

Accessories	Item No	BF16	BF20/L MH28V	MB4 MB4P	MH25V	BF30 MK3	BF30 ISO30	BF46 ISO40	BF46 MK4	MF1	MF2	MF4	MT 50	MT100	MT 200	MT 8	MX 3	MX 4
Copy and planing cutter	MT 2	3350212	●	●														
	MT 3	3350213			●		●		○	○								
	MT 4	3350214				●			●									
	ISO 30	3350215						●										
	ISO 40	3350216						●		●	●	●	●	●	●	●	●	●
Quick-action drill chuck	B16	s Seite 141	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●	●
Direct quick-action drill chuck	MT 2	3050571/2			○		○	○										
	MT 3	3050573					●		○	○	○	○		○				
	MT 4	3050574				●		○	●	○								
Arbor for drill chuck	MT 2	3050670	●	●														
	MT 3	3350303			●		●											
	MT 4	3350304	●			●			●									
	ISO 30	3352069						●										
	ISO 40	3352070						●		●	●	●	●	●	●	●	●	●
Extension bushings	MK 2 - MK 3	3050667	●	●														
	MK 3 - MK 4	3050668			●		●											
Adapter	ISO50	3352068													●	●		
Morse taper	SK50	3352067													●	●		
Reducing bushings	MT 3 - MT 2	3350313			●		●											
	MT 4 - MT 3	3350314	●			●												
End mill kit	HSS 12 pcs	3352113	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	HSS 20 pcs	3386200	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Spiral drill	Titanium coated	3051010	●	●	●	●	○	●	●	●	●	●	●	●	●	●	●	●
	HSS MK 2	3051002					○		○	○	○	○		○				
	HSS MK 3	3051003			●	●		●		○	○	○		○				
Milling cutter kit	Hard metal	3352118	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Radius	3352116	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Aufnahme Messerkopf	MK 2	3352102	●	●														
	SK 50	3352066													●	●		
Coolant pump	230 V	3352002	●	●	●	●	○	●	○	○	○	○		○				
	400 V	3352001	○	○	○	●		○	○	●	●	●		●				
Coolant hose	KMS2	3356660	●	●	●	●	●	●	●	●	●	●		●				
Coolant lubricant sprayer	MMC1	3356663	●	●	●	●	●	●	●	●	●	●		●				
Table feed	V 99	3352022			●		●	●	●	●								
	V 250	3352029									●	●						
Holding down clamp	14 mm	3352031									●	●	●	●				
	18 mm	3352032							●	●	●			●	●	●		
Vibration dampers	SE1	3381012	●	●	●	●	●	●	●	●			○	○	○	○		
	SE2	3381016									●	●	●		●			
	SE3	3381018															●	
Parallel spacer kit		3354001	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Boring drilling head	ISO 30	3352127				●			●									
	ISO 40	3352128						●		●	●	●	●	●	●	●	●	●
	ISO 50	3352129													●	●		
Collet chuck set	ISO 30	3352054				●			●									
	ISO 40	3352056						●		●	●	●	●	●	●	●	●	●
	ISO 50	3352065													●	●		
	MT 2/ER25	3352052	●	●														
	MT 2/ER32	3352053	●	●														
	MT 3/ER32	3352093					●											
	MT 4/M16	3352094				●			●									
Collet chuck	ISO 30	3352046				●		●										
Collet kit	ER 25	3441109	●	●		○												
	ER 32	3441122		●		●		●	●	●	●	●	●	●	●	●	●	●
Collet chuck set	MK 2 direct	3351980	●	●														
	MK 3 direct	3352014			●	●		●										
Clamping tool	SPW 8	3352015	●															
	SPW 10	3352016		●		●	●											
	SPW 12	3352017			●	●							●	●	●	●	●	●
	SPW 14	3352018									●	●						
	SPW 16	3352019							●	●	●							
Tool clamping system	ISO 40	3352394						●/—	●/—	●	●	●						
	ISO 30	3352393				●												
Stop bracket	90°	3385052			●	●	●	●	●	●	●	●	●	●	●	●	●	●
Prism angle	WP30	3352195	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Tapping chuck	M5-M12	3352042	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Edge finder		3351171	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Universal indexing head	TA 125	3356125	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Circular dividing table	RT 100	3356110	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	RT 150	3356150	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	RT 200	3356200			●	●		●	●	●	●	●	●	●	●	●	●	●
	RTE 165	3356365		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	RTU 165	3354165			●	●	●	●	●	●	●	●	●	●	●	●	●	●

OPTIMUM Precision quick-action drill chuck

True running accuracy of better than 0.06 mm

0 - 8 mm; B16	3050608
0 - 10 mm; B16	3050610
0 - 13 mm; B16	3050623
0 - 16 mm; B16	3050626
0 - 16 mm; B18	3050630



