

OPTIMUM[®]

MASCHINEN - GERMANY

Metal working machinery

The OPTIMUM in terms of quality,
price-performance and service



Main catalogue 2016



More than 345,000 machines and accessories are available for delivery from stock at our Logistics Centre. This allows for fast shipment of almost all of our products to Germany and throughout Europe. Qualified staff ensure the orderly delivery of the goods. Every year, more than 120,000 consignments leave the company's premises – with our own delivery vehicles, by carrier, or by parcel service.

Dear Customers,

To support any conceivable metalworking application, we have composed an assortment in our OPTIMUM domain catalogue that covers all areas with suitable machines. One thing you can be assured of is that each one of our products impresses with its quality, precision and value stability. For most activities OPTIMUM offers the right machine - from bench tools through to CNC lathes.

Your requirements are our target

For more than 25 years, we have focused on the design, development and production of OPTIMUM machines. We work unceasingly on continually optimising our machines. One important point here is also production, which is of great importance to us. This is why we made a careful choice of manufacturers to supplement our own production facilities. We set great store by the fact that these manufacturers meet our internal quality requirements: in addition to our own production facilities, we manufacture exclusively with manufacturers who meet our requirements. This means that we can offer you metalworking machines that impress on many scores.

OPTIMUM has built up a good reputation in the course of the years on what is a continually changing and developing tool and machine market. We are proud to say that we combine expertise, experience and a balanced price-performance ratio. Our utmost priority is you as a satisfied customer. With our motivated and skilled employees, we're working to complete the OPTIMUM know-how and carry it outside – to you, our customers.



Our products

Are you looking for a functional machine that offers a comprehensive feature set at an attractive price? Then you are making the right decision in purchasing an OPTIMUM metalworking machine. Our machines impress with excellent quality, precise manufacturing, and they offer an "OPTIMUM" price-performance ratio. We cater to a comprehensive tool machine and sheet metal working programme and are guaranteed to have the right machine variant for your needs in our assortment. You can rely on OPTIMUM, because we can realise every single one of your requirements in the metalworking environment. This main catalogue will give you an impression of our capabilities and our wide product portfolio.

Quality

OPTIMUM products are produced under high quality requirements. A price comparison with equivalent and comparable products will give you the assurance that our OPTIMUM machines are always products that stand up to any comparison in terms of operating convenience, equipment level, quality, technology and value for money and are thus always a good buy. Check out the robust design and durability for yourself; this is what our machines stand for in a metalworking world.

You can purchase the OPTIMUM brand with confidence, and assure the best possible quality for your operations. There are many products that look identical, or similar, on the market, but which by no means achieve our OPTIMUM quality standards.

Dealers and service

Thanks to our comprehensive network of specialist dealers, you always have a local partner with OPTIMUM who guarantees the best possible advice, intensive support, and trouble-free after-sales service. And, of course, our expert staff is there to help you at any time. Please don't hesitate to contact our qualified team if you have any questions. We are happy to help.



Kilian Stürmer
Chief executive

The OPTIMUM quality guarantee:
All OPTIMUM products are produced under
high quality requirements.



OPTIMUM plant – Yangzhou – China

Production

Since 2003, OPTIMUM has produced a large share of its metalworking machines in its own factory in Yangzhou China under a German Production Manager and QA Officer. The quality here is monitored by German quality management officers and production supervisors. A further, major share of our OPTIMUM metalworking machines is produced exclusively at selected manufacturers or companies, or to custom designs, for OPTIMUM.

After-Sales Service

In the service area, you can call our experienced service personnel and your local specialist retailer. The comprehensive spare parts warehouse at our headquarters ensures a supply of spare parts at short notice when needed. Our service protects your investment in machinery for years.

Sales

You can purchase OPTIMUM machines from your expert local specialist retailer. You can benefit from a nationwide network of specialist retailers and sales partners, supported by OPTIMUM personnel, who are happy to provide advice and support.

You can call our head office on +49 951/96 555-0 to be put through to a member of staff who will be happy to answer your questions.



Drilling machine assembly



Production lathes

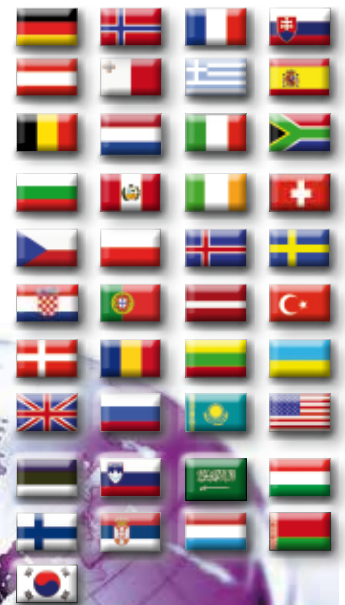


On-site for you: in Europe and worldwide

For many years, OPTIMUM Maschinen Germany has been synonymous with the development, design and production of metalworking machines and CNC machines characterised by high quality standards. In the course of the years, we have continually expanded our sales and service network.

Today, OPTIMUM Maschinen Germany GmbH, German company, collaborates globally with professional partners from its headquarters in Hallstadt near Bamberg:

You will find OPTIMUM subsidiaries with strong dealers. Our international sales network extends well beyond Germany's borders to many countries all over the world. This helps us to ensure that our customers can rely on the fast, uncomplicated and service-oriented expertise and quality standards of OPTIMUM thanks to our extensive sales organisation. We have established a responsible market position that you can trust in the course of the years!



Production on our own CNC machines

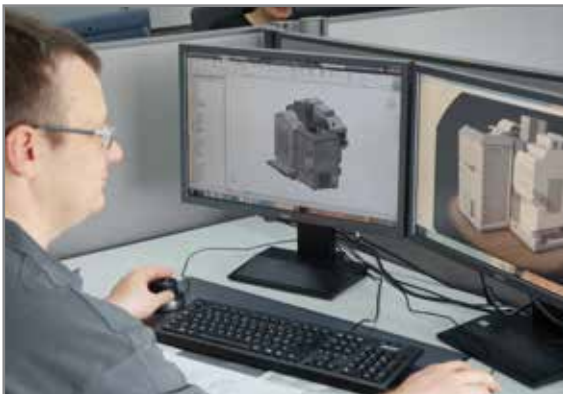
Final acceptance CNC milling machines



■ Planning

As early as the planning phase our engineering department manages the development of new products, which are manufactured both our facility and facilities operated by our partners. Major benefits: this ensures that market factors and customer requirements are immediately adopted into our workflow, setting the stage for a successful product design.

Our Engineering department has a well-coordinated team of specialists with excellent engineering qualifications. Their established expertise allows flexible and creative implementation of all requirements posed for our products and services.



■ Development

Development relies exclusively on state-of-the-art 3D CAD software, which we use to create a virtual model of the machine. Besides ensuring optimum functionality of the machines, our development process also targets re-usability of the data generated during the development phase. These data are not only used for devising production documents and manuals, but are also used for computations, for computer-aided manufacturing, and for visualisation and animations.



■ Practical testing

Our engineers combine theory and practice. To avoid leaving anything to chance in terms of product satisfaction, all of our machines and tools go through application engineering tests, and we also consistently involve selected customers in this process. This means that each new product is expected to prove itself in the daily grind before it comes a fixed part of our product range. Engineering analysis helps us to discover and eliminate any remaining weak points.



■ Technical customer support

Our customers rightly expect our specialists to use their knowledge and experience to their utmost satisfaction. Our product consultants support users with technical information. To allow this to happen, our customers can use our free telephone hotline and our info email address to request qualified information and solutions at short notice.



■ Safeguarding copyrights

To secure the rewards of our technical development work for both ourselves and our customers, patent and utility model protection is essential for our in-house developments. This helps us permanently keep the technical lead that OPTIMUM products have.



■ Technical documentation and risk analyses

Our technical authors again achieve a high standardised level that meets or even exceeds all requirements. These huge efforts exclusively serve the purpose of facilitating the process of familiarisation with the machine for our customers, and ensuring permanent and safe operations.

Risk mitigation measures are developed to compensate for any safety risks identified in the scope of analysis. Following this, the residual risk is evaluated after implementing the measures.



■ Supply of spare parts

We know that rapid availability of spare parts is one of the major preconditions for a working, customer-oriented service solution.

The planning, coordination and provisioning of spare parts is tuned at OPTIMUM Maschinen Germany GmbH so that our customers have the greatest possible benefits in terms of economic efficiency and speed.



■ Siemens cooperation partner for CNC training

Siemens has for many years been the system supplier of the control and drive technology for CNC-controlled lathes and milling machines by OPTIMUM Maschinen Germany GmbH. Due to our long-standing and successful collaboration, a cooperation partnership for CNC training in Bavaria was agreed in June 2012. Target-group specific courses familiarise the participants of the training program with the various Sinumerik controls.



■ Supplier management

Regular work meetings between our engineers and suppliers help to transfer our new developments and enhancements into series production at the manufacturing location in a targeted way. This direct support at our production facilities has been indispensable in manufacturing the quality products that our customers have trusted for more than 25 years.

The clearly engineering oriented approach of our staff – in addition to the premium quality of our products, and our expert service – contributes towards constantly high levels of customer satisfaction. And our focus on technically affine employees ensures our market success – today and looking forward!



■ Sales support

The requirements for OPTIMUM machines are equally as diverse as the production requirements of our end customers and the workpieces to be machined. To ensure this, our representatives and retailers have access to the entire application-specific know-how of our engineers in case of queries.

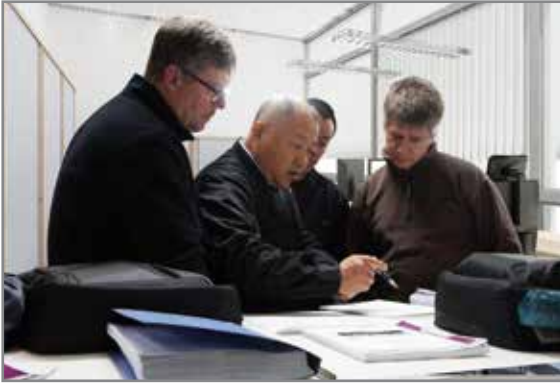
In a qualified and explanatory sales talk, our customers are given the support they need to tune their choice of products to match their needs.



■ Training for technology, service and sales as well as for our dealer

Successful use of our products depends and is driven to a decisive extent by the fact that we pass on our technology know-how to our dealers, their sales and service staff and our customers through training sessions. The major benefits: this qualification offers the ability to ensure professionally founded consultancy and problem solving in all dealings with the customer.

At our training centre, we offer practically-oriented product training that aim to disseminate professional knowledge in a highly intuitive way.



■ Production support

A team of employees directly influences the production process on site through regular training and checks. It is only through this intensive support at the production site that we are in a position to achieve the proverbial OPTIMUM.



■ Quality management, production and incoming goods inspection

In addition to adherence to delivery deadlines and service, the quality of our products is extremely important to us. Continuous on-site checks by our quality manager ensure our quality. Our comprehensive incoming goods inspection is performed in line with generally accepted technical guidelines.



■ Quality management incoming goods inspection

Our quality managers from Germany are our first contacts for quality compliance on site. The quality managers are responsible for dimensional precision of the components, for validating this precision, and the quality of the production process. The quality manager collaborates closely with our Engineering department at head office in Germany, thus ensuring an optimal symbiosis.



■ Service support

...after all, good service is important to us!

In service cases, our OPTIMUM technicians are available at any time with their experience to support your workshop operations and ensure fast and targeted repairs.

In close cooperation with the service centre and its internal and external staff, weaknesses are analysed and customer needs registered. These weaknesses and needs are then evaluated from an engineering point of view and set out as tangible requirements or action catalogues.




■ DIN EN ISO 9001 - excellent quality

Our factory is DIN EN ISO 9001 certified. This means that all company departments and services are subject to strict quality requirements. And this means consistently high quality for you. The objective of high quality is thrilled customers. And it is this attitude that finally helps to achieve this demanding certification. The key to the long-term success of our enterprise is also a relationship of trust with customers and suppliers. This explains why it is just as important to us as the sustainable quality of our products.

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DRILLING MACHINES

Inexpensive bench/column drilling machines with V-belt drive

Facts that impress in terms of quality, performance and price

- Precisely worked drilling table, pivots through $\pm 45^\circ$ and rotates through 360°
- Solid, generously dimensioned baseplate with grooves, rear with pronounced ribbing
- Quality proven in millions of applications

As of OPTIdrill B 14

- T-slot nut for fastening vice

As of OPTIdrill B 20 / 400 V

- Clockwise/anti-clockwise rotation cams



Fig.: B 13



Fig.: B 14



Fig.: B 16



Fig.: B 20

Model	B 13	B 14	B 16	B 20	
Article no.	3008131	3008141	3008161	3008201	3008203
Machine data					
Electrical connection	230 V / 1 Ph ~50 Hz	230 V / 1 Ph ~50 Hz	230 V / 1 Ph ~50 Hz	230 V / 1 Ph	400 V / 3 Ph
Motor output	300 W	350 W	450 W	0.55 kW	
Drilling performance (S235JR)					
Drilling performance steel	Ø 13 mm	Ø 14 mm	Ø 16 mm	Ø 20 mm	
Continuous drilling performance steel	Ø 12 mm	Ø 12 mm	Ø 15 mm	Ø 18 mm	
Spindle holder					
Reach	104 mm	104 mm	125 mm	170 mm	
Spindle holder	fixed/B16	fixed/B16	MT 2	MT 2	
Spindle sleeve stroke	50 mm	50 mm	65 mm	80 mm	
Speeds					
Spindle speeds	520 - 2,620 rpm	520 - 2,620 rpm	660 - 2,500 rpm	210 - 2,220 rpm	
Number of stages	5 gears	5 gears	5 gears	12 gears	
Drilling table					
Drilling table length x width	160 x 160 mm	160 x 160 mm	200 x 200 mm	275 x 275 mm	
T-slot width	14 mm	14 mm	14 mm	14 mm	
Drilling table pivots/rotates	± 45° / 360°	± 45° / 360°	± 45° / 360°	± 45° / 360°	
Clearance spindle - drilling table	max. 240 mm	max. 330 mm	max. 390 mm	max. 465 mm	
Machine base					
Machine base work area L x W	135 x 175 mm	140 x 180 mm	160 x 170 mm	205 x 200 mm	
Distance spindle - machine base	max. 325 mm	max. 440 mm	max. 525 mm	max. 645 mm	
Dimensions					
Column diameter	46 mm	46 mm	60 mm	70 mm	
Length x width x height	420 x 220 x 580 mm	420 x 230 x 700 mm	510 x 270 x 820 mm	600 x 350 x 990 mm	
Net weight	19 kg	21 kg	36 kg	53 kg	



Fig.: B 25



Fig.: B 32



- Ground multi-tooth carrier
- Best possible force transmission thanks to aluminium pulleys in combination with GATES quality toothed belts
- V-belt cover with safety switch



- Guaranteed concentricity better than 0.03 mm measured in the drilling spindle sleeve
- Drilling spindle with precision ball bearings
- OPTIMUM quick clamping drill chuck included in standard scope of delivery (B13 with key type drill chuck)



- User-friendly switch with IP 54 degree of protection and undervoltage trip
- Separate emergency stop button

Model	B 25	B 32
Article no.	3008253	3008323
Machine data		
Electrical connection	400 V / 3 Ph ~50 Hz	400 V / 3 Ph ~50 Hz
Motor output	0.55 kW	1.1 kW
Drilling performance (S235JR)		
Drilling performance steel	Ø 20 mm	Ø 32 mm
Continuous drilling performance steel	Ø 18 mm	Ø 28 mm
Spindle holder		
Reach	170 mm	225 mm
Spindle holder	MT 3	MT 4
Spindle sleeve stroke	80 mm	125 mm
Speeds		
Spindle speeds	210 - 2,220 rpm	140 - 2,020 rpm
Number of stages	12 gears	9 gears
Drilling table		
Drilling table length x width	275 x 275 mm	360 x 360 mm
T-groove size	14 mm	14 mm
Drilling table pivots/rotates	± 45°/360°	± 45°/360°
Clearance spindle - drilling table	max. 760 mm	max. 600 mm
Machine base		
Work area machine base LxW	235 x 220 mm	260 x 270 mm
Distance spindle - machine base	max. 1,210 mm	max. 1,170 mm
Dimensions		
Column diameter	Ø 70 mm	Ø 92 mm
Length x width x height	690 x 390 x 1,570 mm	790 x 400 x 1,730 mm
Net weight	60 kg	135 kg

Scope of delivery

- Key type drill chuck 1,5 - 13 mm (B 13)
- Quick clamping drill chuck 1 - 13 mm (B 14)
- Quick clamping drill chuck 1 - 16 mm (as of B 16)
- Morse taper MT 2 (B 16 / B 20)
- Morse taper MT 3 (B 25)
- Morse taper MT 4 (B 32)
- T-slot nut (as of B 14)

> „Accessories for drills“ from page 37

Lightweight radial drilling machine with long outreach for wood, plastics, aluminium

Facts that impress in terms of quality, performance and price

- ▶ Best possible force transmission thanks to aluminium pulleys in combination with GATES quality toothed belts
- ▶ Drill spindle with precision ball bearings
- ▶ V-belt cover with safety switch
- ▶ Drilling depth stop
- ▶ OPTIMUM key type drill chuck in standard scope of delivery
- ▶ Optimal price-performance ratio
- ▶ Lasting value

Drilling spindle

- Guaranteed concentricity better than 0.03 mm measured in the drilling spindle sleeve
- Precision ball bearings

Drill chuck guard

- Best possible user protection
- Height-adjustable
- Microswitch

Electric motor

- Smooth action
- Powerful
- Aluminium housing

Safety switch

- Easy to use
- Degree of protection IP 54
- Undervoltage trip
- Separate emergency stop button

Drilling table

- Precise workmanship
- Fastening holes for extended drilling table support

Steel column

- Smooth action and stability

Drilling table

- Precise workmanship
- Diagonal T-grooves

Spindle sleeve lever

- Long and ergonomic design
- Softgrip handles for safe work

Base plate

- Solid and generously dimensioned
- Grooves for T-slot nuts
- With pronounced ribbing on rear

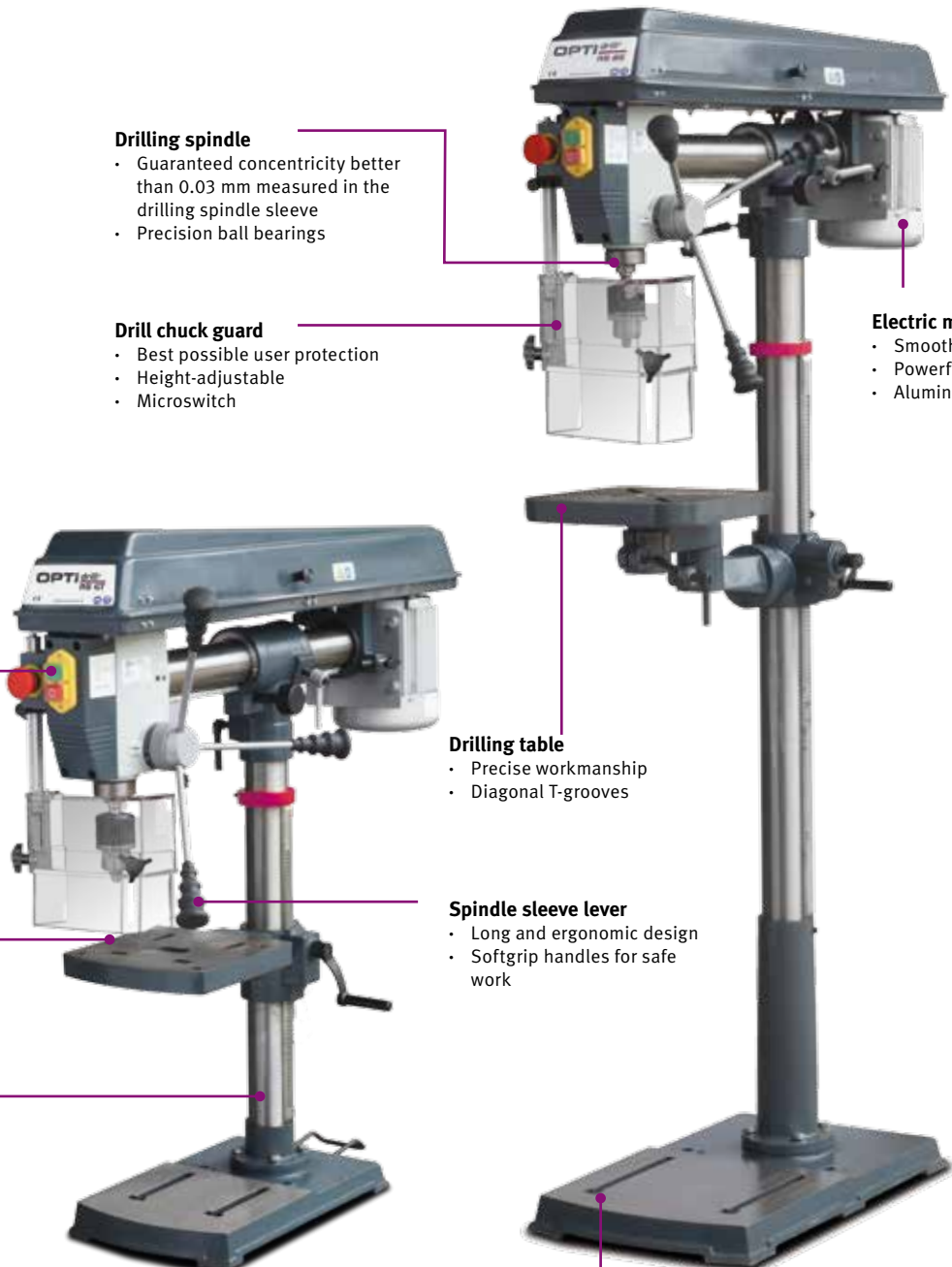


Fig.: OPTIdrill RB 6T

Fig.: OPTIdrill RB 8S

Technical data and accessories

Model	RB 6T	RB 8S
Article no.	3009161	3009181
Machine data		
Electrical connection	230 V / 1 Ph ~50 Hz	
Motor output	750 W	
Drilling performance		
Drilling performance steel (S235JR)	Ø 16 mm	
Continuous drilling performance steel (S235JR)	Ø 12 mm	
Spindle holder		
Spindle holder	MT 2	
Reach	115 - 430 mm	
Spindle sleeve stroke	80 mm	
Speeds		
Spindle speeds	390 - 3,000 rpm	
Number of stages	5 gears	
Drilling table		
Drilling table length x width	225 x 230 mm	262 x 262 mm
Groove size	14 mm	
Drilling table pivots through	± 45°	
Clearance spindle - drilling table	max. 380 mm	max. 740 mm
Machine base		
Machine base work area L x W	430 x 260 mm	600 x 350 mm
Groove size	14 mm	14 mm
Clearance spindle - machine base	max. 550 mm	max. 1,250 mm
Dimensions		
Column diameter	Ø 60 mm	Ø 70 mm
Length x width x height	820 x 290 x 930 mm	820 x 290 x 1,640 mm
Overall weight	40 kg	63 kg

Scope of delivery

- Key type drill chuck 1 - 16 mm (B 16)
- Morse taper MT 2 B16

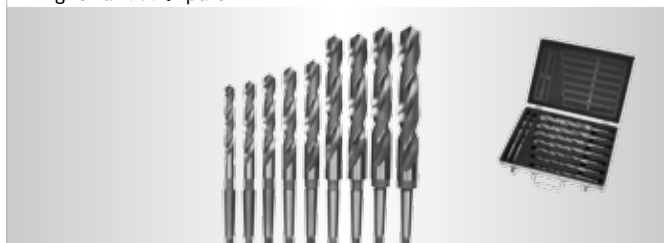
- The drilling head pivots through ± 45°

- Variable outreach by displacing the drilling head

- The drilling table pivots through ± 45°



Accessories	Article no.
Assortment of clamping tools SPW 12	3352017
• T-slot nuts 14 mm · Locking thread M M 12	
• Metric thread	
Taper drill punch MSP 1	3050636
Twist drill HSS MT 2	3051002
• Right handed 9-part	



Accessories	Article no.
Machine vice MSO 75	3000075
Machine vice MSO 100	3000100
• Many assembly options on drill table thanks to slots	
• Precise jaw guidance	



› More „Accessories for drills“ from page 37

Bench/column drilling machines with V-belt drive

Facts that impress in terms of quality, performance and price

- ▶ User-friendly safety switch with IP 54 degree of protection, undervoltage trip and separate emergency stop button
- ▶ Drilling depth stop
- ▶ Precise workmanship; stable drilling table with diagonal T-grooves
- ▶ Drilling table height-adjustable via rack
- ▶ Drilling table pivots through $\pm 45^\circ$ and rotates through 360°
- ▶ V-belt cover with safety switch
- ▶ Pressure cast aluminium spindle sleeve lever made of a single piece with Softgrip handles
- ▶ Industrial motor
- ▶ Precision spindle bore

- ▶ Machine controls including safety electrical system in 24 V DC
- ▶ Heavy duty design of entire machine

As of OPTIdrill B 23 Pro

- ▶ GATES quality belts

As of OPTIdrill B 23 Pro/400 V

- ▶ Clockwise/Anti-clockwise rotation

OPTIdrill B 33Pro

- ▶ Solid, generously dimensioned baseplate with grooves, rear with pronounced ribbing



Fig.: B 17Pro

Fig.: B 23Pro

Fig.: B 26Pro

Fig.: B 33Pro



Belt drive

- Smooth action thanks to polished multi-tooth carrier
- Best possible force transmission thanks to aluminium pulleys in combination with GATES quality toothed belts (as of B 23Pro)



- Guaranteed concentricity ≤ 0.02 mm measured in the drilling spindle sleeve
- Drill spindle with precision ball bearings
- Premium quick clamping chuck
- Generously dimensioned, height adjustable protective screen with safety switch

Technical data and accessories

Model	B 17Pro	B 23Pro	B 26Pro	B 33Pro
Article no. (230 V)	3003171	3003231 (230 V)	-	-
Article no. (400 V)	-	3003233 (400 V)	3003263	3003333
Machine data				
Electrical connection	230 V / 1 Ph ~50 Hz	230 V/1 Ph o. 400 V/3 Ph	400 V / 3 Ph ~ 50 Hz	400 V / 3 Ph ~ 50 Hz
Motor output	500 W	750 W	750 W	1.1 kW
Drilling performance (S235JR)				
Drilling performance steel	Ø 16 mm	Ø 25 mm	Ø 25 mm	Ø 30 mm
Continuous drilling performance steel	Ø 12 mm	Ø 20 mm	Ø 20 mm	Ø 25 mm
Spindle holder				
Spindle sleeve stroke	65 mm	80 mm	85 mm	120 mm
Spindle holder	MT 2	MT 2	MT 3	MT 4
Reach	152 mm	180 mm	210 mm	254 mm
Speeds				
Spindle speeds	500 - 2,520 rpm	200 - 2,440 rpm	200 - 2,440 rpm	120 - 1,810 rpm
Number of stages	5 gears	12 gears	12 gears	9 gears
Drilling table				
Workspace table length x width	235 x 220 mm	280 x 245 mm	330 x 290 mm	475 x 425 mm
T-groove size	12 mm	12 mm	14 mm	14 mm
Drilling table pivots/rotates	± 45° / 360°	± 45° / 360°	± 45° / 360°	± 45° / 360°
Clearance spindle - drilling table	max. 325 mm	max. 425 mm	max. 720 mm	max. 695 mm
Machine base				
Machine base work area L x W	220 x 230 mm	240 x 250 mm	385 x 260 mm	410 x 325 mm
Groove size/count/spacing	16 mm / 2 / 148 mm	16 mm / 2 / 170 mm	16 mm / 2 / 170 mm	16 mm / 2 / 250 mm
Distance spindle - machine base	max. 530 mm	max. 618 mm	max. 1,230 mm	max. 1,180 mm
Dimensions				
Column diameter	Ø 60 mm	Ø 73 mm	Ø 80 mm	Ø 92 mm
Length x width x height	565 x 275 x 840 mm	615 x 330 x 1,015 mm	670 x 355 x 1,640 mm	755 x 440 x 1,705 mm
Overall weight	36.5 kg	58 kg / 63.5 kg	85 kg	132 kg

Scope of delivery

- Quick-action drill chuck 1 - 16 mm
- Morse taper MT 2/B16 (B 17Pro/B 23Pro)
- Morse taper MT 3/B16 (B 26Pro)
- Morse taper MT 4/B16 (B 33Pro)
- T-slot nuts

Accessories OPTIDRILL B 17Pro / B 23Pro	Article no.
Direct quick release chuck:	
MT 2 / 1 - 16 mm	3050571
MT 2 / 1 - 13 mm	3050572
Morse taper MT 2 - B16	3050659
Twist drill HSS / MT 2	3051002
Assortment of clamping tools SWH 10	3352016
Taper drill punch MSP1	3050636
Universal coolant unit 230 V	3352002

Machine vices	Article no.
BMS 100	3000010
BMS 120	3000012
BSI 100	3000210
BSI 140	3000214
BSI-Q 100	3000230
BSI-Q 140	3000234



Accessories OPTIDRILL B 26Pro	Article no.
Quick release chuck direct MT 3	3050573
Reduction sleeves MT 3 - MT 2	3050663
Morse taper MT 3 - B16	3050660
Twist drill HSS / MT 3	3051003
Assortment of clamping tools SWH 12	3352017
Taper drill punch MSP1	3050636
Thread tapping chuck M5-M12	3352042
Universal coolant unit 400 V	3352001

Accessories OPTIDRILL B 33Pro	Article no.
Quick release chuck direct MT 4	3050574
Reduction sleeves MT 4 - MT 3	3050664
Morse taper MT 4 - B16	3050661
Twist drill HSS / MT 3	3051003
Assortment of clamping tools SWH 12	3352017
Taper drill punch MSP2	3050637
Thread tapping chuck M5-M12	3352042
Universal coolant unit 400 V	3352001

Rugged bench/column drilling machines with V-belt drive

Facts that impress in terms of quality, performance and price

- ▶ Smooth action powerful electric motor
- ▶ Separate emergency stop button
- ▶ Drilling depth stop
- ▶ Precise workmanship; stable drilling table with diagonal T-grooves
- ▶ Drilling table rotates through 360°
- ▶ V-belt cover with safety switch
- ▶ V-belt tensioning device
- ▶ Long, ergonomic pressure cast aluminium spindle sleeve lever made from a single piece (OPTIdrill B 16H / B 24H with Softgrip handles)
- ▶ Solid, generously dimensioned baseplate with grooves, rear with pronounced ribbing
- ▶ The baseplate can be used for particularly high workpieces by swivelling out the drilling table

As of OPTIdrill B 24H

- ▶ Machine lamp

As of OPTIdrill B 24H/400V

- ▶ Clockwise/Anti-clockwise rotation

As of OPTIdrill B 28H

- ▶ Easy tool changes through integrated push-out tool
- ▶ Spindle sleeve lever made of steel

OPTIdrill B 34H

- ▶ Digital depth sensor
- ▶ Digital speed display



Fig.: B 16H



Fig.: B 24H



Fig.: B 28H



Fig.: B 34H



Belt drive

- Smooth action thanks to polished multi-tooth carrier
- Best possible force transmission thanks to aluminium pulleys in combination with GATES quality toothed belts



- Guaranteed concentricity better than 0.015 mm measured in the drilling spindle sleeve
- Drill spindle with precision ball bearings
- Premium OPTIMUM quick clamping chuck
- Generously dimensioned, height adjustable protective screen with safety switch

Technical data and accessories

Model	B 16H	B 24H	B 28H	B 34H
Article no. (230 V)	-	3020241	-	-
Article no. (400 V)	3020217	3020243	3020283	3020333
Machine data				
Electrical connection	400 V / 3 Ph ~50 Hz	230 V/1 Ph - 400 V/3 Ph	400 V / 3 Ph ~ 50 Hz	400 V / 3 Ph ~ 50 Hz
Motor output	550 W	850 W	850 W	1.5/2.2 kW
Drilling performance (S235JR)				
Drilling performance steel	Ø 13 mm	Ø 24 mm	Ø 28 mm	Ø 34 mm
Continuous drilling performance steel	Ø 11 mm	Ø 20 mm	Ø 24 mm	Ø 26 mm
Spindle holder				
Spindle sleeve stroke	65 mm	85 mm	105 mm	160 mm
Spindle holder	MT 2	MT 2	MT 3	MT 4
Reach	130 mm	165 mm	200 mm	285 mm
Speeds				
Spindle speeds	450 - 3,500 rpm	350 - 4,000 rpm	120 - 4,000 rpm	145 - 4,800 rpm
Number of stages	5 gears	7 gears	16 gears	2 x 9 gears
Drilling table				
Workspace table length x width	230 x 245 mm	280 x 300 mm	340 x 360 mm	420 x 400 mm
T-groove size	12 mm	14 mm	14 mm	14 mm
Rotating drilling table	360°	360°	360°	360°
Clearance spindle - drilling table	max. 370 mm	max. 515 mm	max. 860 mm	max. 790 mm
Machine base				
Machine base work area L x W	200 x 240 mm	280 x 260 mm	320 x 320 mm	390 x 390 mm
T-groove size/count/spacing	12 mm / 2 / 80 mm	14 mm / 2 / 120 mm	14 mm / 2 / 120 mm	14 mm / 2 / 150 mm
Distance spindle - machine base	max. 495 mm	max. 590 mm	max. 1,285 mm	max. 1,275 mm
Dimensions				
Column diameter	Ø 60 mm	Ø 80 mm	Ø 92 mm	Ø 115 mm
Length x width x height	549 x 300 x 848 mm	665 x 434 x 998 mm	698 x 449 x 1,721 mm	918 x 585 x 1,895 mm
Overall weight	54 kg	92 kg	142 kg	260 kg

Scope of delivery

- Quick clamping drill chuck 1 – 13 mm (B 16H)
- Quick clamping drill chuck 1 – 16 mm (as of B 24H)
- Morse taper MT 2 (B 16H/B 24H)
- Morse taper MT 3 (B 28H)
- Morse taper MT 4 (B 34H)
- T-slot nuts

Accessories OPTidril B 16H / B 24H	Article no.
Direct quick clamping chuck MT 2 / 1-16 mm	3050571
Direct quick clamping chuck MT 2 / 1-13 mm	3050572
Morse taper MT 2 - B16	3050659
Twist drill HSS / MT 2	3051002
Assortment of clamping tools SWH 10	3352016
Universal coolant unit 230 V	3352002
Universal coolant unit 400 V	3352001

Accessories OPTidril B 28H	Article no.
Quick release chuck direct MT 3	3050573
Reduction sleeves MT 3 - MT 2	3050663
Morse taper MT 3 - B16	3050660
Twist drill HSS / MT 3	3051003
Assortment of clamping tools SWH 12	3352017
Universal coolant unit 400 V	3352001
Thread tapping chuck M5-M12	3352042

Machine vices	Article no.
BSI 100	3000210
BSI 140	3000214
BSI-Q 100	3000230
BSI-Q 140	3000234

Accessories OPTidril B 34H	Article no.
Quick release chuck direct MT 4	3050574
Reduction sleeves MT 4 - MT 3	3050664
Morse taper MT 4 - B16	3050661
Assortment of clamping tools SWH 12	3352017
Universal coolant unit 400 V	3352001
Thread tapping chuck M5-M12	3352042



Table drills with continuously adjustable speed control. DX 16V with menu for work modes drilling/tapping.

Facts that impress in terms of quality, performance and price

- ▶ Best possible force transmission thanks to aluminium pulleys
- ▶ Emergency stop button
- ▶ Drill spindle with precision ball bearings
- ▶ Height adjustable chuck protection with microswitch
- ▶ Foil keypad with high contrast LED display, soiling and water resistant, easy to clean
- ▶ EMC filter B (use in private households)

DX 13V

- ▶ Drill head height adjustable

DX 15V

- ▶ Drilling table
- ▶ MT - Spindle holder



Fig.: DX 13V

Digital speed display
• Integrated in housing

Variable speed drive
• Via potentiometer

Drilling spindle
• Precision ball bearings
• Premium OPTIMUM quick clamping chuck as standard

Cast column
• Thick walls
• Good force absorption and stability

Drilling table
• Precise workmanship
• Parallel T-grooves

Base plate
• Solid
• Generously dimensioned
• With pronounced ribbing



Fig.: DX 15V

Technical specifications, dimensions and accessories

Model	DX 13V	DX 15V
Article no.	3020150	3020155
Machine data		
Electrical connection	230 V / 1 Ph ~50 Hz	230 V / 1 Ph ~50 Hz
Motor output	0,85 kW	0,85 kW
Drilling performance (S235JR)		
Drilling performance in steel	Ø 13 mm	Ø 15 mm
Continuous drilling performance steel	Ø 11 mm	Ø 12 mm
Tapping in steel (S235JR)	-	-
Spindle holder		
Reach	235 mm	235 mm
Spindle holder	B 16	MK 2
Quill stroke	60 mm	60 mm
Speeds		
Spindle speeds	100 - 3.000 min ⁻¹	100 - 3.000 min ⁻¹
Number of stages	elektronisch regelbar	elektronisch regelbar
Drilling table		
Drilling table length x width	-	290 x 290 mm
T-groove size / count / spacing	-	10 mm / 2 / 100 mm
Rotating drilling table	-	360°
Clearance chuck to drilling table	-	98 - 375 mm
Machine base		
Machine base work area L x W	290 x 270 mm	290 x 280 mm
T-groove size / count / spacing	14 mm / 2 / 100 mm	14 mm / 2 / 100 mm
Clearance chuck to machine base	92 - 297 mm	290 - 355 mm
Dimensions		
Column diameter	Ø 60 mm	Ø 60 mm
Length x width x height	517 x 325 x 895 mm	481 x 475 x 980 mm
Net weight	51 kg	66 kg

Scope of supply

- Quick release chuck 1 - 13 mm

Accessories

Accessories	Art. number
Assortment of clamping tools SPW 8	3352015
Assortment of clamping tools SPW 12	3352017
Universal coolant unit 230 V	3352002

Accessories Optidrill DX 15V

Accessories Optidrill DX 15V	Art. number
Direct quick release chuck:	
MT 2 / 1 - 16 mm	3050571
MT 2 / 1 - 13 mm	3050572
Morse taper MT 2 - B16	3050659
Twist drill HSS / MT 2	3051002

Machine vices

Machine vices	Art. number
MSO 75	3000075
BMS 85	3000008



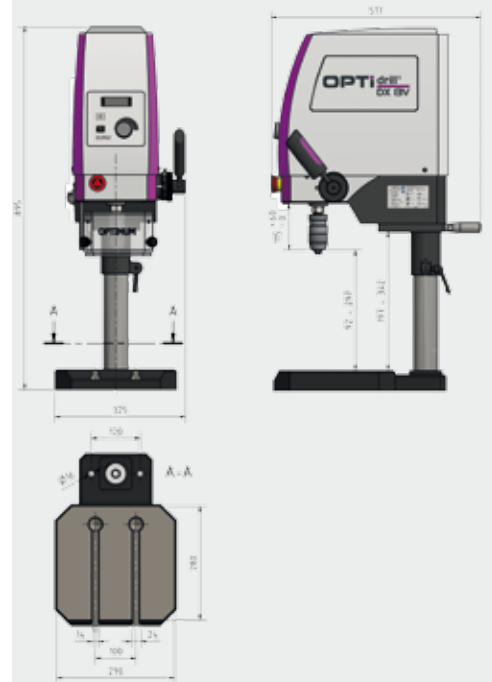
Universal chassis

3353000

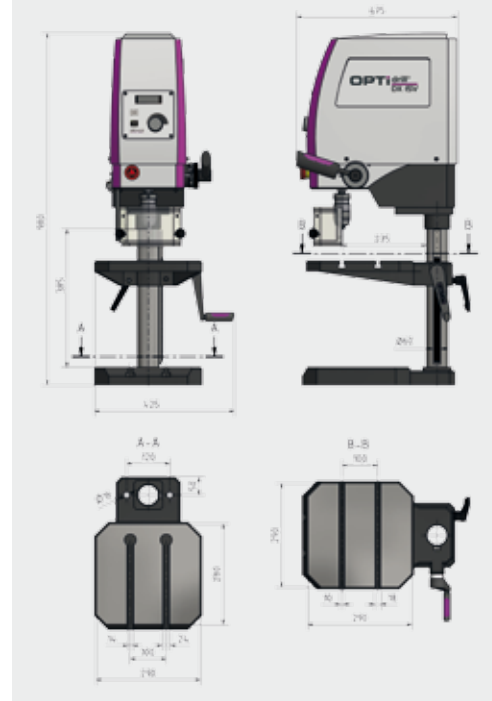
Dimensions L x B x W: 800 x 340 x 420 mm



Dimensions DX 13V



Dimensions DX 16V



> „Accessories for drills“ from page 37

Preface

Drilling

Milling

Turning

Sawing

Sanding/grinding

Polishing

Lamps

Measuring

Index

Rugged bench and column drilling machines with powerful OPTIMUM Brushless drive, electronic speed control

Facts that impress in terms of quality, performance and price

- ▶ Smooth action and powerful brushless drive
- ▶ Separate emergency stop button
- ▶ Generously dimensioned, height adjustable protective screen with safety switch for greatest possible user protection
- ▶ Long, ergonomic pressure cast aluminium spindle sleeve lever made from a single piece with Softgrip handles (OPTIdrill B 16H / B 24H)
- ▶ Drilling depth stop
- ▶ V-belt cover with safety switch

As of OPTIdrill B 24HV

- ▶ Clockwise/Anti-clockwise rotation
- ▶ Machine lamp

As of OPTIdrill B 28HV

- ▶ Spindle sleeve lever made of steel
- ▶ Coolant system
- ▶ Chip filter in line with Machinery Directive
- ▶ Easy tool changes through integrated push-out tool

OPTIdrill B 34HV

- ▶ Spindle sleeve stroke 160 mm
- ▶ Thread tapping function
- ▶ Drilling depth sensor



Info „Thermdrill“ on page 40

Powerful brushless drive

- Particularly smooth action
- Extremely powerful
- Virtually constant torque over the entire speed range



Belt drive

- Best possible force transmission thanks to aluminium pulleys in combination with GATES quality toothed belts
- Smooth action thanks to polished multi-tooth carrier

Digital speed display

- Integrated in housing

Variable speed drive

- Via potentiometer

Concentricity

- Guaranteed ≤ 0.015 mm measured in the drilling spindle sleeve

Drilling spindle

- Precision ball bearings
- Premium OPTIMUM quick clamping chuck as standard

Cast column

- Thick walls
- Good force absorption and stability

Base plate

- Solid
- Generously dimensioned
- With pronounced ribbing on rear

B 34HV - Thread tapping mode

"auto" operating mode

- › Motor runs automatically after lever movement
- › Stops again in original position
- › Start and stop pushbuttons do not need to be actuated for repetitive drilling tasks

"Thread tapping" operating mode

- › The motor is activated by moving the handle down
- › The direction of rotation is changed by the limit switch on the adjustable drilling depth stop

V-belt tensioning device

Machine lamp (as of B 24HV)

- Integrated in drilling head
- Halogen lamp

Drilling table

- Precise workmanship
- Diagonal T-grooves
- 360° rotating



Fig.: OPTIdrill B 24HV

The drilling machines (frequency inverters) comply with standard DIN EN 55011:2011-04 class C2 - (use in mixed and industrial areas only)

Technical data and accessories

Model	B 16HV	B 24HV	B 28HV	B 34HV
Article no.	3020218	3020245	3020285	3020335
Machine data				
Electrical connection	230 V / 1 Ph ~50 Hz	230 V / 1 Ph ~50 Hz	230 V / 1 Ph ~50 Hz	230 V / 1 Ph ~50 Hz
Total connected load	1.5 kW	1.5 kW	1.5 kW	2.2 kW
Coolant pump motor	-	-	40 W	40 W
Drilling performance (S235JR)				
Drilling performance steel	Ø 16 mm	Ø 24 mm	Ø 28 mm	Ø 34 mm
Continuous drilling performance steel	Ø 13 mm	Ø 20 mm	Ø 24 mm	Ø 26 mm
Spindle holder				
Spindle sleeve stroke	65 mm	85 mm	105 mm	160 mm
Spindle holder	MT 2	MT 2	MT 3	MT 4
Reach	130 mm	165 mm	200 mm	285 mm
Speeds				
Spindle speeds	95 - 6,000 rpm	100 - 5,950 rpm	35 - 5,600 rpm	40 - 5,000 rpm
Number of stages	5 gears Elec. speed control	4 gears Elec. speed control	12 gears Elec. speed control	9 gears Elec. speed control
Drilling table				
Workspace table length x width	230 x 245 mm	280 x 300 mm	340 x 360 mm	420 x 400 mm
T-groove size	12 mm	14 mm	14 mm	14 mm
Rotating drilling table	360°	360°	360°	360°
Clearance spindle - drilling table	max. 370 mm	max. 515 mm	max. 860 mm	max. 790 mm
Machine base				
Distance spindle - machine base	max. 495 mm	max. 590 mm	max. 1,285 mm	max. 1,275 mm
T-groove size/count/spacing	12 mm / 2 / 80 mm	14 mm / 2 / 120 mm	14 mm / 2 / 120 mm	14 mm / 2 / 150 mm
Machine base work area L x W	200 x 240 mm	280 x 260 mm	320 x 320 mm	390 x 390 mm
Dimensions				
Column diameter	Ø 60 mm	Ø 80 mm	Ø 92 mm	Ø 115 mm
Length x width x height	540 x 370 x 850 mm	665 x 434 x 998 mm	701 x 474 x 1,755 mm	918 x 595 x 1,930 mm
Overall weight	64 kg	96 kg	166 kg	275 kg
	-	-	TVP 1	TVP 1

Scope of delivery

- Quick clamping drill chuck 1 – 13 mm (B 16HV)
- Quick clamping drill chuck 1 – 16 mm (as of B 24HV)
- Morse taper MT 2 (B 16HV / B 24HV)
- Morse taper MT 3 (B 28HV)
- Morse taper MT 4 (B 34HV)
- T-slot nuts

Accessories OPTIdrill B 16HV / B 24HV	Article no.
Direct quick release chuck	
MK2/ 1 - 16 mm	3050571
MK2/ 1 - 13 mm	3050572
Morse taper MT 2 - B16	3050659
Twist drill HSS / MT 2	3051002
Assortment of clamping tools SWH 10	3352016

Machine vices	Article no.
BSI 100	3000210
BSI 140	3000214
BSI-Q 100	3000230
BSI-Q 140	3000234

Accessories OPTIdrill B 28HV	Article no.
Direct quick clamping MT 3 / 1 - 16 mm	3050573
Reduction sleeves MT 3 - MT 2	3050663
Morse taper MT 3 - B16	3050660
Twist drill HSS / MT 3	3051003
Assortment of clamping tools SWH 12	3352017
Thread tapping chuck M5-M12	3352042

Accessories OPTIdrill B 34HV	Article no.
Direct quick clamping MT 4/1-16 mm	3050574
Reduction sleeves MT 4 - MT 3	3050664
Morse taper MT 4 - B16	3050661
Assortment of clamping tools SWH 12	3352017
Thread tapping chuck M5-M12	3352042

Bench and column drilling machines with continuous, mechanical gearbox

Facts that impress in terms of quality, performance and price

- ▶ Smooth action powerful electric motor
- ▶ The baseplate can be used as a workspace for particularly high workpieces by swivelling out the drilling table
- ▶ Long, ergonomic pressure cast aluminium spindle sleeve lever made from a single piece with Softgrip handles (OPTIdrill DH 24BV)
- ▶ Clockwise/Anti-clockwise rotation
- ▶ 2 gears
- ▶ V-belt cover with safety switch

As of OPTIdrill DH 28BV

- ▶ Easy tool changes through integrated push
- ▶ Spindle sleeve lever made of steel

OPTIdrill DH 40BV

- ▶ Digital depth sensor
- ▶ Reduction gearbox achieves far higher torque



Info „Thermidril“ on page 40

VARIO DRIVE



Made in Germany

Digital speed display

- Integrated in housing

Concentricity

- Guaranteed ≤ 0.015 mm measured in the drilling spindle sleeve

Chuck protection

- Best possible user protection
- Height-adjustable
- Microswitch

Continuous mechanical gearbox

- › Extremely reliable through manual speed control
- › Powerful, smooth action
- › Durable wide groove v-belt
- › Speed change while machine is running
- › Permanent optimal motor efficiency
- › DH 40BV- with reduction gearbox



Machine lamp

- Integrated in drilling head
- Halogen lamp

Drilling spindle

- Precision ball bearings
- Premium quick clamping chuck as standard

Drilling table

- Precise workmanship
- Diagonal T-grooves
- 360° rotating

Cast column

- Thick walls
- Good force absorption and stability

Base plate

- Solid
- Generously dimensioned
- With pronounced ribbing on rear

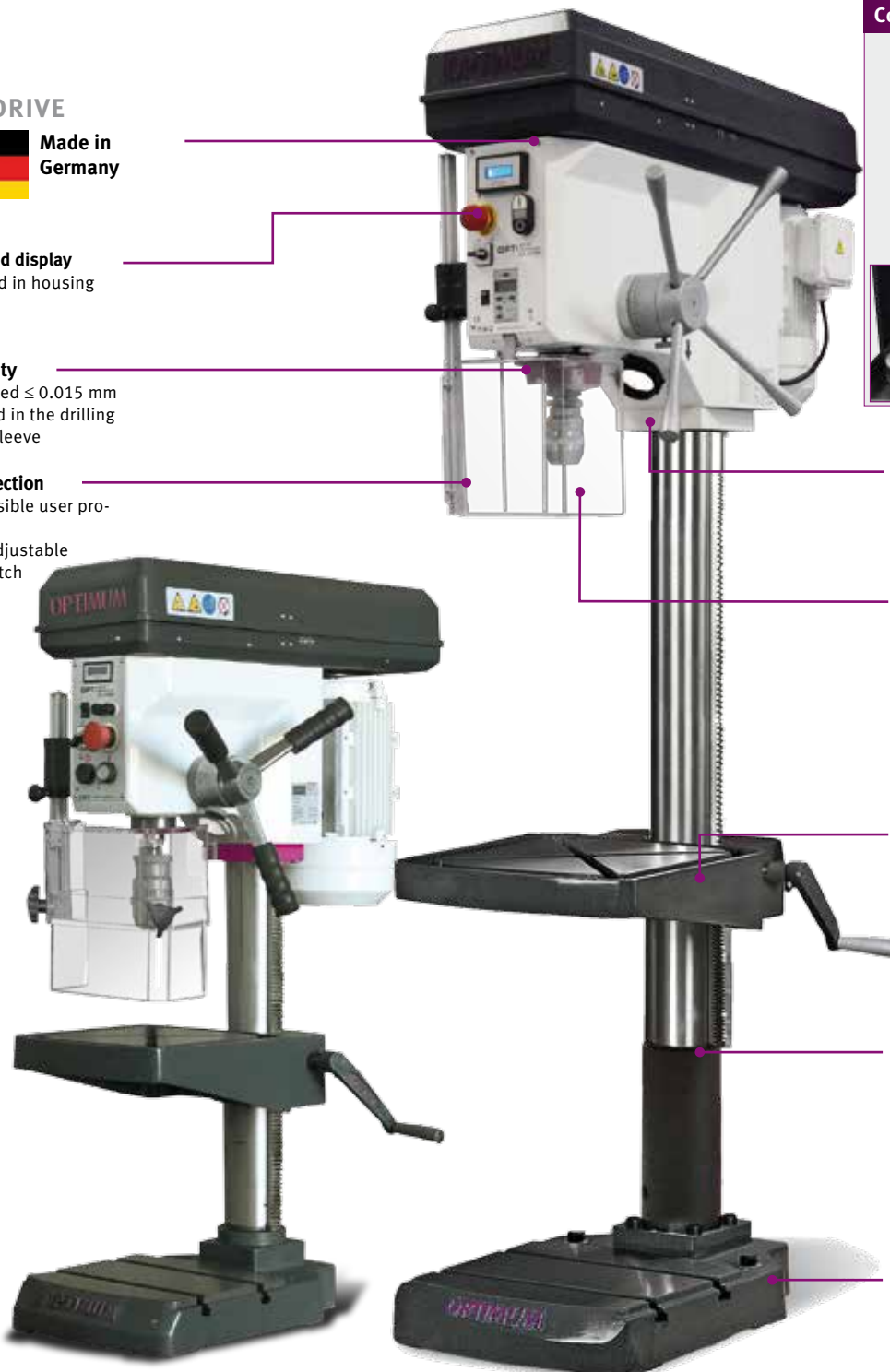


Fig.: OPTIdrill DH 24BV

Fig.: OPTIdrill DH 40BV

Technical data and accessories

Model	DH 24BV	DH 28BV	DH 40BV
Article no.	3020420	3020430	3020450
Machine data			
Electrical connection	400 V / 3 Ph ~ 50 Hz	400 V / 3 Ph ~ 50 Hz	400 V / 3 Ph ~ 50 Hz
Motor output	0.85/1.5 kW	0.85/1.5 kW	1.5 / 2.2 kW
Drilling performance (S235JR)			
Drilling performance steel	Ø 24 mm	Ø 28 mm	Ø 40 mm
Continuous drilling performance steel	Ø 20 mm	Ø 24 mm	Ø 32 mm
Spindle holder			
Spindle sleeve stroke	85 mm	105 mm	160 mm
Spindle holder	MT 2	MT 3	MT 4
Reach	165 mm	200 mm	285 mm
Speeds			
Spindle speeds 2 speed motor, manual	300 - 4,000 rpm	300 - 4,000 rpm	150 - 2,000 rpm
Drilling table			
Drilling table workspace L x W	280 x 300 mm	340 x 360 mm	420 x 400 mm
T-groove size	14 mm	14 mm	14 mm
Rotating drilling table	360°	360°	360°
Clearance spindle - drilling table	max. 515 mm	max. 860 mm	max. 790 mm
Machine base			
Machine base work area L x W	280 x 260 mm	320 x 320 mm	390 x 420 mm
T-groove size/count/spacing	14 mm / 2 / 120 mm	14 mm / 2 / 120 mm	14 / 2 / 150 mm
Distance spindle - machine base	max. 681 mm	max. 1,285 mm	max. 1,275 mm
Dimensions			
Column diameter	Ø 80 mm	Ø 92 mm	Ø 115 mm
Length x width x height	665 x 434 x 1,000 mm	701 x 474 x 1,780 mm	975 x 600 x 2,120 mm
Overall weight	115 kg	152 kg	275 kg
	-	TVP 1	TVP 1

Scope of delivery

- Quick-action drill chuck 1 - 16 mm
- Morse taper MT 2 (DH 24BV)
- Morse taper MT 3 (DH 28BV)
- Morse taper MT 4 (DH 40BV)
- T-slot nuts

Accessories OPTIdrill DH 24BV	Article no.
Direct quick release chuck:	
MT 2/ 1 - 16 mm	3050571
MT 2/ 1 - 13 mm	3050572
Morse taper MT 2 - B16	3050659
Twist drill HSS / MT 2	3051002
Assortment of clamping tools SWH 10	3352016
Universal coolant unit 230 V	3352002

Machine vices	Article no.
BSI 100	3000210
BSI 140	3000214
BSI-Q 100	3000230
BSI-Q 140	3000234

Accessories OPTIdrill DH 28BV	Article no.
Direct quick clamping MT 3 / 1 - 16 mm	3050573
Reduction sleeves MT 3 - MT 2	3050663
Morse taper MT 3 - B16	3050660
Twist drill HSS / MT 3	3051003
Assortment of clamping tools SWH 12	3352017
Universal coolant unit 400 V	3352001
Thread tapping chuck M5-M12	3352042

Accessories OPTIdrill DH 34BV / DH 40BV	Article no.
Direct quick clamping MT 4 / 1 - 16 mm	3050574
Reduction sleeves MT 4 - MT 3	3050664
Morse taper MT 4 - B16	3050661
Assortment of clamping tools SWH 12	3352017
Thread tapping chuck M5-M12	3352042

Bench and column drilling machines with polyamide gearwheels

Facts that impress in terms of quality, performance and price

- ▶ Smooth action thanks to polished multi-tooth carrier
- ▶ Excellent concentricity thanks to hardened and polished main spindle
- ▶ Large speed range
- ▶ Heavy, solid cast design
- ▶ Adjustable drilling depth stop with millimetre scale
- ▶ Low-maintenance, grease-lubricated gearbox
- ▶ Gearbox with PA6 gearwheels, smooth action

- ▶ **OPTi[®]drill DH 32GS**
- ▶ Thread tapping function
- ▶ Automatic spindle sleeve feed
- ▶ Coolant pump and chip filter



Info „Thermidril“ on page 40

DH 32GS Automatic spindle sleeve feed



In case of deep drilling or blind hole drilling, the clutch can be released or engaged at any time by pressing the button on the feed handle.

Integrated push-out tool

- Easy tool changes through ejector

Clockwise/Anti-clockwise rotation

Machine lamp

- Integrated in drilling head
- Halogen lamp

Chuck protection

- Best possible user protection
- Height-adjustable
- Microswitch

Cast column

- Thick walls
- For high force absorption and stability

Drilling table

- Generously dimensioned
- Solid
- Precise workmanship
- Diagonal T-grooves
- With pronounced ribbing on rear

Coolant system

Chip filter

- In line with Machinery Directive

Accessories

Foot switch for DH 32GS 3050032

Functions:

- Thread tapping
- Clockwise/anti-clockwise change over switch

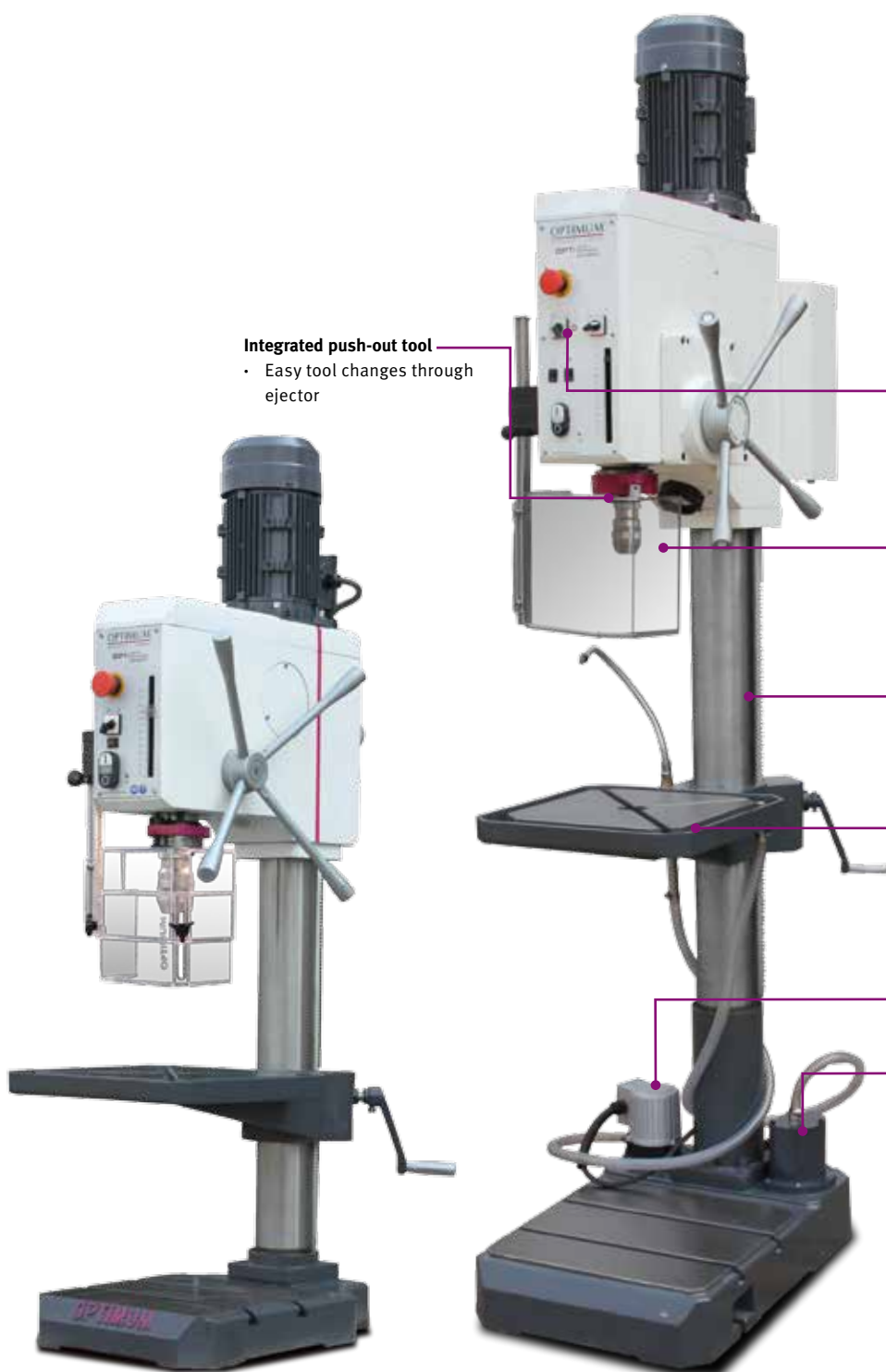


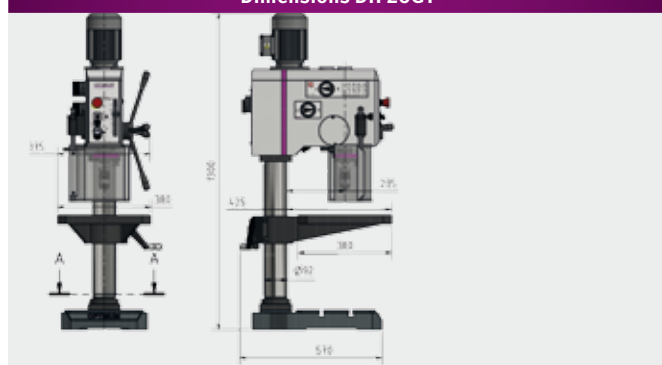
Fig.: OPTi[®]drill DH 26GT with optional chuck

Fig.: OPTi[®]drill DH 32GS with optional chuck

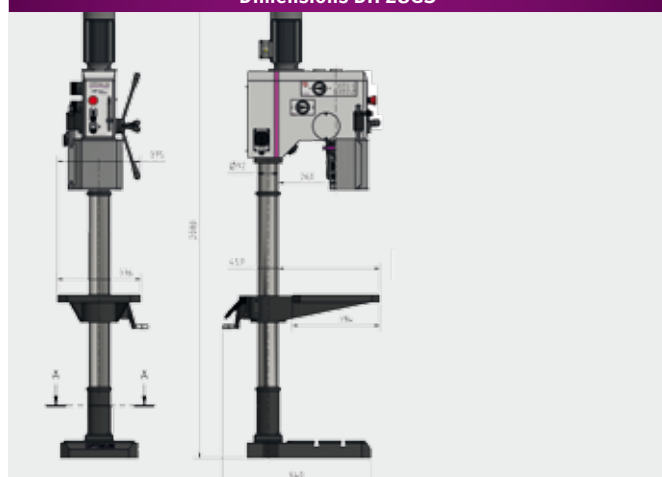
Technical data and dimensions

Model	DH 26GT	DH 28GS	DH 32GS
Article no.	3034220	3034230	3034240
Machine data			
Electrical connection	400 V / 3 Ph ~ 50 Hz	400 V / 3 Ph ~ 50 Hz	400 V / 3 Ph ~ 50 Hz
Motor output	1.1/1.5 kW	1.1/1.5 kW	1.5 / 2.2 kW
Coolant pump motor	-	-	40 W
Drilling performance (S235JR)			
Drilling performance steel	Ø 24 mm	Ø 26 mm	Ø 30 mm
Continuous drilling performance steel	Ø 21 mm	Ø 23 mm	Ø 26 mm
Thread tapping steel	-	-	M 16
Spindle holder			
Spindle sleeve stroke	127 mm	127 mm	125 mm
Spindle holder	MT 3	MT 3	MT 4
Reach	235 mm	260 mm	285 mm
Automatic spindle sleeve feed	-	-	0.1 / 0.15 / 0.2 mm
Speeds			
Spindle speeds, 8 gears	75 - 2,900 rpm	75 - 2,900 rpm	75 - 2.000 min ⁻¹
Drilling table			
Workspace drilling table length x width	380 x 380 mm	376 x 394 mm	400 x 420 mm
T-groove size	14 mm	14 mm	14 mm
Rotating drilling table	360°	360°	360°
Clearance spindle - drilling table	max. 450 mm	max. 875 mm	max. 820 mm
Machine base			
Machine base work area L x W	350 x 322 mm	350 x 356 mm	420 x 644 mm
T-groove size/count/spacing	14 mm / 2 / 120 mm	14 mm / 2 / 120 mm	14 mm / 2 / 150 mm
Distance spindle - machine base	max. 610 mm	max. 1,285 mm	max. 1,270 mm
Dimensions			
Column diameter	Ø 92 mm	Ø 92 mm	Ø 115 mm
Dimensions	600 x 380 x 1,300 mm	670 x 550 x 2,080 mm	725 x 450 x 2,200 mm
Overall weight	158 kg	175 kg	312 kg
	-	TVP 1	TVP 1

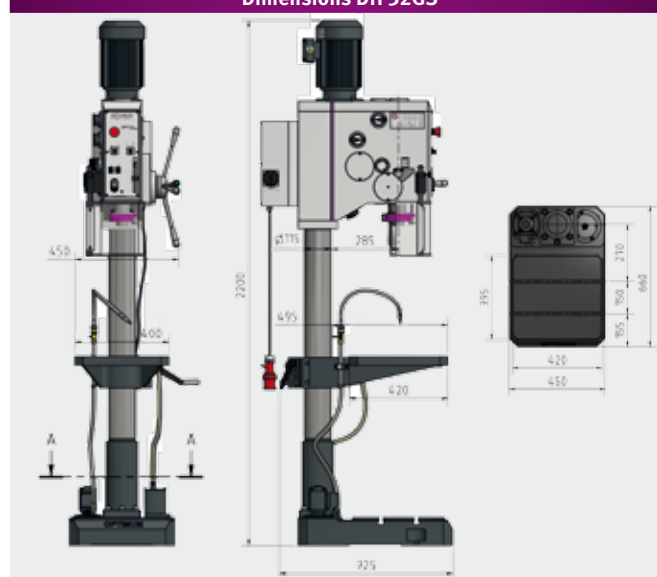
Dimensions DH 26GT



Dimensions DH 28GS



Dimensions DH 32GS



Scope of supply

- Adapter MT 3-B16 (DH 26GT / DH 28GS)
- Adapter MT 4-B16 (DH 32GS)

› „Accessories for drills“ from page 37

Bench and column drilling machines with polyamide gearwheels and continuously adjustable speed control

Facts that impress in terms of quality, performance and price

- ▶ Smooth action thanks to polished multi-tooth carrier
- ▶ Excellent concentricity thanks to hardened and polished main spindle
- ▶ Large speed range
- ▶ Heavy, solid cast design
- ▶ Adjustable drilling depth stop with millimetre scale
- ▶ Low-maintenance, grease-lubricated gearbox
- ▶ Gearbox with PA6 gearwheels, smooth action
- ▶ Frequency converter,

OPTIdrill DH 32GSV

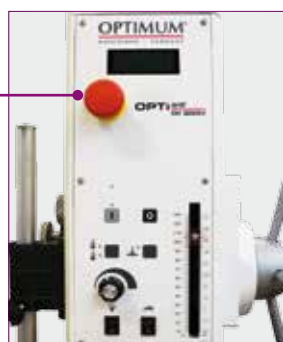
- ▶ Thread tapping function
- ▶ Automatic spindle sleeve feed
- ▶ Coolant pump and chip filter
- ▶ Torque in lowest gear up to 200 Nm



Info „Thermdrill“ on page 40

Front panel

- User-friendly membrane keyboard
- Digital speed display



Integrated push-out tool

- Easy tool changes through ejector

DH 32GSV



In case of deep drilling or blind hole drilling, the clutch can be released or engaged at any time by pressing the button on the feed handle.

