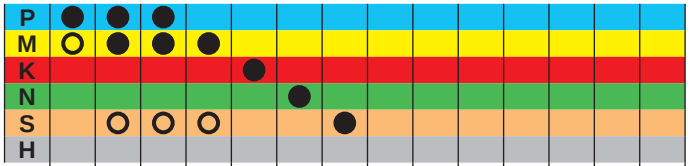




Close pitch

Code key	Dimensions, mm							nmax				Cartrige			
	D	a	a_e	d	d_s	B1	Z	RPM	kg		No.				
MT390K-S...R...SD08															**Width of cut to 7 mm**
MT390K-080S27R08SD08	80	7	20	27	40	12	8	14500	0,2	SDMT08T308ER	8	K390SD08R	H601400-30	T300755-09AP	7009-TP 2,2 Nm + 7003H
MT390K-100S32R10SD08	100	7	26	32	48	12	10	12500	0,5		10		H601500-30		
MT390K-125S40R14SD08	125	7	33,5	40	58	12	14	11000	0,9		14				
MT390K-160S40R18SD08	160	7	51	40	58	12	18	10000	1,4		18				
MT390K-200S50R22SD08	200	7	64	50	72	12	22	8500	2,1		22				
MT390K-S...R...SO12															**Width of cut to 9 mm**
MT390K-125S40R12SO12	125	9	33,5	40	58	19	12	8000	0,9	SOMT120408..N..	12	K390SO12R	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-160S40R14SO12	160	9	51	40	58	19	14	7000	1,8		14				
MT390K-200S50R20SO12	200	9	64	50	72	19	20	6000	2,8		20				
MT390K-250S60R22SO12	250	9	83	60	84	19	22	5500	4,8		22				
MT390K-315S60R24SO12	315	9	115,5	60	84	19	24	4500	8,1		24				
MT390K-S...R...AX14															**Width of cut to 14 mm**
MT390K-125S40R12AX14	125	14	33,5	40	58	20	12	8000	0,9	AXGT1405..ER	12	K390AX14R	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-160S40R14AX14	160	14	51	40	58	20	14	7000	1,8		14				
MT390K-200S50R20AX14	200	14	64	50	72	20	20	6000	2,8		20				
MT390K-250S60R22AX14	250	14	83	60	84	20	22	5500	4,8		22				
MT390K-315S60R24AX14	315	14	115,5	60	84	20	24	4500	8,1		24				

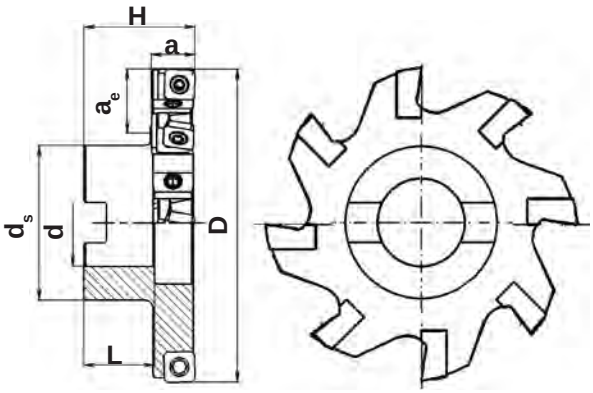




Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
								mm					
AXGT140508ER	■	■		■	□	■	■	12,7	14,9	5,4	4,7	0,8	1,4
AXGT140512ER	■	□		■	□	■	■	12,7	14,9	5,4	4,7	1,2	0,9
AXGT140516ER	■	■		□	□	□	□	12,7	14,9	5,4	4,7	1,6	1,4
AXGT140520ER	■	■		□	□	■	□	12,7	14,9	5,4	4,7	2,0	1,0
AXGT140525ER	■	□		□	□	□	□	12,7	14,8	5,4	4,7	2,5	0,6
AXGT140530ER	■	■		■	□	□	■	12,7	14,8	5,4	4,7	3,0	0,8
AXGT140540ER	■	■		■	□	□	■	12,7	14,8	5,4	4,7	4,0	0,5
AXGT140550ER	■	■		□	□	■	■	12,7	14,7	5,4	4,7	5,0	0,4
AXGT140563ER	□	■		□	□	□	■	12,7	14,7	5,4	4,7	6,3	0,4

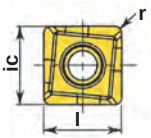
MT390K-...R...R

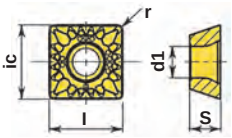
Half side and facemills with cartridges right handed with flange



Regular pitch

Code key	Dimensions, mm D	a	d	a_e	H	d_s	L	Z	nmax RPM	kg		No.	Cartrige			
MT390K-...R...SD08R																**Width of cut to 7 mm**
MT390K-080A22R06SD08R	80	7	22	15	40	38	20	6	14500	0,4	SDMT08T308ER	6	K390SD08R	H601400-30	T300755-09AP	7009-TP 2,2 Nm + 7003H
MT390K-100B27R08SD08R	100	7	27	23	34	48	22	8	12500	0,7		8		H601500-30		
MT390K-125B32R10SD08R	125	7	32	30	38	58	25	10	11000	1,2		10				
MT390K-160B40R12SD08R	160	7	40	42	43	70	29	12	10000	1,8		12				
MT390K-200C40R14SD08R	200	7	40	49	47	96	31	14	8500	2,6		14				
MT390K-...R...SO12R																**Width of cut to 9 mm**
MT390K-100B27R06SO12R	100	9	27	23	34	48	22	6	9000	0,9	SOMT120408..N...	6	K390SO12R	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-125B32R08SO12R	125	9	32	30	38	58	25	8	8000	1,2		8				
MT390K-160B40R10SO12R	160	9	40	42	43	70	29	10	7000	2,2		10				
MT390K-200C40R12SO12R	200	9	40	49	47	96	31	12	6000	3,3		12				
MT390K-250D60R16SO12R	250	9	60	54	50	130	32	16	5500	5,7		16				
MT390K-315D60R20SO12R	315	9	60	86	50	130	32	20	4500	9,0		20				
MT390K-...R...AX14R																**Width of cut to 14 mm**
MT390K-100B32R06AX14R	100	14	27	23	34	48	22	6	9000	0,9	AXGT1405..ER	6	K390AX14R	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-125B40R08AX14R	125	14	32	30	38	58	25	8	8000	1,2		8				
MT390K-160B40R10AX14R	160	14	40	42	43	70	29	10	7000	2,2		10				
MT390K-200C40R12AX14R	200	14	40	49	47	96	31	12	6000	3,3		12				
MT390K-250D60R16AX14R	250	14	60	54	50	130	32	16	5500	5,7		16				
MT390K-315D60R20AX14R	315	14	60	86	50	130	32	20	4500	9,0		20				



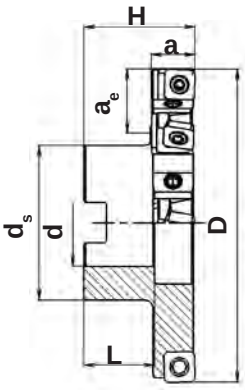


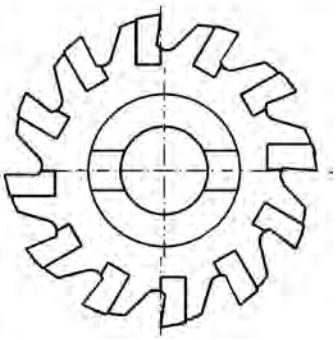
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

Code key	ic	l	S	d1	r	b
	mm					
SDMT08T308ER	9,0	9,0	3,97	3,4	0,8	
SOMT120408SN-S	12,7	12,7	4,76	4,7	0,8	-
SOMT120408EN-T	12,7	12,7	4,76	4,7	0,8	-
SOHT120408FN-AL	12,7	12,7	4,76	4,7	0,8	-

MT390K-...R...R

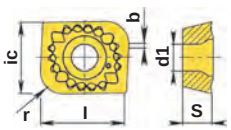
Half side and facemills with cartridges right handed with flange





Close pitch

Code key	Dimensions, mm D	a	d	a_e	H	d_s	L	Z	nmax RPM	kg		No.	Cartrige			
MT390K-...R...SD08R																**Width of cut to 7 mm**
MT390K-080A22R08SD08R	80	7	22	15	40	38	20	8	14500	0,4	SDMT08T308ER	8	K390SD08R	H601400-30	T300755-09AP	7009-TP 2,2 Nm + 7003H
MT390K-100B27R10SD08R	100	7	27	23	34	48	22	10	12500	0,7		10		H601500-30		
MT390K-125B32R14SD08R	125	7	32	30	38	58	25	14	11000	1,2		14				
MT390K-160B40R18SD08R	160	7	40	42	43	70	29	18	10000	1,8		18				
MT390K-200C40R22SD08R	200	7	40	49	47	96	31	22	8500	2,6		22				
MT390K-...R...SO12R																**Width of cut to 9 mm**
MT390K-125B32R12SO12R	125	9	32	30	38	58	25	12	8000	1,2	SOMT120408..N..	12	K390SO12R	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-160B40R14SO12R	160	9	40	42	43	70	29	14	7000	2,2		14				
MT390K-200C40R20SO12R	200	9	40	49	47	96	31	20	6000	3,3		20				
MT390K-250D60R22SO12R	250	9	60	54	50	130	32	22	5500	5,7		22				
MT390K-315D60R24SO12R	315	9	60	86	50	130	32	24	4500	9,0		24				
MT390K-...R...AX14R																**Width of cut to 14 mm**
MT390K-125B40R12AX14R	125	14	32	30	38	58	25	12	8000	1,2	AXGT1405..ER	12	K390AX14R	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-160B40R14AX14R	160	14	40	42	43	70	29	14	7000	2,2		14				
MT390K-200C40R20AX14R	200	14	40	49	47	96	31	20	6000	3,3		20				
MT390K-250D60R22AX14R	250	14	60	54	50	130	32	22	5500	5,7		22				
MT390K-315D60R24AX14R	315	14	60	86	50	130	32	24	4500	9,0		24				



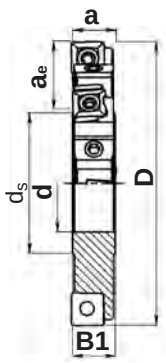
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

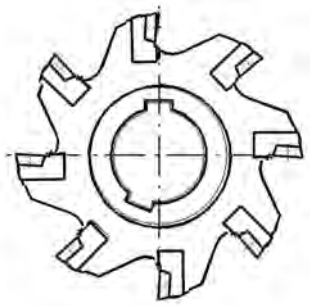
Code key	ic	l	S	d1	r	b
	mm					
AXGT140508ER	12,7	14,9	5,4	4,7	0,8	1,4
AXGT140512ER	12,7	14,9	5,4	4,7	1,2	0,9
AXGT140516ER	12,7	14,9	5,4	4,7	1,6	1,4
AXGT140520ER	12,7	14,9	5,4	4,7	2,0	1,0
AXGT140525ER	12,7	14,8	5,4	4,7	2,5	0,6
AXGT140530ER	12,7	14,8	5,4	4,7	3,0	0,8
AXGT140540ER	12,7	14,8	5,4	4,7	4,0	0,5
AXGT140550ER	12,7	14,7	5,4	4,7	5,0	0,4
AXGT140563ER	12,7	14,7	5,4	4,7	6,3	0,4

SKIF-M

MT390K-S...L...

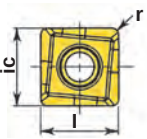
Half side and facemills with cartridges left handed

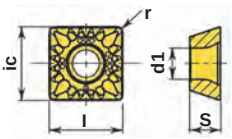


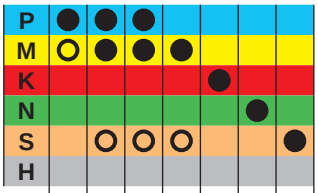


Regular pitch

Code key	Dimensions, mm D	a	a_e	d	d_s	B1	Z	nmax RPM	kg		No.	Cartrige			
MT390K-S...L...SD08															**Width of cut to 7 mm**
MT390K-080S27L06SD08	80	7	20	27	40	12	6	14500	0,2	SDMT08T308EL	6	K390SD08L	H601400-30	T300755-09AP	7009-TP 2,2 Nm + 7003H
MT390K-100S32L08SD08	100	7	26	32	48	12	8	12500	0,5		8		H601500-30		
MT390K-125S40L10SD08	125	7	33,5	40	58	12	10	11000	0,9		10				
MT390K-160S40L12SD08	160	7	51	40	58	12	12	10000	1,4		12				
MT390K-200S50L14SD08	200	7	64	50	72	12	14	8500	2,1		14				
MT390K-S...L...SO12															**Width of cut to 9 mm**
MT390K-100S32L06SO12	100	9	26	32	48	19	6	9000	0,7	SOMT120408..N...	6	K390SO12R	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-125S40L08SO12	125	9	33,5	40	58	19	8	8000	0,9		8				
MT390K-160S40L10SO12	160	9	51	40	58	19	10	7000	1,8		10				
MT390K-200S50L12SO12	200	9	64	50	72	19	12	6000	2,8		12				
MT390K-250S60L16SO12	250	9	83	60	84	19	16	5500	4,8		16				
MT390K-315S60L20SO12	315	9	115,5	60	84	19	20	4500	8,1		20				
MT390K-S...L...AX14															**Width of cut to 14 mm**
MT390K-100S32L06AX14	100	14	26	32	48	20	6	9000	0,7	AXGT1405..EL	6	K390AX14L	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-125S40L08AX14	125	14	33,5	40	58	20	8	8000	0,9		8				
MT390K-160S40L10AX14	160	14	51	40	58	20	10	7000	1,8		10				
MT390K-200S50L12AX14	200	14	64	50	72	20	12	6000	2,8		12				
MT390K-250S60L16AX14	250	14	83	60	84	20	16	5500	4,8		16				
MT390K-315S60L20AX14	315	14	115,5	60	84	20	20	4500	8,1		20				



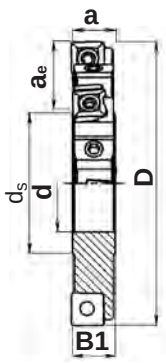


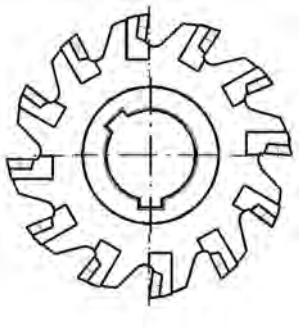


Code key	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
								mm					
SDMT08T308ER	■	■		■	□	■	■	9,0	9,0	3,97	3,4	0,8	
SOMT120408SN-S	■	■			■			12,7	12,7	4,76	4,7	0,8	-
SOMT120408EN-T				□			■	12,7	12,7	4,76	4,7	0,8	-
SOHT120408FN-AL						■		12,7	12,7	4,76	4,7	0,8	-

MT390K-S...L...

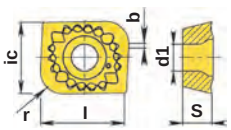
Half side and facemills with cartridges left handed





Close pitch

Code key	Dimensions, mm D	a	a_e	d	d_s	B1	Z	nmax RPM	kg		No.	Cartrige			
MT390K-S...L...SD08															**Width of cut to 7 mm**
MT390K-080S27L08SD08	80	7	20	27	40	12	8	14500	0,2	SDMT08T308EL	8	K390SD08L	H601400-30	T300755-09AP	7009-TP 2,2 Nm + 7003H
MT390K-100S32L10SD08	100	7	26	32	48	12	10	12500	0,5		10		H601500-30		
MT390K-125S40L14SD08	125	7	33,5	40	58	12	14	11000	0,9		14				
MT390K-160S40L18SD08	160	7	51	40	58	12	18	10000	1,4		18				
MT390K-200S50L22SD08	200	7	64	50	72	12	22	8500	2,1		22				
MT390K-S...L...SO12															**Width of cut to 9 mm**
MT390K-125S40L12SO12	125	9	33,5	40	58	19	12	8000	0,9	SOMT120408..N..	12	K390SO12R	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-160S40L14SO12	160	9	51	40	58	19	14	7000	1,8		14				
MT390K-200S50L20SO12	200	9	64	50	72	19	20	6000	2,8		20				
MT390K-250S60L22SO12	250	9	83	60	84	19	22	5500	4,8		22				
MT390K-315S60L24SO12	315	9	115,5	60	84	19	24	4500	8,1		24				
MT390K-S...L...AX14															**Width of cut to 14 mm**
MT390K-125S40L12AX14	125	14	33,5	40	58	20	12	8000	0,9	AXGT1405..EL	12	K390AX14L	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-160S40L14AX14	160	14	51	40	58	20	14	7000	1,8		14				
MT390K-200S50L20AX14	200	14	64	50	72	20	20	6000	2,8		20				
MT390K-250S60L22AX14	250	14	83	60	84	20	22	5500	4,8		22				
MT390K-315S60L24AX14	315	14	115,5	60	84	20	24	4500	8,1		24				

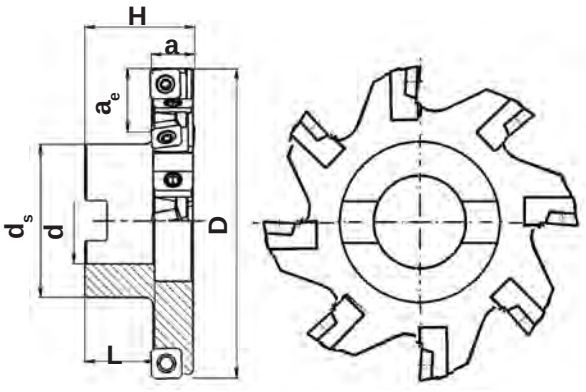


	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

Code key	ic	l	S	d1	r	b
	mm					
AXGT140508EL	12,7	14,9	5,4	4,7	0,8	1,4
AXGT140512EL	12,7	14,9	5,4	4,7	1,2	0,9
AXGT140516EL	12,7	14,9	5,4	4,7	1,6	1,4
AXGT140520EL	12,7	14,9	5,4	4,7	2,0	1,0
AXGT140525EL	12,7	14,8	5,4	4,7	2,5	0,6
AXGT140530EL	12,7	14,8	5,4	4,7	3,0	0,8
AXGT140540EL	12,7	14,8	5,4	4,7	4,0	0,5
AXGT140550EL	12,7	14,7	5,4	4,7	5,0	0,4
AXGT140563EL	12,7	14,7	5,4	4,7	6,3	0,4

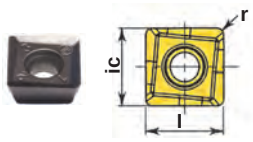
MT390K-...R...L

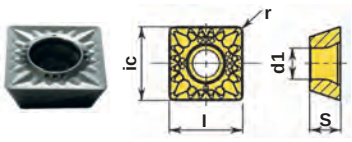
Half side and facemills with cartridges left handed with flange



Regular pitch

Code key	Dimensions, mm D	a	d	a_e	H	d_s	L	Z	nmax RPM	kg		No.	Cartrige			
MT390K-...R...SD08L																**Width of cut to 7 mm**
MT390K-080A22R06SD08L	80	7	22	15	40	38	20	6	14500	0,4	SDMT08T308EL	6	K390SD08L	H601400-30	T300755-09AP	7009-TP 2,2 Nm + 7003H
MT390K-100B27R08SD08L	100	7	27	23	34	48	22	8	12500	0,7		8		H601500-30		
MT390K-125B32R10SD08L	125	7	32	30	38	58	25	10	11000	1,2		10				
MT390K-160B40R12SD08L	160	7	40	42	43	70	29	12	10000	1,8		12				
MT390K-200C40R14SD08L	200	7	40	49	47	96	31	14	8500	2,6		14				
MT390K-...R...SO12L																**Width of cut to 9 mm**
MT390K-100B27R06SO12L	100	9	27	23	34	48	22	6	9000	0,9	SOMT120408..N...	6	K390SO12R	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-125B32R08SO12L	125	9	32	30	38	58	25	8	8000	1,2		8				
MT390K-160B40R10SO12L	160	9	40	42	43	70	29	10	7000	2,2		10				
MT390K-200C40R12SO12L	200	9	40	49	47	96	31	12	6000	3,3		12				
MT390K-250D60R16SO12L	250	9	60	54	50	130	32	16	5500	5,7		16				
MT390K-315D60R20SO12L	315	9	60	86	50	130	32	20	4500	9,0		20				
MT390K-...R...AX14L																**Width of cut to 14 mm**
MT390K-100B32R06AX14L	100	14	27	23	34	48	22	6	9000	0,9	AXGT1405..EL	6	K390AX14L	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-125B40R08AX14L	125	14	32	30	38	58	25	8	8000	1,2		8				
MT390K-160B40R10AX14L	160	14	40	42	43	70	29	10	7000	2,2		10				
MT390K-200C40R12AX14L	200	14	40	49	47	96	31	12	6000	3,3		12				
MT390K-250D60R16AX14L	250	14	60	54	50	130	32	16	5500	5,7		16				
MT390K-315D60R20AX14L	315	14	60	86	50	130	32	20	4500	9,0		20				



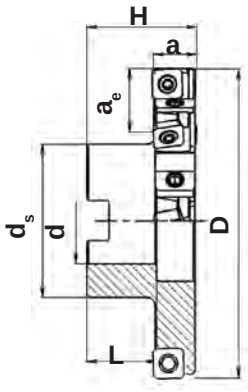


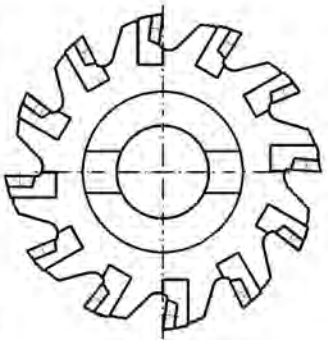
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X
P	●	●	●				
M	○	●	●	●			
K					●		
N						●	
S		○	○	○			●
H							