Morse taper SK50

3352067

B18 DIN2080



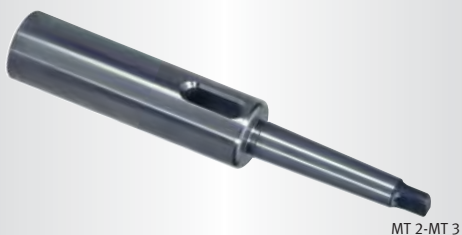
OPTIMUM Direct quick-action drill chuck

MT 2 1 - 16 mm; up to 6.000 min ⁻¹	3050571
MT 2 1 - 13 mm; up to 8.000 min ⁻¹	3050572
MT 3 1 - 16 mm; up to 6.000 min ⁻¹	3050573
MT 4 1 - 16 mm; up to 6.000 min ⁻¹	3050574



Extension bushings

MT 2 - MT 3	3050667
MT 3 - MT 4	3050668



Arbor for drill chuck

Cone external MT 2 / M10 / B16	3050670
Cone external MT 3 / M12 / B16	3350303
Cone external MT 4 / M16 / B16	3350304
Cone external ISO 30 / M12 / B16	3352069
Cone external ISO 40 / M16 / B16	3352070



Holder for cutter head

MT 2	3352102
-------------	---------

• Cone external MT 2 /end mill holder Ø 16 mm

SK50	3352066
-------------	---------

• Cone external Ø 27 mm DIN2080



Adapter ISO 30 / MT 3

3352068



Reducing bushes

MT 3 - MT 2 / M12	3350313
MT 4 - MT 3 / M16	3350314



NEW

Preamble

Drilling

Turning

Accessories

Sawing

Grinding

Polishing

Lamps

Measuring

CNC

Index

Accessories for milling machines

End mill kit HSS

- Coated with titanium
- Higher hardness and stability with 2 - to 5-times longer durability
- Double cutting capacity
- Better workpiece surface
- With cylindrical shank and Weldon flats
- Type with 2 cutting edges for milling keyways and slots as well as cut-outs from the workpiece centre
- Vertical or lateral milling operations are possible
- Type with 4 cutting edges with 30 ° right-handed helix for good chip removal for normal to resistant materials
- Wooden box

12 pieces

3352113

- 6 milling cutters, short type · Type with 2 cutting edges.
DIN 1835 B (Ø12x73, Ø10 x 63, Ø8 x 61, Ø6 x 52, Ø5 x 52, Ø4 x 51 mm)
- 6 milling cutters, short type · Type with 4 cutting edges.
DIN 1835 B (Ø12 x 83, Ø10 x 73, Ø8 x 6, Ø6 x 57, Ø5 x 57, Ø4 x 55 mm)

20-pieces

3386200

- 10 milling cutters DIN 327 D · short type · 2 cutting edges
DIN 1835 B, (3/4/5/6/8/10/12/14/18/20 mm)
- 10 milling cutters DIN 844 B · short type · 4 cutting edges
DIN 1835 B, (3/4/5/6/8/10/12/14/18/20 mm)



Hard-metal milling cutter kit

3352118

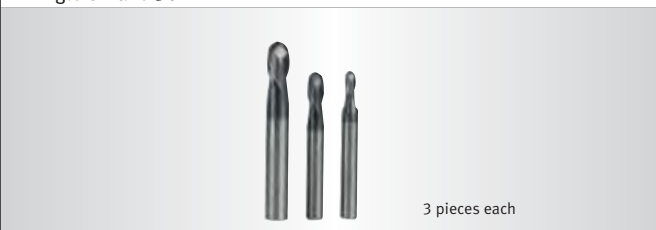
- 18 pcs; 3 pcs. each of the sizes 3/4/6/8/10 and 12 mm
- Type with 4 cutting edges
- Coated full hard metal milling cutter (TiALN)
- Central cut for plunging
- Angle of rake 35°



Milling cutter kit radius

3352116

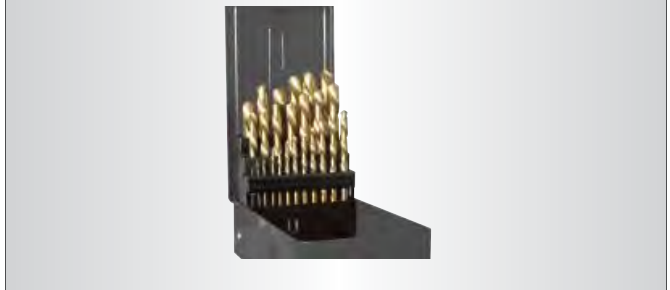
- 9 pcs; 3 pcs. each of the sizes 4 mm / 6 mm / 8 mm
- Type with 2 cutting edges
- Coated full hard metal milling cutter (TiALN)
- Face cutting edge geometry for plunging
- Angle of rake 30°



Twist drill kit

3051010

- 25 pcs; sizes 1 -13 mm
- Coated with titanium
- Higher service life and durability
- More rapid working results
- Lower wear