Clockwise/Anti-clockwise rotation

Machine lamp

- Integrated in drilling head
- Halogen lamp

Chuck protection

- Best possible user protection
- Height-adjustable
- Microswitch

Cast column

- Thick walls
- For high force absorption and stability

Drilling table

- Generously dimensioned
- Solid
- Precise workmanship
- Diagonal T-grooves
- With pronounced ribbing on rear

Coolant system

Chip filter

- In line with Machinery Directive

Accessories

Foot switch
for DH 32GSV 3050032

Functions:

- Thread tapping
- Clockwise/anti-clockwise change over switch



Fig.: OPTIdrill DH 26GTV with optional chuck

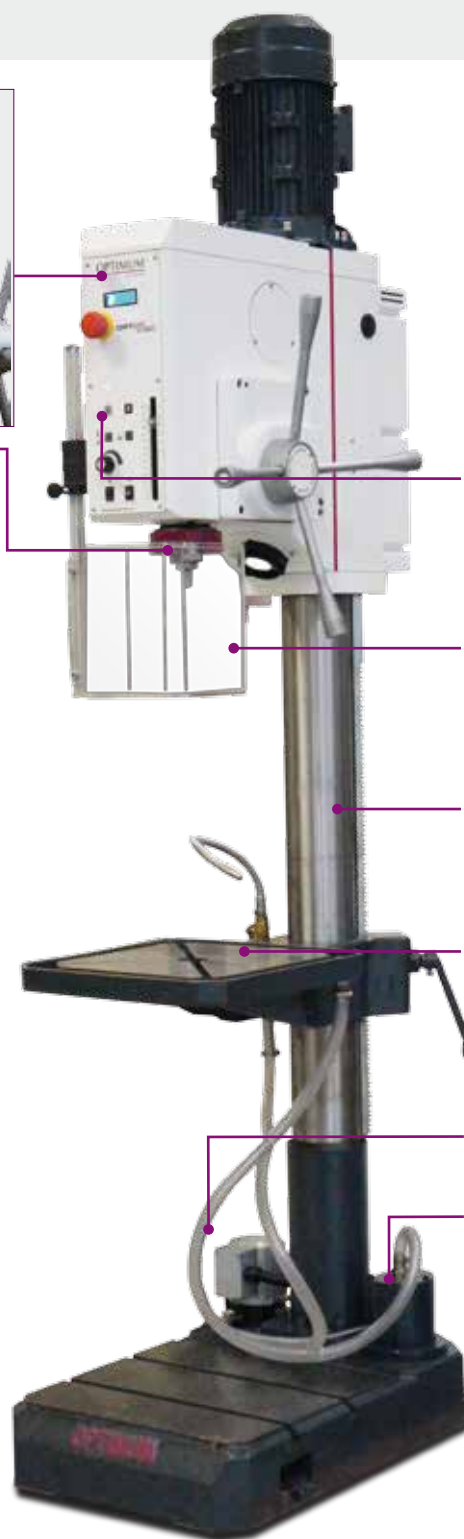


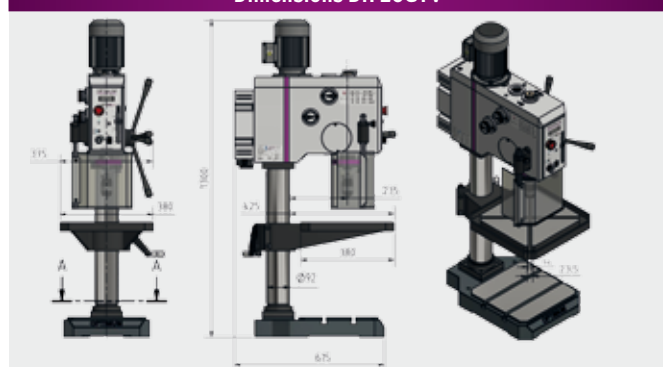
Fig.: OPTIdrill DH 32GSV with optional chuck

The drilling machine (frequency inverter) complies with standard DIN EN 55011:2011-04 class C2 - (use in mixed and industrial areas only)

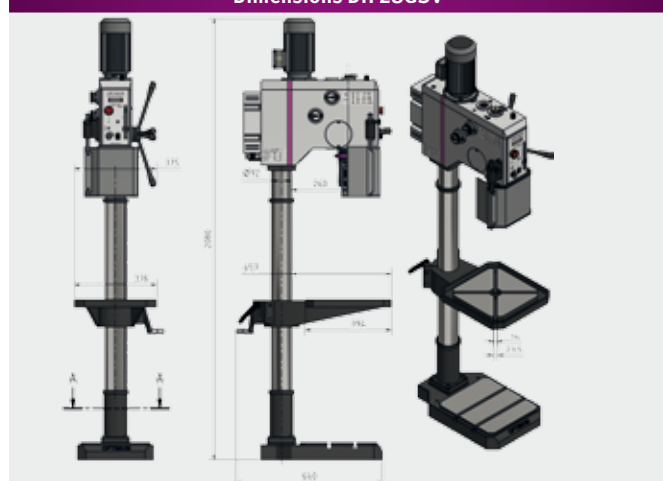
Technical data and dimensions

Model	DH 26GTV	DH 28GSV	DH 32GSV
Article no.	3034225	3034235	3034245
Machine data			
Electrical connection	230 V / 1 Ph ~ 50 Hz	400 V / 3 Ph ~ 50 Hz	400 V / 3 Ph ~ 50 Hz
Motor output	1.5 kW	1.5 kW	2.2 kW
Coolant pump motor	-	-	40 W
Drilling performance (S235JR)			
Drilling performance steel	Ø 24 mm	Ø 26 mm	Ø 30 mm
Continuous drilling performance steel	Ø 21 mm	Ø 23 mm	Ø 26 mm
Thread tapping steel	-	-	M 16
Spindle holder			
Spindle sleeve stroke	127 mm	127 mm	125 mm
Spindle holder	MT 3	MT 3	MT 4
Reach	235 mm	260 mm	285 mm
Automatic spindle sleeve feed	-	-	0.1 / 0.15 / 0.2 mm
Speeds			
Spindle speeds	45 - 3,200 min ⁻¹	45 - 3,200 min ⁻¹	40 - 3,000 min ⁻¹
4 gears electronically controlled			
Drilling table			
Workspace drilling table length x width	380 x 380 mm	376 x 394 mm	400 x 420 mm
T-groove size	14 mm	14 mm	14 mm
Rotating drilling table	360°	360°	360°
Clearance spindle - drilling table	max. 450 mm	max. 875 mm	max. 820 mm
Machine base			
Machine base work area L x W	350 x 322 mm	350 x 356 mm	420 x 644 mm
T-groove size/count/spacing	14 mm / 2 / 120 mm	14 mm / 2 / 120 mm	14 mm / 2 / 150 mm
Distance spindle - machine base	max. 610 mm	max. 1,285 mm	max. 1,270 mm
Dimensions			
Column diameter	Ø 92 mm	Ø 92 mm	Ø 115 mm
Dimensions	600 x 380 x 1,300 mm	670 x 550 x 2,080 mm	725 x 450 x 2,200 mm
Overall weight	158 kg	175 kg	304 kg

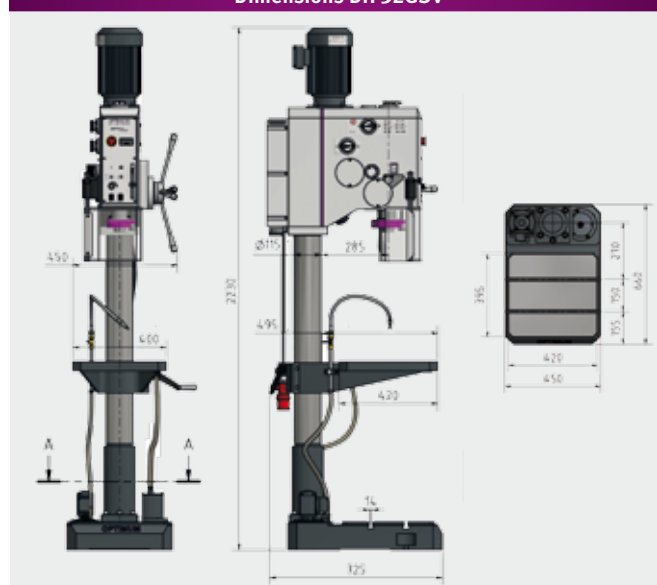
Dimensions DH 26GTV



Dimensions DH 28GSV



Dimensions DH 32GSV



Scope of supply

- Adapter MT 3-B16 (DH 26GTV / DH 28GSV)
- Adapter MT 4-B16 (DH 32GSV)

> „Accessories for drills“ from page 37

Universal column gearbox drilling machine with manual gearbox and 12 gears. B 40PTE additionally with automatic spindle sleeve feed and pivoting drilling table

Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid cast design
- ▶ Smooth action due to polished gearwheels running in an oil sump
- ▶ Large speed range from 95 - 3,200 rpm thanks to 12 switchable speeds
- ▶ Two-stage quality electric motor
- ▶ Coupling for switching over from manual rough to manual fine feed

OPTIdrill B 40 PTE

- ▶ Automatic spindle sleeve feed
- ▶ Drilling table swivels horizontally through 180°



Fig.: OPTIdrill B 40E

Base plate

- The baseplate can be used as a workspace for particularly high workpieces by swivelling out the drilling table
- Solid
- Precise surface finish



Fig: OPTIdrill B 40PTE

B 40PTE

Automatic spindle sleeve feed

Drilling depth stop adjustable within range of 0-90 mm. The feed is automatically switched off after reaching the preset drilling depth and turned back to its original position by the spring force of the return spring

Spindle sleeve feed

- ▶ Via handwheel

Drilling depth stop

- Millimetre scale
- Adjustable

Chuck protection

- For best possible user protection
- Height-adjustable
- Microswitch

Cast column

- Thick walls
- For high force absorption and stability

Drilling table

- Generously dimensioned
- Solid
- Precise workmanship
- Diagonal T-grooves
- With pronounced ribbing on rear
- Double clamped

Chip filter

- Removes coarse components from the coolant
- In line with Machinery Directive

Coolant system

- Coolant tank integrated into base plate




Technical specifications, accessories and dimensions

Model	B 40E		B 40PTE	
Article no.	3034340		3034345	
Machine data				
Electrical connection	400 V / 3 Ph ~ 50 Hz			
Total connected load	1.1/1.5 kW			
Coolant pump motor	40 W			
Drilling performance (S235JR)				
Drilling performance steel	Ø 32 mm			
Continuous drilling performance steel	Ø 25 mm			
Thread tapping steel	M 16			
Spindle holder				
Spindle sleeve stroke	120 mm			
Spindle sleeve diameter	75 mm			
Spindle holder	MT 4			
Reach	285 mm			
Autom. spindle sleeve feed	-		0.1/0.18/0.26 mm/rev	
Drilling head	360° rotating 45° pivoting			
Speeds				
Spindle speeds	95 - 3,200 min ⁻¹			
Number of stages	2 x 6 gears			
Drilling table				
Drilling table length x width	425 x 420 mm		400 x 445 mm	
T-groove size	14 mm			
Rotating drilling table	360°			
Drilling table pivots	-		180°	
Clearance spindle - drilling table	max. 855 mm			
Machine base				
Machine base work area L x W	385 x 385 mm			
T-groove size/count/spacing	14 mm / 2 / 150 mm			
Distance spindle - machine base	max. 1,215 mm			
Dimensions				
Column diameter	Ø 115 mm			
Length x width x height	720 x 700 x 2,050 mm		710 x 685 x 2,050 mm	
Overall weight	288 kg		302 kg	
	TVP 1			

Scope of delivery

- Quick-action drill chuck 1 - 16 mm
- Operating tool

Accessories	Article no.
Quick-action drill chuck MT 4 / 1 - 16 mm	3050574
Reduction sleeves MT 4 - MT 3	3050664
Morse taper MT 4 - B16	3050661
Assortment of clamping tools SWH 12	3352017
Thread tapping chuck M5-M12	3352042
› More „Accessories for drills“ from page 37	

Machine vices	Article no.	
MSO 125	3000125	
MSO 150	3000150	
BMS 150	3000015	
BMS 200	3000020	
BSI 140	3000214	
BSI 200	3000220	

Dimensions

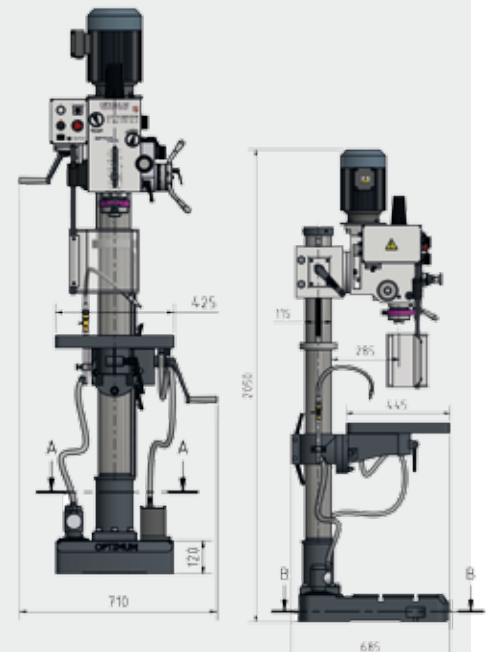


Fig: Optidrill B 40PTE

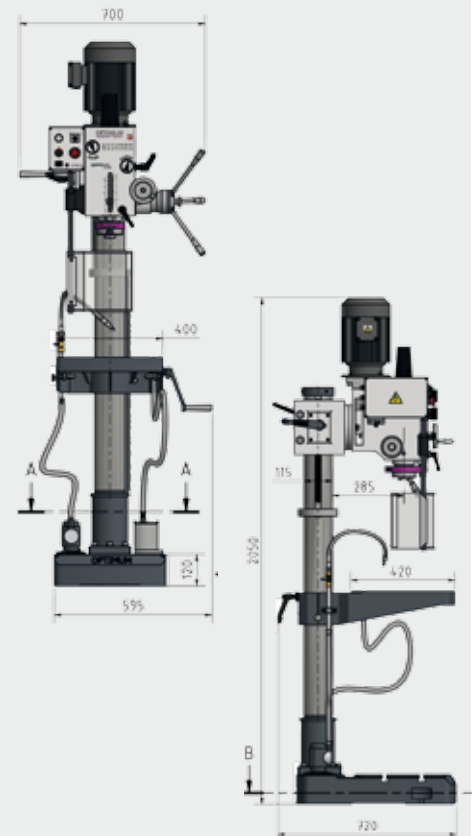


Fig.: Optidrill B 40E

Heavy-duty gearbox drilling machine with thread tapping device.

Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid cast design
- ▶ Automatic gearwheel lubrication via oil pump
- ▶ Smooth action due to polished gearwheels running in an oil sump
- ▶ Excellent concentricity thanks to hardened and polished main spindle
- ▶ Thread tapping device.
- ▶ Lockable main switch and motor protection switch

OPTIdrill B 40 GSM

- ▶ Automatic spindle sleeve feed

Spindle speed

- 9 switchable speeds via gear shift lever on front side of drilling head
- Two-stage drive motor
- 18 speeds 50 - 1,450 rpm

Easy tool changing thanks to integrated push-out tool

- Insert the push-out tool
- Push the handle up
- The taper mandrel is pushed out of the drill spindle

Switch cabinet

- Clear-cut layout
- Generously dimensioned
- Certified switches by ABB
- 24 V DC
- Certified components by Siemens or Schneider

Drilling depth stop

- Adjustable with millimetre scale

Clockwise/Anti-clockwise rotation

- For thread tapping

Machine lamp

- Integrated in drilling head

Cast column

- Thick walls
- Good force absorption
- Extremely stable

Drilling table

- Generously dimensioned
- Solid
- Precise workmanship
- Diagonal T-grooves
- With pronounced ribbing on rear
- $\pm 90^\circ$ rotation about own axis and about column

Chip filter

- Removes coarse components from the coolant
- In line with Machinery Directive

Coolant system

- Coolant tank integrated into base plate
- Tank capacity 5 litres
- Delivery rate 2 l/min

Base plate

- Solid
- Parallel T-grooves
- Precise surface finish

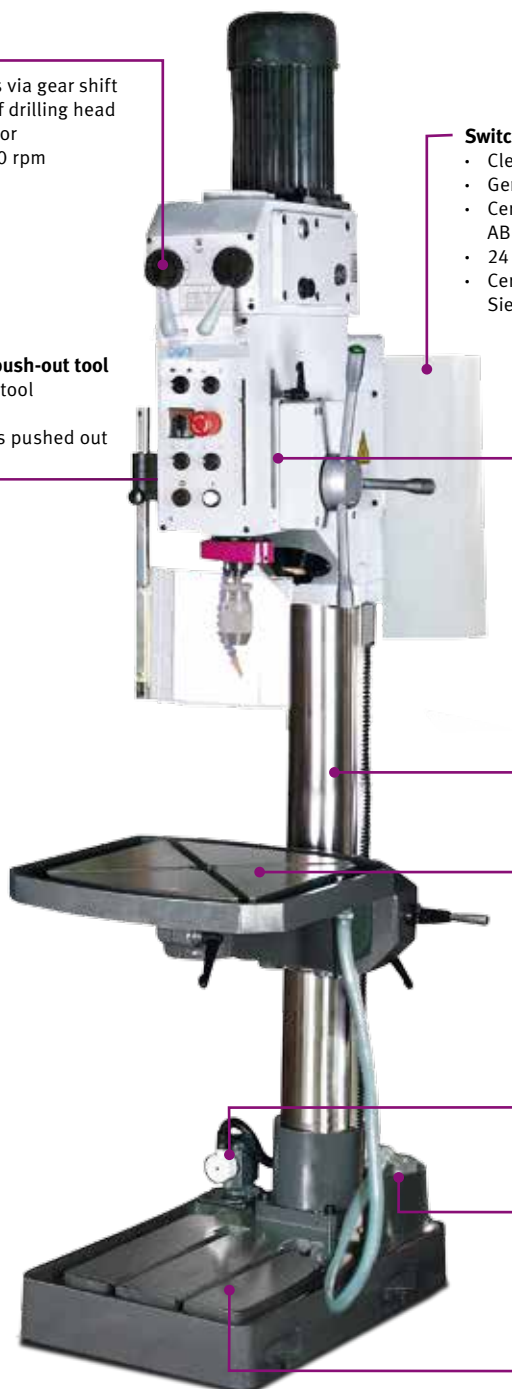


Fig.: OPTIdrill B 40GSM

Spindle sleeve feed 2 speeds 0.1/0.2 mm/rev



OPTIdrill B 40GSM - electrical

For deep drilling or blind hole drilling, the clutch on the automatic spindle sleeve feed can be released or engaged at any time by pressing the button on the feed handle.



OPTIdrill B 40GSP - manual






Technical specifications, accessories and dimensions

Model	B 40GSP
Article no.	3034403
Model	B 40GSM
Article no.	3034400
Machine data	
Electrical connection	400 V / 3 Ph ~ 50 Hz
Total connected load	1.5 kW
Coolant pump motor	40 W
Drilling performance (S235JR)	
Drilling performance steel	Ø 35 mm
Continuous drilling performance steel	Ø 30 mm
Thread tapping steel	M 24
Spindle holder	
Spindle sleeve stroke	180 mm
Spindle holder	MT 4
Reach	350 mm
Spindle sleeve feed	2 speeds, 0.1/0.2 mm/rev
Speeds	
Spindle speeds	50 - 1,450 rpm
Number of stages	18 gears
Drilling table	
Workspace drilling table length x width	560 x 560 mm
T-groove size	18 mm
Drilling table pivots/rotates	± 90°
Clearance spindle - drilling table	max. 780 mm
Drilling table load bearing capacity	250 kg
Machine base	
Machine base work area L x W	510 x 500 mm
T-groove size/count/spacing	18 mm / 2 / 150 mm
Clearance spindle - machine base	max. 1,320 mm
Dimensions	
Column diameter	Ø 150 mm
Length x width x height	935 x 560 x 2,280 mm
Overall weight	500 kg
	TVP 1

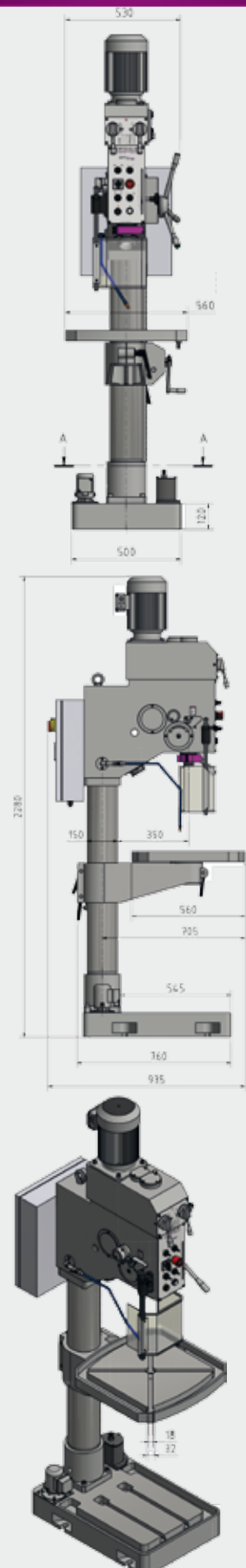
Scope of delivery

- Quick-action drill chuck 1 - 16 mm
- Morse taper MT 4

Accessories	Article no.
Quick release chuck direct MT 4 / 1 - 16 mm	3050574
Reduction sleeves MT 4 - MT 3	3050664
Morse taper MT 4 - B16	3050661
Assortment of clamping tools SWH 16	3352019
Thread tapping chuck M5 - M12	3352042
› More „Accessories for drills“ from page 37	

Machine vices	Article no.	
MSO 125	3000125	
MSO 150	3000150	
BMS 150	3000015	
BMS 200	3000020	
BSI 140	3000214	
BSI 200	3000220	

Dimensions



Heavy duty gearbox drilling machine with coolant and thread tapping unit, and automatic spindle sleeve feed

Facts that impress in terms of quality, performance and price

- Heavy, solid cast design
- Smooth action due to polished gearwheels running in an oil sump
- Excellent concentricity thanks to tempered and ground main spindle
- Two-stage drive motor
- Automatic gearwheel lubrication via oil pump
- Thread tapping device.
- Lockable main switch and motor protection switch
- Machine lamp integrated into drilling head

Heavy, solid
cast design
950 kg
Smooth action, stable

Automatic spindle sleeve feed



For deep drilling or blind hole drilling, the clutch on the automatic spindle sleeve feed can be released or engaged at any time by pressing the button on the feed handle.

Spindle sleeve feed

- Via handwheel

Chuck protection

- Best possible user protection
- Height-adjustable
- Microswitch

Cast column

- Thick walls
- Smooth action and stability
- Column diameter 200 mm

Table height adjustment

- motorised
- Displacement speed 450 mm/min.

Coolant system

- Coolant tank integrated into base plate
- Tank capacity 5 litres
- Delivery rate 2 l/min

Chip filter

- Removes coarse components from the coolant
- In line with Machinery Directive

Integrated push-out tool

- Easy tool changes through ejector



Drilling table

- Generously dimensioned
- Solid
- Precise workmanship
- Diagonal T-grooves
- With pronounced ribbing on rear
- $\pm 90^\circ$ rotation about own axis and about column



Base plate

- Can be used as a workspace for particularly high workpieces by swivelling out the drilling table
- Solid
- Parallel T-grooves
- Precise surface finish

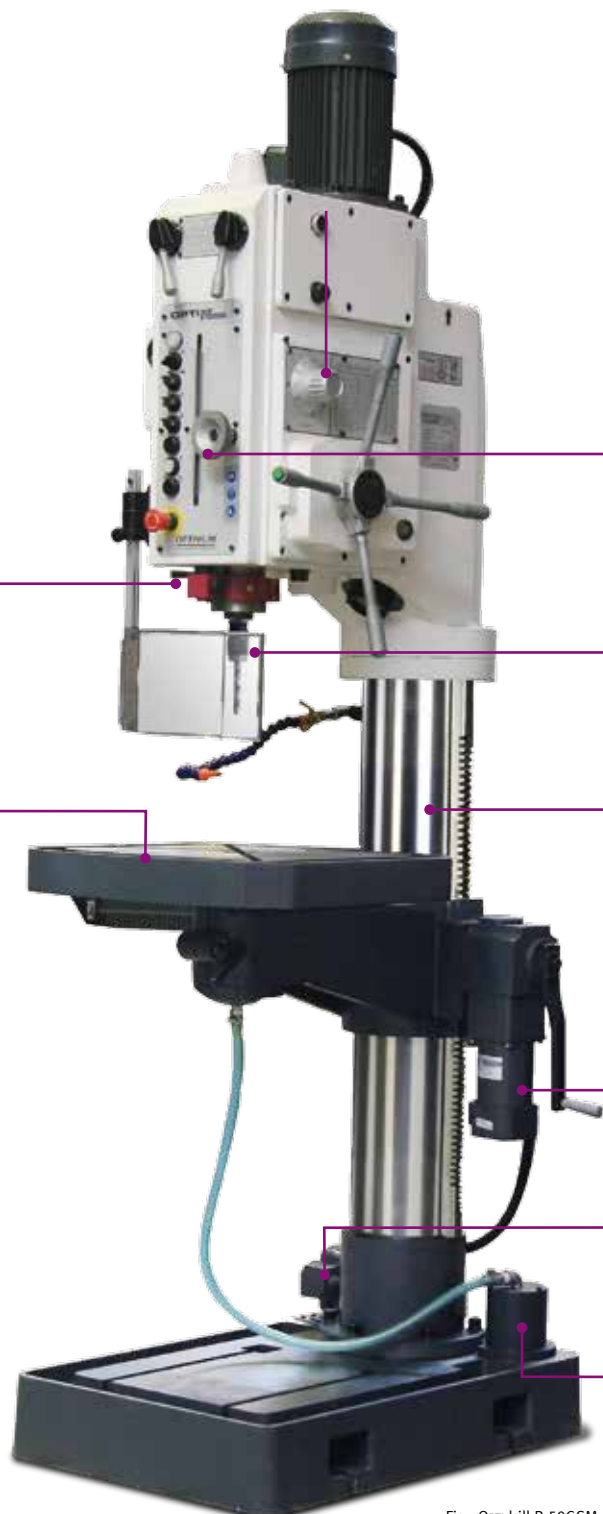


Fig.: OPTIdrill B 50GSM

Technical specifications, accessories and dimensions

Model	B 50GSM
Article no.	3034500
Machine data	
Electrical connection	400 V / 3 Ph ~ 50 Hz
Total connected load	3.0/2.4 kW
Coolant pump motor	40 W
Drilling performance	
Drilling performance steel (S235JR)	Ø 50 mm
Continuous drilling performance steel (S235JR)	Ø 45 mm
Thread tapping steel (S235JR)	M 42
Spindle holder	
Spindle sleeve stroke	230 mm
Spindle holder	MT 4
Reach	375 mm
Autom. spindle sleeve feed	6 speeds, 0.05-0.3 mm/rev
Speeds	
Spindle speeds	54 - 2,090 rpm
Number of stages	18 gears
Drilling table	
Workspace drilling table length x width	600 x 600 mm
T-groove size	18 mm
Drilling table load bearing capacity	300 kg
Drilling table pivots/rotates	± 90°
Clearance spindle - drilling table	max. 800 mm
Machine base	
Machine base workspace length x width	600 x 520 mm
T-groove size/count/spacing	18 mm / 2 / 280 mm
Distance spindle - machine base	max. 1,300 mm
Dimensions	
Column diameter	Ø 200 mm
Length x width x height	985 x 775 x 2,460 mm
Overall weight	950 kg
	TVP 1

Scope of delivery

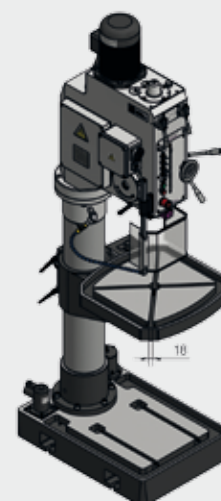
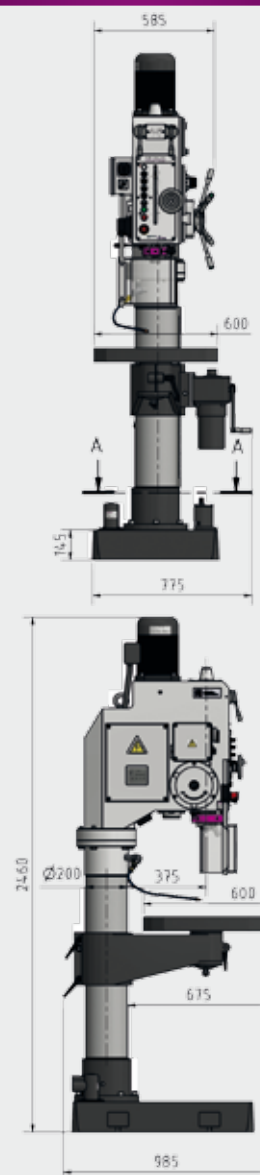
- Quick-action drill chuck 1 - 16 mm
- Morse taper MT 4
- T-slot nuts

Accessories

Accessories	Article no.
Quick release chuck direct MT 4 / 1 - 16 mm	3050574
Reduction sleeves MT 4 - MT 3	3050664
Twist drill HSS with morse taper MT 3	3051003
Morse taper MT 4 - B16	3050661
Assortment of clamping tools SWH 16	3352019
Thread tapping chuck M5 - M12	3352042

› More „Accessories for drills“ from page 37

Dimensions



Compatibility overview accessories for drills

Accessories drilling																														
Direct SSBF	MT 2	3050571			●	●	○	○	●	●	●	●		○	●	●	○	○			●	●		○			○	○	○	○
	MT 2	3050572			●	●	○	○	●	●	●	●		○	●	●	○	○			●	●		○			○	○	○	○
	MT 3	3050573						●	○				●	●	○			●	○			●	○	●	●	○		○	○	○
	MT 4	3050574							●						●				●					●			●	●	●	●
Precision SSBF	1 - 8 mm	3050608	●	●	○	○	○	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	1 - 10 mm	3050610	●	●	○	○	○	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	1 - 13 mm	3050623	●	●	○	○	○	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	1 - 16 mm	3050626	●	●	○	○	○	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Reduction sleeves	MT 3-MT 2	3050663					●							●				●				●		●	●					
	MT 4-MT 3	3050664						●						●					●				●				●	●	●	●
	MT 4-MT 2	3050665						●						●					●				●				●	●	●	●
Morse cone	MT 2 / B16	3050659			●	●			●	●	●	●				●				●	●									
	MT 3 / B16	3050660				○	●		○	○			●				●				●		●	●			●			
	MT 4 / B16	3050661						●						●				●					●				●		●	●
	MT 5 / B16	3050675																												
	MT 6 / B16	3050676																												
Twist drill HSS	MT 2	3051002			●	●			●	●	●	●	○	○	●	●	○	○		●	●	○	○	○	○	○	○	○	○	○
	MT 3	3051003			○	○	●		○	○		●	●	○			●	●				●	○	●	●	○	○	○	○	○
Thread tapper		3342042	●	●	●	●	●	●	●	●	○	●	●	●	○	●	●	●		●	●	●	●	●	●	●	●	●	●	●
Taper drill punch	MSP 1	3050636				●	●	●	●	●	●	●	●			●	●			●	●		●	●						
	MSP 2	3050637												●				●					●			●	●	●	●	●
Clamping tools	SPW 8	3352015																												
	SPW 10	3352016									●	●			●															
	SPW 12	3352017	●	●	●	●	●	●	●	●			●	●		●	●	●	●	●	●	●	●	●	●	●	●			
	SPW 14	3352018																										●		
	SPW 16	3352019																											●	●
Coolant unit	230 V	3352002	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	
	400 V	3352001										●	●	●		●	●	●		●	●	●	●	●	●	●	●	●	●	●
Coolant mist lubricator	MMC 1	3356663	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Cooling hose	KMS 2	3356660	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Vices																														
Vice	MSO 75	3000075	●	●	●	●	●	●	●	●						●	●		●	●	●	●	●	●	●	●	●	●		
	MSO 100	3000100	●	●	●	●	●	●	●	●				●	●		●	●		●	●	●	●	●	●	●	●	●		
	MSO 125	3000125	●	●	●	●	●	●	●	●				●	●		●	●		●	●	●	●	●	●	●	●	●		
	MSO 150	3000150																												
Vice	BMS 85	3000008	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
	BMS 100	3000010	●	●	●	●	●	●	●	●				●	●		●	●		●	●	●	●	●	●	●	●	●		
	BMS 120	3000012	●	●	●	●	●	●	●	●				●	●		●	●		●	●	●	●	●	●	●	●	●		
	BMS 150	3000015	○	○	○	●	●	●	●	●				●	●		●	●	●		○	●	●	●	●	●	●	●		
	BMS 200	3000020			○	○	○	○	○	○	○	○	○	○	○		○	○	○		○	○	○	○	○	○	○	○	●	
Vice	BSI 100	3000210	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
	BSI 140	3000214	○	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	
	BSI 200	3000220																											●	●
Vice	BSI-Q 100	3000230	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
	BSI-Q 140	3000234	○	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	
	BSI-Q 200	3000240																											●	●
			● Recommended															○ Recommended - restrictions apply												

Universal coolant unit

- Delivery height max. 2.5 m · Flow rate 8 l/min
- Container capacity 11 l
- Container size L x W x H: 370 x 245 x 170 mm
- Complete with container, flexible tube and hose
- With switch/plug combination
- Magnetic base fastener for coolant hose
- For self-assembly!

Universal coolant unit 230 V/1 Ph 3352002

Universal coolant unit 400 V/3 Ph 3352001

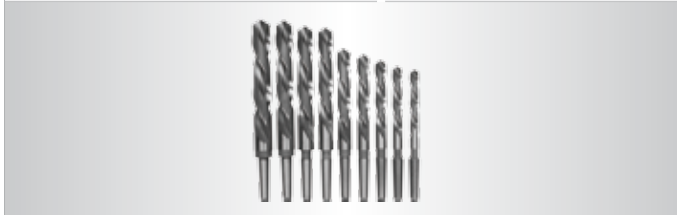


Twist drill HSS with morse taper

- 9-part; sizes 14.5/16/18/20/22/24/26/28/30 mm
- Long service life.
- Good chip removal
- Right handed

MT 2 3051002

MT 3 3051003



Assortment of clamping tools size

- 58-part, in practical holder
- Metric thread
- 24 pcs. pull studs
- 6 pcs. T-slot nuts
- 6 pcs. nuts
- 4 pcs. extension nuts
- 6 pcs. step blocks
- 12 pcs. step blocks

Size 8 3352015

- T-slot nuts 10 mm; locking thread M 8

Size 10 3352016

- T-slot nuts 12 mm; locking thread M 10

Size 12 3352017

- T-slot nuts 14 mm; locking thread M 12

Size 14 3352018

- T-slot nuts 16 mm; locking thread M 14

Size 16 3352019

- T-slot nuts 18 mm; locking thread M 16



End mill set HSS

- Titanium coated
- Improved hardness and stability with 2x to 5x service life
- Twice the machining performance
- Improved workpiece finish
- With cylindrical shaft and lateral lugs
- Version with 2 cutting edges for milling keyways/fixing grooves and milling out the workpiece centre
- Vertical or lateral milling possible
- Version with 4 cutting edges and 30° right-hand twist for good chip removal in normal to hard materials
- Wooden crate

12-part 3352113

- 6 end mills, short version · Version 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 end mills, short version · Version with 4 cutting edges.
DIN 1835 B (Ø12 x 83, Ø10 x 73, Ø8 x 61, Ø6 x 57, Ø5 x 57, Ø4 x 55 mm)

20-part 3386200

- 10 end mills DIN 327 D · Short version · 2 cutting edges
DIN 1835 B, (3/4/5/6/8/10/12/14/18/20 mm)

- 10 end mills DIN 844 B · Short version · 4 cutting edges
DIN 1835 B, (3/4/5/6/8/10/12/14/18/20 mm)



Coolant mist lubricator with magnetic base MMC1

3356663

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



Coolant hoses with magnetic base KMS 2

3356660

- Two variable coolant hoses made of individual plastic elements
- Not electrically conductive
- Holding force of magnetic base up to 50 kg
- Length of coolant hoses each 295 mm
- Flexible and stable
- Insensitive to most solvents and chemicals
- Universally deployable on all tool machines



Accessories for drills

OPTIMUM Precision quick release chuck

Concentricity better than 0.06 mm

1 - 8 mm; B16	3050608
1 - 10 mm; B16	3050610
1 - 13 mm; B16	3050623
1 - 16 mm; B16	3050626



OPTIMUM Direct quick release chuck

MT 2 1 - 16 mm; up to 6,000 rpm	3050571
MT 2 1 - 13 mm; up to 8,000 rpm	3050572
MT 3 1 - 16 mm; up to 6,000 rpm	3050573
MT 4 1 - 16 mm; up to 6,000 rpm	3050574



Reduction sleeves

MT 3 - MT 2	3050663
MT 4 - MT 3	3050664
MT 4 - MT 2	3050665



Morse cone

MT 2 - B16	3050659
MT 3 - B16	3050660
MT 4 - B16	3050661
MT 5 - B16	3050675
MT 6 - B16	3050676



Extension sleeves

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



Thread tapping chuck M5 - M12

3352042

- Quick reverse built-in, immediately effective on changing the feed direction
- Slip clutch 4-stage adjustable. With collet B16

Scope of supply:

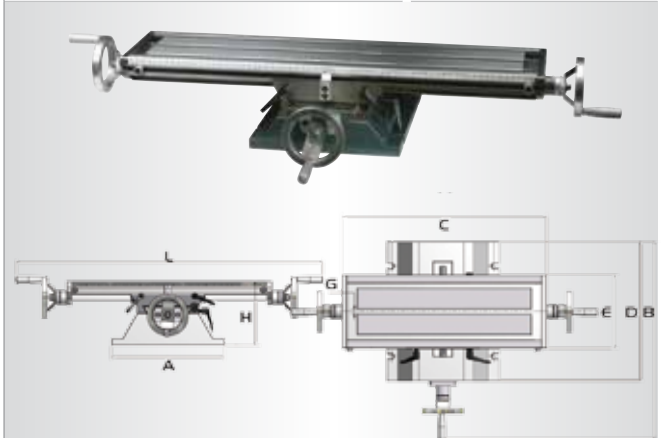
- 2 flexible spring collets · 2 open-ended spanners · 1 Allen key



Cross tables KT

- Coolant channel
- Dovetail guide adjustable
- Adjustable handwheel scaling with 0.05 mm scale

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



Technical Data	KT 120	KT 179	KT 180	KT 210
A (base width)	222 mm	274 mm	274 mm	280 mm
D (base 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-groove size)	10 mm	12 mm	12 mm	14 mm
L x W 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	40 kg	52 kg	84 kg
Strokes				
X axis	220 mm	287 mm	480 mm	480 mm
Y axis	165 mm	167 mm	170 mm	210 mm
Max. load	40 kg	55 kg	55 kg	80 kg

Hold-down unit set of 2

- Clamping height adjustable
- Brass plate below clamping arm protects material against damage

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



Taper drill punch

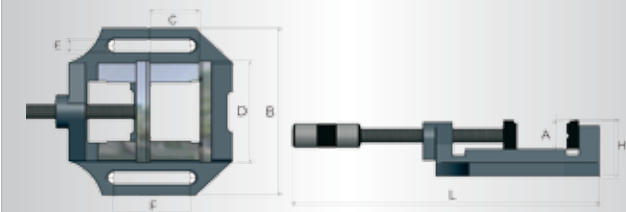
MSP 1 for MK 1 to MT 3	3050636
MSP 2 for MT 4 to MT 6	3050637



Machine vices MSO with prisms

- Easy action
- Precise jaw guidance, also in case of high axial load
- Spindle with rolled trapezoid thread
- Many assembly options on drill table thanks to slots

MSO 75	3000075
MSO 100	3000100
MSO 125	3000125
MSO 150	3000150



Tech. data	A	C	D	E	F	L	B	H	kg
MSO 75 mm	28	55	75	12,5	55	270	130	52	2,3
MSO 100 mm	28	90	100	12,5	74	350	165	55	3,2
MSO 125 mm	30	110	125	12,5	80	400	182	65	4,5
MSO 150 mm	35	130	150	14,5	110	455	208	67	6,2

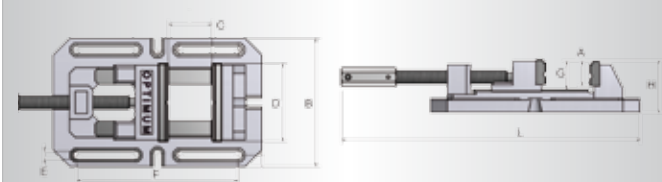


MSO 100

Machine vices BSI

- Drill vices in industrial quality
- Replaceable prism jaws
- Long guides on moving jaw prevent tilting
- Precision ground prism jaws
- Many assembly options on drill table thanks to slots
- Premium grey cast
- Scraped guide surfaces

BSI 100	3000210
BSI 140	3000214
BSI 200	3000220



Tech. data	A	C	D	E	F	G	L	B	H	kg
BSI 100 mm	35	110	100	12	216	40	max. 460	170	74	8,7
BSI 140 mm	45	150	140	14	290	50	max. 610	230	93	18
BSI 200 mm	58	200	200	16	406	64	max. 788	290	118	37

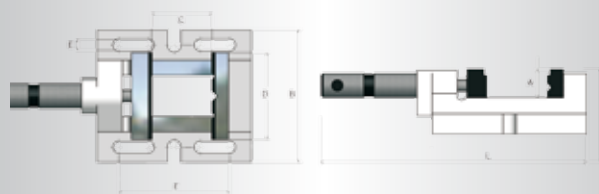


BSI 140

Machine vices BMS with prisms

- Rugged design with prism jaws
- Easy action
- Precise jaw guidance
- Spindle with rolled trapezoid thread
- Many assembly options on drill table thanks to slots

BMS 85	3000008
BMS 100	3000010
BMS 120	3000012
BMS 150	3000015
BMS 200	3000020



Tech. data	A	C	D	E	F	L	B	H	kg
BMS 85 mm	27	70	85	11	109	260	130	60	3,2
BMS 100 mm	30	90	100	12,5	125	280	150	66	4,6
BMS 120 mm	35	110	120	12,5	146	330	170	70	5,6
BMS 150 mm	45	130	150	12,5	180	375	200	78	7,6
BMS 200 mm	60	160	200	12,5	210	445	252	95	16

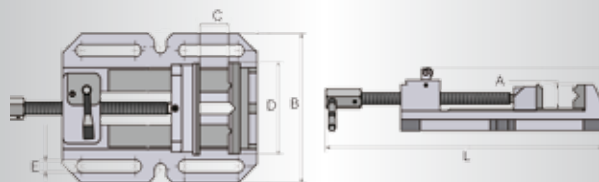


BMS 85

Machine vices BSI-Q

- Drill vices in industrial quality
- Quick clamping thanks to quick release
- Replaceable prism jaws
- Long guides on moving jaw prevent tilting
- Precision ground prism jaws
- Many assembly options on drill table thanks to slots
- Premium grey cast . Scraped guide surfaces

BSI-Q 100	3000230
BSI-Q 140	3000234
BSI-Q 200	3000240



Tech. data	A	C	D	E	L	B	H	kg
BSI-Q 100 mm	30	105	100	12	max. 335	150	95	5,5
BSI-Q 140 mm	40	155	140	14	max. 415	200	100	10,7
BSI-Q 200 mm	55	220	200	16	max. 525	275	125	20,2



BSI-Q 100



before
WOBBLY

now
SOLID

THERMADRILL®

The bushing that really works!

Threaded bushings that no longer wobble!

In friction drilling, the friction heat from the existing material is used to create an anti-twist protected bushing without material removal in which a thread is then tapped.



1 Thermal drilling



2 Thread taper



Stable threaded bushing

- **No worries about working loose or turning**
saves time-consuming drilling out and avoids complaints
- **Easy assembly**
on virtually any upright drilling machine
- **Huge cost savings**
compared with rivet nuts, only two steps
- **Quality - Made in Germany**

You require

1

Thermal drill



SHAPE

For bushes with collar



CUT

For bushes without collars

- Suitable for aluminium, non-ferrous metal, steel and stainless steel
- Made of solid carbide with a special polygon grind

Size	Design	Max. material thickness [mm]	Art. no.	€ plus VAT	Max. material thickness [mm]	Art. no.	€ plus VAT
M 4	short	1,5	3060104		2,0	3060164	
	long	2,5	3060124		4,0	3060144	
M 5	short	2,0	3060105		3,0	3060165	
	long	3,0	3060125		4,5	3060145	
M 6	short	2,0	3060106		3,0	3060166	
	long	3,5	3060126		5,0	3060146	
M 8	short	2,5	3060108		4,0	3060168	
	long	4,0	3060128		6,0	3060148	
M 10	short	2,5	3060110		4,0	3060170	
	long	4,5	3060130		6,5	3060150	
M 12	short	2,5	3060112		4,0	3060172	
	long	4,5	3060132		6,5	3060152	

Other thread sizes available (also in metric fine and pipe threads)

2

Thread taper



with TiN coating and lubricant grooves tolerance 6HX Form C

- Legacy tool fittings can be used

3

Basic equipment



Contains everything you need to get started with the THERMADRILL right away

Size	Art. no.
M4 x 0.7	3060184
M5 x 0.8	3060185
M6 x 1.0	3060186
M8 x 1.25	3060188
M10 x 1.50	3060190
M12 x 1.75	3060192

Chuck	Art. no.
MT 2	3060005
Contents:	
Tool holder with cooling ring MT 2ER 32	
4 pcs. Spring collets (Ø 6/8/10/12 mm)	
Reduction sleeve MT 3 - MT 2	
THERMADRILL Paste 100 g	
Thread tapping oil 100 ml	
Open-ended spanner	
Hook wrench	
Case	

Tool set = Thermal drill + thread taper

THERMADRILL Paste

Thread tapping oil

Type SHAPE

Type CUT

Size	Design	Max. material thickness [mm]	Art. no.	€ plus VAT	Max. material thickness [mm]	Art. no.	€ plus VAT
M 4	short	1,5	3060024		2,0	3060044	
	long	2,5	3060034		4,0	3060054	
M 5	short	2,0	3060025		3,0	3060045	
	long	3,0	3060035		4,5	3060055	
M 6	short	2,0	3060026		3,0	3060046	
	long	3,5	3060036		5,0	3060056	
M 8	short	2,5	3060028		4,0	3060048	
	long	4,0	3060038		6,0	3060058	
M 10	short	2,5	3060030		4,0	3060050	
	long	4,5	3060040		6,5	3060060	
M 12	short	2,5	3060032		4,0	3060052	
	long	4,5	3060042		6,5	3060062	

Container	Article no.	Container	Article no.
For friction drilling including brush		Including brush	
1 kg	3060090	1 litre	3060092



Protects the thermal drill against excessive



High-performance oil, specially suited for thread tapping in aluminium, copper, brass, steel, stainless

Other thread sizes available (also in metric fine and pipe threads)



MILLING MACHINES

Small drilling/milling machine with electronic, continuously controllable drive for model makers

Facts that impress in terms of quality, performance and price

- ▶ Versatile deployment options
- ▶ All guides ground and finish shaved (oil pockets for lubrication)
- ▶ Column can be displaced laterally to extend the range of applications
- ▶ Tool holder MT 2
- ▶ EMC filter class B (use in private households)
- ▶ Safety electrical system 24-volt version
- ▶ All travel can be read off on scales
- ▶ Inexpensive, lasting value

Control unit

- Simple
- Clear-cut
- On/off switch
- Potentiometer
- Emergency stop button

Speed control

- Continuously adjustable from 100 bis 3,000 rpm

Excellent concentricity

- Thanks to tapered roller bearings
- Better than 0.015 mm measured at the sleeve spindle

Protective screen

- Height-adjustable
- Generously dimensioned
- Microswitch

Cross table

- Solid
- T-slots
- Coolant channel
- Adjustable limit stops

Feed spindle

- Feed spindle play adjustable and re-adjustable

Gear ratio

- Two-speed

Drilling/milling head

- Tilts $\pm 90^\circ$ both sides
- Drilling and milling work at angled positions as required

Guides

- Clean milling work thanks to individually clamping guides

Column

- Sturdy
- Dovetail guide
- Adjustable on all 3 axes via wedge rails

Handwheels

- Precise feed thanks to positionable scale rings on all handwheels

Longitudinal scale

- Inset into Cross table

Accessories

Digital position display DRO 5

Art no. 3383975

Factory assembly DRO 5

Art no. 9000420



Fig.: BF 16 Vario with optional accessories

Accessories

Universal chassis

Dimensions L x W x H
420 x 340 x 800 mm
Art. no. 3353000

Swarf tray

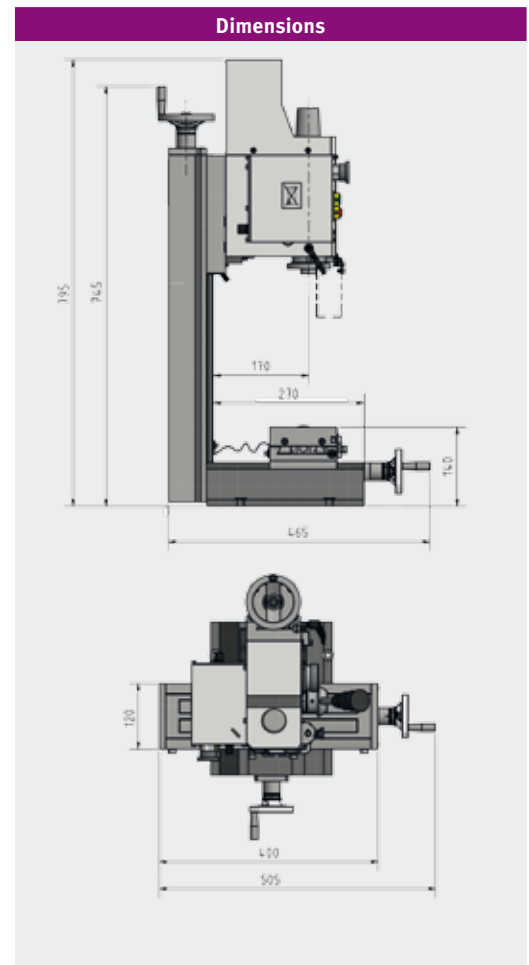
Dimensions L x W x H
720 x 470 x 30 mm
Art no. 3352999

Vibration damping machine base

SE 1 (6 pcs. required)
Art no. 3381012



Technical specifications, accessories and dimensions



Model	BF 16 Vario
Article no.	3338116
Machine data	
Electrical connection	230 V / 1 Ph ~50 Hz
Motor output	500 W
Drilling/milling output (S235JR)	
Drilling performance in steel	Ø 16 mm
Continuous drilling performance in steel	Ø 12 mm
Max. sensor head size	Ø 63 mm
Max. shaft milling cutter size	Ø 20 mm
Spindle holder	
Quill stroke	50 mm
Spindle holder	MT 2
Throat	175 mm
Draw-in rod	M 10
Drilling/milling head	
Swivel range	± 90°
Spindle speeds	100 - 3,000 rpm
Gears	2 speed, electronic speed control
Cross table	
Clearance spindle to table	275 mm
Table length	400 mm
Table width	120 mm
T-groove size/spacing	10 mm/35 mm
Travels	
X axis	220 mm
Y axis	160 mm
Z-axis	210 mm
Dimensions	
Length x width x height	505 x 465 x 795 mm
Overall weight	62 kg



Scope of delivery

- Tapered mandrel MT 2/B16
- Draw-in rod M10
- Operating tool

Accessories	Article no.
Attachment adapter "lathe"	3356568
<ul style="list-style-type: none"> • For mounting the column and milling head on the machine bed of lathes: TU 2506 / TU 2807 	
  <p>Fig. Attachment adapter lathe</p> <p>Fig.: Attachment example BF20 Vario combined with TU 2807V by attachment adapter</p>	
BF 20AV	3338129
<ul style="list-style-type: none"> • Milling head and column of the drilling milling machine • for fitting to the lathes TU 2506 and TU 2807 • Length x Width x Height max. 470 x 425 x 912 mm • Total weight 60 kg 	

Accessories	Article no.
Attachment adapter "high speed"	3356567
<ul style="list-style-type: none"> • For mounting a high speed motor (up to 26,000 rpm) • L x W x H: 120 x 195 x 185 mm Mount: Ø 43 mm (without motor) 	
  <p>Fig. Attachment adapter "high speed"</p> <p>Fig. Attachment example</p>	
Universal chassis	3353000
<ul style="list-style-type: none"> • Dimensions L x B x H: 420 x 340 x 800 mm 	
Swarf tray	3352999
<ul style="list-style-type: none"> • Dimensions L x B x H: 720 x 470 x 30 mm 	
<p>› More „Accessories for milling machines“ from page 70</p>	

Sturdy drilling/milling machines with continuously variable electronic speed control.

Facts that impress in terms of quality, performance and price

- ▶ Feed spindles can be adjusted without play thanks to adjustable spindle nuts
- ▶ Sturdy dovetail guide, precision ground and shaved with adjustable wedge rails
- ▶ EMC filter class B (use in private households)
- ▶ All guides are ground and finish shaved (oil pockets for lubrication)
- ▶ Precision workmanship
- ▶ Two-row angular contact ball bearings in the axes, adjustable without play
- ▶ Safety electrical system 24-volt version
- ▶ Gaiter as guide protection
- ▶ Right-hand/left-hand rotation

- ▶ Drilling/milling head pivots through $\pm 90^\circ$ for milling and drilling work in any angled position
- ▶ Height-adjustable protective screen with microswitch for best possible user protection against chips and parts being flung out

BF 20L:

- ▶ Cross table length 700 mm
- ▶ X axis travel 480 mm

BF 20LD:

Including digital position display DRO5 and magnetic strips on all three axes



Motor

- Two-speed gear ratio for powerful transmission of the motor output (850 W)
- Powerful DC motor with permanent current monitoring

Speeds

- Large, speed-controllable speed range from 90 - 3,000 rpm
- Easily readable digital speed display

Spindle sleeve stroke display

- Digital
- Display accuracy 0.01 mm
- Switchable mm/inch

Start-stop connection

- For the optional CNC controller

Column

- Can be displaced by 30 mm on both sides, with the head pivoted, longer travel Travels and centred machining of the workpiece possible
- With drill hole on rear
- Easy oiling of the trapezoidal spindle or greasing of the ball screws

Limit stops

- Mechanically
- Adjustable

Longitudinal scale

- Inlet into Cross table
- Easily legible

Control electronics

- Integrated relay control
- Optional CNC controller (find it at www.optimum-maschinen.de) can switch the machine on and off

Z column and X axis

- 9 mm groove prepared for easy retroactive mounting of magnetic strips by gluing in



Machine lamp

- Integrated in drilling/milling head
- Halogen pin-base lamp, 12V - 10W

Tapered roller bearing

- Excellent concentricity ≤ 0.015 mm measured at the sleeve spindle

Cross table

- Solid
- Precise surface finish
- With T-slots
- Adjustable wedge rails
- Adjustable via 3 handwheels

Y axis

- With 2 pockets milled in
- Sleeves can be used to easily screw on the magnetic strip holder

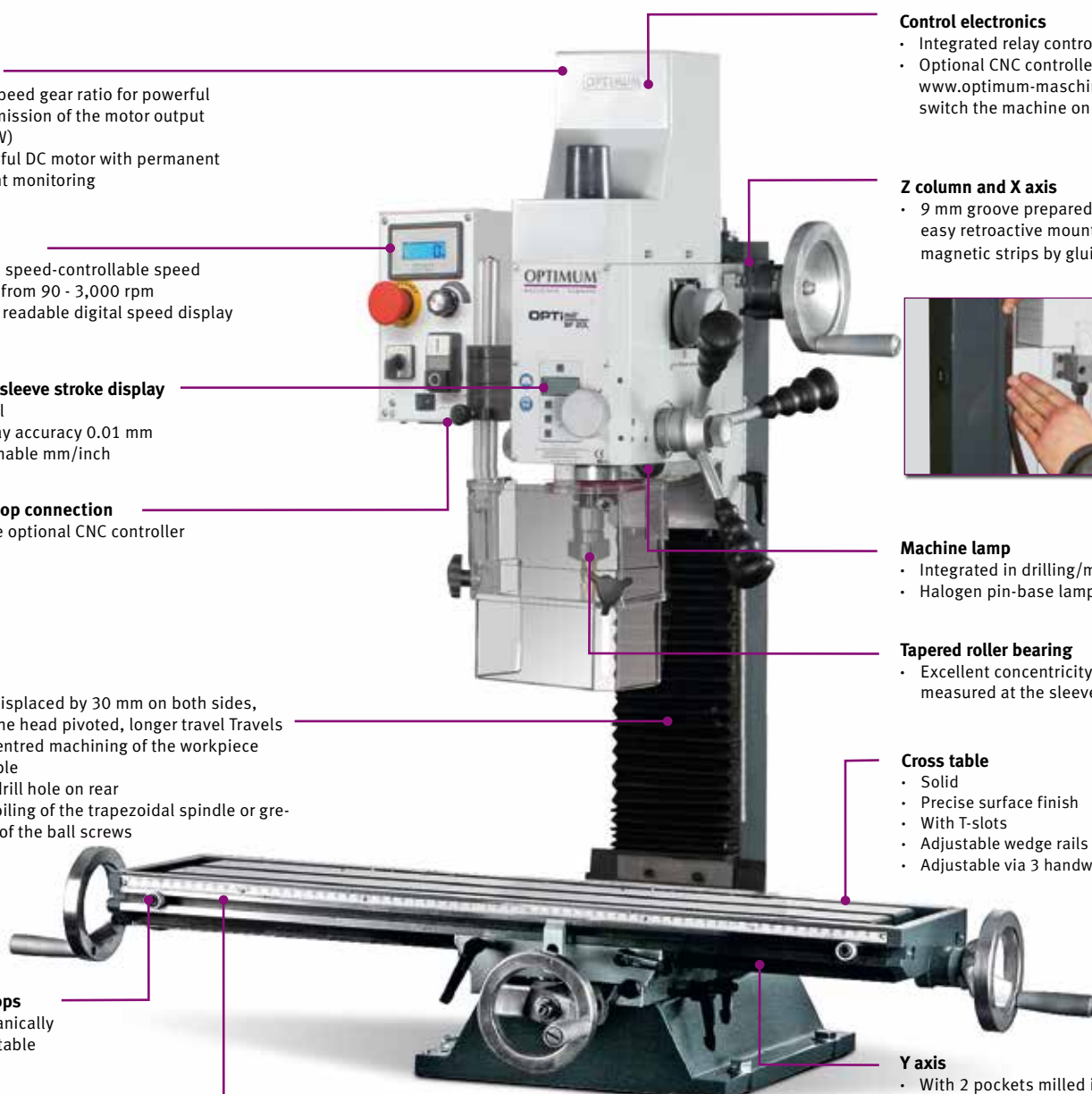
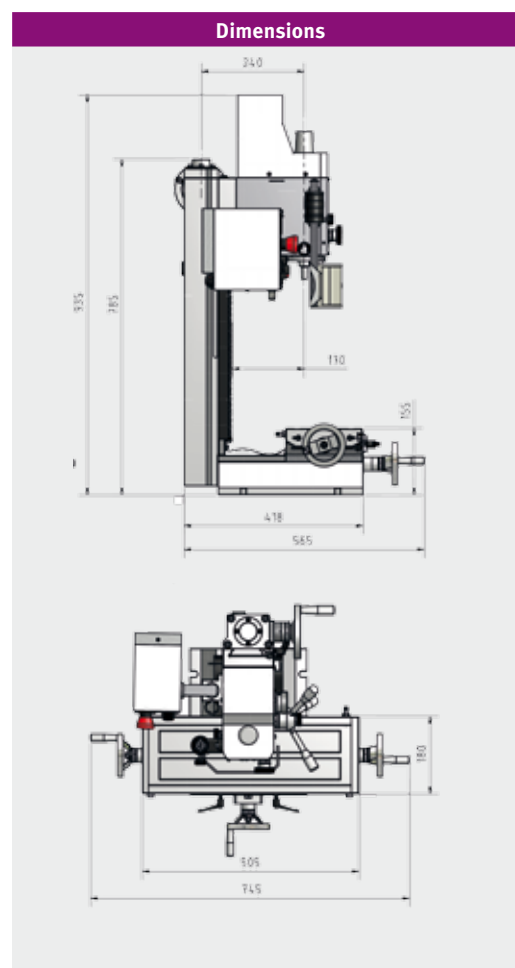


Fig.: BF 20 LVario with optional accessories


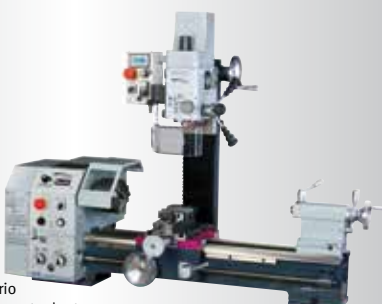
Technical specifications, accessories and dimensions




Model	BF 20 Vario	BF 20L Vario
Article no.	3338120	3338122
Model	BF 20 LD	
Article no.	-	3338125
Machine data		
Electrical connection	230 V / 1 Ph ~50 Hz	
Motor output	850 W	
Drilling/milling output (S235JR)		
Drilling performance in steel	Ø 16 mm	
Continuous drilling performance in steel	Ø 12 mm	
Max. sensor head size	Ø 63 mm	
Max. shaft milling cutter size	Ø 20 mm	
Spindle holder		
Quill stroke	50 mm	
Spindle holder	MT 2	
Throat	185 mm	
Draw-in rod	M10	
Drilling/milling head		
Swivel range	± 90°	
Spindle speeds	90 - 1,480 rpm / 150 - 3,000 rpm	
Gears	2 speed, electronic speed control	
Cross table		
Clearance spindle to table	375 mm	
Table length	500 mm	700 mm
Table width	180 mm	
T-groove size/spacing	12 mm/63 mm	
Cross table max. load bearing capacity	55 kg	
Travels		
X axis	280 mm	480 mm
Y axis	175 mm	
Z-axis	280 mm	
Dimensions		
Length	745 mm	950 mm
Width x height max.	565 x 935 mm	
Overall weight	103 kg	112 kg / 114 kg



Scope of delivery

- Tapered mandrel MT 2/B16
- Draw-in rod M10
- Operating tool

Accessories	Article no.
Attachment adapter "lathe"	3356572
<ul style="list-style-type: none"> • For mounting the column and milling head on the machine bed of lathes: TU 2506 / TU 2807 	
  <p>Fig.: Attachment example BF20 Vario combined with TU 2807V by attachment adapter</p>	
BF 20AV	3338129
<ul style="list-style-type: none"> • Milling head and column of drilling/milling machine • For attachment to lathes TU 2506 and TU 2807 • Length x width x height max. 470 x 425 x 912 mm • Overall weight 60 kg 	

Accessories	Article no.
Attachment adapter "high speed"	3356571
<ul style="list-style-type: none"> • For mounting a high speed motor (up to 26,000 rpm) • L x W x H: 120 x 195 x 185 mm Mount: Ø 43 mm (without motor) 	
   <p>Fig. Attachment adapter "high speed"</p> <p>Fig. Attachment example</p>	
Universal chassis	3353000
<ul style="list-style-type: none"> • Dimensions L x W x H: 420 x 340 x 800 mm 	
Swarf tray	3352999
<ul style="list-style-type: none"> • Dimensions L x W x H: 720 x 470 x 30 mm 	
<p>› More „Accessories for milling machines“ from page 70</p>	

Sturdy milling machines with continuously variable electronic speed control. MH 25SV with stepper motors and digital position display DRO 5

Facts that impress in terms of quality, performance and price

- ▶ Counterweight facilitates Z axis adjustment
- ▶ Variable speed control
- ▶ Easy tool changing thanks to tool quick clamping system
- ▶ Wide guide rails on Z axis
- ▶ Groove prepared for easy retroactive mounting of magnetic strips
- ▶ Inverter motor
- ▶ Feed spindles can be adjusted thanks to adjustable spindle nuts
- ▶ All guides are ground and finish shaved (oil pockets for lubrication)
- ▶ Precision workmanship
- ▶ Particularly smooth action
- ▶ Angular ball bearings on the axes
- ▶ Drilling/milling head pivots through $\pm 45^\circ$
- ▶ Right-hand/left-hand rotation
- ▶ Height-adjustable protective screen with microswitch
- ▶ Sturdy dovetail guide, precision ground and shaved with adjustable wedge rails

MH 25V:

- ▶ Easily readable speed display with milling head

MH 25SV:

- ▶ Continuously variable feed on all axes
- ▶ Rapid motion X/Y axis for fast positioning
- ▶ Digital 3-axis position display DRO 5
- ▶ Feed cut-off at limit position
- ▶ Transportable control panel
- ▶ The feed also switches off when the spindle is stationary



Quick change clamping system

- Milling head equipped with spring collet for pull studs BT30x45°
- To change, simply slot an Allen key into the mounting hole and turn clockwise



Fig.: MH 25V



Control panel

- User-friendly membrane keyboard, touch and switch control
- Easy to clean, clear-cut



Limit switches

- For all three axes



Energy chain

- Lines routed in an energy chain



Fig.: MH 25SV



Control panel

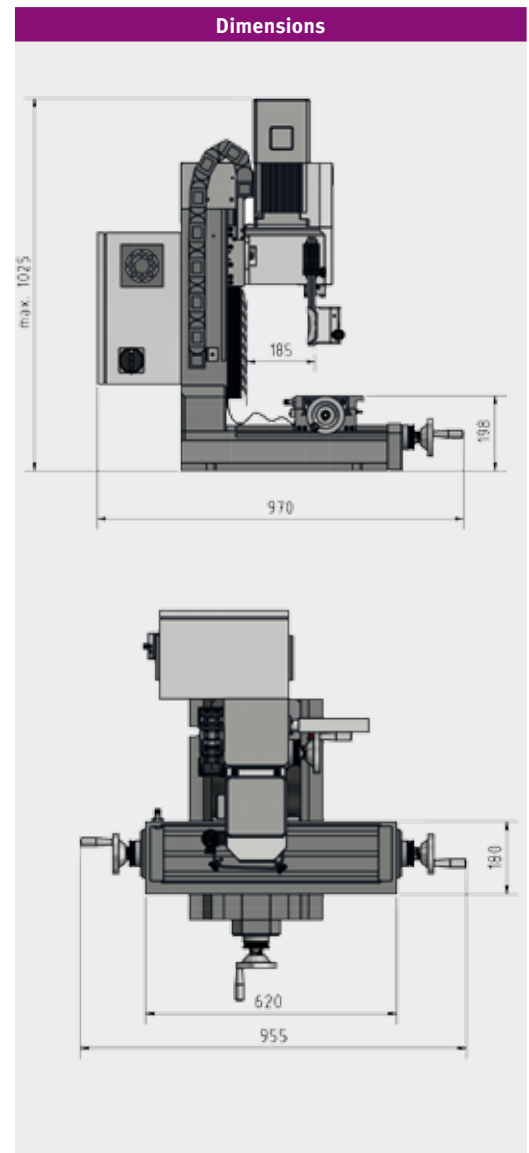
- Excellent operability
- Good mobility thanks to ability to remove control panel from holder (MH 25SV)

Technical specifications, accessories and dimensions

Model	MH 25V		MH 25SV
Article no.	3338155		3338160
Machine data			
Electrical connection	230 V / 1 Ph ~50 Hz		
Total connected load	2 kW		
Milling spindle			
Drive motor	1.5 kW		
Drive motor torque	10 Nm		
Drilling/milling output (S235JR)			
Drilling performance in steel	Ø 25 mm		
Continuous drilling performance steel	Ø 20 mm		
Max. sensor head size	Ø 50 mm		
Max. shaft milling cutter size	Ø 25 mm		
Spindle holder			
Spindle holder	BT 30		
Throat	185 mm		
Drilling/milling head			
Swivel range	45°		
Spindle speeds	200 - 4,000 rpm		
Gears	Electronic speed control		
Cross table			
Clearance spindle to table	300 mm		
Table length x width	620 x 180 mm		
T-groove size/count/spacing	12 mm / 3 / 50 mm		
Max. load bearing capacity	30 kg		
Travels			
X axis	manual	400 mm*	automatic
Y axis	manual	210 mm*	automatic
Z-axis	manual	270 mm*	automatic
Torque			
X/Y/Z axis	-	2.2 / 2.2 / 4.2 Nm	
Travel speeds			
X axis min. / max.	-	150 / 930 mm/min.	
Y axis min. / max.	-	100 / 580 mm/min.	
Z axis min. / max.	-	80 / 450 mm/min.	
Dimensions			
Length x width x height	955 x 970 x 1,025 mm		
Overall weight	192 kg		200 kg

* achievable manually

Accessories	Article no.
Milling head holder 22 mm	3536306
Chuck 1 - 13 mm	3536303
Weldon holder Ø 6 mm	3536310
Weldon holder Ø 8 mm	3536311
Weldon holder Ø 10 mm	3536312
Weldon holder Ø 12 mm	3536313
Weldon holder Ø 16 mm	3536314
Weldon holder Ø 20 mm	3536315
Adapter BT 30 - MT 2	3536305
Spring collet holder ER 32	3536304
Spring collet holder spanner ER 32	3536307
Spring collet set ER 32	3441122
Height-adjuster	3536290
Assembly and tool adjustment gauge	3536193
Taper squeegee	3536301
Pull stud	3536302
» More „Accessories for milling machines“ from page 70	



Accessories	Article no.
Starter set BT 30	3536107
comprising	
<ul style="list-style-type: none"> • Milling head holder 22 mm • Chuck 1 - 13 mm • 2 pcs. each Weldon Ø 6 mm and 20 mm • 1 pc. each Weldon Ø 8 / 10 / 12 / 16 mm • Adapter BT 30-MT 2 • Spring collet holder ER 32 • Spring collet key ER 32 • 18-part spring collet set ER 32 • Height-adjuster • Assembly and tool adjustment gauge • Pull stud • Taper squeegee 	

Accessories	Article no.
Universal chassis	3353009
• Dimensions L x W x H: 700 x 500 x 750 mm	
Vibration damper Machine base SE1 (4 pcs. required)	3381012

Preface

Drilling

Milling

Turning

Sawing

Sanding/grinding

Polishing

Lamps

Measuring

Index

Universal precision drilling/milling machine with manual gearbox

Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid cast design
- ▶ Smooth action due to polished gearwheels running in an oil sump
- ▶ Large speed range from 95 - 3,200 rpm thanks to 12 switchable speeds
- ▶ Two-stage quality electric motor
- ▶ Right-hand/left-hand rotation
- ▶ Gear head pivots through $\pm 60^\circ$
- ▶ Adjustable wedge rails
- ▶ Drilling depth stop

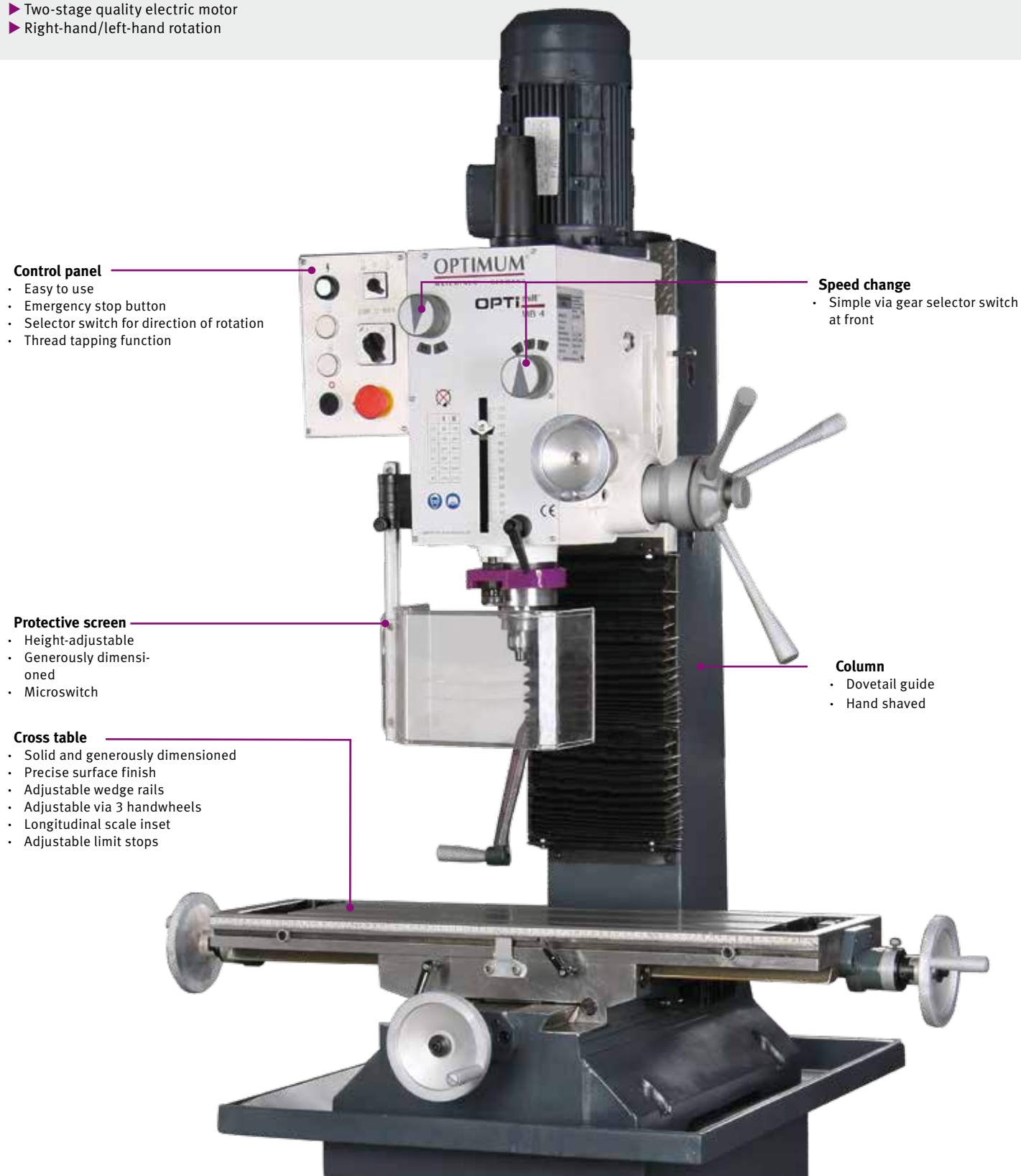
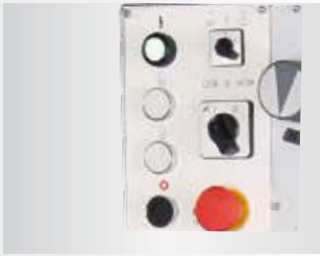


Fig.: MB 4 with optional accessories

Technical data and accessories



"Thread tapping" operation mode

- The motor is activated by moving the spindle sleeve down
- When the preset depth is Throated, the spindle reverses
- The machine thread tapping drill moves back out of the workpiece
- When the spindle sleeve has moved in to the switching point, the spindle rotation is stopped



Manual spindle sleeve feed with fine feed

- Hand wheel
- Easy to operate

Scope of delivery

- Morse taper MT 3
- Adapter MT 3 - MT 4
- Draw-in rod M16
- Operating tool

Model	MB 4
Article no.	3338450
Machine data	
Electrical connection	400 V / 3 Ph ~50 Hz
Motor output	1.1 / 1.5 kW
Drilling/milling output	
Drilling performance steel (S235JR)	Ø 32 mm
Continuous drilling performance steel (S235JR)	Ø 28 mm
Max. sensor head size	Ø 63 mm
Max. shaft milling cutter size	Ø 28 mm
Spindle holder	
Quill stroke	120 mm
Spindle holder	MT 4
Quill diameter	75 mm
Throat	275 mm
Draw-in rod	M16
Drilling/milling head	
Swivel range	± 60°
Spindle speeds	95 - 3,200 rpm
Gears	2 x 6 gears
Cross table	
Clearance spindle to Cross table	460 mm
Table length	800 mm
Table width	240 mm
T-groove size/spacing	14 mm / 63 mm
Travels	
X axis	450 mm
Y axis	195 mm
Z-axis	430 mm
Dimensions	
Length	1,100 mm
Width	850 mm
Max. height	1,150 mm
Overall weight	320 kg

Accessories	Article no.
Parallel shim set, 20-part	3354001
Height-adjustable tailstock RST 1	3356155
Horiz./vert. rotary indexing table RT 150	3356150
Assortment of clamping tools SWH 12	3352017
• Metric thread	
End mill set HSS 20-part	3386200
• 10 end mills DIN 327 D version with 2 cutting edges	
• 10 end mills DIN 844 B version with 4 cutting edges	
Precision vice FMS 100	3354100
• Pull-down jaw technology with turntable	
• Tempered and polished jaws	



Accessories	Article no.
Steel chassis	3353006
• Swarf tray	
• Dimensions L x W x H: 625 x 415 x 750 mm	
• Weight 54 kg	
Universal coolant unit	3352001
• Container size L x W x H: 370 x 245 x 170 mm	
• Tank capacity 11 litres	
Vibration damper SE1 (4 pcs. required)	3381012



> More „Accessories for milling machines“ from page 70

Universal drilling/milling machine with digital position display and cast machine chassis. MB 4PV with continuously variable electronically controlled drive.

Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid cast design
- ▶ Smooth action due to polished gearwheels running in an oil sump
- ▶ Right-hand/left-hand rotation
- ▶ Automatic spindle sleeve feed with manual fine feed
- ▶ Motorised positioning of the Z axis
- ▶ Gear head pivots through $\pm 60^\circ$
- ▶ Adjustable wedge rails
- ▶ Drilling depth stop
- ▶ Drilling/Thread tapping function

MB 4P

- ▶ Two-stage quality electric motor
- ▶ Large speed range from 95 - 3,200 rpm thanks to 12 switchable speeds

MB 4PV:

- ▶ Large speed range from 60 - 2,760 rpm thanks to 2 continuously variable speeds
- ▶ Single-speed quality electric motor
- ▶ Speed display in DRO 5

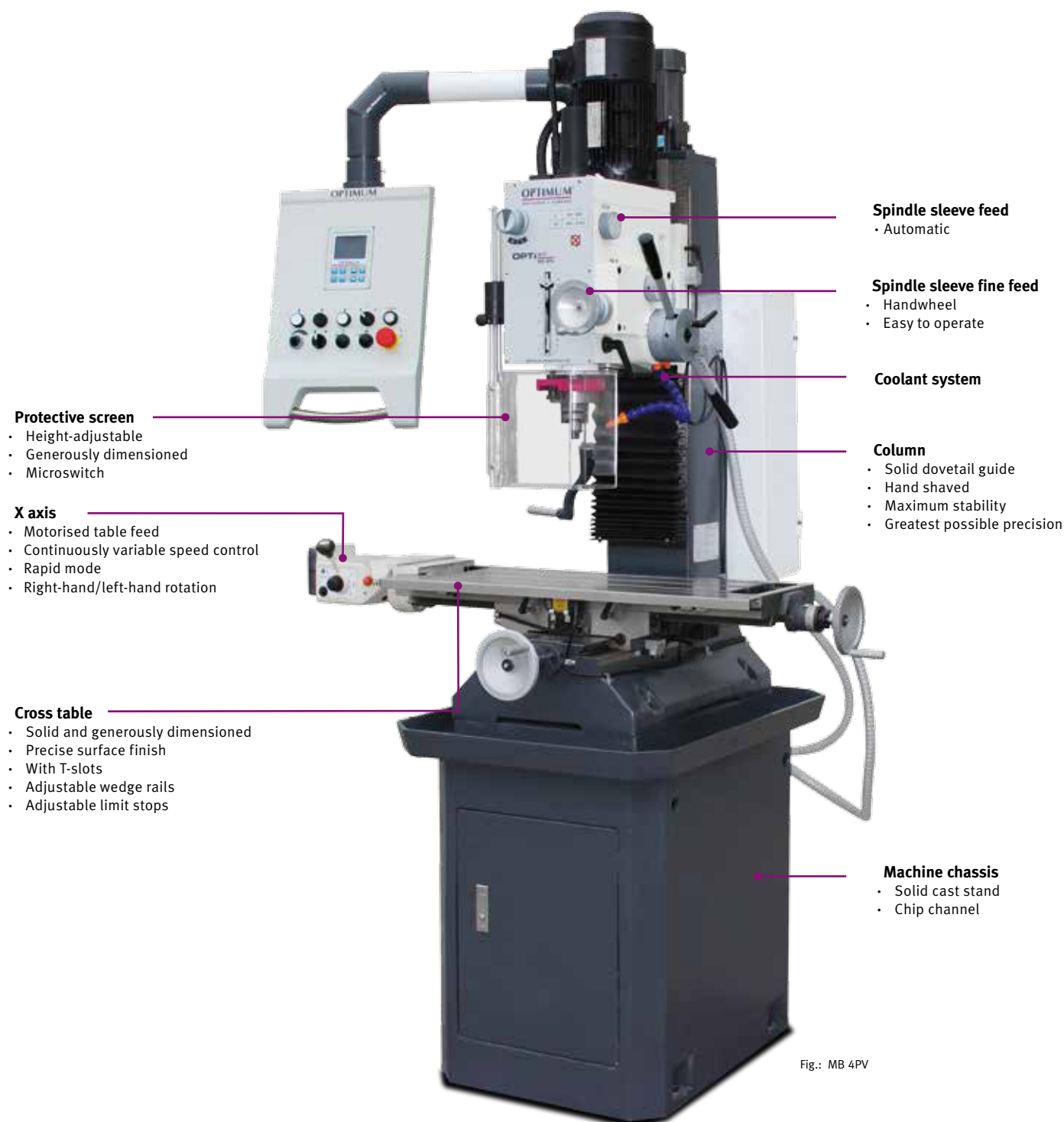


Fig.: MB 4PV

Technical data and accessories



OPTiControl panel

Integrated compact, digital 3-axis position display DRO5

- › Integrated control panel for controlling:
- › Z axis height adjustment
- › Milling/thread tapping operating mode
- › Drive motor speed switch (MB 4P)
- › Spindle direction of rotation
- › Machine lamp
- › Coolant pump
- › Emergency stop button

MB 4PV

- › Speed display
- › Potentiometer for continuous speed control

Scope of delivery

- Machine chassis
- Morse taper MT 3
- Adapter MT 3 - MT 4
- Draw-in rod M16
- Operating tool

Model	MB 4P	MB 4PV
Article no.	3338460	3338465
Machine data		
Electrical connection	400 V / 3 Ph ~50 Hz	230 V / 1 Ph ~50 Hz
Motor output	1.1 / 1.5 kW	1.5 kW
Drilling/milling output (S235JR)		
Drilling performance steel	Ø 32 mm	Ø 24 mm
Continuous drilling performance steel	Ø 28 mm	Ø 20 mm
Max. sensor head size	Ø 63 mm	Ø 63 mm
Max. shaft milling cutter size	Ø 28 mm	Ø 26 mm
Spindle holder		
Quill stroke	120 mm	
Spindle holder	MT 4	
Quill diameter	75 mm	
Throat	258 mm	
Draw-in rod	M 16	
Drilling/milling head		
Swivel range	± 45°	± 45°
Spindle speeds	95 - 3,200 rpm	60 - 2,760 rpm
Gears	2 x 6 gears	2 gears, electronic speed control
Cross table		
Clearance spindle to Cross table	420 mm	
Table length	800 mm	
Table width	240 mm	
T-groove size/count/spacing	14 mm / 80 mm / 3	
Automatic spindle sleeve feed	0.1 / 0.18 / 0.26 mm/rev	
Travels		
X axis automatic	560 mm	
Y axis manual	195 mm	
Z axis manual	350 mm	
Dimensions		
Length	1,220 mm	
Width	930 mm	
Max. height	2,110 mm	
Overall weight	495 kg	
Transport packaging flat rate	TVP 1	

Vices	Article no.
FMS 100	3354100
FMS 125	3354125

- Guide surfaces tempered and polished
- Hardened and polished clamping jaws, replaceable
- With turntable, rotating through 360°

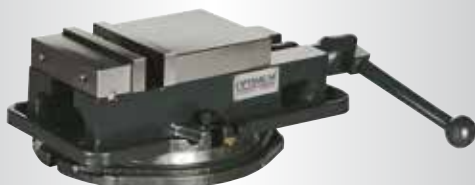


Fig.: FMS 100

Accessories	Article no.
Parallel shim set, 20-part	3354001
Copying and facing blade MT 4	3350214
Vibration damper SE1 (4 pcs. required)	3381012
Bore head set MT 4	3352084
Arbor for drill chuck MT 4	3350304
Collet chuck MT 4/M16	3352094
Thread tapping chuck M5 - M12	3352042
Height-adjustable tailstock RST 1	3356155
Assortment of clamping tools SWH 12	3352017
• Metric thread	
Horiz./vert. rotary indexing table RT 150	3356150
End mill set HSS 20-part	3386200
• 10 end mills DIN 327 D version with 2 cutting edges	
• 10 end mills DIN 844 B version with 4 cutting edges	
Rotary indexing table RT 100	3356110
Rotary indexing table RTE 165	3356365
› More „Accessories for milling machines“ from page 70	

Precisions drilling/milling machine with OPTIMUM brushless controller for electronic, continuously controllable drive

Facts that impress in terms of quality, performance and price

- ▶ Heavy, sturdy and solid columns made of premium cast material with ground and shaven dovetail guide for excellent stability and precision
- ▶ Excellent concentricity thanks to tapered roller bearings, better than 0.015 mm measured in the spindle sleeve
- ▶ Gear head pivots through $\pm 90^\circ$
- ▶ Manual fine feed
- ▶ Adjustable wedge rails
- ▶ Very large speed range
- ▶ Continuously variable drive
- ▶ Optional, solid, heavy steel chassis ensures stability
- ▶ Drilling depth stop
- ▶ Thread tapping mode and automatic mode
- ▶ CNC-ready (special spindle bearing of axes and ability to fit the Y axis housing from the rear)
- ▶ Height-adjustable protective screen with microswitch for best possible user protection against chips and parts being flung out

"Automatic" operating mode

- The motor runs automatically after lever movement
- Stops again in original position
- Start and stop pushbuttons do not need to be actuated for repetitive drilling tasks

"Thread tapping" operating mode

- The motor is activated by moving the spindle sleeve down
- The direction of rotation is changed by a limit switch on the adjustable drilling depth stop

Control panel

- Digital speed display
- Potentiometer
- Emergency stop button
- Selector switch for operating mode/direction of rotation

Digital depth sensor

- Display accuracy 0.01 mm
- Switchable mm/inch

Slatted protective cover

- Z column
- Stainless steel

Cross table

- Solid and generously dimensioned
- Precise surface finish
- With T-slots
- Adjustable wedge rails
- Adjustable via 3 handwheels
- Longitudinal scale inset
- Adjustable limit stops

Powerful brushless drive

• New brushless controller

- Optimised action, particularly smooth running
- Extremely powerful (2.2 kW)
- Virtually constant torque over the entire speed range



Gearbox

- Three-speed

Spindle sleeve feed

- Via spindle sleeve lever (drilling)
- Coupling for switching over from manual rough to manual fine feed

Column

- Solid dovetail guide
- Maximum stability
- Greatest possible precision

Accessories

Steel chassis

- Fig. with switch combination for optional universal coolant unit (not included in scope of delivery)
- Chip catchment trays
- Dimensions L x W x H: 550 (max. 940) x 650 x 750 mm
- Art. no. 3353004

Vibration damping machine base

- SE 1 (6 pcs. required)
- Art. no. 3381012



Fig.: BF 30 Vario with optional accessories

The milling machine (frequency inverter) complies with standard DIN EN 55011:2011-04 class A

*OPTImill® is a registered brand of Optimum Maschinen Germany GmbH and exclusively used for milling machines

Technical specifications, accessories and dimensions

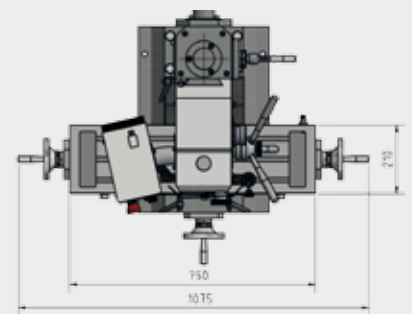
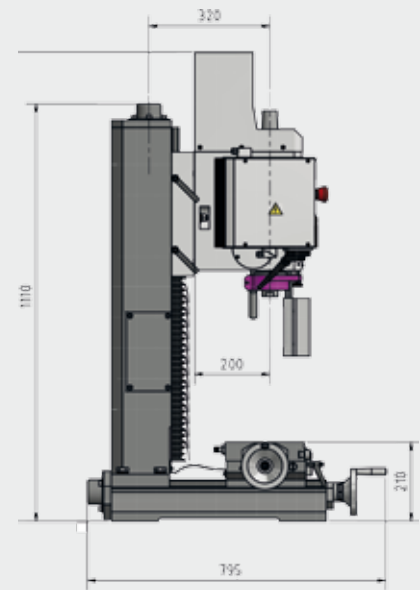
Model	BF 30 Vario
Article no. with MT 3 collet	3338430
Article no. with ISO 30 collet	3338431
Machine data	
Electrical connection	230 V / 1 Ph ~50 Hz
Motor output	2.2 kW
Drilling/milling output (S235JR)	
Drilling performance steel	Ø 24 mm
Continuous drilling performance steel	Ø 20 mm
Max. sensor head size	Ø 75 mm
Max. shaft milling cutter size	Ø 30 mm
Spindle holder	
Quill stroke	90 mm
Spindle holder	MT 3 or ISO 30
Throat	200 mm
Quill diameter	70 mm
Draw-in rod	M 12
Drilling/milling head	
Swivel range	± 90°
Spindle speeds slow	80 - 1,100 rpm
Spindle speeds medium	150 - 1,700 rpm
Spindle speeds fast	300 - 3,100 rpm
Gears	3-speed, electronic speed control
Cross table	
Clearance spindle to Cross table	470 mm
Table length	750 mm
Table width	210 mm
T-groove size/spacing	12 mm / 63 mm / 3 pcs.
Cross table max. load bearing capacity	150 kg
Travels	
X axis	450 mm
Y axis	200 mm
Z-axis	430 mm
Dimensions	
Length x width x height	1,075 x 795 x 1,245 mm
Overall weight	266 kg

Scope of delivery

- Chuck Ø 1 - 16 mm
- Tapered mandrel MT 3/B16 with spindle MT 3
- Tapered mandrel ISO 30/B16 with spindle ISO 30
- Operating tool

Accessories	Article no.
Hydraulic vice HMS 100	3355100
Precision vice FMS 125	3354125
Horizontal-vertical rotary indexing table RT 150	3356150
Universal coolant unit 230 V	3352002
Universal table feed V99	3352022
Assembly kit V99 - X axis	3352035
Assortment of clamping tools SWH 10	3352016
End mill set HSS 20-part	3386200
Spring collet set 15-part ER 25	3441109
Spring collet set 6-part MT 3	3352014
Adapter ISO 30 / MT 3	3352068
Collet chuck ISO 30; ER25	3352046
Copying and facing blade head ISO 30	3350215
Copying and facing blade head MT 3	3350213
Measuring system Newall DP700 complete attachment kit	3390330
› More „Accessories for milling machines“ from page 70	

Dimensions



Precisions drilling/milling machine with OPTIMUM brushless controller for electronic, continuously controllable drive

Facts that impress in terms of quality, performance and price

- ▶ Heavy, sturdy and solid columns made of premium cast material with ground and shaven dovetail guide for excellent stability and precision
- ▶ Excellent concentricity thanks to tapered roller bearings, better than 0.015 mm measured in the spindle sleeve
- ▶ Gear head pivots through 90°
- ▶ Manual fine feed
- ▶ Adjustable wedge rails
- ▶ Very large speed range
- ▶ Continuously variable drive
- ▶ Optional, solid, heavy steel chassis ensures stability
- ▶ Drilling depth stop
- ▶ Thread tapping mode and automatic mode
- ▶ CNC-ready (special spindle bearing of axes and ability to fit the Y axis housing from the rear)
- ▶ Height-adjustable protective screen with microswitch for best possible user protection against chips and parts being flung out

"Automatic" operating mode

- The motor runs automatically after lever movement
- Stops again in original position
- Start and stop pushbuttons do not need to be actuated for repetitive drilling tasks

"Thread tapping" operating mode

- The motor is activated by moving the spindle sleeve down
- The direction of rotation is changed by a limit switch on the adjustable drilling depth stop

Control panel

- Digital speed display
- Emergency stop button
- Selector switch for operating mode/ direction of rotation
- Potentiometer

Digital depth sensor

- Display accuracy 0.01 mm
- Switchable mm/inch

Slatted protective cover

- Z column
- Stainless steel

Central lubrication

- For spindle, nut and guides

Cross table

- Solid and generously dimensioned
- Precise surface finish
- Adjustable wedge rails
- Adjustable via 3 handwheels
- Longitudinal scale inset
- Adjustable limit stops

Powerful brushless drive

• New brushless controller

- Optimised action, particularly smooth running
- Extremely powerful (2.2 kW)
- Virtually constant torque over the entire speed range



Gearbox

- Three-speed

Spindle sleeve feed

- Via spindle sleeve lever (drilling)
- Coupling for switching over from manual rough to manual fine feed
- Handwheel for spindle sleeve feed

Column

- Solid dovetail guide
- Maximum stability and greatest possible precision

Accessories

Steel chassis

- Chip catchment trays
- Dimensions L x W x H
- 750 (max.1,235) x 750 x 750mm
- Art. no. 3353005

Vibration damping machine base

- SE 1 (6 pcs. required)
- Art no. 3381012

Fig.: BF 46 Vario with optional accessories

Technical specifications, accessories and dimensions

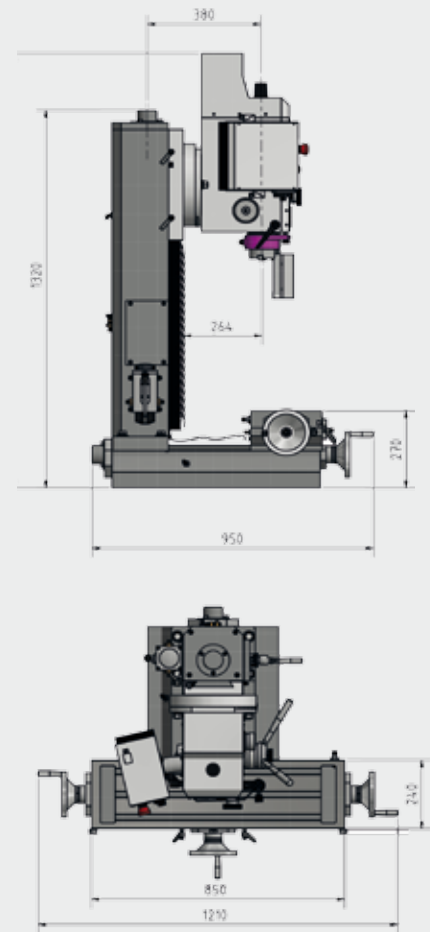
Model	BF 46 Vario
Article no.	3338453
Machine data	
Electrical connection	230 V / 1 Ph ~50 Hz
Motor output	2.2 kW
Drilling/milling output (S235JR)	
Drilling performance steel	Ø 28 mm
Continuous drilling performance steel	Ø 24 mm
Max. sensor head size	Ø 80 mm
Max. shaft milling cutter size	Ø 32 mm
Spindle holder	
Quill stroke	115 mm
Spindle holder	ISO 40 DIN 2080
Draw-in rod	M16
Drilling/milling head	
Swivel range	± 90°
Spindle speeds slow	115 - 600 rpm
Spindle speeds medium	270 - 1,400 rpm
Spindle speeds fast	590 - 3,100 rpm
Gears	3-speed, electronic speed control
Cross table	
Clearance spindle to Cross table	470 mm
Table length x width	850 x 240 mm
T-groove size/spacing	18 mm / 80 mm / 3 pcs.
Travels	
X axis	500 mm
Y axis	250 mm
Z-axis	541 mm
Dimensions	
Length x width x height max.	1,210 x 950 x 1,520 mm
Overall weight	426 kg
Special equipment	
Article no.	Spindle MT 4 as a replacement 9000439

Scope of delivery

- Chuck Ø 3 - 16 mm
- Tapered mandrel MT 4/B16
- Operating tool

Accessories	Article no.
Hydraulic vice HMS 125	3355127
Precision vice FMS 125	3354125
Universal coolant unit 230V	3352002
Assortment of clamping tools SWH 16	3352019
End mill set HSS 20-part	3386200
Collet chuck set 18-part ISO 40	3352056
Universal table feed V 99	3352022
Assembly kit V99 - X axis	3352036
Horizontal-vertical rotary indexing table RT 200	3356200
Arbor for drill chuck	3352070
Measuring system Newall DP700 Complete attachment kit	3390346
› More „Accessories for milling machines“ from page 70	

Dimensions



CNC Complete attachment kit and ball screw spindles find it under www.optimum-maschinen.de



Multifunctional drilling/milling machine with OPTIMUM brushless drive and DRO 5 digital position display

Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid design using premium cast meehanite
- ▶ All axes with adjustable dovetail guide
- ▶ Excellent concentricity thanks to tapered roller bearings, better than 0.01 mm measured in the spindle sleeve
- ▶ Automatic spindle sleeve feed
- ▶ Centralised lubrication for spindle, nuts and guides
- ▶ Milling head pivots through 90° left and right
- ▶ Spindle head carrier rotates through $\pm 90^\circ$

Powerful brushless drive

- Particularly smooth action
- Virtually constant torque over the entire speed range



Control panel

- Digital speed display
- Right-hand/left-hand rotation
- Emergency stop button
- Potentiometer
- Stop/Start pushbutton

Drilling depth stop

- Adjustable with millimetre scale
- Can be read off on front

Protective screen

- Height-adjustable
- Generously dimensioned
- Microswitch

Spindle speeds

- Continuously variable speed control with frequency inverter
- Very large speed range

Y axis

- Long Throat from 132 to 410 mm

Milling head

- Swivels through 90° left and right

Digital position display DRO5

- 3-axis position display (X - Y - Z)
- Speed display
- Four-line LCD display
- Rugged aluminium housing

Cross table

- Solid and generously dimensioned
- Precise surface finish
- Adjustable via 3 handwheels
- Adjustable limit stops

Central lubrication

- Cross table and Z axis



Swarf tray

- Removable

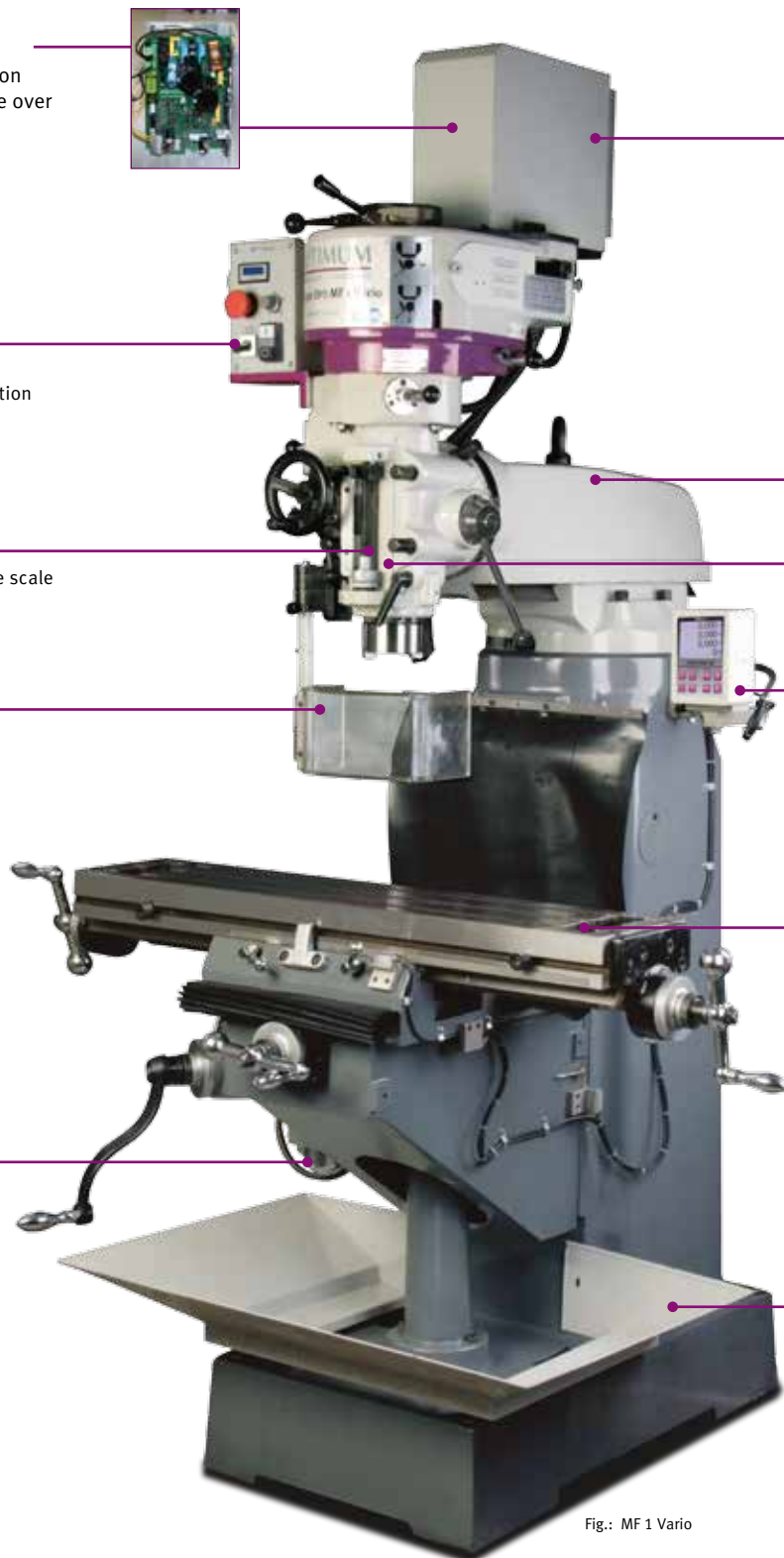


Fig.: MF 1 Vario

Technical specifications, accessories and dimensions

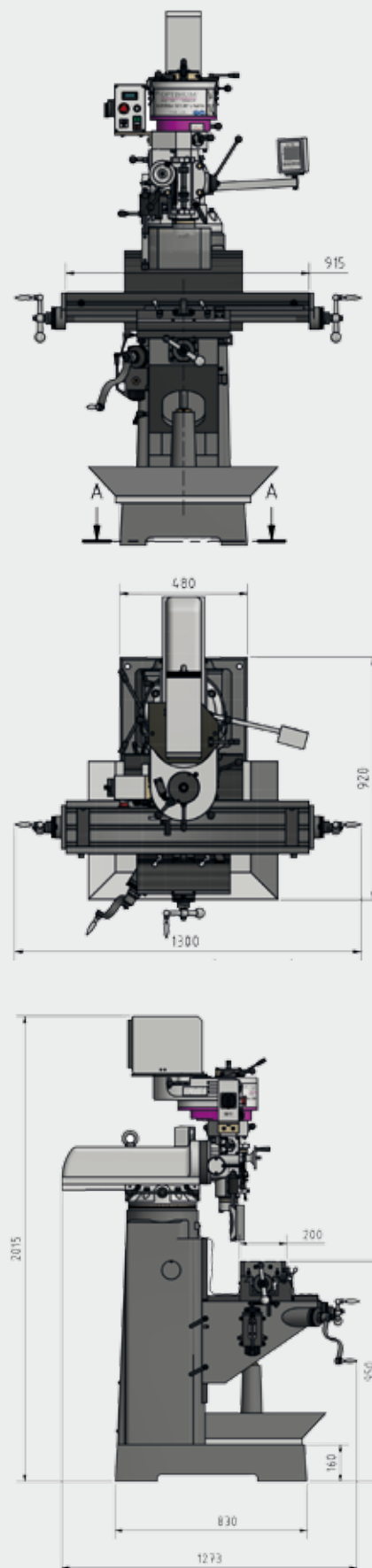
Model	MF 1 Vario
Article no.	3336015
Electrical connection	
Connection	230 V / 1 Ph ~50 Hz
Motor output	2.2 kW
Drilling/milling output	
Drilling performance steel (S235JR)	Ø 30 mm
Continuous drilling performance steel (S235JR)	Ø 21 mm
Max. sensor head size	Ø 63 mm
Max. shaft milling cutter size	Ø 20 mm
Spindle holder	
Quill stroke	127 mm
Spindle holder	ISO 40 DIN 2080
Drilling/milling head	
Swivel range	± 90°
Pivot range spindle head carrier	± 180°
Spindle speeds	50 - 6,300 rpm
Gears	6 gears, speed elec. controllable
Automatic spindle sleeve feed	0.04 / 0.08 / 0.16 mm/rev
Cross table	
Clearance spindle to Cross table	360 mm
Table length x Table width	915 x 200 mm
Cross table max. load bearing capacity	160 kg
T-groove size/spacing	16 mm / 64 mm / 3 pcs
Travels	
X axis	570 mm
Y axis	210 mm
Y axis spindle head carrier	330 mm
Z axis	365 mm
Dimensions	
Length x width x height	1,350 x 1,050 x 2,015 mm
Overall weight	850 kg
Transport packaging flat rate	TVP 2

Scope of delivery

- Tie rod M12
- Tie rod Adapter M12 - M16
- Operating tool

Accessories	Article no.
Hydraulic vice HMS 125	3355127
Precision vice FMS 125	3354125
Parallel shim set, 20-part	3354001
Universal coolant unit 230 V	3352002
Vibration damping machine base SE2 (4 pcs. required) (tie rod)	3381016
Assortment of clamping tools SWH 14	3352018
Collet chuck set 18-part ISO40	3352056
Universal table feed V 250	3352029
• X axis for self-assembly	
• Includes assembly kit	
Assembly V 250 - per axis	9000485
Horizontal-vertical rotary indexing table RT 200	3356200
• Worm gear tempered and polished	
Arbor for drill chuck	3352070
• External taper ISO 40 / B16	
› More „Accessories for milling machines“ from page 70	

Dimensions



Multifunctional drilling/milling machines for professional deployment. Electronic continuously variable drive with frequency inverter "made in Germany" and digital 3-axis position display DPA 21

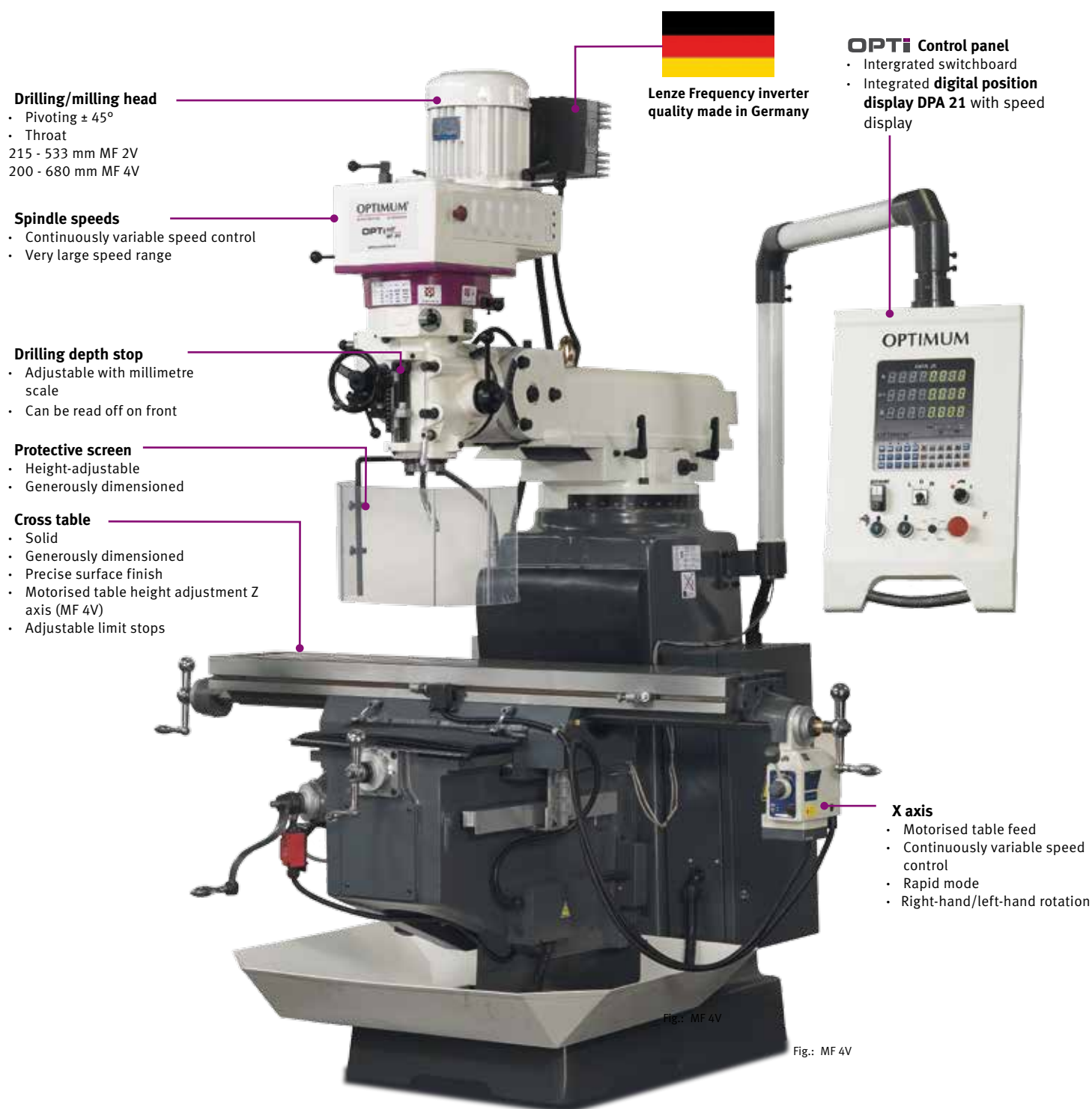
Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid design using premium cast meehanite
- ▶ Excellent concentricity thanks to tapered roller bearings, better than 0.01 mm measured in the spindle sleeve
- ▶ Automatic spindle sleeve feed
- ▶ Right-hand/left-hand rotation for thread tapping
- ▶ Vario drive by Lenze
- ▶ Sturdy, square guide rails on Z axis

- ▶ X and Y axis with adjustable dovetail guide
- ▶ Coolant system

MF 4V:

- ▶ Large Y axis stroke of 400 mm
- ▶ Motorised table height adjustment with rapid motion (Z axis)



The milling machines (frequency inverters) comply with standard DIN EN 55011:2011-04 class C1 - (use in mixed and industrial areas only)

*OPTImill® is a registered brand of Optimum Maschinen Germany GmbH and exclusively used for milling machines

Technical data and accessories

Model	MF 2V	MF 4V
Article no.	3336030	3336050
Machine data		
Electrical connection	400 V / 3 Ph ~50 Hz	400 V / 3 Ph ~50 Hz
Total connected load	2.2 kW	3 kW
Coolant pump output	100 Watts	100 Watts
Drilling/milling output (S235JR)		
Drilling performance steel	Ø 24 mm	Ø 32 mm
Continuous drilling performance steel	Ø 20 mm	Ø 28 mm
Max. sensor head size	Ø 76 mm	Ø 100 mm
Max. shaft milling cutter size	Ø 18 mm	Ø 20 mm
Spindle holder		
Drive motor	1.5 kW	2.2 kW
Quill stroke	127 mm	127 mm
Spindle holder	ISO 40 DIN 2080	ISO 40 DIN 2080
Throat	213 - 533 mm	200 - 680 mm
Drilling/milling head		
Spindle speeds	10 - 5,100 rpm	9 - 6,750 rpm
Gears	6-speed, electronic speed control	8-speed, electronic speed control
Pivoting spindle head	± 45°	± 45°
Automatic spindle sleeve feed	0.04/0.08/0.15 mm/rev	0.04/0.08/0.15 mm/rev
Cross table		
Clearance spindle to Cross table	57 - 463 mm	40 - 446 mm
Table length x Table width	1,244 x 230 mm	1,370 x 254 mm
Cross table max. load bearing capacity	230 kg	275 kg
T-groove size/spacing	16 mm/63 mm/3 pcs	16 mm/63 mm/3 pcs
Travels		
X axis automatic	800 mm	930 mm
Y axis manual	305 mm	400 mm
Z axis	manual 406 mm	automatic 406 mm
Dimensions		
Length x width x height	1,400 x 1,450 x 2,150 mm	1,500 x 1,450 x 2,200 mm
Overall weight	950 kg	1,150 kg
Transport packaging flat rate	TVP 2	TVP 2

Scope of delivery

- Operating tool

Accessories	Article no.
Hydraulic vice HMS 150	3355150
Precision vice FMS 150	3354150
Parallel shim set, 20-part	3354001
Vibration damping machine base SE2 (4 pcs. required) (tie rod)	3381016
Assortment of clamping tools SPW 14	3352018
Collet chuck set 18-part ISO40	3352056



Arbor for drill chuck

3352070



Accessories	Article no.
Universal table feed V250	3352025
• Continuous speed control Y axis	
• Rapid motion, incl. assembly kit	
Assembly table feed V250	9000489



Tool clamping system ISO 40

3352394

- Short change times
- Single-handed operation
- High negative pressure achievable

(Orders without assembly: Some adjustment work may be necessary.)

Assembly tool clamping system

9000490

› More „Accessories for milling machines“ from page 70

Universal milling machine for horizontal and vertical milling work with digital 3-axis position display DPA 2000

Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid design using premium vibration-absorbing grey cast material
- ▶ Spindle sleeve feed via spindle sleeve lever or manual fine feed handwheel
- ▶ X axis can be moved optionally with the handwheel or the table feed unit
- ▶ Vertical position for work such as drilling, angled drilling
- ▶ Spindle head carrier rotates through 180°

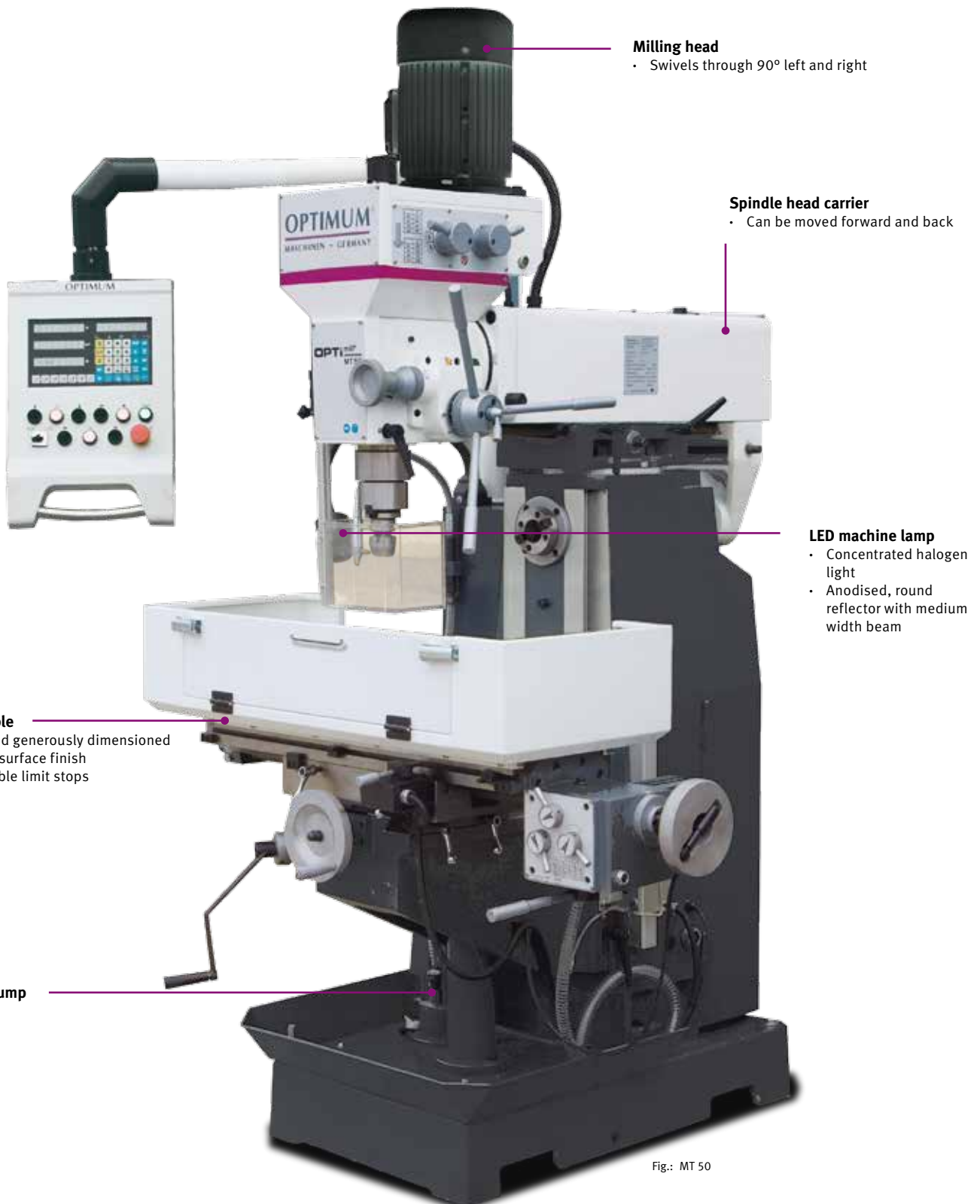


Fig.: MT 50

Technical data and accessories



Horizontal milling position

- For work in horizontal milling position with arbor and collet for disc milling cutter



Control panel

- Pivots to left and right side of machine

Digital position display DPA 2000

- Clear reduction of manufacturing times
- Easy to use
- Greater operation accuracy
- Reduction of error quota
- Clear-cut keyboard layout
- Dazzle-free display



Table feed

- Motorised table height adjustment
- Gear motor - Table feed X axis



Cross table housing

- Fold-up type
- Removable

Model	MT 50
Article no.	3336005
Machine data	
Electrical connection	400 V / 3 Ph ~50 Hz
Total connected load	4.5 kW
Coolant pump output	40 W
Drilling/milling output	
Drilling performance steel (S235JR)	Ø 30 mm
Continuous drilling performance steel (S235JR)	Ø 25 mm
Vertical spindle	
Drive motor	1.1/2.2 kW
Spindle holder	ISO 40 DIN 2080
Quill stroke	120 mm
Throat	240 - 650 mm
Spindle speeds	115 - 1,750 rpm
Gears	8 gears
Horizontal spindle	
Drive motor	1.5 kW
Spindle holder	ISO 40 DIN 2080
Throat	0 - 185 mm
Spindle speeds	60 - 1,350 min ⁻¹
Gears	9 gears
Cross table	
Table length x width	1,000 x 240 mm
Cross table max. load bearing capacity	160 kg
T-groove size / quantity	14 mm / 4
Travels	
X axis automatic	380 mm
Table feed X axis (8 speeds)	24 / 720 mm/min.
Y axis manual	200 mm
Z axis manual	340 mm
Dimensions	
Length x width x height	2,270 x 1,500 x 2,100 mm
Overall weight	900 kg
Transport packaging flat rate	TVP 2

Scope of delivery

- Gear rim drill chuck Ø 1 - 16 mm / B18
- Arbor for drill chuck ISO40 / B18
- Adapter ISO 40 / MT 3
- Adapter ISO 40 / MT 2
- Cutter spindle horizontal milling Ø 22 mm
- Cutter spindle horizontal milling Ø 27 mm
- Milling chuck Ø 4 - Ø 16 mm
- Tie rod vertical and horizontal
- Operating tool

Accessories	Article no.
Hydraulic vice HMS 150	3355150
Precision vice FMS 150	3354150
Parallel shim set, 20-part	3354001
Assortment of clamping tools SWH 12	3352017
Horizontal-vertical rotary indexing table RT 200	3356200

- Worm gear tempered and polished
- Transmission ratio 90 : 1
- Scale division on handwheel 2

› More „Accessories for milling machines“ from page 70

Versatility and easy retooling - the universal milling machines for workshops incl. digital 3-axis position display DPA 2000

Facts that impress in terms of quality, performance and price

- ▶ Versatile range of applications
- ▶ Rugged machine construction
- ▶ Smooth action due to polished gearwheels running in an oil sump
- ▶ Heavy, solid design using premium cast meehanite
- ▶ All guides tempered and adjustable using wedge rails
- ▶ Central lubrication
- ▶ Generously dimensioned handwheels with scales
- ▶ LED machine lamp
- ▶ Coolant system
- ▶ Easy operation of the switching elements

- ▶ Sturdy, square guide rails on Y and Z axis

MT 100:

- ▶ Table feed X and Y axis automatic
- ▶ Z axis with positioning feed

MT 200:

- ▶ Horizontal milling position
- ▶ Table feed X, Y and Z axis automatic

OPTI Control panel

- Integrated switchboard
- Integrated **digital position display DPA 2000**
- Rotates about its own axis

Milling head

- Two turning axes
- Scales
- Pivot and rotate to any spatial angle

Horizontal milling position (MT 200)



- For work in horizontal milling position with arrester and collet for disc milling cutter
- Adjustable plain bearing

Cross table

- Solid and generously dimensioned
- Precise surface finish
- Adjustable wedge rails
- Adjustable limit stops



Fig.: MT 200

Fig.: MT 100

Technical Data

Model	MT 100	MT 200
Article no.	3336110	3336120
Machine data		
Electrical connection	400 V / 3 Ph ~50 Hz	400 V / 3 Ph ~50 Hz
Total connected load	3.36 kW	9.2 kW
Coolant pump output	40 Watts	90 Watts
Drilling/milling output		
Drilling performance steel (S235JR)	Ø 20 mm	Ø 30 mm
Continuous drilling performance steel (S235JR)	Ø 18 mm	Ø 28 mm
Max. sensor head size	Ø 85 mm	Ø 100 mm
Max. shaft milling cutter size	Ø 16 mm	Ø 20 mm
Vertical spindle		
Drive motor	2.2 kW	4 kW
Spindle holder	ISO 40 DIN 2080	ISO 50 DIN 2080
Draw-in rod	M 16	M 24
Spindle speeds	45 - 1,660 rpm	60 - 1,750 rpm
Gears	11 gears	12 gears
Clearance spindle to Cross table	90 - 520 mm	140 - 540 mm
Pivot/rotate range	360°	360°
Horizontal spindle		
Drive motor	-	4 kW
Spindle holder	-	ISO 50 DIN 2080
Clearance spindle to Cross table	-	0 - 400 mm
Spindle speeds	-	58 - 1,800 rpm
Gears	-	12 gears
Cross table		
Table length x width	1,120 x 260 mm	1,650 x 360 mm
Table feed	24 / 402 mm/min.	20 - 380 mm/min
Cross table max. load bearing capacity	350 kg	450 kg
T-groove size/spacing/count	14 mm / 63 mm / 3	14 mm / 95 mm / 3
Rotating Cross table	-	35°
X axis		
Travel	600 mm	1,290 mm
Table feed	automatic 24 - 402 mm/min	automatic 22 - 380 mm/min
Table feed rapid motion	-	1,290 mm/min
Feed motor output	0.37 kW	1.1 kW
Y axis		
Cross table stroke	270 mm	280 mm
Table feed	automatic 24 - 402 mm/min	automatic 20 - 380 mm/min
Table feed rapid motion	-	1,290 mm/min
Feed motor output	0.37 kW	1.1 kW
Z-axis		
Travel	380 mm	400 mm
Table feed	-	automatic 7 - 127 mm/min
Table feed rapid motion	402 mm/min	342 mm/min
Feed motor output	0.75 kW	1.1 kW
Dimensions		
Length x width x height	2,500 x 2,300 x 1,850 mm	3,340 x 2,200 x 1,920 mm
Overall weight	1,300 kg	2,220 kg
Transport packaging flat rate	TVP 3	TVP 5

› „Accessories for milling machines“ from page 70

Scope of delivery MT 100

- Cutter spindle horizontal milling ISO 40 Ø 32 mm
- Cutter arbour ISO 40 Ø 32 mm
- Collet chuck Ø 4 - Ø 16 mm
- Operating tool

Scope of delivery MT 200

- Cutter spindle horizontal milling ISO 50 Ø 22 mm
- Cutter spindle horizontal milling ISO 50 Ø 27 mm
- Cutter arbour ISO 50 Ø 32 mm
- Collet chuck Ø 4 - Ø 26 mm
- Operating tool

Multifunctional drilling/milling machine with tool clamping system and digital 3-axis position display DPA 2000 for professional deployment

Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid design using premium cast meehanite
- ▶ Smooth action due to polished gearwheels running in an oil sump
- ▶ 20 switchable speeds thanks to two-speed motor in combination with 5 belt stages and reduction gearbox
- ▶ Sturdy, square guide rails on Y and Z axis
- ▶ Solid Cross table, generously dimensioned with precision surface finish
- ▶ All axes adjustable in guides using wedge rails
- ▶ Coolant system
- ▶ Excellent concentricity thanks to tapered roller bearings, better than 0.01 mm measured in the spindle sleeve
- ▶ Adjustable drilling depth stop with millimetre scale, can be read off on front
- ▶ LED machine lamp
- ▶ Swarf tray
- ▶ Siemens electronics
- ▶ Right-hand/left-hand rotation for thread tapping

OPTi Control panel

- Integrated switchboard
- Integrated position display
 - Rotates about its own axis

Digital position display DPA 2000

- Clear reduction of manufacturing times
- Easy to use
- Greater operation accuracy
- Reduction of error quota
- Clear-cut keyboard layout
- Dazzle-free display

Cross table housing

- Protection against chips and coolant
- Removable

Cross table

- Solid and generously dimensioned
- Precise surface finish
- Adjustable limit stops

Compressed air tool clamping system

- Short change times
- Low eight thanks to optimised structure
- Precise guiding thanks to optimised geometry
- Lowest air consumption

Drilling/milling head

- Powerful motor

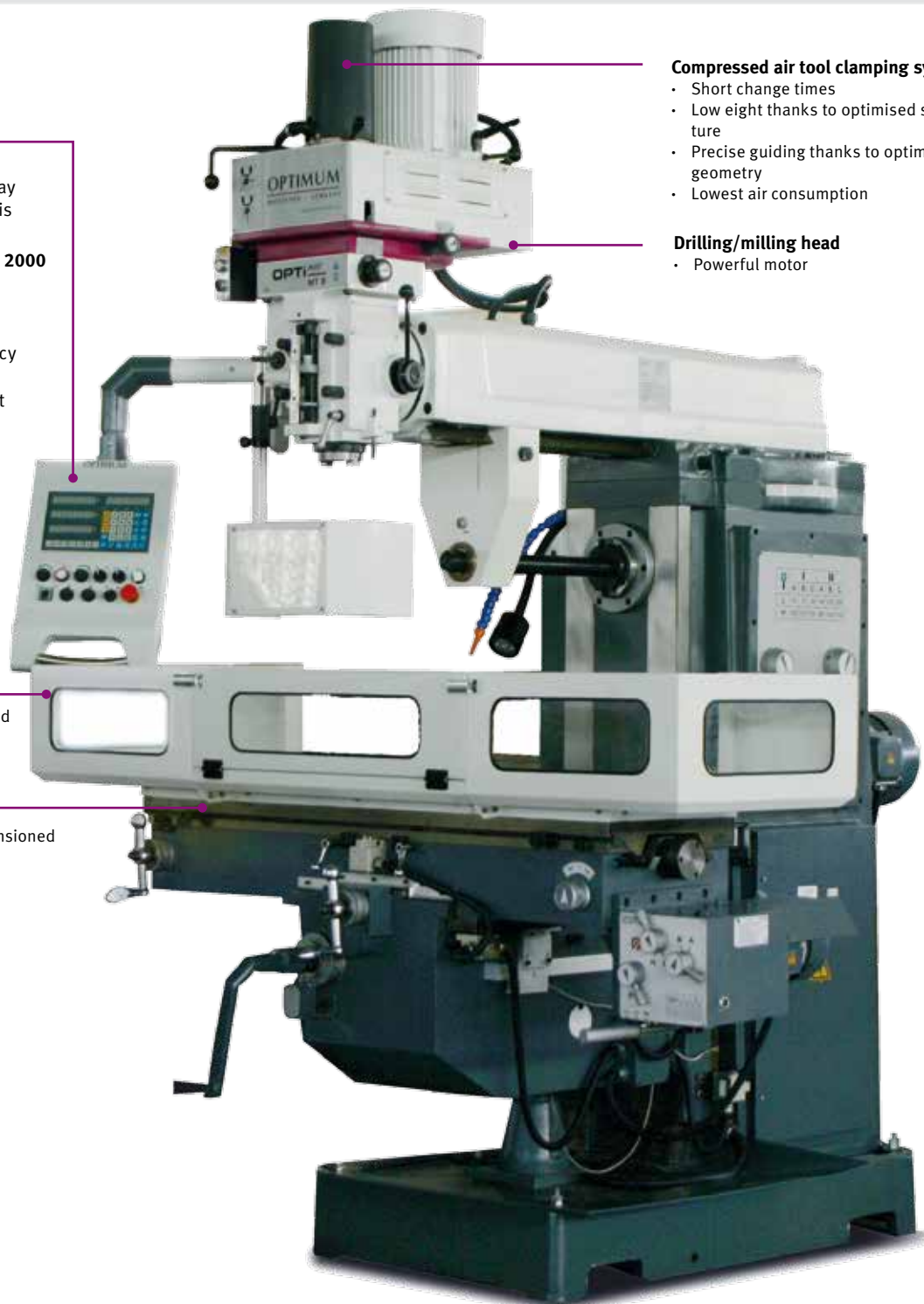


Fig.: MT 8 with horizontal and vertical milling position

Technical data and accessories



Horizontal milling position

- For work in horizontal milling position with arbor and collet for disc milling cutter
- Adjustable plain bearing



Table feed

- Motorised table height adjustment
- Gear motor - Table feed X, Y and Z axis



Horizontal milling

- Clearly arranged control lever
- Spindle speed 58 - 1,800 rpm



Spindle sleeve feed

- Manual or automatic

Model	MT 8
Article no.	3336088
Machine data	
Electrical connection	400 V / 3 Ph ~50 Hz
Total connected load	7.2 kW
Coolant pump output	90 W
Total rated value for compressed air	min. 6 bar
Drilling/milling output (S235)R	
Drilling performance steel	Ø 30 mm
Continuous drilling performance steel	Ø 21 mm
Max. sensor head size	Ø 80 mm
Max. shaft milling cutter size	Ø 25 mm
Vertical spindle	
Drive motor	5.5 kW
Spindle holder	ISO 40 DIN 2080
Spindle speeds	60 - 4,660 rpm
Gears	20 gears
Quill stroke	140 mm
Spindle sleeve feed	0.086 / 0.045 / 0.142 mm
Swivel range milling head	± 45°
Horizontal spindle	
Drive motor	4 kW
Spindle holder	ISO 50 DIN 2080
Spindle speeds	58 - 1,800 rpm
Gears	12 gears
Cross table	
Clearance spindle to table	155 - 610 mm
Table length x width	1,320 x 360 mm
Table feed (9 speeds)	15 / 370 mm/min.
Cross table max. load bearing capacity	350 kg
T-groove size/spacing/count	18 mm/80 mm/3
X axis	
Automatic stroke	980 mm
Table feed	15 / 370 mm/min.
Y axis	
Automatic stroke	300 mm
Table feed	15 / 370 mm/min.
Z-axis	
Automatic stroke	450 mm
Dimensions	
Length x width x height	2,220 x 2,060 x 2,550 mm
Overall weight	2,500 kg
Transport packaging flat rate	TVP 5

Scope of delivery

- Chuck Ø 1 - 16 mm / B18
- Cutter arbour 7:24 ISO 50
- Arbor for drill chuck 7:24 ISO 40 / B18
- Cutter spindle horizontal milling
- Operating tool

Accessories

Accessories	Article no.
Hydraulic vice HMS 150	3355150
Parallel shim set, 20-part	3354001
Vibration damping machine base SE3 (4 pcs. required) (tie rod)	3381018
Assortment of clamping tools SWH 16	3352019
Morse cone SK 50	3352067
Milling head holder	3352066

› More „Accessories for milling machines“ from page 70

Tool milling machines with digital 3-axis position display DP 700 by NEWALL

TOP QUALITY

Facts that impress in terms of quality, performance and price

- ▶ Versatile range of applications
- ▶ Excellent damping characteristics and stability of machine chassis
- ▶ All guides tempered, precision ground, and adjustable using wedge rails
- ▶ X and Y axis with adjustable dovetail guide
- ▶ Flatway on Z axis
- ▶ Automatic feed on X, Y and Z axis
- ▶ All axes with ball screws; low-maintenance, free from play, rugged, precise
- ▶ Continuously variable feed via inverter
- ▶ Control panel swivels centrally for a clear-cut overview with integrated digital position display incl. speed display
- ▶ Generously dimensioned handwheels with scales
- ▶ Machine lamp
- ▶ Smooth action

MZ 2

- ▶ Centralised lubrication manual

MZ 4

- ▶ Centralised lubrication automatic

Coolant system

Cross table housing

- Protection against chips
- Fold-up type

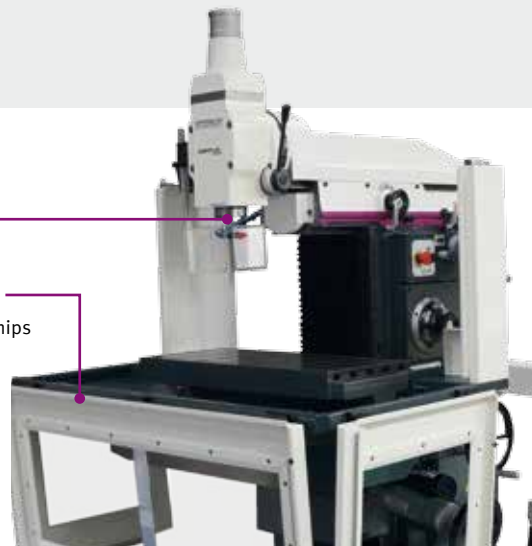


Fig.: MZ2

All axes

- With ball screw



OPTImill Control panel

- Integrated switchboard
- Integrated **digital position display DPA 700**



Switch cabinet

- External
- Generously dimensioned
- 24 DV electrical system

Cross table

- Solid and generously dimensioned
- Precise surface finish
- 5 T-slots



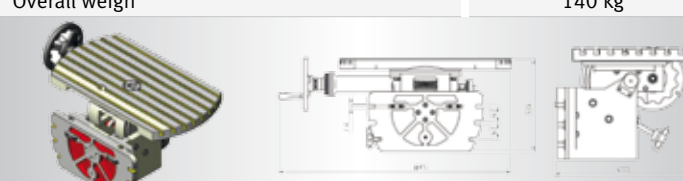
Fig.: MZ4

Technical data and accessories

Model	MZ 2	MZ 4
Article no.	3346220	3346240
Machine data		
Electrical connection	400 V / 3 Ph ~50 Hz	400 V / 3 Ph ~50 Hz
Total connected load	4 kW	5.4 kW
Motor rapid motion/feed	0.375 kW	0.75 kW
Coolant pump motor	95 W	95 W
Drilling/milling output (S235JR)		
Drilling performance steel	Ø 20 mm	Ø 20 mm
Continuous drilling performance steel	Ø 16 mm	Ø 16 mm
Spindle drive		
Drive motor	2.2 kW	3.75 kW
Spindle speeds	50 - 1,890 rpm	30 - 2,250 rpm
Gears	12 gears	18 gears
Spindle holder	ISO 40 DIN 2080	ISO 40 DIN 2080
Draw-in rod	M 16	M 16
Clearance spindle to Cross table min./max.	75 - 410 mm	40 - 440 mm
Quill stroke	120 mm	120 mm
Max. Throat	100 mm	185 mm
Vertical rotation area	± 90°	± 90°
Horizontal spindle		
Spindle holder	ISO 40 DIN 2080	ISO 40 DIN 2080
Clearance spindle to Cross table min./max.	70 - 400 mm	130 - 530 mm
Cross table		
Table length x width horizontal table	750 x 320 mm	900 x 500 mm
T-groove size/spacing/count	14 mm / 63 mm / 5	14 mm / 63 mm / 7
Max. load bearing capacity horizontal table	385 kg	500 kg
Table length x width vertical table	880 x 250 mm	1,200 x 250 mm
T-groove size/spacing/count	14 mm / 63 mm / 2	14 mm / 63 mm / 3
Stroke during feed		
X axis (Cross table) max.	400 mm (manual) / 385 mm (auto)	600 mm (manual) / 585 mm (auto)
Y axis (milling head) max.	200 mm (manual) / 185 mm (auto)	480 mm (manual) / 465 mm (rapid motion)
Z axis (Cross table) max.	365 mm (manual) / 365 mm (auto)	385 mm (manual) / 385 mm (auto)
Drive speed feed/rapid motion	50 - 450 rpm / 700 rpm	50 - 450 rpm / 800 rpm
Feed speed/rapid motion	10 - 600 mm/min	10 - 600 mm/min
Dimensions		
Length x width x height	1,239 x 1,168 x 1,900 mm	1,610 x 1,825 x 1,885 mm
Overall weight	1,180 kg	1,450 kg
Transport packaging flat rate	TVP 5	TVP 6

Scope of delivery
• Adapter ISO 40 / MT 3
• Adapter MT 3 - MK 1
• Adapter MT 3 - MT 2
• Spring collet set with spring collets
• 4 pcs. arbor for drill chuck ISO 40 with rear clevis (Ø 16, 22, 27, 32 mm)
• Horizontal holder
• Operating tool

Vices	Article no.
• Modular - machine vice with high precision and repetition accuracy for series production and one-off machining	
• Robust design for milling	
• Made completely of NiCrMo steel with hardness HRC60, tolerance 0.0015 mm	
• Mobile jaws with extra long guides to prevent lift-off and slingshot risk	
MVSP 150 x 200	3530104
MVSP 150 x 300	3530108

Accessories	Article no.
Angled table	3346221
Technical datas	
Table length x width	375 x 660 mm
Max. load bearing capacity	150 kg
T-groove size/spacing/count	12 mm / 45 mm / 8
Dimensions	895 x 433 x 354 mm
Overall weight	140 kg
	
Collet chuck ISO 40	3352056
Assortment of clamping tools SWH 12	3352017
Copying and facing blade ISO 40	3350216
Horizontal-vertical rotary indexing table RT 200	3356200
Milling cutter set carbide 18-part	3352118

Compatibility overview accessories for milling machines

Accessories		Article - No.	BF 16	BF20/L	MH 25	MB 4/P	MB 4/PV	BF 30V	BF 46V	MF 1	MF 2	MF 4	MT 50	MT 100	MT 200	MT 8	MZ 2	MZ 4
			MT 2	MT 2	BT 30	MT 4	MT 4	MT 3	ISO 30	ISO 40	MT 4	ISO 40	ISO 40	ISO 40	ISO 40	ISO 40	ISO 40	ISO 40
Starter set	BT30	Page 70			●													
Quick release chuck	B16	Page 71	●	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●
Morse cone		3352067													●	●		
Direct quick release chuck	MT 2	3050571/2	●	●				○	○									
	MT 3	3050573						●		○	○	○	○		○			
	MT 4	3050574				●	●			○	●	○						
Extension sleeves		3050667	●	●														
		3050668						●										
Arbor for drill chuck	MT 2	3050670	●	●														
	MT 3	3350303						●										
	MT 4	3350304				●	●				●							
	ISO 30	3352069							●									
		3352070								●	●	●	●	●		●	●	●
Blade head collet	MT 2	3352102	●	●														
	SK 50	3352066													●	●		
Adapter	ISO 30	3352068																
Reducing sleeve	MT 3 - MT 2	3350313						●										
	MT 4 - MT 3	3350314				●	●				●							
End mill set HSS	12-part	3352113	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	20-part	3386200	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Milling cutter set HM	Carbide	3352118	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Radius	3352116	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Twist drill	MT 2	3051002			○				○	○	○	○		○				
	MT 3	3051003				●	●	●		○	○	○	○		○			
Vibration damper	SE 1	3381012	●	●	●	●	●	●	●									
	SE 2	3381016								○ Threaded rod	○ Threaded rod	○ Threaded rod	○ Threaded rod	○ Threaded rod	○ Threaded rod		○ Height	○ Height
	SE 3	3381018														○ Threaded rod	○ Threaded rod	
Copying and facing blade	MT 2	3350212	●	●														
	MT 3	3350213						●		○	○	○						
	MT 4	3350214				●	●				●							
	ISO 30	3350215							●									
	ISO 40	3350216							●		●	●	●	●		●	●	●
Bore head set	ISO 30	3352127						●										
	ISO 40	3352128									●	●	●	●		●	●	●
	ISO 50	3352129													●	●		
Try square	90°	3385052			●	●	●	●	●	●	●	●	●	●	●	●	●	●
Collet chuck set		3352052	●	●														
		3352053	●	●														
		3352093						●										
		3352094				●	●			●	●							
	ISO 30	3352054							●		●							
	ISO 40	3352056							●			●	●	●		●	●	●
	ISO 50	3352065													●	●		
Collet chuck	ISO 30	3352046						●			●							
Spring collets	ER 25	3441109	●	●				○										
	ER 32	3441122		●		●	●	●		●	●	●	●	●	●	●	●	●
Collet chuck set	MT 2 direct	3351980	●	●														

Accessories		Article - No.	BF 16	BF20/L	MH 25	MB 4/P	MB 4PV	BF 30V	BF 46V		MF 1	MF 2	MF 4	MT 50	MT 100	MT 200	MT 8		MZ 2	MZ 4
			MT 2	MT 2	BT30	MT 4	MT 4	MT 3	ISO 30	ISO 40	MT 4	ISO 40	ISO 40	ISO 40	ISO 40	ISO 40	ISO 50	ISO 40	ISO 50	ISO 40
	MT 3 direct	3352014			●															
Assortment of clamping tools	Size 8	3352015	●																	
	Size 10	3352016		●	●			●	●											
	Size 12	3352017				●	●							●	●	●			●	●
	Size 14	3352018									●	●	●							
	Size 16	3352019								●	●						●	●		
T-slot nut	M8 -10 mm	3353020	●																	
	M10 -12 mm	3353022		●	●			●	●											
	M12 -14 mm	3353025				●	●							●	●	●			●	●
	M14 -16 mm	3353026									●	●	●							
	M16 -18 mm	3353028								●	●						●	●		
Horiz./vertical rotary indexing table	RTE 165	3356365		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	RTU 165	3354165			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Rotary indexing table	RT 100	3356110	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
	RT 150	3356150		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	RT 200	3356200										●	●	●	●	●	●	●	●	●
Tool clamping system	ISO 30	3352393						●												
	ISO 40	3352394							●		●	●	●	●			●		●	●
Prism elbow	WP30	3352195	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Thread tapper	M5-M12	3352042	●	●	●	●	●	●	●	●	●	●	●	●						
Universal dividing head	TA 125	3356125	●	●	●	●	●	●	●	●	●	●	●	●		●				
Table feed	V 99	3352022						●	●	●	●									
	V 250	3352029										●	●							
Parallel spacer kit		3354001	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Coolant pump	230 V	3352002	●	●	●		●	●	●	●	●									
	400 V	3352001				●														
Coolant hose	KMS2	3356660	●	●	●	●	●	●	●	●	●									
Coolant mist lubricator	MMC1	3356663	●	●	●	●	●	●	●	●	●									
Edge sensor		3351171	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Hold-down unit	14 mm	3352031				●	●	●						●	●	●			●	●
	18 mm	3352032						●		●							●	●		
Machine vices																				
Machine vices FMS	100	3354100	●	●	●															
	125	3354125				●	●	●	●	●	●	●							●	●
	150	3354150											●	●	●				●	●
	200	3354200														●	●	●		
Machine vices FMSN	100	3354110	●	●	●															
	125	3354120				●	●	●	●	●	●	●								
	150	3354130											●	●	●		●	●	●	●
Machine vices HMS	100	3355100				●	●	●	●	●	●									
	125	3355127										●	●	●	●	●			●	●
	150	3355150															●	●		●
	200	3355200																	●	●
Two-axis vice ZAS	75	3354170	●	●	●															
Three-axis vice DAS	100	3355500	●	●	●															
Three-axis vices MV3	75	3354175	●	●	●															
	125	3354178	●	●	●	●	●	●	●											
Machine vice HCV	105	3536210										●	●	●	●	●	●	●	●	●
	125	3536214										●	●	●	●	●	●	●	●	●

Preface

Drilling

Milling-Accessories

Turning

Sawing

Sanding/grinding

Polishing

Lamps

Measuring

Index

Accessories for milling machines

Starter set BT 30

3536107

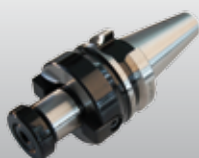
Comprising:

- 1 pc. milling head holder
- 1 pc. chuck 1 - 13 mm
- 2 pcs. Weldon 6 mm
- 1 pc. Weldon 8 mm
- 1 pc. Weldon 10 mm
- 1 pc. Weldon 12 mm
- 1 pc. Weldon 16 mm
- 2 pcs. Weldon 20 mm
- 1 pc. adapter BT 30
- 3 pcs. spring collet holder ER 32
- 1 pc. spring collet spanner ER 32
- 18-part spring collet set ER 32
- 1 pc. height adjuster
- 1 pc. assembly and tool adjustment gauge
- 14 pcs. pull studs
- 1 pc. taper squeegee

Milling head holder BT 30

3536306

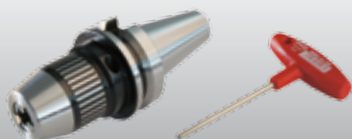
- Collet 22 mm



Chuck BT 30

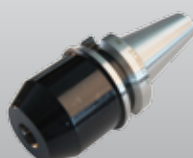
3536303

- Clamping range 1 - 13 mm



Weldon holder BT 30

Ø 6 mm	3536310
Ø 8 mm	3536311
Ø 10 mm	3536312
Ø 12 mm	3536313
Ø 16 mm	3536314
Ø 20 mm	3536315



Adapter

3536305

- BT 30 to MT 2



Spring collet holder ER 32 BT 30

3536304



Spring collet holder spanner ER 32 BT 30

3536307



Height-adjuster

3536290

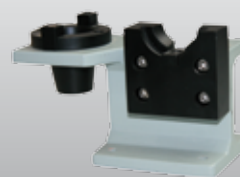
- Analogue version
- For fast and easy determination of the reference point on the Z axis and/or for adjusting tools "to zero" (e.g., for milling or drilling) without damaging the workpiece
- Housing height 50 mm



Assembly and tool adjustment gauge

3536193

- For easy and precise adjustment of tools
- Vertical and horizontal collet for tools with a steep-angle taper



Taper squeegee

3536301



Pull stud BT 30

3536302



Precision quick release chuck

Concentricity better than 0.06 mm

1 - 8 mm; B16	3050608
1 - 10 mm; B16	3050610
1 - 13 mm; B16	3050623
1 - 16 mm; B16	3050626
1 - 16 mm; B18	3050630



0 - 16 mm

Morse cone SK 50

3352067

B18 DIN2080



OPTIMUM Direct quick release chuck

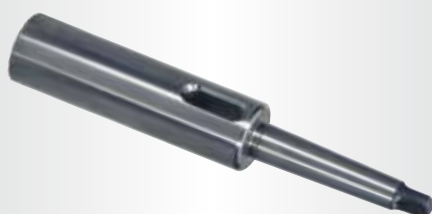
MT 2 1 - 16 mm; up to 6,000 rpm	3050571
MT 2 1 - 13 mm; up to 8,000 rpm	3050572
MT 3 1 - 16 mm; up to 6,000 rpm	3050573
MT 4 1 - 16 mm; up to 6,000 rpm	3050574



MT 3

Extension sleeves

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



MT 2-MT 3

Arbor for drill chuck

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



ISO 40

Milling head holder

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

- External taper MT 2 / end mill holder Ø 16 mm

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

- External taper Ø 27 mm DIN2080



SK 50

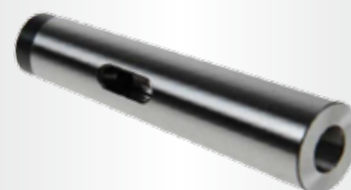
Adapter ISO 30 / MT 3

3352068



Reducing sleeve

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



MT 3-MT 2

Accessories for milling machines

End mill set HSS

- Titanium coated
- Improved hardness and stability with 2x to 5x service life
- Twice the machining performance
- Improved workpiece finish
- Cylindrical shank and lateral lugs
- Version with 2 cutting edges for milling keyways/fixing grooves and milling out the workpiece centre
- Vertical or lateral milling possible
- Version with 4 cutting edges and 30° right-hand twist for good chip removal in normal to hard materials
- Wooden crate

12-part

3352113

- 6 end mills, short version · Version 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 end mills, short version · Version with 4 cutting edges.
- DIN 1835 B (Ø12 x 83, Ø10 x 73, Ø8 x 61, Ø6 x 57, Ø5 x 57, Ø4 x 55 mm)

20-part

3386200

- 10 end mills DIN 327 D · Short version · 2 cutting edges
- DIN 1835 B, (3/4/5/6/8/10/12/14/18/20 mm)
- 10 end mills DIN 844 B · Short version · 4 cutting edges
- DIN 1835 B, (3/4/5/6/8/10/12/14/18/20 mm)



12-part

Carbide end mill set

3352118

- **18-part**; 3 each in the sizes 3/4/6/8/10 and 12 mm
- 4-cutting edge version
- Coated solid carbide end mill (TiAlN)
- Centre cut for plunging
- Rake angle 35°



3 pc. each

Radius end mill set

3352116

- **9-part**; 3 each in the sizes 4 mm / 6 mm / 8 mm
- 2-cutting edge version
- Coated solid carbide end mill (TiAlN)
- Face cutting geometry for plunging
- Rake angle 30°

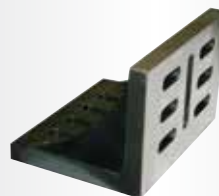


3 pc. each

Try square 90°

3385052

- For clamping in case of mechanical processing of workpieces, checking and scribing work
- Precision: Parallelism and trueness 0.01 to 100 mm
- Lateral reinforcing ribs
- Dimensions L x W x H: 202 x 126 x 150 mm . Weight 7 kg



Twist drill HSS with morse taper

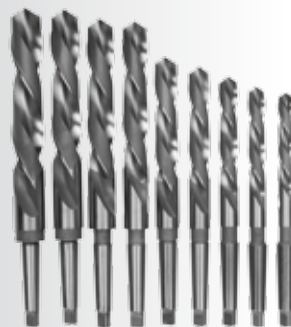
- 9-part; sizes 14.5/16/18/20/22/24/26/28/30 mm
- Long service life.
- Good chip removal
- Right handed

MT 2

3051002

MT 3

3051003



MT 2



Vibration damping machine base

- The machines and equipment can be installed without anchors and precisely levelled using the height adjustment system.
- Effective impact and vibration damping improves the machine's capability

SE 1

3381012

SE 2

3381016

SE 3

3381018



Load:	SE 1	SE 2	SE 3
Milling machines	340 kg	460 kg	1,600 kg
Sawing/gen. Machine	570 kg	1,460 kg	3,500 kg
Thread	M 12	M 16	M 20
Base Ø/Base height	120/32	160/35	185/39

Copying and facing blade head "made in Germany"



- Univ. deployment in machining of all steels and NF metals
- For facing and copying
- Made of special steel - highly quenched and tempered
- Excellent planarity and concentricity
- Milling body with asymmetrical division for extremely smooth action and uniform cutting
- Body and clamping shank form a unit for a short projection length and stable clamping
- No additional end mill mandrel used
- Special geometry for high-speed milling
- Economical as the platen can simply be rotated forward when the cutting edge is blunt (usable up to twelve times)
- Includes five turning plates RDET 1003 MOSN 8026
- Includes Torx TX15

Tool holder shank MT 2/M10	3350212
Tool holder shank MT 3/M12	3350213
Tool holder shank ISO 30	3350215

- 5 cutting edges
- Outer diameter 52 mm
- Indexable inserts Ø 10 mm
- ISO designation RDX. 1003 D52/R5

Tool holder shank ISO 40	3350216
Tool holder shank MT 4/M16	3350214

- 5 cutting edges
- Outer diameter 63 mm
- Indexable inserts Ø 10 mm
- ISO designation RDX. 1003 D63/R5



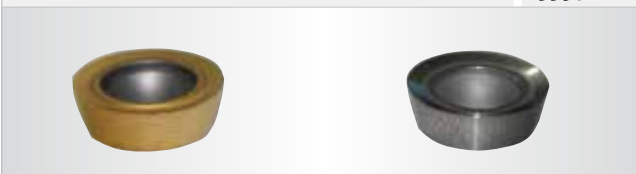
HM indexing inserts 5 pcs.

