

OPTIMUM precision machine vices FMS

- Robust design for milling, drilling and grinding
- Vice body is made of high-grade cast iron
- Hardened and ground guide surfaces
- Hardened, ground and removable clamping jaws
- Swivel base

Technical data	FMS 100	FMS 125	FMS 150	FMS 200
Jaw width	100 mm	125 mm	150 mm	200 mm
Jaw height	30 mm	37 mm	40 mm	58 mm
Jaw opening	62 mm	85 mm	114 mm	150 mm
Total length	295 mm	370 mm	462 mm	620 mm
Total height	100 mm	128 mm	145 mm	202 mm
Net weight	11 kg	17 kg	28 kg	58 kg
Item No.	335 4100	335 4125	335 4150	335 4200
€ (VAT excl.)	129.00	149.00	199.00	329.00
Prismatic jaw	335 4102	335 4127	335 4152	335 4202
€ (VAT excl.)	29.00	39.00	39.00	59.00



OPTIMUM precision machine vices FMSN

- Low-pull-type mechanism for safe clamping of the workpiece
- Made from high-grade cast iron
- Hardened and ground guide surfaces
- Hardened, ground and removable clamping jaws
- Protected spindle
- By relocating the clamping jaws, used for expansion clamping
- Swivel base

Technical data	FMSN 100	FMSN 125	FMSN 150
Jaw width	100 mm	125 mm	150 mm
Jaw height	31 mm	33 mm	46 mm
Jaw opening	101 mm	108 mm	146 mm
Total length	219 mm	369 mm	425 mm
Total height	119 mm	128 mm	149 mm
Net weight	16 kg	25 kg	36 kg
Item No.	335 4110	335 4120	335 4130
€ (VAT excl.)	219.00	249.00	279.00
Prismatic jaw	335 4112	335 4122	335 4132
€ (VAT excl.)	39.00	45.00	49.00



OPTIMUM hydraulic machine vices HMS

- Robust design for milling, drilling and grinding
- Vice body is made of high-grade cast iron
- Hardened and ground guide surfaces
- Hardened, ground and removable clamping jaws
- Protected spindle
- Booster system, little expenditure of force, high pressure output when clamping
- Wide clamping range due to retention pin with various pitches
- Swivel base

Technical data	HMS 100	HMS 125	HMS 150	HMS 200
Jaw width	mm 100	127	150	200
Jaw height	mm 36	46	51	65
Jaw opening	mm 0 - 60	0 - 80	0 - 100	0 - 100
Jaw opening	mm 57 - 115	78 - 115	98 - 200	98 - 200
Jaw opening	mm 110 - 170	140 - 208	195 - 300	195 - 300
Clamp.pressure	kg 2,500	4,000	4,500	7,500
Total length	mm 525	670	800	800
Overall height	mm 122	151	169	199
Net weight	kg 26	52	74	125
Item No.	335 5100	335 5127	335 5150	335 5200
€ (VAT excl.)	549.00	599.00	649.00	999.00
Prismatic jaw	335 5102	335 5129	335 5152	
€ (VAT excl.)	39.00	45.00	49.00	



OPTIMUM Triaxial vice

- Horizontal swivelling movement up to 90°
- Swivelling movement up to +/- 45° via threaded spindle
- Vice body is made of high-grade cast iron
- Hardened and ground guide surfaces
- Swivel base 360°
- Easy visible scales for all three axis
- Hardened and ground clamping jaws, removable

Technical data	DAS 100
Jaw width	100 mm
Jaw height	38 mm
Jaw opening	105 mm
Total length	460 mm
Overall height with base	172 mm
Net weight	32 kg
Item No.	335 5500
€ (VAT excl.)	429.00
Prismatic jaw	335 5502
€ (VAT excl.)	45.00



Accessories Milling

OPTIMUM Biaxial vice ZAS 50

- Inclinable 0 - 90°
- Swivel base rotatable 360°
- Hardened and ground clamping jaws, removable