Twist drill HSS incl. Morse taper

- 9 pieces; Sizes 14,5/16/18/20/22/24/26/28/30 mm
- Long durability
- Good chip evacuation
- Right hand cutting

MT 2

3051002

MT 3

3051003



Vibration machine foot

- The machines and equipment can be installed without anchors and precisely aligned using the height adjustment system.
- Effective impact and vibration damping improves the machine, smooth action

SE 1

3381012

SE 2

3381016

SE 3

3381018



Compatibility overview refer to page 140

Charge	SE 1	SE 2	SE 3
Milling machines	340 Kg	460 kg	1,600 kg
Sawing/ General machinery	570 kg	1.460 kg	3.500 kg
thread	M12	M 16	M 20
Base Ø/Base height	120/32	160/35	185/39



Copy and planing cutter head "Made in Germany"

- Universal used to machining at all steel and non-ferrous metals
 - For surface and copy milling
 - Made of special steel - highly annealed
 - High plan and true running accuracy
 - Milling body with irregular partition for very smooth running and regular cuts
 - Base body and clamping shaft are forming a unit, thus short protruding length and stable tension
 - No additional milling abors are used
 - Special geometries for milling at high speed
 - Ergonomic since the plate can be easily turned on when the cutting edge is getting blunt (it can be used up to 12 times)
 - Including 5 cutting inserts RDET 1003 MOSN 8026
 - Including Torx TX15
 - 5 cutting edges
 - Outside diameter 52 mm
 - Cutting inserts Ø 10 mm
 - ISO designation RDX. 1003 D52/R5
- | | | |
|----------------------------|---------|--|
| Seat shaft MT 2/M10 | 3350212 | |
| Seat shaft MT 3/M12 | 3350213 | |
| Seat shaft MT 4 | 3350214 | |
| Seat shaft ISO 30 | 3350215 | |
- Outside diameter 63 mm
 - ISO designation RDX. 1003 D63/R5
- | | | |
|--------------------------|---------|--|
| Seat shaft ISO 40 | 3350216 | |
|--------------------------|---------|--|



HM inserts 5 pcs

- RDET 1003 MOSN8026
 - Positive cutting edge geometry
 - PVD coated
 - To machine steel of up to 900N/mm², stainless steel, aluminium, non-ferrous metal, cast iron
- | | | |
|-------------|---------|--|
| RDET | 3350220 | |
|-------------|---------|--|
- RDHT 1003 MO-FA HF7
 - Highly positive cutting edge geometry
 - Polished
 - To machine AL alloys, copper alloys, plastic materials
- | | | |
|-------------|---------|--|
| RDHT | 3350221 | |
|-------------|---------|--|



Precision boring drilling head kit

- 8 pcs. Drill rods: BJ2008-32L/BJ2010-40L/BJ2014-53L/BJ2016-68L/BJ2020-83L/BJ2025-96L/BJ2030-115L/BJ20-L20-100L
- Incl. drill rods, bolts, circle extension, tool, case
- Without cutting inserts

ISO 30	3352127	
ISO 40	3352128	
ISO 50	3352129	



Cutting insert



Kit of cutting inserts (10 pcs.)

for steel (for drill rod No 8 and 7)	3352136	
for aluminium (for drill rod No 8 and 7)	3352141	
for steel (for drill rod No 6 and 5)	3352137	
for aluminium (for drill rod No 6 and 5)	3352142	
for steel (for drill rod No 4, 3, 2 and 1)	3352138	
for aluminium (for drill rod No 4, 3, 2 and 1)	3352143	

Bracket 90°

- For clamping purposes when performing mechanic machining of workpieces control and marking off works
- Precision: Parallelism and angularity of 0.01 on 100 mm
- Lateral stiffening ribs
- Dimensions L x W x H: 202 x 126 x 150 mm
- Weight 7 kg



Preamble
Drilling
Turning
Accessories
Sawing
Grinding
Polishing
Lamps
Measuring
CNC
Index