- RDET 1003 MOSN8026
- Positive cutting geometry
- PVD coated
- For machining steel up to 900 N/mm², stainless steel, aluminium, non-ferrous metal, cast iron

RDET	3350220
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- RDHT 1003 MO-FA HF7
- Extremely positive cutting geometry
- Polished
- For machining AL alloys, copper alloys, plastics

RDHT	3350221
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Precision bore head set

- 8 pcs. Drilling rod: BJ2008-32L/BJ2010-40L/BJ2014-53L/BJ2016-68L/BJ2020-83L/BJ2025-96L/BJ2030-115L/BJ20-L20-100L
- Adjustment range 8 - 280 mm
- Including drill rods, studs, circle extension, tools, case
- Without indexable inserts

ISO 30	3352127
ISO 40	3352128
ISO 50	3352129



Indexable insert set



Indexable insert set (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

Dimensions

Art. no.	ISO	D1	D2	S1	right
3352136	TPGT110304L-FY-EH10	11	3,4	3,18	0,4
3352141	TBGT060104L-W-T1200A	11	3,4	3,18	0,4
3352137	TPGT090204L-FY-EH10	9,6	2,8	2,38	0,4
3352142	TPGT090204L-W-T1200A	9,6	2,8	2,38	0,4
3352138	TBGT060104L-W-H1	6,9	2,2	1,59	0,4
3352143	TBGT060104L-W-T1200A	6,9	2,2	1,59	0,4

Cutting depth 0.2 - 0.6 - 1.0 mm

Feed 0.05 - 0.15 - 0.25 mm

Speed 100 - 250 - 400 mm



Cutterhead set

- For external and vertical machining
- Adjustment range 10 - 220 mm
- Includes boring cutter, shank, clamping sleeve; socket wrench

MT 3	3352083
MT 4	3352084



Accessories for milling machines

Collet chuck set

MT 2/ ER 25 - M10 3352052

- Collet chuck
- 15 spring collets; sizes Ø 1.5 - Ø 16 mm/DIN ISO 15488
- Hook wrench Aluminium case

MT 2/ ER 32 - M10 3352053

- Collet chuck
- 18 spring collets; sizes Ø 2 - Ø 20 mm/DIN ISO 15488
- Hook wrench Aluminium case

MT 3/ ER 32 - M12 3352093

- Collet chuck
- 18 spring collets; sizes Ø 2 - Ø 20 mm/DIN ISO 15488
- Hook wrench Aluminium case

MT 4/ ER 32 - M16 3352094

- Collet chuck
- 18 spring collets; sizes Ø 2 - Ø 20 mm/DIN ISO 15488
- Hook wrench Aluminium case

ISO 30/ER32 - M12/BT 30 3352054

- Collet chuck
- 18 spring collets; sizes Ø 2 - Ø 20 mm/DIN ISO 15488
- Pull stud M12/M12 and pull stud BT 30
- Hook wrench Aluminium case

ISO 40/ER32 - M16/BT40 3352056

- Collet chuck
- 18 spring collets; sizes Ø 2 - Ø 20 mm/DIN ISO 15488
- Pull stud M16/M16 and pull stud BT 40
- Hook wrench Aluminium case

ISO 50/ER32 - M24/BT50 3352065

- Collet chuck
- 18 spring collets; sizes Ø 2 - Ø 20 mm/DIN ISO 15488



ISO 40

Collet chuck ISO 30/ER25

3352046

- Hook wrench



ISO 30

Spring collet set

ER 25 3441109

- 15 spring collets; sizes Ø 1 - 16 mm/DIN ISO 15488

ER 32 3441122

- 18 spring collets; sizes Ø 3 - 20 mm/DIN ISO 15488



ER25

Spring collet ER32 (individual)

Ø 6 mm	3441126
Ø 8 mm	3441128
Ø 10 mm	3441130
Ø 12 mm	3441132

Spring collet MT 3 direct-clamping / M 12 (individual)

Ø 4 mm	3352004
Ø 6 mm	3352006
Ø 8 mm	3352008
Ø 10 mm	3352010
Ø 12 mm	3352012
Ø 16 mm	3352013

Spring collet set

MT 2 direct-clamping / M 10 3351980

- 5-part; sizes Ø4 / Ø6 / Ø8 / Ø10 / Ø12 mm

MT 3 direct-clamping / M 12 3352014

- 6-part; sizes Ø4 / Ø6 / Ø8 / Ø10 / Ø12 / Ø16 mm



MT 3

Assortment of clamping tools size

- 58-part, in practical wall-mount holder
- Metric thread
- 24 pcs. pull studs
- 6 pcs. T-slot nuts
- 6 pcs. nuts
- 4 pcs. extension nuts
- 6 pcs. step blocks
- 12 pcs. step blocks

SPW 8 3352015

- T-slot nuts 10 mm; locking thread M 8

SPW 10 3352016

- T-slot nuts 12 mm; locking thread M 10

SPW 12 3352017

- T-slot nuts 14 mm; locking thread M 12

SPW 14 3352018

- T-slot nuts 16 mm; locking thread M 14

SPW 16 3352019

- T-slot nuts 18 mm; locking thread M 16



Size 12

T-slot nut (individual)

M8 /10 mm	3353020
M10 /12 mm	3353022
M12 /14 mm	3353024
M14 /16 mm	3353026
M16 /18 mm	3353028

Horizontal-vertical rotary indexing table with 3-jaw chuck

- Quality rotary indexing tables made of premium cast meehanite
- Precision taper roller bearing
- Stability also under high load
- Large spindle bore for clamping longer workpieces
- Direct indexing via serrated locking plates for higher production speeds for mass-produced parts
- Degree indexing via 360° scale (RTE 165)
- 7 serrated locking plates for 2/3/4/6/8/12/24x divisions (RTE 165)
- Degree indexing via 360° scale with crank and vernier scale (RTU 165)
- Direct indexing via serrated locking plate
- 24 positions (15° indexing)
- Three-jaw chuck
- Including clamping disc with 3 grooves

RTE 165

RTE 165	3356365
Tailstock RST 2	3356157

- Max. height 110 - 145 mm



Rst 2

RTU 165

RTU 165	3354165
Indirect indexer IT 200	3356205

- 2 pcs. Indexing disks. Sector arm
- Angle shears with spring plate

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

- Max. height 110 - 145 mm



Rst 2

IT 200

Technical Data		RTE 165	RTU 165
Table diameter	mm	165	165
Closed height x width x length	mm	200 x 260 x 218	221 x 250 x 235
Max. height	mm	130	130
Clamping disc	mm	203	203
Passageway	mm	36	36
Weight	kg	32,5	48
Direct indexing disc		24x division (= 15°)	
Indirect indexing disc		2, 3, 4, 6, 8 and 12x division	
Indexing precision of direct indexer		45'	
Clamping options		Horizontal and vertical	
Workpiece mounting surface		With scale 360°	

Horizontal-vertical rotary indexing tables

- Quality rotary indexing tables made of premium cast meehanite
- Precision bearing
- Stability also under high load
- Large spindle bore for clamping longer workpieces
- Fast indexing via serrated locking plates for higher production speeds for mass-produced parts
- Worm gear tempered and polished
- Work table with 360° scale
- 1 revolution of handwheel 4° rotation
- Scale division on handwheel 2'
- Indexing via handwheel with vernier scale possible
- Up to 150 pcs. (RT 150) and 400 pcs. (RT 200) various indexing options possible with indirect indexing disks

Accessories
"CNC attachment sets MK RT 1 and MK RT 2 for controlling horizontal/vertical rotary indexing tables" on page 192

RT 100

Rotary indexing table	3356110
Three-jaw lathe chuck 75 mm	3356111
Tailstock Rst 1	3356155

- Max. height 72 - 108 mm



RST 1

RT 150

Rotary indexing table	3356150
Chuck flange	3356154
Three-jaw lathe chuck Ø 130 mm centric	3356100
Indirect indexer IT 150	3356152

- 3 pcs. Indexing disks. Sector arm Angle shears with spring plate

Tailstock Rst 1	3356155
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- Max. height 72 - 108 mm

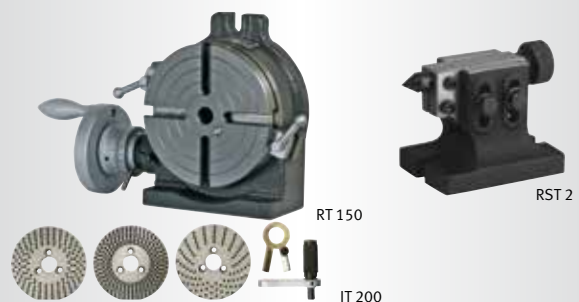
RT 200

Rotary indexing table	3356200
Chuck flange	3356254
Three-jaw lathe chuck 165 mm	3356225
Indirect indexer IT 200	3356205

- 2 pcs. Indexing disks · Sector arm Angle shears with spring plate

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

- Max. height 110 - 145 mm



RT 150

RST 2

IT 200

Technical data		RT 100	RT 150	RT 200
Centering cone		MT 2	MT 2	MT 3
Transmission ratio		90:1	90:1	90:1
disc size	mm	110	150	210
Closed height x L x W	mm	72 x 138 x 118	79 x 204 x 156	104 x 265 x 199
Max. height	mm	80	102	133
Slot width/count	mm	11/3	11/4	16/4
Net weight	kg	9	12	30

Universal compressed air tool clamping system

- Includes tool clamp, cap, maintenance unit, gear rim, tightening bar, control box, operator control
- High negative pressure achievable
- Short change times through single-handed operation
- Low effort thanks to optimised structure
- Safe locking through toggle lever principle
- Precise guiding thanks to optimised geometry
- Low air consumption

ISO 30 3352393

- For OPTIMILL BF 30 Vario

Adapter platen 3352391

- For OPTIMILL BF 30 Vario

ISO 40 3352394

- For OPTIMILL MF 2V / MF 4V / BF 46 Vario

Adapter platen 3352392

- For OPTIMILL BF 46 Vario

Factory assembly clamping system 9000490



(Note: For orders without factory assembly: Some adjustment work may be necessary.)

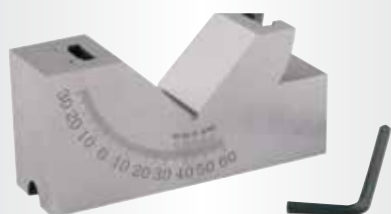


Adapter platen

Prism WP 30

3352195

- Robust design for use on tool machines.
- High-precision design
- Adjustable from 0° to 60° and from 0° to -30°
- Tempered and ground carbon steel
- Precision trueness 0.005 mm
- Angle tolerance 0.01°
- Dimensions L x W x H: 75 x 25 x 32 mm



Thread tapping device M5 - M12/B16

3352042

- Quick reverse built-in, immediately effective on changing the feed direction
- Slip clutch 4-stage adjustable.

Scope of supply:

- Two flexible spring collets
- Two open-ended spanners
- Hand grip
- Allen key



Technical Data	
Self-release path	4 mm
Freewheel	1.5 mm
Length compensation tensioned	8.5 mm
Max. speed	1,000 rpm
Transmission ratio forward and reverse	1 : 1.75
Cutting range	M5 - M12
Clamping range	3.5 - 10
Length	B16 DIN 238
Length compensation compressed	156 mm
Shank holder	5 mm

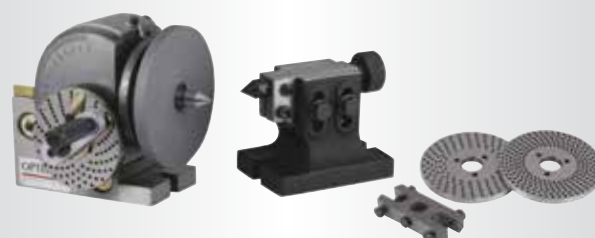
Universal dividing head TA 125

3356125

- Swivels from -10° to +90°
- Hardened and polished worm gear
- Precision taper roller bearing
- Tempered and polished main indexing disc (24x division), to index directly at 15°
- Up to 300 indexing options possible with indirect indexing disks

Scope of supply

- Height-adjustable tailstock Rst1
- Centre point 60° / MT 2
- Carrier attachment
- Chuck flange (Ø 140 mm, t = 12 mm) for carrier pin or mounting a lathe chuck



Technical data	
Transmission	40:1
Closed height x width with centre x length	175 x 205 x 230 mm
Max. height	100 mm
Bore in mounting shaft (keyway)	18 mm
Slot width	16 mm
Direct indexing disc (division)	15° / Ø 110 mm
Indirect indexing disc (Bore on reference circle)	15; 16; 17; 18; 19; 20; 21; 23; 27; 29; 31; 33; 37; 39; 41; 43; 47
Concentricity	0.015 mm
Net weight	12 kg

Universal milling table feed

- Continuous speed control and rapid motion
- Clockwise/Anti-clockwise rotation
- 230 Volt, overload protection and end point switch
- For self-assembly

Milling table feed V 99 3352022

- Horizontal assembly

Assembly kit BF 30 Vario 3352035

Milling table feed V 250 3352029

- Vertical assembly

Milling table feed V 250 3352025

- For the Y axis MF 2V / MF 4V

- Includes assembly kit



Parallel shim set

3356191

- Finely polished to 0.01 mm precision
- Length 150 mm x width 8.5 mm
- 18 pcs. 2 pcs. each 14 mm; 16 mm; 20 mm; 24 mm; 30 mm; 32 mm; 36 mm; 40 mm; 44 mm



Parallel shim set 20-part

3354001

- For precision work for parallel mounting of workpieces in machines, vices on scoring boards or tool machines
- Finely polished to 0.01 mm precision
- Thickness 3 mm
- Length 150 mm
- 2 pcs. each 8 mm; 13 mm; 16 mm; 19 mm; 22 mm; 25 mm; 31 mm; 35 mm; 38 mm; 41 mm



Universal coolant unit

- Delivery height max. 2.5 m
- Flow rate 8 l/min
- Container capacity 11 l
- Container size L x W x H: 370 x 245 x 170 mm
- Complete with container, flexible tube, hose
- With switch/plug combination
- Magnetic base fastener for coolant hose
- For self-assembly

Universal coolant unit 230 V/1 Ph 3352002

Universal coolant unit 400 V/3 Ph 3352001



Coolant mist lubricator with magnetic base MMC1

3356663

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



Coolant hoses with magnetic base KMS 2

3356660

- Two variable coolant hoses made of individual plastic elements
- Not electrically conductive
- Magnetic base holding force up to 50 kg
- Length of coolant hoses each 295 mm
- Flexible and stable
- Insensitive to most solvents and chemicals



Edge sensor

3351171

- Rotating spindle
- Probe Ø 10 mm

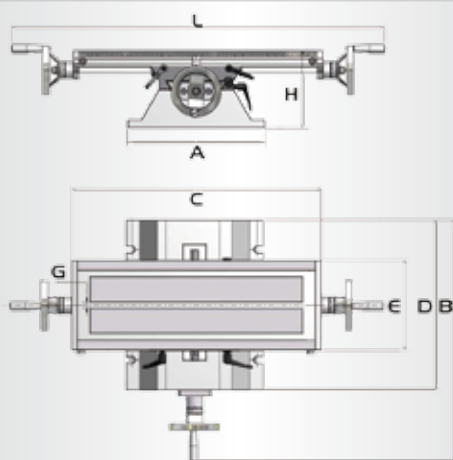


Accessories for milling machines

Cross tables KT

- Coolant channel
- Dovetail guide adjustable
- Adjustable handwheel scaling with 0.05 mm scale

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



Technical Data	KT 120	KT 179	KT 180	KT 210
A (Base width)	222 mm	274 mm	274 mm	280 mm
D (base 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-groove size)	10 mm	12 mm	12 mm	14 mm
L x W x H (mm)	506 x 400 x 140	748 x 483 x 155	948 x 483 x 155	1,060 x 538 x 185
Net weight	22 kg	46 kg	54 kg	84 kg
Strokes				
X axis	220 mm	287 mm	480 mm	480 mm
Y axis	165 mm	167 mm	170 mm	210 mm
Max. load	40 kg	55 kg	55 kg	80 kg

Hold-down unit set of 2

- Clamping height adjustable
- Brass plate below the clamping arm protects material against damage

Table groove 14 mm/M 12	3352031
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- 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 chassis BF 16 Vario / BF 20

3353000

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

Chip tray BF 16Vario / BF 20

3352999

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



Universal chassis MH 25

3353009

- Solid design and weight ensure stability
- Dimensions L x W x H: 700 x 500 x 750 mm
- Weight: 55 kg



Steel chassis MB 4

3353006

- Swarf tray
- Solid design and weight ensure stability
- Dimensions L x W x H: 625 x 415 x 750 mm
- Weight: 54 kg



Steel chassis BF 30 Vario

3353004

- Chip catchment trays
- Solid design and weight ensure stability
- Dimensions L x W x H: 550 (max. 940) x 650 x 750 mm
- Weight: 85 kg



Fig. with optional switch/
socket combination

Steel chassis BF 46 Vario

3353005

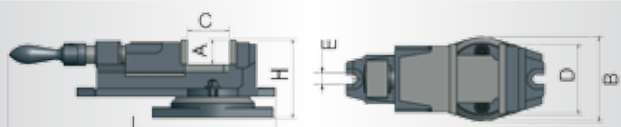
- Chip catchment trays
- Solid design and weight ensure stability
- Dimensions L x W x H: 750 (max. 1235) x 750 x 750 mm
- Weight: 142 kg



Precision machine vices FMS

- Robust design for milling, drilling and grinding
- Vice body made of premium cast material
- Guide surfaces tempered and polished
- Hardened and polished clamping jaws, replaceable
- With turntable, rotating through 360°

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



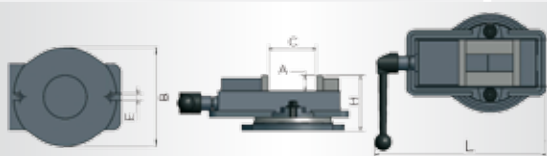
Tech. data	A	C	D	E	L	B	H	kg
FMS 100 mm	30	62	100	13	295	124	100	11
FMS 125 mm	37	85	125	13	370	148	128	17
FMS 150 mm	40	114	150	13	462	180	145	28
FMS 200 mm	58	150	200	16,5	620	237	202	58



Precision machine vices FMSN

- Mechanical side clamps for safe workpiece clamping
- Vice body made of premium cast material
- Guide surfaces tempered and polished
- Hardened and polished clamping jaws, replaceable
- Protected spindle
- Clamping outward by repositioning the clamping jaws
- With turntable, rotating through 360°

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



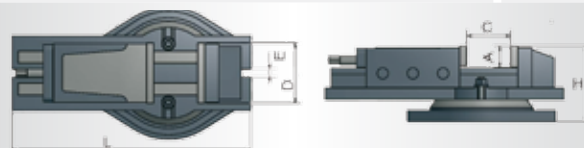
Tech. data	A	C	D	E	L	B	H	kg
FMSN 100 mm	36	101	100	14,5	319	Ø 240	319	19
FMSN 125 mm	36	108	135	16,5	369	Ø 278	369	29
FMSN 150 mm	46	146	155	18,5	425	Ø 332	425	36



Hydraulic machine vices HMS

- Robust design for milling, drilling and grinding
- Vice body made of premium cast material
- Guide surfaces tempered and polished
- Hardened and polished clamping jaws, replaceable
- Booster system, requires little force, high pressure build-up during clamping
- Protected spindle
- Large clamping range due to lock bolts with various hole spacings
- With turntable, rotating through 360°
- Protected spindle

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



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

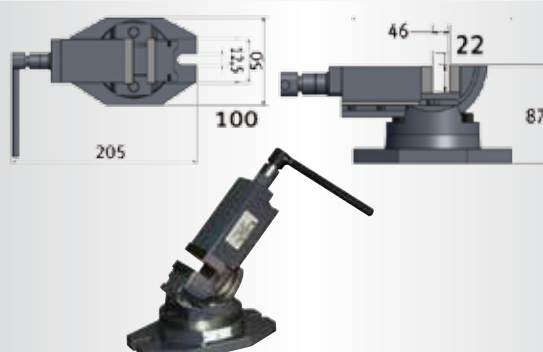
C	Span			Clamping pressure	
HMS 100	0 - 60 mm	57 - 115 mm	110 - 170 mm	2,500 kg	24.5 kN
HMS 125	0 - 76 mm	72 - 150 mm	146 - 224 mm	4,000 kg	39.25 kN
HMS 150	0 - 100 mm	98 - 200 mm	195 - 300 mm	4,500 kg	44.1 kN
HMS 200	0 - 100 mm	98 - 200 mm	195 - 300 mm	7,500 kg	73.6 kN



Two-axis vice ZAS

- Tilts to -90°
- Hardened and polished clamping jaws, replaceable
- Easily readable scales for both axes
- With turntable, rotating through 360°
- Net weight 3.4 kg

ZAS 50	3354170
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Machine vices

Three-axis vice DAS 100

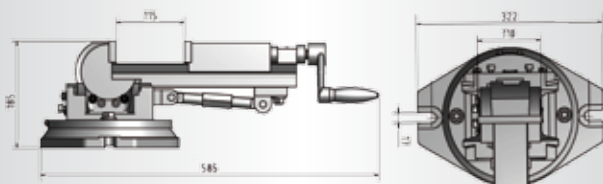
- Premium cast material
- Guide surfaces tempered and polished
- Hardened and polished clamping jaws, replaceable
- With turntable, rotating through 360°
- Horizontal swivel movement to 90°
- Vertical swivel movement to $\pm 45^\circ$ above thread spindle
- Easily readable scales for all three axes
- Weight: 32 kg

DAS 100

3355500

Prism jaw

3355502



Prism jaw

Three-axis vices MV3

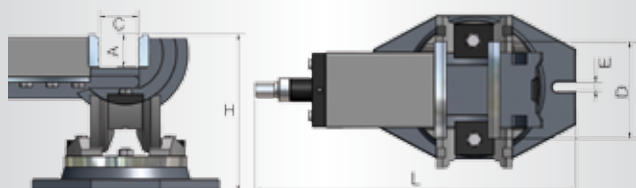
- Horizontal swivel movement to 90°
- Vertical swivel movement to $\pm 45^\circ$
- Easily readable scales for all three axes
- Hardened and polished clamping jaws, replaceable
- With turntable, rotating through 360°

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 with high precision and repetition accuracy for series production and single-part machining on CNC milling machines and machining centres
- Robust design for milling
- Guide surfaces tempered and polished
- Booster system, requires little force, high pressure build-up during clamping
- Large clamping range due to lock bolts with various hole spacings
- Made of premium grade stainless steel
- Long service life thanks to high quality
- High clamping force

HCV 105

3536210



C	Span	Clamping pressure	Weight
0 - 85 mm	85 - 170 mm	2,500 kg	24.5 kN
			22 kg



Hydraulic machine vice HCV 125

- Modular machine vice with high precision and repetition accuracy for series production and single-part machining on CNC milling machines and machining centres
- Robust design for milling
- Guide surfaces tempered and polished
- Booster system, requires little force, high pressure build-up during clamping
- Large clamping range due to lock bolts with various hole spacings
- Made of premium grade stainless steel
- Long service life thanks to high quality
- High clamping force

HCV 125

3536214

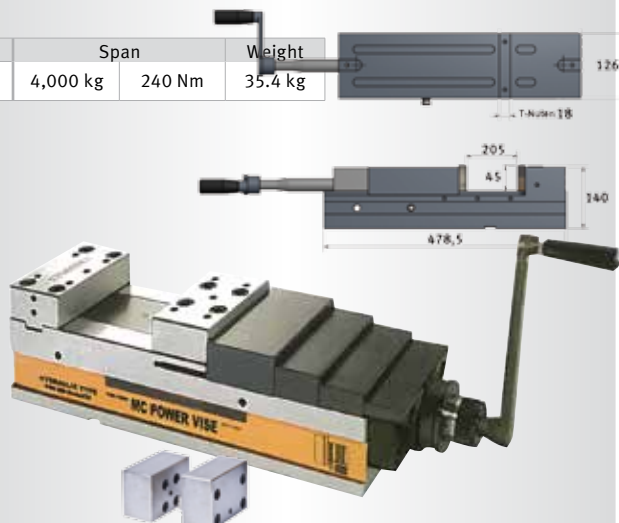
Soft jaws 2 pcs.

3536221

L jaws 2 pcs.

3536222

C	Span	Weight
4,000 kg	240 Nm	35.4 kg





LATHES

Technical data of OPTi turn[®] lathes for general orientation

	Motor output (kW)	Max. height	Max. width	Swing diameter over machine bed	Spindle speed	Spindle holder	Spindle taper	3-jaw chuck (Standard)	4-jaw chuck (Standard)	Vario drive	Digital speed display	DPA	Tool holder	Quick change tool holder	230V Version available	400V Version available
TU 1503V	0,45	75	300	140	120 - 3.000	Cylindrical		●		●			2-fach		●	
TU 2004V	0,6	100	300	200	150 - 2.500	Cylindrical	MT 3	●		●	●		●		●	
TU 2304	0,75	115	450	230	125 - 2.000	Cylindrical	MT 3	●					●		●	
TU 2304V	0,75	115	450	230	150 - 2.200	Cylindrical	MT 3	●		●	●		●		●	
TU 2406	0,75	125	550	250	125 - 2.000	Cylindrical	MT 3	●					●		●	●
TU 2406V	1,1	125	550	250	150 - 2.500	Cylindrical	MT 3	●		●	●		●		●	
TU 2506	0,75	125	550	250	125 - 2.000	short taper	MT 4	●					●		●	●
TU 2506V	1,5	125	550	250	30 - 4.000	short taper	MT 4	●		●	●		●		●	
TU 2807	0,85	140	700	266	150 - 2.000	short taper	MT 4	●					●		●	●
TU 2807V	1,5	140	700	266	30 - 4.000	short taper	MT 4	●		●	●		●		●	
NEW TU 3008/G	1,1	180	800	300	150 - 2.000	No. 4	MT 5	●					●			●
TU 3008V	1,5	180	800	300	30 - 3.000	No. 4	MT 5	●		●			●		●	
TH 3309 TH 3309 D	1,5	156	830	350	60 - 2.000	No. 4	MT 5				● / -	● / -	●			●
TH 3309 V	2,2	156	830	350	12 - 2.250	No. 4	MT 5			●	●	●	●		●	
TH 3610 TH 3610D	1,5	180	980	356	70 - 2.500	No. 5	MT 6				● / -	● / -	●			●
TH 4010 TH 4010D	1,5 / 2,4	205	1.000	410	45 - 1.800	No. 5	MT 5				● / -	● / -	●			
TH 4010V	4	205	1.000	410	30 - 3.000	No. 5	MT 6			●	●	●		●		●
NEW TZ 4	3 / 4,5	200	800	400	45 - 1.800	No. 5 - form A2	MT 6					●		●		●
TH 4210 TH 4210D TH 4215D	4,5	210	1.000 1.500	420	45 - 1.800	No. 6	MT 6				● / -	● / -	●			●
TH 4210V	4,5	210	1.000	420	30 - 3.000	No. 6	MT 6			●	●	●		●		●
TH 4610D TH 4615D TH 4620D	5,5	230	1.060 1.560 2.060	460	25 - 2.000	No. 6	MT 6				●	●		●		●
TH 4615V	7,5	230	1.560	460	30 - 2000	No. 8	MT 7			●	●	●		●		●
TH 5615D TH 5620D TH 5630D	7,5	280	1.420 1.910 2.910	560	25 - 1.600	No. 8	MT 7				●	●		●		●
TH 5620V	7,5	280	1.910	560	25 - 1600	No. 8	MT 7			●	●	●		●		●
D 660 x 2000DPA D 660 x 2000DPA	7,5	330	2.050 3.060	660	25 - 1.600	No. 8	MT 7	●	●		●	●		●		●
TU 8020 TU 8030	7,5	400	2.000 3.000	800	25 - 1.600	No. 8	MT 7	●	●		●	●		●		●

The compact lathe with electronic speed control

OPTIMUM
the original

Facts that impress in terms of quality, performance and price

- ▶ Direct current motor
- ▶ Ribbed grey cast prism bed, induction tempered and ground
- ▶ Tempered and ground bed guide rails
- ▶ Guaranteed concentricity of spindle nose better than 0.015 mm
- ▶ Chuck concentricity max. 0.05 mm
- ▶ Leading spindle for thread tapping or automatic longitudinal turning
- ▶ Longitudinal, cross and top slides
- ▶ Automatic longitudinal/leading spindle drive
- ▶ Large thread tapping area thanks to set of interchangeable gears
- ▶ Fast and easy speed change through V-belt
- ▶ Safety switch in cover
- ▶ Right-hand/left-hand rotation switchable via control panel
- ▶ Chuck protection with microswitch
- ▶ Handwheels with adjustable fine scaling 0.04 / 0.01 mm
- ▶ All guides adjustable without play using wedge rails
- ▶ Emergency stop button
- ▶ Low-voltage electronics
- ▶ EMC filter class B (use in private households)



Fig.: TU 1503V

Model	TU 1503V
Article no.	3420260
Machine data	
Electrical connection	230 V / 1 Ph ~50 Hz
Spindle	
Drive motor	450 W
Spindle taper	MT 1
Spindle bore	Ø 11 mm
Four x tool holder mounting height	12 mm
Work areas	
Max. height	75 mm
Max. width	265 mm
Max. turning diameter	150 mm ⁽¹⁾
Bed width	70 mm
Speed range	
Number of stages	Electronic speed control
Strokes	
Top slide stroke	40 mm
Cross slide stroke	55 mm
Feed and pitch	
Longitudinal feeds	0.05 - 0.1 mm/rev (2 feeds)
Metric pitch	0.5 - 1.5 mm/rev (8 pitches)
Tailstock	
Tailstock chuck	MT 1 short
Tailstock - quill stroke	30 mm
Dimensions L x W x H	
Net weight	23 kg

Scope of supply

- Three-jaw lathe chuck Ø 80 mm, centre clamping
- Fixed centre MT 1
- Splashguard
- Chip tray
- Set of interchangeable gears
- Dual tool holder
- Operating tool

⁽¹⁾ „Please note“ on page 183

Accessories

▶ Lathe chuck

Four-jaw lathe chuck Ø 80 mm, individual clamping	3440286
Four-jaw lathe chuck Ø 80 mm, centre clamping	3442808

▶ Steady

Travelling steady passageway max. Ø 45 mm	3440210
Fixed steady passageway max. Ø 40 mm	3440211

▶ Lathe tool

Lathe tool set 8 mm, 5-part	3441662
Lathe tool set 8 mm, 11-part	3441601
Info zu „Lathe tool set“ on page 121	

▶ Accessories

Travelling centre MT 1	3440700
Collet chuck ER 16, Ø 22 mm, Cylindrical	3440281
Spring collet set ER 16, 1 - 10 mm, 12-part	3440282

› „Accessories for lathes“ on page 118

Lathe with electronic speed control and digital speed display

Facts that impress in terms of quality, performance and price

- ▶ Precision workmanship
- ▶ Ribbed cast steel prism bed with strong ribbing, induction tempered and precision ground
- ▶ Tempered and ground bed guide rails
- ▶ Tempered spindle nose (DIN 6350)
- ▶ Guaranteed concentricity of spindle nose better than 0.009 mm
- ▶ Automatic longitudinal/leading spindle drive
- ▶ Longitudinal, cross and top slides
- ▶ Right-hand/left-hand rotation switchable via control panel
- ▶ Emergency stop button
- ▶ Chuck protection
- ▶ Thrust bearings
- ▶ Leading spindle borne on two sintered bearings
- ▶ Large thread tapping area thanks to set of interchangeable gears as standard
- ▶ Gearbox with interchangeable gearwheels
- ▶ EMC filter class B (use in private households)

Accessories	Article no.
Digital position display DRO 5	3383975
Magnetic strip 1,100 mm	3383978
Factory assembly	9000420



Main spindle

- Tempered and borne on adjustable precision taper roller bearings
- Tapered roller bearings in P5 quality
- Cylindrical centring mount
- Tempered spindle nose with Ø 21 mm spindle bore

Lathe chuck

- Concentricity better than 0.04 mm

Chip guard

- On top slide

Four x tool holder

- Rotating

Roll-milled trapezoidal thread

- Leading spindle

Tailstock

- Adjustable for turning balls
- Tailstock spindle sleeve and handwheel with adjustable fine scaling 0.02 mm
- Fast, easy adjustment without tools thanks to clamping lever

Digital speed display

- Easily legible speed display

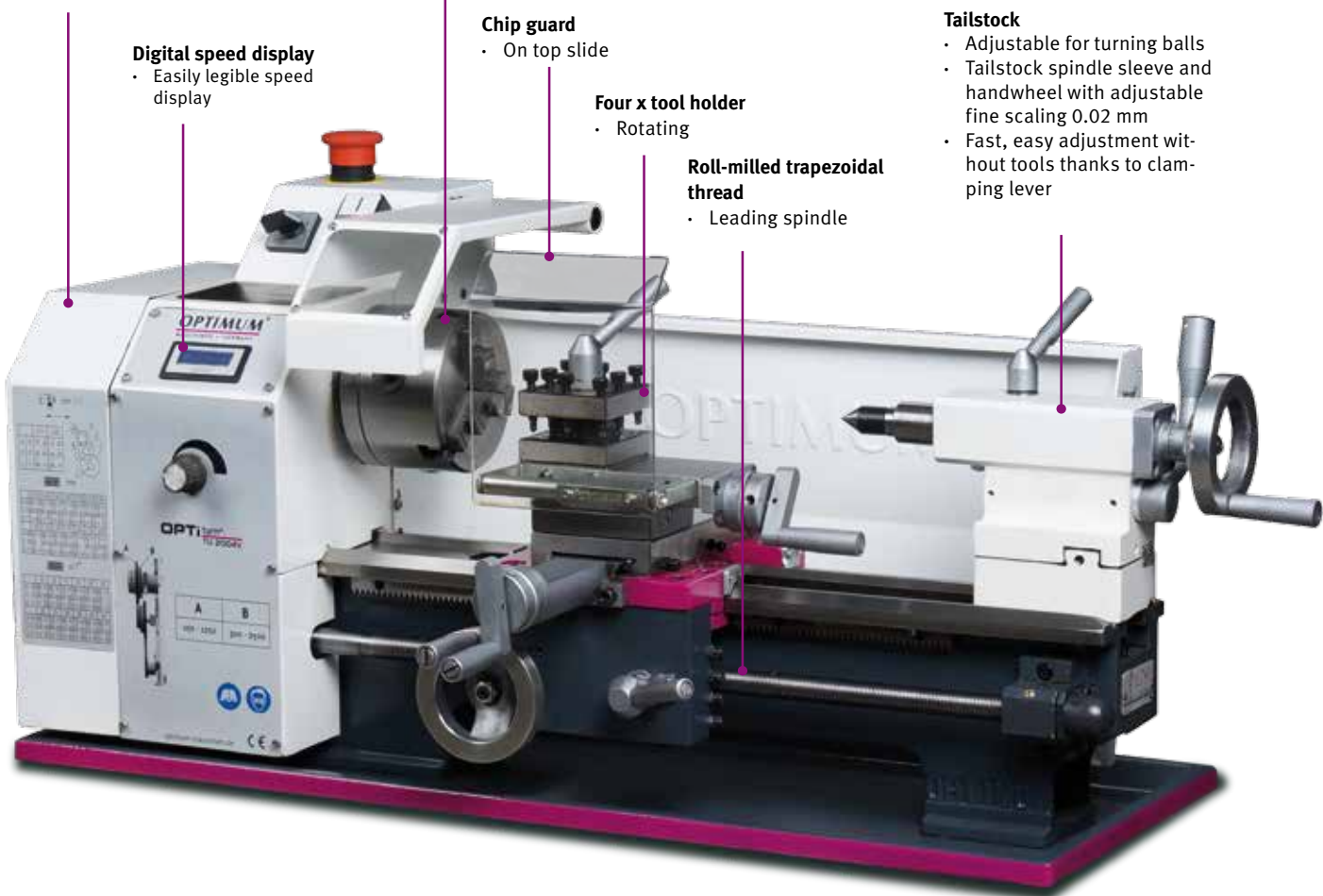


Fig.: TU 2004V

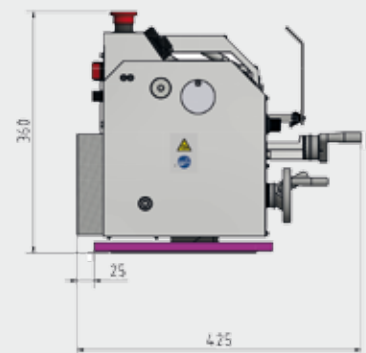
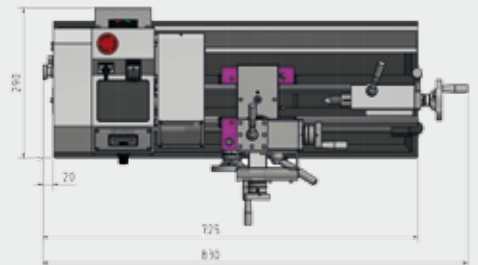
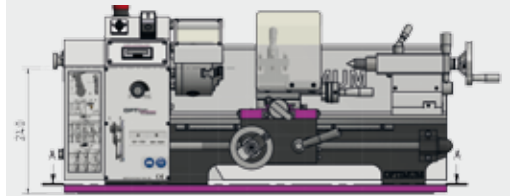
Technical specifications, accessories and dimensions

Model	TU 2004V
Article no.	3420310
Machine data	
Electrical connection	230 V / 1 Ph ~ 50 Hz
Spindle	
Drive motor	600 W
Spindle taper	MT 3
Spindle bore	Ø 21 mm
Passageway three-jaw chuck	20 mm
Four x tool holder mounting height	max. 12 mm
Work areas	
Max. height	100 mm
Max. width	300 mm
Max. turning diameter	200 mm ⁽¹⁾
Swing over cross slide	110 mm
Bed width	100 mm
Speed range	
Spindle speeds	150 - 2,500 min ⁻¹
Number of stages	2-speed, electronic speed control
Strokes	
Top slide stroke	55 mm
Cross slide stroke	75 mm
Feed and pitches	
Longitudinal feeds	0.1 - 0.2 mm/rev (2 feeds)
Metric pitch	0.25 - 3 mm/rev (14 pitches)
Pitch - inch	44 - 8 turns/inch (12 pitches)
Tailstock	
Tailstock chuck	MT 2
Tailstock - quill stroke	65 mm
Dimensions L x H x W	
Net weight	61 kg

⁽¹⁾ „Please note“ on page 183

Accessories	Artikel-No.
► Lathe chuck and accessories	
Four-jaw lathe chuck Ø 100 mm, centre clamping (Chuck flange 3440312 required)	3442810
Four-jaw lathe chuck Ø 100 mm, individual clamping (Chuck flange 3440312 required)	3442872
Chuck flange for lathe chuck Ø 100 mm (3442810/3442872)	3440312
Planar clamping disc Ø 170 mm	3440295
► Steady	
Travelling steady passageway max. Ø 40 mm	3440230
Fixed steady passageway max. Ø 50 mm	3440231
► Tool holder and accessories	
Quick change tool holder SWH-AA	3384311
Factory assembly SWH-AA	9000401
Replacement tool holder 12 x 50 type D for square chisels	3384312
Replacement tool holder 12 x 50 type H for round chisels	3384320
Lathe tool set 10 mm, 11-part	3441602
Lathe tool set 10 mm, 5-part	3441664
Informationen zu „Lathe tool set HM 10 mm“ on page 119	
► Accessories	
Collet chuck ER 25, Ø 52 mm cylindrical	3440305
Travelling centre MT 2	3440702
> „Accessories for lathes“ on page 118	

Dimensions



Scope of supply

- Three-jaw lathe chuck Ø 100 mm, centre clamping
- Fixed centre MT 2 and MT 3
- Splashguard
- Chip tray
- Set of interchangeable gears
- Four x tool holder
- Operating tool

Preface

Drilling

Milling

Turning

Sawing

Sanding/grinding

Polishing

Lamps

Measuring

Index

Lathes for DIY. TU 2304V with electronic speed control

Facts that impress in terms of quality, performance and price

- ▶ Precision workmanship
- ▶ Tempered and ground guide rails
- ▶ Guaranteed concentricity of spindle nose better than 0.009 mm
- ▶ Chuck concentricity better than 0.05 mm
- ▶ Leading spindle for thread tapping or automatic longitudinal turning
- ▶ Right-hand/left-hand rotation switchable via control panel
- ▶ Roll-milled trapezoidal spindles
- ▶ Emergency stop button

- ▶ Comprehensive range of accessories
- ▶ Lasting value

TU 2304 V

- ▶ High-torque motor with constant torque curve to a great extent
- ▶ Speed change easily adjustable via potentiometer
- ▶ Digital speed display
- ▶ EMC filter class B (use in private households)

Slide

- Precise workmanship
- Handwheels with adjustable fine scaling 0.04 / 0.01 mm
- Four x tool holder
- All guides adjustable using wedge rails

Tailstock

- Adjustable ± 5 mm for turning balls
- Tailstock spindle sleeve and handwheel with adjustable fine scaling 0.02 mm
- Fast, easy adjustment without tools thanks to clamping lever

Prism bed

- Solid
- Grey cast iron
- Stored for a minimum of six months
- Induction tempered (HRC 42-52)
- Precision ground

Set of interchangeable gears

For thread tapping

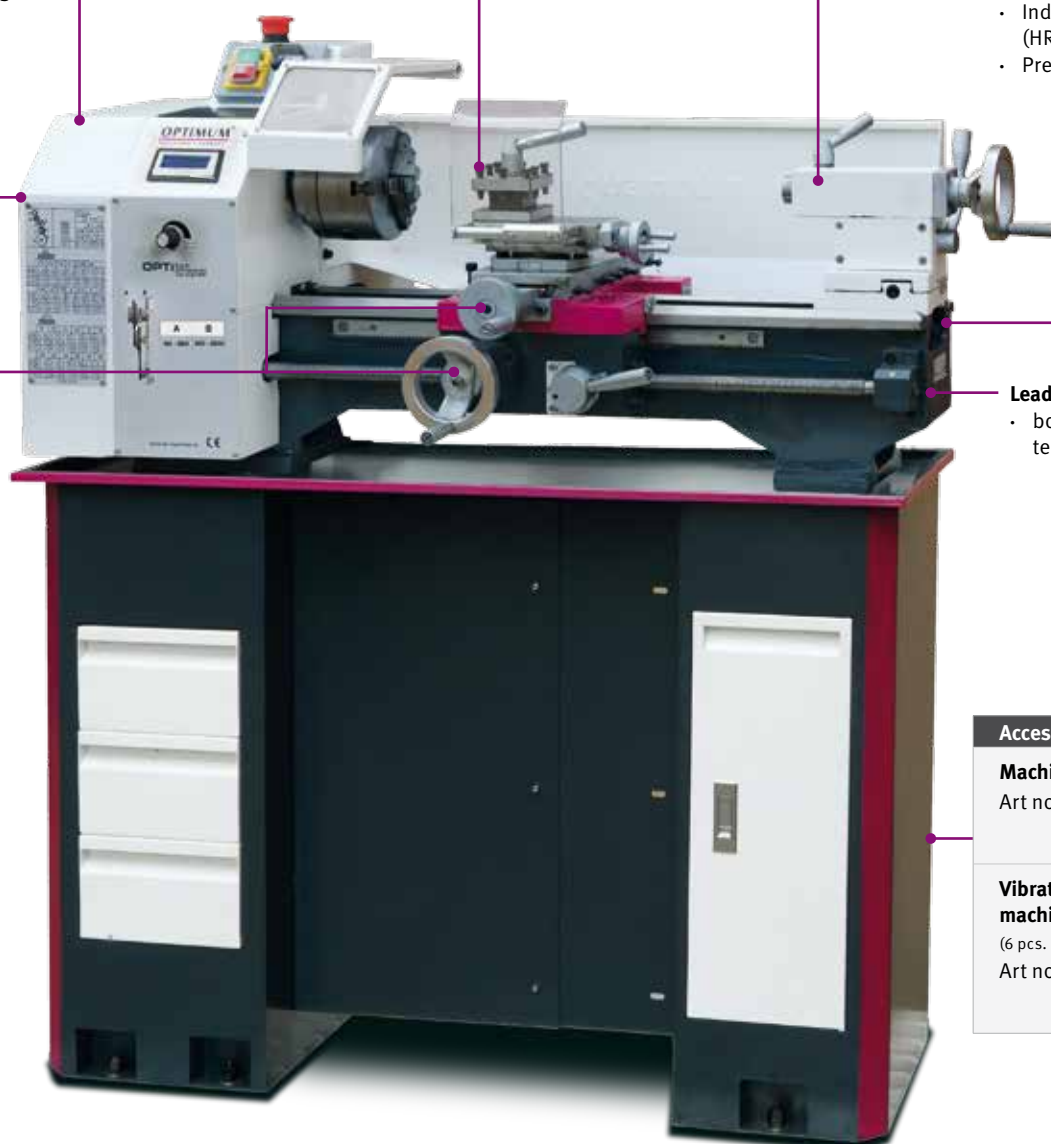
Tapered roller bearing

- Two pcs.
- P5 quality

Thrust bearings

Leading spindle

- borne on sintered bearings



Accessories

Machine chassis
Art no. 3440409

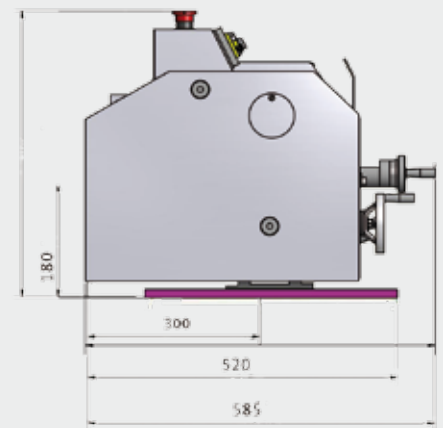
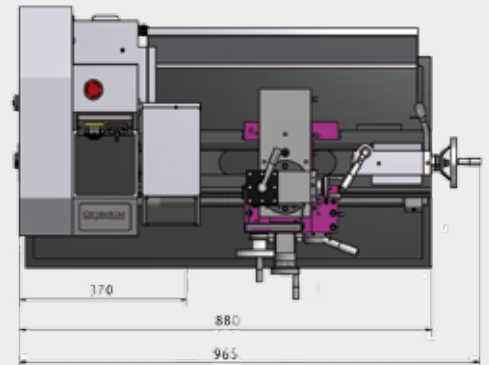
Vibration dampers machine base SE 1
(6 pcs. required)
Art no. 3381012

Similar to fig.: TU 2304V with optional machine chassis

Model	TU 2304
Article no.	3420320
Model	TU 2304V
Article no.	3420325
Machine data	
Electrical connection	230 V / 1 Ph ~ 50 Hz
Spindle	
Drive motor	750 W
Spindle taper	MT 3
Spindle bore, rod passage diameter	Ø 20 mm
Spindle holder	cylindrical Ø 72 mm
Four x tool holder mounting height	14 x 14 mm
Work area	
Max. height	115 mm
Max. width	450 mm
Swing diameter over machine bed	230 mm ⁽¹⁾
Bed width	135 mm
Speed range	
Spindle speed TU 2304	125 - 2,000 rpm
Number of gears TU 2304	6 gears
Spindle speed TU 2304V	150 - 2,200 rpm
Number of gears TU 2304V	2-speed, electronic speed control
Strokes	
Top slide stroke	75 mm
Cross slide stroke	120 mm
Pitches	
Pitch - metric in range	0.4 - 3.5 mm/rev (14 pitches)
Pitch - inch in range	44 - 8 turns/inch (14 pitches)
Tailstock	
Tailstock chuck	MT 2
Tailstock - quill stroke	70 mm
Dimensions	
Length x width x height	965 x 585 x 510 mm
Weight TU 2304	111 kg
Weight TU 2304V	114 kg

Accessories	Art no.
► Lathe chuck and accessories	
Three-jaw lathe chuck Ø 125 mm, centre clamping (Chuck flange 3440313 required)	3442712
Four-jaw lathe chuck Ø 125 mm, centre clamping (Chuck flange 3440313 required)	3442812
Four-jaw lathe chuck Ø 125 mm, individual clamping (Chuck flange 3440313 required)	3442874
Chuck flange for lathe chuck Ø 125 mm (3442812/3442712/3442874)	3440313
Planar clamping disc Ø 240 mm	3441352
► Steady	
Fixed steady passageway max. Ø 55 mm	3440361
Travelling steady passageway max. Ø 34 mm	3440360
► Tool holder and lathe tool	
Quick change tool holder SWH 1-A	3384301
Factory assembly SWH 1-A	9000401
Replacement tool holder 20 x 90 Type D for square chisels	3384302
Replacement tool holder 20 x 85 Type H for round chisels	3384321
Lathe tool set 10 mm, 11-part	3441602
Lathe tool set 10 mm, 5-part	3441664
Lathe tool set 12 mm, 11-part	3441603
Lathe tool set 12 mm, 5-part	3441666
Lathe tool set 12 mm, 5-part „Made in Germany“	3441212
Informationen zu „Inside lathe tool“ on page 123	
► Accessories	
Travelling centre MT 2	3440702
Spring collet set ER 25, 1 - 16 mm	3441109
Collet chuck ER 25, Ø 40 mm, cylindrical	3440305
► „Accessories for lathes“ on page 118	

Dimensions




⁽¹⁾ „Please note“ on page 183

Scope of supply

- Three-jaw lathe chuck Ø 100 mm, centre clamping
- Fixed centre MT 2 and MT 3
- Splashguard
- Chip tray
- Four x tool holder
- Set of interchangeable gears
- Operating tool

Accessories

<p>Info: „DRO 5“ from page 178</p> 	
Digital position display DRO 5 incl. 3 magnetic sensors	3383975
Magnetic strip L: 1,100 mm	3383978
Factory assembly	9000420

Lathes for DIY. TU 2406V with electronic speed control.

Facts that impress in terms of quality, performance and price

- Precision workmanship
- Tempered and ground guide rails
- Guaranteed concentricity of spindle nose better than 0.009 mm
- Chuck concentricity better than 0.05 mm
- Leading spindle for thread tapping or automatic longitudinal turning
- Right-hand/left-hand rotation switchable via control panel
- Roll-milled trapezoidal spindles
- Emergency stop button

- Comprehensive range of accessories
- Lasting value

TU 2406 V

- High-torque motor with constant torque curve to a great extent
- Speed change easily adjustable via potentiometer
- Digital speed display
- EMC filter class B (use in private households)

Leading spindle

- borne on sintered bearings



Slide

- Precise workmanship
- Handwheels with adjustable fine scaling 0.04 / 0.01 mm
- Four x tool holder
- All guides adjustable using wedge rails

Tailstock

Adjustable ± 5 mm for turning balls

- Tailstock spindle sleeve and handwheel with adjustable fine scaling 0.02 mm
- Fast, easy adjustment without tools thanks to clamping lever

Tapered roller bearing

- Two pcs.
- P5 quality

Thrust bearings



Accessories

Machine chassis

Art no. 3440409

Vibration damper base SE 1

(6 pcs. required)

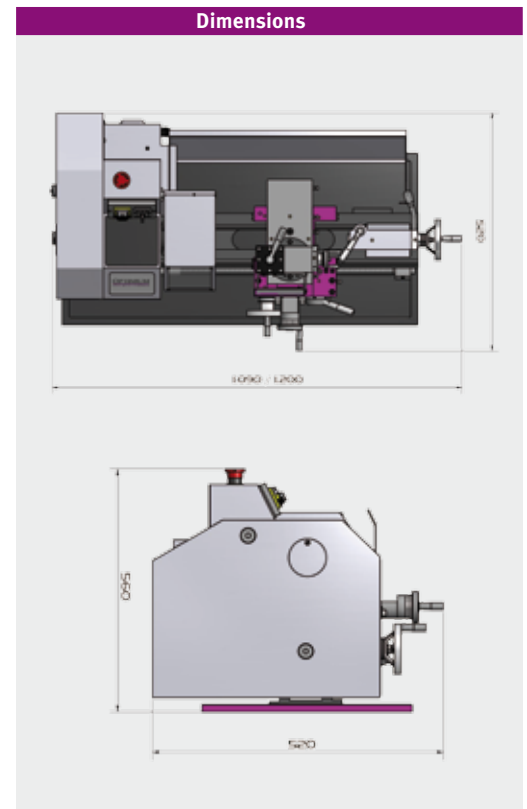
Art no. 3381012

Fig.: TU 2406V with optional machine chassis

Fig.: TU 2406

Model	TU 2406
Article no. (230 V)	3420350
Article no. (400 V)	3420353
Model	TU 2406V
Article no. (230 V)	3420355
Machine data	
Electrical connection TU 2406	230 V / 1 Ph ~50 Hz or 400 V / 3 Ph ~50 Hz
Electrical connection TU 2406V	230 V / 1 Ph ~ 50 Hz
Spindle	
Drive motor TU 2406	750 W
Drive motor TU 2406V	1.1 kW
Spindle taper	MT 3
Spindle bore	Ø 21 mm
Spindle holder	cylindrical Ø 52 mm
Four x tool holder mounting height	14 x 14 mm
Work area	
Max. height	125 mm
Max. width	550 mm
Swing diameter over machine bed	250 mm ⁽¹⁾
Bed width	135 mm
Speed range	
Spindle speed TU 2406	125 - 2,000 rpm
Number of gears TU 2406	6 gears
Spindle speed TU 2406V	150 - 2,500 rpm
Number of gears TU 2406V	2-speed, electronic speed control
Strokes	
Top slide stroke	75 mm
Cross slide stroke	120 mm
Pitches	
Pitch - metric in range	0.4 - 3.5 mm/rev (14 pitches)
Pitch - inch in range	44 - 10 turns/inch (12 pitches)
Tailstock	
Tailstock chuck	MT 2
Tailstock - quill stroke	70 mm
Dimensions	
Length x width x height	1,310 x 520 x 560 mm
Net weight	125 kg

Accessories	Art no.
► Lathe chuck and accessories	
Four-jaw lathe chuck Ø 125 mm, centre clamping (Chuck flange 3440511 required)	3442812
Four-jaw lathe chuck Ø 125 mm, individual clamping (Chuck flange 3440511 required)	3442874
Chuck flange for lathe chuck Ø 125 mm (Lathe chuck 3442812/3442874)	3440511
Planar clamping disc Ø 240 mm	3440552
► Steady	
Fixed steady passageway max. Ø 50 mm	3441315
Travelling steady passageway max. Ø 34 mm	3441310
► Tool holder and lathe tool	
Quick change tool holder SWH 1-A	3384301
Factory assembly SWH 1-A	9000401
Replacement tool holder 20 x 90 Type D for square chisels	3384302
Replacement tool holder 20 x 85 Type H for round chisels	3384321
Lathe tool set 10 mm, 11-part	3441602
Lathe tool set 10 mm, 5-part	3441664
Lathe tool set 12 mm, 11-part	3441603
Lathe tool set 12 mm, 5-part	3441666
Lathe tool set 12 mm, 5-part „Made in Germany“	3441212
Informationen zu „Inside lathe tool“ on page 123	
► „Accessories for lathes“ on page 118	



⁽¹⁾ „Please note“ on page 183

Scope of supply
• Three-jaw lathe chuck Ø 125 mm, centre clamping
• Fixed centre MT 2 and MT 3
• Splashguard
• Chip tray
• Four x tool holder
• Set of interchangeable gears
• Operating tool

Accessories	
	
Info: „DRO 5“ from page 178	
Digital position display DRO 5 incl. 3 magnetic sensors	3383975
Magnetic strip length 1,100 mm	3383978
Factory assembly	9000420

Leading spindle lathes with feed gear for demanding users. TU 2506V with brushless motor for continuously variable speed control.

Facts that impress in terms of quality, performance and price

- Precision workmanship
- Powerful motor, low-maintenance motor
- Ribbed grey cast steel prism bed with strong ribbing, induction tempered and precision ground
- Tempered and ground bed guide rails
- Guaranteed concentricity of spindle nose better than 0.009 mm
- Concentricity at chuck better than 0.04 mm
- Automatic longitudinal/leading spindle drive
- Leading spindle for thread tapping or automatic longitudinal turning
- Right-hand/left-hand rotation switchable via control panel
- Leading spindle borne on two sintered bearings
- Handwheels on slide with adjustable fine scaling 0.04 / 0.01 mm
- Set of interchangeable gears in standard scope of delivery for thread tapping

- Thrust bearings
- Emergency stop button
- Machines with a full equipment set; the user can immediately start productive work

TU 2506 V

- Smooth action and powerful DC drive with excellent control characteristics
- High-precision steel chuck for higher speeds
- Speed change easily adjustable via potentiometer
- Digital speed display

TU 2506V

Powerful brushless drive

- Particularly smooth action
- Virtually constant torque over the entire speed range
- Extremely powerful



Slide

- Four x tool holder
- All guides adjustable without play using wedge rails
- Roll-milled trapezoidal spindles
- Chip guard on top slide
- Milling machine BF 20V attachable
- Top slide displaceable on cross slide

Tailstock

- Adjustable ± 5 mm for turning balls
- Tailstock spindle sleeve and hand-wheel with adjustable fine scaling 0.02 mm
- Fast, easy adjustment without tools thanks to clamping lever

Main spindle

- Tempered and borne on adjustable precision taper roller bearings
- Two tapered roller bearings in P5 quality
- Short taper
- Tempered spindle nose with $\varnothing 26$ mm spindle bore

Feed gear

- Easy action
- Rounded gearwheels
- Running in oil bath

Accessories

Machine chassis

Art. no. 3440409

Vibration damper base SE 1

(6 pcs. required)

Art. no. 3381012

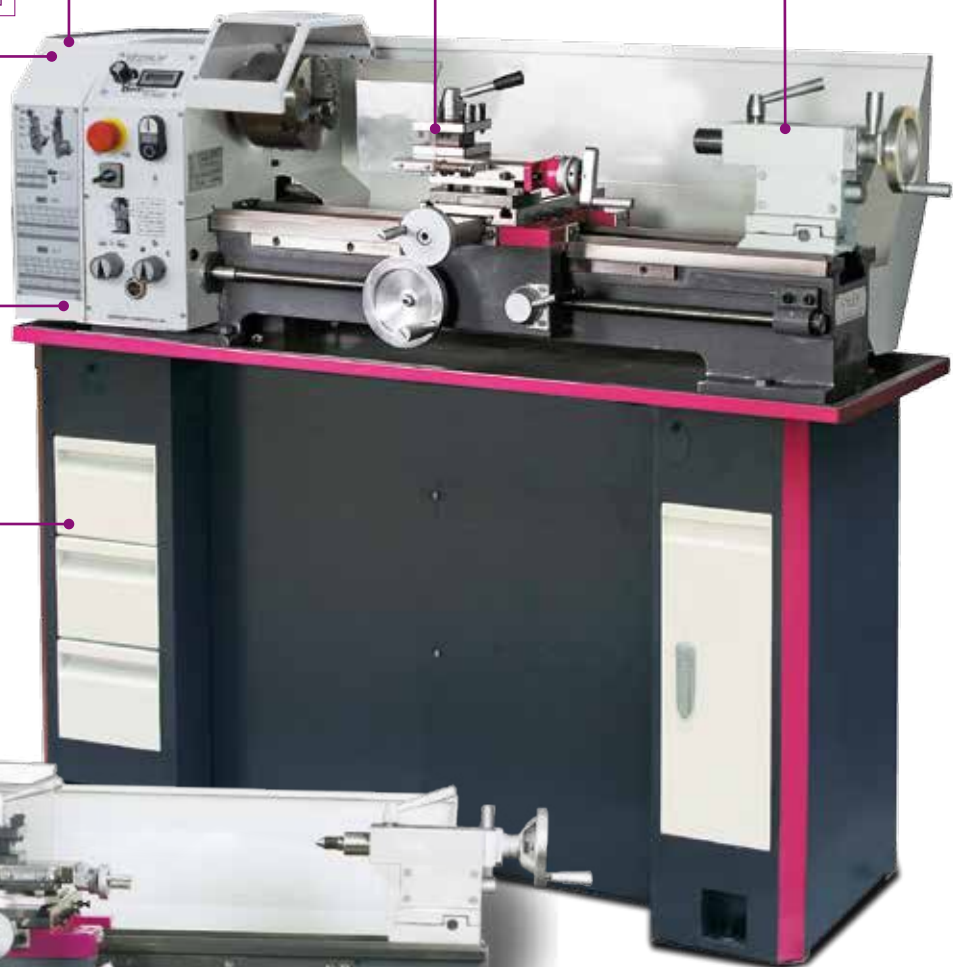


Fig.: TU 2506V



Fig.: TU 2506

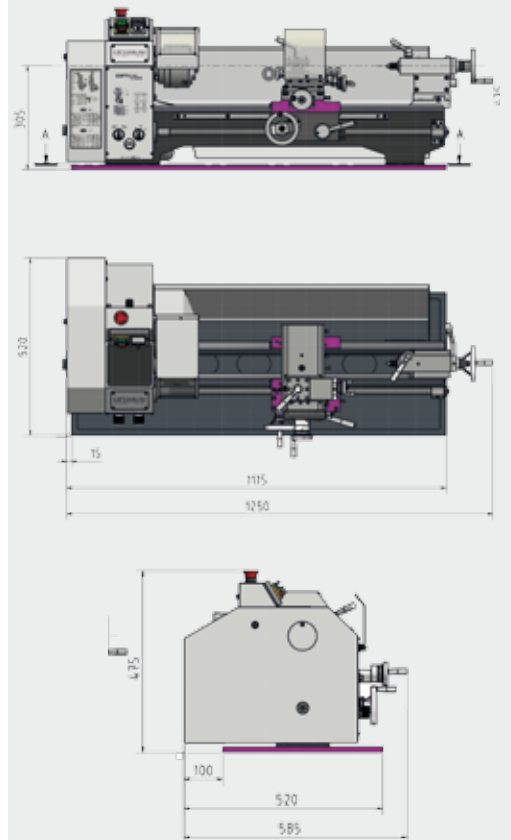
The Vario lathe (frequency inverter) complies with standard DIN EN 55011: class A

Model	TU 2506
Article no. (230 V)	3425001
Article no. (400 V)	3425003
Model	TU 2506V
Article no. (230 V)	3425006
Machine data	
Electrical connection TU 2506	230 V / 1 Ph ~50 Hz or 400 V / 3 Ph ~50 Hz
Electrical connection TU 2506V	230 V / 1 Ph ~ 50 Hz
Spindle	
Drive motor TU 2506	750 W
Drive motor TU 2506V	1.5 kW
Spindle taper	MT 4
Spindle bore	Ø 26 mm
Spindle holder	Short taper
Four x tool holder mounting height	max. 13 mm
Work area	
Max. height	125 mm
Max. width	550 mm
Swing diameter over machine bed	250 mm ⁽¹⁾
Bed width	135 mm
Speed range	
Spindle speed TU 2506	125 - 2,000 rpm
Number of gears TU 2506	6 gears
Spindle speed TU 2506V	30 - 4,000 rpm
Number of gears TU 2506V	4-speed, electronic speed control
Strokes	
Top slide stroke	70 mm
Cross slide stroke	110 mm
Feeds and pitches	
Longitudinal feeds in range	0.07 - 0.4 mm/rev (6 feeds)
Pitch - metric in range	0.2 - 4 mm/rev (21 pitches)
Pitch - inch in range	56 - 8 turns/inch (21 pitches)
Tailstock	
Tailstock chuck	MT 2
Tailstock - quill stroke	65 mm
Dimensions	
Length x width x height TU 2506	1,250 x 585 x 475 mm
Length x width x height TU 2506	1,250 x 650 x 420 mm
Net weight	125 kg

⁽¹⁾ „Please note“ on page 183

Accessories	Art no.
► Lathe chuck and accessories	
Four-jaw lathe chuck Ø 125 mm, individual clamping (Chuck flange 3441312 required)	3442874
Four-jaw lathe chuck Ø 125 mm, centre clamping (Chuck flange 3441312 required)	3442812
Chuck flange for lathe chuck Ø 125 mm (Lathe chuck 3442874/3442812)	3441312
Planar clamping disc Ø 240 mm	3441352
► Steady	
Fixed steady passageway max. Ø 50 mm	3441315
Travelling steady passageway max. Ø 34 mm	3441310
► Tool holder and lathe tool	
Quick change tool holder SWH 1-A	3384301
Factory assembly SWH 1-A	9000401
Replacement tool holder 20 x 90 Type D for square chisels	3384302
Replacement tool holder 20 x 85 Type H for round chisels	3384321
Lathe tool set 10 mm, 11-part	3441602
Lathe tool set 10 mm, 5-part	3441664
Lathe tool set 12 mm, 11-part	3441603
Lathe tool set 12 mm, 5-part	3441666
Lathe tool set 12 mm, 5-part „Made in Germany“	3441212

Dimensions



Scope of supply

- Three-jaw lathe chuck Ø 125 mm, centre clamping
- Fixed centre MT 2 and MT 4
- Splashguard
- Chip tray
- HSS lathe tools
- Four x tool holder
- Set of interchangeable gears
- Operating tool

Accessories



You will find CNC complete attachment kits and CNC accessories below under www.optimum-maschinen.de

Accessories	Art No.
► Attachments milling on the lathe	
BF 20AV - Column and milling head of BF 20 Vario	3338129
Mounting adapter BF 20AV on the lathe	3356572
Mounting adapter Column and milling head of BF 16Vario	3356568

Leading spindle lathes with feed gear for demanding users. TU 2807V with brushless motor for continuously variable speed control

Facts that impress in terms of quality, performance and price

- ▶ Precision workmanship
- ▶ Powerful motor, low-maintenance motor
- ▶ Ribbed grey cast steel prism bed with strong ribbing, induction tempered and precision ground
- ▶ Tempered and ground bed guide rails
- ▶ Guaranteed concentricity of spindle nose better than 0.009 mm
- ▶ Concentricity at chuck better than 0.04 mm
- ▶ Automatic longitudinal/leading spindle drive
- ▶ Leading spindle for thread tapping or automatic longitudinal turning
- ▶ Right-hand/left-hand rotation switchable via control panel
- ▶ Leading spindle borne on two sintered bearings
- ▶ Set of interchangeable gears in standard scope of delivery for thread tapping

- ▶ Handwheels on slide with adjustable fine scaling 0.04 / 0.01 mm
- ▶ Thrust bearings
- ▶ Emergency stop button
- ▶ Machines with a full equipment set; the user can immediately start productive work

TU 2807 V

- ▶ Smooth action and powerful DC drive with excellent control characteristics
- ▶ High-precision steel chuck for higher speeds
- ▶ Speed change easily adjustable via potentiometer
- ▶ Digital speed display

TU 2807V

Powerful brushless drive

- Particularly smooth action
- Virtually constant torque over the entire speed range
- Extremely powerful



Slide

- Four x tool holder
- All guides adjustable without play using wedge rails
- Roll-milled trapezoidal spindles
- Chip guard on top slide
- Milling machine BF 20V attachable
- Top slide displaceable on cross slide

Tailstock

- Adjustable ± 5 mm for turning balls
- Tailstock spindle sleeve and hand-wheel with adjustable fine scaling 0.02 mm
- Fast, easy adjustment without tools thanks to clamping lever

Main spindle

- Tempered and borne on adjustable precision taper roller bearings
- Two tapered roller bearings in P5 quality
- Short taper
- Tempered spindle nose with $\varnothing 26$ mm spindle bore

Feed gear

- Easy action
- Rounded gearwheels
- Running in oil bath

Accessories

Machine chassis

Art. no. 3440409

Vibration damper base SE 1

(6 pcs. required)

Art. no. 3381012



Fig.: TU 2807V

Fig.: TU 2807

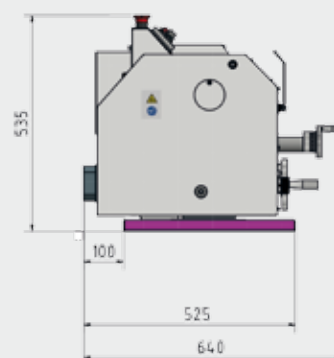
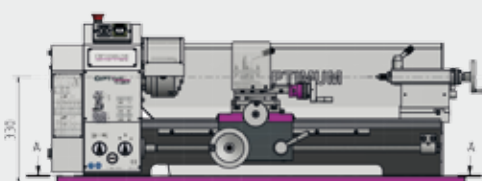
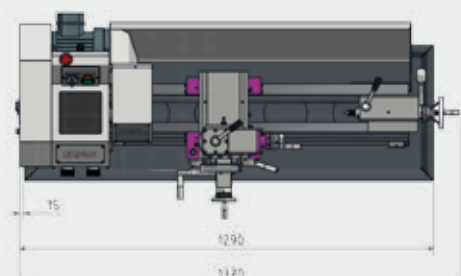
The Vario lathe (frequency inverter) complies with standard DIN EN 55011: class A

Model	TU 2807	TU 2807V
Article no. (230 V)	3427001	-
Article no. (400 V)	3427003	3427006
Machine data		
Electrical connection	230 V / 1 Ph ~ 50 Hz 400 V / 3 Ph ~ 50 Hz	230 V / 1 Ph ~ 50 Hz
Spindle		
Drive motor	850 W	1.5 kW
Spindle taper	MT 4	
Spindle bore	Ø 26 mm	
Spindle holder	Short taper	
Four x tool holder. Chuck height	max. 13.5 mm	
Work area		
Max. height	140 mm	
Max. width	700 mm	
Swing diameter bed	266 mm ⁽¹⁾	
Bed width	180 mm	
Speed range		
Spindle speed	125 - 2,000 rpm	30 - 4,000 rpm
Number of stages	6 gears	4 gears Elec. speed control
Strokes		
Top slide stroke	60 mm	
Cross slide stroke	160 mm	
Feeds and pitches		
Longitudinal feeds in range	0.07 - 0.4 mm/rev (6 feeds)	
Pitch - metric in range	0.2 - 3.5 mm/rev (18 pitches)	
Pitch - inch in range	56 - 8 turns/inch (21 pitches)	
Tailstock		
Tailstock chuck	MT 2	
Tailstock - quill stroke	85 mm	
Dimensions		
Length x width x height	1,370 x 640 x 535 mm	1,370 x 660 x 440 mm
Net weight	180 kg	

⁽¹⁾ „Please note“ on page 183

Accessories	Art no.
► Lathe chuck and accessories	
Four-jaw lathe chuck Ø 125 mm, individual clamping (Chuck flange 3441312 required)	3442874
Four-jaw lathe chuck Ø 125 mm, centre clamping (Chuck flange 3441312 required)	3442812
Chuck flange for lathe chuck Ø 125 mm (3442874/3442812)	3441312
Three-jaw lathe chuck Ø 160 mm, centre clamping (Chuck flange 3441413 required)	3442716
Four-jaw lathe chuck Ø 160 mm, centre clamping (Chuck flange 3441413 required)	3442816
Chuck flange for lathe chuck Ø 160 mm (3442716/3442816)	3441413
Planar clamping disc Ø 265 mm	3441452
► Steady	
Fixed steady passageway max. Ø 55 mm	3441415
Travelling steady passageway max. Ø 56 mm	3441410
► Tool holder and lathe tool	
Quick change tool holder SWH 1-A	3384301
Factory assembly SWH 1-A	9000401
Replacement tool holder 20 x 90 Type D for square chisels	3384302
Replacement tool holder 20 x 85 Type H for round chisels	3384321
Lathe tool set 10 mm, 11-part	3441602
Lathe tool set 10 mm, 5-part	3441664
Lathe tool set 12 mm, 11-part	3441603
Lathe tool set 12 mm, 5-part	3441666
Lathe tool set 12 mm, 5-part „Made in Germany“	3441212
► Spring collet	
Spring collet set ER 32, 3 - 20 mm	3441122
Collet chuck ER 25, Ø 52 mm, cylindrical	3441305
Collet chuck ER 32, Ø 52 mm, short taper	3441306

Dimensions



Scope of supply

- Three-jaw lathe chuck Ø 125 mm, centre clamping
- Fixed centre MT 2 and MT 4
- Splashguard
- Chip tray
- HSS lathe tools
- Four x tool holder
- Set of interchangeable gears
- Operating tool

Accessories



You will find CNC complete attachment kits and CNC accessories below www.optimum-maschinen.de

Leading and feed spindle lathe with longitudinal and cross feeds. TU 3008G with gear. TU 3008V with brushless motor for continuously variable speed control

Facts that impress in terms of quality, performance and price

- ▶ Precision workmanship
- ▶ Large spindle bore Ø 36 mm
- ▶ Ribbed grey cast steel prism bed with strong ribbing, induction tempered and precision ground
- ▶ Tempered and ground bed guide rails
- ▶ Guaranteed concentricity of spindle nose better than 0.009 mm
- ▶ Concentricity at chuck better than 0.04 mm
- ▶ Right-hand/left-hand rotation switchable via control panel
- ▶ Leading spindle for thread tapping or automatic longitudinal turning
- ▶ Leading and feed spindles borne on two sintered bearings
- ▶ Automatic longitudinal/cross feeds
- ▶ Feed and lead spindle cover

- ▶ Handwheels on slide with adjustable fine scaling 0.04 / 0.01 mm
- ▶ Set of interchangeable gears in standard scope of delivery for thread tapping
- ▶ Emergency stop button

TU 3008V

- ▶ Smooth action and powerful DC drive with excellent control characteristics
- ▶ High-precision steel chuck for higher speeds
- ▶ Speed change easily adjustable via potentiometer
- ▶ Digital speed display

TU 3008V - Powerful brushless drive

- Particularly smooth action
- Virtually constant torque over the entire speed range
- Extremely powerful



Carriage

- Four x tool holder
- All guides adjustable without play using wedge rails
- Chip guard on top slide

Tailstock

- Adjustable for turning balls
- Tailstock spindle sleeve and handwheel with adjustable fine scaling 0.02 mm
- Fast, easy adjustment without tools thanks to clamping lever

Main spindle

- Tempered and borne on adjustable precision taper roller bearings

Feed gear

- Easy action
- Rounded gearwheels
- Running in oil bath



- Prepared for mounting of measuring system on X, Z and ZO axis



Fig.: TU 3008V with optional chassis



Accessories

Machine chassis

Art. no. 3440409

Vibration damper base SE 1

(6 pcs. required)

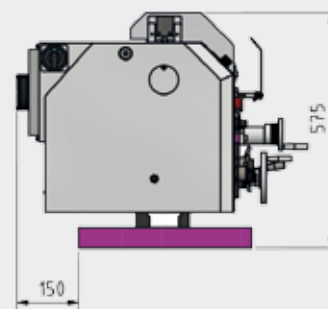
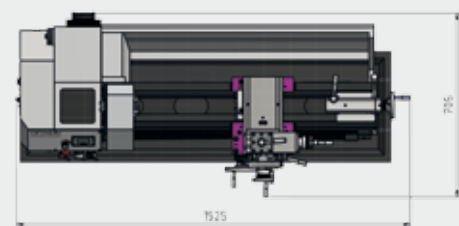
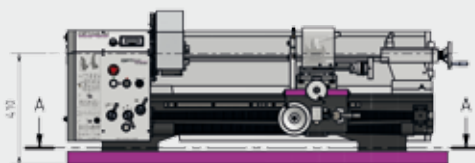
Art. no. 3381012

Technical specifications, accessories and dimensions

Model	TU 3008
Article no.	3427200
Model	TU 3008G
Article no.	3427210
Model	TU 3008V
Article no.	3427205
Machine data	
Electrical connection TU 3008/G	400 V / 3 Ph ~ 50 Hz
Electrical connection TU 3008V	230 V / 1 Ph ~ 50 Hz
Spindle	
Drive motor TU 3008	1.1 kW
Drive motor TU 3008V	1.5 kW
Spindle taper	MT 5
Spindle holder	Camlock DIN ISO 702-2 No. 4
Spindle bore, rod passage diameter	Ø 36 mm
Four x tool holder mounting height	25 mm
Work area	
Max. height	158 mm
Max. width	800 mm
Swing diameter over machine bed	310 mm ⁽¹⁾
Swing over cross slide	190 mm
Bed width	180 mm
Speed range	
Spindle speed TU 3008	150 - 2,000 rpm / 6 gears
Spindle speed TU 3008G	180 - 2,600 rpm / 6 gears
Spindle speed TU 3008V	30 - 3,000 rpm
Number of gears TU 3008V	5-speed, electronic speed control
Strokes	
Top slide stroke	65 mm
Cross slide stroke	150 mm
Feeds and pitches	
Longitudinal feeds in range	0.085 - 0.832 mm/rev (9 feeds)
Cross feeds in range	0.01 - 0.1 mm/rev (9 feeds)
Pitch - metric in range	0.2 - 3.5 mm/rev (18 pitches)
Pitch - inch in range	56 - 8 turns/inch (21 pitches)
Tailstock	
Tailstock chuck	MT 3
Tailstock spindle sleeve stroke	70 mm
Dimensions	
Length x width x height	1,525 x 705 x 575 mm
Weight	260 kg

Accessories	Art no.
► Lathe chuck	
OPTIMUM Four-jaw lathe chuck Ø 160 mm No. 4, centre clamping	3442840
BISON Four-jaw lathe chuck Ø 160 mm No. 4, centre clamping	3450355
► Lünette	
Travelling steady passageway Ø 6 - 60 mm	3441460
Fixed steady passageway Ø 6 - 60 mm	3441461
► Tool holder and lathe tool	
Quick change tool holder SWH 1-A	3384301
Factory assembly SWH 1-A	9000400
Replacement tool holder 20 x 90 Type D for square chisels	3384302
Replacement tool holder 20 x 85 Type H for round chisels	3384321
Lathe tool set 16 mm, 11-part	3441604
Lathe tool set 16 mm, 5-part	3441668
Lathe tool set 16 mm, 5-part	3441610
Lathe tool set 16 mm, 5-part „Made in Germany“	3441216
Informationen „Lathe tool set HM 16 mm“ on page 120	
► Spring collet	
Spring collet set 3 - 25 mm, 5C, 17-part	3441509
► „Accessories for lathes“ on page 118	

Dimensions




⁽¹⁾ „Please note“ on page 183

Scope of supply

- Three-jaw lathe chuck Ø 160 mm, centre clamping
- Fixed centre MT 3 and MT 5
- Splashguard
- Chip tray
- Four x tool holder
- Set of interchangeable gears
- Operating tool

Accessories

	
Info: „DRO 5“ from page 178	
Digital position display DRO 5 incl. 3 magnetic sensors	3383975
Magnetic strip L: 1,100 mm	3383978
Assembly kit	3383985
Factory assembly	9000420

Fully equipped leading and feed spindle lathes.