Code key	ic	l	S	d1	r	b
	mm					
SDMT08T308EL	9,0	9,0	3,97	3,4	0,8	
SOMT120408SN-S	12,7	12,7	4,76	4,7	0,8	-
SOMT120408EN-T	12,7	12,7	4,76	4,7	0,8	-
SOHT120408FN-AL	12,7	12,7	4,76	4,7	0,8	-

MT390K-...R...L

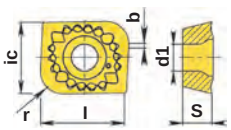
Half side and facemills with cartridges left handed with flange





Close pitch

Code key	Dimensions, mm D	a	d	a_e	H	d_s	L	Z	nmax RPM	kg		No.	Cartrige			
MT390K-...R...SD08L																**Width of cut to 7 mm**
MT390K-080A22R08SD08L	80	7	22	15	40	38	20	8	14500	0,4	SDMT08T308EL	8	K390SD08L	H601400-30	T300755-09AP	7009-TP 2,2 Nm + 7003H
MT390K-100B27R10SD08L	100	7	27	23	34	48	22	10	12500	0,7		10		H601500-30		
MT390K-125B32R14SD08L	125	7	32	30	38	58	25	14	11000	1,2		14				
MT390K-160B40R18SD08L	160	7	40	42	43	70	29	18	10000	1,8		18				
MT390K-200C40R22SD08L	200	7	40	49	47	96	31	22	8500	2,6		22				
MT390K-...R...SO12L																**Width of cut to 9 mm**
MT390K-125B32R12SO12L	125	9	32	30	38	58	25	12	8000	1,2	SOMT120408..N...	12	K390SO12R	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-160B40R14SO12L	160	9	40	42	43	70	29	14	7000	2,2		14				
MT390K-200C40R20SO12L	200	9	40	49	47	96	31	20	6000	3,3		20				
MT390K-250D60R22SO12L	250	9	60	54	50	130	32	22	5500	5,7		22				
MT390K-315D60R24SO12L	315	9	60	86	50	130	32	24	4500	9,0		24				
MT390K-...R...AX14L																**Width of cut to 14 mm**
MT390K-125B40R12AX14L	125	14	32	30	38	58	25	12	8000	1,2	AXGT1405..EL	12	K390AX14L	H601600-30	T400960-15P	7015-TP 5,5 Nm + 7003H
MT390K-160B40R14AX14L	160	14	40	42	43	70	29	14	7000	2,2		14				
MT390K-200C40R20AX14L	200	14	40	49	47	96	31	20	6000	3,3		20				
MT390K-250D60R22AX14L	250	14	60	54	50	130	32	22	5500	5,7		22				
MT390K-315D60R24AX14L	315	14	60	86	50	130	32	24	4500	9,0		24				

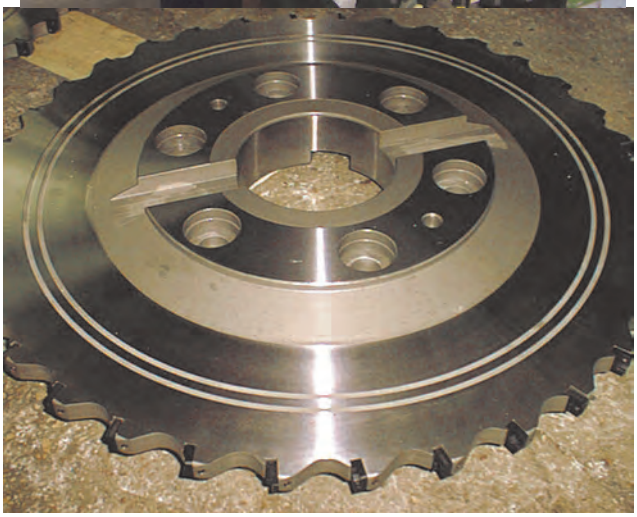


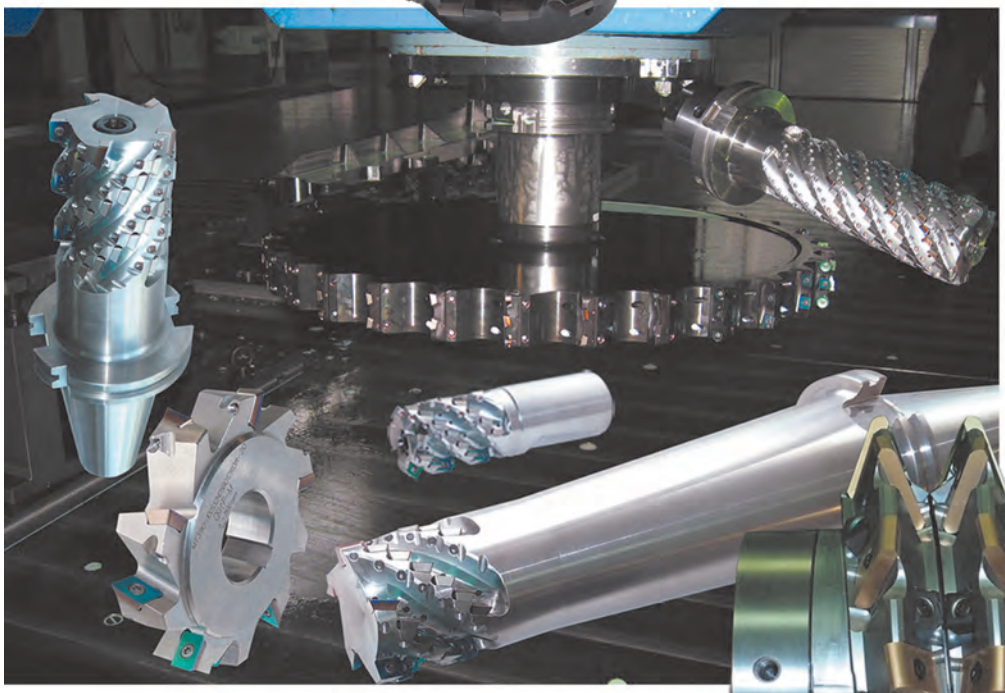
	HCP30X	HCP40X	HCM25X	HCM30X	HCK10X	HCN10X	HCS35X	ic	l	S	d1	r	b
Code key								mm					
P	●	●	●										
M	○	●	●	●									
K					●								
N						●							
S		○	○	○			●						
H													
AXGT140508EL	■	■		■	□	□	■	12,7	14,9	5,4	4,7	0,8	1,4
AXGT140512EL	□	□		□	□	□	□	12,7	14,9	5,4	4,7	1,2	0,9
AXGT140516EL	□	□		□	□	□	□	12,7	14,9	5,4	4,7	1,6	1,4
AXGT140520EL	□	■		□	□	■	□	12,7	14,9	5,4	4,7	2,0	1,0
AXGT140525EL	□	□		□	□	□	□	12,7	14,8	5,4	4,7	2,5	0,6
AXGT140530EL	■	□		□	□	□	□	12,7	14,8	5,4	4,7	3,0	0,8
AXGT140540EL	□	□		□	□	□	□	12,7	14,8	5,4	4,7	4,0	0,5
AXGT140550EL	□	□		□	□	■	■	12,7	14,7	5,4	4,7	5,0	0,4
AXGT140563EL	□	■		□	□	□	□	12,7	14,7	5,4	4,7	6,3	0,4

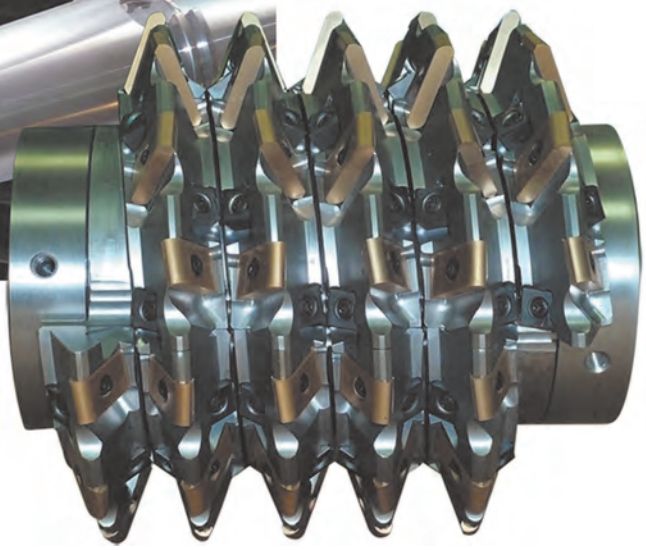
General information

The large-sized mills for milling of generator slots, turbine rotors and seaborne machinery have a special place among SKIF-M special design mills. Gear-cutting hob with the module up **m7** to **m30** on accuracy class “B” are produced.
The style with protuberance is also available.
The unique production technique of these mills is based on know-how.

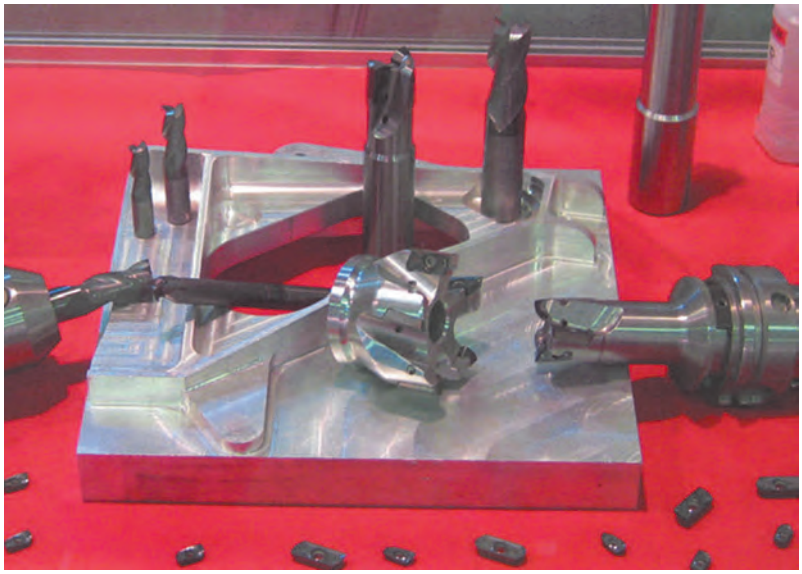
Besides SKIF-M produces special mills for an airspace and railwai industry. The mill designs are based on using standard elements of mills SKIF-M from the general catalogue. It is about 50% of total production volume.





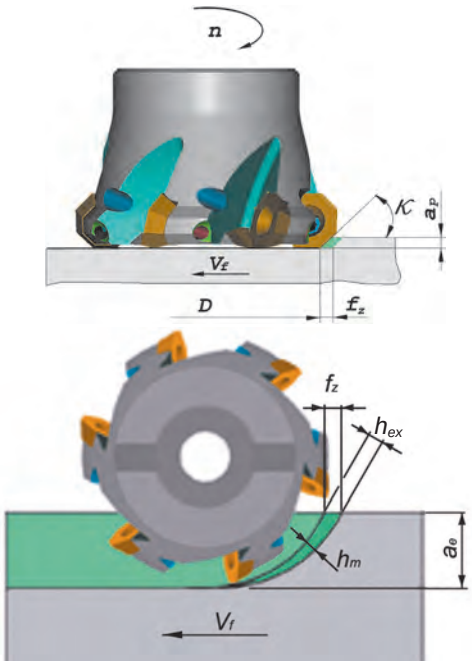


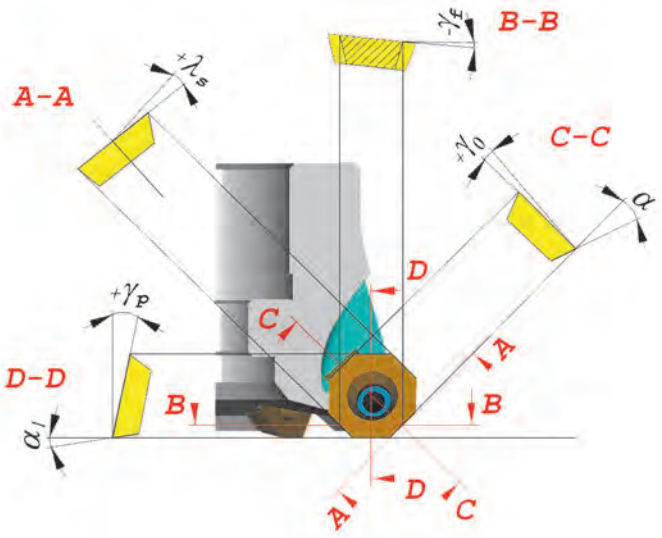

Фрезы СКИФ-М для алюминиевых сплавов
SKIF-M milling tools for an aluminium alloys



Symbols, Terms and Dimensions

Symbols	Terms	Dimensions
a_e	Width of cut	mm
a_p	Depth of cut	mm
D	Cutter diameter	mm
f_z	Feed per tooth	mm/z
h_m	Mean undeformed chip thickness	mm
h_{ex}	Maximum undeformed chip thickness	mm
k_c	Specific cutting force	N/mm^2
$k_{c1.1}$	Specific cutting force (for an undeformed chip cross section b x h = 1x1 mm^2)	N/mm^2
m_c	Exponent for mean undeformed chip thickness	
n	Spindle speed	RPM
P	Power requirement of motor	kW
Q	Metal removal rate	cm^3 /min
V_c	Cutting speed	m/min
V_f	Feed rate	mm/min
Z	Number of teeth	
iC	Inscribed circle	mm
η	Efficiency	
γ_o	Tool orthogonal angle	degrees
γ_f	Tool back rake (radial rake) angle	degrees
γ_p	Tool side rake (axial rake) angle	degrees
γ_w	Insert orthogonal rake angle	degrees
κ	Tool cutting edge angle	degrees
λ_s	Tool cutting edge inclination angle	degrees
α	Tool orthogonal clearance angle	degrees
α_1	Tool side clearance angle	degrees





Formulas

Cutting speed (m/min)

$$V_c = \frac{\pi D n}{1000}$$

Spindle speed, RPM

$$n = \frac{1000\ V_c}{\pi D}$$

Feed rate (mm/min)

$$V_f = f_z n\ z$$

Feed per tooth (mm/z)

$$f_z = \frac{V_f}{n\ z}$$

Metal removal rate (cm³ /min)

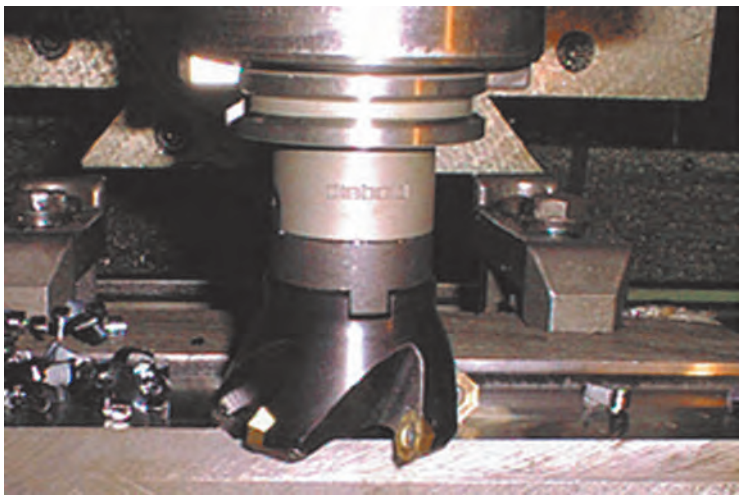
$$Q = \frac{a_p\ a_e\ V_f}{1000}$$

Tool orthogonal rake (°)

$$\gamma_o = arctg(\cos\kappa\ tg\gamma_p\ \sin\kappa\ tg\gamma_f)$$

Specific cutting force (N/mm²)

$$k_c = k_{c1.1} \frac{1 - 0{,}015\ (\gamma_o + \gamma_\omega)}{(h_m)^{m_c}}$$



Power requirement of motor, HP (kW)

$$P = \frac{a_p\ a_e\ V_f\ k_c}{60x10^6\ \eta}$$

Average chip thickness, inch (mm)

for $a_e / D \le 0{,}1$

$$h_m = f_z \sqrt{\frac{a_e}{D}}$$

for $a_e / D > 0{,}1$

$$h_m = \frac{180\ a_e\ f_z\ \sin\kappa}{\pi D\ arcsin\left(\frac{a_e}{D}\right)}$$

for MT100, MT200

$$h_m = f_z \sqrt{\frac{a_p}{iC}}$$

Calculation of cutting data for some mills

Calculation of cutting data for milling with round inserts

$$n = \frac{1000 V_c}{\pi D_e} \quad \text{(RPM)}$$

For endmills with round inserts a_e depending on machining data.

For facemills with round inserts $a_p < 0{,}5\ iC$, mm $a_e = 0{,}75–0{,}8\ D_1$, mm

The cutting speed recommendations see pages 233.

$V_c = V_c^{table} k_v$ (m/min), where k_v - correction factors.

Use recommendations for value D_e see on table 1 for endmills or on table 2 for facemills or define by the following formula. Particularly when using round insert cutters at small depths of cut, it is always important to calculate the true cutting speed V_c based on the effective - or true diameter in cut D_e.

$$D_e = D_1 + 2\sqrt{a_p\ iC - a_p^2}$$

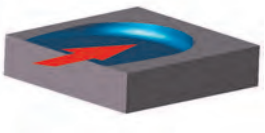
D_e - effective diameter , mm;

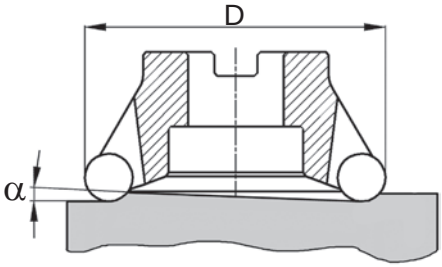
iC - inscribed circle, mm;

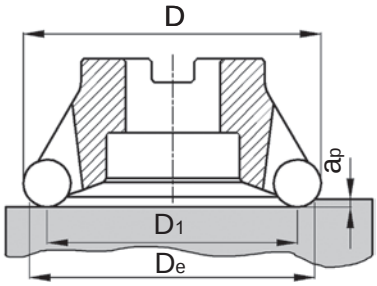
D_1 - inside cutter diameter, mm;

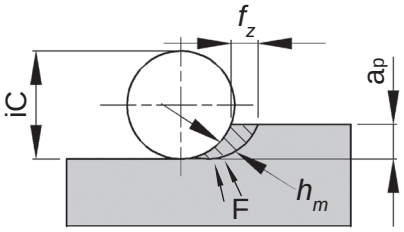
Ramping

D	RD05	RD08		RD10		RD12		RD16		RD20		D
	S+AL	S+AL	Ti	S+AL	Ti	S+AL	Ti	S+AL	Ti	S+AL	Ti	
8	12,5	-	-	-	-	-	-	-	-	-	-	**8**
10	13	-	-	-	-	-	-	-	-	-	-	**10**
12	8,2	-	-	-	-	-	-	-	-	-	-	**12**
16	5,3	4,7	7,8	-	-	-	-	-	-	-	-	**16**
20	-	4,3	9,4	9,5	11,6	-	-	-	-	-	-	**20**
25	-	3,8	6,8	3,1	8,2	3,4	4,9	-	-	-	-	**25**
32	-	7,8	4,2	1,7	4,5	1,7	4,7	15,3	7,8	-	-	**32**
40	-	5,8	5,6	3,3	4	2	4,5	7,4	8,1	7,2	1,3	**40**
50	-	4,1	4,1	3,2	2,7	7,6	3,9	6,8	1,1	7,5	1,1	**50**
63	-	3	3	3	2,3	5,2	4	6	0,9	6,5	1	**63**
80	-	2,3	2,3	1,8	2	4	3,7	3,7	0,8	6	0,9	**80**
100	-	-	-	1,4	1,6	3	2,6	3	0,7	4,3	0,8	**100**
125	-	-	-	-	-	2,4	2,1	2,5	0,6	3,2	0,6	**125**
160	-	-	-	-	-	-	-	1,5	0,4	2,3	0,5	**160**