Accessories for milling machines

Collet chuck kit	
MT 2/ ER 25 - M10	3352052
<ul style="list-style-type: none"> • Collet chuck • 15 collets; Sizes \varnothing 1.5 - \varnothing 16 mm/DIN ISO 15488 • Sickle spanner · Aluminium case 	
MT 2/ ER 32 - M10	3352053
<ul style="list-style-type: none"> • Collet chuck • 18 collets; Sizes \varnothing 2 - \varnothing 20 mm/DIN ISO 15488 • Sickle spanner · Aluminium case 	
MT 3/ ER 32 - M12	3352093
<ul style="list-style-type: none"> • Collet chuck • 18 collets; Sizes \varnothing 2 - \varnothing 20 mm/DIN ISO 15488 • Sickle spanner · Aluminium case 	
MT 4/ ER 32 - M16	3352094
<ul style="list-style-type: none"> • Collet chuck • 18 collets; Sizes \varnothing 2 - \varnothing 20 mm/DIN ISO 15488 • Sickle spanner · Aluminium case 	
ISO 30/ER32 - M12/BT 30	3352054
<ul style="list-style-type: none"> • Collet chuck • 18 collets Sizes \varnothing 2 - 20 mm/ DIN ISO 15488 • Draw-in bolt M12/M12 and draw-in bolt BT 30 • Sickle spanner · Aluminium case 	
ISO 40/ER32 - M16/BT 40	3352056
<ul style="list-style-type: none"> • Collet chuck • 18 collets Sizes \varnothing 2 - \varnothing 20 mm/ DIN ISO 15488 • Draw-in bolt M16/M16 and draw-in bolt BT 40 • Sickle spanner · Aluminium case 	
ISO 50/ER32 - M24/BT 50	3352065
<ul style="list-style-type: none"> • Collet chuck • 18 collets sizes \varnothing 2 - \varnothing 20 mm/DIN ISO 15488 	



Collet chuck ISO 30/ER25	
Collet chuck ISO 30/ER25	3352046
<ul style="list-style-type: none"> • Sickle spanner 	

Collet kit	
ER 25	3441109
<ul style="list-style-type: none"> • 15 collets Sizes \varnothing 1 - 16 mm / DIN ISO 15488 	
ER 32	3441122
<ul style="list-style-type: none"> • 18 collets Sizes \varnothing 3 - 20 mm / DIN ISO 15488 	

Collet ER32 (single)	
\varnothing 6 mm	3441126
\varnothing 8 mm	3441128
\varnothing 10 mm	3441130
\varnothing 12 mm	3441132

Collet MT 3 directly clamping / M 12 (single)	
\varnothing 4 mm	3352004
\varnothing 6 mm	3352006
\varnothing 8 mm	3352008
\varnothing 10 mm	3352010
\varnothing 12 mm	3352012
\varnothing 16 mm	3352013

Collet kit	
MT 2 directly clamping / M 10	3351980
<ul style="list-style-type: none"> • 5-pieces; sizes \varnothing4 / \varnothing6 / \varnothing8 / \varnothing10 / \varnothing12 mm • Wooden box 	
MT 3 directly clamping / M 12	3352014
<ul style="list-style-type: none"> • 6-pieces; sizes \varnothing4 / \varnothing6 / \varnothing8 / \varnothing10 / \varnothing12 / \varnothing16 mm • Wooden box 	



Clamping tool kit SPW	
<ul style="list-style-type: none"> • 58 pieces, in practical tool holder • Metric threads • 24 pcs. draw-in bolts • 6 pcs. T-slots • 6 pcs. nuts • 4 pcs. elongation nuts • 6 pcs. step blocks • 12 pcs. step blocks 	
SPW 8	3352015
<ul style="list-style-type: none"> • T-slots 10 mm; Draw bar thread M 8 	
SPW 10	3352016
<ul style="list-style-type: none"> • T-slots 12 mm; Draw bar thread M 10 	
SPW 12	3352017
<ul style="list-style-type: none"> • T-slots 14 mm; Draw bar thread M 12 	
SPW 14	3352018
<ul style="list-style-type: none"> • T-slots 16 mm; Draw bar thread M 14 	
SPW 16	3352019
<ul style="list-style-type: none"> • T-slots 18 mm; Draw bar thread M 16 	



Horizontal-vertical circular dividing tables with 3-jaw chuck

- Quality circular dividing tables made of high-quality Meehanite cast
- Precision taper roller bearing
- Stability even under heavy load
- Large spindle hole to clamp longer workpieces
- Direct dividing via locking discs for higher manufacturing speed for mass parts
- Degree division on a scale of 360° (RTE 165)
- 7 locking disks for 2/3/4/6/8/12/24 divisions (RTE 165)
- Degree division on a scale of 360° with crank and vernier (RTU 165)
- Direct dividing via locking disc
- 24 positions (15° division)
- Three jaw chuck
- Including clamping disk with 3 grooves

RTE 165	3356365	
Tailstock RST 2	3356157	

- Height of centres 110 - 145 mm



RTU 165	3354165	
Indirect indexing device IT 200	3356205	

- 2 pcs. Indexing plates Sector arm
- Angle shear with spring steel plate

Tailstock RST 2	3356157	
------------------------	---------	--

- Height of centres 110 - 145 mm



Technical data		RTE 165	RTU 165
Table diameter	mm	165	165
Construction height x width x length	mm	200 x 260 x 218	221 x 250 x 235
Centre height	mm	130	130
Clamping disks	mm	203	203
Passage	mm	36	36
Weight	kg	32.5	48
Direct indexing plate		Spacing of 24 (≅ 15°)	
Indirect indexing plate		Spacing of 2, 3, 4, 6, 8 and 12	
Spacing accuracy of the direct part setting		45'	
Clamping option		Horizontal and vertical	
clamping surface		With scale of 360°	

