

# OPTIMUM<sup>®</sup>

MASCHINEN - GERMANY

METAL WORKING MACHINERY  
FOR YOUR OPTIMUM IN QUALITY, VALUE FOR MONEY AND SERVICE



## MAIN CATALOGUE 2025/26

*OFFER FOR OUR CUSTOMERS, WHO ARE ENTREPRENEURS AND NOT CONSUMERS ARE*

# FOR YOUR OPTIMUM IN QUALITY, VALUE FOR MONEY AND SERVICE



Dear prospective customer,

To enable a wide range of metalworking applications, we have compiled a selection of machines for many different areas in our OPTIMUM main catalogue. Each of our products impresses with its quality, precision, long service life and value stability. OPTIMUM provides the ideal machine for a variety of tasks, ranging from bench drills 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, and for more than 10 years on CNC 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. Besides our own manufacturing operations, OPTIMUM exclusively produces 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 expert personnel we strive to complete OPTIMUM's know-how and deliver it to you our customers.



**Kilian Stürmer**  
Managing Director



DISCOVER OUR PRODUCT VIDEOS NOW!

All of our product videos are available for you to watch on our YouTube channel OPTIMUM Maschinen Germany GmbH. Subscribe to our YouTube channel, to avoid missing any of the new videos.





Sales and Service Germany in Hallstadt/Bamberg

## CUSTOMER SERVICE

Thanks to the professional OPTIMUM customer service, every customer can access the service they need from the comprehensive range at any time.

Our services can be broken down into the following four modules:

- > Inventory and requirements analysis,
- > System planning and consulting,
- > Installation and commissioning
- > Maintenance and commissioning.

Our service partners and the OPTIMUM field service team provide reliable on-site support to customers across the country.

## ON SITE FOR YOU: 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.

OPTIMUM Maschinen Germany GmbH now operates on a global scale from its headquarters in Hallstadt, near Bamberg, in collaboration with expert partners. You will find Optimum representatives working closely with strong dealers throughout Europe. 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!

## 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.

## 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. Thanks to their outstanding quality and precise workmanship, our products offer you the best possible value for money. 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 to handle all your metalworking requirements. This main catalogue will give you an impression of our capabilities and our wide product portfolio.

# INNOVATIONS FROM OUR OWN PRODUCTION



Production on our own CNC machines



Production on the most modern  
OPTIMUM 5-axis CNC  
machines

## QUALITY

OPTIMUM products are manufactured under strict 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 for you.

We only use high-quality components from leading manufacturers, such as Schneider and Siemens. We also install DC electrics, Siemens and Kostal inverters, among others. In addition, we develop our own electrical components to guarantee optimum performance and the highest quality.

Come and see for yourself the robust construction and durability that characterise our metalworking machines.

Make your purchase with OPTIMUM and enjoy the benefits of first-class quality. Although there are many similar products on the market, none of them come close to OPTIMUM's high quality standard. Trust OPTIMUM innovation.



Optimum plant in Yangzhou, China

**ALL OPTIMUM PRODUCTS ARE  
MANUFACTURED TO HIGH QUALITY STANDARDS!**



Milling machine production



Metal-cutting band saw production



Drilling machine production



Lathe production

# GERMAN QUALITY – MADE IN CHINA



## OUR PRODUCTION SITES

Optimum (Yangzhou) Machinery Co., Ltd. began operating in Touqiao Town, near Yangzhou in Jiangsu Province, in 2006. The town is only about a three-hour drive from Shanghai. A total of 180 employees, including 40 technicians, work on a total area of 20000 m<sup>2</sup> and a building area of 9000 m<sup>2</sup>.

We now manufacture our Optimum range of machines in three production facilities, which cover a total area of approximately 79000 m<sup>2</sup> and have a total building area of around 30000 m<sup>2</sup>. These facilities employ around 230 people in production.

We guarantee consistently high levels of precision and cost-effectiveness in production. Under the motto 'GERMAN QUALITY – MADE IN CHINA', we develop bespoke solutions for our customers and take responsibility for their quality. Our production facilities operate according to strict technical processes and quality controls in accordance with ISO 9001. We also prioritise environmental protection and sustainability, for example by using state-of-the-art filter systems in our paint booths.

Our team of experienced experts and technicians, combined with our advanced production facilities, enables us to manufacture quality products such as small and medium-sized CNC machining centres, CNC lathes, CNC milling machines, metal saws, and milling, drilling, and turning machines.



## DIN EN ISO 9001 – EXCELLENT QUALITY

Our factory is certified according to DIN EN ISO 9001:2015. 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 achieving this demanding certification is ultimately driven by this approach. 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.



# QUALITY

**OUR STANDARDS ARE HIGH. AND WE STRICTLY ADHERE TO THEM!**



**ACHIEVING OUR QUALITY GOALS IS OUR TOP PRIORITY!**

## **QUALITY TESTED AT OUR PRODUCTION FACILITIES**

The excellence and safety of our products are assured by a system of internal processes, based on regular and frequent inspections in our factories and along the logistics chain. In order to ensure compliance with the strict requirements, each production site is regularly inspected.

At Optimum, development and production are in the same hands, and the company sets high standards in all areas.

This is why our customers get what they expect from Optimum: innovative, well thought-out products with high practical suitability and an exceptionally long service life.



For environmental reasons, we coat our machines with water-based paint.



## QUALITY CONTROL

Our company has developed a carefully planned quality management system and is certified according to ISO 9001:2008.

This system is an integral part of our operational workflows. No exceptions or compromises are made or entered into with regard to the quality level of the products from production.

Our Quality Assurance department is staffed by skilled employees who ensure that only products of impeccable quality are sold.

The Quality Assurance department consists of experienced technicians who are supervised by our German technicians, and attach great importance to high quality and impeccable product quality. Each production step is checked and compared at all times with the available specifications.

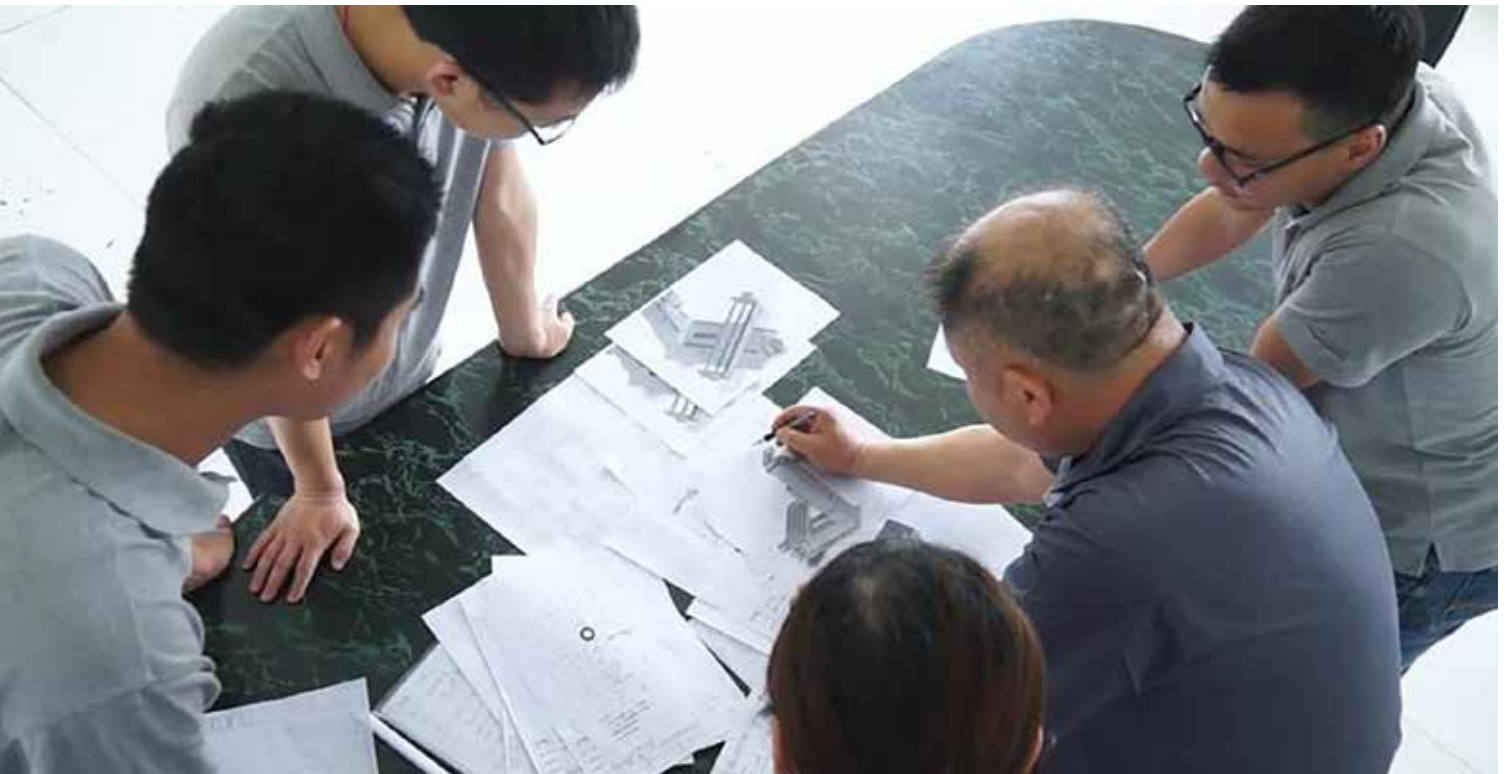


## QUALITY ASSURANCE DEPARTMENT

We want satisfied customers. This explains why our products' compliance with the customer quality requirements described earlier on is our company's top priority.



# PRODUCTION SUPPORT



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.

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, OUTGOING GOODS INSPECTION

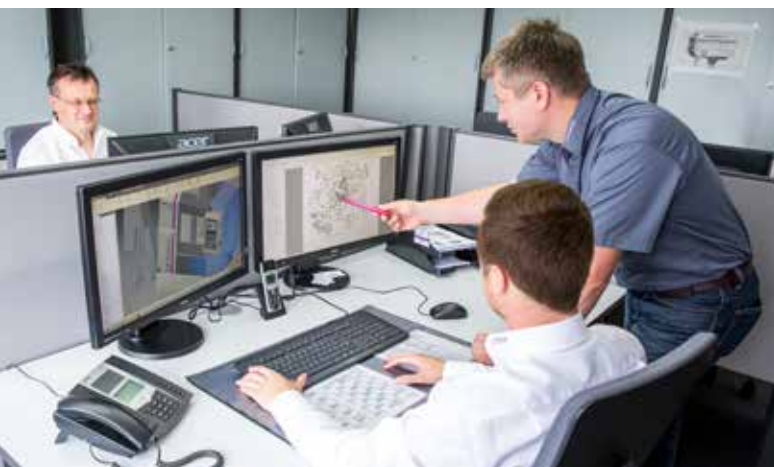
Besides adhering to delivery deadlines and service, the quality of our products is extremely important to us. Continuous on-site checks by our quality manager ensure our quality. Our comprehensive incoming goods inspection is performed in line with generally accepted technical guidelines.

## QUALITY MANAGEMENT, INCOMING GOODS INSPECTION

Our quality managers from Germany are the first point of contact for ensuring quality compliance on site. They are responsible for the dimensional accuracy of the components, for monitoring and quality assurance of the manufacturing process; they collaborate closely with our Engineering department at head office in Germany, thus ensuring an optimal symbiosis.



# 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. Big advantage: This means that the process of setting the course for successful product design immediately incorporates all market influences and customer requirements.

## DEVELOPMENT

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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

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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.

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



### 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

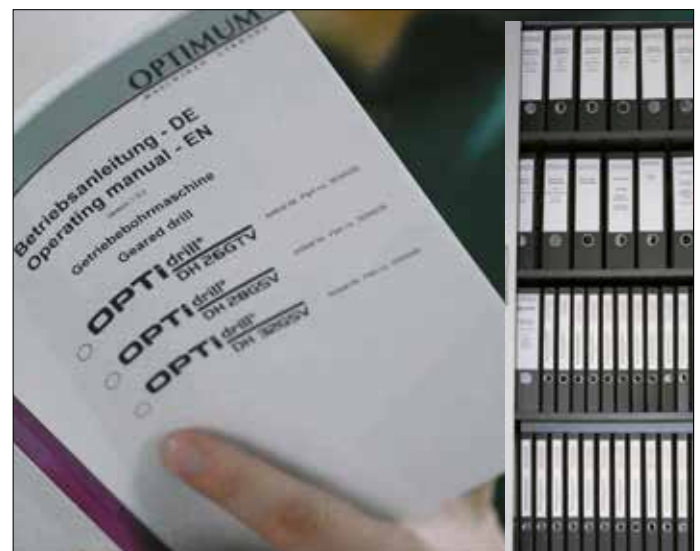
To secure the rewards of our technical development work for both ourselves and our customers, patent and utility model protection is essential for our in-house developments. This helps us permanently keep the technical lead that OPTIMUM products have.

The entire catalogue is protected by copyright. Additionally, to protect our products, we register our rights to our brands, patents and designs where possible in each individual case. We take strong action against any violation of our intellectual property.

### 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. After implementing the measures, the residual risk is then evaluated.



# 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.



## 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 employees in technology, service and sales as well as for our customers: Our ability to handle our products successfully is largely determined by our ability to transfer technical knowledge to our dealers, their sales and service staff, and their customers through training. The big advantage: This qualification provides an opportunity to deliver expert advice and problem-solving support to customers at every stage. At our training centre, we offer practical product training courses designed to impart specialist knowledge in a clear and accessible way.



## 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.



## 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.

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# Classification



HIGHEST QUALITY STANDARD	HIGH QUALITY STANDARD	TRADES WITH INDUSTRIAL REQUIREMENTS	CRAFTSMEN	PROFESSIONAL DO-IT-YOURSELFERS	DO-IT-YOURSELFERS
<ul style="list-style-type: none"> <li>› Industrial quality</li> <li>› Highest quality standard for excellent precision</li> <li>› For the toughest applications</li> <li>› Very long service life</li> <li>› Uncompromising quality for the toughest requirements</li> </ul>	<ul style="list-style-type: none"> <li>› Industrial quality</li> <li>› Excellent quality standard</li> <li>› Long service life</li> <li>› For strict requirements</li> </ul>	<ul style="list-style-type: none"> <li>› Machine tools geared for daily use in trades up to professional deployment</li> <li>› for medium-size series production</li> <li>› Comprehensive accessories</li> </ul>	<ul style="list-style-type: none"> <li>› Machine tools geared for daily use in trades</li> <li>› for small to medium-size series production</li> <li>› Comprehensive accessories</li> </ul>	<ul style="list-style-type: none"> <li>› Machines for do-it-yourselfers with high requirements</li> <li>› Basic machines with better equipment level</li> </ul>	<ul style="list-style-type: none"> <li>› Basic machines</li> <li>› Comprehensive accessories</li> </ul>

# ***BENCH AND COLUMN DRILLING MACHINES***

**DP 26T | Art. no.: 3020620T**

**Modern design**  
with quiet running spindle  
thanks to new spindle design.





DH 28V | Art. no.: 3020430

**Column drill**  
with continuously  
variable mechanical  
belt drive

## Entry level bench-top drilling machines with V-belt drive

### Facts that impress in terms of quality, performance and price

- ▶ Safety electrical system in 24 V DC
  - ▶ Guaranteed concentricity  $\leq$  mm measured in the drill sleeve
  - ▶ Drill spindle with precision ball bearings
  - ▶ GATES quality belts
  - ▶ Separate EMERGENCY-STOP push button
  - ▶ Measuring scale for drilling depth
  - ▶ Drill table can be tilted  $\pm 45^\circ$  and rotated  $360^\circ$
  - ▶ Die-cast aluminium single-piece lever with soft-grip handles
  - ▶ Premium quick clamping chuck
  - ▶ Generously dimensioned baseplate with T-slots, heavily ribbed on rear
- DQ 18/DQ 22**
    - ▶ Precise workmanship; stable drilling table with two diagonal T-slots and all-around cooling water channel
  - DQ 22**
    - ▶ Generously dimensioned, height adjustable protective screen with safety switch
  - DQ 22 (400 V)**
    - ▶ Right-/left-hand rotation

### The machine is pre-assembled.



Individual components of the machine still have to be assembled and joined together.



Fig.: DQ 14



Fig.: DQ 22

## Arguments,...



Fig. Belt drive DQ 22. Two belt pulleys for DQ 14/18

### V-BELT DRIVE

- › Best power transmission thanks to aluminium pulleys in conjunction with toothed GATES quality V-belt
- › V-belt cover with safety switch



### LED MACHINE LAMP

- › Anti-glare LED lighting integrated into the drilling head. No annoying shadows.



### DRILLING DEPTH STOP SCALE

- › Easily adjustable and readable scale of the drilling depth stop.



### TABLE TILT SCALE

- › The drilling table can be tilted  $45^\circ$  to the right or left.
- › Easy-to-read angle scale.

## Technical data and accessories

Model	DQ 14	DQ 18	DQ 22
Article no. (230V)	3191040	3191042	3191044
Article no. (400V)	-	-	3191045
<b>Output</b>			
Electrical connection	230 V / 1 Ph ~50 Hz	230 V / 1 Ph ~50 Hz	230 V or 400V ~50 Hz
Motor power	350 W	450 W	550 W
<b>Drilling performance</b>			
Drilling performance in steel (S235JR)	Ø 14 mm	Ø 15.9 mm	Ø 20 mm
Continuous drilling performance in steel (S235JR)	Ø 12 mm	Ø 14 mm	Ø 16 mm
<b>Spindle</b>			
Spindle sleeve stroke	52 mm	65 mm	85 mm
Spindle - column distance	104 mm	127 mm	169 mm
Spindle seat	fixed/B16	MT 2	MT 2
<b>Rotational speeds</b>			
Spindle speeds	700 - 2500 min <sup>-1</sup>	600 - 2400 min <sup>-1</sup>	300 - 2300 min <sup>-1</sup>
Number of speeds	5 stages	5 stages	12 stages
<b>Drilling table</b>			
Drilling table workspace L x W	170 x 170 mm	200 x 200 mm	270 x 270 mm
T-slot size (slot width)	14 mm, 2 diagonal	14 mm, 2 diagonal	14 mm, 2 diagonal
Load bearing capacity of table	8 kg	12 kg	15 kg
Drill table rotation / tilting sideways	360° / ± 45°	360° / ± 45°	360° / ± 45°
Max. distance spindle - drill table	250 mm	319 mm	460 mm
<b>Machine base</b>			
Machine base work area L x W	138 x 128 mm	145 x 143 mm	191 x 187 mm
Max. distance spindle - machine base	340 mm	518 mm	639 mm
<b>Dimensions and weight</b>			
Column diameter	Ø 46 mm	Ø 60 mm	Ø 70 mm
Length x width x height approx.	470 x 280 x 635 mm	570 x 320 x 850 mm	700 x 350 x 1010 mm
Net weight approx.	18.5 kg	28.5 kg	42 kg

## Scope of delivery

<b>DQ 14</b>
› Quick-action drill chuck 1 - 15.9 mm
› T-slot nuts
<b>DQ 18 / DQ 22</b>
› Quick-action drill chuck 1 - 16 mm
› Tapered shank for drill chuck MT 2/B16
› T-slot nuts

## Accessories

Designation	Article no.
Twist drill HSS-CO 5%, 1- 13 mm, 25-part	3201010
Twist drill HSS-CO 5%, 6 - 10 mm, 41-part	3201021
Quick clamping drill chuck 1 - 10 mm; B16	3050610
Quick-action drill chuck DKC 13, 0 - 13 mm / B16	3050632
Quick-action drill chuck DKC 16, 0 - 16 mm / B16	3050633
Hold-down device 14 mm/M 12	3352031
Assortment of clamping tools SPW 12	3352077
Universal coolant unit 230 V	3351999
Coolant mist lubricator MMC 1 with magnetic holder	3356663
KMS 2 coolant hose	3356660

Accessories DQ 18/DQ 22	Article no.
Quick-action drill chuck with MT2 mount 1 - 16 mm	3050571
Quick-action drill chuck with MT2 mount 1 - 13 mm	3050572
Tapered shank for drill chuck MT 2/B16	3050659
Twist drill HSS MT 2, 9-part	3051002
Thread tapping chuck 7 inserts M3 - M12	3050702

More **accessories** and **information** on accessories from page 89  
You will find a wide selection of machine vices on page 95

## Bench drill with V-belt drive and mechanically infinitely adjustable speed

### Facts that impress in terms of quality, performance and price

- ▶ Safety electrical system in 24 V DC
- ▶ Guaranteed concentricity  $\leq$  mm measured in the drill sleeve
- ▶ User-friendly safety switch with IP 54 degree of protection
- ▶ Glare-free LED lighting integrated in the drill head
- ▶ Drill spindle with precision ball bearings
- ▶ Separate EMERGENCY-STOP push button
- ▶ Measuring scale for drilling depth
- ▶ Generously dimensioned, height adjustable protective screen with safety switch
- ▶ V-belt cover with safety switch
- ▶ Measuring scale for drilling depth
- ▶ Precise workmanship; stable drilling table with two diagonal T-slots and all-around cooling water channel
- ▶ Drill table can be tilted  $\pm 45^\circ$  and rotated  $360^\circ$
- ▶ Single-piece, pressure cast aluminium sleeve lever with Softgrip handles
- ▶ OPTIMUM quick clamping chuck in standard scope of delivery

### The machine is pre-assembled.



Individual components of the machine still have to be assembled and joined together.



### Arguments,...



#### V-BELT DRIVE

- › Best power transmission thanks to aluminium pulleys in conjunction with toothed GATES quality V-belt
- › V-belt cover with safety switch



#### SPEED CHANGE

- › The V-belt is adjusted to the required diameter using the hand lever while the drilling spindle is rotating. This changes the speed



#### LED MACHINE LAMP

- › Anti-glare LED lighting integrated into the drilling head. No annoying shadows.



#### DRILLING DEPTH STOP SCALE

- › Easily adjustable and readable scale of the drilling depth stop

## Technical specifications, accessories and dimensions

Model	DQ 20V
Article no.	3191080
<b>Output</b>	
Electrical connection	230 V / 1 Ph ~50 Hz
Motor power	750 W
<b>Drilling performance</b>	
Drilling performance in steel (S235JR)	Ø 20 mm
Continuous drilling performance steel (S235JR)	Ø 16 mm
<b>Spindle</b>	
Spindle sleeve stroke	80 mm
Spindle - column distance	152 mm
Spindle seat	MT 2
<b>Rotational speeds</b>	
Spindle speeds	450 - 2500 min <sup>-1</sup>
Speed	mechanically adjustable
<b>Drill table</b>	
Workspace length x width	243 x 243 mm
T-slot size	14 mm, 2 diagonal
Load bearing capacity of table	15 kg
Drill table rotation / tilting sideways	360° / ± 45°
Max. distance spindle - drill table	423 mm
<b>Machine base</b>	
Machine base work area L x W	181 x 187 mm
Clearance spindle - machine base	max. 599 mm
<b>Dimensions and weight</b>	
Column diameter	Ø 65 mm
Length x width x height approx.	580 x 400 x 960 mm
Net weight approx.	41 kg

## Scope of delivery

- › Quick-action drill chuck 1 - 16 mm
- › Tapered shank for drill chuck MT 2/B16
- › T-slot nuts

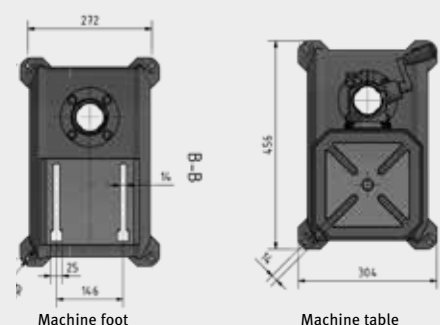
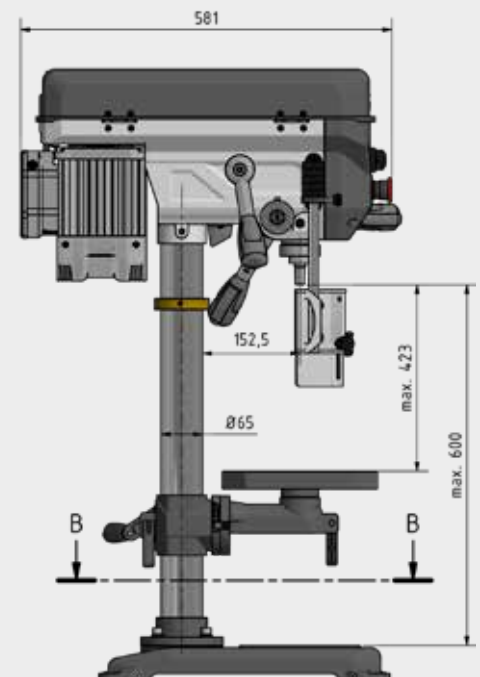
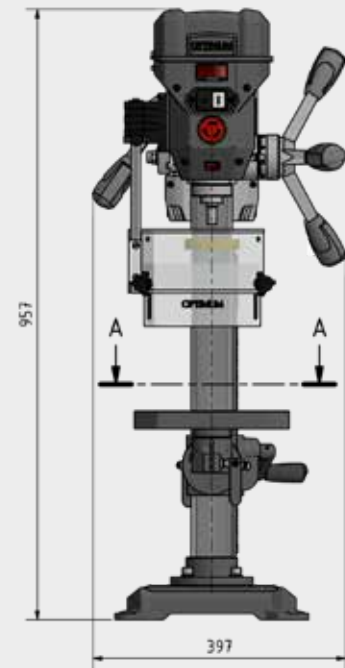
## Accessories

Designation	Article no.
Quick-action drill chuck with MT2 mount 1 - 16 mm	3050571
Quick-action drill chuck with MT2 mount 1 - 13 mm	3050572
Tapered shank for drill chuck MT 2/B16	3050659
Twist drill HSS MT 2, 9-part	3051002
Twist drill HSS-CO 5%, 1- 13 mm, 25-part	3201010
Twist drill HSS-CO 5%, 6 - 10 mm, 41-part	3201021
Taper drill punch MSP1	3050636
Assortment of clamping tools SPW 10, 58-part	3352076
Universal coolant unit	3351999
Coolant mist lubricator MMC 1 with magnetic holder	3356663
KMS 2 coolant hose	3356660

More accessories and information on accessories from page 89

You will find a wide selection of machine vices on page 95

## Dimensions



## Inexpensive bench and column drills with V-belt drive

### Facts that impress in terms of quality, performance and price

- ▶ Guaranteed concentricity  $\leq$  mm measured in the drill sleeve
- ▶ User-friendly safety switch with IP 54 degree of protection
- ▶ Drilling spindle with precision ball bearings
- ▶ Separate EMERGENCY-STOP push button
- ▶ Measuring scale for drilling depth
- ▶ Clockwise/anticlockwise rotation
- ▶ Ground multi-tooth carrier
- ▶ Belt cover with safety switch
- ▶ Drill table can be tilted  $\pm 45^\circ$  and rotated  $360^\circ$
- ▶ Solid, generously dimensioned baseplate with slots, rear heavily ribbed
- ▶ OPTIMUM quick clamping chuck in standard scope of delivery

### The machine is pre-assembled.



Individual components of the machine still have to be assembled and joined together.



Fig.: DQ 25T

Fig.: DQ 25

Fig.: DQ 32

## Arguments,...



### V-BELT DRIVE

- › Best power transmission thanks to aluminium pulleys in conjunction with toothed GATES quality V-belt
- › V-belt cover with safety switch



### TABLE TILT SCALE

- › The drilling table can be tilted  $45^\circ$  to the right or left.
- › Easy-to-read angle scale



### DRILL TABLE

- › Precise workmanship; stable drilling table with two diagonal T-slots and all-around cooling water channel



### DRILLING DEPTH STOP SCALE

- › Easily adjustable and readable scale of the drilling depth stop

## Technical specifications, accessories and dimensions

Model	DQ 25T	-
Article no.	<b>New</b> 3191047T	-
Bench drill		

Model	DQ 25	DQ 32
	3191047	3191049
Column drilling machines		

Output		
Electrical connection	400 V / 3 Ph ~50 Hz	400 V / 3 Ph ~50 Hz
Motor power	750 W	1.1 kW
Drilling performance		
Drilling performance in steel (S235JR)	Ø 25 mm	Ø 30 mm
Continuous drilling capacity in steel (S235JR)	Ø 20 mm	Ø 25 mm
Spindle		
Spindle sleeve stroke	80 mm	120 mm
Spindle - column distance	181 mm	254 mm
Spindle seat	MT 3	MT 4
Rotational speeds		
Spindle speeds	200 - 2440 min <sup>-1</sup>	120 - 1810 min <sup>-1</sup>
Number of speeds	12	9
Drill table		
Drill table workspace L x W	280 x 280 mm	355 x 355 mm
T-slot size	14 mm	14 mm
	2 running diagonally	2 running diagonally
Load bearing capacity	40 kg	55 kg
Drill table rotation / tilting sideways	360° / ± 45°	360° / ± 45°
Max. distance spindle - drill table	690 mm	640 mm
Machine base		
Machine base L x W	500 x 300 mm	575 x 350 mm
Machine base work area L x W	200 x 260 mm	230 x 295 mm
T-slot size / spacing / count	15 mm / 120 mm / 2	15 mm / 138 mm / 2
Max. distance spindle - machine base	1200 mm	1170 mm
Dimensions and weight		
Column diameter	Ø 73 mm	Ø 92 mm
Length x width approx.	700 x 350 mm	850 x 390 mm
Height approx.	1012 mm (DQ 25T) 1620 mm (DQ25)	1660 mm
Net weight approx.	67 kg (DQ 25T) 71 kg (DQ 25)	120 kg

### Scope of delivery

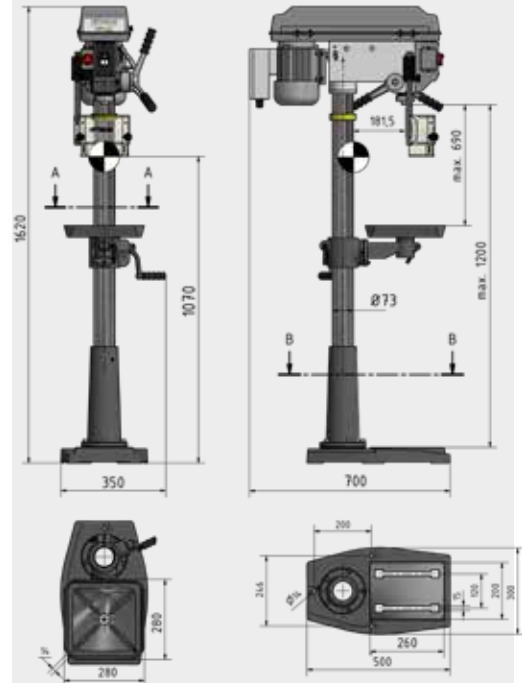
- › Quick-action drill chuck 1 - 16 mm
- › T-slot nuts

### Accessories

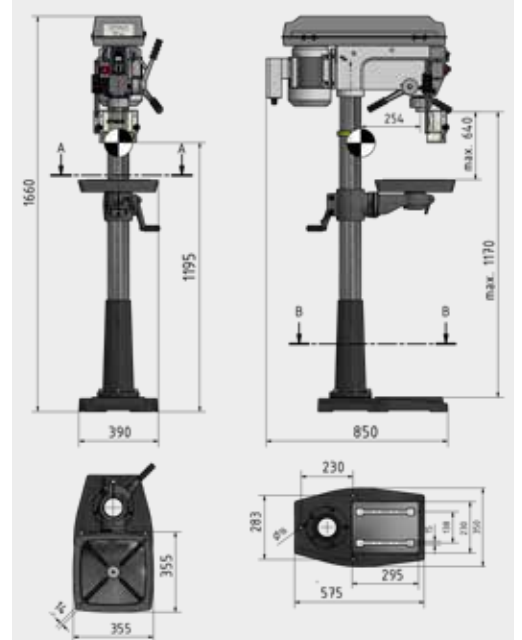
Designation	Article no.
Quick clamping drill chuck 1 - 10 mm; B16	3050610
Quick-action drill chuck DKC 13, 0 - 13 mm / B16	3050632
Quick-action drill chuck DKC 16, 0 - 16 mm / B16	3050633
Twist drill HSS-CO 5%, 1- 13 mm, 25-part	3201010
Twist drill HSS-CO 5%, 6 - 10 mm, 41-part	3201021
Hold-down device 14 mm/M 12	3352031
Assortment of clamping tools SPW 12	3352077
Universal coolant unit 230 V	3351999
Coolant mist lubricator MMC 1 with magnetic holder	3356663
KMS 2 coolant hose	3356660

More accessories and information on accessories from page 89  
You will find a wide selection of machine vices on page 95

### Dimensions DQ 25



### Dimensions DQ 32



DRILLING

CORE DRILLING

THREAD TAPPING

MILLING

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORKING

LIGHTING

COOLING

## Bench drill with V-belt drive

### Facts that impress in terms of quality, performance and price

- ▶ Guaranteed concentricity  $\leq$  mm measured in the drill sleeve
- ▶ User-friendly safety switch with IP 54 degree of protection
- ▶ Drill spindle with precision ball bearings
- ▶ Separate EMERGENCY-STOP push button
- ▶ Measuring scale for drilling depth
- ▶ Precise workmanship; stable drilling table with two diagonal T-slots and all-around cooling water channel
- ▶ V-belt cover with safety switch
- ▶ High-quality quick-action drill chuck included as standard
- ▶ Folding drill chuck guard
- ▶ Single-piece, pressure cast aluminium sleeve lever with Softgrip handles

### The machine is pre-assembled.



Individual components of the machine still have to be assembled and joined together.



## Arguments,...



### V-BELT DRIVE

- › Ground multi-tooth carrier
- › Optimal power transmission thanks to aluminium pulleys in combination with high-quality toothed V-belts
- › V-belt cover with safety switch



### TABLE TILT SCALE

- › The drilling table can be tilted 45° to the right or left.
- › Easy-to-read angle scale



### DRILL TABLE

- › Precise workmanship; stable drilling table with two diagonal T-slots and all-around cooling water channel
- › Can be tilted sideways  $\pm$  45°
- › Rotatable 360°



### DRILLING DEPTH STOP SCALE

- › Easily adjustable and readable scale of the drilling depth stop

## Technical specifications, accessories and dimensions

Model	B 17Pro basic
Article no.	3003161
<b>Output</b>	
Electrical connection	230 V / 1 Ph ~50 Hz
Motor power	490 W
<b>Drilling performance</b>	
Drilling performance in steel (S235JR)	Ø 15.5 mm
Continuous drilling performance in steel (S235JR)	Ø 12 mm
<b>Spindle</b>	
Spindle sleeve stroke	65 mm
Spindle seat	MT 2
Spindle - column distance	152 mm
<b>Rotational speeds</b>	
Spindle speeds	680 - 2700 min <sup>-1</sup>
Number of speeds	5 stages
<b>Drilling table</b>	
Workspace length x width	235 x 220 mm
T-slot size	12 mm, 2 running diagonally
Load bearing capacity of table	18 kg
Drill table rotation / tilting sideways	360° / ± 45°
Max. distance spindle - drill table	325 mm
<b>Machine base</b>	
Machine base L x W	210 x 215 mm
Machine base work area L x W	170 x 180 mm
T-slot size / spacing / count	14 mm / 148 mm / 2
Max. distance spindle - machine base	530 mm
<b>Dimensions and weight</b>	
Column diameter	Ø 60 mm
Length x width x height approx.	565 x 275 x 840 mm
Net weight approx.	36.5 kg

## Scope of delivery

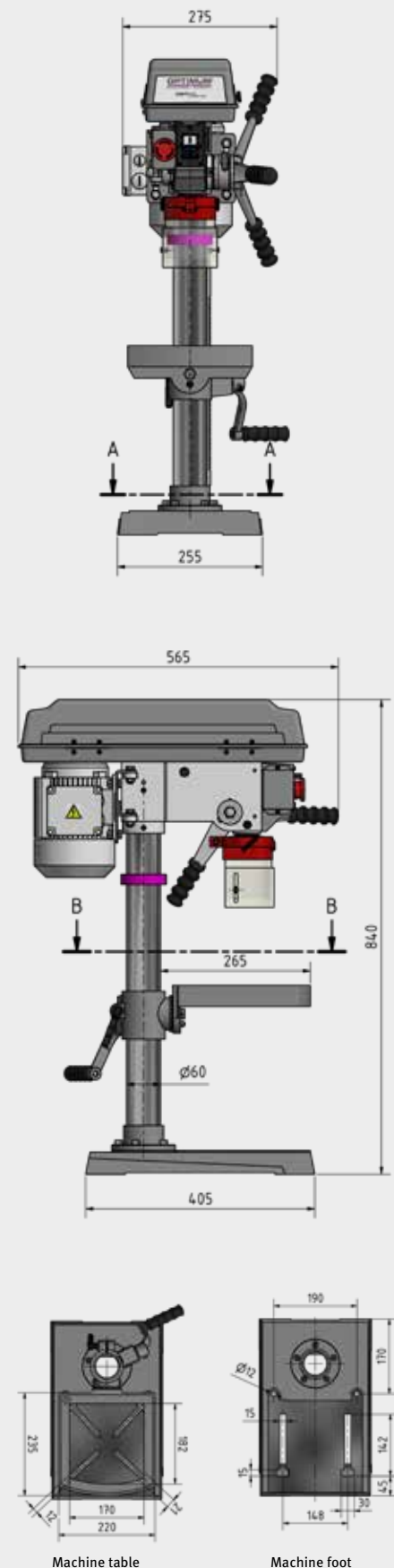
- › Quick-action drill chuck 1 - 13 mm
- › Tapered shank for drill chuck MT 2/ B 16
- › T-slot nuts

## Accessories

Designation	Article no.
Quick-action drill chuck with MT2 mount 1 - 16 mm	3050571
Quick-action drill chuck with MT2 mount 1 - 13 mm	3050572
Quick clamping drill chuck 1 - 10 mm; B16	3050610
Quick-action drill chuck DKC 13, 0 - 13 mm / B16	3050632
Quick-action drill chuck DKC 16, 0 - 16 mm / B16	3050633
Tapered shank for drill chuck MT 2/B16	3050659
Twist drill HSS-CO 5%, 6 - 10 mm, 41-part	3201021
Twist drill HSS MT 2, 9-part	3051002
Hold-down device 14 mm/M 12 (for the machine foot)	3352031
Assortment of clamping tools SPW 10	3352076
Universal coolant unit 230 V	3351999
Coolant mist lubricator MMC 1 with magnetic holder	3356663
KMS 2 coolant hose	3356660

More accessories and information on accessories from page 89  
You will find a wide selection of machine vices on page 95

## Dimensions



## Bench and column drilling machines with V-belt drive and digital drilling depth and speed display

### Facts that impress in terms of quality, performance and price

- ▶ Safety electrical system in 24 V DC
- ▶ Guaranteed concentricity  $\leq$  mm measured in the drill sleeve
- ▶ User-friendly safety switch with IP 54 degree of protection
- ▶ Drill spindle with precision ball bearings
- ▶ Separate EMERGENCY-STOP push button
- ▶ Digital depth sensor
- ▶ Precision spindle hole
- ▶ Generously dimensioned, height adjustable protective screen with safety switch
- ▶ Premium quick clamping chuck as standard equipment
- ▶ V-belt cover with safety switch
- ▶ Single-piece, pressure cast aluminium sleeve lever with Softgrip handles
- ▶ Heavy duty design of entire machine

### As of D 23 Pro

- ▶ GATES quality belts
- ▶ Clockwise/anticlockwise rotation

### D 33Pro

- ▶ Solid, generously dimensioned baseplate with T-slots, heavily ribbed on rear

### The machine is pre-assembled.



Individual components of the machine still have to be assembled and joined together.



Fig.: D 23Pro

Fig.: D 26Pro

Fig.: D 33Pro

## Arguments,...



### V-BELT DRIVE

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



### DISPLAY

- › Digital drilling depth and speed display integrated in housing
- › Unit convertible metric / inch



### DRILL TABLE

- › Precise workmanship; stable drilling table with two diagonal T-slots and all-around cooling water channel
- › Can be tilted sideways  $\pm 45^\circ$
- › Rotatable  $360^\circ$



### MOTOR

- › Industrial motor

## Technical data and accessories

Model	D 17Pro	D 23Pro	D 26Pro	D 33Pro
Article no. (230V)	3003010	3003015	-	-
Article no. (400V)	-	3003020	3003030	3003040
<b>Output</b>				
<b>Electrical connection</b>	230 V / 1 Ph ~50 Hz	230 V/1 Ph / 400 V/3 Ph	400 V / 3 Ph ~50 Hz	400 V / 3 Ph ~50 Hz
Motor power	500 W	750 W	750 W	1.1 kW
<b>Drilling performance</b>				
Drilling performance in steel (S235JR)	Ø 16 mm	Ø 25 mm	Ø 25 mm	Ø 30 mm
Continuous drilling performance in steel (S235JR)	Ø 12 mm	Ø 20 mm	Ø 20 mm	Ø 25 mm
<b>Spindle</b>				
Spindle sleeve stroke	65 mm	80 mm	85 mm	120 mm
Spindle seat	MT 2	MT 2	MT 3	MT 4
Spindle - column distance	152 mm	180 mm	210 mm	254 mm
<b>Rotational speeds</b>				
Spindle speeds	680 - 2700 min <sup>-1</sup>	200 - 2440 min <sup>-1</sup>	200 - 2440 min <sup>-1</sup>	120 - 1810 min <sup>-1</sup>
Number of speeds	5 stages	12 stages	12 stages	9 stages
<b>Drilling table</b>				
Workspace length x width	235 x 220 mm	280 x 245 mm	330 x 290 mm	475 x 425 mm
T-slot size	12 mm, 2 diagonal	12 mm, 2 diagonal	14 mm, 2 diagonal	14 mm, 2 diagonal
Load bearing capacity of table	18 kg	18 kg	20 kg	25 kg
Drill table rotation / tilting sideways	360° / ± 45°	360° / ± 45°	360° / ± 45°	360° / ± 45°
Max. distance spindle - drill table	325 mm	425 mm	720 mm	695 mm
<b>Machine base</b>				
Machine base work area L x W	220 x 230 mm	240 x 250 mm	385 x 260 mm	410 x 325 mm
T-slot size / spacing / count	16 mm / 148 mm / 2	16 mm / 170 mm / 2	16 mm / 170 mm / 2	16 mm / 250 mm / 2
Clearance spindle - machine base	max. 530 mm	max. 618 mm	max. 1230 mm	max. 1180 mm
<b>Dimensions and weight</b>				
Column diameter	Ø 60 mm	Ø 73 mm	Ø 80 mm	Ø 92 mm
Length x width x height approx.	585 x 305 x 840 mm	680 x 350 x 1015 mm	715 x 360 x 1640 mm	755 x 450 x 1705 mm
Net weight approx.	36.5 kg	58 kg / 63.5 kg	90 kg	137 kg

## Scope of delivery

- › Quick-action drill chuck 1 - 16 mm
- › Taper mandrel for drill chuck
- › T-slot nuts

## Accessories

Designation	Article no.
Quick-action drill chuck 1 - 10 mm; B16	3050610
Quick-action drill chuck DKC 13, 0 - 13 mm / B16	3050632
Quick-action drill chuck DKC 16, 0 - 16 mm / B16	3050633
Twist drill bits HSS-CO 5%, 25-part	3201010
Twist drill bits HSS-CO 5%, 41-part	3201021
Hold-down device 14 mm/M 12	3352031
Universal coolant unit 230 V	3351999
Coolant mist lubricator MMC 1 with magnetic holder	3356663
KMS 2 coolant hose	3356660

More accessories and information on accessories from page 89  
You will find a wide selection of machine vices on page 95

Accessories D 17Pro / D 23Pro	Article no.
Quick-action drill chuck with MT2 mount 1 - 16 mm	3050571
Quick-action drill chuck with MT2 mount 1 - 13 mm	3050572
Tapered shank for drill chuck MT 2/B16	3050659
Twist drill HSS MT 2, 9-part	3051002
Assortment of clamping tools SPW 10	3352076
Assortment of clamping tools SPW 14	3352078
Thread cutting chuck, 7 insertsM3-M12	3050702

Accessories D 26Pro	Article no.
Quick-action drill chuck with MT2 mount 1 - 16 mm	3050573
Tapered shank for drill chuck MT 3/B16	3050660
Twist drill HSS MT 3, 9-part	3051003
Assortment of clamping tools SPW 12	3352077
Assortment of clamping tools SPW 14	3352078
Adapter MT 3-MT 2	3050663
Taper drill punch MSP1	3050636

Accessories B 33Pro	Article no.
Quick-action drill chuck with MT2 mount 1 - 16 mm	3050574
Tapered shank for drill chuck MT 4/B16	3050661
Assortment of clamping tools SPW 12	3352077
Assortment of clamping tools SPW 14	3352078
Adapter MT 4-MT 3	3050664
Taper drill punch MSP2	3050637

## Table drilling machine with continuously adjustable speed control

### Facts that impress in terms of quality, performance and price

- ▶ Guaranteed concentricity  $\leq$  mm measured in the drill sleeve
- ▶ Drill spindle with precision ball bearings
- ▶ Membrane keyboard, dirt/water-resistant, easy to clean
- ▶ Separate EMERGENCY-STOP push button
- ▶ Thick walled cast column for high force absorption and stability
- ▶ EMC filter class C2

#### DX 13V

- ▶ Drill head height adjustable

#### DX 15V

- ▶ Drilling table height-adjustable via rack



Fig.: DX 13V



Fig.: DX 15V

### Arguments,...



#### DRILL CHUCK GUARD

- › Height adjustability chuck guard with microswitch
- › Premium OPTIMUM quick clamping chuck as standard



#### SPEED DISPLAY

- › High-contrast, digital LED speed display integrated into the housing
- › Speed control via potentiometer



#### DRILL TABLE

- › Precisely machined robust drilling table with parallel T-slots



#### BASE PLATE

- › Solid baseplate with, heavily ribbed on rear



Scan QR code

Information & Video

## Technical specifications, accessories and dimensions

Model	DX 13V	DX 15V
Article no.	3020150	3020155
<b>Output</b>		
Electrical connection	230 V / 1 Ph ~50 Hz	
Motor power	850 W	
<b>Drilling performance</b>		
Drilling performance in steel (S235JR)	Ø 13 mm	Ø 15 mm
Continuous drilling performance in steel (S235JR)	Ø 11 mm	Ø 12 mm
<b>Spindle</b>		
Spindle sleeve stroke	60 mm	
Spindle seat	B16	MT 2
Spindle - column distance	235 mm	
<b>Rotational speeds</b>		
Spindle speeds	100 - 3000 min <sup>-1</sup>	
Number of speeds	Electronic speed control	
<b>Drill table</b>		
Workspace length x width	-	290 x 290 mm
T-slot size / spacing / count	-	10 mm / 100 mm / 2
Rotating drilling table	-	360°
Clearance chuck - drilling table	-	98 - 375 mm
<b>Machine foot</b>		
Machine base work area L x W	280 x 290 mm	290 x 280 mm
T-slot size / spacing / count	14 mm / 100 mm / 2	
Distance chuck - machine base	92 - 297 mm	290 - 355 mm
<b>Dimensions and weight</b>		
Column diameter	Ø 60 mm	
Length x width x height approx.	325 x 520 x 900 mm	425 x 475 x 980 mm
Net weight approx.	51 kg	66 kg

## Scope of delivery

- › Quick-action drill chuck 1 - 13 mm
- › Taper mandrel for MT2-B16 drill chuck (DX15V only)

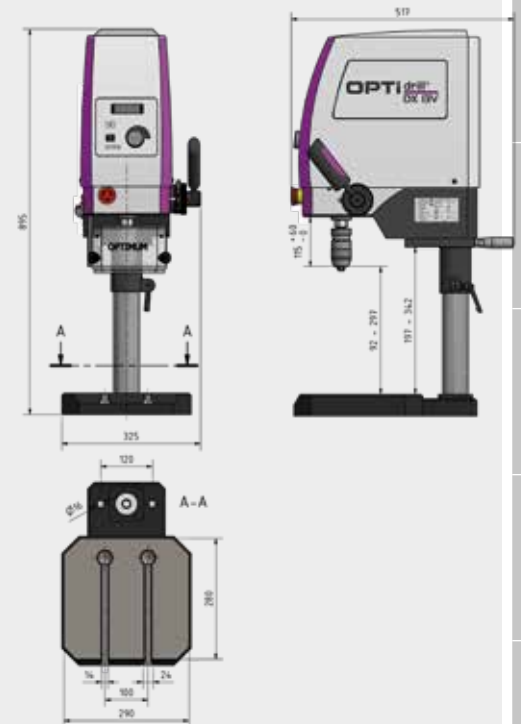
## Accessories

Accessories DX 15V	Article no.
Quick-action drill chuck with MT2 mount 1 - 16 mm	3050571
Quick-action drill chuck with MT2 mount 1 - 13 mm	3050572
Twist drill HSS MT 2	3051002
T-slot nut (individual) M 8 / 10 mm	3353022
Assortment of clamping tools SPW 12, 58-part	3352077

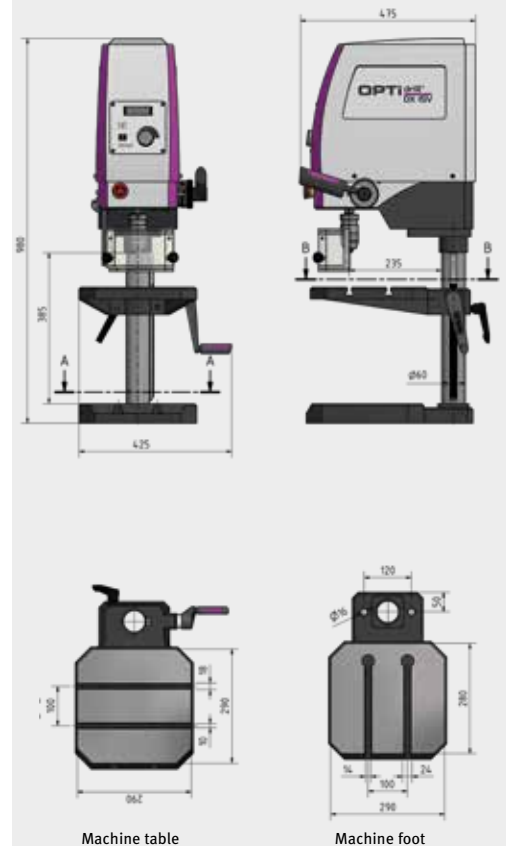
Designation	Article no.
Twist drill bits HSS-CO 5%, 1- 13 mm, 25-part	3201010
Twist drill bits HSS-CO 5%, 6 - 10 mm, 41-part	3201021
Hold-down device 14 mm/M 12	3352031
Assortment of clamping tools SPW 8, 58-part	3352015
Machine mobile base MSM 1	3353000
For information on the machine bases, see page 169	
Universal machine and tool trolley MSU 3	3352990
Universal machine and tool trolley MSU 4	3352991
For information on the machine and tool trolleys, see page 94	

More accessories and information on accessories from page 89  
You will find a wide selection of machine vices on page 95

## Dimensions DX 13V



## Dimensions DX 15V



## Table drilling machine for precision mechanics with continuously adjustable speed control. Machine DX 17V highlight - menu-controlled operation of the drilling/thread cutting operation modes.

### Facts that impress in terms of quality, performance and price

- ▶ Guaranteed concentricity  $\leq$  mm measured in the drill sleeve
- ▶ Best possible force transmission thanks to aluminium pulleys
- ▶ Drill spindle with precision ball bearings
- ▶ Dirt/water-resistant, easy-to-clean membrane keyboard
- ▶ Separate EMERGENCY-STOP push button
- ▶ Anti-glare LED lighting on the left and right, integrated into the drilling head. No annoying shadows
- ▶ Height adjustability chuck guard with microswitch for maximum protection
- ▶ Precision drilling table with parallel T-slots, precision surface finish
- ▶ Swivelling drilling table
- ▶ Solid base plate with parallel T-slots

#### DX 17E

- ▶ High-contrast, digital LCD speed display

#### DX 17V

- ▶ OLED display
- ▶ Menu-controlled operation of the drilling/thread cutting operation modes

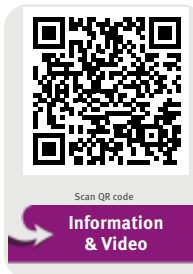


Fig.: DX 17E



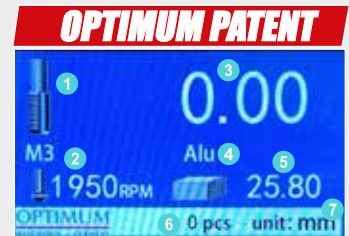
Fig.: DX 17V

## Arguments,...



#### LCD DISPLAY DX 17E

- › Spindle speed
- › Depth display (actual)
- › Clockwise/anticlockwise rotation
- › Unit of dimension mm / inch
- › Set zero point



#### OPERATING PANEL DX 17V

##### OLED display

- 1 - Selected tool and material
- 2 - Speed display
- 3 - Current drilling depth and thread depth
- 4 - Material selection
- 5 - Set drilling or thread depth as target value
- 6 - Piece counter
- 7 - Set unit

A suitable speed is suggested depending on the material and tool size. These parameters are entered via the menu.

Speed display/current drilling depth and thread depth/set drilling or thread depth as target value/material selection/piece counter



#### SIEMENS INVERTER SINAMICS V20

- › The inverter is equipped with an energy-optimised control method and automatic flux reduction to increase energy efficiency
- › Wider voltage range, advanced cooling and painted electronic components increase the robustness of the inverter

## Technical specifications, accessories and dimensions

Model	DX 17E	DX 17V
Article no.	3020168	3020170
<b>Output</b>		
Electrical connection	230 V / 1 Ph ~50 Hz	
Motor power	1 kW	
<b>Drilling performance</b>		
Drilling performance in steel (S235JR)	Ø 16 mm	
Continuous drilling performance in steel (S235JR)	Ø 13 mm	
Thread tapping	-	M 8
<b>Spindle</b>		
Spindle sleeve stroke	60 mm	
Spindle seat	MT 2	
Spindle - column distance	235 mm	
<b>Rotational speeds</b>		
Spindle speeds	50 - 4000 min <sup>-1</sup>	
Number of speeds	Electronic speed control	
<b>Drill table</b>		
Workspace length x width	290 x 290 mm	
T-slot size / spacing / count	10 mm / 100 mm / 2	
Rotating drilling table	360°	
Clearance chuck - drilling table	98 - 315 mm	
<b>Machine foot</b>		
Machine base work area L x W	290 x 280 mm	
T-slot size / spacing / count	14 mm / 100 mm / 2	
Distance chuck - machine base	max. 385 mm	
<b>Dimensions and weight</b>		
Column diameter	Ø 60 mm	
Length x width x height	425 x 480 x 910 mm	
Net weight	73 kg	

### Scope of delivery

- › Quick-action drill chuck 1 - 13 mm
- › Tapered shank for drill chuck MT2-B16



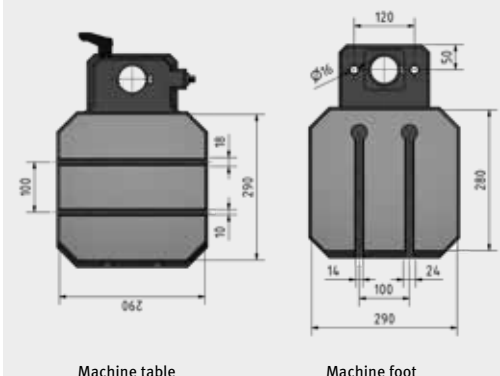
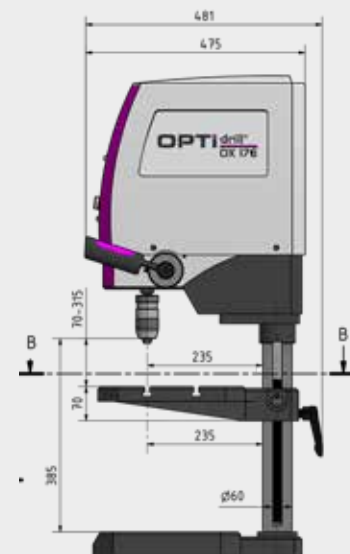
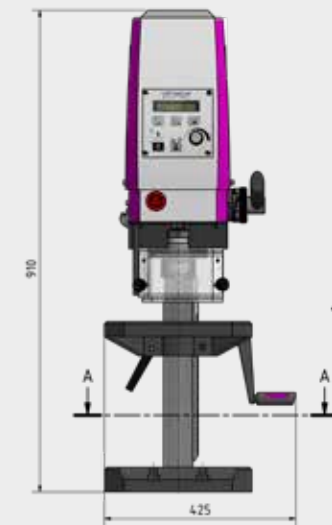
Fig.: MSU 3

### Accessories

Designation	Article no.
Quick-action drill chuck with MT2 mount 1 - 16 mm	3050571
Quick-action drill chuck with MT2 mount 1 - 13 mm	3050572
Twist drill bits HSS-CO 5%, 1- 13 mm, 25-part	3201010
Twist drill bits HSS-CO 5%, 6 - 10 mm, 41-part	3201021
Assortment of clamping tools size 8	3352015
Assortment of clamping tools size 12	3352077
T-slot nut 10 mm / M 8	3353020
T-slot nut 14 mm / M 12	3353025
Universal coolant unit	3351999
Coolant mist lubricator MMC 1 with magnetic holder	3356663
KMS 2 coolant hose	3356660
Machine mobile base MSM 1	3353000
<b>For Information on the machine bases see page 169</b>	
Universal machine and tool trolley MSU 3	3352990
Universal machine and tool trolley MSU 4	3352991
For information on the machine and tool trolleys, see page 94	

More accessories and information on accessories from page 89  
You will find a wide selection of machine vices on page 95

### Dimensions



Machine table

Machine foot

## DP 26T bench drill and DP 26F/DP 33 column drill with V-belt drive in modern design

### Facts that impress in terms of quality, performance and price

- ▶ Industrial motor
- ▶ Slow action spindle thanks to new spindle design
- ▶ Machine controls with safety electrical system in 24 V DC
- ▶ Guaranteed concentricity  $\leq$  mm measured in the drill sleeve
- ▶ Precision spindle hole
- ▶ Separate EMERGENCY-STOP push button
- ▶ Drill depth stop
- ▶ LED machine lamp integrated in drilling head
- ▶ V-belt cover with safety switch
- ▶ Thick walled steel column for high force absorption and stability
- ▶ Solid, generously dimensioned baseplate with T-slots
- ▶ Precisely machined, stable drilling table with diagonal T-slots and surrounding cooling water channel, tiltable  $\pm 45^\circ$  to the side and rotatable  $360^\circ$
- ▶ Heavy duty design of entire machine

### 400 V machines

- ▶ Right-/left-hand rotation

### The machine is pre-assembled.



Individual components of the machine still have to be assembled and joined together.



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Fig.: DP 26T

Fig.: DP 33

## Arguments,...



### V-BELT DRIVE

- › Premium Gates belts
- › The toothed V-belts enable a higher power transmission to the shaft due to their smaller wrap angle at the V-belt pulleys
- › Easy adjustment of the belt tension via excenter (toggle lever)



### STATE-OF-THE-ART CONTROL SOLUTION

- › Easily readable, digital display for viewing the speed, depth gauge and zero point



### SPINDLE

- › Outstanding smooth running thanks to innovative spindle geometry



### DRILLING DEPTH STOP SCALE

- › Easily adjustable and readable scale of the drilling depth stop

## Technical data and accessories

Model	DP 26T	DP 26F	DP 33
Article no. (230V)	3020620T	3020620F	-
Article no. (400V)	3020625T	3020625F	3020640
<b>Output</b>			
Electrical connection	230 V / 1 Ph ~50 Hz oder 400 V / 3 Ph ~50 Hz		400 V / 3 Ph ~50 Hz
Motor power	750 W		1.1 kW
<b>Drilling performance</b>			
Drilling performance in steel (S235JR)	Ø 25 mm		Ø 30 mm
Continuous drilling performance in steel (S235JR)	Ø 20 mm		Ø 25 mm
<b>Spindle</b>			
Spindle sleeve stroke	95 mm		125 mm
Spindle seat	MT 3		MT 4
Spindle - column distance	209 mm		270 mm
<b>Rotational speeds</b>			
Spindle speeds	200 - 2440 min <sup>-1</sup>		120 - 1810 min <sup>-1</sup>
Number of speeds	12 stages		9 stages
<b>Drilling table</b>			
Workspace length x width	308 x 308 mm		387 x 387 mm
T-slot size	12 mm, 2 running diagonally		14 mm, 2 running diagonally
Load bearing capacity of table	45 kg		65 kg
Drilling table tilts sideways / rotatable	± 45° / 360°		± 45° / 360°
Max. distance spindle - drill table	400 mm	770 mm	775 mm
<b>Machine base</b>			
Foot work surface L x W	202 x 265 mm		270 x 327 mm
T-slot size / spacing / count	14 mm / 120 mm / 2		16 mm / 150 / 150
Clearance spindle - machine base	max. 592 mm	max. 1300 mm	max. 1300 mm
<b>Dimensions and weight</b>			
Column diameter	Ø 80 mm		Ø 92 mm
Length x width x height approx.	750 x 410 x 1025 mm	750 x 410 x 1725 mm	945 x 480 x 1880 mm
Net weight approx.	98 kg	107 kg	177 kg

## Scope of delivery

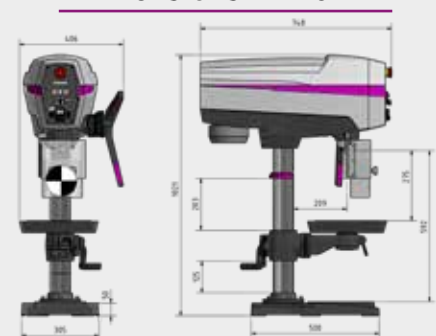
- › Quick-action drill chuck 1 - 16 mm
- › T-slot nuts
- › push-out tool
- › Taper mandrel for drill chuck
- › Operating tool

## Accessories

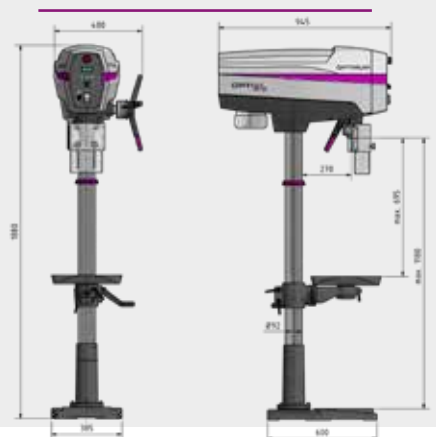
Designation	Article no.
Quick-action drill chuck DKC 13, 0 - 13 mm / B16	3050632
Quick-action drill chuck DKC 16, 0 - 16 mm / B16	3050633
Quick-action drill chuck with MT3 mount 1 - 16 mm	3050573
Quick-action drill chuck with MT4 mount 1 - 16 mm	3050574
Taper mandrel for drill chuck MT3- B16	3050660
Taper mandrel for drill chuck MT3- B16	3050661
Twist drill bits HSS-CO 5%, 1- 13 mm, 25-part	3201010
Twist drill bits HSS-CO 5%, 6 - 10 mm, 41-part	3201021
Twist drill bit HSS MT 3, 9-part	3051003
Assortment of clamping tools size 10	3352076
Assortment of clamping tools size 12	3352077
Larger drilling table 475 x 425 mm (DP 33)	3020640001

More accessories and information on accessories from page 89  
You will find a wide selection of machine vices on page 95

### Dimensions DP 26T



### Dimensions DP 33



DRILLING

CORE DRILLING

THREAD TAPPING

MILLING

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORKING

LIGHTING

COOLING

## Bench drill DP 26V-T and column drills DP 26V-F/DP 33V with electronically controlled drive in a modern design

### Facts that impress in terms of quality, performance and price

- ▶ Heavy duty design of entire machine
- ▶ Separate EMERGENCY-STOP push button
- ▶ Digital depth sensor
- ▶ Machine controls with safety electrical system in 24 V DC
- ▶ Guaranteed concentricity  $\leq$  mm measured in the drill sleeve
- ▶ Particularly smooth running thanks to new spindle design
- ▶ Industrial motor
- ▶ Main switch
- ▶ LED machine lamp integrated in drilling head
- ▶ Precision spindle hole
- ▶ Thick walled steel column for high force absorption and stability
- ▶ Speed display
- ▶ Solid, generously dimensioned baseplate with T-slots
- ▶ Precisely machined, stable drilling table with diagonal T-slots with all-round cooling water channel, can be tilted sideways by  $\pm 45^\circ$  and rotated  $360^\circ$
- ▶ V-belt cover with safety switch
- ▶ Thread tapping function with automatic changeover after reaching the depth

### The machine is pre-assembled.



Individual components of the machine still have to be assembled and joined together.



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Fig.: DP 26VT



Fig.: DP 26VF

## Arguments,...



### INVERTER DRIVE

- › Stepless speed control using inverter technology
- › Easily accessible
- › Premium Gates belts
- › To ensure that you can always set the optimum torque for machining, the belt can also be switched to the appropriate belt stage. This ensures a longer service life for the tools and reduces the load on the entire machine design
- › Easy adjustment of the belt tension via excenter (toggle lever)

### SIEMENS SINAMICS V 20 FREQUENCY INVERTER

- › Energy-saving features
- › Advanced cooling



### STATE-OF-THE-ART CONTROL SOLUTION

- › Easy-to-read digital display for showing:
  - Speed
  - Depth display
  - Zero point
- › Right-left rotation
- › Thread tapping function



### SPINDLE

- › Outstanding smooth running thanks to innovative spindle geometry

## Technical data and accessories

Model	DP 26V-T*	DP 26V-F*	DP 33V*
Article no.	3020675T	3020675F	3020680
	Bench drill	Column drill	Column drill
<b>Output</b>			
Electrical connection	400 V / 3 Ph ~50 Hz		400 V / 3 Ph ~50 Hz
Motor power	kW		1.1 kW
<b>Drilling performance</b>			
Drilling performance in steel (S235JR)	Ø 25 mm		Ø 30 mm
Continuous drilling performance in steel (S235JR)	Ø 20 mm		Ø 25 mm
Thread tapping in steel (S235JR)	M 10		M 12
<b>Spindle</b>			
Spindle sleeve stroke	95 mm		125 mm
Spindle seat	MT 3		MT 4
Spindle - column distance	209 mm		270 mm
<b>Rotational speeds</b>			
Spindle speeds	60 - 3050 min <sup>-1</sup>		70 - 2800 min <sup>-1</sup>
Number of speeds	12 stages, electronically adjustable		9 stages, electronically adjustable
<b>Drill table</b>			
Workspace length x width	308 x 308 mm		387 x 387 mm
T-slot size	12 mm, 2 running diagonally		14 mm, 2 running diagonally
Load bearing capacity of table	40 kg		55 kg
Drilling table tilts sideways / rotatable	± 45° / 360°		± 45° / 360°
Max. distance spindle - drill table	400 mm	770 mm	775 mm
<b>Machine base</b>			
Foot work surface L x W	202 x 265 mm		270 x 327 mm
T-slot size / spacing / count	14 mm / 120 mm / 2		14 mm / 150 / 150
Clearance spindle - machine base	max. 592 mm	max. 1300 mm	max. 1300 mm
<b>Dimensions and weight</b>			
Column diameter	Ø 80 mm		Ø 92 mm
Length x width x height approx.	845 x 406 x 1025 mm	845 x 406 x 1724 mm	1010 x 480 x 1880 mm
Net weight approx.	98 kg	107 kg	177 kg

## Accessories

Designation	Article no.
Quick-action drill chuck DKC 13, 0 - 13 mm / B16	3050632
Quick-action drill chuck DKC 16, 0 - 16 mm / B16	3050633
Twist drill HSS-CO 5%, 1- 13 mm, 25-part	3201010
Twist drill HSS-CO 5%, 6 - 10 mm, 41-part	3201021
Assortment of clamping tools SPW 10	3352076
Assortment of clamping tools SPW 12	3352077
<b>Accessories DP 26V</b>	
	Article no.
Quick-action drill chuck with MT3 mount 1 - 16 mm	3050573
Taper mandrel for drill chuck MT3- B16	3050660
Twist drill bit HSS MT 3, 9-part	3051003
<b>Accessories DP 33V</b>	
	Article no.
Quick-action drill chuck with MT4 mount 1 - 16 mm	3050574
Taper mandrel for drill chuck MT3- B16	3050661
Larger drilling table 475 x 425 mm	3020640001

More accessories and information on accessories from page 89

You will find a wide selection of machine vices on page 95

## Scope of delivery

- › Quick-action drill chuck 1 - 16 mm
- › T-slot nuts
- › push-out tool
- › Taper mandrel for drill chuck
- › Operating tool

## DP 26BV-T bench drill and DP 26BV-F/DP 33 column drill with V-belt drive in a modern design

### Facts that impress in terms of quality, performance and price

- ▶ Separate EMERGENCY-STOP push button
- ▶ Digital depth sensor
- ▶ Machine controls with safety electrical system in 24 V DC
- ▶ Guaranteed concentricity  $\leq$  mm measured in the drill sleeve
- ▶ Particularly smooth running thanks to new spindle design
- ▶ Industrial motor
- ▶ LED machine lamp integrated in drilling head
- ▶ Precision spindle hole
- ▶ Thick walled steel column for high force absorption and stability
- ▶ Speed display
- ▶ Thread tapping device.
- ▶ Main switch and motor circuit breaker
- ▶ Two-stage motor
- ▶ Solid, generously dimensioned baseplate with T-slots
- ▶ Precisely machined, stable drilling table with diagonal T-slots with all-round cooling water channel, can be tilted sideways by  $\pm 45^\circ$  and rotated  $360^\circ$
- ▶ V-belt cover with safety switch



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### The machine is pre-assembled.



Individual components of the machine still have to be assembled and joined together.

**The highlight:**  
Speed adjustment at the touch of a button

### Arguments,...



#### VARIATOR BELT DRIVE

- › By varying the distance between the conical pulleys, the belt can have different diameters. This leads to a stepless adjustment of the transmission ratio and thus to a variable speed of the drilling spindle.
- › The highlight: The user can change the distance between the conical discs using an actuator via the pushbuttons on the control panel.
- › The speed changes when the spindle is rotating

#### VARIATOR BELT DRIVE

- › Durable wide groove v-belt
- › Extremely reliable thanks to electrically adjustable speed
- › Powerful, smooth action
- › Speed change only possible when spindle is running
- › Permanent optimal motor efficiency



#### STATE-OF-THE-ART CONTROL SOLUTION

- › Easy-to-read digital display for showing: speed, depth gauge, zero point
- › Right-left rotation
- › Thread tapping function
- › **The highlight, speed adjustment at the touch of a button**



#### SPINDLE

- › Outstanding smooth running thanks to innovative spindle geometry



Fig.: DP 26BV-T



Fig.: DP 26BV-F

## Technical data and accessories

Model	DP 26BV-T*	DP 26BV-F*	DP 33BV*
Article no.	3027660T	3027660F	3027685
<b>Output</b>			
Electrical connection	400 V / 3 Ph ~50 Hz		400 V / 3 Ph ~50 Hz
Motor power	/ kW		1.5 kW
<b>Drilling performance</b>			
Drilling performance in steel (S235JR)	Ø 25 mm		Ø 30 mm
Continuous drilling performance in steel (S235JR)	Ø 20 mm		Ø 25 mm
Thread tapping in steel (S235JR)	M 10		M 12
<b>Spindle</b>			
Spindle sleeve stroke	95 mm		125 mm
Spindle seat	MT 3		MT4
Spindle - column distance	209 mm		270 mm
<b>Rotational speeds</b>			
Spindle speeds	420 - 2100 min <sup>-1</sup>		420 - 2130 min <sup>-1</sup>
Number of speeds	2 stages, electronically adjustable		2 stages, electronically adjustable
<b>Drill table</b>			
Workspace length x width	308 x 308 mm		387 x 387 mm
	12 mm, 2 running diagonally		14 mm, 2 running diagonally
Load bearing capacity of table	40 kg		55 kg
Drilling table tilts sideways / rotatable	± 45° / 360°		± 45° / 360°
Max. distance spindle - drill table	400 mm	740 mm	775 mm
<b>Machine base</b>			
Foot work surface L x W	202 x 265 mm		270 x 327 mm
T-slot size / spacing / count	14 mm / 120 mm / 2		14 mm / 150 mm / 2
Clearance spindle - machine base	max. 592 mm	max. 1300 mm	1300 mm
<b>Dimensions and weight</b>			
Column diameter	Ø 80 mm		Ø 92 mm
Length x width x height approx.	748 x 406 x 1025 mm	748 x 406 x 1724 mm	945 x 480 x 1880 mm
Net weight approx.	101 kg	111 kg	177 kg

## Accessories

Designation	Article no.
Quick-action drill chuck DKC 13, 0 - 13 mm / B16	3050632
Quick-action drill chuck DKC 16, 0 - 16 mm / B16	3050633
Twist drill bits HSS-CO 5%, 1 - 13 mm, 25-part	3201010
Twist drill bits HSS-CO 5%, 6 - 10 mm, 41-part	3201021
Assortment of clamping tools size 10	3352076
Assortment of clamping tools size 12	3352077
<b>Accessories DP 26V</b>	
Quick-action drill chuck with MT3 mount 1 - 16 mm	3050573
Taper mandrel for drill chuck MT3- B16	3050660
Twist drill bit HSS MT 3, 9-part	3051003

More accessories and information on accessories from page 89  
You will find a wide selection of machine vices on page 95

## Scope of delivery

- › Quick-action drill chuck 1 - 16 mm
- › T-slot nuts
- › push-out tool
- › Taper mandrel for drill chuck
- › Operating tool

DRILLING

CORE DRILLING

THREAD TAPPING

MILLING

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORKING

LIGHTING

COOLING

## Rugged bench and column drills with V-belt drive

### Facts that impress in terms of quality, performance and price

- ▶ Smooth, powerful industrial electric motor
- ▶ Guaranteed concentricity  $\leq 5$  mm measured in the drilling spindle
- ▶ Drill spindle with precision ball bearings
- ▶ Separate EMERGENCY-STOP push button
- ▶ Measuring scale for drilling depth
- ▶ Generously dimensioned, height adjustable protective screen with safety switch
- ▶ Premium Optimum quick clamping chuck as standard equipment
- ▶ Rugged cast column
- ▶ Precision machined drilling table with two diagonal T-slots and all-around cooling water channel
- ▶ V-belt cover with safety switch
- ▶ V-belt quick tensioning device
- ▶ Solid, generously dimensioned baseplate with T-slots, heavily ribbed on rear
- ▶ The baseplate can be used for particularly high workpieces by swivelling out the drilling table

Equipment level	B 16H	B 24H	B 28H	B 34H
Machine lamp		✓	✓	✓
Clockwise/anticlockwise rotation		✓ (400 V)	✓	✓
Digital depth sensor				✓
Digital speed display				✓
Integrated push-out tool			✓	✓

### Arguments,...



#### V-BELT DRIVE

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



Fig.: B 16H



Fig.: B 24H



Fig.: B 28H



Fig.: B 34H

## Technical data and accessories

Model	B 16H	B 24H	B 28H	B 34H
Article no. (230V)	-	3020241	-	-
Article no. (400V)	3020217	3020243	3020283	3020333
<b>Output</b>				
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 power	550 W	850 W	850 W	1.5 / 2.2 kW
<b>Drilling performance</b>				
Drilling performance in steel (S235JR)	Ø 13 mm	Ø 24 mm	Ø 28 mm	Ø 34 mm
Continuous drilling performance in steel (S235JR)	Ø 11 mm	Ø 20 mm	Ø 24 mm	Ø 26 mm
<b>Spindle</b>				
Spindle sleeve stroke	65 mm	85 mm	105 mm	160 mm
Spindle seat	MT 2	MT 2	MT 3	MT 4
Spindle - column distance	130 mm	165 mm	200 mm	285 mm
<b>Rotational speeds</b>				
Spindle speeds	450 - 3500 min <sup>-1</sup>	350 - 4000 min <sup>-1</sup>	120 - 4000 min <sup>-1</sup>	145 - 4800 min <sup>-1</sup>
Number of speeds	5 stages	7 stages	16 stages	2 x 9 speeds
<b>Drill table</b>				
Workspace length x width	230 x 245 mm	280 x 300 mm	340 x 360 mm	420 x 400 mm
T-slot size	12 mm 2 running diagonally	14 mm 2 running diagonally	14 mm 2 running diagonally	14 mm 2 running diagonally
Rotating drilling table	360°	360°	360°	360°
Max. distance spindle - drill table	370 mm	515 mm	860 mm	790 mm
<b>Machine base</b>				
Machine base work area L x W	200 x 240 mm	280 x 260 mm	320 x 320 mm	390 x 390 mm
T-slot size / spacing / count	12 mm / 80 mm / 2	14 mm / 120 mm / 2	14 mm / 120 mm / 2	14 mm / 150 mm / 2
Clearance spindle - machine base	max. 495 mm	max. 590 mm	max. 1,285 mm	max. 1,275 mm
<b>Dimensions and weight</b>				
Column diameter	Ø 60 mm	Ø 80 mm	Ø 92 mm	Ø 115 mm
Length x width x height	550 x 300 x 850 mm	665 x 435 x 1000 mm	700 x 450 x 1721 mm	920 x 585 x 1900 mm
Net weight	54 kg	92 kg	142 kg	260 kg

## Scope of delivery

- › Quick-action drill chuck 1 - 13 mm (B16H)
- › Quick-action drill chuck 1 - 16 mm (as of B 24H)
- › Taper mandrel for drill chuck
- › T-slot nuts

## Accessories

Designation	Article no.
Twist drill bits HSS-CO 5%, 25-part	3201010
Twist drill bits HSS-CO 5%, 41-part	3201021
Universal coolant unit	3351999
Coolant mist lubricator MMC 1 with magnetic holder	3356663
KMS 2 coolant hose	3356660

More accessories and information on accessories from page 89

You will find a wide selection of machine vices on page 95

Coolant accessories see page 93

## Accessories

Accessories B 16H / B 24H	Article no.
Quick-action drill chuck with MT2 mount, 1 - 16 mm	3050571
Quick-action drill chuck with MT2 mount 1 - 13 mm	3050572
Twist drill HSS MT 2, 9-part	3051002
Assortment of clamping tools SPW 10, 58-part	3352076
Taper drill punch MSP1	3050636

Accessories B 28H	Article no.
Quick-action drill chuck with MT3 mounting	3050573
Twist drill HSS / MT 3, 9-part	3051003
Assortment of clamping tools SPW 12, 58-part	3352077
Thread tapping chuck, 7 inserts M3 - M12	3050705
Thread tapping chuck, 7 inserts M8 - M20	3050706
Adapter MT 3-MT 2	3050663

Accessories B 34H	Article no.
Quick-action drill chuck with MT4 mount	3050574
Assortment of clamping tools SPW 12, 58-part	3352077
Thread tapping chuck, 7 inserts M3 - M12	3050709
Thread tapping chuck, 7 inserts M8 - M20	3050710
Adapter MT 4-MT 3	3050664

DRILLING

CORE DRILLING

THREAD TAPPING

MILLING

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORKING

LIGHTING

COOLING

## Rugged bench and column drilling machines with automatic spindle sleeve feed

### Facts that impress in terms of quality, performance and price

- ▶ Guaranteed concentricity  $\leq 5$  mm measured in the drilling spindle
- ▶ Separate EMERGENCY-STOP push button
- ▶ Drill depth stop
- ▶ Right-/left-hand rotation
- ▶ Best power transmission thanks to aluminium pulleys in conjunction with toothed GATES quality V-belt
- ▶ Smooth action thanks to ground multi-tooth carrier
- ▶ Premium OPTIMUM quick clamping chuck as standard
- ▶ Generously dimensioned, height adjustable protective screen with safety switch for greatest possible user protection
- ▶ Precision workmanship, rugged drilling table with two diagonal T-slots, 360° rotation and all-around cooling water channel
- ▶ V-belt cover with safety switch
- ▶ V-belt tensioning device
- ▶ Thick walled cast column for high force absorption and stability
- ▶ Solid baseplate, large dimensions and heavily ribbed on rear



Fig.: DH 28FS

### Arguments,...



#### V-BELT TENSIONING DEVICE SPINDLE SLEEVE FEED

- › The feed is driven by a belt pulley
- › The feed rate depends on the selected spindle speed
- › Clamp and release the V-belt with a lever



#### AUTOMATIC SPINDLE SLEEVE FEED

- › 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.



#### INTEGRATED PUSH-OUT TOOL

- › for simple tool changes



#### MACHINE LAMP

- › integrated into drill head

## Technical data and accessories

Model	DH 28FT	DH 28FS
Article no.	3020260	3020284
<b>Output</b>		
Electrical connection	400 V / 3 Ph ~50 Hz	
Motor power	850 W	
<b>Drilling performance</b>		
Drilling performance in steel (S235JR)	Ø 28 mm	
Continuous drilling performance in steel (S235JR)	Ø 24 mm	
<b>Spindle</b>		
Spindle sleeve stroke	105 mm	
Spindle sleeve feed	0.02 mm/rev	
Spindle seat	MT 3	
Spindle - column distance	200 mm	
<b>Rotational speeds</b>		
Spindle speeds	120 - 3000 min <sup>-1</sup>	
Number of speeds	12 stages	
<b>Drilling table</b>		
Workspace length x width	340 x 360 mm	
T-slot size	14 mm, 2 running diagonally	
Max. distance spindle - drill table	540 mm	928 mm
<b>Machine base</b>		
Machine base work area L x W	320 x 320 mm	
T-slot size / spacing / count	14 mm / 120 mm / 2	
Clearance spindle - machine base	max. 700 mm	max. 1,279 mm
<b>Dimensions and weight</b>		
Column diameter	Ø 92 mm	
Length x width x height	715 x 455 x 1150 mm	715 x 455 x 1720 mm
Net weight	132 kg	146 kg

## Accessories

Accessories DH 24FT	Article no.
Quick-action drill chuck with MT2 mount 1 - 16 mm	3050571
Quick-action drill chuck with MT2 mount 1 - 13 mm	3050572
Twist drill bit HSS MT 2, 9-part	3051002
Twist drill bits HSS-CO 5%, 1- 13 mm, 25-part	3201010
Twist drill bits HSS-CO 5%, 6 - 10 mm, 41-part	3201021
Thread tapping chuck, 7 inserts M3-M12	3050702
Universal coolant unit	3351999
Coolant mist lubricator MMC 1 with magnetic holder	3356663
KMS 2 coolant hose	3356660

Accessories DH 28FT/DH 28FS	Article no.
Quick-action drill chuck with MT2 mount 1 - 16 mm	3050573
Twist drill bit HSS MT 3, 9-part	3051003
Twist drill bits HSS-CO 5%, 1- 13 mm, 25-part	3201010
Twist drill bits HSS-CO 5%, 6 - 10 mm, 41-part	3201021
Hold-down device 14 mm/M 12	3352031
Thread tapping chuck, 7 inserts M3-M12	3050705
Universal coolant unit	3351999
Coolant mist lubricator MMC 1 with magnetic holder	3356663
KMS 2 coolant hose	3356660

More accessories and information on accessories from page 89

You will find a wide selection of machine vices on page 95

Coolant accessories see page 93

## Scope of delivery

- › Quick-action drill chuck 1 - 16 mm
- › Taper mandrel for drill chuck
- › T-slot nut

## Rugged table drilling machine with powerful OPTIMUM brushless drive. Machine highlight - menu-controlled operation of the drilling/thread cutting operation modes

### Facts that impress in terms of quality, performance and price

- ▶ Smooth action and powerful brushless drive
- ▶ Guaranteed concentricity  $\leq 5$  mm measured in the drilling spindle
- ▶ Drilling spindle with precision ball bearings
- ▶ Separate EMERGENCY-STOP push button
- ▶ Drill depth stop
- ▶ Membrane keyboard, soiling and water resistant, easy to clean
- ▶ Best power transmission thanks to aluminium pulleys in conjunction with toothed GATES quality V-belt
- ▶ Smooth action thanks to ground multi-tooth carrier
- ▶ Premium OPTIMUM quick clamping chuck as standard
- ▶ Precisely machined drilling table with 2 diagonal T-slots, 360° rotatable
- ▶ Circumferential coolant channel surrounding the drilling table
- ▶ Generously dimensioned, height adjustable protective screen with safety switch for greatest possible user protection
- ▶ V-belt cover with safety switch
- ▶ V-belt tensioning device
- ▶ Solid baseplate with, heavily ribbed on rear



Fig.: DH 18V

## Arguments,...



### POWERFUL BRUSHLESS DRIVE

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

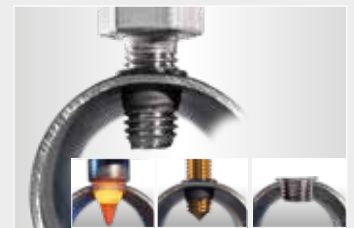


### MENU-CONTROLLED OPERATION

- › Working modes: Drilling/thread tapping

### OLED display

- › Spindle speed
- › Depth display (target/actual)
- › Drilling
- › Thread tapping
- › Workpiece thickness selection



› Information on page 97



### V-BELT TENSION LEVER

- › Easy tensioning of the V-belts

## Technical specifications, accessories and dimensions

Model	DH 18V
Article no.	3020220
<b>Output</b>	
Electrical connection	230 V / 1 Ph ~50 Hz
Motor power	1.5 kW
<b>Drilling performance</b>	
Drilling performance in steel (S235JR)	Ø 18 mm
Continuous drilling performance in steel (S235JR)	Ø 16 mm
Thread tapping in steel (S235JR)	M 10
<b>Spindle</b>	
Spindle sleeve stroke	65 mm
Spindle seat	MT 2
Spindle - column distance	130 mm
<b>Rotational speeds</b>	
Spindle speeds	100 - 6000 min <sup>-1</sup>
Number of speeds	5 stages
	Electronic speed control
<b>Drill table</b>	
Workspace length x width	230 x 245 mm
T-slot size	12 mm, 2 running diagonally
Rotating drilling table	360°
Max. distance spindle - drill table	370 mm
<b>Machine base</b>	
Machine base work area L x W	220 x 240 mm
T-slot size / spacing / count	12 mm / 80 mm / 2
Max. distance spindle - machine base	485 mm
<b>Dimensions and weight</b>	
Column diameter	Ø 60 mm
Length x width x height	445 x 550 x 850 mm
Net weight	64 kg

## Scope of delivery

- › Quick-action drill chuck 1 - 13 mm
- › Tapered shank for drill chuck MT 2
- › T-slot nuts

## Accessories

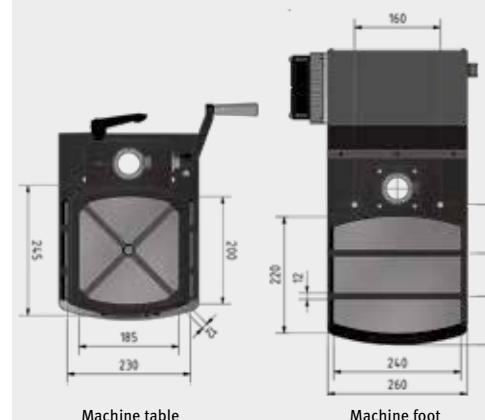
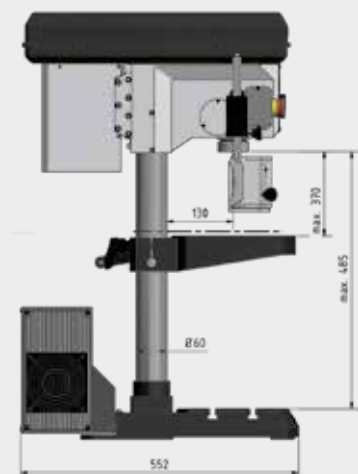
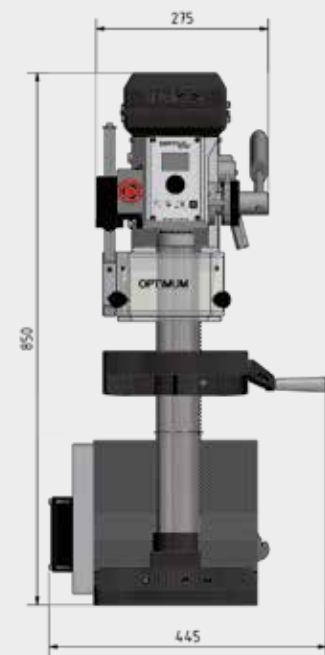
Designation	Article no.
Quick-action drill chuck with MT2 mount 1 - 16 mm	3050571
Quick-action drill chuck with MT2 mount 1 - 13 mm	3050572
Twist drill bits HSS-CO 5%, 1- 13 mm, 25-part	3201010
Twist drill bits HSS-CO 5%, 6 - 10 mm, 41-part	3201021
Twist drill bit HSS MT 2, 9-part	3051002
Taper drill punch MSP1	3050636
Thread tapping chuck, 7 inserts M3 - M12	3050702
Thermdrill Basic Set	3060004
Assortment of clamping tools SPW 10, 58-part	3352076
Universal coolant unit	3351999
Coolant mist lubricator MMC 1 with magnetic holder	3356663
KMS 2 coolant hose	3356660
Machine mobile base MSM 1	3353000
Universal machine and tool trolley MSU 3	3352990

More accessories and information on accessories from page 89

You will find a wide selection of machine vices on page 95

Coolant accessories see page 93

## Dimensions



Machine table

Machine foot

## Rugged bench and column drills with powerful OPTIMUM brushless drive, electronically adjustable speed

### Facts that impress in terms of quality, performance and price

- ▶ Powerful brushless drive with particularly smooth action and high performance with almost constant torque over the entire speed range
- ▶ Guaranteed concentricity  $\leq 5$  mm measured in the drilling spindle
- ▶ Separate EMERGENCY-STOP push button
- ▶ Measuring scale for drilling depth
- ▶ Clockwise/anticlockwise rotation
- ▶ Best power transmission thanks to aluminium pulleys in conjunction with toothed GATES quality V-belt
- ▶ Smooth action thanks to ground multi-tooth carrier
- ▶ Premium OPTIMUM quick clamping chuck as standard
- ▶ Digital speed display integrated in housing
- ▶ Generously dimensioned, height adjustable protective screen with safety switch for greatest possible user protection
- ▶ Single-piece, pressure cast aluminium sleeve lever (B 24HV with Softgrip handles)
- ▶ V-belt cover with safety switch
- ▶ Precision workmanship, rugged drilling table with two diagonal T-slots, 360° rotation and all-around cooling water channel
- ▶ Thick walled cast column for high force absorption and stability
- ▶ Solid baseplate, large dimensions and heavily ribbed on rear

Equipment level	B 24HV	B 28HV	B 34HV
Machine lamp	✓	✓	✓
Digital speed display	✓	✓	✓
Coolant system		✓	✓
Chip filter		✓	✓
Thread tapping function			✓
Digital depth sensor			✓
Integrated push-out tool		✓	✓



Fig.: B 24HV



Fig.: B 34HV

### Arguments,...



#### B 34HV OPERATING MODE SELECTOR SWITCH

##### "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 cutting" 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



#### POWERFUL BRUSHLESS DRIVE

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



#### MACHINE LAMP

- › integrated into drill head



#### V-BELT TENSION LEVER

- › Easy tensioning of the V-belts

## Technical data and accessories

Model	B 24HV	B 28HV	B 34HV
Article no.	3020245	3020285	3020335
<b>Output</b>			
Electrical connection	230 V / 1 Ph ~50 Hz	230 V / 1 Ph ~50 Hz	230 V / 1 Ph ~50 Hz
Motor power	1.5 kW	1.5 kW	2.2 kW
Coolant pump motor	-	40 W	40 W
<b>Drilling performance</b>			
Drilling performance in steel (S235JR)	Ø 24 mm	Ø 28 mm	Ø 34 mm
Continuous drilling performance in steel (S235JR)	Ø 20 mm	Ø 24 mm	Ø 26 mm
Thread tapping in steel (S235JR)	-	-	M 16 x 2 mm
<b>Spindle</b>			
Spindle sleeve stroke	85 mm	105 mm	160 mm
Spindle seat	MT 2	MT 3	MT 4
Spindle - column distance	165 mm	200 mm	285 mm
<b>Rotational speeds</b>			
Spindle speeds	100 - 5950 min <sup>-1</sup>	35 - 5600 min <sup>-1</sup>	40 - 5000 min <sup>-1</sup>
Number of speeds	4 stages Electronic speed control	12 stages Electronic speed control	9 stages Electronic speed control
<b>Drill table</b>			
Workspace length x width	280 x 300 mm	340 x 360 mm	420 x 400 mm
T-slot size	14 mm, 2 running diagonally	14 mm, 2 running diagonally	14 mm, 2 running diagonally
Load bearing capacity of table	50 kg	50 kg	60 kg
Rotating drilling table	360°	360°	360°
Max. distance spindle - drill table	515 mm	860 mm	790 mm
<b>Machine base</b>			
Machine base work area L x W	280 x 260 mm	320 x 320 mm	390 x 390 mm
T-slot size / spacing / count	14 mm / 120 mm / 2	14 mm / 120 mm / 2	14 mm / 150 mm / 2
Rotating drilling table	360°	360°	360°
Clearance spindle - machine base	max. 590 mm	max. 1,285 mm	max. 1,275 mm
<b>Dimensions and weight</b>			
Column diameter	Ø 80 mm	Ø 92 mm	Ø 115 mm
Length x width x height	665 x 435 x 1000 mm	700 x 475 x 1755 mm	920 x 595 x 1930 mm
Net weight	96 kg	166 kg	275 kg

## Accessories

Accessories B 24HV	Article no.
Twist drill bit HSS MT 2, 9-part	3051002
Thread tapping chuck, 7 inserts M3-M12	3050702

Accessories B 28HV	Article no.
Twist drill bit HSS MT 3, 9-part	3051003
Thread tapping chuck, 7 inserts M3-M12	3050705
Adapter MT 3-MT 2	3050663

Accessories B 34HV	Article no.
Thread tapping chuck, 7 inserts M3-M12	3050709
Adapter MT 4-MT 3	3050664

Designation	Article no.
Twist drill bits HSS-CO 5%, 25-part	3201010
Twist drill bits HSS-CO 5%, 41-part	3201021
Assortment of clamping tools size 12	3352077
Hold-down device 14 mm/M 12	3352031

More accessories and information on accessories from page 89

You will find a wide selection of machine vices on page 95

Coolant accessories see page 93

\* Note: The machines (frequency converters) comply with the DIN EN 55011 standard: class C2 Important information on operating machines with frequency converters see page 325

## Scope of delivery

- › Quick-action drill chuck 1 - 16 mm
- › Taper mandrel for drill chuck

DRILLING

CORE DRILLING

THREAD TAPPING

MILLING

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORKING

LIGHTING

COOLING

## Bench and column drilling machines with stepless, mechanical belt drive. Quick speed adjustment using a lever

### Facts that impress in terms of quality, performance and price

- ▶ Smooth action powerful electric motor
- ▶ Two speeds
- ▶ Guaranteed concentricity  $\leq 5$  mm measured in the drilling spindle
- ▶ Drilling spindle with precision ball bearings
- ▶ Clockwise/anticlockwise rotation
- ▶ Digital speed display integrated in housing
- ▶ Precisely machined drilling table with 2 diagonal T-slots, 360° rotatable, with surrounding cooling water channel
- ▶ Height adjustable chuck guard with micro switch for greatest possible protection of the user
- ▶ V-belt cover with safety switch
- ▶ Premium quick clamping chuck as standard
- ▶ Thick walled cast column for high force absorption and stability
- ▶ Solid baseplate with, heavily ribbed on rear
- ▶ The baseplate can be used as a workspace for particularly high workpieces by swivelling out the drilling table

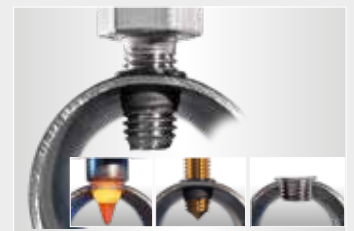
Equipment level	DH 24BV	DH 28BV	DH 40BV
Integrated push-out tool		✓	✓
Dig. Depth gauge			✓
Primary gear			✓

### Arguments,...



#### SPEED SETTING

- › Quicker speed adjustment using a lever



- › Informations on page 97



#### MACHINE LAMP

- › integrated into drill head

### VARIATOR BELT DRIVE



- › Durable wide groove v-belt
- › Extremely reliable thanks to electrically adjustable speed
- › Powerful, smooth action
- › Speed change possible during operation
- › Permanent optimal motor efficiency
- › By varying the distance between the conical pulleys, the belt can have different diameters.
- › This leads to a stepless adjustment of the transmission ratio and thus to a variable speed of the drilling spindle.
- › The highlight: The user can change the distance between the conical pulleys using an actuator via the pushbuttons on the control panel.
- › The speed changes when the spindle is rotating.