Calculated effective diameter (D_e) for endmills with round inserts

Table 1

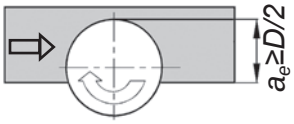
a_p, mm	D- cutter diameter, mm																							
	08	10	12	16	20	12	16	20	25	20	25	32	20	25	32	40	50	25	32	40	50	25	40	50
	RD05					RD08				RD10			RD12					RD16				RD20		
	D_e, mm																							
0,2	5,0	7,0	9,0	13,0	17,0	6,5	10,5	14,5	19,5	12,8	17,8	24,8	11,1	15,1	23,1	31,1	41,1	12,6	19,6	27,6	37,6	24,0	24,0	34,0
0,4	5,7	7,7	9,7	13,7	17,7	7,5	11,5	15,5	20,5	13,9	18,9	25,9	12,3	16,3	24,3	32,3	42,3	14,0	21,0	29,0	39,0	25,6	25,6	35,6
0,6	6,2	8,2	10,2	14,2	18,2	8,2	12,2	16,2	21,2	14,7	19,7	26,7	13,2	17,2	25,2	33,2	43,2	15,1	22,1	30,1	40,1	26,8	26,8	36,8
0,8	6,7	8,7	10,7	14,7	18,7	8,8	12,8	16,8	21,8	15,4	20,4	27,4	14,0	18,0	26,0	34,0	44,0	16,0	23,0	31,0	41,0	27,8	27,8	37,8
1,2	7,3	9,3	11,3	15,3	19,3	9,7	13,7	17,7	22,7	16,5	21,5	28,5	15,2	19,2	27,2	35,2	45,2	17,4	24,4	32,4	42,4	29,5	29,5	39,5
1,6	7,7	9,7	11,7	15,7	19,7	10,4	14,4	18,4	23,4	17,3	22,3	29,3	16,0	20,2	28,2	36,2	46,2	18,6	25,6	33,6	43,6	30,9	30,9	40,9
2,5	8,0	10,0	12,0	16,0	20,0	11,4	15,4	19,4	24,4	18,7	23,7	30,7	17,7	21,7	29,7	37,7	47,7	20,6	27,6	35,6	45,6	33,2	33,2	43,2
3,2						11,8	15,8	19,8	24,8	19,3	24,3	31,3	18,6	22,6	30,6	38,6	48,6	21,8	28,8	36,8	46,8	34,7	34,7	44,7
4,0						12,0	16,0	20,0	25,0	19,8	24,8	31,8	19,3	23,3	31,3	39,3	49,3	22,9	29,9	37,9	47,9	36,0	36,0	46,0
4,5										19,9	24,9	31,9	19,6	23,6	31,6	39,6	49,6	23,4	30,4	38,4	48,4	36,7	36,7	46,7
5,0										20,0	25,0	32,0	19,8	23,8	31,8	39,8	49,8	23,8	30,8	38,8	48,8	37,3	37,3	47,3
6,0													20,0	24,0	32,0	40,0	50,0	24,5	31,5	39,5	49,5	38,3	38,3	48,3
8,0																		25,0	32,0	40,0	50,0	39,6	39,6	49,6
9,0																						39,9	39,9	49,9
10,0																						40,0	40,0	50,0

Calculated effective diameter (D_e) for facemills with round inserts — Table 2

a_p, mm	D- cutter diameter, mm														
	50		63		80			100			125			160	
	Inserts														
	RD12	RD16	RD12	RD16	RD12	RD16	RD20	RD12	RD16	RD20	RD12	RD16	RD20	RD16	RD20
	De, mm														
0,2	41,1	37,6	54,1	50,6	71,1	67,6	64,0	91,1	87,6	84,0	116,1	112,6	109,0	147,6	144,0
0,4	42,3	39,0	55,3	52,0	72,3	69,0	65,6	92,3	89,0	85,6	117,3	114,0	110,6	149,0	145,6
0,6	43,2	40,1	56,2	53,1	73,2	70,1	66,8	93,2	90,1	86,8	118,2	115,1	111,8	150,1	146,8
0,8	44,0	41,0	57,0	54,0	74,0	71,0	67,8	94,0	91,0	87,8	119,0	116,0	112,8	151,0	147,8
1,2	45,2	42,4	58,2	55,4	75,2	72,4	69,5	95,2	92,4	89,5	120,2	117,4	114,5	152,4	149,5
1,6	46,2	43,6	59,2	56,6	76,2	73,6	70,9	96,2	93,6	90,9	121,2	118,6	115,9	153,6	150,9
2,5	47,7	45,6	60,7	58,6	77,7	75,6	73,2	97,7	95,6	93,2	122,7	120,6	118,2	155,6	153,2
3,2	48,6	46,8	61,6	59,8	78,6	76,8	74,7	98,6	96,8	94,7	123,6	121,8	119,7	156,8	154,7
4,0	49,3	47,9	62,3	60,9	79,3	77,9	76,0	99,3	97,9	96,0	124,3	122,9	121,0	157,9	156,0
4,5	49,6	48,4	62,6	61,4	79,6	78,4	76,7	99,6	98,4	96,7	124,6	123,4	121,7	158,4	156,7
5,0	49,8	48,8	62,8	61,8	79,8	78,8	77,3	99,8	98,8	97,3	124,8	123,8	122,3	158,8	157,3
6,0	50,0	49,5	63,0	62,5	80,0	79,5	78,3	100,0	99,5	98,3	125,0	124,5	123,3	159,5	158,3
6,5		49,7		62,7		79,7	78,7		99,7	98,7		124,7	123,7	159,7	158,7
7,0		49,9		62,9		79,9	79,1		99,9	99,1		124,9	124,1	159,9	159,1
8,0		50,0		63,0		80,0	79,6		100,0	99,6		125,0	124,6	160,0	159,6
9,0							79,9			99,9			124,9		159,9
10,0							80,0			100,0			125,0		160,0

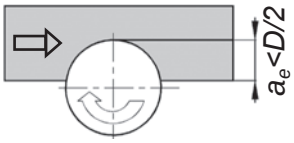
Feed per tooth (mm / tooth) for milling width greater than or equal to half the effective diameter

$$f_z = \frac{iC\ h_{ex}}{D_e - D_1}$$



Feed per tooth (mm / tooth) for milling width, at half the effective diameter

$$f_z = \frac{D_e\ iC\ h_{ex}}{2(D_e - D_1)\sqrt{D_e a_e - a_e^2}}$$



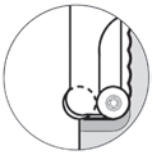
Thicknes insert, mm	h_{ex} mm
<3,18	0,1 - 0,15
3,18 - 3,97	0,2
4,76 - 5,56	0,3
>6,35	0,4 - 0,7

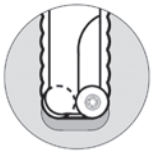
h_{ex} - Maximum undeformed chip thickness (mm), page 235.

The mills work best at small axial depths where the round insert shape can be used to increase the feed per tooth in 4-5 times, due to the thin chip. A small axial and radial depth of cut gives a short cutting edge engagement. Low cutting forces (F) and very little heat is generated allowing the cutting speed to be increased 50-100%. Together with the high feed per tooth this will allow the table feed to be increased in 5-10 times compared with general milling.

Working areas


Facemilling


Shoulder milling


Full slot millng

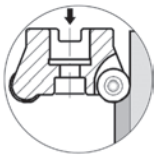

Rest milling

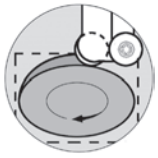

Profiling


Helical interpolation


Ramping


Contouring

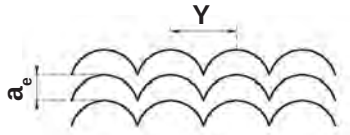

Plunge milling


Turn-milling

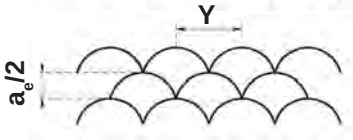
Application data for high feed with insert FO09, FO12

Definition feed for plunge milling

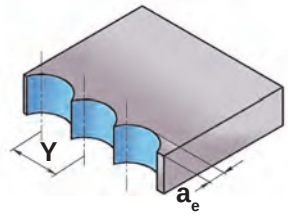
Tool offset with optimum overlap



Tool offset for unstable conditions

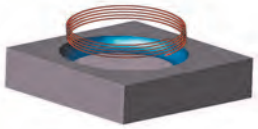


to lower feed on 50% for milling at walls

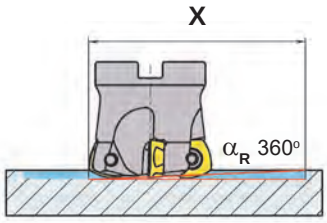


l	a_e max	fz rec.	fz min	fz max	Y max
	mm				
9	7,5	0,1	0,08	0,15	<0,7xD
12	10	0,15	0,1	0,2	<0,7xD

Application data for pocket milling

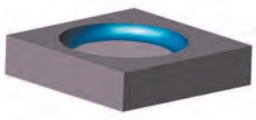


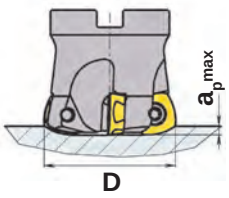
$X_c max$ - Maximum hole diameter
$X_c min$ - Minimum hole diameter
D - Cutter diameter



D	FO09			FO12		
	$X_c max$	$X_c min$	α_R 360°	$X_c max$	$X_c min$	α_R 360°
	mm		°	mm		°
25	48	35	3,1	-	-	-
32	62	49	1,7	62	44	6,1
35	68	55	1,4	68	50	3,7
40	78	65	1,0	78	60	2,5
42	82	69	0,9	82	64	2,3
50	98	85	0,8	98	80	1,3
52	102	89	0,7	102	84	1,3
63	124	111	0,7	124	106	0,9
66	130	117	0,6	130	112	0,9
80	-	-	-	158	140	1,1
100	-	-	-	198	180	0,6
125	-	-	-	248	230	0,5

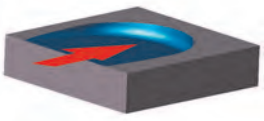
Axial plunging

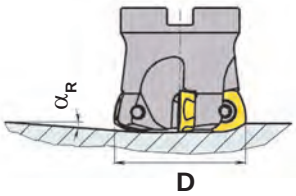




FO09		FO12	
D	$a_p max$	D	$a_p max$
mm			
25-66	0,75	32-125	1,15

Angled ramping

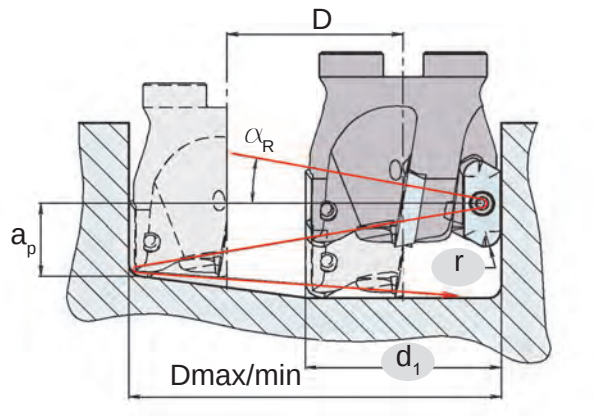




FO09		FO12	
D mm	α_R °	D mm	α_R °
25	3,6	**32**	-
32	2,0	**35**	6,1
35	1,6	**40**	3,7
40	1,2	**42**	2,5
42	1,1	**50**	2,3
50	0,9	**52**	1,3
52	0,8	**63**	1,3
63	0,8	**66**	0,9
66	0,7	**80**	0,9
-	-	**100**	1,1

Application data for pocket milling with insert BD10, BO12

Helical milling for insert BD10

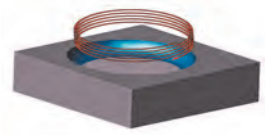


r = Insert radius

α_R [°] = Maximum ramp angle (in relation to tool centre)

a_p[mm] = D x π x tan(α_R)

D[mm] = $\frac{D_{max} - d_1}{D_{min} - d_1}$ or



For flat bottom ground

D_{max}[mm] = Maximum hole diameter

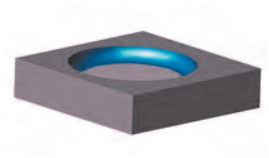
D_{min}[mm] = Minimum hole diameter

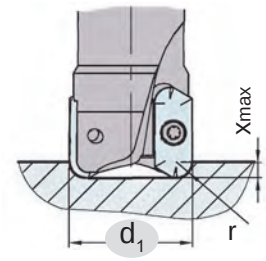
DN_{max} = Maximum hole diameter for non flat bottom

d_1 (DN_{max})	r	BD10								
		0,2	0,4	0,8	1,2	1,6	2,0	2,5	3,2	4,0
16 (31)	α_R [°]	9°43'	9°58'	9°52'	9°23'	8°55'	8°26'	7°51'	7°00'	6°03'
	D_{max}	30	30	29	28	27	27	26	24	23
	D_{min}	18	18	18	18	18	18	18	18	18
18 (35)	α_R [°]	9°21'	9°08'	8°43'	8°18'	7°53'	7°28'	6°56'	6°11'	5°20'
	D_{max}	34	34	33	32	31	31	30	28	27
	D_{min}	22	22	22	22	22	22	22	22	22
19 (37)	α_R [°]	8°50'	8°38'	8°15'	7°51'	7°27'	7°30'	6°33'	5°51'	5°03'
	D_{max}	36	36	35	34	33	33	32	30	29
	D_{min}	24	24	24	24	24	24	24	24	24
20 (39)	α_R [°]	8°23'	8°11'	7°49'	7°26'	7°40'	6°41'	6°12'	5°32'	4°47'
	D_{max}	38	38	37	36	35	35	34	32	31
	D_{min}	26	26	26	26	26	26	26	26	26
22 (43)	α_R [°]	7°35'	7°25'	7°50'	6°44'	6°23'	6°30'	5°37'	5°10'	4°20'
	D_{max}	42	42	41	40	39	39	38	36	35
	D_{min}	30	30	30	30	30	30	30	30	30
25 (49)	α_R [°]	6°39'	6°30'	6°12'	5°54'	5°36'	5°18'	4°55'	4°23'	3°47'
	D_{max}	48	48	47	46	45	45	44	42	41
	D_{min}	36	36	36	36	36	36	36	36	36
32 (63)	α_R [°]	4°39'	4°42'	4°48'	4°34'	4°20'	4°06'	3°49'	3°24'	2°56'
	D_{max}	62	62	61	60	59	59	58	56	55
	D_{min}	50	50	50	50	50	50	50	50	50
40 (79)	α_R [°]	3°16'	3°18'	3°22'	3°26'	3°27'	3°16'	3°02'	2°42'	2°20'
	D_{max}	78	78	77	76	75	75	74	72	71
	D_{min}	66	66	66	66	66	66	66	66	66
50 (99)	α_R [°]	2°26'	2°27'	2°30'	2°32'	2°34'	2°36'	2°25'	2°09'	1°51'
	D_{max}	98	98	97	96	95	95	94	92	91
	D_{min}	86	86	86	86	86	86	86	86	86
63 (125)	α_R [°]	1°42'	1°43'	1°44'	1°45'	1°47'	1°48'	1°50'	1°42'	1°28'
	D_{max}	124	124	123	122	121	121	120	118	117
	D_{min}	112	112	112	112	112	112	112	112	112
80 (159)	α_R [°]	1°04'	1°04'	1°05'	1°05'	1°06'	1°07'	1°08'	1°09'	1°09'
	D_{max}	158	158	157	156	155	155	154	152	151
	D_{min}	146	146	146	146	146	146	146	146	146
100 (199)	α_R [°]	0°50'	0°50'	0°51'	0°51'	0°52'	0°52'	0°53'	0°54'	0°55'
	D_{max}	198	198	197	196	195	195	194	192	191
	D_{min}	186	186	186	186	186	186	186	186	186

Application data for pocket milling with insert BD.., BO12, XE17

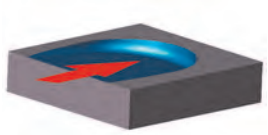
Axial plunging

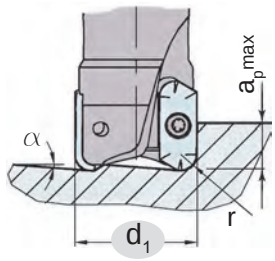




D (mm)	BD10... x_{max} (mm) r 0,2-4,0	BO12... x_{max} (mm) r 0,8
16	1,70	-
18	2,11	-
19	2,24	-
20	2,39	-
22	2,70	-
25	2,55	1,9
32	2,40	1,9
40	2,28	1,9
50	2,26	1,9
63	2,10	1,9
80	1,75	1,9
100	1,79	1,9

Angled ramping





D, mm	BD08	BD10	BD12	BD16	BO12	XE17	D, mm
	α r 0.8 mm						
12	7° 30’	-	-	-	-	-	**12**
14	5° 40’	-	-	-	-	-	**14**
16	4° 40’	11° 00’	-	-	-	-	**16**
20	3° 20’	6° 40’	10° 55’	-	-	-	**20**
25	3° 00’	4° 40’	7° 25’	8° 10’	8° 55’	22° 25’	**25**
32	2° 00’	3° 30’	5° 10’	6° 00’	5° 50’	15° 25’	**32**
40	1° 45’	2° 40’	3° 50’	4° 20’	3° 55’	11° 40’	**40**
50	1° 30’	1° 50’	2° 25’	2° 40’	2° 30’	8° 40’	**50**
63	-	1° 15’	1° 55’	2° 00’	2° 00’	6° 40’	**63**
80	-	1° 00’	1° 45’	1° 40’	1° 25’	5° 10’	**80**
100	-	0° 45’	1° 20’	1° 20’	0° 45’	3° 40’	**100**

Nominal cutting data for milling tools for machining aluminium alloys

ISO	Insert type	Finishing		Semi-finishing		Roughing	
		Cutting speed v_c (m/min)	Feed/tooth (mm/tooth)	Cutting speed v_c (m/min)	Feed/tooth (mm/tooth)	Cutting speed v_c (m/min)	Feed/tooth (mm/tooth)
N	BDMT10T3..ER HCN10X	3500-300	0,05-0,1	3000-300	0,075-0,2	1500-200	0,1-0,25

If in designs at once used together different inserts, so that cutting data are fixed on inserts with the slighest of the cutting data and feed.

Choice cutting speed

ISO	Workpiece material		Brinell HB	Material groups	Carbide grades					
	Material	Condition			HCP30X	HCP40X	HCM25X	HCM30X	HCS35X	HCN10X
					Cutting speed v_c (m/min)					
P	Non-alloy steel	annealed	125	1	260 - 140	180 - 100	230 - 140	-	-	-
		annealed	190	2	260 - 140	180 - 100	230 - 140	-	-	-
		heat treated	250	3	250 - 130	160 - 100	220 - 130	-	-	-
	Low-alloy steel	annealed	180	6	220 - 120	160 - 100	220 - 130	-	-	-
		heat treated	275	7	220 - 120	150 - 90	200 - 110	-	-	-
		heat treated	300	8	210 - 120	150 - 90	200 - 110	-	-	-
		heat treated	350	9	200 - 110	140 - 80	180 - 100	-	-	-
	High-alloy steel and cast steel	annealed	200	10	180 - 100	140 - 80	180 - 90	-	-	-
		heat treated	325	11	180 - 100	120 - 60	160 - 80	-	-	-
	Stainless steel and cast steel	ferritic	200	12	150 - 80	140 - 80	160 - 80	-	-	-
		martensitic	240	13	150 - 80	120 - 60	140 - 60	-	-	-
M	Stainless steel	austenitic	180	14.1	-	160 - 80	180 - 100	180 - 100	-	-
		austenitic / ferritic	260	14.2	-	140 - 60	160 - 80	160 - 80	-	-
		ferritic / martensitic	200	14.3	-	120 - 60	140 - 60	140 - 60	-	-
		martensitic / austenitic	330	14.4	-	-	120 - 60	120 - 60	-	-
K	Grey cast iron	ferritic/perlitic	180	15	-	-	-	-	-	160 - 90
		perlitic	260	16	-	-	-	-	-	130 - 80
	Nodular cast iron	ferritic	160	17	-	-	-	-	-	160 - 100
		perlitic	250	18	-	-	-	-	-	150 - 90
	Malleable cast iron	ferritic	130	19	-	-	-	-	-	160 - 100
		perlitic	230	20	-	-	-	-	-	150 - 70
N	Aluminium wrought alloys	non hadrened	60	21	-	-	-	-	-	5800 - 300
		hadrened	100	22	-	-	-	-	-	2000 - 200
	Aluminium cast alloys	non hadrened	75	23	-	-	-	-	-	2000 - 400
		hadrened (Si<12%)	90	24	-	-	-	-	-	2000 - 400
		(Si>12%)	130	25	-	-	-	-	-	1000 - 200
	Copper and copper alloys	Brass, copper	90	27	-	-	-	-	-	1000 - 250
		Bronze, electrolyte-Cu	100	28	-	-	-	-	-	800 - 150
S	Heat resistant alloys	annealed	250	33	-	35 - 25	60 - 20	60 - 20	60 - 20	-
		aged	350	34	-	35 - 25	50 - 15	50 - 15	50 - 10	-
	Titanium alloys		300	37	-	80 - 30	60 - 20	60 - 20	80 - 30	-
					HCP30X	HCP40X	HCM25X	HCM30X	HCS35X	HCN10X

The cutting speeds given on the following pages are valid for a specific material hardness. If the material being machined differs in hardness from those values, the recommended cutting speed must be multiplied by a factor obtained from the table k_v below.

Table k_v

Workpiece material	Material groups	◄ Reduced hardness					Increased hardness ►			
		- 80	- 60	- 40	- 20	0	+ 20	+ 40	+ 60	+ 80
		Correction factors k_v								
Non-alloy steel	1 - 3	-	-	-	1,07	1,0	0,95	0,90	-	-
Low-alloy steel	6 - 9	1,26	1,18	1,20	1,05	1,0	0,94	0,91	0,86	0,83
High-alloy steel	10 - 11	-	-	1,21	1,10	1,0	0,91	0,84	0,79	-
Stainless steel	12 - 14	-	-	1,21	1,10	1,0	0,91	0,85	0,79	0,75
Cast steel		-	-	1,31	1,13	1,0	0,87	0,80	0,73	-
Malleable cast iron	19 - 20	-	1,14	1,08	1,03	1,0	0,96	0,92	-	-
Grey cast iron	15 - 16	-	-	1,25	1,10	1,0	0,92	0,86	0,80	-
Nodular cast iron	17 - 18	-	-	1,07	1,03	1,0	0,97	0,95	0,93	0,91
Heat resistant alloys	33 - 34	1,26	-	1,11	-	1,0	-	0,90	-	0,82

Application data for Titanium milling with SKIF-M milling tools

Titanium alloys	Hardness HRC	Rm Tensile strength N/mm²	Kc N/mm²	Cutting speed m/min
Ti6Al4V (Ti 6.4) (BT6)	36	1130	2400	48-100 (70)
BT20			2800	35-70 (45)
BT22	38	1200	3400	24-50 (30)
BT23			3330	30-60 (37)
Ti10V2Fe3Al (Ti 10.2.3)	35	1100	3000	22-46 (35)
Ti6Al2Sn4Zr2Mo	28	900	1500	50-108
Ti13V11Cr3Al	40	1270	3400	24-50
Ti3Al8V6Cr4Mo4Zr	32	1000	2200	27-58
Ti5Al5V5Mo3Cr (Ti 5.5.5.3)	40	1270	3400	24-50 (30)
Ti 17	38	1200	2500	44-93
Ti4Al4Mo2Sn0,5Si	35	1100	2400	40-85

*In brackets optimum speed is resulted at roughing side milling by SKIF-M long edge endmills.