Horizontal-vertical circular dividing tables

- Quality circular dividing tables made of high-quality Meehanite cast
- Precision bearing
- Stability even under heavy load
- Large spindle hole to clamp longer workpieces
- Quick-action dividing via locking discs for higher manufacturing speed for mass parts
- Hardened and ground screw
- Working table with 360° scaling
- 1 turn of the handwheel 4° rotation
- Scaling on the handwheel 2'
- Possible division via scaled handwheel with vernier
- Up to 150 pcs. (RT 150) and 400 pcs. (RT 200) different divisions with indirect dividing plates are available

Optional:
"CNC add-on kit's MK RT1 and MK RT2 to control the horizontal vertical circular dividing tables" on page 217

RT 100

Circular dividing table	3356110	
Three jaw chuck Ø 75 mm	3356111	
Tailstock Rst 1	3356155	

- Height of centres 72 - 108 mm



RT 150

Circular dividing table	3356150	
Chuck flange	3356154	
Three jaw chuck Ø 130 mm centrally	3356100	
Indirect indexing device IT 150	3356152	

- 3 pcs. Indexing plates · Sector arm · Angle shear with spring steel plate

Tailstock Rst 1	3356155	
------------------------	---------	--

- Height of centres 72 - 108 mm

RT 200

Circular dividing table	3356200	
Chuck flange	3356254	
Three jaw chuck Ø 165 mm	3356225	
Indirect indexing device IT 200	3356205	

- 2 pcs. Indexing plates · Sector arm · Angle shear with spring steel plate


Tailstock Rst 2	3356157	
------------------------	---------	--

- Height of centres 110 - 145 mm



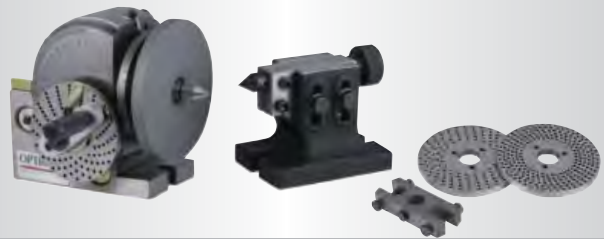
Technical data		RT 100	RT 150	RT 200
Centring cone		MT 2	MT 2	MT 3
Transmission ratio		90:1	90:1	90:1
Disk size	mm	110	150	210
Construction h x W x L	mm	72 x 138 x 118	79 x 204 x 156	104 x 265 x 199
Centre height	mm	80	102	133
Slot width/no of slots	mm	11/3	11/4	16/4
Net weight	kg	9	12	30

Accessories for milling machines

Universal compressed air tool clamping system	
<ul style="list-style-type: none"> Incl. tool clamping device, cover, maintenance unit, crown gear, draw-in rod, switch cabinet, control element High achievable vacuum Short change times by one-hand Little weight due to optimised structure Safe locking due to toggle principle Precise guiding due to optimised geometry Low air consumption 	
ISO 30	3352393
<ul style="list-style-type: none"> For OPTImill BF30 Vario 	
Adapter plate	3352391
<ul style="list-style-type: none"> For OPTImill BF30 Vario 	
ISO 40	3352394
<ul style="list-style-type: none"> For OPTImill MF 2 Vario / OPTI MF 4 Vario / BF 46 Vario 	
Adapter plate	3352392
<ul style="list-style-type: none"> For OPTImill BF 46 Vario 	
Factory assembly of clamping system	9000490
	
(Note: When ordering without workshop assembly: adjustment works might be required)	
 <p style="text-align: right;">Adapter plate</p>	

Prism WP 30	
<ul style="list-style-type: none"> Robust type to be used on machine tools Highly precise type Adjustable from 0° to 60° and from 0° to -30° Hardened and ground carbons steel Precision perpendicularity 0.005 mm Angular tolerance 0.01° Dimensions L x W x H: 75 x 25 x 32 mm 	
	

Thread cutting device M5 - M12/B16	
3352042	
<ul style="list-style-type: none"> Integrated quick return, immediately effective when changing the feed direction Sliding clutch 4-stage adjustable 	
Scope of delivery:	
<ul style="list-style-type: none"> 2 flexible collets 2 open-end wrenches Handle Allen key 	
	
Technical data	
Notching path	4 mm
Free wheel	1.5 mm
Length compensation to tension	8.5 mm
Max. speed	1'000 min ⁻¹
Transmission ration forward and return	1:1.75
Cutting area	M5 - M12
Clamping range	3.5-10
Length	B16 DIN 238
Length compensation to pressure	156 mm
Shaft seat	5 mm