TH 3309D with digital position display DPA 21

TH 3309V with brushless motor for continuously variable speed control

Facts that impress in terms of quality, performance and price

- ▶ Tempered and ground bed guide rails
- ▶ Spindle collet Camlock DIN ISO 702-2 no. 4
- ▶ Guaranteed concentricity of spindle nose better than 0.015 mm
- ▶ Motor circuit breaker (TH 3309 / TH 3309D)
- ▶ DC 24 Volt electrical system
- ▶ Lockable main switch
- ▶ Right-hand/left-hand rotation switchable on bed slide
- ▶ Leading spindle cover
- ▶ Machine chassis with tool compartment on right
- ▶ Pull-out chip drawer with guide rails
- ▶ Safety hand wheels with release function in the X and Z axis
- ▶ Emergency stop device with foot pedal

TH 3309D / TH 3309V

Digital position display DPA 21

- › User-friendly membrane keyboard, splash water protected, sealed and dazzle free
- › Clear reduction of manufacturing times
- › Greater operation accuracy
- › Reduction of error quota
- › X, Y, Z, Z axis each with 8-digit display
- › Clear-cut keyboard layout
- › Glass scales

TH 3309V

- ▶ Smooth action and powerful brushless drive
- ▶ Speed change easily adjustable via potentiometer

Switch cabinet

- 24 Volt DC adapter
- All contactors und relays by Siemens or Schneider - TH 3309V by Eaton



TH 3309V:

Powerful brushless drive

- Particularly smooth action
- Virtually constant torque over the entire speed range
- High usable performance



Main spindle

- Running in oil bath
- Gearwheels easy action, tempered and ground

TH 3309D / TH 3309V

- Digital position display DPA 21



Slide

- Precise workmanship
- Handwheels with adjustable fine scaling 0.04 / 0.02 mm
- Four x tool holder
- All guides adjustable using wedge rails
- Adjustment range top slide $\pm 90^\circ$

Prism bed

- With pronounced ribbing
- Induction tempered
- Precision ground

Tailstock

- Adjustable ± 10 mm for turning balls
- Tailstock spindle sleeve and hand-wheel with adjustable fine scaling 0.025 mm

LED machine lamp integrated in chip protection

Machine chassis

- No tool compartments on left, only covers

Tool compartment

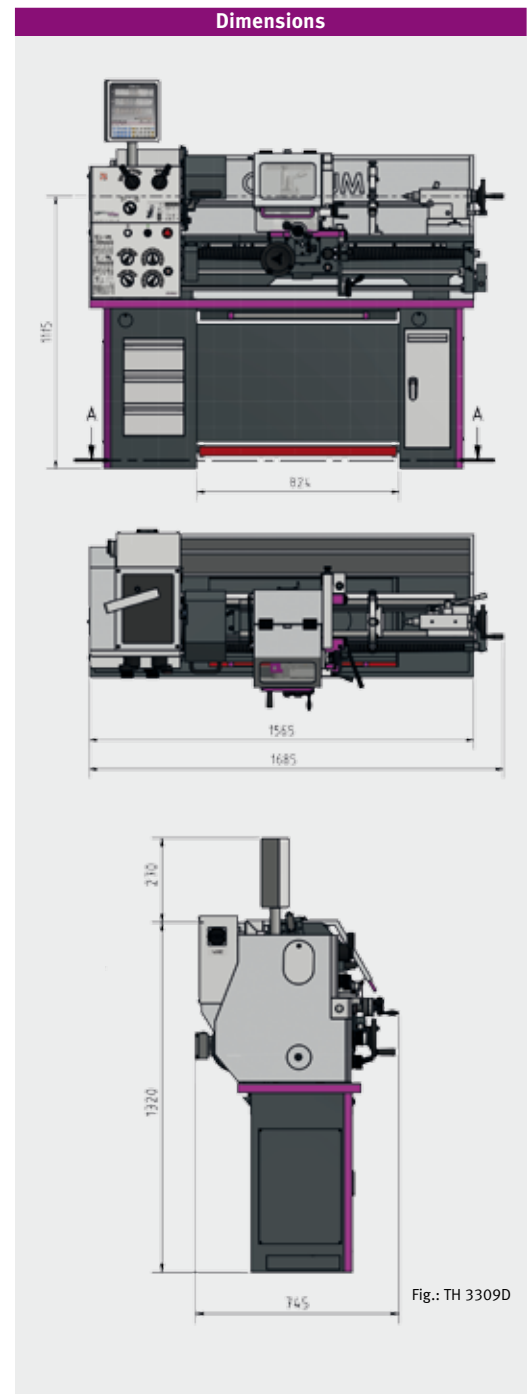


The Vario lathe (frequency inverter) complies with standard DIN EN 55011: class A

Fig.: TH 3309D with optional chuck

Model	TH 3309
Article no.	3402030
Model	TH 3309 D
Article no.	3402040
Model	TH 3309 V
Article no.	3402045
Machine data	
Electrical connection TH 3309 / D	400 V / 3 Ph ~50 Hz
Electrical connection TH 3309V	230 V / 1 Ph ~ 50 Hz
Spindle	
Drive motor TH 3309 / D	1.5 kW
Drive motor TH 3309V	2.2 kW
Spindle taper	MT 5
Spindle holder	DIN ISO 702-2 No. 4
Spindle bore, rod passage diameter	38 mm
Four x tool holder mounting height	16 x 16 mm
Machine data	
Max. height	156 mm
Max. width	830 mm
Swing diameter over machine bed	350 mm ⁽¹⁾
Swing over cross slide	196 mm
Orbit Ø in the bed bridge	170 mm
Turning length in bed bridge	430 mm
Speed range	
Spindle speed TH 3309 / TH 3309D	60 - 2,000 rpm
Spindle speed TH 3309V	15 - 2,250 rpm
Number of stages	8 gears, electric speed control for Vario
Strokes	
Top/cross slide stroke	98 mm / 164 mm
Feeds and pitches	
Longitudinal feeds in range	0.052 - 1.392 mm/rev (32 feeds)
Cross feeds in range	0.014 - 0.38 mm/rev (32 feeds)
Pitch - metric in range	0.4 - 7 mm/rev (26 pitches)
Pitch - inch in range	56 - 4 turns/inch (34 pitches)
Tailstock	
Tailstock chuck	MT 3
Tailstock spindle sleeve diameter/stroke	Ø 32 mm/110 mm
Dimensions	
Length x width x height	1,685 x 745 x 1,320 / 1,590 mm
Net weight	430 kg
Transport packaging flat rate*	(TVP 2)

Accessories	Art no.
► Lathe chuck	
OPTIMUM Three-jaw lathe chuck Ø 160 mm No. 4, cylindrical	3442761
OPTIMUM Three-jaw lathe chuck Ø 200 mm No. 4, cylindrical	3442762
OPTIMUM Four-jaw lathe chuck Ø 160 mm No. 4, cylindrical	3442840
OPTIMUM Four-jaw lathe chuck Ø 200 mm No. 4, cylindrical	3442843
OPTIMUM Four-jaw lathe chuck Ø 200 mm No. 4, individual	3442879
BISON Three-jaw lathe chuck Ø 160 mm No. 4, cylindrical	3450305
BISON Three-jaw lathe chuck Ø 200 mm No. 4, cylindrical	3450310
BISON Four-jaw lathe chuck Ø 160 mm No. 4, cylindrical	3450355
BISON Four-jaw lathe chuck Ø 200 mm No. 4, cylindrical	3450360
► Tool holder and lathe tool	
Quick change tool holder SWH 3-E	3384303
Factory assembly SWH 3-E	9000400
Replacement tool holder 20 x 100 Type D for square chisels	3384304
Replacement tool holder 30 x 100 Type H for round chisels	3384322
Lathe tool set 16 mm, 5-part „Made in Germany“	3441216
Lathe tool set 16 mm, 5-part	3441610
► Accessories	
Collet chuck 5C	3441554
Spring collet set 3 - 25 mm 5C, 17 kg	3441509
Vibration damping machine base SE2 (6 pcs. required)	3381016



⁽¹⁾ „Please note“ on page 183

Remember to order a lathe chuck

Scope of supply

- Fixed steady passageway Ø 19 - 70 mm
- Travelling steady passageway Ø 16 - 50 mm
- LED machine lamp
- Reduction sleeve MT 5 - MT 3
- Two fixed centres MT 3
- Four x tool holder
- Set of interchangeable gears
- Operating tool



Already included in scope of supply:
Machine initially filled with premium grade oil

Fully equipped lathes for mechanics. TH 3610D with DPA 21 digital position display

Facts that impress in terms of quality, performance and price

- ▶ Tempered and ground bed guide rails
- ▶ Spindle collet Camlock DIN ISO 702-2 no. 5
- ▶ Guaranteed concentricity of spindle nose better than 0.015 mm
- ▶ Gears and shafts tempered and ground, running in oil bath on precision bearings
- ▶ Motor circuit breaker, lockable main switch
- ▶ Right-hand/left-hand rotation switchable on bed slide
- ▶ Leading spindle cover
- ▶ Machine chassis with tool compartments on left and right
- ▶ Pull-out chip drawer with guide rails
- ▶ Emergency stop device with foot pedal
- ▶ Safety hand wheels with release function in the X and Z axis

TH 3610D

Digital position display DPA 21

- › User-friendly membrane keyboard, splash water protected, sealed and dazzle free
- › Greater operation accuracy
- › Reduction of error quota
- › X, Y, Z, Z axis each with 8-digit display
- › Glass scales

Main spindle

- Running in oil bath
- Gearwheels easy action, tempered and ground

Slide

- Precise workmanship
- Handwheels with adjustable fine scaling 0.04 / 0.02 mm
- Four x tool holder
- All guides adjustable using wedge rails
- Adjustment range top slide $\pm 90^\circ$

Switch cabinet

- 24 Volt DC adapter
- All contactors and relays by Siemens or Schneider



TH 3610D

- Digital position display DPA 21



LED machine lamp
integrated in chip protection

Prism bed

- With pronounced ribbing
- Grey cast iron
- Induction tempered and precision-ground

Tailstock

- Adjustable ± 10 mm for turning balls
- Tailstock spindle sleeve and handwheel with adjustable fine scaling 0.025 mm

Machine chassis

Tool compartments on both sides



Fig.: TH 3610D with optional chuck

Model	TH 3610
Article no.	3402050
Model	TH 3610D
Article no.	3402060
Machine data	
Electrical connection	400 V / 3 Ph ~ 50 Hz
Spindle	
Drive motor	1.5 kW
Spindle taper	MT 6
Spindle holder	Camlock DIN ISO 702-2 No. 5
Spindle bore, rod passage diameter	Ø 52 mm
Four x tool holder mounting height	max. 16 mm
Work area	
Max. height	180 mm
Max. width	980 mm
Swing diameter over machine bed	356 mm ⁽¹⁾
Orbit Ø in the bed bridge	516 mm
Turning length in bed bridge	160 mm
Bed width	187 mm
Speed range	
Spindle speed	70 - 2,000 rpm
Number of stages	8 gears
Strokes	
Top slide stroke	100 mm
Cross slide stroke	170 mm
Feeds and pitches	
Longitudinal feeds in range	0.052 - 1.392 mm/rev (32 feeds)
Cross feeds in range	0.014 - 0.38 mm/rev (32 feeds)
Pitch - metric in range	0.4 - 7 mm/rev (26 pitches)
Pitch - inch in range	56 - 4 turns/inch (34 pitches)
Tailstock	
Tailstock chuck	MT 3
Tailstock spindle sleeve diameter/stroke	Ø 42 mm / 120 mm
Dimensions	
Length x width x height	1,930 x 725 x 1,350 / 1,620 mm
Net weight	610 kg
Transport packaging flat rate*	(TVP 2)

⁽¹⁾ „Please note“ on page 183

Accessories	Art no.
► Lathe chuck	
OPTIMUM Four-jaw lathe chuck Ø 200 mm No. 5, cylindrical	3442845
OPTIMUM Four-jaw lathe chuck Ø 200 mm No. 5, individual	3442880
BISON Three-jaw lathe chuck Ø 200 mm No. 5, cylindrical	3450315
BISON Four-jaw lathe chuck Ø 200 mm No. 5, cylindrical	3450365
► Tool holder and lathe tool	
Quick change tool holder SWH 3-E	3384303
Factory assembly SWH 3-E	9000400
Replacement tool holder 20 x 100 Type D for square chisels	3384304
Replacement tool holder 30 x 100 Type H for round chisels	3384322
Lathe tool set 16 mm, 11-part	3441604
Lathe tool set 16 mm, 5-part	3441668
Lathe tool set 16 mm, 5-part „Made in Germany“	3441216
Lathe tool set 16 mm, 5-part	3441610
Informationen „Lathe tool set HM 16 mm“ on page 121	
► Accessories	
Collet chuck 5C	3441555
Spring collet set 3 - 25 mm, 5C, 17-part	3441509
Vibration damping machine base SE 2 (6 pcs. required)	3381016
Position stop with granular adjustment	3441523
► „Accessories for lathes“ on page 118	

Dimensions

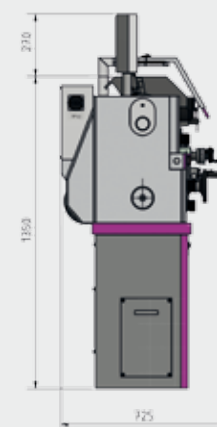
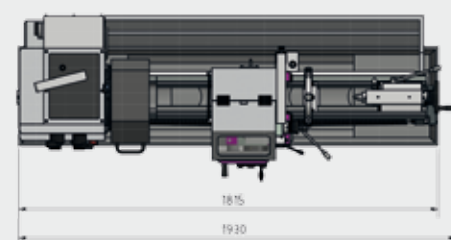
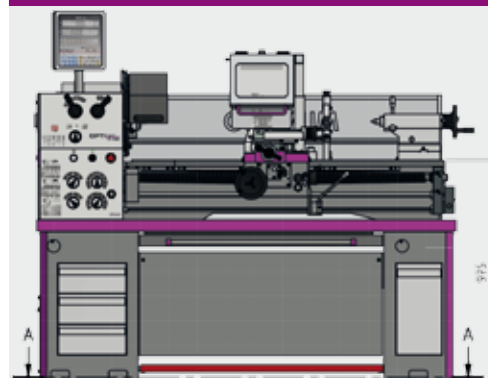


Fig.: TH 3610D

Scope of supply

- Fixed steady passageway max. Ø 100 mm
- Travelling steady passageway max. Ø 95 mm
- LED machine lamp
- Reduction sleeve MT 6 - MT 3
- Two fixed centres MT 3
- Four x tool holder
- Set of interchangeable gears
- Operating tool



Already included in scope of supply:
Machine initially filled with premium
grade oil

**Remember to order
a lathe chuck**

Fully equipped lathes for mechanics. Impressive precision and performance TH 4010D with DPA 21 digital position display, TH 4010V additionally featuring Siemens inverter Vario drive

Facts that impress in terms of quality, performance and price

- ▶ Tempered and ground bed guide rails
- ▶ Spindle collet Camlock DIN ISO 702-2 no. 5
- ▶ Guaranteed concentricity of spindle nose better than 0.015 mm
- ▶ Gears and shafts tempered and ground, running in oil bath on precision bearings
- ▶ Motor circuit breaker (TH 4010 / TH 4010D)
- ▶ DC 24 Volt electrical system
- ▶ Lockable main switch
- ▶ Right-hand/left-hand rotation switchable on bed slide
- ▶ Pull-out chip drawer with guide rails
- ▶ Safety hand wheels with release function in the X and Z axis
- ▶ Emergency stop device with foot pedal

TH 4010D / TH 4010V:

Digital position display DPA21

- › User-friendly membrane keyboard, splash water protected, sealed and dazzle free
- › Greater operation accuracy
- › Reduction of error quota
- › X, Y, Z, Z axis each with 8-digit display
- › Glass scales

TH 4010V:

- ▶ Siemens Sinamics frequency inverter / Safety Integrated
- ▶ Quick change tool holder 3-E
- ▶ Tool holder 20 x 100 type D for square chisels

Main spindle

Running in oil bath

- Gearwheels easy action, tempered and ground

Switch cabinet

- 24 Volt DC adapter
- All contactors and relays by Siemens or Schneider - TH 4010V by Eaton



TH 4010V:

Inverter SINAMICS G120D



More information:
„Siemens frequency inverter
SINAMICS G 120D“ from page
114



TH 4010D / TH 4010V

- Digital position display DPA 21

Slide

- Precise workmanship
- Handwheels with adjustable fine scaling 0.04 / 0.02 mm
- All guides adjustable using wedge rails
- Adjustment range top slide $\pm 90^\circ$

Coolant system

LED machine lamp
integrated in chip
protection

Prism bed

- With pronounced ribbing
- Grey cast iron
- Induction tempered and precision-ground

Tailstock

- Adjustable ± 10 mm for turning balls
- Tailstock spindle sleeve and handwheel with adjustable fine scaling 0.025 mm

Machine chassis

- Without tool compartments, only covers

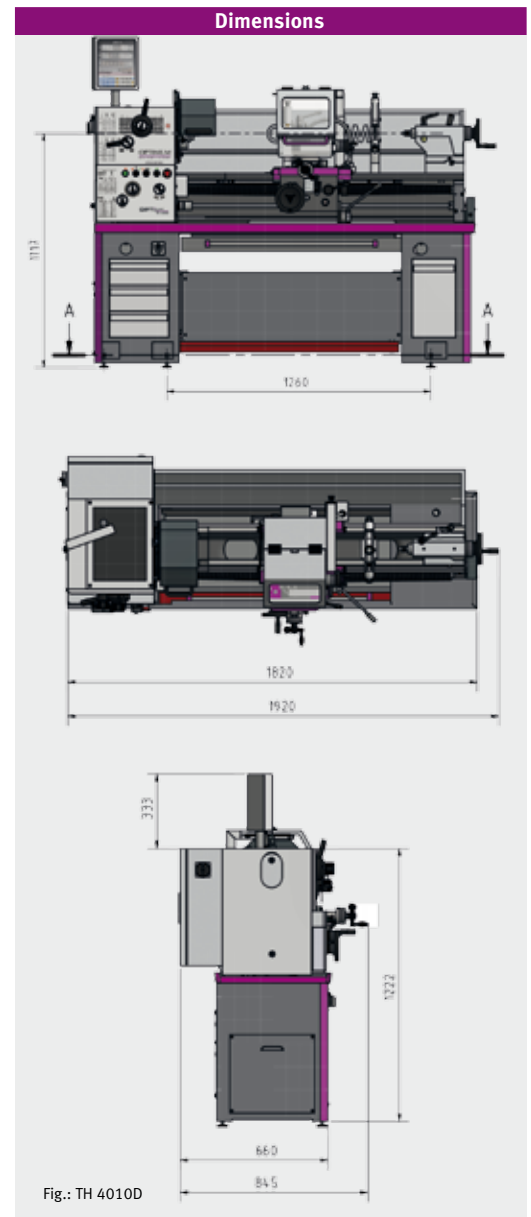


The Vario lathe (frequency inverter) complies with standard DIN EN 55011: class A

Fig.: TH 4010D with optional chuck

Model	TH 4010
Article no.	3402070
Model	TH 4010D
Article no.	3402080
Model	TH 4010V
Article no.	3402085
Machine data	
Electrical connection	400 V / 3 Ph ~ 50 Hz
Spindle	
Drive motor TH 4010/ TH 4010D	1.5/2.4 kW
Drive motor TH 4010V	4.0 kW
Spindle taper	MT 6
Spindle holder	Camlock DIN ISO 702-2 No. 5
Spindle bore, rod passage diameter	Ø 52 mm
Four x tool holder mounting height	max. 16 mm
Machine data	
Max. height	205 mm
Max. width	1,000 mm
Swing diameter over machine bed	410 mm ⁽¹⁾
Orbit Ø in the bed bridge	540 mm
Turning length in bed bridge	165 mm
Bed width	206 mm
Speed range	
Spindle speed TH 4010 / TH 4010D	45 - 1,800 rpm
Number of gears TH 4010/ TH 4010D	16 gears
Spindle speed TH 4010V	30 - 3,000 rpm
Number of gears TH 4010V	2-speed, electronic speed control
Strokes	
Top slide stroke	100 mm
Cross slide stroke	195 mm
Feeds and pitches	
Longitudinal feeds in range	0.043 - 0.653 mm/rev (48 feeds)
Cross feeds in range	0.015 - 0.206 mm/rev (48 feeds)
Pitch - metric in range	0.4 - 7 mm/rev (42 pitches)
Pitch - inch in range	70 - 4 turns/inch (42 pitches)
Tailstock	
Tailstock chuck	MT 3
Tailstock spindle sleeve diameter/stroke	Ø 45 mm / 130 mm
Dimensions	
Length x width x height	1,920 x 740 x 1,222 / 1,555 mm
Net weight	775 kg / 780 kg (Vario)
Transport packaging flat rate*	(TVP 2)

Accessories	Art no.
► Lathe chuck	
OPTIMUM Four-jaw lathe chuck Ø 200 mm No. 5, cylindrical	3442845
OPTIMUM Four-jaw lathe chuck Ø 200 mm No. 5, individual	3442880
BISON Three-jaw lathe chuck Ø 200 mm No. 5, cylindrical	3450315
BISON Four-jaw lathe chuck Ø 200 mm No. 5, cylindrical	3450365
► Tool holder and lathe tool	
Quick change tool holder SWH 3-E	3384303
Factory assembly SWH 3-E	9000400
Replacement tool holder 20 x 100 Type D for square chisels	3384304
Replacement tool holder 30 x 100 Type H for round chisels	3384322
Lathe tool set 16 mm, 11-part	3441604
Lathe tool set 16 mm, 5-part	3441668
Lathe tool set 16 mm, 5-part „Made in Germany“	3441216
Lathe tool set 16 mm, 5-part	3441610
Informationen „Lathe tool set HM 16 mm“ on page 120	
► Accessories	
Vibration damping machine base SE 2 (6 pcs. required)	3381016
► „Accessories for lathes“ on page 118	



⁽¹⁾ „Please note“ on page 183

Remember to order a lathe chuck

Scope of supply

- Fixed steady passageway Ø 5 - 85 mm
- Travelling steady passageway Ø 5 - 65 mm
- LED machine lamp
- Reduction sleeve MT 6 - MT 3
- Fixed centres MT 3
- Fixed centre MT 3, alloyed
- Position stop with granular adjustment
- Set of interchangeable gears
- Operating tool

TH 4010 / TH 4010D

- Four x tool holder

TH 4010V

- Quick change tool holder 3-E
- Tool holder 20 x 100 type D for square chisels



Already included in scope of supply:
Machine initially filled with premium grade oil

Precise centre lathes with digital position display **NEWALL DP 700** and quick action tool holder

Facts that impress in terms of quality, performance and price

- ▶ Tempered and ground bed guide rails
- ▶ Partial cladding with movable, generously dimensioned swarf guard
- ▶ Plane und top slide spindle tempered and ground, adjustable via split spindle nut
- ▶ Emergency-stop push button, protective motor switch, lockable main switch
- ▶ Granular feed and tapping range
- ▶ Vibration damped machine chassis
- ▶ Removable swarf tray
- ▶ For high torque - spindle reduction box
- ▶ LED machine light for complete elimination of the workspace
- ▶ Reduction of the main spindle braking time thanks to electrically braked motor
- ▶ Cable duct in energy chain
- ▶ Feed and lead screw cover
- ▶ Travelling swarf guard with integrated position display, coolant hose and operating panel
- ▶ Optionally available set of replacement gears for imperial threads
- ▶ Safety hand wheels with release function in the X and Z axis
- ▶ Quick action tool holder SWH 5-B
- ▶ 1 tool holder 25 x 120 type D for square tools
- ▶ **Digital position display NEWALL DP 700**

Control panel

- For switching
 - Machine lighting
 - Coolant unit
 - Selection key for the two motor speeds
- Foil keypad, easily cleanable



NEWALL digital position display DP 700

Bed geometry

- Flat angle
- Superior retention



Swarf guard

- Travelling
- Travelling coolant hose

Cable duct

- in energy chain

Leading spindle cover



Replaceable wheels

- optionally available set of replacement gears for imperial threadsh



Swarf tray

- Pull-out



Fig.: TZ 4 with optional chuck

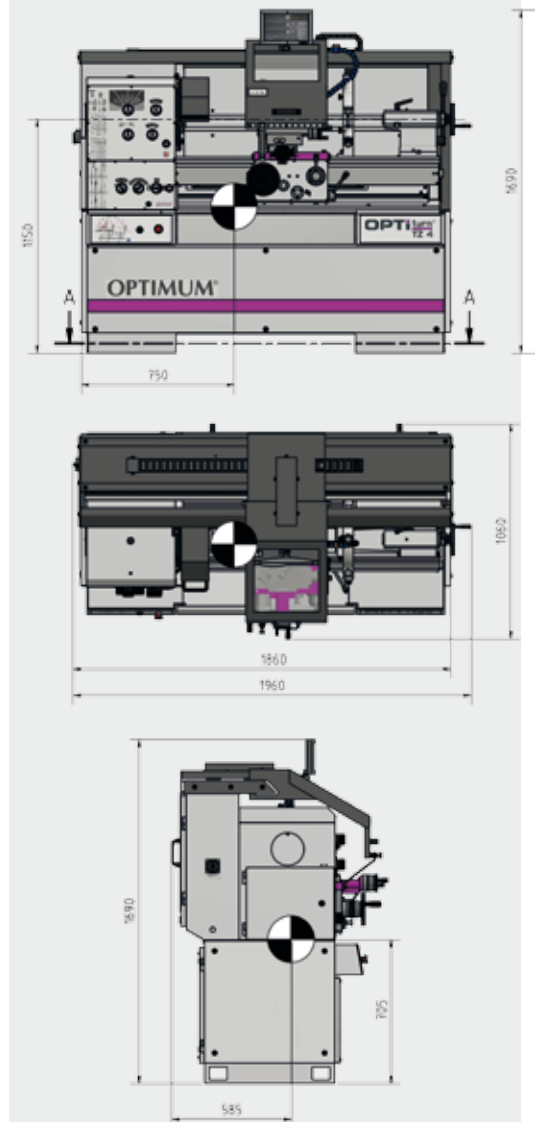
Technical specifications, accessories and dimensions

Model	TZ 4
Artikel-No.	3432240
Maschinendaten	
Electrical connection	400 V / 3 Ph ~50 Hz
Total connected load	5 kW
Power of coolant pump	125 Watt
Spindle	
Driving motor, 2 steps	3 kW / 4,5 kW
Spindle taper	MT 6
Spindle seat	DIN 6350 A2-5
Spindle hole, rod passage	Ø 52 mm
Machine datas	
Max. height	200 mm
Max. width	800 mm
Swing diameter over machine bed	400 mm ⁽¹⁾
Orbit Ø in the bed bridge	245 mm
Bed width	260 mm
Speed range	
Spindeldrehzahl	45 - 1.800 min ⁻¹
Stufenanzahl	16 Stufen
Strokes	
Top slide stroke	112 mm
Cross slide stroke	212 mm
Feeds and pitches	
Longitudinal feeds in range	0,0263- 1,8416 mm/U; (48 feeds)
Cross feeds in range	0,0133- 0,9321 mm/U; (48 feeds)
Pitch - metric in range	0,2 - 14 mm/U; (22 pitches)
Pitch - inch in range (option)	1 - 80 Gg/Zoll; (42 pitches)
Modular threads in the range (option)	0,1 - 7mm π (44 threads)
Tailstock	
Tailstock seat	MT 3
Tailstock- sleeve diameter/ sleeve travel	50 mm / 110 mm
Dimensions	
Length x Width x Height	1.960 x 1.060 x 1.690 mm
Net weight	1.250 kg
Transport packaging flat rate*	(TVP 3)

⁽¹⁾ „Please note“ on page 183

Accessories	Art no.
► Lathe chuck and accessories	
BISON Three-jaw lathe chuck Ø 200 mm A2-5 centre clamping (Chuck flange 3450212 required)	3450210
BISON Four-jaw lathe chuck Ø 250 mm A2-5 centre clamping (Chuck flange 3450218 required)	3450216
Chuck flange for lathe chuck Ø 200 mm A2-5 (Lathe chuck 3450210)	3450212
Chuck flange for lathe chuck Ø 250 mm A2-5 (Lathe chuck 3450216)	3450218
Planar clamping disc Ø 320 mm A2-5	3442979
► Tool holder and lathe tool	
Replacement tool holder 25 x 120 Type D for square chisels	3384306
Replacement tool holder 32 x 130 Type H Round chisels	3384324
Lathe tool set HM 25 mm, 5-part	3441623
Lathe tool set HM 25 mm, 5-part	3441672
Informationen „Lathe tool set HM 25 mm“ on page 122	
► Accessories	
Set of replacement gears for imperial thread	3444160
Vibration damping machine base SE 2 (8 pcs. required)	3381016
► „Accessories for lathes“ on page 118	

Dimensions



Standard equipment

- Steady rest passage Ø 10 - 130 mm
- Follow rest passage Ø 10 - 100 mm
- LED-Machine lamp
- Reducing bush MT 3 and MT 6
- Fixed center MT 3
- Quick action tool holder 5-B
- Tool holder 25 x 120 type D for square tools
- Position stop
- Change gear kit for imperial threads
- Operating tool



Already included in scope of supply:
Machine initially filled with premium grade oil

Preface

Drilling

Milling

Turning

Sawing

Sanding/grinding

Polishing

Lamps

Measuring

Index

Precision leading and feed spindle machines, mature technology, fully equipped, easy to operate. TH 4210V featuring Siemens inverter Vario drive

Facts that impress in terms of quality, performance and price

- ▶ Tempered and ground bed guide rails
- ▶ Spindle collet Camlock DIN ISO 702-2 no. 6
- ▶ Coolant system
- ▶ Separate coolant tank with fill level display and oil trap; easy and complete draining and cleaning as per DIN
- ▶ Guaranteed concentricity of spindle nose better than 0.015 mm
- ▶ Main spindle runs in oil bath, tempered and ground borne on 2 adjustable precision taper roller bearings
- ▶ All metric pitches in range from 0.2 to 14 mm/rev and all inch pitches in range of 72 - 2 turns per inch configurable on control panel without replacing the interchangeable gear wheels thanks to gear shift
- ▶ Right-hand/left-hand rotation switchable on bed slide, switchable via switching spindle
- ▶ Central lubrication in bed slide
- ▶ Chassis and machine bed single-piece cast meehanite
- ▶ Leading spindle cover
- ▶ Emergency stop device with foot pedal
- ▶ Safety hand wheels with release function in the X and Z axis

TH 4210D / TH 4215D/ TH 4210V:

▶ Digital position display DPA21

- › User-friendly membrane keyboard, splash water protected, sealed and dazzle free
- › Greater operation accuracy
- › Reduction of error quota
- › X, Y, Z axis each with 8-digit display
- › Sensor supplied for acquiring spindle speeds
- › Glass scales

TH 4210V:

- ▶ Siemens Sinamics frequency inverter / Safety Integrated
- ▶ Quick change tool holder 5-B
- ▶ Tool holder 20 x 100 type D for square chisels

Switch cabinet

- 24 Volt DC adapter
- All contactors und relays by Siemens or Schneider - TH 4210V by Eaton



TH 4210V: Inverter SINAMICS G120D



More information:
„Siemens frequency inverter
SINAMICS G 120D“ from page
114



Main spindle

- Running in oil bath
- Gearwheels easy action, tempered and ground

Digital position display DPA 21



Slide

- Precise workmanship
- Handwheels with adjustable fine scaling 0.04 / 0.02 mm
- All guides adjustable using wedge rails
- Adjustment range top slide $\pm 90^\circ$

Coolant system

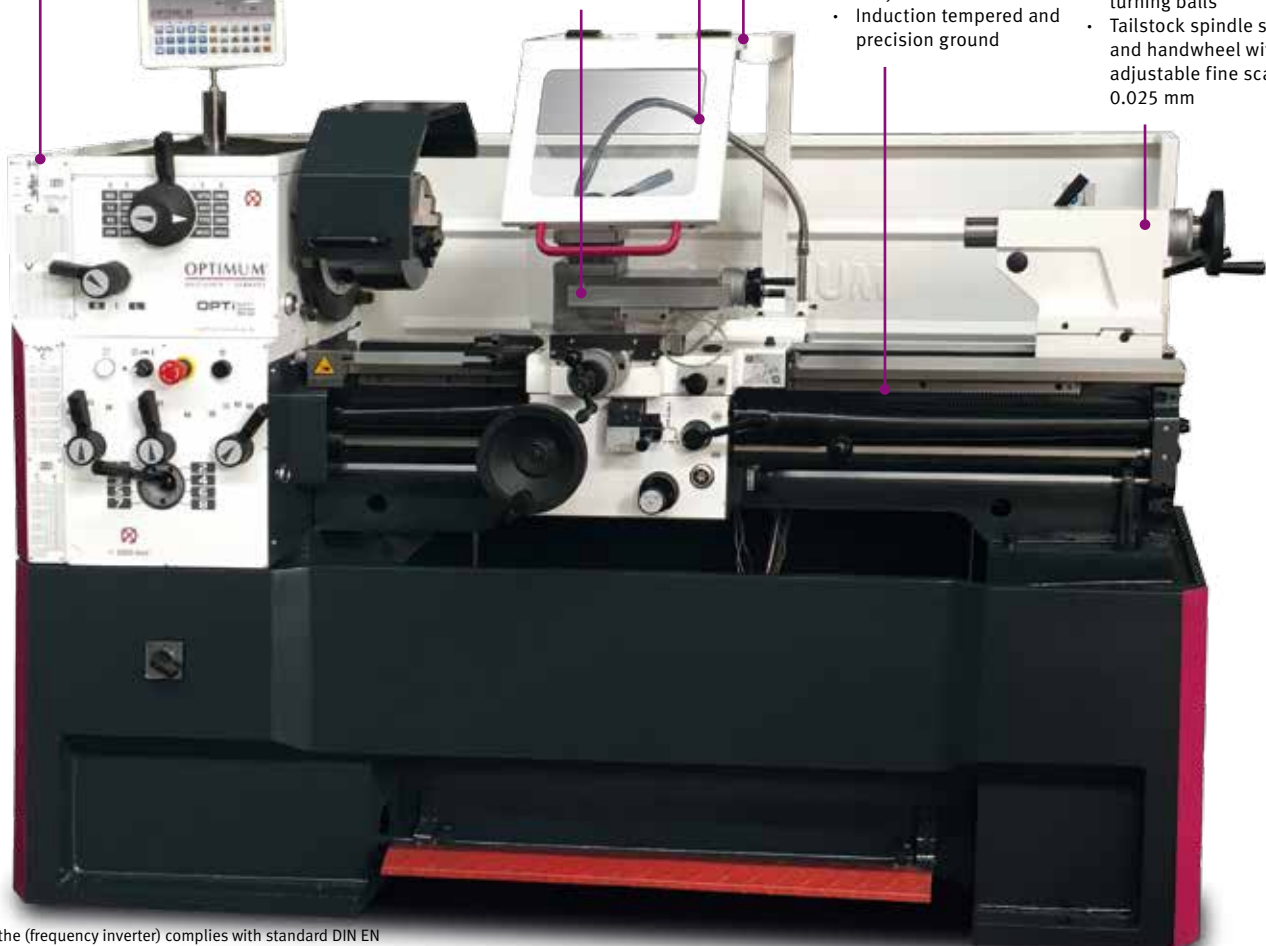
LED machine lamp
integrated in chip protection

Prism bed

- With pronounced ribbing
- Grey cast iron
- Induction tempered and precision ground

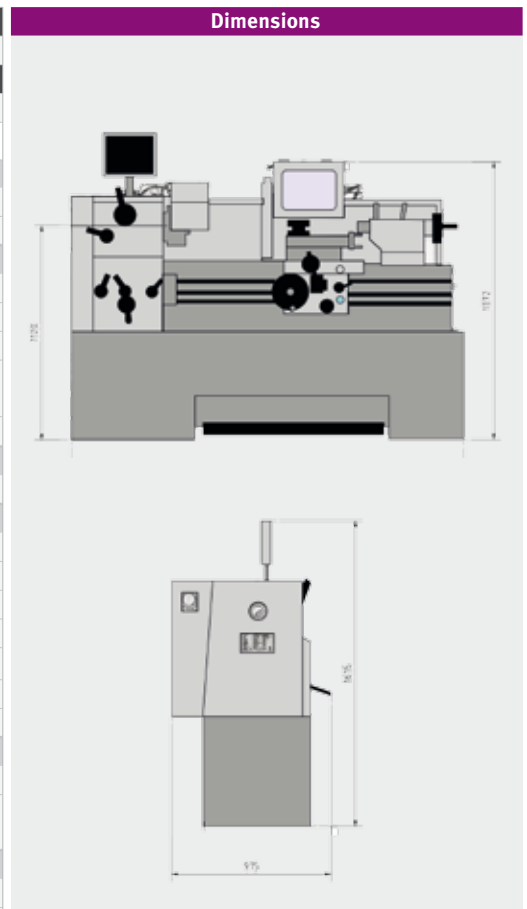
Tailstock

- Adjustable ± 10 mm for turning balls
- Tailstock spindle sleeve and handwheel with adjustable fine scaling 0.025 mm



Model	TH 4210		
Article no.	3462050		
Model	TH 4210D	TH 4210V	TH 4215D
Article no.	3462055	3462060	3462070
Machine data			
Electrical connection	400 V / 3 Ph ~50 Hz		
Total connected load	4,6 kW	5,6 kW	4,6 kW
Spindle			
Drive motor	4,5 kW	5,5 kW	4,5 kW
Spindle taper	MT 6		
Spindle holder	Camlock DIN ISO 702-2 No. 6		
Spindle bore, rod passage diameter	Ø 52 mm		
Four x tool holder mounting height	20 mm	25 mm	20 mm
Cooling lubricant system			
Coolant pump output	100 W		
Work area			
Max. height	210 mm		
Max. width	1.000 mm		1.500 mm
Swing diameter over bed	420 mm ⁽¹⁾		
Swing over cross slide	250 mm		
Orbit Ø in the bed bridge	590 mm		
Turning length in bed bridge	260 mm		
Bed width	250 mm		
Speed range			
Spindle speed	45 - 1.800 rpm	30 - 3.000 rpm	45 - 1.800 rpm
		2 speed, electronic	
Number of gears	16 gears		16 gears
Strokes			
Top slide stroke	140 mm		
Cross slide stroke	230 mm		
Feeds and pitches			
Longitudinal feeds in range	0,05 - 1,7 mm/U (17 feeds)		
Cross feeds in range	0,025 - 0,85 mm/U (17 feeds)		
Pitch - metric in range	0,2 - 14 mm/U (39 pitches)		
Pitch - inch in range	72 - 2 Gg/Zoll (45 pitches)		
Diametral pitch in range	8 - 44 (21 turns)		
Modular thread in range	0,3 - 3,5 (18 threads)		
Tailstock			
Tailstock chuck	MT 4		
Tailstock spindle sleeve diameter	Ø 50 mm		
ailstock spindle sleeve stroke	120 mm		
Dimensions			
Length	2.025 mm		2.525 mm
Width x height	915 x 1.375 (DPA 1.615) mm		
Net weight	1.160 kg		1.340 kg
Transport packaging flat rate*	(TVP 4)		

Lathe chuck	Art no.
OPTIMUM Lathe chuck	
Three-jaw lathe chuck Ø 250 mm No. 6, cylindrical	3442765
Four-jaw lathe chuck Ø 250 mm No. 6, cylindrical	3442852
Four-jaw lathe chuck Ø 250 mm No. 6, individual	3442884
BISON Lathe chuck	
Three-jaw lathe chuck Ø 250 mm No. 6, cylindrical	3450330
Four-jaw lathe chuck Ø 250 mm No. 6, cylindrical	3450380
Three-jaw lathe chuck Ø 250 mm No. 6, steel	3450530
Four-jaw lathe chuck Ø 250 mm No. 6, steel	3450580
> „Accessories for lathes“ on page 118	



Remember to order a lathe chuck

Scope of supply

- Fixed steady passageway Ø 15 - 145 mm
- Travelling steady passageway Ø 10 - 75 mm
- LED machine lamp
- Reduction sleeve MT 6 - MT 4
- Fixed centre MT 4
- Set of interchangeable gears
- Position stop with granular adjustment
- Operating tool

TH 4210 / TH 4210D / TH 4215D

- Four x tool holder

TH 4210V

- Quick change tool holder 5-B
- Tool holder 25 x 120 type D for square chisels



Already included in scope of supply:
Machine initially filled with premium

Tool holder and accessories	Art no.
Quick change tool holder SWH 5-B	3384305
Factory assembly SWH 5-B	9000400
Replacement tool holder 25 x 120 type D for Square	3384306
Replacement tool holder 32 x 130 type H Round chisels	3384324
Lathe tool set HM 25 mm, 5-part	3441623
Lathe tool set HM 25 mm, 5-part	3441672
Lathe tool set HM 20 mm, 5-part	3441670
Lathe tool set HM 20 mm, 5-part	3441617
► Vibration damping machine base	
SE 2 (6 pcs. required)	3381016

Precision leading and feed spindle lathes – unique in terms of precision and control. With DPA 21 digital position display and quick change tool holder. TH 4615V featuring Siemens inverter Vario drive

Facts that impress in terms of quality, performance and price

- ▶ Tempered and ground bed guide rails
- ▶ Coolant system featuring separate coolant tank, fill level display and oil trap; easy and complete draining and cleaning as per DIN
- ▶ Guaranteed concentricity of spindle nose better than 0.015 mm
- ▶ Right-hand/left-hand rotation switchable on bed slide, switchable via switching spindle
- ▶ Mechanical longitudinal feed switch-off of bed slide with four configurable eccentrics
- ▶ Leading spindle cover
- ▶ Emergency stop device with foot pedal
- ▶ Electrical system with Siemens components
- ▶ Safety hand wheels with release function in the X and Z axis
- ▶ Scale on thread gauge adjustable
- ▶ Central lubrication in bed slide
- ▶ Quick change tool holder SWH 5-B
- ▶ Tool holder 25 x 120 type D for square chisels

- ▶ Digital position display DPA 21
 - › Speed display
 - › Clear reduction of manufacturing times
 - › Greater operation accuracy
 - › Reduction of error quota
 - › Glass scales

TH 4615V:

- ▶ Siemens Sinamics frequency inverter / Safety Integrated
- ▶ Speed monitoring in line with Machinery Directive
- ▶ EMC filter for use in mixed areas

TH 4615V: Inverter SINAMICS G120D



More information: „Siemens frequency inverter SINAMICS G 120D“ from page 114

Main spindle

- Tempered and ground
- Running in oil bath
- Borne on 2 adjustable precision taper roller bearings
- Gearwheels easy action, tempered and ground

Slide

- Precise workmanship
- Handwheels with adjustable fine scaling 0.04 / 0.02 mm
- All guides adjustable using wedge rails
- Gears and shafts running in oil bath
- Adjustment range top slide $\pm 90^\circ$

Quick shift feed gear

- Closed design
- Gearwheels and shafts tempered and ground
- Running in oil bath on precision bearings

Digital position display

- DPA 21

Chip guard

- Generously dimensioned
- Integrated LED machine lamp

Energy chain

- Lines routed in an energy chain (TH 4615 / TH 4615V / TH 4620)

Tailstock

- Adjustable ± 15 mm for turning balls
- Tailstock spindle sleeve and handwheel with adjustable fine scaling 0.025 mm



The Vario lathe (frequency inverter) complies with standard DIN EN 55011: class A

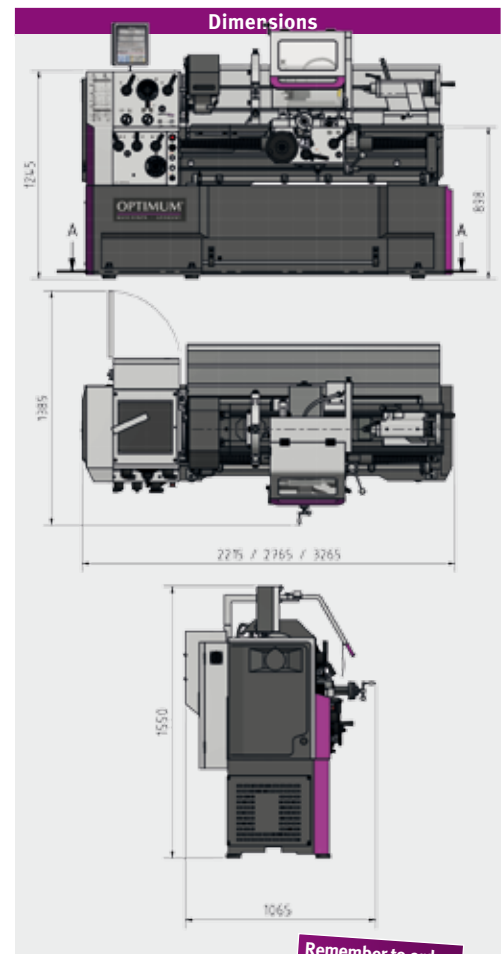
Fig.: TU 4615D- figure shows optional lathe chuck

Technical specifications, accessories and dimensions

Model	TH 4610D	
Article no.	3462110	
Model	TH 4615D	TH 4615V
Article no.	3462120	3462125
Model	TH 4620D	
Article no.	3462130	
Machine data		
Electrical connection	400 V / 3 Ph ~ 50 Hz	400 V / 3 Ph ~ 50 Hz
Total connected load	5.8 kW	8.5 kW
Spindle		
Drive motor	5.5 kW	7.5 kW
Spindle taper	MT 6	MT 7
Spindle holder	Camlock DIN ISO 702-2 No. 6	Camlock DIN ISO 702-2 No. 8
Spindle bore, rod passage diameter	Ø 58 mm	Ø 80 mm
Work area		
Max. height	230 mm	
Max. width TH 4610	1,060 mm	
Max. width TH 4615 / V		1,560 mm
Max. width TH 4620	2,060 mm	
Swing diameter over bed	460 mm ⁽¹⁾	
Swing over cross slide	270 mm	
Orbit Ø in the bed bridge	690 mm	
Turning length in bed bridge	240 mm	
Bed width	300 mm	
Speed range		
Spindle speed	25 - 2,000 rpm	30 - 2,000 rpm
Number of stages	12 gears	2 speeds; elec. control
Strokes		
Top slide stroke	125 mm	
Cross slide stroke	285 mm	
Feeds and pitches		
Longitudinal feeds in range	0.031 - 1.7 mm/rev (42 feeds)	
Cross feeds in range	0.014 - 0.784 mm/rev (42 feeds)	
Pitch - metric in range	0.1 - 14 mm/rev (41 pitches)	
Pitch - inch in range	112 - 2 turns/inch (41 pitches)	
Diametral pitch in range	4 - 112 (50 threads)	
Modular thread in range	0.1 - 7 (34 threads)	
Tailstock		
Tailstock chuck	MT 4	
Tailstock sleeve diameter/stroke	Ø 60 mm / 130 mm	
Dimensions		
Length	2,215 / 2,765 / 3,265 mm	2,765 mm
width x height	1,065 x 1,550 mm	
Net weight	1,720 / 1,977 / 2,400 kg	2,020 kg
Transport packaging flat rate*	TVP 4 TVP 5	TVP 4

⁽¹⁾ „Please note“ on page 183

Lathe chuck	Art no.
OPTIMUM Lathe chuck	
Three-jaw lathe chuck Ø 250 mm No. 6, cylindrical	3442765
Four-jaw lathe chuck Ø 250 mm No. 6, cylindrical	3442852
Four-jaw lathe chuck Ø 250 mm No. 6, individual	3442884
Four-jaw lathe chuck Ø 315 mm No. 8, cylindrical	3442856
Four-jaw lathe chuck Ø 315 mm No. 8, individual	3442888
BISON Lathe chuck	
Three-jaw lathe chuck Ø 250 mm No. 6, cylindrical	3450330
Four-jaw lathe chuck Ø 250 mm No. 6, cylindrical	3450380
Three-jaw lathe chuck Ø 250 mm No. 8, cylindrical	3450331
Four-jaw lathe chuck Ø 250 mm No. 8, cylindrical	3450381
Four-jaw lathe chuck Ø 315 mm No. 8, cylindrical	3450385



Scope of supply

- Fixed steady passageway max. Ø 160 mm
- Travelling steady passageway max. Ø 100 mm
- LED machine lamp
- TH 4210D-TH 4620D: Reduction sleeve MT 6/MT 4
- TH 4615V: Reduction sleeve MT 7 / MT 4
- Fixed centre MT 4
- Quick change tool holder 5-B
- Tool holder 25 x 120 type D for square chisels
- Thread gauge
- Position stop with granular adjustment
- Set of interchangeable gears
- Operating tool



Already included in scope of supply:
Machine initially filled with premium grade oil

Tool holder and lathe tool	Art no.
Replacement tool holder 25 x 120 type D for square chisels	3384306
Replacement tool holder 32 x 130 type H round chisels	3384324
Lathe tool set HM 20 mm, 5-part	3441670
Lathe tool set HM 20 mm, 5-part	3441617
► Planar clamping disc	
Planar clamping disc Ø 350 mm No. 6	3442980
Planar clamping disc Ø 450 mm No. 8	3442982
► Accessories	
Universal collet chuck device 5C	3441507
Vibration damping machine base SE 3 (6 pcs. required)	3381018

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Heavy leading and feed spindle lathes, characterised by excellent flexibility, precision and economy. With DPA 21 digital position display and quick change tool holder. TH 5620V featuring Siemens inverter Vario drive

Facts that impress in terms of quality, performance and price

- ▶ Tempered and ground bed guide rails
- ▶ Spindle collet Camlock DIN ISO 702-2 no. 8
- ▶ Coolant system featuring separate coolant tank, fill level display and oil trap; easy and complete draining and cleaning as per DIN
- ▶ Guaranteed concentricity of spindle nose better than 0.015 mm
- ▶ Clear-cut selector lever for switching the feed speeds
- ▶ Emergency stop button, motor circuit breaker, lockable main switch
- ▶ Right-hand/left-hand rotation switchable on bed slide, switchable via switching spindle
- ▶ Central lubrication in bed slide
- ▶ Mechanical longitudinal feed switch-off of bed slide with four configurable eccentrics
- ▶ Leading spindle cover
- ▶ Safety hand wheels with release function in the X and Z axis
- ▶ Emergency stop device with foot pedal
- ▶ Electrical system with Siemens components
- ▶ Scale on thread gauge adjustable
- ▶ Quick change tool holder SWH 7-C
- ▶ 1 tool holder 32 x 150 type D for square chisels
- ▶ Digital position display DPA 21
 - › Speed display
 - › Clear reduction of manufacturing times
 - › Greater operation accuracy
 - › Reduction of error quota
 - › Glass scales

TH 5620V:

- ▶ Siemens Sinamics frequency inverter / Safety Integrated
- ▶ Speed monitoring in line with Machinery Directive
- ▶ EMC filter for use in mixed areas

Main spindle

- Tempered and ground
- Running in oil bath
- Borne on 2 adjustable precision taper roller bearings
- Gearwheels easy action, tempered and ground

Quick shift feed gear

- Closed design
- Gearwheels and shafts tempered and ground
- Running in oil bath on precision bearings

Slide

- Precise workmanship
- Handwheels with adjustable fine scaling 0.04 / 0.02 mm
- All guides adjustable using wedge rails
- Gears and shafts running in oil bath
- Adjustment range top slide $\pm 90^\circ$

Digital position display

- DPA 21

Chip guard

- Generously dimensioned
- Integrated LED machine lamp

Tailstock

- Adjustable ± 15 mm for turning balls
- Tailstock spindle sleeve and handwheel with adjustable fine scaling 0.025 mm

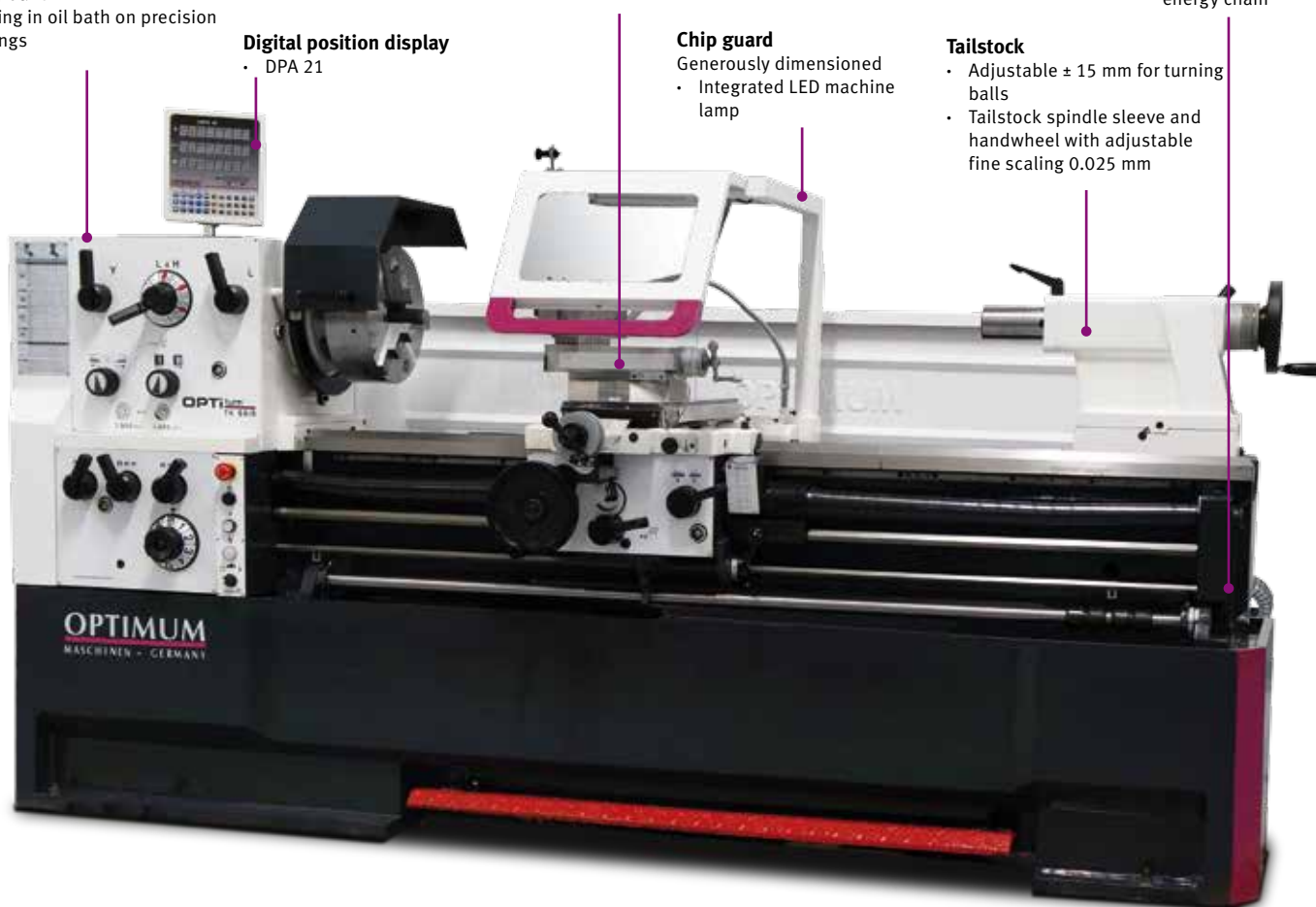
Energy chain

- Lines routed in energy chain

TH 5620V: Inverter SINAMICS G120D

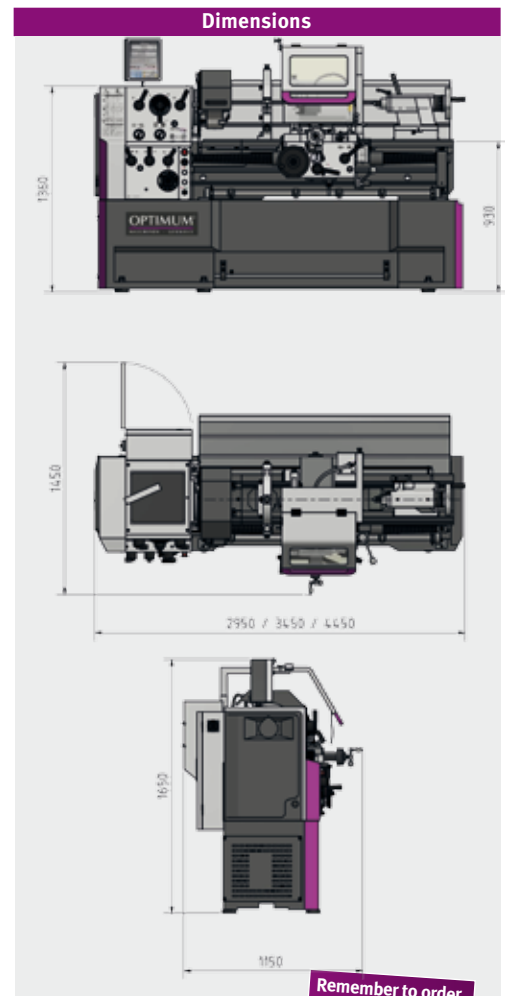


More information: „Siemens frequency inverter SINAMICS G 120D“ from page 114



Technical specifications, accessories and dimensions

Model	TH 5615D	
Article no.	3462160	
Model	TH 5620D	TH 5620V
Article no.	3462170	3462175
Model	TH 5630D	
Article no.	3462180	
Machine data		
Electrical connection	400 V / 3 Ph ~ 50 Hz	
Total connected load	8.5 kW	
Spindle		
Spindle motor drive output	7.5 kW	
Spindle taper	MT 7	Ø 113 mm (taper 1:20)
Spindle holder	Camlock DIN ISO 702-2 No. 8	
Spindle bore, rod passage diameter	Ø 80 mm	Ø 105 mm
Work area		
Max. height	280 mm	
Max. width TH 5615	1,420 mm	
Max. width TH 5620	1,910 mm	
Max. width TH 5630	2,910 mm	
Swing diameter over machine bed	560 mm ⁽¹⁾	
Swing over cross slide	355 mm	
Orbit Ø in the bed bridge	790 mm	
Turning length in bed bridge	170 mm	
Bed width	350 mm	
Speed range		
Spindle speed	25 - 1,600 rpm	
Number of gears	12 gears	2 gears, speed elec. controllable
Strokes		
Top/cross slide stroke	130 mm / 316 mm	
Feeds and pitches		
Longitudinal feeds in range	0.059 - 1.646 mm/rev (35 feeds)	
Cross feeds in range	0.020 - 0.573 mm/rev (35 feeds)	
Pitch - metric in range	0.2 - 14 mm/rev (47 pitches)	
Pitch - inch in range	112 - 2 turns/inch (60 pitches)	
Diametral pitch in range	4 - 112 (50 turns)	
Modular thread in range	0.1 - 7 (34 threads)	
Tailstock		
Tailstock chuck	MT 5	
Tailstock spindle sleeve diameter/stroke	Ø 75 mm / 180 mm	
Dimensions		
Length TH 5615/TH 5620/TH 5630	2,840 / 3,340 / 4,340	
width x height	1,150 x 1,460 mm	
Net weight TH 5615/TH 5620/TH 5630	2,300 kg / 2,720 kg / 3,000 kg	
Transport packaging flat rate*		
(TVP 5) up to TH 5620D (TVP 6) TH 5630D		



Scope of supply

- Fixed steady passageway max. Ø 165 mm
- Travelling steady passageway max. Ø 95 mm
- LED machine lamp
- TH 5615D-TH 5630D: Reduction sleeve MT 7/MT 5
- TH 5620V: Reduction sleeve Ø 113 mm / MT 5
- Fixed centre MT 5
- Travelling centre MT 5
- Quick change tool holder 7-C
- Tool holder 32 x 150 type D for square chisels
- Thread gauge
- Position stop with granular adjustment
- Set of interchangeable gears
- Operating tool



Already included in scope of supply:
Machine initially filled with premium grade oil

⁽¹⁾ „Please note“ on page 183

Lathe chuck	Art no.
OPTIMUM Lathe chuck	
Three-jaw lathe chuck Ø 315 mm No. 8, cylindrical	3442768
Four-jaw lathe chuck Ø 315 mm No. 8, cylindrical	3442856
Four-jaw lathe chuck Ø 315 mm No. 8, individual	3442888
BISON Lathe chuck	
Three-jaw lathe chuck Ø 315 mm No. 8, cylindrical	3450335
Four-jaw lathe chuck Ø 315 mm No. 8, cylindrical	3450385

Accessories	Art no.
Planar clamping disc Ø 450 mm No. 8	3442982
Travelling centre MT 5	3440705
Replacement tool holder 40 x 160 type H round	3384326
Replacement tool holder 32 x 150 type D Square	3384308
Vibration damping machine base SE3 (6 pcs. required)	3381018

Leading and feed spindle lathes, characterised by excellent flexibility, precision and economy. With DPA 2000 digital position display and quick change tool holder.