Fig.: DH 24BV



Fig.: DH 40BV

## Technical data and accessories

Model	DH 24BV	DH 28BV	DH 40BV
Article no.	3020420	3020430	3020450
<b>Output</b>			
Electrical connection	400 V / 3 Ph ~50 Hz	400 V / 3 Ph ~50 Hz	400 V / 3 Ph ~50 Hz
Motor power	1.5 kW	1.5 kW	1.5 / 2.2 kW
<b>Drilling performance</b>			
Drilling performance in steel (S235JR)	Ø 24 mm	Ø 28 mm	Ø 40 mm
Continuous drilling performance in steel (S235JR)	Ø 20 mm	Ø 24 mm	Ø 32 mm
<b>Spindle</b>			
Spindle sleeve stroke	85 mm	105 mm	160 mm
Spindle seat	MT 2	MT 3	MT 4
Spindle - column distance	165 mm	200 mm	285 mm
<b>Rotational speeds</b>			
Spindle speeds	300 - 4000 min <sup>-1</sup>	300 - 4000 min <sup>-1</sup>	150 - 2000 min <sup>-1</sup>
Number of speeds	2 speed motor, manual	2 speed motor, manual	2 speed motor, manual
<b>Drill table</b>			
Workspace length x width	280 x 300 mm	340 x 360 mm	420 x 400 mm
T-slot size	14 mm, 2 running diagonally	14 mm, 2 running diagonally	14 mm, 2 running diagonally
Max. distance spindle - drill table	515 mm	860 mm	790 mm
<b>Machine base</b>			
Machine base work area L x W	280 x 260 mm	320 x 320 mm	390 x 400 mm
T-slot size / spacing / count	14 mm / 120 mm / 2	14 mm / 120 mm / 2	14 mm / 150 mm / 2
Rotating drilling table	360°	360°	360°
Clearance spindle - machine base	max. 681 mm	max. 1,285 mm	max. 1,275 mm
<b>Dimensions and weight</b>			
Column diameter	Ø 80 mm	Ø 92 mm	Ø 115 mm
Length x width x height	675 x 555 x 1025 mm	755 x 550 x 1745 mm	920 x 680 x 1895 mm
Net weight	115 kg	152 kg	275 kg

## Scope of delivery

- › Quick-action drill chuck 1 - 16 mm
- › Tapered shank for drill chuck MT
- › T-slot nuts

## Accessories

Designation	Article no.
Quick-action drill chuck 1 - 10 mm; B16	3050610
Quick-action drill chuck DKC 13, 0 - 13 mm / B16	3050632
Quick-action drill chuck DKC 16; 0-16 mm / B16	3050633
Twist drill bits HSS-CO 5%, 25-part	3201010
Twist drill bits HSS-CO 5%, 41-part	3201021
Assortment of clamping tools size 12	3352077
Hold-down device 14 mm/M 12	3352031
Universal coolant unit	3351999
Coolant mist lubricator MMC 1 with magnetic holder	3356663
KMS 2 coolant hose	3356660

More accessories and information on accessories from page 89

You will find a wide selection of machine vices on page 95

Coolant accessories see page 93

## Accessories

Accessories DH 24BV	Article no.
Quick-action drill chuck with MT2 mount 1 - 16 mm	3050571
Quick-action drill chuck with MT2 mount 1 - 13 mm	3050572
Tapered shank for drill chuck MT 2/B16	3050659
Twist drill HSS MT 2, 9-part	3051002
Taper drill punch MSP1	3050636
Thread tapping chuck MT 2, 7 pcs. M3-12	3050702
Assortment of clamping tools SPW 10, 58-part	3352076
Accessories DH 28BV	Article no.
Quick-action drill chuck with MT3 mounting	3050573
Tapered shank for drill chuck MT 3/B16	3050660
Twist drill HSS / MT 3, 9-part	3051003
Thread tapping chuck MT 3, 7 pcs. M3-12	3050705
Thread tapping chuck MT 3, 7 pcs. M8-20	3050706
Adapter MT 3-MT 2	3050663
Assortment of clamping tools SPW 12, 58-part	3352077
Accessories DH 40BV	Article no.
Quick-action drill chuck with MT4 mount	3050574
Tapered shank for drill chuck MT 4/B16	3050661
Thread tapping chuck MT 4, 7 pcs. M3-12	3050709
Thread tapping chuck MT 4, 7 pcs. M8-20	3050710
Adapter MT 4-MT 3	3050664
Assortment of clamping tools SPW 12, 58-part	3352077

# **GEAR DRILLING MACHINES**

DH 26GT | Art. no.: 3034220

**Bench drill**  
with gearwheels  
made of polyamide



**DH 35V | Art. no.: 3034253**

**Gear drilling machine  
with modern  
operating concept**



## Universal column gear drilling machines for milling and drilling with 12 speeds

### Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid cast design
- ▶ Smooth running due to ground gearwheels running in an oil bath
- ▶ Two-stage industrial electric motor
- ▶ Thread tapping function
- ▶ Gear head and table are height adjustable
- ▶ Generously dimensioned, solid drilling table, precision workmanship, with 2 diagonal T-slots and recirculating coolant duct, heavily ribbed on rear side and double clamping
- ▶ Drill depth stop
- ▶ Height-adjustable chuck protection with micro switch for greatest possible protection of the user
- ▶ Coupling for switching over from manual rough to manual fine feed
- ▶ Thick walled cast column for high force absorption and stability
- ▶ Solid baseplate with precision surface finish can be used as a workspace for particularly high workpieces by swivelling out the drilling table

Equipment level	DH 40G	DH 40GP	DH 40GPE
Manual spindle sleeve feed	✓		
Automatic spindle sleeve feed		✓	✓
Electrical spindle sleeve feed			✓
LED work light			✓
Coolant pump			✓



Fig.: DH 40G



Fig.: DH 40GPE

### Arguments,...



#### DH 40GP AUTOMATIC AND MANUAL SLEEVE FEED

› Drilling depth stop adjustable within range of 0-120 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



#### DH 40GPE ELECTRICAL SLEEVE FEED

› The feed mechanism is operated directly by its own geared motor  
 › Advantage: The feed speed can be set independently of the current spindle speed



#### GEARHEAD

› Tilt sideways by  $\pm 45^\circ$



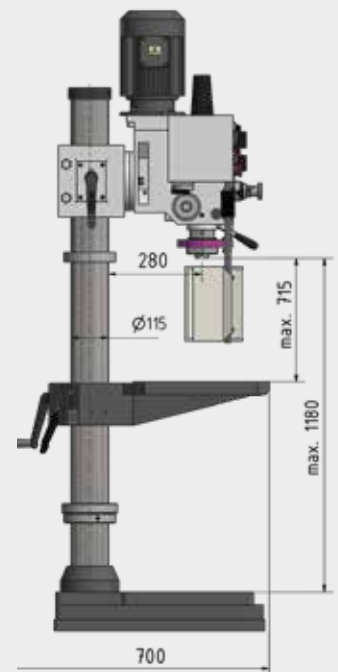
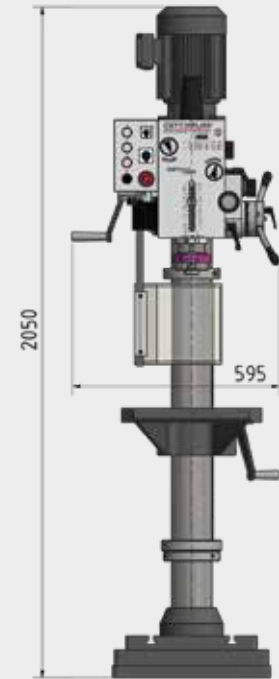
#### OPERATING PANEL

› User-friendly membrane keyboard

## Technical specifications, accessories and dimensions

Model	DH 40G	DH 40GP	DH 40GPE
Article no.	3034356	3034361	3035357
<b>Output</b>			
Electrical connection	400 V / 3 Ph ~50 Hz		
Motor power	1.1 / 1.5 kW		
<b>Drilling performance</b>			
Drilling performance in steel (S235JR)	Ø 32 mm		
Continuous drilling performance in steel (S235JR)	Ø 25 mm		
Thread tapping in steel (S235JR)	M 12		
<b>Spindle</b>			
Spindle sleeve stroke	120 mm (automatic mode) 115 mm		
Spindle sleeve diameter	75 mm		
Spindle seat	MT 4		
Spindle - column distance	280 mm		
Spindle sleeve feed	manual	automatic 0.1 - 0.26 mm/rev	electrical 0 - 130 mm/min.
Drill head can be tilted/swivelled sideways	± 45° / 360°		
Drilling head height adjustment	265 mm		
<b>Rotational speeds</b>			
Spindle speeds	95 - 3200 min <sup>-1</sup>		
Gearbox stages	2 x 6 speeds		
<b>Drill table</b>			
Length x width	500 x 460 mm		
T-slot size	14 mm, 2 running diagonally		
Cross table load capacity	50 kg		
Drill table sideways tiltable / rotatable	± 90° / 360°		
Max. distance spindle - drill table	785 mm		
<b>Machine base</b>			
Machine base work area L x W	670 x 470 mm		
T-slot size / spacing / count	14 mm / 230 mm / 2		
Clearance spindle - machine base	max. 1,210 mm		
<b>Dimensions and weight</b>			
Column diameter	Ø 115 mm		
Length x width x height	595 x 700 x 2050 mm		
Net weight	320 kg	335 kg	335 kg

## Dimensions



## Accessories

Designation	Article no.
Assortment of clamping tools SPW 12, 58-part	3352077
Twist drill bits HSS-CO 5%, 25-part, 1- 13 mm	3201010
Twist drill bits HSS-CO 5%, 41-part, 6- 10 mm	3201021
Coolant mist lubricator MMC 1 with magnetic holder	3356663
Direct quick-action drill chuck 1 - 16 mm	3050574
Collet chuck set MT 4/ ER 32, 32- 20 mm	3352094

More accessories and information about accessories from page 89 onwards

## Scope of delivery

- › Gear rim drill chuck 1-13 mm/B16
- › T-slot nuts
- › Arbor MT4/B16
- › Adapter MT 4 - MT 3
- › Morse cone MT4/B22

## Column gear drilling machines with cross table The versatile machines for milling and drilling

### Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid cast design
- ▶ High running smoothness due to ground gear wheels running in an oil bath
- ▶ Large speed range of 95 - 3200 min<sup>-1</sup>
- ▶ Two-stage industrial quality electric motor
- ▶ Generously dimensioned, solid cross table with precision surface finish, adjustable via 3 hand wheels, includes integrated length scale
- ▶ Adjustable end stops on the cross table
- ▶ Gear head and table are height adjustable
- ▶ Table guideways precisely adjustable via V-ledges
- ▶ Solid baseplate with precision surface finish can be used as a workspace for particularly high workpieces by swivelling out the X/Y table
- ▶ Right-/left-hand rotation
- ▶ Drill depth stop
- ▶ Thread tapping function



Equipment level	DH 40CT	DH 40CTP
Manual sleeve feed	✓	
Automatic spindle sleeve feed		✓

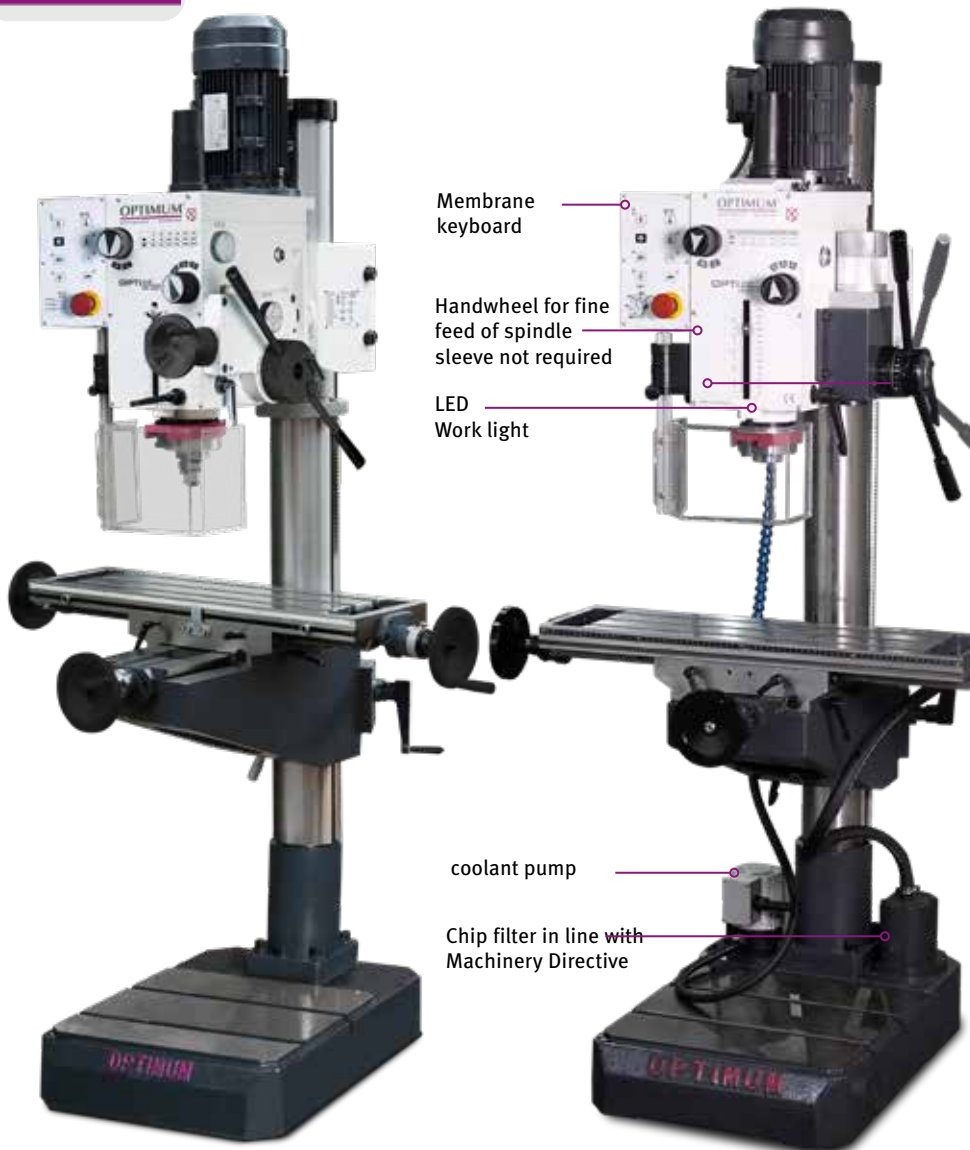


Fig.: DH 40CTP

Fig.: DH 40CTP

### Arguments,...



#### DH 40CT AUTOMATIC AND MANUAL SLEEVE FEED

› Drilling depth stop adjustable within range of 0-120 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



#### GEARHEAD

› Tilt sideways by ±45°



#### OPERATING PANEL

› User-friendly membrane keyboard

## Technical specifications, accessories and dimensions

Model	DH 40CT	DH 40CTP
Article no.	3034349	3034352
<b>Output</b>		
Electrical connection	400 V / 3 Ph ~50 Hz	
Motor power	1.1 / 1.5 kW	
<b>Drilling/milling output</b>		
Drilling performance in steel (S235JR)	Ø 32 mm	
Continuous drilling performance in steel (S235JR)	Ø 25 mm	
Maximum cutting head size	Ø 76 mm	
Maximum end mill size	Ø 25 mm	
Thread tapping in steel (S235JR)	M 16	
<b>Spindle</b>		
Spindle sleeve stroke	120 mm	
Spindle sleeve diameter	75 mm	
Spindle seat	MT 4	
Spindle - column distance	280 mm	
Spindle sleeve feed	manual	automatic 0.10   0.18   0.26 mm/rev
Drawbar	M 16	
Spindle head can be tilted/rotated sideways	± 45° / 360°	
Drilling head height adjustment	260 mm	
<b>Rotational speeds</b>		
Spindle speeds	95 - 3200 min <sup>-1</sup>	
Gearbox stages	2 x 6 speeds	
<b>Cross table</b>		
Workspace length x width	730 x 210 mm	
T-slot size / amount / distance	14 mm / 3 / 63 mm	
Cross table load capacity	50 kg	
Clearance spindle to cross table max.	600 mm	
X-axis travel manual	480 mm	
Y-axis travel manual	180 mm	
Y-axis travel manual	560 mm	
<b>Machine base</b>		
Machine base work area L x W	495 x 375 mm	
T-slot size / spacing / count	14 mm / 230 mm / 2	
Clearance spindle - machine base	max. 1,180 mm	
<b>Dimensions and weight</b>		
Column diameter	Ø 115 mm	
Length x width x height	1060 x 745 x 2090 mm	
Net weight	370 kg	

## Accessories

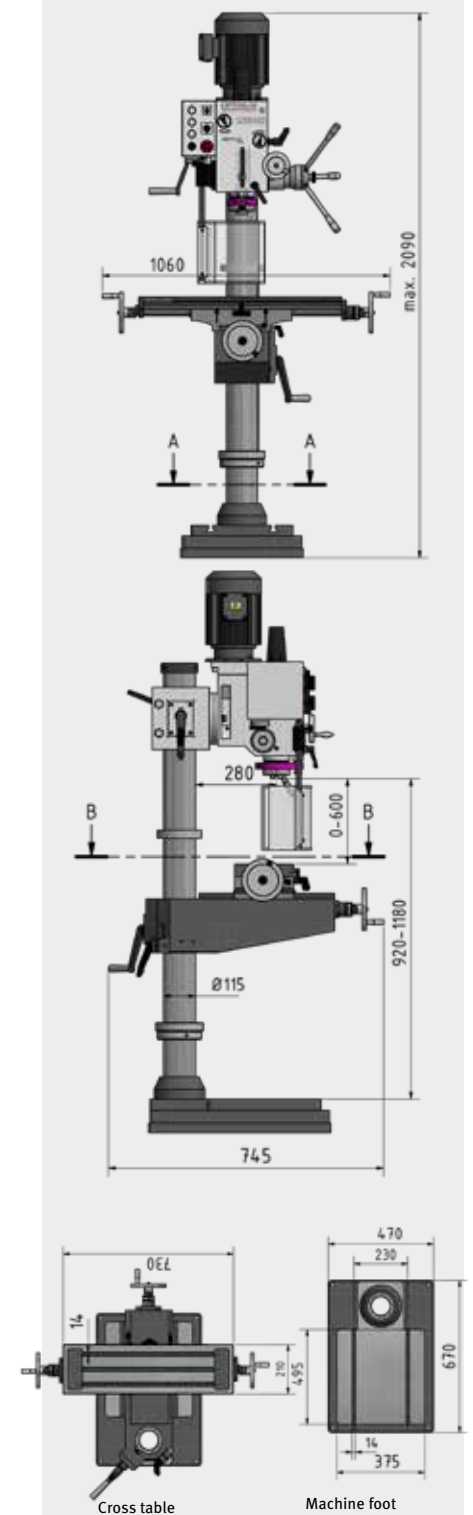
Designation	Article no.
Assortment of clamping tools SPW 12, 58-part	3352077
Hold-down device 14 mm/M 12	3352031
Parallel shim set, 20-part	3354001
Horizontal-vertical rotary indexing table RT 150	3356150
Universal coolant unit	3351999

More accessories and information on accessories from page 89

You will find a wide selection of machine vices on page 95

Coolant accessories see page 93

## Dimensions



## Scope of delivery

- › Gear rim drill chuck 1-13 mm/B16
- › T-slot nuts
- › Adapter MT 4 - MT 3
- › Arbor for drill chuck MT 4 / B16
- › Operating tool

## Column gear drilling machines with cross table The versatile machines for milling and drilling.

### Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid cast design
- ▶ High running smoothness due to ground gear wheels running in an oil bath
- ▶ Large speed range of 95 - 3200 min<sup>-1</sup>
- ▶ Two-stage industrial quality electric motor
- ▶ Generously dimensioned, solid cross table with precision surface finish, adjustable via 3 hand wheels, includes integrated length scale
- ▶ Adjustable end stops on the cross table
- ▶ Gear head and table are height adjustable
- ▶ Table guideways precisely adjustable via V-ledges
- ▶ Solid baseplate with precision surface finish can be used as a workspace for particularly high workpieces by swivelling out the X/Y table
- ▶ Right-/left-hand rotation
- ▶ Drill depth stop
- ▶ Thread tapping function
- ▶ Electrical sleeve feed



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Information & Video

Equipment level	DH 40CTPE	DH 40CTPED
Spindle sleeve feed	electrical	electrical
Speed independent	✓	✓
Coolant pump and chip filter	✓	✓
DRO6 in two axes	✓	✓
LED work light	✓	✓

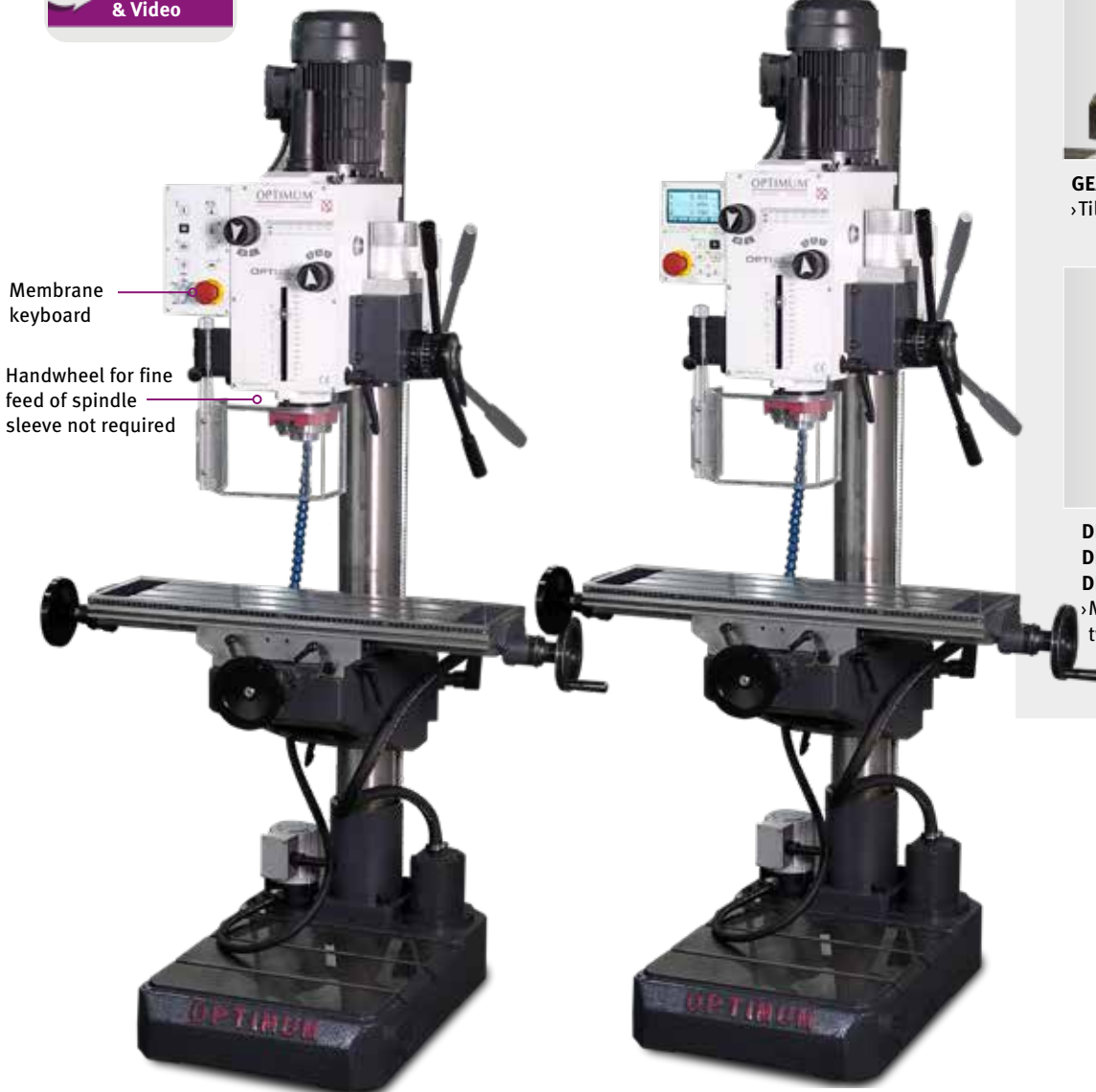


Fig.: DH 40CTPE

Fig.: DH 40CTPED

### Arguments,...



#### ELECTRICAL SLEEVE FEED

- › The feed mechanism is operated directly by its own geared motor
- › Advantage: The feed speed can be set independently of the current spindle speed



#### GEARHEAD

- › Tilt sideways by ±45°



#### DH 40CTPED DIGITAL POSITION DISPLAY DRO 6

- › Magnetic measuring system in two axes

## Technical specifications, accessories and dimensions

Model	DH 40CTPE	DH 40CTPED
Article no.	3035353	3034356
<b>Output</b>		
Electrical connection	400 V / 3 Ph ~50 Hz	
Motor power	1.1 / 1.5 kW	
<b>Drilling/milling output</b>		
Drilling performance in steel (S235JR)	Ø 32 mm	
Continuous drilling performance in steel (S235JR)	Ø 25 mm	
Maximum cutting head size	Ø 76 mm	
Maximum end mill size	Ø 25 mm	
Thread tapping in steel (S235JR)	M 16	
<b>Spindle</b>		
Spindle sleeve stroke	120 mm	
Spindle sleeve diameter	75 mm	
Spindle seat	MT 4	
Spindle - column distance	280 mm	
Spindle sleeve feed	electrical 0- 130 mm/min	
Drawbar	M 16	
Spindle head can be tilted/rotated sideways	± 45° / 360°	
Drilling head height adjustment	260 mm	
<b>Rotational speeds</b>		
Spindle speeds	95 - 3200 min <sup>-1</sup>	
Gearbox stages	2 x 6 speeds	
<b>Cross table</b>		
Workspace length x width	730 x 210 mm	
T-slot size / amount / distance	14 mm / 3 / 63 mm	
Cross table load capacity	50 kg	
Clearance spindle to cross table max.	600 mm	
X-axis travel travel manual	480 mm	
Y-axis travel travel manual	180 mm	
Y-axis travel travel manual	560 mm	
<b>Machine base</b>		
Machine base work area L x W	495 x 375 mm	
T-slot size / spacing / count	14 mm / 230 mm / 2	
Clearance spindle - machine base	max. 1,180 mm	
<b>Dimensions and weight</b>		
Column diameter	Ø 115 mm	
Length x width x height	1060 x 745 x 2090 mm	
Net weight	370 kg	

## Accessories

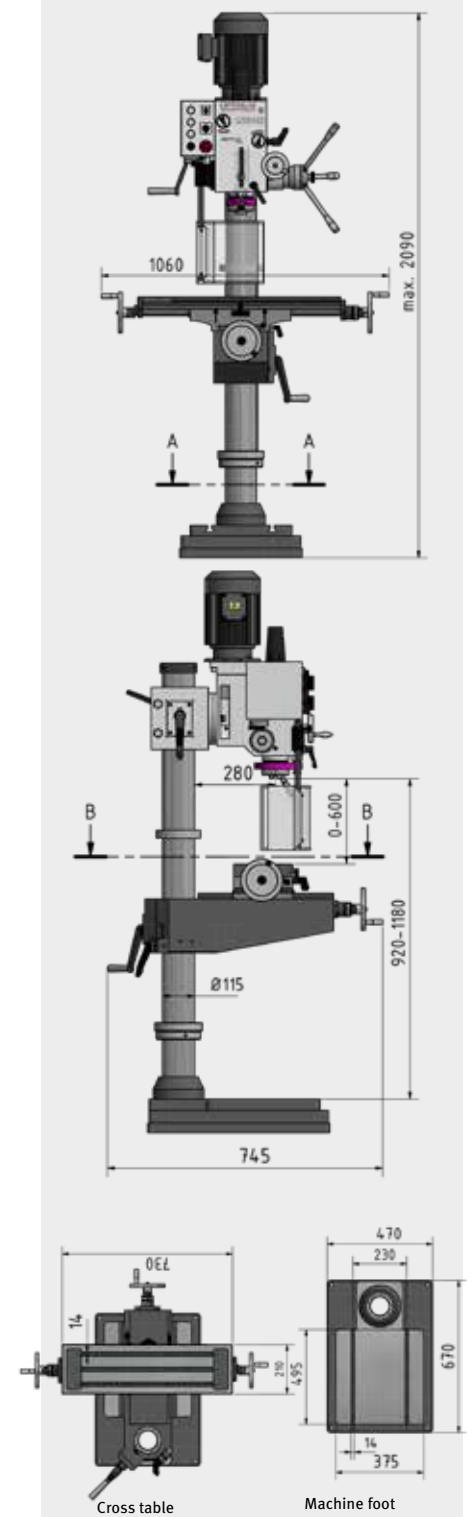
Designation	Article no.
Assortment of clamping tools SPW 12, 58-part	3352077
Hold-down device 14 mm/M 12	3352031
Parallel shim set, 20-part	3354001
Horizontal-vertical rotary indexing table RT 150	3356150
Universal coolant unit	3351999

More accessories and information on accessories from page 89

You will find a wide selection of machine vices on page 95

Coolant accessories see page 93

## Dimensions



## Scope of delivery

- › Gear rim drill chuck 1-13 mm/B16
- › T-slot nuts
- › Adapter MT 4 - MT 3
- › Arbor for drill chuck MT 4 / B16
- › Operating tool

DRILLING

CORE DRILLING

THREAD TAPPING

MILLING

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORKING

LIGHTING

COOLING

## Bench and post drills with polyamide gearwheels. Installation of an optional footswitch possible with DH 32GS

### Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid cast design
- ▶ Excellent true running accuracy thanks to hardened and ground main spindle
- ▶ Low-maintenance, grease-lubricated gearbox
- ▶ Gearbox with PA6 gearwheels
- ▶ Large speed range
- ▶ Generously dimensioned, height adjustable protective screen with safety switch for greatest possible user protection
- ▶ Adjustable drilling depth stop with millimetre scale
- ▶ Right-/left-hand rotation
- ▶ Machine lamp integrated in drilling head
- ▶ Integrated push-out tool for easy tool changes
- ▶ Precision machined drilling table with 2 diagonal T-slots, and recirculating coolant duct
- ▶ Thick walled cast column for high force absorption and stability
- ▶ Solid baseplate, large dimensions and heavily ribbed on rear

### OPTIdrill DH 32GS

- ▶ Thread tapping function
- ▶ Automatic spindle sleeve feed
- ▶ Coolant system and chip filter in line with Machinery Directive
- ▶ Optional footswitch available for toggling between clockwise/anticlockwise run and for thread tapping (Article no. 3050032)



Fig.: DH 26GT with optional drill chuck



Fig.: DH 32GS

### Arguments,...



#### DH 32GS

##### AUTOMATIC SPINDLE SLEEVE FEED

› Activation by pressure switch in sleeve lever. An electromagnetic clutch provides propulsion. The switch-off function is activated either by reaching the drilling depth stop or by pressing the push button on the spindle sleeve lever again.



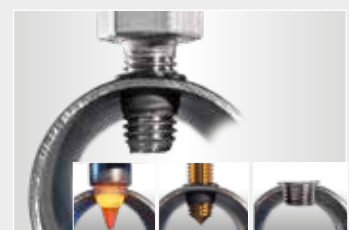
##### PUSH-OUT TOOL

› Integrated ejector for easy tool change



##### MACHINE LAMP

› integrated into drill head



› Informations on page 97

## Technical data and accessories

Model	DH 26GT	DH 28GS	DH 32GS
Article no.	3034220	3034230	3034240
<b>Output</b>			
Electrical connection	400 V / 3 Ph ~50 Hz	400 V / 3 Ph ~50 Hz	400 V / 3 Ph ~50 Hz
Motor power	1.1 / 1.5 kW	1.1 / 1.5 kW	1.5 / 2.2 kW
Coolant pump motor	-	-	40 W
<b>Drilling performance</b>			
Drilling performance in steel (S235JR)	Ø 24 mm	Ø 26 mm	Ø 30 mm
Continuous drilling capacity in steel (S235JR)	Ø 21 mm	Ø 23 mm	Ø 26 mm
Thread tapping in steel (S235JR)	-	-	M16 x 2 mm
<b>Spindle</b>			
Spindle sleeve stroke	127 mm	127 mm	125 mm
Spindle seat	MT 3	MT 3	MT 4
Spindle - column distance	235 mm	260 mm	285 mm
Automatic spindle sleeve feed	-	-	2 stages: mm / 0.1 mm
<b>Rotational speeds</b>			
Spindle speeds	75 - 2900 min <sup>-1</sup>	75 - 2900 min <sup>-1</sup>	75 - 2000 min <sup>-1</sup>
Number of speeds	8 stages	8 stages	8 stages
<b>Drilling table</b>			
Drill table work surface, length x width	380 x 380 mm	376 x 394 mm	400 x 420 mm
T-slot size	14 mm, 2 running diagonally	14 mm, 2 running diagonally	14 mm, 2 running diagonally
Drill table load bearing capacity	80 kg	100 kg	120 kg
Rotating drilling table	360°	360°	360°
Max. distance spindle - drill table	450 mm	875 mm	820 mm
<b>Machine base</b>			
Machine base work area L x W	350 x 356 mm	350 x 356 mm	450 x 395 mm
T-slot size / spacing / count	14 mm / 120 mm / 2	14 mm / 120 mm / 2	14 mm / 150 mm / 2
Max. distance spindle - machine base	610 mm	1285 mm	1270 mm
<b>Dimensions and weight</b>			
Column diameter	Ø 92 mm	Ø 92 mm	Ø 115 mm
Length x width x height	610 x 380 x 1430 mm	640 x 376 x 2080 mm	725 x 450 x 2200 mm
Net weight	158 kg	175 kg	312 kg

## Scope of delivery

- ›Taper mandrel for drill chuck MT3 (DH 26GT/ DH 28GS)
- ›Taper mandrel for drill chuck MT4 (DH 32GS)

## Accessories

Designation	Article no.
Quick-action drill chuck 1 - 10 mm; B16	3050610
Quick-action drill chuck DKC 13, 0-13 mm / B16	3050632
Quick-action drill chuck DKC 16, 0-16 mm/ B16	3050633
Twist drill bits HSS-CO 5%, 25-part	3201010
Twist drill bits HSS-CO 5%, 41-part	3201021
Assortment of clamping tools SPW 12, 58-part	3352077
Therm드릴 Basic Set	3060004

More accessories and information on accessories from page 89

You will find a wide selection of machine vices on page 95

Coolant accessories see page 93

Accessories DH 26GT / DH 28GS	Article no.
Quick-action drill chuck with MT3 mount 1 - 16 mm	3050573
Tapered shank for drill chuck MT 3/B16	3050660
Twist drill HSS MT 3	3051003
Adapter MT 3-MT 2	3050663
Thread tapping chuck, 7 inserts M3-M12	3050705
Thread tapping chuck, 7 inserts M8-M20	3050706
Universal coolant unit	3351999

Accessories DH 32GS	Article no.
Quick-action drill chuck with MT4 mount 1-16 mm	3050574
Tapered shank for drill chuck MT 4/B16	3050661
Adapter MT 4-MT 3	3050664
Adapter MT 4-MT 2	3050665
Foot switch	3050032

Functions:

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



DRILLING

CORE DRILLING

THREAD TAPPING

MILLING

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORKING

LIGHTING

COOLING



## Column drilling machines with SIEMENS inverter and polyamide gear wheels. With continuously adjustable speed control. Installation of an optional footswitch possible

### Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid cast design
- ▶ Frequency converter
- ▶ Thread tapping function
- ▶ Smooth action thanks to ground multi-tooth carrier
- ▶ Excellent true running accuracy thanks to hardened and ground main spindle
- ▶ Low-maintenance, grease-lubricated gearbox
- ▶ Gearbox with PA6 gearwheels
- ▶ Large speed range
- ▶ Generously dimensioned, height adjustable protective screen with safety switch for greatest possible user protection
- ▶ Adjustable drilling depth stop with millimetre scale
- ▶ Right-/left-hand rotation
- ▶ Machine lamp integrated in drilling head
- ▶ Integrated push-out tool for easy tool changes
- ▶ Precision machined drilling table with two diagonal T-slots with all-around cooling water channel
- ▶ Thick walled cast column for high force absorption and stability
- ▶ Solid baseplate, large dimensions and heavily ribbed on rear
- ▶ Option to connect the optional foot switch (item no. 3050032). The foot switch is used to reverse the direction of rotation for thread tapping and can also be used to switch off the automatic spindle sleeve feed.

Equipment level	DH 28GSV	DH 32GSV
SIEMENS SINAMICS V 20 FREQUENCY INVERTER	✓	✓
Automatic spindle sleeve feed		✓
Coolant pump/chip filter		✓
Digital Display	✓	✓



coolant pump  
Chip filter in line with Machinery Directive

Fig.: DH 28GSV with optional drill chuck

Fig.: DH 32GSV with optional drill chuck

## Arguments,...



### DH 32GSV AUTOMATIC SPINDLE SLEEVE FEED

›Activation by pressure switch in sleeve lever. An electromagnetic clutch provides propulsion. The switch-off function is activated either by reaching the drilling depth stop or by pressing the push button on the spindle sleeve lever again.



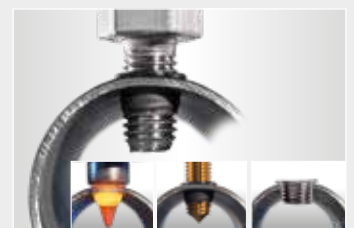
### OPERATING PANEL

›Easily readable, digital display for speed  
›User-friendly membrane keyboard



### SIEMENS SINAMICS V20

›Energy-saving features  
›Advanced cooling  
›Painted electronics assemblies



›Informations on page 97



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Information & Video

## Technical specifications, accessories and dimensions

Model	DH 28GSV	DH 32GSV
Article no.	3034235	3034245
<b>Output</b>		
Electrical connection	400 V / 3 Ph ~50 Hz	
Motor power	1.5 kW	2.2 kW
Coolant pump motor	-	40 W
<b>Drilling performance</b>		
Drilling performance in steel (S235JR)	Ø 26 mm	Ø 30 mm
Continuous drilling capacity in steel (S235JR)	Ø 23 mm	Ø 26 mm
Thread tapping in steel (S235JR)	M 16 x 2 mm	
<b>Spindle</b>		
Spindle sleeve stroke	127 mm	125 mm
Spindle seat	MT 3	MT 4
Spindle - column distance	260 mm	285 mm
Automatic spindle sleeve feed	-	/ 0.1 mm
<b>Rotational speeds</b>		
Spindle speeds	45 - 3200 min <sup>-1</sup>	40 - 3000 min <sup>-1</sup>
Number of speeds	4 stages, electronically adjustable	
<b>Drill table</b>		
Drill table workspace L x W	376 x 394 mm	400 x 420 mm
T-slot size	14 mm, 2 running diagonally	
Drilling table load bearing capacity	100 kg	120 kg
Rotating drilling table	360°	
Max. distance spindle - drill table	875 mm	820 mm
<b>Machine base</b>		
Machine base work area L x W	350 x 356 mm	420 x 395 mm
T-slot size / spacing / count	14 mm / 120 mm / 2	14 mm / 150 mm / 2
Clearance spindle - machine base	max. 1285 mm	max. 1270 mm
<b>Dimensions and weight</b>		
Column diameter	Ø 92 mm	Ø 115 mm
Length x width x height	690 x 375 x 2080 mm	820 x 450 x 2230 mm
Net weight	184 kg	324 kg

## Scope of delivery

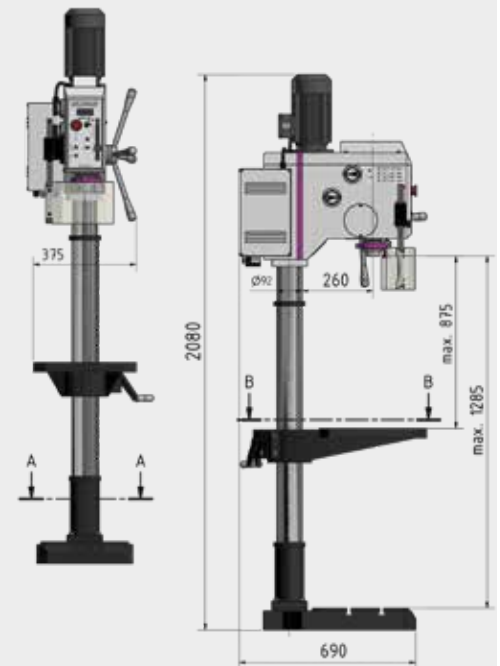
- › Taper mandrel for drill chuck MT3 (DH 28GSV)
- › Taper mandrel for drill chuck MT4 (DH 32GSV)

## Accessories

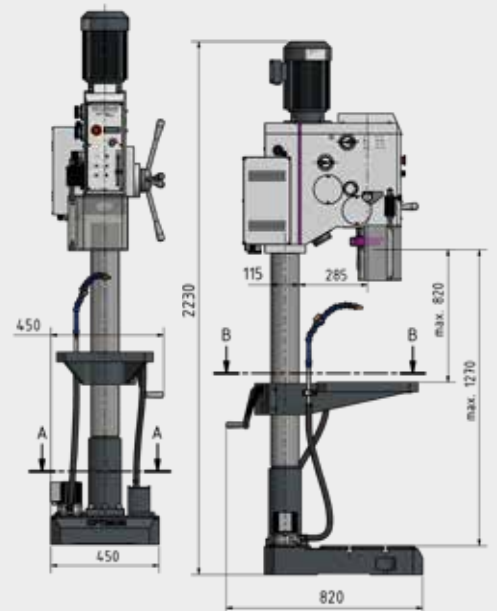
Designation	Article no.
Quick-action drill chuck 1 - 10 mm; B16	3050610
Quick-action drill chuck DKC 13, 0 - 13 mm / B16	3050632
Quick-action drill chuck DKC 16, 0 - 16 mm / B16	3050633
Twist drill bits HSS-CO 5%, 1- 13 mm, 25-part	3201010
Twist drill bits HSS-CO 5%, 6 - 10 mm, 41-part	3201021
Assortment of clamping tools SPW 12, 58-part	3352077
Thermdrill Basic Set	3060004
Foot switch	3050032

More accessories and information about accessories from page 89 onwards

### Dimensions DH 28GSV



### Dimensions DH 32GSV



Accessories DH 28GSV	Article no.
Quick-action drill chuck with MT3 mount 1 - 16 mm	3050573
Twist drill HSS/ MT 3	3051003
Adapter MT 3-MT 2	3050663
Universal coolant unit	3351999

Accessories DH 32GSV	Article no.
Quick-action drill chuck with MT4 mount 1 - 16 mm	3050574
Adapter MT 4-MT 3	3050664
Adapter MT 4-MT 2	3050665

## Geared drilling machine with thread cutting unit and electrically controlled spindle sleeve feed.

DH 35V with continuously adjustable speed control

### Facts that impress in terms of quality, performance and price

- ▶ Dirt/water-resistant, easy-to-clean membrane keyboard
- ▶ 24 V DC electronics
- ▶ Electrical sleeve feed
- ▶ Drill depth stop
- ▶ Low-maintenance gear unit running in a closed oil sump
- ▶ Thread tapping device.
- ▶ Machine lamp integrated in drilling head
- ▶ Main switch
- ▶ Generously dimensioned, height adjustable protective screen with safety switch for greatest possible user protection
- ▶ Generously dimensioned, solid drilling table, precision workmanship, with 2 diagonal T-slots and recirculating coolant duct, heavily ribbed on rear side and double clamping
- ▶ Coolant unit with coolant tank integrated into base plate
- ▶ Chip filter removes coarse components from the coolant
- ▶ Robust, thick-walled cast-iron column for excellent force absorption
- ▶ Solid base plate with parallel T-slots, precision surface finish
- ▶ Option to connect the optional foot switch (item no. 3050032). The foot switch is used to reverse the direction of rotation for thread tapping and can also be used to switch off the automatic spindle sleeve feed.

### OPTIdrill DH 35V

- ▶ Continuously adjustable speed control
- ▶ Feed deactivation programmable
- ▶ Easily readable, digital display
- ▶ Digitally adjustable drilling and thread depth
- ▶ Digital zero point adjustable



Fig.: DH 35G with optional drill bit



Fig.: DH 35V

## Arguments,...



### AUTOMATIC SPINDLE SLEEVE FEED

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



### DH 35V

#### STATE-OF-THE-ART CONTROL SOLUTION

- › Easy-to-read digital display for showing speed, drilling depth, thread depth and piece counter, percentage display of potentiometer position
- › Feed deactivation via depth adjustment

## KOSTAL FREQUENCY INVERTER MADE IN GERMANY



### FREQUENCY CONVERTER

- › Robust aluminium housing: Thanks to its stable construction, it avoids costly breakdowns and regulates speeds, offering low maintenance and high reliability.
- › Thanks to its fanless design and intelligent DC link concept with film capacitors, the device is less susceptible to faults and has a long service life.
- › Diagnostics and programming possible via Bluetooth and mobile phone app

Coolant pump  
Chip filter in line with Machinery Directive

## Technical specifications, accessories and dimensions

Model	DH 35G	DH 35V*
Article no.	3034250	3034253
<b>Output</b>		
Electrical connection	400 V / 3 Ph ~50 Hz	
Motor power	1.5 / 2.2 kW	2.2 kW
Coolant pump motor	40 W	
<b>Drilling performance</b>		
Drilling performance in steel (S235JR)	Ø 35 mm	
Continuous drilling performance in steel (S235JR)	Ø 26 mm	
Thread tapping in steel (S235JR)	M 24	
<b>Spindle</b>		
Spindle sleeve stroke	125 mm	
Spindle seat	MT 4	
Spindle - column distance	285 mm	
Automatic spindle sleeve feed	3 stages: - mm/rev	
<b>Rotational speeds</b>		
Spindle speeds	75 - 2000 min <sup>-1</sup>	30 - 2950 min <sup>-1</sup>
Number of speeds	8 stages	4 stages, electronically adjustable
<b>Drill table</b>		
Drill table workspace L x W	400 x 420 mm	
T-slot size	14 mm, 2 running diagonally	
Drilling table load bearing capacity	200 kg	
Rotating drilling table	360°	
Clearance spindle - drilling table	65 - 800 mm	
<b>Machine foot</b>		
Machine base work area L x W	420 x 395 mm	
T-slot size / spacing / count	14 mm / 150 mm / 2	
Clearance spindle - machine base	max. 1217 mm	
<b>Dimensions and weight</b>		
Column diameter	Ø 115 mm	
Length x width x height	860 x 475 x 2175 mm	
Net weight	350 kg	365 kg

### Scope of delivery

- › Quick-action drill chuck 1 - 16 mm
- › Tapered shank for drill chuck MT 4/B16

### Accessories

Designation	Article no.
Quick-action drill chuck with MT4 mount 1 - 16 mm	3050574
Twist drill bits HSS-CO 5%, 1- 13 mm, 25-part	3201010
Twist drill bits HSS-CO 5%, 6 - 10 mm, 41-part	3201021
Adapter MT 4-MT 3	3050664
Adapter MT 4-MT 2	3050665
Assortment of clamping tools SPW 12, 58-part	3352077
Hold-down device 14 mm/M 12	3352031
Thermdrill Basic Set	3060004
Foot switch	3050032



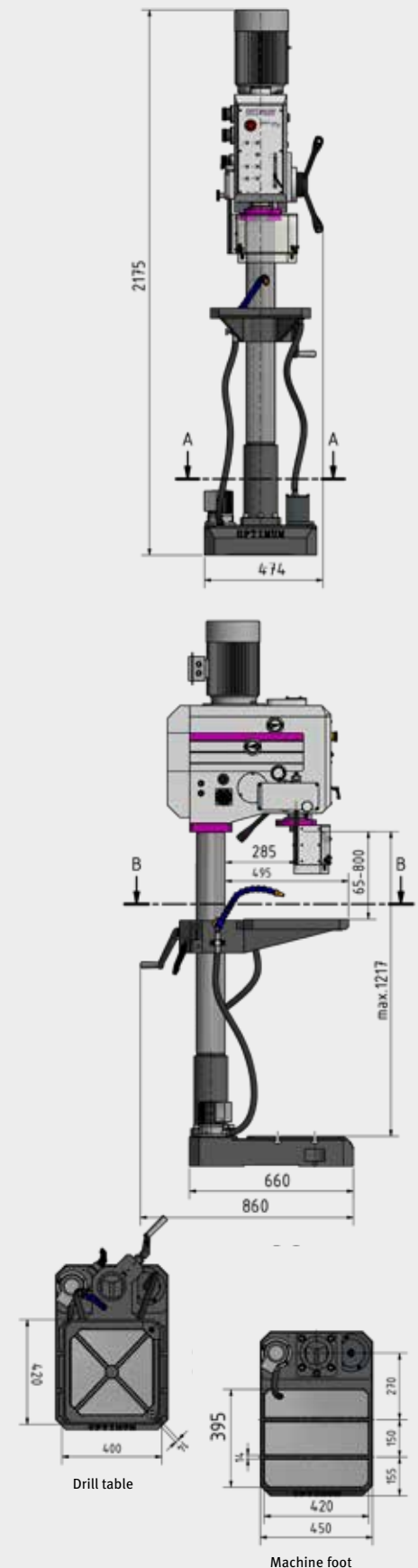
for thread cutting and toggling clockwise/anticlockwise rotation

More accessories and information on accessories from page 89

You will find a wide selection of machine vices on page 95

Coolant accessories see page 93

### Dimensions



\* Note: The machines (frequency converters) comply with the DIN EN 55011 standard: class C2  
Important information on operating machines with frequency converters see page 325

## Heavy-duty gear drilling machines with thread cutting device and continuously variable speed control for industrial use

### Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid cast design
- ▶ Dirt/water-resistant, easy-to-clean membrane keyboard
- ▶ 24 V DC electronics
- ▶ Drill depth stop
- ▶ Automatic gearwheel lubrication via oil pump
- ▶ Thread tapping device.
- ▶ Generously dimensioned, height adjustable protective screen with safety switch for greatest possible user protection
- ▶ Large, solid drill table, precisely machined with parallel T-slots and surrounding cooling water channel, heavily ribbed at the rear, ± 90° sideways tiltable.
- ▶ Machine lamp integrated in drilling head
- ▶ Main switch
- ▶ Cooling unit and coolant tank, can be removed for easier and complete emptying
- ▶ Chip filter in line with Machinery Directive
- ▶ Robust, thick-walled cast-iron column for excellent force absorption
- ▶ Solid base plate with parallel T-slots, precision surface finish
- ▶ Electrically controlled sleeve feed
- ▶ Feed deactivation programmable
- ▶ Easily readable, digital display
- ▶ Digitally adjustable drilling and thread depth
- ▶ Digital zero point adjustable

### DH 45V

- ▶ Frequency converter,
  - ▶ **Continuously adjustable speed control**
- ### DH 45GE
- ▶ Electrically controlled sleeve feed



Fig.: DH 45GE

Fig.: DH 45V with optional drill

## Arguments,...



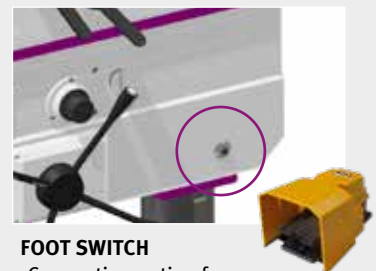
### PUSH-OUT TOOL

›for simple tool changes



### STATE-OF-THE-ART CONTROL SOLUTION

›Easy-to-read digital display for showing speed, drilling depth, thread depth and piece counter.  
›Feed deactivation via depth adjustment



### FOOT SWITCH

›Connection option for optional foot switch to switch between clockwise/anti-clockwise rotation and for thread cutting (item no. 3050032) available.

### KOSTAL FREQUENCY INVERTER MADE IN GERMANY



### DH 45V - FREQUENCY INVERTER

›Robust aluminium housing: Thanks to its stable construction, it avoids costly breakdowns and regulates speeds, offering low maintenance and high reliability.  
›Thanks to its fanless design and intelligent DC link concept with film capacitors, the device is less susceptible to faults and has a long service life.  
›Diagnostics and programming possible via Bluetooth and mobile phone app

## Technical specifications, accessories and dimensions

Model	DH 45GE		DH 45V*	
Article no.	3034257		3034262	
<b>Output</b>				
Electrical connection	400 V / 3 Ph ~50 Hz			
Motor power	2.2 kW			
Coolant pump motor	100 W			
<b>Drilling performance</b>				
Drilling performance in steel (S235JR)	Ø 40 mm			
Continuous drilling performance in steel (S235JR)	Ø 35 mm			
Thread tapping in steel (S235JR)	M 30			
<b>Spindle</b>				
Spindle sleeve stroke	170 mm			
Spindle seat	MT 4			
Spindle - column distance	350 mm			
Automatic spindle sleeve feed	3 stages: 0.1 / / 0.2 mm/rev			
<b>Rotational speeds</b>				
Spindle speeds	90 - 1520 min <sup>-1</sup>		30 - 2430 min <sup>-1</sup>	
Number of speeds	8 stages		4 stages, electronically adjustable	
<b>Drill table</b>				
Drill table workspace L x W	530 x 530 mm			
T-slot size / spacing / count	18 mm / 125 mm / 3			
Drilling table load bearing capacity	250 kg			
Drill table rotation / tilting sideways	360° / ± 90°			
Clearance spindle - drilling table	100 - 740 mm			
<b>Machine foot</b>				
Machine base work area L x W	435 x 445 mm			
T-slot size / spacing / count	18 mm / 150 mm / 2			
Clearance spindle - machine base	max. 1210 mm			
<b>Dimensions and weight</b>				
Column diameter	Ø 150 mm			
Length x width x height	880 x 595 x 2445 mm			
Net weight	550 kg		530 kg	

## Scope of delivery

- › Quick-action drill chuck 1 - 16 mm
- › Tapered shank for drill chuck MT 4/B16

## Accessories

Designation	Article no.
Quick-action drill chuck with MT4 mount 1 - 16 mm	3050574
Twist drill bits HSS-CO 5%, 1- 13 mm, 25-part	3201010
Twist drill bits HSS-CO 5%, 6 - 10 mm, 41-part	3201021
Adapter MT 4-MT 3	3050664
Adapter MT 4-MT 2	3050665
Assortment of clamping tools SPW 16, 58-part	3352079
Hold-down device 14 mm/M 12	3352031
Thermdrill Basic Set	3060004
Foot switch	3050032

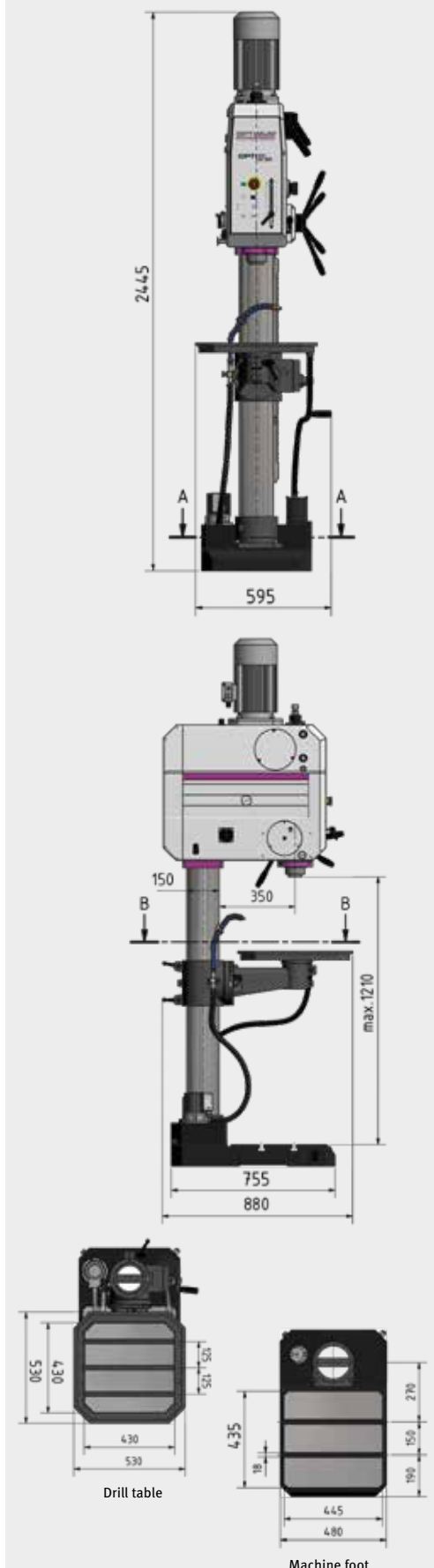
for thread cutting and toggling clockwise/anticlockwise rotation

More accessories and information on accessories from page 89

You will find a wide selection of machine vices on page 95

Coolant accessories see page 93

## Dimensions



## Heavy-duty gear drilling machines with thread cutting device for industrial use. DH 55V with continuously adjustable speed control

### Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid cast design
  - ▶ Dirt/water-resistant, easy-to-clean membrane keyboard
  - ▶ 24 V DC electronics
  - ▶ Electrically controlled sleeve feed
  - ▶ Drill depth stop
  - ▶ Automatic gearwheel lubrication via oil pump
  - ▶ Thread tapping device.
  - ▶ Generously dimensioned, height adjustable protective screen with safety switch for greatest possible user protection
  - ▶ Large, solid drill table, precisely machined with three parallel T-slots and surrounding cooling water channel, heavily ribbed at the rear, ± 90° sideways tiltable.
  - ▶ Cooling unit and coolant tank, can be removed for easier and complete emptying
  - ▶ Integrated push-out tool
  - ▶ Machine lamp integrated in drilling head
- ▶ Chip filter in line with Machinery Directive
  - ▶ Robust, thick-walled cast-iron column for excellent force absorption
  - ▶ Solid base plate with two parallel T-slots, precision surface finish

### OPTi drill DH 55V

- ▶ Continuously adjustable speed control
- ▶ Feed deactivation programmable
- ▶ Easily readable, digital display
- ▶ Digitally adjustable drilling and thread depth
- ▶ Digital zero point adjustable



Fig.: DH 55G



Fig.: DH 55V

### Arguments,...



### DH 55V

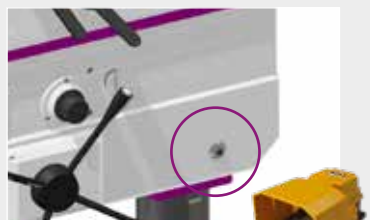
#### STATE-OF-THE-ART CONTROL SOLUTION

- › Easy-to-read digital display for showing speed, drilling depth, thread depth and piece counter.
- › Feed deactivation via depth adjustment



#### TABLE HEIGHT ADJUSTMENT

- › motorised or mechanical



#### FOOT SWITCH

- › Connection option for optional foot switch to switch between clockwise/anti-clockwise rotation and for thread cutting (item no. 3050032) available.

#### KOSTAL FREQUENCY INVERTER MADE IN GERMANY



#### DH 55V - FREQUENCY INVERTER

- › Robust aluminium housing: Thanks to its stable construction, it avoids costly breakdowns and regulates speeds, offering low maintenance and high reliability.
- › Thanks to its fanless design and intelligent DC link concept with film capacitors, the device is less susceptible to faults and has a long service life.
- › Diagnostics and programming possible via Bluetooth and mobile phone app

## Technical specifications, accessories and dimensions

Model	DH 55G	DH 55V*
Article no.	3034265	3034267
<b>Output</b>		
Electrical connection	400 V / 3 Ph ~50 Hz	
Motor power	2.2 / 2.8 kW	2.8 kW
Coolant pump motor	100 W	
<b>Drilling performance</b>		
Drilling performance in steel (S235JR)	Ø 55 mm	
Continuous drilling performance in steel (S235JR)	Ø 50 mm	
Thread tapping in steel (S235JR)	M 42	
<b>Spindle</b>		
Spindle sleeve stroke	190 mm	
Spindle seat	MT 4	
Spindle - column distance	400 mm	
Automatic spindle sleeve feed	3 stages: 0.1 / / 0.2 mm/rev	
<b>Rotational speeds</b>		
Spindle speeds	45 - 2000 min <sup>-1</sup>	10 - 3000 min <sup>-1</sup>
Number of speeds	16 stages	4 stages electronically adjustable
<b>Drill table</b>		
Drill table workspace L x W	600 x 600 mm	
T-slot size / spacing / count	18 mm / 160 mm / 3	
Drilling table load bearing capacity	350 kg	
Drill table rotation / tilting sideways	360° / ± 90°	
Clearance spindle - drilling table	130 - 725 mm	
<b>Machine foot</b>		
Machine base work area L x W	515 x 570 mm	
T-slot size / spacing / count	18 mm / 150 mm / 2	
Clearance spindle - machine base	max. 1,300 mm	
<b>Dimensions and weight</b>		
Column diameter	Ø 200 mm	
Length x width	850 x 1060 mm	
Height	2500 mm	2545 mm
Net weight	850 kg	907 kg

## Scope of delivery

- › Quick-action drill chuck 1 - 16 mm
- › Tapered shank for drill chuck MT 4/B16

## Accessories

Designation	Article no.
Quick-action drill chuck with MT4 mount 1 - 16 mm	3050574
Twist drill bits HSS-CO 5%, 1- 13 mm, 25-part	3201010
Twist drill bits HSS-CO 5%, 6 - 10 mm, 41-part	3201021
Adapter MT 4-MT 3	3050664
Adapter MT 4-MT 2	3050665
Assortment of clamping tools SPW 16, 58-part	3352079
Hold-down device 14 mm/M 12	3352031
Thermdrill Basic Set	3060004
Foot switch	3050032

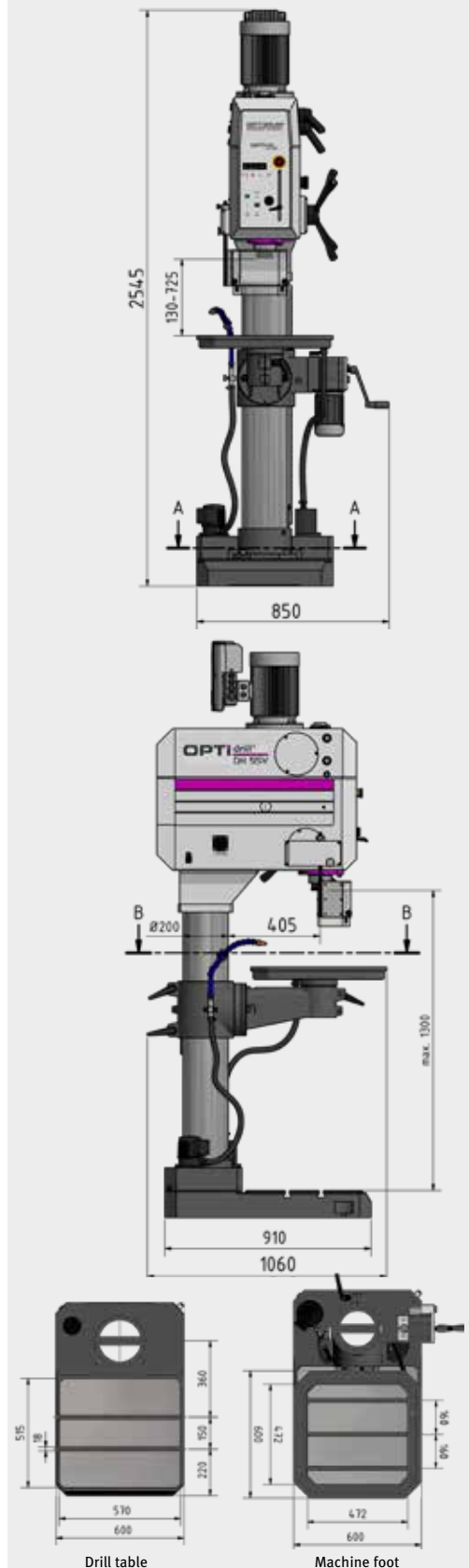
for thread cutting and toggling clockwise/anticlockwise rotation

More accessories and information on accessories from page 89

You will find a wide selection of machine vices on page 95

Coolant accessories see page 93

## Dimensions



\* Note: The machines (frequency converters) comply with the DIN EN 55011 standard: class C2  
Important information on operating machines with frequency converters see page 325

# ***RADIAL DRILLING MACHINES***

**RB 8S** | Art. no.: 3009181

**Radial drilling machine**  
with large spindle - column distance



Visit our exhibition in Hallstadt/Bamberg

RD 5 | Art. no.: 3049050

**Radial drilling machine**  
in top quality



## Lightweight radial drilling machine with long throat for wood, plastics, aluminium

### Facts that impress in terms of quality, performance and price

- ▶ Best power transmission thanks to aluminium pulleys in conjunction with toothed GATES quality V-belt
- ▶ Guaranteed concentricity of the drill spindle  $\leq$  mm measured in the drill spindle.
- ▶ Drill spindle with precision ball bearings
- ▶ V-belt cover with safety switch
- ▶ Steel column for extremely smooth action and stability
- ▶ Solid and generously dimensioned baseplate with slots for T slot nuts, rear heavily ribbed
- ▶ User-friendly safety switch with IP 54 degree of protection
- ▶ Separate EMERGENCY-STOP push button
- ▶ Drill depth stop

- ▶ OPTIMUM key type drill chuck in standard scope of delivery
- ▶ Optimal price-performance ratio
- ▶ Lasting value

### OPTIdrill RB 6T

- ▶ Precision drilling table with fastening holes for extended drilling table support

### OPTIdrill RB 8S

- ▶ Solid drilling table, precisely machined with two diagonal T-slots and a surrounding cooling water channel

### The machine is pre-assembled.



Individual components of the machine still have to be assembled and joined together.



Fig.: RB 6T



Fig.: RB 8S

## Arguments,...



### Spindle - column distance

› variable from 115 to 430 mm by shifting the drilling head



### DRILLING HEAD

› Can be tilted sideways  $\pm 45^\circ$



### DRILL TABLE

› Precise workmanship  
› Can be tilted sideways  $\pm 45^\circ$



### DRILL CHUCK PROTECTION

› Height-adjustable chuck protection with micro switch for best possible user protection

## Technical specifications, accessories and dimensions

Model	RB 6T	RB 8S
Article no.	3009161	3009181
<b>Output</b>		
Electrical connection	230 V / 1 Ph ~50 Hz	
Motor power	750 W	
<b>Drilling performance</b>		
Drilling performance in steel (S235JR)	Ø 16 mm	
Continuous drilling performance in steel (S235JR)	Ø 12 mm	
<b>Spindle</b>		
Spindle sleeve stroke	80 mm	
Spindle seat	MT 2	
Spindle - column distance	115 - 430 mm	
<b>Rotational speeds</b>		
Spindle speeds	390 - 3000 min <sup>-1</sup>	
Number of speeds	5 stages	
<b>Drilling table</b>		
Workspace length x width	225 x 230 mm	262 x 262 mm
T-slot size	-	14 mm running diagonally
Slot size	14 mm	-
Drill table rotation / tilting sideways	360° / ± 45°	
Max. distance spindle - drilling table	380 mm	740 mm
<b>Machine base</b>		
Machine base work area L x W	430 x 260 mm	600 x 350 mm
T-slot size / spacing / count	14 mm / 130 mm / 2	14 mm / 220 mm / 2
Distance between spindle and - machine base	max. 550 mm	max. 1250 mm
<b>Dimensions and weight</b>		
Column diameter	Ø 60 mm	Ø 70 mm
Length x width x height	820 x 335 x 930 mm	820 x 395 x 1640 mm
Net weight	47 kg	60 kg

## Scope of delivery

- › Gear rim drill chuck 1-16 mm/B16
- › Tapered shank for drill chuck MT 2/B16

## Accessories

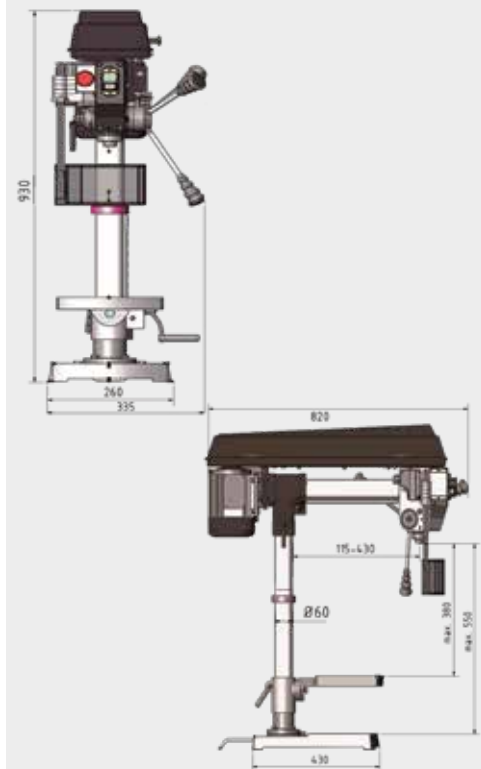
Designation	Article no.
Quick-action drill chuck with MT2 mount 1 - 16 mm	3050571
Quick-action drill chuck with MT2 mount 1 - 13 mm	3050572
Twist drill bit HSS MT 2, 9-part	3051002
Twist drill bits HSS-CO 5%, 1- 13 mm, 25-part	3201010
Twist drill bits HSS-CO 5%, 6 - 10 mm, 41-part	3201021
Assortment of clamping tools SPW 12, 58-part	3352077
Taper drill punch MSP1	3050636
Universal coolant unit 230 V	3351999
Coolant mist lubricator MMC 1 with magnetic holder	3356663
KMS 2 coolant hose	3356660

More accessories and information on accessories from page 89

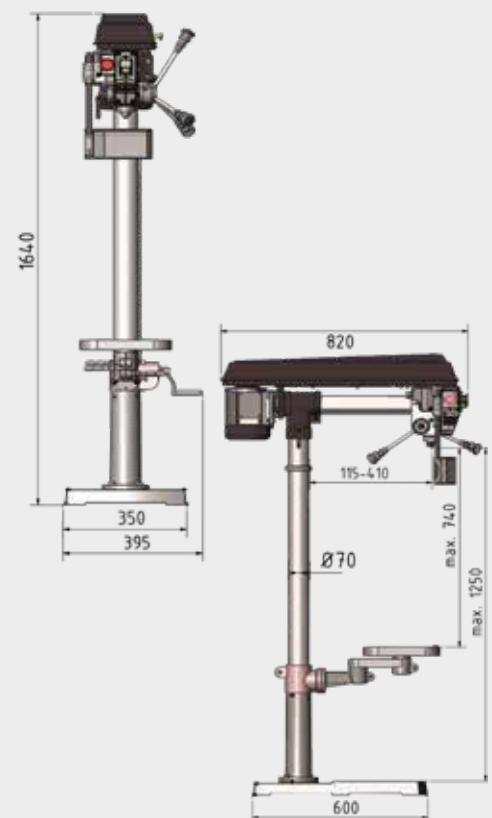
You will find a wide selection of machine vices on page 95

Coolant accessories see page 93

### Dimensions RB 6T



### Dimensions RB 8S



## Precise, solid radial drilling machines

Ideal for versatile deployment in one-off and serial production

### Facts that impress in terms of quality, performance and price

- ▶ Versatile range of applications, such as drilling, reaming, thread cutting
- ▶ Electrically braked motor
- ▶ Operating elements with 24V DC electrics and 2-channel safety chain in accordance with DIN EN 12717
- ▶ Heavy, solid, premium quality casting
- ▶ Long throat thanks to horizontally adjustable machine head
- ▶ Clearly-arranged control panel layout
- ▶ Smooth action pivoting and travel axes
- ▶ Torsionally stiff boom design, capable of supporting heavy loads
- ▶ Height-adjustment of boom via powerful motorised drive and lifting spindle
- ▶ Drilling head gear box runs in oil sump
- ▶ Boom guideways hardened and precision ground
- ▶ Gear wheels made of chrome-nickel steel, hardened and precision ground for lower noise and smooth action
- ▶ Drilling head and column can be clamped or released separately
- ▶ Clockwise/anticlockwise rotation
- ▶ Solid, generously dimensioned precision drilling table
- ▶ Hardened and ground clamping table with parallel T-slots
- ▶ Machine lamp
- ▶ Overload protection
- ▶ Thick-walled cast column ensures very smooth action and stability
- ▶ LED lamp
- ▶ Coolant unit with coolant tank in machine base
- ▶ Clamping table included in the scope of delivery
- ▶ Column and headstock mechanically clamped



### Arguments,...



#### CONTROL CABINET

- › Standards-compliant setup
- › Completely new development, based on an in-house development by Optimum
- › Signal transmission via network cable with diagnostic function



#### TOUCH

- › User-friendly membrane keypad with touch operation

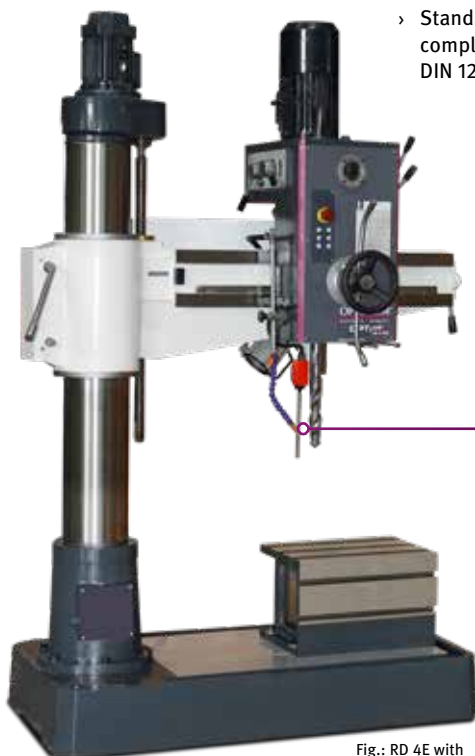


Fig.: RD 4E with optional drill

#### EXTENDABLE SHIFT ROD

- › Standards-compliant as per DIN 12717

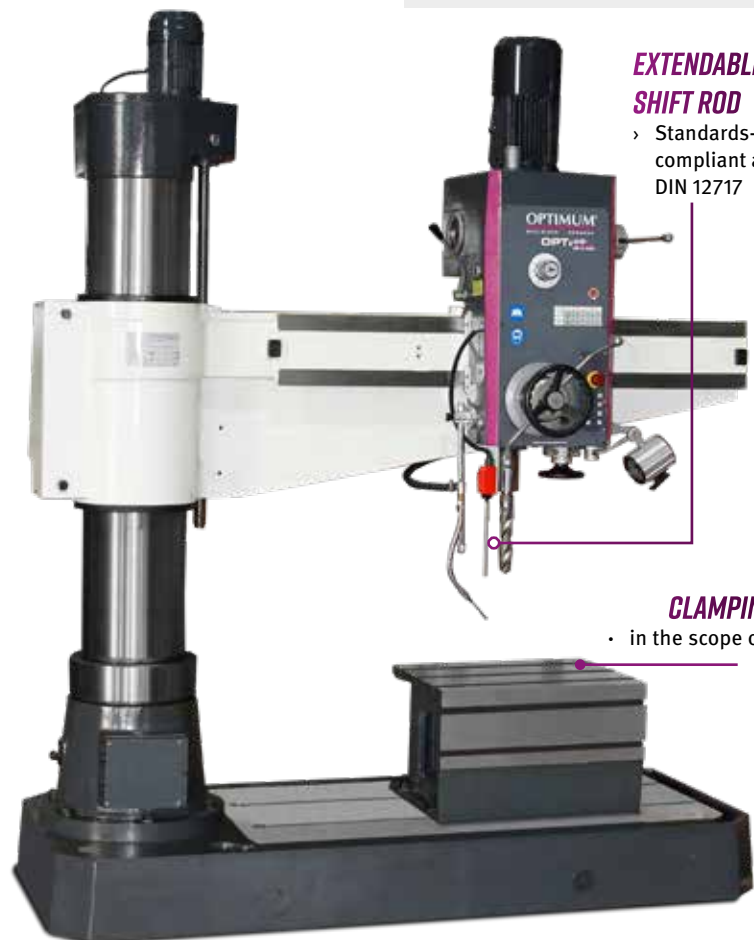


Fig.: RD 5E with optional drill

#### EXTENDABLE SHIFT ROD

- › Standards-compliant as per DIN 12717

#### CLAMPING TABLE

- in the scope of delivery

## Technical data and accessories

Model	RD 4E	RD 5E
Article no.	3049340	3049350
<b>Output</b>		
Electrical connection	400 V / 3 Ph ~50 Hz	400 V / 3 Ph ~50 Hz
Total rated value	2.2 kW	2.2 kW
<b>Drilling performance</b>		
Drilling performance in steel (S235JR)	Ø 35 mm	Ø 45 mm
Continuous drilling performance in steel (S235JR)	Ø 32 mm	Ø 40 mm
<b>Spindle</b>		
Spindle sleeve stroke	200 mm	260 mm
Spindle seat	MT 4	MT 4
Automatic spindle sleeve feed	3 stages: 0.1 - 0.25 mm/rev	4 stages: 0 - 0.54 mm/rev
<b>Boom</b>		
Drilling head travel (horizontal)	570 mm	1000 mm
Boom lift travel (vertical)	500 mm	680 mm
<b>Rotational speeds</b>		
Spindle speeds	75 - 1220 min <sup>-1</sup>	40 - 1896 min <sup>-1</sup>
Number of speeds	6	12
<b>Drill table</b>		
Base work area L x W x H	1400 x 700 mm	1400 x 800 mm
T-slot size / spacing / count	16 mm / 200 mm / 2	22 mm / 260 mm / 2
Spindle to table distance	260 - 1000 mm	280 - 1210 mm
Spindle - column distance	300 - 870 mm	370 - 1370 mm
<b>Clamping table</b>		
Clamping table work area L x W	460 x 320 x 300 mm	600 x 450 x 370 mm
T-slot size / spacing / count	16 mm / 110 mm / 3	19 mm / 145 mm / 3
Distance spindle to clamping table	260 - 1000 mm	280 - 1210 mm
<b>Dimensions and weight</b>		
Column diameter	200 mm	280 mm
Length x width x height max.	1550 x 750 x 2200 mm	2045 x 800 x 2450 mm
Net weight	800 kg	2200 kg

## Accessories

Designation	Article no.
Quick-action drill chuck DKC 16, 0 - 16 mm / B16	3050633
Direct quick-action drill chuck MT 4 / 1-16 mm	3050574
Tapered shank for drill chuck MT 4/B16	3050661
Twist drill HSS MT 3	3051003
Adapter MT 4-MT 3	3050664
Hold-down device 18 mm/M 16	3352032
Assortment of clamping tools SPW 16, 58-part	3352079

More accessories and information about accessories from page 87 onwards

DRILLING

CORE DRILLING

THREAD TAPPING

MILLING

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORKING

LIGHTING

COOLING

## Precision, solid radial drilling machines, premium quality Ideal for versatile deployment in one-off and serial production

### Facts that impress in terms of quality, performance and price

- ▶ Versatile range of applications, such as drilling, reaming, thread cutting
- ▶ Electrically braked motor
- ▶ Operating elements with 24V DC electrics and 2-channel safety chain in accordance with DIN EN 12717
- ▶ Heavy, solid, premium quality casting
- ▶ Long throat thanks to horizontally adjustable machine head
- ▶ Clearly-arranged control panel layout
- ▶ Smooth action pivoting and travel axes
- ▶ Torsionally stiff boom design, capable of supporting heavy loads
- ▶ Height-adjustment of boom via powerful motorised drive and lifting spindle
- ▶ Drilling head gear box runs in oil sump
- ▶ Boom guideways hardened and precision ground
- ▶ Gear wheels made of chrome-nickel steel, hardened and precision ground for lower noise and smooth action
- ▶ Drilling head and column can be clamped or released separately
- ▶ Clockwise/anticlockwise rotation
- ▶ Solid, generously dimensioned precision drilling table
- ▶ Hardened and ground clamping table with parallel T-slots
- ▶ Machine lamp
- ▶ Overload protection
- ▶ Thick-walled cast column ensures very smooth action and stability
- ▶ LED lamp
- ▶ Coolant unit with coolant tank in machine base
- ▶ Clamping table included in the scope of delivery

#### RD 4

- ▶ All axes are clamped manually

#### RD 6 / RD 7

- ▶ Column is clamped hydraulically



**CLAMPING TABLE**  
• in the scope of delivery

Fig.: RD 5 with optional drill bit and vice

## Arguments,...



### DC CONTROL CABINET

- › All contactors and relays by **SIEMENS** and Schneider
- › Complete and clear



### PULL-OUT SAFETY SWITCH

- › Standards-compliant as per DIN 12717



### COLUMN SWIVEL FEATURE

- › This elaborately crafted column swivel features optimised clamping for maximum stability and minimal offset.



### RD 6/RD 7 - CLAMPING

- › The column is clamped hydraulically



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**Information & Video**

## Technical data and accessories

Model	RD 4	RD 6	RD 7
Article no.	3049040	3049070	3049080
<b>Output</b>			
Electrical connection	400 V / 3 Ph ~50 Hz	400 V / 3 Ph ~50 Hz	400 V / 3 Ph ~50 Hz
Total rated value	3 kW	6.5 kW	11 kW
Spindle motor drive output	1.5 kW	4 kW	5.6 kW
Drive power cantilever arm	0.75 kW	1.5 kW	1.5 kW
Hydraulic clamping drive	-	0.75 kW	0.75 kW
Coolant pump motor	90 W	90 W	90 W
<b>Drilling performance</b>			
Drilling performance in steel (S235JR)	Ø 32 mm	Ø 50 mm	Ø 70 mm
Continuous drilling performance in steel (S235JR)	Ø 28 mm	Ø 45 mm	Ø 65 mm
<b>Spindle</b>			
Spindle sleeve stroke	220 mm	270 mm	370 mm
Spindle seat	MT 4	MT 5	MT 5
Automatic spindle sleeve feed	3 stages: 0.05 - 0.15 mm/rev	3 stages: 0.06 - 0.2 mm/rev	3 stages: 0.07 - 0.96 mm/rev
<b>Boom</b>			
Angle of rotation	± 180°	± 180°	± 180°
Drilling head travel (horizontal)	530 mm	1250 mm	1185 mm
Boom lift travel (vertical)	580 mm	680 mm	1000 mm
<b>Rotational speeds</b>			
Spindle speeds	73 - 1247 min <sup>-1</sup>	44 - 1206 min <sup>-1</sup>	29 - 1575 min <sup>-1</sup>
Number of speeds	6	12	12
<b>Drill table</b>			
Large base L x W	1260 x 700 mm	2550 x 970 mm	2,920 x 1,120 mm
Base work area L x W x H	828 x 522 mm	1800 x 830 mm	2220 x 1120 mm
T-slot size / spacing / count	19 mm / 171 mm / 3	14 mm / 180 mm / 4	24 mm / 284 mm / 3
Clearance spindle to base	260 - 1060 mm	465 - 1420 mm	395 - 1950 mm
Spindle - column distance	220 - 750 mm	350 - 1600 mm	440 - 2060 mm
<b>Clamping table</b>			
Clamping table work area L x W	600 x 445 x 380 mm	630 x 500 x 500 mm	1000 x 800 x 500 mm
T-slot size / spacing / count	19 mm / 100 mm / 3	22 mm / 150 mm / 3	24 mm / 150 mm / 4
Distance spindle to clamping table	0 - 675 mm	0 - 910 mm	135 - 1690 mm
<b>Dimensions and weight</b>			
Column diameter	210 mm	320 mm	432 mm
Length x width x height max.	1260 x 700 x 2180 mm	2670 x 1120 x 2760 mm	0 x 1185 x 3050 mm
Net weight	1120 kg	3200 kg	5600 kg

## Accessories

Designation	Article no.
Quick-action drill chuck DKC 16, 0 - 16 mm / B16	3050633
More accessories and information about accessories from page 87 onwards	
Accessories RD 4 / RD 5	Article no.
Direct quick-action drill chuck MT 4 / 1-16 mm	3050574
Tapered shank for drill chuck MT 4/B16	3050661
Twist drill HSS MT 3	3051003
Adapter MT 4-MT 3	3050664
Hold-down device 18 mm/M 16	3352032
Assortment of clamping tools SPW 16, 58-part	3352079
RD 6 accessory	Article no.
Tapered shank for drill chuck MT 5/B16	3050675
Assortment of clamping tools SPW 12, 58-part	3352077



Clamping table	Article no.
for <b>RD 4</b> L x W x H 600 x 445 x 380 mm Net weight: 144 kg	3049204
for <b>RD 5</b> L x W x H 635 x 520 x 415 mm Net weight: 159 kg	3049205
for <b>RD 6</b> L x W x H 630 x 500 x 500 mm Net weight: 250 kg	3049206



Angled table	Article no.
Tiltable ± 90°	
<b>Angled table S</b> L x W x H 520 x 510 x 570 mm Net weight: 280 kg	3049210
<b>Angled table L</b> L x W x H 810 x 710 x 610 mm Net weight: 565 kg	3049212

DRILLING

CORE DRILLING

THREAD TAPPING

MILLING

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORKING

LIGHTING

COOLING

# ***MAGNETIC CORE DRILLING MACHINES***

**DM 50V | Art. no.: 3071151**

**Magnetic core drilling machine  
with infinitely variable speed**



**DM 50PM | Art. no.: 3071550**

**Magnetic core drilling machine  
with power-independent  
permanent magnet**



## Magnetic core drilling machines from OPTIMUM - when reliability, precision and economical operation are essential

- ▶ Stable drilling guidance thanks to long and especially deep mounted sleeve holder
- ▶ The devices are earthed and double insulated, hence ideal for building sites
- ▶ Internal self-lubrication function for a longer service life of the gear unit
- ▶ Soft-start is gentle on the motor and prolongs the service life
- ▶ High-quality mechanical design
- ▶ Conversion from core to full drilling in just a few actions
- ▶ Protection class IP42



Scan QR code

Information &  
Video

### Transport case

- › For convenient transport and optimum protection
- › Ideal protection of the machines also in tough conditions.

### Metal case

- › for the DM 35PF and DM 50PM machines

## Clearly-arranged operating panel

Ergonomic switch arrangement avoids confusion



## Powerful motor

with high torque and low-maintenance



## Removable coolant tank

External mounting (does not apply to VF version)

Well thought out  
Practical



## Ergonomic handles

Perfect for 'balanced' holding/ fastening of the machine

Rugged crank handle



## Automatic internal lubrication

The coolant is routed directly to the tip of the core bit

No dry running and overheating of the drill bit

No superfluous use of coolant

Tool service lives and work results are substantially improved



## Magnetic base

Monitoring of magnetic force (if the magnetic force that can be built up is too low or if the magnets fail, the machine stops automatically)

Magnetic based with wear-proof design to extend the service life of the magnetic base and thus the maximum magnetic holding force



\* not all models

## Reliable guides

for stability and precision

Vario machines with low-wear brass guides



**OPTi drill® DM 35**

► Weldon shank



Fig. DM 50 with optional drill



Core drilling	
Drill bit Ø max.	Ø 35 mm
Bit depth max.	35 mm
Twist drilling	
Drill bit Ø max.	Ø 13 mm

**OPTi drill® DM 50**

► Weldon shank



Fig. DM 50 with optional drill



Core drilling	
Drill bit Ø max.	Ø 50 mm
Bit depth max.	50 mm
Twist drilling	
Drill bit Ø max.	Ø 16 mm

**OPTi drill® DM 35PF with automatic sleeve feed**

► Weldon shank

Spindle sleeve feed



› Automatic  
› Return side



Fig. DM 35PF with optional drill



Core drilling	
Drill bit Ø max.	Ø 35 mm
Bit depth max.	35 mm

Model	DM 35	DM 50	DM 35PF
Article no.	3071036	3071051	3071435
<b>Output</b>			
Electrical connection	230 V / 1 Ph ~50 Hz	230 V / 1 Ph ~50 Hz	230 V / 1 Ph ~50 Hz
Motor power	1.6 kW	1.65 kW	1.6 kW
Collets			
Spindle seat	Weldon 3/4"	Weldon 3/4"	Weldon 3/4"
Head travel	210 mm	230 mm	210 mm
<b>Magnetic foot</b>			
Magnetic foot dimensions	166 x 80 x 44 mm	166 x 80 x 44 mm	166 x 80 mm
Magnetic attraction force	16 KN	16.5 KN	16 KN
<b>Rotational speeds</b>			
Speed without load	830 min <sup>-1</sup>	780 min <sup>-1</sup>	810 min <sup>-1</sup>
<b>Dimensions and weight</b>			
Length x width x height approx.	270 x 210 x 480 mm	270 x 210 x 480 mm	350 x 250 x 430 mm
Net weight approx.	11 kg	12 kg	13.5 kg

**OPTi drill® DM 35V**

- ▶ Infinitely adjustable speed
- ▶ Quick-action chuck
- ▶ Weldon shank
- ▶ Low-wear brass guide



Fig. with optionally available core drill



Core drilling	
Drill bit Ø max.	Ø 35 mm
Bit depth max.	35 mm
Twist drilling	
Drill bit Ø max.	Ø 18 mm

**OPTi drill® DM 50V**

- ▶ Infinitely adjustable speed
- ▶ Quick-action chuck
- ▶ Weldon shank
- ▶ Low-wear brass guide

Bubble spirit level



for perfect alignment



Fig. with optionally available core drill



Core drilling	
Drill bit Ø max.	Ø 50 mm
Bit depth max.	50 mm
Twist drilling	
Drill bit Ø max.	Ø 16 mm

Model	DM 35V	DM 50V
Article no.	3071136	3071151
<b>Power</b>		
Electrical connection	230 V / 1 Ph ~50 Hz	230 V / 1 Ph ~50 Hz
Motor power	1.6 kW	1.7 kW
<b>Collets</b>		
Spindle seat	Weldon 3/4"	Weldon 3/4"
Head travel	120 mm	130 mm
<b>Magnetic foot</b>		
Magnetic foot dimensions	166 x 80 x 44 mm	166 x 80 x 44 mm
Magnetic attraction force	14.8 KN	15.6 KN
<b>Rotational speeds</b>		
Speed without load	100 - 550 min <sup>-1</sup> continuously variable	100 - 530 min <sup>-1</sup> continuously variable
<b>Dimensions and weight</b>		
Length x width x height approx.	300 x 260 x 420 mm	297 x 244 x 405 mm
Net weight	12 kg	13 kg

**OPTI<sup>®</sup>drill DM 60V**

- ▶ Infinitely adjustable speed
- ▶ Quick-action chuck
- ▶ Weldon and MT shank
- ▶ Low-wear brass guide

**OPTI<sup>®</sup>drill DM 98V**

- ▶ Infinitely adjustable speed
- ▶ Quick-action chuck
- ▶ Weldon and MT shank
- ▶ Low-wear brass guide

**OPTI<sup>®</sup>drill DM 48VT**

- ▶ Infinitely adjustable speed
- ▶ Quick-action chuck
- ▶ Weldon and MT shank
- ▶ Low-wear brass guide
- ▶ Right-left rotation



Fig. with optionally available core drill



for perfect alignment



Fig. with optionally available core drill



for perfect alignment



Fig. with optionally available core drill



Core drilling	
Drill bit Ø max.	Ø 60 mm
Bit depth max.	50 mm
Twist drilling	
Drill bit Ø max.	Ø 23 mm



Core drilling	
Drill bit Ø max.	Ø 98 mm
Bit depth max.	75 mm
Twist drilling	
Drill bit Ø max.	Ø 28 mm



Core drilling	
Drill bit Ø max.	Ø 36 mm
Bit depth max.	50 mm
Twist drilling	
Drill bit Ø max.	Ø 22 mm
Thread cutting	
Drill bit Ø max.	M 16

Model	DM 60V	DM 98V	DM 48VT
Article no.	3071161	3071198	3071248
<b>Output</b>			
Electrical connection	230 V / 1 Ph ~50 Hz	230 V / 1 Ph ~50 Hz	230 V / 1 Ph ~50 Hz
Motor power	1.99 kW	2.28 kW	1.7 kW
<b>Collets</b>			
Spindle seat	MT 2 / Weldon 3/4"	MT 3/Weldon 3/4"	MT 2/Weldon 3/4"
Head travel	220 mm	230 mm	230 mm
<b>Magnetic foot</b>			
Magnetic foot dimensions	202 x 102 x 44 mm	202 x 103 mm	165 x 80 x 44 mm
Magnetic attraction force	16 KN	17 KN	14.5 KN
<b>Rotational speeds</b>			
Speed without load	100 - 600 min <sup>-1</sup> continuously variable	100-140/170/360 min <sup>-1</sup> 3 gear stages, infinitely variable	320/ 560 min <sup>-1</sup> infinitely variable
<b>Dimensions and weight</b>			
Length x width x height approx.	330 x 230 x 490 mm	330 x 240 x 650 mm	300 x 250 x 430 mm
Net weight approx.	18.3 kg	18.5 kg	13 kg

The magnetic drilling machines (speed-controlled) comply with the DIN EN 55011 standard class C2

**OPTi drill® DM 38VF**  
**for cramped conditions**

- ▶ Infinitely adjustable speed
- ▶ Weldon shank

**Bubble spirit level**



› for perfect alignment

**Pluggable handle**



› can be fitted on the left or right side of the machine as required



Fig. with optionally available core drill

Core drilling	
Drill bit Ø max.	Ø 38 mm
Bit depth max.	35 mm

**OPTi drill® DM 50PM**  
**With permanent magnet**

- ▶ Infinitely adjustable speed
- ▶ Weldon shank

**Arguments,...**



**Two magnets**

- › Can be individually switched
- › The machine can be moved to check or clean the hole without losing its position on the pipe



**Permanent magnet**

- › Power-independent permanent magnet, 100% safe



Fig. with optionally available core drill



Core drilling	
Drill bit Ø max.	Ø 50 mm
Bit depth max.	50 mm
Twist drilling	
Drill bit Ø max.	Ø 16 mm

Model	DM 38VF	DM 50PM <sup>1</sup>
Article no.	3071338	3071550
<b>Output</b>		
Electrical connection	230 V / 1 Ph ~50 Hz	230 V / 1 Ph ~50 Hz
Motor power	1.65 kW	1.7 kW
<b>Collets</b>		
Spindle seat	Weldon 3/4"	Weldon 3/4"
Head travel	45 mm	230 mm
<b>Magnetic foot</b>		
Magnetic foot dimensions	166 x 80 mm	2 pieces, 186 x 40 mm
Magnetic attraction force	14.5 KN	6.5 KN
<b>Rotational speeds</b>		
Speed without load	640 min <sup>-1</sup>	20 - 280 / 510 min <sup>-1</sup> 2 gear stages, infinitely variable
<b>Dimensions and weight</b>		
Length x width x height approx.	350 x 150 x 240 mm	340 x 250 x 430 mm
Net weight approx.	8.8 kg	11.6 kg

<sup>1</sup>) The magnetic drill complies with standard DIN EN 55011:2011-04 Class C2

**Core drill set**  
**HSS-TiAlN 30** 3072010

- › Five HSS core drills Ø 12, 14, 16, 20, 22 mm
- › A TiAlN core drill Ø 18 mm in our highest quality grade with TiAlN coating for a long service life and excellent cutting properties
- › Set in plastic case, ejector pin
- › Drilling depth 30 mm



**Core drill set**  
**TiAlN 30** 3072020

- › Six TiAlN core drills Ø 12 - 22 mm
- › Hard and smooth TiAlN coating
- › TiAlN coating for a long service life and excellent cutting properties
- › Set in plastic case
- › Ejector pin
- › Drilling depth 30 mm



Accessories	Art. no.	€ plus VAT	DM 35 3071036	DM 50 3071051	DM 35V 3071136	DM 50V 3071151	DM 38VF 3071338	DM 60V 3071161	DM 48VT 3071248	DM 35PF 3071435	DM 50PM 3071550	DM 98V 3071198
<b>Chuck adapter</b> Weldon 19 mm to 1/2" x 20 OT	3876020	17.90						●				●
<b>Drill chuck</b> 1.5 - 13 mm Incl. chuck spanner	3876002	8.90			●	●						●
<b>Quick-change chuck MT 2</b>	3072102	69.00	●	●	●	●	●	●	●	●	●	●
<b>Quick-change chuck MT 3</b>	3072103	69.00	●	●	●	●	●	●	●	●	●	●
<b>Thread tapping chuck with 6 inserts MT2 M3 - M12</b>	3050702	235.00	●	●	●	●	●	●	●	●	●	●
<b>Ejector pin</b>	38720.1261	10.80	●	●	●	●	●	●	●	●	●	●

**New CORE DRILL with Weldon shank**

**HSS**

Weldon 19 mm 3/4" For all steels up to 750N strength

Length

Ø mm

Ø mm	L mm	Item No.	Ø mm	L mm	Item No.
<b>HSS</b>					
12	25	30732512	12	50	30735012
13	25	30732513	13	50	30735013
14	25	30732514	14	50	30735014
15	25	30732515	15	50	30735015
16	25	30732516	16	50	30735016
17	25	30732517	17	50	30735017
18	25	30732518	18	50	30735018
19	25	30732519	19	50	30735019
20	25	30732520	20	50	30735020
21	25	30732521	21	50	30735021
22	25	30732522	22	50	30735022
23	25	30732523	23	50	30735023
24	25	30732524	24	50	30735024
25	25	30732525	25	50	30735025
26	25	30732526	26	50	30735026
27	25	30732527	27	50	30735027
28	25	30732528	28	50	30735028
29	25	30732529	29	50	30735029
30	25	30732530	30	50	30735030
32	25	30732532	32	50	30735032
33	25	30732533	33	50	30735033
34	25	30732534	34	50	30735034
35	25	30732535	35	50	30735035
36	25	30732536	36	50	30735036
37	25	30732537	37	50	30735037
38	25	30732538	38	50	30735038
40	25	30732540	40	50	30735040
42	25	30732542	43	50	30735043
44	25	30732544	50	50	30735050
45	25	30732545	55	50	30735055
48	25	30732548	60	50	30735060
50	25	30732550			
55	25	30732555			
60	25	30732560			

**TiN**

For all steels up to 900N strength. Also suitable for stainless steel.

Ø mm	L mm	Item No.	Ø mm	L mm	Item No.
<b>TiN</b>					
12	30	30733012	18	55	30735518
13	30	30733013	20	55	30735520
14	30	30733014	21	55	30735521
15	30	30733015	22	55	30735522
16	30	30733016	24	55	30735524
17	30	30733017	25	55	30735525
18	30	30733018	26	55	30735526
19	30	30733019	28	55	30735528
20	30	30733020	30	55	30735530
21	30	30733021	32	55	30735532
22	30	30733022	35	55	30735535
23	30	30733023	40	55	30735540
24	30	30733024	48	55	30735548
25	30	30733025	50	55	30735550
26	30	30733026			
27	30	30733027			
28	30	30733028			
29	30	30733029			
30	30	30733030			
32	30	30733032			
35	30	30733035			
40	30	30733040			
50	30	30733050			
60	30	30733060			
12	55	30735512			
13	55	30735513			
14	55	30735514			
16	55	30735516			

**TiAlN**

For all steels up to 1100N strength and for all stainless steels.

Ø mm	L mm	Item No.	Ø mm	L mm	Item No.
<b>TiAlN</b>					
12	30	30733012B	12	55	30735512B
13	30	30733013B	14	55	30735514B
14	30	30733014B	16	55	30735516B
15	30	30733015B	18	55	30735518B
16	30	30733016B	20	55	30735520B
17	30	30733017B	22	55	30735522B
18	30	30733018B	23	55	30735523B
19	30	30733019B	25	55	30735525B
20	30	30733020B	28	55	30735528B
21	30	30733021B	30	55	30735530B
22	30	30733022B			
24	30	30733024B			
25	30	30733025B			
26	30	30733026B			
28	30	30733028B			
30	30	30733030B			
32	30	30733032B			
35	30	30733035B			
40	30	30733040B			
50	30	30733050B			

# ***THREAD TAPPING DEVICES***

**DG 36** | Art. no.: 3081036

**Electrical**  
with freely positionable  
swivel arm



## Pneumatic tapping devices, compact in design and therefore very smooth-running

### Facts that impress in terms of quality, performance and price

- ▶ For thread tapping in steel, stainless steel, aluminium and non-ferrous metals.
- ▶ It is highly productive and saves a significant amount of time compared to manual thread tapping.
- ▶ It is highly economically efficient due to its low investment and maintenance costs.
- ▶ Flexible operation, multi-angle adjustable
- ▶ Air springs on both sides for a stable hold
- ▶ Quick-release chuck
- ▶ Greater accuracy compared to manual thread tapping
- ▶ Includes swivel arm with large radius for easy positioning of the tap on the workpiece
- ▶ Includes function for swivelling the head for horizontal and vertical thread cutting.

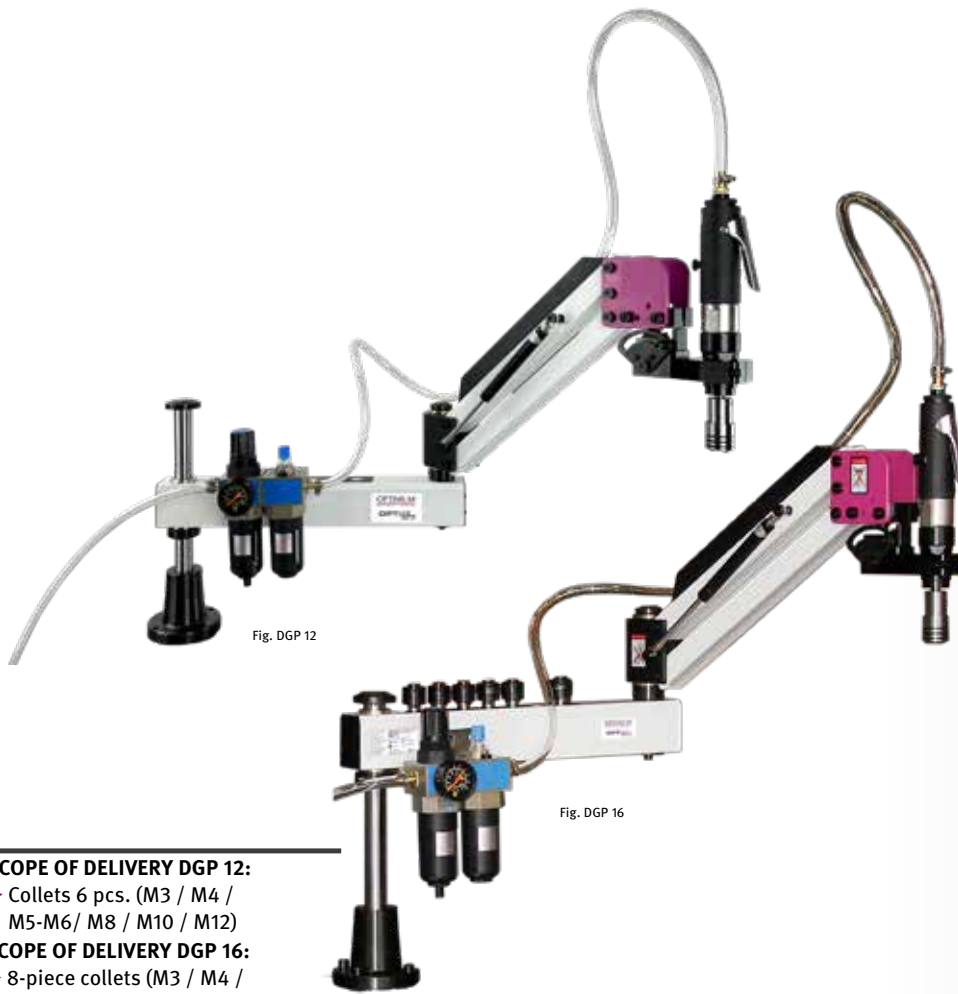


Fig. DGP 12

Fig. DGP 16

#### SCOPE OF DELIVERY DGP 12:

- ▶ Collets 6 pcs. (M3 / M4 / M5-M6 / M8 / M10 / M12)

#### SCOPE OF DELIVERY DGP 16:

- ▶ 8-piece collets (M3 / M4 / M5-6 / M8 / M10 / M12 / M 14 / M 16)

Machine data	DGP 12	DGP 16
Article no.	3081120	3081126
Technical data		
Inlet pressure	6- 8 bar	6- 8 bar
Tap diameter	M3- M12	M3- M16
Orientation	Vertical / Horizontal	Vertical / Horizontal
Maximum working radius (R1)	860 mm	860 mm
Minimum working radius (R2)	330 mm	330 mm
Maximum working radius (L1)	877 mm	877 mm
Distance of the forearm shaft (L2)	330 mm	330 mm
Height adjustment (L3)	368 mm	368 mm
Length of the pneumatic head (L4)	340 mm	340 mm
Machining radius	860 mm	860 mm
Air consumption	0.11 m <sup>3</sup> /min	0.11 m <sup>3</sup> /min
Motor speed	400 min <sup>-1</sup>	250 min <sup>-1</sup>
Net weight approx.	20 kg	22 kg

### Arguments,...



#### MAINTENANCE UNIT

- › Two-part maintenance units, consisting of a diaphragm pressure regulator with secondary venting



#### PNEUMATIC MOTOR

- › Lightweight and flexible



#### 1 Mobile machine base

- › Compatible with all OPTIMUM tapping devices
- › Possibility of fastening the tapping device on the left and right side
- › Incl. wheels with brakes for mobile use
- › Cast iron plate with 3 T-slots (16 mm)
- › Equipped with one door incl. handle and 5 drawers with ball bearings
- › Dimensions (L x W x H): 900 x 600 x 800 mm

#### 3 Permanent magnet

- › for mounting the thread cutting device
- › Load bearing capacity: 1000 kg

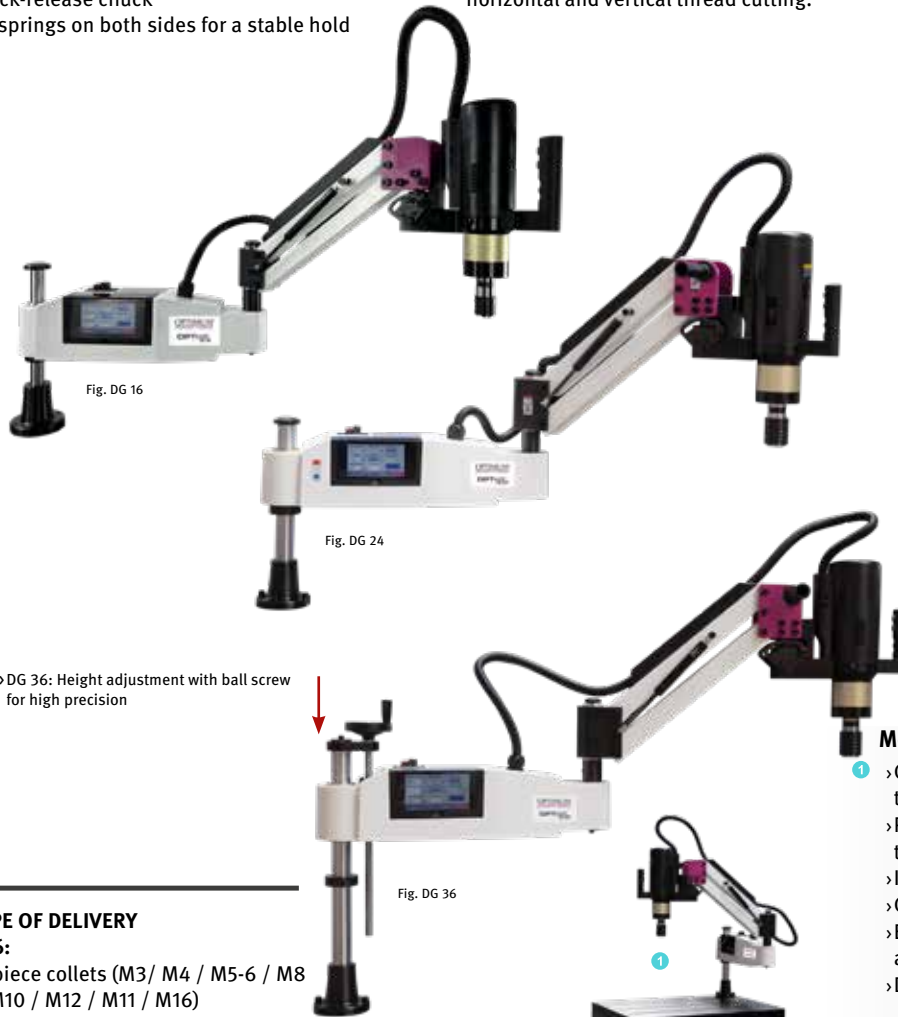


Accessories	Art no.
1 Base	3082000
2 Cutting oil spray	3872100
3 Permanent magnet	3082080
4 Cutting die holder GT12 M18-20	4460098

## Electric thread tapping machine with freely positionable swivel arm for fast, precise threading in metals

### Facts that impress in terms of quality, performance and price

- ▶ Servo motor, stable performance
- ▶ Flexible operation, multi-angle adjustable
- ▶ Intelligent touchscreen control, fast parameter setting
- ▶ Quick-release chuck
- ▶ Air springs on both sides for a stable hold
- ▶ Swivel arm with large radius for easy positioning of the tap on the workpiece
- ▶ High-torque servo motor
- ▶ Includes function for swivelling the head for horizontal and vertical thread cutting.



› DG 36: Height adjustment with ball screw for high precision

### Arguments,...



› Swivelling motor unit for thread tapping at any desired angle between 0° and 90°



› Intelligent touchscreen control  
› Fast parameter setting  
› adjustable to the following languages: German, English, French, Spanish, Polish, Hungarian (additional languages can be added later).