Universal dividing head TA 125	
3356125	
<ul style="list-style-type: none"> Sleuable from -10° to +90° Hardened and ground screw Precision taper roller bearing Hardened and ground main dividing plate (spacing of), in order to exactly divide to 15° Up to 300 different divisions with indirect dividing plates are available 	
Scope of delivery	
<ul style="list-style-type: none"> Height adjustable tailstock Rst1 Centre point 60° / MT 2 Top part of follower Flange (Ø 140 mm, t = 12 mm) for carrier pin or lathe chuck assembly 	
	
Technical data	
Transmission	40:1
Construction h x w of centring point x length	175 x 205 x 230 mm
Centre height	100 mm
Hole in the seat shaft (passage)	18 mm
Slot width	16 mm
Direct indexing plate (division)	15° / Ø 110 mm
Indirect indexing plates (Hole on the pitch circle)	15; 16; 17; 18; 19; 20; 21; 23; 27; 29; 31; 33; 37; 39; 41; 43; 47
True running accuracy	0.015 mm
Net weight	12 kg

Universal table feed

- Infinitely speed adjustment and rapid traverse
- Right-/left handed rotation
- 230 volts, Overload protection and limit stop switch
- For self-assembly

Opti V 99

3352022

- Horizontal assembly



Opti V 250

3352029

- Vertical assembly



Kit of parallel packing plates 20-pcs.

3354001

- For precision works for parallel mounting of workpieces on the machine, vices, on marking-on plates or machine tools
- Ground to very high precision of 0.01 mm
- Thickness 3 mm
- Length 150 mm
- Sizes 2 pcs. 13 mm/2 pcs. 16 mm/2 pcs. 19 mm/2 pcs. 22 mm/2 pcs. 25 mm/2 pcs. 8 mm/2 pcs. 31 mm/ 2 pcs. 35 mm/2 pcs. 38 mm/2 pcs. 41 mm



Universal coolant equipment

- Delivery height max. 2.5 m
- Delivery volume 8 l/min
- Tank capacity 11 l
- Tank size L x W x H: 370 x 245 x 170 mm
- Complete including tank, flexible tube, hose
- With switch-plug combination
- Magnetic attachment of the coolant hose
- For self-assembly

Universal coolant equipment 230 V/1 Ph

3352002

Universal coolant equipment 400 V/3 Ph

3352001



Coolant lubricant sprayer with magnetic stand MMC1

3356663

- Foot size L x W x H: 62 x 50 x 55.5 mm
- Magnetic stand holding force 75 kg
- Flexible hose
- Length of the coolant hose 500 mm



Coolant hoses with magnetic stand KMS 2

3356660

- Two variable coolant hoses made of individual plastic elements
- Not electro conductive
- Magnetic stand holding force up to 50 kg
- Length of the coolant hoses 295 mm
- Flexible and stable
- Resistant against most solvents and chemicals



Edge finder

3351171

- With rotating spindle
- Scanning Ø 10 mm



NEW

Preamble

Drilling

Turning

Accessories

Sawing

Grinding

Polishing

Lamps

Measuring

CNC

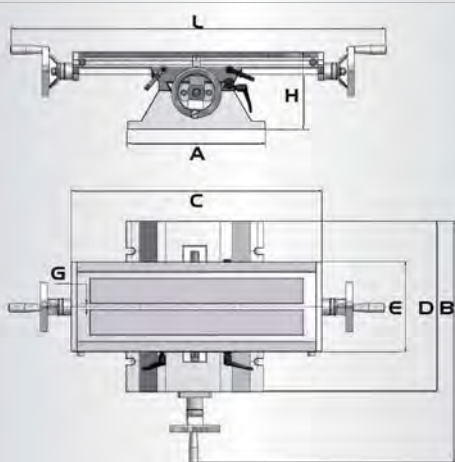
Index

Accessories for milling machines

Cross table KT

- Coolant channel
- Adjustable dovetail guide
- Adjustable handwheel scaling with a division of 0.05 mm

KT 120	3356595
KT 179	3356596
KT 180	3356591
KT 210	3356600



Technical data	KT 120	KT 179	KT 180	KT 210
A (Pedestal width)	222 mm	274 mm	274 mm	280 mm
Pedestal length	280 mm	340 mm	340 mm	362 mm
C (table length)	400 mm	500 mm	700 mm	730 mm
E (table width)	120 mm	180 mm	180 mm	210 mm
G (t-slot size)	10 mm	12 mm	12 mm	14 mm
L x B x H (mm)	506 x 400 x 140	748 x 483 x 155	948 x 483 x 155	1060 x 538 x 185
Net weight	22 kg	32 kg	49 kg	84 kg
Travels				
X axis	220 mm	287 mm	480 mm	480 mm
Y axis	165 mm	167 mm	170 mm	210 mm
Load max.	40 kg	55 kg	55 kg	80 kg

Holding down clamp, kit of 2 pcs

- Adjustable clamping height
- Brass plate under the clamping arm protects the material against damages