*For sidemilling with long edge endmills a_e<0,33D.
*Mainly down milling.
*At milling slots cutting speed is necessary for reducing on 10-15%.
*For facemilling a_e<0,6D.
Especially important plentiful cooling. The greatest effect is brought with internal cooling through a spindle under pressure 70-110 bar.

Definition of feed rates facemills and endmills with round inserts, and ball nose endmills

MT100, MT200, MT200K

ISO	Workpiece material		Brinell HB	Material groups	MT100, MT200, MT200K					MT100L		
					RD08	RD10	RD12	RD16	RD20	XO10	XO12	XO16
	Material	*Condition*			Maximum undeformed chip thickness h_{ex}, mm							
P	Non-alloy steel	*annealed*	125	1	0,09-0,15	0,10-0,18	0,11-0,22	0,13-0,35	0,16-0,37	0,06-0,10	0,06-0,10	0,06-0,10
		annealed	190	2	0,09-0,15	0,10-0,18	0,11-0,22	0,13-0,35	0,16-0,37	0,06-0,10	0,06-0,10	0,06-0,10
		heat treated	250	3	0,08-0,12	0,08-0,16	0,10-0,20	0,12-0,30	0,15-0,35	0,05-0,08	0,05-0,08	0,05-0,08
	Low-alloy steel	*annealed*	180	6	0,09-0,15	0,10-0,18	0,11-0,22	0,13-0,35	0,16-0,37	0,05-0,09	0,05-0,09	0,05-0,09
		heat treated	275	7	0,09-0,14	0,10-0,17	0,11-0,21	0,13-0,34	0,16-0,36	0,05-0,08	0,05-0,08	0,05-0,08
		heat treated	300	8	0,08-0,14	0,09-0,17	0,10-0,20	0,12-0,34	0,15-0,36	0,05-0,08	0,05-0,08	0,05-0,08
		heat treated	350	9	0,08-0,13	0,09-0,16	0,10-0,20	0,12-0,33	0,15-0,35	0,05-0,07	0,05-0,07	0,05-0,07
	High-alloy steel and cast steel	*annealed*	200	10	0,09-0,14	0,10-0,17	0,11-0,21	0,13-0,34	0,16-0,36	0,05-0,08	0,05-0,08	0,05-0,08
		heat treated	325	11	0,08-0,12	0,09-0,15	0,10-0,19	0,12-0,32	0,15-0,34	0,05-0,07	0,05-0,07	0,05-0,07
	Stainless steel and cast steel	*ferritic*	200	12	0,09-0,14	0,10-0,17	0,11-0,21	0,13-0,34	0,16-0,36	0,05-0,07	0,05-0,07	0,05-0,07
		martensitic	240	13	0,08-0,13	0,09-0,16	0,10-0,20	0,12-0,33	0,15-0,35	0,05-0,07	0,05-0,07	0,05-0,07
M	Stainless steel	*austenitic*	180	14	0,06-0,10	0,09-0,13	0,09-0,16	0,10-0,26	0,16-0,32	0,05-0,07	0,05-0,07	0,05-0,07
K	Grey cast iron	*ferritic/perlitic*	180	15	-	-	-	-	0,18-0,32	0,06-0,10	0,06-0,10	0,06-0,10
		perlitic	260	16	-	-	-	-	0,18-0,32	0,06-0,10	0,06-0,10	0,06-0,10
	Nodular cast iron	*ferritic*	160	17	-	-	-	-	0,16-0,29	0,06-0,10	0,06-0,10	0,06-0,10
		perlitic	250	18	-	-	-	-	0,16-0,29	0,06-0,16	0,06-0,16	0,06-0,16
	Malleable cast iron	*ferritic*	130	19	-	-	-	-	0,18-0,32	0,06-0,16	0,06-0,16	0,06-0,16
		perlitic	230	20	-	-	-	-	0,18-0,32	0,06-0,16	0,06-0,16	0,06-0,16
N	Aluminium wrought alloys	*non hadrened*	60	21	-	-	-	-	-	0,03-0,10	0,03-0,10	0,03-0,10
		hadrened	100	22	-	-	-	-	-	0,03-0,08	0,03-0,08	0,03-0,08
	Aluminium cast alloys	*non hadrened*	75	23	-	-	-	-	-	0,03-0,10	0,03-0,10	0,03-0,10
		hadrened (Si<12%)	90	24	-	-	-	-	-	0,03-0,08	0,03-0,08	0,03-0,08
		(Si>12%)	130	25	-	-	-	-	-	0,03-0,08	0,03-0,08	0,03-0,08
	Copper and copper alloys	*Brass, copper*	90	27	-	-	-	-	-	0,03-0,10	0,03-0,10	0,03-0,10
		Bronze, electrolyte-Cu	100	28	-	-	-	-	-	0,03-0,08	0,03-0,08	0,03-0,08
S	Heat resistant alloys	*annealed*	250	33	0,05-0,06	0,07-0,09	0,09-0,10	0,0-0,17	0,11-0,21	0,03-0,08	0,03-0,08	0,03-0,08
		aged	350	34	0,05-0,06	0,07-0,09	0,09-0,10	0,0-0,17	0,11-0,21	0,03-0,08	0,03-0,08	0,03-0,08
	Titanium alloys		300	37	0,06-0,08	0,09-0,11	0,10-0,12	0,10-0,20	0,13-0,24	0,02-0,08	0,02-0,08	0,02-0,08

Definition of feed rates facemills and endmills 15°, 45°, 60°, 89°, 89°

MT115, MT215, MT119, MT219, MT245, MT245K, MT260, MT289

ISO	Workpiece material		Brinell HB	Material groups	MT115, MT215		MT245, MT245K					260	288	289
	Material	*Condition*			FO09	FO12	SN13	SD08	SO12	ON21	SO09	SN12	SN14	SO12
					Feed / tooth (mm/tooth)									
P	Non-alloy steel	*annealed*	125	1	0,10-2,50	0,10-3,00	0,10-0,30	0,10-0,30	0,10-0,30	0,05-0,60	-	0,20-0,80	0,10-0,35	0,08-0,30
		annealed	190	2	0,10-2,50	0,10-3,00	0,10-0,34	0,10-0,34	0,10-0,34	0,05-0,60	-	0,20-0,80	0,10-0,35	0,08-0,30
		heat treated	250	3	0,10-2,00	0,10-2,50	0,10-0,28	0,10-0,28	0,10-0,28	0,05-0,60	-	0,20-0,60	0,10-0,35	0,08-0,25
	Low-alloy steel	*annealed*	180	6	0,10-2,50	0,10-3,00	0,10-0,30	0,10-0,30	0,10-0,30	0,05-0,60	-	0,20-0,65	0,10-0,35	0,08-0,25
		heat treated	275	7	0,10-2,50	0,10-3,00	0,10-0,28	0,10-0,28	0,10-0,28	0,05-0,60	-	0,20-0,65	0,10-0,35	0,08-0,25
		heat treated	300	8	0,10-2,50	0,10-3,00	0,10-0,28	0,10-0,28	0,10-0,28	0,05-0,60	-	0,20-0,50	0,10-0,35	0,08-0,22
		heat treated	350	9	0,10-2,50	0,10-3,00	0,08-0,20	0,08-0,20	0,08-0,20	0,05-0,60	-	0,15-0,50	0,10-0,35	0,07-0,22
	High-alloy steel and cast steel	*annealed*	200	10	0,10-2,50	0,10-3,00	0,08-0,28	0,08-0,28	0,08-0,28	0,05-0,60	-	0,15-0,45	0,10-0,35	0,07-0,22
		heat treated	325	11	0,10-2,00	0,10-2,50	0,08-0,22	0,08-0,22	0,08-0,22	0,05-0,60	-	0,15-0,45	0,10-0,35	0,07-0,20
	Stainless steel and cast steel	*ferritic*	200	12	0,10-2,50	0,10-3,00	0,08-0,25	0,08-0,25	0,08-0,25	0,05-0,60	-	0,10-0,45	-	0,07-0,22
		martensitic	240	13	0,10-2,00	0,10-2,50	0,08-0,25	0,08-0,25	0,08-0,25	0,05-0,60	-	0,10-0,45	-	0,07-0,22
M	Stainless steel	*austenitic*	180	14	0,10-2,50	0,10-3,00	0,07-0,25	0,07-0,25	0,07-0,25	0,05-0,40	-	0,10-0,45	-	0,06-0,22
K	Grey cast iron	*ferritic/perlitic*	180	15	-	-	-	-	-	0,05-0,40	-	0,20-0,80	0,10-0,35	-
		perlitic	260	16	-	-	-	-	-	0,05-0,40	-	0,20-0,80	0,10-0,35	-
	Nodular cast iron	*ferritic*	160	17	-	-	-	-	-	0,05-0,40	-	0,20-0,80	0,10-0,35	-
		perlitic	250	18	-	-	-	-	-	0,05-0,40	-	0,15-0,60	0,10-0,35	-
	Malleable cast iron	*ferritic*	130	19	-	-	-	-	-	0,05-0,40	-	0,20-0,80	0,10-0,35	-
		perlitic	230	20	-	-	-	-	-	0,05-0,40	-	0,15-0,60	0,10-0,35	-
N	Aluminium wrought alloys	*non hadrened*	60	21	-	-	-	-	-	-	-	-	-	-
		hadrened	100	22	-	-	-	-	-	-	-	-	-	-
	Aluminium cast alloys	*non hadrened*	75	23	-	-	-	-	-	-	-	-	-	-
		hadrened (Si<12%)	90	24	-	-	-	-	-	-	-	-	-	-
		(Si>12%)	130	25	-	-	-	-	-	-	-	-	-	-
	Copper and copper alloys	*Brass, copper*	90	27	-	-	-	-	-	-	-	-	-	-
		Bronze, electrolyte-Cu	100	28	-	-	-	-	-	-	-	-	-	-
S	Heat resistant alloys	*annealed*	250	33	0,10-1,20	0,10-1,50	0,05-0,14	0,05-0,14	0,05-0,14	0,05-0,15	0,10-0,16	-	-	0,05-0,12
		aged	350	34	0,10-1,20	0,10-1,50	0,05-0,14	0,05-0,14	0,05-0,14	0,05-0,15	0,10-0,16	-	-	0,04-0,12
	Titanium alloys		300	37	0,10-1,20	0,10-1,50	0,04-0,14	0,04-0,14	0,04-0,14	0,05-0,15	0,10-0,16	-	-	0,05-0,15

Definition of feed rates square shoulder facemills and endmills

MT190, MT290, MT290K

ISO	Workpiece material		Brinell HB	Material groups	MT190, MT290, MT290K			
					BD08	BD10	BD12	BD16
	Material	*Condition*			Feed / tooth (mm/tooth)			
P	Non-alloy steel	*annealed*	125	1	0,03-0,10	0,05-0,20	0,05-0,25	0,08-0,35
		annealed	190	2	0,03-0,09	0,05-0,18	0,05-0,22	0,08-0,35
		heat treated	250	3	0,03-0,08	0,05-0,16	0,05-0,20	0,08-0,33
	Low-alloy steel	*annealed*	180	6	0,03-0,10	0,05-0,20	0,05-0,25	0,08-0,35
		heat treated	275	7	0,03-0,09	0,05-0,18	0,05-0,22	0,08-0,33
		heat treated	300	8	0,03-0,09	0,05-0,18	0,05-0,20	0,08-0,33
		heat treated	350	9	0,03-0,08	0,05-0,16	0,05-0,20	0,07-0,32
	High-alloy steel and cast steel	*annealed*	200	10	0,03-0,10	0,05-0,20	0,05-0,25	0,08-0,35
		heat treated	325	11	0,03-0,09	0,05-0,16	0,05-0,22	0,07-0,33
	Stainless steel and cast steel	*ferritic*	200	12	0,03-0,08	0,05-0,20	0,05-0,25	0,08-0,35
		martensitic	240	13	0,03-0,07	0,05-0,16	0,05-0,22	0,08-0,35
M	Stainless steel	*austenitic*	180	14	0,03-0,10	0,05-0,20	0,05-0,25	0,08-0,35
K	Grey cast iron	*ferritic/perlitic*	180	15	-	-	-	-
		perlitic	260	16	-	-	-	-
	Nodular cast iron	*ferritic*	160	17	-	-	-	-
		perlitic	250	18	-	-	-	-
	Malleable cast iron	*ferritic*	130	19	-	-	-	-
		perlitic	230	20	-	-	-	-
N	Aluminium wrought alloys	*non hadrened*	60	21	0,03-0,16	0,05-0,25	0,05-0,25	0,12-0,40
		hadrened	100	22	0,03-0,16	0,05-0,25	0,05-0,25	0,12-0,40
	Aluminium cast alloys	*non hadrened*	75	23	0,03-0,16	0,05-0,25	0,05-0,25	0,12-0,40
		hadrened (Si<12%)	90	24	0,03-0,14	0,05-0,25	0,05-0,25	0,12-0,40
		(Si>12%)	130	25	0,03-0,14	0,05-0,25	0,05-0,25	0,12-0,40
	Copper and copper alloys	*Brass, copper*	90	27	0,03-0,14	0,05-0,25	0,05-0,25	0,12-0,40
		Bronze, electrolyte-Cu	100	28	0,03-0,14	0,05-0,25	0,05-0,25	0,12-0,40
S	Heat resistant alloys	*annealed*	250	33	0,03-0,08	0,05-0,14	0,05-0,16	0,08-0,20
		aged	350	34	0,03-0,07	0,05-0,12	0,05-0,16	0,08-0,20
	Titanium alloys		300	37	0,03-0,10	0,05-0,14	0,05-0,16	0,08-0,20

Definition of feed rates square shoulder facemills and endmills

MT190, MT290, MT290K

ISO	Workpiece material		Brinell HB	Material groups	MT190, MT290, MT290K				
					BO12	LN13	SD08	SO12	XE17
	Material	*Condition*			Feed / tooth (mm/tooth)				
P	Non-alloy steel	*annealed*	125	1	-	0,08-0,30	0,05-0,25	0,08-0,30	-
		annealed	190	2	-	0,08-0,30	0,05-0,22	0,08-0,30	-
		heat treated	250	3	-	0,08-0,25	0,05-0,20	0,08-0,25	-
	Low-alloy steel	*annealed*	180	6	-	0,08-0,25	0,05-0,25	0,08-0,25	-
		heat treated	275	7	-	0,08-0,25	0,05-0,22	0,08-0,25	-
		heat treated	300	8	-	0,08-0,22	0,05-0,20	0,08-0,22	-
		heat treated	350	9	-	0,07-0,22	0,05-0,20	0,07-0,22	-
	High-alloy steel and cast steel	*annealed*	200	10	-	0,07-0,22	0,05-0,25	0,07-0,22	-
		heat treated	325	11	-	0,07-0,20	0,05-0,22	0,07-0,20	-
	Stainless steel and cast steel	*ferritic*	200	12	-	0,07-0,22	0,05-0,25	0,07-0,22	-
		martensitic	240	13	-	0,07-0,22	0,05-0,22	0,07-0,22	-
M	Stainless steel	*austenitic*	180	14	-	0,06-0,22	0,05-0,25	0,06-0,22	-
K	Grey cast iron	*ferritic/perlitic*	180	15	-	0,10-0,30	-	0,10-0,30	-
		perlitic	260	16	-	0,10-0,30	-	0,10-0,30	-
	Nodular cast iron	*ferritic*	160	17	-	0,10-0,30	-	0,10-0,30	-
		perlitic	250	18	-	0,08-0,20	-	0,08-0,20	-
	Malleable cast iron	*ferritic*	130	19	-	0,10-0,30	-	0,10-0,30	-
		perlitic	230	20	-	0,08-0,20	-	0,08-0,20	-
N	Aluminium wrought alloys	*non hadrened*	60	21	-	-	-	-	0,05-0,40
		hadrened	100	22	-	-	-	-	0,05-0,40
	Aluminium cast alloys	*non hadrened*	75	23	-	-	-	-	0,05-0,40
		hadrened (Si<12%)	90	24	-	-	-	-	0,05-0,40
		(Si>12%)	130	25	-	-	-	-	0,05-0,40
	Copper and copper alloys	*Brass, copper*	90	27	-	-	-	-	0,05-0,40
		Bronze, electrolyte-Cu	100	28	-	-	-	-	0,05-0,40
S	Heat resistant alloys	*annealed*	250	33	0,08-0,14	-	0,05-0,12	0,05-0,16	-
		aged	350	34	0,08-0,14	-	0,04-0,12	0,05-0,16	-
	Titanium alloys		300	37	0,08-0,14	-	0,05-0,15	0,05-0,16	-

Definition of feed rates T-slot endmills

MT190T

ISO	Workpiece material		Brinell HB	Material groups	MT190T		MT190Z, MT290Z
					SD08	SO12	AX14
	Material	*Condition*			Feed / tooth (mm/tooth)		
P	Non-alloy steel	*annealed*	125	1	0,05-0,11	0,08-0,24	0,08-0,30
		annealed	190	2	0,05-0,10	0,08-0,24	0,08-0,30
		heat treated	250	3	0,04-0,08	0,07-0,20	0,08-0,25
	Low-alloy steel	*annealed*	180	6	0,05-0,10	0,10-0,30	0,08-0,25
		heat treated	275	7	0,05-0,08	0,10-0,28	0,08-0,25
		heat treated	300	8	0,05-0,08	0,10-0,28	0,08-0,22
		heat treated	350	9	0,04-0,08	0,08-0,20	0,07-0,22
	High-alloy steel and cast steel	*annealed*	200	10	0,04-0,08	0,08-0,28	0,07-0,22
		heat treated	325	11	0,04-0,06	0,08-0,22	0,07-0,20
	Stainless steel and cast steel	*ferritic*	200	12	0,04-0,08	0,08-0,25	0,07-0,22
		martensitic	240	13	0,04-0,08	0,08-0,25	0,07-0,22
M	Stainless steel	*austenitic*	180	14	0,04-0,08	0,07-0,20	0,06-0,22
K	Grey cast iron	*ferritic/perlitic*	180	15			-
		perlitic	260	16			-
	Nodular cast iron	*ferritic*	160	17			-
		perlitic	250	18			-
	Malleable cast iron	*ferritic*	130	19			-
		perlitic	230	20			-
N	Aluminium wrought alloys	*non hadrened*	60	21			-
		hadrened	100	22			-
	Aluminium cast alloys	*non hadrened*	75	23			-
		hadrened (Si<12%)	90	24			-
		(Si>12%)	130	25			-
	Copper and copper alloys	*Brass, copper*	90	27			-
		Bronze, electrolyte-Cu	100	28			-
S	Heat resistant alloys	*annealed*	250	33	0,03-0,06	0,05-0,12	0,05-0,12
		aged	350	34	0,03-0,06	0,04-0,12	0,04-0,12
	Titanium alloys		300	37	0,03-0,06	0,04-0,12	0,05-0,15

Definition of feed rates long edge spiral flute endmills

MT190L, MT290L

ISO	Workpiece material		Brinell HB	Material groups	MT190L, MT290L							
					BD08	BD10	BD12	LN13	SD08	SO09	SO12	SO12/AX14
	Material	*Condition*			Feed / tooth (mm/tooth)							
P	Non-alloy steel	*annealed*	125	1	0,03-0,10	0,05-0,16	0,05-0,25	0,08-0,30	0,05-0,22	-	0,09-0,18	0,09-0,18
		annealed	190	2	0,03-0,09	0,05-0,14	0,05-0,22	0,08-0,30	0,05-0,20	-	0,09-0,18	0,09-0,18
		heat treated	250	3	0,03-0,08	0,05-0,12	0,05-0,20	0,08-0,25	0,05-0,18	-	0,07-0,16	0,07-0,16
	Low-alloy steel	*annealed*	180	6	0,03-0,10	0,05-0,16	0,05-0,25	0,08-0,25	0,05-0,22	-	0,08-0,16	0,08-0,16
		heat treated	275	7	0,03-0,09	0,05-0,14	0,05-0,22	0,08-0,25	0,05-0,20	-	0,08-0,14	0,08-0,14
		heat treated	300	8	0,03-0,09	0,05-0,14	0,05-0,20	0,08-0,22	0,05-0,18	-	0,08-0,14	0,08-0,14
		heat treated	350	9	0,03-0,08	0,05-0,12	0,05-0,20	0,07-0,22	0,05-0,18	-	0,08-0,12	0,08-0,12
	High-alloy steel and cast steel	*annealed*	200	10	0,03-0,10	0,05-0,18	0,05-0,25	0,07-0,22	0,05-0,22	-	0,07-0,16	0,07-0,16
		heat treated	325	11	0,03-0,09	0,05-0,12	0,05-0,22	0,07-0,20	0,05-0,20	-	0,07-0,12	0,07-0,12
	Stainless steel and cast steel	*ferritic*	200	12	0,03-0,08	0,05-0,16	0,05-0,25	0,07-0,22	0,05-0,22	-	0,07-0,15	0,07-0,15
		martensitic	240	13	0,03-0,07	0,05-0,12	0,05-0,22	0,07-0,22	0,05-0,20	-	0,07-0,15	0,07-0,15
M	Stainless steel	*austenitic*	180	14	0,05-0,25	0,05-0,16	0,05-0,25	0,06-0,22	0,05-0,25	-	0,07-0,15	0,07-0,15
K	Grey cast iron	*ferritic/perlitic*	180	15	0,05-0,25	0,05-0,16	-	0,10-0,30	0,05-0,22	-	-	-
		perlitic	260	16	0,05-0,22	0,05-0,12	-	0,10-0,30	0,05-0,20	-	-	-
	Nodular cast iron	*ferritic*	160	17	0,05-0,25	0,05-0,16	-	0,10-0,30	0,05-0,22	-	-	-
		perlitic	250	18	0,05-0,22	0,05-0,12	-	0,08-0,20	0,05-0,20	-	-	-
	Malleable cast iron	*ferritic*	130	19	0,05-0,25	0,05-0,16	-	0,10-0,30	0,05-0,22	-	-	-
		perlitic	230	20	0,05-0,25	0,05-0,16	-	0,08-0,20	0,05-0,22	-	-	-
N	Aluminium wrought alloys	*non hadrened*	60	21	-	-	-	-	0,05-0,25	-	-	-
		hadrened	100	22	-	-	-	-	0,05-0,25	-	-	-
	Aluminium cast alloys	*non hadrened*	75	23	-	-	-	-	0,05-0,25	-	-	-
		hadrened (Si<12%)	90	24	-	-	-	-	0,05-0,25	-	-	-
		(Si>12%)	130	25	-	-	-	-	0,05-0,25	-	-	-
	Copper and copper alloys	*Brass, copper*	90	27	-	-	-	-	0,05-0,25	-	-	-
		Bronze, electrolyte-Cu	100	28	-	-	-	-	0,05-0,25	-	-	-
S	Heat resistant alloys	*annealed*	250	33	0,03-0,08	0,05-0,12	0,05-0,16	-	0,05-0,09	0,08-0,14	0,05-0,12	0,05-0,12
		aged	350	34	0,03-0,07	0,05-0,10	0,05-0,16	-	0,05-0,09	0,08-0,14	0,04-0,12	0,04-0,12
	Titanium alloys		300	37	0,03-0,10	0,05-0,12	0,05-0,16	-	0,05-0,09	0,08-0,14	0,05-0,15	0,05-0,15

When edging (side milling) multiply the fz for full slot milling (see table above) by the correction factor f depending on the radial depth of cut ratio, achieve (D/a_e) to the correct feed.