Facts that impress in terms of quality, performance and price

- ▶ Tempered and ground bed guide rails
- ▶ Spindle collet Camlock DIN ISO 702-2 no. 8
- ▶ Closed quick-switching feed gear, gears and shafts tempered and ground, running in oil bath on precision bearings
- ▶ Clear-cut selector lever for switching the feed speeds
- ▶ Emergency stop button, motor circuit breaker, lockable main switch
- ▶ Right-hand/left-hand rotation switchable on bed slide, switchable via switching spindle
- ▶ Direction of rotation for engaging clutch and switching standards-compliant
- ▶ Safety limit switch with positively opening contacts
- ▶ Central lubrication in bed slide
- ▶ Leading spindle cover
- ▶ Halogen machine lamp with articulated arm
- ▶ Emergency stop device with foot pedal
- ▶ With Siemens electrical system
- ▶ Quick change tool holder SWH 9-D
- ▶ 1 tool holder 41 x 180 type D for square chisels
- ▶ **Digital position display DPA 2000**
 - › Clear reduction of manufacturing times
 - › Greater operation accuracy
 - › Reduction of error quota
 - › Clear-cut keyboard layout
 - › With built-in socket. The DPA2000 is switched on and off with the machine at the main switch
 - › Glass scales

Main spindle

- Tempered and ground
- Dry sump lubrication
- Borne on 3 adjustable precision taper roller bearings
- Gearwheels easy action, tempered and ground

Power saver mode

- Machine switches off automatically after a few minutes idling
- Time configurable

Electrical motor brake

- Fast emergency stop
- In normal operations, fast stop without post-run

Quality lathe chuck

- Precise
- Higher speed possible
- Excellent concentricity and repetition accuracy

Clear-cut switch cabinet



Slide

- Precise workmanship
- Top slide rotates through 360°
- Gears and shafts running in oil bath
- Handwheels with adjustable fine scaling 0.04 / 0.02 mm
- Quick change tool holder SWH9-D
- All guides adjustable using wedge rails
- Chip guard on top slide

Lines routed in an energy chain



Fast feed

- Pushbutton and selector lever for enabling rapid motion in transverse and longitudinal directions
- For even more rational work
- Does not switch off the entire machine when running into the limit switch

Tailstock

- Adjustable ± 13 mm for turning balls
- Tailstock spindle sleeve and handwheel with adjustable fine scaling
- Crank for position change
- Tailstock spindle sleeve with two adjustable transmission ratios 1/4 or 1/1 rev



Coolant tank

- Separate with fill level display and oil trap
- Easy and complete draining and cleaning

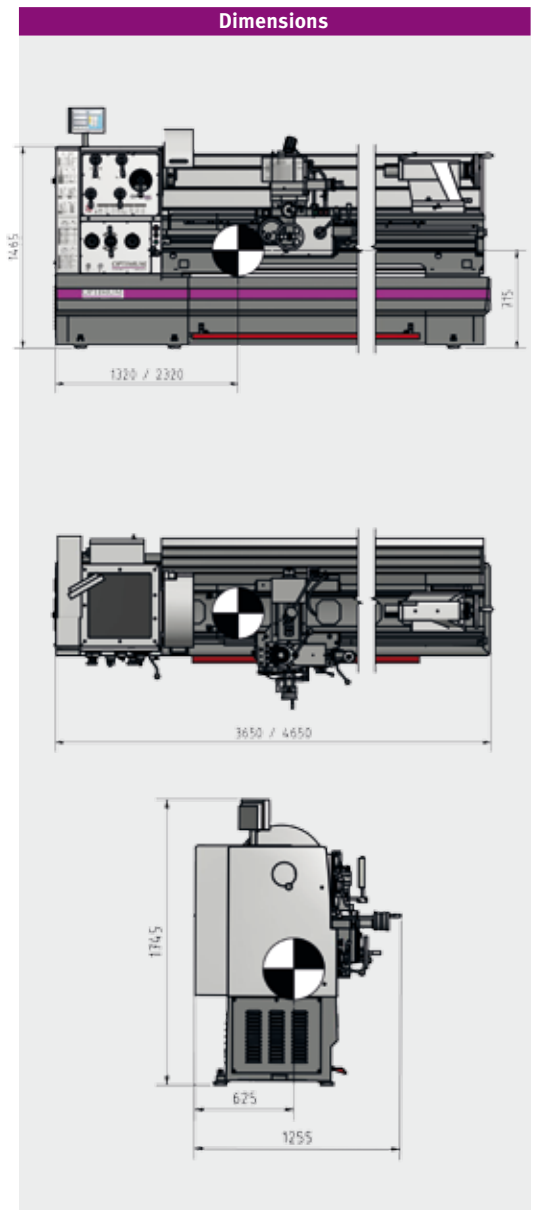
Fig.: D 660 x 3000DPA

Technical specifications, accessories and dimensions

Model	D 660 x 2000DPA
Article no.	3462720DPA
Model	D 660 x 3000DPA
Article no.	3462730DPA
Machine data	
Electrical connection	400 V / 3 Ph ~ 50 Hz
Total connected load	10 kW
Spindle	
Drive motor	7.5 kW
Spindle taper	MT 7
Spindle holder	Camlock DIN ISO 702-2 No. 8
Spindle bore, rod passage diameter	Ø 105 mm
Quick change tool holder, mounting height	max. 32 mm
Cooling lubricant system	
Coolant pump output	150 W
Work area	
Max. height	330 mm
Max. width D 660 x 2000DPA	2,050 mm
Max. width D 660 x 3000DPA	3,050 mm
Swing diameter over machine bed	660 mm ⁽¹⁾
Orbit Ø without bed bridge	900 mm ⁽¹⁾
Turning length in bed bridge	250 mm
Swing over cross slide	440 mm
Bed width	400 mm
Speed range	
Spindle speed	25 - 1,600 min ⁻¹
Number of stages	16 gears
Strokes	
Top slide stroke	230 mm
Cross slide stroke	368 mm
Feeds and pitches	
Longitudinal feeds in range	0.044 - 1.48 mm/rev (25 feeds)
Cross feeds in range	0.022 - 0.74 mm/rev (25 feeds)
Pitch - metric in range	0.45 - 120 mm/rev (54 pitches)
Pitch - inch in range	80 - 7/16 turns/inch (60 pitches)
Diametral pitch in range	7/8 - 160 (42 turns)
Modular thread in range	0.25 - 60 (46 threads)
Tailstock	
Tailstock chuck	MT 5
Tailstock - quill stroke	235 mm
Dimensions	
Length x width x height D 660 x 2000DPA	3,650 x 1,230 x 1,751 mm
Length x width x height D 660 x 3000DPA	4,650 x 1,230 x 1,751 mm
Net weight D 660 x 2000/3000	3,345 kg / 3,710 kg
Transport packaging flat rate*	
	(TVP 6)

⁽¹⁾ „Please note“ on page 183

Accessories	Art no.
Replacement tool holder 40 x 180 Type D für Square chisels	3384332
Replacement tool holder 63 x 180 Type H for round chisels	3384333
Lathe tool set HM 25 mm, 5-part	3441672
Lathe tool set HM 25 mm, 5-part	3441623
Lathe tool set HM 32 mm, 5-part	3441674
Informationen „Lathe tool set HM 25 mm“ on page 122	
Travelling centre MT 5	3440705
Vibration damping machine base SE 3 (6 pcs. required)	3381018
» „Accessories for lathes“ on page 118	



Scope of supply

- Three-jaw lathe chuck Ø 325, no. 8, centre clamping
- Four-jaw lathe chuck Ø 400 mm no. 8, individual clamping
- Planar clamping disc Ø 450 mm no. 8
- Fixed steady passageway max. Ø 150 mm
- Travelling steady passageway max. Ø 130 mm
- Machine lamp
- Reduction sleeve MT 5 / MT 7
- Fixed centre MT 5
- Fixed centre MT 5, alloyed
- Quick change tool holder 9-D
- Tool holder 41 x 180 type D for square chisels
- Thread gauge
- Position stop with granular adjustment
- Set of interchangeable gears
- Operating tool

Note: The machines are delivered without an oil fill

Preface

Drilling

Milling

Turning

Sawing

Sanding/grinding

Polishing

Lamps

Measuring

Index

Leading and feed spindle lathes, characterised by excellent flexibility, precision and economy. With DPA 2000 digital position display and quick change tool holder.

Facts that impress in terms of quality, performance and price

- ▶ Tempered and ground bed guide rails
- ▶ Spindle collet Camlock DIN ISO 702-2 no. 8
- ▶ Closed quick-switching feed gear, gears and shafts tempered and ground, running in oil bath on precision bearings
- ▶ Clear-cut selector lever for switching the feed speeds
- ▶ Emergency stop button, motor circuit breaker, lockable main switch
- ▶ Right-hand/left-hand rotation switchable on bed slide, switchable via switching spindle
- ▶ Direction of rotation for engaging clutch and switching standards-compliant
- ▶ Safety limit switch with positively opening contacts
- ▶ Central lubrication in bed slide
- ▶ Leading spindle cover
- ▶ Halogen machine lamp with articulated arm
- ▶ Emergency stop device with foot pedal
- ▶ Electrical system with Siemens components
- ▶ Quick change tool holder SWH 9-D
- ▶ 1 tool holder 41 x 180 type D for square chisels
- ▶ **Digital position display DPA 2000**
 - › Clear reduction of manufacturing times
 - › Greater operation accuracy
 - › Reduction of error quota
 - › Clear-cut keyboard layout
 - › With built-in socket. The DPA2000 is switched on and off with the machine at the main switch
 - › Glass scales

Main spindle

- Tempered and ground
- Dry sump lubrication
- Borne on 3 adjustable precision taper roller bearings
- Gearwheels easy action, tempered and ground

Power saver mode

- Machine switches off automatically after a few minutes idling
- Time configurable

Electrical motor brake

- Fast emergency stop
- In normal operations, fast stop without post-run

Clear-cut switch cabinet



Slide

- Precise workmanship
- Top slide rotates through 360°
- Gears and shafts running in oil bath
- Handwheels with adjustable fine scaling 0.04 / 0.02 mm
- Quick change tool holder SWH9-D
- All guides adjustable using wedge rails
- Chip guard on top slide

Tailstock

- Adjustable ± 13 mm for turning balls
- Tailstock spindle sleeve and hand-wheel with adjustable fine scaling
- Crank for position change
- Tailstock spindle sleeve with two adjustable transmission ratios 1/4 or 1/1 rev

Lines routed in an energy chain



Fast feed

- Pushbutton and selector lever for enabling rapid motion in transverse and longitudinal directions
- For even more rational work
- Does not switch off the entire machine when running into the limit switch

Quality lathe chuck

- Precise
- Higher speed possible
- Excellent concentricity and repetition accuracy



Coolant tank

- Separate with fill level display and oil trap
- Easy and complete draining and cleaning

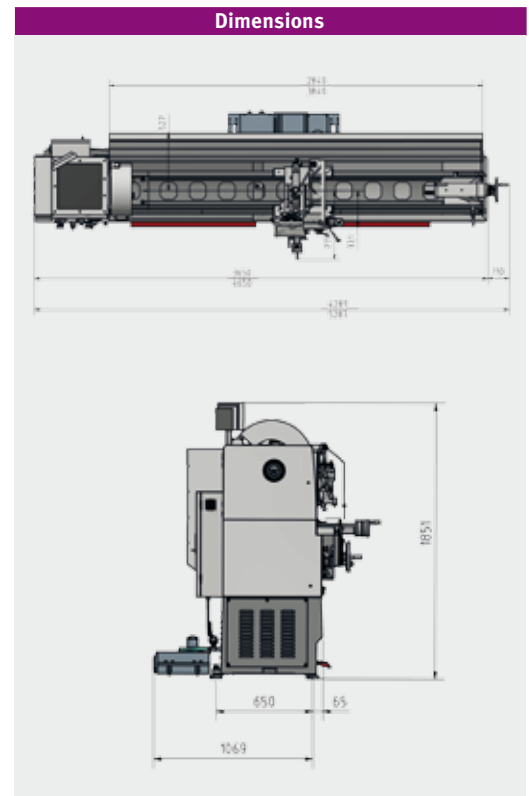
Fig.: TU 8020

Technical specifications, accessories and dimensions

Model	TU 8020
Article no.	3462782DPA
Model	TU 8030
Article no.	3462783DPA
Machine data	
Electrical connection	400 V / 3 Ph ~ 50 Hz
Total connected load	10 kW
Spindle	
Drive motor	7.5 kW
Spindle taper	MT 7
Spindle holder	Camlock DIN ISO 702-2 No. 8
Spindle bore, rod passage diameter	Ø 105 mm
Quick change tool holder, mounting height	max. 32 mm
Cooling lubricant system	
Coolant pump output	150 W
Work area	
Max. height	400 mm
Max. width TU 8020	2,050 mm
Max. width TU 8030	3,050 mm
Swing diameter over machine bed	800 mm ⁽¹⁾
Orbit Ø without bed bridge	1,035 mm ⁽¹⁾
Turning length in bed bridge	250 mm
Swing over cross slide	570 mm
Bed width	400 mm
Speed range	
Spindle speed	25 - 1,600 min ⁻¹
Number of stages	16 gears
Strokes	
Top slide stroke	230 mm
Cross slide stroke	368 mm
Feeds and pitches	
Longitudinal feeds in range	0.044 - 1.48 mm/rev (25 feeds)
Cross feeds in range	0.022 - 0.74 mm/rev (25 feeds)
Pitch - metric in range	0.45 - 120 mm/rev (54 pitches)
Pitch - inch in range	80 - 7/16 turns/inch (60 pitches)
Diametral pitch in range	7/8 - 160 (42 turns)
Modular thread in range	0.25 - 60 (46 threads)
Tailstock	
Tailstock chuck	MT 5
Tailstock - quill stroke	235 mm
Dimensions	
Length x width x height TU 8020	3,740 x 1,230 x 1,595 mm
Length x width x height TU 8030	4,707 x 1,230 x 1,595 mm
Net weight TU 8020 / TU 8030	3,455 kg / 3,820 kg
Transport packaging flat rate*	
	(TVP 6)

⁽¹⁾ „Please note“ on page 183

Accessories	Art no.
Travelling centre MT 5	3440705
Lathe tool set HM 25 mm, 5-part	3441672
Lathe tool set HM 25 mm, 5-part	3441623
Lathe tool set HM 32 mm, 5-part	3441674
Informationen „Inside lathe tool“ on page 123	
Vibration damping machine base SE 3 (6 pcs. required)	3381018
» „Accessories for lathes“ on page 118	



Scope of supply

- Three-jaw lathe chuck Ø 325, no. 8, centre clamping
- Four-jaw lathe chuck Ø 400 mm no. 8, individual clamping
- Planar clamping disc Ø 500 mm no. 8
- Fixed steady passageway max. Ø 150 mm
- Travelling steady passageway max. Ø 130 mm
- Machine lamp
- Reduction sleeve MT 5 - MT 7
- Fixed centre MT 5
- Fixed centre MT 5, alloyed
- Quick change tool holder 9-D
- Tool holder 41 x 180 type D for square chisels
- Thread gauge
- Position stop with granular adjustment
- Set of interchangeable gears
- Operating tool

Note: The machines are delivered without an oil fill

Siemens frequency inverter SINAMICS G 120D

SAFETY INTEGRATED

Highlights at a glance

- ▶ Advanced safety function (STO, SLS)
- ▶ Recovery, low circuit feedback
- ▶ Energy savings up to 20 %
- ▶ No brake resistors required
- ▶ Fast and easy diagnostic capability through LEDs
- ▶ Standardised plug connections throughout
- ▶ Rugged and flat design (IP65)
- ▶ EMC class C2 as per EN 61800-3
- ▶ Safety Integrated without encoder!
- ▶ More direct switch-over
- ▶ Faster braking
- ▶ High overload

- **STO - safe torque off as per EN 61800-5**
- **SLS - Safety limited speed as per EN 61800-5**

SINUMERIK Safety Integrated

- ▶ Is a comprehensive safety package which helps to protect both persons and machines - and in an extremely efficient and economic way, thanks to complete integration of the safety functions into the control and drive technology. In addition, it ensures safe and practical operation of your machine under all required operating conditions. For example, in setup and test operation with the safety door open. The safety functions meet the requirements of DIN EN 61508 for use up to and including SIL (Safety Integrity Level) 2 and categories 3 and PL (Performance Level) d as per DIN EN ISO 13849. This means that critical functional safety requirements can be implemented easily and efficiently.
- ▶ The feature scope includes, for example:
- ▶ Functions for safe monitoring of speed and standstill
- ▶ Functions for establishing workspace and protected space boundaries, and for area detection
- ▶ Direct connection of all safety-related signals and their internal logical links

Energy savings thanks to smart drive solutions

Power recovery (Efficient Infeed Technology)

- ▶ Energy savings thanks to feeding back power in the motor's generator mode
- ▶ No need for braking resistor
- ▶ Far lower space requirement than legacy compact inverter
- ▶ No additional heat generated on braking



OPTIMUM CNC Catalogue

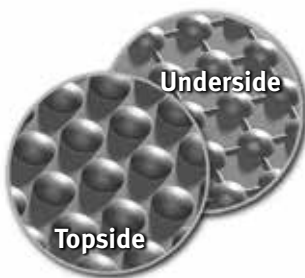
Are you in the market for CNC-controlled lathes and milling machines?
OPTIMUM Maschinen Germany also has a versatile product portfolio in this segment.
For an overview of our offerings, turn to page 190 - 193.
You will also find this huge selection of CNC-controlled lathes and milling machines in our OPTIMUM CNC main catalogue, which you can request from us.

It is also available for downloading from our internet site on www.optimum-maschinen.de



Workplace mats – for dry and wet areas

- Fire-resistant
- Made of polyurethane on polyether basis
- Surface: nubbed
- Underside: nubbed for maximum standing comfort and slip resistance
- 5-year warranty



Technical Data	Work mat 1,840 x 640 mm	Work mat 1,840 x 940 mm	Work mat 3,040 x 640 mm	Work mat 3,040 x 940 mm
Article no.	6800000	6800005	6800001	6800006
Thickness	14 mm	14 mm	14 mm	14 mm
Colour	anthracite	anthracite	anthracite	anthracite
Temperature resistant	-35°C to +95°C	-35°C to +95°C	-35°C to +95°C	-35°C to +95°C
Fire classification	B1 as per DIN 4102	B1 as per DIN 4102	B1 as per DIN 4102	B1 as per DIN 4102
Dimensions	1,840 x 640 mm	1,840 x 940 mm	3,040 x 640 mm	3,040 x 940 mm
Weight	6 kg	9 kg	10.5 kg	15 kg

End-of-line models, exhibition machines and demonstrators



The machines and accessories we offer here have been checked and maintained by our service workshop and are on a par with new machines in terms of functionality.

Take a look on:
www.stuermer-maschinen.de

Did you know? You can also lease or hire-purchase machines from our selection of bargains.

Leasing offers you a precise costing basis. The costs are fully tax-deductible and do not affect your balance sheet. There are no ancillary costs.

Compatibility overview Accessories for lathes

Turning accessories		Article no.	TU 1503V	TU 2004V	TU 2304	TU 2406	TU 2506	TU 2807	TU 3008	TH 3309	TH 3610	TH 4010	TH 42	TZ 4	TH 46	TH 4615V	TH 56	D 660	TU8020
Spindle holder									No.4	No.4	No.5	No.5	No.6	A2-5	No.6	No.8	No.8	No.8	No.8
Spindle taper			MT 1	MT 2	MT 3	MT 3	MT 4	MT 4	MT 5	MT 5	MT 6	MT 6	MT 6	MT 6	MT 6	MT 7	MT 7	MT 7	MT 7
Tailstock chuck			MT 1	MT 2	MT 2	MT 2	MT 2	MT 2	MT 3	MT 3	MT 3	MT 3	MT 4	MT 3	MT 4	MT 4	MT 5	MT 5	MT 5
Planar clamping disc	Ø 170 mm	3440295		●															
	Ø 240 mm	3441352					●												
	Ø 240 mm	3440552				●													
	Ø 265 mm	3441452						●											
	Ø 300 mm No. 4	3442976																	
	Ø 320 mm A2-5	3442979																	
	Ø 330 mm No. 5	3442978																	
	Ø 350 mm No. 6	3442980																	
	Ø 450 mm No. 8	3442982																	
Chuck flange	Ø 160 mm No. 4	3441512								●									
	Ø 200 mm No. 4	3441513								●									
	Ø 200 mm No. 5	3441514									●	●							
	Ø 200 mm No. 6	3444012											●	●	●				
	Ø 250 mm No. 6	3444013											●	●					
	Ø 315 mm No. 8	3444041															●	●	●
	Ø 325 mm No. 8	3444042															●	●	●
Chuck flange	Ø 100 mm cyl.	3440312		●															
	Ø 125 mm cyl.	3440313			●														
	Ø 125 mm cyl.	3440511				●													
	Ø 125 mm short	3441312					●	●											
	Ø 160 mm short	3441413						●											
Collet chuck	ER16	3440281	●																
	ER25	3440305		●	●														
	ER25	3440505				●													
	ER25	3441305					●	●											
	ER32	3441306					●	●											
	ER32	3440506				●													
Collet chuck	5C - No. 4	3441554							●	●									
	5C - No. 5	3441555									●	●							
	5C - No. 6	3441556											●		●				
	5C - No. 8	3441558														●	●	●	●
Travelling centre	MT 1	3440701	●																
	MT 2	3440702		●	●	●	●	●											
	MT 3	3440703							●	●	●	●		●					
	MT 4	3440704											●		●	●			
	MT 5	3440705															●	●	●
	MT 6	3440706																	
Travelling centre	MT 2	3440732		●	●	●	●	●											
	MT 3	3440733							●	●	●	●		●					
	MT 4	3440734											●		●	●			
Spring collet set	5C	3441509								●	●	●	●	●	●	●	●		
	ER 16	3440282	●																
	ER 25	3441109		●	●	●	●	●											
	ER 32	3441122		●	●	●	●	●											
Vibration damper	SE 1	3381012	●	●	●	●	●	●	●										
	SE 2	3381016								●	●	●	●	●					
	SE 3	3381018													●	●	●	●	●
Universal coolant unit	230 V	3352002	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	400 V	3352001			○	○	○	●	●	●	●	●	●	●	●	●	●	●	●
Twist drill set titanium		3051010	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

● Recommended ○ Recommended - restrictions apply

This equipment table covers all recommended equipment options. Depending on the individual case, use of accessories can be meaningful beyond this.

Turning accessories		Article no.	TU 1503V	TU 2004V	TU 2304	TU 2406	TU 2506	TU 2807	TU 3008	TH 3309	TH 3610	TH 4010	TH 42	TZ 4	TH 46	TH 4615V	TH 56	D 660	TU8020
Spindle holder									No.4	No.4	No.5	No.5	No.6	A2-5	No.6	No.8	No.8	No.8	No.8
Spindle taper			MT 1	MT 2	MT 3	MT 3	MT 4	MT 4	MT 5	MT 5	MT 6	MT 6	MT 6	MT 6	MT 6	MT 7	MT 7	MT 7	MT 7
Tailstock chuck			MT 1	MT 2	MT 2	MT 2	MT 2	MT 2	MT 3	MT 3	MT 3	MT 3	MT 4	MT 3	MT 4	MT 4	MT 5	MT 5	MT 5
Twist drill HSS	MT 2	3051002																	
	MT 3	3051003																	
Fixed steady		3440211																	
		3440231																	
		3440361																	
		3440515																	
		3441315																	
		3441415																	
		3441461																	
Travelling steady		3440210																	
		3440230																	
		3440360																	
		3441310																	
		3441410																	
		3441460																	
Collet chuck device	5C	3441506																	
	5C	3441507																	
	5C	3444006																	
Position stop		3444022																	
		3444023																	
Clamping block	Set 16-05	3440653																	
	Set 20-05	3440654																	
	Set 25-05	3440655																	
Digital measuring systems	DRO 5	3383975																	
	DPA 21	3384020																	
	DPA 22	3384022																	
SWH	SWH AA	3384311																	
	SWH 1 - A	3384301																	
	SWH 3 - E	3384303																	
	SWH 5 - B	3384305																	
	SWH 7 - C	3384307																	
	SWH 9 - D	3384309																	
Lathe tools	HM 8 mm	3441662																	
	HM 10 mm	3441664																	
	HM 12 mm	3441666																	
	HM 12 mm	3441212																	
	HM 16 mm	3441668																	
	HM 16 mm	3441216																	
	HM 16 mm	3441610																	
	HM 20 mm	3441670																	
	HM 20 mm	3441617																	
	HM 25 mm	3441672																	
	HM 25 mm	3441623																	
	HM 32 mm	3441674																	
Lathe tools	HM 8 mm	3441601																	
	HM 10 mm	3441602																	
	HM 12 mm	3441603																	
	HM 16 mm	3441604																	
Inside lathe tool set	10 mm	3441640																	
	12 mm	3441641																	

Quick change tool holder

Quick change tool holder

- Repetition accuracy 0.01 mm · Angle scale on tool holder head
- 40 different angle settings · Height adjustment via star knob
- Tool holder head and tool holder with profile ground gears
- Play-free and repetition-accurate clamping of the change holder
- For self-assembly

Quick change tool holder set SWH AA

3384311

- Tool holder head AA
- 3 pcs. tool holder 12 x 50 type D for square chisels
- 1 pc. tool holder 12 x 50 type H for round chisels

Spare tool holder 12 x 50 type D for square chisels

3384312

Spare tool holder 12 x 50 type H for round chisels

3384320

Quick change tool holder set SWH 1 - A

3384301

- Tool holder head A
- 3 pcs. tool holder 20 x 90 type D for square chisels
- 1 pc. tool holder 20 x 85 type H for round chisels

Spare tool holder 20 x 90 type D for square chisels

3384302

Spare tool holder 20 x 85 type H for round chisels

3384321

Quick change tool holder set SWH 3 - E

3384303

- Tool holder head E
- 3 pcs. tool holder 20 x 100 type D for square chisels
- 1 pc. tool holder 30 x 100 type H for round chisels

Spare tool holder 20 x 100 type D for square chisels

3384304

Spare tool holder 30 x 100 type H for round chisels

3384322

Quick change tool holder set SWH 5 - B

3384305

- Tool holder head B
- 3 pcs. tool holder 25 x 120 type D for square chisels
- 1 pc. tool holder 32 x 130 type H for round chisels

Spare tool holder 25 x 120 type D for square chisels

3384306

Spare tool holder 32 x 130 type H for round chisels

3384324

Quick change tool holder set SWH 7 - C

3384307

- Tool holder head C
- 3 pcs. tool holder 32 x 150 type D for square chisels
- 1 pc. tool holder 40 x 160 type H for round chisels

Spare tool holder 32 x 150 type D for square chisels

3384308

Spare tool holder 40 x 160 type H for round chisels

3384326

Quick change tool holder set SWH 9 - D

3384309

- Tool holder head D
- 3 pcs. tool holder 40 x 180 type D for square chisels
- 1 pc. tool holder 63 x 180 type H for round chisels

Spare tool holder 40 x 180 type D for square chisels

3384332

Spare tool holder 63 x 180 type H for round chisels

3384333

Factory assembly and adjustment SWH

9000400

- Only with orders for new machines



Tool holder head



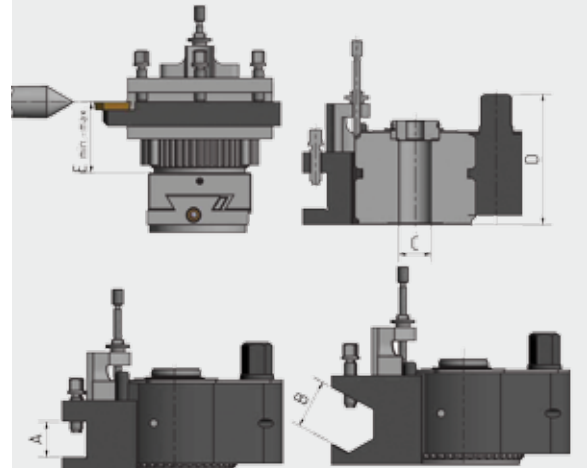
Tool holder type D for square chisels



Tool holder type H for round chisels




Tool holder head dimensions



Tool holder head dimensions			SWH-AA	SWH-1-A	SWH-3-E	SWH-5-B	SWH-7-C	SWH-9-D
Turning diameter		mm	120 - 220	150 - 300	200 - 400	300 - 500	400 - 700	600 - 800
Drive output lathe max.		kW	1	2	4.5	7	13	20
Support width square chisel max	A	mm	12	20	20	25	32	40
Diameter round chisel max.	B	mm	Ø 12	Ø 20	Ø 20	Ø 25	Ø 32	Ø 40
Normal bore	C	mm	Ø 13	Ø 20	Ø 20	Ø 32	Ø 40	Ø 40
Height of base body/overall	D	mm	37	56	68	79	110	122
Height top carriage to lathe centre	E	mm	18 - 26	28.5 - 39.5	28.5 - 39.5	37 - 57	47 - 87	60 - 95

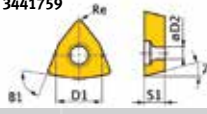
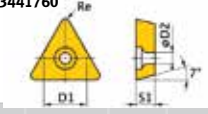
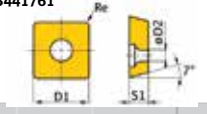
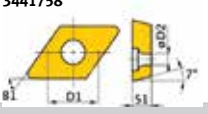
Lathe tool set HM 8 mm

Lathe tool set HM 8 mm		3441662
<ul style="list-style-type: none"> • 5-part • With HM turning plates • TiN coated • Aluminium box 		
		


No.	ISO			h1
1	SWGC	L0808	D05	8 mm
2	SSDC	N0808	D06	8 mm
3	SWGC	R0808	D05	8 mm
4	STGC	R0808	D09	8 mm
5	SDJC	R0808	D07	8 mm



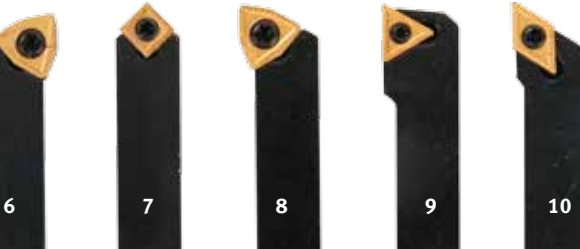
HM replacement turning plates (5 pcs. each)

3441759		3441760		3441761		3441758	
							
No.	ISO	D1	D2	B1	S1	right	Art. no.
1/3	WCMT050308	7,94	3,2	80°	3,18	0,8	3441759
2	SCMT060204	6,35	2,8	90°	2,38	0,4	3441761
4	TCMT090204	5,56	2,5	60°	2,38	0,4	3441760
5	DCMT070204	6,35	2,8	55°	2,38	0,4	3441758

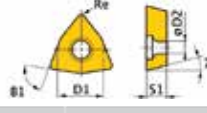
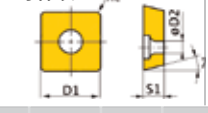
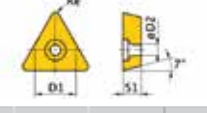
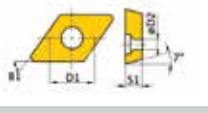
Lathe tool set HM 10 mm

Lathe tool set HM 10 mm		3441664
<ul style="list-style-type: none"> • 5-part • With HM turning plates • TiN coated • Aluminium box 		
		

No.	ISO			h1
6	SWGC	L1010	E05	10 mm
7	SSDC	N1010	E06	10 mm
8	SWGC	R1010	E05	10 mm
9	STGC	R1010	E09	10 mm
10	SDJC	R1010	E07	10 mm



HM replacement turning plates (5 pcs. each)

3441759		3441761		3441760		3441758	
							
No.	ISO	D1	D2	B1	S1	right	Art. no.
6/8	WCMT050308	7,94	3,2	80°	3,18	0,8	3441759
7	SCMT060204	6,35	2,8	90°	2,38	0,4	3441761
9	TCMT090204	5,56	2,5	60°	2,38	0,4	3441760
10	DCMT070204	6,35	2,8	55°	2,38	0,4	3441758

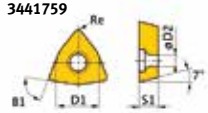
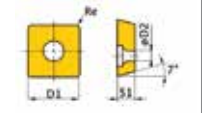
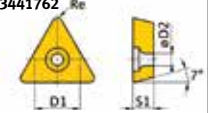
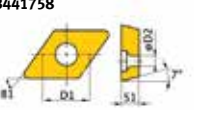
Lathe tool set HM 12 mm

Lathe tool set HM 12 mm		3441666
<ul style="list-style-type: none"> • 5-part • With HM turning plates • TiN coated • Aluminium box 		
		

No.	ISO			h1
11	SWGC	L1212	H 05	12 mm
12	SSDC	N1212	H 09	12 mm
13	SWGC	R1212	H 05	12 mm
14	STGC	R1212	H 11	12 mm
15	SDJC	R1212	H 07	12 mm

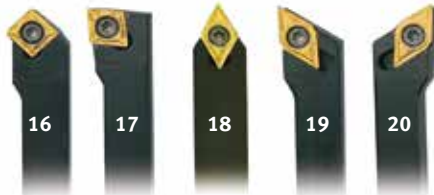


HM replacement turning plates (5 pcs. each)

3441759				3441762			3441758	
								
No.	ISO	D1	D2	B1	S1	right	Art. no.	
11/13	WCMT050308	7,94	3,2	80°	3,18	0,8	3441759	
12	SCMT09T304	6,35	2,8	90°	2,38	0,4	3441763	
14	TCMT110204	6,35	2,8	60°	2,38	0,4	3441762	
15	DCMT070204	6,35	2,8	55°	2,38	0,4	3441758	

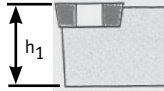
Lathe tool set

Lathe tool set HM 12 mm



Lathe tool set HM 12 mm 3441212

- 5-part
- With HM turning plates
- TiN coated

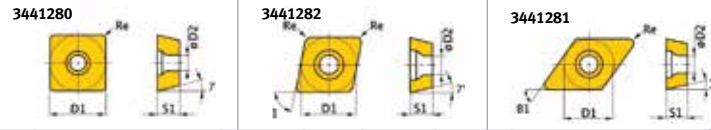


No	ISO			h1
16	SSSC	R1212	J09	12 mm
17	SCLC	R1212	J09	12 mm
18	SDNC	N1212	J11	12 mm
19	SDJC	R1212	J11	12 mm
20	SDJC	L1212	J11	12 mm



Made in
Germany

HM replacement turning plates (5 pcs. each)



No.	ISO	D1	D2	B1	S1	right	Art. no.
16	SCMT09T304	9.525	4.4	90°	3.97	0.4	3441280
17	CCMT09T304	9.525	4.4	80°	3,97	0.4	3441282
18-20	DCMT11T304	9.525	4.4	55°	3,97	0.4	3441281

Single lathe tool 12 mm

16	SSSC R1212J09	3441220	69,00
17	SCLC R1212J09	3441221	69,00
18	SDNC N1212J11	3441222	69,00
19	SDJC R1212J11	3441223	69,00
20	SDJC L1212J11	3441224	69,00

Lathe tool set HM 16 mm

Lathe tool set HM 16 mm 3441668

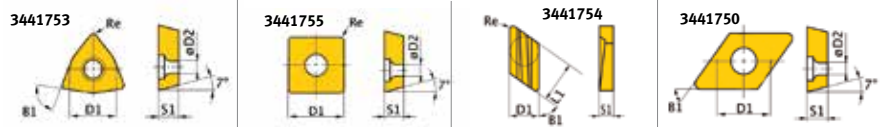
- 5-part
- With HM turning plates
- TiN coated
- Aluminium box



No	ISO			h1
21	PWLN	R1616	H06	16 mm
22	PWLN	L1616	H06	16 mm
23	PSDNN	1616	H09	16 mm
24	CKJN	R1616	H16	16 mm
25	MDJN	R1616	H11	16 mm



HM replacement turning plates (5 pcs. each)



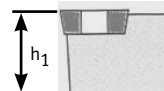
No.	ISO	D1	D2	B1	S1	right	L1	Art. no.
21/22	WNMG060408	9,252	3,81	80°	4,76	0,8		3441753
23	SNMG090304	9,252	3,81	90°	3,18	0,4		3441755
24	KNUX160405R	9,252		55°	4,76	0,5	16,15	3441754
25	DNMG110408	9,525	3,81	55°	4,76	0,8		3441750

Lathe tool set HM 16 mm



Lathe tool set HM 16 mm 3441216

- 5-part
- With HM turning plates
- TiN coated

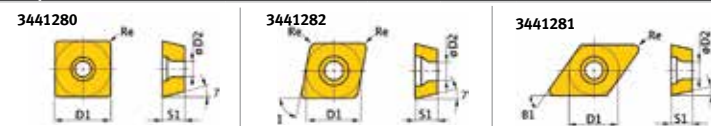


No	ISO			h1
26	SSSC	R1616	J09	16 mm
27	SCLC	R1616	J09	16 mm
28	SDNC	N1616	J11	16 mm
29	SDJC	R1616	J11	16 mm
30	SDJC	L1616	J11	16 mm



Made in
Germany

HM replacement turning plates (5 pcs. each)

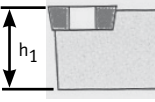


No.	ISO	D1	D2	B1	S1	right	Art. no.
26	SCMT09T304	9.525	4.4	90°	3.97	0.4	3441280
27	CCMT09T304	9.525	4.4	80°	3,97	0.4	3441282
28-30	DCMT11T304	9.525	4.4	55°	3,97	0.4	3441281

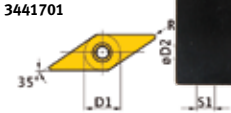



Single lathe tool 16 mm

26	SSSC R1616J09	3441230
27	SCLC R1616J09	3441231
28	SDNC N1616J11	3441232
29	SDJC R1616J11	3441233
30	SDJC L1616J11	3441234

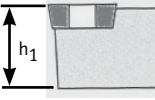
Lathe tool set HM 16 mm

Lathe tool set HM 16 mm	3441610
<ul style="list-style-type: none"> • 5-part • With HM turning plates • TiN coated • Aluminium box 	

No.	ISO			h1
31		1616		16 mm
32		1616		16 mm
33		1616		16 mm
34		1616		16 mm
35		1616		16 mm

HM replacement turning plates (5 pcs. each)							
							
No.	ISO	D1	D2	B1	S1	right	Art. no.
31/33		9,525	3,81	35°	4,76	0,8	3441701
32/34		10	3,6	-	3,97		3441702
35		16	3,95	60°	3,65		3441703


Lathe tool set HM 20 mm

Lathe tool set HM 20 mm	3441670
<ul style="list-style-type: none"> • 5-part • With HM turning plates • TiN coated • Aluminium box 	


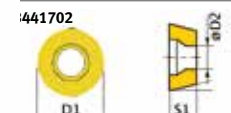
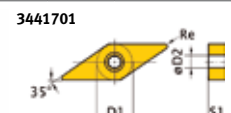
No.	ISO			h1
36	PWLN	R2020	K08	20 mm
37	PWLN	L2020	K08	20 mm
38	PSDN	N2020	K12	20 mm
39	CKJN	R2020	K16	20 mm
40	MDJN	R2020	K11	20 mm

HM replacement turning plates (5 pcs. each)							
							
No.	ISO	D1	D2	B1	S1	right	Art. no.
36/37		9,252	3,81	80°	4,76	0,8	3441752
38		12,7	5,16	90°	4,76	0,8	3441756
39		9,252		55°	4,76	0,5	3441754
40		9,525	3,81	55°	4,76	0,8	3441750

Lathe tool set HM 20 mm


Lathe tool set HM 20 mm	3441617
<ul style="list-style-type: none"> • 5-part • With HM turning plates • TiN coated • Aluminium box 	

No.	ISO			h1
41	SER	2020	K16	20 mm
42	PRGNR	2020	K10	20 mm
43	PRANN	2020	K10	20 mm
44	MVVNN	2020	K16	20 mm
45	MVJNR	2020	K16	20 mm


HM replacement turning plates (5 pcs. each)							
							
No.	ISO	D1	D2	B1	S1	right	Art. no.
41		16	3,95	60°	3,65		3441703
42/43		10	3,6	-	3,97		3441702
44/45		9.525	3,81	35°	4,76	0,8	3441701

Lathe tool set

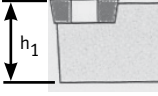
Lathe tool set HM 25 mm

Lathe tool set HM 25 mm	3441623
<ul style="list-style-type: none"> 5-part With HM turning plates TiN coated Aluminium box 	


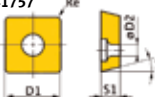
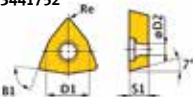
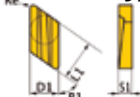
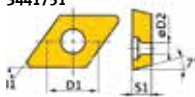
No.	ISO			h1
46	MVVN	N2525	M16	25 mm
47	SE	R2525	M16	25 mm
48	PRGN	R2525	M12	25 mm
49	PRGN	N2525	M16	25 mm
50	MVJN	R2525	M16	25 mm

							
HM replacement turning plates (5 pcs. each)							
3441701/04		3441703		3441705			
No.	ISO	D1	D2	B1	S1	right	Art. no.
46/50	VNMG160408	9.525	3,81	35°	4,76	0,8	3441701
47	16ER AG60	16	3,95	60°	3,65		3441703
48	RNMG1204MO	12	4,75	R	5,1	-	3441705
49	RNMG1605MO	16	5.4	R	6.3	-	3441704

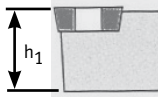
Lathe tool set HM 25 mm

Lathe tool set HM 25 mm	3441672
<ul style="list-style-type: none"> 5-part With HM turning plates TiN coated Aluminium box 	


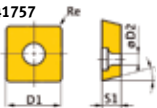
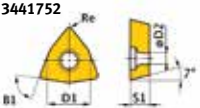
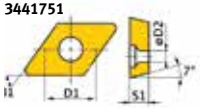

No.	ISO			h1
51	PWLN	L2525	M 08	25 mm
52	PSDN	N2525	M15	25 mm
53	PWLN	R2525	M 08	25 mm
54	CKJNR	R2525	M16	25 mm
55	MDJN	R2525	M15	25 mm

									
HM replacement turning plates (5 pcs. each)									
3441757		3441752			3441754		3441751		
									
No.	ISO	D1	D2	B1	S1	right		Art. no.	
51/53	WNMG080408	9,252	3,81	80°	4,76	0,8		3441752	
52	SNMG150608	15.875	6.35	90°	6.35	0,8		3441757	
54	KNUX160405R	9,252		55°	4,76	0,5	16,15	3441754	
55	DNMG150408	12,7	5,16	55°	4,76	0,8		3441751	

Lathe tool set HM 32 mm

Lathe tool set HM 32 mm	3441674
<ul style="list-style-type: none"> 5-part With HM turning plates TiN coated Aluminium box 	

Nr.	ISO			h1
56	PWLN	L3232	P08	32 mm
57	PSDN	N3232	P15	32 mm
58	PWLN	R3232	P08	32 mm
59	CKJN	R3232	P16	32 mm
60	MDJN	R3232	P15	32 mm

								
HM replacement turning plates (5 pcs. each)								
3441757		3441752			3441751		3441754	
								
No.	ISO	D1	D2	B1	S1	right	L1	Art. no.
56/58	WNMG080408	9,252	3,81	80°	4,76	0,8		3441752
57	SNMG150608	15.875	6.35	90°	6.35	0,8		3441757
59	KNUX160405R	9,252		55°	4,76	0,5	16,15	3441754
60	DNMG150408	12.7	5.16	55°	4,76	0,8		3441751

Inside lathe tool

Inside lathe tool set 10 mm 3441640

- 3-part
- With HM turning plates
- TiN coated
- Aluminium box

Nr.	ISO		
61	S10K	SCFCR	06
62	S10K	SDQCR	07
63	S10K	STFCR	11

Inside lathe tool set 12 mm 3441641

- 3-part
- With HM turning plates
- TiN coated
- Aluminium box

No.	ISO		
61	S12M	SCFCR	06
62	S12M	SDQCR	07
63	S12M	STFCR	11



HM replacement turning plates (5 pcs. each)

		3441164	3441163	3441166					
for No.	ISO		l	s	r	d	d1	Art. no.	
61	CCMT060204	C/80°	6,35	2,60	0,40	6,35	2,70	3441164	
62	TCMT110204	T/60°	10,84	2,53	0,40	9,1	2,70	3441163	
63	DCMT070204	D/55°	7,30	2,53	0,40	6,35	2,70	3441166	



Inside lathe tool set 3441650

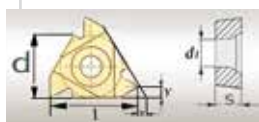
- 5part (8/10/12/16/20 mm)
- With HM turning plates
- TiN coated
- Aluminium box

No.	ISO			d
64	S10K	SIR 0008	H08	8 mm
65	S10K	SIR 0010	K11	10 mm
66	S10K	SIR 0012	M 11	12 mm
67	S10K	SIR 0016	P16	16 mm
68	S10K	SIR 0020	S16	20 mm

Inside lathe tool



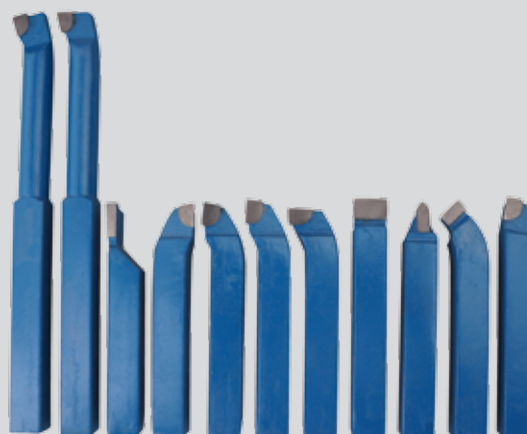
HM replacement turning plates (5 pcs. each)



	ISO		l	s	d	d1	max.*	Art. no.
64	08IR A60	60° IR	8	2,22	4,76	2,5	M 10	3441725
65/66	11IR A60	60° IR	11	3,22	6,35	3,0	M 12	3441726
67/68	16IR A60	60° IR	16	3,65	9,5	3,95	M 16	3441727

NEW

Lathe tool set 8 mm		3441601
11-part With HM plates soldered on		
Lathe tool set 10 mm		3441602
11-part With HM plates soldered on		
Lathe tool set 12 mm		3441603
11-part With HM plates soldered on		
Lathe tool set 16 mm		3441604
11-part With HM plates soldered on		



OPTIMUM

Three-jaw lathe chuck

OPTIMUM Three-jaw lathe chuck centre clamping

- **Cast lathe chuck**
- Cylindrical centring mount as per DIN 6350
- Concentricity better than 0.05 mm
- Chuck flange required
- Including chuck key

Ø 80 mm	3440287
Soft block jaw set 1-part - 3 pcs.	3442902
Ø 100 mm	3442710
Soft block jaw set 1-part - 3 pcs.	3442904
Ø 125 mm	3442712
Soft block jaw set 1-part - 3 pcs.	3442906
Ø 160 mm	3442716
Soft block jaw set 1-part - 3 pcs.	3442907



Scope of supply

- Chuck key
- Hard single-part inside clamping jaws
- Hard single-part outside clamping jaws

i „Chuck flange“ on page 128

OPTIMUM

Four-jaw lathe chuck

OPTIMUM Four-jaw lathe chuck centre clamping

- **Cast lathe chuck**
- Cylindrical centring mount as per DIN 6350
- Concentricity better than 0.05 mm
- Chuck flange required
- Including chuck key

Ø 80 mm	3442808
Soft block jaw set 1-part - 4 pcs.	3442920
Ø 100 mm	3442810
Soft block jaw set 1-part - 4 pcs.	3442922
Ø 125 mm	3442812
Soft block jaw set 1-part - 4 pcs.	3442924
Ø 160 mm	3442816
Soft block jaw set 1-part - 4 pcs.	3442926

OPTIMUM Four-jaw lathe chuck individual clamping

Ø 80 mm	3440286
Ø 100 mm	3442872
Ø 125 mm	3442874



Scope of supply

- Chuck key
- Hard single-part inside clamping jaws
- Hard single-part outside clamping jaws

i **OPTIMUM** „Technical data lathe chuck“ on page 126
„Chuck flange“ on page 128

OPTIMUM

Three-jaw lathe chuck Camlock

OPTIMUM Three-jaw lathe chuck Camlock centre clamping

- **Cast lathe chuck**
- Camlock direct mount DIN 55029
- Including chuck key

NEW Ø 160 mm Camlock DIN ISO 702-2 No. 4	3442761
Soft block jaw set 1-part - 3 pcs.	3442907
Ø 200 mm Camlock DIN ISO 702-2 No. 4	3442762
Soft block jaw set 1-part - 3 pcs.	3442910
NEW Ø 200 mm Camlock DIN ISO 702-2 No. 5	3442764
Soft block jaw set 1-part - 3 pcs.	3442910
Ø 200 mm Camlock DIN ISO 702-2 No. 6	3442763
Soft block jaw set 1-part - 3 pcs.	3442910
Ø 250 mm Camlock DIN ISO 702-2 No. 6	3442765
Soft block jaw set 1-part - 3 pcs.	3442912
Ø 315 mm Camlock DIN ISO 702-2 No. 8	3442768
Soft block jaw set 1-part - 3 pcs.	3442916



Scope of supply

- Chuck key
- Hard single-part inside clamping jaws
- Hard single-part outside clamping jaws

OPTIMUM

Four-jaw lathe chuck Camlock

OPTIMUM Four-jaw lathe chuck Camlock centre clamping

- **Cast lathe chuck**
- Camlock direct mount DIN 55029
- Including chuck key

NEW Ø 160 mm Camlock DIN ISO 702-2 No. 4	3442840
Soft block jaw set 1-part - 4 pcs.	3442926
NEW Ø 200 mm Camlock DIN ISO 702-2 No. 4	3442843
Soft block jaw set 1-part - 4 pcs.	3442927
NEW Ø 200 mm Camlock DIN ISO 702-2 No. 5	3442845
Soft block jaw set 1-part - 4 pcs.	3442927
NEW Ø 200 mm Camlock DIN ISO 702-2 No. 6	3442846
Soft block jaw set 1-part - 4 pcs.	3442928
NEW Ø 250 mm Camlock DIN ISO 702-2 No. 6	3442852
Soft block jaw set 1-part - 4 pcs.	3442935
NEW Ø 315 mm Camlock DIN ISO 702-2 No. 8	3442856
Soft block jaw set 1-part - 4 pcs.	3442938

OPTIMUM Four-jaw lathe chuck Camlock individual clamping

NEW Ø 200 mm Camlock DIN ISO 702-2 No. 4	3442879
NEW Ø 200 mm Camlock DIN ISO 702-2 No. 5	3442880
Ø 250 mm Camlock DIN ISO 702-2 No. 6	3442884
Ø 315 mm Camlock DIN ISO 702-2 No. 8	3442888
Ø 400 mm Camlock DIN ISO 702-2 No. 8	3442890



Scope of supply

- Chuck key
- Hard single-part inside clamping jaws
- Hard single-part outside clamping jaws

BISON**Three-jaw lathe chuck**

NEW

BISON Three-jaw lathe chuck centre clamping

- Lathe chuck body made of premium cast material
- All work surfaces induction tempered and polished
- Uniform clamping forces
- High concentricity (better than DIN 6386)

Ø 125 mm DIN 6350	3450230
Block jaw set, soft	3450410
Ø 160 mm DIN 6350	3450232
Block jaw set, soft	3450412

**Scope of supply**

- Chuck key
- Hard single-part inside clamping jaws
- Hard single-part outside clamping jaws



- Lathe chuck body made of premium steel

Ø 250 mm Camlock DIN ISO 702-2 No. 5	3450530
Block jaw set, soft	3450426

BISON**Three-jaw lathe chuck Camlock**

NEW

BISON Three-jaw lathe chuck Camlock centre clamping

- Lathe chuck body made of premium cast material
- All work surfaces induction tempered and polished
- Camlock direct mount DIN 55029
- High concentricity (better than DIN 6386)

Ø 160 mm Camlock DIN ISO 702-2 No. 4	3450305
Block jaw set, soft	3450412
Ø 200 mm Camlock DIN ISO 702-2 No. 4	3450310
Block jaw set, soft	3450414
Ø 200 mm Camlock DIN ISO 702-2 No. 5	3450315
Block jaw set, soft	3450414
Ø 200 mm Camlock DIN ISO 702-2 No. 6	3450320
Block jaw set, soft	3450414
Ø 200 mm DIN 6350 A2-5	3450210
Block jaw set, soft	3450414
Ø 250 mm Camlock DIN ISO 702-2 No. 5	3450325
Block jaw set, soft	3450416
Ø 250 mm Camlock DIN ISO 702-2 No. 6	3450330
Block jaw set, soft	3450416
Ø 250 mm Camlock DIN ISO 702-2 No. 8	3450331
Block jaw set, soft	3450416
Ø 315 mm Camlock DIN ISO 702-2 No. 8	3450335
Block jaw set, soft	3450418

BISON**Four-jaw lathe chuck**

NEW

BISON Four-jaw lathe chuck centre clamping

- Lathe chuck body made of premium cast material
- All work surfaces induction tempered and polished
- Uniform clamping forces
- High concentricity (better than DIN 6386)

Ø 125 mm DIN 6350	3450234
Block jaw set, soft	3450420
Ø 160 mm DIN 6350	3450236
Block jaw set, soft	3450422

Chuck flange

Ø 125 mm for three- and four-jaw lathe chucks Ø 125 mm	3450240
Ø 160 mm for three- and four-jaw lathe chucks Ø 160 mm	3450241
Ø 200 mm for three- and four-jaw lathe chucks Ø 200 mm	3450212
Ø 250 mm for three- and four-jaw lathe chucks Ø 250 mm	3450218

Scope of supply

- Chuck key
- Hard single-part inside clamping jaws
- Hard single-part outside clamping jaws

**BISON**

„Technical data lathe chuck“ on page 127
more „Chuck flange“ on page 128

BISON**Four-jaw lathe chuck Camlock**

NEW

BISON Four-jaw lathe chuck Camlock centre clamping

- Lathe chuck body made of premium cast material

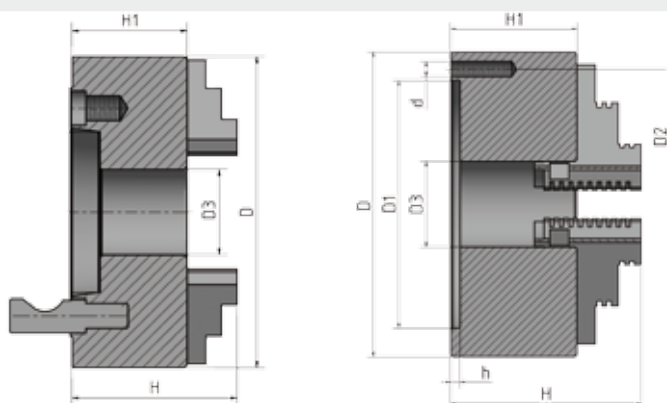
Ø 160 mm Camlock DIN ISO 702-2 No. 4	3450355
Block jaw set, soft	3450422
Ø 200 mm Camlock DIN ISO 702-2 No. 4	3450360
Block jaw set, soft	3450424
Ø 200 mm Camlock DIN ISO 702-2 No. 5	3450365
Block jaw set, soft	3450424
Ø 200 mm Camlock DIN ISO 702-2 No. 6	3450370
Block jaw set, soft	3450424
Ø 250 mm DIN 6350 A2-5	3450216
Block jaw set, soft	3450426
Ø 250 mm Camlock DIN ISO 702-2 No. 5	3450375
Block jaw set, soft	3450426
Ø 250 mm Camlock DIN ISO 702-2 No. 6	3450380
Block jaw set, soft	3450426
Ø 250 mm Camlock DIN ISO 702-2 No. 8	3450381
Block jaw set, soft	3450426
Ø 315 mm Camlock DIN ISO 702-2 No. 8	3450385
Block jaw set, soft	3450428
Ø 400 mm Camlock DIN ISO 702-2 No. 8	3450390
Block jaw set, soft	3450430

- Lathe chuck body made of premium steel

Ø 250 mm Camlock DIN ISO 702-2 No. 6	3450580
Block jaw set, soft	3450426

OPTIMUM

Three-jaw lathe chuck



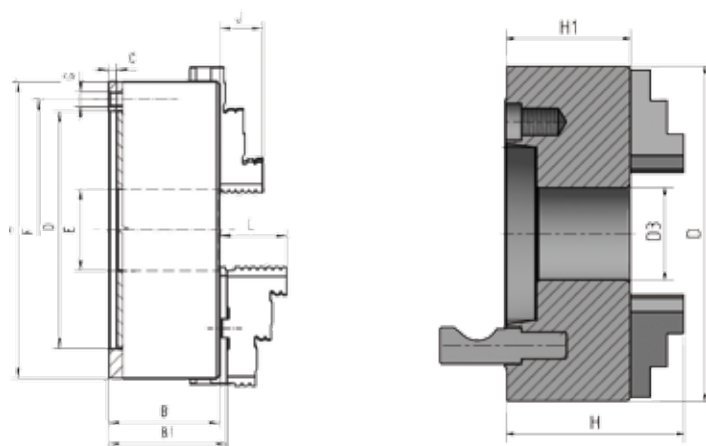
Chuck	Art.no.	D	D1	D2	D3	d	H	H1	h	Speed (rpm)
Ø 80 mm	3440287	80	55	66	16	M 6	66	50	3,5	4.000
Ø 100 mm	3442710	100	72	84	22	M 8	74,5	55	3,5	4.200
Ø 125 mm	3442712	125	95	108	30	M 8	84	58	4	3.800
Ø 160 mm	3442716	160	130	142	40	M 8	95	65	5	3.000

Chuck	Camlock	Art.no.	D	D3	H	H1	pitch circle	Speed (rpm)
NEW Ø 160 mm	No. 4	3442761	160	40	101	71	82,6	3.000
NEW Ø 200 mm	No. 4	3442762	200	50	124	86	82,6	3.000
Ø 200 mm	No. 5	3442764	200	50	124	86	104,8	3.000
Ø 200 mm	No. 6	3442763	200	50	128	86	133,4	3.000
Ø 250 mm	No. 6	3442765	250	70	140	98	133,4	2.400
Ø 315 mm	No. 8	3442768	315	105	180	103,5	171,4	1.800

BISON

NEW

Three-jaw lathe chuck



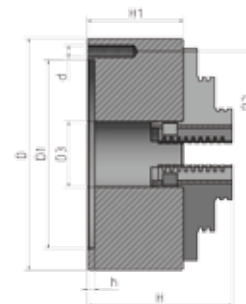
Chuck	Camlock	Art.no.	D	D3	H1	H	pitch circle	Speed (rpm)
Ø 160 mm	No. 4	3450305	160	42	81,5	124,5	82,6	3.600
Ø 200 mm	No. 4	3450310	200	56	107	136	82,6	3.000
Ø 200 mm	No. 5	3450315	200	56	107	136	104,8	3.000
Ø 200 mm	No. 6	3450320	200	55	91	136	133,4	3.000
Ø 250 mm	No. 5	3450325	250	76	103,5	156,5	104,8	2.500
Ø 250 mm	No. 6	3450330	250	76	103,5	156,5	133,4	2.500
Ø 250 mm	No. 8	3450331	250	76	103,5	156,5	171,4	2.500
Ø 315 mm	No. 8	3450335	315	103	117,7	174,7	171,4	2.000

Chuck	Art.no.	B	B1	C	D H7	E	F	G	J	L	kg	Speed (rpm)
Ø 125 mm	3450230	56	60,8	4	95	32	108	3 x M8	20	40	5	4.000
Ø 160 mm	3450232	64,5	69,3	4	125	42	140	3 x M10	32	43	10	3.600
Ø 200 mm	3450210	75	79,8	4	160	55	176	6 x M10	29	45	17,5	3.000

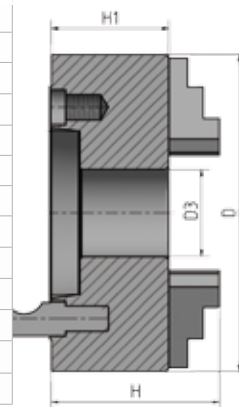
OPTIMUM

Four-jaw lathe chuck

Chuck	Art.no.	D	D1	D2	D3	d	H	H1	h	Speed
Centre clamping										
Ø 80 mm	3442808	80	55	66	16	M6	66	50	3,5	4.300
Ø 100 mm	3442810	100	72	84	22	M8	74,5	55	3,5	3.400
Ø 125 mm	3442812	125	95	108	30	M8	84	58	4	2.750
Ø 160 mm	3442816	160	130	142	40	M8	95	65	5	2.150
Individual clamping										
Ø 80 mm	3440286	80	55	66	22	M6	56	42	3,5	4.800
Ø 100 mm	3442872	100	72	84	25	M8	73	54	3,5	3.500
Ø 125 mm	3442874	125	95	108	30	M8	78	58	4,5	3.000



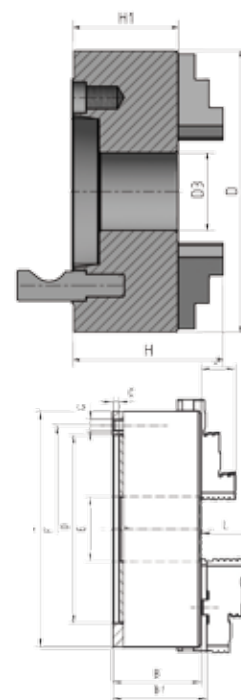
Chuck	Camlock	Art.no.	D	D3	H	H1	pitch circle	Speed (rpm)
Camlock centre clamping								
Ø 160 mm	No. 4	3442840	160	40	95	70	82,6	2.150
Ø 200 mm	No. 4	3442843	200	55	109	86	82,6	3.000
Ø 200 mm	No. 5	3442845	200	55	109	86	104,8	3.000
Ø 200 mm	No. 6	3442846	200	65	109	86	133,4	3.000
Ø 250 mm	No. 6	3442852	250	70	120	95	133,4	2.400
Ø 315 mm	No. 8	3442856	315	100	142,5	106	171,4	1.800
Camlock individual clamping								
Ø 200 mm	No. 4	3442879	200	55	120	91	82,6	2.100
Ø 200 mm	No. 5	3442880	200	55	120	91	104,8	2.100
Ø 250 mm	No. 6	3442884	250	65	117,5	82	133,4	1.600
Ø 315 mm	No. 8	3442888	315	95	134	90	171,4	1.200
Ø 400 mm	No. 8	3442890	400	125	143	95	171,4	1.000


BISON


Four-jaw lathe chuck

Chuck	Camlock	Art.no.	D	D3	H1	H	pitch circle	Speed (rpm)
Ø 160 mm	No. 4	3450355	160	42	81,5	124,5	82,6	3.600
Ø 200 mm	No. 4	3450360	200	55	91	136	82,6	3.000
Ø 200 mm	No. 5	3450365	200	55	91	136	104,8	3.000
Ø 200 mm	No. 6	3450370	200	55	91	136	133,4	3.000
Ø 250 mm	No. 5	3450375	250	76	103,5	156,5	104,8	2.500
Ø 250 mm	No. 6	3450380	250	76	103,5	156,5	133,4	2.500
Ø 250 mm	No. 8	3450381	250	76	103,5	156,5	171,4	2.500
Ø 315 mm	No. 8	3450385	315	103	117,7	174,7	171,4	2.000
Ø 400 mm	No. 8	3450390	400	136	128,5	207,5	171,4	1.600

Chuck	Art.no.	B	B1	C	D H7	E	F	G	J	L	kg	Speed (rpm)
Ø 125 mm	3450234	56	60,8	4	95	32	108	3 x M8	20	40	5	4.000
Ø 160 mm	3450236	64,5	69,3	4	125	42	140	3 x M10	32	43	10	3.600
Ø 250 mm	3450216	75	79,8	4	160	55	176	6 x M10	29	45	17,5	2.500



Accessories for lathes

Planar clamping disc	Article no.
Ø 170 mm for TU 2004V	3440295
Ø 240 mm for TU 2304 / TU 2406	3440552
Ø 240 mm for TU 2506	3441352
Ø 265 mm for TU 2807	3441452
NEW Ø 300 mm No. 4	3442976
NEW Ø 320 mm A2-5	3442979
NEW Ø 330 mm No. 5	3442978
NEW Ø 350 mm No. 6	3442980
NEW Ø 450 mm No. 8	3442982

Chuck flange	
• For lathe chuck assembly	
Ø 160 mm Camlock DIN ISO 702-2 No. 4	3441512
• for four-jaw lathe chucks Ø 160 mm	
Ø 200 mm Camlock DIN ISO 702-2 No. 4	3441513
• for four-jaw lathe chucks Ø 200 mm	
NEW Ø 200 mm Camlock DIN ISO 702-2 No. 5	3441514
• for four-jaw lathe chucks Ø 200 mm	
Ø 200 mm Camlock DIN ISO 702-2 No. 6	3444012
• for four-jaw lathe chucks Ø 200 mm	
Ø 250 mm Camlock DIN ISO 702-2 No. 6	3444013
• for four-jaw lathe chucks Ø 250 mm	
Ø 315 mm Camlock DIN ISO 702-2 No. 8	3444041
• for three- and four-jaw lathe chucks Ø 315 mm	

Chuck flange	
• For lathe chuck assembly	
Ø 100 mm	3440312
• Cylindrical for TU 2004V	
Ø 125 mm	3440313
• Cylindrical for TU 2304	
Ø 125 mm	3440511
• Cylindrical for TU 2406	
Ø 125 mm	3441312
• Short taper for TU 2506 / TU 2807	
Ø 160 mm	3441413
• Short taper for TU 2807	



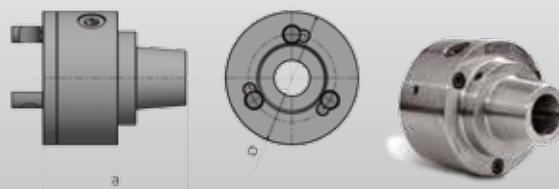
Travelling centre with replaceable tips	
• With 7 replaceable tips	
• Body made of tempered and polished tool steel	
• Precision needle bearings guarantee excellent concentricity	
MT 2	3440732
MT 3	3440733
MT 4	3440734



Collet chuck	Article no.
With short taper mount	
ER 16 Ø 22 mm	3440281
• Cylindrical for TU 1503V	
ER 25 Ø 40 mm	3440305
• Cylindrical for TU 2004V / TU 2304	
ER 25 Ø 52 mm	3440505
• Cylindrical for TU 2406	
ER 25 Ø 52 mm	3441305
• Cylindrical for TU 2506 / TU 2807	
ER 32 Ø 52 mm	3441306
• Short taper for TU 2506 / TU 2807	
ER 32 Ø 52 mm	3440506
• Cylindrical for TU 2406	



Collet chuck	
• Concentricity 0.02 mm	
5C - Camlock Nr. 4	3441554
• a = 71 mm / Ø = 126 mm	
NEW 5C - Camlock Nr. 5	3441555
• a = 107,4 mm / Ø = 126 mm	
5C - Camlock Nr. 6	3441556
• a = 160 mm / Ø = 182 mm	
5C - Camlock Nr. 8	3441558
• a = 163 mm / Ø = 225 mm	



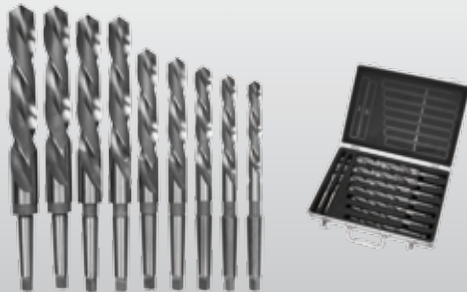
Travelling centre	
max. radial run-out 0.006 mm	
MT 1	3440701
• Max. speed 5,000 rpm; radial load max. 320 N	
MT 2	3440702
• Max. speed 5,000 rpm; radial load max. 400 N	
MT 3	3440703
• Max. speed 4,500 rpm; radial load max. 800 N	
MT 4	3440704
• Max. speed 3,500 rpm; radial load max. 1,250 N	
MT 5	3440705
• Max. speed 3,000 rpm; radial load max. 1,500 N	
MT 6	3440706
• Max. speed 2,500 rpm; radial load max. 1,800 N	



Twist drill HSS with morse taper

- 9-part; sizes 14.5/16/18/20/22/24/26/28/30 mm
- Long service life.
- Good chip removal
- Right handed

MT 2	3051002
MT 3	3051003



Universal coolant unit

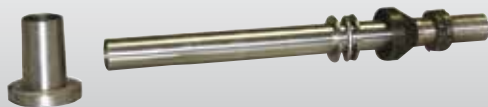
- Delivery height max. 2.5 m
- Flow rate 8 l/min · Container capacity 11 l
- Container size L x W x H: 370 x 245 x 170 mm
- Complete with container, flexible tube, hose
- With switch/plug combination
- Magnetic base fastener for coolant hose
- For self-assembly!

230 V/1 Ph	3352002
400 V/3 Ph	3352001



Universal collet chuck device 5C

for lathe TH 3309	3441506
for lathe TH 42 (not Vario)	3441507
for lathe TH 46 (not Vario)	3444006



Position stop with granular adjustment

• for lathe TH3309	3441522
• for lathe TH3610	3441523
• for lathe TH46	3444022
• for lathe TH56	3444023



Clamping block set 16-05

3440653

Lathes: TU 3008 / TH 3309 / TH 3610

- 1 pc. clamping block SLTBN 16-05
- 1 pc. parting off tool SLIH 26-2
- 1 pc. parting off tool SLIH 26-3
- 5 pcs. cutting inserts GTN2 (cutting width 2.2 mm)
- 5 pcs. cutting inserts GTN3 (cutting width 3.1 mm)
- Aluminium box

Clamping block set 20-05

3440654

Lathes: TH 4010 / TH 4210 / TH 46 / TH 56

- 1 pc. clamping block SLTBN 20-05
- 1 pc. parting off tool SLIH 26-3
- 1 pc. parting off tool SLIH 26-4
- 5 pcs. cutting inserts GTN3 (cutting width 3.1 mm)
- 5 pcs. cutting inserts GTN4 (cutting width 4.1 mm)
- Aluminium box

Clamping block set 25-05

3440655

For lathes: D 660 / TU 8020 / TU 8030

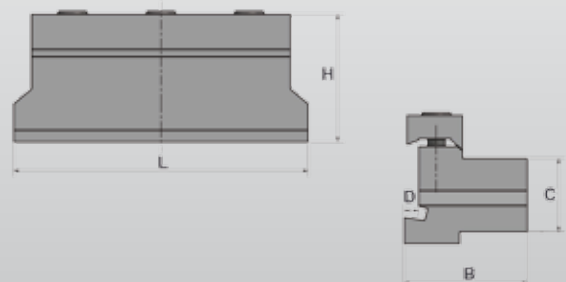
- 1 pc. clamping block SLTBN 25-05
- 1 pc. parting off tool SLIH 26-3
- 1 pc. parting off tool SLIH 26-4
- 5 pcs. cutting inserts GTN3 (cutting width 3.1 mm)
- 5 pcs. cutting inserts GTN4 (cutting width 4.1 mm)
- Aluminium box

Replacement cutting insert set (10 pcs.)

for cutting inserts GTN 2	3440663	56,00
for cutting inserts GTN 3	3440664	56,00
for cutting inserts GTN 4	3440665	67,00



Clamping block set with clamping inserts and parting off tool



Clamping block	16-05	20-05	25-05
L x W x H (mm)	88 x 38 x 42	88 x 38 x 43	100 x 42 x 43.5
C	16 mm	20 mm	25 mm
D	4 mm	5 mm	5 mm

Accessories for lathes

Vibration damping machine base

- The machines and equipment can be installed without anchors and precisely levelled using the height adjustment system.
- Effective impact and vibration damping improves the machine's capability

SE 1	3381012
SE 2	3381016
SE 3	3381018



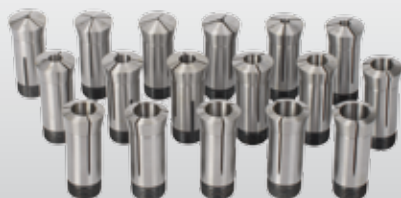
Load	SE 1	SE 2	SE 3
Milling machines	340 kg	460 kg	1,600 kg
Sawing/gen. Machine	570 kg	1,460 kg	3,500 kg
Thread	M12	M16	M20
Base Ø/Base height	120/32	160/35	185/39

Spring collet set SPZ - 5C

3441509

- 17-part, clamping range 3 - 25 mm

- For universal collet chuck device



Spring collet set

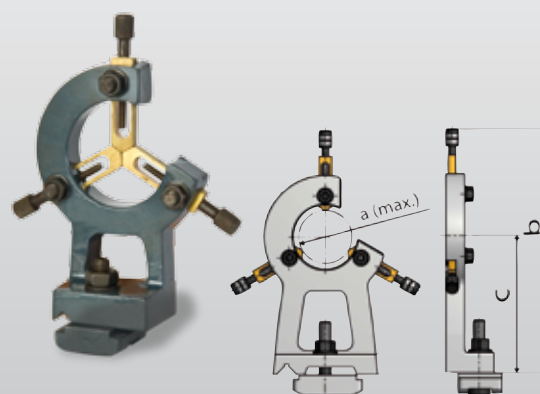
- DIN 6499

ER 16	3440282
• 12-part, clamping range Ø 1 - 10 mm	
ER 25	3441109
• 15-part, clamping range Ø 1 - 16 mm	
ER 32	3441122
• 18-part, clamping range Ø 3 - 20 mm	



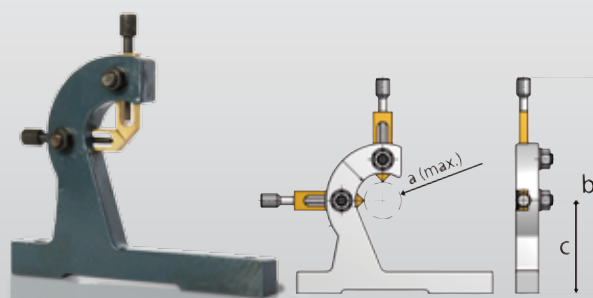
Fixed steady

for TU 1503V	3440211
• a = Ø 40 mm; b = 145 mm; c = 70.5 mm	
for TU 2004V	3440231
• a = Ø 50 mm; b = 200 mm; c = 100 mm	
for TU 2304	3440361
• a = Ø 55 mm; b = 220 mm; c = 115 mm	
for TU 2406 / TU 2506	3441315
• a = Ø 50 mm; b = 245 mm; c = 125 mm	
for TU 2807	3441415
• a = Ø 55 mm; b = 250 mm; c = 140 mm	
for TU 3008 / TU 3008G	3441461
• a = Ø 60 mm; b = 260 mm; c = 157 mm	



Travelling steady

for TU 1503V	3440210
• a = Ø 45 mm; b = 155 mm; c = 76 mm	
for TU 2004V	3440230
• a = Ø 40 mm; b = 195 mm; c = 100 mm	
for TU 2304	3440360
• a = Ø 34 mm; b = 200 mm; c = 97 mm	
for TU 2506 / TU 2406	3441310
• a = Ø 34 mm; b = 220 mm; c = 107 mm	
for TU 2807	3441410
• a = Ø 56 mm; b = 250 mm; c = 130 mm	
for TU 3008	3441460
• a = Ø 60 mm; b = 255 mm; c = 151 mm	





METAL-CUTTING BAND SAWS

Transportable mitre band saw with high cutting precision, particularly low-noise and continuously adjustable saw band speed

Facts that impress in terms of quality, performance and price

- Equipped as a factory standard with bi-metal saw blade
- Adjustable material stop for batch work
- Base plate with anti-slip feet
- Low vibration and wear thanks to special gearbox with two large hardened steel gears
- Vario drive motor with low speed and carbon brushes for up to 10x longer service life

OPTIsaw SP 11V

- Saw head swivels from 0° to +45° to allow angled sawing

OPTIsaw SP 13V

- Saw head swivels from 0° to +60° to allow angled sawing



Mitre square

- Easily legible scale for adjusting the angle



Saw band guide

- Ball-bearing borne; for an excellent band run and thus optimal cutting



Vario drive

- Saw band speed continuously adjustable from 30 to 80 m/min.