Table groove 14 mm/M 12	3352031
• L x W x H: 115 x 42 x 39 mm; . Height adjustment: 0 - 89 mm	
Table groove 18 mm/M 16	3352032
• L x W x H: 133 x 50 x 49 mm . Height adjustment: 0 - 101 mm	



Universal base BF 16/BF 20

3353000

- Dimensions L x W x H: 340 x 420 x 800 mm

Chip tray BF 16/BF 20

3352999

- Dimensions L x W x H: 720 x 470 x 30 mm



NEW

Steel base MB 4

3353006

- Chip tray
- Solidity and weightiness provide for stability
- Dimensions L x W x H: 625 x 415 x 750 mm
- Weight 54 kg



Steel base BF 30Vario / F 40E

3353004

- Chip plates
- Solidity and weightiness provide for stability
- Dimensions L x W x H: 550 (max. 940) x 650 x 750 mm
- Weight 85 kg



Steel base BF 46Vario

3353005

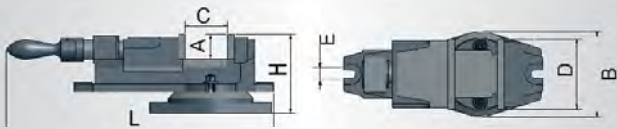
- Chip plates
- Solidity and weightiness provide for stability
- Dimensions L x W x H: 750 (max. 1235) x 750 x 750 mm
- Weight 142 kg



OPTIMUM Precision machine vices FMS

- Solid structure for milling, drilling and grinding
- Vice body made of high quality casting
- Hardened and ground guide surfaces
- Hardened and ground clamping jaws, replaceable
- With turntable, 360° turnable

FMS 100	3354100
Prism jaw for FMS 100	3354102
FMS 125	3354125
Prism jaw for FMS 125	3354127
FMS 150	3354150
Prism jaw for FMS 150	3354152
FMS 200	3354200
Prism jaw for FMS 200	3354202



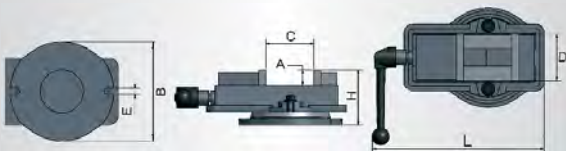
Techn. data	A	C	D	E	L	B	H	kg
FMS 100 mm	30	62	100	13	295	124	100	11
FMS 125 mm	37	85	125	13	370	148	128	17
FMS 150 mm	40	114	150	13	462	180	145	28
FMS 200 mm	58	150	200	16.5	620	237	202	58



OPTIMUM Precision machine vices FMSN

- Pull-down mechanism for safe clamping of the workpiece
- Vice body made of high quality casting
- Hardened and ground guide surfaces
- Hardened and ground clamping jaws, replaceable
- Protected spindle
- By transferring the clamping jaws they can also be used for external clamping
- With turntable, 360° turnable

FMSN 100	3354110
Prism jaw for FMSN 100	3354112
FMSN 125	3354120
Prism jaw for FMSN 125	3354122
FMSN 150	3354130
Prism jaw for FMSN 150	3354132



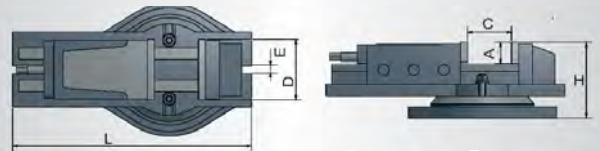
Techn. data	A	C	D	E	L	B	H	kg
FMSN 100 mm	36	101	100	14.5	319	∅ 240	319	19
FMSN 125 mm	36	108	135	16.5	369	∅ 278	369	29
FMSN 150 mm	46	146	155	18.5	425	∅ 332	425	36



OPTIMUM Hydraulic machine vices HMS

- Solid structure for milling, drilling and grinding
- Vice body made of high quality casting
- Hardened and ground guide surfaces
- Hardened and ground clamping jaws, replaceable
- Booster system, little effort, high pressing power when clamping
- Protected spindle
- Large clamping range due to locking bolts with different hole spacings
- With turntable, 360° turnable
- Protected spindle

HMS 100	3355100
Prism jaw for HMS 100	3355102
HMS 125	3355127
Prism jaw for HMS 125	3355129
HMS 150	3355150
Prism jaw for HMS 150	3355152
HMS 200	3355200
Prism jaw for HMS 200	3355202



	A	D	E	L	B	H	kg
HMS 100 mm	36	100	15	525	∅ 270	122	27
HMS 125 mm	46	127	16	670	∅ 290	151	46
HMS 150 mm	51	150	17	800	∅ 328	169	64
HMS 200 mm	65	200	19	710	∅ 358	158	100

