



Operating manual

Version 1.0.3

Bench drill

OPTIdrill[®]
B I7Pro basic

3003161





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Preface

Dear customer,

Thank you very much for purchasing a product made by OPTIMUM.

OPTIMUM metal working machines offer a maximum of quality, technically optimum solutions and convince by an outstanding price performance ratio. Continuous enhancements and product innovations guarantee state-of-the-art products and safety at any time.

Before commissioning the machine please thoroughly read these operating instructions and get familiar with the machine. Please also make sure that all persons operating the machine have read and understood the operating instructions beforehand.

Keep these operating instructions in a safe place nearby the machine.

Information

The operating instructions include indications for safety-relevant and proper installation, operation and maintenance of the machine. The continuous observance of all notes included in this manual guarantee the safety of persons and of the machine.

The manual determines the intended use of the machine and includes all necessary information for its economic operation as well as its long service life.

In the paragraph "Maintenance" all maintenance works and functional tests are described which the operator must perform in regular intervals.

The illustration and information included in the present manual can possibly deviate from the current state of construction of your machine. Being the manufacturer we are continuously seeking for improvements and renewal of the products. Therefore, changes might be performed without prior notice. The illustrations of the machine may be different from the illustrations in these instructions with regard to a few details. However, this does not have any influence on the operability of the machine.

Therefore, no claims may be derived from the indications and descriptions. Changes and errors are reserved !

Your suggestion with regard to these operating instructions are an important contribution to optimising our work which we offer to our customers. For any questions or suggestions for improvement, please do not hesitate to contact our service department.

If you have any further questions after reading these operating instructions and you are not able to solve your problem with a help of these operating instructions, please contact your specialised dealer or directly the company OPTIMUM.

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1 Safety

Glossary of symbols

	provides further instructions
	calls on you to act
	listings

This part of the operating instructions

- explains the meaning and use of the warning notes included in these operating instructions,
- defines the intended use of the drilling machine,
- points out the dangers that might arise for you or others if these instructions are not observed,
- informs you about how to avoid dangers.

In addition to these operation instructions, please observe

- the applicable laws and regulations,
- the statutory provisions for accident prevention,
- the prohibition, warning and mandatory signs as well as the warning notes on the drilling machine.

Always keep this documentation close to the drilling machine.

INFORMATION

If you are unable to rectify an issue using these operating instructions, please contact us for advice:



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email: info@optimum-maschinen.de

1.1 Safety instructions (warning notes)

1.1.1 Classification of hazards

We classify the safety warnings into different categories. The table below gives an overview of the classification of symbols (ideogram) and the warning signs for each specific danger and its (possible) consequences.

Symbol	Alarm expression	Definition / consequence
	DANGER!	Impending danger that will cause serious injury or death to people.
	WARNING!	A danger that can cause serious injury or death.
	CAUTION!	A danger or unsafe procedure that can cause personal injury or damage to property.
	ATTENTION!	Situation that could cause damage to the drilling machine and product, as well as other types of damage. No risk of injury to persons.

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Symbol	Alarm expression	Definition / consequence
	Information	Practical tips and other important or useful information and notes. No dangerous or harmful consequences for people or objects.

In case of specific dangers, we replace the pictogram with



general danger



with a warning of



injury to hands,



hazardous electrical voltage,

or



rotating parts.

1.1.2 Other pictograms



Warning: danger of slipping!



Warning: risk of stumbling!



Warning: hot surface!



Warning: biological hazard!



Warning: automatic start-up!



Warning: tilting danger!



Warning: suspended loads!



Caution, danger of explosive substances!



Switching on forbidden!



Use ear protection!



Read the operating instructions before commissioning!



Pull out the mains plug!



Wear protective glasses!



Wear protective gloves!



Wear safety shoes!



Wear a protective suit!



1.2 Intended use

WARNING!

If the drilling machine is not used as intended or if the safety directives or the operating instructions are ignored the liability of the manufacturer for any damages to persons or objects resulting hereof is excluded and the claim under guarantee is becoming null and avoid!



The bench drill is designed and manufactured to be used in a non-explosive environment. The bench drill is designed and manufactured for holes in cold metals or other non flammable materials or that not constitute a health hazard using a rotating filing-stripping tool that has a number of grooves for collecting the filings. The drilling machine is equipped with a drill chuck protection. The drill may only be operated with this chuck guard.