Technical data ZAS 50

Jaw width/-height	50/22 mm
Jaw opening	46 mm
Total length	205 mm
Overall height swivel base	87 mm
Net weight	3.4 kg
Item No.	335 4170
€ (VAT excl.)	89.00



OPTIMUM Triaxial vice

- Horizontal swivelling movement up to 90°
- Vertical swivelling movement up to +/- 45°
- Swivel base 360° rotatable
- Easy lisible scales for all three axis
- Hardened and ground clamping jaws, removable

Technical data MV3 -75 MV3-125

Jaw width/height	75/33 mm	125/45 mm
Jaw opening	82 mm	97 mm
Total length	290 mm	195 mm
Overall height with base	150 mm	206 mm
Net weight	11 kg	26 kg
Item No.	335 4175	335 4178
€ (VAT excl.)	149.00	199.00



Ill.:MV3-75

Semi-universal dividing head TA 125 335 6125 399.00

- Extent of supply
- Tailstock
 - 2 indirect dividing plates, each division 2 to 50 and many divisions up to 380
 - centre
 - Pivotal from -10° to +90°
 - Hardened and ground worm
 - Precision taper roller bearings
 - Transmission ratio 40 : 1
 - Hardened and ground main dividing plate (24-unit division), in order to divide exactly to 150

Technical data semi-universal dividing head TA 125

Overall height	173 mm	Centre height	100 mm
Width	91 mm	Slot width	13 mm
Length	189 mm	Capacity	18 mm
Net weight	12 kg		



Safety device for milling machines 333 0999 79.90

- Height adjustable and large eye-protection screen for best possible protection of the user
- Dimensions of the screen L x W: 240 x 130 mm



Coolant hose KMS 2 335 6660 35.00

- Two variable coolant hoses made of individual plastic elements
- Not electroconductive ■ Flexible and sturdy
- Magnetic stand, adhesive force up to 50 kg
- Insensitive to most solvents and chemical agents
- Universally suitable for all machine tools



Quality circular dividing tables made of high-grade Meehanite cast iron

- Reliable and precise
- Precision taper roller bearing
- Stability even under heavy duty
- Large spindle hole, to clamp longer workpieces
- Fast dividing using notch plates for higher output of mass-produced parts

Horizontal-vertical circular dividing table RT 100 / RT 150 / RT 200

- Hardened and ground worm
- Transmission ratio 90 : 1
- Work table scaled to 360°
- 1 turn of the handwheel is equivalent to a 4° rotation
- Scale division on the handwheel 2"
- Possibility of producing divisions via scaled handwheel with vernier

RT 100	335 6110	199.00
RT 150	335 6150	199.00
RT 200	335 6200	349.00

Technical data	RT 100	RT 150	RT 200
Table diameter	110 mm	150 mm	200 mm
Overall height	70 mm	80 mm	105 mm
Width	114 mm	160 mm	200 mm
Length	137 mm	200 mm	265 mm
Centre height	80 mm	100 mm	135 mm
Slot width	8 mm	11 mm	14 mm
Indirect dividing attachment	no	yes	yes
Net weight	9 kg	12 kg	30 kg



Ill.: RT 150

Accessories circular dividing table RT 150 / RT 200

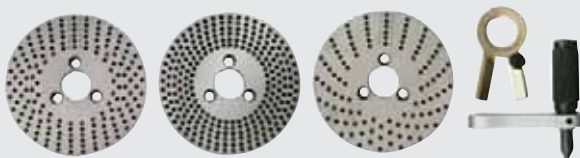
Lathe chuck flange for RT 150	335 6154	69.00
Lathe chuck flange for RT 200	335 6254	79.00
3-jaw chuck 125 mm for RT 150	335 6100	219.00
3-jaw chuck 150 mm for RT 200	335 6225	239.00