### Mobile machine base

- 1 › Compatible with all OPTIMUM tapping devices
- › Possibility of fastening the tapping device on the left and right side
- › Incl. wheels with brakes for mobile use
- › Cast iron plate with 3 T-slots (16 mm)
- › Equipped with one door incl. handle and 5 drawers with ball bearings
- › Dimensions (L x W x H): 900 x 600 x 800 mm

### 3 Permanent magnet

- › for mounting the thread cutting device
- › Load bearing capacity: 1000 kg



### SCOPE OF DELIVERY

#### DG 16:

- ▶ 8-piece collets (M3/ M4 / M5-6 / M8 / M10 / M12 / M11 / M16)

#### DG 24:

- ▶ 9-piece collets (M5-M6/ M8 / M10 / M12 / M14 / M16 / M18 / M20 / M22-M24)

#### DG 36:

- ▶ 13-piece collets (M5-M6/ M8 / M10 / M12 / M14 / M16 / M18 / M20 / M22-M24 / M27 / M30 / M33 / M36)

Machine data	DG 16	DG 24	DG 36
Art. no.	3081016	3081024	3081036
<b>Technical data</b>			
Electrical connection ~50Hz	230 V / 1 Ph	230 V / 1 Ph	230 V / 1 Ph
Motor power	600 W	1200 W	1200 W
Tap diameter	M3- M16	M5- M24	M5- M36
Orientation	Vertical	Vertical	Vertical
Horizontal working area	1045 mm	1180 mm	1180 mm
Vertical working area	330 mm	370 mm	370 mm
Motor speed	312 min <sup>-1</sup>	200 min <sup>-1</sup>	156 min <sup>-1</sup>
Tap holder	ISO / DIN / JIS	ISO / DIN / JIS	ISO / DIN / JIS
Net weight approx.	32 kg	48 kg	50 kg

Accessories	Art. no.
1 Base	3082000
2 Cutting oil spray	3872100
3 Permanent magnet	3082080
4 Cutting die holder GT12 M18-20	4460098
<b>Option</b>	<b>Art. no.</b>
Height adjustment of the tapping arm 0 - 500 mm	
Scope of delivery: Longer column, recirculating ball screw	
DG16	3082100
DG24	3082110

# ***ACCESSORIES***

# ***DRILLING MACHINES***

**Universal  
Coolant system | Art. no.: 3351999**

Complete with tank, flexible pipe,  
hose and  
switch-plug combination



Accessories	Article no.
<b>Collet chuck set</b>	
<b>MT2/ER 25 - M10</b>	3352052
<ul style="list-style-type: none"> <li>&gt; Collet chuck</li> <li>&gt; 15 collets; sizes Ø 1.5 - Ø 16 mm/DIN ISO 15488</li> <li>&gt; Hook spanner, aluminium case</li> </ul>	
<b>MT2/ER 32 - M10</b>	3352053
<ul style="list-style-type: none"> <li>&gt; Collet chuck</li> <li>&gt; 18 collets; sizes Ø 2 - Ø 20 mm/DIN ISO 15488</li> <li>&gt; Hook spanner, aluminium case</li> </ul>	
<b>MT3/ER 32 - M12</b>	3352093
<ul style="list-style-type: none"> <li>&gt; Collet chuck</li> <li>&gt; 18 collets; sizes Ø 2 - Ø 20 mm/DIN ISO 15488</li> <li>&gt; Hook spanner, aluminium case</li> </ul>	
<b>MT4/ER 32 - M16</b>	3352094
<ul style="list-style-type: none"> <li>&gt; Collet chuck</li> <li>&gt; 18 Collets; sizes Ø 2 - Ø 20 mm/DIN ISO 15488</li> <li>&gt; Hook spanner, aluminium case</li> </ul>	



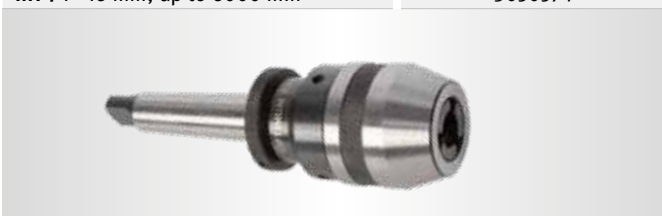
Quick-action drill chuck	
<b>DKC13 / 0-13 mm; B16 4800 min<sup>-1</sup></b>	3050632
<b>DKC16 / 0-16 mm; B16 4000 min<sup>-1</sup></b>	3050633



OPTIMUM Precision quick-action drill chuck	
True run accuracy better than 0.06 mm	
<b>1 - 10 mm; B16</b>	3050610



OPTIMUM Quick-action drill chuck with MT adapter	
<b>MT2 1 - 16 mm; up to 6000 min<sup>-1</sup></b>	3050571
<b>MT2 1 - 13 mm; up to 8000 min<sup>-1</sup></b>	3050572
<b>MT3 1 - 16 mm; up to 6000 min<sup>-1</sup></b>	3050573
<b>MT4 1 - 16 mm; up to 6000 min<sup>-1</sup></b>	3050574

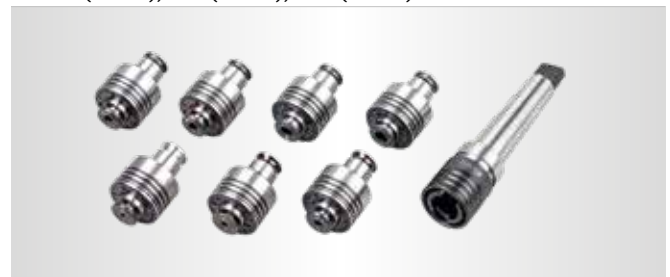


Accessories	Article no.
<b>Tapping chuck with quick-change inserts</b>	
Note: The square size depends on the shank diameter of the hand tap (DIN 376)	
<b>MT2 <span style="background-color: red; color: white; padding: 2px;">New</span></b>	3050702
> 7 inserts M8 - M20	
<b>MT3</b>	3050705
<b>MT4</b>	3050709
> 7 inserts M3 - M12	
> Shaft Ø M3 (2.5 mm), M4 (2.8 mm), M5 (3.5 mm), M6 (4.5 mm), M8 (6 mm), M10 (7 mm), M12 (9 mm)	



<b>MT3</b>	3050706
<b>MT4</b>	3050710

> 7 inserts M8 - M20  
> Shaft Ø M8 (6 mm), M10 (7 mm), M12 (9 mm), M14 (11 mm), M16 (12 mm), M18 (14 mm), M20 (16 mm)



Thermdrill collet chuck	3060007
> B16- ER32	

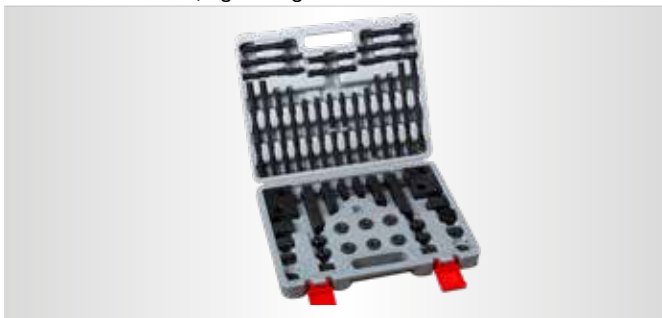


Quick change adapter with B16 collet	
<b>Tapping chuck small (M3-M12)</b>	3050715
<b>Tapping chuck large (M8-M20)</b>	3050716



## Accessories for drilling machines

Accessories	Article no.
<b>Assortment of clamping tool SPW</b>	
› Metric thread	
› 58-part: 24 pcs. Pull studs, 6 pcs. T-slot nuts , 6 pcs. nuts, 4 pcs. extension nuts , 6 pcs. step blocks, 12 pcs. clamping blocks	
<b>Size 8</b>	3352015
› T-slot nuts 10 mm; tightening thread M 8	
<b>Size 10</b>	3352076
› T-slot nuts 12 mm; tightening thread M 10	
<b>Size 12</b>	3352077
› T-slot nuts 14 mm; tightening thread M 12	
<b>Size 14</b>	3352078
› T-slot nuts 16 mm; tightening thread M 14	
<b>Size 16</b>	3352079
› T-slot nuts 18 mm; tightening thread M 16	

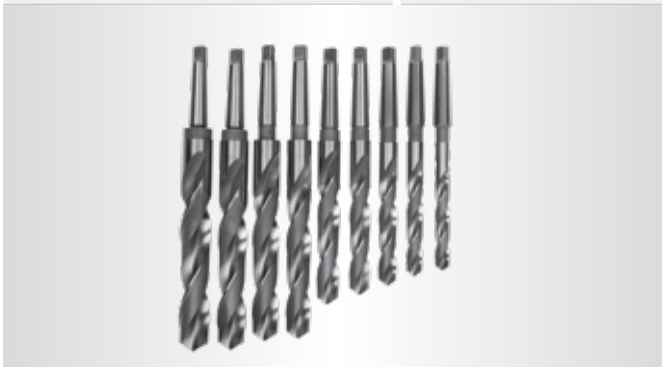


T-slot nut (individual)					
Type	a	E	h	K	
M8 x 10	9.7	15	12	6	3353020
M10 x 12	11.7	18	14	7	3353022
M12 x 14	13.7	22	16	8	3353025
M12 x 16	15.7	25	18	9	3353024
M14 x 16	15.7	25	18	9	3353026
M16 x 18	17.7	28	20	10	3353028



Twist drill HSS with morse taper	
› 9-part; 14.5/16/18/20/22/24/26/28/30 mm	
› Long service life	
› Good chip removal	
› Right-hand cutting	

<b>MT2</b>	3051002
<b>MT3</b>	3051003



Accessories	Article no.
<b>Twist drill set</b>	
› As per DIN 338 HSS-CO 5 %	
› Four-surface 135° cross grinding enables excellent self-centring	
› Improved tool service life thanks to alloyed components	
› High speed/feed properties	
› Strong core design optimises the structural strength of the bit and minimises the risk of bit breakage	
› Practical OPTIMUM plastic case	
<b>25-part</b>	3201010
› 1- 13 mm	
<b>41-part</b>	3201021
› 6 - 10 mm (increasing by 0.1 mm)	



Fig. Spiral drill bit set 51-part

Accessories	Article no.
<b>Countersink set</b>	
› As per standard DIN 335C	
› HSS	
› 6-part: 6/8/10/11.5/15/19 mm	
› Premium conical counterbores Burrs are nicely chamfered and removed without causing scratches	
› Compatible with popular battery-powered screwdrivers and drills, including upright drilling machines	
› Practical OPTIMUM plastic case	



Accessories	Article no.
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Spot facer set	3201051
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- › As per standard 373
- › 6-part: for M3 / M4 / M5 / M6 / M8 / M10 mm screws
- › HSS
- › Piloted counterbore size 6.5 x 3.2 mm / 8 x 4.3 mm / 10 x 5.3 mm / 11 x 6.4 mm / 15 x 8.54 mm / 18 x 10.5 mm
- › Fine grade for countersinking screws and nuts as per DIN 74
- › Practical OPTIMUM plastic case



Sheet metal peel drill set	3201055
----------------------------	---------

- › 3-part: 3 - 14 mm / 8 - 20 mm / 16 - 30.5 mm
- › HSS
- › With sharp tip, no pre-drilling required
- › Conically rising blades and radially undercut circumference for peeling action
- › Drilling without burr and chatter marks
- › Utilisation: Steel sheet 0.1 - 2 mm, stainless steel (V2A) 0.1 - 1 mm, non-ferrous metals 0.1 - 5 mm, plastics - 10 mm
- › Practical OPTIMUM plastic case



Accessories	Article no.
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Thread repair assortment	3202010
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- › 5 twist drills (5.2 mm/6.3 mm/8.3 mm/10.4 mm/12.4 mm)
- › 5 units thread tap: (M5 / M6 / M8 / M10 / M12)
- › 5 units inserter for threaded inserts
- › 5 units tang breaker
- › 100 units threaded inserts: 25 units each M 5x 0.8 mm / M6 x 1.0 mm/ M8 x 1.25 mm/ M10 x 1.5 mm
- › 10 units threaded insert: M12 x 1.75 mm
- › For repairing defective threads
- › For reinforcing the thread on materials with a low shear strength
- › Practical OPTIMUM metal case



Try square 90°	3385052
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- › For clamping in case of mechanical processing of workpieces, checking and scribing work
- › Precision: Parallelism and perpendicularity 0.01 to 100 mm
- › Lateral reinforcing ribs
- › Dimensions approx. L x W x H: 202 x 126 x 150 mm . Weight approx. 7 kg



DRILLING ACCESSORIES

CORE DRILLING

THREAD TAPPING

MILLING

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORKING

LIGHTING

COOLING

## Accessories for drilling machines

Accessories	Article no.
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Reduction sleeve	
MT3- MT2	3050663
MT4- MT3	3050664
MT4- MT2	3050665



Morse taper with adapter	
MT2- B16	3050659
MT3- B16	3050660
MT4- B16	3050661
MT5- B16	3050675
MT6- B16	3050676



Extension sleeve	
MT2 - MT3	3050667
MT3 - MT4	3050668



Cone ejector	
MSP 1 for MT1 up to MT3	3050636
MSP 2 for MT4 up to MT6	3050637

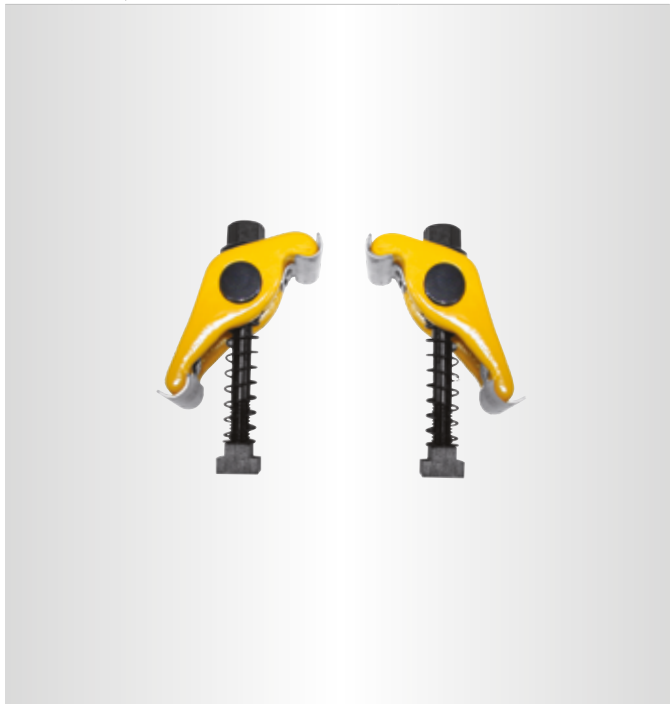





Accessories	Article no.
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Tapping chuck M5 - M12	
	3352042
<ul style="list-style-type: none"> <li>&gt; Quick reverse built-in, immediately effective on changing the feed direction</li> <li>&gt; 4-stage adjustable slipping clutch</li> <li>&gt; With collet B16</li> </ul>	
<b>Scope of delivery:</b>	
<ul style="list-style-type: none"> <li>&gt; 2 units flexible collet</li> <li>&gt; 2 units flat spanner</li> <li>&gt; 1 hexagon socket spanner</li> </ul>	



Hold-down unit set of 2	
<ul style="list-style-type: none"> <li>&gt; Clamping height adjustable</li> <li>&gt; Brass plate below clamping arm protects material against damage</li> </ul>	
Table groove 14 mm/M 12	3352031
<ul style="list-style-type: none"> <li>&gt; L x W x H approx.: 115 x 42 x 39 mm</li> <li>&gt; Height adjustment: 0 - 89 mm</li> </ul>	
Table groove 18 mm/M 16	3352032
<ul style="list-style-type: none"> <li>&gt; L x W x H approx.: 133 x 50 x 49 mm</li> <li>&gt; Height adjustment: 0 - 101 mm</li> </ul>	



	Designation	Size	Article no.
	<b>Coolant hoses basic equipment 1/4" - No. 1</b> <ul style="list-style-type: none"> <li>› 8 units articulated hose 150 mm</li> <li>› 2 units each round nozzle 1/16" / 1/8" / 1/4",</li> <li>› 2 units NPT coupling 1/4" and 1/8",</li> <li>› 1 unit flat nozzle,</li> <li>› 1 unit Y-distributor,</li> <li>› 2 units shut-off valve inside and outside,</li> <li>› 2 units shut-off valve inside - 1/4",</li> <li>› 2 unit NPT extension,</li> <li>› 1 unit magnetic base, 1 unit flexible sealing tape</li> </ul>	1/4"	3356704
	<b>Coolant hoses basic equipment 1/4" - No. 2</b> <ul style="list-style-type: none"> <li>› 6 units articulated hose 150 mm,</li> <li>› 2 units each round nozzle 1/16" / 1/8" / 1/4",</li> <li>› 2 units each NPT coupling 1/4" and 1/8",</li> <li>› 5 units flat nozzle,</li> <li>› 4 units 90° nozzle,</li> <li>› 1 unit Y-distributor,</li> <li>› 1 unit shut-off valve, inside and outside,</li> <li>› 1 unit shut-off valve, inside - 1/4"</li> <li>› 1 unit grips</li> </ul>	1/4"	3356705
	<b>Coolant hoses basic equipment 1/2" - No. 1</b> <ul style="list-style-type: none"> <li>› 6 units articulated hose 150 mm,</li> <li>› 2 units each round nozzle 1/2" / 3/8" / 1/4",</li> <li>› 2 units each NPT coupling 1/4" and 1/2",</li> <li>› 1 unit flat nozzle,</li> <li>› 3 units 90° round nozzle 1/2" / 3/8" / 1/4",</li> <li>› 1 unit Y-distributor,</li> <li>› 1 unit shut-off valve, inside and outside,</li> <li>› 1 unit shut-off valve, inside - 1/2"</li> <li>› 1 unit grips</li> </ul>	1/2"	3356800

### The perfect extension for the coolant hoses of our machines

Accessories	Article no.
<b>Universal coolant device</b>	3351999
› Connection 100W 230 V ~50 Hz	
› Delivery height max. 2.5 m	
› Delivery volume 3.5 litres per minute	
› Tank capacity 11 litres	
› Dimensions L x W x H approx.: 375 x 250 x 260 mm	
› Complete with tank, flexible tube, hose and switch/plug combination	
› Magnetic base fastener for coolant hose	



Accessories	Article no.
<b>MMC1 coolant mist lubricator</b>	3356663
› Magnetic base with a holding force of 75 kg	
› Foot size L x W x H: 62 x 50 x 55 mm	
› Screw connection for external compressed air supply	
› Flexible and stable hose with a length of 500 mm	
<b>KMS 2 coolant hose</b>	3356660
› Insensitive to most solvents and chemicals	
› Not electrically conductive	
› Magnetic base holding force up to 50 kg	
› Length of the coolant hoses 335 mm each	
› Hose connection 6 mm	
› Coolant hoses 1/4"	



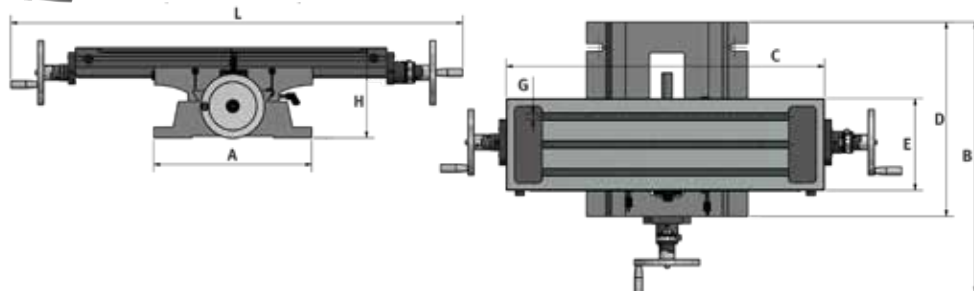
## Accessories for drilling machines

### KT cross tables

#### Facts that impress in terms of quality, performance and price

- ▶ Coolant channel
- ▶ Dovetail guide adjustable
- ▶ Handwheels right, front and left - for model KT 120 only right and front
- ▶ Adjustable handwheel scaling with 0.05 mm increments

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-slot size)	10 mm	12 mm	12 mm	14 mm
Dimensions (L x W x H) approx.	506 x 400 x 140 mm	748 x 483 x 155 mm	948 x 483 x 155 mm	1060 x 538 x 185 mm
Net weight approx.	22 kg	40 kg	52 kg	84 kg
<b>Traverse paths</b>				
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



KT cross tables	Article no.
KT 120	3356595
KT 179	3356596
KT 180	3356591
KT 210	3356600

### Workplace mats for dry and wet areas

#### Facts that impress in terms of quality, performance and price

- ▶ Thickness 14 mm
- ▶ Colour anthracite
- ▶ Temperature resistant -35°C up to +95°C
- ▶ Fire-resistant B1 as per DIN 4102
- ▶ Made of polyurethane on polyether basis
- ▶ Surface: nubbed
- ▶ Underside: nubbed for maximum standing comfort and slip resistance
- ▶ 5-year warranty

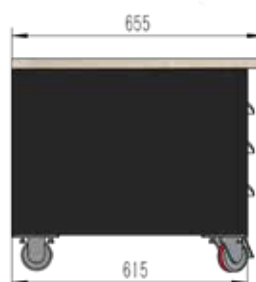
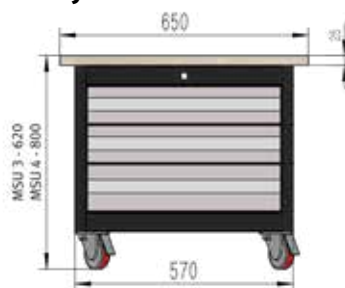


Work mat	Size: 1840 x 640 mm	Size: 1840 x 940 mm	Size: 3040 x 640 mm	Size: 3040 x 940 mm
Article no.	6800000	6800005	6800001	6800006
Net weight approx.	6 kg	9 kg	10.5 kg	15 kg

### MSU 3 / MSU 4 - Universal machine and tool trolley

#### Facts that impress in terms of quality, performance and price

- ▶ All three ball bearing mounted drawers can be operated with full extension and are equipped with a stop at the end to prevent accidental opening when shunting or transporting
- ▶ Stable design
- ▶ Lockable with cylinder lock
- ▶ Interior drawer height 100 mm / 100 mm / 200 mm



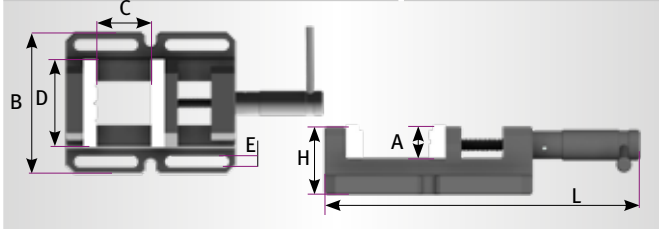
Model	MSU 3	MSU 4
Article no.	3352990	3352991
Load bearing capacity	max. 500 kg	max. 500 kg
Load bearing capacity per drawer	max. 45 kg	max. 45 kg
Dimensions LxWxH approx.	650 x 655 x 620 mm	650 x 655 x 800 mm
Net weight approx.	47 kg	55.5 kg

MSU 3

**Machine vises BME** **Article no.**

- › Smooth action
- › Precise jaw guidance
- › Spindle with rolled trapezoid thread
- › Many assembly options on drill table thanks to slots

<b>BME 85</b>	3052630
<b>BME 100</b>	3052632
<b>BME 120</b>	3052634
<b>BME 150</b>	3052636



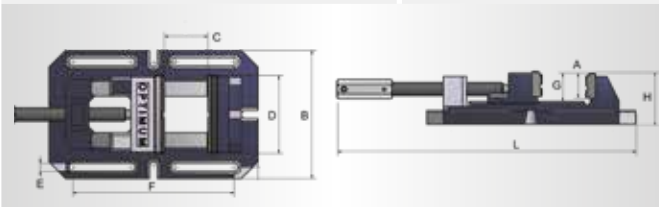
Tech. data		A	C	D	E	L	B	H	kg
BME 85	mm	30	69	85	12	235	132	58	2.8
BME 100	mm	30	100	100	14	288	160	60	4.0
BME 120	mm	30	120	120	14	327	180	63	5.0
BME 150	mm	30	165	150	14	428	220	70	8.0



**Machine vises BSI** **Article no.**

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

<b>BSI 100</b>	3000210
<b>BSI 140</b>	3000214
<b>BSI 200</b>	3000220



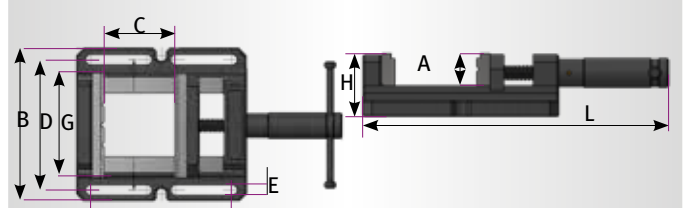
Tech. data		A	C	D	E	F	G	L	B	H	kg
BSI 100	mm	35	110	100	12	216	40	max. 460	170	74	8.7
BSI 140	mm	45	150	140	14	290	50	max. 610	230	93	18
BSI 200	mm	58	200	200	16	406	64	max. 788	290	118	37



**Machine vises BMP** **Article no.**

- › Smooth action
- › Rugged design with prism jaws
- › Spindle with rolled trapezoid thread
- › Many assembly options on drill table thanks to slots

<b>BMP 100</b>	Cast struts for fastening	3052610
<b>BMP 130</b>	Cast struts for fastening	3052613
<b>BMP 160</b>	Mounting plate for fastening	3052616
<b>BMP 160L</b>	Cast struts for fastening	3052617
<b>BMP 200</b>	Mounting plate for fastening	3052620
<b>BMP 200L</b>	Cast struts for fastening	3052621



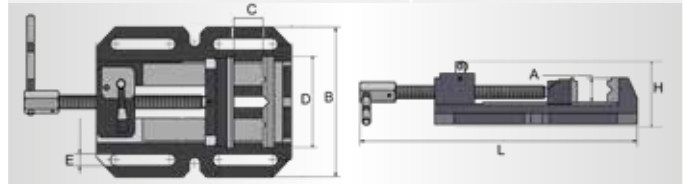
Tech. data		A	G	C	D	E	L	B	H	kg
BMP 100	mm	30	100	100	133	13	294	162	64	5.6
BMP 130	mm	35	130	120	163	13	334	192	69	7.4
BMP 160	mm	40	160	145	205	13	420	250	77	13
BMP 160L	mm	40	160	145	205	13	420	250	82	15
BMP 200	mm	50	200	195	245	14.5	535	290	87	21.6
BMP 200L	mm	50	200	195	245	14.5	535	320	92	23



**Machine vises BSI-Q** **Article no.**

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

<b>BSI-Q 100</b>	3000230
<b>BSI-Q 140</b>	3000234
<b>BSI-Q 200</b>	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



DRILLING ACCESSORIES  
 CORE DRILLING  
 THREAD TAPPING  
 MILLING  
 TURNING  
 MEASURING  
 SAWS  
 GRINDING  
 POLISHING  
 SHEET METAL WORKING  
 LIGHTING  
 COOLING

# Thermdrill replaces rivet nuts

The Thermdrill process allows you to effortlessly produce 100% twist-proof and wobble-free threaded bushings from existing materials in just two simple steps. And at a fraction of the cost of rivet nuts.



thermal drilling

Thread formin

Wobble-free threaded bushing

High quality

Time saving

Cost reduction

- ▶ 100% torsion-proof
- ▶ For steel, stainless steel, non-ferrous metal, aluminium
- ▶ For all common thread sizes
- ▶ From 1.0 mm wall thickness
- ▶ For column drilling machine, milling machine and CNC\*

Configure  
starter set NOW



# THERMDRILL®

Verbindungstechnik – Made in Germany

\*Sufficient speed and motor power provided



CURIOS?  
Visit our website for more  
information: [thermdrill.com](http://thermdrill.com)

Your starter set - Simply put together in 3 steps

## 1. Thermal drill



**SHAPE**

For bushes with collars



**CUT**

For bushes without collars

M = Metric  
G = Pipe thread

▶ Made of solid carbide with a special polygon grind

Thread	version	Max. wall thickness [mm]	€ plus VAT.	Max. wall thickness [mm]	Art. no.
M3	short	1.5	3060103	2.0	3060163
	long	2.5	3060123	4.0	3060143
M4	short	1.5	3060104	2.0	3060164
	long	2.5	3060124	4.0	3060144
M5	short	2.0	3060105	3.0	3060165
	long	3.0	3060125	4.5	3060145
M6	short	2.0	3060106	3.0	3060166
	long	3.5	3060126	5.0	3060146
M8	short	2.5	3060108	4.0	3060168
	long	4.0	3060128	6.0	3060148
M10	short	2.5	3060110	4.0	3060170
	long	4.5	3060130	6.5	3060150
M12	short	3.0	3060112	4.5	3060172
	long	5.0	3060132	7.0	3060152
G1/8"	short	2.5	3060301	4.0	3060341
	long	4.5	3060311	6.5	3060351
G1/4"	short	2.5	3060302	4.0	3060342
	long	5.0	3060312	7.0	3060352
G3/8"	short	2.5	3060303	4.0	3060343
	long	5.0	3060313	7.0	3060353
G1/2"	short	2.5	3060304	4.0	3060344
	long	5.0	3060314	7.0	3060354

+ Further thread sizes can be found at: [www.thermdrill.com/lieferprogramm](http://www.thermdrill.com/lieferprogramm)

**Tool set** = thermal drill + thread former

## 2. Thread former

with **TIN coating** and **lubrication groove tolerance 6HX, shape C**  
Standard tool holder can be used

Thread	Art. no.
M3 × 0,5	3060201
M4 × 0,7	3060202
M5 × 0,8	3060204
M6 × 1,0	3060205
M8 × 1,25	3060207
M10 × 1,25	3060209
M12 × 1,75	3060211
G1/8"	3060265
G1/4"	3060266
G3/8"	3060268
G1/2"	3060270

## 3. Basic equipment



**Art. no.**  
3060004

**Contents:**  
 ▶ Tool holder with cooling ring ER32-B16  
 ▶ 1× open-end spanner and 1× hook spanner  
 ▶ Adapter B16-MT2  
 ▶ Adapter B16-MT3  
 ▶ 1× ER32 collet (6/8/10/12 mm) each  
 ▶ THERMDRILL Paste 100 kg  
 ▶ Thread moulding oil 100 ml  
 ▶ 1× Brass and bristle brush  
 ▶ System case

**Collet ER32**  
for G1/4" to G1/2"  
also order

ER32	Art. no.
14.0 mm	3441134
16.0 mm	3441136
18.0 mm	3441138

## Speed + motor power

The details are guide values for applications in steel. For other materials, a speed adjustment is required.

+50% for aluminium, brass, copper, -10% for stainless steel

Thread	thermal drilling Speed [rpm]		Motor power		Thread forming Speed [rpm]
	min	ideal	min	kW	
M3	2600	3000	1.0	0.75	1350
			2.0	1.0	
M4	2300	2600	≤ 1.5	1.0	1000
			≤ 4.0	1.5	
M5	2200	2500	3.0	1.0	800
			4.5	1.5	
M6	2000	2400	4.0	1.5	650
			5.0	2.0	
M8	1600	2200	4.0	1.5	500
			6.0	2.0	
M10	1500	2000	3.0	1.5	400
			5.0	2.0	
M12	1400	1800	3.0	1.5	350
			5.0	2.0	
G1/8"	1500	2000	3.0	1.5	400
			5.0	2.0	
G1/4"	1400	1600	2.5	1.5	350
			4.0	2.0	
G3/8"	1200	1400	2.5	2.0	300
			5.0	2.2	
G1/2"	1000	1200	2.5	2.5	250
			5.0	2.5	



also for milling machines and CNC systems

Starting instructions incl. CNC data and machine parameter:



**TYPE SHAPE**

Thread	version	max. Wall thickness [mm]	Art. no.
M3	short	1.5	3060503
	long	2.5	3060523
M4	short	1.5	3060504
	long	2.5	3060524
M5	short	2.0	3060505
	long	3.0	3060525
M6	short	2.0	3060506
	long	3.5	3060526
M8	short	2.5	3060508
	long	4.0	3060528
M10	short	2.5	3060510
	long	4.5	3060530
M12	short	3.0	3060512
	long	5.0	3060532
G1/8"	short	2.5	3060401
	long	4.5	3060411
G1/4"	short	2.5	3060402
	long	5.0	3060412
G3/8"	short	2.5	3060403
	long	5.0	3060413
G1/2"	short	2.5	3060404
	long	5.0	3060414

+ Further thread sizes can be found at: [www.thermdrill.com/lieferprogramm](http://www.thermdrill.com/lieferprogramm)



**TYPE CUT**

max. Wall thickness [mm]	Art. no.
1.5	3060563
	3060583
2.5	3060564
	3060584
2.0	3060565
	3060585
2.0	3060566
	3060586
2.5	3060568
	3060588
2.5	3060570
	3060590
3.0	3060572
	3060592
2.5	3060441
	3060451
2.5	3060442
	3060452
2.5	3060443
	3060453
2.5	3060444
	3060454

### Thermal drill paste



To protect the thermal drill from excessive wear

Packaging	Art. no.
1 kg	3060090
100 mg	Article number in progress
Brass brush	

### Thread moulding oil



High-performance oil especially suitable for thread forming in aluminium, copper, brass, steel & stainless steel

Packaging	Art. no.
1 l	3060092
100 ml	Article number in progress
Bristle brush	

### Quick-change set



for thread forming

Article	Art. no.
small (M3-M12)	3050715
large (M8-M20)	3050716

### Cooling chuck

for thermo drilling



B16-ER32

+ B16

Article	Art. no.
Adapter 'small'	Article number in progress
Adapter 'large'	
Cooling chuck B16	

DRILLING ACCESSORIES

CORE DRILLING

THREAD TAPPING

MILLING

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORKING

LIGHTING

COOLING





# ***DRILLING MILLING MACHINES***

**MH 3DV | Art. no.: 3337130**

with inline spindle drive  
No more gearbox, therefore  
extremely smooth running



**MB 4SV** | Art. no.: 3338458

**Milling machine**  
with electronically controllable  
drive and digital display



## Small drilling and milling machine with electronically infinitely variable drive

### Facts that impress in terms of quality, performance and price

- ▶ Two-speed transmission ratio
- ▶ MT2 tool holder
- ▶ The drill head can be tilted by 45°, enabling milling and drilling work at any angle
- ▶ Simple and clear control panel
- ▶ With 24V low voltage
- ▶ Feed spindles can be adjusted backlash-free using adjustable spindle nuts
- ▶ Solid cross table, precisely surface-machined with T-slots
- ▶ Adjustable limit stops
- ▶ Fine feed



### Arguments,...



#### CONTROL UNIT

- Simple and clear operating unit with speed display
- Touch on/off switch
- Potentiometer
- Emergency stop button



#### CROSS TABLE

- › Solid and generously dimensioned cross table with precision surface finish and T-slots
- › Adjustable limit stops
- › Longitudinal scale inset in cross table



#### UNIVERSAL MACHINE SUBSTRUCTURE MSM 1 AND CHIP TRAY

- › Optionally available
- › Informations see page 155

## Technical data and accessories

Model	MH 15V
Article no.	3338110
<b>Output</b>	
Electrical connection	230 V / 1 Ph ~50 Hz
Motor power	500 W
<b>Drilling/milling output</b>	
Drilling performance in steel (S235JR)	Ø 13 mm
Continuous drilling performance in steel (S235JR)	Ø 11 mm
Maximum cutting head size	Ø 50 mm
Maximum end mill size	Ø 13 mm
<b>Spindle</b>	
Spindle sleeve stroke	50 mm
Spindle seat	MT2
Spindle - column distance	145 mm
Drawbar	M 10
<b>Drilling/milling head</b>	
Spindle speeds	90 - 2250 min <sup>-1</sup>
Gearbox stages	2-speed, electronic speed control
Swivel range	± 90°
<b>Cross table</b>	
Cross table x width	400 x 120 mm
T-slot size / spacing / count	10 mm / 35 mm / 3
Clearance spindle to cross table	250 mm
<b>Traverse paths</b>	
X axis	240 mm
Y axis	135 mm
Z axis	150 mm
<b>Dimensions and weight</b>	
Length x width x height approx.	504 x 515 x 800 mm
Net weight approx.	58.5 kg

## Scope of delivery

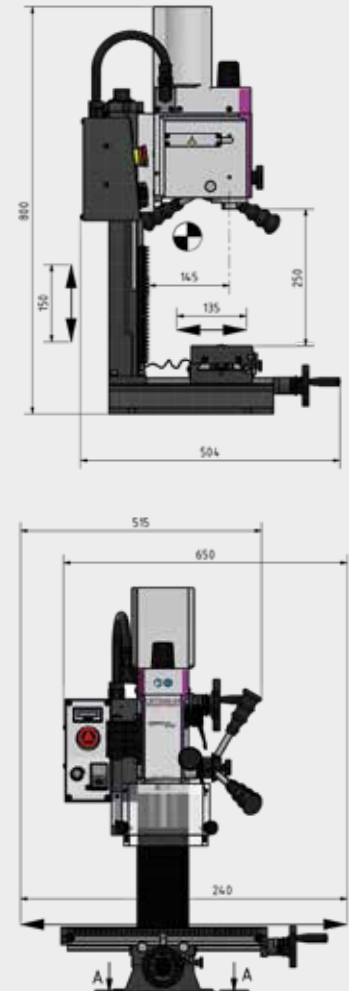
- › Drill chuck 1-13 mm
- › Taper shank
- › T-slot nut
- › Operating tool

## Accessories

Designation	Article no.
Collet set MT2/ M10, 5-part direct tensioning	3351980
Collet set ER 25, 15-part	3441109
Collet chuck set MT2/ ER 25	3352052
Collet chuck set MT2/ ER 32	3352053
End mill set HSS TiN-coated 12-part	3352250
End mill set HSS TiN-coated 20-part	3352255
Quick-action drill chuck DKC 13/ 0 - 13 mm	3050632
Assortment of clamping tools size 8	3352015
T-slot nut M 8 / 10 mm	3353020
Universal coolant unit 230 V	3351999
Coolant mist lubricator MMC 1 with magnetic holder	3356663
KMS 2 coolant hose	3356660

More accessories and information about accessories from page 158 onwards  
For a large selection of machine vices, see from page 155 onwards

## Dimensions



## Digital position display

Designation	Article no.
Digital position display DRO 5	3383975
Factory assembly DRO 5	9000420
Magnetic strip per metre	3383980

Information on the digital position indicator see page 233

## Machine base

Designation	Article no.
Universal machine substructure MSM 1	3353000
Chip tray	3352999
Levelling platen SE 1 (4 units required)	3381012

Information on the universal machine base MSM 1 see page 169

**Sturdy drilling and milling machines with electronically infinitely variable drive. OPTImill BF 20LVario with longer cross table.**

**Facts that impress in terms of quality, performance and price**

- ▶ Feed spindles can be adjusted backlash-free using adjustable spindle nuts
- ▶ Sturdy dovetail guide, precision ground and shaved with adjustable V-ledges
- ▶ EMC filter (to protect sensitive electronics against interference from conducted interference signals class B)
- ▶ All guideways are ground and visibly scraped (oil pockets for lubrication)
- ▶ Precision workmanship
- ▶ Two-speed gear ratio for powerful transmission of motor output
- ▶ Powerful DC motor with permanent current monitoring
- ▶ Two-row angular contact ball bearings in the axes, adjustable without play
- ▶ Safety electrical system 24-volt version
- ▶ Gaiter as guide protection
- ▶ Clockwise/anticlockwise rotation
- ▶ Drilling/milling head can be tilted by  $\pm 90^\circ$ , for milling and drilling work in any angular position
- ▶ Height-adjustable protective screen with microswitch for best possible user protection against chips and parts being flung out

**Back again**  
The original



Fig.: OPTImill BF 20Vario with optional accessories milling

**Arguments,...**



**Z-column and X-axis**

- ▶ Prepared 9 mm wide groove for retrofitting the magnetic tapes by simply gluing them in place



**Spindle sleeve stroke indicator**

- ▶ Digital
- ▶ Display accuracy 0.01 mm
- ▶ mm/inch switchable



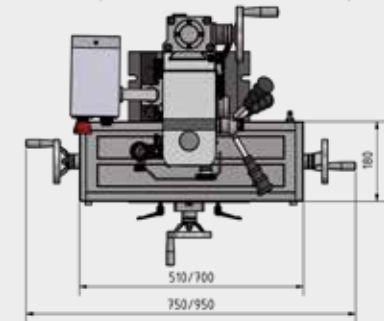
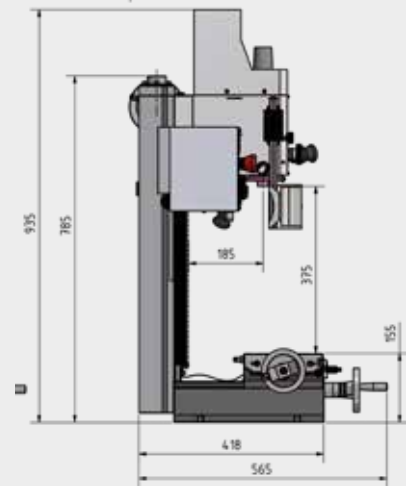
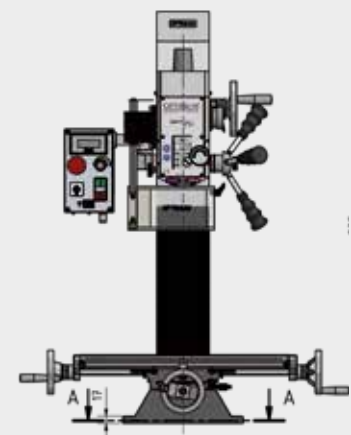
**Operating panel**

- ▶ Clearly-arranged

## Technical specifications, accessories and dimensions

Model	BF 20Vario	BF 20LVario
Article no.	3338120	3338122
<b>Output</b>		
Electrical connection	230 V / 1 Ph ~50 Hz	
Motor power	850 W	
<b>Drilling/milling output</b>		
Drilling performance in steel (S235JR)	Ø 16 mm	
Continuous drilling capacity steel (S235JR)	Ø 12 mm	
Cutter head size max.	Ø 63 mm	
Maximum end mill size	Ø 20 mm	
<b>Spindle seat</b>		
Spindle sleeve stroke	50 mm	
Spindle seat	MT 2 / M10	
Spindle - column distance	185 mm	
<b>Drilling/milling head</b>		
Swivel range	± 90°	
Spindle speeds	90 - 1480 min <sup>-1</sup> / 150 - 3000 min <sup>-1</sup>	
Gearbox stages	2-speed, electronic speed control	
<b>Cross table</b>		
Table length	500 mm	700 mm
Table width	180 mm	
T-slot size / spacing	12 mm / 63 mm	
Cross table load capacity max.	55 kg	
<b>Traverse paths</b>		
X-axis	280 mm	480 mm
Y-axis	175 mm	
Z-axis	280 mm	
<b>Dimensions and weight</b>		
Length	745 mm	950 mm
Width x height max.	565 x 935 mm	
Total weight	103 kg	112 kg

## Dimensions



## Scope of delivery

- > Tapered mandrel MT2/B16 M 10
- > Drawbar M10
- > Operating tool

## Accessories

Designation	Article no.
Collet set MT2/ M10, 5-part direct tensioning	3351980
Collet set ER 25, 15-part	3441109
Collet chuck set MT2/ ER 25	3352052
Collet chuck set MT2/ ER 32	3352053
End mill set HSS TiN-coated 12-part	3352250
End mill set HSS TiN-coated 20-part	3352255
Quick-action drill chuck DKC 13/ 0 - 13 mm	3050632
Assortment of clamping tools size 8	3352015
T-slot nut M 8 / 10 mm	3353020
Universal coolant unit 230 V	3351999
Coolant mist lubricator MMC 1 with magnetic holder	3356663
KMS 2 coolant hose	3356660

More accessories and information about accessories from page 158 onwards  
For a large selection of machine vices, see from page 155 onwards

## Digital position display

Designation	Article no.
Digital position display DRO 5	3383975
Factory assembly DRO 5	9000420
Magnetic strip per metre	3383980

Information on the digital position indicator see page 233

## Machine base

Designation	Article no.
Universal machine substructure MSM 1	3353000
Chip tray	3352999
Levelling platen SE 1 (4 units required)	3381012

Information on the universal machine base MSM 1 see page 169

## Sturdy drilling and milling machines with electronically infinitely variable drive and manual spindle sleeve feed

### Facts that impress in terms of quality, performance and price

- ▶ Precision workmanship
  - ▶ Excellent concentricity thanks to tapered roller bearings,  $\leq 0.015$  mm measured in the spindle sleeve
  - ▶ Motor with two-speed gear ratio for powerful transmission of motor output
  - ▶ Powerful DC motor with permanent current monitoring
  - ▶ Air filter for motor
  - ▶ New electrics with improved motor protection (extended PCB and PCB for EMC)
  - ▶ Safety electrical system 24-volt version
  - ▶ Control electronics with integrated relay control
  - ▶ Solid and generously dimensioned cross table with precision surface finish with T-slots and adjustable wedge bars
  - ▶ Adjustable limit stops
  - ▶ Sturdy dovetail guide with adjustable V-ledges
  - ▶ Feed spindle play adjustable and re-adjustable
  - ▶ Emergency stop button
  - ▶ Drill and milling head can be tilted by  $\pm 60^\circ$
  - ▶ Right-/left-hand rotation
  - ▶ Machine lamp
- ▶ Two-row angular contact ball bearings in the axes, adjustable without play
  - ▶ Height-adjustable protective screen with microswitch for best possible user protection against chips and parts being flung out
  - ▶ Preparation for mounting the DRO5 digital position display on the X and Y axis (slot prepared for retrofitting magnetic strips)
  - ▶ Lockable main switch

#### MH 20VL

- ▶ Greater travel in the X-axis

#### MH 20VLD

- ▶ Digital position display DRO 5



Fig.: MH 20VL with optional chuck and cutter.

## Arguments,...



#### ENERGY CHAIN

- › cable guidance easy on material



#### FEED

- › Manual spindle sleeve feed with the fine feed



#### HEAT SINK

- › Heat sink for cooling the electronics
- › Good heat transfer capability



#### CONTROL PANEL

- › Clearly-arranged control panel with user-friendly foil keyboard
- › Easily readable digital display for speed and drilling depth



#### MH 20VLD DIGITAL POSITION DISPLAY DRO 5

- › Four-line LCD display

## Technical specifications, accessories and dimensions

Model	MH 20V	MH 20VL
Article no.	3338131	3338132

Model		MH 20VLD
Article no.	-	3338133

Output		
Electrical connection	230 V / 1 Ph ~50 Hz	
Motor power	750 W	
Drilling/milling output		
Drilling performance in steel (S235JR)	Ø 16 mm	
Continuous drilling performance in steel (S235JR)	Ø 12 mm	
Maximum cutting head size	Ø 52 mm	
Maximum end mill size	Ø 20 mm	
Spindle		
Spindle sleeve stroke	50 mm	
Spindle sleeve diameter	Ø 60 mm	
Spindle seat	MT2	
Drawbar	M10	
Spindle - column distance	170 mm	
Drilling/milling head		
Spindle speeds	100 - 3000 min <sup>-1</sup>	
Gearbox stages	2-speed, electronic speed control	
Swivel range	± 60°	
Cross table		
Cross table x width	510 x 180 mm	700 x 180 mm
T-slot size / spacing / count	12 mm / 63 mm / 3	
Cross table load capacity max.	40 kg	50 kg
Clearance spindle to cross table	255 mm	
Traverse paths		
X axis	280 mm	480 mm
Y axis	175 mm	
Z axis	210 mm	
Dimensions and weight		
Length x width x height approx.	750 x 650 x 820 mm	770 x 714 x 917 mm
Net weight approx.	94 kg	99 kg

## Scope of delivery

- > Tapered mandrel MT2/B16
- > Drawbar M10
- > Operating tool

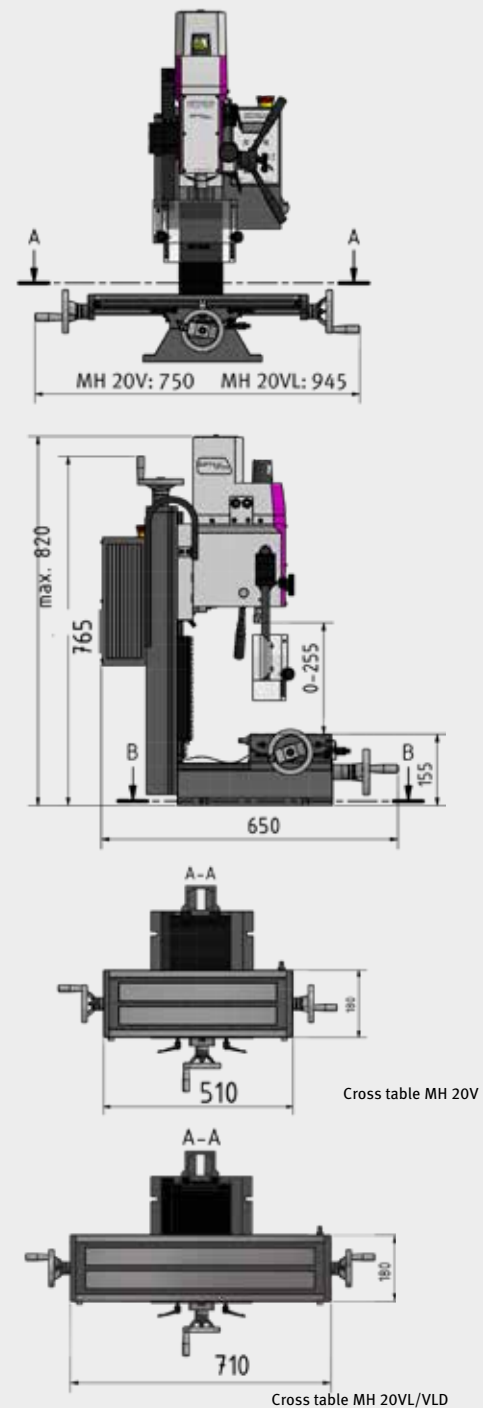
## Accessories

Designation	Article no.
Collet set MT2/ M10, 5-part direct tensioning	3351980
End mill set HSS TiN-coated, 12-part	3352250
End mill set HSS TiN-coated, 20-part	3352255
Collet set ER 25, 15-part	3441109
Quick-action drill chuck DKC 13/ 0 - 13 mm	3050632
Assembly kit for DRO5 on MH20V	3383990
Universal machine substructure MSM 1	3353000
Chip tray	3352999

More accessories and information about accessories from page 158 onwards  
Information on the universal machine base **MSM 1** see page 169

Note: The machines (frequency converters) comply with the DIN EN 55011 standard: class C2  
Important information on operating machines with frequency converters see page 333

## Dimensions



## Vices

Designation	Article no.
FMS 100	3354100
FMSN 100	3354110
VMQ 80	3354180
VMQ 100	3354181
MV3-75	3354175
ZAS 50	3354170

Information can be found on page 155 onwards

DRILLING AC-  
CESSORIES

CORE DRILLING

THREAD TAP-  
PING

MILLING

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORK-  
ING

LIGHTING

COOLING

## Sturdy drilling/milling machines with continuously variable electronic speed control. OPTImill MH 22VD with digital position display DRO 5

### Facts that impress in terms of quality, performance and price

- ▶ Precision workmanship
- ▶ Excellent concentricity thanks to tapered roller bearings,  $\leq 0.015$  mm measured in the spindle sleeve
- ▶ Motor with two-speed gear ratio for powerful transmission of motor output
- ▶ Powerful DC motor with permanent current monitoring
- ▶ Safety electrical system 24-volt version
- ▶ Control electronics with integrated relay control
- ▶ Solid and generously dimensioned cross table with precision surface finish with T-slots and adjustable wedge bars
- ▶ Adjustable limit stops
- ▶ Sturdy dovetail guide with adjustable V-ledges
- ▶ Fine feed
- ▶ Emergency stop button
- ▶ Drill and milling head can be tilted by  $\pm 60^\circ$
- ▶ Right-/left-hand rotation
- ▶ Machine lamp
- ▶ Bore for easy oiling of the trapezoidal spindle
- ▶ Two-row angular contact ball bearings in the axes, adjustable without play
- ▶ Feed spindle play adjustable and re-adjustable
- ▶ Height-adjustable protective screen with microswitch against flying chips and parts, for maximum protection of the user
- ▶ X, Y and Z axis with slot prepared for retrofitting of the magnetic strips
- ▶ Gaiter as guide protection

### MH 22VD

- ▶ Digital position display DRO 5
- ▶ Quick tool change system



Fig.: MH 22VD with optional milling cutter

### Arguments,...



#### ENERGY CHAIN

- › cable guidance easy on material



#### MECHANICAL QUICK-CHANGE CLAMPING SYSTEM

- › Milling head equipped with collet for pull studs BT20x45°
- › Easy to change by unlocking the mechanical safeguard and moving the sleeve lever upward



#### CONTROL PANEL

- › Clearly-arranged control panel with user-friendly foil keyboard
- › Easily readable digital display for speed and drilling depth

#### MH 22VD: DIGITAL POSITION DISPLAY

- › Four-line LCD display



#### FEED

- › Manual spindle sleeve feed with the fine feed

## Technical specifications, accessories and dimensions

Model	MH 22V
Article no.	3338135
Model	MH 22VD
Article no.	3338136
Output	
Electrical connection	230 V / 1 Ph ~50 Hz
Motor power	950 W
Drilling/milling output	
Drilling performance in steel (S235JR)	Ø 20 mm
Continuous drilling performance in steel (S235JR)	Ø 16 mm
Maximum cutting head size	Ø 52 mm
Maximum end mill size	Ø 12 mm
Spindle	
Spindle sleeve stroke	40 mm
Spindle sleeve diameter	Ø 60 mm
Spindle seat	BT 20
Spindle - column distance	170 mm
Drilling/milling head	
Spindle speeds	90 - 3000 min <sup>-1</sup>
Gearbox stages	2-speed, electronic speed control
Swivel range	± 60°
Cross table	
Cross table x width	700 x 180 mm
T-slot size / spacing / count	12 mm / 63 mm / 3
Cross table load capacity max.	50 kg
Clearance spindle to cross table	360 mm
Traverse paths	
X axis	480 mm
Y axis	175 mm
Z axis	270 mm
Dimensions and weight	
Length x width x height approx.	745 x 650 x 950 mm
Net weight approx.	120 kg

## Scope of delivery

- › Operating tool

## Accessories

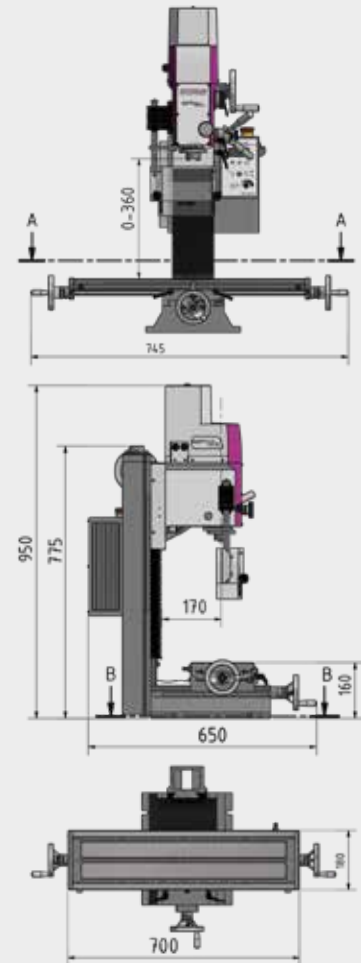
Designation	Article no.
Collet chuck ER 16	3352741
Collet chuck spanner ER 16	3352742
Collet set ER 16, 12-part, 1 - 10 mm	3440282
Milling head holder Ø 16 mm BT 20	3352728
End mill set HSS TiN-coated	3352250
Quick-action drill chuck DKC 13/ 0 - 13 mm	3050632
Chuck adapter BT 20 - B16	3352727
Weldon holder Ø 6 mm BT 20	3352732
Weldon holder Ø 8 mm BT 20	3352734
Weldon holder Ø 10 mm BT 20	3352736
Weldon holder Ø 12 mm BT 20	3352738
Pull stud BT 20(Optimum custom-made, no standard BT 20 pull stud)	3352726
Assembly kit for DRO5 for MH22V	3383990
Machine mobile base MSM 1	3353000
Chip tray	3352999

More accessories and information about accessories from page 158 onwards

For a large selection of machine vices, see from page 155 onwards

Note: The machines (frequency converters) comply with the DIN EN 55011 standard: class C2  
Important information on 'Operating machines with frequency converters' on page 333

## Dimensions



## Starter set

Designation	Article no.
<b>Starter set BT 20</b>	3353281
› 1 piece cutter head holder Ø 16 mm	
› 2 Weldon holders each, Ø 6 mm / Ø 8 mm	
› 1 Weldon holders each, Ø 10 mm / Ø 12 mm	
› 1 unit tool fitting BT20/B16	
› 11 units pull studs	
› 1 piece quick-action drill chuck 1 - 13 mm	
› 1 unit facing and copying blade head	
› 2 units collet chuck ER 25	
› 1 piece collet spanner ER 25	
› 12-part collet set ER 25	

## Vices

Designation	Article no.
FMS 100	3354100
FMSN 100	3354110
VMQ 80	3354180
VMQ 100	3354181
MV3-75	3354175
ZAS 50	3354170

Information can be found on page 155 onwards

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

Facts that impress in terms of quality, performance and price

- ▶ Inverter motor
- ▶ Precision workmanship
- ▶ Clearly-arranged control panel with user-friendly foil keyboard
- ▶ Particularly smooth action
- ▶ Counterweight facilitates Z axis adjustment
- ▶ Variable speed control
- ▶ Easy tool changing thanks to tool quick clamping system
- ▶ Feed spindles can be adjusted thanks to adjustable spindle nuts
- ▶ Sturdy dovetail guide, precision ground and shaved with adjustable V-ledges
- ▶ Angular ball bearings on the axes
- ▶ Height-adjustable, large protective screen with micro switch
- ▶ Gear head can be tilted+ 45°
- ▶ Right-/left-hand rotation

### MH 25PV:

- ▶ Easily readable speed display in milling head
- ▶ Slot prepared for easy retroactive mounting of magnetic strips

### MH 25SPV:

- ▶ 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 end position
- ▶ Transportable control panel
- ▶ The feed switches off when the spindle is stationary
- ▶ Limit switches for all three axes



### SIEMENS INVERTER SINAMICS V20

- ▶ The inverter is equipped with an energy-optimised control method and automatic flux reduction to increase energy efficiency
- ▶ Wider voltage range, advanced cooling and painted electronic components increase the robustness of the inverter

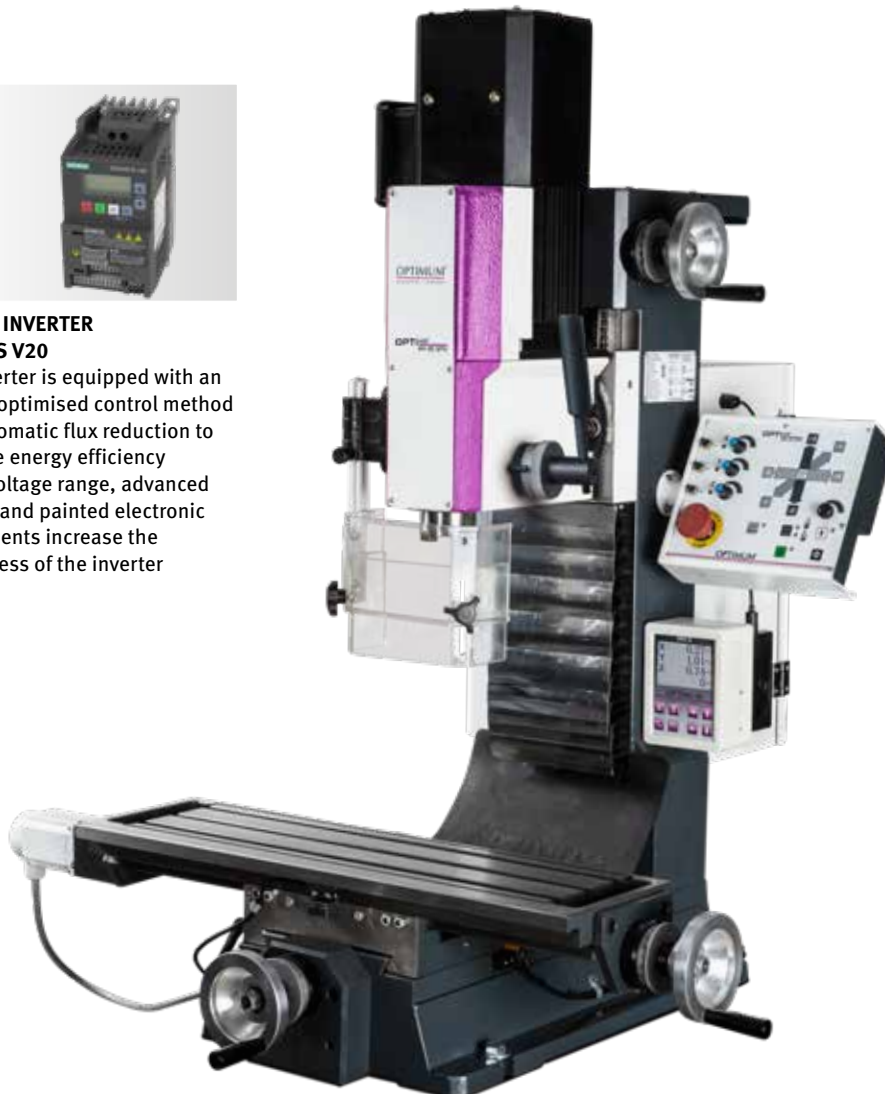


Fig.: MH 25SPV

## Arguments,...



### ENERGY CHAIN

- › cable guidance easy on material



### CONTROL PANEL

- › User-friendly membrane keyboard with touch and switch control
- › Easy to clean
- › Excellent operability

### MH 25SPV

- › High mobility thanks to the control panel being removable from its holder



### MH 25PV



### MECHANICAL QUICK-CHANGE CLAMPING SYSTEM

- › Milling head equipped with collet for pull studs BT30x45°
- › Easy change via a handle

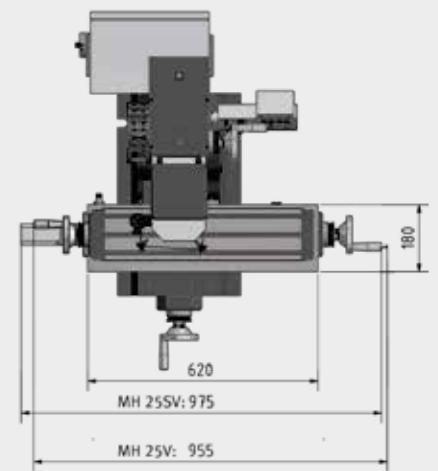
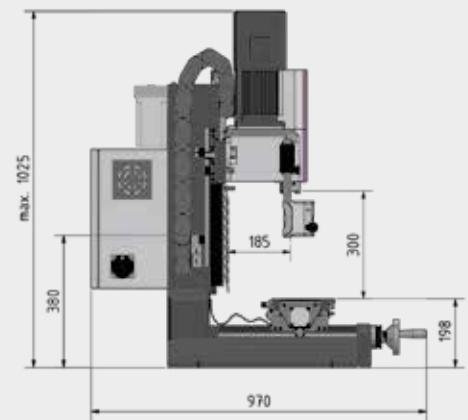
## Technical specifications, accessories and dimensions

Model	MH 25PV	MH 25SPV
Article no.	3338156	3338161
<b>Output</b>		
Electrical connection	230 V / 1 Ph ~50 Hz	
Total rated value	2 kW	
<b>Milling spindle</b>		
Drive motor	1.5 kW	
Drive motor torque	10 Nm	
<b>Drilling/milling output</b>		
Cutter head size max.	Ø 50 mm	
Maximum end mill size	Ø 25 mm	
<b>Spindle</b>		
Spindle sleeve stroke	60 mm	
Spindle seat	BT 30	
Spindle - column distance	185 mm	
<b>Drilling/milling head</b>		
Spindle speeds	200 - 4000 min <sup>-1</sup>	
Gearbox stages	Electronic speed control	
Swivel range	45°	
<b>Cross table</b>		
Cross table x width	620 x 180 mm	
T-slot size / spacing / count	12 mm / 50 mm / 3	
Cross table load capacity max.	30 kg	
Clearance spindle to cross table	300 mm	
<b>Traverse paths</b>		
X axis	manual 400 mm	automatic ~380 mm manual 400 mm
Y axis	manual 210 mm	automatic ~130 mm manual 210 mm
Z axis	manual 210 mm	automatic ~130 mm manual 210 mm
<b>Torque</b>		
X/Y/Z axis	-	2.2 / 2.2 / 4.2 Nm
<b>Travel speeds</b>		
X axis	-	150 - 930 mm/min.
Y axis	-	100 - 580 mm/min.
Z axis	-	80 - 450 mm/min.
<b>Dimensions and weight</b>		
Length x height approx.	970 x 1025 mm	
Width approx.	955 mm	975 mm
Net weight approx.	192 kg	200 kg

## Accessories

Designation	Article no.
Collet chuck ER 32	3353304
Collet chuck spanner ER 32	3353307
Collet set ER 32, 3- 20 mm	3441122
Milling head holder Ø 22 mm	3353306
Quick-action drill chuck 1.5 - 16 mm	3536303
Weldon holder Ø 6 mm	3353310
Weldon holder Ø 8 mm	3353311
Weldon holder Ø 10 mm	3353312
Weldon holder Ø 12 mm	3353313
Weldon holder Ø 16 mm	3353314
Weldon holder Ø 20 mm	3353315
Adapter BT 30/MT2	3353305
Assembly and tool adjustment gauge	3536203
Pull stud 40 x 45° M12	3353302
Pull stud DIN2080 M12	3536177
Assortment of clamping tools SPW 10, 58-part	3352076
Universal substructure MSM2 (for information see page 169)	3353009

## Dimensions



## Starter set

Designation	Article no.
<b>Starter set BT 30</b>	3353282
<ul style="list-style-type: none"> <li>› Milling head holder Ø 22 mm</li> <li>› Drill chuck 1 - 13 mm</li> <li>› 2 Weldon Ø 6 mm and 20 mm</li> <li>› 1 piece each of Weldon Ø 8 / 10 / 12 / 16 mm</li> <li>› Adapter BT 30/MT2</li> <li>› 4 units collet chuck ER 32</li> <li>› Collet key ER 32</li> <li>› 18-part collet set ER 32</li> <li>› Height-adjuster</li> <li>› Assembly and tool adjustment gauge</li> <li>› 14 units pull studs</li> <li>› Taper squeegee</li> </ul>	

## Vices

Designation	Article no.
FMS 100	3354100
VMQ 80	3354180
MV3-75	3354175
ZAS 50	3354170

Information can be found on page 155 onwards

## Drilling and milling machines with electronically controllable drive and digital display

### Facts that impress in terms of quality, performance and price

- ▶ Direct spindle drive, electronically adjustable
- ▶ Precision workmanship
- ▶ Powerful servo drive motor with high torque (maintenance-free)
- ▶ Solid and generously dimensioned cross table with precision surface finish with T-slots and adjustable wedge bars
- ▶ Adjustable limit stops
- ▶ Sturdy dovetail guide with adjustable V-ledges
- ▶ Right-left rotation
- ▶ Thread tapping
- ▶ Elegant, slim, modern design
- ▶ LED machine lamp
- ▶ Fine feed
- ▶ Emergency stop button
- ▶ Drilling and milling head can be tilted by  $\pm 90^\circ$
- ▶ Height-adjustable protective screen with microswitch against flying chips and parts, for maximum protection of the user



Fig.: MH 2DV



Fig.: MH 3DV

### Arguments,...



#### DIGITAL DISPLAY

- ① Operating mode selection: Thread tapping
- ② Zero point setting (start of workpiece)
- ③ Setting the drilling and thread depth
- ④ Enter button
- ⑤ Push-button start
- ⑥ Push-button stop
- ⑦ Rotational direction switch
- ⑧ LED machine light

#### INLINE SPINDLE DRIVE



Very quiet



No more gearbox therefore extremely smooth running

## Technical specifications, accessories and dimensions

Model	MH 2DV*	MH 3DV*
Article no.	3337126	3337130
<b>Output</b>		
Electrical connection	230 V / 1 Ph ~50 Hz	
Motor power	1.5 kW	2.2 kW
<b>Drilling/milling output</b>		
Drilling performance in steel (S235JR)	Ø 16 mm	Ø 28 mm
Continuous drilling performance in steel (S235JR)	Ø 13 mm	Ø 25 mm
Maximum cutting head size	Ø 63 mm	Ø 75 mm
Maximum end mill size	Ø 20 mm	Ø 30 mm
<b>Spindle</b>		
Spindle sleeve stroke	70 mm	100 mm
Spindle sleeve diameter	Ø 60 mm	Ø 68 mm
Spindle seat	MT 2	MT 3
Drawbar	M10	M 12
<b>Drilling/milling head</b>		
Spindle speeds	200 - 3000 min <sup>-1</sup>	120 - 3000 min <sup>-1</sup>
Gearbox stages	2-speed, electronic speed control	
<b>Cross table</b>		
Cross table x width	700 x 180 mm	750 x 210 mm
T-slot size / spacing / count	12 mm / 63 mm / 3	
Cross table load capacity max.	50 kg	
<b>Traverse paths</b>		
X axis	480 mm	450 mm
Y axis	175 mm	200 mm
Z axis	280 mm	450 mm
<b>Dimensions and weight</b>		
Length x width x height approx.	956 x 591 x 998 mm	850 x 830 x 1350 mm
Net weight approx.	118 kg	270 kg

## Machine base

Machine base	Art. no.
MSM 1 (MH2DV)	3353000
Chip tray (MH2DV)	3352999
MSM 3 (MH3DV)	3353014
Vibration damping machine foot SE 55(4 units required)	3352981

## Accessories

Designation	Article no.
Collet set MT2/ M10, 5-part direct tensioning	3351980
Collet set ER 25, 15-part	3441109
Collet chuck set MT2/ ER 25	3352052
Collet chuck set MT2/ ER 32	3352053
End mill set HSS TiN-coated 12-part	3352250
End mill set HSS TiN-coated 20-part	3352255
Quick-action drill chuck DKC 13/ 0 - 13 mm	3050632
Assortment of clamping tools size 8	3352015
T-slot nut M 8 / 10 mm	3353020
Universal coolant unit 230 V	3351999
Coolant mist lubricator MMC 1 with magnetic holder	3356663
KMS 2 coolant hose	3356660

More **accessories** and **information about accessories** from page 158 onwards  
For a large selection of **machine vices**, see from page 155 onwards

## Vices

Designation	Article no.
FMS 100	3354100
FMSN 100	3354110
VMQ 80	3354180
VMQ 100	3354181
MV3-75	3354175
ZAS 50	3354170

**Information** can be found on page 155 onwards

## Universal precision drilling and milling machines with two-stage drive motor with manual gearbox.

### OPTImill MB 4D with digital position display DRO6

#### Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid cast design
- ▶ Quality industrial electric motor
- ▶ Smooth running due to ground gearwheels running in an oil bath
- ▶ Clockwise/anticlockwise rotation
- ▶ Solid and generously dimensioned cross table with precision surface finish with T-slots and adjustable wedge bars
- ▶ Drill depth stop
- ▶ Manual sleeve feed with fine feed
- ▶ Feed spindle play adjustable and re-adjustable
- ▶ Operation-friendly control panel with emergency stop shock switch
- ▶ Column with hand-honed dovetail guide
- ▶ Height-adjustable, large protective screen with micro switch
- ▶ Wide speed range from 95 - 3200 min<sup>-1</sup> thanks to 2 switchable speeds, electronically adjustable

#### MB 4D **New**

- ▶ Digital position display DRO 6
- ▶ Magnetic measuring system in three axes



Fig.: MB 4D

## Arguments,...



#### THREAD TAPPING MODE

- › Motor is activated by moving the spindle sleeve lever downwards.
- › When the set depth is reached, the spindle reverses direction.
- › The tap turns out of the workpiece again
- › When the spindle sleeve is completely retracted to the switching point again, the rotation of the spindle is stopped.



#### GEARHEAD

- › The drilling/milling head can be tilted 45° to the left and right.



#### FEED

- › Manual spindle sleeve feed with the fine feed



#### CONTROL AND INDICATING ELEMENTS

- › Digital display X, Y and Z axes
- › Touch operation
- › User-friendly and clearly arranged control panel with emergency stop switch

## Technical specifications, accessories and dimensions

Model	MB 4
Article no.	3338451
Model	MB 4D
Article no.	3338448
Output	
Electrical connection	400 V / 3 Ph ~50 Hz
Motor power	1.1 / 1.5 kW
Drilling/milling output	
Drilling performance in steel (S235JR)	Ø 32 mm
Continuous drilling performance in steel (S235JR)	Ø 28 mm
Maximum cutting head size	Ø 63 mm
Maximum end mill size	Ø 28 mm
Spindle	
Spindle sleeve stroke	120 mm
Spindle seat	MT4
Spindle sleeve diameter	75 mm
Spindle - column distance	275 mm
Drawbar	M16
Drilling/milling head	
Spindle speeds	95 - 3200 min <sup>-1</sup>
Gearbox stages	2 x 6 speeds
Tiltable	± 45°
Cross table	
Cross table x width	800 x 240 mm
T-slot size / spacing / count	14 mm / 63 mm / 3
Cross table load capacity	80 kg
Clearance spindle to cross table	460 mm
Traverse paths	
X axis	450 mm
Y axis	195 mm
Z axis	430 mm
Dimensions and weight	
Length x width x height approx.	1155 x 775 x 1420 mm
Net weight approx.	320 kg

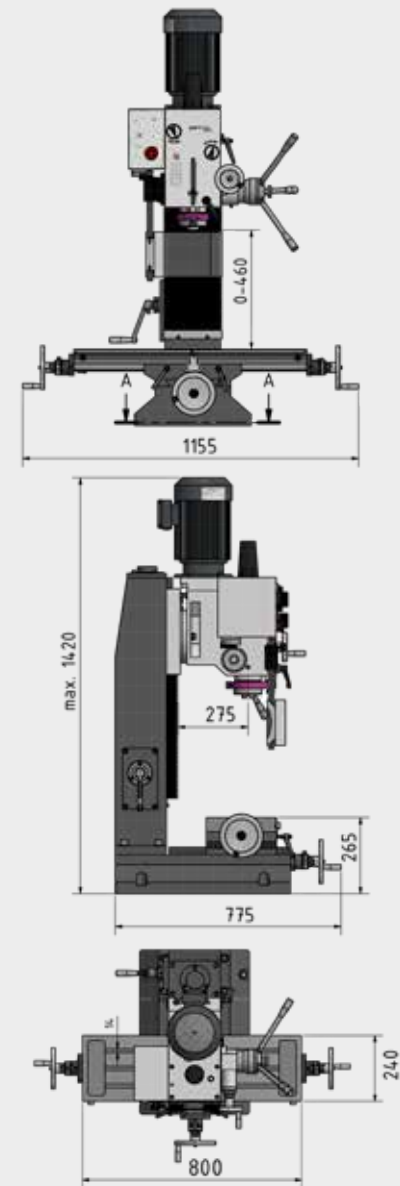
## Accessories

Designation	Article no.
Collet chuck MT4/M16	3352094
End mill set HSS TiN-coated 12-part	3352250
End mill set HSS TiN-coated 20-part	3352255
Copy and planer cutter MT4 Ø 63 mm	3350214
Boring head set MT4/B16	3352125
Drill chuck taper mandrel MT4 / B16	3350304
Tapping chuck MT4/ M3 - M12	3050709
Tapping chuck MT4/ M8 - M20	3050710
Parallel shim set, 18-part	3536191
Height-adjustable tailstock RST 1	3356155
Hold-down clamp 14 mm	3352031
Assortment of clamping tools SPW 12, 58-part	3352077
Universal table feed V 99S (for information see page 167)	3352021
Assembly kit V 99S for the X-axis	3352035
Universal coolant unit 230 V	3351999
Coolant mist lubricator MMC 1 with magnetic holder	3356663
KMS 2 coolant hose	3356660
Steel chassis MSM 3	3353014
Vibration damping machine base SE 55 (4 units required)	3352981

More accessories and information about accessories from page 158 onwards

Coolant accessories see page 93

## Dimensions



## Scope of delivery

- > Adapter MT4/MT3
- > Tightening rod M16
- > Mounting MT4/22 mm
- > Operating tool

## Vices

Designation	Article no.
FMS 100	3354100
FMS 125	3354125
FMSN 125	3354120
VMQ 100	3354181
MV3-75	3354175
DAS 100	3355500
ZAS 50	3354170

Information can be found on page 155 onwards

**Universal precision drilling/milling machines with servo drive.**  
**OPTImill MB 4 SVD with digital display DRO 6 and magnetic measuring system**

Facts that impress in terms of quality, performance and price

- ▶ Precision workmanship
- ▶ Thread tapping function
- ▶ Servo drive
- ▶ Solid and generously dimensioned cross table with precision surface finish with T-slots and adjustable wedge bars
- ▶ Adjustable limit stops
- ▶ Sturdy dovetail guide with adjustable V-ledges
- ▶ Right-left rotation
- ▶ LED machine lamp
- ▶ Fine feed
- ▶ Emergency stop button
- ▶ Drilling and milling head can be tilted by  $\pm 45^\circ$
- ▶ Height-adjustable protective screen with microswitch against flying chips and parts, for maximum protection of the user



**Arguments,...**



**DIGITAL DISPLAY**

- 1 Pushbutton for spindle rotation "ON"
- 2 Spindle rotation direction selection
- 3 Lighting on/off
- 4 Pushbutton for spindle rotation "OFF"
- 5 Push button for thread tapping
- 6 Zero point set
- 7 Setting the thread depth
- 8 Enter button



**CONTROL CABINET**

- › Standards-compliant setup
- › Signal transmission via network cable with diagnostic function



**FEED**

- › Manual spindle sleeve feed with the fine feed

## Technical specifications, accessories and dimensions

<b>Model</b>	<b>MB 4SV</b>
Article no.	3338458
<b>Model</b>	<b>MB 4SVD</b>
Article no.	3338459

**New**

<b>Output</b>	
Electrical connection	230 V / 3 Ph ~50 Hz
Motor power	3 kW
<b>Drilling/milling output</b>	
Drilling performance in steel (S235JR)	Ø 32 mm
Continuous drilling performance in steel (S235JR)	Ø 28 mm
Maximum cutting head size	Ø 63 mm
Maximum end mill size	Ø 26 mm
<b>Spindle</b>	
Spindle sleeve stroke	120 mm
Spindle sleeve diameter	75 mm
Spindle - column distance	275 mm
Spindle seat	MT 4
Drawbar	M16
<b>Drilling/milling head</b>	
Spindle speeds	60 - 3000 min <sup>-1</sup>
Gearbox stages	2 stages, electronically adjustable
Tilttable	± 45°
<b>Cross table</b>	
Cross table x width	800 x 240 mm
T-slot size / spacing / count	14 mm / 63 mm / 3
Cross table load capacity	80 kg
Clearance spindle to cross table	460 mm
<b>Traverse paths</b>	
X axis	450 mm
Y axis	200 mm
Z axis	430 mm
<b>Dimensions and weight</b>	
Length x width x height approx.	1155 x 980 x 1360 mm
Net weight approx.	320 kg

## Accessories

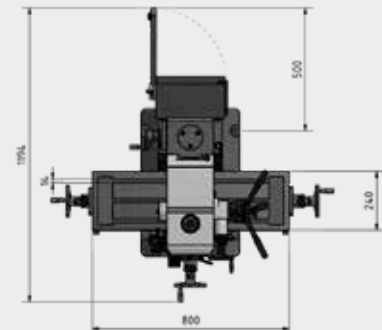
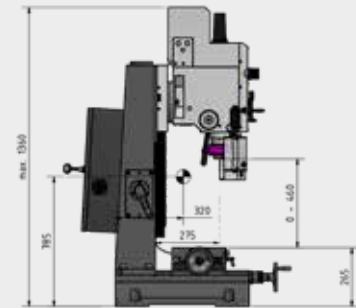
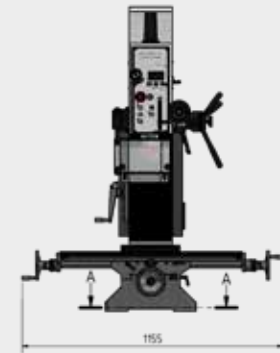
Designation	Article no.
Collet chuck MT 4/M16	3352094
End mill set HSS TiN-coated 12-part	3352250
End mill set HSS TiN-coated 20-part	3352255
Copy and planer cutter MT 4 Ø 63 mm	3350214
Bore head set MT 4/B16	3352125
Arbour for drill chuck MT 4/B16	3350304
Thread cutting chuck MT 4/ M3 - M12	3050709
Thread cutting chuck MT 4/ M8 - M20	3050710
Parallel shim set, 18-part	3536191
Height-adjustable tailstock RST 1	3356155
Hold-down clamp 14 mm	3352031
Assortment of clamping tools SPW 12, 58-part	3352077
Universal table feed V 99S (for information see page 167)	3352021
Assembly kit V 99S for the X-axis	3352035
Universal coolant unit 230 V	3351999
Coolant mist lubricator MMC 1 with magnetic holder	3356663
KMS 2 coolant hose	3356660
Steel chassis MSM 3	3353014
Vibration damping machine base SE 55 (4 units required)	3352981

More accessories and information about accessories from page 158 onwards

Coolant accessories see page 93

Note: The machines (frequency converters) comply with the DIN EN 55011 standard: class C2  
Important information on operating machines with frequency converters see page 333

## Dimensions



## Scope of delivery

- › Adapter MT4 / MT 3
- › Drawbar M16
- › Mounting MT4/22 mm
- › Operating tool

## Vices

Machine vices	Article no.
FMS 100	3354100
FMS 125	3354125
FMSN 125	3354120
VMQ 100	3354181
MV3-75	3354175
DAS 100	3355500
ZAS 50	3354170

Information can be found on page 155 onwards

## Universal precision drilling/milling machines with manual gearbox. OPTImill MH 35V with electronically controlled drive

### Facts that impress in terms of quality, performance and price

- ▶ Excellent concentricity thanks to tapered roller bearings,  $\leq 0.015$  mm measured in the spindle sleeve
- ▶ Solid and generously dimensioned cross table with precision surface finish and T-slots
- ▶ Control panel with user-friendly dirt and water resistant foil keyboard
- ▶ Easily readable digital display
- ▶ Drill depth stop
- ▶ Right-/left-hand rotation
- ▶ Thread tapping mode
- ▶ Rotary pushbutton on control panel for adjusting the drilling depth, optionally in mm or inches, with zero point
- ▶ Height-adjustable protective screen with microswitch for best possible user protection against chips and parts being flung out
- ▶ Tilttable gear head  $\pm 30^\circ$
- ▶ Feed spindle play adjustable and re-adjustable
- ▶ Heavy, stable and solid column made of high-quality grey cast iron, with ground and honed dovetail guide for high stability and precision as well as adjustable V-ledges
- ▶ Z axis with slatted, stainless steel protective cover
- ▶ Optional, solid, heavy steel base MSM 3 (article no.: 3353014) provides stability

### Updated version

- ▶ The machine base is reinforced and moulded into a wedge shape at the front to create additional rigidity at the rear by using more material. The entire table can be milled over
- ▶ Very stable Z-column connection

### MH 35G:

- ▶ Two-speed industrial motor and 6 additional gears

### MH 35V:

- ▶ 6 speeds, electronically controlled
- ▶ Digital speed display



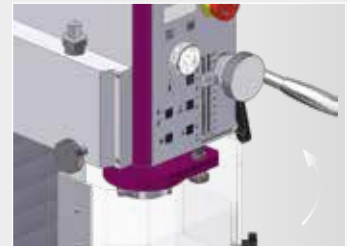
Fig.: MH 35G

## Arguments,...



### ENERGY CHAIN

- › cable guidance easy on material



### QUICK-CHANGE CLAMPING SYSTEM

- › mechanical
- › Easy to change by unlocking the mechanical safeguard and moving the sleeve lever upward



### DIGITAL DISPLAY

- › Depth selection optionally in mm or inch and zero point freely adjustable via the display
- › Speed display



### MACHINE FOOT

- › The machine base is reinforced and moulded into a wedge shape at the front to create additional rigidity at the rear by using more material. The entire table can be milled over
- › Very stable Z-column connection

## Technical specifications, accessories and dimensions

Model	MH 35G	MH 35V*
Article no.	3338166	3338171
<b>Output</b>		
Electrical connection	400 V / 3 Ph ~50 Hz	
Motor power	1.1 / 1.5 kW	1.5 kW
<b>Drilling/milling output</b>		
Drilling performance in steel (S235JR)	Ø 32 mm	
Continuous drilling performance in steel (S235JR)	Ø 28 mm	
Maximum cutting head size	Ø 80 mm	
Maximum end mill size	Ø 28 mm	
<b>Spindle</b>		
Spindle sleeve stroke	90 mm	
Spindle seat	BT 30	
Spindle sleeve diameter	68 mm	
Spindle - column distance	215 mm	
<b>Drilling/milling head</b>		
Spindle speeds	220 - 3100 min <sup>-1</sup>	50 - 3260 min <sup>-1</sup> 6 stages
Gearbox stages	2 x 6 speeds	electronically adjustable
Swivel range	± 30°	
<b>Cross table</b>		
Cross table x width	750 x 210 mm	
T-slot size / spacing / count	12 mm / 63 mm / 3	
Cross table load capacity max.	170 kg	
Clearance spindle to cross table max.	440 mm	
<b>Traverse paths</b>		
X axis	450 mm	
Y axis	200 mm	
Z axis	460 mm	
<b>Dimensions and weight</b>		
Length x width x height approx.	850 x 1030 x 1340 mm	
Net weight approx.	318 kg	

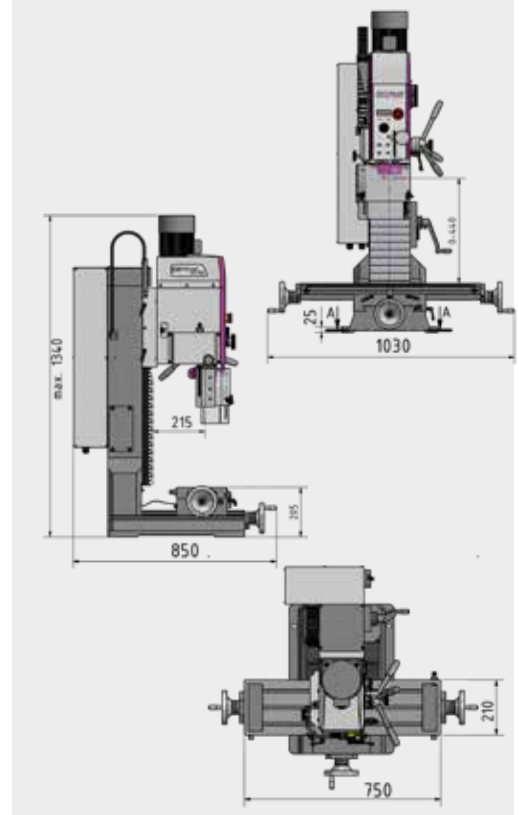
## Accessories

Designation	Article no.
Collet chuck ER 32	3353304
Collet chuck spanner ER 32	3353307
Collet set ER 32, 3- 20 mm	3441122
Chuck adapter BT 30/B16	3353308
Milling head holder BT 30 Ø 22 mm	3353306
Quick-action drill chuck 1 - 13 mm	3536333
Weldon holder Ø 6 mm	3353310
Weldon holder Ø 8 mm	3353311
Weldon holder Ø 10 mm	3353312
Weldon holder Ø 12 mm	3353313
Weldon holder Ø 16 mm	3353314
Weldon holder Ø 20 mm	3353315
Adapter BT 30/MT2	3353305
Height-adjuster	3536290
Assembly and tool adjustment gauge	3536203
Pull stud 40 x 45° M12	3353302
Assortment of clamping tools SPW 10, 58-part	3352076
Universal table feed V 99S (for information see page 167)	3352021
Assembly kit V 99S for the X-axis	3352035
Steel chassis MSM 3	3353014
Vibration damping machine base SE 55 (4 units required)	3352981

More accessories and information about accessories from page 158 onwards

\* Note: The machines (frequency converters) comply with the DIN EN 55011 standard: class C2  
Important information on 'Operating machines with frequency converters' on page 333

## Dimensions



## Scope of delivery

› Operating tool

## Starter set

Designation	Article no.
<b>Starter set BT 30</b>	3353282
› Milling head holder Ø 22 mm	
› Quick-action drill chuck 1 - 13 mm	
› 2 pieces each of Weldon Ø 6 mm and 20 mm	
› 1 piece each of Weldon Ø 8 / 10 / 12 / 16 mm	
› Adapter BT 30/MT2	
› 4 units collet chuck ER 32	
› Collet key ER 32	
› 18-part collet set ER 32	
› Height-adjuster	
› Assembly and tool adjustment gauge	
› 14 units pull studs	
› Taper squeegee	

## Vices

Designation	Article no.
FMS 125	3354125
VMQ 100	3354181
MV3-75	3354175
DAS 100	3355500
ZAS 50	3354170

Information can be found on page 155 onwards

## Universal precision drilling-milling machines with manual gearbox and motorised Z-axis height adjustment.

### OPTImill MH 50V with electronically controlled drive

#### Facts that impress in terms of quality, performance and price

- ▶ Excellent concentricity thanks to tapered roller bearings,  $\leq 0.015$  mm measured in the spindle sleeve
- ▶ Gears in oil bath with ground, hardened gear wheels
- ▶ Control panel with user-friendly dirt and water resistant foil keyboard
- ▶ Rotary pushbutton on control panel for adjusting the drilling depth, optionally in mm or inches, with zero point
- ▶ Easily readable digital display
- ▶ Easily readable sleeve display in milling head
- ▶ Drill depth stop
- ▶ Right-/left-hand rotation
- ▶ Thread tapping mode
- ▶ Electrical milling head height adjustment
- ▶ Manual fine feed
- ▶ Heavy, sturdy and solid columns made of premium cast material with ground and shaven dovetail guide for excellent stability and precision
- ▶ Tiltable gear head  $\pm 30^\circ$
- ▶ Z axis with slatted, stainless steel protective cover
- ▶ Adjustable V-ledges
- ▶ Feed spindle play adjustable and re-adjustable
- ▶ Height-adjustable protective screen with microswitch for best possible user protection against chips and parts being flung out

- ▶ Optional, solid, heavy steel base MSM 4 ( article no.: 3353015) provides stability

#### Updated version

- ▶ The machine base is reinforced and moulded into a wedge shape at the front to create additional rigidity at the rear by using more material. The entire table can be milled over
- ▶ Very stable Z-column connection

#### MH 50G:

- ▶ Two-speed industrial motor and 6 additional gears

#### MH 50V:

- ▶ 6 speeds, electronically controlled
- ▶ Digital speed display



Fig.: MH 50V



#### SIEMENS INVERTER SINAMICS V20

- › The inverter is equipped with an energy-optimised control method and automatic flux reduction to increase energy efficiency
- › Wider voltage range, advanced cooling and painted electronic assemblies

## Arguments,...



#### ENERGY CHAIN

- › cable guidance easy on material



#### MECHANICAL QUICK-CHANGE CLAMPING SYSTEM

- › The milling head is equipped with collet for pull stud BT40x45°
- › Easy to change by unlocking the mechanical safeguard and moving the sleeve lever upward



#### DIGITAL DISPLAY

- › Depth selection optionally in mm or inch and zero point freely adjustable via the display
- › Rev counter (MH 50V only)



#### MACHINE FOOT

- › The machine base is reinforced and moulded into a wedge shape at the front to create additional rigidity at the rear by using more material. The entire table can be milled over
- › Extended machine table
- › Very stable Z-column connection

## Technical specifications, accessories and dimensions

Model	MH 50G	MH 50V*
Article no.	3338181	3338186
<b>Output</b>		
Electrical connection	400 V / 3 Ph ~50 Hz	
Motor power	1.5 / 2.2 kW	2.2 kW
<b>Drilling/milling output</b>		
Drilling performance in steel (S235JR)	Ø 38 mm	
Continuous drilling performance in steel (S235JR)	Ø 32 mm	
Maximum cutting head size	Ø 80 mm	
Maximum end mill size	Ø 32 mm	
<b>Spindle</b>		
Spindle sleeve stroke	115 mm	
Spindle seat	BT 40	
Spindle sleeve diameter	Ø 80 mm	
Spindle - column distance	285 mm	
<b>Drilling/milling head</b>		
Spindle speeds	225 - 3260 min <sup>-1</sup>	50 - 3260 min <sup>-1</sup>
Gearbox stages	2 x 6 speeds	6 stages electr. adjustable
Swivel range	± 30°	
<b>Cross table</b>		
Cross table x width	1000 x 240 mm	
T-slot size / amount / distance	14 mm / 3 / 80 mm	
Cross table load capacity max.	175 kg	
Clearance spindle to cross table max.	545 mm	
<b>Traverse paths</b>		
X axis manual	650 mm	
Y axis manual	295 mm	
Z axis	manual 465 mm / automatic ~385 mm	
<b>Dimensions and weight</b>		
Length x width x height approx.	1210 x 1020 x 1645 mm	
Net weight approx.	518 kg	

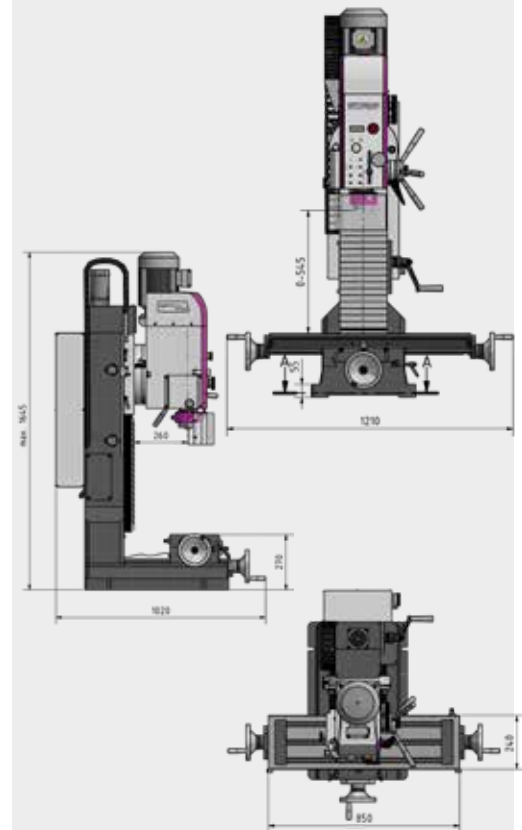
## Accessories

Designation	Article no.
Collet chuck ER 32	3353334
Collet chuck spanner ER 32	3353307
Collet set ER 32, 3- 20 mm	3441122
Milling head holder Ø 27 mm	3353336
Quick-action drill chuck 1.5 - 16 mm	3536303
Weldon holder Ø 6 mm	3353340
Weldon holder Ø 8 mm	3353341
Weldon holder Ø 10 mm	3353342
Weldon holder Ø 12 mm	3353343
Weldon holder Ø 16 mm	3353344
Weldon holder Ø 20 mm	3353345
Adapter BT 40/MT3	3353335
Assortment of clamping tools SPW 16, 58-part	3352079
Height-adjuster	3536290
Assembly and tool adjustment gauge	3536203
Taper squeegee	3353331
Pull stud 40 x 45° M16	3353332
Universal table feed V 99S (for information see page 167)	3352021
Assembly kit V 99S for the X-axis	3352036
Steel chassis MSM 4	3353015
Vibration damping machine base SE 55 (4 units required)	3352981

More accessories and information about accessories from page 158 onwards

\* Note: The machines (frequency converters) comply with the DIN EN 55011 standard: class C2  
Important information on 'Operating machines with frequency converters' on page 333

## Dimensions



## Scope of delivery

› Operating tool

## Starter set

Designation	Article no.
<b>Starter set BT 40</b>	3353284
› Milling head holder Ø 27 mm	
› Quick-action drill chuck 1 - 13 mm	
› 2 Weldon Ø 6 mm and 20 mm	
› 1 piece each of Weldon Ø 8 / 10 / 12 / 16 mm	
› Adapter BT 40/MT3	
› 4 units collet chuck ER 32	
› Collet key ER 32	
› 18-part collet set ER 32	
› Height-adjuster	
› Assembly and tool adjustment gauge	
› 14 units pull studs	
› Taper squeegee	

## Vices

Designation	Article no.
FMS 125	3354125
FMSN 125	3354120
VMQ 100	3354181
MV3-75	3354175
DAS 100	3355500
ZAS 50	3354170

Information can be found on page 155 onwards

# ***UNIVERSAL DRILLING AND MILLING MACHINES***



Visit our exhibition in Hallstadt/Bamberg



**Universal drilling/milling machine with digital position display DRO 5 and machine base made of cast iron.**

**OPTImill MB 4PV with electronically infinitely variable drive**

**Facts that impress in terms of quality, performance and price**

- ▶ Heavy, solid cast design
  - ▶ High running smoothness due to ground gear wheels running in an oil bath
  - ▶ Solid and generously dimensioned cross table with precision surface finish and T-slots
  - ▶ Tilttable gear head ± 45°
  - ▶ Adjustable V-ledges
  - ▶ Drill depth stop
  - ▶ Right-/left-hand rotation
  - ▶ Drilling/Thread tapping function
  - ▶ Coolant system
  - ▶ Solid column with hand-honed dovetail guide for maximum stability and best possible precision
  - ▶ Feed spindle play adjustable and re-adjustable
  - ▶ Height-adjustable, large protective screen with micro switch
  - ▶ Machine lamp
  - ▶ Solid cast machine chassis with chip channel
- MB 4P:**
- ▶ Two-stage industrial quality electric motor
  - ▶ Wide speed range from 95 to 3200 min<sup>-1</sup> thanks to 12 switchable speeds
- MB 4PV:**
- ▶ Single-speed, premium, industrial electric motor
  - ▶ Large speed range from 60 - 2760 min<sup>-1</sup> thanks to 2 continuously variable gear stages
  - ▶ SINAMICS V20 inverter from **SIEMENS**



Fig.: MB 4PV

**Arguments,...**



**AUTOMATIC SPINDLE SLEEVE FEED**

- › The sleeve moves downwards at the set feed speed and switches off again at the set drilling depth on the scale ring. The sleeve then moves back to its starting position.



**X AXIS**

- › Motorised positioning of the X-axis with rapid traverse



**DIGITAL POSITION DISPLAY**

- › Four-line LCD display



**MB 4PV: SIEMENS INVERTER SINAMICS V20**

- › The inverter is equipped with an energy-optimised control method and automatic flux reduction to increase energy efficiency
- › Wider voltage range, advanced cooling and painted electronic assemblies

## Technical specifications, accessories and dimensions

Model	MB 4P	MB 4PV*
Article no.	3338460	3338466
<b>Output</b>		
Electrical connection	400 V / 3 Ph ~50 Hz	400 V / 3 Ph ~50 Hz
Motor power	1.1 / 1.5 kW	1.5 kW
Coolant pump motor	100 W	
<b>Drilling/milling output</b>		
Drilling performance in steel (S235JR)	Ø 32 mm	Ø 24 mm
Continuous drilling performance in steel (S235JR)	Ø 28 mm	Ø 20 mm
Maximum cutting head size	Ø 63 mm	Ø 63 mm
Maximum end mill size	Ø 28 mm	Ø 26 mm
<b>Spindle</b>		
Spindle sleeve stroke	120 mm	
Spindle sleeve diameter	75 mm	
Spindle seat	MT4	
Spindle - column distance	258 mm	
Drawbar	M16	
<b>Drilling/milling head</b>		
Spindle speeds	95 - 3200 min <sup>-1</sup>	60 - 2760 min <sup>-1</sup>
Gearbox stages	2 x 6 speeds	2 stages, electronically adjustable
Swivel range	± 45°	
<b>Cross table</b>		
Clearance spindle to cross table max.	420 mm	
Cross table x width	800 x 240 mm	
T-slot size / spacing / count	14 mm / 80 mm / 3	
Automatic spindle sleeve feed	0.1 / 0.18 / 0.26 mm/rev	
<b>Traverse paths</b>		
X axis	manual 560 mm / automatic ~480 mm	
Y axis manual	195 mm	
Z axis manual	350 mm	
<b>Dimensions and weight</b>		
Length x width x height approx.	1600 x 930 x 2110 mm	
Net weight approx.	495 kg	

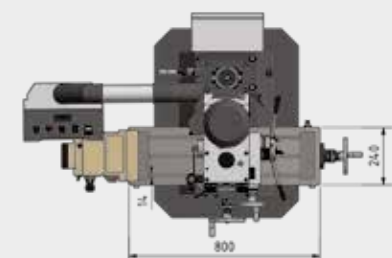
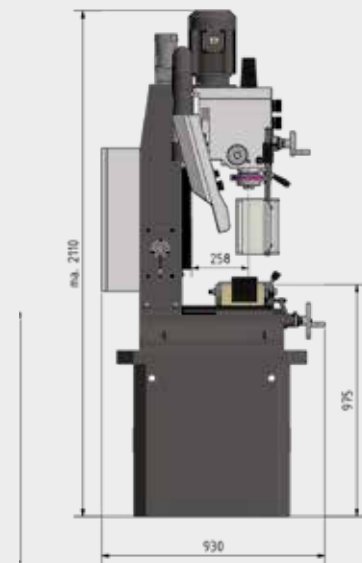
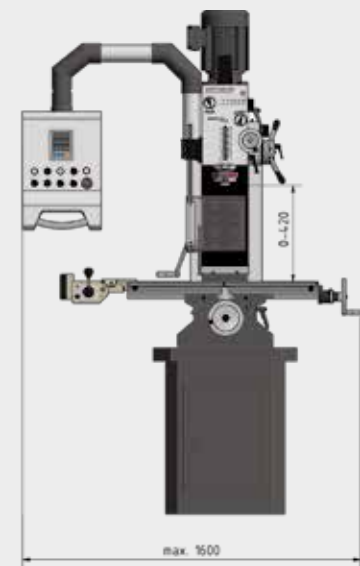
## Accessories

Designation	Article no.
Collet chuck MT4/M16	3352094
Tapping chuck MT4/ M3 - M12	3050709
Tapping chuck MT4/ M8 - M20	3050710
End mill set HSS TiN-coated , 12-part	3352250
End mill set HSS TiN-coated , 20-part	3352255
Arbour for drill chuck MT4	3350304
Copy and planer cutter MT4	3350214
Boring head MT4	3352125
Parallel shim set, 20-part	3354001
Parallel shim set, 18-part	3536191
Horizontal-vertical rotary indexing table RT 150	3356150
Horizontal-vertical rotary indexing table RTE 165	3356365
Assortment of clamping tools SPW 12, 58-part	3352077
Vibration damping machine base SE 55 (4 units required)	3352981

More accessories and information about accessories from page 158 onwards

Coolant accessories see page 93

## Dimensions



## Scope of delivery

- › Machine base
- › Morse cone MT3/B16
- › Adapter MT4/MT3
- › Tightening rod M16
- › Operating tool

## Universal drilling/milling machine with table feed on X- and Y-axis

### Facts that impress in terms of quality, performance and price

- ▶ Vibration absorbing cast design
- ▶ Gears in oil bath with ground, hardened gear wheels
- ▶ Coolant system
- ▶ LED lamp
- ▶ Solid and generously dimensioned cross table with precision surface finish with T-slots and adjustable wedge bars
- ▶ Adjustable guide rails
- ▶ Adjustable limit switch cut-off on the X axis
- ▶ Mechanical sleeve feed for drilling via sleeve lever
- ▶ Right-/left-hand rotation
- ▶ Coupling for switching from manual coarse feed to manual fine feed
- ▶ Operation-friendly control panel
- ▶ Height-adjustable protective screen with microswitch for best possible user protection against chips and parts being flung out



Fig.: MT 50E

### Arguments,...



#### MILLING HEAD

- › Large throat depth of the Y-axis spindle head support from 250 to 650 mm
- › Swivel range of the spindle head  $\pm 45^\circ$



#### FEED

- › Table feed on X- and Y-axis with speed adjustment



#### CROSS TABLE

- › The cross table (X-axis) can be rotated by  $\pm 45^\circ$



#### CONTROL PANEL

- › Easy to operate
- › Control of:
  - › Direction of rotation
  - › Coolant pump
  - › Spindel Stop

## Technical specifications, accessories and dimensions

Model	MT 50E
Article no.	3336010
<b>Output</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
Drive motor	0.85 / 1.5 kW
Coolant pump motor	40 W
<b>Drilling/milling output</b>	
Drilling performance in steel (S235JR)	Ø 30 mm
Continuous drilling performance in steel (S235JR)	Ø 25 mm
Maximum cutting head size	Ø 63 mm
Maximum end mill size	Ø 25 mm
<b>Spindle</b>	
Spindle sleeve stroke	120 mm
Spindle seat	ISO 40 DIN 2080
Clearance spindle to cross table	60 - 360 mm
Spindle - column distance	250 - 650 mm
Drawbar	M16
<b>Drilling/milling head</b>	
Spindle speeds	115 - 1750 min <sup>-1</sup>
Gears / motor speeds	4-speed / 2-speed
Swivel range milling head	± 45°
<b>Cross table</b>	
Cross table x width	1000 x 240 mm
Cross table load capacity max.	150 kg
T-slot size / count	14 mm / 4
Swivel range	± 45°
<b>Traverse paths</b>	
X axis	manual 580 mm automatic ~500 mm
Y axis	manual 230 mm automatic ~150 mm
Z axis manual	320 mm
<b>Dimensions and weight</b>	
Length x width x height approx.	1360 x 1150 x 2080 mm
Net weight approx.	760 kg

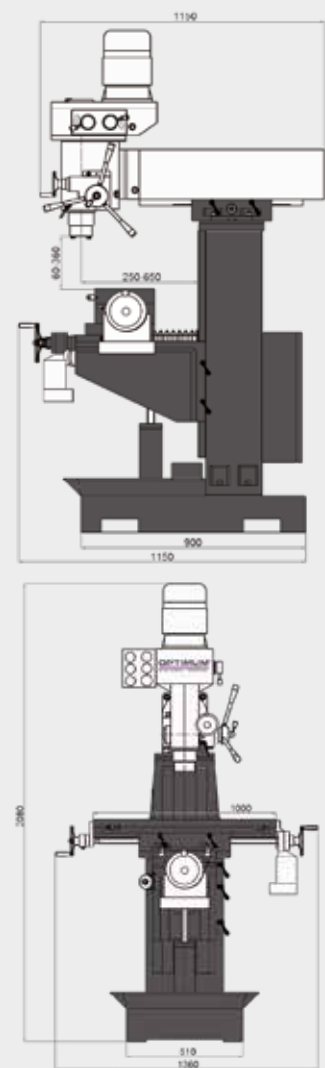
## Accessories

Designation	Article no.
Collet chuck set 18-part ISO 40	3352056
End mill set HSS TiN-coated 12-part	3352250
End mill set HSS TiN-coated 20-part	3352255
Drill chuck holder (arbour) ISO 40/ M16 / B16	3352070
Copying and facing blade head ISO 40 DIN 2080	3350216
Precision bore head set ISO 40	3352128
Parallel shim set, 20-part	3354001
Parallel shim set, 18-part	3536191
Horizontal-vertical rotary indexing table RT 150	3356150
Horizontal-vertical rotary indexing table RT 200	3356200
Horizontal-vertical rotary indexing table RTE 165	3356365
Horizontal-vertical rotary indexing table RTU 165	3354165
Workpiece support WPS-4	3354264
Hold-down unit set of 2	3352031
Assortment of clamping tools SPW 12, 58-part	3352077
Precision machine shoe SEU1(4 units required)	3352985

More accessories and information about accessories from page 158 onwards

Coolant accessories see page 93

## Dimensions



## Scope of delivery

- › Gear rim drill chuck 3 - 13 mm / B18
- › Arbor for drill chuck ISO 40 / B18
- › T-slot nuts
- › push-out tool
- › Adapter ISO 40/MT3
- › Adapter MT3/MT2
- › Operating tool

## Vices

Designation	Article no.
FMS 125	3354125
FMSN 125	3354120
VMQ 100	3354181
MV3-75	3354175
MV3-125	3354178
DAS 100	3355500
ZAS 50	3354170

Information can be found on page 155 onwards

## Universal precision drilling/milling machine for horizontal and vertical milling work. With digital 3-axis position indicator DPA31 Plus

### Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid design made of high-quality, vibration-absorbing grey cast iron
- ▶ Gears in oil bath with ground, hardened gear wheels
- ▶ Coolant system
- ▶ Halogen machine lamp with tight beam
- ▶ Solid and generously dimensioned cross table with precision surface finish with T-slots and adjustable wedge bars
- ▶ Milling head can be tilted sideways  $\pm 45^\circ$
- ▶ Right-/left-hand rotation
- ▶ X axis can be moved optionally with the hand wheel or the table feed unit
- ▶ Automatic end position cut-off on X axis
- ▶ Height-adjustable protective screen with microswitch for best possible user protection against chips and parts being flung out



Fig.: MT 50

### Arguments,...



#### HORIZONTAL MILLING POSITION

- > With arvester and collet for disc milling cutter
- > The spindle head carrier must be rotated by  $\pm 180^\circ$  for horizontal milling



#### OPTi CONTROL PANEL

- > Integrated switch panel
- > Integrated digital position display DPA31 Plus
- > Pivots to left and right side of machine



#### CROSS TABLE HOUSING

- > Fold-up type
- > Removable



#### CROSS TABLE

- > can be rotated  $\pm 45^\circ$  on both sides

## Technical specifications, accessories and dimensions

Model	MT 50
Article no.	3336005
<b>Output</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
Total rated value	4.5 kW
Vertical drive motor	1.1 / 2.2 kW
Horizontal drive motor	1.5 kW
Coolant pump motor	40 W
<b>Drilling/milling output</b>	
Drilling performance in steel (S235JR)	Ø 30 mm
Continuous drilling performance in steel (S235JR)	Ø 25 mm
Maximum cutting head size	Ø 100 mm
Maximum end mill size	Ø 25 mm
<b>Spindle</b>	
Spindle sleeve stroke	120 mm
Spindle seat	ISO 40 DIN 2080
Clearance spindle to cross table	60 - 390 mm
<b>Vertical</b>	
Spindle speeds	115 - 1750 min <sup>-1</sup>
Gearbox stages	8 stages
Swivel range milling head	± 45°
Spindle - column distance	240 - 650 mm
<b>Horizontal</b>	
Spindle speeds	60 - 1350 min <sup>-1</sup>
Gearbox stages	9 stages
Spindle - column distance	0 - 185 mm
<b>Cross table</b>	
Cross table x width	1000 x 240 mm
Cross table load capacity max.	160 kg
T-slot size / count	14 mm / 4
Rotatable cross table	± 45°
<b>Traverse paths</b>	
X axis	manual 580 mm / automatic ~500 mm
Table feed X axis (8 speeds)	24 - 720 mm/min.
Y axis manual	200 mm
Z axis manual	340 mm
<b>Dimensions and weight</b>	
Length x width x height approx.	1290 x 1090 x 2170 mm
Net weight approx.	820 kg

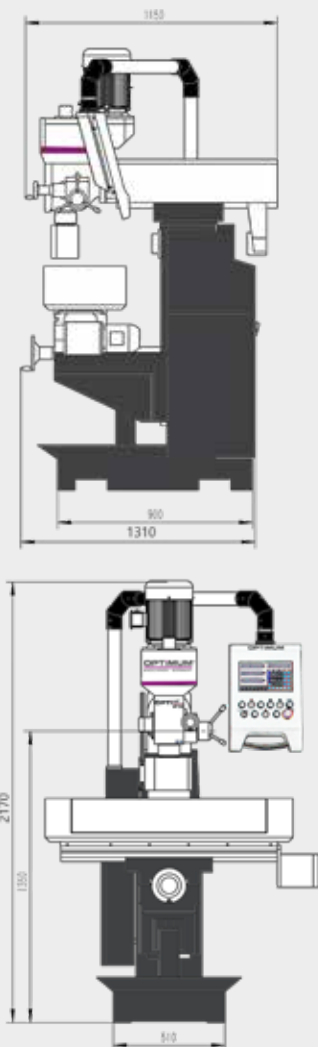
## Accessories

Designation	Article no.
Collet chuck set 18-part ISO 40	3352056
End mill set HSS TiN-coated 12-part	3352250
End mill set HSS TiN-coated 20-part	3352255
Copying and facing blade head ISO 40 DIN 2080	3350216
Precision bore head set ISO 40	3352128
Horizontal-vertical rotary indexing table RT 150	3356150
Horizontal-vertical rotary indexing table RTE 165	3356365
Horizontal-vertical rotary indexing table RTU 165	3354165
Assortment of clamping tools SPW 12, 58-part	3352077
Milling table feed V250 for the Y-axis	3352030
Factory assembly V250	9000489
Precision machine shoe SEU1(4 units required)	3352985

More accessories and information about accessories from page 158 onwards

Coolant accessories see page 93

## Dimensions



## Scope of delivery

- › Gear rim drill chuck 3 - 13 mm / B18
- › Arbor for drill chuck ISO 40 / B18
- › Horizontal milling spindle with counter bearing, disc cutter holder Ø 22 mm, Ø 27 mm
- › Adapter ISO 40/MT3
- › Adapter ISO 40/MT2
- › Tie rod vertical and horizontal
- › T-slot nuts
- › push-out tool
- › Operating tool

## Vices

Designation	Article no.
FMS 125	3354125
FMSN 125	3354120
VMQ 100	3354181
MV3-75	3354175
MV3-125	3354178
DAS 100	3355500
ZAS 50	3354170

Information can be found on page 155 onwards

## Universal milling machine for horizontal and vertical milling work. With digital 3-axis position indicator DPA31 Plus

### Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid design made of high-quality, vibration-absorbing grey cast iron
- ▶ Solid and generously dimensioned cross table with precision surface finish with T-slots and adjustable wedge bars
- ▶ Switch on automatic sleeve feed (drilling) via the sleeve feed lever or manual feed of the sleeve with the fine feed handwheel
- ▶ Right-/left-hand rotation
- ▶ Coolant system
- ▶ X axis can be moved optionally with the hand wheel or the table feed unit
- ▶ Height-adjustable protective screen with microswitch for best possible user protection against chips and parts being flung out



Fig.: MT 60

### Arguments,...



#### HORIZONTAL MILLING POSITION

- › With arrester and collet for disc milling cutter
- › The spindle head carrier must be rotated by  $\pm 180^\circ$  for horizontal milling



#### MILLING HEAD

- › Spindle head carrier moves to front and rear
- › Y-axis spindle head carrier throat depth 200 - 550 mm
- › Swivel range of the spindle head  $\pm 45^\circ$



#### OPTi CONTROL PANEL

- › Integrated switch panel
- › Pivots to left and right side of machine
- › Integrated Digital position display DPA 31Plus
  - › User-friendly membrane keyboard, splash water protected, sealed and dazzle free
  - › Greater operation accuracy
  - › Reduction of error quota
  - › Clearly-arranged keyboard layout

## Technical specifications, accessories and dimensions

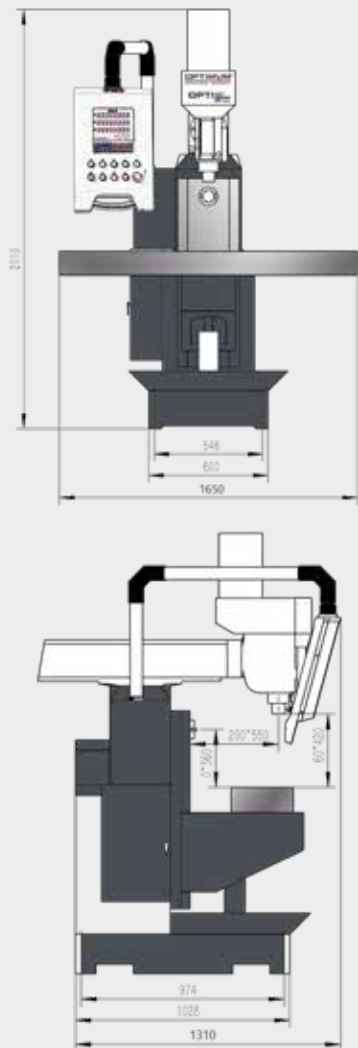
Model	MT 60
Article no.	3336090
<b>Output</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
Total rated value	5 kW
Horizontal and vertical drive motor	2.2 kW
Coolant pump motor	40 W
<b>Drilling/milling output</b>	
Drilling performance in steel (S235JR)	Ø 30 mm
Continuous drilling performance in steel (S235JR)	Ø 25 mm
Maximum cutting head size	Ø 100 mm
Maximum end mill size	Ø 25 mm
<b>Spindle</b>	
Spindle sleeve stroke	120 mm
Spindle sleeve diameter	Ø 90 mm
Spindle seat	ISO 40 DIN 2080
Clearance spindle to cross table	60 - 420 mm
Drawbar	M16
<b>Vertical</b>	
Spindle speeds	90 - 2000 min <sup>-1</sup>
Gearbox stages	8 stages
Swivel range milling head	± 45°
Spindle - column distance	220 - 550 mm
Automatic spindle sleeve feed	3 stages: 0.08 / 0.25 / 1 mm/rev
<b>Horizontal</b>	
Spindle speeds	40 - 1300 min <sup>-1</sup>
Gearbox stages	9 stages
Spindle - column distance	35 - 370 mm
<b>Cross table</b>	
Cross table x width	1270 x 280 mm
Cross table load capacity max.	150 kg
T-slot size / spacing / count	14 mm / 50 mm / 4
<b>Traverse paths</b>	
X axis	manual 750 mm / automatic ~680 mm
Y axis manual	230 mm
Z axis manual	360 mm
<b>Dimensions and weight</b>	
Length x width x height approx.	1650 x 1310 x 2160 mm
Net weight approx.	1300 kg

## Accessories

Designation	Article no.
Collet chuck set 18-part ISO 40	3352056
Drill chuck holder (arbour) ISO 40/ M16 / B16	3352070
End mill set HSS TiN-coated 20-part	3352255
Copying and facing blade head ISO 40 DIN 2080	3350216
Precision bore head set ISO 40	3352128
Horizontal-vertical rotary indexing table RT 200	3356200
Horizontal-vertical rotary indexing table RTE 165	3356365
Horizontal-vertical rotary indexing table RTU 165	3354165
Assortment of clamping tools SPW 12, 58-part	3352077
Milling table feed V250 for the Y-axis	3352030
Factory assembly V 250	9000489
Precision machine shoe SEU1(4 units required)	3352985

More accessories and information about accessories from page 158 onwards

## Dimensions



## Scope of delivery

- › Gear rim drill chuck 3 - 13 mm / B18
- › Arbor for drill chuck ISO 40 / B18
- › Adapter ISO 40/MT3
- › Adapter MT3/MT2
- › Horizontal milling spindle with counter bearing, disc cutter holder Ø 22 mm, Ø 27 mm
- › Drawbar horizontal and vertical
- › Operating tool

## Vices

Designation	Article no.
FMS 125	3354125
FMSN 125	3354120
VMQ 100	3354181
MV3-75	3354175
MV3-125	3354178
DAS 100	3355500
ZAS 50	3354170

Information can be found on page 155 onwards

# ***MULTIFUNCTIONAL MILLING MACHINES***

**MF 4-B | Art. no.: 3348340**

**Drilling and milling machine  
with mechanical infinitely  
variable drive**



Visit our exhibition in Hallstadt/Bamberg

**MZ 4S** | Art. no.: 3346245

**Tool milling machine**  
TOP equipment  
and quality



## Multifunctional drilling and milling machines with mechanically infinitely variable drive and with digital 3-axis position indicator DPA 31Plus

Facts that impress in terms of quality, performance and price

- ▶ Solid design using premium cast meehanite
- ▶ Excellent concentricity thanks to tapered roller bearings,  $\leq 0.01$  mm measured in the spindle sleeve
- ▶ X and Y axis with adjustable 55 ° dovetail guide
- ▶ Y-axis with adjustable flat guide
- ▶ Coolant system
- ▶ Solid and generously dimensioned Cross table with precision surface finish and adjustable stops
- ▶ Drill/milling head tiltable  $\pm 45^\circ$
- ▶ Automatic spindle sleeve feed, 3 stages, 0.04 - 0.15 mm/rev
- ▶ Precision micro feed
- ▶ Adjustable drilling depth stop with millimetre scale, can be read off on front
- ▶ Right-/left-hand rotation
- ▶ Continuously variable speed control
- ▶ Milling spindle with precision bearing
- ▶ Mechanical spindle brake
- ▶ Height-adjustable protective screen with microswitch for best possible user protection against chips and parts being flung out



Fig.: MF 4-B

### Arguments,...



#### MILLING HEAD

- › The spindle head can be swivelled forwards or backwards by 45° and tilted to the right or left by 90°.



#### CONTROL PANEL

- › Integrated switch panel
- › New - now with integrated digital position indicator DPA 31Plus
- › Swivelling



#### CENTRAL LUBRICATION

- › Reduces maintenance overhead
- › Reduces wear
- › Improves effectiveness and machine service life



#### FEED

- › Motorised feed on X, Y and Z axes

## Technical specifications, accessories and dimensions

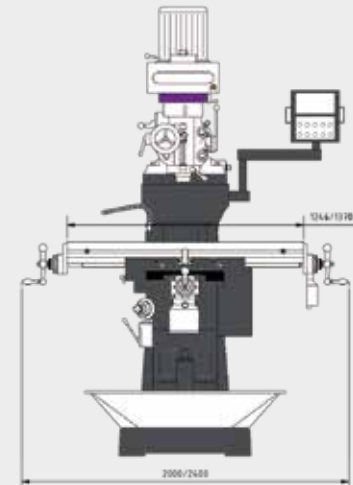
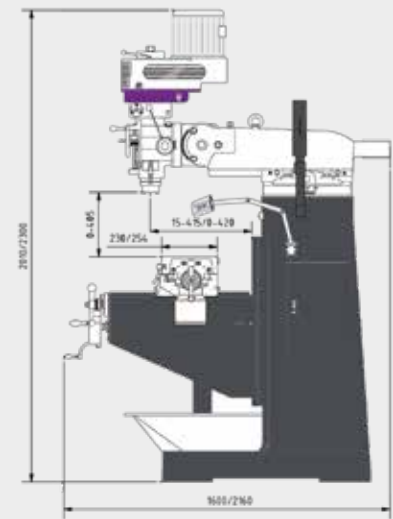
Model	MF 2-B	MF 4-B		
Article no.	3348330	3348340		
<b>Output</b>				
Electrical connection	400 V / 3 Ph ~50 Hz			
Total rated value	3 kW			
Drive motor	2.2 kW			
Coolant pump motor	90 W			
<b>Drilling/milling output</b>				
Drilling performance in steel (S235JR)	Ø 24 mm			
Continuous drilling performance in steel (S235JR)	Ø 20 mm			
Maximum cutting head size	Ø 76 mm			
Maximum end mill size	Ø 25 mm			
<b>Spindle</b>				
Spindle sleeve stroke	127 mm			
Spindle sleeve diameter	86 mm			
Spindle seat	ISO 40 DIN 2080			
Clearance spindle to cross table	405 mm			
Spindle - column distance	15 - 415 mm	0 - 420 mm		
<b>Drilling/milling head</b>				
Spindle speeds	60 - 4200 min <sup>-1</sup>			
Gearbox stages	2 speed, mechanically continuously controllable			
Milling cutter head travel	312 mm	470 mm		
Horizontal swivel range	± 90°			
Vertical swivelling range	± 45°			
Automatic spindle sleeve feed	3 stages: 0.038 / 0.076 / 0.152 mm/rev			
<b>Cross table</b>				
Cross table x width	1246 x 230 mm	1370 x 254 mm		
Cross table load capacity max.	200 kg	300 kg		
T-slot size / spacing / count	16 mm / 63 mm / 3			
<b>Traverse paths</b>				
	manual	autom.	manual	autom.
X axis (Cross table)	790 mm	~690 mm	920 mm	~820 mm
Y axis (Cross table)	280 mm	~280 mm	380 mm	~380 mm
Z-axis (Cross table mount)	390 mm	~370 mm	400 mm	~380 mm
<b>Dimensions and weight</b>				
Length x width x height approx.	2000 x 1600 x 2010 mm		2400 x 2160 x 2300 mm	
Net weight approx.	1000 kg		1260 kg	

## Accessories

Designation	Article no.
Collet chuck set 18-part ISO 40	3352056
End mill set HSS TiN-coated 12-part	3352250
End mill set HSS TiN-coated 20-part	3352255
Precision Quick-action drill chuck 1 - 10 mm; B16	3050610
Copying and facing blade head ISO 40 DIN 2080	3350216
Precision bore head set ISO 40	3352128
Parallel shim set, 18-part	3536191
Horizontal-vertical rotary indexing table RT 150	3356150
Horizontal-vertical rotary indexing table RT 200	3356200
Horizontal-vertical rotary indexing table RTE 165	3356365
Horizontal-vertical rotary indexing table RTU 165	3354165
Assortment of clamping tools SPW 14, 58-part	3352078
Precision machine shoe SEU1(4 units required)	3352985
Compressed air tool clamping system ISO 40 (see page 168)	3352394
Factory assembly compressed air tool clamping system ISO 40 (Order without assembly: Adjustment work may be required).	9000490

More accessories and information about accessories from page 158 onwards

## Dimensions



## Scope of delivery

- > Chip tray
- > Operating tool

## Vices

Designation	Article no.
ZAS 50	3354170
HMS 125	3355127
FMS 125 (MF 2-B)	3354125
FMS 150 (MF 4-B)	3354150
FMSN 125 (MF 2-B)	3354120
FMSN 150 (MF 4-B)	3354130
VMQ 125 (MF 2-B)	3354182
VMQ 150 (MF 4-B)	3354183
MV3-75	3354175
MV3-125	3354178
DAS 100	3355500

Information can be found on page 155 onwards

## Multifunctional drilling/milling machines for professional deployment. Electronically infinitely variable drive with frequency converter 'Made in Germany' and digital 3-axis position display

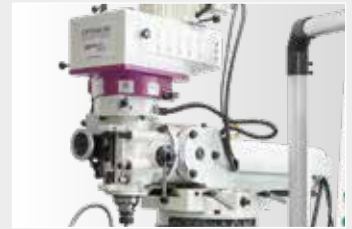
### Facts that impress in terms of quality, performance and price

- ▶ Heavy, solid design using premium cast meehanite
- ▶ Excellent concentricity thanks to tapered roller bearings,  $\leq 0.01$  mm measured in the spindle sleeve
- ▶ X and Z axis with adjustable dovetail guide
- ▶ Coolant system
- ▶ Digital position display
- ▶ Solid and generously dimensioned Cross table with precision surface finish and adjustable stops
- ▶ Spindle head: Tilt up/down  $\pm 45^\circ$  and swivel left/right  $\pm 90^\circ$
- ▶ Automatic spindle sleeve feed
- ▶ Adjustable drilling depth stop with millimetre scale, can be read off on front
- ▶ Clockwise/anti-clockwise rotation for thread cutting
- ▶ Central lubrication
- ▶ Height-adjustable protective screen with microswitch for best possible user protection against chips and parts being flung out
- ▶ Y axis with flat guide
- ▶ Motorised table height adjustment (Z axis)



Fig.: with optional Y-axis feed

### Arguments,...



#### MILLING HEAD

- › The spindle head can be swivelled forwards or backwards by  $45^\circ$  and tilted to the right or left by  $90^\circ$ .