D/ a_e	50	40	20	10	5	2,5	1
f	4,5	4	3	2	1,5	1	0,7

Definition of feed rates definition of feed rates drills

MT190B, DT190..T

ISO	Workpiece material		Brinell HB	Material groups	MT190B	DT190..T	
					XE17	SO09	SO12
	Material	*Condition*			Feed / tooth (mm/tooth)		
P	Non-alloy steel	*annealed*	125	1	-	-	-
		annealed	190	2	-	-	-
		heat treated	250	3	-	-	-
	Low-alloy steel	*annealed*	180	6	-	-	-
		heat treated	275	7	-	-	-
		heat treated	300	8	-	-	-
		heat treated	350	9	-	-	-
	High-alloy steel and cast steel	*annealed*	200	10	-	-	-
		heat treated	325	11	-	-	-
	Stainless steel and cast steel	*ferritic*	200	12	-	-	-
		martensitic	240	13	-	-	-
M	Stainless steel	*austenitic*	180	14	-	-	-
K	Grey cast iron	*ferritic/perlitic*	180	15	-	-	-
		perlitic	260	16	-	-	-
	Nodular cast iron	*ferritic*	160	17	-	-	-
		perlitic	250	18	-	-	-
	Malleable cast iron	*ferritic*	130	19	-	-	-
		perlitic	230	20	-	-	-
N	Aluminium wrought alloys	*non hadrened*	60	21	0,05-0,25*	-	-
		hadrened	100	22	0,05-0,25*	-	-
	Aluminium cast alloys	*non hadrened*	75	23	0,05-0,25*	-	-
		hadrened (Si<12%)	90	24	0,05-0,25*	-	-
		(Si>12%)	130	25	0,05-0,25*	-	-
	Copper and copper alloys	*Brass, copper*	90	27	0,05-0,25*	-	-
		Bronze, electrolyte-Cu	100	28	0,05-0,25*	-	-
S	Heat resistant alloys	*annealed*	250	33	-	-	0,08-0,15
		aged	350	34	-	-	0,08-0,15
	Titanium alloys		300	37	-	0,06-0,10	0,08-0,15

** Recomended definition of feed rates for drilling 0,05-0,10; Z = 1 tooth.*

Definition of feed rates slitting cutters and disk mills

MT390, MT390K

ISO	Workpiece material		Brinell HB	Material groups	MT390...	MT390...	MT390K...		
					TO10...	SN12...	SD08...	SO12...	AX14...
	Material	*Condition*				Feed / tooth (mm/tooth)			
P	Non-alloy steel	*annealed*	125	1	0,05-0,15	0,15-0,45	0,05-0,25	0,08-0,30	0,15-0,50
		annealed	190	2	0,05-0,15	0,15-0,40	0,05-0,22	0,08-0,30	0,15-0,50
		heat treated	250	3	0,04-0,13	0,15-0,35	0,05-0,20	0,08-0,25	0,15-0,45
	Low-alloy steel	*annealed*	180	6	0,04-0,13	0,15-0,40	0,05-0,25	0,08-0,25	0,15-0,50
		heat treated	275	7	0,04-0,13	0,15-0,40	0,05-0,22	0,08-0,25	0,15-0,50
		heat treated	300	8	0,04-0,13	0,15-0,35	0,05-0,20	0,08-0,22	0,15-0,45
		heat treated	350	9	0,04-0,13	0,15-0,35	0,05-0,20	0,07-0,22	0,15-0,45
	High-alloy steel and cast steel	*annealed*	200	10	0,04-0,13	0,15-0,40	0,05-0,25	0,07-0,22	0,15-0,50
		heat treated	325	11	0,04-0,13	0,15-0,35	0,05-0,22	0,07-0,20	0,15-0,45
	Stainless steel and cast steel	*ferritic*	200	12	0,04-0,13	0,15-0,40	0,05-0,25	0,07-0,22	0,15-0,50
		martensitic	240	13	0,04-0,13	0,15-0,35	0,05-0,22	0,07-0,22	0,15-0,45
M	Stainless steel	*austenitic*	180	14	0,04-0,13	0,15-0,40	0,05-0,25	0,06-0,22	0,15-0,45
K	Grey cast iron	*ferritic/perlitic*	180	15	-	-	0,05-0,25	0,10-0,30	-
		perlitic	260	16	-	-	0,05-0,22	0,10-0,30	-
	Nodular cast iron	*ferritic*	160	17	-	-	0,05-0,25	0,10-0,30	-
		perlitic	250	18	-	-	0,05-0,22	0,08-0,20	-
	Malleable cast iron	*ferritic*	130	19	-	-	0,05-0,25	0,10-0,30	-
		perlitic	230	20	-	-	0,05-0,25	0,08-0,20	-
N	Aluminium wrought alloys	*non hadrened*	60	21	-	-	0,05-0,30	-	-
		hadrened	100	22	-	-	0,05-0,30	-	-
	Aluminium cast alloys	*non hadrened*	75	23	-	-	0,05-0,30	-	-
		hadrened (Si<12%)	90	24	-	-	0,05-0,30	-	-
		(Si>12%)	130	25	-	-	0,05-0,30	-	-
	Copper and copper alloys	*Brass, copper*	90	27	-	-	0,05-0,30	-	-
		Bronze, electrolyte-Cu	100	28	-	-	0,05-0,30	-	-
S	Heat resistant alloys	*annealed*	250	33	0,04-0,07	0,15-0,35	0,05-0,16	0,05-0,12	0,15-0,40
		aged	350	34	0,04-0,07	0,15-0,35	0,05-0,14	0,04-0,12	0,15-0,40
	Titanium alloys		300	37	0,04-0,07	0,15-0,35	0,05-0,16	0,05-0,15	0,15-0,40

Material cross reference list

ISO 513	Country							k_c1.1	m_c	Material groups
	Russian	Great Britain	USA	Germany		France	Spain			
	Standart									
	ГОСТ Р	BS	AISI/SAE	W.-Nr.	DIN	AFNOR	UNF			
P	***Non-alloy steel***									
	15	080M15	1015	1.0401 / 1.1141	C15/ Ck15	11SMnPb28	F.111/ C15K	1350	0,21	1
	20	050A20	1020	1.0402	C22	CC20	F.112	1350	0,21	1
		230M07	1213	1.0715	9SMn28	S250	11SMn28	1350	0,21	1
			12L13	1.0718	9SMnPb28	S250Pb	11SMnPb28	1350	0,21	1
	A12			1.0722	10SPb20	10PbF2	10SPb20	1350	0,21	1
		240M07	1215	1.0736	9SMn36	S300	12SMn35	1350	0,21	1
			12L14	1.0737	9SMnPb36	S300Pb	12SMnP35	1350	0,21	1
	25		1025	1.1158	Ck25			1350	0,21	1
	35Г2	150M28	1330	1.1170	28Mn6	20M5		1500	0,22	2
	A30	212M36	1140	1.0726	35S20	35MF4	F210G	1525	0,22	2/3
	35	060A35	1035	1.0501	C35	CC35	F.113	1525	0,22	2/3
	45	080M46	1045	1.0503	C45	CC45	F.114	1525	0,22	2/3
	40Г	151M36	1039	1.1157	40Mn4	35M5		1525	0,22	2/3
	35ГЛ		1335	1.1167	36Mn5	40M5	36Mn5	1525	0,22	2/3
		060A35	1035	1.1183	Cf35	XC38TS		1525	0,22	2/3
	45	080M46	1045	1.1191	Ck45	XC42	C45K	1525	0,22	2/3
	50	060A52	1050	1.1213	Cf53	XC48TS		1525	0,22	2/3
	55	070M55	1055	1.0535 / 1.1203	C55 / Ck55	XC55	C55K	1675	0,24	3
	60	080A62	1060	1.0601	C60	CC55		1675	0,24	3
	60Г	080A62	1060	1.1221	Ck60	XC60		1675	0,24	3
	Low-alloy steel									
	ШХ15	65A99	52100	1.3505	100Cr6	100C6	F.131	1675	0,24	6/7
	15НМ	1501-240	ASTM A204Gr.A	1.5415	15Mo3	15000	16Mo3	1675	0,24	6/7
		1503-245-420	4520	1.5423	16Mo5		16Mo5	1675	0,24	6/7
	15ГНЛ		ASTM A350LF5	1.5622	14Ni6	16N6	15Ni6	1675	0,24	6/7
	12ХН3А		3415	1.5732	14NiCr10	14NC11	15NiCr11	1675	0,24	6/7
	20ХН4ФА	655M13	3415, 3310	1.5752	14NiCr14	12NC15		1675	0,24	6/7
	18Х2Р4ВА	820A16		1.6587	17CrNiMo6	18NCD6	14NiCrMo13	1675	0,24	6/7
	18ХГ	527M20	5115	1.7131	16MnCr5	16MC5	16MnCr5	1675	0,24	6/7
	15ХМ			1.7262	15CrMo5	12CD4	12CrMo4	1675	0,24	6/7
	12ХМ	151-620Gr27	ASTM A182	1.7335	13CrMo4 4	15CD3.5	14CrMo45	1675	0,24	6/7
	12Х2МФА	1501-622	ASTM A182	1.7380	10CrMo910	12CD9,10	TU.H	1675	0,24	6/7
	12Х1МФ	1503-660-440		1.7715	14MoV6 3		13MoCrV6	1675	0,24	6/7
	20ХГНМ	805M20	8620	1.6523	21NiCrMo22	20NCD2	20NiCrMo2	1725	0,24	6/8
	15Х	523M15	5015	1.7015	15Cr3	12C3		1725	0,24	6/8
	35Х	530A32	5132	1.7033	34Cr4	32C4	35Cr4	1725	0,24	6/8
	20ХМ	1717CDS110	4130	1.7218	25CrMo4	25CD4	55Cr3	1725	0,24	6/8
	35ХН2МЛ	640A35	3135	1.5710	36NiCr6	35NC6		1800	0,24	6/9
	55С2	250A53	9255	1.0904	55Si7	55S7	56Si7	1775	0,24	6/9
	60С2		9262	1.0961	60SiCr7	60SC7	60SiCr8	1775	0,24	6/9
	40ХН2МА	816M40	9840	1.6511	36CrNiMo4	40NCD3	35NiCrMo4	1775	0,24	6/9
		311-Type 7	8740	1.6546	40NiCrMo22		40NiCrMo2	1775	0,24	6/9
	38Х2Н2МА	817M40	4340	1.6582	35CrNiMo6	35NCD6		1775	0,24	6/9
	40Х	530M40	5140	1.7035	41Cr4	42C4	42Cr4	1775	0,24	6/9
	50ХГА	527A60	5155	1.7176	55Cr3	55C3		1775	0,24	6/9
	35ХМ	708A37	4137, 4135	1.7220	34CrMo4	35CD4	34CrMo4	1775	0,24	6/9
	38ХМА	708M40	4140, 4142	1.7223	41CrMo4	42CD4TS	42CrMo4	1775	0,24	6/9
	40ХН2МА	708M40	4140	1.7225	42CrMo4	42CD4	42CrMo4	1775	0,24	6/9
	30Х3ВА	722M24		1.7361	32CrMo12	30CD12	F.124.A	1775	0,24	6/9
	50ХФА	735A50	6150	1.8159	50CrV4	50CV4	51CrV4	1775	0,24	6/9
	38ХМЮА	905M39		1.8509	41CrAlMo7	40CAD6,12	41CrAlMo7	1775	0,24	6/9
	40Х5МФ	897M39		1.8523	39CrMoV13 9			1775	0,24	6/9
	9ХГ	BL3	L3	1.2067	100Cr6	Y100C6	100Cr6	1775	0,24	6/9
	ХВГ			1.2419	105WCr6	105WC13	105WCr5	1775	0,24	6/9
	5ХНМ		L6	1.2713	55NiCrMoV6	55NCDV7	F.520.S	1775	0,24	6/9
	5ХВ2С	BS1	SI	1.2542	45WCrV7		45WCrSi8	1775	0,24	6/9
	High-alloy steel									
	4Х5МФ1С	BH13	H13	1.2344	X40CrMoV51	Z40CDV5	X40CrMoV5	2450	0,23	10/11
		1501-509;510	ASTM A353	1.5662	X8Ni9		XBNi09	2450	0,23	10/11

ISO 513	Country							k_c1.1	m_c	Material groups
	Russian	Great Britain	USA	Germany		France	Spain			
	Standart									
	ГОСТ Р	BS	AISI/SAE	W.-Nr.	DIN	AFNOR	UNF			
P	15ГН4М		2515	1.5680	12Ni19	Z18N5		2450	0,23	10/11
	18Х2Н4МА	832M13		1.6657	14NiCrMo134		14NiCrMo131	1675	0,24	10/11
	Х12	BD3	D3	1.2080	X210Cr12	Z200C12	X210Cr12	2450	0,23	10/11
	Х6ВФ	BA2	A2	1.2363	X100CrMoV51	Z100CDV5	X100CfMoV5	2450	0,23	10/11
	3Х2В8Ф	BH21	H21	1.2581	X30WCrV9 3	Z30WCV9	X30WCrV9	2450	0,23	10/11
	40Х9S2	401 S45	HW3	1.4818	X45GrSi93	Z45CS9	F322	2450	0,23	10/11
	Р6М5К5			1.3243	S 6-5-2-5	Z85WDKCV	HS6-5-2-5	2450	0,23	10/11
	Р18К5Ф2			1.3255	S 18-1-2-5	Z80WKCV	HS18-1-1-5	2450	0,23	10/11
	Р6М5			1.3343	S 6-5-2	Z85WDCV	HS6-5-2	2450	0,23	10/11
				1.3348	S 2-9-2	Z100WCWV	HS2-9-2	2450	0,23	10/11
	Р18			1.3355	S 18-0-1		HS18-0-1	2450	0,23	10/11
	Х12МФ			1.2601	X165CrMoV 12		X160CrMoV12	2450	0,23	10/11
	Х12ВМ			1.2436	X210CrW12		X210CrW12	2450	0,23	10/11
	110Г13Л	Z1201VU2		1.3401	G-X120Mn12	Z120M12	X120Mn12	3300	0,24	11
	Stainless ferritic and martensitic steel									
	08Х13	403S17	403	1.4000	X7Cr13	Z6C13	F.3110	1875	0,21	12/13
				1.4001	X7Cr14		F.8401	1875	0,21	12/13
	12Х13	410S21	410	1.4006	X10G13	Z10C14	F.3401	1875	0,21	12/13
	12Х17	430S17	430	1.4016	X8Cr17	Z8C17	F.3113	1875	0,21	12/13
	40Х13	420S45		1.4034	X46Cr13	Z40CM	F.3405	1875	0,21	12/13
		405S17	405	1.4002	X6CrAl13	Z8CA12		1875	0,21	12/13
	20Х13	420S37	420	1.4021		Z20C13		1875	0,21	12/13
	20Х17Н12	431S29	431	1.4057	X22CrNi17	Z15CNi6.02	F.3427	1875	0,21	12/13
	08Х18Т		430F	1.4104	X12CrMoS17	Z10CF17	F.3117	1875	0,21	12/13
		434S17	434	1.4113	X6CrMo17	Z8CD17.01		1875	0,21	12/13
		425C11		1.4313	X5CrNi13 4	Z4CND13.4M		1875	0,21	12/13
	10Х13СЮ	403S17	405	1.4724	X10CrAl13	Z10C13	F.311	1875	0,21	12/13
	15Х18СЮ	430S15	430	1.4742	X10CrAl18	Z10CAS18	F.3113	1875	0,21	12/13
	95Х18	443S65	HNV6	1.4747	X80CrNiSi20	Z80CSN20.02	F.320B	1875	0,21	12/13
			446	1.4762	X10CrAl24	Z10CAS24		1875	0,21	12/13
	55Х20Г9АН4	349S54	EV8	1.4871	X53CrMnNiN219	Z52CMN21.09		1875	0,21	12/13
M	***Stainless ferritic/martensitic and austenitic steel***									
	Х18Н10Т	321S12	321	1.4541	X10CrNiTi189	Z6CNT18.10	F.3553	2150	0,2	14.1
	02Х18Н25М4С3	904S13, 904S14,	N08904	1.4539	X1 NiCrMoCu25 20 5	Z2 CNDU 25.20		2150	0,2	14.1
		904S92				URANUS B6				
	02Х25Н22АМ2		310MoLN, N08310,	1.4465	X1CrNiMoN 25 22 2	Z2 CND25.22 Az		2150	0,2	14.1
			S31050			CLI UREA 25.22.2				
	03Х17Н14М3	316S13	316L	1.4404	X2CrNiMo1812,	Z2CND17.12		2150	0,2	14.1
				1.4435	X2CrNiMo18 14 3					
	03Х18Н11	304S11	304L	1.4306	X2CrNi1911	Z2CN18-10		2150	0,2	14.1
	06ХН28МДТ		N08028	1.4563	X1 NiCrMoCuN31 27 4	Z1NCDU31-27-03		2150	0,2	14.1
	08Х18Н10	304S15	304	1.4301	X6CrNi189	Z6CN18.09	F.3551	2150	0,2	14.1
	08Х18Н12Б	347S17	347	1.4550	X10CrNiNb189	Z6CNNb18.10	F.3552	2150	0,2	14.1
	09Х17Н7Ю1	316S111	17-7PH	1.4568	X7 CrNiAl 17 7	Z8CNA17-07		2150	0,2	14.1
	10Х17Н13М2Т	320S17	316TI, 318	1.4571	X10CrNiMoTi1810	Z6NDT17.12	F.3535	2150	0,2	14.1
			318	1.4583	X10CrNiMoNb1812	Z6CNDNb1713B				
	10Х23Н18	310S24	310S	1.4845	X12CrNi25 21	Z12CN25 20	F.331	2150	0,2	14.1
	12Х18Н9	303S21	301, 303	1.4305	X12CrNiS188	Z10CNF 18.09	F.3508	2150	0,2	14.1
				1.4310	X12CrNi177	Z12CN17.07	F.3517			
	15Х23Н18Л			1.4840	G-X15 CrNi 25 20			2150	0,2	14.1
	15Х25Т		S44600	1.4746				2150	0,2	14.1
	15Х28		S44600	1.4749		X18 CrN28		2150	0,2	14.1
	20Х23Н13	309S24				Z10CNS25.20		2150	0,2	14.1
	20Х23Н18	310, 310S24	S31000, S31400	1.4841	X15CrNiSi2520	Z15CNS25-20		2150	0,2	14.1
	(20Х25Н20С2)	314S25	J24202			314, SIRIUS 310,		2150	0,2	14.1
						4841, SIRIUS 314		2150	0,2	14.1
	40Х24Н1СЛ	309C30	J93503, J94003	1.4837	G-X40 CrNiSi 25 12			2150	0,2	14.1
			J94013					2150	0,2	14.1
		304S11	316	1.4436	X5CrNiMo17 13 3	Z6CND18-12-03		2150	0,2	14.1
		317S12	317L	1.4438	X2CrNiMo18 16	Z2CND18.15		2150	0,2	14.1