Indirect dividing attachment IT 150 335 6152 79.00

- 3 pcs. index plates
- Sector arm
- Angle adjustment with spring steel sheet
- Suitable for RT 150

Indirect dividing attachment IT 200 335 6205 99.00

- 2 pcs. index plates
- Sector arm
- Angle adjustment with spring steel sheet
- Suitable for RT 200, RTU 165



Ill.: IT 150

Horizontal-vertical circular dividing table with 3-jaw chuck RTE 165

- Grade division over 360° scale
- Direct dividing with the help of the notch plate
- 25 positions (15° division)
- 3-jaw chuck
- 7 notch plates for divisions of 2/3/4/6/8/12/24
- Fixing plate with 4 slots included

RTE 165	335 6365	599.00
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Horizontal-vertical circular dividing table with 3-jaw chuck RTU 165

- Grade division over 360° scale with crank and vernier
- Direct dividing with the help of the notch plate
- 25 positions (15° division)
- 3-jaw chuck
- 7 notch plates for divisions of 2/3/4/6/8/12/24
- Fixing plate with 4 slots included

RTU 165	335 4165	759.00
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Technical data	RTE 165	RTU 165
Chuck	165 mm	165 mm
Overall height	200 mm	221 mm
Width	260 mm	250 mm
Length	218 mm	235 mm
Centre height	130 mm	130 mm
Fixing plate-Ø	203 mm	203 mm
Capacity	36 mm	36 mm
Indirect dividing attachment	yes	yes
Weight	32.5 kg	48 kg

Accessories milling

Height-adjustable tailstock

■ Rst 1 (Centre height 75 - 110 mm) suitable for RT 100, RT 150	335 6155	89.00
■ Rst 2 (Centre height 120 - 155 mm) suitable for RT 200, RTE 165, RTU 165	335 6157	99.00



OPTIMUM compound table

■ Coolant gutter		
■ Dove tail slideway		
■ Adjustable handwheel scale with 0.05 mm division		
Cross table KT 180	335 6591	549.00
Cross table KT 210	335 6600	669.00

Technical data	KT 180	KT 210
Length	955 mm	1,050 mm
Width	485 mm	535 mm
Height	140 mm	180 mm
T-slot size	12 mm	14 mm
Table length	180 mm	210 mm
Table width	700 mm	730 mm
X-axis travel	480 mm	500 mm
Y-axis travel	175 mm	210 mm
Net weight	49 kg	84 kg



Ill.: cross table KT 180

Holding-down clamps (2-piece kit)

Table slot 15.6 mm	335 2031	49.00
Table slot 18.75 mm	335 2032	59.00



Universal table feed mechanisms OPTI V 250 335 2024 559.00

- Milling table feed mechanism, universally suitable for milling machines
- Vertical assembly
- Continuous speed variation and fast motion
- Right-left-hand rotation
- Transformer, overload protection and limit stop switch
- For self-assembly



Universal table feed mechanisms OPTI V99 335 2020 519.00

- Milling table feed, suitable for milling machines from F 25, F 30, F 40, F45 x-axis onwards
- Horizontal assembly
- Continuous speed variation and fast motion
- Right-left-hand rotation
- Transformer, overload protection and limit stop switch
- For self-assembly



Universal-coolant system

- Lift max. 2.5 m
- Flow rate 3.5 ltrs/min.
- Complete with tank, flexible tube, hose
- With German switch/plug combination
- Tank capacity 11 ltrs.
- Magnetic foot attachment of the coolant hose
- For self-assembly

Universal-coolant system 230 V	335 2002	179.00
Universal-coolant system 400 V	335 2001	189.00



OPTIMUM Parallel spacer kit 335 4000 **169.00**

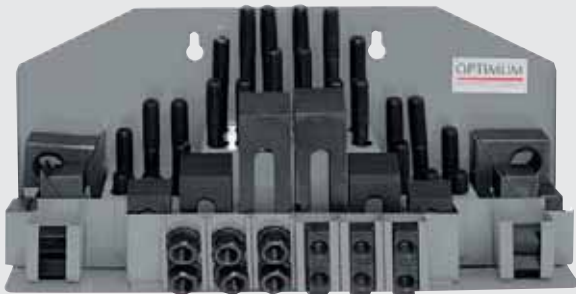
- Hardness HRC 50 - 55
- Superfinished with a precision of 0.01 mm
- 18 pcs. of 5 x 16 x 100 to 22 x 62 x 150
- Handy case



OPTIMUM Clamping tool kit SPW 52 pcs.