#### OPTiCONTROL PANEL

- › Integrated switch panel
- › Swivelling
- › Integrated digital position display



#### FREQUENCY CONVERTER MADE IN GERMANY



#### X AXIS

- › Motorised table feed
- › Continuously variable speed control
- › Rapid traverse
- › Right-/left-hand rotation



Follow this for the video presentation of our Optimum milling machine MF 4V

## Technical specifications, accessories and dimensions

Model	MF 4V
Article no.	3336050
<b>Output</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
Total rated value	4.5 kW
Drive motor	3 kW
Coolant pump motor	100 Watts
<b>Drilling/milling output</b>	
Drilling performance in steel (S235JR)	Ø 32 mm
Continuous drilling performance in steel (S235JR)	Ø 28 mm
Maximum cutting head size	Ø 100 mm
Maximum end mill size	Ø 20 mm
<b>Spindle</b>	
Spindle sleeve stroke	127 mm
Spindle seat	ISO 40 DIN 2080
Clearance spindle to cross table	40 - 446 mm
Spindle - column distance	200 - 680 mm
<b>Drilling/milling head</b>	
Spindle speeds	9 - 6750 min <sup>-1</sup>
Gearbox stages	8 stages, electronically adjustable
Pivot/swivel range	± 45° / ± 90°
Automatic spindle sleeve feed	3 stages: 0.038 / 0.076 / 0.152 mm/rev
<b>Cross table</b>	
Cross table mounting surface L x W	1370 x 254 mm
Cross table load capacity max.	275 kg
T-slot size / spacing / count	16 mm / 63 mm / 3
<b>Traverse paths</b>	
X axis (Cross table)	manual 900 mm/ automatic ~800 mm
Y axis (Cross table)	manual 320 mm
Y axis (milling head)	manual 480 mm
Z axis (Cross table)	manual 400 mm/ automatic ~365 mm
<b>Dimensions and weight</b>	
Length x width x height approx.	1500 x 1450 x 2200 mm
Net weight approx.	1150 kg

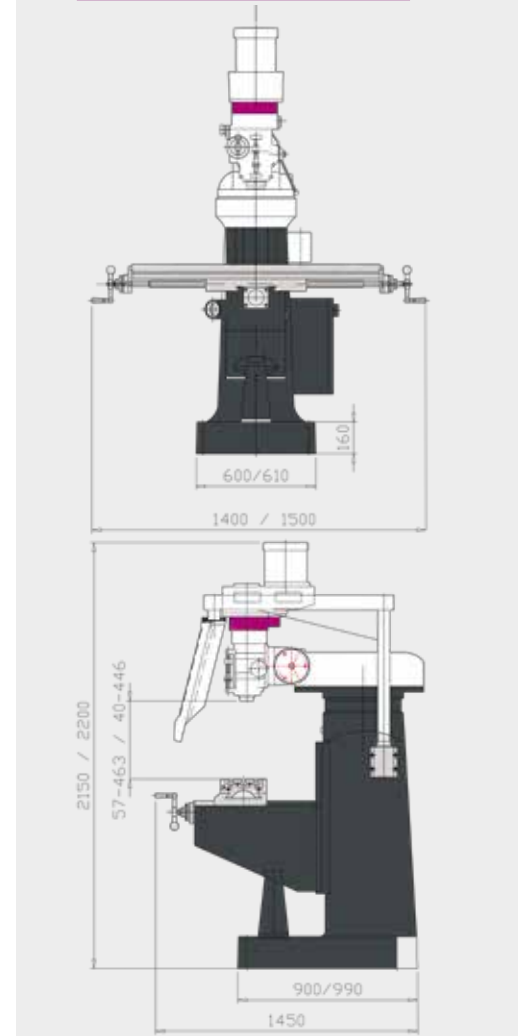
## Accessories

Designation	Article no.
Collet chuck set 18-part ISO 40	3352056
End mill set HSS TiN-coated 20-part	3352255
Drill chuck holder (arbour) ISO 40/ M16 / B16	3352070
Copying and facing blade head ISO 40 DIN 2080	3350216
Precision bore head set ISO 40	3352128
Horizontal-vertical rotary indexing table RT 150	3356150
Horizontal-vertical rotary indexing table RT 200	3356200
Horizontal-vertical rotary indexing table RTE 165	3356365
Assortment of clamping tools SPW 14, 58-part	3352078
Precision machine shoe SEU1(4 units required)	3352985
Universal table feed V250S (see page 167)	3352025
Factory assembly universal table feed V250S	9000489
Compressed air tool clamping system ISO 40 (see page 168)	3352394
Factory assembly compressed air tool clamping system ISO 40 (Order without assembly: Adjustment work may be required).	9000490

More accessories and information about accessories from page 158 onwards

Note: The machines (frequency converters) comply with the DIN EN 55011 standard: class C2  
Important information on "General information on operating our machines" on page 333

## Dimensions



## Scope of delivery

- > Chip tray
- > Operating tool

## Vices

Designation	Article no.
ZAS 50	3354170
HMS 125	3355127
FMS 150	3354150
FMSN 150	3354130
VMQ 150	3354183
MV3-75	3354175
MV3-125	3354178
DAS 100	3355500
HCV 105	3536210
HCV 125	3536214

Information can be found on page 155 onwards

## Versatility.

### The universal milling machine for workshops

#### Facts that impress in terms of quality, performance and price

- ▶ Versatile range of applications
- ▶ Rugged machine construction
- ▶ Heavy, solid design using premium cast meehanite
- ▶ Smooth running due to ground gearwheels running in an oil bath
- ▶ Rugged adjustable flat bed guide on the Y and Z axis
- ▶ Central lubrication
- ▶ Generously dimensioned, decoupled hand wheels with scales
- ▶ LED machine lamp
- ▶ Coolant system
- ▶ Digital position indicator DPA31 Plus
- ▶ Easy operation of the switching elements
- ▶ Feed motor with fixed speeds
- ▶ X and Y axis table feed
- ▶ Z axis with electrical table height adjustment
- ▶ Solid and generously dimensioned cross table with precision surface finish with re-adjustable V-ledges and adjustable stops
- ▶ Vertical and horizontal milling position
- ▶ Height-adjustable protective screen with microswitch for best possible user protection against chips and parts being flung out



Fig.: MT 100

## Arguments,...



### HORIZONTAL MILLING POSITION

- › With arrester and collet for disc milling cutter



### OPTi CONTROL PANEL

- › Integrated switch panel
- › New - now with integrated digital position indicator DPA31 Plus
- › Pivots to left and right side of machine



### MILLING HEAD

- › The milling head has two axes of rotation, allowing it to be swivelled and rotated at any spatial angle
- › A specific angle can be set by rotating the rear and front part of the milling head

## Technical specifications, accessories and dimensions

Model	MT 100
Article no.	3336110
<b>Output</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
Total rated value	3.36 kW
Drive motor	2.2 kW
Feed motor output X-Y axis	370 Watts
Feed motor output Z-axis	750 Watts
Coolant pump motor	40 Watts
<b>Drilling/milling output</b>	
Cutter head size max.	Ø 85 mm
Maximum end mill size	Ø 20 mm
<b>Spindle</b>	
Spindle seat	ISO 40 DIN 2080
Drawbar	M16
Clearance spindle to cross table	90 - 520 mm
Spindle - column distance	60- 500 mm
<b>Vertical</b>	
Spindle speeds	45 - 1600 min <sup>-1</sup>
Gearbox stages	11 stages
Milling head forward tilt	90°
Rotation of milling head	360°
<b>Cross table</b>	
Cross table x width	1120 x 260 mm
Cross table load capacity max.	350 kg
T-slot size / spacing / count	14 mm / 63 mm / 3
<b>X axis (Cross table)</b>	
Travel	manual 600 mm / automatic ~480 mm
Table feed automatic	24 - 402 mm/min.
<b>Y axis (Cross table)</b>	
Travel	manual 270 mm
<b>Z axis (Cross table)</b>	
Travel	manual 380 mm / automatic ~340 mm
Table feed automatic	24 - 402 mm/min.
<b>Dimensions and weight</b>	
Length x width x height approx.	1540 x 1355 x 1650 mm
Net weight approx.	1300 kg

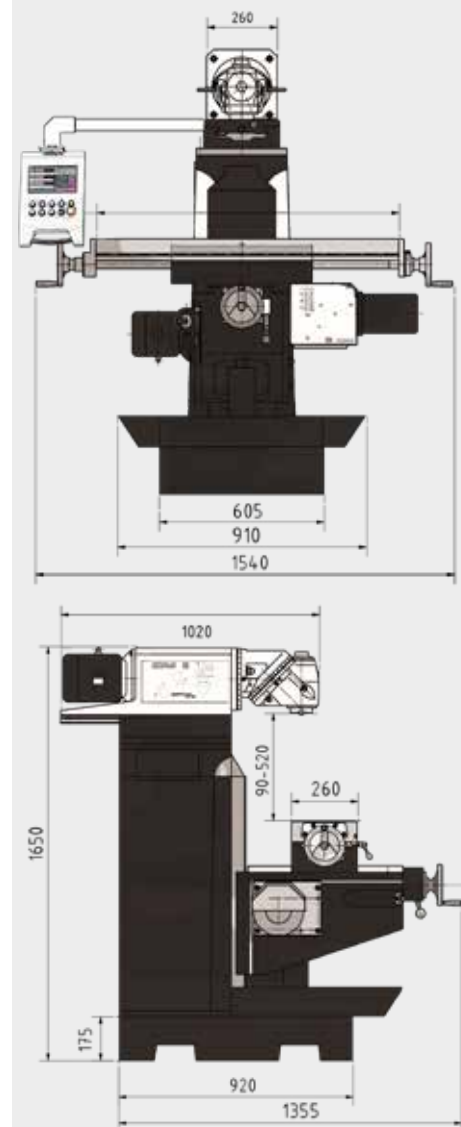
## Accessories

Designation	Article no.
Collet chuck set 18-part ISO 40	3352056
End mill set HSS TiN-coated 12-part	3352250
End mill set HSS TiN-coated 20-part	3352255
Precision Quick-action drill chuck 1 - 10 mm; B16	3050610
Drill chuck holder (arbour) ISO 40/ M16 / B16	3352070
Copying and facing blade head ISO 40 DIN 2080	3350216
Precision bore head set ISO 40	3352128
Parallel shim set, 18-part	3536191
Horizontal-vertical rotary indexing table RT 200	3356200
Horizontal-vertical rotary indexing table RTE 165	3356365
Horizontal-vertical rotary indexing table RTU 165	3354165
Assortment of clamping tools SPW 12, 58-part	3352077
Universal dividing head TA 125	3356125
Precision machine shoe SEU1(4 units required)	3352985

More accessories and information about accessories from page 158 onwards

Coolant accessories see page 93

## Dimensions



## Scope of delivery

- › Horizontal milling spindle Ø 32 mm
- › Milling arbour Ø 32 mm
- › Operating tool

## Vices

Designation	Article no.
HMS 125	3355127
FMS 150	3354150
FMSN 150	3354130
VMQ 125	3354182
MV3-75	3354175
MV3-125	3354178
DAS 100	3355500
HCV 105	3536210
HCV 125	3536214

Information can be found on page 155 onwards

## Versatility.

### The universal milling machine with servo-motorised feed

#### Facts that impress in terms of quality, performance and price

- ▶ Versatile range of applications
- ▶ Rugged machine construction
- ▶ Heavy, solid design using premium cast meehanite
- ▶ Smooth running due to ground gearwheels running in an oil bath
- ▶ All guides hardened and adjustable using V-ledges
- ▶ Rugged flat bed guide on the Y and Z axis
- ▶ Central lubrication
- ▶ Generously dimensioned, decoupled hand wheels with scales
- ▶ LED machine lamp
- ▶ Coolant system
- ▶ Easy operation of the switching elements
- ▶ Table feed in the X, Y and Z axes
- ▶ Feed system controllable by servomotor in fixed steps
- ▶ Solid and generously dimensioned cross table with precision surface finish with re-adjustable V-ledges and adjustable stops
- ▶ Vertical and horizontal milling position
- ▶ Height-adjustable protective screen with microswitch for best possible user protection against chips and parts being flung out



Fig.: MT 130S

## Arguments,...



### HORIZONTAL MILLING POSITION

- › With arrester and collet for disc milling cutter



### OPTi CONTROL PANEL

- › Integrated switch panel
- › Swivelling
- › Integrated digital position display DPA31 Plus



### MILLING HEAD

- › The milling head has two axes of rotation, allowing it to be swivelled and rotated at any spatial angle
- › A specific angle can be set by rotating the rear and front part of the milling head



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Information & Video

## Technical specifications, accessories and dimensions

Model	MT 130S
Article no.	3344110
<b>Output</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
Total rated value	6 kW
Drive motor	3 kW
Feed motor output	3 kW
Coolant pump motor	60 Watts
<b>Milling capacity</b>	
Cutter head size max.	Ø 100 mm
Maximum end mill size	Ø 20 mm
<b>Spindle</b>	
Spindle seat	ISO 40 DIN 2080
Drawbar	M16
Clearance spindle to cross table	100 - 500 mm
Spindle - column distance	150 - 550 mm
<b>Vertical</b>	
Spindle speeds	45 - 1660 min <sup>-1</sup>
Gearbox stages	11 stages
Forward tilt of milling head	90°
Rotation of milling head	360°
<b>Cross table</b>	
Cross table x width	1270 x 300 mm
Cross table load capacity max.	250 kg
T-slot size / spacing / count	14 mm / 80 mm / 3
<b>X axis (Cross table)</b>	
Travel	manual 720 mm / automatic ~650 mm
Table feed automatic	30 - 830 mm/min.
Rapid traverse	1,335 mm/min.
<b>Y axis (Cross table)</b>	
Travel	manual 300 mm / automatic ~220 mm
Table feed automatic	30 - 830 mm/min.
Rapid traverse	1,335 mm/min.
<b>Z axis (Cross table)</b>	
Travel	manual 400 mm / automatic ~320 mm
Table feed automatic	23 - 625 mm/min.
Rapid traverse	1,000 mm/min.
<b>Dimensions and weight</b>	
Length x width x height approx.	1760 x 1550 x 1700 mm
Net weight approx.	1450 kg

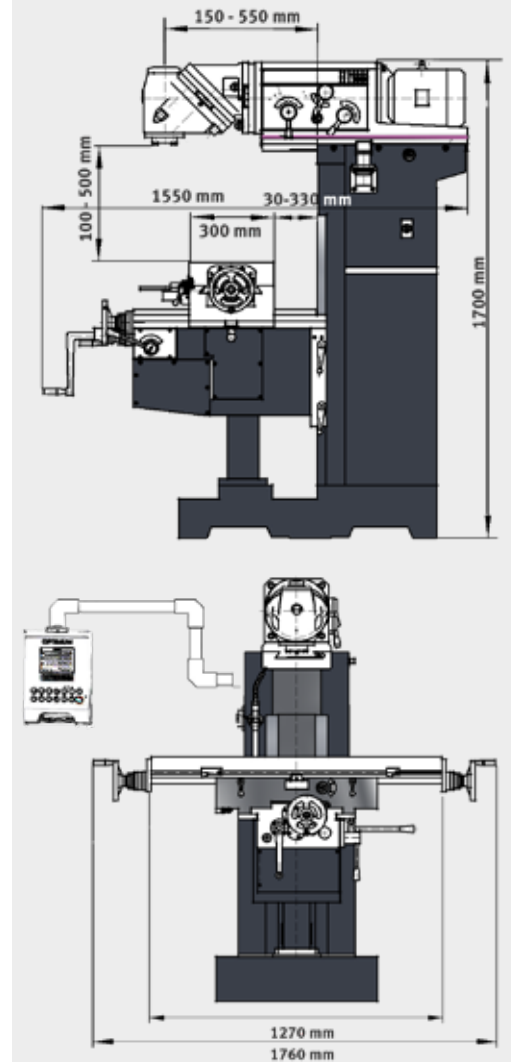
## Accessories

Designation	Article no.
Collet chuck set 18-part ISO 40	3352056
End mill set HSS TiN-coated 12-part	3352250
End mill set HSS TiN-coated 20-part	3352255
Drill chuck holder (arbour) ISO 40/ M16 / B16	3352070
Precision Quick-action drill chuck 1 - 10 mm; B16	3050610
Horizontal-vertical rotary indexing table RT 150	3356150
Horizontal-vertical rotary indexing table RT 200	3356200
Horizontal-vertical rotary indexing table RTE 165	3356365
Horizontal-vertical rotary indexing table RTU 165	3354165
Assortment of clamping tools SPW 12, 58-part	3352077
Precision machine shoe SEU1(4 units required)	3352985

More accessories and information about accessories from page 158 onwards

Coolant accessories see page 93

## Dimensions



## Scope of delivery

- › Tapered shank with counter bearing for horizontal milling cutters Ø27 mm
- › Milling arbour Ø 27 mm
- › Operating tool

## Vices

Designation	Article no.
HMS 125	3355127
FMS 150	3354150
FMSN 150	3354130
VMQ 125	3354182
MV3-75	3354175
MV3-125	3354178
DAS 100	3355500
HCV 105	3536210
HCV 125	3536214

Information can be found on page 155 onwards

## Versatility.

### The universal milling machine for workshops with digital 3-axis position display

#### Facts that impress in terms of quality, performance and price

- ▶ Versatile range of applications
- ▶ Rugged machine construction
- ▶ Heavy, solid design using premium cast meehanite
- ▶ Smooth running due to ground gearwheels running in an oil bath
- ▶ All guides hardened and adjustable using V-ledges
- ▶ Rugged flat bed guide on the Y and Z axis
- ▶ Central lubrication
- ▶ Generously dimensioned, decoupled hand wheels with scales
- ▶ LED machine lamp
- ▶ Coolant system
- ▶ Easy operation of the switching elements
- ▶ X and Y axis table feed
- ▶ Z axis with electrical table height adjustment
- ▶ Solid and generously dimensioned cross table with precision surface finish with re-adjustable V-ledges and adjustable stops
- ▶ Vertical and horizontal milling position
- ▶ Milling head with two axes of rotation, thus pivots and rotates to any spatial angle
- ▶ Counterholder for horizontal milling machines conveniently located on the rear of the machine.
- ▶ Height-adjustable protective screen with microswitch for best possible user protection against chips and parts being flung out
- ▶ Feed motor with fixed speeds



Fig.: MT 200

## Arguments,...



### HORIZONTAL MILLING POSITION

- › With arrester and collet for disc milling cutter
- › Adjustable plain bearing
- › Horizontal milling counterholder, attached to rear of machine for easy access



### OPTI CONTROL PANEL

- › Integrated switch panel
- › New - now with integrated digital position indicator DPA31 Plus
- › Pivots to left and right side of machine



### MILLING HEAD

- › The milling head has two axes of rotation, allowing it to be swivelled and rotated at any spatial angle
- › A specific angle can be set by rotating the rear and front part of the milling head

## Technical specifications, accessories and dimensions

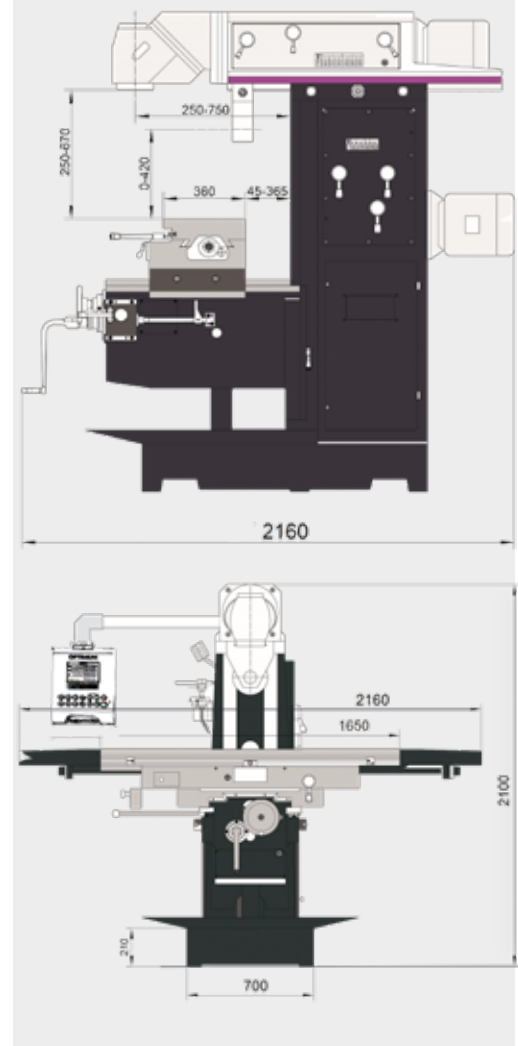
Model	MT 200
Article no.	3336120
<b>Output</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
Total rated value	9.2 kW
Drive motor horizontal/vertical	4 kW
Feed motor output	1.1 kW
Coolant pump motor	90 Watts
<b>Milling capacity</b>	
Cutter head size max.	Ø 100 mm
Maximum end mill size	Ø 20 mm
<b>Spindle</b>	
Horizontal/ vertical spindle seat	ISO 50 DIN 2080
Drawbar	M24
<b>Vertical</b>	
Clearance spindle to cross table	250 - 670 mm
Spindle - column distance	250 - 750 mm
Spindle speeds	60 - 1750 min <sup>-1</sup>
Gearbox stages	12 stages
Forward tilt of milling head	90°
Rotation of milling head	360°
<b>Horizontal</b>	
Clearance spindle to cross table	0 - 400 mm
Spindle speeds	58 - 1800 min <sup>-1</sup>
Gearbox stages	12 stages
<b>Cross table</b>	
Cross table x width	1650 x 360 mm
Cross table load capacity max.	450 kg
T-slot size / spacing / count	14 mm / 95 mm / 3
Rotatable cross table	35°
<b>X axis (Cross table)</b>	
Travel	manual 1290 mm / automatic ~1210 mm
Table feed automatic	22 - 380 mm/min.
Table feed, stages	8 stages
Table feed rapid motion	1,290 mm/min.
<b>Y axis (Cross table)</b>	
Cross table travel	manual 280 mm / automatic ~200 mm
Table feed automatic	20 - 380 mm/min.
Table feed, stages	8 stages
Table feed rapid motion	1,290 mm/min.
<b>Z axis (Cross table)</b>	
Travel	manual 400 mm / automatic ~320 mm
Table feed automatic	7 - 127 mm/min.
Table feed, stages	8 stages
Table feed rapid motion	342 mm/min.
<b>Dimensions and weight</b>	
Length x width x height approx.	2160 x 2160 x 2100 mm
Net weight approx.	2700 kg

## Accessories

Designation	Article no.
Morse cone ISO50 / B18 DIN2080	3352067
Parallel shim set, 18-part	3536191
Assortment of clamping tools SPW 12, 58-part	3352077
2-piece set of hold-down clamps, 14 mm/M12	3352031
Precision machine shoe SEU1 (4 units required)	3352985

More accessories and information about accessories from page 158 onwards

## Dimensions



## Scope of delivery

- › Horizontal milling spindle Ø 32 mm
- › Horizontal milling spindle Ø 27 mm
- › Milling arbor ISO 50
- › Milling cutter chuck ISO 50 Ø 4 - Ø 26 mm
- › Operating tool

## Vices

Designation	Article no.
HMS 125	3355127
FMS 150	3354150
FMSN 150	3354130
VMQ 125	3354182
MV3-75	3354175
MV3-125	3354178
DAS 100	3355500
HCV 105	3536210
HCV 125	3536214

Information can be found on page 155 onwards

## Versatility.

### The universal milling machine with digital 3-axis position display DPA31 Plus

#### Facts that impress in terms of quality, performance and price

- ▶ Versatile range of applications
- ▶ Rugged machine construction
- ▶ Heavy, solid design using premium cast meehanite
- ▶ Smooth running due to ground gearwheels running in an oil bath
- ▶ All guides hardened and adjustable using V-ledges
- ▶ Rugged flat bed guide on the Y and Z axis
- ▶ Central lubrication
- ▶ Generously dimensioned, decoupled hand wheels with scales
- ▶ LED machine lamp
- ▶ Decoupled hand wheels
- ▶ Coolant system
- ▶ Easy operation of the switching elements
- ▶ Table feed X, Y and Z axis
- ▶ Feed system controllable by servomotor in fixed steps
- ▶ Solid and generously dimensioned cross table with precision surface finish with re-adjustable V-ledges and adjustable stops
- ▶ Height-adjustable protective screen with microswitch for best possible user protection against chips and parts being flung out



Fig.: MT 230S

## Arguments,...



### HORIZONTAL MILLING SPINDLE

- › With arrester and collet for disc milling cutter
- › Adjustable plain bearing
- › Horizontal milling counterholder, attached to rear of machine for easy access



### OPTI CONTROL PANEL

- › Integrated switch panel
- › Swivelling
- › Integrated digital position display DPA31 Plus



### MILLING HEAD

- › The milling head has two axes of rotation, allowing it to be swivelled and rotated at any spatial angle
- › A specific angle can be set by rotating the rear and front part of the milling head

## Technical specifications, accessories and dimensions

Model	MT 230S
Article no.	3344125
<b>Output</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
Total rated value	12 kW
Vertical drive motor	4 kW
Horizontal drive motor	5.5 kW
Coolant pump motor	90 Watts
<b>Milling capacity</b>	
Cutter head size max.	Ø 160 mm
Maximum end mill size	Ø 25 mm
<b>Spindle</b>	
Spindle seat	ISO 50 DIN 2080
Drawbar	M 24
<b>Vertical</b>	
Clearance spindle to cross table	185 - 585 mm
Spindle - column distance	260 - 940 mm
Spindle speeds	60 - 1750 min <sup>-1</sup>
Gearbox stages	12 stages
Forward tilt of milling head	90°
Rotation of milling head	360°
<b>Horizontal</b>	
Clearance spindle to cross table	15 - 415 mm
Spindle speeds	60 - 1800 min <sup>-1</sup>
Gearbox stages	12 stages
<b>Cross table</b>	
Table length x width	1600 x 360 mm
Cross table load capacity max.	350 kg
T-slot size / spacing / count	18 mm / 3 / 80 mm
Rotatable cross table	45°
<b>X axis (Cross table)</b>	
Travel	manual 1300 mm / automatic ~1220 mm
Table feed automatic	30 - 750 mm/min.
Table feed rapid motion	1,200 mm/min.
<b>Y axis (Cross table)</b>	
Travel	manual 300 mm / automatic ~220 mm
Table feed automatic	20 - 500 mm/min.
Table feed rapid motion	800 mm/min.
<b>Z axis (Cross table)</b>	
Travel	manual 400 mm / automatic ~320 mm
Table feed automatic	15 - 375 mm/min.
Table feed rapid motion	600 mm/min.
<b>Dimensions and weight</b>	
Length x width x height approx.	2550 x 2160 x 2005 mm
Net weight approx.	2800 kg

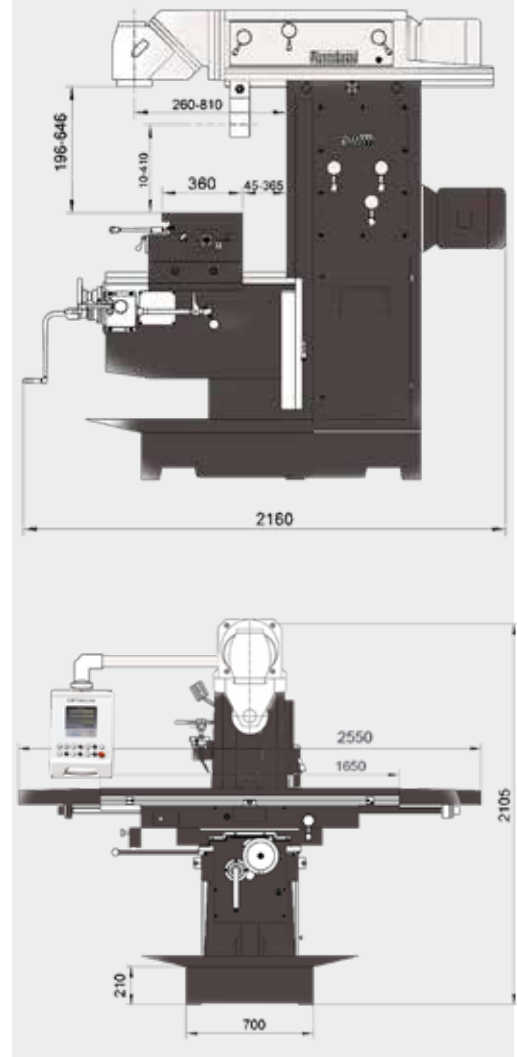
## Accessories

Designation	Article no.
Collet chuck set ISO 50/ER32	3352065
Morse cone ISO50 B18 DIN2080	3352067
Precision bore head set ISO 50	3352129
Parallel shim set, 18-part	3536191
Assortment of clamping tools SPW 16, 58-part	3352077
Precision machine shoe SEU1(4 units required)	3352985
2-piece set of hold-down clamps, 18 mm/M16	3352032

More accessories and information about accessories from page 158 onwards

Note: The machines (frequency converters) comply with the DIN EN 55011 standard: class C2  
Important information on "General information on operating our machines" on page 333

## Dimensions



## Scope of delivery

- > Horizontal milling spindle with counter bearing, disc cutter holder Ø 32 mm, Ø 27 mm
- > Adapter ISO 50 (7:24) / MT4
- > Drawbar horizontal and vertical M24
- > Operating tool

## Vices

Designation	Article no.
FMS 200	3354200
HMS 125	3355127
MV3-75	3354175
MV3-125	3354178
ZAS 50	3354170
DAS 100	3355500
HCV 105	3536210
HCV 125	3536214

Information can be found on page 155 onwards

## Tool milling machines with digital 3-axis position display

Facts that impress in terms of quality, performance and price

- ▶ Versatile range of applications
- ▶ Robust machine design
- ▶ All guides hardened
- ▶ Central lubrication
- ▶ Large diameter handwheel with scale
- ▶ Simple operation of the switching elements for changing the speed
- ▶ Extremely quiet operation due to gearbox running in an oil bath
- ▶ Automatic table feed in the X Y and Z axes
- ▶ All axes with ball screws
- ▶ Servo motor in all axes



## Technical data and accessories

Model	MX 2	MX 3	MX 4
Article no.	3343020	3343030	3343040
<b>Output</b>			
Electrical connection	400 V / 3 Ph ~50 Hz	400 V / 3 Ph ~50 Hz	400 V / 3 Ph ~50 Hz
Total rated value	9 kW	9 kW	9 kW
Vertical drive motor	3.7 kW	3.7 kW	5.5 kW
<b>Spindle</b>			
Spindle seat	ISO 40 DIN 2080	ISO 40 DIN 2080	ISO 40 DIN 2080
<b>Vertical</b>			
Spindle speeds	40 - 2000 min <sup>-1</sup>	40 - 2000 min <sup>-1</sup>	40 - 2000 min <sup>-1</sup>
Gearbox stages	2 stages	2 stages	2 stages
<b>Cross table</b>			
Horizontal cross table (L x W)	750 x 320 mm	800 x 400 mm	850 x 450 mm
Cross table load capacity max.	160 kg	200 kg	300 kg
T-slot size / spacing / count	14 mm / 63 mm	14 mm / 63 mm	14 mm / 63 mm
<b>X axis (Cross table)</b>			
Travel	405 mm	500 mm	600 mm
<b>Y axis (Cross table)</b>			
Travel	305 mm	400 mm	450 mm
<b>Z axis (Cross table)</b>			
Travel	400 mm	400 mm	450 mm
<b>Dimensions and weight</b>			
Length x width x height approx.	1900 x 1650 x 1882 mm	1950 x 1700 x 1882 mm	2200 x 1900 x 2000 mm
Net weight approx.	1500 kg	1550 kg	1800 kg

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## Accessories

Designation	Article no.
Collet chuck set 18-part ISO 40	3352056
End mill set HSS TiN-coated 12-part	3352250
End mill set HSS TiN-coated 20-part	3352255
Drill chuck holder (arbour) ISO 40/ M16 / B16	3352070
Precision Quick-action drill chuck 1 - 10 mm; B16	3050610
Horizontal-vertical rotary indexing table RT 150	3356150
Horizontal-vertical rotary indexing table RT 200	3356200
Horizontal-vertical rotary indexing table RTE 165	3356365
Horizontal-vertical rotary indexing table RTU 165	3354165
Assortment of clamping tools SPW 12, 58-part	3352077
Precision machine shoe SEU1(4 units required)	3352985
1 MX 2 housing	3343021
1 MX 3 housing	3343031
1 MX 4 housing	3343041

More accessories and information about accessories from page 158 onwards

Coolant accessories see page 93

## Scope of delivery

- › Reducing sleeve MT1 / MT2 / MT3
- › Horizontal milling spindle  
Ø 16 mm / 22 mm / 27 mm / 32 mm
- › Operating tool

## Vices

Designation	Article no.
FMS 200	3354200
HMS 125	3355127
MV3-75	3354175
MV3-125	3354178
ZAS 50	3354170
DAS 100	3355500
HCV 105	3536210
HCV 125	3536214

Information can be found on page 155 onwards

DRILLING AC-  
CESSORIES

CORE DRILLING

THREAD TAP-  
PING

MILLING

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORK-  
ING

LIGHTING

COOLING

**Tool milling machines with digital 3-axis position display DP 700 from NEWALL. With inverter drive on feed axes controllable via control panel**

**Facts that impress in terms of quality, performance and price**

- ▶ Versatile range of applications
- ▶ Excellent damping characteristics and stability of machine mobile chassis
- ▶ All guides hardened, precision ground, and adjustable using V-ledges
- ▶ Automatic feed on X, Y and Z axis, continuously adjustable via an electronic joystick on the control panel
- ▶ Electrical feed limit shut-off
- ▶ Central and clearly arranged control panel with integrated digital position and speed display
- ▶ Solid cross table, generously dimensioned with precision surface finish
- ▶ Coolant system
- ▶ Generously dimensioned hand wheels with scales
- ▶ Machine lamp
- ▶ Smooth action
- ▶ Manual centralised lubrication system
- ▶ X and Y axes with magnetic couplings. These decouple the feed motor when the machine is moved by hand



**Arguments,...**



**CONTROL CABINET**

- › With components from **SIEMENS**



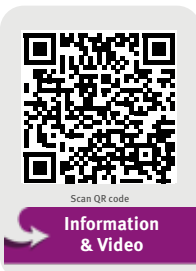
**OPTiCONTROL PANEL**

- › Swivels centrally for a clearly-arranged overview
- › Automatic feed on X, Y and Z axis, continuously adjustable via an electronic joystick on the control panel
- › DP 700 digital position display integrated into the control panel



**BALL SCREW**

- › on all axes
- › Higher precision
- › Lower reversing play



**CROSS TABLE HOUSING**

- › Supplied pre-assembled on the machine
- › Protection against chips and splash water
- › Folds away to allow optimal access to the workspace
- › Detachable housing for more access

## Technical data and accessories

Model	MZ 2S
Article no.	3346235
<b>Output</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
Total rated value	4 kW
Drive motor	2.2 kW
Motor rapid motion/feed	0.375 kW
Coolant pump motor	95 W
<b>Drilling/milling output</b>	
Drilling performance in steel (S235JR)	Ø 30 mm
Continuous drilling performance in steel (S235JR)	Ø 26 mm
Maximum cutting head size	Ø 100 mm
Maximum end mill size	Ø 25 mm
<b>Spindle</b>	
Spindle sleeve stroke	120 mm
Spindle seat	ISO 40 DIN 2080
Drawbar	M16
<b>Speed range</b>	
Spindle speeds	50 - 1890 min <sup>-1</sup>
Gearbox stages	12 stages
<b>Vertical</b>	
Vertical rotation area	± 90°
Distance between spindle nose - cross table	75 - 410 mm
Maximum throat depth	100 mm
Vertical cross table x width	830 x 250 mm
T-slot size / spacing / count	14 mm / 63 mm / 2
<b>Horizontal</b>	
Clearance horizontal spindle to cross table	70 - 400 mm
Horizontal cross table x width	750 x 320 mm
Max. load bearing capacity	285 kg
T-slot size / spacing / count	14 mm / 63 mm / 5
<b>Travel during feed</b>	
X axis (Cross table)	manual 400 mm / automatic ~310 mm
Y axis (milling head)	manual 200 mm / automatic ~160 mm
Z axis (Cross table)	manual 335 mm / automatic ~295 mm
Drive speed feed/rapid motion	50 - 450 min <sup>-1</sup> / 700 min <sup>-1</sup>
Feed speed	10 - 600 mm/min.
<b>Dimensions and weight</b>	
Length x width x height approx.	1239 x 1168 x 1900 mm
Net weight approx.	1400 kg

## Accessories

Designation	Article no.
Hydraulic clamping device DIN 69871 ex works only	3346226
Compressed air tool changer incl. mounting adapter and installation costs	3346225
Vibration damping machine base SE 55 (4 units required)	3352981

More accessories and information about accessories from page 158 onwards

Angled table	3346221
<ul style="list-style-type: none"> <li>&gt; Table length x width 375 x 660 mm . Max. load bearing capacity 150 kg</li> <li>&gt; T-slot size / count / spacing: 12 mm / 8 / 45 mm</li> <li>&gt; Dimensions 895 x 433 x 354 mm</li> <li>&gt; Weight 140 kg</li> </ul>	



Note: The machines (frequency converters) comply with the DIN EN 55011 standard: class C2  
Important information on 'Operating machines with frequency converters' on page 333

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## Scope of delivery

- > Adapter ISO 40/MT3
- > MT1 and MT2 shank
- > Horizontal milling spindle Ø 27 mm
- > Operating tool

DRILLING AC-  
CESSORIES

CORE DRILLING

THREAD TAP-  
PING

MILLING

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORK-  
ING

LIGHTING

COOLING

## Tool milling machines with digital 3-axis position display DP 700 from NEWALL. With inverter drive on feed axes controllable via control panel

### Facts that impress in terms of quality, performance and price

- ▶ Versatile range of applications
- ▶ Excellent damping characteristics and stability of machine mobile chassis
- ▶ All guides hardened, precision ground, and adjustable using V-ledges
- ▶ Automatic feed on X, Y and Z axis, continuously adjustable via an electronic joystick on the control panel
- ▶ Electrical feed limit shut-off
- ▶ Central and clearly arranged control panel with integrated digital position and speed display
- ▶ Solid cross table, generously dimensioned with precision surface finish
- ▶ Coolant system
- ▶ Generously dimensioned hand wheels with scales
- ▶ Machine lamp
- ▶ Smooth action:
- ▶ Automatic centralised lubrication
- ▶ X and Y axes with magnetic couplings. These decouple the feed motor when the machine is moved by hand



Fig.: MZ 4S

### Arguments,...



#### CONTROL CABINET

- › With components from SIEMENS



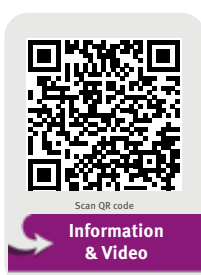
#### OPTi CONTROL PANEL

- › Swivels centrally for a clearly-arranged overview
- › Automatic feed on X, Y and Z axis, continuously adjustable via an electronic joystick on the control panel
- › DP 700 digital position display integrated into the control panel



#### BALL SCREW

- › on all axes
- › Higher precision
- › Lower reversing play



Scan QR code  
Information & Video



#### CROSS TABLE HOUSING

- › Supplied pre-assembled on the machine
- › Protection against chips and splash water
- › Folds away to allow optimal access to the workspace
- › Detachable housing for more access

## Technical data and accessories

Model	MZ 4S
Article no.	3346245
<b>Output</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
Total rated value	5.4 kW
Drive motor	3.75 kW
Motor rapid motion/feed	0.75 kW
Coolant pump motor	95 W
<b>Drilling/milling output</b>	
Drilling performance in steel (S235JR)	Ø 32 mm
Continuous drilling performance in steel (S235JR)	Ø 28 mm
Maximum cutting head size	Ø 100 mm
Maximum end mill size	Ø 25 mm
<b>Spindle</b>	
Spindle sleeve stroke	120 mm
Spindle seat	ISO 40 DIN 2080
Drawbar	M16
<b>Speed range</b>	
Spindle speeds	30 - 2250 min <sup>-1</sup>
Gearbox stages	18 stages
Speed range after optional Vario conversion	
Spindle speeds	48 - 3045 min <sup>-1</sup>
Gearbox stages	2 x 6 gear stages
<b>Vertical</b>	
Vertical rotation area	± 90°
Distance between spindle nose - cross table	70 - 400 mm
Maximum throat depth	185 mm
Vertical cross table x width	1200 x 250 mm
T-slot size / spacing / count	14 mm / 63 mm / 3
<b>Horizontal</b>	
Clearance horizontal spindle to cross table	130 - 390 mm
Horizontal cross table x width	900 x 500 mm
Max. load bearing capacity	360 kg
T-slot size / spacing / count	14 mm / 63 mm / 7
<b>Travel during feed</b>	
X axis (Cross table)	manual 600 mm / automatic ~510 mm
Y axis (milling head)	manual 480 mm / automatic ~440 mm
Z axis (Cross table)	manual 390 mm / automatic ~345 mm
Drive speed feed/rapid motion	50 - 450 min <sup>-1</sup> / 780 min <sup>-1</sup>
Feed speed	10 - 600 mm/min.
<b>Dimensions and weight</b>	
Length x width x height approx.	1610 x 1825 x 1885 mm
Net weight approx.	1890 kg

## Accessories

Designation	Article no.
Hydraulic clamping device DIN 69871 ex works only	3346226
Compressed air tool changer incl. mounting adapter and installation costs	3346225
Vibration damping machine base SE 55 (4 units required)	3352981

More accessories and information about accessories from page 158 onwards

Angled table	3346221
<ul style="list-style-type: none"> <li>&gt; Table length x width 375 x 660 mm . Max. load bearing capacity 150 kg</li> <li>&gt; T-slot size / count / spacing: 12 mm / 8 / 45 mm</li> <li>&gt; Dimensions 895 x 433 x 354 mm</li> <li>&gt; Weight 140 kg</li> </ul>	



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## Scope of delivery

- > Adapter ISO 40/MT3
- > MT1 and MT2 shank
- > Horizontal milling spindle Ø 27 mm
- > Operating tool

### Vario conversion for MZ 4S milling machine



Vario drive with frequency inverter **MADE IN EU**



Vario conversion for MZ 4S milling machine

Article no. 3491120

- > with inverter
- > Motor output 4 kW
- > Speeds 48 - 3045 min<sup>-1</sup> 6 gear stages



Control cabinet



> Clearly-arranged

# ***ACCESSORIES*** ***MILLING MACHINES***



## Compatibility overview for vices

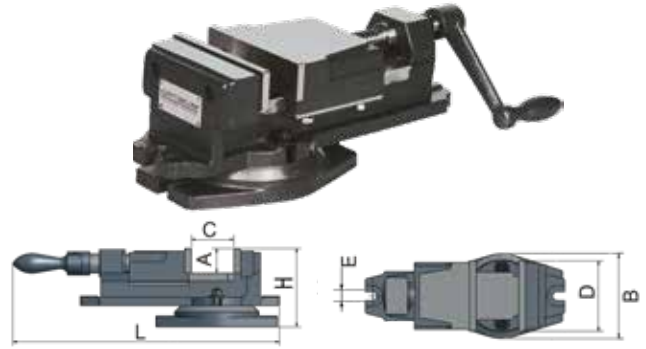
Accessories		Article No.	BF 16V	MH 20	MH 22	MH 25	MB 4	MH 35 /V	MH 50 /V	MB 4P	MB 4PV	MT 50E	MT 50	MT 60	MF 2-B	MF 4-B	MF 2V	MF 4V	MT 130S	MT 100	MT 200	MT 230S	MX2/3/4	MZ 2S	MZ 4S	
Machine vices FMS	100	3354100	●	●	●	●	●			●	●															
	125	3354125					●	●	●	●	●	●	●	●	●		●								●	●
	150	3354150														●		●	●	●					●	●
	200	3354200																				●	●			
Machine vices HMS	100	3355100					●	●		●	●															
	125	3355127													●	●	●	●	●	●	●	●			●	●
	150	3355150																								●
	200	3355200																							●	●
Machine vices FMSN	100	3354110	●	●	●	●																				
	125	3354120					●	●	●	●	●	●	●	●	●		●								●	●
	150	3354130														●		●	●	●					●	●
Machine vices VMQ	80	3354180	●	●	●	●																				
	100	3354181	●	●	●		●	●	●	●	●	●	●	●	●		●								●	●
	125	3354182														●		●	●	●					●	●
	150	3354183																							●	●
Three-axis vices MV3	75	3354175	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	125	3354178											●	●	●	●	●	●	●	●	●	●	●	●	●	●
Two-axis vice ZAS	50	3354170	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Three-axis vice DAS	100	3355500					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Machine vice HCV	105	3536210															●	●	●	●	●	●	●	●	●	●
	125	3536214															●	●	●	●	●	●	●	●	●	●
Machine vice MVSP	150 x 200	3530104																							●	●
	150 x 200	3530108																							●	●

**Precision machine vices FMS**

- › Robust design for milling, drilling and grinding
- › Vice body made of premium cast material
- › Guide surfaces hardened and ground
- › Hardened and ground clamping jaws, replaceable
- › With turntable, 360° rotatable

Vice	Article no.
FMS 100	3354100
FMS 125	3354125
FMS 150	3354150
FMS 200	3354200

Prism jaws	Article no.
for FMS 100	3354102
for FMS 125	3354127
for FMS 150	3354152
for FMS 200	3354202



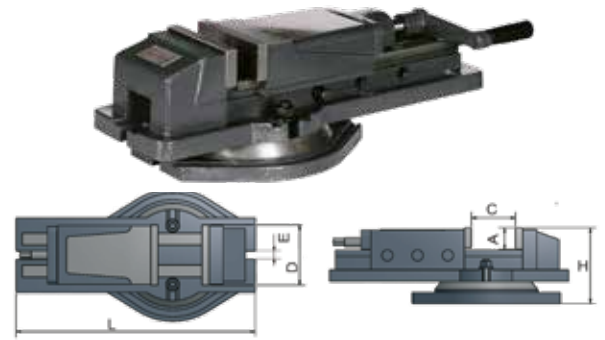
Dimensions		A	C	D	E	L	B	H	kg
FMS 100	mm	30	62	100	13	295	124	100	11
FMS 125	mm	37	85	125	13	370	148	128	17
FMS 150	mm	40	114	150	13	462	180	145	28
FMS 200	mm	58	150	200	16.5	620	237	202	58

**Hydraulic Precision machine vices HMS**

- › Robust design for milling, drilling and grinding
- › Vice body made of premium cast material
- › Guide surfaces hardened and ground
- › Booster system: requires little force, high pressure build-up during clamping
- › Large clamping range due to lock bolts with various hole spacings
- › With turntable, 360° rotatable. Protected spindle

Vice	Article no.
HMS 100	3355100
HMS 125	3355127
HMS 150	3355150
HMS 200	3355200

Prism jaws	Article no.
for HMS 100	3355102
for HMS 125	3355129
for HMS 150	3355152
for HMS 200	3355202



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

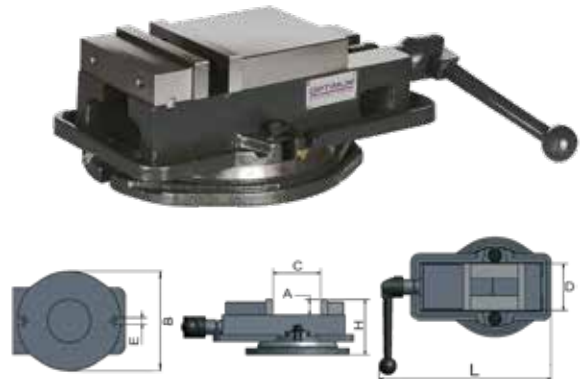
C	Span		Clamping pressure	
HMS 100	0-60 mm	57-115 mm	110-170 mm	2500 kg / 24.5 kN
HMS 125	0-76 mm	72-150 mm	146-224 mm	4000 kg / 39.25 kN
HMS 150	0-100 mm	98-200 mm	195-300 mm	4500 kg / 44.1 kN
HMS 200	0-100 mm	98-200 mm	195-300 mm	7500 kg / 73.6 kN

**Precision machine vices FMSN**

- › Vice body made of premium cast material
- › Guide surfaces hardened and ground
- › Hardened and ground clamping jaws, replaceable
- › Protected spindle
- › Clamping outward by repositioning the clamping jaws
- › With turntable, 360° rotatable

Vice	Article no.
FMSN 100	3354110
FMSN 125	3354120
FMSN 150	3354130

Prism jaws	Article no.
for FMSN 100	3354112
for FMSN 125	3354122
for FMSN 150	3354132



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

DRILLING ACCESSORIES  
CORE DRILLING  
THREAD TAPPING  
MILLING ACCESSORIES  
TURNING  
MEASURING  
SAWS  
GRINDING  
POLISHING  
SHEET METAL WORKING  
LIGHTING  
COOLING

## Machine vices

### Milling machine vices

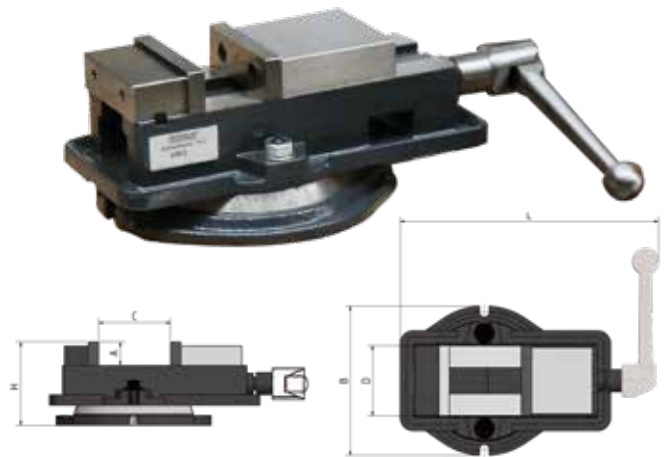
Article no.

- › Robust design for milling, drilling and grinding
- › Vice body made of premium cast material
- › Guide surfaces hardened and ground
- › Hardened and ground clamping jaws
- › With turntable, 360° rotatable

**New**

<b>VMQ 50</b>	3354179
<b>VMQ 80</b>	3354180
<b>VMQ 100</b>	3354181
<b>VMQ 125</b>	3354182
<b>VMQ 150</b>	3354183

Technical data	A	C	D	L	B	H	Weight	
VMQ 50	mm	19	66	51	240	140	76	5.5 kg
VMQ 80	mm	24	77	72	290	190	94	8.5 kg
VMQ 100	mm	33	130	100	335	247	120	16 kg
VMQ 125	mm	40	135	125	370	252	135	21 kg
VMQ 150	mm	45	150	160	435	325	155	36 kg



### Three-axis vice

Article no.

- › Horizontal swivelling movement up to 90°
- › Vertical swivelling movement up to ± 45°
- › Hardened and ground clamping jaws
- › With turntable, 360° rotatable

<b>MV3-75</b>	3354175
<b>MV3-125</b>	3354178

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



### Two-axis vice

Article no.

- › Tiltable up to -90°
- › Hardened and ground clamping jaws
- › Easily readable scales for both axes
- › With turntable, 360° rotatable
- › Weight approx: 3.4 kg

<b>ZAS 50</b>	3354170
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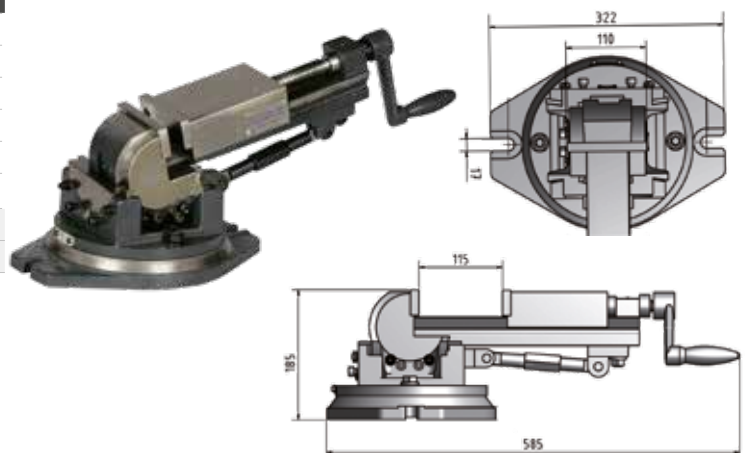


### Three-axis vice

Article no.

- › Premium cast material
- › Guide surfaces hardened and ground
- › With turntable, 360° rotatable
- › Horizontal swivelling movement up to 90°
- › Vertical swivelling movement up to ± 45° via threaded spindle
- › Net weight approx. 32 kg

<b>DAS 100</b>	3355500
<b>Prism jaws</b>	3355502



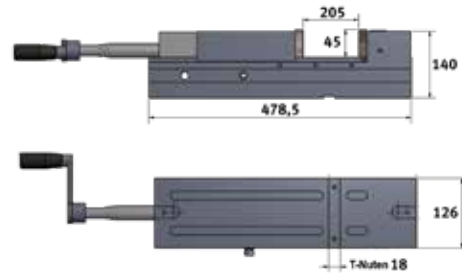
**Hydraulic milling machine vise**

Article no.

- › High precision and repeating accuracy for series production and batch-size-one machining on CNC milling machines
- › Robust design for milling
- › Guide surfaces hardened and ground
- › 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

<b>HCV 125</b>	3536214
<b>Soft jaws 2 units</b>	3536221
<b>L jaws 2 units</b>	3536222

Span	Clamping pressure		Weight approx.
0 - 205 mm	4000 kg	39.2 kN	35.4 kg



**Hydraulic milling machine vise**

Article no.

- › High precision and repeating accuracy for series production and batch-size-one machining on CNC milling machines and machining centres
- › Robust design for milling
- › Guide surfaces hardened and ground
- › 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

<b>HCV 105</b>	3536210
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Span	Clamping pressure		Weight approx.	
0 - 85 mm	85 - 170 mm	2500 kg	24.5 kN	22 kg



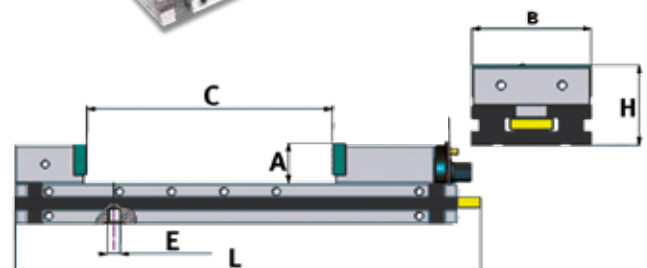
**Modular milling machine vise**

Article no.

- › hydraulic
- › High precision and repeating accuracy for series production and batch-size-one machining on CNC milling machines and machining centres
- › 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
- › Guide surfaces hardened and ground
- › Large clamping range due to lock bolts with various hole spacings
- › Long service life thanks to high quality
- › Includes spanner
- › Model MVSP with fixed jaws

<b>MVSP 150 x 200</b>	3530104
<b>MVSP 150 x 300</b>	3530108

Technical data	A	C	E	L	B	H	Weight approx.
MVSP 150 x 200	mm	50	205	16	480	149	34 kg
MVSP 150 x 300	mm	50	305	16	580	149	38.6 kg



DRILLING ACCESSORIES

CORE DRILLING

THREAD TAPPING

MILLING ACCESSORIES

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORKING

LIGHTING

COOLING

# Compatibility overview, accessories for milling machines

Accessories		Article No.	BF 16	MH 20	MH 22	MH 25	MB 4	MH 35 / V / G	MH 50 / V	MB 4P	MB 4PV	MT 50E	MT 50	MT 60	MF 2-B	MF 4-B	MF 2V	MF 4V	MT 130S	MT 100	MT 200	MT 30S	MX 2/3/4	MZ 2S	MZ 4S	
			MT2	MT2	BT 20	BT 30	MT4	BT 30	BT 40	MT4	MT4	ISO 40	ISO 40	ISO 40	ISO 40	ISO 40	ISO 40	ISO 40	ISO 40	ISO 40	ISO 40	ISO 50	ISO 50	ISO 40	ISO 40	ISO 40
Horizontal-vertical indexing table	RT 100	3356110	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	○	○
	RT 150	3356150					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	RT 200	3356200										●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Horizontal-vertical indexing table	RTE 165	3356365					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	RTU 165	3354165					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Universal dividing head	TA 125	3356125					○	○	○	○	○	○	●	●	○	○	○	○	●	●	●	●	●	●	●	●
End mill set HSS	12-part	3352250	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	20-part	3352255	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
HSS twist drill	MT3	3051003					○	○		○	○							●	●	●	●			●	●	●
Twist drill set	25-part	3201010	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	41-part	3201021	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Milling cutter set HM	Hard metal	3352118	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Radius	3352116	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Clamping tool assortments	Size 8	3352015	●																							
	SPW 10	3352076		●	●	●		●																		
	SPW 12	3352077					●			●	●	●	●	●						●	●	●		●	●	●
	SPW 14	3352078														●	●	●	●							
	SPW 16	3352079							●														●			
Edge sensor		3351171	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●	●
Quick-action drill chuck	1 - 10 mm B16	3050610	●	●	●	○	●	○	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	●	●
	0 - 13 mm B16	3050632	●	●	●	○	●	○	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	●	●
	0 - 16 mm B16	3050633	●	●	●	○	●	○	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	●	●
Morse cone	SK50 B18	3352067																			●	●	●			
Adapter	MT3/MT2	3350313																●	●	●	●			●	●	●
	MT4/MK3	3350314					●			●	●															
Mandrel for drill chuck B 16	MT2	3050670	●	●																						
	MT4	3350304					●			●	●															
	ISO 40	3352070										●	●	●	●	●	●	●	●	●	●			●	●	●
Cutter head mounting	MT2	3352102	●	●																						
Copy and facing cutterhead	BT 20	3350202			●																					
	BT 30	3350203				●		●																		
	MT2/M10	3350212	●	●																						
	BT 40	3350204							●																	
	MT4/M16	3350214					●			●	●															
	ISO 40	3350216										●	●	●	●	●	●	●	●	●	●			●	●	●
Pull stud	BT 20	3352726			●																					
	BT 30	3536302				●		●																		
	BT 40	3536332							●																	
Precision Bore head set	ISO 40	3352128										●	●	●	●	●	●	●	●	●	●			●	●	●
	ISO 50	3352129																				●	●	●		
Bore head set	MT4	3352125					●			●	●															
Collet chuck set	MT2/ER25	3352052	●	●																						
	MT2/ER32	3352053	●	●																						
	MT4/M16	3352094					●			●	●															
	ISO 30	3352054																								
	ISO 40	3352056										●	●	●	●	●	●	●	●	●	●			●	●	●
	ISO 50	3352065																				●	●	●		

Accessories		Article No.	BF 16	MH 20	MH 22	MH 25	MB 4	MH 35 /V/G	MH 50 /V	MB 4P	MB 4PV	MT 50E	MT 50	MT 60	MF 2-B	MF 4-B	MF 2V	MF 4V	MT 130S	MT 100	MT 200	MT 230S	MX 2/3/4	MZ 2S	MZ 4S	
			MT2	MT2	BT 20	BT 30	MT4	BT 30	BT 40	MT4	MT4	ISO 40	ISO 40	ISO 40	ISO 40	ISO 40	ISO 40	ISO 40	ISO 40	ISO 40	ISO 50	ISO 50	ISO 40	ISO 40	ISO 40	
Collet set	ER 16	3440282			●																					
	ER 25	3441109	●	●	●																					
	ER 32	3441122	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Collet chuck set, direct	MT2	3351980	●	●																						
Levelling platen	SE1	3381012	●	●	●	●	●	●	●	●	●															
	SE2	3381016										○*	○*	○*	○*	○*	○*	○*	○*	○*	○*	○*	○*	○*	○*	
*Long threaded rod required (not included in scope of supply!)																										
Vibration damper machine foot	SE 55	3352981	●	●	●	●	●	●	●	●	●													●	●	●
Precision machine shoe	SEU1	3352985											●	●	●	●	●	●	●	●	●	●	●			
Stop angle	90°	3385052				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Prism elbow	WP 30	3352195	●	●	●	●	●	●	●	●	●															
Table feed	V 99S	3352021					●	●	●																	
	Mounting kit required	3352036							●																	
		3352035					●	●																		
	V 250S	3352025															●	●								
Tool clamping system	ISO 40	3352394															●	●								
Thread taper	M5-M12	3352042	●	●	●	●	○	○	○	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Workpiece support	WPS-1	3354261	●	●	●	●	●	●	●	●	●															
	WPS-2	3354262	●	●	●	●																				
	WPS-3	3354263					●	●	●	●	●															
	WPS-4	3354264					○	○	○	○	○	●	●	●												
T-slot nut	M 8 -10mm	3353020	●																							
	M10 -12mm	3353022		●	●	●		●																		
	M12 -14mm	3353025					●			●	●	●	●	●						●	●	●		●	●	
	M14 -16mm	3353026													●	●	●	●								
	M16 -18mm	3353028							●														●			
Blank holder	14 mm	3352031					●			●	●	●	●	●												
	18 mm	3352032							●																	
Parallel spacer kit		3354001	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Coolant system	230 V	3351999	○*	○*	○*	○*	●	●	●																	
Coolant hose	KMS 2	3356660	●	●	●	●	●	●	●																	
Coolant mist lubricator	MMC 1	3356663	●	●	●	●	●	●	●																	
Starter set	BT 20	3353281			●																					
	BT 30	3353282				●		●																		
	BT 40	3353284							●			○**	○**	○**	○**	○**	○**	○**	○**	○**	○**	○**	○**	○**	○**	
Machine bases	MSM 1	3353000	●	●	●																					
	Chip tray	3352999	●	●	●																					
	MSM 2	3353009				●																				
	MSM 3	3353014					●	●																		
MSM 4	3353015							●																		

○\* only in conjunction with base (item no. 3353000) and chip tray (item no. 3352999)

○\*\* only in conjunction with the M16 tightening bolts (item no. 3536179)


## Accessories for milling machines

### Horizontal-vertical rotary indexing table

- > Quality rotary indexing tables made of premium cast meehanite
- > Work table is scaled 360°
- > Precision bearing
- > 1 turn of the handwheel corresponds to a 4° rotation
- > Stability also under high load
- > Scale division on handwheel 2'
- > Large spindle hole for clamping longer workpieces
- > Indexing via handwheel with vernier scale possible
- > Worm gear hardened and ground

Technical data		RT 100	RT 150	RT 200
Centring taper		MT2	MT2	MT3
Transmission ratio		90:1	90:1	90:1
Mounting surface diameter	mm	110	150	200
Height x length x width	mm	72 x 138 x 118	79 x 204 x 156	104 x 265 x 199
Centre height	mm	80	102	133
Slot width/count	mm	11/3	11/3	16/3
Net weight	kg	5	10	25

### Horizontal-vertical rotary indexing table RT 100



**Rotary indexing table RT 100**

- > 2 clamping blocks
- > MT2 centring cone

**Three-jaw lathe chuck Ø 85 mm**

**Tailstock Rst 1**

- > Centre height 72 - 108 mm

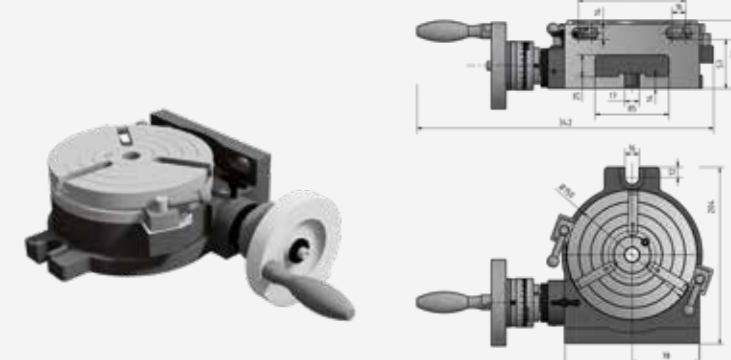
Article no.

3356110

3356111

3356155

### Horizontal-vertical rotary indexing table RT 150



**Rotary indexing table RT 150**

- > 2 clamping blocks
- > MT2 centring cone

**Chuck flange**

**Three-jaw lathe chuck Ø 130 mm centric**

**Indirect indexer IT 150**

- > 3 Indexing disks
- > Sector arm
- > Angle shears with spring plate

**Tailstock Rst 1**

- > Centre height 72 - 108 mm

Article no.

3356150

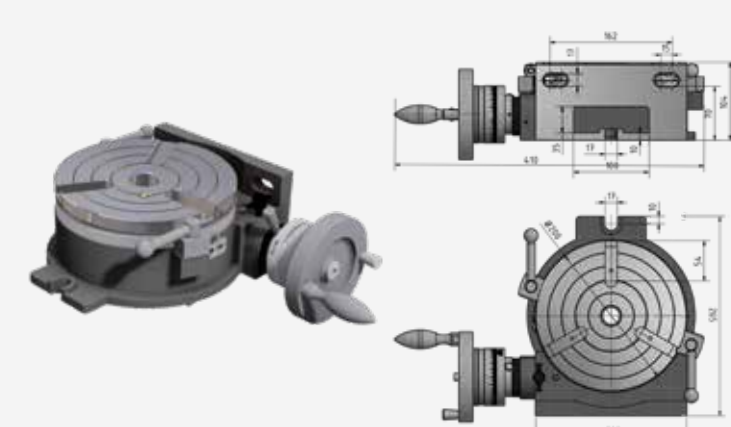
3356154

3356100

3356152

3356155

### Horizontal-vertical rotary indexing table RT 200



**Rotary indexing table RT 200**

- > 2 clamping blocks
- > MT3 centring cone

**Chuck flange including 3 slot nuts**

**Three-jaw lathe chuck Ø 165 mm**

**Indirect indexer IT 200**

- > 2 Indexing disks
- > Sector arm
- > Angle shears with spring plate

**Tailstock Rst 2**

- > Centre height 110 - 145 mm

Article no.

3356200

3356254

3356225

3356205

3356157

**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
- › 24 positions (15° indexing)
- › Large spindle hole for clamping longer workpieces
- › Three-jaw chuck
- › Direct indexing via serrated locking plates for higher production speeds for mass-produced parts
- › Including clamping disc with 3 slots
- › 3354165 - RTU 165 – 24 divisions with direct indexing disc and

- angular degree divisions over 360 degree angle scale - no slot, three-jaw chuck mounted, large number of indirect divisions possible with optional indexing disc
- › Degree divisions over 360° scale with crank and vernier scale
- › 3356365 - RTE 165 - 24 divisions with direct indexing disc and angular degree divisions over 360 degree angle scale - no slot, three-jaw chuck mounted, no indirect
- › 7 serrated locking plates for 2/3/4/6/8/12/24x divisions
- › Degree divisions via 360° scale

Technical data		RTE 165	RTU 165
Table diameter		165	165
Height x length x width		200 x 260 x 218	250 x 391 x 235
Centre height	mm	130	130
Clamping disc	mm	203	203
Passageway	mm	36	36
Net weight approx.	kg	32	48

Technical data		RTE 165	RTU 165
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	
Clamping surface		With scale 360°	

**Horizontal-vertical rotary indexing table RTE 165**



**Rotary indexing table RTE 165**

- › 3-jaw chuck (mounted)
- › Clamping disc
- › Main indexing disk (24x division, mounted)
- › 6 Indexing disks

**Tailstock Rst 2**

- › Centre height 110 - 145 mm

Article no.

3356365

3356157

**Horizontal-vertical rotary indexing table RTU 165**



**Rotary indexing table RTU 165**

- › 3-jaw chuck (mounted)
- › Clamping disc
- › Main indexing disk (24x division, mounted)
- › 6 Indexing disks
- › Grips for handwheel

**Indirect indexer IT 200**

- › 3 Indexing disks
- › Sector arm
- › Angle shears with spring plate

**Tailstock Rst 2**

Centre height 110 - 145 mm 72 - 108 mm

Article no.

3354165

3356205

3356157

**Universal dividing head TA 125**

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



**Scope of delivery**

- › Tailstock Rst1 (centre height 72 - 108 mm)
- › Centre point 60° / MT2
- › Lathe dog (tang)
- › Chuck flange (Ø 140 mm, t = 12 mm) for carrier pin or mounting a lathe chuck
- › 3 units Indirect indexing disc

Technical data	TA 125
Transmission ratio	40:1
Height x width with centre point x length	175 x 205 x 230 mm
Centre height	100 mm
Hole in the mounting shaft (passage)	18 mm
Slot width	16 mm
Direct indexing disc (Pitch)	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
True running accuracy	0.015 mm
Net weight approx.	12 kg

**Universal dividing head TA 125**

Article no.

**Three-jaw lathe chuck Ø 130 mm centric**

3356100

DRILLING ACCESSORIES  
CORE DRILLING  
THREAD TAPPING  
MILLING ACCESSORIES  
TURNING  
MEASURING  
SAWS  
GRINDING  
POLISHING  
SHEET METAL WORKING  
COOLING

## Accessories for milling machines

Accessories	Article no.
-------------	-------------

### 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 slots 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

<b>12-part</b>	3352250
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› 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)

<b>20-part</b>	3352255
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› 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)



Carbide end mill set	3352119
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- › 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°



Radius end mill set	3352117
---------------------	---------

- › 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°



Accessories	Article no.
-------------	-------------

### Twist drill HSS with morse taper

- › 9-piece; sizes 14.5/16/18/20/22/24/26/28/30 mm
- › Long service life
- › Good chip removal
- › Right-hand cutting

<b>MT2</b>	3051002
<b>MT3</b>	3051003



### Twist drill set

- › DIN 338 HSS-CO 5%
- › Four-surface 135° cross grinding enables excellent self-centring
- › Improved tool service life thanks to alloyed components
- › High speed/feed properties
- › Strong core design optimises the structural strength of the bit and minimises the risk of bit breakage
- › Practical OPTIMUM plastic case

<b>25-part</b>	3201010
----------------	---------

› 1- 13 mm

<b>41-part</b>	3201021
----------------	---------

› 6 - 10 mm (increasing by 0.1 mm)



Edge sensor	3351171
-------------	---------

- › Rotating spindle
- › Shank 10 mm
- › Probe Ø 10 mm



Accessories	Article no.
-------------	-------------

**Precision quick-action drill chuck**

Concentricity $\leq 0.06$ mm	
1 - 10 mm; B16	3050610
1 - 16 mm; B18	3050630



**Optimum precision quick-action drill chuck**

DKC 13 / 0-13 mm; B16 bis 4800 min <sup>-1</sup>	3050632
DKC 16 / 0-16 mm; B16 up to 4000 min <sup>-1</sup>	3050633



**OPTIMUM quick-action drill chuck with MT mount**

MT2 1 - 16 mm; up to 6000 min <sup>-1</sup>	3050571
MT2 1 - 13 mm; up to 8000 min <sup>-1</sup>	3050572
MT3 1 - 16 mm; up to 6000 min <sup>-1</sup>	3050573
MT4 1 - 16 mm; up to 6000 min <sup>-1</sup>	3050574



MT3

**Extension sleeves**

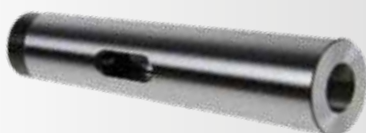
MT2 - MT3	3050667
MT3 - MT4	3050668



MT2-MT3

**Adapter**

MT3 / MT2 / M12	3350313
MT4 / MT3 / M16	3350314



MK3-MK2

Accessories	Article no.
-------------	-------------

**End mill arbour**

External taper MT2 / M10 / B16	3050670
External taper MT3 / M12 / B16	3350303
External taper MT4 / M16 / B16	3350304



MT3

**Drill chuck holder(arbour)**

External taper ISO 30 / M12 / B16	3352069
External taper ISO 40 / M16 / B16	3352070



**Mounting for SK50 cutter head**

3352066

> External taper  $\varnothing 27$  mm DIN2080



**Morse cone SK 50**

3352067

B18 DIN2080



**Mounting for MK2 cutter head**

3352102

> External taper MT2 / milling cutter holder  $\varnothing 16$  mm



**Adapter BT 30/MT3**

3356316



DRILLING ACCESSORIES  
CORE DRILLING  
THREAD TAPPING  
MILLING  
TURNING  
MEASURING  
SAWS  
GRINDING  
POLISHING  
SHEET METAL WORKING  
LIGHTING  
COOLING

## Accessories for milling machines

Accessories	Article no.
-------------	-------------

### Copy and face milling cutter

- › Universally deployable for machining all steels and NF metals
- › For facing and copying
- › Made of special steel - highly quenched and hard 
- › Excellent planarity and true running accuracy
- › 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 because, in case of a blunt cutting edge, the plate can simply be rotated further (can be used up to twelve times)
- › Indexable inserts  $\varnothing$  10 mm
- › Includes five indexable inserts RDET 1003 MOSN 8026
- › Including hexagon socket

<b>Tool holder shank BT 20</b>	3350202
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<b>Pull stud BT 20</b>	3352726
------------------------	---------



- › External  $\varnothing$ : 52 mm
- › ISO designation RD X 1003 D52/R5
- › Optimum custom build (no standard BT 20 bolts)

<b>Tool holder shank BT 30</b>	3350203
--------------------------------	---------

<b>Pull stud BT 30</b>	3536302
------------------------	---------



- › External  $\varnothing$ : 52 mm
- › ISO designation: RD X 1003 D52/R5

<b>Tool holder shank BT 40</b>	3350204
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<b>Pull stud BT 40</b>	3536332
------------------------	---------



- › External  $\varnothing$ : 63 mm
- › ISO designation: RD X 1003 D63/R5

<b>Tool holder shank ISO 30/DIN 2080</b>	3350215
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<b>Tool holder shank ISO 40/DIN 2080</b>	3350216
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- › External  $\varnothing$ :  
52mm (ISO30)  
63 mm (ISO 40)
- › ISO designation:  
RD X 1003 D52/R5 (ISO 30)  
RD X 1003 D63/R5 (ISO 40)

<b>Mounting shank MT2/M10</b>	3350212
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<b>Mounting shank MT3/M12</b>	3350213
-------------------------------	---------

<b>Mounting shank MT4/M16</b>	3350214
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- › External  $\varnothing$ :  
52 mm (MT2/MT3)  
63mm (MT4)
- › ISO designation:  
RD X 1003 D52/R5 (MT2/3)  
RD X 1003 D63/R5 (MT4)

### Carbide indexable inserts

<b>RDET 1003 MOSN8026</b>	3350220
---------------------------	---------



- › 5 pcs.
- › Positive cutting geometry
- › PVD coated
- › For machining steel up to 900 N/mm<sup>2</sup>, stainless steel, aluminium, non-ferrous metal, cast iron

Accessories	Article no.
-------------	-------------

### Precision boring head set

<b>ISO 40/ER32 - M16/BT 40</b>	3352128
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<b>ISO 50/ER32 - M24/BT 50</b>	3352129
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- › 8 units boring bars: 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

### Indexable insert set (10 units)



#### for steel

<b>for boring bar no. 1-4</b>	3352136
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<b>for boring bar no. 5-6</b>	3352137
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<b>for boring bar no. 7+8</b>	3352138
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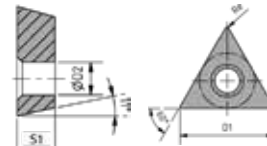
#### For aluminium

<b>for boring bar no. 1-4</b>	3352141
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<b>for boring bar no. 5-6</b>	3352142
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<b>for boring bar no. 7+8</b>	3352143
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Article no.	ISO	D1	D2	S1	right
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3352136	<b>BGT110304L-W</b>	11	3.4	3.18	0.4
3352141	<b>TBGT110304L-FY</b>	11	3.4	3.18	0.4
3352137	<b>TBGT090204L-W</b>	9.6	2.8	2.38	0.4
3352142	<b>TBGT090204L-FY</b>	9.6	2.8	2.38	0.4
3352138	<b>TBGT060104L-W</b>	6.2	2.2	1.59	0.4
3352143	<b>TBGT060104L-FY</b>	6.2	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

### Boring head set

- › For external and vertical machining

- › Scope of delivery: Boring head, 9 pcs. Drill rods with soldered on HSS plate, Allen key

<b>Spindle seat MT3</b>	3352124
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<b>Spindle seat MT4</b>	3352125
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Accessories	Article no.
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**Indexable insert milling cutter (without inserts)**

<b>50mm- F90-APKT16-D50Z5S22</b>	3544255
<b>80mm- F90-APKT16-D80Z7S27</b>	3544256



PREMIUM MILLING TOOLS FROM YG-1 **V7plus**

Art no.	DC	Plates	LF	DCON	CBDP	DCSFMS
3544255	50	5 pcs.	40	22	20	45
3544256	80	7 pcs.	50	27	20	50

**Indexable insert (10 pcs.)**

<b>AGPT160408-AL</b> (Aluminium)	3544260
<b>APKT160408PDTR</b> (Universal)	3544261



Fig.: AGPT160408-AL



Fig.: APKT160408PDTR

**Collet chuck set**

<b>MT2/ER 25 - M10</b>	3352052
------------------------	---------

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

<b>MT2/ER 32 - M10</b>	3352053
------------------------	---------

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

<b>MT3/ER 32 - M12</b>	3352093
------------------------	---------

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

<b>MT4/ER 32 - M16</b>	3352094
------------------------	---------

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

<b>ISO 30/ER32 - M12/BT 30</b>	3352054
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- > Collet chuck
- > 18 collets, sizes Ø 2 - Ø 20 mm/DIN ISO 15488
- > Pull stud M12/M12 and pull stud BT 30
- > Hook wrench Aluminium case

<b>ISO 40/ER32 - M16/BT40</b>	3352056
-------------------------------	---------

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

<b>ISO 50/ER32 - M24/BT50</b>	3352065
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- > Collet chuck
- > 18 collets, sizes Ø 2 - Ø 20 mm/DIN ISO 15488
- > Hook wrench Aluminium case



ISO 40

Accessories	Article no.
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<b>Collet chuck ISO 30/ER25</b>	3352046
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- > Hook wrench



**Collet ER32 (individual)**

<b>Ø 6 mm</b>	3441126
<b>Ø 8 mm</b>	3441128
<b>Ø 10 mm</b>	3441130
<b>Ø 12 mm</b>	3441132



**Collet (individual)**

- > MT3 direct tensioning / M12

<b>Ø 4 mm</b>	3352004
<b>Ø 6 mm</b>	3352006
<b>Ø 8 mm</b>	3352008
<b>Ø 10 mm</b>	3352010
<b>Ø 12 mm</b>	3352012
<b>Ø 16 mm</b>	3352013



**Collet set**

<b>MT2 direct-clamping / M10</b>	3351980
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- > 5-part; sizes Ø4 / Ø6 / Ø8 / Ø10 / Ø12 mm

<b>MT3 direct tensioning / M12</b>	3352014
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- > 6-part; sizes Ø4 / Ø6 / Ø8 / Ø10 / Ø12 / Ø16 mm



MT3

**Collet set**

<b>ER 16</b>	3440282
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- > 12 collets; sizes Ø 1 - Ø 10 mm

<b>ER 25</b>	3441109 ER25
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- > 15 collets, sizes Ø 1 - Ø 16 mm/DIN ISO 15488

<b>ER 32</b>	3441122
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- > 18 collets, sizes Ø 3 - Ø 20 mm/DIN ISO 15488



DRILLING AC-  
CESSORIES

CORE DRILLING

THREAD TAP-  
PING

MILLING

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORK-  
ING

LIGHTING

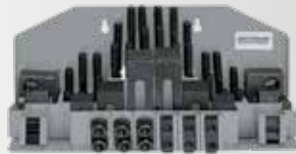
COOLING

## Accessories for milling machines

Accessories	Article no.
<b>SPW assortment of clamping tools, 58 pieces</b>	
› Practical wall bracket (SPW 8 only)	
› Metric thread	
› 24 pcs. pull studs	
› 6 units T-slot nuts	
› 6 units nuts	
› 4 units extension nuts	
› 6 units step blocks	
› 12 units step blocks	
<b>Size 8</b>	3352015
› T-slot nuts 10 mm; tightening thread M 8	
<b>Size 10</b>	3352076
› T-slot nuts 12 mm; tightening thread M 10	
<b>Size 12</b>	3352077
› T-nuts 14 mm; tightening thread M12	
<b>Size 14</b>	3352078
› T-slot nuts 16 mm; tightening thread M 14	
<b>Size 16</b>	3352079
› T-nuts 18 mm; tightening thread M16	

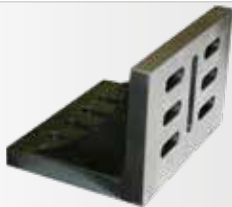


SPW10 - SPW 16



SPW8

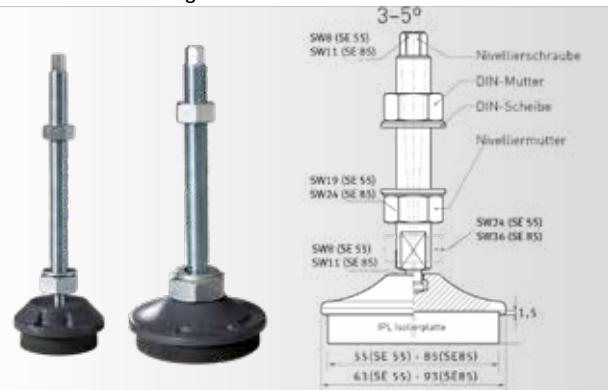
Try square 90°	3385052
› For clamping in case of mechanical processing of workpieces, checking and scribing work	
› Precision: Parallelism and perpendicularity 0.01 to 100 mm	
› Lateral reinforcing ribs	
› Dimensions approx. L x W x H: 202 x 126 x 150 mm . Weight approx. 7 kg	



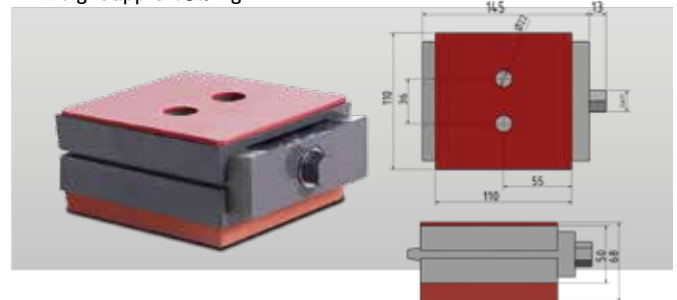
Pull stud	
<b>DIN 2080 M16/M16</b>	3536179
<b>DIN 2080 M12/M12</b>	3536177



Accessories	Article no.
<b>Machine foot vibration damper</b>	
› Effective vibration and structure-borne noise insulation and noise reduction	
› Eliminates floor unevenness up to 5°	
› Fast and technically easy precision levelling by means of a regular threaded screw	
<b>SE 55</b>	3352981
› Levelling screw M12 x 1 x 150 mm	
› Maximum load: 600 kg	
<b>SE 85</b>	3352982
› Levelling screw M16 x 150 mm	
› Maximum load: 1500 kg	



Precision machine shoe SEU1	3352985
› Patented double spindle bearing	
› With slip-protection plate at top	
› Maximum load 60 kN	
› Suitable for M16 threaded rod	
› Vibration-insulation plate for particularly loads. Good structure-borne noise insulation	
› Adjustment range +5 / -4 mm	
› High-precision, jerk-free levelling even of heavy machines	
› Up to 50% reduction in assembly time thanks to precision levelling and non-anchored installation.	
› Improves the dynamic behaviour of machines while reducing noise	
› Weight approx. 3.7 kg	



Levelling platen	
› The machines and equipment can be installed without anchors and precisely levelled using the height adjustment system.	
› non-slip rubberised	
<b>SE 1</b>	3381012
<b>SE 2</b>	3381016
<b>SE 3</b>	3381018

Load	SE 1	SE 2	SE 3
Milling machines	340 kg	460 kg	1600 kg
gen. Machine	570 kg	1460 kg	3500 kg
Thread	M12	M16	M 20
Base Ø/Base height	120/32	160/35	185/39



A threaded rod is required for the following models:  
MF2-B / MF4-B / MF2V / MF4V / MT60 / MT100 / MT 200 / MT 230S

**Accessories** Article no.

**Universal milling table feed**

- › Emergency stop shutdown, no restart
- › Continuous speed control and rapid motion \*
- › Clockwise/anticlockwise rotation
- › Overload protection and limit stop switch
- › For self-assembly

**Milling table feed V 99S** 3352021

- › Horizontal assembly
- › Motor: 90 W 230 V ~50 Hz

**MH 35V assembly kit for the X-axis** 3352035

**MH 50V assembly kit for the X-axis** 3352036

**Milling table feed V 250S** 3352030

- › Vertical assembly
- › Motor: 130 W 230 V ~50 Hz

**Milling table feed V 250** 3352025

- › Motor: 130 W 110 V ~50 Hz
- › For the Y axis MF 2V / MF 4V
- › Includes assembly kit



\*only possible if the feed is integrated into the emergency stop circuit.

**Workpiece support**

- › Material S 45C

<b>WPS-1</b>	3354261
<b>WPS-2</b>	3354262
<b>WPS-3</b>	3354263
<b>WPS-4</b>	3354264

	Min. height (A)	height max. (B)	ØC	ØD	max. load	Weight
	mm				KN	kg
<b>WPS-1</b>	40	50	30	40	50	0.3
<b>WPS-2</b>	65	90	28	38	50	0.4
<b>WPS-3</b>	90	140	40	50	50	1.1
<b>WPS-4</b>	140	230	45	55	50	2.3

**Prism WP 30** 3352195

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



**Accessories** Article no.

**KT cross tables**

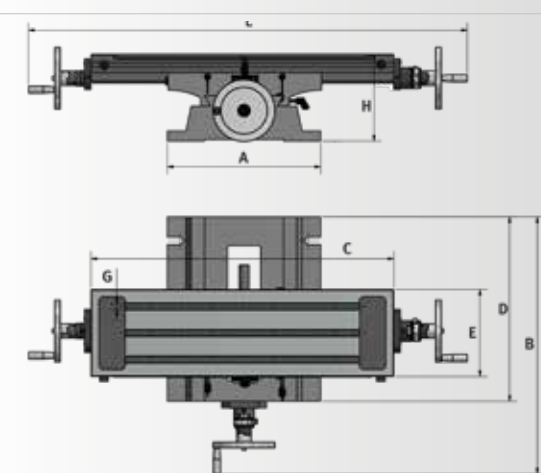
- › Coolant channel
- › Dovetail guide adjustable
- › Adjustable handwheel scaling with 0.05 mm increments

**KT 120** 3356595

**KT 179** 3356596

**KT 180** 3356591

**KT 210** 3356600



Technical data	KT120	KT179	KT 180	KT210
A (Base width)	222 mm	274 mm	274 mm	370 mm
D (base length)	280 mm	340 mm	340 mm	445 mm
C (table length)	400 mm	500 mm	700 mm	730 mm
E (table width)	120 mm	180 mm	180 mm	210 mm
G (T-slot size)	10 mm	12 mm	12 mm	14 mm
L x W x H (mm) approx.	506 x 400 x 140	748 x 483 x 155	948 x 483 x 155	1060 x 620 x 210
Weight approx.	22 kg	46 kg	54 kg	84 kg

Traverse paths	KT120	KT179	KT 180	KT210
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/M12** 3352031

- › L x W x H approx. 115 x 42 x 39 mm. Height adjustment: 0 - 89 mm

**Table groove 18 mm/M16** 3352032

- › L x W x H approx.: 133 x 50 x 49 mm. Height adjustment: 0 - 101 mm



DRILLING ACCESSORIES  
CORE DRILLING  
THREAD TAPPING  
MILLING  
TURNING  
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LIGHTING  
COOLING

## Accessories for milling machines

Accessories	Article no.
<b>T-slot nut (individual)</b>	
M8 / 10 mm	3353020
M10 / 12 mm	3353022
M12 / 14 mm	3353025
M14 / 16 mm	3353026
M16 / 18 mm	3353028



Universal compressed air tool clamping system	
<ul style="list-style-type: none"> <li>› Including tool clamp, cover cap, maintenance unit, key type, drawbar, control cabinet, operating element</li> <li>› High negative pressure achievable</li> <li>› Short change times through single-handed operation</li> <li>› Safe locking through toggle lever principle</li> <li>› Precise guiding thanks to optimised geometry</li> <li>› Low air consumption</li> </ul>	
for MF 2V and MF 4V exclusive installation	3352394
<b>Factory assembly clamping system</b>	
for MZ 2S and MZ 4S, including mounting adapter and installation costs	9000490 3346225



(Note: Customisation work may be required for orders without factory assembly).

Parallel shim set 18-part	3536191
<ul style="list-style-type: none"> <li>› For precision work for parallel mounting of workpieces in machines, vices on scoring boards or tool machines</li> <li>› Precision ground to an accuracy of 0.01 mm</li> <li>› Length approx. 150 mm x width approx. 8.5 mm</li> <li>› 2 pieces each: 14 mm; 16 mm; 20 mm; 24 mm; 30 mm; 32 mm; 36 mm; 40 mm; 44 mm</li> </ul>	



Parallel shim set 20-part	3354001
<ul style="list-style-type: none"> <li>› For precision work for parallel mounting of workpieces in machines, vices on scoring boards or tool machines</li> <li>› Precision ground to an accuracy of 0.01 mm</li> <li>› Length approx. 150 mm x width approx. 3 mm</li> <li>› 2 pieces each: 8 mm; 13 mm; 16 mm; 19 mm; 22 mm; 25 mm; 31 mm; 35 mm; 38 mm; 41 mm</li> </ul>	



Accessories	Article no.
<b>Thread cutting device M5 - M12/B16</b>	
<ul style="list-style-type: none"> <li>› Quick reverse built-in, immediately effective on changing the feed direction</li> <li>› 4-stage adjustable slipping clutch</li> </ul>	
<b>Scope of delivery:</b>	
<ul style="list-style-type: none"> <li>› Two flexible collets</li> <li>› Two open-ended spanners</li> <li>› Hand grip</li> <li>› Allen key</li> </ul>	



Technical data	
Self-release path	4 mm
Freewheel	1.5 mm
Length compensation tensioned	8.5 mm
Max. speed	1000 min <sup>-1</sup>
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 coolant device	3351999
<ul style="list-style-type: none"> <li>› Connection 230V / 1 Ph</li> <li>› Max. delivery height 2.5 m / delivery rate 8 l/min</li> <li>› Tank capacity 11 litres. / Dimensions L x W x H approx.: 370 x 245 x 170 mm</li> <li>› Complete with tank, flexible tube, hose and switch/plug combination</li> <li>› Magnetic base fastener for coolant hose</li> </ul>	



KMS 2 coolant hose	3356660
<ul style="list-style-type: none"> <li>› Two flexible and stable coolant hoses made of individual plastic elements</li> <li>› Not electrically conductive</li> <li>› Magnetic base holding force up to 50 kg</li> <li>› Length of the coolant hoses 335 mm each</li> <li>› Insensitive to most solvents and chemicals</li> <li>› Universally deployable on all tool machines</li> </ul>	

MMC1 coolant mist lubricator	3356663
<ul style="list-style-type: none"> <li>› Magnetic base with a holding force of 75 kg</li> <li>› Foot size L x W x H approx.: 62 x 50 x 55 mm</li> <li>› Screw connection for external compressed air supply</li> <li>› Flexible and stable hose with a length of 500 mm</li> </ul>	



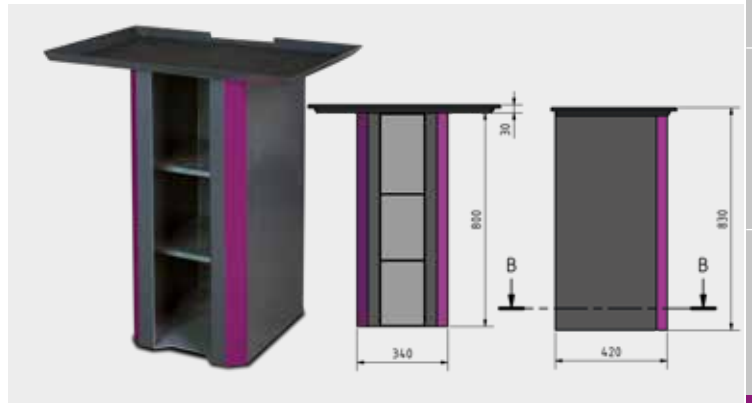
KMS 2



MMC1

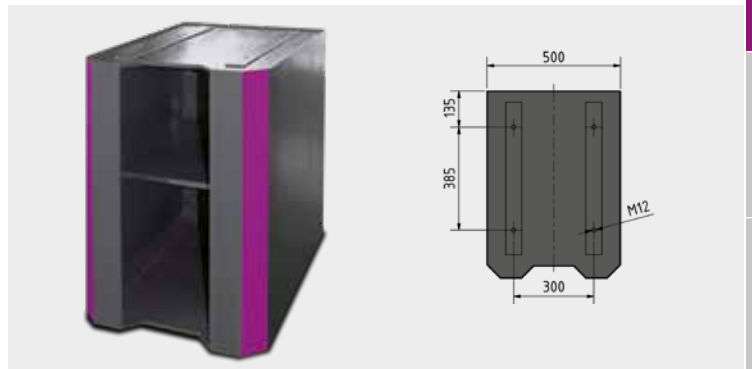
Accessories	Article no.
<b>Universal machine substructure MSM 1 and chip tray</b>	
› for milling machine models BF16 / MH20 / MH22	
› Machine base dimensions approx. 420 x 340 x 800 mm	
› Chip tray dimensions approx. 720 x 470 x 30 mm	
› Machine base net weight approx. 28 kg	
<b>Universal machine substructure MSM 1</b>	3353000
<b>Chip tray</b>	3352999

**Dimensions**



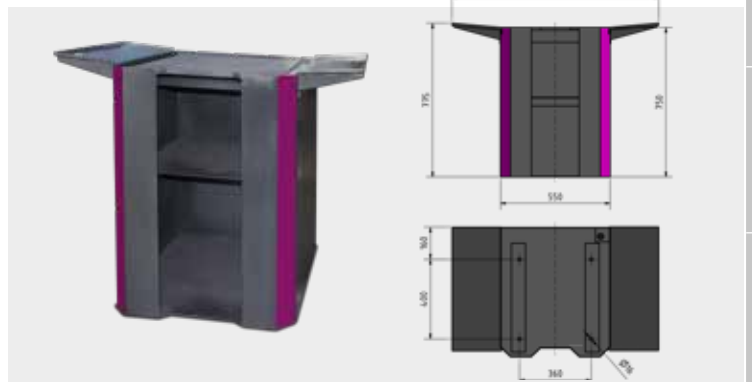
Machine mobile base MSM 2	3353009
› For milling machine models MH 25V / MH 25SV	
› Solid design and weight ensure stability	
› Net weight approx. 51 kg	
› Dimensions approx. 500 x 700 x 750 mm	

**Dimensions**



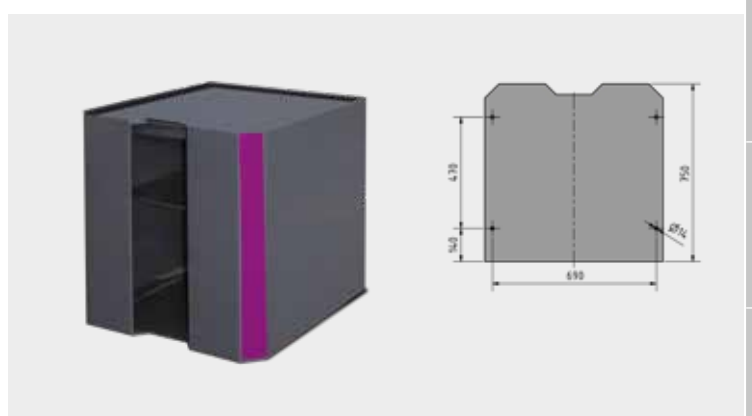
Machine mobile base MSM 3	3353014
› for milling machine models MH 35G / MH 35V / MB 4	
› Solid design and weight ensure stability	
› Net weight approx. 86.5 kg	
› Dimensions approx. 650 x 1035 x 775 mm (including chip collection plates)	
› Dimensions approx. 650 x 550 x 750 mm (including chip collection plates)	
The rear mounting holes must be drilled by the customer	

**Dimensions**




Machine mobile base MSM 4	3353015
› For milling machine MH 50G / MH 50V	
› Solid design and weight ensure stability	
› Net weight approx. 134 kg	
› Dimensions approx. 650 x 550 x 750 mm	

**Dimensions**



DRILLING ACCESSORIES  
CORE DRILLING  
THREAD TAPPING  
MILLING ACCESSORIES  
TURNING  
MEASURING  
SAWS  
GRINDING  
POLISHING  
SHEET METAL WORKING  
LIGHTING  
COOLING

Accessories	Article no.
<b>BT 20 starter set</b>	3353281
<b>Comprises:</b>	
1 piece cutter head holder Ø 16 mm	
2 pieces of Weldon holder Ø 6 mm	
2 pieces of Weldon holder Ø 8 mm	
1 pieces of Weldon holder Ø 10 mm	
1 pieces of Weldon holder Ø 12 mm	
1 unit tool fitting BT20/B16	
11 units pull studs	
1 piece quick-action drill chuck 1 - 13 mm	
1 unit facing and copying blade head	
2 pcs collet chuck ER 25	
1 piece collet spanner ER 25	
12-part collet set ER 25	

Cutter head holder	3352728
 <p>› Ø 16 mm seat</p>	

Weldon holder	
Ø 6 mm	3352732
Ø 8 mm	3352734
Ø 10 mm	3352736
Ø 12 mm	3352738




Tool holder	3352727
 <p>› BT 20/B16</p>	

Collet chuck spanner	
ER 16	3352742



ER 25	3352745
-------	---------



Accessories	Article no.
<b>Optimum Precision quick release chuck</b>	
DKC 13 / 0-13 mm; B16 bis 4800 min <sup>-1</sup>	3050632
DKC 16 / 0-16 mm; B16 up to 4000 min <sup>-1</sup>	3050633

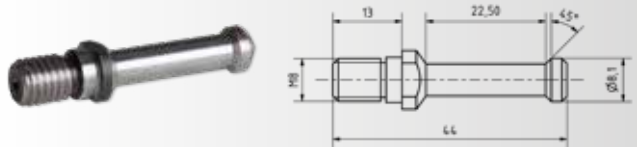


Copy and face milling cutter	3352022
 <ul style="list-style-type: none"> <li>› Universally deployable for machining all steels and NF metals</li> <li>› For facing and copying</li> <li>› Made of special steel - highly quenched and hardened</li> <li>› Excellent planarity and true running accuracy</li> <li>› Including hexagon socket</li> <li>› Outer diameter 52 mm</li> <li>› ISO: RD X 1003 D52/R5</li> </ul>	

Assembly and tool adjustment aid	3352731
 <ul style="list-style-type: none"> <li>› For easy and precise adjustment of tools</li> <li>› Vertical and horizontal collet for tools with a steep-angle taper</li> </ul>	

Collet chuck	
ER 16	3352741
ER 25	3352744




Pull stud Optimum	3352726
› Optimum custom build (no standard BT 20 bolts)	
	

Collet set	
ER 16, 12-part Ø 1-10 mm	3440282
ER 25, 15-part Ø 1-16 mm	3441109



Accessories	Article no.
BT 30 starter set	3353282
<b>Comprises:</b>	
1 piece cutter head holder Ø 22 mm	
1 piece drill chuck 1 - 13mm	
2 piece Weldon 6 mm	
1 piece Weldon 8 mm	
1 piece Weldon 10 mm	
1 piece Weldon 12 mm	
1 piece Weldon 16 mm	
2 piece Weldon 20 mm	
1 piece BT30-MT2 adapter	
4 units collet chuck ER 32	
1 piece collet spanner ER 32	
18-part collet set ER 32	
1 piece height adjuster	
1 piece assembly and tool setting aid	
14 pcs. pull studs BT 30	
1 pc. taper squeegee	

Milling head holder	Article no.
	3353306
	> Ø 22 mm seat

Quick-action drill chuck	Article no.
	3536303
	> Clamping range 1.5 - 16 mm

Weldon holder	Article no.
Ø 6 mm	3353310
Ø 8 mm	3353311
Ø 10 mm	3353312
Ø 12 mm	3353313
Ø 16 mm	3353314
Ø 20 mm	3353315



Adapter	Article no.
BT 30/MK2	3353305
BT 30/MK3	3536316



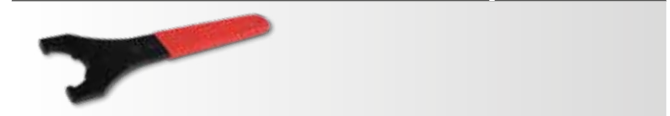
Accessories	Article no.
Collet chuck holder ER 32	3353304




Chuck adapter BT 30 - B16	Article no.
	3353308



Collet chuck spanner ER 32	Article no.
	3353307




Height adjustment device	Article no.
	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

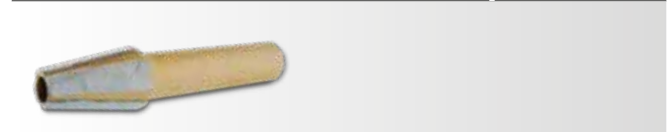
Assembly and tool adjustment aid	Article no.
	3536203



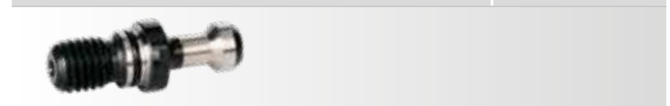
New

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

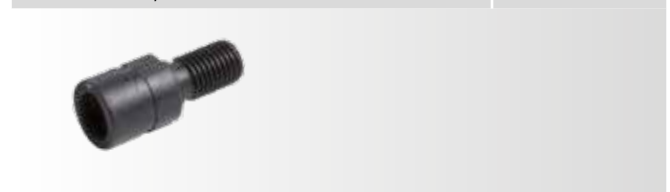
Taper squeegee	Article no.
	3353301



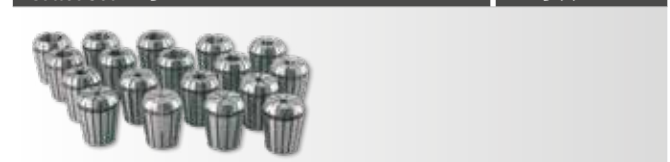
Pull stud	Article no.
BT 30	3353302



DIN 2080 M12/M12	Article no.
	3536177




Collet set ER 32	Article no.
	3441122



DRILLING ACCESSORIES  
 CORE DRILLING  
 THREAD TAPPING  
 MILLING  
 TURNING  
 MEASURING  
 SAWS  
 GRINDING  
 POLISHING  
 SHEET METAL WORKING  
 LIGHTING  
 COOLING

Accessories	Article no.
<b>Starter set BT 40</b>	3353284
<b>Comprises:</b>	
1 piece cutter head holder Ø 27 mm	
1 piece drill chuck 1 - 13mm	
2 piece Weldon 6 mm	
1 piece Weldon 8 mm	
1 piece Weldon 10 mm	
1 piece Weldon 12 mm	
1 piece Weldon 16 mm	
2 piece Weldon 20 mm	
1 piece BT40-MT3 adapter	
4 units collet chuck ER 32	
1 piece collet spanner ER 32	
18-part collet set ER 32	
1 piece height adjuster	
1 piece assembly and tool setting aid	
14 pcs. pull studs BT 40	
1 pc. taper squeegee	

Cutter head holder	3353336
	› Ø 27 mm seat

Chuck	3536333
	› Clamping range 1.5 - 16 mm

Weldon holder	
Ø 6 mm	3353340
Ø 8 mm	3353341
Ø 10 mm	3353342
Ø 12 mm	3353343
Ø 16 mm	3353344
Ø 20 mm	3353345



Adapter	3353335
	› BT 40/MK3

Holder BT 40/B16	3353338
	



Accessories	Article no.
<b>Collet chuck holder ER 32</b>	3353334
	

Collet chuck spanner ER 32	3353307
	

Height adjustment device	3536290
	<ul style="list-style-type: none"> <li>› Analogue version</li> <li>› 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</li> <li>› Housing height 50 mm</li> </ul>

Assembly and tool adjustment aid	3536204
	<ul style="list-style-type: none"> <li>› For easy and precise adjustment of tools</li> <li>› Vertical and horizontal collet for tools with a steep-angle taper</li> </ul>
	<b>New</b>

Taper squeegee	3353331
	

Pull stud	
<b>BT 40</b>	3353332
	
<b>DIN 2080 M16/M16</b>	3536179
	

Collet set ER 32	3441122
	



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# TABLE LATHES

TU 2004V | Art. no.: 3420310

**Lathe**  
with electronically  
adjustable speed



Visit our exhibition in Hallstadt/Bamberg

TM 3110 | Art. no.: 3403010

**Lead and feed screw lathe**  
convinces through  
easy handling!



## The small-scale lathe with electronically controllable speed

**OPTIMUM**  
the original

### Facts that impress in terms of quality, performance and price

- ▶ Direct current motor
- ▶ Low-voltage electronics
- ▶ Hardened and ground z-axis guideway
- ▶ Guaranteed concentricity of the spindle nose  $\leq 0.015$  mm
- ▶ Concentricity on the lathe chuck  $\leq 0.05$  mm
- ▶ Lead screw for thread cutting or automatic longitudinal turning
- ▶ Longitudinal, cross and top slides
- ▶ Automatic longitudinal/leading spindle drive
- ▶ Clockwise/Anti-clockwise rotation switchable via control panel
- ▶ All guides adjustable without play using V-ledges
- ▶ Sturdy metal handwheels with adjustable fine scaling 0.04 / 0.01 mm
- ▶ Ribbed grey cast prism bed, induction hardened and scraped
- ▶ Fast and easy speed change through V-belt
- ▶ Safety switch in cover
- ▶ Emergency stop button
- ▶ Chuck protection with microswitch
- ▶ Three-jaw lathe chuck included as standard
- ▶ Large thread cutting range thanks to interchangeable gear set included in standard delivery
- ▶ EMC filter class C1



<b>Model</b>	<b>TU 1503V<sup>1)</sup></b>
Article no.	3420260
<b>Output</b>	
Electrical connection	230 V / 1 Ph ~50 Hz
Drive motor S6-60% operation	450 W
<b>Spindle</b>	
Spindle taper	MK1
Spindle bore	$\varnothing 11$ mm
Spindle seat	cylindrical $\varnothing 22$ mm
Turning tool size max.	8 mm
<b>Work areas</b>	
Centre height	75 mm
Centre width	265 mm
Swing $\varnothing$ above machine bed <sup>1)</sup>	150 mm
Swing $\varnothing$ above cross slide	70 mm
Bed width	70 mm
<b>Speed range</b>	120 - 3000 min <sup>-1</sup>
Number of speeds	Electronic speed control
<b>Traverse paths</b>	
Top slide	40 mm
Cross slide	55 mm
Bed slide	270 mm
<b>Feed and pitch</b>	
Longitudinal feed within the range	0.05 - 0.1 mm/rev (2 feeds)
Metric pitch	0.5 - 1.5 mm/rev (8 pitches)
<b>Tailstock</b>	
Tailstock seat	MT1 shortened
Tailstock sleeve travel	30 mm
Dimensions (L x W x H) approx.	570 x 340 x 300 mm
Net weight approx.	23 kg

### Scope of delivery

- > Three-jaw lathe chuck  $\varnothing 80$  mm, centre clamping
- > Non-rotating centring tip MT1
- > Double tool holder 8 mm
- > Splashguard
- > Chip tray
- > Change gear set
- > Operating tool

### Accessories

Lathe chuck $\varnothing 100$ mm	Article no.
Three-jaw lathe chuck, individual clamping	3440287
Four-jaw lathe chuck, individual clamping	3440286
Four-jaw lathe chuck $\varnothing 80$ mm, centre clamping	3442808

#### Information on lathe chuck from page 240

Accessories	Article no.
Lathe tool set 8 mm, 5-part	3441662
Lathe tool set 8 mm, 11-part	3441601
Follow steady rest	3440210
Passageway ma x. $\varnothing 45$ mm	
Steady rest	3440211
Passageway ma x. $\varnothing 40$ mm	
Co-rotating centring tip MT 1	3440700
Collet chuck ER 16, $\varnothing 22$ mm, cylindrical	3440281
Collet set ER 16, 1 - 10 mm	3440282

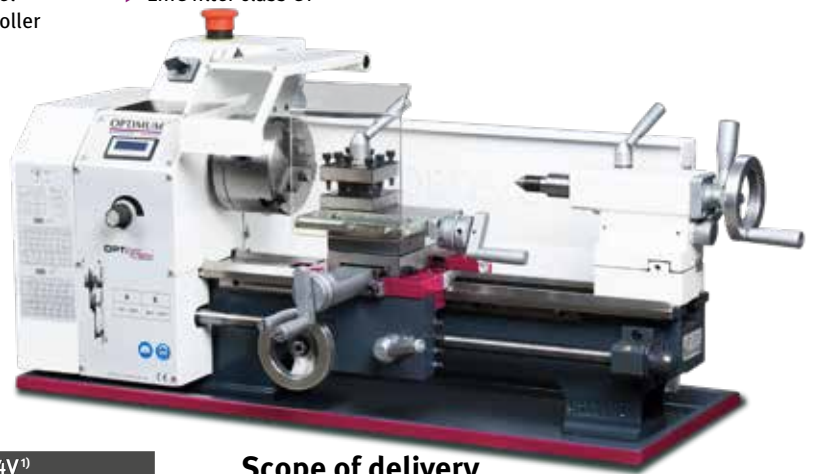
More accessories and information about accessories from page 237 onwards

## Modelbuilding lathe with electronic speed control and digital speed display

**OPTIMUM**  
the original

### Facts that impress in terms of quality, performance and price

- ▶ Precision workmanship
- ▶ Ribbed cast steel prism bed heavily ribbed, induction hardened and precision ground
- ▶ Hardened and ground z-axis guideway
- ▶ Hardened spindle nose (DIN 6350)
- ▶ Guaranteed true running accuracy of spindle nose better than 0.009 mm
- ▶ Automatic longitudinal/leading spindle drive
- ▶ Roll-milled trapezoidal thread on lead spindle
- ▶ Thrust bearings
- ▶ Leading spindle borne on two sintered bearings
- ▶ Longitudinal, cross and top slides
- ▶ Clockwise/Anti-clockwise rotation switchable via control panel
- ▶ Hardened main spindle borne on adjustable precision taper roller bearings
- ▶ Tapered roller bearings in P5 quality
- ▶ Cylindrical centring mount
- ▶ Hardened spindle nose with Ø 21 mm spindle bore
- ▶ Tailstock adjustable for turning spheres
- ▶ Tailstock sleeve and handwheel with adjustable fine scaling 0.02 mm; fast, easy adjustment without tools thanks to clamping lever
- ▶ Gearbox with interchangeable gearwheels
- ▶ Emergency stop button
- ▶ Quadruple tool holder, rotating
- ▶ Lathe chuck true running accuracy better than 0.04 mm
- ▶ Chuck protection with microswitch
- ▶ Three-jaw lathe chuck included as standard
- ▶ Interchangeable gear set as standard delivery enables large thread cutting area
- ▶ EMC filter class C1



Model	TU 2004V <sup>1)</sup>
Article no.	3420310
<b>Output</b>	
Electrical connection	230 V / 1 Ph ~50 Hz
<b>Drive motor</b>	600 W
<b>Spindle</b>	
Spindle taper	MT3
Spindle bore	Ø 21 mm
Spindle seat	cylindrical Ø 72 mm
Three-jaw lathe chuck passageway	Ø 20 mm
Turning tool size max.	10 mm
<b>Work areas</b>	
Centre height	100 mm
Centre width	300 mm
Swing Ø above machine bed <sup>1)</sup>	200 mm
Swing Ø above cross slide	110 mm
Bed width	100 mm
<b>Speed range</b>	150 - 2500 min <sup>-1</sup>
Number of speeds	2 stages, Electronic speed control
<b>Traverse paths</b>	
Top slide	55 mm
Cross slide	75 mm
Bed slide	300 mm
<b>Feed and pitches</b>	
Longitudinal feed within the range	0.1/ 0.2 mm/rev (2 feeds)
Pitch - metric in range	0.25 - 3 mm/rev (14 pitches)
Pitch - inch in range	44 - 8 turns/inch (12 pitches)
<b>Tailstock</b>	
Tailstock seat	MT2
Tailstock sleeve travel	65 mm
<b>Dimensions (L x W x H) approx.</b>	830 x 425 x 360 mm
Net weight approx.	65 kg

### Scope of delivery

- > Three-jaw lathe chuck Ø 100 mm, centre clamping
- > Two non-rotating centring tips MT2 and MT 3
- > Quadruple tool holder 10 mm
- > Splashguard
- > Chip tray
- > Change gear set
- > Operating tool

### Accessories

Lathe chuck and chuck flange Ø 100 mm	Art. no.
Four-jaw lathe chuck, centric clamping (Chuck flange 3440312 is required)	3442810
Four-jaw lathe chuck, individual clamping (Chuck flange 3440312 required)	3442872
Cylindrical chuck flange, for mounting the lathe chuck	3440312

### Information on lathe chuck from page 240

Accessories	Art. no.
Quick change tool holder SWH-AA	3384311
Factory assembly SWH-AA	9000401
Spare tool holder 12 x 50 Type D for square	3384312
Spare tool holder 12 x 50 type H for round	3384320
Lathe tool set 10 mm, 11-part	3441602
Lathe tool set 10 mm, 5-part	3441664
Follow steady rest, passageway max. Ø 40 mm	3440230
Fixed steady rest, passageway max. Ø 50 mm	3440231
Collet chuck ER 25 Ø 72 mm	3440305
Clamping disc Ø 170 mm	3440295

More accessories and information about accessories from page 237 onwards

<sup>1)</sup> Note: The machine (frequency converter) complies with the DIN EN 55011 standard: class C1 Important information on operating machines with frequency inverters and general information on operating our machines on page 333

## Lathes for DIY. TU 2304V with electronic speed control

**OPTIMUM**  
the original

Facts that impress in terms of quality, performance and price

- ▶ Precision workmanship
- ▶ Hardened and ground z-axis guideway
- ▶ Guaranteed concentricity of the spindle nose  $\leq 0.009$  mm
- ▶ Concentricity on the lathe chuck  $\leq 0.05$  mm
- ▶ Lead screw for thread cutting or automatic longitudinal turning
- ▶ Clockwise/Anti-clockwise rotation switchable via control panel
- ▶ Roll-milled trapezoidal spindles
- ▶ Thrust bearings
- ▶ Precision slide
- ▶ Leading spindle borne on two sintered bearings
- ▶ All guides adjustable using V-ledges
- ▶ Handwheels with adjustable fine scaling 0.04 / 0.01 mm
- ▶ Tailstock for taper turning, adjustable by  $\pm 5$  mm
- ▶ Tailstock sleeve and handwheel with adjustable fine scaling 0.02 mm
- ▶ Emergency stop button
- ▶ Fast, easy adjustment of tailstock without tools thanks to clamping lever
- ▶ Quadruple tool holder
- ▶ Main spindle bearing of tolerance class P5
- ▶ Hardened spindle nose
- ▶ Set of interchangeable gears for thread cutting included in standard scope of delivery
- ▶ Comprehensive accessories
- ▶ Lasting value

### TU 2304V

- ▶ High-torque motor with constant torque curve to a great extent
- ▶ Speed change easily adjustable via potentiometer
- ▶ Digital speed display
- ▶ EMC filter class C1



Fig.: TU 2304V with optional machine base

## Arguments,...



### TU 2304V WITH DIGITAL SPEED DISPLAY

- › Electronically adjustable 2-stage spindle speed 150 - 2200 min<sup>-1</sup>
- › Speed change easily adjustable via potentiometer



### HORIZONTAL / VERTICAL

- › Grey cast iron prism bed heavily ribbed, aged for at least six months, induction hardened and precision ground



### LATHE CHUCK AND PROTECTION

- › Lathe chuck guard with position switch
- › Three-jaw lathe chuck  $\varnothing$  100 mm, centre clamping, included in standard scope of delivery

## Accessories

**Machine chassis MST1**  
Art no. 3440409

**Levelling platen SE 1**  
(6 units needed)  
Art no. 3381012

## Technical specifications, accessories and dimensions

Model	TU 2304	TU 2304V <sup>1)</sup>
Article no.	3420320	3420325
<b>Output</b>		
Electrical connection	230 V / 1 Ph ~50 Hz	
Drive motor	750 W	
<b>Spindle</b>		
Spindle taper	MT3	
Spindle seat	cylindrical Ø 72 mm	
Spindle hole, bar passage diameter	Ø 20 mm	
Turning tool size max.	12 mm	
<b>Work area</b>		
Centre height	115 mm	
Centre width	450 mm	
Swing Ø above machine bed <sup>1)</sup>	230 mm	
Swing Ø above cross slide	128 mm	
Bed width	133 mm	
<b>Speed range</b>		
Spindle speed	125 - 2000 min <sup>-1</sup>	150 - 2200 min <sup>-1</sup>
Number of speeds	6 stages	2 stages, electronically adjustable
<b>Traverse paths</b>		
Top slide	75 mm	
Cross slide	120 mm	
Bed slide	360 mm	
<b>Pitches</b>		
Pitch - metric in range	0.4 - 3.5 mm/rev (14 pitches)	
Pitch - inch in range	44 - 8 turns/inch (14 pitches)	
<b>Tailstock</b>		
Tailstock seat	MT2	
Tailstock sleeve travel	70 mm	
<b>Dimensions and weight</b>		
Dimensions (L x W x H) approx.	1090 x 585 x 510 mm	
Net weight approx.	111 kg	114 kg

## Accessories

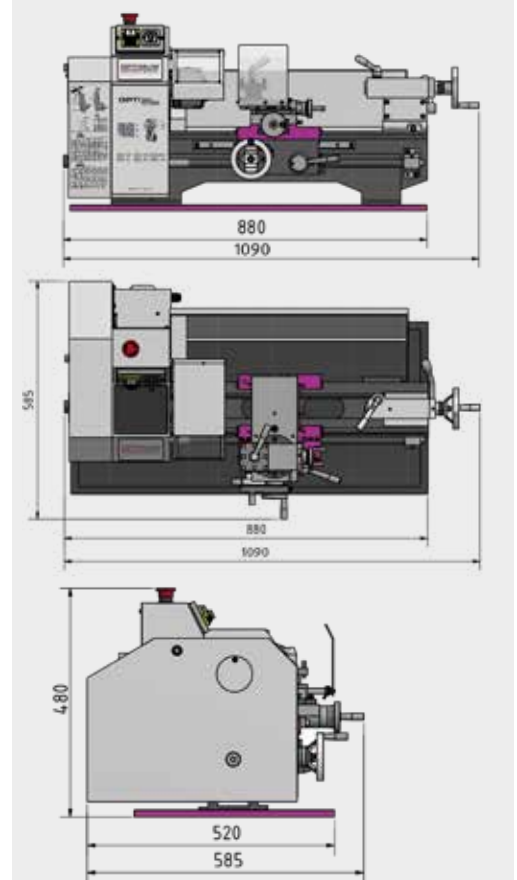
Lathe chuck and chuck flange Ø 125 mm	Article no.
Three-jaw lathe chuck,, centric clamping (Chuck flange 3440313 required)	3442712
Four-jaw lathe chuck, centric clamping (Chuck flange 3440313 required)	3442812
Four-jaw lathe chuck, individual clamping (Chuck flange 3440313 required)	3442874
Cylindrical chuck flange, for mounting the lathe chuck	3440313

### Information on lathe chuck from page 240

Accessories	Article no.
Quick change tool holder SWH 1-A	3384301
Factory assembly SWH 1-A	9000401
Spare tool holder 20 x 90 type D for square chisels	3384302
Spare tool holder 20 x 85 type H for round chisels	3384321
Lathe tool set 10 mm, 11-part	3441602
Lathe tool set 12 mm, 11-part	3441603
Lathe tool set 12 mm, 5-part "Made in Germany"	3441212
Fixed steady rest, passageway max. Ø 55 mm	3440361
Follow steady rest, passageway max. Ø 34 mm	3440360
Rotating centring tip MT 2	3440702
Clamping disc Ø 170 mm	3440295

More accessories and information about accessories from page 237 onwards

## Dimensions



## Scope of delivery

- › Three-jaw lathe chuck Ø 100 mm, centric
- › Non-rotating centring tip MT2 and MT3
- › Quadruple tool holder 12 mm
- › Splashguard
- › Chip tray
- › Change gear set
- › Operating tool

## Position display

Accessories	Art no.
	