ISO 513	Country							k_c1.1	m_c	Material groups
	Russian	Great Britain	USA	Germany		France	Spain			
	Standart									
	ГОСТ Р	BS	AISI/SAE	W.-Nr.	DIN	AFNOR	UNF			
M	12Х25Н5ТМФЛ		S31200, S32900	1.4460	X3 GrNiMo 27 5	Z3CND25-07		2150	0,2	14.2
		3RE60	S31500	1.4417	X2 GrNiMoSi 19 5	GX2CrNiMoN25-7-3		2150	0,2	14.2
				1.4462	X2 GrNiMoN 22 5 3	Z2CND22-05-03		2150	0,2	14.2
				1.4821	X20 GrNiSi 25 4	Z20CNS25.04		2150	0,2	14.2
				1.4823	G-X40CrNiSi27 4			2150	0,2	14.2
K	***Grey cast iron***									
	Сч10		No 20 B	0.6010	GG10	Ft10D		1150	0,2	15
	Сч15	Grade 150	No 25 B	0.6015	GG15	Ft15D		1150	0,2	15
	Сч20	Grade 220	No 30 B	0.6020	GG20	Ft20D		1150	0,2	15
	Сч25	Grade 260	No 35 B	0.6025	GG25	Ft25D		1250	0,24	15/16
	Сч30	Grade 300	No 45 B	0.6030	GG30	FT30D		1350	0,28	16
	Сч35	Grade 350	No 50 B	0.6035	GG35	Ft35D		1350	0,28	16
	Сч40	Grade 400	No 55 B	0.6040	GG40	Ft40D		1350	0,28	16
	Nodular cast iron									
	Вч42-12	SNG 420/12	60-40-18	0.7040	GGG40	FCS 400-12		1225	0,25	17
				0.7033	GGG 35.3			1225	0,25	17
		SNG 370/17		0.7043	GGG 40.3	FGS 370-17		1225	0,25	17
	Вч50-2	SNG 500/7	80-55-06	0.7050	GGG 50	FGS 500-7		1350	0,28	18
	Вч60-2	SNG 600/3		0.7060	GGG 60	FGS 600-3		1350	0,28	18
	Вч70-2	SNG 700/2	100-70-03	0.7070	GGG 70	FGS 700-2		1350	0,28	18
	Malleable cast iron									
	Кч35-10	B 340/12	32510	0.8135	GTS-35	MN 35-10		1225	0,25	19
	Кч45-6	P 440/7	40010	0.8145	GTS-45			1420	0,3	20
	Кч55-4	P 510/4	50005	0.8155	GTS-55	MP 50-5		1420	0,3	20
	Кч60-3	P 570/3	70003	0.8165	GTS-65	MP 60-3		1420	0,3	20
N	***Aluminium wrought alloys***									
	1350	6082	1350, A96351		AlMgSi1	A-SGM0.7	6351	700	0,25	21
			AA6003, AA6007							
			AA6351							
		3103	3003, A93003		3003, AlMn1	A-M1	3003, Al-1Mn	700	0,25	21
	1400, 1401		AA3003, AA3009		AlMnCu					
	3000		AA3011, AA3103							
			AA3107, AA3303							
			AA3307							
	1420							700	0,25	22
	1530	5154A	5154A, A95154		5754, AlMg3	5154, A-G3M,	5154A	700	0,25	21
			A95754, AA5154		S-AlMg3	AlMg3, AlMg3.5	Al-3Mg			
			AA5254, AA5654		SG-AlMg3					
			AA5754, AlMg3.5							
	1933		AA7076					700	0,25	22
	АВ	6061	6061, 6151		AlMg1SiCu	A-GSUS	6351	700	0,25	22
			A96010, A96070							
			A96151, AA6009							
			AA6011, AA6013							
			AA6061, AA6070							
			AA6151, AA6351							
	АД0		1050, 1055	3.0205	Al99.5			700	0,25	21
			1060, 1065		Al99.98R					
			1250, 1350							
	АД1		A91030, A91230		Al99.3			700	0,25	21
			AA1230							
	АД31 (1310,	6060, 6063	6060, 6101	3.2316	6060, AlMgSi0.5	6063, A-GS	6063, A-GS	700	0,25	22
	1320)	6443, 91E	A96005, A96060		AlMgSi0.8					
		HE9, HF9	A96063, A96101,							
		HG9, HT9	A96201, A96463,							
			AA6005, AA6017,							
			AA6060, AA6063,							
			AA6101, AA6105,							
			AA6162, AA6201,							
			AA6301, AA6463,							

ISO 513	Country							$k_c1.1$	m_c	Material groups
	Russian	Great Britain	USA	Germany		France	Spain			
	Standart									
	ГОСТ Р	BS	AISI/SAE	W.-Nr.	DIN	AFNOR	UNF			
N	АД33 (1330,	6061, HB20	A96061, A96205,	3.3315	AlMg1SiCu	6061, A-GSUC		700	0,25	22
	1340)	HE20, HG20	A96262		6061	A-SGM0.3				
		L117								
	АК4-1		A92618, AA2018,					700	0,25	22
			AA2218, AA2618							
	АК6							700	0,25	22
	АК7		A03570, A444.0					700	0,25	22
	АК8 (1380)	2014A	358.0, A92014,		2014, AlCu4SiMg		2014	700	0,25	22
			AA2014, AA2214		AlCuSiMn					
	АМг2 (1520)	2L55, 5251	A95052, AA5051,		5052, 5251,	5051, 5052,	5052, Al-2Mg	700	0,25	21
			AA5151, AA5251,		AlMg2, AlMg2.5,	505203, A-G2.5C,				
			AA5252, AA5351,		AlMg2Mn0.3	A-G2M				
			AA5352, AA5454,							
			AA5552, AA5652							
	АМг4 (1540,		A95086, AA5082,		5086, AlMg4.5Mn	5086, A-G4MC	5086, Al-4Mg	700	0,25	21
	1541)		AA5083, AA5086		AlMg4, AlMg4Mn					
	АМг5 (1550,	5056, 5056A	A95056, AA5019,		5019, AlMg5			700	0,25	21
	1556)	A56S, NB6	AA5056, AA5356,							
		NG6, NR6	AA5456, AA5556							
	АМг6 (1560)	NG61	A95456, A95556			AlMg5Mn	Al-6Mg	700	0,25	21
	В93							700	0,25	22
	В95 (1950)	C77S, M75S	AA7075, AA7175,			A-Z5GU		700	0,25	22
			AA7475							
	В96ц пч		AA7049					700	0,25	22
	ВД19							700	0,25	22
	Д1 (1110)		A91110, A92017,		AlCu4MgSi	1110, 131050	Al-4CuSiMg	700	0,25	22
			AA1110, AA2014,		AlCuMg1,	A-U4SG				
			AA2017		AlCuSiMn					
	Д16 (1160)	2024	A92024, A92124,	3.1325	2024, AlCuMg2	A-U 4G1	2024	700	0,25	22
			AA2024, AA2124							
	Д19							700	0,25	23
	Aluminium cast alloys									
	АК5М4	LM21		3.2551	G-AlSi6Cu4			700	0,25	24
	АЛ2	AlSi12	A04132, A94047,	3.2581	GK-AlSi12, AlSi12,	A-S12, A-S13,	Al-12SiFe	700	0,25	25
		AlSi12Fe	A413.0, B413.0,		G-AlSi12	AlSi12				
		LM20, LM6	B413.1							
	АЛ4		360.0, A03600,	3.2381	G-AlSi10Mg	A-S9GU		700	0,25	24
			A360.0							
	АЛ5	LM16	305.0		G-AlSi5Mg		Al-5SiCuMg	700	0,25	24
					GK-AlSi5MgWa					
	АЛ5-1		A305.0							
	АЛ9		356, A03560							
	АЛ9-1	LM25	356, A03560	3.2371	G-AlSi7Mg		AlSi7Mg	700	0,25	24
	АЛ19				AlCu4Ti					
	АЛ22							700	0,25	23
	АЛ24		A07070				707	700	0,25	23
	АЛ27	LM10	520, A05200					700	0,25	24
	АЛ30	LN13	A03360		AlSi12CuNiMg	A-Si12UGN		700	0,25	23
	АЛ32		A03280					700	0,25	24
	АЛ34		358.0					700	0,25	24
	АМг4К1,5М			3.3261	G-AlMg5Si			700	0,25	24
	ВАЛ8		A380.0, A380.1	3.2163	G-AlSi9Cu3			700	0,25	24
	Copper alloys									
	ЛС60-2	CZ124	C35330, C36000	2.0375	CuZn36Pb3	CuZn36Pb3		700	0,27	26
	ЛС63-3	CZ119	C35300, C35600					700	0,27	26
	ЛО62-1	CZ112	C46200, C46400		CuZn38Sn1			700	0,27	27
	ЛМц58-2		C67410		CuZn40Mn2			700	0,27	27
	Л63	CZ108	C27200	2.0321	CuZn37	CuZn36, CuZn37		700	0,27	27
	Л70	CZ106	C26000	2.0265	CuZn30	CuZn30		700	0,27	27
	Л85	CZ102	C23000	2.0240	CuZn15	CuZn15		700	0,27	27

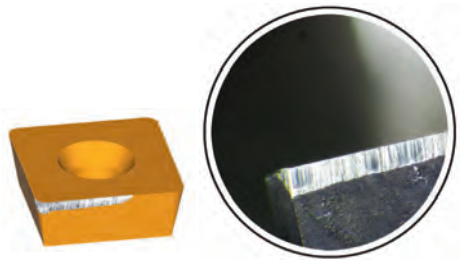
ISO 513	Country							$k_c1.1$	m_c	Material groups
	Russian	Great Britain	USA	Germany		France	Spain			
	Standart									
	ГОСТ Р	BS	AISI/SAE	W.-Nr.	DIN	AFNOR	UNF			
N	БрАЖН10-4-4	Ca104	C63000	2.0966	CuAl10Ni5Fe4	U-A10N		700	0,27	28
	БрОФ6,5-0,15	C11, PB103	C51900, C51980		CuSn6	CuSn6P		700	0,27	28
	БрОФ7-0,2		C52100		CuSn8	CuSn8, CuSn8P		700	0,27	28
	БрОЦС 4-4-4		C54400			CuSn4Zn4Pb5		700	0,27	28
S	***Heat resistant alloys***									
	ХН32Т	NA15, NA15H	INCOLOY 800,	1.4876	X10 NiCrAlTi 32 20	SIRIUS 800,		2600	0,24	31
			N08332, N08800	1.4958		Z10 NC32-21				
			N08810, RA330TX	1.4959		Z8 NC 33-21				
		37/18, NA17	INCOLOY DS	1.4864	X12 NiCrSi 36 16	Z20 NCS 33-16		2600	0,24	31
			N08830			Z12 NCS 35-16				
		330C11, 331C40	N08002, N08004	1.4865	G-X40NiCrSi			2600	0,24	31
			N08030, N08005							
	ЭК77		08028	1.4563	X1 NiCrMoCuN 31 27 4	Z2 NCDU 31-27		2600	0,24	31
						URANUS B28				
			5390A, N06002	4603	NiCr21Fe18Mo	NC22FeD		3300	0,24	33
			HASTELLOY G-30							
			INCONEL 625, 5666	2.4856	NiCr22Mo9Nb	NC22FeDNb		3300	0,24	33
			N06625, N26625							
	ХН38ВТ	NA14, NA16	INCONEL 825	2.4858	NiCr21Mo			3300	0,24	33
			N08825							
	ХН77ТЮР	2R201, NA20	NIMONIC 80, HEV5	2.4631	NiCr20TiAl	NC20TA		3300	0,24	33
			N07080							
	ХН78Т	NA14	INCONEL 600		Nicrofer 7216			3300	0,24	33
			NIMONIC 901	2.4662	NiFe35Cr14MoTi	ZSNCDT42		3300	0,24	33
			INCONEL X-750	2.4669	NiCr15Fe7TiAl	NC15 TNb A,		3300	0,24	35
			688, N07750			NC15 Fe7TA				
			IN-713, N07713	2.4670	S-NiCr13A16MoNb	NC12AD		3300	0,24	34
			INCONEL 718	2.4668	NiCr19Fe19NbMo	NC19 Fe Nb		3300	0,24	34
			XEV-1, N07718			NC20K14				
		3072-76, NA18	4676A, N05500	2.4375	NiCu30Al	NC19eNB		3300	0,24	34
			MONEL K-500			NU30 AT				
			AMS 5399	2.4973	NiCr19Co11MoTi	NC19KDT		3300	0,24	34
				2.4674	NiCo15Cr10MoAlTi			3300	0,24	34
	ХН73МБТЮ-ВД		INCONEL 751	2.4694	NiCr16Fe7TiAl			3300	0,24	35
		ANC15	HASTELLOY C(B)	2.4810	G-NiMo3	Ni-Mo28		3300	0,24	33
		HR240	Stellite No. 25	2.4964	CoCr20W15Ni	KC20WN		3300	0,24	35
	Titanium alloys									
	ВТ1-00	2TA.1, 2TA.4	R50250, R52400	3.7025	Ti1, Ti1Pd	T-35	L7021	2110	0,22	36
	ВТ3-1							2110	0,22	37
	ВТ5-1	BS TA.14,	R54520	3.7115	TiAl5Sn2.5	T-A5E	L7101	2110	0,22	37
		BS TA.15,	5Al-2.5Sn							
		BS TA.16,								
		BS TA.17,								
	ВТ6	BS 2TA.11,	AMS R56400,	3.7165	TiAl6V4	T-A6V		2110	0,22	37
		BS 2TA.12,	AMS R56407,		Ti-6Al-4V					
		BS 2TA.13,	6Al-4V, ERTi-5,							
		BS TA.56,	F467, F468							
		BS TA.56,								
	ВТ18у							2110	0,22	37
	ВТ20							2800	0,22	37
	ВТ22							3400	0,24	37
	ВТ23							3300	0,23	37
	ВТ25							2440	0,24	37
					Ti10V2Fe3Al			3000	0,24	37
					Ti6Al2Sn4Zr2Mo			1500	0,24	37
					Ti13V11Cr3Al			3400	0,24	37
					Ti3Al8V6Cr4Mo4Zr			2200	0,24	37
					Ti5Al5V5Mo3Cr			3400	0,24	37
					Ti17			2500	0,24	37
					Ti4Al4Mo2Sn0.5Si			2400	0,24	37

Appearance of wear during milling

Flank wear

General criterion for end of tool life characterized by an admissible amount of flank wear. Figures usually relate to a tool life of T=15 min.

Remedy:
*select more wear-resistant grade;
*increase feed if possible;
*reduce cutting speed.

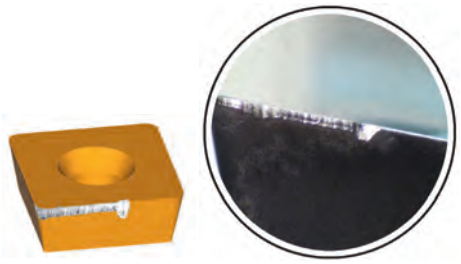


Notch wear

Occurs locally in the area of the primary cutting edge where it contacts the workpiece surface. Caused by hard surface layers and work-hardened burrs, especially on stainless austenitic steels.

Danger of breakage!

Remedy:
*strengthen cutting edge;
*select smaller cutting edge angle (45°);
*reduce feed.

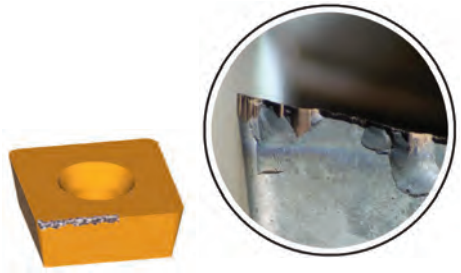


Edge chipping

Minor chipping along the cutting edge, usually accompanied by flank wear and therefore not always identifiable.

Danger of breakage!
Edge chipping outside the cutting area is the result of chip impact due to unfavourable chip removal.

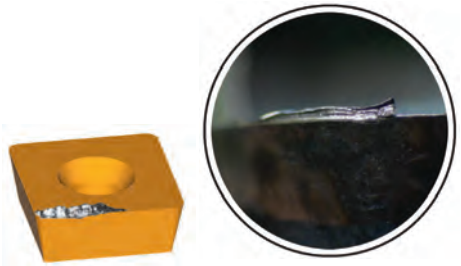
Remedy:
*select tougher grade;
*use insert with stronger cutting edge geometry;
*reduce feed when starting the cut.
In the case of damage due to chip impact:
*vary feed;
*change chipbreaker geometry;
*change cutting edge angle.



Built-up edges

Edge build-up occurs on the rake fase as a result of work material welding together with the cutting material, especially when cutting difficult-to-machine materials. From time to time the built-up edge will break off and may cause damage to the cutting edge. Built-up edges result in poor surfase finishing.

Remedy:
*increase cutting speed;
*use coated hardmetals or cermets;
*select positive cutting edge geometry;
*use cutting fluid.

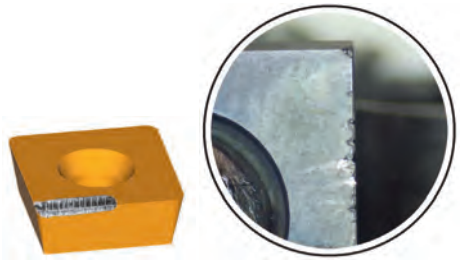


Thermal cracks

Small cracks running across the cutting edge, caused by thermal shock loads in interrupted cutting operations, particularly in milling.

Danger of breakage!

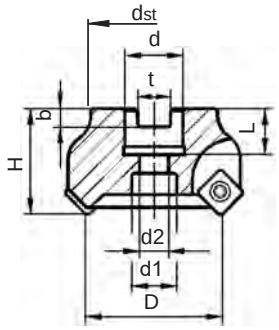
Remedy:
*use grade with greater resistance to thermal shock;
*check use of cutting fluid; cutting fluid should not generally be used for milling, except aluminium and titanium alloys and hightemperature materials;
*use compressed air to remove chips in slot milling.



Mounting dimensions and tool shanks for milling tools

Mounting dimensions based for facemills and square shoulder facemills, mm

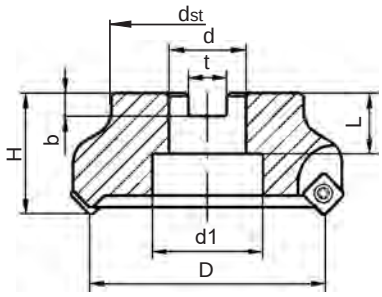
Form A



D	d	H	t H11	b H12	L min	d1 min	d2 min	dst
32 40	16	40	8,4	5,6	19	13,5	8,4	38
50 63	22	40	10,4	6,3	20	18	11	48
80*	27	50	12,4	7	22	20	13	60
100*	32	50	14,4	8	25	27	17	78
125*	40	63	16,4	9	29	32	21	89

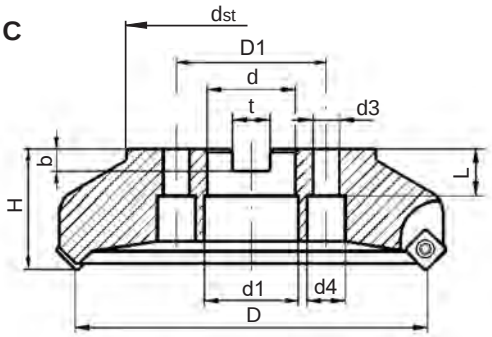
* For mills with internal coolant supply

Form B



D	d	H	t H11	b H12	L	d1	dst
80	27	50	12,4	7	22	38	60
100	32	50	14,4	8	25	45	78
125	40	63	16,4	9	29	56	89

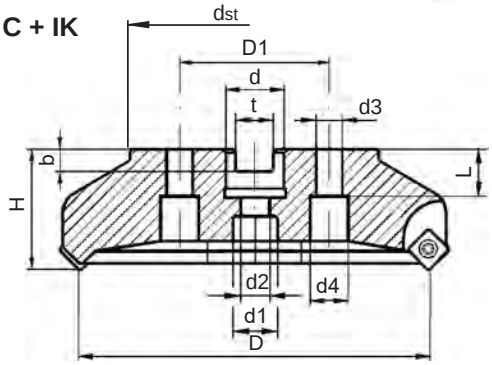
Form C



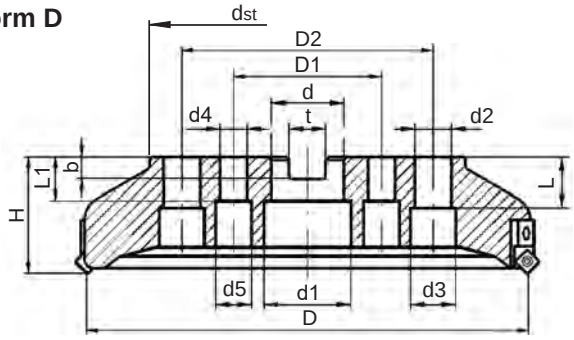
D	D1	d	H	t H11	b H12	L	d1	d2	d3	d4	dst
160	66,7	40	63	16,4	$9^{+0,15}$	31	56	-	14	20	90
200 250	101,6	60	63	25,7	$14^{+0,18}$	32	70	-	18	26	140 170
160*	66,7	40	63	16,4	$9^{+0,15}$	31	32	21	14	20	90

* For mills with internal coolant supply

Form C + IK



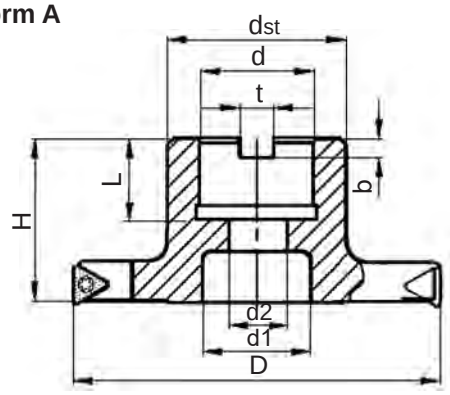
Form D



D	D1	D2	d	H	t H11	b H12	L	L1	d1	d2	d3	d4	d5	dst
315														220
400	101,6	177,8	60	80	25,7	$14^{+0,18}$	32	32	70	22	32	18	26	240
500														240