Scope of supply

- Material stop
- Bi-metal saw band



Fig.: OPTIsaw SP13V

Saw band run pushbutton




- Switches the saw band run on and off

Optional accessories Machine chassis

L x W x H: 500 x 470 x 780 mm
Art no. 3351490

Model	SP 11V	SP 13V
Article no.	3300070	3300075
Machine data		
Electrical connection	230 V / 1 Ph ~ 50 Hz	230 V / 1 Ph ~ 50 Hz
Motor output	850 W	1 kW
General Information		
Saw band speed	30 - 80 m/min	30 - 80 m/min
Saw band dimensions	1,335 x 13 x 0.65 mm	1,440 x 13 x 0.65 mm
Cutting angle	0° - 45°	0° - 60°
Dimensions		
Length	650 mm	720 mm
Width without/with material stop	290 / 670 mm	300 / 650 mm
Height bottom/top limit position	450 / 630 mm	420 / 680 mm
Net weight	19 kg	19.5 kg

The saws comply with standard DIN EN 55011: class A

Cutting areas				
				
SP 11V	0°	Ø 105 mm	100 mm	100 x 100 mm
SP 13V		Ø 125 mm	125 mm	125 x 125 mm
SP 11V	45°	Ø 65 mm	60 mm	60 x 65 mm
SP 13V		Ø 85 mm	85 mm	85 x 85 mm
SP 13V	60°	Ø 45 mm	45 mm	45 x 50 mm

The cutting area was determined for a full section. The cutting range can be larger in case of cut-off sections.

Saw bands HSS bi-metal M 42			
SP 11V	6 - 10 tpi	0°	3351542
	10 - 14 tpi	0°	3351543
SP 13V	6 - 10 tpi	0°	3351546
	10 - 14 tpi	0°	3351547

„General saw band information“ on page 152

Light and handy metal band saw. Ideal for universal deployment on construction sites, on jobs, in customer service vehicles, workshops, hobby workshops and in agriculture

Facts that impress in terms of quality, performance and price

- ▶ Quick clamping vice for fast workpiece clamping
- ▶ Saw head swivels from 0° to 45° to allow angled sawing
- ▶ Easily legible scale for adjusting the angle
- ▶ Microswitch for automatic limit position cut-off
- ▶ Automatic lowering of the saw head via three-stage adjustable saw head lowering pressure
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ Large, handy handle and light weight allow for trouble-free transport to the construction site
- ▶ Adjustable material stop for batch work
- ▶ Machine with full equipment set; the user can immediately start productive work
- ▶ Transport lock



Fig.: OPTI saw S 100 G



Automatic limit switch cut-off

- Switches off the saw band drive at the bottom limit position



Saw band guide

- Ball-bearing borne 3-point guide



Machine chassis

- Stable, space-saving, folding, easy to transport
 - Dimensions L x W x H: 500 x 470 x 780 mm
- Art. no. 3351490

Scope of supply

- Material stop
- Operating tool
- Bi-metal saw band

Model	S 100G
Article no.	3300100
Machine data	
Electrical connection	230 V / 1 Ph ~ 50 Hz
Motor output	370 W
General Information	
Saw band speed	45 m/min
Saw band dimensions	1,470 x 13 x 0.65 mm
Cutting angle	0° to 45°
Dimensions	
Length of vice open/closed	950 / 850 mm
Width without/with material stop	300 / 660 mm
Height bottom/top limit position	680 / 820 mm
Net weight	23 kg

Cutting areas

			
0 °	Ø 100 mm	100 mm	100 x 150 mm
45°	Ø 65 mm	60 mm	60 x 100 mm

The cutting area was determined for a full section. The cutting range can be larger in case of cut-off sections.

Saw bands HSS bi-metal M 42

Teeth per inch	Tooth angle	Article no.
10 - 14 tpi	0°	3351110
6 tpi	10°	3351109

Saw band set HSS bi-metal M 42

1 pc. saw band 10 - 14 tpi; 0° 2 pcs. saw band 6 tpi; 10°	3351100
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„General saw band information“ on page 152

Metal-cutting band saw ideal for light sawing work. Mitre cutting from -45° to 60° via pivoting saw head

Facts that impress in terms of quality, performance and price

- ▶ Circuit breaker for belt cover and saw band cover, low-voltage version
- ▶ Separate emergency stop mushroom button
- ▶ Low-voltage electronics 24 V
- ▶ Low-noise running action
- ▶ Ball-bearing borne saw band guide
- ▶ Three gears for a wide choice of materials
- ▶ Microswitch for automatic limit position cut-off
- ▶ Easily legible scale for adjusting the angle
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ Saw band tensioning at front, adjustable via handwheel
- ▶ Adjustable material stop for batch work
- ▶ Quick clamping vice for fast workpiece clamping



Saw head

- Grey cast iron
- Both sides swivel from -45° to +60°




Machine chassis

Mobile



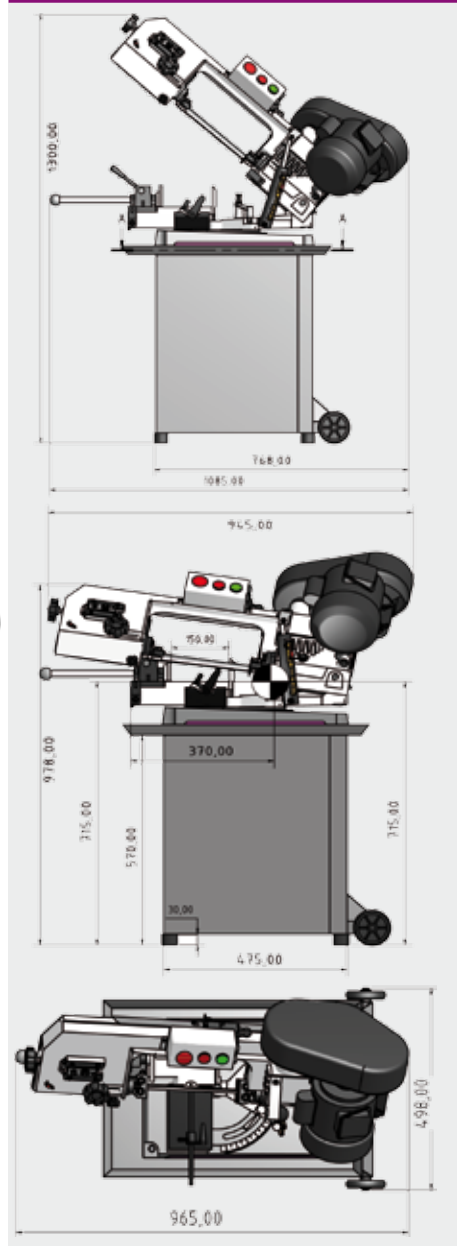
Fig.: OPTISAW S 131GH

Cutting areas

			
0°	Ø 128 mm	145 mm	100 x 145 mm
45°	Ø 90 mm	100 mm	70 x 85 mm
60°	Ø 45 mm	45 mm	45 x 56 mm
-45°	Ø 90 mm	100 mm	70 x 85 mm

The cutting area was determined for a full section. The cutting range can be larger in case of cut-off sections.

Dimensions



Scope of supply

- Material stop
- Bi-metal saw band
- Machine chassis

Model	S 131GH
Article no.	3300131
Machine data	
Electrical connection	230 V / 1 Ph ~ 50 Hz
Motor output	1.1 kW
General Information	
Lifting the saw head	Manual
Feed	continuously variable
Saw band speed	22 / 31 / 55 m/min
Saw band dimensions	1,638 x 13 x 0.65 mm
Cutting angle	-45° to 60°
Net weight	78 kg

Saw bands HSS bi-metal M 42

Teeth per inch	Tooth angle	Article no.
6 - 10 tpi	0°	3351512
8 - 12 tpi	0°	3351517
10 - 14 tpi	0°	3351518
6 tpi	10°	3351511

Saw band set HSS bi-metal M 42

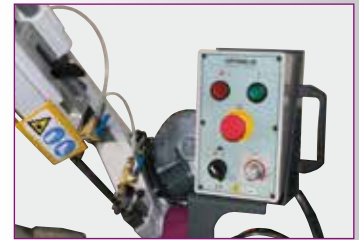
1 pc. saw band 10 - 14 tpi; 0° 1 pc. saw band 6 tpi; 10° 1 pc. saw band 6 - 10 tpi; 6°	3351500
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„General saw band information“ on page 152

Band saw for metal working with mitre-pivoting saw head and continuously adjustable saw band speed

Facts that impress in terms of quality, performance and price

- ▶ Low-noise running action
- ▶ Grey cast base plate and saw head
- ▶ Stable saw frame for smooth, low-vibration action
- ▶ Easily legible scale for adjusting the angle
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ Saw band tensioning at front, adjustable via handwheel
- ▶ Adjustable material stop for batch work
- ▶ Fast workpiece clamping thanks to quick clamping vice
- ▶ Machine with full equipment set; the user can immediately start productive work



Control unit

- Generously dimensioned
- Emergency stop mushroom button
- Coolant pump switch
- Potentiometer
- CE-compliant electrical system
- EMC filter (electromagnetic compatibility)



Vario drive

- Continuously adjustable saw band speed

Scope of supply

- Material stop
- Bi-metal saw band
- Machine chassis
- Coolant system

Model	S 150G Vario
Article no.	3300150
Machine data	
Electrical connection	230 V / 1 Ph ~ 50 Hz
Motor output	1.1 kW
Coolant pump motor	50 W
General Information	
Lifting the saw head	Manual
Feed	continuously variable
Saw band speed	20 - 65 m/min
Number of gears	Continuously variable
Saw band dimensions	1,735 x 12.7 x 0.9 mm
Cutting angle	0° to 60°
Dimensions	
Length of vice open/closed	1,120 / 930 mm
Width without/with material stop	510 / 720 mm
Height	
Saw head bottom/top limit position	1,240 / 1,590 mm
Net weight	100 kg

Cutting areas			
0 °	Ø 150 mm	160 mm	150 x 160 mm
45°	Ø 105 mm	105 mm	105 x 130 mm
60°	Ø 65 mm	65 mm	65 x 65 mm

The cutting area was determined for a full section. The cutting range can be larger in case of cut-off sections.

Saw bands HSS bi-metal M 42

Teeth per inch	Tooth angle	Article no.
6 tpi	10°	3351521
6 - 10 tpi	0°	3351522
10 - 14 tpi	0°	3351538

Saw band set HSS bi-metal M 42

1 pc. saw band 6 tpi; 10°	3351501
1 pc. saw band 6 - 10 tpi; 0°	
1 pc. saw band 10 - 14 tpi; 0°	

„General saw band information“ on page 152

The saw complies with standard DIN EN 55011: class A

The metal-cutting band saw for challenging sawing tasks with drive belt and 4 sawing speeds

Facts that impress in terms of quality, performance and price

- ▶ Low-noise running action
- ▶ Rugged cast design
- ▶ Saw band lowering via hydraulic cylinder continuously adjustable by throttle valve
- ▶ Microswitch for automatic limit position cut-off
- ▶ Easily legible scale for adjusting the angle
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ Saw band tensioning at front, adjustable via handwheel
- ▶ Adjustable material stop for batch work
- ▶ Circuit breaker for belt cover
- ▶ Machine with full equipment set; the user can immediately start productive work

Ball-bearing borne
saw band guide

Machine chassis

- Robust
- Large wheels and handy transport bar allow trouble-free relocation

Fig.: Optisaw S 181



Four speeds

- Adjustable by shifting the drive belt



Quick clamping vice

- Clamping jaws adjustable from 0° to 45° for mitre cuts



Coolant system

- Integrated in chassis
- Tank capacity 11 litres

Scope of supply

- Material stop
- Bi-metal saw band
- Machine chassis

Model	S 181
Article no.	3300181
Machine data	
Electrical connection	400 V / 3 Ph ~ 50 Hz
Motor output	750 W
Coolant pump motor	90 W
General Information	
Lifting the saw head	Manual
Feed	continuously variable
Saw band speed	21 / 33.5 / 45 / 50 m/min
Saw band dimensions	2,362 x 19 x 0.9 mm
Cutting angle	0° to 45°
Dimensions	
Length	1,295 mm
Width	
Without material stop	450 mm
With material stop	600 mm
Height	
Saw head bottom limit position	1,060 mm
Saw head top limit position	1,550 mm
Net weight	130 kg

Cutting areas			
0°	Ø 180 mm	180 mm	180 x 240 mm 50 x 300 mm
45°	Ø 110 mm	150 mm	170 x 110 mm

The cutting area was determined for a full section. The cutting range can be larger in case of cut-off sections.

Saw bands HSS bi-metal M 42

Teeth per inch	Tooth angle	Article no.
5 - 8 tpi	0°	3357522
5 - 8 tpi	6°	3357516
6 - 10 tpi	0°	3357521
10 - 14 tpi	°	3357520

Saw band set HSS bi-metal M 42

1 pc. saw band 6 - 10 tpi; 0°	3357500
1 pc. saw band 5 - 8 tpi; 0°	
1 pc. saw band 5 - 8 tpi; 6°	

„General saw band information“ on page 152

The metal-cutting band saw for challenging sawing tasks with manual speed shift and 3 sawing speeds

Facts that impress in terms of quality, performance and price

- ▶ Low-noise running action
- ▶ Rugged cast design
- ▶ Saw band lowering via hydraulic cylinder continuously adjustable by throttle valve
- ▶ Microswitch for automatic limit position cut-off
- ▶ Easily legible scale for adjusting the angle
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ Saw band tensioning at front, adjustable via handwheel
- ▶ Adjustable material stop for batch work
- ▶ Machine with full equipment set; the user can immediately start productive work

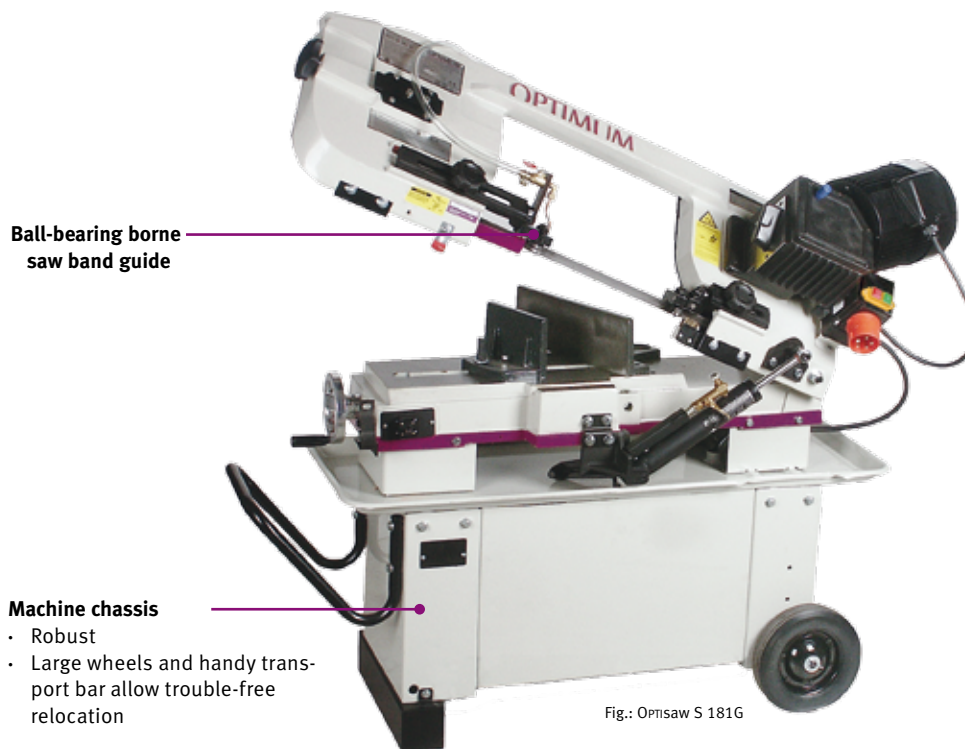


Fig.: Optisaw S 181G



Three speeds

- Switchable via gearbox



Quick clamping vice

- Clamping jaws adjustable from 0° to 45° for mitre cuts



Coolant system

- Integrated in chassis
- Tank capacity 11 litres

Scope of supply

- Material stop
- Bi-metal saw band
- Machine chassis

Model	S 181G
Article no.	3300182
Machine data	
Electrical connection	400 V / 3 Ph ~ 50 Hz
Motor output	750 W
Coolant pump motor	90 W
General Information	
Lifting the saw head	Manual
Feed	continuously variable
Saw band speed	45 / 67 / 77 m/min
Saw band dimensions	2,362 x 19 x 0.9 mm
Cutting angle	0° to 45°
Dimensions	
Length	1,200 mm
Width	
Without material stop	450 mm
With material stop	720 mm
Height	
Saw head bottom limit position	1,050 mm
Saw head top limit position	1,600 mm
Net weight	130 kg

Cutting areas			
0 °	Ø 180 mm	180 mm	180 x 240 mm 65 x 300 mm
45°	Ø 110 mm	150 mm	110 x 170 mm

The cutting area was determined for a full section. The cutting range can be larger in case of cut-off sections.

Saw bands HSS bi-metal M 42

Teeth per inch	Tooth angle	Article no.
5 - 8 tpi	0°	3357522
5 - 8 tpi	6°	3357516
6 - 10 tpi	0°	3357521
10 - 14 tpi	°	3357520

Saw band set HSS bi-metal M 42

1 pc. saw band 6 - 10 tpi; 0	3357500
1 pc. saw band 5 - 8 tpi; 0°	
1 pc. saw band 5 - 8 tpi; 6°	

„General saw band information“ on page 152

Metal-cutting band saw with pivoting saw head and two saw band speeds

Facts that impress in terms of quality, performance and price

- ▶ Low-noise running action
- ▶ Rugged cast design
- ▶ Excellent cutting precision thanks to vibration-free action
- ▶ Two switchable speeds
- ▶ Saw band lowering via hydraulic cylinder continuously adjustable by throttle valve
- ▶ Microswitch for automatic limit position cut-off
- ▶ Easily legible scale for adjusting the angle
- ▶ Coolant system
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ Adjustable material stop for batch work
- ▶ Machines with a full equipment set; the user can immediately start productive work



Pressure gauge

- Easy and precise checking of the saw band tension

Ball-bearing borne saw band guide

Quick clamping vice

- Adjustable via hand wheel; workpiece is clamped using a handy quick-clamping lever

Machine chassis

- Robust

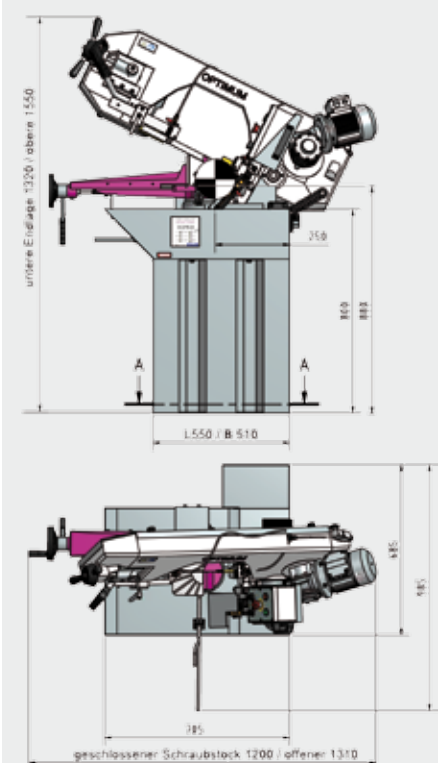
Control panel

- Clear-cut keyboard for ease of use
- Emergency stop mushroom button
- Coolant pump switch
- Speed selection switch



Fig.: OPTisaw S 210

Dimensions



Scope of supply

- Material stop
- Bi-metal saw band
- Machine chassis
- Coolant pump

Cutting areas

0 °	Ø 170 mm	140 mm	140 x 190 mm
45 °	Ø 125 mm	125 mm	95 x 140 mm

The cutting area was determined for a full section.
The cutting range can be larger in case of cut-off sections.

Model	S 210G
Article no.	3300210
Machine data	
Electrical connection	400 V / 3 Ph ~ 50 Hz
Motor output	750 W
Coolant pump motor	90 W
General Information	
Lifting the saw head	Manual
Feed	continuously variable
Saw band speed	40 / 80 m/min
Saw band dimensions	2,080 x 20 x 0.9 mm
Cutting angle	0° to 45°
Net weight	152 kg

Saw bands HSS bi-metal M 42

Teeth per inch	Tooth angle	Article no.
5 - 8 tpi	0°	3357503
5 - 8 tpi	6°	3357505
6 - 10 tpi	0°	3357514
10 - 14 tpi	°	3357515

Saw band set HSS bi-metal M 42

1 pc. saw band 6 - 10 tpi; 0°	3357502
1 pc. saw band 5 - 8 tpi; 0°	
1 pc. saw band 5 - 8 tpi; 6°	

„General saw band information“ on page 152

Metal band saw with pivoting saw head. OPTISAW S 275NV with continuously adjustable saw band speed

Facts that impress in terms of quality, performance and price

- ▶ Low-noise running action
- ▶ Rugged cast design
- ▶ Excellent cutting precision thanks to vibration-free action
- ▶ Saw band lowering via hydraulic cylinder continuously adjustable by throttle valve
- ▶ Microswitch for automatic limit position cut-off
- ▶ Easily legible scale for adjusting the angle
- ▶ Coolant system
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ Adjustable material stop for batch work

S 275N

- ▶ Motor circuit switch
- ▶ Two switchable speeds

S 275NV

- ▶ Continuously adjustable saw band speed 20 - 90 m/min.
- ▶ Speed change possible during operation

Control panel

Clear-cut keyboard for ease of use

- Emergency stop mushroom button
- Coolant pump switch
- Speed selection switch
- For Vario: Potentiometer



Pressure gauge

- Easy and precise checking of the saw band tension

Ball-bearing borne saw band guide

Quick clamping vice

- Adjustable via hand wheel
- Workpiece is clamped using a handy quick-clamping lever

Machine chassis

- Robust

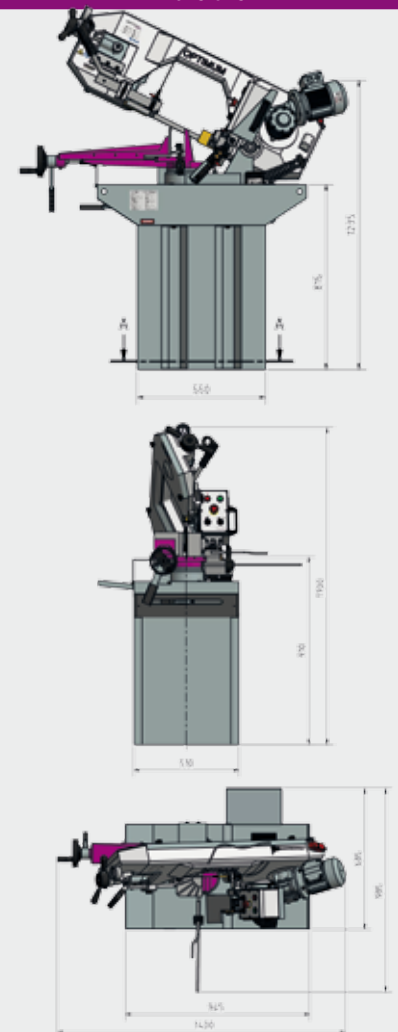
Scope of supply

- Material stop
- Bi-metal saw band
- Machine chassis
- Coolant pump

Fig.: OPTISAW S 275N

Model	S 275N	S 275NV
Article no.	3300260	3300265
Machine data		
Electrical connection	400 V / 3 Ph ~ 50 Hz	230 V / 1 Ph ~50 Hz
Motor output	1.1 kW	1.5 kW
Coolant pump motor	90 W	
General Information		
Lifting the saw head	Manual	
Feed	continuously variable	
Saw band speed	45 / 90 m/min	20 - 90 m/min
Saw band dimensions	2,480 x 27 x 0.9 mm	
Cutting angle	0° to 60°	
Net weight	185 kg	185 kg

Dimensions



Cutting areas

0°	Ø 225 mm	170 mm	150 x 245 mm
45°	Ø 145 mm	145 mm	145 x 180 mm
60°	Ø 90 mm	90 mm	90 x 120 mm

The cutting area was determined for a full section.
The cutting range can be larger in case of cut-off sections.

Saw bands HSS bi-metal M 42

Teeth per inch	Tooth angle	Article no.
5 - 8 tpi	0°	3357511
5 - 8 tpi	6°	3357512
6 - 10 tpi	0°	3357524
6 - 10 tpi	6°	3357510
10 - 14 tpi	0°	3357525

Saw band set HSS bi-metal M 42

1 pc. saw band 6 - 10 tpi	3357504
1 pc. saw band 5 - 8 tpi	
1 pc. saw band 5 - 8 tpi	

„General saw band information“ on page 152

The saw (frequency inverter) complies with standard DIN EN 55011: class A

Metal-cutting band saw with pivoting saw head and continuously adjustable saw band speed

Facts that impress in terms of quality, performance and price

- ▶ Low-noise running action
- ▶ Rugged cast design
- ▶ Excellent cutting precision thanks to vibration-free action
- ▶ Two switchable speeds
- ▶ Saw band lowering via hydraulic cylinder continuously adjustable by throttle valve
- ▶ Microswitch for automatic limit position cut-off
- ▶ Easily legible scale for adjusting the angle
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ Adjustable material stop for batch work
- ▶ Machines with a full equipment set; the user can immediately start productive work

Pressure gauge

- Easy and precise checking of the saw band tension



Carbide guide

- Precise band guide
- Low vibrations
- Smooth cutting action

Quick clamping vice

- Adjustable via hand wheel
- Workpiece is clamped using a handy quick-clamping lever

Saw band clamping lever

- Saw cutting continuously adjustable within range of 0° to 60°

Machine chassis

- Robust

Control panel

- Clear-cut keyboard for ease of use
- Emergency stop mushroom button
- Coolant pump switch
- Speed selection switch
- For Vario: Potentiometer

Coolant system

- Powerful 100 Watts

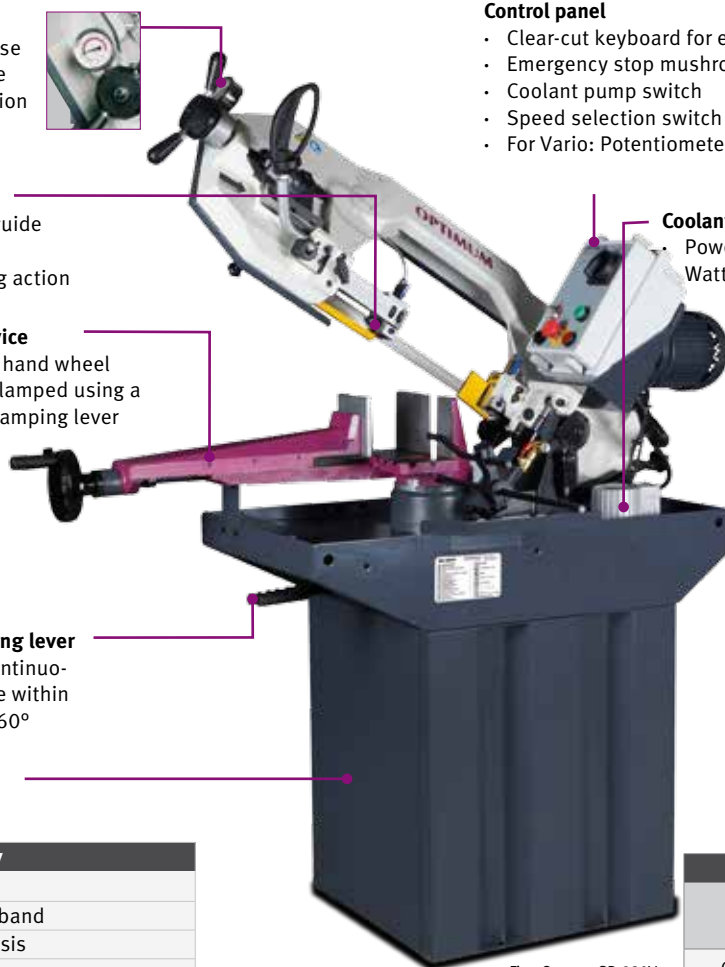
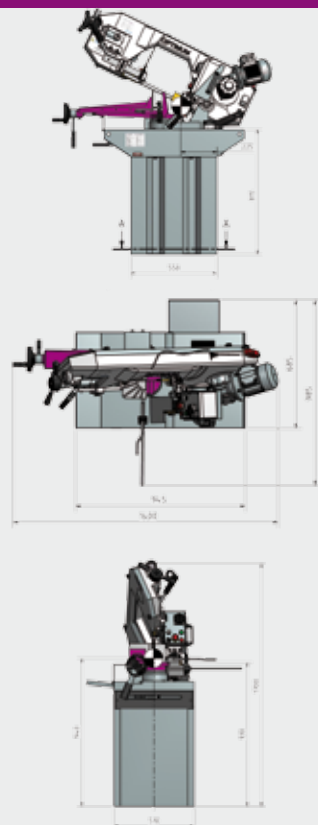


Fig.: OPTisaw SD 280V

Dimensions



Scope of supply

- Material stop
- Bi-metal saw band
- Machine chassis
- Coolant pump

Model	SD 280V
Article no.	3300280
Machine data	
Electrical connection	400 V / 3 Ph ~ 50 Hz
Total connected load	1.5 kW
Coolant pump motor	100 W
General Information	
Lifting the saw head	Manual
Feed	continuously variable
Saw band speed	20 - 90 m/min
Saw band dimensions	2,480 x 27 x 0.9 mm
Cutting angle	0° to 60°
Dimensions	
Length	1,400 / 1,700 mm
Width without/with material stop	685 / 985 mm
Height bottom/top limit position	1,300 / 1,700 mm
Net weight	185 kg

Cutting areas

0°	Ø 225 mm	190 mm	150 x 235 mm
45°	Ø 90 mm	90 mm	90 x 120 mm
60°	Ø 155 mm	155 mm	155 x 210 mm

The cutting area was determined for a full section.

The cutting range can be larger in case of cut-off sections.

Saw bands HSS bi-metal M 42

Teeth per inch	Tooth angle	Article no.
5 - 8 tpi	0°	3357511
5 - 8 tpi	6°	3357512
6 - 10 tpi	0°	3357524
10 - 14 tpi	0°	3357525

Saw band set HSS bi-metal M 42

1 pc. saw band 6 - 10 tpi; 0°	3357504
1 pc. saw band 5 - 8 tpi; 0°	
1 pc. saw band 5 - 8 tpi; 6°	

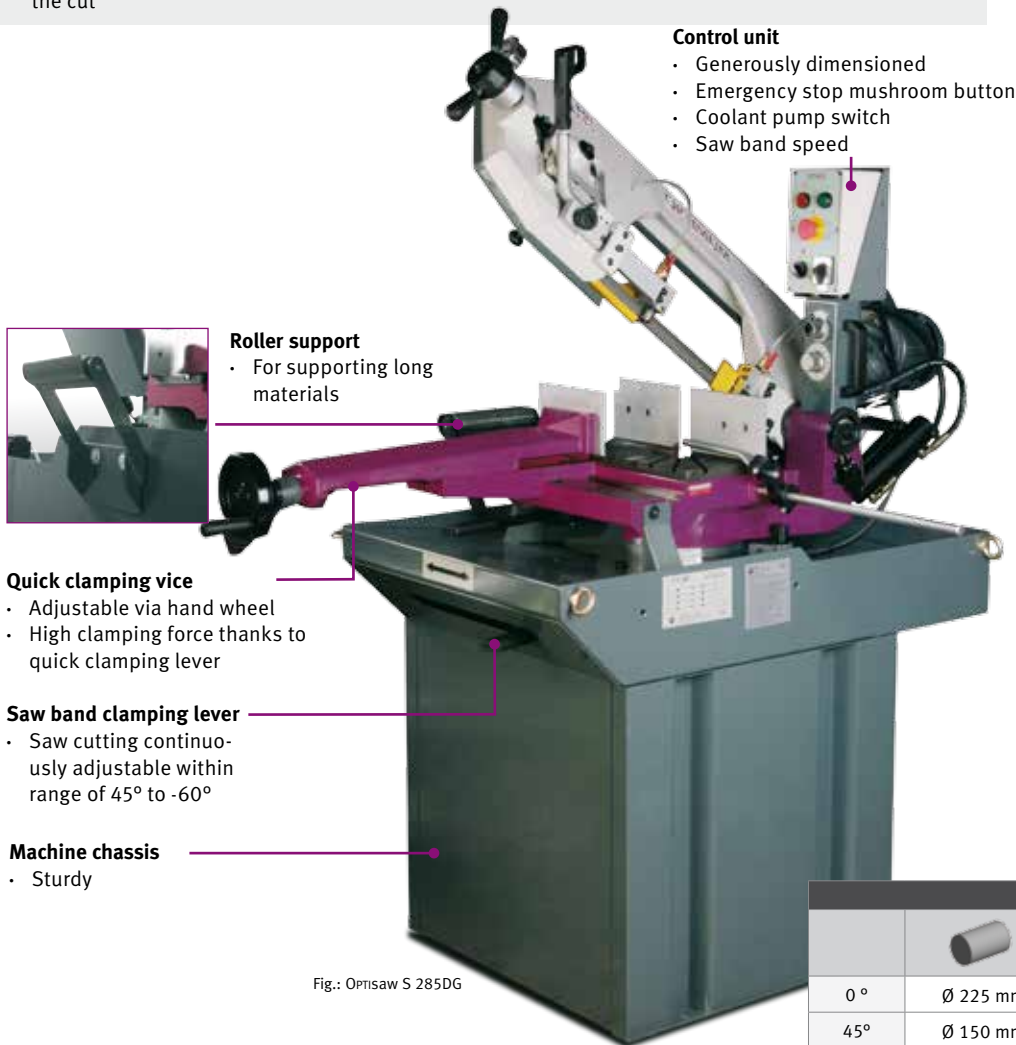
„General saw band information“ on page 152

The saw complies with standard DIN EN 55011: class A

Metal-cutting band saw with pivoting saw head for economic and precise work

Facts that impress in terms of quality, performance and price

- ▶ Low-noise running action
- ▶ Heavy cast design
- ▶ Excellent cutting precision thanks to vibration-free action
- ▶ Ball-bearing borne saw band guide
- ▶ Swarf brush
- ▶ Automatic saw switch-off after completing the cut
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ Material stop with scaling
- ▶ End stops adjustable to degree accuracy
- ▶ Machine with full equipment set; the user can immediately start productive work



Roller support
• For supporting long materials

Quick clamping vice

- Adjustable via hand wheel
- High clamping force thanks to quick clamping lever

Saw band clamping lever

- Saw cutting continuously adjustable within range of 45° to -60°

Machine chassis

- Sturdy

Control unit

- Generously dimensioned
- Emergency stop mushroom button
- Coolant pump switch
- Saw band speed



Pressure gauge

- Easy and precise checking of the saw band tension



Coolant pump




- Powerful 100 W

Fig.: OPTISAW S 285DG

Scope of supply

- Material stop
- Bi-metal saw band
- Machine chassis
- Coolant pump

Cutting areas

			
0°	Ø 225 mm	180 mm	150 x 245 mm
45°	Ø 150 mm	150 mm	150 x 190 mm
60°	Ø 90 mm	90 mm	90 x 180 mm
-45°	Ø 150 mm	150 mm	120 x 150 mm

The cutting area was determined for a full section.
The cutting range can be larger in case of cut-off sections.

Saw bands HSS bi-metal M 42

Teeth per inch	Tooth angle	Article no.
5 - 8 tpi	0°	3357511
5 - 8 tpi	6°	3357512
6 - 10 tpi	0°	3357524
10 - 14 tpi	0°	3357525

Saw band set HSS bi-metal M 42

1 pc. saw band 6 - 10 tpi; 0° 1 pc. saw band 5 - 8 tpi; 0° 1 pc. saw band 5 - 8 tpi; 6°	3357504
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„General saw band information“ on page 152

Model	S 285DG
Article no.	3300285
Machine data	
Electrical connection	400 V / 3 Ph ~ 50 Hz
Motor output	1.1 kW
Coolant pump motor	100 W
General Information	
Lifting the saw head	Manual
Feed	continuously variable
Saw band speed	45 / 90 m/min
Saw band dimensions	2,480 x 27 x 0.9 mm
Cutting angle	-45° to 60°
Dimensions	
Length	1,720 mm
Width without/with material stop	870 / 1,270 mm
Height of saw head bottom/top limit position	1,280 / 1,800 mm
Net weight	295 kg

Band saw for metal working with pivoting saw head. OPTISAW S 300DG Vario with continuously adjustable saw band speed

Facts that impress in terms of quality, performance and price

- ▶ Low-noise running action
- ▶ Heavy cast design
- ▶ Excellent cutting precision thanks to vibration-free action
- ▶ Ball-bearing borne saw band guide
- ▶ Swarf brush
- ▶ Microswitch for automatic limit position cut-off
- ▶ Pushbutton - manual saw band run - on the lever switches the saw band run on and off
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ Material stop with scaling
- ▶ End stops adjustable to degree accuracy

S 300DG Vario

- ▶ Continuously adjustable saw band speed 20 - 90 m/min.



Pressure gauge

- Easy and precise checking of the saw band tension



Coolant pump

- Powerful 100 W



Roller support

- For supporting long materials

Quick clamping vice

- Adjustable via hand wheel
- High clamping force thanks to quick clamping lever

Saw band clamping lever

- Saw cutting continuously adjustable within range of -45° to 60°

Machine chassis

- Sturdy




Fig.: OPTISAW S 300DG



Scope of supply

- Material stop
- Bi-metal saw band
- Machine chassis
- Coolant pump

Cutting areas

			
0°	Ø 255 mm	190 mm	190 x 310 mm
45°	Ø 215 mm	190 mm	190 x 200 mm
-60°	Ø 135 mm	135 mm	135 x 135 mm
-45°	Ø 220 mm	190 mm	135 x 190 mm

The cutting area was determined for a full section.

The cutting range can be larger in case of cut-off sections.

Model	S 300DG
Article no.	3290290
Model	S 300DG Vario
Article no.	3290295
Machine data	
Electrical connection	400 V / 3 Ph ~ 50 Hz
Motor output	1.5 kW
Coolant pump motor	100 W
General Information	
Lifting the saw head	Manual
Feed	continuously variable
Saw band speed	35/70 m/min.
Saw band speed Vario	20 - 90 m/min
Saw band dimensions	2,750 x 27 x 0.9 mm
Cutting angle	45° to -60°
Dimensions	
Length	1,680 mm
Width without/with material stop	700 / 1,300 mm
Height bottom/top limit position	1,600 / 1,850 mm
Net weight	335 kg

Saw bands HSS bi-metal M 42

Teeth per inch	Tooth angle	Article no.
5 - 8 tpi	0°	3357751
5 - 8 tpi	10°	3357752
6 - 10 tpi	0°	3357753
10 - 14 tpi	0°	3357754

Saw band set HSS bi-metal M 42

1 pc. saw band 6 - 10 tpi; 0° 1 pc. saw band 5 - 8 tpi; 0° 1 pc. saw band 5 - 8 tpi; 6°	3357700
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„General saw band information“ on page 152

The saw (frequency inverter) complies with standard DIN EN 55011: class A

Metal-cutting band saw with turntable and pivoting saw head for economic and precise work

Facts that impress in terms of quality, performance and price

- ▶ Low-noise running action
- ▶ Heavy cast design
- ▶ Excellent cutting precision thanks to vibration-free action
- ▶ High motor output even at low speeds
- ▶ Microswitch for automatic limit position cut-off
- ▶ Precise and durable saw band guide, re-adjustable
- ▶ End stops adjustable to degree accuracy
- ▶ Swarf brush
- ▶ Coolant pump
- ▶ Control unit facilitates machine setup
- ▶ Machine with full equipment set; the user can immediately start productive work



Carbide guide

- Precise band guide
- Low vibrations
- Smooth cutting action

Vario drive

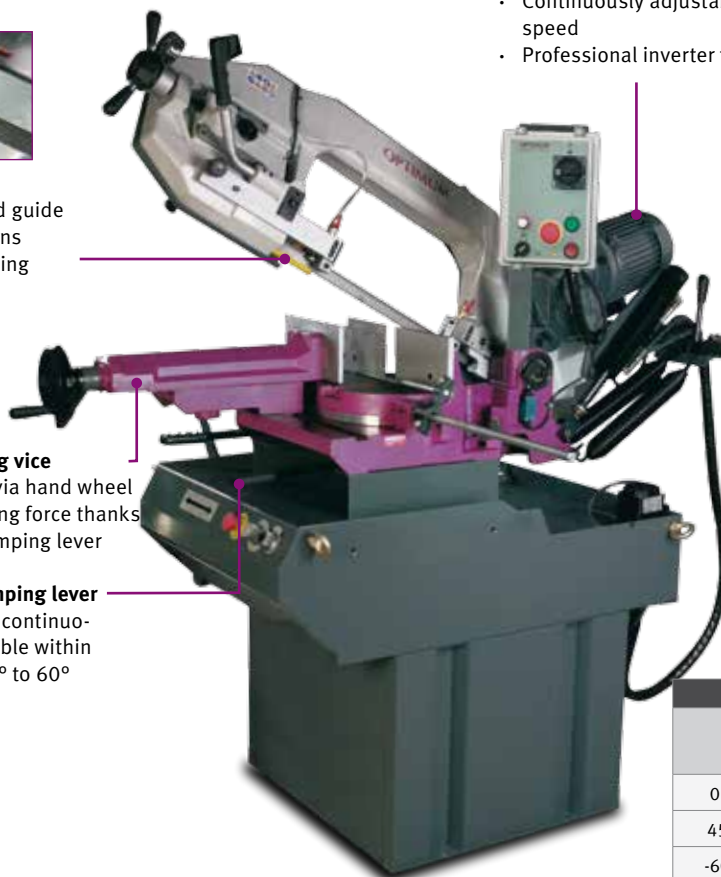
- Via frequency inverter
- Continuously adjustable saw band speed
- Professional inverter technology

Quick clamping vice

- Adjustable via hand wheel
- High clamping force thanks to quick clamping lever

Saw band clamping lever

- Saw cutting continuously adjustable within range of -45° to 60°



Pressure gauge

- Easy and precise checking of the saw band tension






Turntable

- Any angle between 45° and -60° can be sawed as the saw slot moves with the saw arm
- Easily legible angle scale

Scope of supply

- Material stop
- Bi-metal saw band
- Machine chassis
- Coolant pump

Cutting areas

			
0°	Ø 255 mm	255 mm	200 x 270 mm
45°	Ø 190 mm	160 mm	160 x 160 mm
-60°	Ø 110 mm	110 mm	110 x 210 mm
-45°	Ø 190 mm	140 mm	140 x 210 mm

The cutting area was determined for a full section.

The cutting range can be larger in case of cut-off sections.

Saw bands HSS bi-metal M 42

Teeth per inch	Tooth angle	Article no.
5 - 8 tpi	0°	3357751
5 - 8 tpi	10°	3357752
6 - 10 tpi	0°	3357753
10 - 14 tpi	0°	3357754

Saw band set HSS bi-metal M 42

1 pc. saw band 6 - 10 tpi; 0°	3357700
1 pc. saw band 5 - 8 tpi; 0°	
1 pc. saw band 5 - 8 tpi; 6°	

„General saw band information“ on page 152

The saw (frequency inverter) complies with standard DIN EN 55011: class A

Model	S 310DG Vario
Article no.	3290335
Machine data	
Electrical connection	400 V / 3 Ph ~ 50 Hz
Motor output	1.5 kW
Coolant pump motor	100 W
General Information	
Lifting the saw head	Manual
Feed	continuously variable
Saw band speed	20 - 90 m/min
Saw band dimensions	2,750 x 27 x 0.9 mm
Cutting angle	45° to -60°
Dimensions	
Length	1,680 mm
Width without/with material stop	700 / 1,330 mm
Height bottom/top limit position	1,600 / 2,000 mm
Net weight	380 kg

Metal-cutting band saw with double mitre in heavy-duty design

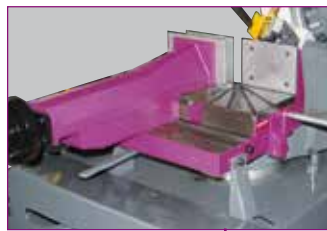
Facts that impress in terms of quality, performance and price

- ▶ Heavy-duty industrial design
- ▶ Low-noise running action
- ▶ Excellent cutting precision thanks to vibration-free action
- ▶ Two switchable speeds 36/72 m/min.
- ▶ Mitre adjustment to -60° by pivoting the entire saw head
- ▶ Combinable and individually adjustable carbide and ball bearing guides on the saw band
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ End stops adjustable to degree accuracy
- ▶ Swarf brush
- ▶ Microswitch for automatic limit position cut-off
- ▶ Roller support adjustable for long and heavy workpieces
- ▶ Machine with full equipment set; the user can immediately start productive work



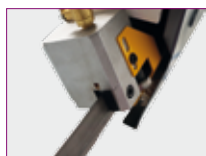
Saw band tension

- Easy and accurate adjustment of the saw band tension by pressure gauge

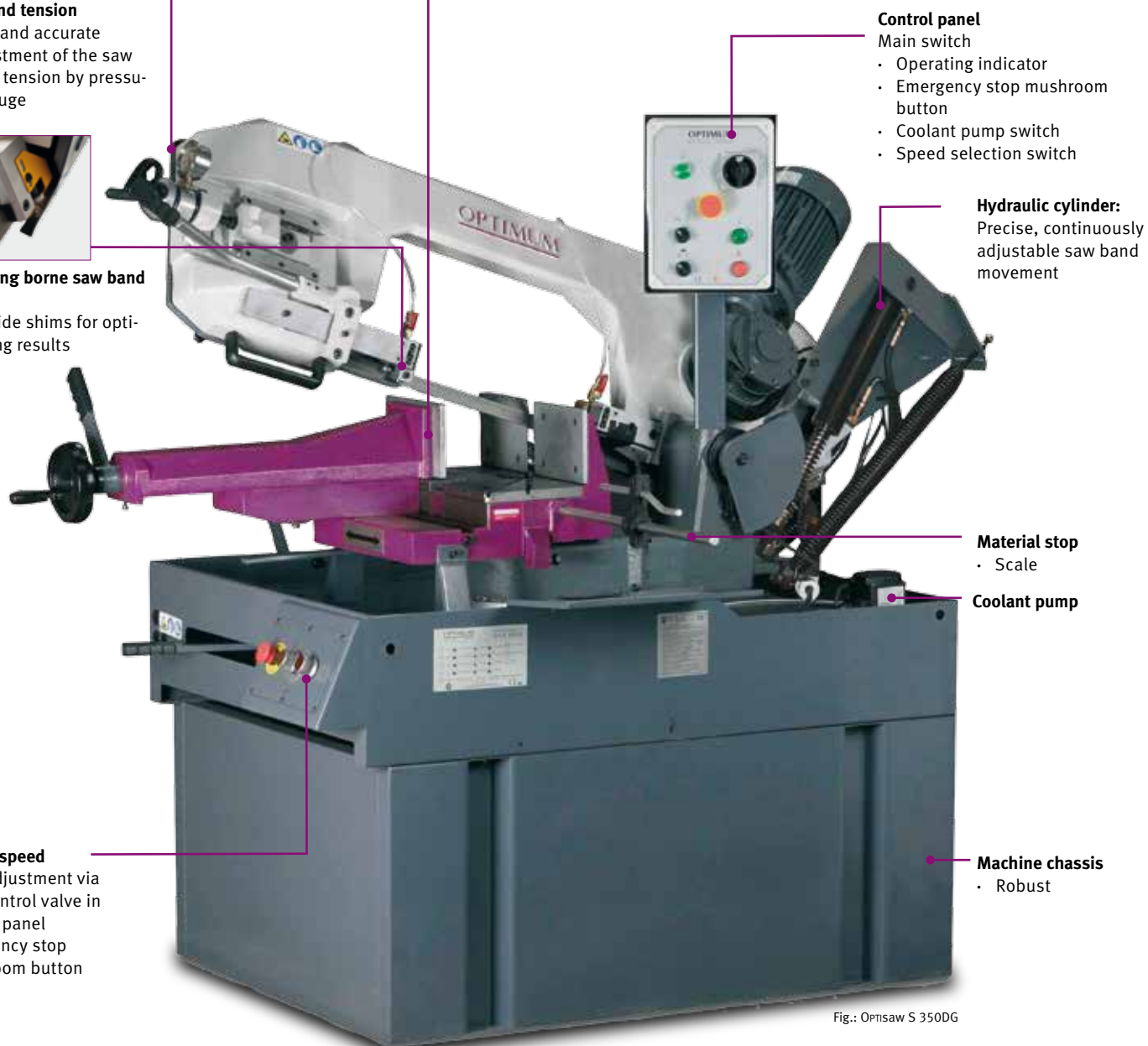


Rugged quick clamping vice

- Generously dimensioned
- Adjustable via hand wheel
- Workpiece is clamped using a handy quick-clamping lever
- Movable for large materials



- Ball-bearing borne saw band guide**
with carbide shims for optimal cutting results



Control panel

- Main switch
- Operating indicator
- Emergency stop mushroom button
- Coolant pump switch
- Speed selection switch

- Hydraulic cylinder:**
Precise, continuously adjustable saw band movement

- Material stop**
• Scale

- Coolant pump**

Lowering speed

- Easy adjustment via feed control valve in control panel
- Emergency stop mushroom button

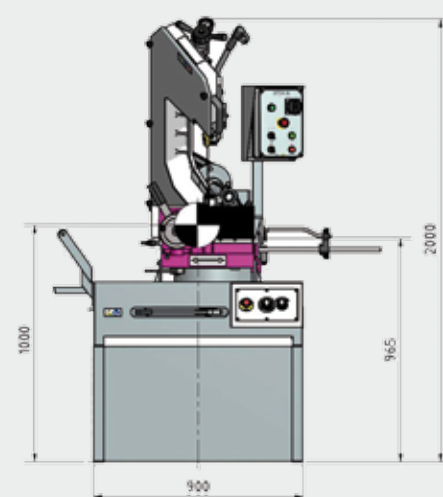
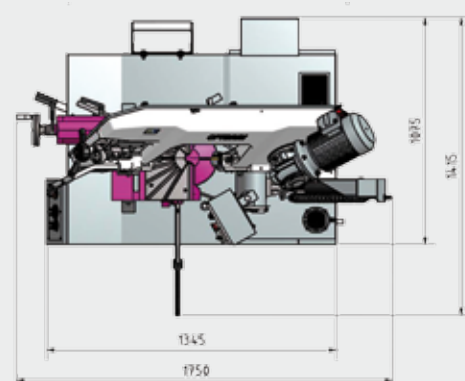
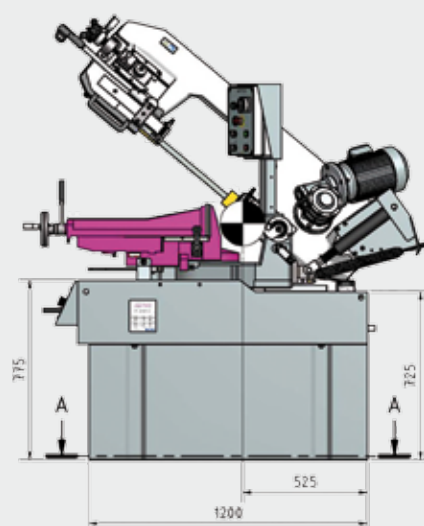
- Machine chassis**
• Robust

Fig.: OPTIsaw S 350DG

Technical data, dimensions and accessories

Model	S 350DG
Article no.	3290350
Machine data	
Electrical connection	400 V / 3 Ph ~ 50 Hz
Motor output	2.2 kW
Coolant pump motor	50 W
General Information	
Lifting the saw head	Manual
Feed	continuously variable
Saw band speed	36/72 m/min.
Saw band dimensions	2,925 x 27 x 0.9 mm
Cutting angle	-45° to 60°
Dimensions	
Length	1,750 mm
Width without/with material stop	1,075 / 1,415 mm
Height	
Saw head bottom/top limit position	1,420 / 2,000 mm
Net weight	550 kg




Dimensions



Scope of supply

- Material stop
- Bi-metal saw band
- Machine chassis
- Coolant pump

Cutting areas

			
0°	Ø 270 mm	260 mm	240 x 350 mm
45°	Ø 200 mm	170 mm	140 x 200 mm
60°	Ø 140 mm	140 mm	140 x 140 mm
-45°	Ø 230 mm	210 mm	150 x 230 mm

The cutting area was determined for a full section.
The cutting range can be larger in case of cut-off sections.

Saw bands HSS bi-metal M 42

Teeth per inch	Tooth angle	Article no.
5 - 8 tpi	0°	3357541
4 - 6 tpi	6°	3357540
6 - 10 tpi	0°	3357542
10 - 14 tpi	0°	3357543

Saw band set HSS bi-metal M 42

1 pc. saw band 6 - 10 tpi; 0°	3357501
1 pc. saw band 5 - 8 tpi; 0°	
1 pc. saw band 4 - 6 tpi; 6°	

„General saw band information“ on page 152

Material supports

	Article no.
MSR 4H L x W 1,000 x 440 mm	3357001
MSR 7H L x W 2,000 x 440 mm	3357002
MSR 10H L x W 3,000 x 440 mm	3357003
Table extension MSR 1	3357004
PVC rollers for MSR	3357609

Semi-automatic double mitre metal cutting band saw with inverter Vario drive

Facts that impress in terms of quality, performance and price

- ▶ Heavy-duty industrial design
- ▶ Low-noise running action
- ▶ Manual or semi-automatic operation
- ▶ Continuously adjustable saw band speed from 0 - 80 m/min.
- ▶ Excellent cutting precision thanks to vibration-free action
- ▶ Mitre adjustment to 60° by pivoting the entire saw head
- ▶ Combinable and individually adjustable carbide and ball bearing guides on the saw band
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ End stops adjustable to degree accuracy
- ▶ Swarf brush
- ▶ Microswitch for automatic limit position cut-off

- ▶ Roller support adjustable for long and heavy workpieces
- ▶ Machine with full equipment set; the user can immediately start productive work

Semi-automatic operating mode

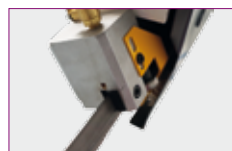
Vice closes and motor is activated

- ▶ Lower the saw head to cut
- ▶ Motor stops and saw head returns to original position



Saw band tension

- Easy and accurate adjustment of the saw band tension by pressure gauge



Ball-bearing borne saw band guide
with carbide shims for optimal cutting results

Rugged quick clamping vice

- Generously dimensioned
- Hydraulic
- Self closing
- Displaceable for large cross-sections
- Saw cutting continuously adjustable within range of -45° to 60°
- Angle setting can be read off on scale



Control unit

- Clearly arranged
- Pivoting

Electrical system

- CE compliant
- EMC filter (electromagnetic compatibility)

Hydraulic cylinder:

Continuously adjustable saw head movement

Material stop
Scale

Coolant pump

Lowering speed

- Easy adjustment via feed control valve in control panel
- Emergency stop mushroom button

Machine chassis
• Robust

Fig.: OPTISAW SD 350AV




Technical data, dimensions and accessories

Model	SD 350AV
Article no.	3292355
Machine data	
Electrical connection	400 V / 3 Ph ~ 50 Hz
Total rated value	3.8 kW
Saw motor	2.2 kW
Hydraulic pump	1.4 kW
Coolant pump motor	50 W
General Information	
Lifting the saw head	Hydraulic via pushbutton automatic
• Manual operation	
• Semi-automatic operation	
Feed	continuously variable
Saw band speed	0 - 80 m/min
Saw band dimensions	2,925 x 27 x 0.9 mm
Cutting angle	-45° to 60°
Dimensions	
Length	1,750 mm
Width without/with material stop	1,075 / 1,415 mm
Height of saw head bottom/top limit position	1,420 / 2,000 mm
Net weight	600 kg

Scope of supply

- Material stop
- Bi-metal saw band
- Machine chassis

Cutting areas

			
0°	Ø 270 mm	230 mm	230 x 350 mm
45°	Ø 230 mm	200 mm	210 x 220 mm
60°	Ø 140 mm	140 mm	140 x 220 mm
-45°	Ø 230 mm	170 mm	140 x 200 mm

The cutting area was determined for a full section.
The cutting range can be larger in case of cut-off sections.

Saw bands HSS bi-metal M 42

Teeth per inch	Tooth angle	Article no.
5 - 8 tpi	0°	3357541
4 - 6 tpi	6°	3357540
6 - 10 tpi	0°	3357542
NEW 10 - 14 tpi	0°	3357543

Saw band set HSS bi-metal M 42

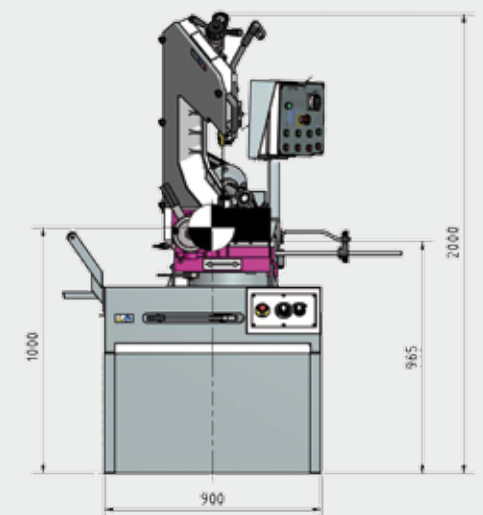
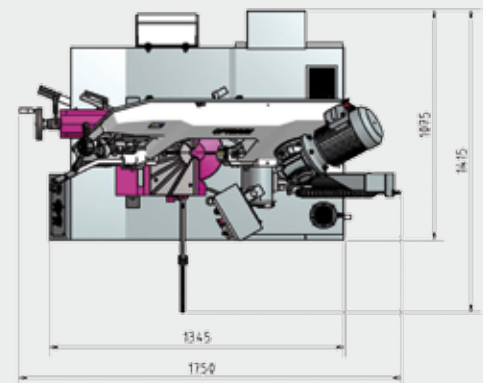
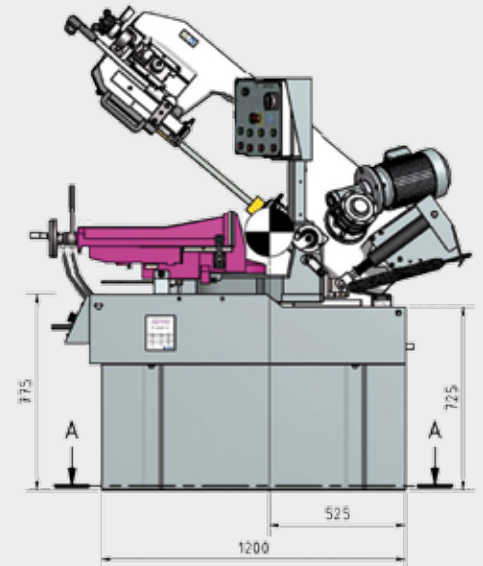
1 pc. saw band 6 - 10 tpi; 0°	3357501
1 pc. saw band 5 - 8 tpi; 0°	
1 pc. saw band 4 - 6 tpi; 6°	

„General saw band information“ on page 152

Material supports

	Article no.
MSR 4H L x W 1,000 x 440 mm	3357001
MSR 7H L x W 2,000 x 440 mm	3357002
MSR 10H L x W 3,000 x 440 mm	3357003
Table extension MSR 1	3357004
PVC rollers for MSR	3357609

Dimensions



The saw complies with standard DIN EN 55011: class A

Manual metal-cutting circular saws for steel, iron, light alloys, solid materials and sections

Facts that impress in terms of quality, performance and price

- ▶ Swivel range of $\pm 45^\circ$
 - ▶ Easily readable angle scale supports precise work
 - ▶ Mitre adjustment within seconds
 - ▶ Protected vice spindle
 - ▶ Solid machine chassis with drill holes on both sides for attaching the MSR material stand
- ▶ Machine chassis sizes:
 - CS 275 - 460 x 515 x 775 mm and
 - CS 315 - 546 x 620 x 801 mm
 - ▶ The saw is delivered without a circular saw blade (saw blade division freely selectable)

Protection device

- Functional
- Comprehensive
- Mobile
- Fast opening mechanism for optimal safety during cutting

Vice

- Centric clamping
- 4x guided
- Individually adjustable clamping jaws
- Cut always occurs in optimal position relative to workpiece
- 4-lever clamping system
- Protected vice spindle

Machine chassis

- Solid
- Lockable door

Coolant pump

- Removable coolant tank
- Integrated powerful pump

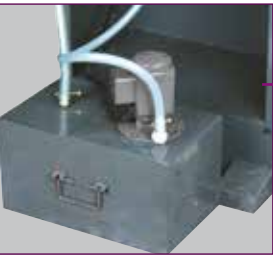


Fig.: CS 315

Material supports	Article no.
MSR 4	3357610
MSR 4H	3357001
MSR 7	3357611
MSR 7H	3357002
MSR 10	3357613
MSR 10H	3357003




Information "MSR 4 / MSR 7 / MSR 10" on page 150

Technical data, dimensions and accessories

Model	CS 275	CS 315
Article no.	3302275	3302300
Machine data		
Electrical connection	400 V / 3 Ph ~ 50 Hz	400 V / 3 Ph ~ 50 Hz
Motor output	1.4 / 2.0 kW	0.75 / 1.5 kW
Coolant pump motor	40 W	
General Information		
Cutting angle	-45° to +45°	
Cutting angle adjustment	Via rotating bearing block	
Feed	Manual	
Cutting speed	41 / 82 rpm	19 / 38 rpm
Saw blade diameter	Ø 275 mm Internal Ø 40 mm	Ø 315 mm Internal Ø 40 mm
Vice jaw width	110 mm	135 mm
Dimensions		
Length	460 mm	560 mm
Width	830 mm	902 mm
Height	1,700 mm	1,765 mm
Net weight	175 kg	235 kg

Scope of supply

- Coolant system
- Machine chassis

Cutting range				
				
CS 275	0°	Ø 60 mm	60 mm	60 x 100 mm
CS 315		Ø 85 mm	85 mm	70 x 130 mm
CS 275	45°	Ø 60 mm	60 mm	60 x 70 mm
CS 315		Ø 85 mm	85 mm	70 x 90 mm

Circular saw blades - information

4 mm/T:    tube/sections (wall thickness)

• up to 1 mm: Aluminium/Bronze/Copper/Brass

• up to 1.5 mm: steels up to 1,500 N/m²/stainless steels

• up to 2 mm: Steels up to 1,200 N/m²

6 mm/T:    tube/sections (wall thickness)

• up to 1.5 mm: Aluminium/Bronze/Copper/Brass

• as of 3 mm: Steels up to 1,800 N/m²

6 mm/T:   solid materials (cross-section)

• 10-20 mm: Aluminium/Bronze/Copper/Brass

• 20-40 mm: Steels up to 1,800 N/m²/stainless steels

8 mm/T:    tube/sections (wall thickness)

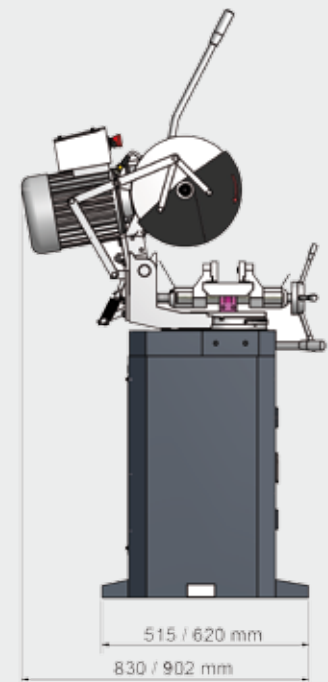
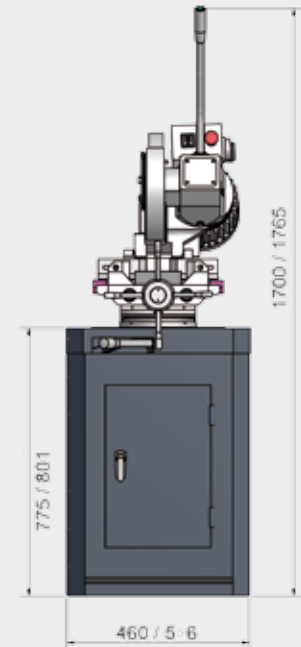
• as of 3 mm: Aluminium/Bronze/Copper/Brass

8 mm/T:   solid materials (cross-section)

• 20-40 mm: Steels up to 1,800 N/m²: Aluminium/Bronze/Copper

• 40-60 mm: Steels up to 1,200 N/m²/stainless steels

Dimensions



Metal-cutting circular saw blade CS 275

mm/per tooth	Teeth	Blade width	Article no.
4 mm/T	220 teeth	2.5 mm	3357444
6 mm/T	140 teeth	2.5 mm	3357446
8 mm/T	110 teeth	2.5 mm	3357448

CS 315

mm/per tooth	Teeth	Blade width	Article no.
4 mm/T	240 teeth	2.5 mm	3357454
6 mm/T	150 teeth	2.5 mm	3357456
8 mm/T	120 teeth	2.5 mm	3357458

Height-adjustable MSR material stand as a manual aid for supporting and moving workpieces on metal-cutting saws. H version variably adjustable up to 1,050 mm

Facts that impress in terms of quality, performance and price

- ▶ Trouble-free and rational material transport for feeding and unloading workpieces
- ▶ Universally deployable for, e.g., metal-cutting band saws, circular saws, etc.
- ▶ Roller support, continuously adjustable
- ▶ Safe workpiece support due to solid steel rollers with high load-bearing capacity
- ▶ Infinitely extensible
- ▶ Extension options for LMS length measuring systems



Frame

- Stable design
- Strong special profile

Rollers

- Steel
- Ball bearing mounted on both sides



Support height

- Variably adjustable from 650 - 950 mm
- H model from 660 - 1,050 mm



Accessories PVC rollers

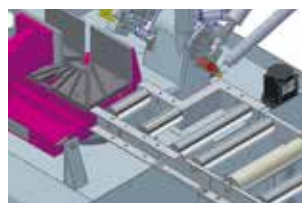
- Additionally attachable
- Made of non-slip PVC
- To avoid scratches
- Simply slot the rollers into the holder provided
- With practical wall-mount



Table extension MSR 1

- Additionally attachable
- Can be fitted in both directions

Model	MSR 4	MSR 7	MSR 10
Article no.	3357610	3357611	3357613
Model	MSR 4H	MSR 7H	MSR 10H
Article no.	3357001	3357002	3357003
Technical Data			
Idler roller diameter	60 mm	60 mm	60 mm
Idler roller width	360 mm	360 mm	360 mm
Static table load	500 kg	700 kg	700 kg
Dimensions			
Length x width	1,000 x 440 mm	2,000 x 440 mm	3,000 x 440 mm
Height	650 - 950 mm	650 - 950 mm	650 - 950 mm
Height H version	660 - 1,050 mm	660 - 1,050 mm	660 - 1,050 mm
Net weight	30/33 kg	58/61 kg	78/83 kg



Accessories	PVC rollers 3 pcs.	Table extension MSR 1
Article no.	3357609	3357004

Scope of supply

- Fastening material for extension

Length measuring systems for attaching to MSR material stand for perfect length measurement and precise positioning

Facts that impress in terms of quality, performance and price

- ▶ Magnetic measuring system with magnetic strip
- ▶ For recurring measuring tasks with high precision 0.05 mm
- ▶ Automatic display switch-on
- ▶ In case of longer breaks, the measuring system switches off and keeps the last stored dimension
- ▶ Measuring precision: $\pm(0.025 + 0.02 \times \text{measuring length [m]})$
- ▶ Battery life up to 10 years



- Display: LCD
- Switching functions:
- Display reset
- Reset
- Directional display \pm
- Absolute dimension and incremental function
- Right and left stop



Material stop

- For large diameters
- Stop for small pieces with extension



Carriage

- Easily movable
- Precisely guided
- Replaceable long-life dry plain bearings
- Easy self-assembly



Stop slide

- Right and left stop
- Folds up



Linear guide

- Lubrication-free
- Very quiet action
- Wear resistant
- Corrosion resistant
- Low friction values
- High static load bearing capacity



Fig.: MSR 4 material stand with LMS 10 length measuring system

Model	LMS 10	LMS 20	LMS 30	LMS 40
Article no.	3383851	3383852	3383853	3383854
Technical Data				
Rail length	1,000 mm	2,000 mm	3,000 mm	4,000 mm
Travel	830 mm	1,830 mm	2,830 mm	3,830 mm

Other lengths on request

General saw band information

Workpiece

The workpiece to be machined must be firmly clamped so that it cannot vibrate or twist. Do not use damaged, bent or severely deformed workpieces. The closer the band saw guides are fixed relative to the workpiece, the more precise the cut becomes.



Teeth per inch

This figure describes the number of teeth per inch (25.4 mm).

As a general rule:

The shorter the cut length (e.g., sections), the finer the tpi you need to select. The greater the material attack (e.g., solid material), the coarser the tpi value used.

Too large a tpi value can cause the cut to run out as chips clog the gullet thus forcing the saw band out of its cutting line. Too small a tpi value can cause teeth to break out as the cutting pressure on the individual tooth becomes too great. At least 3 teeth need to be engaged to achieve economical results.

Running in saw bands

- ▶ Correct running in guarantees a long service life.
- ▶ Sharp cutting edges with extremely small edge radii are the precondition for high cutting capacity of the saw bands.
- ▶ To achieve an optimal service life, we recommend running in the saw band appropriately.
- ▶ Depending on the material and the dimension of the material you are cutting, determine the correct cutting speed (m/min.) and feed rate (mm/min.).
- ▶ The important thing is that the new saw band should be deployed at approx. 50 % of the determined feed rate only. The idea is to avoid the extremely sharp cutting edges on the teeth being damaged by micro fracturing in case of large chip thicknesses.
- ▶ New saw bands can tend to vibrate and cause vibration noise initially. If this happens, reduce the cutting speed slightly. In case of small workpiece dimensions, the run-in should be over approx. 300 - 500 cm² of the material you are cutting.
- ▶ If you are processing large workpiece dimensions, we recommend running in for a period of approx. 15 min. After running in, gradually increase the feed rate to the target value determined previously.

Materials	Cutting speed (M42)
Construction steel/Machining steel	80 - 90 m/min
Case-hardened steels/Heat-treated steels	45 - 75 m/min
Unalloyed tool steels/Rolled steels	40 - 60 m/min
Alloyed tool steels/high-speed steels	30 - 40 m/min
Stainless steels	20 - 35 m/min
Heat resistant steels/Highly heat-resistant alloys	15 - 25 m/min

Optimal chip formation

Chips are the best indicator of a correctly adjusted feed and the correct saw band speed. Take a look at the chips you generate and set the feed correctly.

Thin chips that look like powder

- Increase the feed rate or reduce the saw band speed.



Burnt, heavy chips

- Reduce the feed rate and/or the saw band speed.