Digital position display DRO 5 incl. 3 magnetic sensors	3383975
Magnetic strip, length 1100 mm	3383978
Factory assembly	9000420

For information on the DRO 5, see page 233

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

**OPTIMUM**  
the original

Facts that impress in terms of quality, performance and price

- ▶ Precision workmanship
  - ▶ Hardened and ground z-axis guideway
  - ▶ Guaranteed concentricity of the spindle nose  $\leq 0.009$  mm
  - ▶ Concentricity on the lathe chuck  $\leq 0.05$  mm
  - ▶ Lead screw for thread cutting or automatic longitudinal turning
  - ▶ Clockwise/Anti-clockwise rotation switchable via control panel
  - ▶ Roll-milled trapezoidal spindles
  - ▶ Thrust bearings
  - ▶ Precision slide
  - ▶ Two tapered roller bearings in P5 quality
  - ▶ Leading spindle borne on two sintered bearings
  - ▶ All guides adjustable using V-ledges
  - ▶ Handwheels with adjustable fine scaling 0.04 / 0.01 mm
  - ▶ Tailstock for taper turning, adjustable by  $\pm 5$  mm
  - ▶ Tailstock sleeve and handwheel with adjustable fine scaling 0.02 mm
- ▶ Fast, easy adjustment of the tailstock without tools thanks to clamping lever
  - ▶ Emergency stop button
  - ▶ Quadruple tool holder
  - ▶ Main spindle bearing of tolerance class P5
  - ▶ Hardened spindle nose
  - ▶ Set of interchangeable gears included in standard scope of delivery
  - ▶ Three-jaw lathe chuck included as standard
  - ▶ Comprehensive accessories
  - ▶ Lasting value

### TU 2406V

- ▶ Speed change easily adjustable via potentiometer
- ▶ Digital speed display
- ▶ EMC filter class C1



Fig.: TU 2406V with optional machine base

Fig.: TU 2406

## Arguments,...



### TU 2406V WITH DIGITAL SPEED DISPLAY

- › Electronically adjustable 2-stage spindle speed 150 - 2500 min<sup>-1</sup>
- › Speed change easily adjustable via potentiometer



### HORIZONTAL / VERTICAL

- › Ribbed grey cast steel prism bed heavily ribbed, induction hardened and precision ground



### LATHE CHUCK AND PROTECTION

- › Lathe chuck guard with position switch
- › Three-jaw lathe chuck  $\varnothing$  125 mm, centre clamping, included in standard scope of delivery

## Accessories

### Machine chassis MST1

Art no. 3440409

### Levelling platen SE 1

(6 units needed)

Art no. 3381012

## Technical specifications, accessories and dimensions

Model	TU 2406	TU 2406V <sup>1)</sup>
Article no. (230 V)	3420350	3420355
Article no. (400 V)	3420353	-
<b>Power</b>		
Electrical connection	230 V / 1 Ph ~50 Hz 400 V / 3 Ph ~50 Hz	230 V / 1 Ph ~50 Hz
Drive motor	750 W	1.1 kW
<b>Spindle</b>		
Spindle taper	MT3	
Spindle seat	cylindrical Ø 52 mm	
Spindle hole, bar passage diameter	Ø 21 mm	
Turning tool size max.	14 mm	
<b>Work area</b>		
Centre height	125 mm	
Centre width	550 mm	
Swing Ø above machine bed <sup>1)</sup>	250 mm	
Swing Ø above cross slide	148 mm	
Bed with	133 mm	
<b>Speed range</b>		
Spindle speed	125 - 2000 min <sup>-1</sup>	150 - 2500 min <sup>-1</sup>
Number of speeds	6 stages	2-speed, electronic speed control
<b>Traverse paths</b>		
Top slide	75 mm	
Cross slide	120 mm	
Bed slide	550 mm	
<b>Pitches</b>		
Pitch - metric in range	0.4 - 3.5 mm/rev (14 pitches)	
Pitch - inch in range	44 - 10 turns/inch (12 pitches)	
<b>Tailstock</b>		
Tailstock seat	MT2	
Tailstock sleeve travel	60 mm	
<b>Dimensions and weight</b>		
Dimensions (L x W x H) approx.	1250 x 581 x 485 mm	
Net weight approx.	125 kg	127 kg

## Accessories

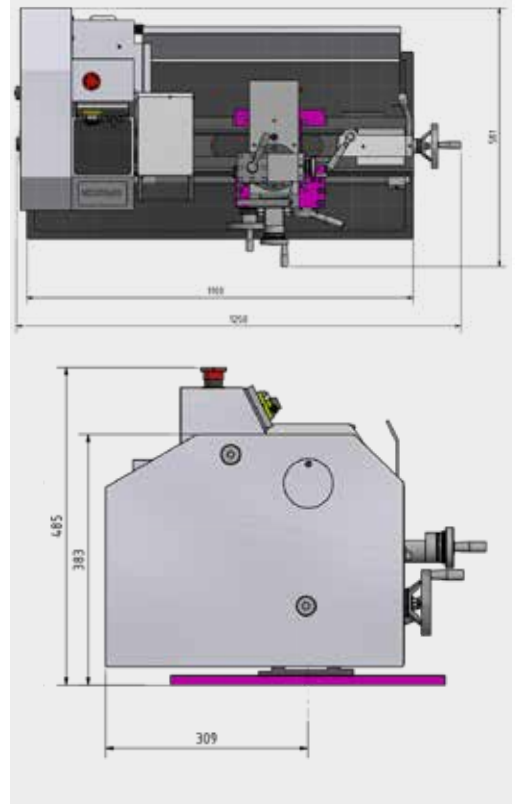
Lathe chuck and chuck flange Ø 125 mm	Article no.
Four-jaw lathe chuck, centric clamping (Chuck flange 3440511 required)	3442812
Four-jaw lathe chuck, single clamping (Chuck flange 3440511 required)	3442874
Cylindrical chuck flange, for mounting the lathe chuck	3440511

### Information on lathe chuck from page 240

Accessories	Article no.
Quick change tool holder SWH 1-A	3384301
Factory assembly SWH 1-A	9000401
Spare tool holder 20 x 90 type D for square chisels	3384302
Spare tool holder 20 x 85 type H for round chisels	3384321
Lathe tool set 10 mm, 11-part	3441602
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
Fixed steady rest passageway max. Ø 50 mm	3441315
Follow steady rest passageway max. Ø 34 mm	3441310
Collet chuck ER 32, short taper	3440506
Clamping disc Ø 240 mm	3440552

More accessories and information about accessories from page 237 onwards

## Dimensions



## Scope of delivery

- › Three-jaw lathe chuck Ø 125 mm, centre clamping
- › Non-rotating centring tip MT2 and MT3
- › Quadruple tool holder 14 mm
- › Splashguard
- › Chip tray
- › Change gear set
- › Operating tool

## Position display

Accessories	Art no.
	
Digital position display DRO 5 incl. 3 magnetic sensors	3383975
Magnetic strip, length 1100 mm	3383978
Factory assembly	9000420

For information on the DRO 5, see page 233

<sup>1)</sup> Note: The machine (frequency converter) complies with the DIN EN 55011 standard: class C1 Important information on operating machines with frequency inverters and general information on operating our machines on page 333

## Lead screw lathes with feed gear for the demanding user. TU 2506VB with electronically adjustable speed

### Facts that impress in terms of quality, performance and price

- ▶ Precision workmanship
- ▶ Hardened and ground z-axis guideway
- ▶ Guaranteed concentricity of the spindle nose  $\leq 0.009$  mm
- ▶ Concentricity on the lathe chuck  $\leq 0.04$  mm
- ▶ Lead screw for thread cutting or automatic longitudinal turning
- ▶ Leading spindle borne on two sintered bearings
- ▶ All guides adjustable using V-ledges
- ▶ Clockwise/Anti-clockwise rotation switchable via control panel
- ▶ Roll-milled trapezoidal spindles
- ▶ Tapered roller bearings in P5 quality
- ▶ Hardened main spindle borne on adjustable, precision taper roller bearings
- ▶ Hardened spindle nose with  $\varnothing 26$  mm spindle bore
- ▶ Handwheels on slide with adjustable fine scaling 0.04 / 0.01 mm
- ▶ Top slide displaceable on cross slide
- ▶ Chip guard on top slide
- ▶ Tailstock for taper turning, adjustable by  $\pm 5$  mm
- ▶ Tailstock sleeve and handwheel with adjustable fine scaling 0.02 mm
- ▶ Fast, easy adjustment of the tailstock without tools thanks to clamping lever
- ▶ Emergency stop button
- ▶ Quadruple tool holder
- ▶ Interchangeable gear set included as standard for thread cutting
- ▶ Fully equipped; the user can immediately start productive work after commissioning

### TU 2506 VB

- ▶ Digital speed display



Fig.: TU 2506VB with optional machine base and SE1

Fig.: TU 2506

### Arguments,...



#### TU 2506VB WITH DIGITAL SPEED DISPLAY

- › Electronically adjustable 2-stage spindle speed 150 - 2500 min<sup>-1</sup>
- › Speed change easily adjustable via potentiometer



#### HORIZONTAL / VERTICAL

- › Ribbed grey cast steel prism bed heavily ribbed, induction hardened and precision ground



#### TAILSTOCK

- › for taper turning, adjustable by  $\pm 5$  mm
- › Tailstock sleeve and handwheel with adjustable fine scaling 0.02 mm
- › Quick, easy and tool-free adjustment by means of clamping lever



#### LATHE CHUCK AND PROTECTION

- › Lathe chuck guard with position switch
- › Three-jaw lathe chuck  $\varnothing 125$  mm, centre clamping, included in standard scope of delivery

## Technical specifications, accessories and dimensions

Model	TU 2506	TU 2506VB <sup>1)</sup>
Article no. (230 V)	3425001	3425010
Article no. (400 V)	3425003	-
<b>Power</b>		
Electrical connection	230 V / 1 Ph ~50 Hz 400 V / 3 Ph ~50 Hz	230 V / 1 Ph ~50 Hz
Drive motor	750 W	1.1 kW
<b>Spindle</b>		
Spindle taper	MT4	
Spindle seat	Short taper	
Spindle hole, bar passage diameter	Ø 26 mm	
Turning tool size max.	12 mm	
<b>Work area</b>		
Centre height	125 mm	
Centre width	550 mm	
Swing Ø above machine bed <sup>1)</sup>	246 mm	
Swing Ø above cross slide	149 mm	
Bed width	134 mm	
<b>Speed range</b>		
Spindle speed	125 - 2000 min <sup>-1</sup>	150 - 2500 min <sup>-1</sup>
Number of speeds	6 stages	2 stages, electronically adjustable
<b>Traverse paths</b>		
Top slide	70 mm	
Cross slide	110 mm	
Bed slide	550 mm	
<b>Feeds and pitches</b>		
Longitudinal feed within the 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)	
<b>Tailstock</b>		
Tailstock seat	MT2	
Tailstock quill diameter/travel	30 mm / 65 mm	
<b>Dimensions and weight</b>		
Dimensions (L x W x H) approx.	1250 x 585 x 475	1250 x 650 x 420
Net weight approx.	138 kg	132 kg

## Accessories

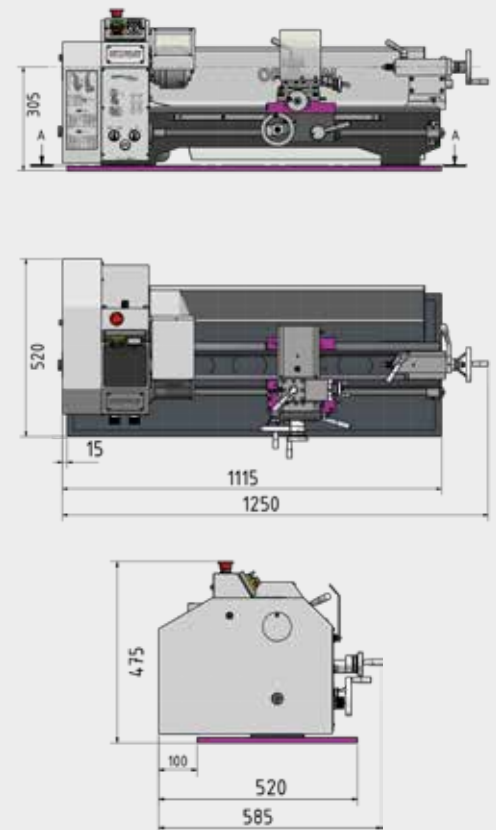
Lathe chuck and chuck flange Ø 125 mm	Article no.
Four-jaw lathe chuck, individual clamping (Chuck flange 3441312 required)	3442874
Four-jaw lathe chuck, centric clamping (Chuck flange 3441312 required)	3442812
Chuck flange, short cone, for mounting the lathe chuck	3441312

### Information on lathe chuck from page 240

Accessories	Article no.
Quick change tool holder SWH 1-A	3384301
Factory assembly SWH 1-A	9000401
Spare tool holder 20 x 90 type D for square chisels	3384302
Spare tool holder 20 x 85 type H for round chisels	3384321
Lathe tool set 10 mm, 11-part	3441602
Lathe tool set 12 mm, 11-part	3441603
Lathe tool set 12 mm, 5-part "Made in Germany"	3441212
Fixed steady rest, passageway max. Ø 50 mm	3441315
Follow steady rest, passageway max. Ø 34 mm	3441310
Collet set ER 32, 3- 20 mm	3441122
Collet chuck ER 32, short taper	3441306
Clamping disc Ø 240 mm	3441352

More accessories and information about accessories from page 237 onwards

## Dimensions



## Scope of delivery

- › Three-jaw lathe chuck Ø 125 mm, centre clamping
- › Non-rotating centring tip MT2 and MT4
- › Quadruple tool holder 12 mm
- › HSS lathe tools
- › Splashguard
- › Chip tray
- › Change gear set
- › Operating tool

## Position display

Accessories	Art no.
	
Digital position display DRO 5 incl. 3 magnetic sensors	3383975
Magnetic strip, length 1100 mm	3383978
Factory assembly	9000420

For information on the DRO 5, see page 233

<sup>1)</sup> Note: The machine (frequency converter) complies with the DIN EN 55011 standard Class C2. Important information on operating machines with frequency inverters and general information on operating our machines on page 333

## Leading spindle lathes with feed gear for demanding users. TU 2807VB with electronically adjustable speed

### Facts that impress in terms of quality, performance and price

- ▶ Precision workmanship
- ▶ Hardened and ground z-axis guideway
- ▶ Guaranteed concentricity of the spindle nose  $\leq 0.009$  mm
- ▶ Concentricity on the lathe chuck  $\leq 0.04$  mm
- ▶ Lead screw for thread cutting or automatic longitudinal turning
- ▶ Automatic longitudinal/leading spindle drive
- ▶ Leading spindle borne on two sintered bearings
- ▶ Free moving feed gear with rounded gear wheels running in an oil bath
- ▶ All guides adjustable using V-ledges
- ▶ Clockwise/Anti-clockwise rotation switchable via control panel
- ▶ Roll-milled trapezoidal spindles
- ▶ Hardened main spindle borne on adjustable, precision taper roller bearings
- ▶ Hardened spindle nose with  $\varnothing 26$  mm spindle bore
- ▶ Tapered roller bearings in P5 quality
- ▶ Handwheels on slide with adjustable fine scaling 0.04 / 0.01 mm
- ▶ Top slide displaceable on cross slide
- ▶ Chip guard on top slide
- ▶ Ribbed grey cast steel prism bed heavily ribbed, induction hardened and precision ground
- ▶ Quadruple tool holder
- ▶ Emergency stop button
- ▶ Interchangeable gear set included as standard for thread cutting
- ▶ Fully equipped; the user can immediately start productive work after commissioning

### TU 2807VB

- ▶ Digital speed display



Fig.: TU 2807VB with optional machine base and SE1

Fig.: TU 2807

## Arguments,...



### TU 2807VB WITH DIGITAL SPEED DISPLAY

- › Electronically adjustable 2-stage spindle speed 150 - 2500 min<sup>-1</sup>
- › Speed change easily adjustable via potentiometer



### HORIZONTAL / VERTICAL

- › Ribbed grey cast steel prism bed heavily ribbed, induction hardened and precision ground



### TAILSTOCK

- › for taper turning, adjustable by  $\pm 5$  mm
- › Tailstock sleeve and handwheel with adjustable fine scaling 0.02 mm
- › Quick, easy and tool-free adjustment by means of clamping lever



### LATHE CHUCK AND PROTECTION

- › Lathe chuck guard with position switch
- › Three-jaw lathe chuck  $\varnothing 125$  mm, centre lamping, included in standard scope of delivery

## Technical specifications, accessories and dimensions

Model	TU 2807	TU 2807VB <sup>1)</sup>
Article no.	3427003	3427010
<b>Output</b>		
Electrical connection	400 V / 3 Ph ~50 Hz	230 V / 1 Ph ~50 Hz
Drive motor	850 W	1.1 kW
<b>Spindle</b>		
Spindle taper	MT4	
Spindle seat	Short taper	
Spindle hole, bar passage diameter	Ø 26 mm	
Turning tool size max.	12 mm	
<b>Work area</b>		
Centre height	140 mm	
Centre width	700 mm	
Swing Ø above machine bed <sup>1)</sup>	266 mm	
Swing Ø above cross slide	170 mm	
Bed width	180 mm	
<b>Speed range</b>		
Spindle speed	150 - 2000 min <sup>-1</sup>	150 - 2500 min <sup>-1</sup>
Number of speeds	6 stages	2 stages, electronically adjustable
<b>Traverse paths</b>		
Top slide	60 mm	
Cross slide	160 mm	
Bed slide	580 mm	
<b>Feeds and pitches</b>		
Longitudinal feed within the 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)	
<b>Tailstock</b>		
Tailstock seat	MT3	
Tailstock quill diameter/travel	30 mm / 85 mm	
<b>Dimensions and weight</b>		
Dimensions (L x W x H) approx.	1370 x 640 x 535 mm	1370 x 660 x 440 mm
Net weight approx.	196 kg	188 kg

## Accessories

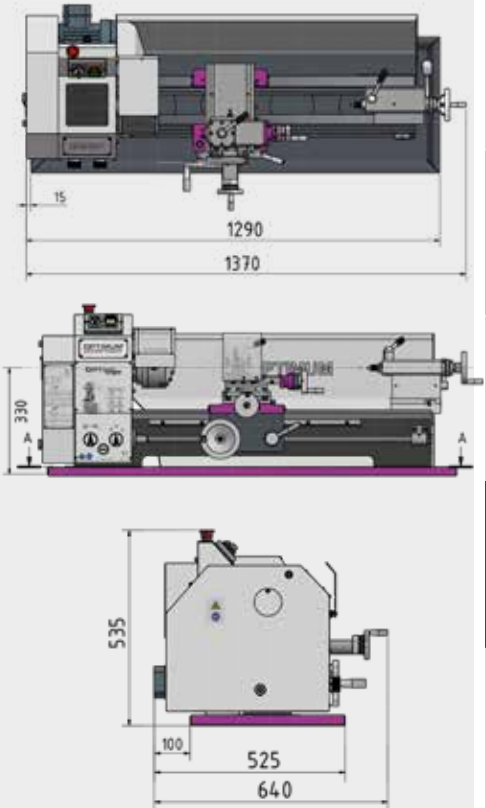
Lathe chuck and chuck flange	Article no.
Four-jaw lathe chuck Ø 125 mm, individual clamping (Chuck flange 3441312 required)	3442874
Four-jaw lathe chuck Ø 125 mm, centre clamping (Chuck flange 3441312 required)	3442812
Chuck flange, short cone, for mounting the lathe chuck Ø 125 mm	3441312
Three-jaw 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, short cone, for mounting the lathe chuck Ø 160 mm	3441413

Accessories	Article no.
Quick change tool holder SWH 1-A	3384301
Factory assembly SWH 1-A	9000401
Spare tool holder 20 x 90 type D for square chisels	3384302
Spare tool holder 20 x 85 type H for round chisels	3384321
Lathe tool set 12 mm, 11-part	3441603
Lathe tool set 12 mm, 5-part "Made in Germany"	3441212
Fixed steady rest, passageway max. Ø 55 mm	3441415
Follow steady rest, passageway max. Ø 56 mm	3441410
Machine base MST1	3440409
Levelling platen SE 1 (6 units required)	3381012

More accessories and information about accessories from page 237 onwards

<sup>1)</sup> Note: The machine (frequency converter) complies with the DIN EN 55011 standard: class C2 Important information on operating machines with frequency inverters and general information on operating our machines on page 333

## Dimensions



## Scope of delivery

- › Three-jaw lathe chuck Ø 125 mm, centre clamping
- › Non-rotating centring tip MT2 and MT4
- › Quadruple tool holder 12 mm
- › HSS lathe tools
- › Splashguard
- › Chip tray
- › Change gear set
- › Operating tool

## Position display

Accessories	Art no.
	
Digital position display DRO 5 incl. 3 magnetic sensors	3383975
Magnetic strip, length 1100 mm	3383978
Factory assembly	9000420

For information on the DRO 5, see page 233

**Lead and feed screw lathes with longitudinal and cross feed.  
TU 3008 with belt drive. TU 3008G with gearbox.  
TU 3008VB with electronically adjustable speed**

**Facts that impress in terms of quality, performance and price**

- ▶ Precision workmanship
  - ▶ Hardened and ground z-axis guideway
  - ▶ Free moving feed gear with rounded gear wheels running in an oil bath
  - ▶ Guaranteed concentricity of the spindle nose  $\leq 0.015$  mm
  - ▶ Concentricity on the lathe chuck  $\leq 0.04$  mm
  - ▶ Lead screw for thread cutting or automatic longitudinal turning
  - ▶ Automatic longitudinal/cross feeds
  - ▶ Leading and feed spindles borne on two sintered bearings
  - ▶ Feed and lead spindle cover
  - ▶ All guides adjustable using V-ledges
  - ▶ Clockwise/Anti-clockwise rotation switchable via control panel
  - ▶ Tapered roller bearings in P5 quality
  - ▶ Hardened main spindle borne on adjustable precision taper roller bearings
  - ▶ Hardened spindle nose with large  $\varnothing 38$  mm spindle bore
  - ▶ Handwheels on slide with adjustable fine scaling 0.04 / 0.01 mm
  - ▶ Quadruple tool holder
  - ▶ Emergency stop button
  - ▶ Three-jaw lathe chuck included as standard
  - ▶ Interchangeable gear set included as standard for thread cutting
- TU 3008**
- ▶ Driven by V-belt
- TU 3008G**
- ▶ Gear drive
- TU 3008VB**
- ▶ Speed change easily adjustable via potentiometer
  - ▶ Digital speed display

**Arguments...**



**TU 3008VB WITH DIGITAL SPEED DISPLAY**

- › Electronically adjustable 4-stage spindle speed 50 - 2400 min<sup>-1</sup>
- › Speed change easily adjustable via potentiometer



**HORIZONTAL / VERTICAL**

- › Ribbed grey cast steel prism bed heavily ribbed, induction hardened and precision ground



**TAILSTOCK**

- › for taper turning, adjustable by  $\pm 5$  mm
- › Tailstock sleeve and handwheel with adjustable fine scaling 0.02 mm
- › Quick, easy and tool-free adjustment by means of clamping lever



**PREPARED FOR A MEASURING SYSTEM**

- › Prepared for measuring system installation on the X, Z and ZO axis



Fig.: TU 3008VB with optional machine base

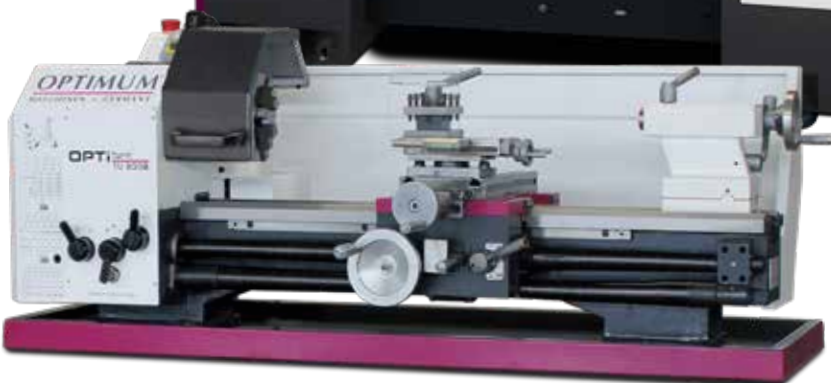


Fig.: TU 3008

## Technical specifications, accessories and dimensions

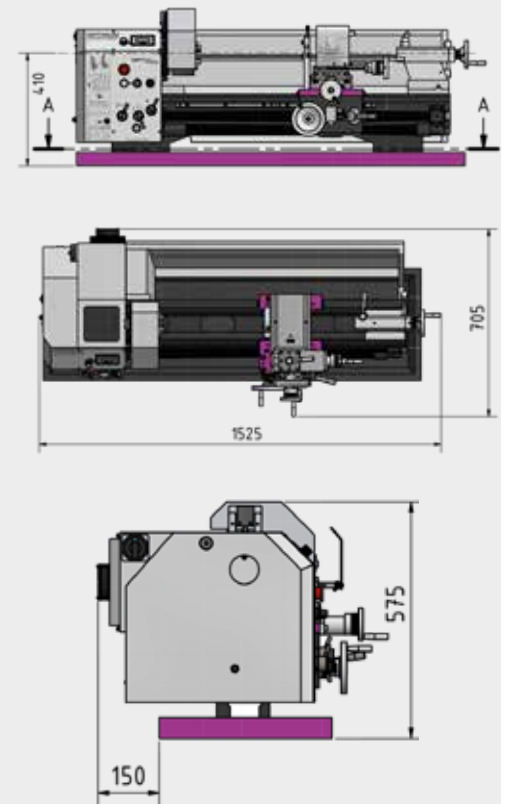
Model	TU 3008	TU 3008G	TU 3008VB <sup>1)</sup>
Article no.	3427200	3427210	3427206
<b>Output</b>			
Electrical connection	400 V / 3 Ph -50 Hz		230 V / 1 Ph
Drive motor	1.1 kW		1.1 kW
<b>Spindle</b>			
Spindle taper	MT5		
Spindle seat	Camlock DIN ISO 702- 2 No. 4		
Spindle hole, bar passage diameter	Ø 38 mm		
Turning tool size max.	25 mm		
<b>Work area</b>			
Centre height	158 mm		
Centre width	800 mm	720 mm	800 mm
Swing Ø above machine bed <sup>1)</sup>	310 mm		
Swing Ø above cross slide	190 mm		
Bed width	180 mm		
<b>Speed range</b>			
Spindle speed /stages TU 3008	150 - 2000 min <sup>-1</sup> / 6 stages		
Spindle speed/stages TU 3008G	165 - 2400 min <sup>-1</sup> / 6 stages		
Spindle speed/stages TU 3008VB	75 - 2500 min <sup>-1</sup> / 4 speeds, electronically controlled		
<b>Traverse paths</b>			
Top slide	65 mm		
Cross slide	150 mm		
Bed slide	600 mm		
<b>Feeds and pitches</b>			
Longitudinal feed within the range	0.085 - 0.832 mm/rev (9 feed rates)		
Cross feed within	0.01 - 0.1 mm/rev (9 feed rates)		
Pitch - metric in range	0.2 - 3.5 mm/rev (18 pitches)		
Pitch - inch in range	56 - 8 Thread pitches/inch (21 pitches)		
<b>Tailstock</b>			
Tailstock seat	MT3		
Tailstock quill diameter/travel	Ø 38 mm / 70 mm		
<b>Dimensions and weight</b>			
Dimensions (L x W x H) approx.	1525 x 705 x 575 mm		
Net weight approx.	226 kg	261 kg	243 kg

## Accessories

Lathe chuck Ø 160 mm Camlock DIN ISO 702-2 No. 4	Article no.
OPTIMUM four-jaw lathe chuck, centric clamping, speed 2150 min <sup>-1</sup>	3442840
BISON four-jaw lathe chuck, centric clamping, speed 3600 min <sup>-1</sup>	3450355
<b>Accessories</b>	
Quick change tool holder SWH 1-A	3384301
Factory assembly SWH 1-A	9000401
Spare tool holder 20 x 90 type D for square chisels	3384302
Spare 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
Follow steady rest, passageway Ø 6 - 55 mm	3441460
Fixed steady rest, passageway Ø 6 - 60 mm	3441461
Machine chassis MST1	3440409
Levelling platen SE 1 (6 units required)	3381012
Position stop with granular adjustment	3441475
Clamping disc Ø 300 mm Camlock DIN ISO 702-2 No. 4	3442976

More accessories and information about accessories from page 237 onwards

## Dimensions



## Scope of delivery

- › Three-jaw lathe chuck Ø 160 mm, centre clamping
- › Non-rotating centring tips MT3 and MT5
- › Quadruple tool holder 25 mm
- › Splashguard
- › Chip tray
- › Change gear set
- › Operating tool

## Position display

Accessories	Art no.
	
Digital position display DRO 5 incl. 3 magnetic sensors	3383975
Magnetic strip, length 1100 mm	3383978
Factory assembly	9000420

For information on the DRO 5, see page 233

## Lead and feed screw lathe impresses with its ease of use

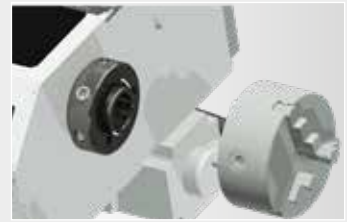
### Facts that impress in terms of quality, performance and price

- ▶ Precision workmanship
- ▶ Hardened and ground z-axis guideway
- ▶ Guaranteed concentricity of the spindle nose  $\leq 0.015$  mm
- ▶ Concentricity on the lathe chuck  $\leq 0.04$  mm
- ▶ Lead screw for thread cutting or automatic longitudinal turning
- ▶ Leading and feed spindles borne on two sintered bearings
- ▶ All guides adjustable using V-ledges
- ▶ Free moving feed gear with rounded gear wheels running in an oil bath
- ▶ Switch rod on the bed slide for selection of longitudinal or cross feed
- ▶ Hardened main spindle borne on adjustable, precision taper roller bearings
- ▶ Hardened spindle nose
- ▶ Handwheels on slide with adjustable fine scaling 0.04 / 0.01 mm
- ▶ Ribbed grey cast steel prism bed heavily ribbed, induction hardened and precision ground
- ▶ Quadruple tool holder
- ▶ Emergency stop button
- ▶ Three-jaw lathe chuck included as standard
- ▶ Interchangeable gear set included as standard for thread cutting



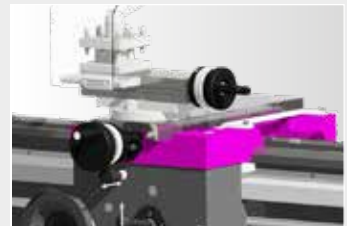
Fig.: TM 3110 with optional machine base MST 1

## Arguments,...



### SPINDLE SEAT

- › The spindle is designed as Camlock DIN ISO 702-2 no.4 holding fixture.



### LONGITUDINAL/CROSS FEEDS

- › Automatic longitudinal/cross feeds
- › Switch rod enables longitudinal or cross feed. The engagement lever activates the feed with the feed screw



### TAILSTOCK

- › for taper turning, adjustable by  $\pm 5$  mm
- › Tailstock sleeve and handwheel with adjustable fine scaling 0.02 mm
- › Quick, easy and tool-free adjustment by means of clamping lever

## Accessories

**Machine chassis MST1**  
Art no. 3440409

**Levelling platen SE 1**  
(6 units needed)  
Art no. 3381012

## Technical specifications, accessories and dimensions

Model	TM 3110
Article no.	3403010
<b>Output</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
<b>Spindle</b>	
Drive motor	1.1 kW
Spindle taper	MT5
Spindle seat	Camlock DIN ISO 702- 2 No. 4
Spindle hole, bar passage diameter	Ø 38 mm
Turning tool size max.	16 mm
<b>Work areas</b>	
Centre height	155 mm
Centre width	1000 mm
Swing Ø above machine bed <sup>(2)</sup>	323 mm
Swing Ø above cross slide	216 mm
Bed width	190 mm
<b>Speed range</b>	
Spindle speeds	65 - 2000 min <sup>-1</sup>
Number of speeds	9 stages
<b>Traverse paths</b>	
Top slide	90 mm
Cross slide	168 mm
Bed slide	850 mm
<b>Feed and pitches</b>	
Longitudinal feed within the range	0.02 - 0.4 mm/rev (24 feeds)
Cross feed within	0.01 - 0.2 mm/rev (32 feeds)
Pitch - metric in range	0.4 - 10 mm/rev (29 pitches)
Pitch - inch in range	56 - 4 turns/inch (34 pitches)
<b>Tailstock</b>	
Tailstock seat	MT3
Sleeve diameter / travel	Ø 38 mm / 100 mm
<b>Dimensions and weight</b>	
Dimensions (L x W x H) approx.	1749 x 740 x 566 mm
Net weight approx.	360 kg

## Accessories

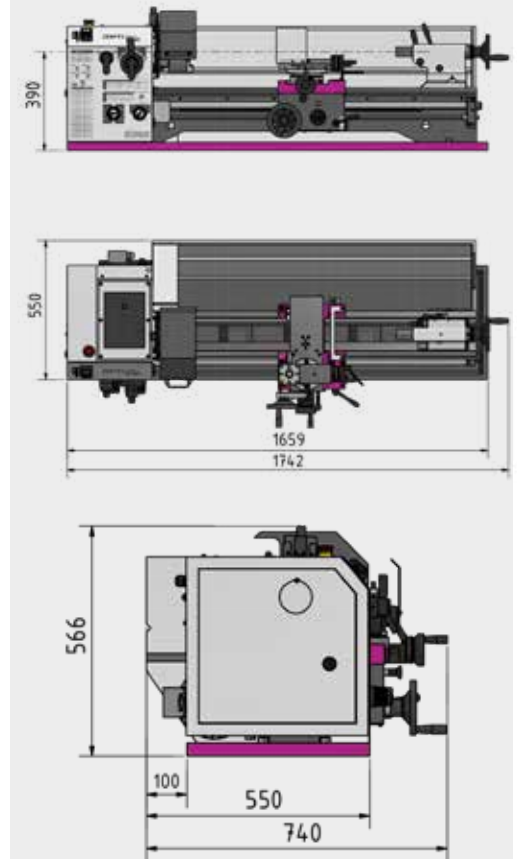
Lathe chuck Ø 160 mm Camlock DIN ISO 702-2 No. 4	Article no.
OPTIMUM four-jaw lathe chuck, centric clamping, speed 2150 min <sup>-1</sup>	3442840
BISON four-jaw lathe chuck, centric clamping, speed 3600 min <sup>-1</sup>	3450355

Information on lathe chuck from page 240

Accessories	Article no.
Quick change tool holder SWH 3-E	3384303
Factory assembly SWH 3-E	9000400
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
Follow steady rest, passageway Ø 10 - Ø 70 mm	3441465
Fixed steady rest, passageway Ø 10 - Ø 70 mm	3441466
Position stop with granular adjustment	3441475
Clamping disc Ø 300 mm Camlock DIN ISO 702-2 No. 4	3442976

More accessories and information about accessories from page 237 onwards

## Dimensions



## Scope of delivery

- › Three-jaw lathe chuck Ø 160 mm Camlock No. 4
- › Adapter MT5-MT3
- › Two non-rotating centring tips MT3
- › Quadruple tool holder 16 mm
- › Change gear set
- › Machine initially filled with premium grade oil
- › Operating tool

## Position display

Accessories	Art no.
	
Digital position display DRO 5 incl. 3 magnetic sensors	3383975
Magnetic strip, length 1100 mm	3383978
Factory assembly	9000420

For information on the DRO 5, see page 233

## Lead and feed screw lathe with electronically adjustable speed convinces with easy handling

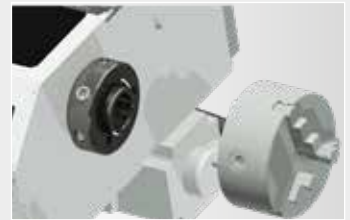
### Facts that impress in terms of quality, performance and price

- ▶ Precision workmanship
- ▶ Hardened and ground z-axis guideway
- ▶ Guaranteed concentricity of the spindle nose  $\leq 0.015$  mm
- ▶ Concentricity on the lathe chuck  $\leq 0.04$  mm
- ▶ Lead screw for thread cutting or automatic longitudinal turning
- ▶ Leading and feed spindles borne on two sintered bearings
- ▶ All guides adjustable using V-ledges
- ▶ Free moving feed gear with rounded gear wheels running in an oil bath
- ▶ Switch rod on the bed slide for selection of longitudinal or cross feed
- ▶ Hardened main spindle borne on adjustable, precision taper roller bearings
- ▶ Hardened spindle nose
- ▶ Handwheels on slide with adjustable fine scaling 0.04 / 0.01 mm
- ▶ Ribbed grey cast steel prism bed heavily ribbed, induction hardened and precision ground
- ▶ Quadruple tool holder
- ▶ Emergency stop button
- ▶ Three-jaw lathe chuck included as standard
- ▶ Interchangeable gear set included as standard for thread cutting
- ▶ Speed change easily adjustable via potentiometer
- ▶ Digital speed display



Fig.: TM 3110VB with optional machine base MST 1 and SE

### Arguments,...



#### SPINDLE SEAT

- > The spindle is designed as Camlock DIN ISO 702-2 no.4 holding fixture.



#### LONGITUDINAL/CROSS FEEDS

- > Automatic longitudinal/cross feeds
- > Switch rod enables longitudinal or cross feed. The engagement lever activates the feed with the feed screw



#### TAILSTOCK

- > for taper turning, adjustable by  $\pm 5$  mm
- > Tailstock sleeve and handwheel with adjustable fine scaling 0.02 mm
- > Fast, easy adjustment without tools thanks to clamping lever

### Accessories

**Accessories**  
**Machine chassis MST1**  
 Art no. 3440409

**Levelling platen SE 1**  
 (6 units needed)  
 Art no. 3381012

## Technical specifications, accessories and dimensions

Model	TM 3110VB <sup>1)</sup>
Article no.	3403016
<b>Output</b>	
Electrical connection	230 V / 1 Ph ~50 Hz
<b>Spindle</b>	
Drive motor	1.5 kW
Spindle taper	MT5
Spindle seat	Camlock DIN ISO 702- 2 No. 4
Spindle hole, bar passage diameter	Ø 38 mm
Turning tool size max.	16 mm
<b>Work areas</b>	
Centre height	155 mm
Centre width	1000 mm
Swing Ø above machine bed <sup>(3)</sup>	310 mm
Swing Ø above cross slide	196 mm
Bed width	190 mm
<b>Speed range</b>	
Spindle speeds	50 - 2500 min <sup>-1</sup>
Number of speeds	3 stages, electronically adjustable
<b>Traverse paths</b>	
Top slide	90 mm
Cross slide	168 mm
Bed slide	850 mm
<b>Feed and pitches</b>	
Longitudinal feed within the range	0.02 - 0.4 mm/rev (24 feeds)
Cross feed within	0.01 - 0.2 mm/rev (32 feeds)
Pitch - metric in range	0.4 - 10 mm/rev (29 pitches)
Pitch - inch in range	56 - 4 turns/inch (34 pitches)
<b>Tailstock</b>	
Tailstock seat	MT3
Sleeve diameter / travel	Ø 38 mm / 100 mm
<b>Dimensions and weight</b>	
Dimensions (L x W x H) approx.	1632 x 770 x 540 mm
Net weight approx.	360 kg

## Accessories

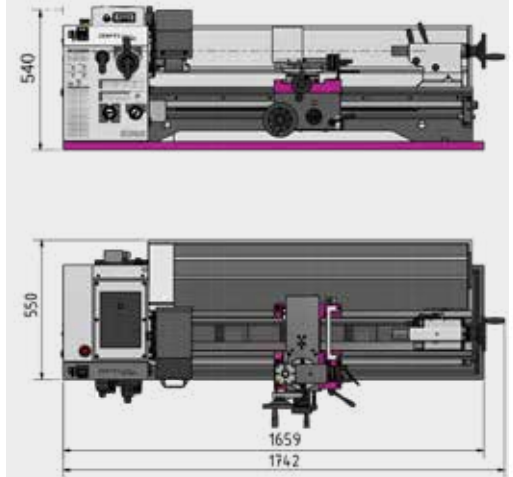
Lathe chuck Ø 160 mm Camlock DIN ISO 702-2 No. 4	Article no.
OPTIMUM four-jaw lathe chuck, centric clamping, speed 2150 min <sup>-1</sup>	3442840
BISON four-jaw lathe chuck, centric clamping, speed 3600 min <sup>-1</sup>	3450355

Information on lathe chuck from page 240

Accessories	Article no.
Quick change tool holder SWH 3-E	3384303
Factory assembly SWH 3-E	9000400
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
Follow steady rest, passageway Ø 10 - Ø 70 mm	3441465
Fixed steady rest, passageway Ø 10 - Ø 70 mm	3441466
Position stop with granular adjustment	3441475
Clamping disc Ø 300 mm Camlock DIN ISO 702-2 No. 4	3442976

More accessories and information about accessories from page 237 onwards

## Dimensions



## Scope of delivery

- › Three-jaw lathe chuck Ø 160 mm Camlock No. 4
- › Adapter MT5-MT3
- › Two non-rotating centring tips MT3
- › Quadruple tool holder 16 mm
- › Change gear set
- › Machine initially filled with premium grade oil
- › Operating tool

## Position display

Accessories	Art no.
	
Digital position display DRO 5 incl. 3 magnetic sensors	3383975
Magnetic strip, length 1100 mm	3383978
Factory assembly	9000420

For information on the DRO 5, see page 233

# LATHE TWO-PART WITH STEEL BASE

TM 3310D | Art. no.: 3403025

Lead and feed screw lathe  
with digital position display  
DPA 31Plus



**TM 4010D | Art. no.: 3403045**

**Lead and feed screw lathe  
with digital position display DPA31  
Plus**



## The lead and feed screw lathes impress with their sturdy construction and ease of use

### Facts that impress in terms of quality, performance and price

- ▶ Hardened and ground z-axis guideway
- ▶ Precision slide
- ▶ DC 24 Volt electrical system
- ▶ Motor circuit switch
- ▶ Main motor electrically braked
- ▶ Guaranteed concentricity of the spindle nose  $\leq 0.015$  mm
- ▶ Free moving feed gear with rounded gear wheels running in an oil bath
- ▶ Hardened main spindle borne on adjustable, precision taper roller bearings
- ▶ Clockwise/anti-clockwise rotation switchable on bed slide
- ▶ Two-channel safety electronics
- ▶ Handwheels with adjustable fine scaling 0.04 / 0.02 mm
- ▶ Safety handwheels with release function tested in accordance with EN23125 in the X and Z axes
- ▶ Switch rod on the bed slide for selection of longitudinal or cross feed
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ Machine chassis with rugged steel design
- ▶ Quadruple tool holder
- ▶ Emergency stop switch on the right and left of the base

### TM 3310V:

- ▶ Inverter drive with integrated EMC filter
- ▶ Low-noise motor operation thanks to high pulse frequency
- ▶ Fast current limitation (FCL) for trouble-free operation in case of sudden load peaks

### **DIGITAL POSITION DISPLAY**

**TM 3310D: DPA 31 PLUS**

**TM 3310V: DPA 32 WITH CUTTING  
CONSTANT VSC**



Fig.: TM 3310D



## Arguments,...



### LED MACHINE LAMP

- › Dazzle-free, integrated into chip guard



### USER-FRIENDLY MEMBRANE KEY-BOARD

- › Lockable main switch
- › Control on
- › Direct run spindle
- › EMERGENCY-STOP push button



### SPINDLE SEAT

- › The spindle is designed as Camlock DIN ISO 702-2 no.4 holding fixture.

### LATHE CHUCK

- › Three-jaw lathe chuck  $\varnothing 160$  mm  
Camlock No. 4 included



### CHIP TRAY

- › Pull-out chip drawer with guide rails

## Technical specifications, accessories and dimensions

Model	TM 3310	TM 3310D	TM 3310V
Article no.	3403020	3403025	3403027
<b>Output</b>			
Electrical connection	400 V / 3 Ph ~50 Hz		
<b>Spindle</b>			
Drive motor	1.5 kW		
Spindle taper	MT5		
Spindle seat	Camlock DIN ISO 702- 2 No. 4		
Spindle hole, bar passage diameter	Ø 38 mm		
Turning tool size max.	16 mm		
<b>Work areas</b>			
Centre height	165 mm		
Centre width	1000 mm		
Swing Ø above machine bed <sup>(2)</sup>	330 mm		
Swing Ø above cross slide	216 mm		
<b>Speed range</b>			
Spindle speeds	65 - 2000 min <sup>-1</sup>	14 - 2800 min <sup>-1</sup>	
Number of speeds	9 stages	6 gear stages	
<b>Traverse paths</b>			
Top slide	90 mm		
Cross slide	168 mm		
Bed slide	850 mm		
<b>Feed and pitches</b>			
Longitudinal feed within the range	0.02 - 0.4 mm/rev (24 feeds)		
Cross feed within	0.01 - 0.2 mm/rev (32 feeds)		
Pitch - metric in range	0.4 - 10 mm/rev (29 pitches)		
Pitch - inch in range	56 - 4 turns/inch (27 pitches)		
<b>Tailstock</b>			
Tailstock seat	MT3		
Sleeve diameter / travel	Ø 38 mm / 100 mm		
<b>Dimensions and weight</b>			
Dimensions (L x W x H) approx.	1760 x 745 x 1320 (DPA 1590) mm		
Net weight approx.	469 kg	471 kg	470 kg

## Accessories

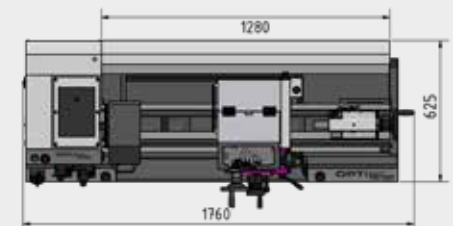
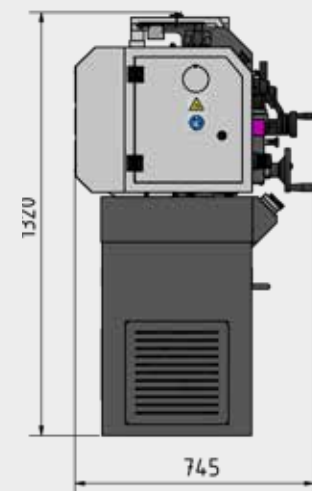
Lathe chuck Ø 200 mm Camlock DIN ISO 702-2 No. 4	Article no.
OPTIMUM Three-jaw lathe chuck, centric clamping	3442762
OPTIMUM Four-jaw lathe chuck individual clamping	3442879
BISON Three-jaw lathe chuck, centric clamping	3450310
BISON Four-jaw lathe chuck, centric clamping	3450360

Information on lathe chuck from page 240

Accessories	Article no.
Quick change tool holder SWH 3-E	3384303
Factory assembly SWH 3-E	9000400
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
Follow steady rest, passageway Ø 10 - Ø 70 mm	3441469
Fixed steady rest, passageway Ø 10 - Ø 70 mm	3441470
Position stop with granular adjustment	3441475
Precision machine shoe SEU1 (6 pcs. required)	3352985
Clamping disc Ø 300 mm Camlock DIN ISO 702-2 No. 4	3442976

More accessories and information about accessories from page 237 onwards

## Dimensions



## Our recommendation

**cleancraft**  
**flexCAT 378 EOT-PRO**  
Article no. 7003380



## Scope of delivery

- › Three-jaw lathe chuck Ø 160 mm Camlock No. 4
- › LED machine lamp
- › Adapter MT 5-MT 3
- › Non-rotating centring tip MT 3
- › Quadruple tool holder 16 mm
- › Change gear set
- › Machine base
- › Machine initially filled with premium grade oil
- › Operating tool

(2) General information on operating our machines on page 333



## The lead and feed screw lathes impress with their sturdy construction and ease of use

### Facts that impress in terms of quality, performance and price

- ▶ Hardened and ground z-axis guideway
- ▶ Guaranteed concentricity of the spindle nose  $\leq 0.015$  mm
- ▶ Spindle seat Camlock DIN ISO 702- 2 No. 5
- ▶ Motor circuit switch
- ▶ Main motor electrically braked
- ▶ Clockwise/anti-clockwise rotation switchable on bed slide
- ▶ Two-channel safety electronics
- ▶ Lead and feed screw cover made of stainless steel
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ Perfectly concentric main spindle guarantees high load capacity thanks to use of precision taper roller bearings
- ▶ One change gear position
- ▶ With safety device to prevent simultaneous operation of thread cutting and pitch mechanism
- ▶ Safety hand wheels with release function in the X and Z axis
- ▶ All pitch gears made of steel, hardened and ground, shafts on needle bearings, all components lubricated in an oil bath
- ▶ Simple feed operation
- ▶ Switch cabinet more optimum control
- ▶ Coolant pump with coolant tank and fill level display Tank removable for easy cleaning
- ▶ LED machine lamp in machine housing
- ▶ Machine chassis with rugged steel design
- ▶ Emergency stop button right and left
- ▶ Lockable main switch
- ▶ Three-jaw lathe chuck included in scope of delivery
- ▶ SWH included in scope of delivery



## Arguments,...



### TM 3610V Siemens inverter SINAMICS G120D

- › Safety Integrated
- › Recovery, low circuit feedback
- › Energy savings up to 20 %
- › No brake resistors required
- › You can find more detailed information in the main catalogue or at [www.optimum-machines.com](http://www.optimum-machines.com)



### CONTROL CABINET

- › Optimum in-house development
- › Signal transmission via network cable with diagnostic function
- › 2-channel safety device



### MEMBRANE KEYBOARD

- › User-friendly membrane keypad with the functions: Machine on, coolant pump, light and direct running



### CHANGE GEAR WHEELS

- › No change gear train; it is only equipped with a pair of gears with 35 teeth and 70 teeth, which can be changed each other.



### DIGITAL POSITION DISPLAY

TM 3610D DPA 31 PLUS

TM 3610V: DPA 32 WITH CUTTING CONSTANT VSC



## Technical specifications, accessories and dimensions

Model	TM3610	TM3610D	TM 3610V*
Article no.	3403030	3403035	3403038
<b>Output</b>			
Electrical connection ~50Hz	400 V / 3 Ph ~50 Hz		
Total rated value	2.2 KW	3 KW	
<b>Spindle</b>			
Spindle taper	MT6		
Spindle seat	Camlock DIN ISO 702- 2 No. 5		
Spindle hole, bar passage diameter	Ø 52 mm		
Quick change tool holder	16 mm		
<b>Work areas</b>			
Centre height	180 mm		
Centre width	1000 mm		
Swing Ø above machine bed <sup>(2)</sup>	360 mm		
Swing Ø above cross slide <sup>(3)</sup>	225 mm		
<b>Speed range</b>			
Spindle speeds	70 - 2400 min <sup>-1</sup>	40 - 3000 min <sup>-1</sup>	
Number of speeds	8 stages	4 electrically adjustable levels	
<b>Traverse paths</b>			
Top slide	100 mm		
Cross slide	170 mm		
<b>Feed and pitches</b>			
Longitudinal feed within the range	0.03 - 2 mm/rev (28 feeds)		
Cross feed within	0.008 - 0.541 mm/rev (28 feeds)		
Pitch - metric in range	0.4 - 7 mm/rev (32 pitches)		
Pitch - inch in range	56 - 4 turns/inch (31 pitches)		
<b>Tailstock</b>			
Tailstock seat	MT3		
Sleeve diameter / travel	Ø 42 mm / 120 mm		
<b>Dimensions and weight</b>			
Dimensions (L x W x H) approx.	1964 x 869 x 1475 mm		
Net weight approx.	608 kg		

## Accessories

Lathe chuck Ø 200 mm Camlock DIN ISO 702-2 No. 5	Article no.
OPTIMUM Four-jaw lathe chuck, centric clamping Speed 3000 min <sup>-1</sup>	3442845
OPTIMUM Four-jaw lathe chuck, individual clamping Speed 2100 min <sup>-1</sup>	3442880
BISON Three-jaw lathe chuck, centric clamping Speed 3000 min <sup>-1</sup>	3450315
BISON Four-jaw lathe chuck, centric clamping Speed 3000 min <sup>-1</sup>	3450365

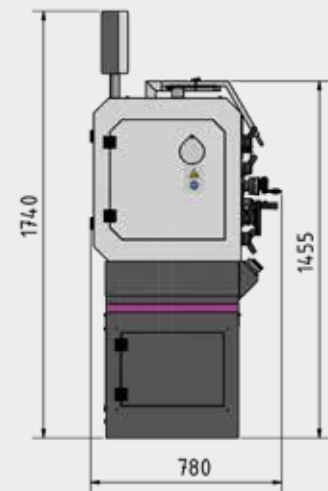
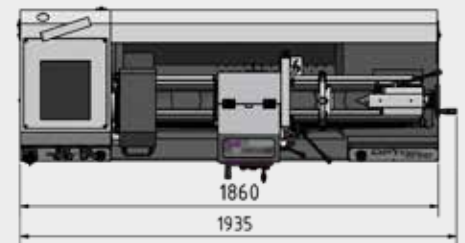
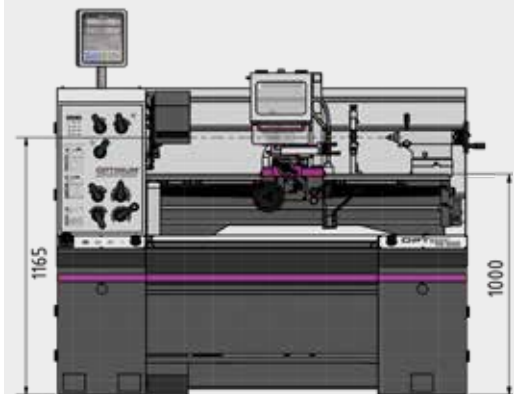
Accessories	Article no.
Spare tool holder 20 x 100 type D for square chisels	3384304
Spare tool holder 30 x 100 type H for round chisels	3384322
Lathe tool set 16 mm, 11-part	3441604
Lathe tool set 16 mm, 5-part	3441668
Lathe tool set 16 mm, 5-part "Made in Germany"	3441216
Lathe tool set 16 mm, 5-part	3441610
Position stop with granular adjustment	3441475
Precision machine shoe SEU1 (6 pcs. required)	3352985
Clamping disc Ø 330 mm Camlock DIN ISO 702-2 No. 5	3442978

More accessories and information about accessories from page 237 onwards

(2) General information on operating our machines on page 333

(3) Please note that operators are required to make conversions in the event of installing third-party chucks or flanged chucks to reach the stated, technically possible rotating diameter.

## Dimensions



## Our recommendation

**cleancraft**  
flexCAT 378 EOT-PRO  
Article no. 7003380



## Scope of delivery

- > Three-jaw lathe chuck Ø 200 mm Camlock No. 5
- > Fixed steady rest Ø 7 - Ø 102 mm
- > Follow steady rest Ø 10 - Ø 60 mm
- > LED machine lamp
- > Adapter MT 6-MT 4
- > Non-rotating centring tip MT4
- > Quick change tool holder SWH 3-E
- > Tool holder 20 x 100 type D for square chisels 18 mm
- > Initial filling of the machine with high-quality oil
- > Operating tool

## The lead and feed screw lathes impress with their sturdy construction and ease of use TM 4010D with DPA 31Plus digital position display



### Facts that impress in terms of quality, performance and price

- ▶ Hardened and ground z-axis guideway
- ▶ Guaranteed concentricity of the spindle nose  $\leq 0.015$  mm
- ▶ Spindle seat Camlock DIN ISO 702- 2 No. 5
- ▶ Motor circuit switch
- ▶ Main motor electrically braked
- ▶ Clockwise/anti-clockwise rotation switchable on bed slide
- ▶ Two-channel safety electronics
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ Perfectly concentric main spindle guarantees high load capacity thanks to use of precision taper roller bearings
- ▶ With safety device to prevent simultaneous operation of thread cutting and pitch mechanism
- ▶ Safety hand wheels with release function in the X and Z axis
- ▶ All pitch gears made of steel, hardened and ground, shafts on needle bearings, all components lubricated in an oil bath
- ▶ Simple feed operation
- ▶ One change gear position
- ▶ Switch cabinet more optimum control
- ▶ Coolant pump with coolant tank and fill level display Tank removable for easy cleaning
- ▶ LED machine lamp in machine housing
- ▶ Machine chassis with rugged steel design
- ▶ Emergency stop button right and left
- ▶ Lockable main switch
- ▶ Three-jaw lathe chuck included in scope of delivery
- ▶ SWH included in scope of delivery

**DIGITAL POSITION DISPLAY**  
**TM 4010D: DPA 31 PLUS**  
**TM 4010V: DPA 32 WITH CUTTING CONSTANT VSC**



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Information & Video



Fig.: TM 4010D

## Arguments,...



### TM 4010V Siemens inverter SINAMICS G120D

- › Safety Integrated
- › Recovery, low circuit feedback
- › Energy savings up to 20 %
- › No brake resistors required
- › You can find more detailed information in the main catalogue or at [www.optimum-machines.com](http://www.optimum-machines.com)



### CONTROL CABINET

- › Optimum in-house development
- › Signal transmission via network cable with diagnostic function
- › 2-channel safety device



### MEMBRANE KEYBOARD

- › User-friendly membrane keypad with the functions: Machine on, coolant pump, light and direct running



### CHANGE GEAR WHEELS

- › No change gear train; it is only equipped with a pair of gears with 35 teeth and 70 teeth, which can be changed each other.

## Technical specifications, accessories and dimensions

Model	TM 4010	TM 4010D	TM 4010V*
Article no.	3403041	3403046	3403050
<b>Output</b>			
Electrical connection	400 V / 3 Ph ~50 Hz		
Total rated value	3 kW		4.5 kW
Coolant pump motor	100 Watts		
<b>Spindle</b>			
Drive motor	2.2 kW		4 kW
Spindle taper	MT6		
Spindle seat	Camlock DIN ISO 702- 2 No. 5		
Spindle hole, bar passage diameter	Ø 52 mm		
Quick change tool holder	SWH 3-E		
<b>Work areas</b>			
Centre height	200 mm		
Centre width	1000 mm		
Swing Ø above machine bed <sup>(2)</sup>	400 mm		
Swing Ø above cross slide <sup>(3)</sup>	250 mm		
Bed width	203 mm		
<b>Speed range</b>			
Spindle speeds	70 - 2000 min <sup>-1</sup>		40 - 3000 min <sup>-1</sup> 4 electrically adjustable levels
Number of speeds	8 stages		
<b>Traverse paths</b>			
Top slide	98 mm		
Cross slide	185 mm		
Bed slide	850 mm		
<b>Feed and pitches</b>			
Longitudinal feed within the range	0.03 - 2 mm/rev (28 feeds)		
Cross feed within	0.008 - 0.541 mm/rev (28 feeds)		
Pitch - metric in range	0.4 - 7 mm/rev (32 pitches)		
Pitch - inch in range	56 - 4 turns/inch (31 pitches)		
<b>Tailstock</b>			
Tailstock seat	MT4		
Sleeve diameter / travel	Ø 50 mm / 110 mm		
<b>Dimensions and weight</b>			
Dimensions (L x W x H) approx.	1935 x 780 x 1740 mm		
Net weight approx.	755 kg		

## Accessories

Lathe chuck Ø 200 mm Camlock DIN ISO 702-2 No. 5	Article no.
OPTIMUM four-jaw lathe chuck, centric clamping, speed 3000 min <sup>-1</sup>	3442845
OPTIMUM four-jaw lathe chuck individual clamping, speed 2100 min <sup>-1</sup>	3442880
BISON three-jaw lathe chuck, centric clamping, speed 3000 min <sup>-1</sup>	3450315
BISON four-jaw lathe chuck, centric clamping, speed 3000 min <sup>-1</sup>	3450365

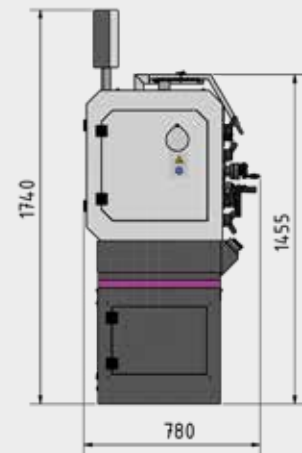
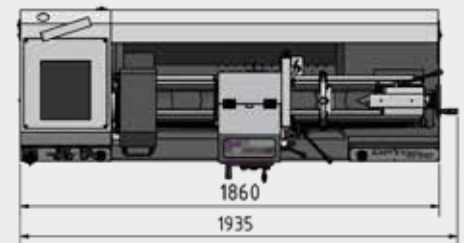
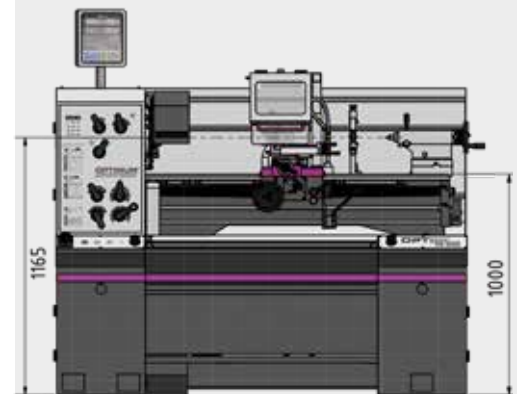
Accessories	Article no.
Spare tool holder 20 x 100 type D for square chisels	3384304
Spare tool holder 30 x 100 type H for round chisels	3384322
Lathe tool set 16 mm, 11-part	3441604
Lathe tool set 16 mm, 5-part	3441668
Lathe tool set 16 mm, 5-part "Made in Germany"	3441216
Lathe tool set 16 mm, 5-part	3441610
Position stop with granular adjustment	3441475
Precision machine shoe SEU1 (6 pcs. required)	3352985
Clamping disc Ø 330 mm Camlock DIN ISO 702-2 No. 5	3442978

More accessories and information about accessories from page 237 onwards

(2) General information on operating our machines on page 333

(3) Please note that operators are required to make conversions in the event of installing third-party chucks or flanged chucks to reach the stated, technically possible rotating diameter.

## Dimensions



## Our recommendation

**cleancraft®**  
**flexCAT 378 EOT-PRO**  
Article no. 7003380



## Scope of delivery

- > Three-jaw lathe chuck Ø 200 mm Camlock No. 5
- > Fixed steady rest Ø 7 - Ø 102 mm
- > Follow steady rest Ø 10 - Ø 60 mm
- > LED machine lamp
- > Adapter MT 6-MT 4
- > Non-rotating centring tip MT4
- > Quick change tool holder SWH 3-E
- > Tool holder 20 x 100 type D for square chisels 18 mm
- > Initial filling of the machine with high-quality oil
- > Operating tool

# LATHE WITH STEEL/CAST IRON CHASSIS

Visit our exhibition in Hallstadt/Bamberg

## Information on the Vario lathes

TH 4210V / TH 4615V / TH 5620V / TX 5216V / TZ4V

## SIEMENS SINAMICS G 120D Frequency inverter

SINAMICS G120D  
Brief overview of benefits

### Highlights at a glance

Advanced safety function (STO, SLS)

**STO - safe torque off as per EN 61800- 5**

**SLS - Safely limited speed as per EN 61800- 5**

- ▶ 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 C3 as per EN 61800- 3
- ▶ Safety Integrated without encoder!
- ▶ More direct switch-over
- ▶ Faster braking
- ▶ Resilient to high overload



Machines according to  
Standard EN 61800

Siemens  
**SAFETY INTEGRATED**

- ▶ A comprehensive safety package that helps to protect both persons and machines. And in an extremely efficient and economic way thanks to complete integration of the safety functions in the control and drive technology.. In addition, it ensures safe and practical operation of your machine under all required operating conditions. . 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.

The feature scope includes, for example:

- ▶ Functions for safe monitoring of speed and standstill
- ▶ Direct connection of all safety-related signals and their internal logical links

TX 4414 | Art. no.: 3432422

**Lead and feed screw lathe**  
fulfils the highest requirements in  
technical equipment and precision.



## Precision feed and lead screw spindle lathes with digital position display DPA 32 and quick change tool holder



Facts that impress in terms of quality, performance and price

- ▶ Hardened and ground z-axis guideway
- ▶ Motor circuit switch
- ▶ Control cabinet with 24-V DC power supply
- ▶ Partly clad with travelling, generously dimensioned chip guard
- ▶ Travelling swarf guard with integrated position display, coolant hose and additional control panel
- ▶ Two-channel safety electronics
- ▶ Plane und top slide spindle hardened and scraped, adjustable via split spindle nut
- ▶ Feed and lead screw cover
- ▶ Granular feed and tapping range
- ▶ Energy chain for material-friendly cable and hose guiding
- ▶ The default gear wheels for metric thread pitches and modular threads are already mounted in the machine. Interchangeable gears available as option for imperial and D.P threads
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ Decoupled hand wheels approved in line with EN 23125
- ▶ Safety hand wheels with release function in the X and Z axis
- ▶ Chip tray pulls out to front
- ▶ Coolant system
- ▶ Quick change tool holder SWH 5-B
- ▶ Tool holder 25 x 120 type D for square chisels 20 mm
- ▶ LED machine light for complete elimination of the workspace



Scan QR code

Information & Video



Fig.: TZ 4 with optional lathe chuck

## Arguments,...



### CONTROL CABINET

- › 24 Volt DC power supply
- › All contactors und relays by **SIEMENS** or Schneider



### DIGITAL POSITION DISPLAY DPA 32

- › LED display
- › User-friendly membrane keyboard,
- › splash-proof, closed and glare-free
- › Greater operation accuracy
- › Clear reduction of manufacturing times
- › Reduction of error quota
- › X, Y/Z0, Z axis each with 8-digit display
- › Three evaluable measurement inputs, each with seven correction memories for tools



### TOUCH PANEL CENTRALISED CONTROL

- › For switching Lighting and coolant
- › Switching for two-stage motor
- › Foil keypad, easily cleanable



### BED GEOMETRY

- › Flat angle
- › Higher force absorption

## Technical specifications, accessories and dimensions

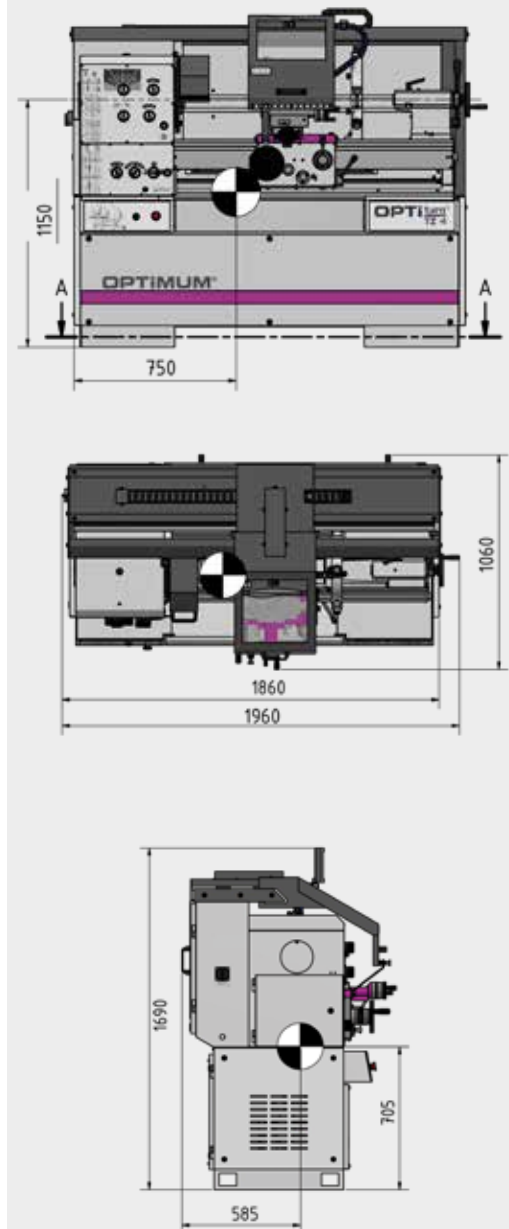
Model	TZ 4
Article no.	3432242
<b>Output</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
Total rated value	6 kW
Coolant pump motor	125 Watts
<b>Spindle</b>	
Drive motor	3 kW / 4.5 kW
Spindle taper	MT6
Spindle seat	DIN ISO 702-1 No. 5 form A2
Spindle hole, bar passage diameter	Ø 52 mm
Quick change tool holder	SWH 5-B
<b>Work area</b>	
Centre height	200 mm
Centre width	800 mm
Swing Ø above machine bed <sup>2)</sup>	400 mm
Swing Ø above cross slide	245 mm
Bed width	260 mm
<b>Speed range</b>	
Spindle speed	45 - 1800 min <sup>-1</sup>
Number of speeds	16 stages
<b>Traverse paths</b>	
Top slide	112 mm
Cross slide	212 mm
Bed slide	800 mm
<b>Feeds and pitches</b>	
Longitudinal feed within the range	0.026 - 1.84 mm/rev (48 feeds)
Cross feed within	0.013 - 0.93 mm/rev (48 feeds)
Pitch - metric in range	0.2 - 14 mm/rev (26 pitches)
Pitch - inch in range (Interchangeable gear set accessory art. no. 3444160)	80 - 1 turns/inch (42 pitches)
Modular thread in range	0.1 - 7 mm x π (44 threads)
Diametral pitch in range (Interchangeable gear set accessory art. no. 3444160)	200 - 3 turns/ π(33 pitches)
<b>Tailstock</b>	
Tailstock seat	MT3
Sleeve diameter / travel	Ø 50 mm / 110 mm
<b>Dimensions and weight</b>	
Dimensions (L x W x H) approx.	1960 x 1060 x 1690 mm
Net weight approx.	1250 kg

## Accessories

Lathe chuck no. 5 form A2	Article no.
BISON four-jaw lathe chuck Ø 250 mm cast iron, centric clamping (chuck flange 3450218 is required)	3450216
Chuck flange for mounting the Ø 250 mm lathe chuck	3450218
BISON three-jaw lathe chuck Ø 200 mm cast, centric clamping (chuck flange 3450212 is required)	3450210
Chuck flange for mounting the Ø 200 mm lathe chuck	3450212
<b>Accessories</b>	
Turning tool set Carbide 20 mm, 5-piece (from page 247)	3441617
Interchangeable gear set for imperial and D.P thread	3444160
Precision machine shoe SEU1 (8 pcs. required)	3352985
BISON chuck flange Lathe chuck Ø 160 mm (requires chuck collet chuck 3450245)	3450246
BISON collet chuck 16C - Ø 160 mm (requires chuck flange 3450246)	3450245
Clamping disc Ø 320 mm no. 5 form A2	3442979

More accessories and information about accessories from page 237 onwards

## Dimensions



## Scope of delivery

**Lathe chuck  
Do not forget!**

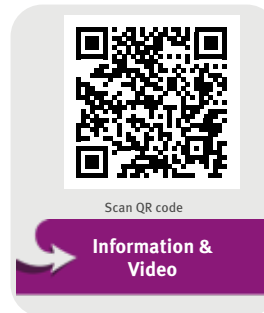
- › Fixed steady rest, passageway Ø 10 - Ø 130 mm
- › Follow steady rest, passageway Ø 10 - Ø 100 mm
- › Adapter MT 6-MT 3
- › Non-rotating centring tip MT3
- › Non-rotating, but temperature resistant centring tip MT 3
- › Quick change tool holder SWH 5-B
- › Tool holder 25 x 120 type D for square chisels 20 mm
- › Machine initially filled with premium grade oil
- › Operating tool

2) General information on operating our machines on page 333

## Precision feed and lead spindle lathe with electronically controlled drive and digital position display DPA 32

Facts that impress in terms of quality, performance and price

- ▶ Hardened and ground z-axis guideway
- ▶ Motor circuit switch
- ▶ Control cabinet with 24-V DC power supply
- ▶ Partly clad with travelling, generously dimensioned chip guard
- ▶ Travelling swarf guard with integrated position display, coolant hose and additional control panel
- ▶ Two-channel safety electronics
- ▶ Safety hand wheels with release function in the X and Z axis
- ▶ Plane und top slide spindle hardened and scraped, adjustable via split spindle nut
- ▶ Electrically braked motor
- ▶ Feed and lead screw cover
- ▶ Granular feed and tapping range
- ▶ Energy chain for material-friendly cable and hose guiding
- ▶ The default gear wheels for metric thread pitches and modular threads are already mounted in the machine. Interchangeable gears available as option for imperial and D.P threads
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ Decoupled hand wheels approved in line with EN 23125
- ▶ Reduction of the main spindle braking time thanks to energy recuperation
- ▶ Chip tray pulls out to front
- ▶ Coolant system
- ▶ Position measuring system on the Z-axis
- ▶ Magnetic tape system on the X and Zo axes
- ▶ Quick change tool holder SWH 5-B
- ▶ Tool holder 25 x 120 type D for square chisels 20 mm
- ▶ LED machine light for complete elimination of the workspace



**TZ 4V**  
**CUTTING CONSTANT VSC**



Fig.: TZ 4V with optional lathe chuck

### Arguments,...

Made in EU



#### SIEMENS SINAMICS INVERTER G120D

› More information on page 190



#### DIG. DIGITAL POSITION INDICATOR DPA 32 WITH CUTTING CONSTANT VSC

- › LED display
- › User-friendly membrane keyboard,
- › splash-proof, closed and glare-free
- › Greater operation accuracy
- › Clear reduction of manufacturing times
- › Reduction of error quota
- › X, Y/Z0, Z axis each with 8-digit display
- › Three evaluable measurement inputs, each with seven correction memories for tools



#### TOUCH PANEL CENTRALISED CONTROL

- › For switching Lighting and coolant
- › Foil keypad, easily cleanable



#### BED GEOMETRY

- › Flat angle
- › Higher force absorption

## Technical specifications, accessories and dimensions

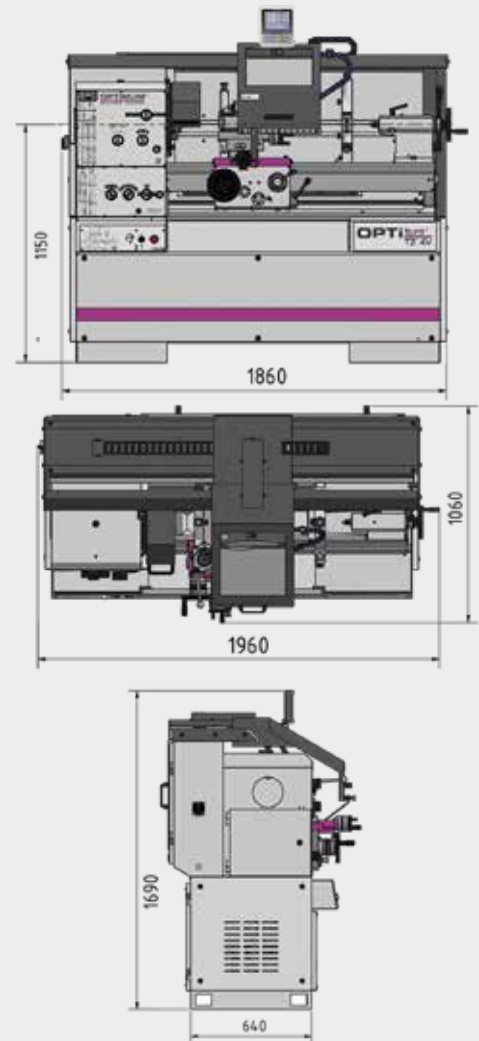
Model	TZ 4V
Article no.	3432247
<b>Output</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
Total rated value	6 kW
Coolant pump motor	125 Watts
<b>Spindle</b>	
Drive motor	5.5 kW
Spindle taper	MT6
Spindle seat	DIN ISO 702- 1 No. 5 form A2
Spindle hole, bar passage diameter	Ø 52 mm
Quick change tool holder	SWH 5-B
<b>Work area</b>	
Centre height	200 mm
Centre width	800 mm
Swing Ø above machine bed <sup>(2)</sup>	400 mm
Swing Ø above cross slide	245 mm
Bed width	260 mm
<b>Speed range</b>	
Spindle speed	50 - 3000 min <sup>-1</sup>
Number of speeds	2 speed, electrically controlled
<b>Traverse paths</b>	
Top slide	112 mm
Cross slide	212 mm
Bed slide	800 mm
<b>Feeds and pitches</b>	
Longitudinal feed within the range	0.0263 - 1.8416 mm/rev (48 feeds)
Cross feed within	0.0133 - 0.9321 mm/rev (48 feeds)
Pitch - metric in range	0.2 - 14 mm/rev (26 pitches)
Pitch - inch in range (Interchangeable gear set accessory art. no. 3444160)	80 - 1 turns/inch (42 pitches)
Modular thread in range	0.1 - 7mm x π (44 threads)
Diametral pitch in range (Interchangeable gear set accessory art. no. 3444160)	200 - 3 turns/ π(33 pitches)
<b>Tailstock</b>	
Tailstock seat	MT3
Sleeve diameter / travel	Ø 50 mm / 110 mm
<b>Dimensions and weight</b>	
Dimensions (L x W x H) approx.	1960 x 1060 x 1690 mm
Net weight approx.	1250 kg

## Accessories

Lathe chuck no. 5 form A2	Article no.
BISON four-jaw lathe chuck Ø 250 mm, steel centrally clamping (chuck flange 3450218 required)	3450217
Chuck flange for mounting the Ø 250 mm lathe chuck	3450218
BISON Three-jaw lathe chuck Ø 200 mm, cast Centrally clamping(chuck flange 3450212 required)	3450210
Chuck flange for mounting the Ø 200 mm lathe chuck	3450212
Accessories	Article no.
Turning tool set Carbide 20 mm, 5-part (from page 247)	3441617
Interchangeable gear set for imperial and D.P thread	3444160
Precision machine shoe SEU1 (8 pcs. required)	3352985
BISON Lathe chuck flange Ø 160 mm (requires chuck collet chuck 3450245)	3450246
BISON collet chuck 16C - Ø 160 mm (requires chuck flange 3450246)	3450245
Clamping disc Ø 320 mm no. 5 form A2	3442979

More accessories and information about accessories from page 237 onwards

## Dimensions



## Our recommendation

**cleancraft**  
flexCAT 378 EOT-PRO  
Article no. 7003380



## Scope of delivery

Lathe chuck  
Do not forget!

- > Fixed steady rest, passageway Ø 10 - Ø 130 mm
- > Follow steady rest, passageway Ø 10 - Ø 100 mm
- > Adapter MT6-MT3
- > Non-rotating centring tip MT3
- > Non-rotating, but temperature resistant centring tip MT3
- > Quick change tool holder SWH 5-B
- > Tool holder 25 x 120 type D for square chisels 20 mm
- > Machine initially filled with premium grade oil
- > Operating tool

**Precise lead and feed screw lathes** with sophisticated technology, fully equipped and easy to operate.  
**TH 4210D / TH 4215D with DPA 31Plus digital position display**



**Facts that impress in terms of quality, performance and price**

- ▶ Hardened and ground z-axis guideway
- ▶ Guaranteed concentricity of the spindle nose  $\leq 0.015$  mm
- ▶ Spindle seat Camlock DIN ISO 702- 2 No. 6
- ▶ Leading spindle cover
- ▶ Precision slide
- ▶ All guides adjustable using V-ledges
- ▶ Clockwise/anti-clockwise rotation switchable on bed slide, switchable via switching spindle
- ▶ Two-channel safety electronics
- ▶ Central lubrication in bed slide
- ▶ Top slide adjustment range  $\pm 90^\circ$
- ▶ Main spindle runs in oil bath
- ▶ Gearwheels smooth action, hardened and scraped borne on 2 re-adjustable precision taper rollers
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ 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
- ▶ Handwheels with adjustable fine scaling 0.04 / 0.02 mm
- ▶ Safety hand wheels with release function acc. to EN23125 in the X and Z axis
- ▶ Grey cast iron prism bed heavily ribbed, induction hardened and precision ground
- ▶ Coolant system featuring separate coolant tank, fill level display and oil trap; easy and complete draining and cleaning as per DIN
- ▶ Chassis and machine bed single-piece cast meehanite
- ▶ Emergency stop device with foot pedal
- ▶ Quadruple tool holder



Fig.: TH 4210D with optional lathe chuck

**Arguments,...**



**CONTROL CABINET**

- > 24 Volt DC power supply
- > All contactors und relays by **SIEMENS** or Schneider



**D-VERSION WITH DIGITAL POSITION DISPLAY DPA 31PLUS**

- > User-friendly membrane keyboard
- > Clear reduction of manufacturing times



**TAILSTOCK**

- > Tailstock for taper turning, adjustable by  $\pm 10$  mm
- > Tailstock sleeve and handwheel with adjustable fine scaling 0.025 mm
- > Fast, easy adjustment of the tailstock without tools thanks to clamping lever



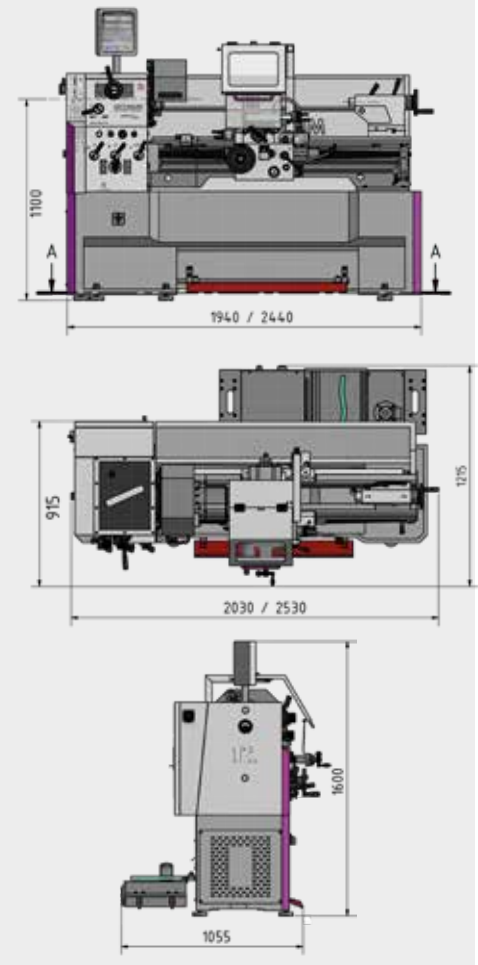
**LED MACHINE LAMP**

- > in chip protection

## Technical specifications, accessories and dimensions

Model	TH 4210	TH 4210D	TH 4215D
Article no.	3462050	3462055	3462070
<b>Output</b>			
Electrical connection	400 V / 3 Ph ~50 Hz		
Total rated value	4.6 kW		
Coolant pump motor	100 W		
<b>Spindle</b>			
Drive motor	3 kW / 4.5 kW		
Spindle taper	MT6		
Spindle seat	Camlock DIN ISO 702- 2 No. 6		
Spindle hole, bar passage diameter	Ø 52 mm		
Turning tool size max.	20 mm		
<b>Work area</b>			
Centre height	210 mm		
Centre width	1000 mm	1500 mm	
Swing Ø above machine bed <sup>(2)</sup>	420 mm		
Swing Ø above cross slide	250 mm		
Bed width	250 mm		
Swing Ø without bed bridge	590 mm		
Turning length in bed bridge	260 mm		
<b>Speed range</b>			
Spindle speed	45 - 1800 min <sup>-1</sup>		
Number of speeds	16 stages		
<b>Traverse paths</b>			
Top slide	140 mm		
Cross slide	230 mm		
Bed slide	780 mm	1280 mm	
<b>Feeds and pitches</b>			
Longitudinal feed within the range	0.05 - 1.7 mm/rev (17 feeds)		
Cross feed within	0.025 - 0.85 mm/rev (17 feeds)		
Pitch - metric in range	0.2 - 14 mm/rev (39 pitches)		
Pitch - inch in range	72 - 2 turns/inch (45 pitches)		
Modular thread in range	0.3 - 3.5 mm x π (18 threads)		
Diametral pitch in range	44 - 8 turns/π (21 pitches)		
<b>Tailstock</b>			
Tailstock seat	MT4		
Tailstock sleeve diameter / travel	Ø 50 mm / 120 mm		
<b>Dimensions and weight</b>			
Length approx.	1940 mm	2440 mm	
width x height approx.	915 x 1375 (DPA 1600) mm		
Net weight approx.	1160 kg		1340 kg
Net weight with DPA 31Plus approx.	1162 kg		

### Dimensions



### Scope of delivery

**Lathe chuck  
Do not forget!**

- › Fixed steady rest, passageway Ø 10 - Ø 130 mm
- › Follow steady rest, passageway Ø 10 - Ø 100 mm
- › LED machine lamp
- › Adapter MT 6-MT 4
- › Non-rotating centring tip MT4
- › Non-rotating, but temperature resistant centring tip MT4
- › Quadruple tool holder, max. 20 mm
- › Change gear set
- › Gear wheels for threading gauge (metric)
- › Machine initially filled with premium grade oil
- › Operating tool

## Accessories

Lathe chuck Camlock DIN ISO 702- 2 No. 6	Article no.
OPTIMUM lathe chuck, cast Ø 250 mm	
Three-jaw lathe chuck, centric clamping	3442765
Four-jaw lathe chuck, centric clamping	3442852
Four-jaw lathe chuck, individual clamping	3442884
<b>BISON Lathe chuck Ø 250 mm</b>	
Three-jaw lathe chuck centric	3450330
Four-jaw lathe chuck, cast, centric	3450380
Three-jaw lathe chuck, steel, centric	3450530
Four-jaw lathe chuck, steel, centric	3450580

Accessories	Article no.
Spare tool holder 25 x 120 Type D for square	3384306
Spare tool holder 32 x 130 type H for round chisels	3384324
Lathe tool set, carbide, 20 mm, 5-part	3441670
Lathe tool set, carbide, 20 mm, 5-part	3441617
Precision machine shoe SEU1 (6 pcs. required)	3352985
Universal collet chuck device 5C	3441507

More accessories and information about accessories from page 237 onwards

## Precise lead and feed screw lathes with sophisticated technology, fully equipped and easy to operate. Featuring Siemens inverter Vario drive



### Facts that impress in terms of quality, performance and price

- ▶ Hardened and ground z-axis guideway
- ▶ Guaranteed concentricity of the spindle nose  $\leq 0.015$  mm
- ▶ Spindle seat Camlock DIN ISO 702- 2 No. 6
- ▶ Speed monitoring in line with Machinery Directive
- ▶ Leading spindle cover
- ▶ Precision slide
- ▶ All guides adjustable using V-ledges
- ▶ Clockwise/anti-clockwise rotation switchable on bed slide, switchable via switching spindle
- ▶ Two-channel safety electronics
- ▶ Central lubrication in bed slide
- ▶ Top slide adjustment range  $\pm 90^\circ$
- ▶ Main spindle runs in oil bath
- ▶ Gearwheels smooth action, hardened and scraped borne on 2 re-adjustable precision taper rollers
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ 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
- ▶ Handwheels with adjustable fine scaling 0.04 / 0.02 mm
- ▶ Safety hand wheels with release function acc. to EN23125 in the X and Z axis
- ▶ Tailstock for taper turning, adjustable by  $\pm 10$  mm
- ▶ Tailstock sleeve and handwheel with adjustable fine scaling 0.025 mm
- ▶ Fast, easy adjustment of the tailstock without tools thanks to clamping lever
- ▶ Coolant system featuring separate coolant tank, fill level display and oil trap; easy and complete draining and cleaning as per DIN
- ▶ LED machine lamp in chip guard
- ▶ Chassis and machine bed single-piece cast meehanite
- ▶ Grey cast iron prism bed heavily ribbed, induction hardened and precision ground
- ▶ Emergency stop device with foot pedal



Fig.: TH 4210V with optional lathe chuck

## Arguments,...

Made in EU



### SIEMENS SINAMICS INVERTER G120D

› More informations see page 198



### CONTROL CABINET

› 24 Volt DC power supply  
› All contactors und relays by **SIEMENS** or Schneider



### DIGITAL POSITION INDICATOR DPA 32 WITH CUTTING CONSTANT VSC

› User-friendly membrane keyboard  
› Clear reduction of manufacturing times  
› Sensor for detecting spindle speeds



### QUICK-CHANGE TOOL HOLDER SWH 5-B

› in the scope of delivery  
› 25 x 120 type D tool holder for 20 mm square chisel included in delivery

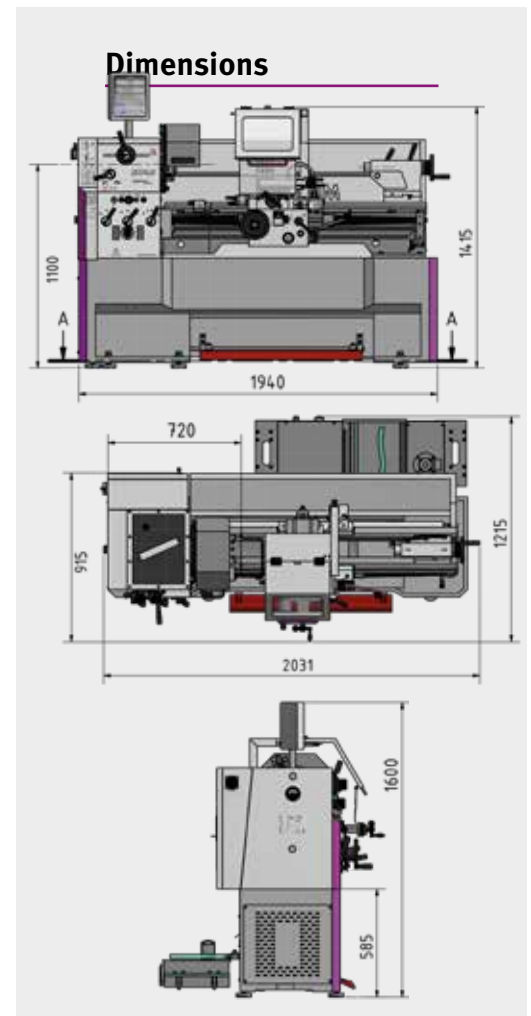
## Technical specifications, accessories and dimensions

<b>Model</b>	<b>TH 4210V</b>
Article no.	3462060
<b>Output</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
Total rated value	5.6 kW
Coolant pump motor	100 W
<b>Spindle</b>	
Drive motor	5.5 kW
Spindle taper	MT6
Spindle seat	Camlock DIN ISO 702- 2 No. 6
Spindle hole, bar passage diameter	Ø 52 mm
Quick change tool holder	SWH 5-B
<b>Work area</b>	
Centre height	210 mm
Centre width	1000 mm
Swing Ø above machine bed <sup>(2)</sup>	420 mm
Swing Ø above cross slide	250 mm
Bed width	250 mm
Swing Ø without bed bridge	590 mm
Turning length in bed bridge	260 mm
<b>Speed range</b>	
Spindle speed	30 - 3000 min <sup>-1</sup>
Number of speeds	2 stages, electronically adjustable
<b>Traverse paths</b>	
Top slide	140 mm
Cross slide	230 mm
Bed slide	780 mm
<b>Feeds and pitches</b>	
Longitudinal feed within the range	0.05 - 1.7 mm/rev (17 feeds)
Cross feed within	0.025 - 0.85 mm/rev (17 feeds)
Pitch - metric in range	0.2 - 14 mm/rev (39 pitches)
Pitch - inch in range	72 - 2 turns/inch (45 pitches)
Modular thread in range	0.3 - 3.5 mm x π (18 threads)
Diametral pitch in range	44 - 8 turns/π (21 pitches)
<b>Tailstock</b>	
Tailstock seat	MT4
Tailstock sleeve diameter / travel	Ø 50 mm / 120 mm
<b>Dimensions and weight</b>	
Dimensions (L x W x H) approx.	2031 x 915 x 1415 (DPA 1600) mm
Net weight approx.	1162 kg

## Accessories

Lathe chuck Camlock DIN ISO 702- 2 No. 6	Art no.
OPTIMUM lathe chuck, Ø 250 mm	
Three-jaw lathe chuck, centric clamping Speed max. 2400 min <sup>-1</sup>	3442765
Four-jaw lathe chuck, centric clamping Speed max. 2400 min <sup>-1</sup>	3442852
Four-jaw lathe chuck, individual clamping Speed max. 1600 min <sup>-1</sup>	3442884
<b>BISON Lathe chuck Ø 250 mm</b>	
Three-jaw lathe chuck, centric clamping Speed max. 2500 min <sup>-1</sup>	3450330
Four-jaw lathe chuck, centric clamping Speed max. 2500 min <sup>-1</sup>	3450380
Three-jaw lathe chuck, steel	3450530
Four-jaw lathe chuck, steel	3450580

Information on lathe chuck from page 240



## Scope of delivery

**Lathe chuck  
Do not forget!**

- › Fixed steady rest, passageway Ø 10 - Ø 130 mm
- › Follow steady rest, passageway Ø 10 - Ø 100 mm
- › LED machine lamp
- › Adapter MT6-MT4
- › Non-rotating centring tip MT4
- › Quick change tool holder SWH 5-B
- › Tool holder 25 x 120 type D for square chisels 20 mm
- › Change gear set
- › Machine initially filled with premium grade oil
- › Operating tool

Accessories	Article no.
Quick change tool holder SWH 5-B	3384305
Factory assembly SWH 5-B	9000400
Spare tool holder 25 x 120 Type D square	3384306
Spare tool holder 32 x 130 type H for round	3384324
Lathe tool set, carbide, 25 mm, 5-part	3441672
Lathe tool set, carbide, 25 mm, 5-part Extension kit	3441623
Lathe tool set, carbide, 20 mm, 5-part	3441670
Lathe tool set, carbide, 20 mm, 5-part Extension kit	3441617
Precision machine shoe SEU1 (6 pcs. required)	3352985
Clamping block set 20-05	3440654

More accessories and information about accessories from page 237 onwards

**Lead and feed screw lathe meets the highest requirements in terms of technical equipment and precision. With digital position display DPA 32**



**Facts that impress in terms of quality, performance and price**

- ▶ Machine bed and chassis made of heavily ribbed cast material
- ▶ Single-part steel machine chassis
- ▶ High degrees of rigidity of the spindle bar housing thanks to heavily ribbed 25GG cast material
- ▶ Precision slide
- ▶ shafts on needle bearings, all components lubricated in oil bath
- ▶ Hardened and ground bed guides
- ▶ All electronic controls centrally accessible
- ▶ All gear wheels of the feed gear made of steel, hardened
- ▶ Hand wheels decoupled and approved in line with EN 23125
- ▶ Two-channel safety electronics
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ Coolant system featuring separate coolant tank, fill level display and oil trap; easy and complete draining and cleaning as per DIN
- ▶ Complete feed and lead spindle cover
- ▶ Working area completely illuminated
- ▶ Hardened and ground spindle guarantees high degrees of accuracy and durability
- ▶ The powerful machining performance means that a high level of chip removal during roughing work is no problem
- ▶ Energy chain for material-friendly cable and hose guiding
- ▶ Lockable chip guard moves with the bed slide with integrated position indicator and coolant hose, manually adjustable
- ▶ No change gears required
- ▶ With safety device to prevent simultaneous operation of thread cutting and pitch mechanism
- ▶ Electronically braked motor
- ▶ Electronic feed shut-off of Z axis
- ▶ Electrical position shut-off with quadruple positioning stop
- ▶ Three-jaw lathe chuck included in scope of delivery
- ▶ Quick change tool holder SWH 5-B included in scope of delivery



Fig.: TX 4414

**Arguments,...**



**CONTROL CABINET**

- › 24 Volt DC power supply
- › All contactors und relays by **SIEMENS** or **Schneider**



**DIGITAL POSITION DISPLAY DPA 32**

- › LED display
- › User-friendly membrane keyboard,
- › splash-proof, closed and glare-free
- › Greater operation accuracy
- › Clear reduction of manufacturing times
- › Reduction of error quota
- › X, Y/Z0, Z axis each with 8-digit display
- › Three evaluable measurement inputs, each with seven correction memories for tools



**TOUCH PANEL CENTRALISED CONTROL**

- › For switching lighting and coolant and operating the feed screw
- › Foil keypad, easily cleanable



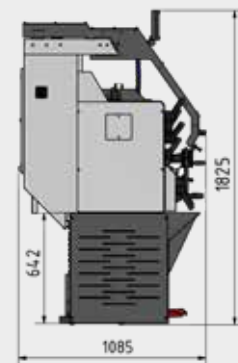
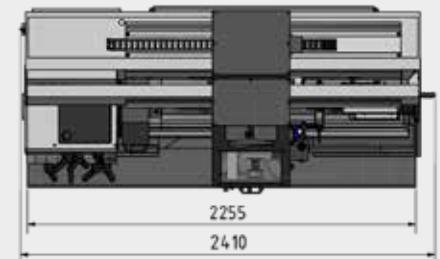
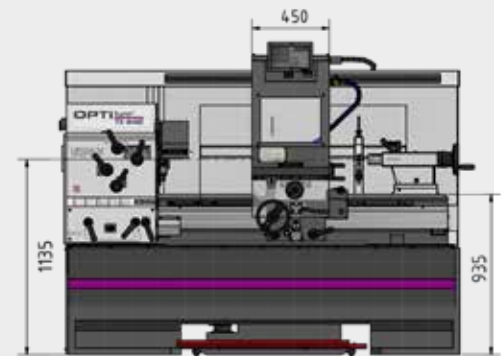
**BACK PANEL**