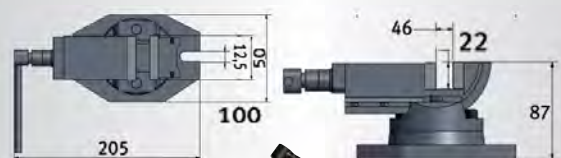
C	Span width	Clamping pressure
HMS 100	0-60 mm / 57-115 mm / 110-170 mm	2'500 kg / 24.5 kN
HMS 125	0-76 mm / 72-150 mm / 146-224 mm	4'000 kg / 39.25 kN
HMS 150	0-100 mm / 98-200 mm / 195-300 mm	4'500 kg / 44.1 kN
HMS 200	0-100 mm / 98-200 mm / 195-300 mm	7'500 kg / 73.6 kN



Two-axis vice ZAS

- Inclined up to -90°
- Hardened and ground clamping jaws, replaceable
- Well readable scales for all two axes
- With turntable, 360° turnable
- Net weight 3.4 kg

ZAS 50	3354170
---------------	---------



Preamble
Drilling
Turning
Accessories
Sawing
Grinding
Polishing
Lamps
Measuring
CNC
Index

Accessories for milling machines

OPTIMUM Three-axis vice DAS 100

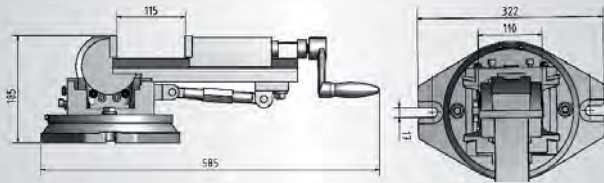
- High quality casting
- Hardened and ground guide surfaces
- Hardened and ground clamping jaws, replaceable
- With turntable, 360° turnable
- Horizontal swing movement up to 90°
- Vertical swing movement up to $\pm 45^\circ$ via threaded spindle
- Well readable scales for all three axes
- Weight 32 kg

DAS 100

3355500

Prism jaws

3355502



Prism jaws

OPTIMUM Three-axis vices MV3

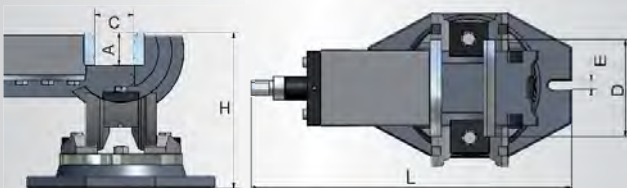
- Horizontal swing movement up to 90°
- Vertical swing movement up to $\pm 45^\circ$
- Well readable scales for all three axes
- Hardened and ground clamping jaws, replaceable
- With turntable, 360° turnable

MV3-75

3354175

MV3-125

3354178



MV3-75

Technical data		A	C	D	E	L	B	H	kg
MV3-75	mm	34	82	75.5	12	380	139	150	11
MV3-125	mm	45	97	125	12	290	185	206	26



Hydraulic machine vice HCV 105

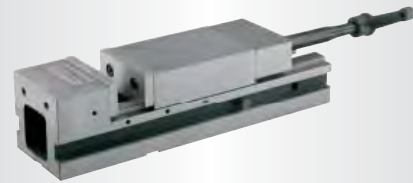
- Modular - machine vice of high accuracy and repeatability for standard and individual manufacturing on CNC milling machines and machining centres
- Solid structure for milling
- Hardened and ground guide surfaces
- Booster system, little effort, high pressing power when clamping
- Large clamping range due to locking bolts with different hole spacings
- Manufactured of high-quality stainless steel
- Long service life due to high quality type
- High clamping force

HCV 105

3536210



C	Span width	Clamping pressure	Weight
0 - 85 mm	85 - 170 mm	2'500 kg	24.5 kN



Hydraulic machine vice HCV 125

- Modular - machine vice of high accuracy and repeatability for standard and individual manufacturing on CNC milling machines and machining centres
- Solid structure for milling
- Hardened and ground guide surfaces
- Booster system, little effort, high pressing power when clamping
- Large clamping range due to locking bolts with different hole spacings
- Manufactured of high-quality stainless steel
- Long service life due to high quality type
- High clamping force

HCV 125

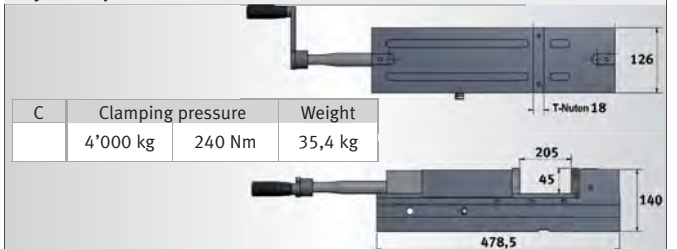
3536214

Non-rigid jaws 2 pcs.

3536221

L-jaws 2 pcs

3536222



C	Clamping pressure	Weight
4'000 kg	240 Nm	35,4 kg