Crinkly, silver and warm chips

- Optimal feed rate and sawing speed



Teeth per inch when using HSS bi-metal bands

Standard tpi		Combined tpi		Sawing tubes and sections						
Section cross-section	Number of teeth per inch	Section cross-section	Number of teeth per inch	Diameter	Ø 40	Ø 80	Ø 100	Ø 150	Ø 200	Ø 300
				Wall thickness	Teeth per inch					
< 12 mm	14 tpi	< 25 mm	10 - 14 tpi	3 mm	8 - 12	8 - 12	8 - 12	8 - 12	6 - 10	6 - 10
12 - 30 mm	10 tpi	20 - 40 mm	8 - 12 tpi	8 mm	8 - 12	6 - 10	6 - 10	5 - 8	4 - 6	4 - 6
30 - 50 mm	8 tpi	25 - 70 mm	6 - 10 tpi	12 mm	6 - 10	5 - 8	5 - 8	4 - 6	4 - 6	4 - 6
50 - 80 mm	6 tpi	35 - 90 mm	5 - 8 tpi	15 mm	5 - 8	4 - 6	4 - 6	4 - 6	3 - 4	3 - 4
80 - 100 mm	4 tpi	50 - 100 mm	4 - 6 tpi	20 mm	-	4 - 6	4 - 6	4 - 5	4 - 5	4 - 5



POWER GRINDERS

POLISHING MACHINES

The handy drill bit grinder - for easy sharpening of twist drill bits from Ø 3 mm to Ø 13 mm

Facts that impress in terms of quality, performance and price

- ▶ Easy to operate for inexpensive grinding of twist drill bits with two cutting edges
- ▶ Drill bit grinding without prior experience - clean, fast and precise
- ▶ Easy to transport
- ▶ Easy replacement of the grinding disc
- ▶ Positively-driven sharpening action, thus easy to operate
- ▶ Automatic grinding of the tip geometry thanks to cam
- ▶ Robust plastic housing with anti-slip base
- ▶ Diamond grinding stone with long service life for the perfect grind



Fig.: Optigrind GQ-D13

Three steps to a ground drill bit



Adjust the drill bit

- Twist drills are aligned in projection length and at the correct angle



Sharpening the drill bit

- Through slight rotation from stop to stop



Tipping the drill bit

- Again through slight rotation from stop to stop

Model	GQ-D13
Article no.	3140020
Machine data	
Electrical connection	230 V/1 Ph ~50 Hz
Motor output	80 W
Technical data	
Speed (continuously variable)	4,200 rpm
Grinding disc	Ø 78 mm
Grinding capacity drill bits	Ø 3 mm to Ø 13 mm
Dimensions	
Length	220 mm
Width	200 mm
Height	160 mm
Net weight	2.5 kg

Scope of delivery

- Diamond grinding disc
- Collet chuck holder

Accessories	Article no.
Replacement diamond grinding disc	3140021



Drill bit grinding device with continuous speed control and precise repetition accuracy

Facts that impress in terms of quality, performance and price

- ▶ Solid cast baseplate with high deadweight for low-vibration action
- ▶ Long service life and quiet action thanks to balanced rotor with quality ball bearings
- ▶ Solenoid switch with lockable emergency stop switch
- ▶ Precise repetition accuracy thanks to prism-guided feed
- ▶ Variable speed control option for different materials
- ▶ Angle adjustment possible for all twist drill types
- ▶ Prism holders for precise centring of the workpiece
- ▶ Rubber cap for protection against dust and water
- ▶ Coolant tray and grinding cup included as standard in scope of delivery



DG20
In use



Fig.: OPTi grind DG20

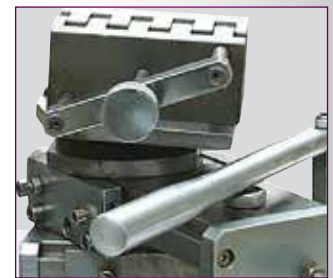


Large grinding area

Twist drills from Ø 3 to Ø 20 mm

Grinding cup

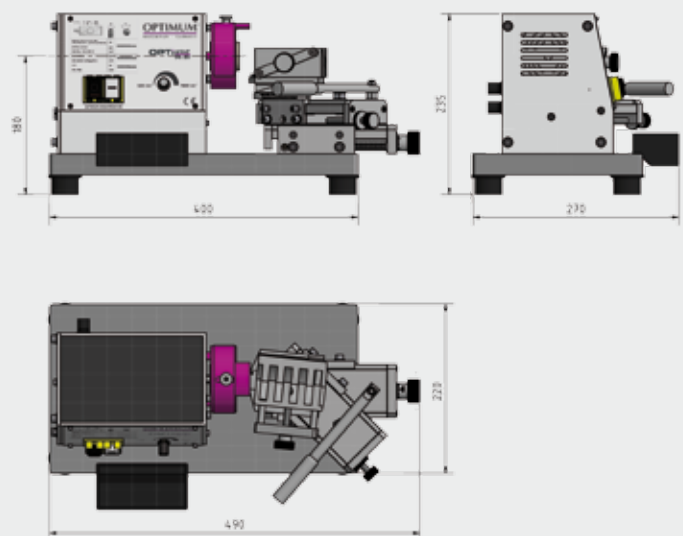
- Self dressing
- No dressing required



Prism support

- Sturdy
- Precise centring and secure hold

Dimensions



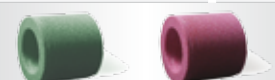
Model	DG 20
Article no.	3100020
Machine data	
Electrical connection	230 V/1 Ph ~50 Hz
Motor output	600 W
Technical data	
Speed (continuously variable)	1,400 - 7,600 rpm
Grinding speed	16 m/s
Grinding capacity drill bits	Ø 3 mm to Ø 20 mm
Tip sharpening angle	90° - 150°
Grinding cup	
External Ø	40 mm
Inner Ø	26 mm
Thread Ø	M10
Depth of grinding cup	22 mm
Dimensions	
Length	490 mm
Width	270 mm
Height	235 mm
Net weight	22.5 kg

Scope of delivery

- Coolant tray
- Grinding cup

Accessories

Accessories	Article no.
Grinding cup red	3107120
Grinding cup green for carbides	3107121



The handy drill bit grinding device - ideal for grinding twist drill bits

Facts that impress in terms of quality, performance and price

- Easy to operate for precise and inexpensive grinding of twist drill bits with two cutting edges
- Drill bit grinding without prior experience - clean, fast and precise
- Easy to transport
- Diamond grinding stone with long service life for the perfect grind
- Fully equipped with ER spring collets in the machine interior
- The drill bit's cutting edges are fixed in a defined position in the spring collet holder using the adjustment aid, and fed into the grinding apertures in a set order to grind the cutting edges with a short rotary movement of the spring collet holder



Fig.: Optigrind GH15T



Fig.: Optigrind GH10T

Drill bit ...



- ... with blunt cutting edges



- ... ground and tipped

Comprehensive scope of delivery with complete assortment of spring collets



GH 15T

- 6 pcs. Spring collets ER 20 sizes Ø 3 to Ø 8 mm
- 22 pcs. Spring collets ER 40 sizes Ø 8 to Ø 30 mm



GH 10T

- 11 pcs. Spring collets ER 20 sizes Ø 2 to Ø 13 mm

Model	GH10T	GH15T
Article no.	3100110	3100115
Machine data		
Electrical connection	230 V/1 Ph ~50 Hz	230 V/1 Ph ~50 Hz
Motor output	180 W	450 W
Technical data		
Speed (continuously variable)	5,300 rpm	5,000 rpm
Tip sharpening angle	90° - 135°	90° - 145°
Grinding capacity drill bits	Ø 2 mm to Ø 13 mm	Ø 3 mm to Ø 30 mm
Dimensions		
Length	310 mm	450 mm
Width	180 mm	240 mm
Height	190 mm	270 mm
Net weight	9.5 kg	33 kg

Replacement grinding discs

GH10T	
Diamond	3100126
for carbide	3100131
GH15T	
Diamond	3100127
for carbide	3100132

Versatile graver and tool grinding machine for various tool geometries

Facts that impress in terms of quality, performance and price

- ▶ Universally deployable thanks to versatile pivoting and adjustment options
- ▶ Many pivoting and adjustment options for creating engraving quills (cylindrical, centric, tapered)
- ▶ For grinding stamps, twist drills, electrodes, lathe tools, centres, etc.
- ▶ High level of precision thanks to rugged machine body and vibration-free driven precision grinding spindle
- ▶ Easy handling and operation
- ▶ Indexing head with 24 latching positions
- ▶ Adjustable dressing device



Model	GH20T
Article no.	3100125
Machine data	
Electrical connection	400 V/3 Ph ~50Hz
Motor output	370 W
Speeds	
Grinding disc speed, diamond	5,000 rpm
Grinding speed	max. 35 m/s
Motor speed	2,750 rpm
Strokes	
Tool holder travel	140 mm
Tool holder fine adjustment	18 mm
Longitudinal fine adjustment	6 mm
Adjustable angle	
vertical/rear side	0° - 40°
horizontal/conical grinding	0° - 180°
Negative angles	0° - 52°
Latching setting angle of rotation	22° x 15° 180°
Collet chuck holder	
Clamping range	Ø 1- 16 mm
Clamping jaw type	385E (5C), DIN 6341
Dimensions	
Length x width x height	350 x 450 x 340 mm
Net weight	45 kg

* Two latching positions occupied for sharpening drill bits

Replacement grinding disc	Article no.
Corundum grain size 80	3100128
Diamond grain size 150	3100129



GH 20T in use

Comprehensive scope of delivery



- Spring collets 385E (5C) DIN 6341
Ø 37.5 mm; L=89 mm; 20°
- Sizes Ø 4/6/8/10/12 mm



- Corundum cup grinding disc
Ø 100 x 50 x Ø 20 mm
- Diamond cup grinding disc Ø
100 x 50 x Ø 20 mm (pre-assembled in as-delivered condition)



- Device for sharpening lathe tools



- Device for sharpening end mills



- Device for sharpening twist drill bits



- Operating tool

Disc grinder for machining metal surfaces

Facts that impress in terms of quality, performance and price

- ▶ Versatile areas of application:
- ▶ For roughing, fine and moulding grinding work
- ▶ Sturdy and stable machine body
- ▶ Balanced aluminium grinding wheel for smooth action
- ▶ Powerful motor
- ▶ One bonded-on grinding disc included in standard scope of delivery



Fig.: OPTi grind TS 305



- Factory standard extraction duct with two diameters for attaching an extraction unit
- Outside nominal width $\pm \varnothing 30 / \varnothing 38$ mm



- Factory standard mitre stop pivots up to $\pm 60^\circ$
- Grinding table pivots up to $\pm 45^\circ$



- Hook and loop fastener pad for grinding disc available as optional accessory. Good grinding disc adhesion, easy replacement

Scope of delivery

- Adjustable angle stop
- Grinding disc bonded onto grinding wheel

Model	TS 305
Article no.	3310305
Machine data	
Electrical connection	230 V/1 Ph ~50 Hz
Motor output	900 W
General Information	
Grinding wheel	$\varnothing 305$ mm
Speed	1,420 rpm
Table support	155 x 440 mm
Adjustment of angle stop	$\pm 60^\circ$
Pivoting grinding table	$\pm 45^\circ$
Dimensions	
Length x width x height	440 x 445 x 365 mm
Net weight	30 kg

Accessories

Hook and loop fastener pad

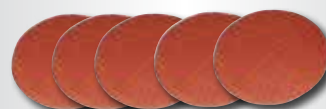
Article no.

3357801

Grinding discs - hook and loop fastener

Packaging and price unit 5 pcs.

Grain size 40	3357854
Grain size 60	3357856
Grain size 80	3357858
Grain size 100	3357860
Grain size 120	3357862
Grain size 150	3357865
Grain size 180	3357866
Grain size 240	3357867



Universally deployable belt and disc grinding machine with swivelling grinding arm for deburring, surface and profile grinding

Facts that impress in terms of quality, performance and price

- ▶ Powerful motor
- ▶ Pneumatic sanding belt tension manually adjustable
- ▶ Easily replaceable grinding belt
- ▶ Fine adjustment for parallel belt run
- ▶ Pivoting grinding table, adjustable via clamping lever
- ▶ Extraction port
- ▶ One bonded-on grinding disc included in standard scope of delivery
- ▶ The hook and loop fastener pad and grinding discs available as accessories offer good adhesion and easy replacement



Fig.: Optigrind DBS75

Scope of delivery

- Grinding belt 60 grain
- Grinding wheel 60 grain

Model	DBS 75
Article no.	3311075
Machine data	
Electrical connection	400 V/3 Ph ~50 Hz
Motor output	1.1 kW
Speed	1,410 rpm
Belt running speed	11 m/sec.
Grinding belt	
Grinding belt dimensions	75 x 1,180 mm
Grinding wheel	
Grinding wheel dimensions	Ø 150 mm
Dimensions	
Extraction duct nominal width inside	Ø 47 mm
Extraction duct nominal width outside	Ø 50 mm
Grinding support	85 x 215 mm
Swivel range belt grinding table	90°
Length x width x height	665 x 560 x 405 (765) mm
Net weight	68 kg

Sanding belts

Packaging and price unit 5 pcs.

Size: 75 x 1,180 mm

Grain size 40	3357622
Grain size 60	3357624
Grain size 80	3357626
Grain size 120	3357628
Grain size 180	3357629
Grain size 240	3357630

NEW
NEW



Grinding wheel hook and loop fastener

Packaging and price unit 5 pcs.

Ø 150 mm

Grain size 40	3357832
Grain size 60	3357834
Grain size 80	3357836
Grain size 120	3357838
Grain size 180	3357839
Grain size 240	3357840

NEW
NEW

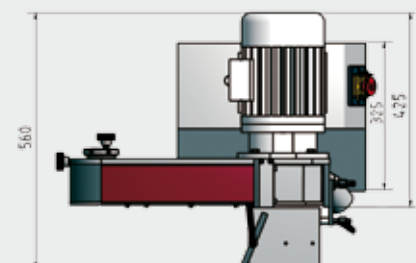
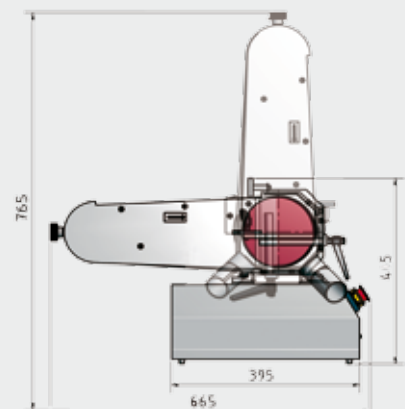


Hook and loop wheel

3357802

- For grinding disc. Good grinding disc adhesion, easy replacement

Dimensions



Heavy and rugged industrial design belt grinding machine for roughing, finishing and profile grinding of various materials in continuous operations

Facts that impress in terms of quality, performance and price

- ▶ Time-saving deburring of edges/weld polishing
- ▶ Sturdy and vibration-free design
- ▶ Powerful motor
- ▶ Grinding table pivots through 15° - 30°
- ▶ Continuously adjustable top stop supports fast and convenient initial grinding of workpieces
- ▶ Large flat grinding surface, adjustable stops for universal deployment
- ▶ Operating tools in practical holder
- ▶ Additional safety device
- ▶ One grinding belt included in standard scope of delivery

Rollers

- Rubberised
- Quiet action
- Prevents the belt slipping



Spark guard



Flat grinding surface

- Open throughout and to rear
- Also perfectly suited for machining longer workpieces

Fast belt running speed

- 33 m/sec.
- Fast material removal

Workpiece support

- Adjustable inclination
- Supports grinding at the required angle

Extraction port

- At front and rear
- For attaching an extraction unit



Workpiece support

Article no.

- Continuously adjustable; supports fast initial grinding

For BSM 75

3357881



Fig.: Optigrind BSM 75
With optional workpiece support

Grinding belts BSM 75*

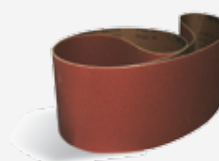
Article no.

Grain size 40	3357642
Grain size 60	3357644
Grain size 80	3357646
Grain size 120	3357648
Grain size 180	3357649
Grain size 240	3357650



Grinding belts BSM 150*

Grain size 40	3357672
Grain size 60	3357674
Grain size 80	3357676
Grain size 120	3357678
Grain size 180	3357679
Grain size 240	3357680



Scope of delivery

- Grinding belt 60 grain
- Allen key

Model	BSM 75	BSM 150
Article no.	3321075	3321150
Machine data		
Electrical connection	400 V/3 Ph ~50 Hz	400 V/3 Ph ~50 Hz
Motor output	3 kW	4 kW
Speeds		
Speed	3,000 rpm	3,000 rpm
Circumferential belt speed	33 m/sec.	33 m/sec.
Grinding belt		
Grinding belt dimensions	75 x 2,000 mm	150 x 2,000 mm
Dimensions		
Extraction duct nominal width inside	Ø 57 mm	Ø 57 mm
Extraction duct nominal width outside	Ø 60 mm	Ø 60 mm
Dimensions length x width	500 x 995 mm	575 x 995 mm
Height: Bottom pivot bearing	1,045 mm	1,045 mm
Height: Top pivot bearing	1,135 mm	1,135 mm
Net weight	98 kg	125 kg

Machine chassis with cyclone suction for grinding

NEW

Facts that impress in terms of quality, performance and price

- ▶ Sturdy chassis
- ▶ Cyclone suction integrated in the substructure, characterized small footprint
- ▶ For the equipment and GU GU-S
- ▶ silenced
- ▶ automatic switch
- ▶ lamp holder



lamp holder
▶ prepared



swarf drawer
▶ easy to empty

Model	GU 1
Article no.	3107110
Electrical connection	230 V / 1 Ph
Motor output	1.3 kW
Speed	29.000 rpm
Dimensions	477 x 340 x 805 mm
Net weight	40 kg

suction tubes	3107111
• 2 flexible suction tubes for GU and GUE-S grinder	



Chassis for grinding and polishing machines

Wall holder	3107050	39.00
• Coolant tray		
• Dimensions LxWxH: 332x 300 x 230 mm		

Machine chassis SM	3107060	95.00
• Coolant tray		
• Dimensions LxWxH: 320 x 270 x 820 mm		

Machine chassis SSM	3107101	319.00
• Coolant tray		
• Dimensions LxWxH: 345 x 300 x 785 mm		

Machine	3107103	249.00
• For SM 300		
• Dimensions LxWxH: 505 x 600 x 790 mm		

Preface

Drilling

Milling

Turning

Sawing

Grinding

Polishing

Lamps

Measuring

Index

Bench grinders by OPTIMUM - a quality product for trades and industry. Vario version with frequency inverter "Made in the EU"

Facts that impress in terms of quality, performance and price

- ▶ Heavy, durable industrial design with maintenance-free motor for continuous use
- ▶ Housing made of strand cast aluminium
- ▶ Long service life and quiet action thanks to balanced rotor with quality ball bearings
- ▶ Spark guard on each grinding wheel reduces flying sparks
- ▶ Viewing glass made of break-proof material
- ▶ Vibration-damping rubber feet
- ▶ Coarse and fine grinding disc (K36/K60) included in standard scope of delivery

Grinding disc - normal corundum coarse 36 grain

Ø 150 x 20 Ø 16 mm	3107150
Ø 175 x 25 Ø 32 mm	3107180
Ø 200 x 30 Ø 32 mm	3107210
Ø 250 x 40 Ø 32 mm	3107250
Ø 300 x 50 Ø 75 mm	3107270

Grinding disc - normal corundum fine 80 grain

Ø 150 x 20 Ø 16 mm	3107155
Ø 175 x 25 Ø 32 mm	3107185
Ø 200 x 30 Ø 32 mm	3107215
Ø 250 x 40 Ø 32 mm	3107255
Ø 300 x 50 Ø 75 mm	3107275



Workpiece support

- ▶ Sturdy
- ▶ adjustable

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„Chassis for grinding and polishing machines“ on page 161



Scope of delivery grinding disc

- Normal corundum coarse 36 grain
- Normal corundum fine 80 grain

Model	GU 15	GU 18	GU 20 / GU 20Vario	GU 25 / GU 25Vario	SM 300
Article no. (230 V)	3101505	3101510	3101515	-	-
Article no. (400 V)	-	-	3101520	3101525	3101303
Article no. (Vario)	-	-	3010260*	3010270*	-
Machine data					
Electrical connection	230 V/1 Ph ~50 Hz	230 V/1 Ph ~50 Hz	230 V / 400 V	400 V / 3 Ph ~50 Hz	400 V/3 Ph ~50 Hz
Motor output	450 W	450 W	600 W	1.5 kW	2.2 kW
Grinding discs					
Dimensions	Ø 150 x 20 mm Drill hole Ø 16 mm	Ø 175 x 25 mm Drill hole Ø 32 mm	Ø 200 x 30 mm Drill hole Ø 32 mm	Ø 250 x 40 mm Drill hole Ø 32 mm	Ø 300 x 50 mm Drill hole Ø 75 mm
Speeds	2,850 rpm	2,850 rpm	2,850 rpm	2,850 rpm	1,450 rpm
Speeds Vario	-	-	800 - 2,850 rpm	800 - 2,850 rpm	-
Dimensions					
Length x width x height	389 x 206 x 266 mm	389 x 233 x 279 mm	495 x 261 x 331 mm	471 x 319 x 365 mm	736 x 365 x 407 mm
Net weight	10.7 kg	12.3 kg	18.5 kg	32.5 kg	84 kg

* The optional chassis SM (Art. 3107100) is required for the electronics with the Vario version

Functional universal grinding machines with grinding attachment

Facts that impress in terms of quality, performance and price

- ▶ Rugged and sturdy universal grinding machines with grinding belt and grinding disc for a variety of materials
- ▶ Heavy, durable industrial design with maintenance-free motor for continuous use
- ▶ Housing made of strand cast aluminium
- ▶ Large, heavy fastening flanges ensure excellent wheel concentricity
- ▶ Grinding attachment with graphite support; prevents friction and heat
- ▶ Stop allows for fast and convenient initial grinding of the workpieces
- ▶ Belt run adjustment without tools - adjustable using a single star knob
- ▶ Universal corundum grinding disc and grinding belt included in standard scope of delivery



Fig.: Optigrind GU 20S



Workpiece support
▶ Sturdy
▶ adjustable

Sanding belt GU20S 75" x 762 mm

Grain size 40	3357612
Grain size 60	3357614
Grain size 80	3357616
Grain size 120	3357618
Grain size 180	3357619
Grain size 240	3357620

Sanding belt GU25S 75" x 1016 mm

Grain size 40	3357682
Grain size 60	3357684
Grain size 80	3357686
Grain size 120	3357688
Grain size 180	3357689
Grain size 240	3357690

Grinding disc - normal corundum coarse 36 grain

Ø 150 x 20 Ø 16 mm	3107150
Ø 175 x 25 Ø 32 mm	3107180
Ø 200 x 30 Ø 32 mm	3107210
Ø 250 x 40 Ø 32 mm	3107250

Grinding disc - normal corundum fine 80 grain

Ø 150 x 20 Ø 16 mm	3107155
Ø 175 x 25 Ø 32 mm	3107185
Ø 200 x 30 Ø 32 mm	3107215
Ø 250 x 40 Ø 32 mm	3107255
Ø 300 x 50 Ø 75 mm	3107275

Scope of delivery

- Grinding disc normal corundum fine 80 grain
- Grinding belt normal corundum fine 80 grain

Model	GU 20S	GU 25S
Article no. (230 V)	3101570	-
Article no. (400 V)	3101575	3101580
Machine data		
Electrical connection	230 V/1 Ph or 400 V/3Ph	400 V/3 Ph ~50 Hz
Motor output	600 W	1.5 kW
Grinding discs		
Grinding disc size	Ø 200 x 30 mm Drill hole Ø 32 mm	Ø 250 x 40 mm Drill hole Ø 32 mm
Grinding attachment		
Grinding belt length, width	75 x 762 mm	75 x 1,016 mm
Grinding attachment swivel range	90°	90°
Extraction duct nominal width	Ø 32 mm	Ø 32 mm
Grinding support	87 x 180 mm	87 x 305 mm
Speed	2,850 rpm	2,850 rpm
Dimensions		
Length x width x height	501 x 261 x 459 mm	514 x 319 x 596 mm
Net weight	20.7 kg	31.5 kg

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„Chassis for grinding and polishing machines“ on page 161



PREMIUM Bench grinding machines GZ - DD Models with chassis and integrated extraction system

Facts that impress in terms of quality, performance and price

- ▶ **10-year OPTIMUM guarantee***
- ▶ Heavy industrial grinding machine absorbs the vibrations (which are low anyway) thanks to its high deadweight
- ▶ Also suitable for strong thrust force on the grinding discs
- ▶ Maintenance-free, durable, induction motor with smooth action
- ▶ Cast iron housing
- ▶ Spark guard
- ▶ Sturdy, adjustable workpiece support

GZ-DD models:

- Integrated extraction system with aluminium fan and self-cleaning impellers
- ▶ Dust bag made of self-extinguishing woven material
 - ▶ Sturdy chassis with water tray



Fig.: GZ 25DD with optional grinding discs

CHASSIS (without extraction unit)

GZ 20D	3091120
• L x W x H: 400 x 370 x 760 mm	
• Weight 33 kg	
GZ 25D	3091122
• L x W x H: 460 x 430 x 760 mm	
• Weight 40 kg	
GZ 30D	3091124
• L x W x H: 460 x 430 x 760 mm	
weight 52 kg	

GRINDING DISC

Pure corundum grinding disc
Hardness M - white
Made in EU



GRINDING DISC GZ 20D/DD

36 grain	3098121
60 grain	3098123
80 grain	3098125

GRINDING DISC GZ 25D/DD

36 grain	3098131
60 grain	3098133
80 grain	3098135

GRINDING DISC GZ 30D/DD

36 grain	3098141
60 grain	3098143
80 grain	3098145

ELECTRONIC BRAKE

3091099

- Controlled braking
- Including factory assembly



Warranty conditions below:
„Please note“ on page 183

Model	GZ 20D	GZ 25D	GZ 30D
Article no.	3091010	3091015	3091020
Model	GZ 20DD	GZ 25DD	GZ 30DD
Article no.	3091040	3091045	3091050
Machine data			
Electrical connection	400 V/3 Ph ~50 Hz	400 V/3 Ph ~50 Hz	400 V/3 Ph ~50 Hz
Motor output	750 W	1.1 kW	1.8 kW
Grinding discs			
Dimensions	Ø 200 x 25 mm, Drill hole Ø 20 mm	Ø 250 x 30 mm, Drill hole Ø 25 mm	Ø 300 x 35 mm, Drill hole Ø 30 mm
Speeds	2,800 rpm	1,400 rpm	1,400 rpm
Dimensions			
L x W x H GZ-Models	550 x 290 x 360 mm	670 x 340 x 410 mm	810 x 420 x 560 mm
L x W x H GZ-DD models	800 x 710 x 1,300 mm	800 x 710 x 1,300 mm	810 x 1,200 x 1,300 mm
Net weight GZ models	25 kg	44.8 kg	64.5 kg
Net weight GZ-DD models	63.7 kg	91 kg	124 kg

PREMIUM Combined grinding machines for workshops, steel construction companies,...

Facts that impress in terms of quality, performance and price

- ▶ **10-year OPTIMUM guarantee***
- ▶ Heavy industrial combined grinding machine absorbs the vibrations (which are low anyway) thanks to its high deadweight
- ▶ Also suitable for strong thrust force on the grinding disc and brush
- ▶ Maintenance-free, durable, induction motor with smooth action
- ▶ Cast iron housing
- ▶ Sturdy, adjustable workpiece support



Fig.: GZ 20C with optional grinding disc and brush

Multi-purpose wire brush

- High tensile steel wire available as an accessory in various thicknesses

Brush protection housing Swivelling

- Extraction duct for attaching an extraction unit

Warranty conditions below:
„Please note“ on page 183

Model	GZ20C	GZ25C
Article no.	3091070	3091075
Machine data		
Electrical connection	400 V/3 Ph ~50 Hz	400 V/3 Ph ~50 Hz
Motor output	750 W	1.1 kW
Grinding discs		
Dimensions	Ø 200 x 25 mm, Drill hole Ø 20 mm	Ø 250 x 30 mm, Drill hole Ø 25 mm
Speeds	2,800 rpm	1,400 rpm
Dimensions		
Length x width x height	650 x 300 x 360 mm	850 x 340 x 410 mm
Net weight	26.5 kg	40.7 kg

Chassis (without extraction unit)

GZ 20C	3091120
• L x W x H: 400 x 370 x 760 mm	
• Weight 33 kg	
GZ 25C	3091122
• L x W x H: 460 x 430 x 760 mm	
• Weight 40 kg	



Grinding disc

- Pure corundum grinding disc
- Hardness M - white
- **Made in Germany**

GZ 20C	
36 grain	3098021
60 grain	3098023
80 grain	3098025
GZ 25C	
36 grain	3098031
60 grain	3098033
80 grain	3098035

Round brush

- High tensile steel wire
- **Made in Germany**

GZ 20C	
0.35 mm	3098081
0.5 mm	3098082
GZ 25C	
0.3 mm	3098086
0.5 mm	3098087

Electronic brake

- 3091099
- Controlled braking
- Including factory assembly



Polishing machines for surface machining of metal workpieces

Facts that impress in terms of quality, performance and price

- ▶ Heavy, durable industrial design with maintenance-free motor
- ▶ Housing made of strand cast aluminium
- ▶ Long service life and quiet action thanks to balanced rotor with quality ball bearings
- ▶ Vibration-damping rubber feet
- ▶ Two wide polishing discs included in standard scope of delivery

Balanced rotor

- Long service life
- Extremely smooth action
- Quality ball bearings

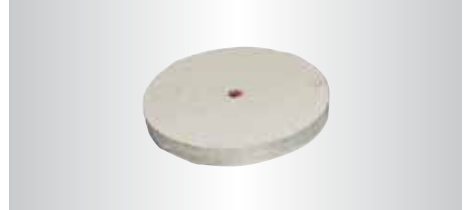
Scope of delivery

- Soft polishing disc
- Hard polishing disc



Hard polishing disc

Ø 200 x 20 Ø 16 mm	3107321
Ø 250 x 25 Ø 20 mm	3107331



Soft polishing disc

Ø 200 x 20 Ø 16 mm	3107320
Ø 250 x 25 Ø 20 mm	3107330



Fig.: GU 20P

Scope of delivery

- Soft polishing disc
- Hard polishing disc

Model	GU 20P	GU 25P
Article no. (230 V)	3101540	-
Article no. (400 V)	3101545	3101550
Machine data		
Electrical connection	230 V / 1 Ph or 400 V / 3 Ph	400 V/3 Ph ~50 Hz
Motor output	600 W	1.5 kW
Technical data		
Speed	2,850 rpm	2,850 rpm
Polishing disc size	Ø 200 x 20 mm	Ø 250 x 25 mm
Dimensions		
Length x width x height	545 x 200 x 262 mm	555 x 250 x 296 mm
Weight	10.6 kg	17.4 kg

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„Chassis for grinding and polishing machines“ on page 161



Folding machine FP 30 - universally deployable

Facts that impress in terms of quality, performance and price

- ▶ Folding machine FP 30 for bending and folding sheet metals
- ▶ Removable bending beam segments
- ▶ Convenient swivel movement of the bending beam via lever handle
- ▶ Premium quality bending beam
- ▶ For use on a vice

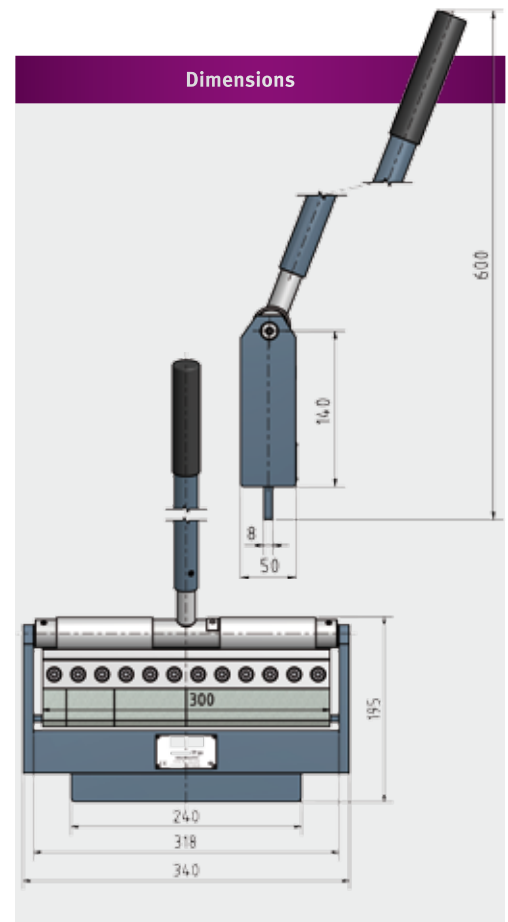


- Bending segment pieces 150 mm/75 mm/50 mm and 25 mm removable

Fig.: Folding machine FP 30

Model	FP 30
Article no.	3244028
Performance features	
Max material width	320 mm
Max. sheet thickness	2.5 mm

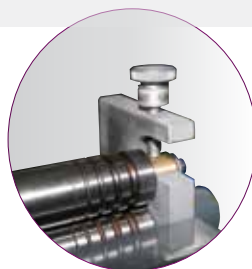
Max. folding performance at 90°	
Aluminium/copper	300 x 2 mm
Steel sheet	300 x 1 mm
Net weight	10 kg



Three-roller roll bending machine BM3 - universally deployable

Facts that impress in terms of quality, performance and price

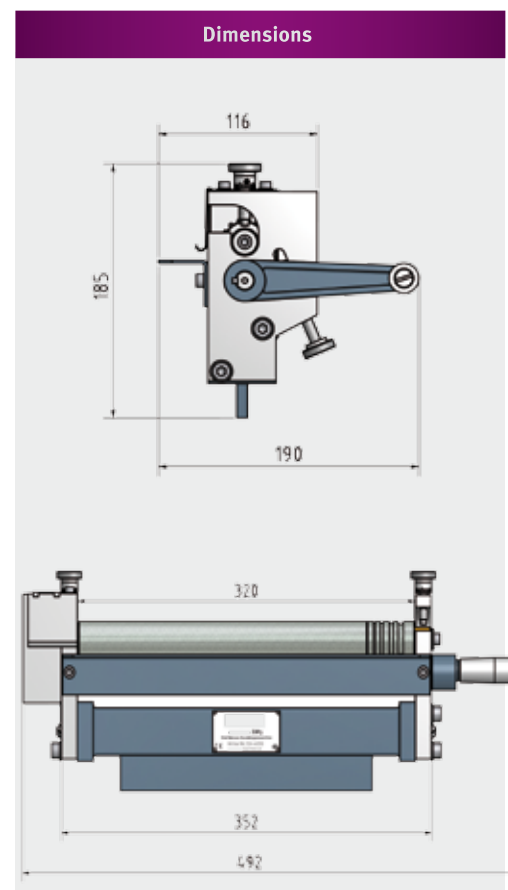
- ▶ Bending and rolling of wires, tubes and sheet
- ▶ Polished bending rollers
- ▶ Borne steel side frames (self-lubricating)
- ▶ Two removable unwinding rollers
- ▶ Material thickness and rolling radius separately adjustable
- ▶ For use on a vice
- ▶ Sturdy support surface



- Wire insert groove Ø 1 - 2 - 3 - 4 - 5 mm

Fig.: BM 3 5

Model	BM 3	Rolling thickness max.	
Article no.	3244030	Steel sheet St. 37	1 mm
		Stainless steel	1 mm
		Aluminium/copper	2 mm
		Brass	1 mm
		Gold/silver/tinplate	2 mm
		Narrow widths	3 mm
		Round materials	1 - 5 mm
		Unwinding roller	Ø 30 mm
Performance features			
Max material width	310 mm		
Bending Ø min.	35 mm		
Bending Ø max.	unlimited		
Net weight	10 kg		



Sheet metal working machine 3 in 1: plate rolling, folding and cutting.
Ideally suited for demanding users

Facts that impress in terms of quality, performance and price

- ▶ Modern design and sturdy steel construction
- ▶ High level of design flexibility thanks to segmented folding rail
- ▶ Segments removable from the folding bar
- ▶ Operation via two large, adjustable and easily operable levers arranged at the side
- ▶ Long support surface
- ▶ Pull-out support arm for safe supporting of large-format sheet
- ▶ Scissor table with recessed measuring strips and right-angle stop on both sides
- ▶ Easily adjustable top, rear and bottom rollers
- ▶ Pull-out rear stop and front material support for safe placement



Fig.: SAR 1000

Scope of delivery
• Adjustable rear stop
• Front material support
• Tools



Optional accessories
Chassis
• L x W x H: 1,185 x 500 x 700 mm
Art. no. 3242107

Model	SAR 1000
Article no.	3242100
Technical data	
Max material width	700 mm
Plate rolling	
Plate rolling (min.)	Ø 48 mm
Plate rolling (max.)	Ø unlimited
Steel sheet (S235JR)	up to 1 mm
Stainless steel	up to 0.5 mm
Aluminium/copper	up to 1.5 mm
Brass	up to 1 mm
Gold/silver/tinplate	up to 1.5 mm
Unwinding roller Ø	48 mm
Folding	
Max. sheet thickness	2.5 mm*
Aluminium/copper	up to 1.5 mm
Steel sheet (S235JR)	up to 1 mm
Number of segments	7
Cutting	
Cutting capacity max.	up to 1 mm
Net weight	290 kg

Plate rolling

- Adjusting screws for material thickness with scale
- Ground bending rollers with wire insert grooves on the bottom and front rollers



Folding

- Premium folding bars
- Spring hold-down unit
- Segmented folding rail
- Segments removable from the folding bar 40 mm/50 mm/65 mm/100 mm/180 mm/255 mm/380 mm for cartridge bending

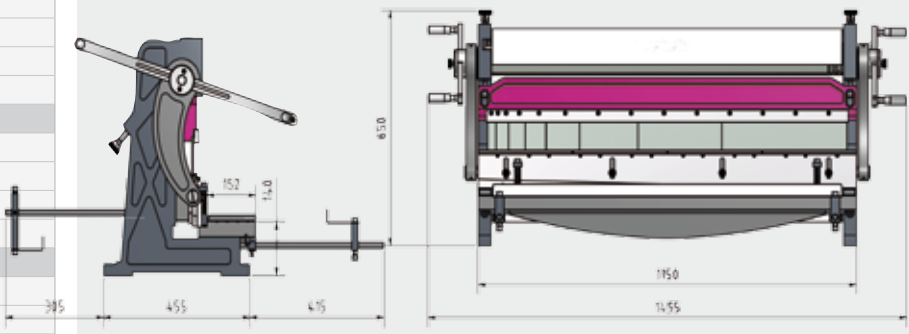


Cutting

- Clean and burr-free cutting thanks to top and bottom blades made of quality grade steel



Dimensions



Lever-action snips - a quality product for trade applications

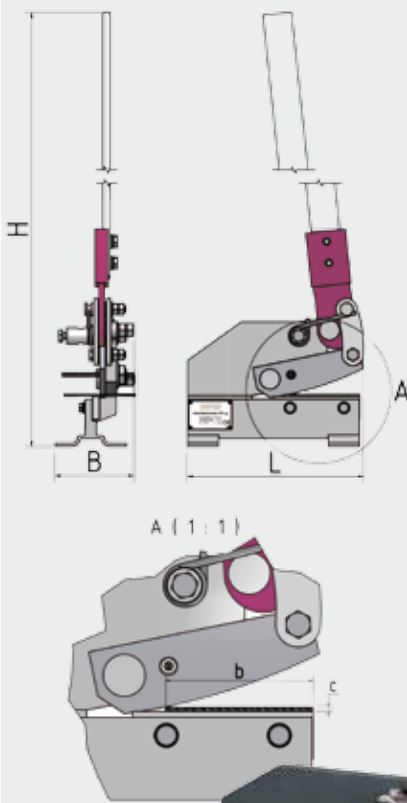
Facts that impress in terms of quality, performance and price

- ▶ For cutting metal plates, sheet, round and flat steel
- ▶ Sturdy snip body
- ▶ Good ergonomic cutting geometry
- ▶ Easy, strength-saving cutting over the entire length of the cut
- ▶ Robust handle ensures a good grip
- ▶ Premium blades
- ▶ The workpiece to be cut is held down in horizontal position by the hold-down unit
- ▶ Stable base and holes drilled for stationary fastening



- Premium blade with long service life
- Hold-down unit prevents sheet twisting during cutting
- Strong springs prevent the shears closing autonomously

Dimensions



Replacement blade set	Article no.
• 2-part	
for PS 125	3241025
for PS 150	3241026
for PS 300	3241028



Fig.: Ps 125

Fig.: Ps 300

Model	PS 125	PS 150	PS 300
Article no.	3241006	3241007	3241012
Cutting capacity			
Max. cutting length (b)	95 mm	115 mm	235 mm
Max. sheet thickness (c)	3 mm*	4 mm*	4 mm*
Dimensions L x W x H	245 x 110 x 935 mm	325 x 120 x 960 mm	490 x 155 x 1,340 mm
Net weight	8.7 kg	10.7 kg	23 kg

*Not over the entire length - material steel (S235)R, stainless steel up to 1 mm

Precision arbor presses with rugged and solid design. For mechanical workshops and repair operations

Facts that impress in terms of quality, performance and price

- For pressing in and out of bearings, mandrels, bushings, spindles, pins
- Stable design
- Premium grey cast body
- Variably adjustable lever
- Baseplate adjustable in four positions
- For fastening on a workbench



Fig.: DDP 20

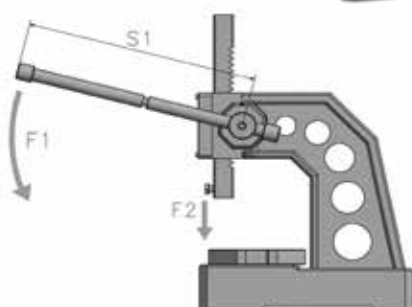


Fig.: DDP 20

Model	DDP 10	DDP 20	DDP 30	DDP 50
Article no.	3359011	3359012	3359013	3359015
Technical data				
Max. workpiece height	123 mm	195 mm	310 mm	459 mm
Reach	95 mm	120 mm	150 mm	226 mm
Dimensions				
Length x width x height max.	270 x 180 x 410 mm	430 x 235 x 680 mm	455 x 260 x 850 mm	650 x 350 x 785 mm
Stamp size (L x W x H)	25 x 25 x 240 mm	32 x 32 x 345 mm	38 x 38 x 455 mm	50 x 50 x 647 mm
Weight	14 kg	33 kg	55 kg	167 kg
Scope of delivery	4x positionable platen			

Effective force		DDP 10		DDP 20		DDP 30		DDP 50	
Hand force	F1	392.4 N	589 N	392.4 N	589 N	392.4 N	589 N	392.4 N	589 N
		(40 kg)	(60 kg)	(40 kg)	(60 kg)	(40 kg)	(60 kg)	(40 kg)	(60 kg)
Long lever	S1	340 mm		450 mm		600 mm		850 mm	
Effective force	F2	7,480 N	11,220 N	8,364 N	12,555 N	7,705 N	11,566 N	10,251 N	15,372 N
		(763 kg)	(1,143 kg)	(853 kg)	(1,280 kg)	(786 kg)	(1,179 kg)	(1,045 kg)	(1,567 kg)



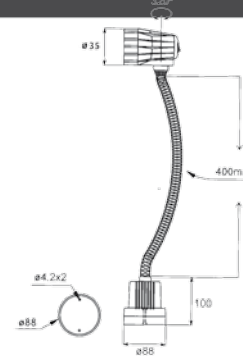
MEASURING INSTRUMENTS
MACHINE LAMPS

Robust machine lamps for individual use:

Model	LED machine lamp AL 12
Article no.	3351131

Energy-saving and durable machine lamp

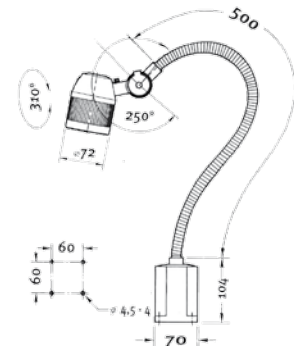
- ▶ Optimum mobility of the articulated arm
- ▶ Excellent positional stability
- ▶ Stable flexible hose arm with sleeve 400 mm
- ▶ Magnetic base and assembly plate
- ▶ Screen diameter Ø 35 mm
- ▶ Luminosity 250 - 330 Lux
- ▶ Integrated transformer
- ▶ Colour: black
- ▶ 1.95 W / 230 V connection



Model	Halogen machine lamp AL 25
Article no.	3351145

Brilliant light

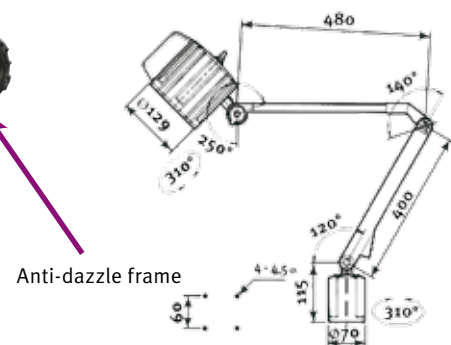
- ▶ Articulated arm with sleeve for best possible mobility
- ▶ Excellent positional stability
- ▶ Swivel head
- ▶ Impact-proof, easy-to-clean plastic housing
- ▶ Magnetic base and assembly plate
- ▶ Arm length 500 mm
- ▶ Degree of protection IP20
- ▶ Integrated transformer
- ▶ Colour: black
- ▶ 20 W / 230 V connection



Model	Halogen machine lamp AL 35
Article no.	3351152

Concentrated halogen light

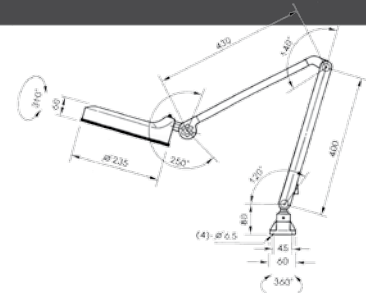
- ▶ Anodised, round reflector with medium width beam
- ▶ Assembly plate
- ▶ Ribbed, stable aluminium lamp head for protection against water, oil, dust and knocks
- ▶ Low outside temperature
- ▶ Swivel head
- ▶ Articulated arm length 880 mm
- ▶ Handle on lamp head
- ▶ Anti-dazzle frame for glare free work
- ▶ IP degree of protection IP65 (lamp head)
- ▶ 12 V illuminant
- ▶ Integrated transformer
- ▶ Colour aluminium silver/black/white
- ▶ 55 W / 230 V connection



Model	Magnifying lamp ALM 3
Article no.	3351160

Magnifying lamp with 1.5x optical magnification

- ▶ Large magnifying glass: 127 mm diameter
- ▶ Joint easily adjustable and lockable thanks to clamp screw
- ▶ Pleasant, dazzle-free light thanks to round neon tube
- ▶ Articulated arm length 830 mm
- ▶ IP Degree of protection: IP20
- ▶ 22 W / 230 V connection

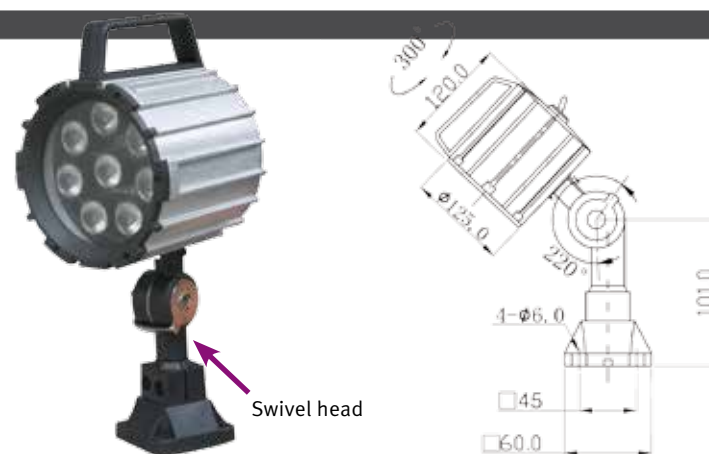


Robust LED machine lamps for individual use

Model	LED 3-500
Article no.	3351010
Energy-saving and durable machine lamp	
► Equipped with high performance LEDs	
► Low exterior temperature; lubricants and coolants do not burn on	
► Made of robust, oil-resistant and impact proof plastic	
► No impairment of the service life through vibration or knocks	
► Excellent positional stability	
► Stable flexible hose arm with sleeve 530 mm	
► Optimum mobility of the articulated arm	
► IP degree of protection IP64 (dust and splash-water protected)	
► Lifetime 60,000 operating hours	
► Colour temperature: 4,000 - 4,500 K	
► Mains supply cable approx. 1.2 m	
► Colour: black	
► Illuminant: 3 x 1 W LED / 230 V ~50 Hz	



Model	LED 8-100
Article no.	3351021
Robust and powerful articulated machine lamp	
► State of the art LED technology	
► Low exterior temperature; lubricants and coolants do not burn on	
► Swivel head	
► Light distribution: medium width, asymmetric, 25° beam angle	
► Lamp cover made of temperature-resistant safety glass	
► IP degree of protection IP65 (lamp head)	
► Colour temperature: 4,000 - 4,500 K	
► Mains supply cable approx. 1.2 m	
► Colour aluminium silver/black	
► Illuminant: 8 x 1 W LED / 230 V ~50 Hz	



Model	LED 8-600	LED 8-720
Article no.	3351026	3351027
Robust and powerful articulated machine lamp		
► State of the art LED technology		
► Low exterior temperature; lubricants and coolants do not burn on		
► Swivel head		
► Light distribution: medium width, asymmetric, 25° beam angle		
► Lamp cover made of temperature-resistant safety glass		
► IP degree of protection IP65 (lamp head)		
► Articulated arm length LED 8-600: 505 mm and 8-720: 720 mm		
► Colour temperature: 4,000 - 4,500 K		
► Mains supply cable approx. 1.2 m		
► Colour aluminium silver/black		
► Illuminant: 8 x 1 W LED / 230 V ~50 Hz		
► Weight: 3.6 kg		



Digital position display DP700 for precise measurement of travel strokes and positioning on the machine and drives



Digital position display DP700

- ▶ Powerful DP display with many functions
- ▶ Ergonomically shaped, slim-line aluminium housing
- ▶ Has all necessary functions for machining applications
- ▶ The operator works with an intuitive and user-friendly interface
- ▶ Developed and manufactured in England
- ▶ IP67 encoding units can be deployed under the toughest ambient conditions with a high degree of precision.
- ▶ Five-year warranty on indicator and read heads
- ▶ The linear encoding units are insensitive to soiling in the workshop, such as coolant, water, dust, chips, knocks and vibrations
- ▶ No maintenance required
- ▶ Fast and easy installation

Possible functions		
Number of axes	2 or 3 axes	
	Milling machine	Lathe
Undo	•	•
Digfind (position search function)	•	•
Centrefind	•	•
Radius/diameter	•	•
Absolute/steps	•	•
mm/inch	•	•
Axes preset/zero set	•	•
Approach zero point	•	•
Tool repository		•
Taper		•
Axis addition		•
PCD/bolt circle	•	
Arc control	•	
Polar coordinates	•	
Slotted rail	•	
Input mode/Sub-datum	•	•
Feed function	•	•
RS232 output	•	•
Linear error compensation	•	•
Segmental error compensation	•	•
Protection classes	IP 40 (digital display)	
	IP 54 (front control panel)	
Languages	DE, EN, FR, ES, IT TU, TR, CZ, RU, PT, DK	

Digital position display DP700 3390073

Extension kit - Spherosyn milling 3390220

- ▶ Digital position display DP700
- ▶ Display holder
- ▶ Attachment parts for measuring strip assembly 3 axes Spherosyn

Extension kit - Microsyn milling 3390230

- ▶ Digital position display DP700
- ▶ Display holder
- ▶ Attachment parts for measuring strip assembly three axes Microsyn

Extension kit - turning 1 3390405

- ▶ Digital position display DP700
- ▶ Display holder
- ▶ Attachment parts for measuring strip assembly one axis Spherosyn and 1 axis Microsyn greater than 300 mm

Extension kit - turning 2 3390406

- ▶ Digital position display DP700
- ▶ Display holder
- ▶ Attachment parts for measuring strip assembly one axis Spherosyn and 1 axis Microsyn smaller than 300 mm

Complete attachment kit BF 30Vario 3390330

- ▶ Digital position display DP700
- ▶ 3 pcs. measuring strip Microsyn
- ▶ Display holder Attachment parts for measuring strip assembly

Complete attachment kit BF 46Vario 3390346

- ▶ Digital position display DP700
- ▶ 3 pcs. measuring strip Microsyn
- ▶ Display holder Attachment parts for measuring strip assembly

Complete attachment kit TH 3309 3390420

- ▶ Digital position display DP700
- ▶ 2 pcs. measuring strip Microsyn 1 pc. measuring strip Spherosyn
- ▶ Display holder Attachment parts for measuring strip assembly

Complete attachment kit TH 3610 / TH 4010 3390430

- ▶ Digital position display DP700
- ▶ 2 pcs. measuring strip Microsyn 1 pc. measuring strip Spherosyn
- ▶ Display holder Attachment parts for measuring strip assembly

Analogue measuring systems (Spherosyn & Microsyn)

The Spherosyn and Microsyn length measuring systems are specially designed for requirements in the demanding environment of a workshop. The measuring transducers use a totally unique design with all components sealed and protected. This means that you can achieve precise and reliable measured values, even if the measuring systems are immersed in coolant, oil water or lubricant.



The advantages

- ▶ Easy to install – low assembly costs
- ▶ Degree of protection IP67 - fully immersible
- ▶ Impermeable to coolants, oil, dust, chips and almost all workshop influences
- ▶ No risk of broken or scratched glass
- ▶ Tolerant towards vibration and magnetic interference
- ▶ No regular maintenance or cleaning needed
- ▶ No mechanical wear
- ▶ Lifetime guarantee for the measuring probe

Worldwide, more than 400,000 Spherosyn and Microsyn transducers offer the highest degree of reliability.

Spherosyn and Microsyn can be used both for the digital position display DP700 and also be integrated for a variety of feedback applications, such as CNC systems and PLC.

How does that work?

The Spherosyn and Microsyn measuring probes rely on the principle of electro-magnetism and consist of a stainless steel or carbon fibre cube filled with individual, classified, highly precise steel balls. The balls are pre-stressed and calibrated in a temperature-controlled environment in the tube.

The read head consists of six coils which are wound around a composite fibre coil. The coils and the required electronic circuitry are sealed on the inside of the read head by a special potting method. Applying voltage to the coil generates an electro-magnetic field in the read head. Due to the curvature of the balls on the inside of the tube, the output signal varies depending on the position of the coils above the balls. When the measuring head runs over the probe, signals are generated by the relative axial movement induced at each probe coil.



Difference between Spherosyn und Microsyn measuring system

Analogue measuring systems (Spherosyn & Microsyn)

	Spherosyn	Microsyn
Measuring length	51 mm to 2,945 mm	30 mm to 1,000 mm
Measuring probe diameter/material	15.25 mm (0.601") /stainless steel	6.5 mm (0.257") /Carbon fibre
Measuring probe length, total	Measuring length + 250 mm	Measuring length + 175 mm
Read head dimensions	51 mm x 131 mm x 28 mm	35 mm x 75 mm x 20 mm
Output cable length	3.5 metres, stainless steel reinforced (Extension cable available as accessory)	
Maximum feed	2.0 metres per second	0.75 metres per second
Precision	+/- 10 micron	+/- 10 micron
Repetition accuracy	Within one resolution sample	Within one resolution sample
Drive input	85mA +/-5mA	85mA +/-5mA
Output	2.0V +/-0.5 RMS, 1kHz phase-analogue, 360 degrees per 12.7 mm	2.0V +/-0.5 RMS, 1kHz phase-analogue, 360 degrees per 5.0 mm
Geeignet	For large machines and equipment with no space problems the measuring probe on machines	For small machines with space problems for the measuring probe on machines

Measuring strips

Analogue measuring systems (Spherosyn & Microsyn)



Fig.: **Spherosyn** with optional fastening



Fig.: **Microsyn** with optional fastening

Measuring strips Spherosyn	Article no.
MS S2G - 51 mm	3391005
MS S2G - 102 mm	3391010
MS S2G - 152 mm	3391015
MS S2G - 178 mm	3391018
MS S2G - 203 mm	3391020
MS S2G - 229 mm	3391023
MS S2G - 254 mm	3391025
MS S2G - 305 mm	3391030
MS S2G - 356 mm	3391035
MS S2G - 406 mm	3391040
MS S2G - 457 mm	3391046
MS S2G - 508 mm	3391051
MS S2G - 559 mm	3391056
MS S2G - 610 mm	3391061
MS S2G - 660 mm	3391066
MS S2G - 711 mm	3391071
MS S2G - 762 mm	3391076
MS S2G - 813 mm	3391081
MS S2G - 864 mm	3391086
MS S2G - 914 mm	3391091
MS S2G - 965 mm	3391097
MS S2G - 1,016 mm	3391101
MS S2G - 1,118 mm	3391111
MS S2G - 1,168 mm	3391117
MS S2G - 1,219 mm	3391121
MS S2G - 1,270 mm	3391127
MS S2G - 1,321 mm	3391132
MS S2G - 1,372 mm	3391137
MS S2G - 1,422 mm	3391142
MS S2G - 1,473 mm	3391147
MS S2G - 1,524 mm	3391152
MS S2G - 1,626 mm	3391162
MS S2G - 1,727 mm	3391172
MS S2G - 1,829 mm	3391182
MS S2G - 1,930 mm	3391193
MS S2G - 2,032 mm	3391203
MS S2G - 2,134 mm	3391213
MS S2G - 2,235 mm	3391223
MS S2G - 2,337 mm	3391233
MS S2G - 2,438 mm	3391243
MS S2G - 2,540 mm	3391254
MS S2G - 2,642 mm	3391264
MS S2G - 2,743 mm	3391274
MS S2G - 2,845 mm	3391284
MS S2G - 2,946 mm	3391294

Measuring strips Microsyn	Article no.
MS M2G - 30 mm	3392003
MS M2G - 50 mm	3392005
MS M2G - 75 mm	3392007
MS M2G - 100 mm	3392010
MS M2G - 125 mm	3392012
MS M2G - 150 mm	3392015
MS M2G - 175 mm	3392017
MS M2G - 180 mm	3392018
MS M2G - 200 mm	3392020
MS M2G - 225 mm	3392022
MS M2G - 250 mm	3392025
MS M2G - 275 mm	3392027
MS M2G - 300 mm	3392030
MS M2G - 325 mm	3392032
MS M2G - 350 mm	3392035
MS M2G - 400 mm	3392040
MS M2G - 450 mm	3392045
MS M2G - 500 mm	3392050
MS M2G - 550 mm	3392055
MS M2G - 600 mm	3392060
MS M2G - 650 mm	3392065
MS M2G - 700 mm	3392070
MS M2G - 750 mm	3392075
MS M2G - 800 mm	3392080
MS M2G - 850 mm	3392085
MS M2G - 900mm	3392090
MS M2G - 950 mm	3392095
MS M2G - 1,000 mm	3392100

Factory assembly measuring system	9000423
► 3 axes	

Accessories	Article no.
Extension cable 1 metre	3393601
Extension cable 2 metres	3393602
Extension cable 3.5 metres	3393603
Extension cable 5 metres	3393604
Extension cable 10 metres	3393605

Fastening	Article no.
Spherosyn ML holder (2 pcs)	3393601
Spherosyn reading head holder	3393602

Microsyn ML holder (2 pcs)	3393604
Microsyn reading head holder	3393605

Digital positioning displays for versatile deployment for three axes with speed display. Premium technology and durable industrial quality

Differences:

DPA 21

- ▶ LED display

DPA 22

- ▶ LCD display
- ▶ High-contrast display
- ▶ Simplified user menu navigation
- ▶ Graphical input for cycle programming



DPA 22



DPA 21

Digital position display

DPA 21 (LED display)	3384020
DPA 22 (LCD display)	3384022
▶ User-friendly membrane keyboard, splash water protected, sealed and dazzle free	
▶ Switchable for milling machine and lathe, freely selectable input signal (sinus/square), e.g. usable for glass measuring probes and/or magnetic strip system	
▶ Greater operation accuracy	
▶ Clear reduction of manufacturing times	
▶ Reduction of error quota	
▶ X, Y/Z, Z axis each with 8-digit display	
▶ Sensor supplied for acquiring spindle speeds	
▶ Three measuring inputs can be evaluated with seven correction memory stores each for tools	
▶ Dimensions L x W x H: 230 x 80 x 260 mm. Weight: 2 kg	

Possible functions

- ▶ Calculator, speed display, axis coupling (total Z), sub-D connector sockets, absolute/incremental operation, conversion inch/metric thread, bolt circle computation (chain dimension), coordinates in circle (pitch circle), drill holes in circle (pitch circle), measured values switchable radius/diameter, Zero reset data default, self diagnostics, reference point, linear error correction, 99 tool memory slots

Scope of supply

- ▶ Speed sensor
- ▶ Holder
- ▶ Power supply 24 V

Read head active

Magnetic strip

- ▶ Magnetic strip for assembly machines that do not have enough space for magnetic measuring probes

- ▶ Connector 9-pin

Length 1,100 mm	3383978
------------------------	---------

Length 2,000 mm	3383979
------------------------	---------

Read head active	3383934
-------------------------	---------

- ▶ for magnetic strip

Measuring strips

- ▶ Fully encapsulated measuring systems with high precision glass measuring probe
- ▶ Resolution 5 µm
- ▶ Accuracy ± 0.003 mm
- ▶ Sampling slide borne on miniature ball bearings and connected to the assembly base by a coupling
- ▶ Protected against dust, chips and splash water by a rubber lip
- ▶ Flexible metal protection hose
- ▶ Connecting cable three metres, four metres as of ML 620
- ▶ Without assembly

ML 80 mm	3384108
ML 100 mm	3384110
ML 120 mm	3384112
ML 170 mm	3384117
ML 220 mm	3384122
ML 270 mm	3384127
ML 320 mm	3384132
ML 370 mm	3384137
ML 420 mm	3384142
ML 470 mm	3384147
ML 520 mm	3384152
ML 570 mm	3384157
ML 620 mm	3384162
ML 670 mm	3384167
ML 720 mm	3384172
ML 770 mm	3384177
ML 820 mm	3384182
ML 870 mm	3384187
ML 920 mm	3384192
ML 970 mm	3384197
ML 1,020 mm	3384202
ML 1,250 mm	3384225
ML 1,400 mm	3384240
ML 1,520 mm	3384252
ML 1,670 mm	3384267
ML 1,940 mm	3384294
ML 2,010 mm	3384295
ML 3,000 mm	3384300
Factory assembly ML	9000410

- ▶ Per measuring strip

Digital 3-axis position display for milling machines and lathes with speed display

Digital 3-axis position display DRO5

Article no.	3383975
<ul style="list-style-type: none"> ▶ Digital 3-axis position display for milling machines (X - Y - Z) and for lathes (X, Z, Z₀) ▶ For measuring positions ▶ Speed display ▶ Three incremental inputs ▶ Four-line LCD display ▶ User-friendly menu navigation ▶ Rugged aluminium housing ▶ Programming from the front ▶ Dimensions length 98 mm x width 65 mm x height 134 mm 	
Including	
<ul style="list-style-type: none"> ▶ Speed sensor cable length 5 metres ▶ 3 pcs. magnetic sensors without magnetic strip ▶ Power supply cable length 6 metres ▶ Magnetic plate 	



Accessories

Magnetic strip length 1,100 mm	3383978
Magnetic strip length 2,000 mm	3383979
Magnetic strip per metre	3383980
Read head passive	3383977

Factory assembly

Three axes	9000420
Speed sensor	9000421



Measuring accessories

Dial gauge

3385090

- ▶ Precision as per DIN 878
- ▶ Metal housing matt chrome plated
- ▶ Clamping shank 8 mm
- ▶ Scale 0.01 mm
- ▶ Measuring range 10 mm
- ▶ Outer ring with two adjustable tolerances
- ▶ Scale rotatable via outer ring for easy



Precision magnetic measuring stand

3356650

- ▶ Measuring column Ø 12 mm x 181 mm
- ▶ Traverse Ø 10 mm x 160 mm
- ▶ Magnetic base L x W x H: 50 x 62 x 55 mm
- ▶ Holding force 50 kg
- ▶ Dial gauge holder with mounting hole for dial gauges, fine indicators, electrical length measuring probes



Fig.: Dial gauge and measuring stand

All prices plus VAT at current rates.

Machine spirit level

3385064

- ▶ With prismatic base for levelling horizontal surfaces and shafts
- ▶ Compact and stress-free installation of the longitudinal spirit level guarantees constant precision
- ▶ Precision 0.02 mm/m
- ▶ Horizontal and longitudinal spirit level as per DIN 2276 Form B
- ▶ Eliminates time-consuming adjustment work
- ▶ Heat protected handle
- ▶ Dimensions: 200 mm x 46 mm x 46 mm



Measuring and test platen

3385060

- ▶ Dimensions L x W x H: 630 x 400 x 100 mm
- ▶ Precision 7 µ
- ▶ Granite
- ▶ Thermally and dynamically stable
- ▶ Compressive strength 250 - 260 N/mm²
- ▶ DIN 876/0
- ▶ Corrosion-free



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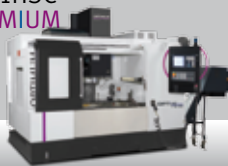
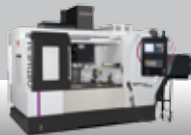

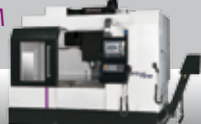
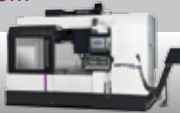

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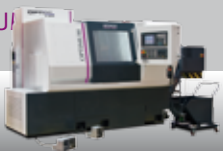




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	F 3	F 80	F 105
			
Strokes X-, Y- Z axis	355 mm / 190 mm / 245 mm	400 mm / 225 mm / 375 mm	550 mm / 305 mm / 460 mm
Drive motor	1,5 kW 10 Nm	2,2 kW 14 Nm	5,5 kW 35 Nm
Tool changer	-	10 tools	12 tools
Control	SINUMERIK 808D	SINUMERIK 808D	SINUMERIK 808D SINUMERIK 808D ADVANCED
Dimensions / Weight	1.600 x 1.445 x 2.010 mm - 1.400 kg	1.925 x 1.655 x 2.070 mm - 1.900 kg	2.164 x 1.860 x 2.200 mm - 2.800 kg
	F 150 PREMIUM	F 151HSC PREMIUM	
			
Strokes X-, Y- Z axis	760 mm / 430 mm / 460 mm	800 mm / 500 mm / 500 mm	
Drive motor	12 kW S1 operation; 9 kW 57 Nm	15 kW S1 operation; 11 kW 80 Nm	
Tool changer	24 tools	32 tools	
Control	SINUMERIK 828D	SINUMERIK 828D	
Dimensions / Weight	3.000 x 1.950 x 2.310 mm - 3.520 kg	2.500 x 2.644 x 2.922 mm - 5.000 kg	
	F 211HSC PREMIUM	F 310 PREMIUM	F 311HSC PREMIUM
			
Strokes X-, Y- Z axis	1.000 mm / 560 mm / 550 mm	1.000 mm / 560 mm / 550 mm	1.000 mm / 650 mm / 650 mm
Drive motor	11 kW / 15 kw 53 Nm	13 kW S1 70 Nm	30 kW S1 operation 20 kW 250 Nm
Tool changer	32 tools	24 tools	30 tools
Control	SINUMERIK 828D	SINUMERIK 828D	SINUMERIK 840D sl
Dimensions / Weight	3.230 x 2.644 x 2.972 mm 5.200 kg	3.265 x 2.600 x 2.735 mm 5.800 kg	1.000 mm x 650 mm x 650 mm 10.000 kg
	F 410 PREMIUM	F 411HSC PREMIUM	FU 5 5-Achsen Simultan PREMIUM
			
Strokes X-, Y- Z axis	355 mm / 190 mm / 245 mm	1.200 mm / 730 mm / 650 mm	600 mm / 600 mm / 500 mm
Drive motor	13 kW S1 70 Nm	30 kW S1 operation 20 kW 250 Nm	20 kW (S1) / 30 kW (S6) - 96 Nm 20 kW (S1) / 25 kW (S6) - 32 Nm
Tool changer	24 tools	30 tools	24 tools
Control	SINUMERIK 828D	SINUMERIK 840D sl	SINUMERIK 840D sl OP 019 black
Dimensions / Weight	4.200 x 2.720 x 3.130 mm 6.600 kg	3.600 x 2.861 x 3.285 mm 10.500 kg	3.015 x 4.440 x 3.000 mm 8.000 kg

	L 28HS 	L 34HS 	L 44 PREMIUM 
Travel X- / Z axis	145 mm / 465 mm	185 mm / 540 mm	250 mm / 760 mm
Feed speed X- / Z axis	8.000 mm/min.	6.000 / 8.000 mm/min.	15.000 mm/min
Drive motor	2,2 kW	3,7 kW	8 kW S1 Betrieb 7 kW
Tool turret	Servo/pneumatic	Servo/pneumatic - 8 slots	Hydraulic type VDI 30- 8 slots
Control	SINUMERIK 808D	SINUMERIK 808D / ADVANCED	SINUMERIK 828D Basic T
Dimensions / Weight	1.655 x 1.485 x 1.955 mm - 700 kg	1.956 x 1.475 x 1.713 mm - 1.200 kg	2.530 x 1.595 x 1.795 mm - 2.620 kg
	L 440 PREMIUM 	L 460 PREMIUM 	<p>Mehr Informationen unter www.optimum-maschinen.de oder fordern sie unseren CNC Katalog 2016 an.</p> 
Travel X- / Z axis	260 mm / 1.150 mm	260 mm / 1.680 mm	
Feed speed X- / Z axis	15.000 mm/min	15.000 mm/min	
Drive motor	11 kW (S1 operation 9 kW)	11 kW (S1 operation 9 kW)	
Tool turret	Hydraulic type LS 160 VDI 40-8 slots	Hydraulic type LS 160 VDI 40-8 slots	
Control	SINUMERIK 828D Basic T	SINUMERIK 828D Basic T	
Dimensions / Weight	3.030 x 1.952 x 2.025 mm 3.000 kg	3.530 x 1.952 x 2.025 mm 3.450 kg	
	L 500 PREMIUM 	L 520 PREMIUM 	S 400E 
Travel X- / Z axis	345 mm / 2.150 mm	345 mm / 3.150 mm	200 mm / 430 mm
Feed speed X- / Z axis	15.000 mm/min	15.000 mm/min	10.000 mm/min
Drive motor	12 kW S1	15 kW S1	8 kW S1 Betrieb 7 kW
Tool turret	Hydraulic type LS 160 VDI 40 12 slots	Hydraulic type LS 160 VDI 40 12 slots	Hydraulic type 8 slots
Control	SINUMERIK 828D Basic T	SINUMERIK 828D Basic T	SINUMERIK 808D / Advanced
Dimensions / Weight	4.190 x 2.262 x 2.050 mm	5.190 x 2.262 x 2.050 mm	3.670 x 1.875 x 2.155 mm
	S 600 PREMIUM 	S 500 PREMIUM 	S 750 PREMIUM 
Travel X- / Z axis	215 mm / 520 mm	305 mm / 750 mm	305 mm / 1.250 mm
Feed speed	30.000 mm/min	15.000 mm/min	10.000 mm/min
Drive motor	12 kW	17 kW	30 kW
Angled bed	30°	45°	45°
Tool turret	Hydraulic type LS 200 12 slots	Sauter VDI40 with tool drive 12 slots	Sauter VDI40 with tool drive 12 slots
Control	SINUMERIK 828D Basic T	SINUMERIK 828D	SINUMERIK 828D
Dimensions	2.322 x 1.948 x 1.930 mm	3.015 x 1.856 x 2.016 mm	3.515 x 1.856 x 2.016 mm

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Please note

- The publication of this catalogue renders all previous price lists invalid.
- We accept no liability for printing errors, mistakes or incorrect representation.
- Subject to technical modifications and visual changes.
- Illustrations show optimal accessories in some cases
- Delivery is effected solely on the basis of our terms of delivery and payment.
- The machines are delivered partly knocked down for transportation reasons.
- All items are sold through specialist retailers.
- The goods shall remain our property until payment has been received in full.
- Our retention of title shall remain valid in case of sale to a third-party.
- Legal warranty conditions apply for businesses.
- Copying and reproduction in full or in part is subject to written approval by us.
- Please note that transport packaging surcharges apply for some machines in this catalogue to cover transport units, packaging and packaging overheads. These machines are appropriately marked in the catalogue.

Warranty conditions

- Independently of your legal warranty entitlement, OPTIMUM provides a guarantee on the basis of the following provisions for the period as stated in the catalogue for the respective machine; the guarantee period starts on the date of sale of the machine to the end customer. OPTIMUM offers a guarantee on catalogue products where a guarantee is specifically indicated. The guarantee exclusively covers defects resulting from material or manufacturing errors. The warranty exclusively covers spare parts but not the transport and installation costs or

labour and ancillary services necessary for eliminating defects. The guarantee excludes unintended use or improper application such as overloading of the machine or the use of non-approved and unsuitable tools, use of force, damage caused by external influences or by foreign bodies, e.g., dust, chips or stones, damage caused by failure to observe the Operating Instructions, e.g., connection to the wrong mains voltage or current, failure to observe assembly instructions, conversions and extensions carried out by the customer, as well as normal wear. The guarantee also excludes partially or fully disassembled machines and machine tools. When claiming against guarantee/warranty, you must submit the original sales receipt showing the date of purchase. Repairs under guarantee/warranty may be performed by authorised partners only who will be named by the guarantee/warranty provider. The guarantee/warranty is restricted to the end customer of the new machine and is not transferrable.

General notes on operating our machines:

- Our machines must be supervised at all times during operation. Leaving the machine during operations constitutes gross negligence.
- The details on machine precision are found in the technical data of the catalogue pages. If you do not find any values here, please contact info@optimum-maschinen.de for more detailed information.
- The stated precisions are achieved under standardised conditions (correct installation of the machine and ambient temperature of 20°C). The machines are not designed for continuous operation.
- (1) Please note, that operator-side conversion work are required with assembly of foreign chucks or face plates to achieve the specified technically possible rotational diameter

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