Mounting dimensions based for slotting mils, side and facemills, mm

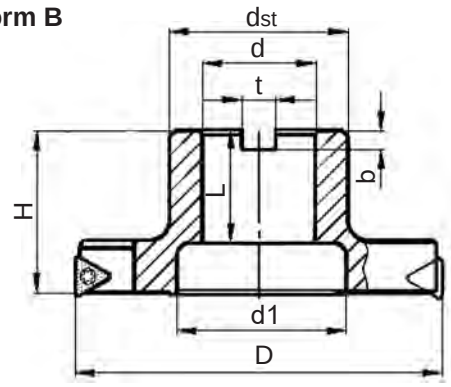
Form A



D	d	H	t H11	b H12	L min	d1 min	d2 min	dst
63	16	35	8,4	5,6	19	13,5	8,4	30
80	22	40	10,4	6,3	20	18	11	40
100*	27	40	12,4	7	22	20	13	48
125*	32	50	14,4	8	25	27	17	58
160*	40	50	16,4	9	29	32	21	70

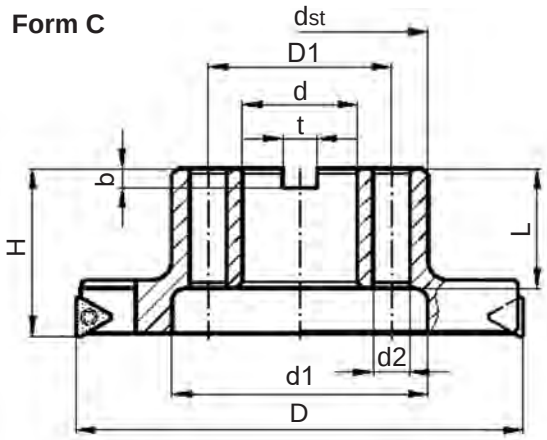
* For mills with internal coolant supply

Form B



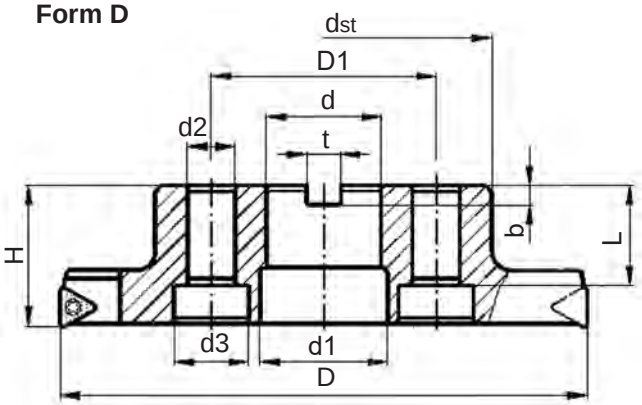
D	d	H	t H11	b H12	L min	d1 min	dst
100	27	34	12,4	7	22	38	48
125	32	38	14,4	8	25	45	58
160	40	43	16,4	9	29	56	70

Form C



D	D1	d	H	t H11	b H12	L min	d1 min	d2 min	dst
200	66,7	40	47	16,4	9	31	88	14	96

Form D

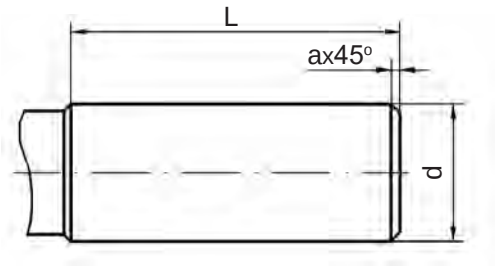


D	D1	d	H	t H11	b H12	L	d1	d2	d3	dst
250 315	101,6	60	50	25,7	14	32	70	18	26	130

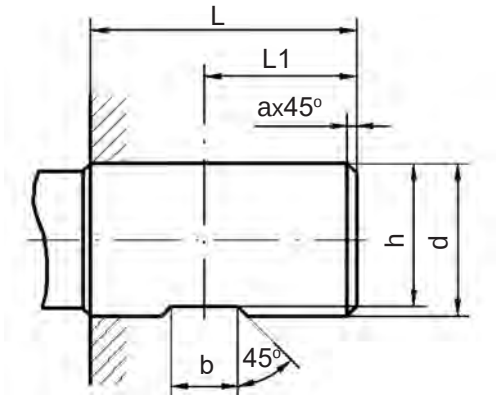
Tool shanks for endmills and long edge endmills, mm

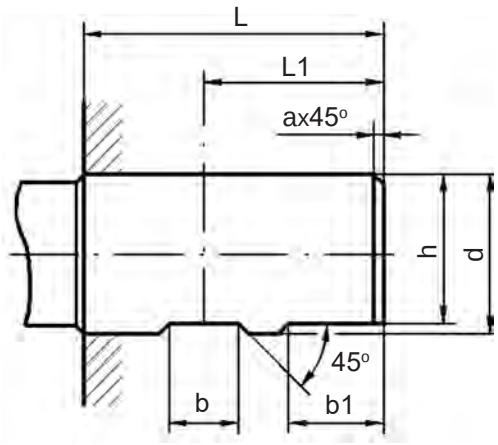
Z - Straight shank DIN 1835 A

d_{h6}	L^{+2}_{0}	a
8	36	0,8
10	40	1,0
12	45	1,2
16	48	1,6
20	50	2,0
25	56	2,0
32	60	2,0
40	70	2,0
50	80	2,0
63	90	2,0



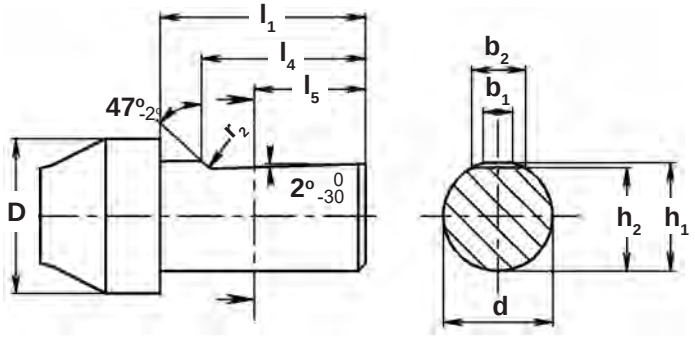
W - Straight shank with drive flat DIN 1835 B





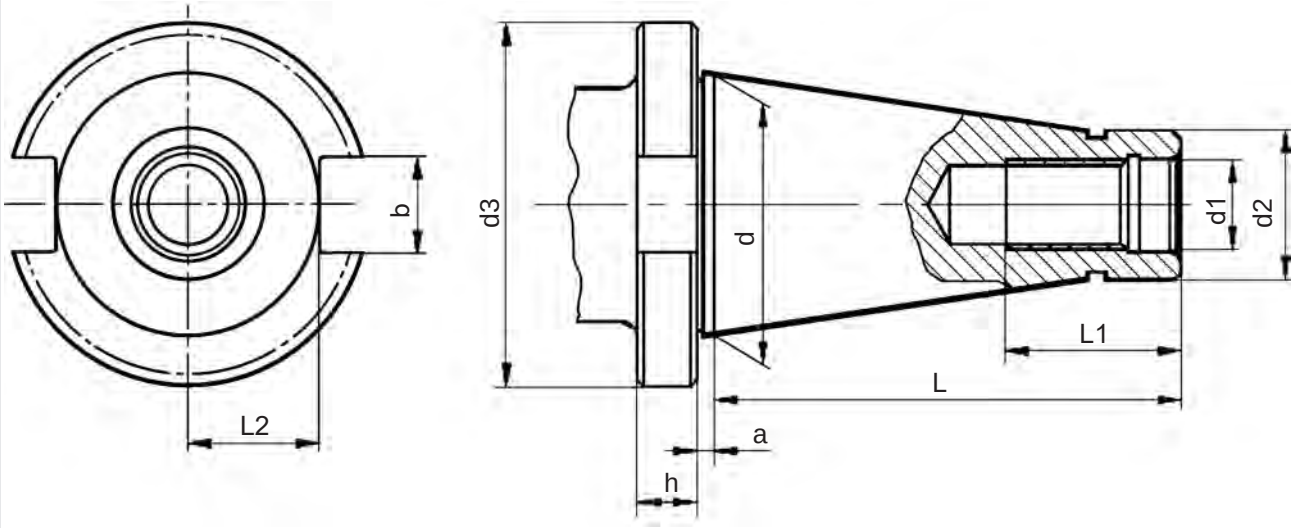
d_{h6}	h_{h11}	$b^{+0,05}_{0}$	$b1^{+1}_{0}$	L^{+2}_{0}	$L1^{0}_{-1}$	a
8	6,6	5,5	--	36	18	0,8
10	8,4	7	--	40	20	1,0
12	10,4	8	--	45	22,5	1,2
16	14,2	10	--	48	24	1,6
20	18,2	11	--	50	25	2,0
25	23,0	12	17	56	32	2,0
32	30,0	14	19	60	36	2,0
40	38,0	14	19	70	40	2,0
50	47,8	18	23	80	45	2,0
63	60,8	18	23	90	50	2,0

N - Straight shank with sloping clamping surface (Whistle Notch DIN 1835E)



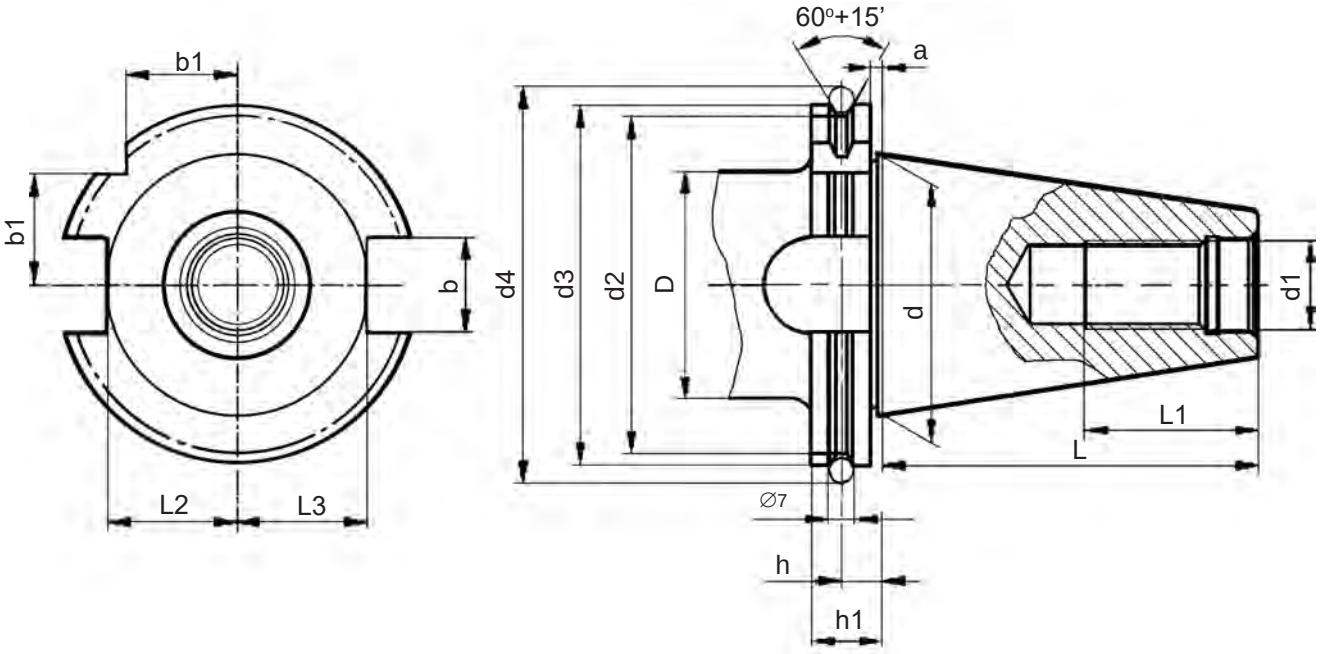
d_{h6}	D	$h_{2\ h13}$	$l_1{}^{+2}_{0}$	$l_4{}^{0}_{-1}$	l_5	$r_{2\ min}$	b_1	b_2	h_1
6	8	4,8	36	25	18	1,2	3,5	4,8	5,4
8	10	6,6	36	25	18	1,2	4,7	6,1	7,2
10	12	8,4	40	28	20	1,2	5,7	7,3	9,1
12	16	10,4	45	33	22,5	1,2	6,0	8,2	11,2
16	20	14,2	48	36	24	1,6	7,6	10,1	15
20	25	18,2	50	38	25	1,6	8,4	11,5	19,1
25	32	23	56	44	32	1,6	9,3	13,6	24,1
32	40	30	60	48	35	1,6	9,9	15,5	31,2
40	50	38	70	58	46	1,6	10,5	17,8	39,2
50	62	47,8	80	68	56	1,6	7,9	20,5	49,7

SK - 7/24 taper shank DIN 2080



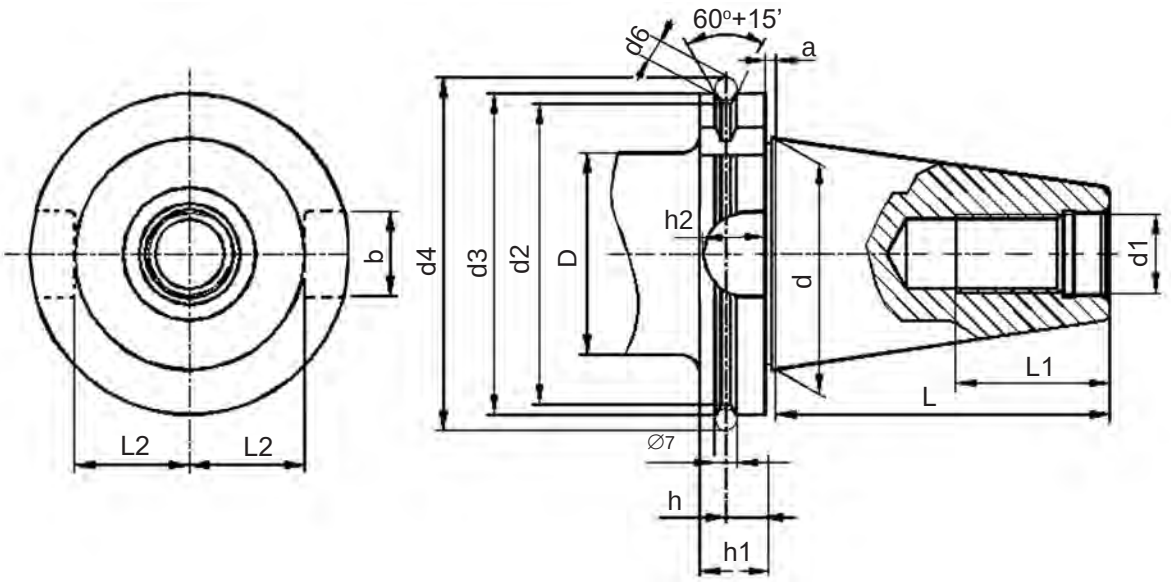
SK	$a^{+0,2}_{-0,2}$	b_{H12}	d	d1	d2	$d3^{0}_{-0,4}$	L	L1	$L2_{max}$	$h^{+0,15}_{-0,15}$
30	1,6	16,1	31,75	M12	17,4	50	68,4	24	16,2	8
40	1,6	16,1	44,45	M16	25,3	63	93,4	32	22,5	10
45	3,2	19,3	57,15	M20	32,4	80	106,8	40	29	12
50	3,2	25,7	69,85	M24	39,6	97,5	126,8	47	35,3	12
60	3,2	25,7	107,95	M30	60,2	156	206,8	59	60	16

NC - 7/24 taper shank DIN 69871 A



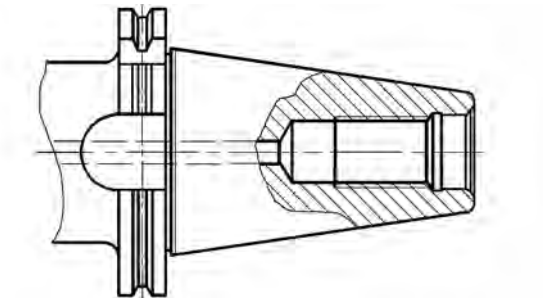
NC	$a^{+0,1}_{-0,1}$	b_{H12}	$b1^{0}_{-0,3}$	d	d1	$d2^{0}_{-0,5}$	$d3^{0}_{-0,1}$	$d4^{+0,05}_{-0,05}$	Dmax	$h^{+0,1}_{-0,1}$	$h1^{0}_{-0,1}$	$L^{0}_{-0,3}$	L1min	$L2^{0}_{-0,4}$	$L3^{0}_{-0,4}$
30	3,2	16,1	15	31,75	M12	44,3	50	59,3	45	11,1	19,1	47,8	24	19	16,4
40	3,2	16,1	18,5	44,45	M16	56,25	63,55	72,3	50	11,1	19,1	68,4	32	25	22,8
45	3,2	19,3	24	57,15	M20	75,25	82,55	91,35	63	11,1	19,1	82,7	40	31,3	29,1
50	3,2	25,7	30	69,85	M24	91,25	97,5	107,25	80	11,1	19,1	101,75	47	37,7	35,5

NC...AD - 7/24 taper shank with central coolant supply DIN 69871 AD

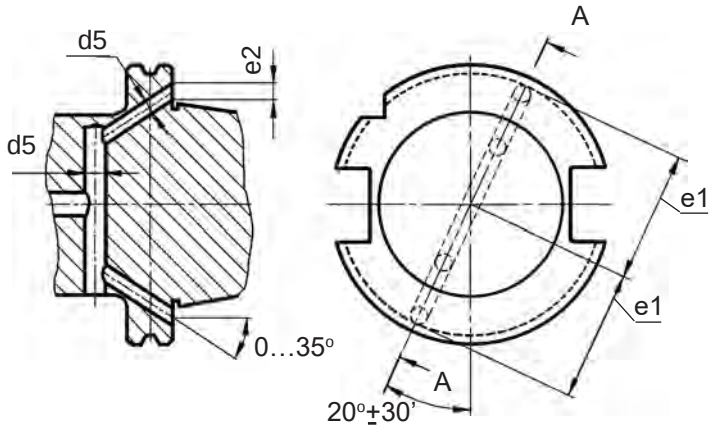


BT	$a^{+0,4}_{-0,4}$	b_{H12}	h2	d	d1	$d2^{0}_{-0,5}$	$d3^{0}_{-0,1}$	$d4_{-0,05}$	Dmax	$h^{+0,1}_{-0,1}$	$h1^{0}_{-0,1}$	$L^{0}_{-0,3}$	L1min	$L2^{0}_{-0,4}$	d1
40	2	16,1	21	44,45	M16	53	63	75,68	50	16,6	27	65,4	30	22,6	10
45	3	19,3	26	57,15	M20	73	85	100,22	63	21,2	33	82,8	38	29,1	21
50	3	25,7	31	69,85	M24	85	100	119,02	80	23,2	38	101,8	45	35,4	15

NC…AD - 7/24 taper shank with central coolant supply DIN 69871 AD

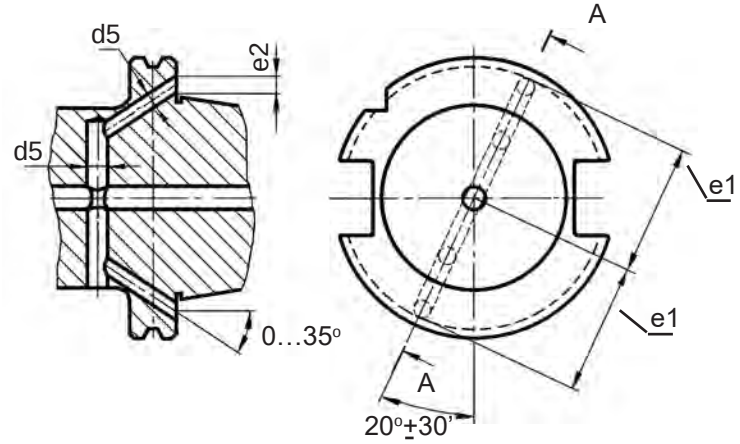


NC…B - 7/24 taper shank with coolant supply over shoulder DIN 69871 B



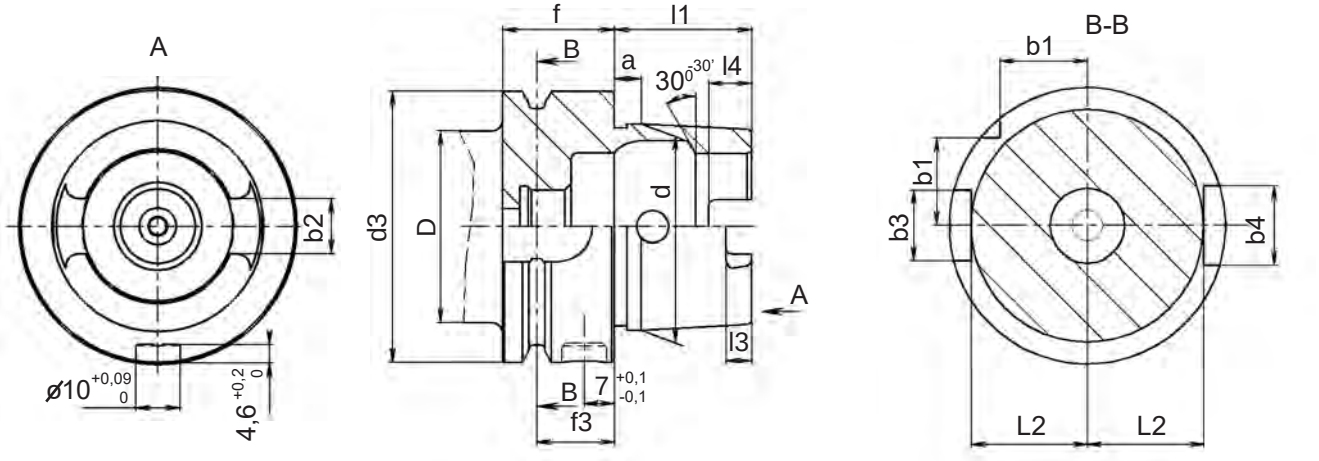
NC	$e1^{+0,1}_{-0,1}$	$e2_{max}$	d5
30	21	5	4
40	27	5	4
45	35	6	5
50	42	7	6