- › Easy to service thanks to removable rear panel

## Technical specifications, accessories and dimensions

Model	TX 4414
Article no.	3432422
<b>Output</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
Total rated value	6.1 kW
Coolant pump motor	100 W
<b>Spindle</b>	
Drive motor	5.5 kW
Spindle taper	MT6
Spindle seat	Camlock DIN ISO 702- 2 No. 6
Spindle hole, bar passage diameter	Ø 52 mm
Quick change tool holder	SWH 5-B
<b>Work area</b>	
Centre height	220 mm
Centre width	1280 mm
Swing Ø above machine bed <sup>(2)</sup>	440 mm
Swing Ø above cross slide	250 mm
Bed width	300 mm
<b>Speed range</b>	
Spindle speed	40 - 2200 min <sup>-1</sup>
Number of speeds	12 stages
<b>Traverse paths</b>	
Top slide	153 mm
Cross slide	290 mm
Bed slide	950 mm
<b>Feeds and pitches</b>	
Longitudinal feed within the range	0.05- 0.752 mm/rev (44 feeds)
Cross feed within	0.025 - 0.376 mm/rev (44 feeds)
Metric pitch	0.5 - 7.5 mm/rev (44 pitches)
Pitch - inch in range	60 - 4 turns/inch (44 pitches)
Modular thread in range	0.25 - 3.75mm x π (44 threads)
Diametral pitch in range	120 - 8 turns/ π (44 threads)
<b>Tailstock</b>	
Tailstock seat	MT4
Tailstock quill diameter/travel	Ø 58 mm / 180 mm
<b>Dimensions and weight</b>	
Dimensions (L x W x H) approx.	2410 x 1085 x 1825 mm
Net weight approx.	2030 kg

## Dimensions



## Accessories

Lathe chuck Ø 200 mm Camlock DIN ISO 702-2 No. 6	Article no.
OPTIMUM Four-jaw lathe chuck, centric clamping	3442846
BISON Four-jaw lathe chuck, centric clamping	3450370

Information on lathe chuck from page 240

Accessories	Article no.
Follow steady rest, passageway Ø 10 - Ø 170 mm	3438015
Fixed steady rest, passageway Ø 15 - Ø 165 mm	3438017
Co-rotating centring tip MT 4	3440704
BISON co-travelling centre MT 4	3451004
Precision machine shoe SEU1 (6 pcs. required)	3352985
Clamping disc Ø 350 mm Camlock DIN ISO 702-2 No. 6	3442980

More accessories and information about accessories from page 237 onwards

## Scope of delivery

- › Three-jaw lathe chuck Ø 200 mm Camlock No. 6
- › 2 non-rotating centring tip MT3 and MT5
- › Adapter MT6-MT5
- › Quick change tool holder SWH 5-B
- › Machine initially filled with premium grade oil
- › Operating tool

Fig.:  
Steady rest



Fig.:  
Follow steady

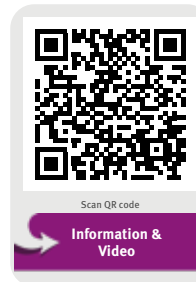


## Lead and feed screw lathe meets the highest requirements in terms of technical equipment and precision. With digital position display DPA 32



### Facts that impress in terms of quality, performance and price

- ▶ Machine bed and chassis made of heavily ribbed cast material
- ▶ Single-part steel machine chassis
- ▶ High degrees of rigidity of the spindle bar housing thanks to heavily ribbed 25GG cast material
- ▶ All gear wheels of the feed gear made of steel, hardened
- ▶ shafts on needle bearings, all components lubricated in oil bath
- ▶ Hardened and ground spindle guarantees high degrees of accuracy and durability
- ▶ The powerful machining performance means that a high level of chip removal during roughing work is no problem
- ▶ Easy to service thanks to removable rear panel
- ▶ Energy chain for material-friendly cable and hose guiding
- ▶ Lockable chip guard moves with the bed slide with integrated position indicator and coolant hose, manually adjustable
- ▶ Hand wheels decoupled and approved in line with EN 23125
- ▶ Two-channel safety electronics
- ▶ No change gears required
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ With safety device to prevent simultaneous operation of thread cutting and pitch mechanism
- ▶ Hardened and ground bed guides
- ▶ Electronically braked motor
- ▶ Electronic feed shut-off of Z axis
- ▶ Electrical position shut-off with quadruple positioning stop
- ▶ Three-jaw lathe chuck included in standard scope of delivery
- ▶ Digital position indicator DPA 32 with cutting constant VSC



### DIGITAL POSITION DISPLAY DPA 32 CUTTING CONSTANT VSC



Fig.: TX 4814V

### Arguments,...



#### CONTROL CABINET

- › 24 Volt DC power supply
- › All contactors und relays by **SIEMENS** or Schneider

Made in EU



#### Siemens SINAMICS G120D inverter

- › Safety Integrated
- › Recovery, low circuit feedback
- › Energy savings up to 20 %
- › No brake resistors required
- › You can find more detailed information in the main catalogue or at [www.optimum-machines.com](http://www.optimum-machines.com)



#### TOUCH PANEL CENTRALISED CONTROL

- › For switching lighting and coolant and operating the feed screw
- › Foil keypad, easily cleanable



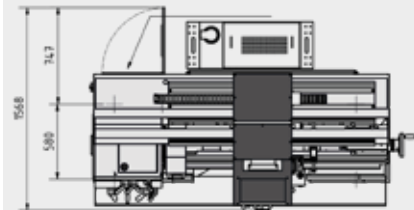
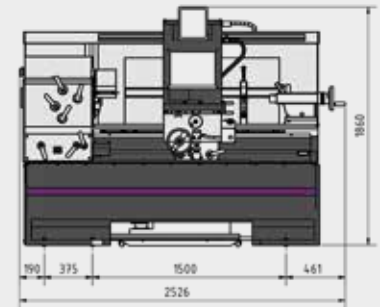
#### BACK PANEL

- › Easy to service thanks to removable rear panel

## Technical specifications, accessories and dimensions

Model	TX 4814V
Article no.	3432425
<b>Output</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
Total rated value	6.1 kW
Coolant pump motor	100 W
<b>Spindle</b>	
Drive motor	5.5 kW
Spindle taper	MK7
Spindle seat	Camlock DIN ISO 702- 2 No. 8
Spindle hole, bar passage diameter	Ø 80 mm
Quick change tool holder	SWH 5-B
<b>Work area</b>	
Centre height	240 mm
Centre width	1380 mm
Swing Ø without bed bridge	280 mm
Swing Ø above machine bed <sup>(2)</sup>	440 mm
Bed with	300 mm
<b>Speed range</b>	
Spindle speed	12 - 2500 min <sup>-1</sup>
Number of speeds	2 x 3 speeds
<b>Traverse paths</b>	
Top slide	153 mm
Cross slide	290 mm
Bed slide	950 mm
<b>Feeds and pitches</b>	
Longitudinal feed within the range	0.05- 0.75 mm/rev (44 feeds)
Cross feed within	0.025 - 0.376 mm/rev (44 feeds)
Metric pitch	0.5 - 7.5 mm/rev (44 pitches)
Pitch - inch in range	60 - 4 turns/inch (44 pitches)
Modular thread in range	0.25 - 3.75mm x π (44 threads)
Diametral pitch in range	120 - 8 turns/ π( 44 threads)
<b>Tailstock</b>	
Tailstock seat	MT5
Tailstock quill diameter/travel	Ø 60 mm / 130 mm
<b>Dimensions and weight</b>	
Dimensions (L x W x H) approx.	2526 x 1,050 x 1,860 mm
Net weight approx.	1700 kg

## Dimensions



## Accessories

Lathe chuck	Article no.
OPTIMUM Four-jaw lathe chuck Ø 315 mm Camlock No. 8 Centre clamping	3442856
BISON four-jaw lathe chuck Ø 250 mm Camlock no. 8 Centre clamping	3450381

Information on lathe chuck from page 240

Accessories	Article no.
Follow steady rest, passageway Ø 10 - Ø 170 mm	3438015
Fixed steady rest, passageway Ø 15 - Ø 165 mm	3438017
Travelling centre MT 4	3440704
BISON co-travelling centre MT 4	3451004
Precision machine shoe SEU1 (6 pcs. required)	3352985
Clamping disc Ø 480 mm Camlock DIN ISO 702-2 No. 8	3442982

More accessories and information about accessories from page 237 onwards

## Scope of delivery

- › Three-jaw lathe chuck Ø 200 mm Camlock No. 8
- › 2 non-rotating centring tip MT3 and MT5
- › Adapter MT6-MT5
- › Quick change tool holder SWH 5-B
- › Machine initially filled with premium grade oil
- › Operating tool

Fig.:  
Steady rest



Fig.:  
Follow steady



## Precision lead and feed screw lathes – unique in terms of precision and control. With DPA 31Plus digital position display and quick change tool holder



### Facts that impress in terms of quality, performance and price

- ▶ Hardened and ground z-axis guideway
- ▶ Guaranteed concentricity of the spindle nose  $\leq 0.015$  mm
- ▶ Shafts, gears and main spindle run in oil bath
- ▶ Leading spindle cover
- ▶ Precision slide
- ▶ All guides adjustable using V-ledges
- ▶ Mechanical longitudinal feed switch-off of bed slide with four configurable eccentrics
- ▶ Clockwise/anti-clockwise rotation switchable on bed slide, switchable via switching spindle
- ▶ Two-channel safety electronics
- ▶ Central lubrication in bed slide
- ▶ Top slide adjustment range  $\pm 90^\circ$
- ▶ Gearwheels smooth action, hardened and scraped borne on 2 re-adjustable precision taper rollers
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ Generously dimensioned chip guard with integrated LED machine lamp
- ▶ Handwheels with adjustable fine scaling 0.04 / 0.02 mm
- ▶ Safety hand wheels with release function acc. to EN23125 in the X and Z axis
- ▶ Quick-switching feed gear with closed design, gears and shafts hardened and scraped, running in oil bath on precision bearings
- ▶ Scale on thread gauge adjustable
- ▶ Tailstock for taper turning, adjustable by  $\pm 10$  mm
- ▶ Tailstock sleeve and handwheel with adjustable fine scaling 0.025 mm
- ▶ Fast, easy adjustment of the tailstock without tools thanks to clamping lever
- ▶ Lines routed in energy chain
- ▶ Grey cast iron prism bed heavily ribbed, induction hardened and precision ground
- ▶ Coolant system featuring separate coolant tank, fill level display and oil trap; easy and complete draining and cleaning as per DIN
- ▶ Emergency stop device with foot pedal

### from TH 4615D:

Lines routed in energy chain

### TH 4620D

- ▶ Without camshaft deactivation for the feed
- ▶ With electric rapid traverse



Fig.: TH 4615D with optional lathe chuck

## Arguments,...



### CONTROL CABINET

- > 24 Volt DC power supply
- > All contactors und relays by **SIEMENS** or Schneider



### DIG. POSITION DISPLAY DPA 31PLUS

- > User-friendly membrane keyboard
- > Clear reduction of manufacturing times
- > Sensor for detecting spindle speeds



### FROM TH 4615D: ENERGY CHAIN

- > for routing that is easy on the cable and hose material



### QUICK-CHANGE TOOL HOLDER SWH 5-B

- > in the scope of delivery
- > 25 x 120 type D tool holder for 20 mm square chisel included in delivery

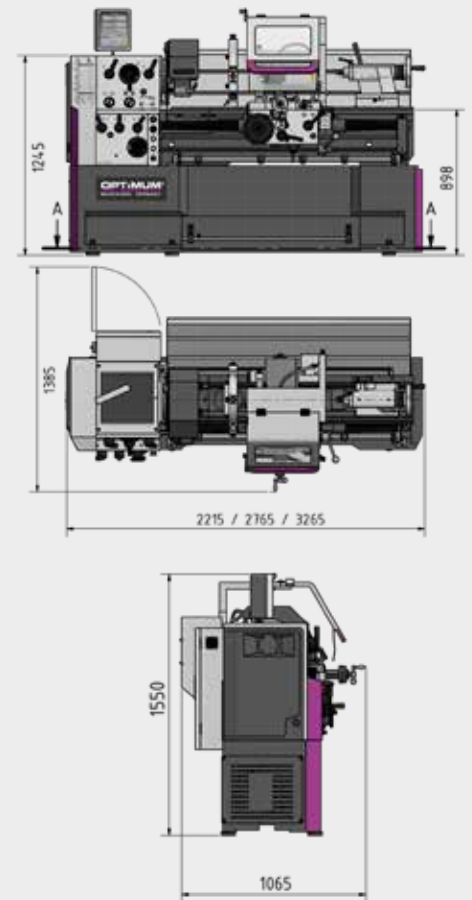
## Technical specifications, accessories and dimensions

Model	TH 4610D	TH 4615D	TH 4620D
Article no.	3462110	3462120	3462130
<b>Output</b>			
Electrical connection	400 V / 3 Ph ~50 Hz		
Total rated value	5.8 kW		
Coolant pump motor	125 Watts		
<b>Spindle</b>			
Drive motor	5.5 kW		
Spindle taper	MT6		
Spindle seat	Camlock DIN ISO 702- 2 No. 6		
Spindle hole, bar passage diameter	Ø 58 mm		
Quick change tool holder	SWH 5-B		
<b>Work area</b>			
Centre height	230 mm		
Centre width	1060 mm	1560 mm	2060 mm
Swing Ø above machine bed <sup>(2)</sup>	460 mm		
Swing Ø above cross slide	270 mm		
Bed width	300 mm		
Swing Ø without bed bridge	690 mm		
Turning length in bed bridge	240 mm		
<b>Speed range</b>			
Spindle speed	25 - 2000 min <sup>-1</sup>		
Number of speeds	12 stages		
<b>Traverse paths</b>			
Top slide	125 mm		
Cross slide	285 mm		
Bed slide	755 mm	1305 mm	1805 mm
<b>Feeds and pitches</b>			
Longitudinal feed in the range (machine without electric rapid traverse)	0.031 - 1.7 mm/rev (42 feeds)		
Cross feed in the range (machine without electric rapid traverse)	0.014 - 0.784 mm/rev (42 feeds)		
Longitudinal feed in the range (with electric rapid traverse)	0.055 - 3.065 mm/rev (42 feeds)		
Cross feed in the range (machine with electric rapid traverse)	0.025 - 1.386 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)		
Modular thread in range	0.1 - 7 mm x π (34 threads)		
Diametral pitch in range	112 - 4 turns/π (50 pitches)		
<b>Tailstock</b>			
Tailstock seat	MT4		
Sleeve diameter / travel	Ø 60 mm / 130 mm		
<b>Dimensions and weight</b>			
Length approx.	2215 mm	2765 mm	3265 mm
width x height approx.	1065 x 1550 mm		
Net weight approx.	1645 kg	1810 kg	1965 kg

## Accessories

Accessories	Article no.
Spare tool holder 25 x 120 Type D for square	3384306
Spare tool holder 32 x 130 type H for round chisels	3384324
Lathe tool set, carbide, 20 mm, 5-part	3441670
Lathe tool set, carbide, 20 mm, 5-part Extension kit	3441617
Collet set 3- 25 mm, 5C, 17-part	3441509
Collet chuck 5C - Camlock no. 6	3441556
Position stop with granular adjustment	3444022
Precision machine shoe SEU1 (6 pcs. required)	3352985
Clamping disc Ø 350 mm no. 6	3442980

## Dimensions



## Scope of delivery

**Lathe chuck  
Do not forget!**

- > Fixed steady rest, passageway Ø 25 - Ø 178 mm
- > Follow steady rest, passageway Ø 19 - Ø 114 mm
- > LED machine lamp
- > Adapter MT6-MT4
- > Non-rotating centring tip MT4
- > Non-rotating, but temperature resistant centring tip MT4
- > Quick change tool holder SWH 5-B
- > Tool holder 25 x 120 type D for square chisels 20 mm
- > Thread gauge
- > Change gear set
- > Gear wheels for threading gauge (metric)
- > Machine initially filled with premium grade oil
- > Operating tool

Lathe chuck Camlock DIN ISO 702- 2 No. 6	Article no.
OPTIMUM lathe chuck, Ø 250 mm	
Three-jaw lathe chuck centric	3442765
Four-jaw lathe chuck centric	3442852
<b>BISON Lathe chuck Ø 250 mm</b>	
Three-jaw lathe chuck centric	3450330
Four-jaw lathe chuck centric	3450380

Information on lathe chuck from page 240

## Precision lead and feed screw lathe – unique in terms of precision and operation with Siemens inverter Vario drive

### Facts that impress in terms of quality, performance and price

- ▶ Hardened and ground z-axis guideway
- ▶ Guaranteed concentricity of the spindle nose  $\leq 0.015$  mm
- ▶ Shafts, gears and main spindle run in oil bath
- ▶ Leading spindle cover
- ▶ Precision slide
- ▶ All guides adjustable using V-ledges
- ▶ Mechanical longitudinal feed switch-off of bed slide with four configurable eccentrics
- ▶ Clockwise/anti-clockwise rotation switchable on bed slide, switchable via switching spindle
- ▶ Two-channel safety electronics
- ▶ Central lubrication in bed slide
- ▶ Top slide adjustment range  $\pm 90^\circ$
- ▶ Gearwheels smooth action, hardened and scraped borne on 2 re-adjustable precision taper rollers
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ Generously dimensioned chip guard with integrated LED machine lamp
- ▶ Handwheels with adjustable fine scaling 0.04 / 0.02 mm
- ▶ Safety hand wheels with release function acc. to EN23125 in the X and Z axis
- ▶ Quick-switching feed gear with closed design, gears and shafts hardened and scraped, running in oil bath on precision bearings
- ▶ Scale on thread gauge adjustable
- ▶ Tailstock for taper turning, adjustable by  $\pm 10$  mm
- ▶ Tailstock sleeve and handwheel with adjustable fine scaling 0.025 mm
- ▶ Fast, easy adjustment of the tailstock without tools thanks to clamping lever
- ▶ Lines routed in energy chain
- ▶ Grey cast iron prism bed heavily ribbed, induction hardened and precision ground
- ▶ Coolant system featuring separate coolant tank, fill level display and oil trap; easy and complete draining and cleaning as per DIN
- ▶ Emergency stop device with foot pedal
- ▶ Speed monitoring in line with Machinery Directive
- ▶ Quick change tool holder 5-B included in scope of delivery
- ▶ 25 x 120 type D tool holder for 20 mm square chisel included in scope of delivery



### Arguments,...

Made in EU



#### SIEMENS SINAMICS INVERTER G120D

> More information on page 200



#### CONTROL CABINET

> 24 Volt DC power supply  
> All contactors und relays by **SIEMENS** or Eaton



#### DIGITAL POSITION INDICATOR DPA 32 WITH CUTTING CONSTANT VSC

> User-friendly membrane keyboard  
> Clear reduction of manufacturing times  
> Sensor for detecting spindle speeds



#### QUICK-CHANGE TOOL HOLDER SWH 5-B

> in the standard scope of delivery  
> 25 x 120 type D tool holder for 20 mm square chisel included in scope of delivery



Fig.: TH 4615V with optional lathe chuck

## Technical specifications, accessories and dimensions

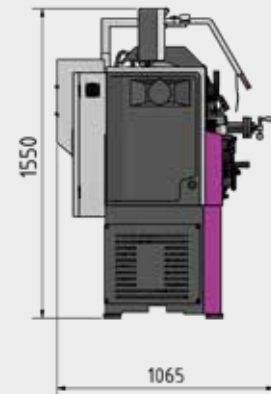
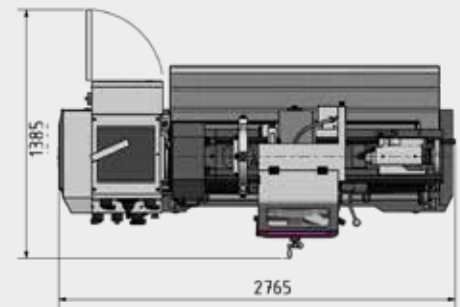
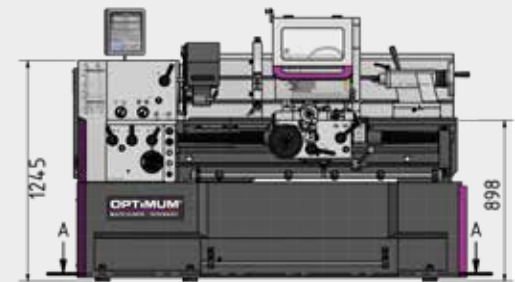
Model	TH 4615V
Article no.	3462125
<b>Output</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
Total rated value	8.5 kW
Coolant pump motor	125 Watts
<b>Spindle</b>	
Drive motor	7.5 kW
Spindle taper	MK7
Spindle seat	Camlock DIN ISO 702- 2 No. 8
Spindle hole, bar passage diameter	Ø 80 mm
Quick change tool holder	SWH 5-B
<b>Work area</b>	
Centre height	230 mm
Centre width	1560 mm
Swing Ø above machine bed <sup>(2)</sup>	460 mm
Swing Ø above cross slide	270 mm
Bed width	300 mm
Swing Ø without bed bridge	690 mm
Turning length in bed bridge	240 mm
<b>Speed range</b>	
Spindle speed	30 - 2000 min <sup>-1</sup>
Number of speeds	2 stages, electronically adjustable
<b>Traverse paths</b>	
Top slide	125 mm
Cross slide	285 mm
Bed slide	1305 mm
<b>Feeds and pitches</b>	
Longitudinal feed in the range (machine without electric rapid traverse)	0.031 - 1.7 mm/rev (42 feeds)
Cross feed in the range (machine without electric rapid traverse)	0.014 - 0.784 mm/rev (42 feeds)
Longitudinal feed in the range (with electric rapid traverse)	0.109 - 3.065 mm/rev (35 feeds)
Cross feed in the range (machine with electric rapid traverse)	0.047 - 1.302 mm/rev (35 feeds)
Pitch - metric in range	0.1 - 14 mm/rev (41 pitches)
Pitch - inch in range	112 - 2 turns/inch (41 pitches)
Modular thread in range	0.1 - 7 mm x π (34 threads)
Diametral pitch in range	112 - 4 turns/π (50 pitches)
<b>Tailstock</b>	
Tailstock seat	MT4
Sleeve diameter / travel	Ø 60 mm / 130 mm
<b>Dimensions and weight</b>	
Dimensions (L x W x H) approx.	2765 x 1065 x 1550 mm
Net weight approx.	2020 kg

## Accessories

Lathe chuck Ø 315 mm Camlock DIN ISO 702-2 No. 8	Article no.
OPTIMUM lathe chucks	
Three-jaw lathe chuck, centric, max. speed 1800 min <sup>-1</sup>	3442768
Four-jaw lathe chuck, centric, max. speed 1800 min <sup>-1</sup>	3442856
Four-jaw lathe chuck, individual, max. speed 1200 min <sup>-1</sup>	3442888
BISON lathe chucks	
Three-jaw lathe chuck, centric, max. speed 2000 min <sup>-1</sup>	3450335
Four-jaw lathe chuck, centric, max. speed 2000 min <sup>-1</sup>	3450385
<b>Accessories</b>	
Travelling centre MT 4	3440704
Position stop with granular adjustment	3444022
Clamping disc Ø 480 mm Camlock DIN ISO 702-2 No. 8	3442982

More accessories and information about accessories from page 237 onwards

## Dimensions



## Our recommendation

**cleancraft®**  
flexCAT 378 EOT-PRO  
Article no. 7003380



## Scope of delivery

**Lathe chuck  
Do not forget!**

- › Fixed steady rest, passageway Ø 25 - Ø 178 mm
- › Follow steady rest, passageway Ø 19 - Ø 114 mm
- › LED machine lamp
- › Adapter MT 7-MT 4
- › Non-rotating centring tip MT4
- › Non-rotating, but temperature resistant centring tip MT4
- › Quick change tool holder 5-B
- › Tool holder 25 x 120 type D for square chisels 20 mm
- › Thread gauge
- › Change gear set
- › Machine initially filled with premium grade oil
- › Operating tool

## Lead and feed screw lathes meet the highest standards in terms of technical equipment and precision



### Facts that impress in terms of quality, performance and price

- ▶ Machine bed and chassis made of heavily ribbed cast material
- ▶ Single-part steel machine chassis
- ▶ High degrees of rigidity of the spindle bar housing thanks to heavily ribbed 25GG cast material
- ▶ Precision slide
- ▶ shafts on needle bearings, all components lubricated in oil bath
- ▶ Hardened and ground bed guides
- ▶ All electronic controls centrally accessible
- ▶ All gear wheels of the feed gear made of steel, hardened
- ▶ Hand wheels decoupled and approved in line with EN 23125
- ▶ Two-channel safety electronics
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ Complete feed and lead spindle cover
- ▶ Working area completely illuminated
- ▶ Hardened and ground spindle guarantees high degrees of accuracy and durability
- ▶ The powerful machining performance means that a high level of chip removal during roughing work is no problem
- ▶ Lockable chip guard moves with the bed slide with integrated position indicator and coolant hose, manually adjustable
- ▶ Easy to service thanks to removable rear panel
- ▶ No change gears required
- ▶ With safety device to prevent simultaneous operation of thread cutting and pitch mechanism
- ▶ Electronically braked motor
- ▶ Electronic feed shut-off of Z axis
- ▶ Electrical position shut-off with quadruple positioning stop
- ▶ Coolant system featuring separate coolant tank, fill level display and oil trap; easy and complete draining and cleaning as per DIN
- ▶ Three-jaw chuck included in standard scope of delivery

#### TX 5216:

- ▶ Large spindle bore Ø 80 mm

#### TX 6222:

- ▶ Large spindle bore Ø 105 mm

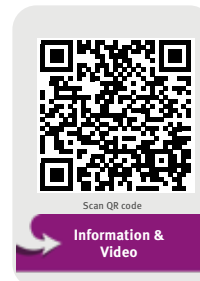


Fig. TX 5216

## Arguments,...



### CONTROL CABINET

- › 24 Volt DC power supply
- › All contactors und relays by **SIEMENS** or **Schneider**



### DIGITAL POSITION DISPLAY DPA 32

- › LED display
- › User-friendly membrane keyboard,
- › splash-proof, closed and glare-free
- › Greater operation accuracy
- › Clear reduction of manufacturing times
- › Reduction of error quota



### TOUCH PANEL CENTRALISED CONTROL

- › Pitch deactivation using button
- › Feed bar drive
- › Rapid motion X and Y axis
- › Machine lamp
- › Coolant



### QUICK-CHANGE TOOL HOLDER SWH 7-C

- › In the standard scope of delivery

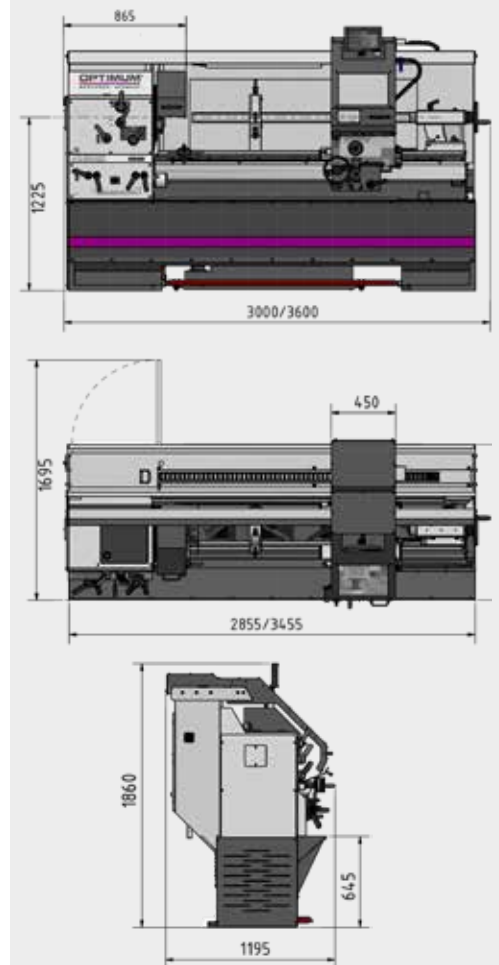
## Technical specifications, accessories and dimensions

Model	TX 5216	TX 6222
Article no.	3432442	3432462
<b>Output</b>		
Electrical connection	400 V / 3 Ph ~50 Hz	
Total rated value	6.1 kW	8.5 kW
Coolant pump motor	100 W	
<b>Spindle</b>		
Drive motor	5.5 kW	7.5 kW
Spindle taper	MK7	Ø 113 mm (Taper 1:20)
Spindle seat	Camlock DIN ISO 702- 2 No. 8	
Spindle hole, bar passage diameter	Ø 80 mm	Ø 105 mm
Quick change tool holder	SWH 7-C	
<b>Work area</b>		
Centre height	260 mm	310 mm
Centre width	1600 mm	2225 mm
Swing Ø above machine bed <sup>(2)</sup>	520 mm	620 mm
Swing Ø above cross slide	324 mm	424 mm
Bed width	350 mm	
<b>Speed range</b>		
Spindle speed	30 - 1500 min <sup>-1</sup>	40 - 1650 min <sup>-1</sup>
Number of speeds	12 stages	
<b>Traverse paths</b>		
Top slide	170 mm	
Cross slide	350 mm	
Bed slide	1400 mm	2000 mm
<b>Feeds and pitches</b>		
Longitudinal feed within the range	0.05 - 1.5 mm/rev (55 feeds)	
Cross feed within	0.025 - 0.75 mm/rev (55 feeds)	
Metric pitch	0.5 - 15 mm/rev (55 pitches)	
Pitch - inch in range	60 - 2 turns/inch (55 pitches)	
Modular thread in range	0.25 - 7.5mm x π (55 threads)	
Diametral pitch in range	120 - 4 turns/ π (55 threads)	
<b>Tailstock</b>		
Tailstock seat	MT5	
Tailstock sleeve diameter / travel	Ø 72 mm / 180 mm	
<b>Dimensions and weight</b>		
Dimensions (L x W x H) approx.	3016 x 1270 x 2217 mm	3550 x 1200 x 1830 mm
Net weight approx.	2470 kg	2800 kg

## Accessories

Accessories	Article no.
<b>TX 5216</b>	
Follow steady rest, passageway Ø 15 - Ø 125 mm	3438020
Fixed steady rest, passageway Ø 10 - Ø 185 mm	3438023
Fixed steady rest, passageway Ø 160 - Ø 285 mm	3438024
Carbide lathe tool set 20 mm	3441670
Carbide lathe tool set 20 mm, extension kit	3441617
<b>TX 6222</b>	
Follow steady rest, passageway Ø 15 - Ø 125 mm	3438030
Fixed steady rest, passageway Ø 10 - Ø 185 mm	3438033
Fixed steady rest, passageway Ø 160 - Ø 285 mm	3438034
Carbide lathe tool set 25 mm	3441672
Carbide lathe tool set 25 mm, extension kit	3441623
<b>Accessories</b>	<b>Article no.</b>
BISON MT5 non-rotating centring tip	3451005
Precision machine shoe SEU1 (6 pcs. required)	3352985
Clamping disc Ø 480 mm Camlock DIN ISO 702-2 No. 8	3442982

## Dimensions



## Scope of delivery

- › Three-jaw lathe chuck Ø 315 mm Camlock No. 8
  - › Non-rotating centring tip MT5, long
  - › Non-rotating centring tip MT5, short
  - › Quick change tool holder SWH 7-C
  - › Tool holder for square chisels 32 x 130 Type D for square chisels 25 mm
  - › Machine initially filled with premium grade oil
  - › Operating tool
- TX 5216:
- › Adapter MT7-MT5
- TX 6222:
- › Adapter Ø 113 mm-MT 5



Fig.:  
Steady rest



Fig.:  
Follow steady



## Precision lead and feed screw lathes with electronically adjustable drive and digital position indicator DPA 32

### Facts that impress in terms of quality, performance and price

- ▶ Machine bed and chassis made of heavily ribbed cast material
- ▶ Single-part steel machine chassis
- ▶ High rigidity of the headstock housing thanks to heavily ribbed
- ▶ Precision slide
- ▶ shafts on needle bearings, all components lubricated in oil bath
- ▶ Hardened and ground bed guides
- ▶ All electronic controls centrally accessible
- ▶ All gear wheels of the feed gear made of steel, hardened
- ▶ Hand wheels decoupled and approved in line with EN 23125
- ▶ Two-channel safety electronics
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ Complete feed and lead spindle cover
- ▶ Working area completely illuminated
- ▶ Easy to service thanks to removable rear panel
- ▶ Hardened and ground spindle guarantees high degrees of accuracy and durability
- ▶ The powerful machining performance means that a high level of chip removal during roughing work is no problem
- ▶ Energy chain for material-friendly cable and hose guiding
- ▶ Lockable chip guard moves with the bed slide with integrated position indicator and coolant hose, manually adjustable
- ▶ No change gears required
- ▶ With safety device to prevent simultaneous operation of thread cutting and pitch mechanism
- ▶ Electronic feed shut-off of Z axis
- ▶ Coolant system featuring separate coolant tank, fill level display and oil trap; easy and complete draining and cleaning as per DIN
- ▶ Electrical position shut-off with quadruple positioning stop
- ▶ Three-jaw lathe chuck included in standard scope of delivery
- ▶ Quick change tool holder SWH 7-C
- ▶ Tool holder 32 x 130 type D for square chisels 25 mm

#### TX 5216V:

- ▶ Large spindle bore Ø 80 mm

#### TX 6222V:

- ▶ Large spindle bore Ø 105 mm



### SIEMENS SINAMICS G120D FREQUENCY INVERTER



Fig. TX 5216V

## Arguments,...

Made in EU



### SIEMENS SINAMICS INVERTER G120D

▶ More informations see page 198



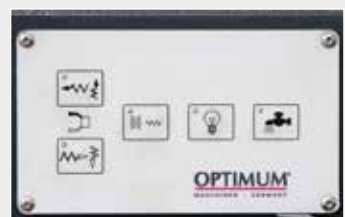
### CONTROL CABINET

- ▶ 24 Volt DC power supply
- ▶ All contactors und relays by **SIEMENS** or Schneider



### DIG. DIGITAL POSITION INDICATOR DPA 32 WITH CUTTING CONSTANT VSC

- ▶ LED display
- ▶ User-friendly membrane keyboard,
- ▶ splash-proof, closed and glare-free
- ▶ Greater operation accuracy
- ▶ Clear reduction of manufacturing times
- ▶ Reduction of error quota
- ▶ X, Y/Z0, Z axis each with 8-digit display
- ▶ Three evaluable measurement inputs, each with seven correction memories for tools



### TOUCH PANEL CENTRALISED CONTROL

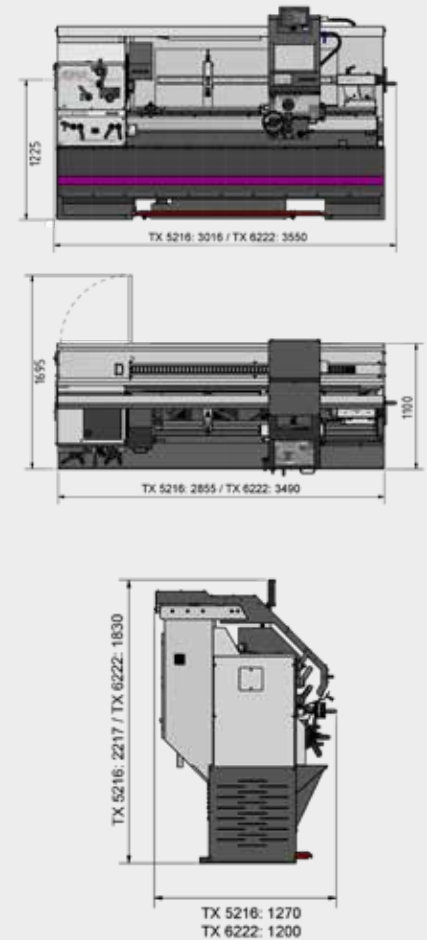
## Technical specifications, accessories and dimensions

Model	TX 5216V	TX 6222V
Article no.	3432447	3432467
<b>Output</b>		
Electrical connection	400 V / 3 Ph ~50 Hz	
Total rated value	6 kW	12 kW
Coolant pump motor	100 W	
<b>Spindle</b>		
Drive motor	7.5 kW	11 kW
Spindle taper	MK7	Ø 113 mm (Taper 1:20)
Spindle seat	Camlock DIN ISO 702- 2 No. 8	
Spindle hole, bar passage diameter	Ø 80 mm	Ø 105 mm
Quick change tool holder	SWH 7-C	
<b>Work area</b>		
Centre height	260 mm	310 mm
Centre width	1600 mm	2225 mm
Swing Ø above machine bed <sup>(2)</sup>	520 mm	620 mm
Swing Ø above cross slide	324 mm	424 mm
Bed width	350 mm	
<b>Speed range</b>		
Spindle speed	12 - 1800 min <sup>-1</sup>	14 - 1800 min <sup>-1</sup>
Number of speeds	2 x 3 speeds	
<b>Traverse paths</b>		
Top slide	170 mm	
Cross slide	350 mm	
Bed slide	1400 mm	2000 mm
<b>Feeds and pitches</b>		
Longitudinal feed within the range	0.05 - 1.5 mm/rev (55 feeds)	
Cross feed within	0.025 - 0.75 mm/rev (55 feeds)	
Metric pitch	0.5 - 15 mm/rev (55 pitches)	
Pitch - inch in range	60 - 2 turns/inch (55 pitches)	
Modular thread in range	0.25 - 7.5mm x π (55 threads)	
Diametral pitch in range	120 - 4 turns/ π(55 threads)	
<b>Tailstock</b>		
Tailstock seat	MT5	
Tailstock sleeve diameter / travel	Ø 72 mm / 180 mm	
<b>Dimensions and weight</b>		
Dimensions (L x W x H) approx.	3016 x 1195 x 1860	3550 x 1200 x 1830
Net weight approx.	2470 kg	2800 kg

## Accessories

Accessories	Article no.
<b>TX 5216V</b>	
Follow steady rest, passageway Ø 15 - Ø 125 mm	3438020
Fixed steady rest, passageway Ø 10 - Ø 185 mm	3438023
Fixed steady rest, passageway Ø 160 - Ø 285 mm	3438024
Carbide lathe tool set 20 mm	3441670
Carbide lathe tool set 20 mm, extension kit	3441617
<b>TX 6222V</b>	
Follow steady rest, passageway Ø 15 - Ø 125 mm	3438030
Fixed steady rest, passageway Ø 10 - Ø 185 mm	3438033
Fixed steady rest, passageway Ø 160 - Ø 285 mm	3438034
Carbide lathe tool set 25 mm	3441672
Carbide lathe tool set 25 mm, extension kit	3441623
<b>Accessories</b>	
BISON MT5 co-rotating centring tip	3451005
Precision machine shoe SEU1 (6 pcs. required)	3352985
Clamping disc Ø 480 mm Camlock DIN ISO 702-2 No. 8	3442982

## Dimensions



## Scope of delivery

- › Three-jaw lathe chuck Ø 315 mm Camlock No. 8
  - › Non-rotating centring tip MT5, long
  - › Non-rotating centring tip MT5, short
  - › Quick change tool holder SWH 7-C
  - › Tool holder for square chisels 32 x 130 Type D for square chisels 25 mm
  - › Machine initially filled with premium grade oil
  - › Operating tool
- TX 5216V:**
- › Adapter MT7-MT5
- TX 6222V:**
- › Adapter Ø 113 mm-MT 5



Fig.:  
Steady rest



Fig.:  
Follow steady

## Heavy lead and feed screw lathes, characterised by excellent flexibility, precision and economy. With DPA 31Plus digital position display and quick change tool holder



### Facts that impress in terms of quality, performance and price

- ▶ Hardened and ground z-axis guideway
- ▶ Guaranteed concentricity of the spindle nose  $\leq 0.015$  mm
- ▶ Spindle seat Camlock DIN ISO 702- 2 No. 8
- ▶ Leading spindle cover
- ▶ Precision slide
- ▶ All guides adjustable using V-ledges
- ▶ Clockwise/anti-clockwise rotation switchable on bed slide, switchable via switching spindle
- ▶ Two-channel safety electronics
- ▶ Central lubrication in bed slide
- ▶ Top slide adjustment range  $\pm 90^\circ$
- ▶ Main spindle runs in oil bath
- ▶ Gears and shafts running in oil bath
- ▶ Gearwheels smooth action, hardened, ground and borne on 2 re-adjustable precision taper rollers
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ Handwheels with adjustable fine scaling 0.04 / 0.02 mm
- ▶ Safety hand wheels with release function acc. to EN23125 in the X and Z axis
- ▶ Gears and shafts hardened and scraped, running in oil bath on precision bearings
- ▶ Clearly-arranged selector lever for switching the feed speeds
- ▶ Closed design of the quick shift feed gear
- ▶ EMERGENCY-STOP push button, motor circuit breaker, lockable main switch
- ▶ Emergency stop device with foot pedal
- ▶ Tailstock for taper turning, adjustable by  $\pm 10$  mm
- ▶ Tailstock sleeve and handwheel with adjustable fine scaling 0.025 mm. Fast, easy adjustment without tools thanks to clamping lever
- ▶ Energy chain for material-friendly cable and hose guiding
- ▶ Grey cast iron prism bed heavily ribbed, induction hardened and precision ground
- ▶ Coolant system featuring separate coolant tank, fill level display and oil trap; easy and complete draining and cleaning as per DIN
- ▶ Scale on thread gauge adjustable

### TH 5620D / TH 5623D

- ▶ Without camshaft deactivation for the feed
- ▶ With rapid traverse

- › With electric rapid traverse
- › Without camshaft deactivation for the feed



Fig.: TH 5615D with optional lathe chuck

## Arguments,...



### CONTROL CABINET

- › 24 Volt DC power supply
- › All contactors und relays by **SIEMENS** or Schneider



### DIG. POSITION DISPLAY DPA 31PLUS

- › LED display
- › User-friendly membrane keyboard,
- › splash-proof, closed and glare-free
- › Greater operation accuracy
- › Clear reduction of manufacturing times
- › Reduction of error quota
- › X, Y/Z0, Z axis each with 8-digit display
- › › Three evaluable measurement inputs, each with seven correction memories for tools



### LED MACHINE LAMP

- › in chip protection



### QUICK-CHANGE TOOL HOLDER SWH 7-C

- › In the standard scope of delivery
- › Tool holder 32 x 130 type D for square chisels 25 mm

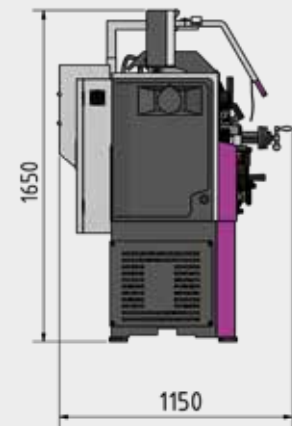
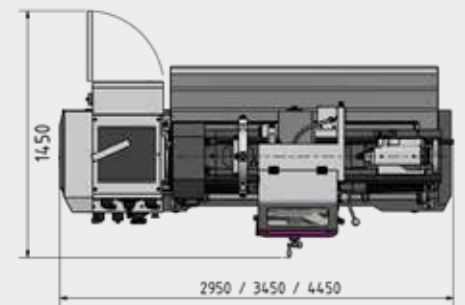
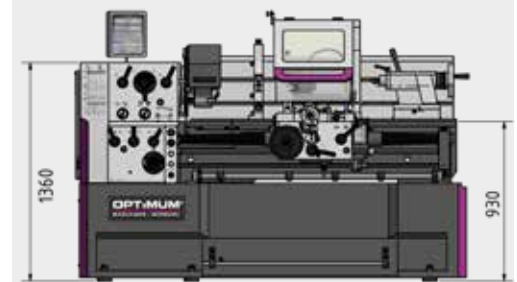
## Technical specifications, accessories and dimensions

Model	TH 5615D	TH 5620D	TH 5630D
Article no.	3462160	3462170	3462180
<b>Output</b>			
Electrical connection	400 V / 3 Ph ~50 Hz		
Total rated value	8.5 kW		
Coolant pump motor	125 Watts		
<b>Spindle</b>			
Drive motor	7.5 kW		
Spindle taper	MK7		
Spindle seat	Camlock DIN ISO 702- 2 No. 8		
Spindle hole, bar passage diameter	Ø 80 mm		
Quick change tool holder	SWH 7-C		
<b>Work area</b>			
Centre height	280 mm		
Centre width	1420 mm	1910 mm	2910 mm
Swing Ø above machine bed <sup>(2)</sup>	560 mm		
Swing Ø above cross slide	355 mm		
Bed width	350 mm		
Swing Ø without bed bridge	790 mm		
Turning length in bed bridge	170 mm		
<b>Speed range</b>			
Spindle speed	25 - 1600 min <sup>-1</sup>		
Number of speeds	12 stages		
<b>Traverse paths</b>			
Top slide	130 mm		
Cross slide	316 mm		
Bed slide	1210 mm	1710 mm	2710 mm
<b>Feeds and pitches</b>			
Longitudinal feed within the range	0.059 - 1.646 mm/rev (35)		
Cross feed within	0.020 - 0.573 mm/rev (35)		
Pitch - metric in range	0.2 - 14 mm/rev (47)		
Pitch - inch in range	112 - 2 turns/inch (60 pitches)		
Modular thread in range	0.1 - 7mm x π (34 threads)		
Diametral pitch in range	112 - 4 turns/ π(50 pitches)		
<b>Tailstock</b>			
Tailstock seat	MT5		
Sleeve diameter / travel	Ø 75 mm / 180 mm		
<b>Dimensions and weight</b>			
Length approx.	2950 mm	3450 mm	4450 mm
width x height approx.	1150 x 1650 mm		
Net weight approx.	2300 kg	2560 kg	3000 kg

## Accessories

Lathe chuck Ø 315 mm Camlock DIN ISO 702-2 No. 8	Article no.
OPTIMUM Three-jaw lathe chuck, centric, max. speed 1800 min <sup>-1</sup>	3442768
OPTIMUM Four-jaw lathe chuck, centric, max. 2100 1800 min <sup>-1</sup>	3442856
OPTIMUM Four-jaw lathe chuck, individual, max. 1200 min <sup>-1</sup>	3442888
BISON Three-jaw lathe chuck, centric, max. 2000 min <sup>-1</sup>	3450335
BISON Four-jaw lathe chuck, centric, max. 2000 min <sup>-1</sup>	3450385
Accessories	Article no.
Turning tool set, Carbide 25 mm, 5-part (see page 245)	3441670
Spare tool holder 40 x 160 type H for round	3384326
Spare tool holder 32 x 150 Type D square	3384308
BISON MT5 co-rotating centring tip	3451005
Position stop with granular adjustment	3444023
Precision machine shoe SEU1 (6 pcs. required for TH 5615 and TH 5620) (8 pcs. required for TH 5630)	3352985
Clamping disc Ø 480 mm Camlock DIN ISO 702-2 No. 8	3442982

## Dimensions



## Our recommendation

**cleancraft**  
flexCAT 378 EOT-PRO  
Article no. 7003380



## Scope of delivery

**Lathe chuck  
Do not forget!**

- › Fixed steady rest, passageway Ø 19 - Ø 165 mm
- › Follow steady rest, passageway Ø 16 - Ø 95 mm
- › LED machine lamp
- › Adapter MT7-MT5
- › Non-rotating centring tip MT5
- › Fixed, but temperature resistant centre MT 5
- › Quick change tool holder SWH 7-C
- › Tool holder 32 x 150 type D for square chisels 25 mm
- › Thread gauge
- › Gear wheels for threading gauge (metric)
- › Change gear set
- › Machine initially filled with premium grade oil
- › Operating tool

## Heavy lead and feed screw lathe, characterised by excellent flexibility, precision and economy. Featuring Siemens inverter Vario drive

### Facts that impress in terms of quality, performance and price

- ▶ Hardened and ground z-axis guideway
- ▶ Guaranteed concentricity of the spindle nose  $\leq 0.015$  mm
- ▶ Spindle seat Camlock DIN ISO 702- 2 No. 8
- ▶ Two speeds
- ▶ Spindle bore / bar passage  $\varnothing 105$  mm
- ▶ Siemens Sinamics frequency inverter / Safety Integrated
- ▶ Leading spindle cover
- ▶ Precision slide
- ▶ All guides adjustable using V-ledges
- ▶ Clockwise/anti-clockwise rotation switchable on bed slide, switchable via switching spindle
- ▶ Two-channel safety electronics
- ▶ Central lubrication in bed slide
- ▶ Top slide adjustment range  $\pm 90^\circ$
- ▶ Gearwheels smooth action, hardened, ground and borne on 2 re-adjustable precision taper rollers
- ▶ Gears and shafts hardened and scraped, running in oil bath on precision bearings
- ▶ Handwheels with adjustable fine scaling 0.04 / 0.02 mm
- ▶ Safety hand wheels with release function acc. to EN23125 in the X and Z axis
- ▶ Clearly-arranged selector lever for switching the feed speeds
- ▶ Closed design of the quick shift feed gear
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ EMERGENCY-STOP push button, motor circuit breaker, lockable main switch
- ▶ Emergency stop device with foot pedal
- ▶ Tailstock for taper turning, adjustable by  $\pm 10$  mm
- ▶ Tailstock sleeve and handwheel with adjustable fine scaling 0.025 mm. Fast, easy adjustment without tools thanks to clamping lever
- ▶ Grey cast iron prism bed heavily ribbed, induction hardened and precision ground
- ▶ Coolant system featuring separate coolant tank, fill level display and oil trap; easy and complete draining and cleaning as per DIN
- ▶ LED machine lamp in chip guard
- ▶ Energy chain for material-friendly cable and hose guiding
- ▶ Scale on thread gauge adjustable

- › With electronic rapid traverse
- › Without camshaft deactivation for the feed



Fig.: TH 5615V with optional lathe chuck



### Arguments,...

Made in EU



#### SIEMENS SINAMICS INVERTER G120D

› More informations see page 198



#### CONTROL CABINET

- › 24 Volt DC power supply
- › All contactors und relays by **SIEMENS** or Schneider



#### DIG. POSITION INDICATOR DPA 32 WITH CUTTING CONSTANT VSC

- › User-friendly membrane keyboard
- › Clear reduction of manufacturing times
- › Sensor for detecting spindle speeds



#### QUICK-CHANGE TOOL HOLDER SWH 5-B

- › In the standard scope of delivery
- › Tool holder 32 x 150 type D for square chisels 25 mm

## Technical specifications, accessories and dimensions

Model	TH 5620V
Article no.	3462175
<b>Output</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
Total rated value	8.5 kW
Coolant pump motor	125 Watts
<b>Spindle</b>	
Drive motor	7.5 kW
Spindle taper	Ø 113 mm (taper 1:20)
Spindle seat	Camlock DIN ISO 702- 2 No. 8
Spindle hole, bar passage diameter	Ø 105 mm
Quick change tool holder	SWH 7-C
<b>Work area</b>	
Centre height	280 mm
Centre width	1910 mm
Swing Ø above machine bed <sup>(2)</sup>	560 mm
Swing Ø above cross slide	355 mm
Bed width	350 mm
Swing Ø without bed bridge	790 mm
Turning length in bed bridge	170 mm
<b>Speed range</b>	
Spindle speed	25 - 1600 min <sup>-1</sup>
Number of speeds	2 speeds; electronically controlled
<b>Traverse paths</b>	
Top slide	130 mm
Cross slide	316 mm
Bed slide	1710 mm
<b>Feeds and pitches</b>	
Longitudinal feed within the range	0.031 - 1.7 mm/rev (42 feeds)
Cross feed within	0.014 - 0.784 mm/rev (42 feeds)
Pitch - metric in range	0.1 - 14 mm/rev (47 pitches)
Pitch - inch in range	112 - 2 turns/inch (60 pitches)
Modular thread in range	0.1 - 7mm x π (34 threads)
Diametral pitch in range	112 - 4 turns/ π(50 pitches)
<b>Tailstock</b>	
Tailstock seat	MT5
Sleeve diameter / travel	Ø 75 mm / 180 mm
<b>Dimensions and weight</b>	
Dimensions (L x W x H) approx.	3450 x 1150 x 1650 mm
Net weight approx.	2560 kg

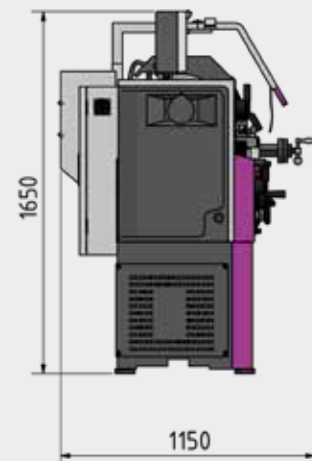
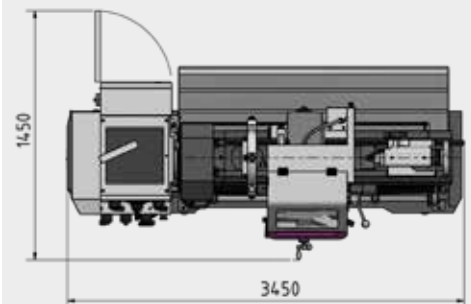
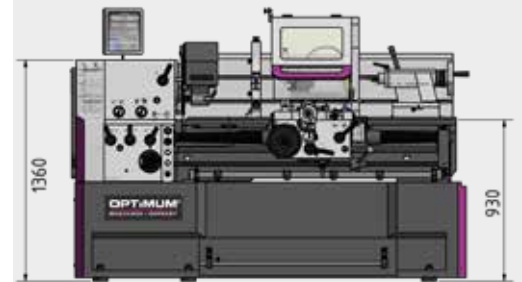
## Accessories

Lathe chuck Ø 315 mm Camlock DIN ISO 702-2 No. 8	Article no.
<b>OPTIMUM lathe chucks</b>	
OPTIMUM Three-jaw lathe chuck, centric, max. speed 1800 min <sup>-1</sup>	3442768
OPTIMUM Four-jaw lathe chuck, centric, max. 2100 1800 min <sup>-1</sup>	3442856
OPTIMUM Four-jaw lathe chuck, individual, max. 1200 min <sup>-1</sup>	3442888
<b>BISON lathe chucks</b>	
BISON Three-jaw lathe chuck, centric, max. 2000 min <sup>-1</sup>	3450335
BISON Four-jaw lathe chuck, centric, max. 2000 min <sup>-1</sup>	3450385

Information on lathe chuck from page 240

Accessories	Article no.
Turning tool set, Carbide 25 mm, 5-part (see page 248)	3441670
Spare tool holder 40 x 160 type H for round	3384326
Spare tool holder 32 x 150 Type D square	3384308
BISON co-travelling centre MT 5	3451005
Position stop with granular adjustment	3444023
Clamping disc Ø 480 mm Camlock DIN ISO 702-2 No. 8	3442982

## Dimensions



## Our recommendation

**cleancraft®**  
flexCAT 378 EOT-PRO  
Article no. 7003380



## Scope of delivery

**Lathe chuck  
Do not forget!**

- > Fixed steady rest, passageway Ø 19 - Ø 165 mm
- > Follow steady rest, passageway Ø 16 - Ø 95 mm
- > LED machine lamp
- > Adapter Ø 113 mm-MT5
- > Non-rotating centring tip MT5
- > Non-rotating, but temperature resistant centring tip MT5
- > Quick change tool holder SWH 7-C
- > Tool holder 32 x 150 type D for square chisels 25 mm
- > Thread gauge
- > Gear wheels for threading gauge (metric)
- > Change gear set
- > Machine initially filled with premium grade oil
- > Operating tool

**Lead and feed screw lathes, characterised by excellent flexibility, precision and economy. With DPA 31Plus digital position display and quick change tool holder**

**Facts that impress in terms of quality, performance and price**

- ▶ Hardened and ground z-axis guideway
- ▶ Guaranteed concentricity of the spindle nose  $\leq 0.015$  mm
- ▶ Spindle seat Camlock DIN ISO 702- 2 No. 8
- ▶ Leading spindle cover
- ▶ Precision slide
- ▶ All guides adjustable using V-ledges
- ▶ Clockwise/anti-clockwise rotation switchable on bed slide, switchable via switching spindle
- ▶ Two-channel safety electronics
- ▶ Central lubrication in bed slide
- ▶ Top slide adjustment range  $\pm 90^\circ$
- ▶ Gearwheels smooth action, hardened, ground and borne on 2 re-adjustable precision taper rollers
- ▶ Clearly-arranged selector lever for switching the feed speeds
- ▶ Closed design of the quick shift feed gear
- ▶ Gears and shafts hardened and scraped, running in oil bath on precision bearings
- ▶ Hand wheels decoupled and approved in line with EN 23125
- ▶ Safety hand wheels with release function in the X axis
- ▶ Handwheels with adjustable fine scaling 0.04 / 0.02 mm
- ▶ Safety limit switch with positively opening contacts
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ EMERGENCY-STOP push button, motor circuit breaker, lockable main switch
- ▶ LED machine lamp
- ▶ Energy chain for material-friendly cable and hose guiding
- ▶ Emergency stop device with foot pedal
- ▶ Coolant system featuring separate coolant tank, fill level display and oil trap; easy and complete draining and cleaning as per DIN
- ▶ Electrical motor brake with fast emergency stop – in normal operations, fast stop without post-run
- ▶ Quick change tool holder SWH 9-D
- ▶ Tool holder 41 x 180 type D for square chisels 32 mm



**Arguments,...**



**CONTROL CABINET**

- › 24 Volt DC power supply
- › All contactors und relays by **SIEMENS** or Schneider



**FLAT AND LONGITUDINAL FEED**

- › Fast feed - pushbutton and selector lever for activating and deactivating rapid motion in transverse and longitudinal directions for an even more rational work approach. Does not switch off the entire machine when running into the limit switch



**TAILSTOCK**

- › Tailstock crank for position change
- › Tailstock sleeve with two adjustable transmission ratios 1/4 or 1/1 rev



**DIG. POSITION DISPLAY DPA 31PLUS**

- › User-friendly membrane keyboard
- › Clear reduction of manufacturing times
- › Sensor for detecting spindle speeds



Fig.: TH 6630D

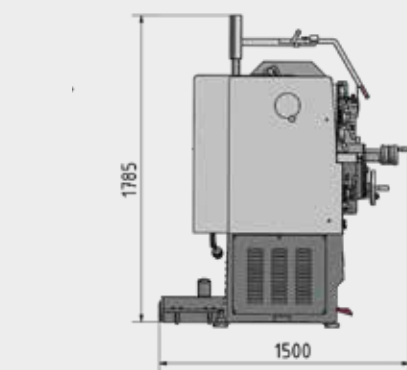
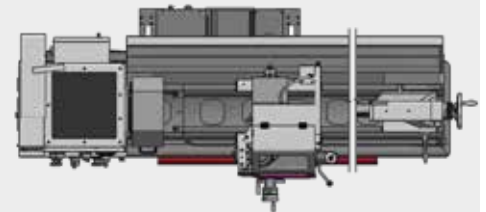
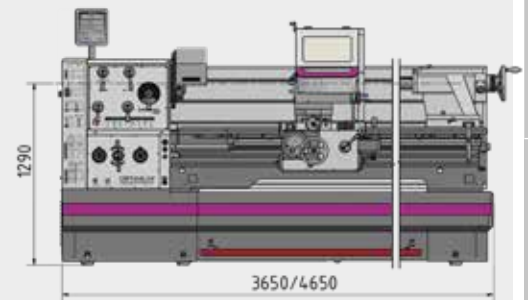
## Technical specifications, accessories and dimensions

Model	TH 6620D	TH 6630D
Article no.	3462210	3462220
<b>Output</b>		
Electrical connection	400 V / 3 Ph ~50 Hz	
Total rated value	10 kW	
Coolant pump motor	150 W	
<b>Spindle</b>		
Drive motor	9 kW	
Spindle taper	Ø 113 mm (taper 1:20)	
Spindle seat	Camlock DIN ISO 702- 2 No. 8	
Spindle hole, bar passage diameter	Ø 105 mm	
Quick change tool holder	SWH 9-D	
<b>Work area</b>		
Centre height	330 mm	
Centre width	2050 mm	3050 mm
Swing Ø above machine bed <sup>(2)</sup>	660 mm	
Swing Ø above cross slide	440 mm	
Bed width	400 mm	
Swing Ø without bed bridge	900 mm	
Turning length in bed bridge	250 mm	
Load bearing capacity	1.4 t/m	
<b>Speed range</b>		
Spindle speed	25 - 1600 min <sup>-1</sup>	
Number of speeds	16 stages	
<b>Traverse paths</b>		
Top slide	230 mm	
Cross slide	368 mm	
Bed slide	1965 mm	2900 mm
<b>Feeds and pitches</b>		
Feed motor output	550 W	
Rapid traverse	3.8 m / min. max. 5 min. (30 min. break)	
Longitudinal feed within the range	0.044 - 1.48 mm/rev (25 feeds)	
Cross feed within	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)	
Modular thread in range	60 - 0.25mm x π (46 threads)	
Diametral pitch in range	160 - 7/8 turns/π (42 pitches)	
<b>Tailstock</b>		
Tailstock seat	MT 5	
Tailstock quill diameter/travel	90 mm / 235 mm	
<b>Dimensions and weight</b>		
Length approx.	3650 mm	4650 mm
width x height approx.	1500 x 1785 mm	
Net weight approx.	3345 kg	3730 kg

## Accessories

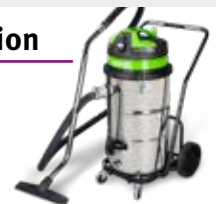
Lathe chuck Ø 315 mm Camlock DIN ISO 702-2 No. 8	Art no.
OPTIMUM Three-jaw lathe chuck, centric, max. speed 1800 min <sup>-1</sup>	3442768
OPTIMUM Four-jaw lathe chuck, centric, max. 2100 1800 min <sup>-1</sup>	3442856
OPTIMUM Four-jaw lathe chuck, individual, max. 1200 min <sup>-1</sup>	3442888
BISON Three-jaw lathe chuck, centric, max. 2000 min <sup>-1</sup>	3450335
BISON Four-jaw lathe chuck, centric, max. 2000 min <sup>-1</sup>	3450385
Accessories	Art no.
Carbide lathe tool set 25 mm	3441672
Carbide lathe tool set 25 mm, extension kit	3441623
Travelling centre MT 5	3440705
BISON co-rotating centring tip MT 5(2-row SKF angular contact bearings)	3451005
Precision machine shoe SEU1 (6 pcs. for TH 6620 or 8 pcs. for TH 6630 are required)	3352985

## Dimensions



## Our recommendation

**cleancraft**  
flexCAT 378 EOT-PRO  
Article no. 7003380



## Scope of delivery

**Lathe chuck  
Do not forget!**

- > Fixed steady rest, passageway Ø 20 - Ø 190 mm
- > Follow steady rest, passageway Ø 20 - Ø 130 mm
- > LED machine lamp
- > Adapter Ø 113 mm-MT5
- > Non-rotating centring tip MT 5
- > Non-rotating, but temperature resistant centring tip MT5
- > MT5 co-rotating centring tip
- > Quick change tool holder SWH 9-D
- > Tool holder 41 x 180 type D for square chisels 32 mm
- > Change gear set
- > Quality oil included
- > Operating tool

**Lead and feed screw lathes, characterised by excellent flexibility, precision and economy. With DPA 31Plus digital position display and quick change tool holder**



**Facts that impress in terms of quality, performance and price**

- ▶ Hardened and ground z-axis guideway
- ▶ Guaranteed concentricity of the spindle nose  $\leq 0.015$  mm
- ▶ Spindle seat Camlock DIN ISO 702- 2 No. 8
- ▶ Leading spindle cover
- ▶ Precision slide
- ▶ All guides adjustable using V-ledges
- ▶ Clockwise/anti-clockwise rotation switchable on bed slide, switchable via switching spindle
- ▶ Two-channel safety electronics
- ▶ Top slide adjustment range  $\pm 90^\circ$
- ▶ Gearwheels smooth action, hardened, ground and borne on 2 re-adjustable precision taper rollers
- ▶ Clearly-arranged selector lever for switching the feed speeds
- ▶ Closed design of the quick shift feed gear
- ▶ Gears and shafts hardened and scraped, running in oil bath on precision bearings
- ▶ Hand wheels decoupled and approved in line with EN 23125
- ▶ Safety hand wheels with release function in the X axis
- ▶ Handwheels with adjustable fine scaling 0.04 / 0.02 mm
- ▶ Safety limit switch with positively opening contacts
- ▶ Switch with lifecycle calculation, approved in line with EN ISO 13849
- ▶ Central lubrication in bed slide
- ▶ EMERGENCY-STOP push button, motor circuit breaker, lockable main switch
- ▶ LED machine lamp
- ▶ Energy chain for material-friendly cable and hose guiding
- ▶ Emergency stop device with foot pedal
- ▶ Coolant system featuring separate coolant tank, fill level display and oil trap; easy and complete draining and cleaning as per DIN
- ▶ Electrical motor brake with fast emergency stop – in normal operations, fast stop without post-run
- ▶ Electrical system with Siemens and Schneider components
- ▶ Quick change tool holder SWH 9-D
- ▶ Tool holder 41 x 180 type D for square chisels 32 mm



**DIG. POSITION DISPLAY DPA 31PLUS**

- › User-friendly membrane keyboard
- › Clear reduction of manufacturing times
- › Sensor for detecting spindle speeds

**Arguments,...**



**CONTROL CABINET**

- › 24 Volt DC power supply
- › All contactors und relays by **SIEMENS** or **Schneider**



**FLAT AND LONGITUDINAL FEED**

- › Fast feed - pushbutton and selector lever for activating and deactivating rapid motion in transverse and longitudinal directions for an even more rational work approach. Does not switch off the entire machine when running into the limit switch



**TAILSTOCK**

- › Tailstock crank for position change
- › Tailstock sleeve with two adjustable transmission ratios 1/4 or 1/1 rev



Fig.: TH 8030D

## Technical specifications, accessories and dimensions

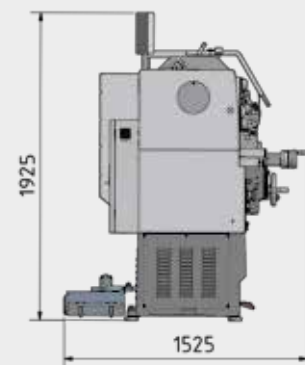
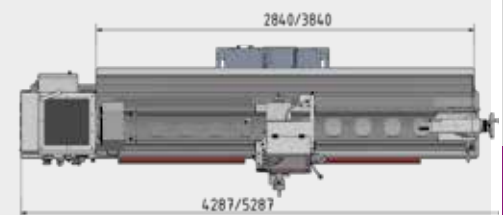
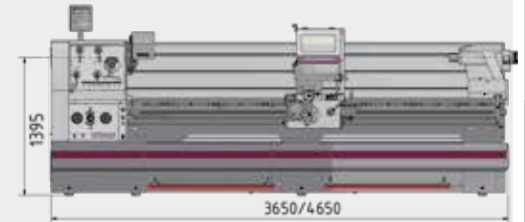
Model	TH 8020D	TH 8030D
Article no.	3462230	3462240
<b>Output</b>		
Electrical connection	400 V / 3 Ph ~50 Hz	
Total rated value	12 kW	
Coolant pump motor	150 W	
<b>Spindle</b>		
Drive motor	11 kW	
Spindle taper	Ø 113 mm (taper 1:20)	
Spindle seat	Camlock DIN ISO 702- 2 No. 8	
Spindle hole, bar passage diameter	Ø 105 mm	
Quick change tool holder	SWH 9-D	
<b>Work area</b>		
Centre height	400 mm	
Centre width	2050 mm	3050 mm
Swing Ø above machine bed <sup>(2)</sup>	800 mm	
Swing Ø above cross slide	570 mm	
Bed width	400 mm	
Swing Ø without bed bridge	1035 mm	
Turning length in bed bridge	250 mm	
Load bearing capacity	1.4 t/m	
<b>Speed range</b>		
Spindle speed	25 - 1600 min <sup>-1</sup>	
Number of speeds	16 stages	
<b>Traverse paths</b>		
Top slide	230 mm	
Cross slide	368 mm	
Bed slide	1965 mm	2900 mm
<b>Feeds and pitches</b>		
Feed motor output	550 W	
Rapid traverse	3.8 m /min. max. 5 min. (30 min. break)	
Longitudinal feed within the range	0.044 - 1.48 mm/rev (25 feeds)	
Cross feed within	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)	
Modular thread in range	60 - 0.25mm x π (46 threads)	
Diametral pitch in range	160 - 7/8 turns/π (42 pitches)	
<b>Tailstock</b>		
Tailstock seat	MT5	
Tailstock quill diameter/travel	90 mm / 235 mm	
<b>Dimensions and weight</b>		
Length approx.	4287 mm	5287 mm
width x height approx.	1525 x 1925 mm	
Net weight approx.	3455 kg	3820 kg

## Accessories

Lathe chuck Ø 315 mm No. 8	Art no.
OPTIMUM Three-jaw lathe chuck, centric, max. 1800 min <sup>-1</sup>	3442768
OPTIMUM Four-jaw lathe chuck, centric, max. 1800 min <sup>-1</sup>	3442856
OPTIMUM Four-jaw lathe chuck, individual, max. 1200 min <sup>-1</sup>	3442888
BISON Three-jaw lathe chuck, centric, max. 2000 min <sup>-1</sup>	3450335
BISON Four-jaw lathe chuck, centric, max. 2000 min <sup>-1</sup>	3450385
Accessories	Art no.
Carbide lathe tool set 25 mm	3441672
Carbide lathe tool set 25 mm, extension kit	3441623
BISON co-rotating centring tip MT 5(2-row SKF angular contact bearings)	3451005
Precision machine shoe SEU1 (8 units required)	3352985

More accessories and information about accessories from page 237 onwards

## Dimensions



## Our recommendation

**cleancraft®**  
**flexCAT 378 EOT-PRO**  
Article no. 7003380




## Scope of delivery

**Lathe chuck  
Do not forget!**

- > Fixed steady rest, passageway Ø 20 - Ø 185 mm
- > Follow steady rest, passageway Ø 20 - Ø 125 mm
- > LED machine lamp
- > Adapter Ø 113 mm-MT5
- > Non-rotating centring tip MT5
- > Non-rotating, but temperature resistant centring tip MT5
- > MT5 co-rotating centring tip
- > Quick change tool holder SWH 9-D
- > Tool holder 41 x 180 type D for square chisels 32 mm
- > Change gear set
- > Quality oil included
- > Operating tool

# CO-OPERATION BETWEEN OPTIMUM AND

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PRICES ON REQUEST

## LONG-STANDING PARTNERSHIP

### ZMM CU Lathes



Model	Centre height	Swing Ø above machine bed	Swing Ø above cross slide	Bed width	Centre width
CU 730	365 mm	730 mm	500 mm	400 mm	1000 up to 5000 mm
CU 800	400 mm	890 mm	490 mm	700 mm	1000 up to 5000 mm
CU 1000	500 mm	1,090 mm	692 mm	700 mm	1500 up to 6000 mm
CU 1250	625 mm	1,320 mm	940 mm	700 mm	1500 up to 6000 mm

### ZMM CU-M Lathes



Model	Centre height	Swing Ø above machine bed	Swing Ø above cross slide	Bed width	Centre width
CU 500M	250	500	300	400	1000 up to 5000 mm
CU 580M	290	580	380	400	1000 up to 5000 mm

### ZMM C 10TM Lathe



Model	Centre height	Swing Ø above machine bed	Swing Ø above cross slide	Bed width	Centre width
C 10TM	380 mm	760 mm	520 mm	560 mm	1500 up to 6000 mm

**ZMM CU 500MRD**  
Lathe with continuously variable drive

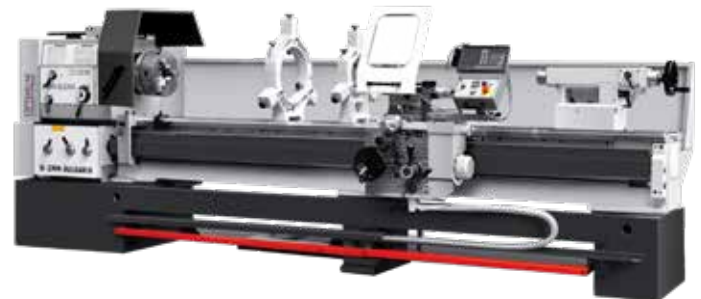
- ▶ Drive via variable gearbox (3 stages)
- ▶ 3-axis digital display FAGOR with CSS (constant cutting speed)
- ▶ Coolant system
- ▶ Rapid traverse with joystick



Model	Centre height	Swing Ø above machine bed	Swing Ø above cross slide	Bed width	Centre width
<b>CU 500MRD</b>	250 mm	500 mm	330 mm	400 mm	1000 up to 5000 mm

**ZMM CU-RD**  
Lathes with continuously variable drive

- ▶ Drive via variable gearbox (3 stages)
- ▶ 3-axis digital display FAGOR with CSS (constant cutting speed)
- ▶ Coolant system
- ▶ Rapid traverse with joystick



Model	Centre height	Swing Ø above machine bed	Swing Ø above cross slide	Bed width	Centre width
<b>CU 630RD</b>	315 mm	630 mm	430 mm	400 mm	1000 up to 5000 mm
<b>CU 800RD</b>	400 mm	890 mm	490 mm	700 mm	1500 up to 10000 mm
<b>CU 1000RD</b>	500 mm	1,090 mm	690 mm	700 mm	1500 up to 10000 mm
<b>CU 1250RD</b>	625 mm	1,320 mm	940 mm	700 mm	1500 up to 6000 mm

**ZMM C 11T.6 / C 10T.10 -**  
Lathes for the oil and gas industry

- ▶ Two self-centring 3-jaw chucks
- ▶ a taper turning device
- ▶ two stands - one with a fixed steady rest and one with rolling springs.
- ▶ The spindles are fitted with preloaded angular contact ball bearings from leading manufacturers such as "SKF" and "FAG".
- ▶ All major components are made of stainless steel and steel to ensure reliable operation and accuracy



Model	Centre height	Swing Ø above machine bed	Swing Ø above cross slide	Bed width	Centre width
<b>C 11T.6</b>	365 mm	730 mm	500 mm	400 mm	1500 up to 6000 mm
<b>C 10T.10</b>	400 mm	800 mm	560 mm	560 mm	1500 up to 6000 mm

DRILLING

CORE DRILLING

THREAD TAPPING

MILLING ACCESSORIES

TURNING

MEASURING

SAWS

GRINDING

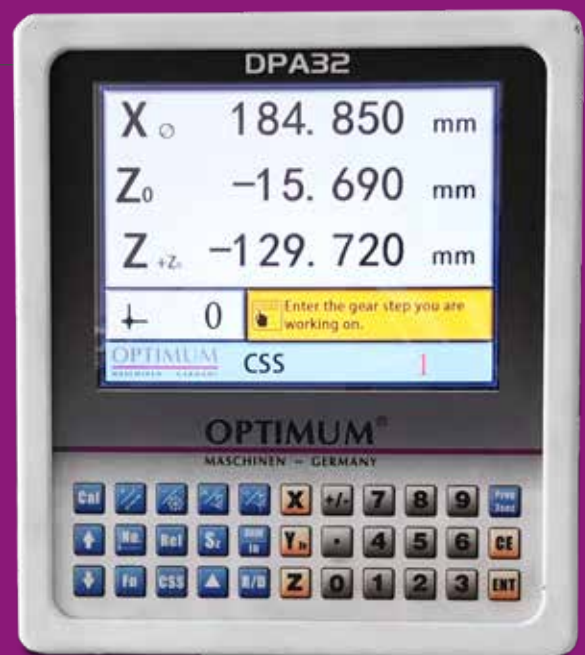
POLISHING

SHEET METAL WORKING

LIGHTING

COOLING

# DIGITAL POSITION DISPLAYS



## DRO 5 Digital 3-axis position display

Digital position display	Article no.
DRO 5	3383975



Including 3 magnetic sensors



DRO 5	Article no.3383975
› Digital 3-axis position display for milling machines (X - Y - Z) and for lathes (X, Z, Z <sub>0</sub> )	
› For measuring positions	
› Speed display	
› Three incremental inputs	
› Four-line LCD display	
› User-friendly menu navigation	
› Rugged aluminium housing	
› Programming from the front	
› Dimensions L x W x H: 98 x 65 x 134 mm	

### Including

- › Speed sensor cable length 5 metres
- › 3 units magnetic sensors without magnetic strip
- › Power supply cable length 6 metres
- › Magnetic plate

fitting for the DRO	Article no.
	3383976

Magnetic strip	Article no.
Magnetic strip, length 1100 mm	3383978
Magnetic strip, length 2000 mm	3383979
Magnetic strip per metre	3383980

Factory assembly	
Magnetic strip three axes	9000420
Speed sensor	9000421

Assembly kit	
OPTIturn TU 3008	3383985
OPImill MH 22V	3383990

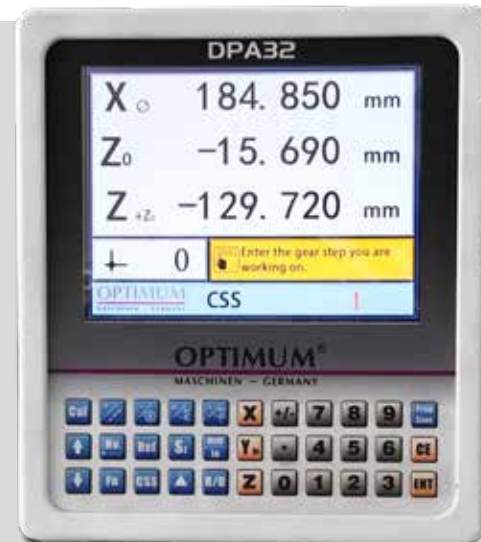


## Digital position displays DPA 31Plus and DPA 32

Digital position display	Article no.
DPA 31	3384029
DPA 32	3384033



With CSS function and cutting constant



**Universally applicable digital position display**  
guarantees excellent results for machines thanks to increased accuracy

### Details

- › LED display
- › Greater operation accuracy
- › Clear reduction of manufacturing times
- › Reduction of error quota
- › Sensor supplied for acquiring spindle speeds
- › Switchable from turning to milling machines
- › Ergonomic membrane keypad, protected against dust and splash water

### especially for lathes

- › Diameter or radius display
- › Display of Z<sub>0</sub> and Z<sub>1</sub> axes with addition function, separately or together possible

### especially for milling machines

- › Trigonometric function (sin, cos, tan)
- › Circular segment calculation with individual coordinate specification

### Application

- › for precise, fast and reliable production
- › Quick set-up thanks to precise positioning for mounting on lathes, milling machines, drilling machines, etc. for measuring traverse paths
- › No parallax or reading errors
- › Absolute repeatability

### Possible functions

- › Calculator,
- › Speed display,
- › Axis coupling (sum Z),
- › Sub D plug sockets,
- › Absolute/incremental operation,
- › Inch/metric thread conversion,
- › Bolt circle calculator (chain measurement),
- › Coordinates in the circle (pitch circle),
- › Drill holes in a circle (pitch circle),
- › Measured values radius/diameter switchable,
- › Zero reset data preset,
- › Self-diagnosis,
- › Linear error correction,
- › 99 Tool memory

### Note

When retrofitting position displays and measuring bars for lathes and milling machines, the customer must provide the machine with holes and threads

## Measuring strips

Measuring bars MSS31	Article no.
----------------------	-------------

- › The electronic measuring components of the measuring strips are protected and sealed in the housing
- › Provides accurate and reliable measurement results even if the measuring system is operated in oil or coolant
- › Tolerant towards vibration and magnetic interference
- › Without assembly

51 mm (length 311 mm)	3384405
102 mm (length 362 mm)	3384410
152 mm (length 412 mm)	3384415
203 mm (length 463 mm)	3384417
254 mm (length 514 mm)	3384419
305 mm (length 565 mm)	3384421
356 mm (length 616 mm)	3384422
406 mm (length 666 mm)	3384423
457 mm (length 717 mm)	3384424
506 mm (length 766 mm)	3384425
559 mm (length 819 mm)	3384426
610 mm (length 870 mm)	3384427
660 mm (length 920 mm)	3384428
711 mm (length 971 mm)	3384429
762 mm (length 1022 mm)	3384430
813 mm (length 1073 mm)	3384431
864 mm (length 1124 mm)	3384432
914 mm (length 1174 mm)	3384433
965 mm (length 1225 mm)	3384434
1016 mm (length 1276 mm)	3384435
1118 mm (length 1378 mm)	3384437
1168 mm (length 1428 mm)	3384438
1219 mm (length 1479 mm)	3384439
1270 mm (length 1530 mm)	3384440
1321 mm (length 1581 mm)	3384441
1372 mm (length 1632 mm)	3384442
1422 mm (length 1682 mm)	3384443
1473 mm (length 1733 mm)	3384444
1524 mm (length 1784 mm)	3384445
1626 mm (length 1886 mm)	3384446
1727 mm (length 1987 mm)	3384447
1829 mm (length 2089 mm)	3384448
1930 mm (length 2190 mm)	3384449
2032 mm (length 2292 mm)	3384450
2134 mm (length 2394 mm)	3384451
2235 mm (length 2495 mm)	3384452
2337 mm (length 2597 mm)	3384453
2438 mm (length 2698 mm)	3384454
2540 mm (length 2800 mm)	3384455
2642 mm (length 2902 mm)	3384456
2743 mm (length 3003 mm)	3384457
2845 mm (length 3105 mm)	3384458
2946 mm (length 3206 mm)	3384459
3048 mm (length 3248 mm)	3384460



Accessories	Article no.
-------------	-------------

1 metres extension cable	3384040
Active magnetic sensor	3384035



Magnetic strip	Article no.
----------------	-------------

- › Magnetic strip for assembly machines that do not have enough space for magnetic scales
- › Connector 9-pin

Length 1100 mm	3383978
Length 2000 mm	3383979



Measuring bars	Article no.
----------------	-------------

MSM 50 mm (185 mm)	3384505
MSM 75 mm (210 mm)	3384507
MSM 100 mm (235 mm)	3384510
MSM 125 mm (260 mm)	3384512
MSM 150 mm (285 mm)	3384515
MSM 175 mm (310 mm)	3384517
MSM 200 mm (335 mm)	3384520
MSM 225 mm (360 mm)	3384522
MSM 250 mm (385 mm)	3384525
MSM 275 mm (410 mm)	3384527
MSM 300 mm (435 mm)	3384530
MSM 325 mm (460 mm)	3384532
MSM 350 mm (485 mm)	3384535
MSM 400 mm (535 mm)	3384540
MSM 450 mm (585 mm)	3384545
MSM 500 mm (635 mm)	3384550
MSM 550 mm (685 mm)	3384555
MSM 600 mm (735 mm)	3384560
MSM 650 mm (785 mm)	3384565



DRILLING  
CORE DRILLING  
THREAD TAPPING  
MILLING ACCESSORIES  
TURNING  
MEASURING  
SAWS  
GRINDING  
POLISHING  
SHEET METAL WORKING  
LIGHTING  
COOLING


# ***ACCESSORIES*** ***LATHES***




Co-rotating centring tip MT 4	Article no.
Max. concentricity deviation 0.006 mm	
<b>MT 1</b>	3440701
› Max speed 5000 min <sup>-1</sup> ; max. radial load 320 N	
<b>MT 2</b>	3440702
› Max speed 5000 min <sup>-1</sup> ; max. radial load 400 N	
<b>MT 3</b>	3440703
› Max speed 4500 min <sup>-1</sup> ; max. radial load 800 N	
<b>MT 4</b>	3440704
› Max speed 3500 min <sup>-1</sup> ; max. radial load 1250 N	
<b>MT 5</b>	3440705
› Max speed 3000 min <sup>-1</sup> ; max. radial load 1500 N	
<b>MT 6</b>	3440706
› Max speed 2500 min <sup>-1</sup> ; max. radial load 1,800 N	



Collet set SPZ - 5C	3441509
› 17-part, clamping range 3- 25 mm	
› Norm 385 E	
› For universal collet chuck device	




Collet set	Article no.
› DIN 6499	
<b>ER 16</b>	3440282
› 12-part; clamping range Ø 1 - 10 mm	
<b>ER 25</b>	3441109
› 15-part; clamping range Ø 1 - 16 mm	
<b>ER 32</b>	3441122
› 18-part; clamping range Ø 3 - 20 mm	



Co-rotating centring tip MT 4	Article no.
Max. concentricity deviation 0.005 mm	
<b>MT 2</b> (NSK ball roller bearings INA needle bearings)	3451002
› Max speed 7000 min <sup>-1</sup> ; max. radial load 2000 N	
<b>MT 3</b> (NSK ball roller bearings INA needle bearings)	3451003
› Max speed 5000 min <sup>-1</sup> ; max. radial load 4000 N	
<b>MT 4</b> (NSK ball roller bearings INA needle bearings)	3451004
› Max speed 3800 min <sup>-1</sup> ; max. radial load 8000 N	
<b>MT 5</b> (2-row SKF angular contact bearings)	3451005
› Max speed 3000 min <sup>-1</sup> ; max. radial load 20000 N	



Co-rotating centring tip MT 4	Article no.
› With 7 replaceable tips	
› Body made of hardened and ground tool steel	
› Precision needle bearings guarantee excellent true running accuracy	
<b>MT 2</b>	3440732
<b>MK 3</b>	3440733
<b>MK 4</b>	3440734



Position stop	Article no.
› With fine adjustment	
› for lathe TU 3008/TM 3110/TM 3310/TM 4010	3441475
› for lathe TH 3309	3441522
› for lathe TH 3610	3441523
› for lathe TH 46	3444022
› for lathe TH 56	3444023



Fig. 3441522                      Fig. 3444022

Due to tolerances on the machine bed, it may be necessary to rework the base body





## OPTIMUM Three-jaw lathe chuck



OPTIMUM Three-jaw lathe chuck	Article no.
----------------------------------	-------------

- > Centre clamping
- > Cylindrical centring mount as per DIN 6350
- > True run accuracy better than 0.05 mm
- > Chuck flange required see page 252

DIN  
6350

CAST

Ø 80 mm	3440287
<b>Block jaw set, soft, single piece</b>	3442902
Ø 100 mm	3442710
<b>Block jaw set, soft, single piece</b>	3442904
Ø 125 mm	3442712
<b>Block jaw set, soft, single piece</b>	3442906
Ø 160 mm	3442716
<b>Block jaw set, soft, single piece</b>	3442907

**Scope of delivery**

- > Single-piece hard jaws for outside-inside clamping
- > Chuck key



OPTIMUM Three-jaw lathe chuck	Article no.
----------------------------------	-------------

- > centrally clamping DIN ISO 702-2
- > DIN ISO 702-2
- > Camlock direct mount DIN 55029

DIN  
55029

CAST

Camlock

Ø 160 mm Camlock No. 4	3442761
<b>Block jaw set, soft, single piece</b>	3442907
Ø 200 mm Camlock No. 4	3442762
<b>Block jaw set, soft, single piece</b>	3442910
Ø 200 mm Camlock No. 5	3442764
<b>Block jaw set, soft, single piece</b>	3442910
Ø 200 mm Camlock No. 6	3442763
<b>Block jaw set, soft, single piece</b>	3442910
Ø 250 mm Camlock No. 6	3442765
<b>Block jaw set, soft, single piece</b>	3442912
Ø 315 mm Camlock No. 8	3442768
<b>Block jaw set, soft, single piece</b>	3442916

**Scope of delivery**

- > Single-piece hard jaws for outside-inside clamping
- > Chuck key



## OPTIMUM Four-jaw lathe chuck



OPTIMUM Four-jaw lathe chuck	Article no.
---------------------------------	-------------

- > Centre clamping
- > Cylindrical centring mount as per DIN 6350
- > True run accuracy better than 0.05 mm
- > Chuck flange required see page 252

DIN  
6350

CAST

Ø 80 mm	3442808
<b>Block jaw set, soft, single piece</b>	3442920
Ø 100 mm	3442810
<b>Block jaw set, soft, single piece</b>	3442922
Ø 125 mm	3442812
<b>Block jaw set, soft, single piece</b>	3442924
Ø 160 mm	3442816
<b>Block jaw set, soft, single piece</b>	3442926

**Scope of delivery**

- > Chuck key
- Lathe chuck centrally clamping:**
  - > Hard jaws, single-part, turn-able, as outside-inside clamping
- Lathe chuck single clamping:**
  - > Set of hard reversible jaws



OPTIMUM Four-jaw lathe chuck	Article no.
---------------------------------	-------------

- > Centre clamping
- > DIN ISO 702-2
- > Camlock direct mount DIN 55029

DIN  
55029

CAST

Camlock

Ø 160 mm Camlock No. 4	3442840
<b>Block jaw set, soft, single piece</b>	3442926
Ø 200 mm Camlock No. 4	3442843
<b>Block jaw set, soft, single piece</b>	3442927
Ø 200 mm Camlock No. 5	3442845
<b>Block jaw set, soft, single piece</b>	3442927
Ø 200 mm Camlock No. 6	3442846
<b>Block jaw set, soft, single piece</b>	3442928
Ø 250 mm Camlock No. 6	3442852
<b>Block jaw set, soft, single piece</b>	3442935
Ø 315 mm Camlock No. 8	3442856
<b>Block jaw set, soft, single piece</b>	3442938

**Scope of delivery**

- > Chuck key
- Lathe chuck centrally clamping:**
  - > Hard jaws, single-part, turn-able, as outside-inside clamping
- Lathe chuck single clamping:**
  - > Set of hard reversible jaws



**i** For technical data on the lathe chuck see page 242, "Chuck flange" on page 252



## Three-jaw lathe chuck



BISON <sup>®</sup> Three-jaw lathe chuck		Article no.
<ul style="list-style-type: none"> <li>› Centre clamping</li> <li>› All work surfaces induction hardened and ground</li> <li>› Permanently high clamping and repeating accuracy</li> <li>› Uniform clamping forces</li> <li>› High true running accuracy (better than DIN 6386)</li> </ul>		
Ø 125 mm		3450230
Block jaw set, soft		3450410
Ø 160 mm		3450232
Block jaw set, soft		3450412

**DIN 6350**

**CAST**

**STEEL**

**DIN 6350**

### Scope of delivery

- › Single-piece hard jaws for outside-inside clamping
- › Chuck key



**DIN 55029**

**CAST**

**Camlock**

BISON <sup>®</sup> Three-jaw lathe chuck		Article no.
<ul style="list-style-type: none"> <li>› Centre clamping</li> <li>› DIN ISO 702- 2</li> <li>› All work surfaces induction hardened and ground</li> <li>› Camlock direct mount DIN 55029</li> <li>› High true running accuracy (better than DIN 6386)</li> </ul>		
Ø 160 mm Camlock No. 4		3450305
Block jaw set, soft		3450412
Ø 200 mm Camlock No. 4		3450310
Block jaw set, soft		3450414
Ø 200 mm Camlock No. 5		3450315
Block jaw set, soft		3450414
Ø 200 mm Camlock 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 No. 5		3450325
Block jaw set, soft		3450416
Ø 250 mm Camlock No. 6		3450330
Block jaw set, soft		3450416
Ø 250 mm Camlock No. 8		3450331
Block jaw set, soft		3450416
Ø 315 mm Camlock No. 8		3450335
Block jaw set, soft		3450418

- Scope of delivery** › Hard jaws, single-part, turn-able, as outside-inside clamping  
› Chuck key



## Four-jaw lathe chuck



BISON <sup>®</sup> Four-jaw lathe chuck		Article no.
<ul style="list-style-type: none"> <li>› Centre clamping</li> <li>› All work surfaces induction hardened and ground to ensure a high level of clamping and repeating accuracy</li> <li>› Uniform clamping forces</li> <li>› High true running accuracy (better than DIN 6386)</li> </ul>		
Ø 125 mm		3450234
Block jaw set, soft		3450420
Ø 160 mm		3450236
Block jaw set, soft		3450422

**DIN 6350**

**CAST**

### Scope of delivery

- › Single-piece hard jaws for outside-inside clamping
- › Chuck key



**DIN 55029**

**CAST**

**Camlock**

BISON <sup>®</sup> Four-jaw lathe chuck		Article no.
<ul style="list-style-type: none"> <li>› Centre clamping</li> <li>› DIN ISO 702- 2</li> </ul>		
Ø 160 mm Camlock No. 4		3450355
Block jaw set, soft		3450422
Ø 200 mm Camlock No. 4		3450360
Block jaw set, soft		3450424
Ø 200 mm Camlock No. 5		3450365
Block jaw set, soft		3450424
Ø 200 mm Camlock 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 No. 5		3450375
Block jaw set, soft		3450426
Ø 250 mm Camlock No. 6		3450380
Block jaw set, soft		3450426
Ø 250 mm Camlock No. 8		3450381
Block jaw set, soft		3450426
Ø 315 mm Camlock No. 8		3450385
Block jaw set, soft		3450428
Ø 400 mm Camlock No. 8		3450390
Block jaw set, soft		3450430

**STEEL**

BISON <sup>®</sup> Four-jaw lathe chuck		Article no.
<ul style="list-style-type: none"> <li>› Centre clamping</li> </ul>		
Ø 250 mm Camlock No. 6		3450580
Block jaw set, soft		3450426
Ø 250 mm DIN 6350 A2-5		3450217
Block jaw set, soft		3450426

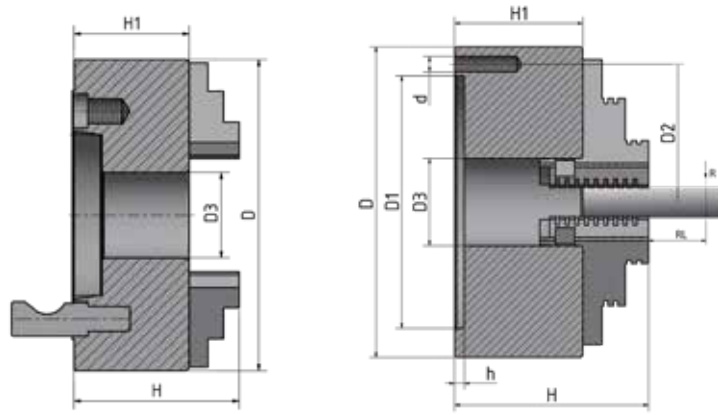
- Scope of delivery** › Hard jaws, single-part, turn-able, as outside-inside clamping  
› Chuck key



For technical data on the lathe chuck, see page 243

# OPTIMUM

## Three-jaw lathe chuck

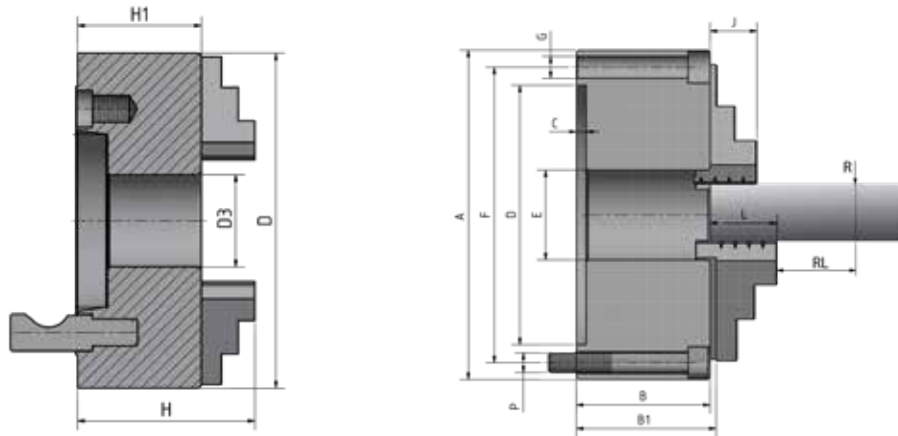


Chuck	Item No.	D	D1	D2	D3	d	H	H1	h	RL	true running accuracy (R)	Rotational speed (min <sup>-1</sup> )
Ø 80 mm	3440287	80	55	66	16	M6	66	50	3.5	50	0.06	4000
Ø 100 mm	3442710	100	72	84	22	M8	75	55	3.5	50	0.06	4200
Ø 125 mm	3442712	125	95	108	30	M8	84	58	4	50	0.06	3800
Ø 160 mm	3442716	160	130	142	45	M8	95	65	5	50	0.06	3000

Chuck	Camlock	Item No.	D	D3	H	H1	Indexing circle	RL	true running accuracy (R)	Rotational speed (min <sup>-1</sup> )
Ø 160 mm	No.4	3442761	160	40	101	71	82.6	50	0.06	3000
Ø 200 mm	No.4	3442762	200	50	124	86	82.6	50	0.06	3000
Ø 200 mm	No.5	3442764	200	52	124	86	104.8	50	0.06	3000
Ø 200 mm	No.6	3442763	200	65	128	86	133.4	50	0.06	3000
Ø 250 mm	No.6	3442765	250	70	140	98	133.4	50	0.06	2400
Ø 315 mm	No.8	3442768	315	105	180	102.5	171.4	75	0.01	1800



## Three-jaw lathe chuck



Chuck	Camlock	Item No.	D	D3	H1	H	Indexing circle	RL	true running accuracy (R)	Rotational speed (min <sup>-1</sup> )
Ø 160 mm	No.4	3450305	160	42	81.5	124.5	82.6	60	0.03	3600
Ø 200 mm	No.4	3450310	200	56	107	136	82.6	80	0.04	3000
Ø 200 mm	No.5	3450315	200	56	107	136	104.8	80	0.04	3000
Ø 200 mm	No.6	3450320	200	55	91	136	133.4	80	0.04	3000
Ø 250 mm	No.5	3450325	250	76	103.5	156.5	104.8	80	0.04	2500
Ø 250 mm	No.6	3450330	250	76	103.5	156.5	133.4	80	0.04	2500
Ø 250 mm	No.8	3450331	250	76	103.5	156.5	171.4	80	0.04	2500
Ø 315 mm	No.8	3450335	315	103	117.7	174.7	171.4	120	0.05	2000

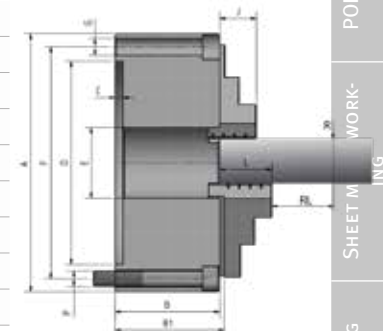
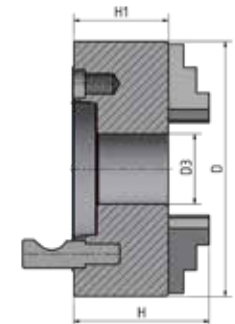
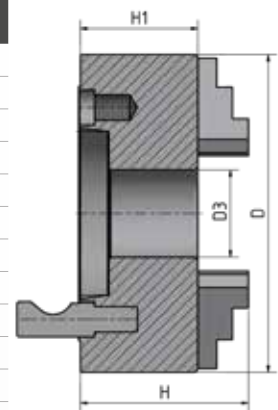
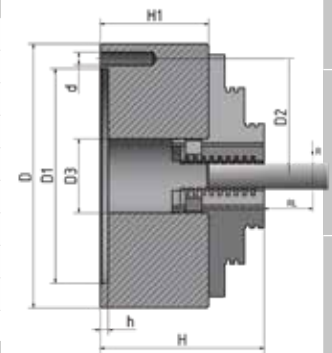
Chuck	Item No.	B	B1	C	D	E	F	G	J	L	kg	Rotational speed (min <sup>-1</sup> )
Ø 125 mm	3450230	56	60.8	4	95	32	108	3 x M8	20	40	5	4000
Ø 160 mm	3450232	64.5	69.3	4	125	42	140	3 x M10	32	43	10	3600

# OPTIMUM

## Four-jaw lathe chuck

Chuck	Item No.	D	D1	D2	D3	d	H	H1	h	Rotational speed (min <sup>-1</sup> )
<b>Centre clamping</b>										
Ø 80 mm	3442808	80	55	66	16	M6	66	50	3.5	4300
Ø 100 mm	3442810	100	72	84	22	M8	75	55	3.5	3400
Ø 125 mm	3442812	125	95	108	30	M8	84	58	4	2750
Ø 160 mm	3442816	160	130	142	45	M8	95	65	5	2150
<b>Individual clamping</b>										
Ø 80 mm	3440286	80	55	66	22	M6	59	42	4	4800
Ø 100 mm	3442872	100	72	84	25	M8	75	54	4	3500
Ø 125 mm	3442874	125	95	108	30	M8	78	58	6	3000

Chuck	Camlock	Item No.	D	D3	H1	H	RL	true running accuracy (R)	Indexing circle	Rotational speed (min <sup>-1</sup> )
<b>Camlock centre clamping</b>										
Ø 160 mm	No.4	3442840	160	40	95	71	50	0.06	82.6	2150
Ø 200 mm	No.4	3442843	200	50	109	86	50	0.06	82.6	3000
Ø 200 mm	No.5	3442845	200	52	109	86	50	0.06	104.8	3000
Ø 200 mm	No.6	3442846	200	65	109	86	50	0.06	133.4	3000
Ø 250 mm	No.6	3442852	250	70	120	98	50	0.06	133.4	2400
Ø 315 mm	No.8	3442856	315	105	142.5	102.5	75	0.01	171.4	1800
<b>Camlock individual clamping</b>										
Ø 200 mm	No.4	3442879	200	56	107	75	50	0.06	82.6	2100
Ø 200 mm	No.5	3442880	200	56	107	75	50	0.06	104.8	2100
Ø 250 mm	No.6	3442884	250	100	120	80	50	0.06	133.4	1600
Ø 315 mm	No.8	3442888	320	95	134	100	75	0.01	171.4	1200
Ø 400 mm	No.8	3442890	400	125	148	101	75	0.01	171.4	1000



## Four-jaw lathe chuck

Chuck	Camlock	Item No.	D	D3	H1	H	RL	true running accuracy (R)	Indexing circle	Rotational speed (min <sup>-1</sup> )
<b>Centre clamping</b>										
Ø 160 mm	No.4	3450355	160	42	81.5	124.5	60	0.03	82.6	3600
Ø 200 mm	No.4	3450360	200	55	91	136	80	0.04	82.6	3000
Ø 200 mm	No.5	3450365	200	55	91	136	80	0.04	104.8	3000
Ø 200 mm	No.6	3450370	200	55	91	136	80	0.04	133.4	3000
Ø 250 mm	No.5	3450375	250	76	103.5	156.5	80	0.04	104.8	2500
Ø 250 mm	No.6	3450380	250	76	103.5	156.5	80	0.04	133.4	2500
Ø 250 mm	No.8	3450381	250	76	103.5	156.5	80	0.04	171.4	2500
Ø 315 mm	No.8	3450385	315	103	117.7	174.7	120	0.05	171.4	2000
Ø 400 mm	No.8	3450390	400	136	128.5	207.5	120	0.06	171.4	1600

Chuck	Item No.	B	B1	C	H7	E	F	G	J	L	kg	Rotational speed (min <sup>-1</sup> )
Ø 125 mm	3450234	56	60.8	4	95	32	108	3 x M8	20	40	5	4000
Ø 160 mm	3450236	64.5	69.3	4	125	42	140	3 x M10	32	43	10	3600
Ø 250 mm	3450216	75	79.8	4	160	55	176	6 x M10	29	45	17.5	2500
Ø 250 mm	3450217	75	79.8	4	160	55	176	6 x M10	29	45	17.5	3500

## Quick change tool holder

Quick change tool holder	Article no.
› Repeating accuracy 0.01 mm · angle scale on tool holder head	
› 40 different angle settings · Height adjustment via knurled screw	
› Tool holder head and tool holder with profile ground gears	
› Play-free and repetition-accurate clamping of the change holder	
› For self-assembly or factory assembly for a fee	

Quick change tool holder set SWH AA	3384311
› Tool holder head AA	
› 3 units tool holder 12 x 50 type D for square chisels	
› 1 unit tool holder 12 x 50 type H for round chisels	
<b>Spare tool holder 12 x 50 type D for square chisels</b>	3384312
<b>Spare tool holder 12 x 50 type H for round chisels</b>	3384320

Quick change tool holder set SWH 1-A	3384301
› Tool holder head A	
› 3 units tool holder 20 x 90 type D for square chisels	
› 1 unit tool holder 20 x 85 type H for round chisels	
<b>Spare tool holder 20 x 90 type D for square chisels</b>	3384302
<b>Spare tool holder 20 x 85 type H for round chisels</b>	3384321

Quick change tool holder set SWH 3-E	3384303
› Tool holder head E	
› 3 units tool holder 20 x 100 type D for square chisels	
› 1 unit tool holder 30 x 100 type H for round chisels	
<b>Spare tool holder 20 x 100 type D for square chisels</b>	3384304
<b>Spare tool holder 30 x 100 type H for round chisels</b>	3384322

Quick change tool holder set SWH 5-B	3384305
› Tool holder head B	
› 3 units tool holder 25 x 120 type D for square chisels	
› 1 unit tool holder 32 x 130 type H for round chisels	
<b>Spare tool holder 25 x 120 type D for square chisels</b>	3384306
<b>Spare tool holder 32 x 130 type H for round chisels</b>	3384324

Quick change tool holder set SWH 7-C	3384307
› Tool holder head C	
› 3 units tool holder 32 x 150 type D for square chisels	
› 1 unit tool holder 40 x 160 type H for round chisels	
<b>Spare tool holder 32 x 150 type D for square chisels</b>	3384308
<b>Spare tool holder 40 x 160 type H for round chisels</b>	3384326

Quick change tool holder set SWH 9-D	3384309
› Tool holder head D	
› 3 units tool holder 40 x 180 type D for square chisels	
› 1 unit tool holder 63 x 180 type H for round chisels	
<b>Spare tool holder 40 x 180 type D for square chisels</b>	3384332
<b>Spare tool holder 63 x 180 type H for round chisels</b>	3384333

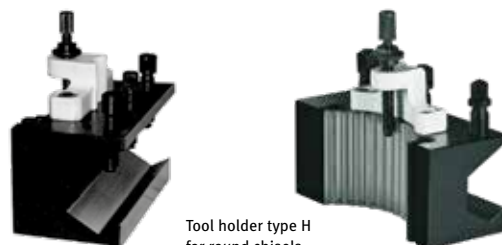
Factory assembly and adjustment SWH		
› Only with orders for new machines		
<b>for SWH AA / SWH 1-A</b>		9000401
<b>for SWH 3-E to SWH 9D</b>		9000400



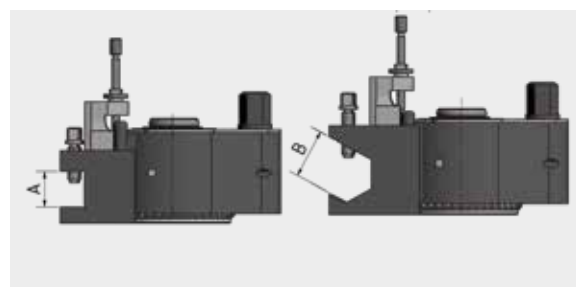
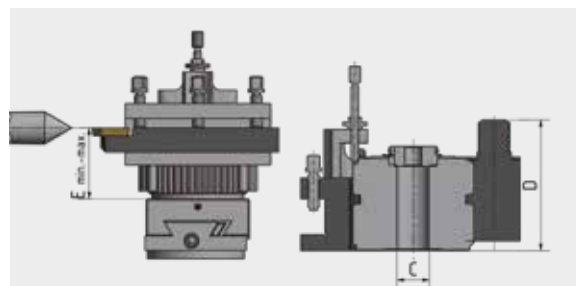
Tool holder head



Tool holder type D for square chisels



Tool holder type H for round chisels



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	∅ 12	∅ 20	∅ 20	∅ 25	∅ 32	∅ 40
Normal hole	C	mm	∅ 13	∅ 20	∅ 20	∅ 32	∅ 40	∅ 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

## Turning tool set Carbide 8 mm

<b>Lathe tool set</b>	<b>Article no.</b>
<b>Carbide 8 mm</b>	3441662
<ul style="list-style-type: none"> <li>&gt; 5-part</li> <li>&gt; With carbide indexable inserts</li> <li>&gt; TiN coated</li> <li>&gt; Aluminium box</li> </ul>	

ISO				
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



**Carbide indexable replacement inserts (5 pieces each)**

No.	Article no.	ISO	D1	D2	B1	S1	right
1/3	3441759	WCMT050308	7.94	3.2	80°	3.18	0.8
2	3441761	SCMT060204	6.35	2.8	90°	2.38	0.4
4	3441760	TCMT090204	5.56	2.5	60°	2.38	0.4
5	3441758	DCMT070204	6.35	2.8	55°	2.38	0.4

## Turning tool set Carbide 10 mm

<b>Turning tool set</b>	<b>Article no.</b>
<b>Carbide 10 mm</b>	3441664
<ul style="list-style-type: none"> <li>&gt; 5-part</li> <li>&gt; With carbide indexable inserts</li> <li>&gt; TiN coated</li> <li>&gt; Aluminium box</li> </ul>	

ISO				
1	SWGC	L1010	E05	10 mm
2	SSDC	N1010	E06	10 mm
3	SWGC	R1010	E05	10 mm
4	STGC	R1010	E09	10 mm
5	SDJC	R1010	E07	10 mm



**Carbide indexable replacement inserts (5 pieces each)**

No.	Article no.	ISO	D1	D2	B1	S1	right
1/3	3441759	WCMT050308	7.94	3.2	80°	3.18	0.8
2	3441761	SCMT060204	6.35	2.8	90°	2.38	0.4
4	3441760	TCMT090204	5.56	2.5	60°	2.38	0.4
5	3441758	DCMT070204	6.35	2.8	55°	2.38	0.4

## Turning tool set Carbide 12 mm

<b>Turning tool set</b>	<b>Article no.</b>
<b>Carbide 12 mm</b>	3441666
<ul style="list-style-type: none"> <li>&gt; 5-part</li> <li>&gt; With carbide indexable inserts</li> <li>&gt; TiN coated</li> <li>&gt; Aluminium box</li> </ul>	

ISO				
1	SWGC	L1212	H 05	12 mm
2	SSDC	N1212	H 09	12 mm
3	SWGC	R1212	H 05	12 mm
4	STGC	R1212	H 11	12 mm
5	SDJC	R1212	H 07	12 mm