If the bench drill is used in any way other than described above, modified without authorization of Optimum Maschinen Germany GmbH, then the geared drill is being used improperly.

We will not be held liable for any damages resulting from any operation which is not in accordance with the intended use.

We explicitly point out that any construction, technical or process engineering changes that have not been approved by Optimum Maschinen Germany GmbH will render the warranty null and void

It is also part of intended use that the maximum values for the drilling machine are complied with and the operating manual is observed.

ATTENTION!

If the bench drill is not used as intended or if the safety directives or the operating instructions are ignored the liability of the manufacturer for any damages to persons or objects resulting hereof is excluded and the claim under guarantee is becoming null and avoid!



1.3 Reasonably foreseeable misuses

Any use other than that specified under "Intended use" or any use beyond that described will be deemed non-intended use and is not permissible. Any other use has to be discussed with the manufacturer.

It is only permissible to process metal, cold and non-inflammable materials with the bench drill.

In order to avoid misuse, it is necessary to read and understand the operating instructions before first commissioning.

Operators must be qualified.

1.3.1 Avoiding misuse

- Use of suitable cutting tools.
- Adapting the speed setting and feed to the material and workpiece.
- Clamp workpieces firmly and free of vibration.

ATTENTION!

The workpiece is always to be fixed by a machine vice, jaw chuck or by another appropriate clamping tool such as for the clamping claws.



WARNING!

Risk of injury caused by flying workpieces.

The table height adjustment must not be used as a drill feed. The clamping of the table is released, the possible load capacity of the table height adjustment is not intended for this.





- ➔ Clamp the workpiece in the machine vice. Make sure that the workpiece is firmly clamped in the machine vice and that the machine vice is firmly clamped onto the drill table.
- Use cooling and lubricating agents to increase the durability of the tool and to improve the surface quality.
- Clamp the cutting tools and workpieces on clean clamping surfaces.
- Sufficiently lubricate the machine.
- Set the bearing clearance and guides correctly.

Recommendations:

- Insert the drill in a way that it is positioned exactly between the three clamping jaws of the drill chuck.

When drilling, make sure that

- the suitable speed is set depending on the diameter of the drill,
- the pressure must only be such that the drill can cut without load,
- if there is too much pressure, the drill will wear quickly and may even break or jam in the borehole. If the drill gets jammed immediately stop the main motor by pressing the emergency stop button,
- For hard materials, e.g. steel, it is necessary to use commercial cooling/lubricating agents. Basically, always pull out the drill with rotating spindle from the workpiece.
- The processing of plastics on the drilling machine leads to static charging. The static charging of machine parts due to the processing of plastics cannot be safely dissipated by the drilling machine.

1.4 Possible dangers posed by the bench drill

The bench drill is state-of-the-art. Nevertheless, there is a residual risk, as the bench drill operates with

- high speeds,
- rotating parts,
- electrical voltage and currents.
- We have used design and safety engineering to minimize the health risk to personnel resulting from these hazards.

If the bench drill is used and maintained by personnel who are not duly qualified, there may be a risk resulting from incorrect or unsuitable maintenance of the bench drill.

INFORMATION

Everyone involved in the assembly, commissioning, operation and maintenance must

- be duly qualified,
- and strictly follow these operating instructions.

In the event of improper use

- there may be a risk to personnel,
- there may be a risk to the machine and other material values,
- the correct function of the bench drill may be affected.

Always disconnect the bench drill when cleaning or maintenance work is being carried out.

WARNING!

The bench drill may only be used with fully functional safety devices.

Disconnect the bench drill immediately, whenever you detect a failure in the safety devices or when they are not fitted!

This is your responsibility being the operator!





1.5 Qualification

1.5.1 Target group private users

The machine can be used in the private domain. The acumen of people in the private sector with training in metal working was taken into consideration for creating this operation manual. Vocational training or further instruction in a metal working profession is a prerequisite for safe operation of the machine. It is essential that the private user is aware of the dangers involved in operating this machine. We recommend attending a training course in the use of drills. Your specialist dealer can offer you an appropriate training course. These courses are also offered at adult education centres in Germany.