NC…ADB - 7/24 taper shank with central and over shoulder coolant supply DIN 69871 ADB



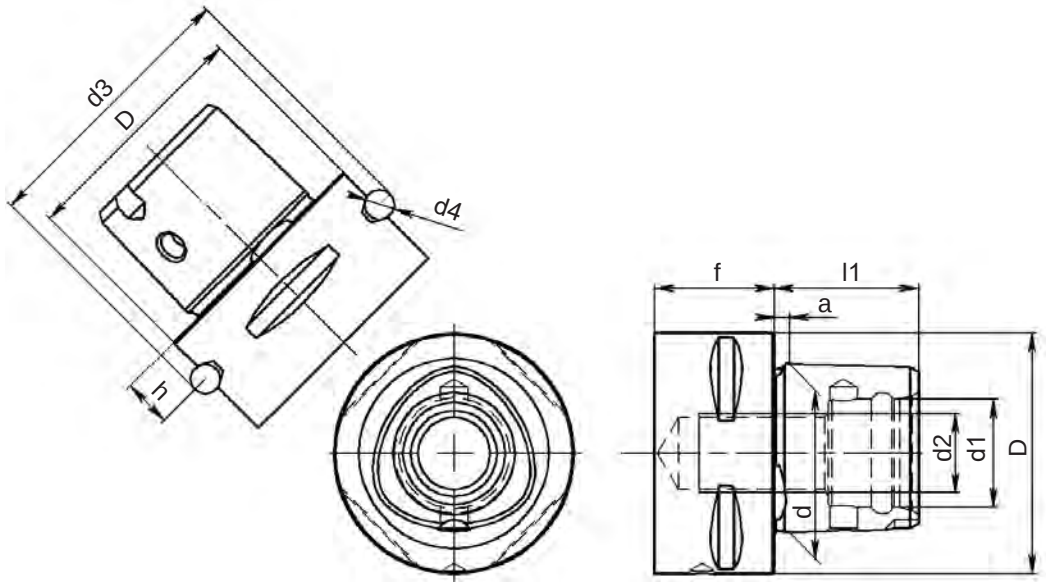
NC	$e1^{+0,1}_{-0,1}$	$e2_{max}$	d5
30	21	5	4
40	27	5	4
45	35	6	5
50	42	7	6

H...A - Taper Hollow Shank HSK DIN 69893 Form A



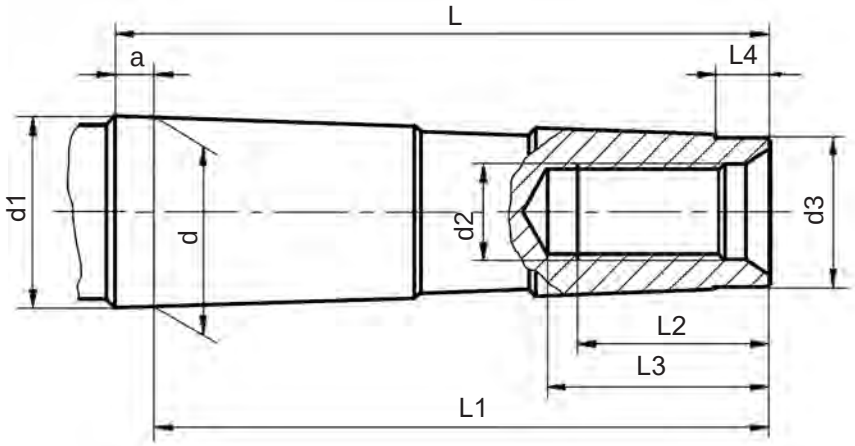
H...A	a	b1 0 -0,3	b1 +0,4 -0,4	b3 H10	b4 H10	d	d3 H10	Dmax	f 0 -0,1	f3 0 -0,1	l1 0 -0,2	L2 0 -0,2	l3 0 -0,2	l4 +0,2 0
63	6,3	20	12,54	16	18	48	63	53	26	18	32	26,5	6	10
80	8	25	16,04	18	20	60	80	67	26	18	40	34	8	12
100	10	31,5	20,02	20	22	75	100	85	29	20	50	44	10	15
125	12,5	39,5	25,02	25	28	95	125	105	29	20	63	55,5	12	19
160	16	50	30,02	32	36	120	160	130	31	22	80	72	16	23

C... - Taper Hollow polygonal Shank Capto DIN 26623-1



PSK	a	D +0,1 -0,1	d +0,4 -0,4	d1 +0,1 -0,05	d2	d3 +0,1 -0,1	d4	h +0,15 -0,15	fmin	l1 +0,1 -0,1
03	2,5	32	22	15	M12 x 1,5	39	5	6	15	19
04	2,5	40	28	18	M14 x 1,5	46	5	8	20	24
05	3,0	50	35	21	M16 x 1,5	59,3	7	10	20	30
06	3,0	63	44	28	M20 x 2,0	70,7	7	12	22	38
08	3,0	80	55	32	M20 x 2,0	86	7	12	30	48
10	3,0	100	72	43	M24 x 2,0	110	10	16	32	60

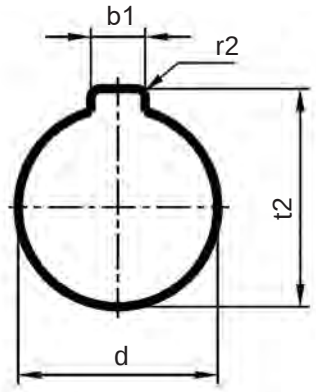
MK - Morse taper shank with draw-bar thread DIN 228 A



MK	d	d1	d2	d3	a	L max	L1 max	L2 min	L3 min	L4
0	9,045	9,2	-	6,4	$3,0^{+1,2}$	53	50	-	-	4
1	12,065	12,2	M6	9,4	$3,5^{+1,4}$	57	53,5	16	22	5
2	17,780	18	M10	14,6	$5,0^{+1,4}$	69	64	24	31,5	5
3	23,825	24,1	M12	19,8	$5,0^{+1,7}$	86	81	24	33,5	7
4	31,267	31,6	M16	25,9	$6,5^{+1,9}$	109	102,5	32	42,5	9
5	44,399	44,7	M20	35,7	$6,5^{+1,9}$	136	129,5	40	52,5	10
6	63,348	63,8	M24	53,9	$8,0^{+2,3}$	190	182	47	61,5	16

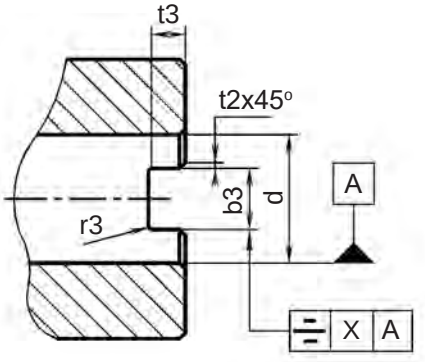
Disk mills with standard keyway to (type “S”) DIN 138

d	b1 C11	t2	r2
13	3	14,6+0,1	0,4-0,1
16	4	17,7+0,1	0,6-0,2
22	6	24,1+0,1	1,0-0,3
27	7	29,8+0,2	1,2-0,3
32	8	34,8+0,2	1,2-0,3
40	10	43,5+0,2	1,2-0,3
50	12	53,6+0,2	1,6-0,5
60	14	64,2+0,2	1,6-0,5
80	18	85,5+0,2	2,0-0,5



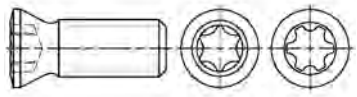
Disk mills with drive slot to (type “F”) DIN 138

d	b3 H11	t3 H12	r3	t2	X
13	8,4	5	1,0-0,2	0,5+0,2	0,2
16	8,4	5,6	1,0-0,3	0,6+0,2	0,2
22	10,4	6,3	1,2-0,3	0,6+0,2	0,2
27	12,4	7	1,2-0,3	0,8+0,2	0,2
32	14,4	8	1,6-0,4	0,8+0,2	0,2
40	16,4	9	2,0-0,5	1,0+0,3	0,2
50	18,4	10	2,0-0,5	1,0+0,3	0,2
60	20,5	11,2	2,0-0,5	1,0+0,3	0,2

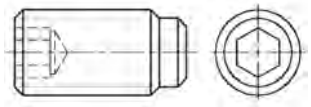


Insert and Cartridges Nomenclature

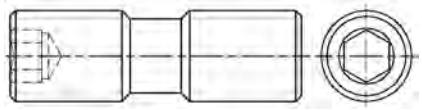
1	2	3	4		5	6
T	25	05	55	–	08	A	P



1	2	3	4		5
H	60	14	00	–	30



1	2	3	4		5	6
H	80	32	00	–	40	D



1 Type of spline:

T	- Torx, Torx PLUS
H	- Hexagon

2 Thread diameter, mm:

16	M1,6	**25**	M2,5	**40**	M4,0	**60**	M6,0
20	M2,0	**30**	M3,0	**45**	M4,5	**80**	M8,0
22	M2,2	**35**	M3,5	**50**	M5,0		

3 Screw Length:

03	3 mm	**T4**	4,8 mm	**07**	7 mm	**11**	11 mm
04	4 mm	**05**	5 mm	**08**	8 mm	**14**	14 mm
45	4,5 mm	**55**	5,5 mm	**09**	9 mm	**20**	20 mm

4 Angle of screw head:

00	0°	**55**	55°	**60**	60°	**90**	90°

5 Size splined connection:

Torx				Hexagon			
06	6T	**10**	10T	**25**	2,5 mm	**50**	5,0 mm
07	7T	**15**	15T	**30**	3,0 mm	**60**	6,0 mm
08	8T	**20**	20T	**35**	3,5 mm		
09	9T			**40**	4,0 mm		

6 Special designation:

A	- screw for high-speed cutting
D	- differential screw
P	- Torx PLUS
S	- special version

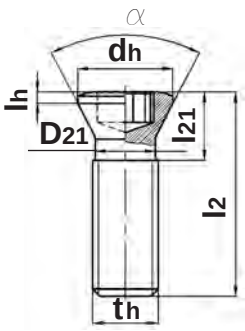
Insert screw dimensions and torque values

N	Code key screw	Type Screw	Size screw, mm							Torxz
			t_h	l_h	l_{21}	d_h	D_{21}	l_2	α°	
1	T180355-06P	1	M1,8-5h	0,8	1,6	2,4	1,6	3,8	55	T6P
2	T200355-06	2	M2,0-5h	0,3	1,9	2,7	-	3,3	55	T6
3	T200455-06P	2	M2,0-5h	0,3	1,9	2,6	-	4,3	55	T6P
4	T220455-07P	2	M2,2-5h	0,3	1,8	2,8	-	4,2	55	T7P
5	T220555-07P	2	M2,2-5h	0,3	3,5	3,0	-	5,0	55	T7P
6	T250455-08P	2	M2,5-5h	0,3	2,5	3,3	-	4,6	55	T8P
7	T250555-08	2	M2,5-5h	0,3	2,5	3,5	-	5,5	55	T8P
8	T250555-08AP	2	M2,2-5h	0,3	2,5	3,5	-	5,5	55	T8P
9	T250655-08AP	2	M2,2-5h	0,3	3,2	3,5	-	6,0	55	T8P
10	T250755-08AP	2	M2,2-5h	0,3	3,2	3,5	-	7,0	55	T8P
11	T300755-09AP	2	M3-5h	0,3	2,9	4,2	-	7,3	55	T9P
12	T350760-10P	2	M3,5-5h	0,7	4,7	5,0	3,0	7,6	60	T10P
13	T40T490-15	4	M4-5h	0,3	2,5	6,3	-	4,6	90	T15
14	T400590-15	4	M4-5h	0,3	2,5	6,3	-	5,2	90	T15
15	T400690-15	4	M4-5h	0,3	2,5	6,3	-	6,0	90	T15
16	T400790-15	4	M4-5h	0,3	2,5	6,3	-	7,4	90	T15
17	T400890-15	4	M4-5h	0,3	2,5	6,3	-	8,4	90	T15
18	T401090-15	4	M4-5h	0,3	2,5	6,3	-	10,2	90	T15
19	T401190-15	4	M4-5h	0,3	2,5	6,3	-	11,2	90	T15
20	T401290-15	4	M4-5h	0,3	2,5	6,3	-	12,2	90	T15
21	T400960-15	2	M4-5h	0,7	4,2	5,8	3,5	9,0	55	T15
22	T401160-15P	2	M4-5h	0,7	3,4	5,5	3,5	11,0	60	T15P
23	T401160-15P-X	2	M4-5h	0,7	3,4	5,5	3,0	11,0	60	T15P
24	T401160-15P-S	2	M4-5h	0,7	3,4	5,5	3,5	11,0	60	T15P
25	T400855-15A	2	M4-5h	0,3	2,5	6,3	-	8,0	55	T15
26	T400955-15A	2	M4-5h	0,7	4,2	5,8	3,5	9,0	55	T15
27	T400860-15S	1	M4-5h	0,7	5,0	5,2	-	8,5	60	T15
28	T451155-20P	2	M4,5-5h	0,8	4,7	6,6	4,0	11,0	55	T20P
29	T451455-20P	2	M4,5-5h	0,8	4,7	6,6	4,0	14,0	55	T20P
30	T501155-20	1	M5-5h	1	7,0	6,7	-	11,0	55	T20
31	T501455-20	1	M5-5h	1	7,0	6,7	-	13,3	55	T20
32	T501160-20P	1	M5-5h	1	7,0	6,7	-	11,0	55	T20P
33	T501460-20P	1	M5-5h	1	7,0	6,7	-	13,3	55	T20P
34	T501060-20S	1	M5-5h	1	6,0	6,7	-	10,0	60	T20
35	T501360-20S	1	M5-5h	1	7,0	6,7	-	13,0	60	T20
36	T501560-20S	1	M5-5h	1	10,1	7,9	-	15,4	60	T20
37	T602060-20S	1	M6-6h	2,0	14,5	9,5	-	20,0	60	T20
38	T802560-30S	1	M8-6h	2,5	18,3	11,9	-	24,7	60	T30
39	H602000-50	***	M6-6h	-	-	M6	-	***	0	H50
40	H601400-30	***	M6-6h	-	-	M6	-	***	0	H30
41	H601500-30	***	M6-6h	-	-	M6	-	***	0	H30
42	H601600-30	***	M6-6h	-	-	M6	-	***	0	H30
43	H601700-30	***	M6-6h	-	-	M6	-	***	0	H30
44	H801160-30S	****	M8-6h	-	-	M8	-	****	0	H30
45	H801360-30S	****	M8-6h	-	-	M8	-	****	0	H30
46	H801560-30S	****	M8-6h	-	-	M8	-	****	0	H30

* -Cartridge screw for facemills with cartridges.

*** -Cartridge screw for half side and facemills with cartridges.

**** -Adjusting screw



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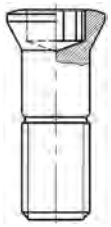

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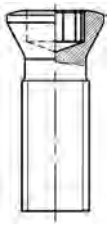

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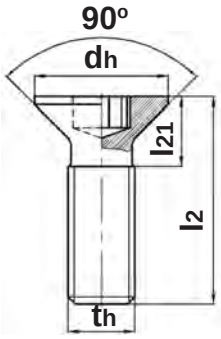

Recommended screw tightening torque

Screw for insert and cartridge	SKIF-M Milling tools	Tightening torque, Nm
T180355-06P	...SOMT02	0,6
T200455-06P	...SOMT03, ...SOMT04	0,6
T220455-07P	...BD08	1,0
T220555-07P	...SOMT05 ...SOMT06	0,8 1,0
T250560-06	...TO10	0,6
T250555-08	...RD08	1,2
T250555-08AP	...BD10	1,6
T250755-08AP	...BD10	1,6
T250655-08AP	...SOMT07	1,2
T300755-09AP	...BD12, ...RD10, ...SD08, ...SOMT08	2,2
T350760-10P	...FO09, ...BO12, ...SO09	3,0
T40T490-15	...SNEC1232 B=6	5,5
T400590-15	...SNEC1237 B=6,5 ...SNEC1241 B=7	5,5
T400690-15	...SNEC1241 B=7,5 ...SNEC1245 B=8 B=8,5	5,5
T400790-15	...SNEC1254 B=9	5,5
T400890-15	...SNEC1254 B=9,5 B=10 ...SNEC1264 B=10,5 B=11 B=11,5	5,5
T401090-15	...SNEC1264 B=12	5,5
T401190-15	...SNEC1274 B=12,5 B=13	5,5
T401290-15	...SNEC1274 B=13,5 B=14	5,5
T400960-15P	...BD16, ...RD12, ...SOMT10, ...SOMT12, ...AX14	5,5
T401060-15P T401160-15P	D25...XE17 ...FO12, ...SO12, ...XE17	5,5
T401460-15P	...SN14	5,5
T401160-15P-X	...LN13, ...SNMU13	5,5
T451155-20P	…RD16, ...SOMT13, ...SOMT15, ...SOMT17	7,0
T451455-20P	...SNGQ12	7,0
T501155-20P	...RD20	9,0
T601660-25P	...XN10	9,0
H602000-50	all facemills with cartridges (Cartridge screw)	16,0
H601400-30	MT390...SD08 (Cartridge screw)	9,0
H601500-30	MT390...SD08 (Cartridge screw)	15,0
H601600-30	MT390...SO12, ...AX14 (Cartridge screw)	15,0

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MT190-Z...BD10-R5-IK-AL	**156**	MT290K...SO12	**131**	MT390K-...R...SO12R	**202**
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MT190-Z...BD16-L...-IK	**79**	MT290L...SD08/BD12-IK	**121**	MT390K-S...L...SD08	**204**
MT190-Z...BO12	**143**	MT290L-...SD08-IK	**120**	MT390K-S...L...SO12	**204**
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Hardness conversion table (DIN 50150)

Tensile strength N/mm²	Vickers hardness HV	Brinell hardness HB	Rockwell hardness $HRC_э$	Shore C
255	80	76		
270	85	80,7		
285	90	85,5		
305	95	90,2		
320	100	95		
335	105	99,8		
350	110	105		
370	115	109		
385	120	114		15
400	125	119		18
415	130	124		19
430	135	128		20
450	140	133		21
465	145	138		21
480	150	143		22
495	155	147		22
510	160	152		23
530	165	156		24
545	170	162		25
560	175	166		25
575	180	171		26
595	185	176		27
610	190	181		28
625	195	185		28
640	200	190		29
660	205	195		30
675	210	199		31
690	215	204		32
705	220	209		32
720	225	214		33
740	230	219		33
755	235	223		33
770	240	228	20,3	34
785	245	233	21,3	35
800	250	238	22,2	36
820	255	242	23,1	36
835	260	247	24,0	37
850	265	252	24,8	37
865	270	257	25,6	38
880	275	261	26,4	39
900	280	266	27,1	39
915	285	271	27,8	40
930	290	276	28,5	41
950	295	280	29,2	42
965	300	285	29,8	43
995	310	295	31,0	44
1030	320	304	32,2	46
1060	330	314	33,3	47
1095	340	323	34,4	48

Tensile strength N/mm²	Vickers hardness HV	Brinell hardness HB	Rockwell hardness $HRC_э$	Shore C
1125	350	333	35,5	50
1155	360	342	36,6	50
1190	370	352	37,7	51
1220	380	361	38,8	52
1255	390	371	39,8	53
1290	400	380	40,8	54
1320	410	390	41,8	56
1350	420	399	42,7	57
1385	430	409	43,6	58
1420	440	418	44,5	58
1455	450	428	45,3	59
1485	460	437	46,1	60
1520	470	447	46,9	61
1555	480	456	47,7	62
1595	490	466	48,4	63
1630	500	475	49,1	64
1665	510	485	49,8	65
1700	520	494	50,5	65
1740	530	504	51,1	66
1775	540	513	51,7	67
1810	550	523	52,3	68
1845	560	532	53,0	69
1880	570	542	53,6	70
1920	580	551	54,1	70
1955	590	561	54,7	71
1995	600	570	55,2	72
2030	610	580	55,7	73
2070	620	589	56,3	75
2105	630	599	56,8	76
2145	640	608	57,3	77
2180	650	618	57,8	78
2310	660		58,3	78
2350	670		58,8	79
2380	680		59,2	80
2410	690		59,7	80
2450	700		60,1	81
2520	720		61,0	83
2590	740		61,8	84
2660	760		62,5	86
2730	780		63,3	87
2800	800		64,0	88
2870	820		64,7	90
2940	840		65,3	91
3010	860		65,9	92
3080	880		66,4	93
3150	900		67,0	95
3220	920		67,5	96
3290	940		68,0	97

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