**Carbide indexable replacement inserts (5 pieces each)**


No.	Article no.	ISO	D1	D2	B1	S1	right
1/3	3441759	WCMT050308	7.94	3.2	80°	3.18	0.8
2	3441763	SCMT09T304	9.525	4.4	90°	3.97	0.4
4	3441762	TCMT110204	6.35	2.8	60°	2.38	0.4
5	3441758	DCMT070204	6.35	2.8	55°	2.38	0.4

DRILLING  
CORE DRILLING  
THREAD TAPPING  
MILLING ACCESSORIES  
TURNING ACCESSORIES  
MEASURING  
SAWS  
GRINDING  
POLISHING  
SHEET METAL WORKING  
LIGHTING  
COOLING

Turning tool set  
Carbide 12 mm

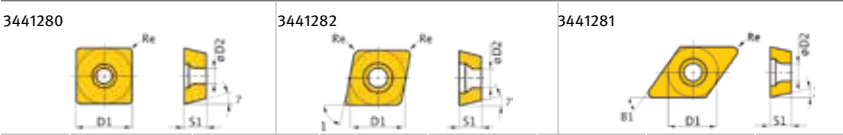
Turning tool set	Article no.
Carbide 12 mm	3441212
<ul style="list-style-type: none"> <li>&gt; 5-part</li> <li>&gt; With carbide indexable inserts</li> <li>&gt; TiN coated</li> </ul>	

	ISO		Art no.
1	SSSC R1212 J09	12 mm	3441220
2	SCLC R1212 J09	12 mm	3441221
3	SDNC N1212 J11	12 mm	3441222
4	SDJC R1212 J11	12 mm	3441223
5	SDJC L1212 J11	12 mm	3441224



**Carbide replacement indexable inserts (5 pieces each)**

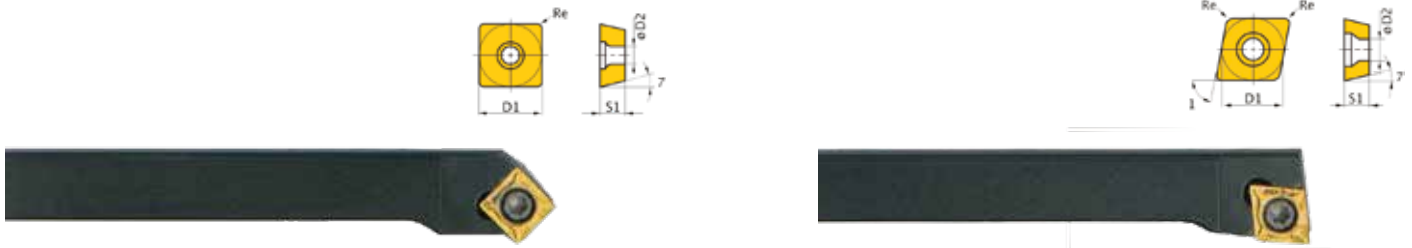
No.	Article no.	ISO	D1	D2	B1	S1	right
1	3441280	SCMT09T304	9.525	4.4	90°	3.97	0.4
2	3441282	CCMT09T304	9.525	4.4	80°	3.97	0.4
3-5	3441281	DCMT11T304	9.525	4.4	55°	3.97	0.4



Turning tool  
Carbide 12 mm


Turning tool 12 mm	Article no.
SSSC L1212J09	3441225
Carbide indexable replacement inserts (5 pieces each)	3441280
SCMT09T304	9.525 4.4 90° 3.97 0.4

Turning tool 12 mm	Article no.
SCLC L1212J09	3441226
Carbide indexable replacement inserts (5 pieces each)	3441282
CCMT09T304	9.525 4.4 80° 3.97 0.4



Turning tool set  
Carbide 16 mm

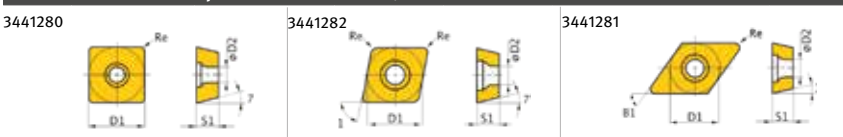
Turning tool set	Article no.
Carbide 16 mm	3441216
<ul style="list-style-type: none"> <li>&gt; 5-part</li> <li>&gt; With carbide indexable inserts</li> <li>&gt; TiN coated</li> </ul>	

	ISO		Article no.
1	SSSC R1616 J09	16 mm	3441230
2	SCLC R1616 J09	16 mm	3441231
3	SDNC N1616 J11	16 mm	3441232
4	SDJC R1616 J11	16 mm	3441233
5	SDJC L1616 J11	16 mm	3441234



**Carbide indexable replacement inserts (5 pieces each)**

No.	Article no.	ISO	D1	D2	B1	S1	right
1	3441280	SCMT09T304	9.525	4.4	90°	3.97	0.4
2	3441282	CCMT09T304	9.525	4.4	80°	3.97	0.4
3-5	3441281	DCMT11T304	9.525	4.4	55°	3.97	0.4



## Turning tool set Carbide 16 mm

<b>Turning tool set</b>	Article no.
<b>Carbide 16 mm</b>	3441668
> 5-part > With carbide indexable inserts > TiN coated > Aluminium box	

ISO				
1	PWLN	R1616	H06	16 mm
2	PWLN	L1616	H06	16 mm
3	PSDNN	1616	H09	16 mm
4	CKJN	R1616	H16	16 mm
5	MDJN	R1616	H11	16 mm



Carbide replacement indexable inserts (5 pieces each)									
3441753		3441755		3441754		3441750			
No.	Article no.	ISO	D1	D2	B1	S1	right	L1	
1/2	3441753	WNMG060408	9.252	3.81	80°	4.76	0.8	-	
3	3441755	SNMG090304	9.252	3.81	90°	3.18	0.4	-	
4	3441754	KNUX160405R	9.252		55°	4.76	0.5	16.15	
5	3441750	DNMG110408	9.525	3.81	55°	4.76	0.8	-	

## Turning tool set Carbide 16 mm

<b>Turning tool set</b>	Article no.
<b>Carbide 16 mm</b>	3441610
> 5-part > With carbide indexable inserts > TiN coated > Aluminium box	

ISO				
1	MVJNR	1616	H16	16 mm
2	MVVNN	1616	H16	16 mm
3	PRANN	1616	H10	16 mm
4	PRGNR	1616	H10	16 mm
5	SER	1616	H16	16 mm



Carbide indexable replacement inserts (5 pieces each)								
3441701		3441702		3441703				
No.	Article no.	ISO	D1	D2	B1	S1	right	
1/2	3441701	VNMG160408	9.525	3.81	35°	4.76	0.8	
3/4	3441702	RNMG1003MO	10	3.6	-	3.97	-	
5	3441703	16ER AG60	16	3.95	60°	3.65	-	

## Turning tool set Carbide 20 mm

<b>Turning tool set</b>	Article no.
<b>Carbide 20 mm</b>	3441670
> 5-part > With carbide indexable inserts > TiN coated > Aluminium box	

ISO				
1	PWLN	R2020	K08	20 mm
2	PWLN	L2020	K08	20 mm
3	PSDN	N2020	K12	20 mm
4	CKJN	R2020	K16	20 mm
5	MDJN	R2020	K11	20 mm



Carbide indexable replacement inserts (5 pieces each)									
3441752		3441756		3441754		3441750			
No.	Article no.	ISO	D1	D2	B1	S1	right	L1	
1/2	3441752	WNMG080408	12.7	5.16	80°	4.76	0.8	-	
3	3441756	SNMG120408	12.7	5.16	90°	4.76	0.8	-	
4	3441754	KNUX160405R	9.252		55°	4.76	0.5	16.15	
5	3441750	DNMG110408	9.525	3.81	55°	4.76	0.8	-	

DRILLING  
CORE DRILLING  
THREAD TAPPING  
MILLING ACCESSORIES  
TURNING ACCESSORIES  
MEASURING  
SAWS  
GRINDING  
POLISHING  
SHEET METAL WORKING  
LIGHTING  
COOLING

## Turning tool sets

### Turning tool set Carbide 20 mm

Turning tool set	Article no.
Carbide 20 mm	3441617

- › 5-part
- › With carbide indexable inserts
- › TiN coated
- › Aluminium box

ISO				
1	SER	2020	K16	20 mm
2	PRGNR	2020	K10	20 mm
3	PRANN	2020	K10	20 mm
4	MVVNN	2020	K16	20 mm
5	MVJNR	2020	K16	20 mm



Carbide indexable replacement inserts (5 pieces each)								
3441703		3441702		3441701				
No.	Article no.	ISO	D1	D2	B1	S1	right	
1	3441703	16ER AG60	16	3.95	60°	3.65	-	
2/3	3441702	RNMG1003MO	10	3.6	-	3.97	-	
4/5	3441701	VNMG160408	9.525	3.81	35°	4.76	0.8	

### Turning tool set Carbide 25 mm

Turning tool set	Article no.
Carbide 25 mm	3441623

- › 5-part
- › With carbide indexable inserts
- › TiN coated
- › Aluminium box

ISO				
1	MVVN	N2525	M16	25 mm
2	SE	R2525	M16	25 mm
3	PRGN	R2525	M12	25 mm
4	PRAN	N2525	M16	25 mm
5	MVJN	R2525	M16	25 mm



Carbide indexable replacement inserts (5 pieces each)								
3441701		3441703		3441704/05				
No.	Article no.	ISO	D1	D2	B1	S1	right	
1/2	3441701	VNMG160408	9525	3.81	35°	4.76	0.8	
3	3441703	16ER AG60	16	3.95	60°	3.65	-	
4	3441705	RNMG1204MO	12	4.75	R	5.1	-	
5	3441704	RNMG1605MO	16	5.4	R	6.3	-	

### Turning tool set Carbide 25 mm

Turning tool set	Article no.
Carbide 25 mm	3441672

- › 5-part
- › With carbide indexable inserts
- › TiN coated
- › Aluminium box

ISO				
1	PWLN	L2525	M08	25 mm
2	PSDN	N2525	M15	25 mm
3	PWLN	R2525	M08	25 mm
4	CKJNR	R2525	M16	25 mm
5	MDJN	R2525	M15	25 mm



Carbide indexable replacement inserts (5 pieces each)									
3441757		3441752		3441754		3441751			
No.	Article no.	ISO	D1	D2	B1	S1	right	L1	
1/2	3441752	WNMG080408	9.252	3.81	80°	4.76	0.8	-	
3	3441757	SNMG150608	15.875	6.35	90°	6.35	0.8	-	
4	3441754	KNUX160405R	9.252	-	55°	4.76	0.5	16.15	
5	3441751	DNMG150408	12.7	5.16	55°	4.76	0.8	-	

## Turning tool set Carbide 32 mm

<b>Turning tool set</b>	<b>Article no.</b>
<b>Carbide 32 mm</b>	3441674
› 5-part › With carbide indexable inserts › TiN coated › Aluminium box	

ISO				
1	PWLN	L3232	P08	32 mm
2	PSDN	N3232	P15	32 mm
3	PWLN	R3232	P08	32 mm
4	CKJN	R3232	P16	32 mm
5	MDJN	R3232	P15	32 mm



**Carbide indexable replacement inserts (5 pieces each)**

No.	Article no.	ISO	D1	D2	B1	S1	right	L1
1/3	3441752	WNMG080408	9.252	3.81	80°	4.76	0.8	-
2	3441757	SNMG150608	15875	6.35	90°	6.35	0.8	-
4	3441754	KNUX160405R	9.252	-	55°	4.76	0.5	16.15
3	3441751	DNMG150408	12.7	5.16	55°	4.76	0.8	-

## Inside turning tool set 10 mm

<b>Inside lathe tool set</b>	<b>Article no.</b>
<b>10 mm</b>	3441640
› 3-part › With HM reversible plates, TIN-coated › Aluminium box	



No.				
1	S10K	S12M	SCFCR	06
2	S10K	S12M	SDQCR	07
3	S10K	S12M	STFCR	11

## Inside turning tool set 12 mm

<b>Inside turning tool set</b>	<b>Article no.</b>
<b>12 mm</b>	3441641
› 3-part › With HM reversible plates, TIN-coated › Aluminium box	

**Carbide indexable replacement inserts (5 pieces each)**

No.	Article no.	ISO	l	s	R	d	d1	
1	3441164	CCMT060204	C/80°	6.35	2.60	0.40	6.35	2.70
2	3441163	TCMT110204	T/60°	10.84	2.53	0.40	9.1	2.70
3	3441166	DCMT070204	D/55°	7.30	2.53	0.40	6.35	2.70

## Inside thread turning tool set 8 - 20 mm

<b>Inside thread turning tool</b>	<b>Article no.</b>
<b>8 - 20 mm</b>	3441650
› 5-part (8/10/12/16/20 mm) › With carbide indexable inserts › TiN coated › Aluminium box	

No.	ISO			d
1	S10K	SIR 0008	H08	8 mm
2	S10K	SIR 0010	K11	10 mm
3	S10K	SIR 0012	M11	12 mm
4	S10K	SIR 0016	P16	16 mm
5	S10K	SIR 0020	S16	20 mm



**Carbide indexable replacement inserts (5 pieces each)**

No.	Article no.	ISO	l	s	R	d	d1	
1	3441725	08IR A60	60° IR	8	2.22	4.76	2.5	M10
2/3	3441726	11IR A60	60° IR	11	3.22	6.35	3.0	M12
4/5	3441727	16IR A60	60° IR	16	3.65	9.5	3.95	M16

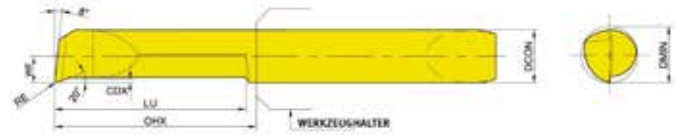
DRILLING  
CORE DRILLING  
THREAD TAPPING  
MILLING ACCESSORIES  
TURNING ACCESSORIES  
MEASURING  
SAWS  
GRINDING  
POLISHING  
SHEET METAL WORKING  
LIGHTING  
COOLING

## Turning tools

### Premium turning tools from YG-1

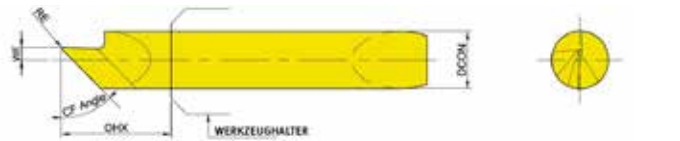


Right-hand boring tool	Article no.
NCBP4R-27.10-005-YG812	3544010
NCBP4R-32.20-005-YG812	3544011
NCBP6R-62.20-020-YG812	3544012
NCBP6R-62.30-020-YG812	3544013



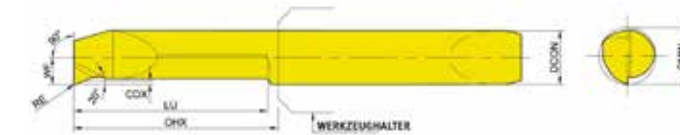
	DCON	DMIN	LU	RE	CDX	WF	OHX	OAL
3544010	4	2.7	10	0.05	0.2	1.2	13	28
3544011	4	3.2	20	0.05	0.2	1.45	23	38
3544012	6	6.2	20	0.20	0.5	2.95	25.5	48
3544013	6	6.2	30	2.0	0.5	2.95	35.5	58

Turning tool for chamfering 45° right	Article no.
NCCH6R-10.03-45-YG812	3544110



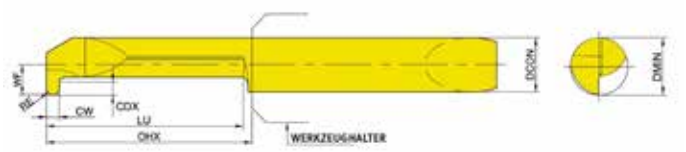
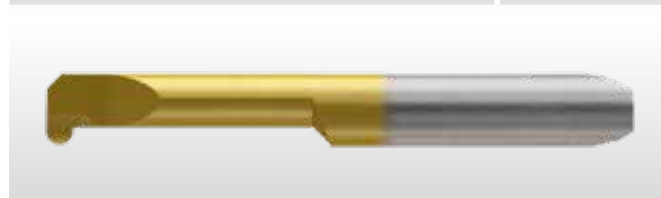
	DCON	DMIN	RE	CDX	WF	OHX	OAL
3544070	6	1.0	0.2	3.5	1.1	15.5	38

Inside boring bar 90° right	Article no.
NCBF4R-22.13-010-YG812	3544030
NCBF4R-32.20-015-YG812	3544031
NCBF6R-62.15-020-YG812	3544032
NCBF6R-62.30-020-YG812	3544033



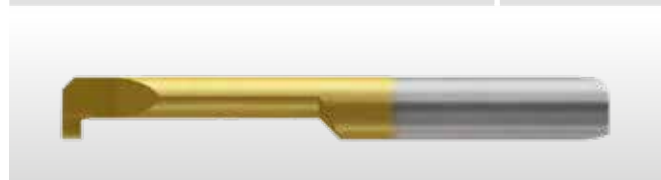
	DCON	DMIN	LU	RE	CDX	WF	OHX	OAL
3544030	4	2.2	13	0.10	0.2	0.95	18	33
3544031	4	3.2	20	0.15	0.2	1.45	23	38
3544032	6	3.2	15	0.20	0.5	2.95	20.5	43
3544033	6	6.2	30	0.20	0.5	2.95	35.5	58

Grooving insert, right radius	Article no.
NCGR4R-42.15-10x08-YG812	3544050
NCGR4R-42.15-15x08-YG812	3544051
NCGR6R-62.25-15x18-YG812	3544052
NCGR6R-62.25-20x18-YG812	3544053



	DCON	DMIN	LU	RE	CW	CDX	WF	OHX	OAL
3544050	4	4.2	15	0.5	1.0	0.8	1.95	18	33
3544051	4	4.2	15	0.75	1.5	1	1.95	18	33
3544052	6	6.2	25	0.75	1.5	1.8	2.95	30.5	53
3544053	6	6.2	25	1	2.0	1.8	2.95	30.5	53

Grooving insert, right radius	Article no.
NCGS4R-42.10-100x08-YG812	3544070
NCGS6R-62.10-150x18-YG812	3544071
NCGS6R-62.25-150x18-YG812	3544072
NCGS6R-62.15-200x18-YG812	3544073

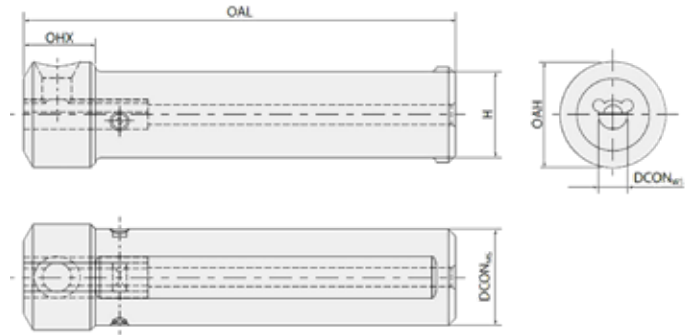


	DCON	DMIN	LU	CW	CDX	WF	OHX	OAL
3544070	4	4.2	10	1.00	0.8	1.95	13	38
3544071	6	6.2	10	1.50	1.8	2.95	15.5	38
3544072	6	6.2	25	1.50	1.8	2.95	30.5	53
3544073	6	6.2	15	2.00	1.8	2.95	20.5	43

Premium turning tools from YG-1

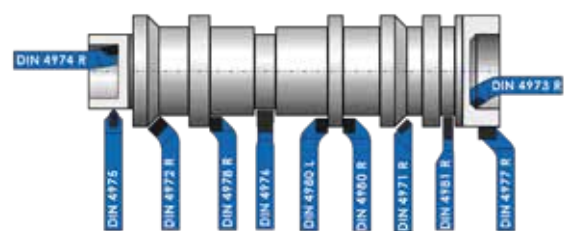


Boring bar holder - 4 mm mount	Article no.
16mm (NCHI-16.4)	3544150
20mm (NCHI-20.4)	3544151
25mm (NCHI-25.4)	3544152
Boring bar holder - 6 mm mount	Article no.
16mm (NCHI-16.6)	3544155
20mm (NCHI-20.6)	3544156
25mm (NCHI-25.6)	3544157



	DDCON <sub>ms</sub>	OAL	H	OAH	OHX
3544150	16	75	14	17.5	14
3544151	20	90	18	20	14
3544152	25	110	23	25	14
3544155	16	75	14	18.5	14
3544156	20	90	18	22	14
3544157	25	110	23	25	14

**Turning tool set**  
8 / 10 / 12 / 16 mm



Accessories	Article no.
Lathe tool set 8 mm	3441601
11-part . With carbide plates soldered on	
Lathe tool set 10 mm	3441602
11-part . With carbide plates soldered on	
Lathe tool set 12 mm	3441603
11-part . With carbide plates soldered on	
Lathe tool set 16 mm	3441604
11-part . With carbide plates soldered on	

DRILLING  
CORE DRILLING  
THREAD TAPPING  
MILLING ACCESSORIES  
TURNING ACCESSORIES  
MEASURING  
SAWS  
GRINDING  
POLISHING  
SHEET METAL WORKING  
LIGHTING  
COOLING

## Accessories

Clamping disc	Article no.
Ø 170 mm for TU 2004V/TU 2304	3440295
Ø 240 mm for TU 2406	3440552
Ø 240 mm for TU 2506	3441352
Ø 265 mm for TU 2807	3441452
Ø 300 mm Camlock DIN ISO 702-2 No. 4	3442976
Ø 320 mm A 2-5	3442979
Ø 330 mm Camlock DIN ISO 702-2 No. 5	3442978
Ø 350 mm Camlock DIN ISO 702-2 No. 6	3442980
Ø 480 mm Camlock DIN ISO 702-2 No. 8	3442982



Collet chuck	Article no.
ER 16 Ø 22 mm	3440281
› Cylindrical for TU 1503V	
ER 25 Ø 72 mm	3440305
› Cylindrical for TU 2004V / TU 2304	
ER 25 Ø 52 mm	3440505
› Cylindrical for TU 2406	
ER 32 Ø 52 mm	3440506
› Cylindrical for TU 2406	
(Requires collet chuck spanner 3353307 - see page 253)	
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	



Lathe chuck spanner	Article no.
10 mm (L x W 190 x 155 mm)	3442960
11 mm (L x W 190 x 155 mm)	3442961
12 mm (L x W 240 x 260 mm)	3442962
13 mm (L x W 240 x 260 mm)	3442963
14 mm (L x W 240 x 260 mm)	3442964



Chuck flange	Article no.
› For lathe chuck assembly	
Ø 160 mm Camlock DIN ISO 702-2 No. 4	3441512
› for four-jaw lathe chuck Ø 160 mm	



Ø 200 mm Camlock DIN ISO 702-2 No. 4	3441513
› for four-jaw lathe chuck Ø 200 mm	
Ø 200 mm Camlock DIN ISO 702-2 No. 5	3441514
› for four-jaw lathe chuck Ø 200 mm	



Ø 200 mm Camlock DIN ISO 702-2 No. 6	3444012
› for four-jaw lathe chuck Ø 200 mm	
Ø 250 mm Camlock DIN ISO 702-2 No. 6	3444013
› for four-jaw lathe chuck 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	Article no.
› 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	



**Accessories** **Article no.**

**Clamping block set 16-05** **3440653**

- Lathes: TU 3008 / TH 3309 / TH 3610 / TH 4010
- › 1 unit clamping block SLTBN 16- 05
  - › 1 item each parting off tool SLIH 26- 2 / SLIH 26- 3
  - › 5 units cutting inserts GTN2 (cutting width 2.2 mm)
  - › 5 units cutting inserts GTN3 (cutting width 3.1 mm)
  - › Aluminium box

**Clamping block set 20-05** **3440654**

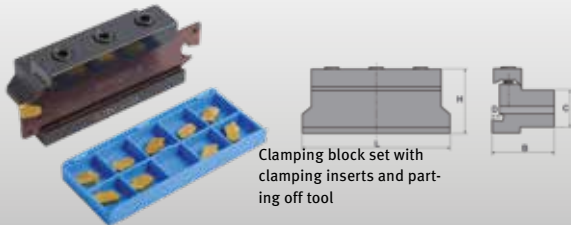
- Lathes: TH 4210 / TH 46 / TH 56
- › 1 unit clamping block SLTBN 20- 05
  - › 1 item each parting off tool SLIH 26- 3 / SLIH 26- 4
  - › 5 units cutting inserts GTN3 (cutting width 3.1 mm)
  - › 5 units cutting inserts GTN4 (cutting width 4.1 mm)
  - › Aluminium box

**Clamping block set 25-05** **3440655**

- For the lathes: TH 66 / TH 80
- › 1 unit clamping block SLTBN 25- 05
  - › 1 item each parting off tool SLIH 26- 3 / SLIH 26- 4
  - › 5 units cutting inserts GTN3 (cutting width 3.1 mm)
  - › 5 units cutting inserts GTN4 (cutting width 4.1 mm)
  - › Aluminium box

**Replacement cutting insert set (10 units)** **Article no.**

- |                                  |                |
|----------------------------------|----------------|
| <b>for cutting inserts GTN 2</b> | <b>3440663</b> |
| <b>for cutting inserts GTN 3</b> | <b>3440664</b> |
| <b>for cutting inserts GTN 4</b> | <b>3440665</b> |



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

**Pilot bit set** **3203010**

- › As per DIN 333 shape A
- › 10-part: 0.75/1/1.5/1.6/2/2.5/3/3.5/4/5 mm
- › Right-hand cutting conical bevel grinded 120°
- › Countersink angle 60°
- › Top quality HSS for tensile strength up to approx. 750 N/mm<sup>2</sup>
- › Powerful shank, also well suited for predrilling and expansion drilling with a twist drill bit
- › Practical OPTIMUM plastic case

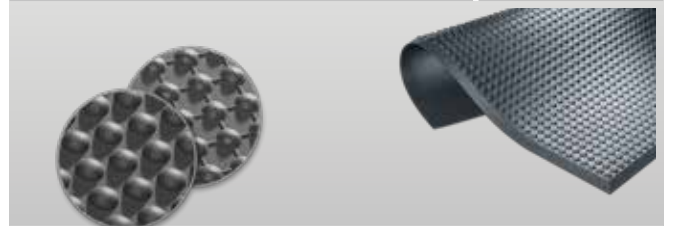


**Workplace mats for dry and wet areas** **Article no.**

- › Fire-resistant
- › Made of polyurethane on polyether basis
- › Surface: nubbed and underside nubbed: for maximum standing comfort and slip resistance
- › Thickness 14 mm
- › Colour anthracite
- › Temperature resistance -35°C to +95°C
- › Fire classification B1 as per DIN 4102
- › 5-year warranty



<b>Workplace mat 1840 x 640 mm</b>	<b>6800000</b>
<b>Workplace mat 1840 x 940 mm</b>	<b>6800005</b>
<b>Workplace mat 3040 x 640 mm</b>	<b>6800001</b>
<b>Workplace mat 3040 x 940 mm</b>	<b>6800006</b>



**Hollow spindle stop** **Article no.**

- › Optimum auxiliary tool suits virtually any lathe
- › Worthwhile even for smallest batches
- › Expensive tooling time can be reduced to a minimum
- › Can be easily and quickly attached at any point of the hollow spindle

<b>HSP 38</b>	<b>3444410</b>
› Spindle Ø 35-42 mm	
<b>HSP 52</b>	<b>3444415</b>
› Spindle Ø 48-56 mm	
<b>HSP 80</b>	<b>3444420</b>
› Spindle Ø 76-84 mm	
<b>HSP 105</b>	<b>3444425</b>
› Spindle Ø 101-109 mm	



**Collet chuck** **Article no.**

- › for collets type 5C / 385E
- › as per DIN 6341
- › With spindle mount according to DIN ISO 702-2
- › Concentricity ≤ 0.02 mm

<b>5C - Camlock no. 4</b>	<b>3441554</b>
<b>5C - Camlock no. 5</b>	<b>3441555</b>
<b>5C - Camlock no. 6</b>	<b>3441556</b>
<b>5C - Camlock no. 8</b>	<b>3441558</b>



DRILLING

CORE DRILLING

THREAD TAPPING

MILLING ACCESSORIES

TURNING ACCESSORIES

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORKING

LIGHTING

COOLING

## Accessories

### Levelling platen

› The machines and equipment can be installed without anchors and precisely levelled using the height adjustment system.

› non-slip rubberised

SE 1	3381012
SE 2	3381016
SE 3	3381018



Load	SE 1	SE 2	SE 3
Milling machines	340 kg	460 kg	1600 kg
Sawing/gen. Machine	570 kg	1460 kg	3500 kg
Thread	M 12	M 16	M 20
Base Ø/Base height	120/32	160/35	185/39

### Machine foot vibration damper

› Effective vibration and structure-borne noise insulation and noise reduction

› Eliminates floor unevenness up to 5°

MADE IN GERMANY

› Fast and technically easy precision levelling by means of a regular threaded screw

SE 55	3352981
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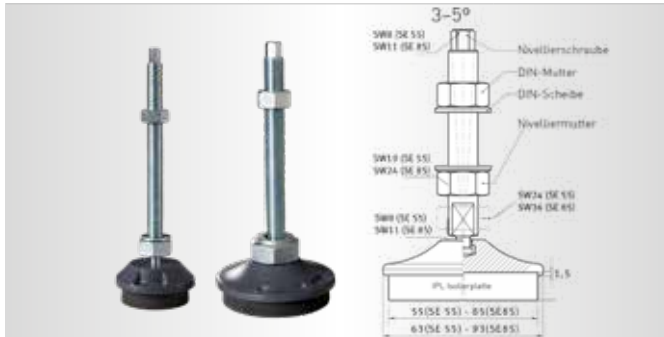
› Levelling screw M12 x 1 x 150 mm

› Maximum load: 600 kg

SE 85	3352982
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› Levelling screw M16 x 150 mm

› Maximum load: 1500 kg



### Precision machine shoe SEU1

3352985

› Patented double spindle bearing

› With slip-protection plate at top

MADE IN GERMANY

› Maximum load 60 kN

› Suitable for M16 threaded rod

› Vibration-insulation plate for particularly loads. Good structure-borne noise insulation

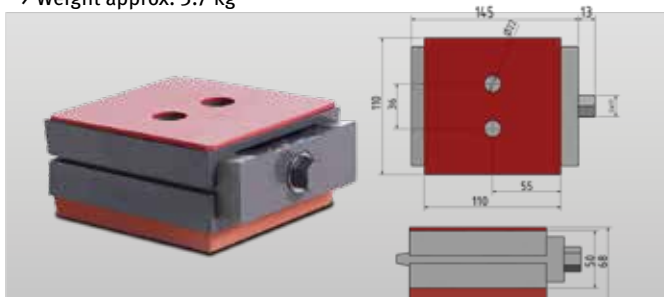
› Adjustment range +5 / -4 mm

› High-precision, jerk-free levelling even of heavy machines

› Up to 50% reduction in assembly time thanks to precision levelling and non-anchored installation.

› Improves the dynamic behaviour of machines while reducing noise

› Weight approx. 3.7 kg



### Steady rest

for TU 1503V	Article no.
--------------	-------------

› a = Ø 40 mm; b = 145 mm; c = 70,5 mm

for TU 2004V	Article no.
--------------	-------------

› a = Ø 50 mm; b = 200 mm; c = 100 mm

for TU 2304 / TU 2304V	Article no.
------------------------	-------------

› a = Ø 55 mm; b = 220 mm; c = 115 mm

for TU 2406 / TU 2506	Article no.
-----------------------	-------------

› a = Ø 50 mm; b = 245 mm; c = 125 mm

for TU 2807 / TU 2807V	Article no.
------------------------	-------------

› a = Ø 55 mm; b = 250 mm; c = 140 mm

for TU 3008 / TU 3008G / TU 3008V	Article no.
-----------------------------------	-------------

› a = Ø 60 mm; b = 260 mm; c = 157 mm



### Follow steady rest

for TU 1503V	Article no.
--------------	-------------

› a = Ø 45 mm; b = 155 mm; c = 76 mm

for TU 2004V	Article no.
--------------	-------------

› a = Ø 40 mm; b = 195 mm; c = 100 mm

for TU 2304 / TU 2304V	Article no.
------------------------	-------------

› a = Ø 34 mm; b = 200 mm; c = 97 mm

for TU 2406 / TU 2506	Article no.
-----------------------	-------------

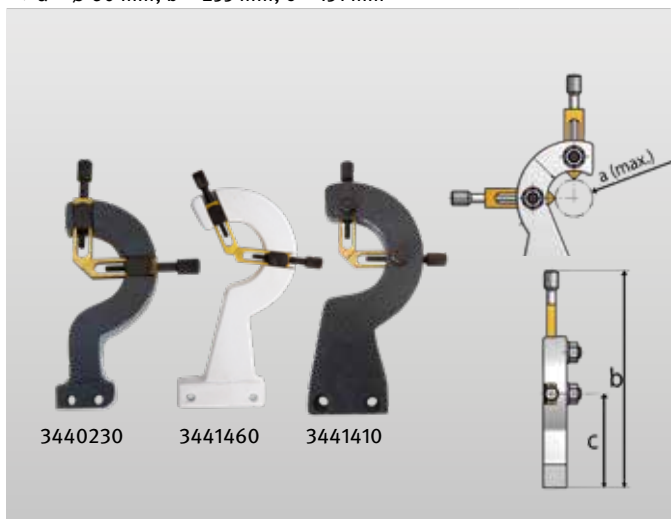
› a = Ø 34 mm; b = 220 mm; c = 107 mm

for TU 2807 / TU 2807V	Article no.
------------------------	-------------

› a = Ø 56 mm; b = 250 mm; c = 130 mm

for TU 3008 / TU 3008G / TU 3008V	Article no.
-----------------------------------	-------------

› a = Ø 60 mm; b = 255 mm; c = 151 mm



# ***METAL-CUTTING BAND SAWS METAL-CUTTING CIRCULAR SAWS***

**SD 500 | Art. no.: 3292380**

**Double mitre metal band saws**  
with versatile deployment options  
in trades and industry



This **manual band saw** can either be installed on the optional work table with vise, or guided manually

**Facts that impress in terms of quality, performance and price**

- ▶ Powerful 1.1 kW motor
- ▶ Ideally suited for sawing solid steel materials with low tensile strength, preferably for sawing off pipes, steel sections, aluminium and non-ferrous metals.
- ▶ Also suitable for cutting wood, plastics and other thin non-ferrous metals
- ▶ Strong bridge construction with aluminium frame
- ▶ The saw supports virtually spark-free sawing without coolant and is thus easy on the material
- ▶ Reduced cutting noise
- ▶ Always the right working position thanks to the adjustable additional grip
- ▶ Transport case
- ▶ Removable from optional worktable for flexible use



**Work table**  
 > Vice included  
 > Net weight 13 kg  
 Article no. 3184212

**Arguments,...**



**Speed regulator**  
 > Variable saw band speed 42 - 144 m/min. for various materials



**Clamping lever**  
 > Precise band running is ensured by the easy-to-use saw band tensioner and adjusting screws.



**LED work light**  
 > illuminates dark work areas for precise cutting

**Cutting areas**

with optional work table			
0°	Ø 115 mm	105 mm	100 x 115 mm
45°	Ø 45 mm	40 mm	30 x 45 mm
without optional work table			
0°	Ø 127 mm	127 mm	127 x 127 mm
45°	Ø 40 mm	40 mm	40 x 120 mm

**Scope of delivery**

- > Transport case
- > Bi-metal saw band 10-14 teeth per inch M42

**Saw bands**

HSS bi-metal M 42 10 - 14 tpi	Article no. 3357548
----------------------------------	------------------------

<b>Model</b>	SQ-V10
Article no.	3184210

<b>Technical data</b>	
Electrical connection	230 V/1 Ph ~50 Hz
Motor power	1.1 kW
Saw band speed	42 - 144 m/min
Saw band dimensions	1140 x 13 x 0.65 mm
Length x width x height approx.	465 x 280 x 165 mm
Net weight approx.	6.6 kg

Transportable mitre **bandsaw** with excellent cutting precision, extremely low-noise

**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
- ▶ Pushbutton on lever arm for saw band run, switches the saw band run on and off
- ▶ Base plate with anti-slip feet
- ▶ Swivelable saw bow from 0° to +60° to allow angled saw cuts
- ▶ Continuously adjustable saw band speed from 30 to 80 m/min

**NEU**  
**WITH MORE**  
**POWER**



**Arguments,...**



**Saw band guide**




› Ball bearing saw band guide for excellent band running and thus for optimal cutting.



**Pushbutton**

› Pushbutton on lever arm for saw band run  
› Switches the saw band run on and off

**Cutting areas**

			
0°	Ø 125 mm	125 mm	125 x 125 mm
45°	Ø 85 mm	85 mm	85 x 85 mm
60°	Ø 50 mm	50 mm	50 x 50 mm

The cutting area was determined for aluminium. It can vary when using different materials and may be smaller (not cutting capacity).

**Scope of delivery**

- › Material stop
- › Bi-metal saw band

Model	SQ-V13
Article no.	3194013
<b>Technical data</b>	
Electrical connection	230 V/1 Ph ~50 Hz
Motor power	750 W
Saw band speed	30 - 80 m/min
Saw band dimensions	1440 x 12.5 x 0.6 mm
Cutting angle	0° - 60°
Length of open/closed vise approx.	795 / 670 mm
Width without/with material stop approx.	382 / 613 mm
Height of lower/upper end position approx.	640 / 420 mm
Net weight approx.	23 kg

**Accessories**

Underframe MUG1	3351490
› Weight approx: 7.3 kg › Dimensions L x W x H approx.: 500 x 470 x 780 mm	



**Saw bands**

HSS bi-metal M 42	Article no.
6 - 10 tpi	3351546
10 - 14 tpi	3351547

**Saw band informations** see page 273

Transportable mitre **bandsaw** with excellent cutting precision, extremely low-noise.

**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
- ▶ Pushbutton on lever arm for saw band run, switches the saw band run on and off
- ▶ Base plate with anti-slip feet
- ▶ Low vibration and wear thanks to special gearbox with two hardened steel gears
- ▶ Vario drive motor with low speed and carbon brushes for up to 10x longer service life
- ▶ Swivelable saw bow from 0° to +60° to allow angled saw cuts



Fig.: SP13V

## Scope of delivery

- › Material stop
- › Bi-metal saw band

<b>Model</b>	<b>SP 13V</b>
Article no.	3300075
<b>Technical data</b>	
Electrical connection	230 V/1 Ph ~50 Hz
Motor power	1 kW
Saw band speed	30 - 80 m/min
Saw band dimensions	1440 x 13 x 0.65 mm
Cutting angle	0° - 60°
Length approx.	720 mm
Width without/with material stop approx.	300 / 650 mm
Height of lower/upper end position approx.	420 / 680 mm
Net weight approx.	19,5 kg

## Arguments,...



### Saw band guide

› Ball bearing saw band guide for excellent band running and thus for optimal cutting.



### Vario drive

› Saw band speed continuously adjustable from 30 to 80 m/min.

## Cutting areas

0°	Ø 125 mm	125 mm	125 x 125 mm
45°	Ø 85 mm	85 mm	85 x 85 mm
60°	Ø 45 mm	45 mm	45 x 50 mm

The cutting area was determined for aluminium. It can vary when using different materials and may be smaller (not cutting capacity).

## Accessories

<b>Underframe MUG1</b>	3351490
› Stable, space-saving, foldable, easy to transport	
› Weight: 7.3 kg	
› Dimensions L x W x H: 500 x 470 x 780 mm	



## Saw bands

HSS bi-metal M 42		
Teeth per inch	Tooth angle	Article no.
6 - 10 tpi	0°	3351546
10 - 14 tpi	0°	3351547

**Saw band informations** see page 273

**New**

Transportable mitre bandsaw with excellent cutting precision, extremely low-noise.

**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
- ▶ Pushbutton on lever arm for saw band run, switches the saw band run on and off
- ▶ Base plate with anti-slip feet
- ▶ Low vibration and wear thanks to special gearbox with two hardened steel gears
- ▶ Vario drive motor with low speed and carbon brushes for up to 10x longer service life
- ▶ Swivelable saw bow from 0° to +60° to allow angled saw cuts



Fig.: SP 15V

Fig.: SP 17V

### Arguments,...



**Saw band guide**

▶ Ball bearing saw band guide for excellent band running and thus for optimal cutting.



**Vario drive**

▶ Saw band speed continuously adjustable from 30 to 80 m/min.

### Cutting areas

SP 15V	0°	Ø 150 mm	140 mm	140 x 140 mm
SP 17V		Ø 170 mm	140 mm	166 x 166 mm
SP 15V	45°	Ø 100 mm	100 mm	100 x 100 mm
SP 17V		Ø 130 mm	130 mm	130 x 130 mm
SP 15V	60°	Ø 70 mm	65 mm	65 x 65 mm
SP 15V		Ø 75 mm	75 mm	75 x 75 mm

The cutting area was determined for aluminium. It can vary when using different materials and may be smaller (not cutting capacity).

### Saw bands and accessories

HSS bi-metal M 42		
Teeth per inch	Tooth angle	Article no.
<b>SP 15V</b>		
6 tpi	10°	3351521
6 - 10 tpi	0°	3351522
10 - 14 tpi	0°	3351538
<b>SP 17V</b>		
6 tpi	10°	3351519
6 - 10 tpi	0°	3351520
10 - 14 tpi	0°	3351523

**Saw band informations** see page 273

Chassis MUG	3351490
▶ Stable, space-saving, foldable	
▶ Weight: 7.3 kg	
▶ Dimensions L x W x H: 500 x 470 x 780 mm	
Universal coolant unit	3351999

Model	SP 15V	SP 17V
Article no.	3300080	3300085
<b>Technical data</b>		
Electrical connection	230 V/1 Ph ~50 Hz	230 V/1 Ph ~50 Hz
Motor power	1.5 kW	1.65 kW
Saw band speed	30 - 80 m/min	30 - 80 m/min
Saw band dimensions	1735 x 13 x 0.9 mm	2030 x 20 x 0.90 mm
Cutting angle	0° - 60°	0° - 60°
Length approx.	930 mm	1040 mm
Width without/with material stop approx.	480 / 950 mm	480 / 950 mm
Height of lower/upper end position approx.	450 / 495 mm	470 / 535 mm
Net weight approx.	30 kg	36 kg

DRILLING  
CORE DRILLING  
THREAD TAPPING  
MILLING ACCESSORIES  
TURNING  
MEASURING  
SAWS  
GRINDING  
POLISHING  
SHEET METAL WORKING  
LIGHTING  
COOLING

**Light and handy metal-cutting 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
- ▶ Swivelable saw bow from 0° to 45° to allow angled saw cuts
- ▶ Easily legible scale for adjusting the angle
- ▶ Microswitch for automatic limit position cut-off
- ▶ Automatic lowering of the saw bow via three-stage adjustable saw bow lowering pressure
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ Large, practical handle and light weight allow for trouble-free transport to the construction site
- ▶ Adjustable material stop for batch work
- ▶ Fully equipped; the user can immediately start productive work after commissioning
- ▶ Transportation lock



### Arguments,...



**Automatic limit switch cut-off**  
 > Switches the saw band off at the bottom stop



**Saw band guide**  
 > Ball bearing 3-point guide for excellent band running and thus for an optimal cut

### Cutting areas

0°	Ø 100 mm	100 mm	100 x 150 mm
45°	Ø 60 mm	60 mm	60 x 95 mm

The cutting area was determined for aluminium. It can vary when using different materials and may be smaller (not cutting capacity).

### Scope of delivery

- > Material stop
- > Operating tool
- > Bi-metal saw band

Model	S 100G
Article no.	3184230
<b>Technical data</b>	
Electrical connection	230 V/1 Ph ~50 Hz
Motor power	370 W
Saw band speed	45 m/min
Saw band dimensions	1470 x 13 x 0.65 mm
Cutting angle	0° up to 45°
Length of vice open / closed approx.	950 / 850 mm
Width without/with material stop approx.	300 / 660 mm
Height of lower/upper end position approx.	680 / 820 mm
Net weight approx.	27.5 kg

### Accessories

MUG1	3351490
> Stable, space-saving, foldable, easy to transport > Weight: 7.3 kg > Dimensions L x W x H: 500 x 470 x 780 mm	



### Saw bands

HSS bi-metal M 42		
Teeth per inch	Tooth angle	Article no.
10 - 14 tpi	0°	3351110
Saw band set HSS bi-metal M 42		
1 saw band 6 tpi; 10 °		3351100
2 unit saw band 10 - 14 tpi; 0 °		

**Saw band informations** see page 273

**Metal-cutting band saw ideal for light sawing work.**  
Mitre cutting from -45° to 60° via pivoting saw bow

**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 push button
- ▶ 24 V low voltage electronics
- ▶ Low-noise running action
- ▶ Three speeds 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



**Scope of delivery**

- › Material stop
- › Bi-metal saw band
- › Machine base

<b>Model</b>	<b>S 131GH</b>
Article no.	3300131
<b>Technical data</b>	
Electrical connection	230 V/1 Ph ~50 Hz
Motor power	1.1 kW
Lifting the saw bow	manual
Feed	continuously variable
Saw band speed	22 / 31 / 55 m/min
Saw band dimensions	1640 x 13 x 0.65 mm
Cutting angle	-45° up to 60°
Dimensions L x W x H approx.	1085 x 498 x 978 mm
Net weight approx.	78 kg

**Arguments,...**



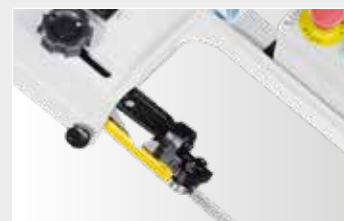
**Mitre square**

› Cutting angle easily adjustable from -45° to +60° using scale



**Hydraulic cylinder:**




› Precise, continuously adjustable lowering with throttle valve



**Saw band guide**

› Ball bearing saw band guide for excellent band running and thus for optimal cutting.

**Cutting areas**

			
0°	Ø 128 mm	128 mm	160 x 145 mm
45°	Ø 90 mm	85 mm	85 x 95 mm
60°	Ø 55 mm	55 mm	120 x 55 mm
-45°	Ø 90 mm	85 mm	85 x 95 mm

The cutting area was determined for aluminium. It can vary when using different materials and may be smaller (not cutting capacity).

**Saw bands**

HSS bi-metal M 42		
Teeth per inch	Tooth angle	Article no.
6 tpi	10°	3351511
6 - 10 tpi	0°	3351512
8 - 12 tpi	0°	3351517
10 - 14 tpi	0°	3351518
Saw band set HSS bi-metal M 42		
1 saw band 6 tpi; 10°		3351500
1 saw band 6-10 tpi; 0°		
1 saw band 10-14 tpi; 0°		

**Saw band informations** see page 273

## The metal-cutting gear band saw for challenging sawing tasks

### Facts that impress in terms of quality, performance and price

- ▶ Low-noise running action
- ▶ Rugged cast design
- ▶ Saw bow 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
- ▶ Ball-bearing borne saw band guide
- ▶ Rugged machine mobile base with large wheels and practical transport bar allows trouble-free relocation of the machine
- ▶ Adjustable material stop for batch work
- ▶ Easy-to-clean coolant parts
- ▶ Ground clamping surface
- ▶ Circuit breaker for belt cover
- ▶ Fully equipped; the user can immediately start productive work after commissioning



### Scope of delivery

- › Material stop
- › Bi-metal saw band
- › Machine base

Model	SD 200G	SD 200V
Article no.	3300200	3300205

Technical data		
Electrical connection	400 V/3 Ph ~50 Hz	230 V/1 Ph ~50 Hz
Motor power	550 W / 750 W	750 W
Coolant pump motor	100 W	100 W
Lifting the saw bow	manual	manual
Feed	continuously variable	continuously variable
Saw band speed	44 / 88 m/min	26 - 80 m/min
Saw band dimensions	2360 x 19 x 0.9 mm	2360 x 19 x 0.9 mm
Cutting angle	0° up to 45°	0° up to 45°
Worktable height	530 mm	530 mm
Length approx.	1295 mm	1295 mm
Width with material stop approx.	535 mm	535 mm
Height of lower/upper end position approx.	790 mm / 1,200 mm	790 mm / 1,200 mm
Net weight approx.	130 kg	130 kg

### Arguments,...



#### Saw band guide

- › Ball-bearing borne; for an excellent band run and thus optimal cutting



#### Motor

- › Powerful
- › Two-stage

#### The machine is pre-assembled.

Individual components of the machine still have to be assembled and joined together.

### Cutting areas

0°	Ø 180 mm	180 mm	180 x 240 mm 50 x 300 mm
45°	Ø 110 mm	150 mm	110 x 170 mm

The cutting range was determined on the basis of the saw bow weight with aluminium. It can vary when using different materials and may be smaller (not cutting capacity).

### Accessories

#### Saw bands HSS bi-metal M 42

Teeth per inch	Tooth angle	Article no.
5 - 8 tpi	0°	3357522
5 - 8 tpi	5 - 7°	3357516
6 - 10 tpi	0°	3357521
10 - 14 tpi	0°	3357520

#### Saw band set HSS bi-metal M 42

with 1 unit each saw band 6 - 10 tpi; 0° / 5 - 8 tpi; 0° / 10 - 14 tpi; 0°	3357500
--	---------

**Saw band informations** see page 273

## Metal-cutting band saw with pivoting saw head. S 275PV with continuously variable 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 bow lowering via hydraulic cylinder, continuously adjustable by throttle valve
- ▶ Microswitch for automatic limit position cut-off
- ▶ Coolant system
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ Adjustable material stop for batch work
- ▶ Rugged machine mobile base
- ▶ Ball-bearing borne saw band guide
- ▶ Easily legible scale for adjusting the angle
- ▶ Overload protection

#### S 275P

- ▶ Motor protection switch
- ▶ Two switchable speeds

#### S 275PV

- ▶ Infinitely variable saw band speed 20 - 90 m/min
- ▶ Speed change possible during operation

### Arguments,...



#### Control box

- ▶ Service-friendly electronics
- ▶ Interchangeable relays
- ▶ Control box built to the latest standards



#### Quick clamping vice

- ▶ Adjustable via hand wheel
- ▶ Workpiece is clamped using a handy quick-clamping lever
- ▶ Interchangeable vice plates

### The machine is pre-assembled

Individual components of the machine still have to be assembled and joined together.



Fig.: S 275N

### Scope of delivery

- › Material stop
- › Bi-metal saw band
- › Machine base
- › Coolant pump

### Cutting areas

0°	Ø 225 mm	190 mm	150 x 245 mm
45°	Ø 145 mm	150 mm	190 x 150 mm
60°	Ø 90 mm	90 mm	120 x 90 mm

The cutting range was determined on the basis of the saw bow weight with aluminium. It can vary when using different materials and may be smaller (not cutting capacity).

Model	S 275P	S 275PV*
Article no.	3305275	3300265

Technical data		
Electrical connection	400 V/3 Ph ~50 Hz	230 V/1 Ph ~50 Hz
Motor power	1.1 kW	1.5 kW
Coolant pump motor	90 W	
Lifting the saw bow	manual	
Feed	continuously variable	
Saw band speed	45 / 90 m/min	20 - 90 m/min
Saw band dimensions	2480 x 27 x 0.9 mm	
Cutting angle	0° up to 60°	
Length approx.	1400 mm	
Width without / with material stop approx.	685 / 985 mm	
Height of lower/upper end position approx.	1235 / 1700 mm	
Net weight approx.	185 kg	

### Saw bands

#### Saw bands HSS bi-metal M 42

Teeth per inch	Tooth angle	Article no.
5 - 8 tpi	0°	3357511
5 - 7 tpi	5-7°	3357512
6 - 10 tpi	0°	3357524
10 - 14 tpi	0°	3357525

#### Saw band set HSS bi-metal M 42

1 saw band 6 - 10 tpi; 0°	3357504
1 saw band 5 - 8 tpi; 0°	
1 saw band 5 - 7 tpi; 5-7°	

Saw band informations see page 273

## Metal band saw with swivelling saw arm for economical and precise work

### 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 bow lowering via hydraulic cylinder, continuously adjustable by throttle valve
- ▶ Microswitch for automatic limit position cut-off
- ▶ Coolant system
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ Adjustable material stop for batch work
- ▶ Rugged machine mobile base
- ▶ Ball-bearing borne saw band guide
- ▶ Easily legible scale for adjusting the angle
- ▶ Overload protection



### The machine is pre-assembled.

Individual components of the machine still have to be assembled and joined together.

### Scope of delivery

- > Material stop
- > Bi-metal saw band
- > Machine base
- > Coolant pump

<b>Model</b>	<b>SD 285E</b>
Article no.	3300287

Technical data	
Electrical connection	400 V/3 Ph ~50 Hz
Motor power	1.1 kW
Coolant pump motor	100 W
Lifting the saw bow	manual
Feed	continuously variable
Saw band speed	45 / 90 m/min
Saw band dimensions	2480 x 27 x 0.9 mm
Cutting angle	-45° to 60°
Length approx.	1450 mm
Width without material stop approx.	550 mm
Height of lower end position approx.	1580 mm
Net weight approx.	245 kg

### Arguments,...



#### Saw band tension

- > Easy and accurate adjustment of the saw band tension by pressure gauge



#### Robust quick-clamping vice

- > Grooves for common angle settings



#### Saw band guide

- > Ball-bearing borne; for an excellent band run and thus optimal cutting

### Cutting areas

0°	Ø 223 mm	180 mm	110 x 245 mm
+45°	Ø 145 mm	145 mm	170 x 145 mm
-45°	Ø 120 mm	120 mm	130 x 120 mm
60°	Ø 85 mm	85 mm	105 x 85 mm

The cutting range was determined on the basis of the saw bow weight with aluminium. It can vary when using different materials and may be smaller (not cutting capacity).

### Saw bands

Saw bands HSS bi-metal M 42		
Teeth per inch	Tooth angle	Article no.
5 - 8 tpi	0°	3357535
5 - 7 tpi	6°	3357536
6 - 10 tpi	0°	3357537
10 - 14 tpi	0°	3357538

**Saw band informations** see page 273

## Band saw for metal working with pivoting saw bow

### 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
- ▶ Chip brush
- ▶ Microswitch for automatic limit position cut-off
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ Material stop with scaling
- ▶ Quick clamping vice, adjustable via hand wheel. Workpiece is clamped using a handy quick-clamping lever
- ▶ Rugged machine chassis
- ▶ End stops adjustable to degree accuracy



### Scope of delivery

- › Material stop
- › Bi-metal saw band
- › Machine base
- › Coolant pump

Model	S 300DG
Article no.	3290290
<b>Technical data</b>	
Electrical connection	400 V / 3 Ph ~50 Hz
Motor power	1.5 kW
Coolant pump motor	100 W
Lifting the saw bow	manual
Feed	continuously variable
Saw band speed	35/70 m/min.
Saw band dimensions	2750 x 27 x 0.9 mm
Cutting angle	45° up to -60°
Dimensions length approx.	1680 mm
Width without / with material stop approx.	700 / 1300 mm
Height of lower/upper end position approx.	1600 / 1850 mm
Weight approx.	335 kg

### Arguments,...



#### Saw band tension

- › Easy and accurate adjustment of the saw band tension by pressure gauge



#### Pushbutton

- › Pressing the "Manual saw band run" button on the hand lever activates and deactivates the saw band run.

#### The machine is pre-assembled.



Individual components of the machine still have to be assembled and joined together.

### 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 range was determined on the basis of the saw bow weight with aluminium. It can vary when using different materials and may be smaller (not cutting capacity).

### Saw bands

#### 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 saw band 6 - 10 tpi; 0°		3357700
1 saw band 5 - 8 tpi; 0°		
1 saw band 5 - 8 tpi; 0°		

Saw band informations see page 273

## Band saw for metalworking with Inverter Vario drive for 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
- ▶ EMC class C2
- ▶ Two-channel safety chain with quick stop for emergency stop
- ▶ Chip brush
- ▶ Pushbutton - manual saw band run - on the lever switches the saw band run on and off
- ▶ Powerful 100 Watt coolant system
- ▶ Microswitch for automatic limit position cut-off
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ Material stop with scaling
- ▶ Quick clamping vice, adjustable via hand wheel. Workpiece is clamped using a handy quick-clamping lever
- ▶ Rugged machine chassis
- ▶ End stops adjustable to degree accuracy



### Scope of delivery

- › Material stop
- › Bi-metal saw band
- › Machine base
- › Coolant pump

<b>Model</b>	<b>SD 300V</b>
Article no.	3290310

Technical data	
Electrical connection	400 V/3 Ph ~50 Hz
Motor power	1.5 kW
Coolant pump motor	100 W
Lifting the saw bow	manual
Feed	hydraulic via lowering cylinder
Saw band speed	15 - 90 m/min
Saw band dimensions	2750 x 27 x 0.9 mm
Cutting angle	45° up to -60°
Length approx.	1680 mm
Width without / with material stop approx.	700 / 1330 mm
Height of lower/upper end position approx.	1600 / 1850 mm
Net weight approx.	335 kg

### Arguments,...



#### Saw band tension

- › Easy and accurate adjustment of the saw band tension by pressure gauge



#### Inverter

- › for continuously adjustable saw band speed 15 - 90 m/min

#### The machine is pre-assembled.



Individual components of the machine still have to be assembled and joined together.

### Cutting areas

0°	Ø 255 mm	190 mm	190 x 310 mm
-45°	Ø 220 mm	190 mm	135 x 190 mm
-60°	Ø 135 mm	135 mm	135 x 135 mm
45°	Ø 215 mm	190 mm	190 x 200 mm

The cutting range was determined on the basis of the saw bow weight with aluminium. It can vary when using different materials and may be smaller (not cutting capacity).

### Saw bands

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		3357700
1 saw band 6 - 10 tpi; 0°		
1 saw band 5 - 8 tpi; 0°		
1 saw band 5 - 8 tpi; 10°		

**Saw band informations** see page 273

## Metal band saw with turntable and inverter

### Drive for continuously adjustable saw band speed

#### Facts that impress in terms of quality, performance and price

- ▶ Low-noise running action
  - ▶ Heavy cast design
  - ▶ Carbide guide
  - ▶ Excellent cutting precision thanks to vibration-free action
  - ▶ EMC class C2
  - ▶ Two-channel safety chain with quick stop for emergency stop
  - ▶ Saw band speed continuously adjustable via frequency inverter
  - ▶ Professional inverter technology
  - ▶ High motor output even at low speeds
  - ▶ Microswitch for automatic limit position cut-off
  - ▶ Precise, re-adjustable and durable saw band
- ▶ guide
  - ▶ End stops adjustable to degree accuracy
  - ▶ Chip brush
  - ▶ Powerful 100 Watt coolant system
  - ▶ Quick clamping vice, adjustable via hand wheel. Workpiece is clamped using a handy quick-clamping lever
  - ▶ Rugged machine chassis
  - ▶ Control unit facilitates machine setup
  - ▶ Fully equipped; the user can immediately start productive work after commissioning

#### The machine is pre-assembled.

Individual components of the machine still have to be assembled and joined together.



#### Arguments,...



› Easy and accurate adjustment of the saw band tension by pressure gauge



#### Turntable

› Any angle between 45° and -60° can be sawn, as the cutting gap swivels with the saw arm.



› Inverter for continuously adjustable saw band speed 15 - 100 m/min

#### Scope of delivery

- › Material stop
- › Bi-metal saw band
- › Machine base
- › Coolant pump

<b>Model</b>	<b>SD 310V</b>
Article no.	3290340

Technical data	
Electrical connection	400 V/3 Ph ~50 Hz
Motor power	1.5 kW
Coolant pump motor	100 W
Lifting the saw bow	manual
Feed	hydraulic via lowering cylinder
Saw band speed	15 - 100 m/min
Saw band dimensions	2750 x 27 x 0.9 mm
Cutting angle	45° up to -60°
Length approx.	1850 mm
Width without / with material stop approx.	700 / 1300 mm
Height of lower/upper end position approx.	1600 / 2000 mm
Net weight approx.	380 kg

#### Cutting areas

0°	Ø 255 mm	255 mm	200 x 270 mm
-45°	Ø 190 mm	140 mm	140 x 210 mm
-60°	Ø 110 mm	110 mm	110 x 210 mm
45°	Ø 190 mm	160 mm	160 x 160 mm

The cutting range was determined on the basis of the saw bow weight with aluminium. It can vary when using different materials and may be smaller (not cutting capacity).

#### Saw bands

##### 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 saw band 5 - 8 tpi; 0°		3357700
1 saw band 5 - 8 tpi; 10°		
1 saw band 6 - 10 tpi; 0°		

**Saw band informations** see page 273

## Metal-cutting band saw with double mitre, heavy-duty design with a cutting capacity of up to 350 mm

### 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 up to -60° by swivelling the entire saw bow
- ▶ Generously dimensioned, rugged quick clamping vise, adjustable via hand wheel
- ▶ Workpiece clamping with a practical quick-clamping lever, can be shifted for large materials
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ End stops adjustable to degree accuracy
- ▶ Chip brush
- ▶ Combinable and individually adjustable carbide and ball bearing guides on the saw band
- ▶ Precise, continuously adjustable saw band movement via hydraulic cylinder
- ▶ Powerful 100 Watt coolant system
- ▶ Emergency stop button
- ▶ Rugged machine mobile base
- ▶ Microswitch for automatic limit position cut-off
- ▶ Roller support adjustable for long and heavy workpieces
- ▶ Fully equipped; the user can immediately start productive work after commissioning



### Arguments,...



#### Saw band tension

- › Easy and accurate adjustment of the saw band tension by pressure gauge



#### Roller support

- › For supporting long materials

### Scope of delivery

- › Material stop
- › Bi-metal saw band
- › Machine base
- › Coolant pump

### 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 range was determined on the basis of the saw bow weight with aluminium. It can vary when using different materials and may be smaller (not cutting capacity).

<b>Model</b>	<b>S 350DG</b>
Article no.	3290350

Technical data	
Electrical connection	400 V/3 Ph ~50 Hz
Total rated value	2.4 kW
Saw motor	2.2 kW
Coolant pump motor	50 W
Lifting the saw bow	manual
Feed	hydraulic via lowering cylinder
Saw band speed	36/72 m/min.
Saw band dimensions	2925 x 27 x 0.9 mm
Cutting angle	-45° up to 60°
Length approx.	1750 mm
Width without / with material stop approx.	1075 / 1415 mm
Height of lower/upper end position approx.	1420 / 2000 mm
Net weight approx.	550 kg

### Saw bands

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 1 saw band 6 - 10 tpi; 0° 1 saw band 5 - 8 tpi; 0° 1 saw band 4 - 6 tpi; 6°		3357501

**Saw band informations** see page 273

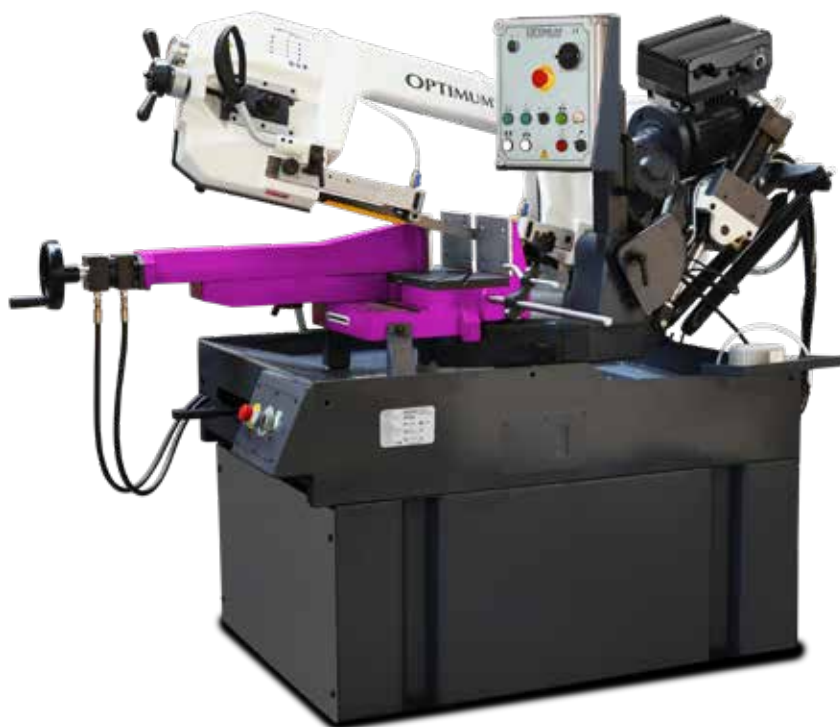
## Semi-automatic double mitre metal-cutting band saw with inverter drive Professional and robust saw

### Facts that impress in terms of quality, performance and price

- ▶ Heavy-duty industrial design
- ▶ Low-noise running action
- ▶ Manual or semi-automatic operation
- ▶ Saw band speed continuously adjustable from 0 to 80 m/min.
- ▶ Excellent cutting precision thanks to vibration-free action
- ▶ Mitre adjustment up to 60° by swivelling the entire saw bow
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ End stops adjustable to degree accuracy
- ▶ Chip brush
- ▶ Microswitch for automatic limit position cut-off
- ▶ Roller support adjustable for long and heavy workpieces
- ▶ Powerful 100 Watt coolant system
- ▶ Ball bearing borne saw band guide with carbide shims for optimal cutting results
- ▶ Easy adjustment of the lowering speed via feed control valve in control panel
- ▶ Generously dimensioned, hydraulic quick-action vice, self-closing, movable for large cross-sections
- ▶ Machine with full equipment set; the user can immediately start productive work
- ▶ 2-channel safety chain with quick stop in case of emergency stop
- ▶ EMC class C2

### The machine is pre-assembled.

Individual components of the machine still have to be assembled and joined together.



### Arguments,...



#### Inverter

› for continuously adjustable saw band speed 15 - 100 m/min






#### Robust quick-clamping vice

› Grooves for common angle settings

### Scope of delivery

- › Material stop
- › Bi-metal saw band 4-6 tpi M42
- › Machine base
- › Coolant pump

### 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 range was determined on the basis of the saw bow weight with aluminium. It can vary when using different materials and may be smaller (not cutting capacity).

### Saw bands

#### 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

1 saw band 6 - 10 tpi; 0°	3357501
1 saw band 5 - 8 tpi; 0°	
1 saw band 4 - 6 tpi; 6°	

**Saw band informations** see page 273

<b>Model</b>	<b>SD 351AV</b>
Article no.	3290360
<b>Technical data</b>	
Electrical connection	400 V/3 Ph ~50 Hz
Total rated value	3.8 kW
Saw motor	2.2 kW
Coolant pump motor	50 W
Motor-hydraulic pump	1.4 kW
<b>Lifting the saw bow:</b>	
Manual operation	Hydraulic via pushbutton
Semi-automatic operation	automatic
Saw band speed	15 - 100 m/min
Saw band dimensions	continuously variable 2925 x 27 x 0.9 mm
Cutting angle	-45° up to 60°
Length x width x height min. approx.	1935 x 1425 x 1626 mm
Net weight approx.	600 kg

## Double mitre metal-cutting band saw with versatile deployment options in trades and industry

### 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
- ▶ Mitre adjustment -45° up to 60° by swivelling the entire saw bow
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ Microswitch for automatic limit position cut-off
- ▶ Powerful 100 Watt coolant system
- ▶ Ball bearing borne saw band guide with carbide shims for optimal cutting results
- ▶ Easy adjustment of the lowering speed via feed control valve in control panel
- ▶ Clearly-arranged control panel

### The machine is pre-assembled.



Individual components of the machine still have to be assembled and joined together.



### Scope of delivery

- › Material stop
- › Bi-metal saw band 4-6 tpi M42
- › Machine base
- › Coolant pump

<b>Model</b>	<b>SD 500</b>
Articel no.	3292380
<b>Technical data</b>	
Electrical connection	400 V/3 Ph ~50 Hz
Total rated value	3.8 kW
Saw motor	2.2 kW
Coolant pump motor	100 W
Lifting the saw bow	manual
Feed	hydraulic via lowering cylinder
Saw band speed	35 / 70 m/min
Saw band dimensions	3770 x 34 x 1.1 mm
Cutting angle	-45° up to 60°
Dimensions L x W x H min. approx.	2122 x 1046 x 1497 mm
Net weight approx.	552 kg

### Arguments,...



#### Saw band tension

- › Easy and accurate adjustment of the saw band tension by pressure gauge



#### Roller support

- › For supporting long materials



#### Robust quick-clamping vice

- › Grooves for common angle settings

### Cutting areas

0°	Ø 355 mm	280 mm	280 x 490 mm
45°	Ø 355 mm	280 mm	280 x 340 mm
60°	Ø 230 mm	180 mm	180 x 220 mm
-45°	Ø 290 mm	250 mm	250 x 250 mm

The cutting range was determined on the basis of the saw bow weight with aluminium. It can vary when using different materials and may be smaller (not cutting capacity).

### Saw bands

Saw bands HSS bi-metal M 42		
Teeth per inch	Tooth angle	Articel no.
5 - 8 tpi	0°	3357590
6 - 10 tpi	0°	3357591

## Semi-automatic double mitre metal-cutting band saw with inverter drive Versatile deployment options in trades and industry

### Facts that impress in terms of quality, performance and price

- ▶ Heavy-duty industrial design
- ▶ Low-noise running action
- ▶ Manual or semi-automatic operation
- ▶ Excellent cutting precision thanks to vibration-free action
- ▶ Mitre adjustment -45° up to 60° by swivelling the entire saw bow
- ▶ Equipped as a factory standard with bi-metal saw blade
- ▶ Microswitch for automatic limit position cut-off
- ▶ Powerful 100 Watt coolant system
- ▶ Ball bearing borne saw band guide with carbide shims for optimal cutting results
- ▶ Easy adjustment of the lowering speed via feed control valve in control panel
- ▶ Generously dimensioned, hydraulic quick clamping vise, self-locking, laterally displaceable
- ▶ Pressure gauge for correct saw band tension
- ▶ Clearly-arranged control panel

### Arguments,...



#### Inverter

- › for continuously adjustable saw band speed 20 - 80 m/min



#### Saw band tension

- › Easy and accurate adjustment of the saw band tension by pressure gauge

### Function

#### Semi-automatic operation

- ▶ Closing the vice and activating the motor
- ▶ Lowering the saw arm for cutting
- ▶ Stopping the motor and returning the saw bow to its starting position



### Scope of delivery

- › Material stop
- › Bi-metal saw band 4-6 tpi M42
- › Machine base
- › Coolant pump

### The machine is pre-assembled.






Individual components of the machine still have to be assembled and joined together.

<b>Model</b>	<b>SD 500AV</b>
Article no.	3292386

Technical data	
Electrical connection	400 V/3 Ph ~50 Hz
Total rated value	3.8 kW
Saw motor	3 kW
Coolant pump motor	100 W
Motor-hydraulic pump	1.4 kW
<i>Lifting the saw bow:</i>	
Manual operation	Hydraulic via pushbutton
Semi-automatic operation	automatic
Saw band speed	20 - 80 m/min
Saw band dimensions	3770 x 34 x 1.1 mm
Cutting angle	45° up to -60°
Dimensions L x W x H min. approx.	2129 x 1046 x 1687 mm
Net weight approx.	645 kg

### Cutting areas

			
0°	Ø 355 mm	300 mm	300 x 490 mm
45°	Ø 350 mm	290 mm	290 x 340 mm
60°	Ø 230 mm	180 mm	180 x 220 mm
-45°	Ø 290 mm	250 mm	250 x 250 mm

The cutting range was determined on the basis of the saw bow weight with aluminium. It can vary when using different materials and may be smaller (not cutting capacity).

### Saw bands

Saw bands HSS bi-metal M 42		
Teeth per inch	Tooth angle	Article no.
5 - 8 tpi	0°	3357590
6 - 10 tpi	0°	3357591

## Manual metal circular saws for steel, iron, light metals, solid material and profiles

### Facts that impress in terms of quality, performance and price

- ▶ Swivelling range of 45° on both sides
- ▶ Easily readable angle scale supports precise work
- ▶ Mitre adjustment within seconds
- ▶ Protected vice spindle
- ▶ Solid machine base with drill holes on both sides for attaching the MSR material stand
- ▶ Long handle supports sawing without applying excessive force, includes integrated pushbutton (on/off)
- ▶ Automatic coolant pump switch-on during sawing
- ▶ Functional protection device, closed design, mobile
- ▶ Fast opening mechanism for optimal safety during cutting
- ▶ Solid machine base
- ▶ Protected vice spindle
- ▶ Machine base 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)



### Material supports

	Article no.
<b>MSR 4</b>	3357610
<b>MSR 4H</b>	3357001
<b>MSR 7</b>	3357611
<b>MSR 7H</b>	3357002
<b>MSR 10</b>	3357613
<b>MSR 10H</b>	3357003

Model	CS 275	CS 315
Article no.	3302275	3302300
<b>Technical data</b>		
Electrical connection	400 V/3 Ph ~50 Hz	400 V/3 Ph ~50 Hz
Motor power	1.4 / 2.0 kW	0.75 / 1.5 kW
Coolant pump motor	40 W	
Cutting angle	± 90°	± 90°
Cutting angle adjustment	Via rotating bearing block	
Feed	manual	
Cutting speed	41 / 82 m/min. Ø 275 mm;	19 / 38 m/min. Ø 315 mm;
Saw blade diameter	Inner Ø 40 mm 110 mm	Inner Ø 40 mm 135 mm
Vice clamping width	110 mm	
Dimensions L x W x H min. approx.	460 x 830 x 1700 mm	560 x 902 x 1765 mm
Net weight approx.	175 kg	235 kg

### Accessories



#### Vice

- › Centre clamping
- › 4-fold guided with individually adjustable clamping jaws. Cut always occurs in optimal position relative to workpiece



#### Coolant tank

- › Integrated in chassis
- › Tank capacity 8 litres

### Scope of delivery

- › Coolant system
- › Machine base

### Cutting areas

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

### Saw blades

Metal-cutting circular saw blade CS 275			
mm/per tooth	Teeth	Blade width	Article no.
4 mm/t	220 Z	2.5 mm	3357444
6 mm/t	140 Z	2.5 mm	3357446
8 mm/t	110 Z	2.5 mm	3357448
Metal-cutting circular saw blade CS 315			
mm/per tooth	Teeth	Blade width	Article no.
4 mm/t	240 Z	2.5 mm	3357454
6 mm/t	150 Z	2.5 mm	3357456
8 mm/t	120 Z	2.5 mm	3357458

### Workpiece

The workpiece to be machined must be firmly clamped so that it cannot vibrate or rotate. 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

The tooth pitch refers to the number of teeth per inch (25.4 mm).

As a general rule:

The shorter the cutting length (e.g. profiles), the finer the selected toothting. 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: The new saw blade should only be used at approximately 50% of the determined feed rate. 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 cm<sup>2</sup> 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.

### 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

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

Tooth pitches when using HSS bi-metal bands

Standard toothting		Combined toothting		Sawing pipes and profiles						
Profile cross section	Number of teeth per inch	Profile 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 (TPI)					
< 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

Teeth per inch 4 - 5 TPI not available from Optimum

**Height-adjustable, universal MSR material stands as manual aid for supporting and moving workpieces on metal saws.**  
 H version variably adjustable up to 1050 mm

**Facts that impress in terms of quality, performance and price**

- ▶ Trouble-free and material transport when feeding and unloading workpieces
- ▶ Universally deployable for 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
- ▶ Stable frame design with strong custom profile
- ▶ Steel bearing rollers, ball-bearing borne on both sides



Fig.: MSR 4

Fig.: MSR 10



Fig.: Example of use:  
 OPTIsaw S 275N, material stand MSR 4, measuring system LMS 1, digit. position display DRO 1; table extension MSR 1, connecting plates

! As this is a universal track, it may be necessary to carry out adaptation work on the connecting plate depending on the machine type.

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	Ø 60 mm	Ø 60 mm	Ø 60 mm
Idler roller width	360 mm	360 mm	360 mm
Static table load	500 kg	700 kg	700 kg
Dimensions and weight			
Length x width approx.	1000 x 440 mm	2000 x 440 mm	3000 x 440 mm
Height approx.	650 - 950 mm	650 - 950 mm	650 - 950 mm
Height H version approx.	660 - 1050 mm	660 - 1050 mm	660 - 1050 mm
Net weight / H version approx.	29 kg / 30.2 kg	44.7 kg / 46.1 kg	65.8 kg / 68 kg

**Accessories**

PVC rollers	
Article no.	3357609



- > 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	
Article no.	3357006



- > for MSR roller conveyors
- > Removable rollers
- > Additionally attachable
- > Can be fitted in both directions

Connecting plate	
Article no.	3357005



- > Additionally attachable
- > Including attachments on the right and left
- > Slotted holes

**Scope of delivery**

- > Fastening material for extension

## Digital trimming and 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
- ▶ Material stop for small pieces with extension
- ▶ Positioning slide right- and left-hand, folds up
- ▶ In case of longer breaks, the measuring system switches off and keeps the last stored dimension
- ▶ Measurement accuracy:  $\pm(0.025 + 0.02 \times \text{measuring length [m]})$



Fig.: MSR 4 material stand with LMS 10 length measuring system\*

\*When attaching the LMS length measuring system to the MSR material stand, it may be necessary for the customer to drill holes.

### Arguments,...



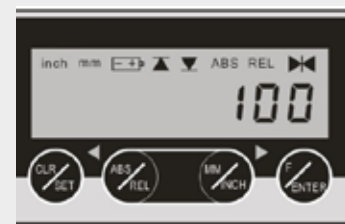
#### Linear guide

- › Lubrication-free
- › Very quiet action
- › Wear resistant
- › Corrosion-resistant
- › Low friction values
- › High static load bearing capacity



#### Slide

- › Easily movable
- › Precisely guided
- › Replaceable, long-life dry plain bearings
- › Easy self-assembly



#### Digital display

- › LCD
- Switching functions:
  - › Metric / inch / angle
  - › absolute position or incremental position
  - › Zeroing
  - › ABS mode, fast calibration

Model	LMS 10	LMS 20	LMS 30	LMS 40
Article no.	3383851	3383852	3383853	3383854
<b>Technical data</b>				
Rail length	1000 mm	2000 mm	3000 mm	4000 mm
Travel	830 mm	1830 mm	2830 mm	3830 mm

other lengths on request.

## LMS 1M / LMS 2M

**Manual trimming and length measuring systems LMS 1M/LMS 2M for attaching to MSR\* material stand.** For perfect length measurement and precise positioning

Facts that impress in terms of quality, performance and price

- ▶ Modular system
- ▶ For perfect length measurement and precise positioning
- ▶ For recurring measuring tasks with high precision



Trimming and length measuring systems	Art. no.
> Sliding carriage with stop	
<b>LMS 1M</b> guide rail 1300 mm	3383841
> Includes 1 metre rule	
<b>LMS 2M</b> guide rail 2300 mm	3383842
> Includes 2 metre rule	

\* When attaching the LMS length measuring system to the MSR material stand, it may be necessary for the customer to drill holes.

Magnetic strip	Art. no.
Length 1600 mm for LMS 1M	3383876
Length 2600 mm for LMS 2M	3383877
Yard goods (price per metre)	3383878

Extension rail	Art. no.
> only in combination with DR01	
Length 1300 mm	3383843
Length 2300 mm	3383844

Digital display DR01	3383845
> With extension kit for LMS 1M / 2M	
▶ Radius/diameter mode	▶ Absolute/incremental
▶ Parameter memory	▶ 8-digit LCD display
▶ Inch/metric adaptation	▶ Coordinate conversion
▶ Multifunctional LCD display	
▶ Adjustable angular measurement	



# ***SURFACE GRINDING MACHINES***

**GT 40 | Art. no.: 3111040**

**Surface grinding machine**  
with versatile deployment options  
in trades and industry



## Manual surface grinding machine with digital position indicator DPA 31 for fine grinding (finishing) of metal surfaces

### Facts that impress in terms of quality, performance and price

- ▶ Premium spindle with precision taper roller bearings
- ▶ Hardened and ground bed guides
- ▶ Turcite-B coated counter guides for excellent wear-resistance and low friction
- ▶ Integrated grinding wheel dressing device
- ▶ Machine base made of sturdy, torsion-resistant cast iron for maximum rigidity and stability
- ▶ Backlash-free V-flat guide on the Z axis and flat guides on the X and Y axes
- ▶ Trapezoidal threaded spindle on the Y axis
- ▶ Manual centralised lubrication system
- ▶ All flat guides are finely honed and thus guarantee a high precision of all manual movements
- ▶ LED lamp
- ▶ Safety electrics in 24 V DC
- ▶ Grinding accuracy: 0.005 mm
- ▶ Corundum grinding wheel 46 grain for all popular metals included in standard scope of delivery
- ▶ Two-channel safety electrics
- ▶ EMC filter class
- ▶ Substantial energy savings thanks to IE3 motor
- ▶ Coolant unit with external coolant tank



### Arguments,...



#### Digital position display DPA 31-2

- › User-friendly membrane keyboard, splash water protected, dazzle free and easy to clean

#### New measuring strips:

- › The electronic measuring components of the measuring strips are protected and sealed in the housing
- › Provides accurate and reliable measurement results even if the measuring system is operated in oil or coolant
- › Tolerant towards vibration and magnetic interference



#### Permanent magnet

- › Fast and safe workpiece clamping



#### Central lubrication

- › manual

## Technical data and dimension

Model	GT 22
Article no.	3111020
<b>Technical data</b>	
Electrical connection	400 V/3 Ph ~50 Hz
Grinding disc drive motor	1.5 kW
Coolant pump motor	125 W
<b>Surface grinding table</b>	
Surface grinding table length x width	200 x 450 mm
Magnetic clamping plate	200 x 500 mm
T-slot size / number of slots	14 mm / 1
Load bearing capacity of grinding table including permanent magnet	128 kg
Workpiece size length x width x height	450 x 200 x 350 mm
Spacing spindle centre - grinding table	max. 450 mm
<b>Grinding disc</b>	
Size of grinding disc	Ø 200 x 20mm , shaft Ø 31.75 mm
Clearance grinding wheel - grinding table	405 mm
Circumferential speed of grinding wheel	33 m/s
Grinding spindle true running accuracy	0.005 mm
<b>Manual travel</b>	
X axis	500 mm
Z axis	240 mm
<b>Rotational speeds</b>	
Constant spindle speed	2850 min <sup>-1</sup>
<b>Dimensions and weight</b>	
Length x width x height approx.	1400 x 1110 x 1950 mm
Net weight approx.	900 kg

## Scope of delivery

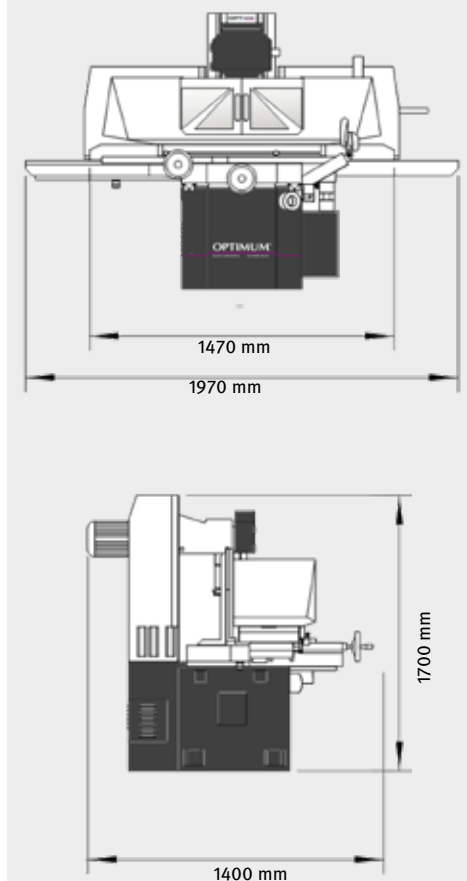
- Corundum grinding wheel 46 grain
- Digital position display
- Balancing stand
- Degaussing unit
- Grinding wheel and clamping chuck
- Dresser for grinding wheel (with diamond tip)
- Wheel balancing mandrel
- Wheel dresser
- Base plate for dresser
- Levelling feet
- Operating tool in toolbox

## Accessories

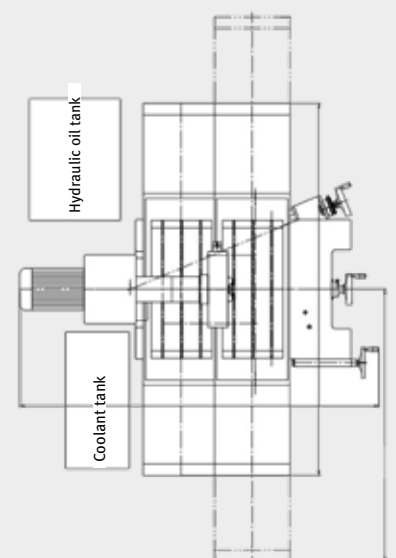
Designation	Article no.
Magnetic separator with paper belt filter MPS 1	3112000
Spare filter paper	3112001
Grinding dust extraction	3112015
Grinding disc adapters	3112010
Diamond dresser	3112025
Corundum grinding discgrain size 46	3112040
Corundum grinding discgrain size 60	3112042
Corundum grinding disc grain size 80	3112044

Information on accessories can be found on page 288.

## Dimensions



## Installation plan



**Solid surface grinding machine from OPTIMUM with compact dimensions. Impresses with easy handling, precision and great grinding quality.**

**Facts that impress in terms of quality, performance and price**

- ▶ Electro-magnetic clamping plate for holding the workpiece with automatic degaussing function
- ▶ Premium spindle with precision taper roller bearings
- ▶ Hardened and ground bed guides
- ▶ Turcite-B coated counter guides for excellent wear-resistance and low friction
- ▶ Grinding spindle with premium precision bearings
- ▶ Integrated grinding wheel dressing device
- ▶ External hydraulic power unit with heat exchanger for constant oil temperature
- ▶ Machine base made of sturdy, torsion-resistant cast iron for maximum rigidity and stability
- ▶ Backlash-free V-flat guide on the Z axis and flat guides on the X and Y axes
- ▶ Trapezoidal threaded spindle on the Y axis
- ▶ Precision ball screws
- ▶ Guideways and transport spindle with centralised lubrication system
- ▶ All flat guides are finely honed and thus guarantee highest precision of all manual movements
- ▶ Safety electrics in 24 V DC
- ▶ Generously dimensioned, decoupled hand wheels on all three axes
- ▶ Hydraulic lines according to DIN EN 853
- ▶ Grinding accuracy: 0.005 mm
- ▶ Corundum grinding wheel 46 grain for all popular metals included in standard scope of delivery
- ▶ Pivoting control panel substantially facilitates work
- ▶ Separate hydraulics unit with heat exchanger avoids vibrations and thermal load
- ▶ Two-channel safety electronics
- ▶ Grinding table splash guard
- ▶ EMC filter class
- ▶ Coolant unit with external coolant tank, capacity 100 litres
- ▶ Substantial energy savings thanks to IE3 motor



- › Hand wheel for moving the Y axis
- › Swivelling control panel

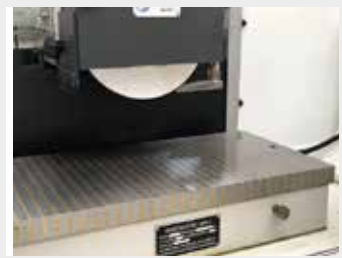
**Arguments,...**



**Digital position display DPA 31-2**  
 › User-friendly membrane keyboard, splash water protected, dazzle free and easy to clean



**Central lubrication**  
 › Prevents wear, repair costs and unnecessary downtime to a major extent



**Electromagnetic clamping plate**  
 › Fast and safe workpiece clamping



**Touch display**  
 › Clear, easy and self-explanatory to use  
 › Innovative and technologically advanced  
 › available in the languages: - German, Polish, English, Chinese, Dutch, French

## Technical data and dimension

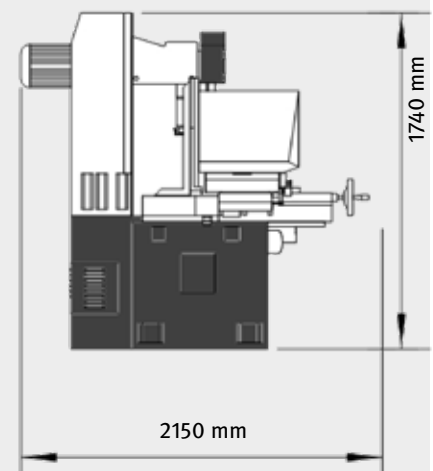
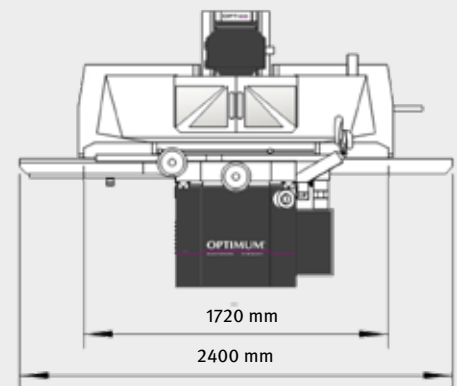
Model	GT 25
Article no.	3111025
<b>Technical data</b>	
Electrical connection	400 V/3 Ph ~50 Hz
Total connected load	3.7 kW
Grinding disc drive motor	2.2 kW
Hydraulic motor	0.75 kW
Coolant pump motor	70 W
<b>Surface grinding table</b>	
Surface grinding table length x width	254 x 508 mm
Electro-magnetic clamping plate	250 x 500 mm
T-slot size / number of slots	14 mm / 1
Grinding table load bearing capacity including electromagnetic clamping plate	180 kg
Workpiece size length x width x height	508 x 254 x 350 mm
Spacing spindle centre - grinding table	max. 450 mm
Oscillating speeds of table	5 - 25 m/min
<b>Grinding disc</b>	
Size of grinding disc	Ø 200 x 20mm , shaft Ø 31.75 mm
Clearance grinding wheel - grinding table	405 mm
Circumferential speed of grinding wheel	33 m/s
Grinding spindle true running accuracy	0.005 mm
<b>Oscillating travel/travel travel</b>	
Oscillating travel X-axis	560 mm
Z-axis traverse path	275 mm
<b>Y axis</b>	
Continuous transverse feed	0.1 - 8 mm
Fast motion on Y axis	990 mm/min
Scale division on handwheel	0.02 mm
<b>Z axis</b>	
Step widths of fast motion feed	0.005   0.01   0.02   0.03   0.04   0.05
Fast motion adjustment on the Z axis	480 mm/min
Scale division on handwheel	0.005 mm
<b>Rotational speeds</b>	
Constant spindle speed	2850 min <sup>-1</sup>
<b>Dimensions and weight</b>	
Length x width x height approx.	2600 x 2000 x 2150 mm
Net weight approx.	1900 kg

## Scope of delivery

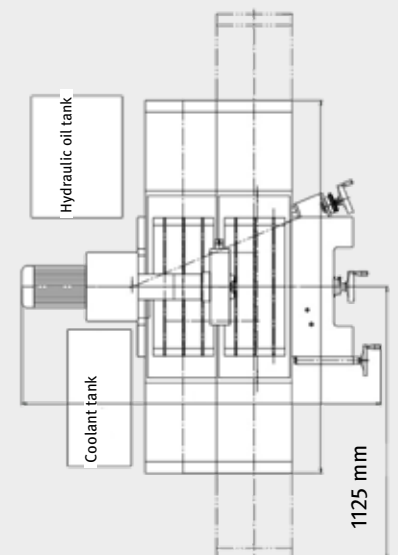
- Corundum grinding wheel 46 grain
- Digital position display
- Balancing stand
- Degaussing unit
- Grinding wheel and clamping chuck
- Dresser for grinding wheel (with diamond tip)
- Wheel balancing mandrel
- Wheel dresser
- Base plate for dresser
- Levelling feet
- Operating tool in toolbox

Accessories can be found on page 288.

## Dimensions



## Installation plan



## Solid surface grinding machine from OPTIMUM equipped with digitally controlled automatic vertical feed and digital position display DPA 31

### Facts that impress in terms of quality, performance and price

- ▶ Electro-magnetic clamping plate for holding the workpiece with automatic degaussing function
- ▶ Premium spindle with precision taper roller bearings
- ▶ Hardened and ground bed guides
- ▶ Turcite-B coated counter guides for excellent wear-resistance and low friction
- ▶ Grinding spindle with premium precision bearings
- ▶ External hydraulic power unit with heat exchanger for constant oil temperature
- ▶ Machine base made of sturdy, torsion-resistant cast iron for maximum rigidity and stability
- ▶ Guideways for longitudinal, transverse and vertical movements are play-free and designed to self-centre as V and flat rails
- ▶ Precision ball screws
- ▶ Guideways and transport spindle with centralised lubrication system
- ▶ All flat guides are finely honed and thus guarantee highest precision of all manual movements
- ▶ Safety electrics in 24 V DC
- ▶ Generously dimensioned, decoupled hand wheels on all three axes
- ▶ Time-controlled centralised lubrication system
- ▶ Hydraulic lines according to DIN EN 853
- ▶ Grinding accuracy: 0.005 mm
- ▶ Corundum grinding wheel 46 grain for all popular metals included in standard scope of delivery
- ▶ Pivoting control panel substantially facilitates work
- ▶ Two-channel safety electronics
- ▶ Grinding table with splash protection enclosure
- ▶ Coolant unit with external coolant tank, capacity 100 litres
- ▶ Digitally controlled automatic vertical feed with servo motor
- ▶ Motorised vertical height adjustment via spindle
- ▶ Hydraulic and continuously adjustable longitudinal feed
- ▶ EMC filter class
- ▶ Substantial energy savings thanks to IE3 motor



- › Hand wheel for moving the Y axis
- › Swivelling control panel

### Arguments,...



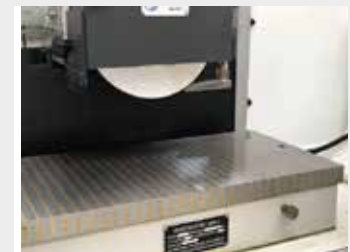
#### Digital position display DPA 31-2

- › User-friendly membrane keyboard, splash water protected, dazzle free and easy to clean



#### Dressing unit

- › The grinding wheel can be sharpened with a dressing unit directly on the machine



#### Electromagnetic clamping plate

- › Fast and safe workpiece clamping



#### Touch display

- › Clear, easy and self-explanatory to use
- › available in the languages: - German, Polish, English, Chinese, Dutch, French
- › The control system has been updated to avoid calculator operations.
- › The workpiece height [ H ], the grinding height [ h ] and the resulting removal thickness [ d ] also appear in the input window.
- › The subsequent infeed for coarse and fine grinding is determined automatically based on the number entered.

## Technical data and dimension

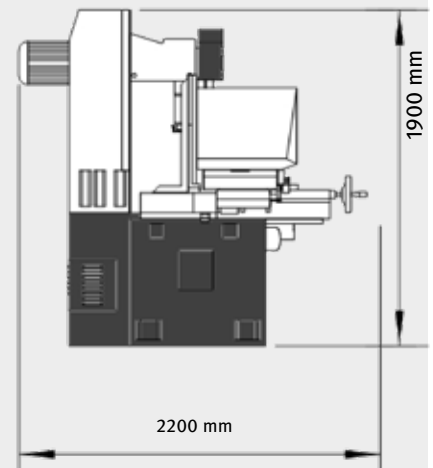
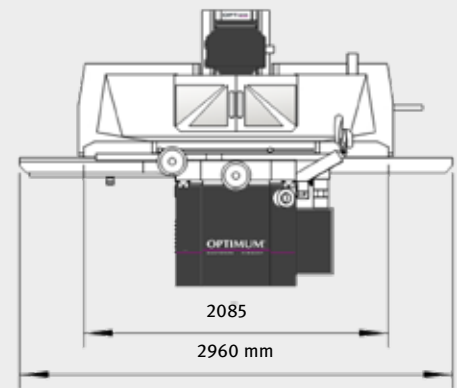
Model	GT 30
Article no.	3111030
<b>Technical data</b>	
Electrical connection	400 V/3 Ph ~50 Hz
Total connected load	7.5 kW
Grinding disc drive motor	4 kW
Hydraulic motor	2.2 kW
Coolant pump motor	90 W
<b>Surface grinding table</b>	
Surface grinding table length x width	305 x 635 mm
Electro-magnetic clamping plate	300 x 600 mm
T-slot size / number of slots	14 mm / 1
Grinding table load bearing capacity including electromagnetic clamping plate	270 kg
Workpiece size length x width x height	635 x 305 x 405 mm
Spacing spindle centre - grinding table	max. 580 mm
Oscillating speeds of table	5 - 25 m/min
<b>Grinding disc</b>	
Size of grinding disc	350 x 40 x shaft Ø 127 mm
Clearance grinding wheel - grinding table	405 mm
Circumferential speed of grinding wheel	27 m/s
Grinding spindle true running accuracy	0.005 mm
<b>Oscillating travel/travel travel</b>	
Oscillating travel X-axis	765 mm
Z-axis traverse path	340 mm
<b>Y axis</b>	
Continuous transverse feed	0.1 - 8 mm
Fast motion on Y axis	990 mm/min
Scale division on handwheel	0.02 mm
<b>Z axis</b>	
Step widths of fast motion feed	0.005   0.01   0.02   0.03   0.04   0.05
Fast motion adjustment on the Z axis	480 mm/min
Scale division on handwheel	0.005 mm
<b>Rotational speeds</b>	
Constant spindle speed	1450 min <sup>-1</sup>
<b>Dimensions and weight</b>	
Length x width x height approx.	2960 x 2200 x 1900 mm
Net weight approx.	3000 kg

## Scope of delivery

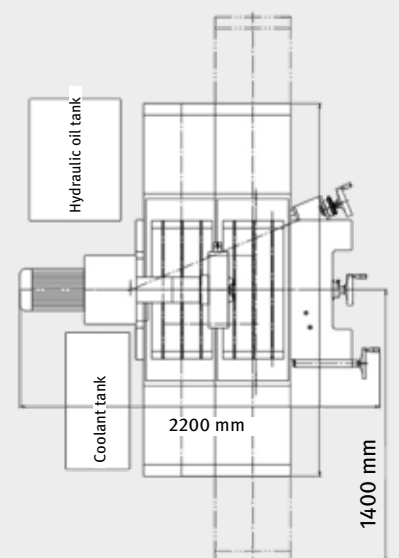
- Corundum grinding wheel 46 grain
- Digital position display
- Balancing stand
- Degaussing unit
- Grinding wheel and clamping chuck
- Dresser for grinding wheel (with diamond tip)
- Wheel balancing mandrel
- Wheel dresser
- Base plate for dresser
- Levelling feet
- Operating tool in toolbox

Accessories can be found on page 288.

## Dimensions



## Installation plan



## Solid surface grinding machine from OPTIMUM equipped with digitally controlled automatic vertical feed and digital position display DPA 31

### Facts that impress in terms of quality, performance and price

- ▶ Electro-magnetic clamping plate for holding the workpiece with automatic degaussing function
- ▶ Premium spindle with precision taper roller bearings
- ▶ Hardened and ground bed guides
- ▶ Turcite-B coated counter guides for excellent wear-resistance and low friction
- ▶ Grinding spindle with premium precision bearings
- ▶ External hydraulic power unit with heat exchanger for constant oil temperature
- ▶ Machine base made of sturdy, torsion-resistant cast iron for maximum rigidity and stability
- ▶ Guideways for longitudinal, transverse and vertical movements are play-free and designed to self-centre as V and flat rails
- ▶ Precision ball screws
- ▶ Guideways and transport spindle with centralised lubrication system
- ▶ All flat guides are finely honed and thus guarantee highest precision of all manual movements
- ▶ Safety electrics in 24 V DC
- ▶ Generously dimensioned, decoupled hand wheels on all three axes
- ▶ Time-controlled centralised lubrication system
- ▶ Hydraulic lines according to DIN EN 853
- ▶ Grinding accuracy: 0.005 mm
- ▶ Corundum grinding wheel 46 grain for all popular metals included in standard scope of delivery
- ▶ Pivoting control panel substantially facilitates work
- ▶ Two-channel safety electronics
- ▶ Grinding table with splash protection enclosure
- ▶ Coolant unit with external coolant tank, capacity 100 litres
- ▶ Digitally controlled, automatic vertical feed with servo motor
- ▶ Motorised vertical height adjustment via spindle
- ▶ Hydraulic and continuously adjustable longitudinal feed
- ▶ EMC filter class
- ▶ Substantial energy savings thanks to IE3 motor



- ▶ Hand wheel for moving the Y axis
- ▶ Swivelling control panel

### Arguments,...



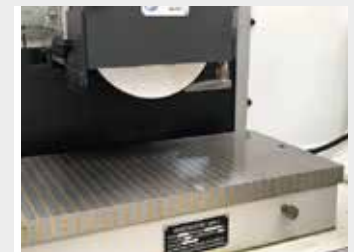
#### Digital position display DPA 31-2

- › User-friendly membrane keyboard, splash water protected, dazzle free and easy to clean



#### Dressing unit

- › The grinding wheel can be sharpened with a dressing unit directly on the machine



#### Electromagnetic clamping plate

- › Fast and safe workpiece clamping



#### Touch display

- › Clear, easy and self-explanatory to use
- › Innovative and technologically advanced
- › available in the languages: - German, Polish, English, Chinese, Dutch, French

## Technical data and dimension

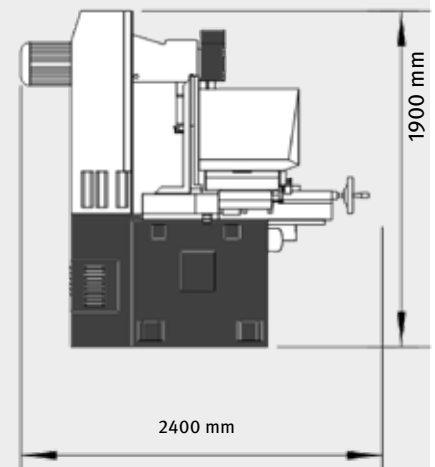
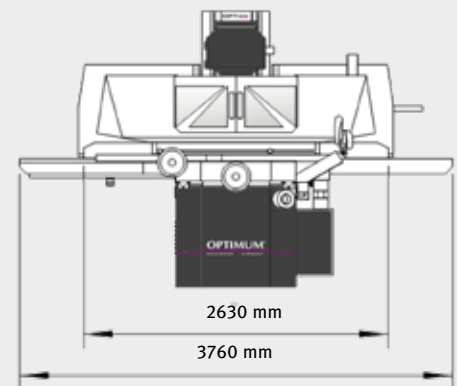
Model	GT 40
Article no.	3111040
<b>Technical data</b>	
Electrical connection	400 V/3 Ph ~50 Hz
Total connected load	7.5 kW
Grinding disc drive motor	4 kW
Hydraulic motor	2.2 kW
Coolant pump motor	90 W
<b>Surface grinding table</b>	
Surface grinding table length x width	406 x 813 mm
Electro-magnetic clamping plate	400 x 800 mm
T-slot size / number of slots	14 mm / 3
Grinding table load bearing capacity including electromagnetic clamping plate	500 kg
Workpiece size length x width x height	813 x 406 x 405 mm
Spacing spindle centre - grinding table	max. 580 mm
Oscillating speeds of table	5 - 25 m/min
<b>Grinding disc</b>	
Size of grinding disc	350 x 40 x shaft Ø 127 mm
Clearance grinding wheel - grinding table	405 mm
Circumferential speed of grinding wheel	27 m/s
Grinding spindle true running accuracy	0.005 mm
<b>Oscillating travel/travel travel</b>	
Oscillating travel X-axis	830 mm
Z-axis traverse path	420 mm
<b>Y axis</b>	
Continuous transverse feed	0.1 - 8 mm
Fast motion on Y axis	990 mm/min
Scale division on handwheel	0.02 mm
<b>Z axis</b>	
Step widths of fast motion feed	0.005   0.01   0.02   0.03   0.04   0.05
Fast motion adjustment on the Z axis	480 mm/min
Scale division on handwheel	0.005 mm
<b>Rotational speeds</b>	
Constant spindle speed	1450 min <sup>-1</sup>
<b>Dimensions and weight</b>	
Length x width x height approx.	3760 x 2400 x 1900 mm
Net weight approx.	3600 kg

## Scope of delivery

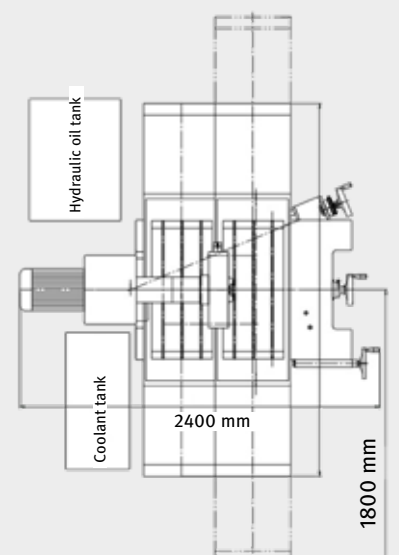
- Digital position display
- Coolant system
- External hydraulic unit with oil cooler
- Balancing station and balancing mandrel
- Corundum grinding wheel 46 grain
- Diamond stylus
- Table enclosure as splash guard when in use
- Levelling feet, adjusting screws and lock nuts
- Operating tool
- LED lamp
- Electromagnetic clamping plate
- Degaussing function

Accessories can be found on page 288.

## Dimensions



## Installation plan



## High-precision cylindrical grinding machine with automatic infeed and digital position indicator DPA 31

### Facts that impress in terms of quality, performance and price

- ▶ Heavy, single-piece, heavily ribbed and wide machine bed
- ▶ Guideways induction-hardened and ground
- ▶ Solid headstock with high-precision main spindle mounted on tapered roller bearings impresses with outstanding stability under load
- ▶ Smooth running at maximum spindle speed
- ▶ All gearwheels are large, hardened and ground
- ▶ Manually operated 4-speed countershaft gearbox, high-quality frequency control technology
- ▶ Rapid traverse for X and Z axes enables fast positioning of the support and reduces non-productive times
- ▶ Adjustable overload clutch in the apron case protects the feed mechanism from damage and failure
- ▶ The table can be tilted for conical grinding processes - the scale enables precise adjustment to the desired position
- ▶ The spindle head can be rotated from 0 to 90° for conical grinding operations.
- ▶ The longitudinal guide of the table and the cross guide of the grinding spindle material are each equipped with V and flat guides
- ▶ Swivelling spindle shaft (up to 180°) for inner grinding work.
- ▶ Head can be rotated for external or internal grinding

### SIEMENS Inverter Sinamics V20



### Arguments,...



- > Clearly arranged and ergonomically positioned electronic control element



- > The hydraulic tailstock is characterised by maximum precision and rigidity.
- > The foot pedal enables movement



- > Clamping plate
- > The spindle head can be rotated from 0° up to 90° for conical operations.



- > For conical grinding between centres, the table can be rotated from +3° to -9°



- > Clearly organised switch cabinet

## Technical data

Model	GC 1305
Article no.	3121040
Technical data	
Electrical connection power	400 V/3 Ph ~50 Hz
Total connected load	4 kW
Centre height	135 mm
Max. traverse path of the worktable	640 mm
Grinding length	500 mm
Grinding diameter without steady rest	8 - 200 mm
Grinding diameter with steady rest	8 - 60 mm
Inner grinding diameter without steady rest	25 - 100 mm
Inner grinding diameter with steady rest	35 - 100 mm
Inner grinding depth	125 mm
Workpiece weight between the tips	max. 50 kg
Swivelling range of the worktable Right / Left	+3° / -9°
Stepless table feed in the longitudinal axis	0.1 - 4 m/min
Traveling distance per revolution of the handwheel	1 mm
Travelling distance per handwheel graduation mark	0.005 mm
Speeds of the working spindle	25 - 380 min <sup>-1</sup>
Swivelling range of the headstock	0 - 45°
Spindle taper	MT 4
Tailstock taper	MT 4
Quill travel	25 mm
Dimensions (L x W x H)	2250 x 1600 x 1500 mm
Weight	2200 kg

## Scope of delivery

- Three-jaw chuck for internal grinding with internal clamping jaws and external clamping jaws
- Coolant unit with external coolant tank
- Adjusting discs with adjusting screws
- Mounting flange for grinding disc
- Mounting flange for grinding disc with mounted grinding disc
- Internal grinding body 45 x 35 x 10 mm
- Internal grinding body 50 x 40 x 16mm
- Grinding rod - holder for internal grinding wheel Ø16 mm
- Grinding rod - holder for internal grinding wheel Ø10 mm
- Dressing device
- Grinding disc balancing stand
- Shaft for balancing the grinding wheel
- 2 pieces of tailstock tips MT 4
- 1 set of workpiece drivers
- Steady rest in open design
- Flat belt for internal grinding spindle drive
- Flat belt for drive workpiece headstock
- Flat belt for external grinding disc drive

## Accessories

Grinding stone puller	Article no.
Radii	3122010
straight	3122015

DRILLING

CORE DRILLING

THREAD TAPPING

MILLING ACCESSORIES

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORKING

LIGHTING

COOLING

## Magnetic separator with paper belt filter MPS 1

- ▶ Magnetic separator filters out metal contaminants
- ▶ Paper belt filter for versatile and safe filtering of fluids such as grinding fluids, cooling lubricants, etc. during operation.

Magnetic separator with paper belt filter MPS 1	
Article no.	3112000
Filtration (water-based emulsion)	30 ~ 40 µm
Coolant pump flow rate	25 litres per minute
Tank volume	120 litres
Overall dimensions L x W x H approx.	1290 x 460 x 580 mm
Diameter of (non-woven) filter cloth	Ø 200 mm
Width of filter cloth	400 mm
Coolant pump drive power	120 W
Filter cloth feed motor drive power	90 W
Weight approx.	110 kg

Spare filter paper	3112001
Dimensions L x W approx.: 100 metres x 400 mm	

Grinding dust extraction	Article no.
for grinding work without coolant	
Air volume is 240 m <sup>3</sup> /hour	
Motor power 370 W 400 V/~50Hz	
Air outlet Ø 70 mm/ Air inlet Ø 60 mm	
Dimensions approx: 570 x 330 x 580 mm	
GT 22 / GT 25	3112015
GT 30 / GT 40	3112016



Grinding wheel adapter	Article no.
For fast grinding wheel change	
GT 22 / GT 25	3112010
GT 30 / GT 40	3112011



Corundum grinding wheel	Article no.
Dimensions approx: 200 x 20 x 31.75 mm	
46 grain	3112040
60 grain	3112042
80 grain	3112044



Corundum grinding wheel	Article no.
Dimensions approx: 350 x 40 x 127 mm	
46 grain	3112050
60 grain	3112052
80 grain	3112054



Diamond dresser	3112025
for the grinding wheel	
3/8 x 2" x 1.00 carat	

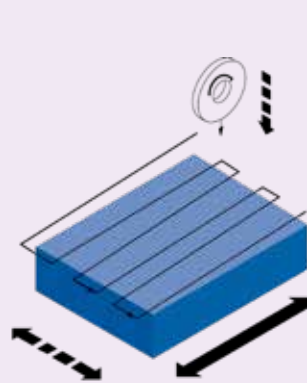


The GT 25, GT 30 and GT 40 series models are equipped with automatic feed control. Various grinding cycles are available as shown in the diagram.