- Handy wall unit
- Metric threads
- 24 piece draw-in bolts
- 6 piece T-nuts
- 6 piece nuts
- 4 piece coupling nuts
- 6 piece step blocks
- 6 piece step clamps

SPW 8	335 2015	69.00
T-nuts (10 mm size) draw bar thread M 8		
SPW 10	335 2016	75.00
T-nuts (12 mm size) draw bar thread M 10		
SPW 12	335 2017	79.00
T-nuts (14 mm size) draw bar thread M 12		
SPW 14	335 2018	89.00
T-nuts (16 mm size) draw bar thread M 14		



OPTIMUM Collet chucks for OPTI F 25, F 30, F 40, F 45

■ Direct clamping MT 3 with M 12 draw-in female thread		
Ø 4 mm	335 2004	15.00
Ø 6 mm	335 2006	15.00
Ø 8 mm	335 2008	15.00
Ø 10 mm	335 2010	15.00
Ø 12 mm	335 2012	15.00
Ø 16 mm	335 2013	15.00

OPTIMUM Collet chucks kit 6 pcs. 335 2014 **89.00**

- Direct clamping MT 3 with M 12 draw-in female thread
- Ø 4 - 16 mm (4 - 6 - 8 - 10 - 12 - 16) ■ In wooden box



OPTIMUM End mill cutter kit

- **TiN-coated**
- Vapourised titanium applied in reactive gas, Provides increased hardness and stability and a tool life 2 - 5 times higher
- Double cutting capacity
- Better workpiece surface
- Model with 2 cutting edges.
Centre-cutting radial teeth, milling of key grooves (fit P 9) as well as countersinks from the workpiece centre. Centre-cutting radial teeth, cutting of centre. Perpendicular or lateral milling operations are possible, with cyl. shank and lateral pulling faces
- Model with 4 cutting edges.
30° right-handed helix to ensure proper chip removal. Centre-cutting radial teeth. For normal to hard materials, with cylindrical shank and lateral pulling faces ■ In wooden box

End mill cutter kit HSS 20-pcs. 338 6200 **95.00**

- **10 milling cutters DIN 327 D, short model**
Model with 2 cutting edges.
DIN 1835 B, 3/4/5/6/8/10/12/14/18/20 mm und

- **10 milling cutters DIN 844 B, short model**
Model with 4 cutting edges.
DIN 1835 B, 3/4/5/6/8/10/12/14/18/20 mm

End mill cutter kit HSS 12-pcs. 335 2113 **55.00**

- **6 milling cutters, short model**
Model with 2 cutting edges.
DIN 1835 B, Ø12 x 73, Ø10 x 63, Ø8 x 61, Ø6 x 52, Ø5 x 52, Ø4 x 51 mm
- **6 milling cutters, short model**
Model 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



OPTIMUM Draw-in collet chuck 335 2044 **99.00**

MT 2 / M 10 / ER 25

OPTIMUM Draw-in collet chuck kit

Includes:

- Draw-in collet chuck ■ 7 Collet chucks 6/8/10/12/16/20/25
 - Pin wrench ■ Plastic case
- | | | |
|--------------------------------|----------|---------------|
| MT 3 / M 12 / 444 E (DIN 6388) | 335 2050 | 189.00 |
| MT 4 / M 16 / 444 E (DIN 6388) | 335 2051 | 199.00 |