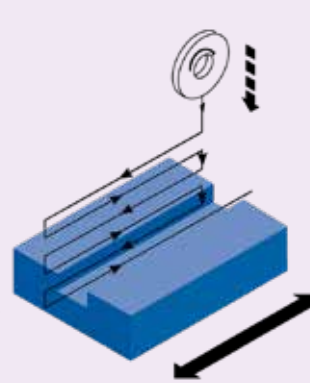
Workpieces can be individually processed by entering the number of feeds with a minimum possible feed of 0.001 mm and by selecting the type of grinding.

The maximum possible feed per sequence step during automatic feed control is 0.01 mm.

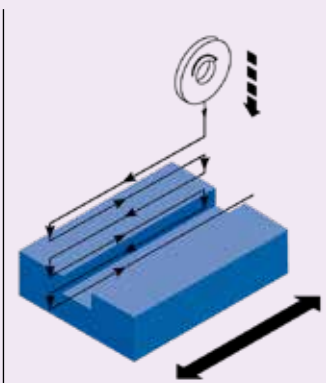
A further possibility is to enter the number of grinding passes without grinding wheel feed in order to enable "firing" on the workpiece



Surface grinding with feed at start point



Slot grinding with feed at start point



Slot grinding with feed at start and end point

# ***DRILLING/GRINDING MACHINES***

**GH 20T | Art. no.: 3111040**

**Grinding machine  
for burins and tools  
for various  
tool geometries**



**The handy drill bit grinding device from quantum.** For easy regrinding of twist drills 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 wheel
- ▶ 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

**DRILL BIT GRINDERS**



Fig.: GQ-D13

**Scope of delivery**

- › Diamond grinding wheel
- › Collet chuck holder

Model	GQ-D13
Article no.	3140020
<b>Technical data</b>	
Electrical connection	230 V/1 Ph ~50 Hz
Motor power	80 W
Grinding wheel dimensions	Ø 78 mm
Grinding capacity of drill bits	Ø 3 mm to Ø 13 mm
Infinitely variable speed	4200 min <sup>-1</sup>
Dimensions Length x width x height approx.	220 x 200 x 160 mm
Net weight approx.	2.5 kg

**Applications**

**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

**Accessories**

Grinding disc	Article no.
Replacement grinding wheel	3140021
Crystalline cubic boron nitride	
Grain size: 170 - 200	
Field of application: High-speed steel (HSS)	



## The handy drill bit grinder. Ideal for grinding twist drills

### 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
- ▶ Grinding stone with long service life for the perfect grind on HSS (high-speed steel) drill bits
- ▶ Diamond grinding stone available as option for HM drill bits from accessories programme.
- ▶ Fully equipped with ER collets in the machine interior



Scan QR code

Information & Video

### Drill bit



> ... with blunt cutting edges



> ..fast and easy regrinding

### Comprehensive scope of delivery

with complete assortment of collets



Fig.: GH 10T



Fig.: GH 15T



#### GH 10T

> 11 pcs. collets ER 20 sizes Ø 2 to Ø 13 mm



#### GH 15T

> 6 pcs. collets ER 20 sizes Ø 3 to Ø 8 mm  
> 22 pcs. collets ER 40 sizes Ø 8 to Ø 30 mm

### Accessories

Model	GH 10T	GH 15T
Article no.	3100110	3100115
<b>Technical data</b>		
Electrical connection	230 V/1 Ph ~50 Hz	230 V/1 Ph ~50 Hz
Motor power	180 W	450 W
Grinding disc material	Steel disc, coated with cubic crystalline boron nitride	
Collet chuck holder	ER20 DIN 6499	ER20 and ER 40 DIN 6499
Infinitely variable speed	5300 min <sup>-1</sup>	5000 min <sup>-1</sup>
Tip sharpening angle	90° - 135°	90° - 145°
Grinding capacity of drill bits	Ø 2 mm to Ø 13 mm	Ø 3 mm to Ø 30 mm
Dimensions L x W x H approx.	310 x 180 x 190 mm	450 x 240 x 270 mm
Net weight approx.	9.5 kg	33 kg

for GH10T	Article no.
Replacement grinding wheel Crystalline cubic boron nitride Grain size: 170 - 200 Field of application: High-speed steel (HSS)	3100126
Diamond replacement grinding disc Grain size: 150 Field of application: Carbide	3100131
<b>for GH15T</b>	
Replacement grinding wheel Crystalline cubic boron nitride Grain size: 170 - 200 Field of application: High-speed steel (HSS)	3100127
Diamond replacement grinding disc Grain size: 150 Field of application: Carbide	3100132

DRILL BIT GRINDERS

DRILLING  
CORE DRILLING  
THREAD TAPPING  
MILLING ACCESSORIES  
TURNING  
MEASURING  
SAWS  
GRINDING  
POLISHING  
SHEET METAL WORKING  
COOLING

## Versatile burins and tools grinding machine for various tool geometries

### Facts that impress in terms of quality, performance and price

- ▶ Many swivel and adjustment options suitable for producing engraving tools (cylindrical, centric, conical)
- ▶ For grinding stamps drills, electrodes, lathe tools, centring tips, etc.
- ▶ High precision thanks to robust machine body and vibration-free driven precision grinding spindle
- ▶ Easy handling and operation
- ▶ Indexing head with 24 latching positions
- ▶ Adjustable dressing device

GRINDING MACHINE FOR BURINS AND TOOLS



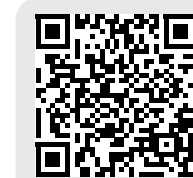
Supplied without CEKON plug

<b>Model</b>	GH 20T
Article no.	3100125
<b>Technical data</b>	
Electrical connection	400 V/3 Ph ~50 Hz
Motor power	370 W
Grinding wheel speed, diamond	5000 min <sup>-1</sup>
Max. grinding speed	35 m/s
Motor speed	2750 min <sup>-1</sup>
Tool holder travel	140 mm
Tool holder fine adjustment	18 mm
Longitudinal fine adjustment	6 mm
vertical/rear side	0° - 40°
horizontal/conical grinding	0° - 180°
Negative angles	0° - 52°
Latching setting angle of rotation	22* x 15° 180°
Clamping range	Ø 1 - 12 mm
Clamping jaw type	385E (5C), DIN 6341
Length x width x height approx.	350 x 450 x 340 mm
Net weight approx.	45 kg

\* Two latching positions occupied for sharpening drill bits

### Accessories

Replacement grinding wheel	Grain size	Area of application	Article no.
Corundum	K 80	High-speed steel (HSS)	3100128
Diamond	K 150	Carbide	3100129



Scan QR code

Information & Video

### Arguments,...



- › Collets 385E (5C) DIN 6341 Ø 37.5 mm; L=89 mm; 20°
- › Sizes Ø 4/6/8/10/12 mm



- › Corundum cup grinding wheel Ø 100 x 51 x Ø 20 mm
- › Diamond Cup grinding wheel Ø 100 x 51 x Ø 20 mm (already fitted on delivery)



- › Device for sharpening lathe tools



- › Device for sharpening end mills



- › Device for sharpening twist drill bits



- › Operating tool



Fig.: Corundum

Fig.: Diamond

# ***GRINDING MACHINES AND VARIO DRIVES***

**GB 120SD | Art. no.: 3101200**

**Belt grinder**  
Possible applications on  
smallest space



**GU 30 | Art. no.: 3101530**

**Bench grinders**  
Long service life and  
smooth running



**Belt grinding machine** offers the user a maximum of application possibilities on a minimal footprint

Facts that impress in terms of quality, performance and price

- ▶ Heavy, durable industrial design with maintenance-free motor
- ▶ Long service life and quiet action thanks to balanced rotor with quality ball bearings
- ▶ Sturdy and stable machine body
- ▶ Tray for safety glasses

**BELT GRINDER**



**Dimensions**

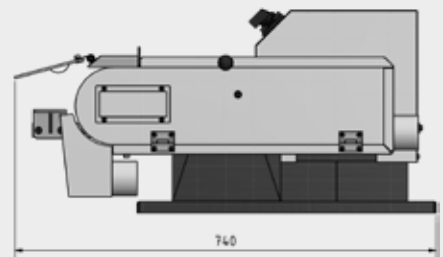
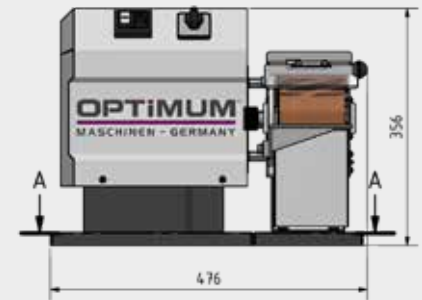


Fig. shows sample application

**Scope of delivery**

- › Grinding belt

Model	GB 100S
Article no.	3101660
<b>Technical data</b>	
Electrical connection	400 V/3 Ph ~50 Hz
Motor power	1.3 / 1.8 kW
Grinding belt dimensions (W x L)	100 x 1190 mm
Speed	1450/ 2850 min <sup>-1</sup>
Circumferential speed of grinding belt	19.4 m/s at 2850 min <sup>-1</sup>
Usable contact surface for grinding at top on grinding belt	345 x 100 mm
Nominal width of suction connection	Ø 60 mm
Dimensions Length x width x height approx.	740 x 476 x 356 mm
Net weight approx.	47 kg

**Accessories**

Machine base	Article no.
<b>GU 4</b>	3107119
› Without extraction unit	
<b>GU 5</b>	3107114
› Cyclone extraction	
› Noise-insulated	
Suction pipes (2 pcs.)	3107116
› variable length 300 - 1000 mm	
<b>Mounting plate</b>	3107116
› Absolutely essential when mounting the GB 100S belt grinder on the GU 4 /4H machine base	

For information on the bases, see page 314

Grinding belt	PQ	Article no.
Grain size 40	5 pcs.	3357637
Grain size 60	5 pcs.	3357638
Grain size 80	5 pcs.	3357639
Grain size 120	5 pcs.	3357640

## Belt grinder offers users a wide range of possible applications

### Facts that impress in terms of quality, performance and price

- ▶ Heavy, durable industrial design with maintenance-free motor
- ▶ Two-stage motor
- ▶ Simple belt adjustment
- ▶ Stable working conditions
- ▶ Long service life and quiet action thanks to balanced rotor with quality ball bearings
- ▶ Tray for safety glasses
- ▶ Motor protection switch

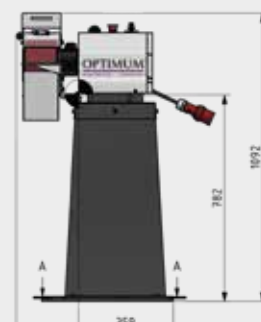
# BELT GRINDER



Prepared for GU 2 machine base with cyclone extraction unit

GB 120SD Including base

### Dimensions



### Arguments



- › Support surface 90° can be swivelled upwards
- › Swivelling possible by loosening just one screw



- › Suction connection on the underside and rear, outer diameter 60 mm

### Accessories

Grinding belt	PQ	Article no.
Grain size 40	5 pcs.	3357691
Grain size 60	5 pcs.	3357692
Grain size 80	5 pcs.	3357693
Grain size 120	5 pcs.	3357694
Grain size 180	5 pcs.	3357695
Grain size 240	5 pcs.	3357696

Machine base	Article no.
GU 2 - Machine chassis with cyclone extraction unit	3107115

### Scope of delivery

- › Grinding belt

Model	GB 120SD
Article no.	3321200
<b>Technical data</b>	
Electrical connection	400 V/3 Ph ~50 Hz
Motor power	2.2 / 1.5 kW
Grinding belt dimensions (W x L)	120 x 1500 mm
Usable contact surface for grinding at top	360 x 130 mm
Circumferential speed of grinding belt	29.8 m/s at 2850 min. <sup>-1</sup>
Grinding attachment swivel range	0 - 45°
Nominal width of suction connection	Ø 50 mm
Dimensions Length x width x height approx.	918 x 594 x 1092 mm
Net weight approx.	77.5 kg

## Belt grinders in heavy and rugged industrial design for roughing, finishing and profile grinding of various materials in continuous operation

### Facts that impress in terms of quality, performance and price

- ▶ Time-saving deburring of edges and weld polishing
- ▶ Sturdy and vibration-free design
- ▶ Powerful motor
- ▶ Grinding table can be tilted 25° forwards and 15° backwards
- ▶ Continuously adjustable top stop supports fast and convenient initial grinding of workpieces
- ▶ Large surface grinding surface
- ▶ Additional safety device
- ▶ Front extraction duct for attaching an extraction unit
- ▶ Spark guard
- ▶ Workpiece support allows grinding at the required angle
- ▶ One grinding belt included in standard scope of delivery

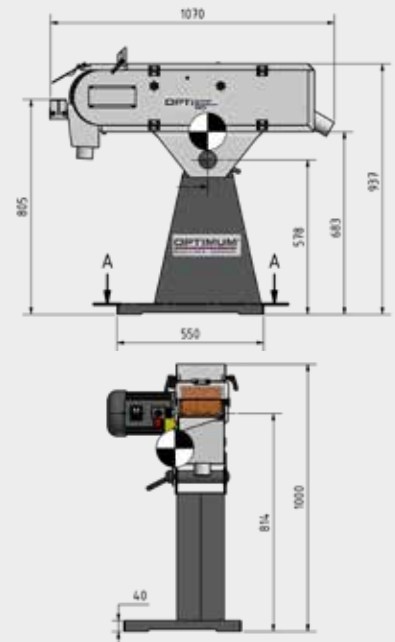
BELT GRINDER



Fig.: GBS 75

Fig.: GBS 150

### Dimensions



### Arguments



#### Surface grinding surface

- › Open throughout and to rear
- › Also perfectly suited for machining longer workpieces

### Scope of delivery

- › Grinding belt 60 grain
- › Allen key

Model	GBS 75	GBS 150
Article no.	3321155	3321160
<b>Technical data</b>		
Electrical connection	400 V/3 Ph ~50 Hz	400 V/3 Ph ~50 Hz
Motor power	1.5/2.2 kW	1.5/2.2 kW
Grinding belt dimensions	75 x 2000 mm	150 x 2000 mm
Surface grinding surface	98 x 60 mm	173 x 60 mm
Speed	1450 / 2850 min <sup>-1</sup>	1450 / 2850 min <sup>-1</sup>
Circumferential speed of grinding belt	29.4 m/s at 2850 min <sup>-1</sup>	29.4 m/s at 2850 min <sup>-1</sup>
Nominal outside width of suction connection	Ø 60 mm	Ø 60 mm
Dimensions L x W x H approx.	430 x 1070 x 1000 mm	500 x 1070 x 1000 mm
Height: Bottom pivot bearing	1035 mm	1065 mm
Height: Top pivot bearing	1090 mm	1065 mm
Net weight approx.	72 kg	87.5 kg

### Accessories

GBS 75 grinding belts	PQ	Article no.
Grain size 40	<b>5 pcs.</b>	3357642
Grain size 60	<b>5 pcs.</b>	3357644
Grain size 80	<b>5 pcs.</b>	3357646
Grain size 120	<b>5 pcs.</b>	3357648
Grain size 180	<b>5 pcs.</b>	3357649
Grain size 240	<b>5 pcs.</b>	3357650

Grinding belts GBS 150	PQ	Article no.
Grain size 40	<b>5 pcs.</b>	3357672
Grain size 60	<b>5 pcs.</b>	3357674
Grain size 80	<b>5 pcs.</b>	3357676
Grain size 120	<b>5 pcs.</b>	3357678
Grain size 180	<b>5 pcs.</b>	3357679
Grain size 240	<b>5 pcs.</b>	3357680

**Machine base with cyclone extraction see page 317**

## Disc grinding machine for processing surfaces, edges and curves

### Facts that impress in terms of quality, performance and price

- ▶ Heavy, durable industrial design with maintenance-free motor
- ▶ Long service life and quiet action thanks to balanced rotor with quality ball bearings
- ▶ 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
- ▶ Delivered with grinding sheet
- ▶ Tray for safety glasses

DISK GRINDER



Fig.: with optional GU 1 base with extraction unit.  
Informations see page 327

### Arguments,...



#### Mitre stop

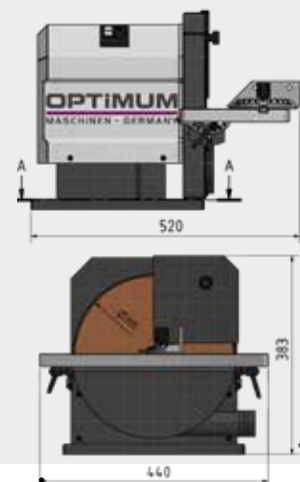
- › Mitre stop can be swivelled through 180°
- › Grinding table can be tilted up to ± 45°



#### Velcro fastener pad

- › Good grinding wheel adhesion, easy replacement

### Dimensions



### Accessories

Machine bases	Article no.
GU 1- 400 V with extraction unit	3107109
Suction pipes (2 pcs.)	3107111
› variable length 300 - 1000 mm	
GU 4	3107119

Informations see page 310/ 312

Grinding sheets	PQ	Article no.
› Hook and loop fastener		
Grain size 40	<b>5 pcs.</b>	3357854
Grain size 60	<b>5 pcs.</b>	3357856
Grain size 80	<b>5 pcs.</b>	3357858
Grain size 100	<b>5 pcs.</b>	3357860
Grain size 120	<b>5 pcs.</b>	3357862
Grain size 150	<b>5 pcs.</b>	3357865
Grain size 180	<b>5 pcs.</b>	3357866
Grain size 240	<b>5 pcs.</b>	3357867

Model	GB 305D
Article no.	3101675

Technical data	
Electrical connection	400 V/3 Ph ~50 Hz
Motor power	1.1 kW
Grinding wheel dimensions	Ø 305 mm
Speed	1450 min <sup>-1</sup>
Table support	440 x 210 mm
Adjustment of angle stop	180°
Grinding attachment swivel range	0 - 45°
Nominal width of suction connection	Ø 50 mm
Dimensions Length x width x height approx.	560 x 440 x 380 mm
Net weight approx.	25 kg

DRILLING  
CORE DRILLING  
THREAD TAPPING  
MILLING ACCESSORIES  
TURNING  
MEASURING  
SAWS  
GRINDING  
POLISHING  
SHEET METAL WORKING  
LIGHTING  
COOLING

## 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
- ▶ Delivered with grinding sheet bonded onto grinding wheel

DISK GRINDER



### Scope of delivery

- › Adjustable angle stop
- › Grinding sheet

<b>Model</b>	<b>TS 305</b>
Article no.	3310305
<b>Technical data</b>	
Electrical connection	230 V/1 Ph ~50 Hz
Motor power	900 W
Grinding disc dimension	Ø 305 mm
Speed	1420 min <sup>-1</sup>
Table support	155 x 440 mm
Adjustment of angle stop	± 60°
Tiltable grinding table	± 45°
Dimensions L x W x H approx.	440 x 445 x 365 mm
Net weight approx.	30 kg

### Arguments,...



#### Suction port

- › Factory standard extraction duct with two diameters for attaching an extraction unit
- › Outside nominal width ± Ø 30/ Ø 38 mm



#### Mitre stop

- › Standard mitre fence can be swivelled up to ± 60°
- › Grinding table can be tilted up to ± 45°



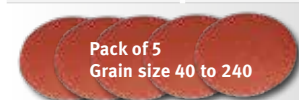
#### Velcro fastener pad

- › Optional accessory (Article no.: 3357801). Good grinding wheel adhesion, easy replacement

### Accessories

Accessories	Article no.
<b>Velcro fastener pad</b>	3357801

Grinding sheets	PQ	Article no.
› Hook and loop fastener		
<b>Grain size 40</b>	<b>5 pcs.</b>	3357854
<b>Grain size 60</b>	<b>5 pcs.</b>	3357856
<b>Grain size 80</b>	<b>5 pcs.</b>	3357858
<b>Grain size 100</b>	<b>5 pcs.</b>	3357860
<b>Grain size 120</b>	<b>5 pcs.</b>	3357862
<b>Grain size 150</b>	<b>5 pcs.</b>	3357865
<b>Grain size 180</b>	<b>5 pcs.</b>	3357866
<b>Grain size 240</b>	<b>5 pcs.</b>	3357867



**Bench grinders from OPTIMUM.**  
A quality product for trades and industry.

**Facts that impress in terms of quality, performance and price**

- ▶ Heavy, durable industrial design with maintenance-free motor
- ▶ Housing made of strand cast aluminium
- ▶ One-piece housing prevents misalignment
- ▶ Long service life and quiet action thanks to balanced rotor with quality ball bearings
- ▶ Sturdy adjustable workpiece support
- ▶ Extraction duct for attaching an extraction unit
- ▶ Vibration-damping rubber feet
- ▶ Coarse and fine grinding disc (K36/K80) included in standard scope of delivery
- ▶ GU 25 and GU 30 with stand plate

**BENCH GRINDERS**



Fig.: GU 15 - GU 20



Fig.: GU 30

**Arguments,...**



**Spark guard**

- › on each grinding disc reduces sparks and is made of shatter-proof material
- › close-fitting and easily adjustable

**OPTION:**

Vario drive with **SIEMENS** Inverter Sinamics V20 see page 310 onwards

**Scope of delivery**

- › 1 grinding disc each, standard corundum K36/K 80

**Accessories**

**Machine bases** can be found on page 316 onwards

Grinding discs can be found on page 320

Model	GU 15	GU 18	GU 20	GU 25	GU 30
Article no. (230 V)	3101505	3101510	3101515	-	-
Article no. (400 V)	-	-	3101520	3101525	3101530
<b>Technical data</b>					
Electrical connection	230 V/1 Ph ~50 Hz	230 V/1 Ph ~50 Hz	230 V / 400 V ~50 Hz	400 V/3 Ph ~50 Hz	400 V/3 Ph ~50 Hz
Motor power S6	450 W	450 W	600 W	1.5 kW	2.2 kW
Grinding wheel dimensions	Ø 150 x 20 mm	Ø 175 x 25 mm	Ø 200 x 30 mm	Ø 250 x 40mm	Ø 300 x 50 mm
Shaft diameter	Ø 16 mm	Ø 32 mm	Ø 32 mm	Ø 32 mm	Ø 25 mm
Grinding speed	22 m/s	26 m/s	30 m/s	37 m/s	22 m/s
Rotational speeds	2850 min <sup>-1</sup>	2850 min <sup>-1</sup>	2850 min <sup>-1</sup>	2850 min <sup>-1</sup>	1450 min <sup>-1</sup>
Nominal width of suction connection	Ø 34 mm	Ø 34 mm	Ø 34 mm	Ø 34 mm	Ø 35 / Ø 50 mm
Dimensions L x W x H approx.	389 x 205 x 265 mm	389 x 235 x 280 mm	495 x 260 x 330 mm	471 x 320 x 365 mm	678 x 422 x 525 mm
Net weight approx.	11 kg	14 kg	19 kg	33 kg	65 kg

**PREMIUM bench grinders**

**GZ - DD Models with base and integrated suction system**

**Facts that impress in terms of quality, performance and price**

- ▶ 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 wheels
  - ▶ Maintenance-free, durable, induction motor with smooth action
  - ▶ Cast iron housing
  - ▶ Spark guard
  - ▶ Sturdy, adjustable workpiece support
  - ▶ Grinding wheels not included in standard scope of delivery
- GZ-D models:**
- ▶ without chassis (chassis available as option)



Fig.: GZ 25DD with optional grinding disc

**OPTION:**  
Vario drive with  
**SIEMENS** Inverter Sinamics V20  
see page 310 onwards

**BENCH GRINDERS**

**Arguments,...**



**GZ-DD models:**

- > Integrated extraction system with aluminium fan and self-cleaning impellers
- > Dust bag made of self-extinguishing woven material
- > Sturdy base with water tray

**Accessories**

**DO NOT FORGET:**  
Grinding discs not included in the scope of delivery. These can be found on page 320

Machine bases without extraction for GZ-D models	Article no.
<b>GZ 20D</b>	3091120
<b>GZ 25D</b>	3091122

Informations see page 317

Electronic brake	3091099
> Controlled braking	
> Including factory assembly	



Model	GZ 20D	GZ 25D	GZ 30D
Article no.	3091010	3091015	3091020
Model	GZ 20DD	GZ 25DD	GZ 30DD
Article no.	3091040	3091045	3091050

Technical data			
Electrical connection	400 V/3 Ph ~50 Hz	400 V/3 Ph ~50 Hz	400 V/3 Ph ~50 Hz
Motor power	750 W	1.1 kW	1.8 kW
Grinding wheel dimensions	Ø 200 x 25 mm	Ø 250 x 30 mm	Ø 300 x 35 mm
Shaft diameter	Ø 20 mm	Ø 25 mm	Ø 30 mm
Rotational speeds	2800 min <sup>-1</sup>	1400 min <sup>-1</sup>	1400 min <sup>-1</sup>
Dimensions L x W x H GZ models approx.	550 x 290 x 360 mm	670 x 340 x 410 mm	810 x 420 x 560 mm
Dimensions L x W x H GZ-DD models approx.	800 x 710 x 1120 mm	800 x 710 x 1300 mm	810 x 1200 x 1320 mm
Net weight GZ/GZ-DD models approx.	25 kg / 63.7 kg	44.8 kg / 91 kg	64.5 kg / 124 kg

## PREMIUM Industrial - grinder, extremely robust and stable

### Facts that impress in terms of quality, performance and price

- ▶ Suitable for intensive industrial use
- ▶ 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 wheels
- ▶ Maintenance-free, durable, induction motor with smooth action
- ▶ Cast iron housing
- ▶ Spark guard
- ▶ Stable, displaceable workpiece support
- ▶ Grinding wheels not included in standard scope of delivery

**BENCH GRINDERS**



Fig.: Showing optional grinding discs and GU4-H machine base

**OPTION:**  
Vario drive with **SIEMENS** Inverter Sinamics V20 see page 313 onwards

### Arguments,...



#### Material support

- > Displaceable
- > Sturdy



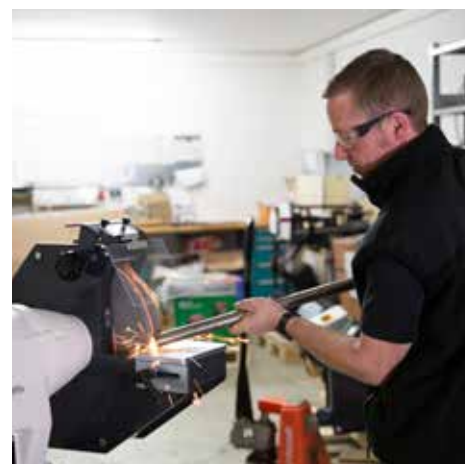
#### Suction port

- > Nominal width 90 mm



#### Control unit

- > with emergency stop button



Model	GZ40D
Article no.	3091025
<b>Technical data</b>	
Electrical connection	400 V/3 Ph ~50 Hz
Motor power	4.4 kW
Grinding wheel dimensions	Ø 400 x 50 mm
Shaft diameter	Ø 40 mm
Rotational speeds	1400 min <sup>-1</sup>
Nominal width of suction connection	90 mm
Dimensions L x W x H approx.	980 x 600 x 660 mm
Net weight approx.	168 kg

### Accessories

**DO NOT FORGET:**  
Grinding discs not included in the scope of delivery You will find these on page. 320

Machine base	Article no.
<b>GU 4-H</b>	3107123
GU 5-H with cyclone extraction unit	3107124
Suction pipes for GU 5-H 2 pieces flexible Ø 60 mm	3107116

Informations see page 314

DRILLING

CORE DRILLING

THREAD TAPPING

MILLING ACCESSORIES

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORKING

LIGHTING

COOLING

## 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 wheel for a variety of materials
- ▶ Heavy, durable industrial design with maintenance-free motor
- ▶ Housing made of strand cast aluminium
- ▶ One-piece housing prevents misalignment
- ▶ Large, heavy fastening flanges ensure excellent disc true running accuracy
- ▶ Grinding attachment with graphite support; prevents friction and heat
- ▶ Stop allows for fast and convenient initial grinding of the workpieces
- ▶ Extraction duct for attaching an extraction unit
- ▶ Belt run adjustment without tools - adjustable using a single star knob
- ▶ Universal corundum grinding wheel and grinding belt included in standard scope of delivery
- ▶ GU 25S and GU 30S with base plate

UNIVERSAL GRINDERS



Fig.: GU 30S

### Arguments,...



#### Grinding attachment

- › can be adjusted in a swivelling range of 0°-90° via the flange



#### Grinding disc

- › Sturdy workpiece support surface
- › Adjustable spark protection

#### OPTION:

Vario drive with  
SIEMENS Inverter Sinamics V20  
see page 310 onwards

Model	GU 20S	GU 25S	GU 30S
Article no. (230 V)	3101570	-	-
Article no. (400 V)	3101575	3101580	3101585

Technical data			
Electrical connection	230 V or 400V	400 V/3 Ph ~50 Hz	400 V/3 Ph ~50 Hz
Motor power S6	600 W	1.5 KW	2.2 kW
Grinding wheel dimensions	Ø 200 x 30 mm	Ø 250 x 40 mm	Ø 300 x 50 mm
Shaft diameter	Ø 32 mm	Ø 32 mm	Ø 25 mm
Grinding belt dimensions	75 x 762 mm	75 x 1016 mm	100 x 1190 mm
Nominal width of suction connection	Ø 32 mm	Ø 32 mm	Ø 35 / Ø 50 mm
Grinding speed	16 m/s	16 m/s	10 m/s
Grinding belt			
Grinding speed of grinding disc	30 m/s	37 m/s	27 m/s
Dimensions L x W x H approx.	501 x 261 x 459 mm	514 x 319 x 596 mm	767 x 420 x 527 mm
Net weight approx.	20.7 kg	31.5 kg	64.5 kg

### Scope of delivery

- › Grinding wheel normal corundum fine 80 grain
- › Grinding belt normal corundum fine 80 grain

### Accessories

Machine bases can be found on page 316 onwards

Grinding discs can be found on page 320

## Effective brush deburrer for the trade and for small batches

### Facts that impress in terms of quality, performance and price

- ▶ Heavy, durable industrial design with maintenance-free motor
- ▶ Long service life and quiet action thanks to balanced rotor with quality ball bearings
- ▶ For deburring pipes, sections and flat workpieces made of metal
- ▶ Tray for safety glasses
- ▶ Sturdy and stable machine body
- ▶ Safe and clean working with the optional GU 1 machine base with cyclone dust extraction

# BRUSH DEBURRER



Fig.: Showing optional GU 1 machine base

### Arguments,...



#### Material support

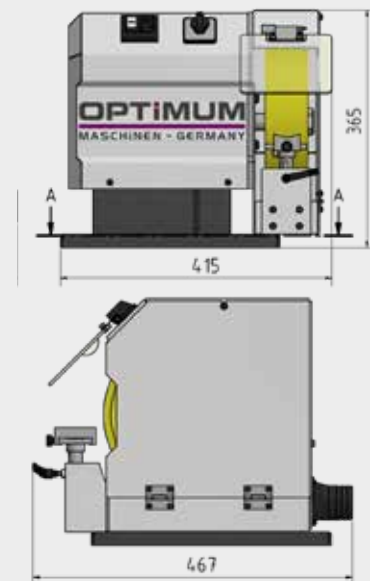
- > Height-adjustable
- > Holder also for round material



#### Extraction duct

- > The suction connection has an external diameter of 50 mm.

### Dimensions



### Scope of delivery

- > Round brush, wire thickness 0.35 mm

Model	GB 250B
Article no.	3101670

Technical data	
Electrical connection	400 V/3 Ph ~50 Hz
Motor power	1.3 / 1.8 kW
Round brush dimensions	Ø 250 x 40 mm
Shaft diameter	Ø 25 mm
Peripheral speed of the round brush	37.3 m/s at 2850 min <sup>-1</sup>
Rotational speeds	1450/ 2850 min <sup>-1</sup>
Nominal width of suction connection	Ø 50 mm
Dimensions L x W x H approx.	415 x 467 x 356 mm
Net weight approx.	36 kg

### Accessories

Designation	Article no.
<b>Base unit GU 1 - 400 V with extraction system</b>	3107109
Base unit GU 4	3107119
<b>For information on the bases, see page 316</b>	
<b>2 flexible extraction pipes</b>	3107111
<b>Round brushes</b>	Article no.
<b>Round brush 250 x 32-37mm steel wire with 25mm adapter</b>	3098070
<b>Round brush 250 x 42-47 mm - 0.2 mm with 25 mm adapter</b>	3107451
<b>Round brush 250 x 42-47 mm - 0.3 mm with 25 mm adapter</b>	3107452

## Combined grinding machines by Optimum for workshops

### Facts that impress in terms of quality, performance and price

- ▶ Durable design with maintenance-free motor
- ▶ Housing made of strand cast aluminium
- ▶ One-piece housing prevents misalignment
- ▶ Large, heavy fastening flanges ensure excellent disc true running accuracy
- ▶ Grinding attachment with graphite support - prevents friction and heat
- ▶ Stop allows for fast and convenient initial grinding of the workpieces
- ▶ Swivelling brush protection housing
- ▶ Extraction duct for attaching an extraction unit
- ▶ One grinding wheel and one multi-purpose brush included in scope of delivery
- ▶ GU 25B with base plate

COMBINED GRINDERS



**OPTION:**  
Vario drive with  
**SIEMENS** Inverter  
Sinamics V20  
see page 310 onwards

Fig. GU 25B

### Arguments,...



#### Material support

- › Mobile and sturdy



#### Multi-purpose brush

- › in swivelling brush housing
- › High tensile steel wire
- › with extraction duct



#### Spark guard

- › on each grinding disc reduces sparks and is made of shatter-proof material
- › close-fitting and easily adjustable

### Scope of delivery

- › Grinding wheel - normal corundum coarse 36 grain
- › Multi-purpose wire brush, wire thickness 0.3 mm

### Accessories

You will find bases starting on page 316.

**Grinding discs and multi-purpose wire brushes can be found on page 320.**

Model	GU 15B	GU 18B	GU 20B	GU 25B
Article no. (230 V)	3101600	3101605	3101610	-
Article no. (400 V)	-	-	3101615	3101620
<b>Technical data</b>				
Electrical connection	230 V/1 Ph ~50 Hz	230 V/1 Ph ~50 Hz	230 V or 400 V	400 V/3 Ph ~50 Hz
Motor power S6	450 W	450 W	600 W	1.5 kW
Grinding wheel dimensions	Ø 150 x 20 mm	Ø 175 x 25 mm	Ø 200 x 30 mm	Ø 250 x 40 mm
Dimension of multi-purpose wire brush	Ø 150 x 20 mm	Ø 175 x 25 mm	Ø 200 x 25 mm	Ø 250 x 30 mm
Shaft diameter	Ø 16 mm	Ø 32 mm	Ø 32 mm	Ø 32 mm
Rotational speeds	2850 min <sup>-1</sup>	2850 min <sup>-1</sup>	2850 min <sup>-1</sup>	2850 min <sup>-1</sup>
Nominal width of suction connection	Ø 34 - 35 mm	Ø 34 - 35 mm	Ø 34 - 35 mm	Ø 34 - 35 mm
Dimensions Length x width x height approx.	428 x 305 x 230 mm	428 x 305 x 244 mm	517 x 345 x 282 mm	526 x 380 x 319 mm
Net weight approx.	10.7 kg	12.3 kg	18.5 kg	32.5 kg

**PREMIUM Combined grinding machines for workshops, steel construction companies.**

**GZ - CD Models with chassis and integrated extraction system**

Facts that impress in terms of quality, performance and price

- ▶ 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 wheel and brush
- ▶ Maintenance-free, durable, induction motor with smooth action
- ▶ Cast iron housing
- ▶ Sturdy, adjustable workpiece support

**COMBINED GRINDERS**



**OPTION:**  
Vario drive with **SIEMENS** Inverter Sinamics V20 see page 313 onwards

Fig.: GZ 20C with optional grinding disc and brush

**Arguments,...**



Fig.: GZ 20CD with optional grinding disc and brush

**GZ - CD models with base unit and integrated suction system**

- › Made in Italy
  - › Perfectly aligned to avoid noise and vibrations
  - › self-cleaning wings
- Dust collection bag**
- › For a clean workplace
  - › More safety - collects glowing chips in a sack



**Material support**  
› Mobile and sturdy

**Accessories**

**DO NOT FORGET:**  
Grinding disc and brush not included. These can be found on page 320

Accessories	Article no.
<b>Electronic brake</b>	<b>3091099</b>

- › Controlled braking
- › Including factory assembly



Base units without suction	Article no.
<b>GZ 20D</b>	3091120
<b>GZ 25D</b>	3091122

Informations see page 314

Model	GZ 20C	GZ 25C
Article no.	3091070	3091075
Model	GZ 20CD	GZ 25CD
Article no.	3091080	3091085

Technical data		
Electrical connection	400 V/3 Ph ~50 Hz	400 V/3 Ph ~50 Hz
Motor power	750 W	1.1 kW
Grinding wheel dimensions	Ø 200 x 25 mm	Ø 250 x 30 mm
Round brush dimensions	Ø 200 x 25 mm	Ø 250 x 25 mm
Shaft diameter	Ø 20 mm	Ø 25 mm
Rotational speeds	2800 min <sup>-1</sup>	1400 min <sup>-1</sup>
Dimensions L x W x H GZ C approx.	650 x 300 x 360 mm	850 x 340 x 410 mm
Dimensions L x W x H GZ CD approx.	900 x 710 x 1300 mm	850 x 1200 x 1300 mm
Net weight GZ- C / GZ-CD approx.	26.5 kg / 67 kg	48 kg / 94 kg

**PREMIUM combination grinder - a powerful industrial grinder with multi-purpose brush and grinding disc**

Facts that impress in terms of quality, performance and price

- ▶ Suitable for intensive industrial use
- ▶ Heavy-duty combined grinding machine absorbs the vibrations thanks to its high deadweight
- ▶ Also suitable for strong thrust force on the grinding wheel and brush
- ▶ Maintenance-free, durable, induction motor with smooth action
- ▶ Cast iron housing
- ▶ Swivelling brush protection housing with extraction ducts
- ▶ Sturdy, adjustable workpiece support

**COMBINED GRINDERS**



Fig.: Showing optional grinding wheel, brush, and GU4-H chassis

**OPTION:**  
Vario drive with **SIEMENS** Inverter Sinamics V20 see page 313 onwards

**Arguments,...**



**Material support**

- > Displaceable
- > Sturdy



**Multi-purpose brush**

- > with swivelling brush housing
- > Optional multi-purpose brush made of high-strength steel wire



**Speed**

- > constant speed, also under load

**Accessories**

**DO NOT FORGET:**  
Grinding disc and multi-purpose brush not included in the scope of delivery. These can be found on page 320

<b>Model</b>	<b>GZ 40C</b>
Article no.	3091079

<b>Technical data</b>	
Electrical connection	400 V/3 Ph ~50 Hz
Motor power	4.4 kW
Grinding wheel dimensions	Ø 400 x 50 mm
Grinding disc shaft diameter	Ø 40 mm
Round brush dimensions	Ø 350 x 35 mm
Round brush shaft diameter	Ø 25 mm
Rotational speeds	1400 min <sup>-1</sup>
Nominal width of suction connection	Ø 90 mm
Dimensions Length x width x height approx.	1200 x 660 x 580 mm
Net weight approx.	144 kg

Round brush	Article no.
350 x 50-55 x 25mm - 0.2mm high-tensile steel wire	3098092
350 x 55-60 x 25mm-0.35mm high-tensile steel wire	3098093
Grinding disc	Article no.
<b>K 36</b>	3098150
<b>K 60</b>	3098152
<b>K 80</b>	3098154
Machine base	Article no.
<b>GU 4-H</b>	3107123
GU 5-H with cyclone extraction unit	3107124
<b>Suction pipes for GU 5-H</b> 2 pieces, flexible, Ø 60 mm	3107116
<b>Informations see page 318</b>	

## Polishing machine for fine surface finishing on 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
- ▶ Two wide polishing discs included in standard scope of delivery
- ▶ Vibration-damping rubber feet
- ▶ without extraction hood – can be ordered separately as an option

POLISHING MACHINE

**OPTION:**  
Vario drive with  
**SIEMENS** Inverter Sinamics V20  
see page 310 onwards



Fig.: GU 20P

### Accessories



Fig.: Vario conversion  
Machine base with view window (not available)

### Scope of delivery

- › 2 buffing discs

Model	GU 20P	GU 25P
Article no. (230 V)	3101540	-
Article no. (400 V)	3101545	3101550

Technical data		
Electrical connection	230 V or 400 V	400 V/3 Ph ~50 Hz
Motor power	600 W	1.5 kW
Polishing disc dimensions	Ø 200 x 20 mm	Ø 250 x 25 mm
Shaft diameter	Ø 16 mm	Ø 20 mm
Polishing speed	30 m/s	37 m/s
Speed	2850 min <sup>-1</sup>	2850 min <sup>-1</sup>
Dimensions L x W x H approx.	545 x 200 x 262 mm	555 x 250 x 296 mm
Net weight approx.	10.6 kg	17.4 kg

### Accessories

Machine base	Article no.
GU 3 without suction	3107118
GU 1 (230 V)	3107110
GU 1 (400 V)	3107109
› Cyclone extraction unit with two motors	
Suction pipes (2 pcs.)	3107111
<b>Information</b> can be found on page 311 onwards	

Extraction hood set	Article no.
for GU 20P	3107060
for GU 25P	3107061
› 2-part (left and right)	
› For use of an extraction unit	



When using suction units, it is necessary to clean the suction unit more frequently when starting with new discs, as large loose pieces of fabric may come loose.

DRILLING

CORE DRILLING

THREAD TAPPING

MILLING ACCESSORIES

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORKING

LIGHTING

COOLING

## Polishing machine for fine surface finishing on metal workpieces

### Facts that impress in terms of quality, performance and price

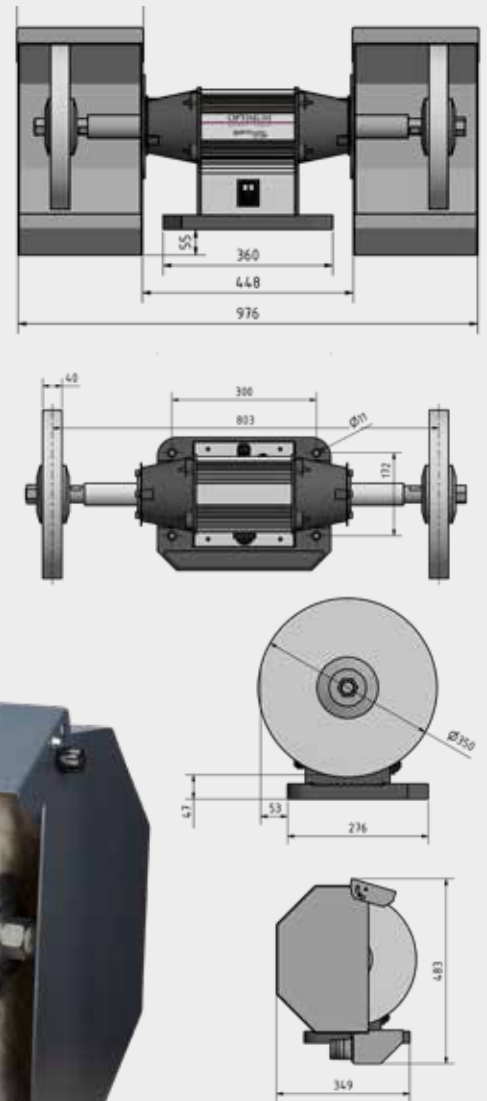
- ▶ Heavy, durable industrial design with maintenance-free motor
- ▶ Housing made of strand cast aluminium
- ▶ Long service life and quiet action thanks to balanced rotor with quality ball bearings
- ▶ Emergency stop button
- ▶ Two wide polishing discs included in standard scope of delivery
- ▶ Vibration-damping rubber feet, base plate
- ▶ Extraction hood for use of an extraction unit

POLISHING MACHINE

**OPTION:**  
Vario drive with  
**SIEMENS** Inverter Sinamics V20  
see page 312 onwards



### Arguments,...





### Scope of delivery

- › 2 buffing discs

<b>Model</b>	<b>GU 35P</b>
Article no.	3101560

Technical data	
Electrical connection	400 V/3 Ph ~50 Hz
Motor power	2.2 kW
Polishing disc dimensions	Ø 350 x 30 mm
Shaft diameter	Ø 25 mm
Speed	1450 min <sup>-1</sup>
Polishing speed	27 m/s
Dimensions Length x width x height approx.	1017 x 420 x 527 mm
Net weight approx.	64.1 kg

### Accessories

Machine base	Article no.
<b>GU 4</b> 	3107119
<b>GU 5 with cyclone extraction unit</b> 	3107114
<b>Suction pipes for GU 5</b> 2 pieces, flexible, Ø 60 mm	3107116
<b>Informations see page 318 onwards</b>	

## PREMIUM Polishing machine - a powerful industrial machine

Facts that impress in terms of quality, performance and price

- ▶ Suitable for intensive industrial use
- ▶ Heavy-duty buffing grinder absorbs the vibrations (which are low anyway) thanks to its high deadweight
- ▶ Maintenance-free, durable, induction motor with smooth action
- ▶ Cast iron housing
- ▶ Polishing discs not included in standard scope of supply

**OPTION:**  
Vario drive with  
**SIEMENS** Inverter Sinamics V20  
see page 313 onwards

POLISHING MACHINE



Fig. with optional polishing discs and GU4-H machine base

### Arguments



#### Safety enclosure

- > swivelling
- > Connector for connecting a suction device



#### Control unit

- > with emergency stop button



#### Housing

- > Made of cast iron
- > Very high damping capacity

### Accessories

**DO NOT FORGET:**  
Polishing discs not included.

Polishing disc	Article no.
hard	3107341



soft	3107340
------	---------



Model	GZ 40P
Article no.	3091130
<b>Technical data</b>	
Electrical connection	400 V/3 Ph ~50 Hz
Motor power	4.4 kW
Polishing disc dimensions	350 x 30 mm
Shaft diameter	Ø 25 mm
Rotational speeds	1400 min <sup>-1</sup>
Nominal width of suction connection	Ø 90 mm
Dimensions Length x width x height approx.	1390 x 530 x 580 mm
Net weight approx.	110 kg

Machine base	Article no.
GU 4-H	3107123
GU 5-H	3107124
Cyclone extraction	
Suction pipes for GU 5-H 2 pieces flexible Ø 60 mm	3107116

**Informations** see page 218

When using suction units, it is necessary to clean the suction unit more frequently when starting with new discs, as large loose pieces of fabric may come loose.

## Vario drive with GU 1 base

**Vario drive with machine base GU 1 with cyclone extraction**  
this enables the grinder's speed to be controlled continuously.

Facts that impress in terms of quality, performance and price



### Vario drive with **SIEMENS** Sinamics V20 inverter

- › Wider voltage range, advanced cooling and painted electronic components increase the robustness of the inverter
- › Stable operation even with difficult grid conditions



### Vario base with machine base GU 1 with cyclone extraction unit

- › Without grinder- must be ordered separately along with your order.
- › Sturdy base
- › Cyclone extraction unit integrated in machine base, consequently less space required
- › Noise-insulated

### Automatic start-up

No need to additionally switch the extraction unit on or off because the extraction unit switches on or off automatically after a delay of 23 seconds when the grinding device is switched on or off. The residual dust is extracted after switching off the machine in line with the Hazardous Materials Ordinance



### Vario conversion with machine base GU 1

Motor output up to 1.5 kW

Article no. 3491530

Peripheral speeds 37 m/s to 6 m/s adjustable

You can find more information about the GU1 machine base on page 316.

### Machines required

Machines required	Article no.
› Combined grinding machine GU 20B	3101615
› Combined grinding machine GU 25B	3101620
› Polishing machine GU 20P	3101545
› Polishing machine GU 25P	3101550
› Bench grinder GU 20	3101520
› Bench grinder GU 25	3101525
› Universal grinding machine GU 20S	3101575
› Universal grinding machine GU 25S	3101580

The Vario conversion complies with the DIN EN 55011 standard Class C2 Note: The suction unit requires a zero conductor in the 400 V version

## Vario drive with GU 3 machine base

this enables the grinder's speed to be controlled continuously.



### Vario drive with **SIEMENS** Sinamics V20 inverter

- › Wider voltage range, advanced cooling and painted electronic components increase the robustness of the inverter
- › Stable operation even with difficult grid conditions



### Vario conversion with machine base GU 3

- › Without grinder- must be ordered separately along with your order.
- › Coolant tray
- › Small footprint



Fig.: Base with sample view window

### Vario conversion with machine base GU 3

Motor output up to 1.5 kW

Article no.	3491531
-------------	---------

Peripheral speeds 37 m/s to 6 m/s adjustable

You can find more information about the GU3 machine base on page 317.

Machines required	Article no.
› Combined grinding machine GU 20B	3101615
› Combined grinding machine GU 25B	3101620
› Polishing machine GU 20P	3101545
› Polishing machine GU 25P	3101550
› Bench grinder GU 20	3101520
› Bench grinder GU 25	3101525
› Universal grinding machine GU 20S	3101575
› Universal grinding machine GU 25S	3101580

## Vario drive with GU 4 / GU 5 base

The Vario Drive is available optionally with a GU 4 or GU 5 machine base, this enables the grinder's speed to be controlled continuously.

Facts that impress in terms of quality, performance and price



### Vario drive with **SIEMENS** Sinamics V20 inverter

- › Wider voltage range, advanced cooling and painted electronic components increase the robustness of the inverter
- › Stable operation even with difficult grid conditions



**GU 4**



**GU 5**



**Machine base  
&  
Machine  
=  
Vario**

Machines required	Article no.
› Bench grinder GU 30	3101530
› Combined grinding machine GU 30S	3101585
› Polishing machine GU 35P	3101560

Vario conversion with machine base GU 4 Without extraction unit	
Motor output up to 2.2 kW	
Article no.	3491550

Vario conversion with machine base GU 5 with cyclone extraction unit	
Motor output up to 2.2 kW	
Article no.	3491552

- › Without grinder- must be ordered separately along with your order.
- › Peripheral speeds 34 m/s to 6 m/s adjustable
- › Coolant tray
- › Small footprint

- › Without grinder- must be ordered separately along with your order.
- › Peripheral speeds 34 m/s to 6 m/s adjustable
- › Sturdy base
- › Cyclone extraction unit integrated in machine base, consequently less space required
- › Noise-insulated

You can find more information about the Machine bases base on page 318.

#### Automatic start-up

No need to additionally switch the extraction unit on or off because the extraction unit switches on or off automatically after a delay of 23 seconds when the grinding device is switched on or off. The residual dust is extracted after switching off the machine in line with the Hazardous Materials Ordinance

The Vario Drive is available optionally with a GU 4-H or GU 5-H machine base, this enables the grinder's speed to be controlled continuously.



**Vario drive with SIEMENS Sinamics V20 inverter**

- › Wider voltage range, advanced cooling and painted electronic components increase the robustness of the inverter
- › Stable operation even with difficult grid conditions



Machines required	Article no.
› Grinding machine GZ40D	3091025
› Combined grinding machine GZ 40C	3091079
› Polishing machine GZ 40P	3091130

Vario conversion with machine base GU 4-H Without extraction unit	
Motor output up to 4.4 kW	
Article no.	3491571

- › Without grinder- must be ordered separately along with your order.
- › Peripheral speeds 34 m/s to 6 m/s adjustable
- › Coolant tray
- › Small footprint

Vario conversion with machine base GU 5-H with cyclone extraction unit	
Motor output up to 4.4 kW	
Article no.	3491573

- › Without grinder- must be ordered separately along with your order.
- › Peripheral speeds 34 m/s to 6 m/s adjustable
- › Sturdy base
- › Cyclone extraction unit integrated in machine base, consequently less space required
- › Noise-insulated

Reminder: The bases must be filled with concrete by the customer.

**Automatic start-up**  
No need to additionally switch the extraction unit on or off because the extraction unit switches on or off automatically after a delay of 23 seconds when the grinding device is switched on or off. The residual dust is extracted after switching off the machine in line with the Hazardous Materials Ordinance

You can find more information about the Machine bases base on page 318.

# Vario drive with GZ base

**Vario drive with GZ machine base, with or without suction unit**  
this enables the grinder's speed to be controlled continuously.

Facts that impress in terms of quality, performance and price



**Vario drive with SIEMENS Sinamics V20 inverter**

- › Wider voltage range, advanced cooling and painted electronic components increase the robustness of the inverter
- › Stable operation even with difficult grid conditions



Fig.: GZ 25D

Vario conversion with machine base GZ Without extraction unit	
Motor output up to 0.75 kW	
Article no.	3491513

- › Without grinder- must be ordered separately along with your order.
- › including base unit (without suction)
- › Peripheral speeds 30 m/s to 5 m/s adjustable

Vario conversion with machine base GZ without suction	
Motor output up to 1.1 kW	
Article no.	3491530

- › Without grinder- must be ordered separately along with your order.
- › including base unit (without suction)
- › Peripheral speeds 19 m/s to 3 m/s adjustable

Vario conversion GZ with cyclone extraction unit	
Motor output up to 0.75 kW	
Article no.	3491514

- › Chassis (scope of delivery) is converted to Vario
- › Peripheral speeds 30 m/s to 5 m/s adjustable

Vario conversion GZ with cyclone extraction unit	
Motor output up to 1.1 kW	
Article no.	3491534

- › Chassis (scope of delivery) is converted to Vario
- › Peripheral speeds 19 m/s to 3 m/s adjustable

Machines required	Article no.
› Bench grinder GZ 20D	3091010
› Universal grinder GZ 20C	3091070

Machines required	Article no.
› Bench grinder GZ 25D	3091015
› Universal grinder GZ 25C	3091075



Fig.: GZ 25DD

Required machines with base unit	Article no.
› Bench grinder GZ 20DD	3091040
› Universal grinder GZ 20CD	3091080

Machines required with chassis	Article no.
› Bench grinder GZ 25DD	3091045
› Universal grinder GZ 25CD	3091085



## Machine bases

### GU 3 - Machine base with cyclone extraction unit for grinding machines

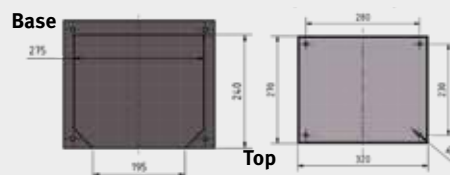
Facts that impress in terms of quality, performance and price

- ▶ Coolant tray
- ▶ Small footprint
- ▶ Specially suited for our machines
  - › Bench grinders GU 15 - GU 25
  - › Universal grinding machines GU 20S and 25S
  - › Combined sander GU 15B - GU 25B
  - › Polishing machines GU 20P and GU 25P



Model	GU 3
Article no.	3107118
Dimensions L x W x H approx.	320 x 270 x 825 mm
Net weight approx.	14.5 kg

### Drill holes



### Accessories



Emergency stop facility	Article no.
› Emergency stop device (requires a base)	3107070
› incl. assembly and base GU 2)	3107072

(for 400 V - machines only)

### Machine bases for GZ grinding machines

Facts that impress in terms of quality, performance and price

- ▶ Sturdy
- ▶ Small footprint
- ▶ Specially suited for our machines
  - › Bench grinders GZ 20 - GZ 30
  - › Combined sanders GZ 20C - GZ 25C

Model- matches	GZ 20	GZ 25	GZ 30
Article no.	3091120	3091122	3091124
Dimensions L x W x H approx.	400 x 370 x 760 mm	437 x 437 x 675 mm	460 x 430 x 760 mm
Net weight approx.	33 kg	40 kg	52 kg



### Wall holder

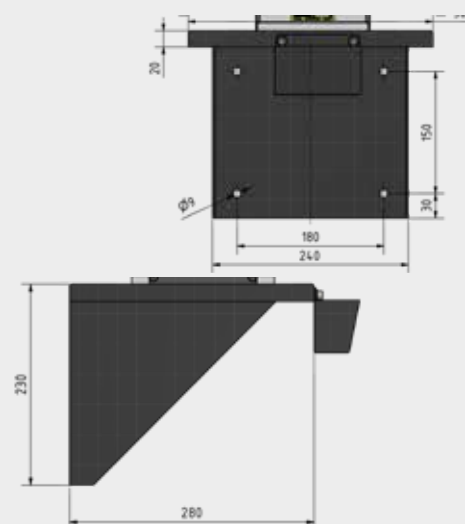
Facts that impress in terms of quality, performance and price

- ▶ Coolant tray
- ▶ Drill holes must be made
- ▶ L x W x H approx.: 332 x 300 x 230 mm
- ▶ Specially suited for our machines
  - › Bench grinders GU 15 - GU 25
  - › Universal grinding machines GU 20S and 25S
  - › Combined sander GU 15B - GU 25B
  - › Polishing machines GU 20P and GU 25P



Model	Wall holder
Article no.	3107050

### Dimensions



## GU 1 - Machine base with cyclone extraction unit for grinding machines

Facts that impress in terms of quality, performance and price

- ▶ Sturdy base
- ▶ Cyclone extraction unit integrated in machine base, consequently less space required
- ▶ For GU and GU-S machines
- ▶ Noise-insulated
- ▶ Without drilled holes - must be drilled individually
- ▶ Y adapter for two-pipe extraction unit connection each with Ø 50 mm



**Lamp holder**  
▶ prepared for machine lamp LED 3- 500



Fig. shows sample application

Model	GU 1	
Article no.	3107110	3107109
Electrical connection	230 V/1 Ph	400 V/3 Ph
Motor power	1.3 kW	
Speed	29000 min <sup>-1</sup>	
Air throughput	2.3 m <sup>3</sup> per minute	
Dimensions L x W x H approx.	477 (550) x 340 x 805 (890) mm	
Net weight approx.	42 kg	

Note: The extraction unit needs a neutral conductor, 400-V version

### Automatic start-up GU 1 and GU 2

No need to additionally switch the extraction unit on or off because the extraction unit switches on or off automatically after a delay of 23 seconds when the grinding device is switched on or off. The residual dust is extracted after switching off the machine in line with the Hazardous Materials Ordinance

## GU 2 - Machine base with cyclone extraction unit

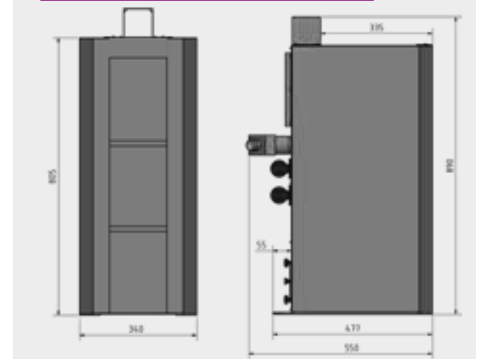
- ▶ Cyclone extraction unit with two motors
- ▶ Includes Y-adapter for two-tube extraction connection, 60 x 300 - 1000 mm flexible
- ▶ Small footprint
- ▶ Noise-insulated
- ▶ External 230 V permanent power supply
- ▶ Particularly suitable for our belt grinders GBS 75 /GBS 150 /GB 100S or external machines

Model	GU 2
Article no.	3107115
Electrical connection	400 V/3 Ph 50Hz
Total connected load	4 kW
Motor output per blower	1.3 kW
Number of blowers	2
Speed	29000 min <sup>-1</sup>
Air throughput	4.6 m <sup>3</sup> per minute
Chip filter container volume	15 litres
Dimensions L x W x H approx.	525 x 440 x 815 mm
Net weight approx.	60 kg



Chip drawer

## Dimensions

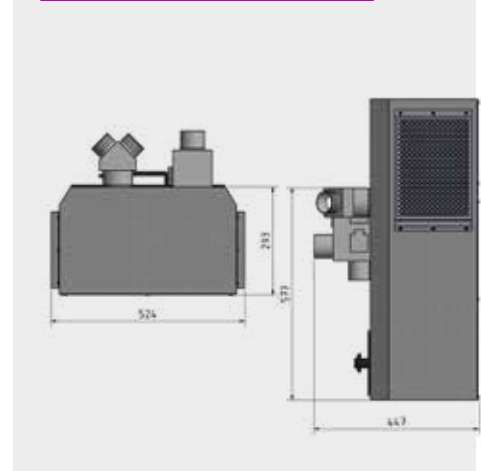


## Accessories

Emergency stop facility	Article no.
▶ Emergency stop device (requires a base)	3107070
▶ incl. assembly and base GU 1)	3107071
(for 400 V - machines only)	
Extraction hose	Article no.
▶ 2 flexible extraction pipes	3107111
▶ for GU and GU-S grinders	
▶ Connection with Ø 50 mm and Ø 35 mm	



## Dimensions



## Accessories

Extraction hose	3107116	39.50
2 flexible suction pipes, Ø 60 mm		
approx. length 300 - 1000 mm		

The bases GU 1 and GU 2 comply with the DIN EN 55011 standard: Class C2. Note: The suction unit needs a neutral conductor

## Machine bases

### GU 4 / GU 4-H - machine base for grinding machines GU 4-H for heavy loads

Facts that impress in terms of quality, performance and price

- ▶ Coolant tray
- ▶ Small footprint
- ▶ The GU 4-H chassis must be filled with concrete at the customer's site.
- ▶ GU 4 - Particularly suitable for the machines
  - › Bench grinder GU 30
  - › Universal grinding machine GU 30S
  - › Polishing grinder GU 35P
  - › Disc grinder GB 305D
  - › Brush deburrer GB 250B
  - › Belt grinding machine GB 100S
- ▶ GU 4-H - Particularly suitable for the machines
  - › Grinding machine GZ 40D
  - › Combined grinder GZ 40C
  - › Polishing machine GZ 40P
  - › Belt grinding machine GB 100S

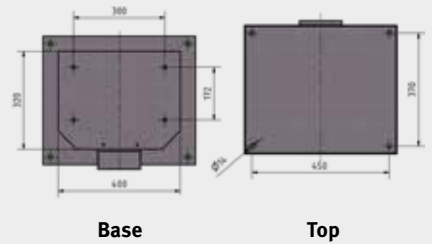


Fig. GU 4

Fig. GU 4-H

Model	GU 4	GU 4-H*
Article no.	3107119	3107123
Dimensions approx:	500 x 420 x 770 mm	500 x 420 x 770 mm
Net weight approx.	30 kg	empty 33 kg / filled 139 kg

#### Drill holes



#### Accessories



Emergency stop facility	Article no.
› Emergency stop device (requires a base)	3107070
› incl. assembly and base GU 4)	3107073
(for 400 V - machines only)	
Mounting plate	3107125
› Essential when mounting the GB 100S belt grinder on the base unit.	

### GU 5 / GU 5-H - Universal machine base with cyclone extraction unit for grinding machines. GU 5-H for heavy loads

- ▶ Sturdy base
- ▶ Cyclone extraction unit integrated in machine base, consequently less space required
- ▶ Noise-insulated
- ▶ Without drilled holes - must be drilled individually
- ▶ Y adapter for two-tube extraction unit connection
- ▶ The GU 5-H chassis must be filled with concrete at the customer's site.
- ▶ GU 5 - Particularly suitable for
  - › Bench grinder GU 30
  - › Universal grinding machine GU 30S
  - › Polishing grinder GU 35P
  - › Disc grinder GB 305D
  - › Brush deburrer GB 250B
  - › Belt grinding machine GB 100S
- ▶ GU 5-H - Particularly suitable for
  - › Grinding machine GZ 40D
  - › Combined grinder GZ 40C
  - › Polishing grinder GZ 40P
  - › Belt grinding machine GB 100S



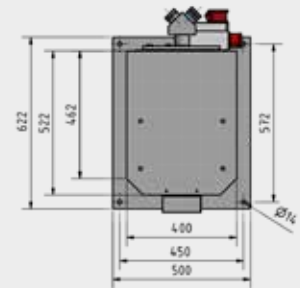
Fig. GU 5

Fig. GU 5-H

**Automatic start-up**  
When the external device is switched on, the extraction unit automatically starts up after a delay of 2-3 seconds. There is no need to additionally switch the extraction system on or off: The residual dust is extracted after switching off the machine in line with the Hazardous Materials Ordinance

Model	GU 5	GU 5-H
Article no.	3107114	3107124
Total connected load	4 kW 400 V/3 Ph	
Speed	29000 min <sup>-1</sup>	
Air throughput	2.3 m <sup>3</sup> per minute	
Dust tank volume	0.06 m <sup>3</sup>	
Dimensions L x W x H approx.	744 x 500 x 770 mm	
Net weight approx.	50 kg	empty 53 kg / filled 165 kg

#### Dimensions



#### Accessories




Emergency stop facility	Article no.
› Emergency stop device (requires a base)	3107070
› incl. assembly and base GU 4)	3107073
(for 400 V - machines only)	
Mounting plate	3107125
› Essential when mounting the GB 100S belt grinder on the base unit.	
Extraction hose	3107116
2 flexible suction pipes, Ø 60 mm	
Length approx. 300 up to 1000mm	

# ***GRINDING MACHINE ACCESSORIES***



## Accessories for grinding machines

Grinding disc	Article no.
<b>for GU 15 - GU 30</b>	
› Normal corundum grinding wheel	
› Rough grain 36	
Ø 150 x 20 shaft Ø 16 mm	3107150
Ø 175 x 25 shaft Ø 32 mm	3107180
Ø 200 x 30 shaft Ø 32 mm	3107210
Ø 250 x 40 shaft Ø 32 mm	3107250
Ø 300 x 50 shaft Ø 75 mm	3107270
› Fine grain 80	
Ø 150 x 20 shaft Ø 16 mm	3107155
Ø 175 x 25 shaft Ø 32 mm	3107185
Ø 200 x 30 shaft Ø 32 mm	3107215
Ø 250 x 40 shaft Ø 32 mm	3107255
Ø 300 x 50 shaft Ø 75 mm	3107275


for GZ 20 - GZ 40	
› Normal corundum grinding wheel	
› Hardness M - grey, Made in Italy 	
<b>GRINDING DISC GZ 20</b>	
K 36	3098121
K 60	3098123
K 80	3098125
<b>GRINDING DISC GZ 25</b>	
K 36	3098131
K 60	3098133
K 80	3098135
<b>GRINDING DISC GZ 30</b>	
K 36	3098141
K 60	3098143
K 80	3098145
<b>GRINDING DISC GZ 40</b>	
› Max. speed 1650 min <sup>-1</sup>	
› Dimensions approx. 400 x 50 mm bore Ø 40 mm	
K 36	3098150
K 60	3098152
K 80	3098154

Polishing disc	Article no.
<b>hard - for GU 20P - GU 40P</b>	
Ø 200 x 20 shaft Ø 16 mm	3107321
Ø 250 x 25 shaft Ø 20 mm	3107331
Ø 350 x 40 shaft Ø 25 mm	3107341



<b>soft - for GU 20P - GU 40P</b>	
Ø 200 x 20 shaft Ø 16 mm	3107320
Ø 250 x 25 shaft Ø 20 mm	3107330
Ø 350 x 30 shaft Ø 25 mm	3107340



Multi-purpose wire brush	Article no.
<b>for GB 250B, GU 25B and GZ 25C</b>	
Round brush 250 x 32-37mm steel wire with 25mm adapter	3098070
<b>for GB 250B</b>	
	
Round brush 250 x 42-47 mm - 0.2 mm with 25mm adapter	3107451
Round brush 250 x 42-47 mm - 0.3 mm with 25mm adapter	3107452
<b>for GU 15B / GU 18B / GU 20B / GU 25B</b>	
› Thickness 0.3 mm	
Ø 150 x 20 shaft Ø 16 mm	3107425
Ø 175 x 20 shaft Ø 32 mm	3107430
Ø 200 x 20 shaft Ø 32 mm	3107435
Ø 250 x 20 shaft Ø 32 mm	3107440
› Made in EU	

GZ 20C/GZ 20CD	
Round brush 200 x 55 x 20mm - 0.35mm high-tensile steel wire	3098081
Round brush 200 x 55 x 20mm - 0.50mm high-tensile steel wire	3098082
<b>GZ 25C/GZ 25CD</b>	
Round brush 250 x 30 x 25 mm - 0.30 mm high tensile steel wire	3098086
Round brush 250 x 30 x 25 mm - 0.50 mm high tensile steel wire	3098087
<b>GZ 40C</b>	
Round brush 350 x 50-55 x 25mm - 0.2mm high-tensile steel wire	3098092
Round brush 350 x 55-60 x 25mm - 0.35mm high-tensile steel wire	3098093

Grinding belt	PQ	Article no.
<b>For GU 20S</b>		
Grain size 40	5 pcs.	3357612
Grain size 60	5 pcs.	3357614
Grain size 80	5 pcs.	3357616
Grain size 120	5 pcs.	3357618
Grain size 180	5 pcs.	3357619
Grain size 240	5 pcs.	3357620

<b>For GU 25S</b>		
Grain size 40	5 pcs.	3357682
Grain size 60	5 pcs.	3357684
Grain size 80	5 pcs.	3357686
Grain size 120	5 pcs.	3357688
Grain size 180	5 pcs.	3357689
Grain size 240	5 pcs.	3357690

<b>For GU 30S</b>		
Grain size 40	5 pcs.	3357637
Grain size 60	5 pcs.	3357638
Grain size 80	5 pcs.	3357639
Grain size 120	5 pcs.	3357640

Grinding wheel dresser	Article no.
› Diamond	
› Dimensions approx. 45 x 13 mm	



# ***SHEET METAL WORKING*** ***METALWORKING***



## 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

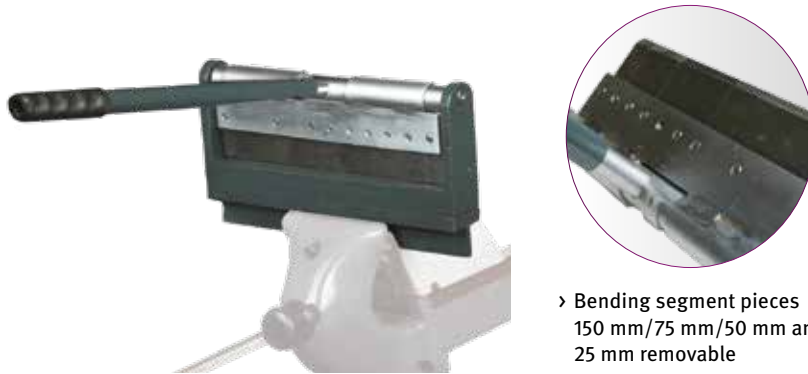
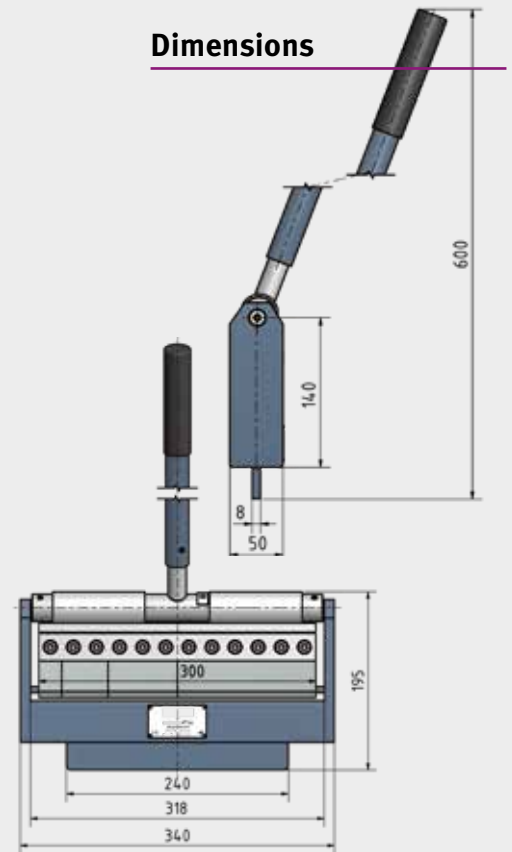


Fig.: Folding machine FP 30

› Bending segment pieces 150 mm/75 mm/50 mm and 25 mm removable

<b>Model</b>	<b>FP 30</b>		
Article no.	3244028		
<b>Performance features</b>		<b>Max. folding performance at 90°</b>	
Max material width	320 mm	Aluminium/copper	300 x 2 mm
Max. sheet thickness	2.5 mm	Steel sheet	300 x 1 mm
		Net weight approx.	10 kg

### Dimensions



## 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



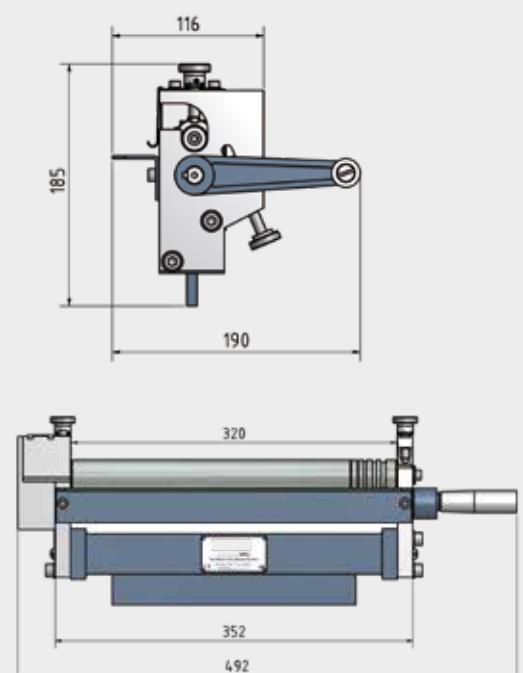
Fig.: BM 3

› Wire insertion grooves Ø 1 - 2 - 3 - 4 - 5 mm

<b>Model</b>	<b>BM 3</b>		
Article no.	3244030		
<b>Performance features</b>		<b>Rolling thickness max.</b>	
Max material width	310 mm	Steel sheet St. 37	1 mm
Bending Ø min.	35 mm	Stainless steel	1 mm
Bending Ø max.	unlimited	Aluminium/copper	2 mm
Net weight approx.	10 kg	Brass	1 mm
		Gold/silver/tinplate	2 mm
		Narrow widths	3 mm
		Round materials	1 - 5 mm
		Unwinding roller	Ø 30 mm



### Dimensions



## 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 with removable segments
- ▶ Operation via two large, adjustable and easily operable levers arranged at the side
- ▶ Scissor table with recessed measuring strips and right-angle stop on both sides
- ▶ Easily adjustable top, rear and bottom rollers
- ▶ Long support surface
- ▶ Adjustable rear stop and extensible front material support for safe support of large-format sheet metal



Fig.: SAR 1000

### Scope of delivery

- › Adjustable rear stop
- › Front material support
- › Tool

Model	SAR 1000
Article no.	3242100

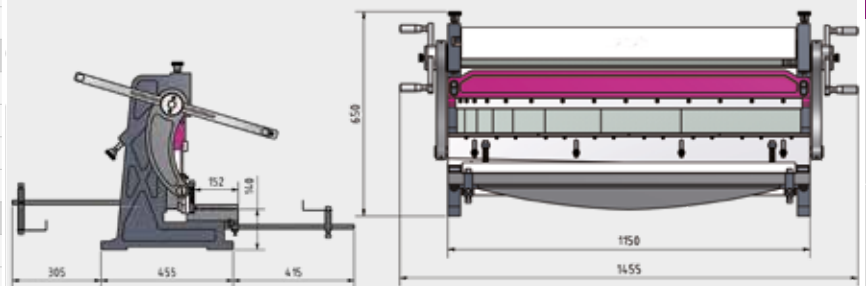
Technical data	
Max material width	700 mm
Plate rolling	
Plate rolling min.	Ø48 mm
Plate rolling max.	Ø unlimited
Steel sheet (S235JR)	up to 1 mm
Stainless steel	up to 0.5 mm
Aluminium/copper	up to 1.5 mm
Brass	up to 1 mm
Gold/silver/tinplate	up to 1.5 mm
Unwinding roller Ø	48 mm
Folding	
Max. sheet 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 approx.	290 kg

### Accessories

- Machine base**  
› L x W x H: 1185 x 500 x 700 mm  
Art no. 3242107



### Dimensions



### Applications

#### Plate rolling

- › Adjusting screws for material thickness with scale
- › Ground bending rollers with wire insert slots on the bottom and front rollers



#### Folding

- › Premium folding bars
- › Spring hold-down unit
- › Segmented bevelling rail 40 mm/50 mm/65 mm/100 mm/180 mm/255 mm/380 mm for cassette bending



- › Clean and burr-free cutting thanks to top and bottom blades made of quality grade steel



DRILLING

CORE DRILLING

THREAD TAPPING

MILLING ACCESSORIES

TURNING

MEASURING

SAWS

GRINDING

POLISHING

SHEET METAL WORKING

LIGHTING

COOLING

# PS 125/PS 150/PS 300



## 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



Fig.: Ps 300

Fig.: Ps 125

## Arguments



### Blade

- › Premium blade with long service life
- › Hold-down unit prevents sheet twisting during cutting
- › Strong springs prevent the shears closing autonomously



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 approx.	245 x 110 x 935 mm	325 x 120 x 960 mm	490 x 155 x 1340 mm
Net weight approx.	8.7 kg	10.7 kg	23 kg

\*Not over the entire length - material steel (S235JR), stainless steel up to 1 mm

## Accessories

Spare knife set	Article no.
› 2-part	
for PS 125	3241025
for PS 150	3241026
for PS 300	3241028

# DDP 10/DDP 20/DDP 30/DDP 50

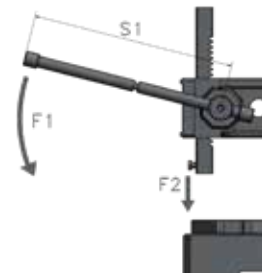
## Precision arbour presses with rugged and solid design. For mechanical workshops and repair operations

### 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



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
Spindle - column distance	95 mm	120 mm	150 mm	226 mm
Plunger 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
Mounting hole	Ø10 mm	Ø13 mm	Ø13 mm	Ø16 mm
Dimensions L x W x H approx.	270 x 180 x 410 mm	430 x 235 x 680 mm	455 x 260 x 850 mm	650 x 350 x 785 mm
Net weight approx.	14 kg	33 kg	55 kg	167 kg



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)

**PD 3 - Arbor press**  
**PD 5 / PD 8 - Manual toggle presses**

Facts that impress in terms of quality, performance and price

- ▶ Adjustable off-set depth
- ▶ Hardened and ground spindle
- ▶ Long spindle guide
- ▶ High force at the end of the stroke
- ▶ Honed tappet guide and ground tappets ensure a long service life and precise guidance
- ▶ Quick changeover thanks to simple and safe adjustment of the working height
- ▶ Ground press tables allow reproducible positioning of your tools
- ▶ Locating holes in the plunger and table top for precise alignment of the tools
- ▶ Support table with T-slots for attaching workpiece clamping fixtures

- PD 5:**
- ▶ Latching function
- PD 5/PD 8:**
- ▶ Spindle for height adjustment



Fig. PD 3



Fig. PD 5



Fig. PD 8

**New**

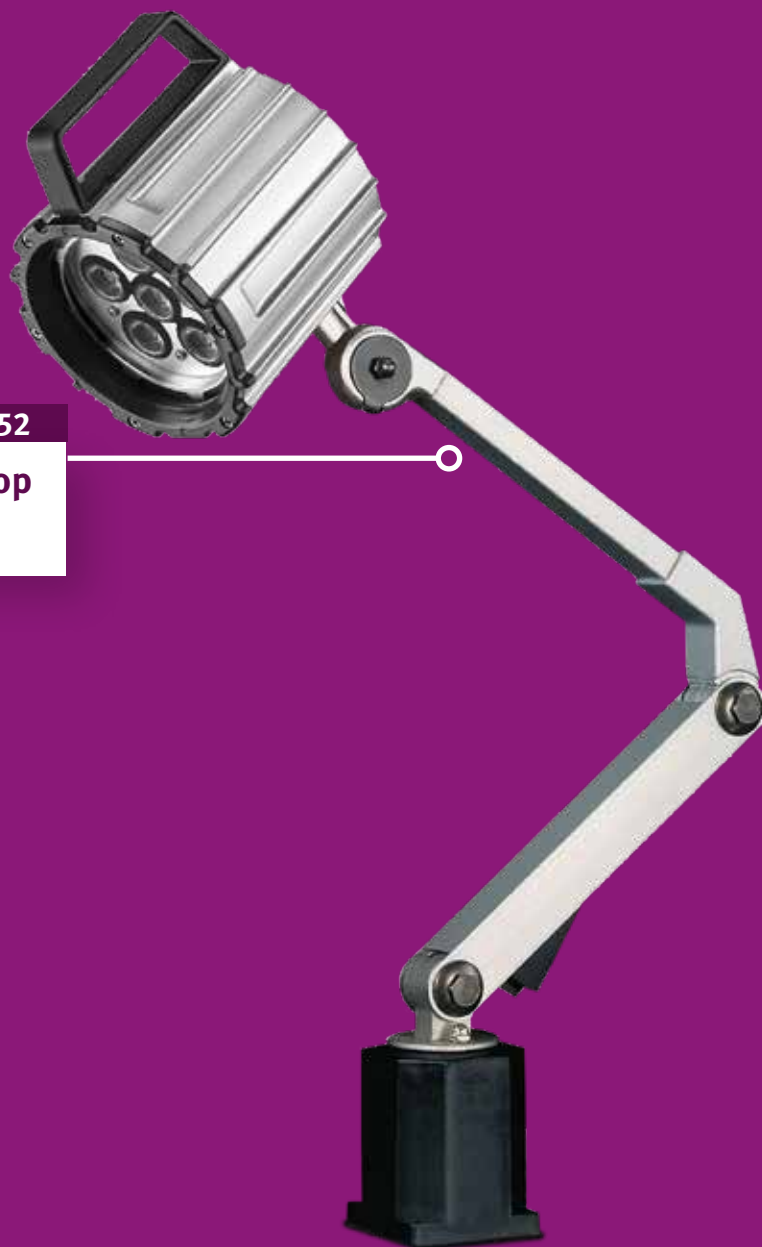
Model	PD 3	PD 5	PD 8
Article no.	3359030	3359050	3359080
Maximum force	3 kN	5 kN	8 kN
Distance between press frame and press plunger	80 mm	65 mm	150 mm
Bore spindle sleeve	Ø 10 mm	Ø 10 mm	Ø 25 mm
Press plunger travel	30 mm	40 mm	60 mm
Press head travel range	50 - 170 mm	65 - 180 mm	90 - 410 mm
Table size	110 x 100 mm	115 x 80 mm	260 x 300 mm
T-slot size	16 mm	16 mm	18 mm
Dimensions (L x W x H)	180 x 110 x 300 mm	190 x 115 x 507 mm	300 x 460 x 940 mm
Weight	10 kg	13 kg	134 kg

# ***MACHINE LAMPS***

# ***COOLANT ACCESSORIES***

**MWG 6-600 | Art. no.: 3351052**

**LED machine and workshop  
lamp**

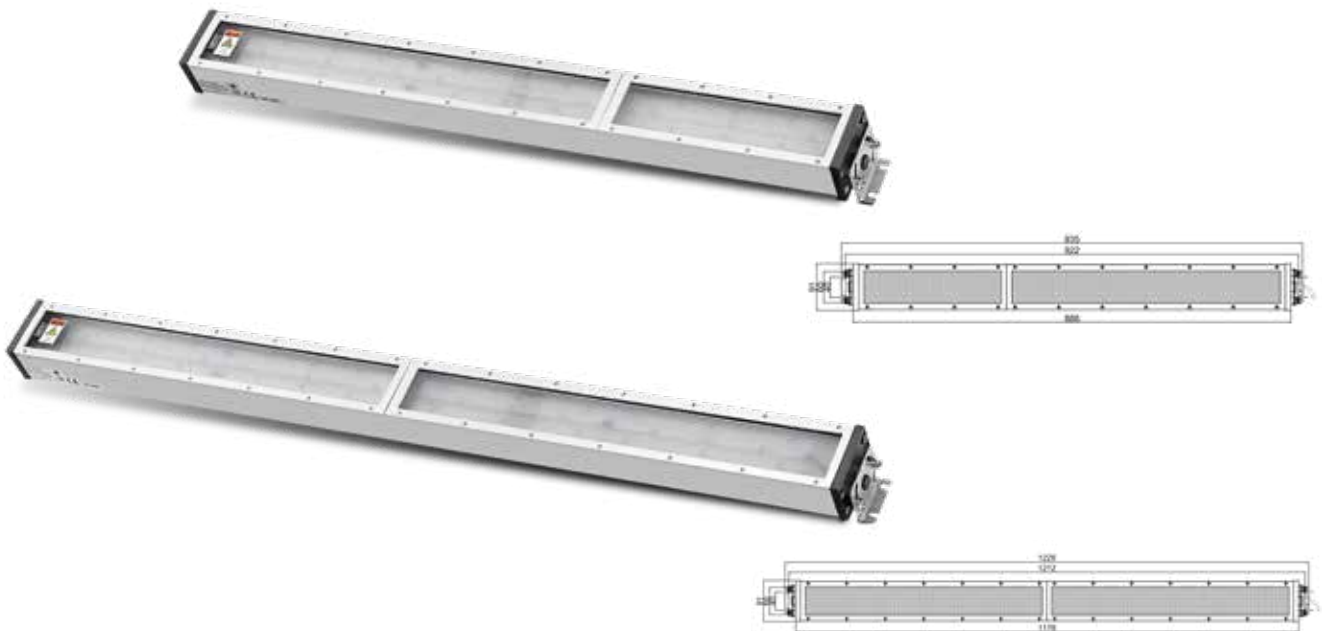


## Robust machine lamps for individual use:

LED machine and workshop lighting	
› Electrical connection 230 V ~ 50Hz or DC 24V	› LED service life > 60 000 h
› Colour temperature 5700 K ±5%	› Vibration-resistant at 10 to 55 Hz (amplitude 0.35 mm), shock-resistant up to 50 g
› Safety glass	› Degree of protection IP65, protection class I (operation with PE connection)
› Robust, high-luminosity machine lamp	› Operational mode: Continuous operation
› Aluminium housing with black side parts	› Maximum permissible ambient temperature T <sub>max.</sub> 50° C°
› Beam angle 120° (reflector)	› Mounting by means of bracket, swivelling angle ± 45°

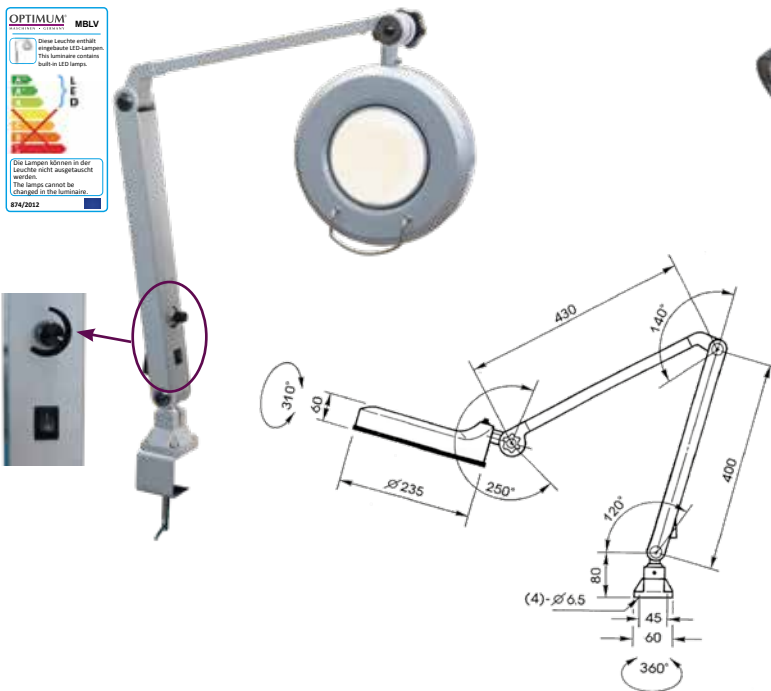
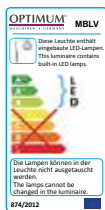
Model	MWL 3	MWL 4
Article no. AC230V	-	3351033
Article no. DC24V	3351042*	3351043*
Power	84 Watts	112 Watts
Lamp length	920 mm	1210 mm
Luminosity (Lumen)	13200 Lm	17600 Lm

\* Required safety transformer as per EN 61558- 2- 6 not included in scope of delivery



DRILLING  
CORE DRILLING  
THREAD TAPPING  
MILLING ACCESSORIES  
TURNING  
MEASURING  
SAWS  
GRINDING  
POLISHING  
SHEET METAL WORKING  
LIGHTING  
COOLING

Model	LED magnifying lamp MBLV
Article no.	3351090
<ul style="list-style-type: none"> <li>› Electrical connection 14 W / 230 V ~50 Hz</li> <li>› Luminosity 2200 Lm</li> <li>› Colour temperature 5700 K ±5%</li> <li>› Large magnifying glass: Ø 125 mm</li> <li>› Luminous intensity dimmable 10 - 100 %</li> <li>› Joint easily adjustable and lockable thanks to clamp screw</li> <li>› Pleasant, glare-free light</li> <li>› Joint arm length 830 mm</li> <li>› IP20 degree of protection</li> <li>› Magnifying lamp with 1.5x optical magnification</li> </ul>	



Model	Machine lamp LED 3- 500
Article no.	3351010
<ul style="list-style-type: none"> <li>› Electrical connection 3 x 1 W LED / 230 V ~50 Hz</li> <li>› Colour temperature 4000 - 4500 K</li> <li>› Made of oil-resistant and impact proof plastic</li> <li>› No impairment of the service life through vibration or knocks</li> <li>› Optimum mobility of the articulated arm</li> <li>› IP degree of protection IP64 (dust and splash-water protected)</li> <li>› Lifetime 60 000 operating hours</li> <li>› Low exterior temperature; lubricants and coolants do not burn on</li> <li>› Mains supply cable approx. 1.2 m</li> <li>› Energy-saving and durable machine lamp</li> </ul>	



Model	LED workbench lamp WBL 3
Article no.	3351062
<ul style="list-style-type: none"> <li>› Electrical connection 3 x 1 Watt LED / 230 V ~50 Hz</li> <li>› Luminosity 480 Lm</li> <li>› Colour temperature 5700 K ±5%</li> <li>› Articulated arm with sleeve for best possible mobility</li> <li>› Excellent positional stability</li> <li>› Swivel head</li> <li>› Impact-proof, easy-to-clean plastic housing</li> <li>› Arm length 520 mm</li> <li>› IP Degree of protection: IP20</li> <li>› Magnetic base, fixing bracket</li> <li>› Integrated transformer</li> </ul>	



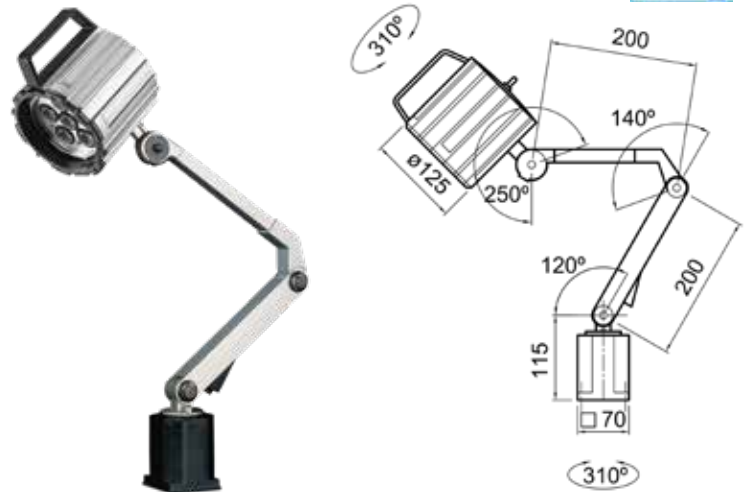
## LED machine and workshop lamp

- › Electrical connection 6 x 2 Watt LED / 230 V ~50 Hz
- › Luminosity 1020 Lm
- › Colour temperature 5700 K ±5%
- › Robust and powerful articulated machine lamp
- › State of the art LED technology
- › Low exterior temperature; lubricants and coolants do not burn on
- › Beam angle 60° (reflector)
- › Rotatable 310°
- › Maximum permissible ambient temperature Tmax. 50° C
- › LED service life > 60000 hours
- › Degree of protection IP65, protection class I (operation with PE connection)
- › Aluminium housing
- › Swivel head
- › Mounting by means of bracket on base



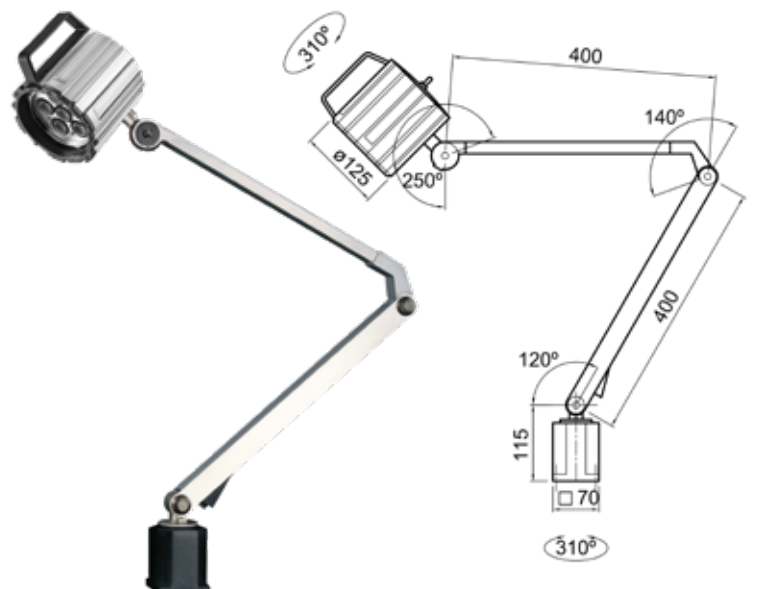
<b>Model</b>	<b>MWG 6-600</b>
Article no.	3351052

Foot size: 70 x 70 mm  
 Arm length: 400 mm  
 Arm type: Swivelling






<b>Model</b>	<b>MWG 6-720</b>
Article no.	3351053

Foot size: 70 x 70 mm  
 Arm length: 800 mm  
 Arm type: Swivelling



## Coolant accessories

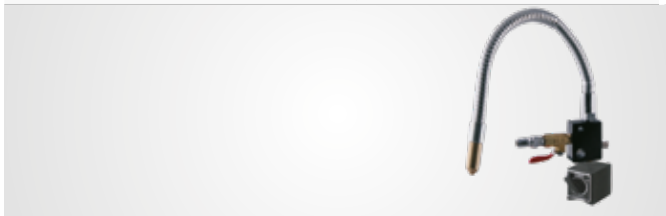
	Designation	Size	Article no.
	Coolant hose set 2 units articulated hose ; 300 mm 2 units round nozzles, 1 unit shut-off valve 1 unit magnetic base	1/4"	3356700
		1/2"	3356801
	Coolant hoses 4 units articulated hose ; 150 mm	1/4"	3356701
	Coolant hose set 2 units articulated hose ; 150 mm 2 units NPT coupling 1/4" and 1/8" 3 units round nozzle 1/16" / 1/8" / 1/4" 1 unit flat nozzle	1/4"	3356702
	Coolant hose set 2 units articulated hose ; 150 mm 2 units NPT coupling 1/4" and 1/8" 3 units round nozzle 1/16" / 1/8" / 1/4"	1/2"	3356802
	Coolant hose set 2 units articulated hose ; 150 mm 2 units NPT coupling 1/4" and 1/8" 2 units round nozzle 1/8" / 1/4" 2 units shut-off valve	1/4"	3356703
	Grips	1/4"	3356710
		1/2"	3356810
	Articulated hose Hose roll 15 metres	1/4"	3356711
		1/2"	3356811
	Circular nozzles	1/4"	3356712
		1/2"	3356812
	Flat nozzles 5-hole 5 pcs.	1/4"	3356713
		1/2"	3356820
	Flat nozzles 5 pcs.	1/4"	3356714
		1/2"	3356813
	Flat nozzle 75 mm wide 2 pcs.	1/4"	3356715
		1/2"	3356814
	Connector Threaded connection RP3/8" 5 pcs.	1/4"	3356716
		1/2"	3356815
	Connector Threaded connection RP1/2" 5 pcs.	1/2"	3356816
	Y connector 5 units 1/4" 2 units 1/2"	1/4"	3356717
		1/2"	3356817
	Cap 5 pcs.	1/4"	3356718
		1/2"	3356818
	Stopcock for articulated hose 2 pcs.	1/4"	3356719
		1/2"	3356819

	Designation	Size	Article no.
	<b>Coolant hoses basic equipment</b> <b>1/4" - No. 1</b> › 8 units articulated hose 150 mm › 2 units each round nozzle 1/16" / 1/8" / 1/4", › 2 units NPT coupling 1/4" and 1/8", › 1 unit flat nozzle, › 1 unit Y-distributor, › 2 units shut-off valve inside and outside, › 2 units shut-off valve inside - 1/4", › 2 unit NPT extension, › 1 unit magnetic base, 1 unit flexible sealing tape	1/4"	3356704
	<b>Coolant hoses basic equipment</b> <b>1/4" - No. 2</b> › 6 units articulated hose 150 mm, › 2 units each round nozzle 1/16" / 1/8" / 1/4", › 2 units each NPT coupling 1/4" and 1/8", › 5 units flat nozzle, › 4 units 90° nozzle, › 1 unit Y-distributor, › 1 unit shut-off valve, inside and outside, › 1 unit shut-off valve, inside - 1/4" › 1 unit grips	1/4"	3356705
	<b>Coolant hoses basic equipment</b> <b>1/2" - No. 1</b> › 6 units articulated hose 150 mm, › 2 units each round nozzle 1/2" / 3/8" / 1/4", › 2 units each NPT coupling 1/4" and 1/2", › 1 unit flat nozzle, › 3 units 90° round nozzle 1/2" / 3/8" / 1/4", › 1 unit Y-distributor, › 1 unit shut-off valve, inside and outside, › 1 unit shut-off valve, inside - 1/2" › 1 unit grips	1/2"	3356800

Universal coolant unit 230 V	3351999
› Max. delivery height 2.5 m / delivery rate 8 l/min	
› Tank capacity 11 litres. / Dimensions L x W x H: 370 x 245 x 170 mm	
› Complete with tank, flexible tube, hose and switch/plug combination	
› Magnetic base fastener for coolant hose	



MMC1 coolant mist lubricator	3356663
› Magnetic base with a holding force of 75 kg	
› Foot size L x W x H: 62 x 50 x 55 mm	
› Screw connection for external compressed air supply	
› Flexible and stable hose with a length of 500 mm	



KMS 2 coolant hose	3356660
› Insensitive to most solvents and chemicals	
› Not electrically conductive	
› Magnetic base holding force up to 50 kg	
› Length of the coolant hoses 335 mm each	
› Hose connection 6 mm	
› Coolant hoses 3/4"	



Cutting and cooling lubricant OPTI lub 3.9	3530035
› High-pressure resistant cutting and cooling lubricant	
› 10 litre cannister	



# MEASURING ACCESSORIES



| Art. no.: 3356650

**Precision magnetic measuring stand**

Accessories	Article no.
-------------	-------------

<b>Precision magnetic measuring stand</b>	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	



Accessories	Article no.
-------------	-------------

<b>Measuring and test platen</b>	3385060
› Dimensions L x W x H approx.: 630 x 400 x 100 mm	
› Precision 7 µ	
› Granite	
› Thermally and dynamically stable	
› Compressive strength 250 - 260 N/mm <sup>2</sup>	
› DIN 876/0	
› Corrosion-free	



Accessories	Article no.
-------------	-------------

Dial gauge	3385090
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- › Precision as per DIN 878
- › Metal housing matt chrome plated
- › Clamping shank 8 mm
- › Pitch 0.01 mm
- › Measuring range 10 mm
- › Outer ring with two adjustable tolerance marks
- › Scale rotatable via outer ring for easy zeroing



Accessories	Article no.
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Machine spirit level	3385064
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- › 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 approx. 200 mm x 46 mm x 46 mm



## MAINTENANCE CONTRACTS

### Your benefits with a maintenance contract

- › Ensuring functionality
- › Reduction of unnecessary and expensive downtime
- › Use of original spare parts
- › Manufacturer expertise
- › Support from specialised staff
- › Warranty on work carried out
- › On-site counselling
- › Flat-rate maintenance costs for clearly defined work

Options:	
Article no.	
WARTOP 1	Maintenance of drilling machines
WARTOP 2	Maintenance of lathes
WARTOP 3	Maintenance of milling machines
WARTOP 4	Maintenance of grinding machines
WARTOP 5	Maintenance of saws

- incl. 400 kilometres in total (200 km one way)
- Each additional kilometre is invoiced at EUR 0.80
- plus travelling expenses EUR 120.00 per hour or part thereof.
- Accommodation costs and expenses at cost

### 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 no values are found here, please contact [info@optimum-maschinen.de](mailto:info@optimum-maschinen.de) for further 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.
- › Please note that operators are required to make conversions in the event of installing third-party chucks or flanged chucks to reach the stated, technically possible rotating diameter.
- › All machines are designed S6-60% operation.

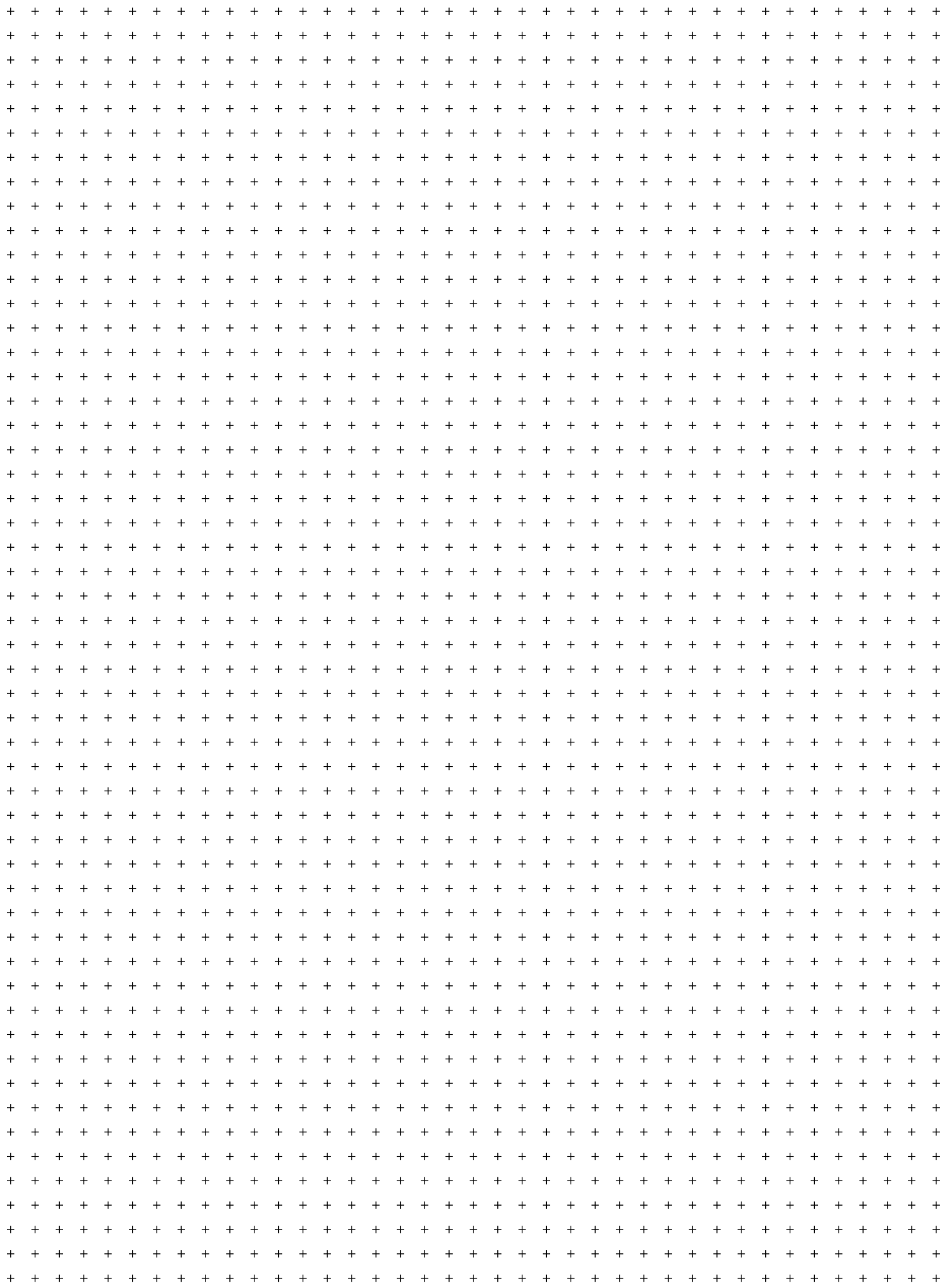
### Operation of machines with frequency converters

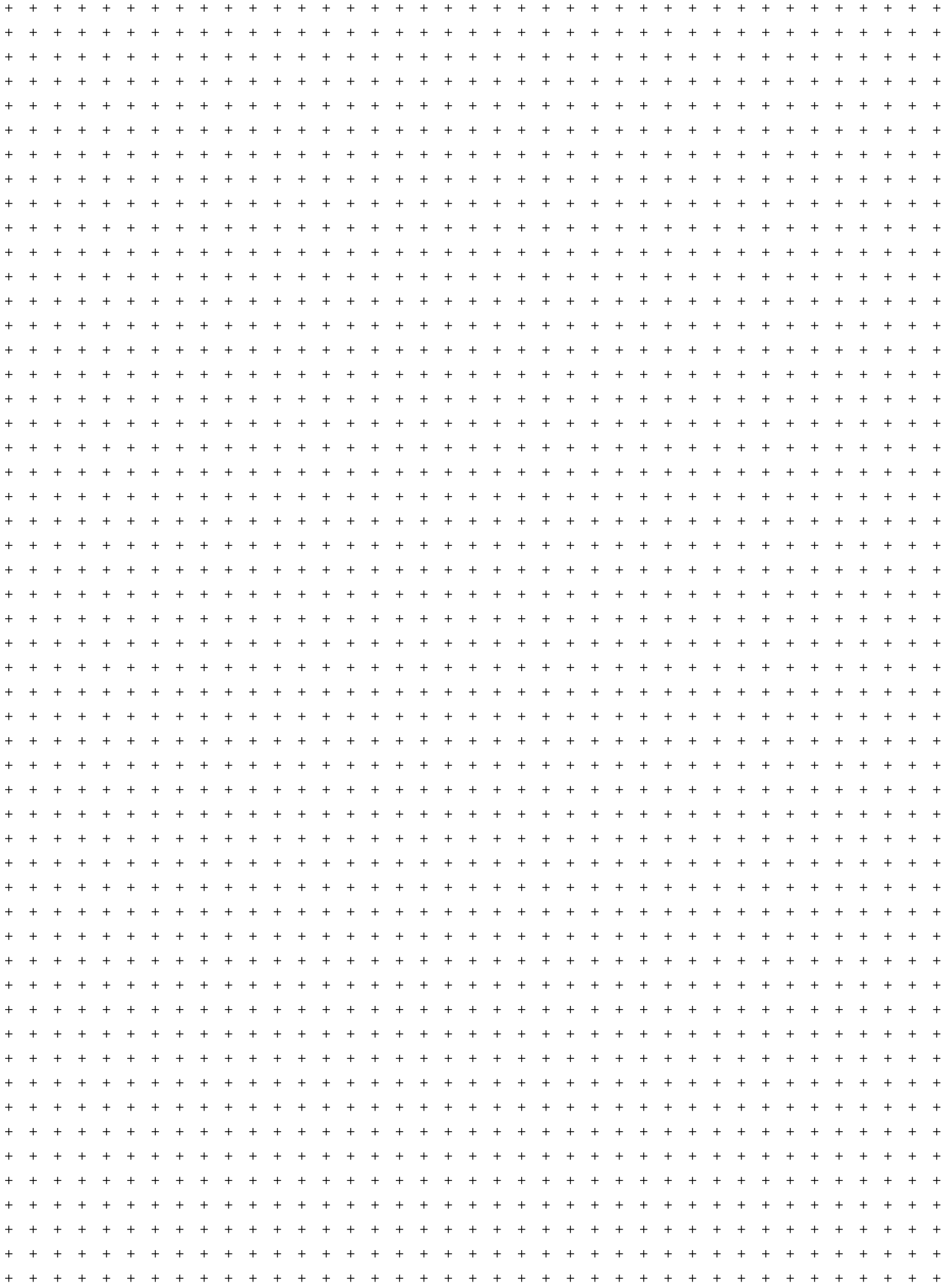
- › Electrical connection only by a qualified electrician
- Machines with frequency inverters or inverters must not be operated via an ordinary plug. A permanent connection is required.

The drive components conduct a high leakage current via the protective conductor. Touching conductive parts when the protective conductor is interrupted can result in death or serious injury.

#### › Building electricians:

In order to avoid tripping of residual current circuit breakers - if present in the building electricians - an all-current-sensitive residual current circuit breaker type B is required. AC-sensitive AC type RCDs (AC only) are not suitable for frequency inverters. AC sensitive earth-leakage circuit breakers of type AC are no longer in use and are no longer permitted in Germany.





YOU WILL FIND MORE PRODUCTS IN OUR MAIN CATALOGUES



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 4921 Hohenzell / Austria

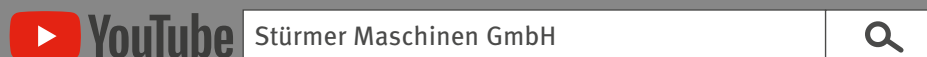
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