1.5.2 Obligations of the User

The user must

- have read and understood the operating manual,
- be familiar with all safety devices and regulations,
- be able to operate the drilling machine.

1.5.3 Additional requirements regarding the qualification

The following additional requirements apply for work on electrical components or equipment:

- They must only be performed by a qualified electrician or person working under the instructions and supervision of a qualified electrician.

Before starting work on electrical parts or operating agents, the following actions must be taken in the order given:

- disconnect all poles,
- secure against restarting,
- check that there is no voltage.

1.6 User positions

The operator position is in front of the drilling machine.

INFORMATION

The power plug of the bench drill must be readily accessible.



1.7 Safety measures during operation

CAUTION!

Danger due to inhaling dust and mist that is hazardous to health. Dependent on the material which need to be processed and the used auxiliaries dusts and mist may be caused which might impair you health. Ensure that the harmful dust and mist generated are safely sucked off at the point of origin and routed away from the working area or filtered. To do so, use a suitable extraction unit.



CAUTION!

Risk of fire and explosion by using flammable materials or cooling lubricants.

Before processing inflammable materials (e.g. aluminium, magnesium) or using inflammable auxiliary materials (e.g. spirit) it is necessary to take additional preventive measures in order to safely avoid health risks.



1.8 Safety devices

The bench drill must only be operated with fully functional safety devices.

Stop the bench drill immediately if there is a failure on the safety device or becomes ineffective.



It is your responsibility!

If a safety device has been activated or has failed, the bench drill must only be used if you

- the cause of the fault has been eliminated,
- have verified that there is no danger to personnel or objects.

WARNING!

If you bypass, remove or override a safety device in any other way, you are endangering yourself and other persons working with the bench drill. The possible consequences are:

- **injuries due to components or workpieces flying off at high speed,**
- **contact with rotating parts and**
- **fatal electrocution.**



The bench drill includes the following safety devices:

- an emergency stop switch,
- a drilling table with grooves for fixing the workpiece or a vice,
- a fixed protective cover for the pulleys with position switch,
- a foldable drill chuck guard.

WARNING!

Although the isolating safety devices provided and delivered with the machine are designed to reduce the risks of workpieces being ejected or parts of tools or workpieces breaking off, they cannot eliminate these risks completely. Always work carefully and observe the limits of the machining process.



1.9 Personal protective equipment

For certain work, personal protective equipment is required.

Protect your face and your eyes: Wear a safety helmet with facial protection when performing work where your face and eyes are exposed to hazards.



Wear protective gloves when handling pieces with sharp edges.



Wear safety shoes when you assemble, disassemble or transport heavy components.



Use ear protection if the noise level (emission) in the workplace exceeds 80 dB (A).



Before starting work make sure that the required personal protective equipment is available at the work place.

CAUTION!

Soiled personal protection equipment that may be contaminated may cause illness. It must be cleaned after each use and at least once a week.



1.10 Safety check

Check the bench drill before each start-up or at least once per shift. Inform the person responsible immediately of any damage, defects or changes in the operating function.

Check all safety devices

- at the beginning of each shift (with the machine stopped),
- once a week (with the machine in operation) and
- after all maintenance and repair work.

Check that prohibition, warning and information signs and the labels on the bench drill.



- are legible (clean them, if necessary)
- are complete (replace if necessary).

INFORMATION

Organise the checks according to the following table;



General check		
Equipment	Check	OK
Guards	Mounted, firmly bolted and not damaged	
Signs, Markers	Installed and legible	
Date:	Checked by (signature):	

Functional check		
Equipment	Check	OK
Emergency stop switch	After actuating the emergency-stop switch the bench drill must be switched off.	
Position switch of protective cover V-belt	The bench drill must not be switched on, if the protective cover of the V-belts is opened.	
Date:	Checked by (signature):	

1.11 Emergency stop switch

CAUTION!

The drilling spindle keeps turning for a short time even after actuating the emergency stop switch depending on the preset speed.



1.11.1 Drilling table

Seats for T-slots are attached to the clamping table.

WARNING!

Risk of injury due to workpieces flying off at high speed. Securely fix the workpiece on the drilling table.



1.12 Separating protective devices

1.12.1 Drill chuck guard

Adjust the guard to the correct height before you start working. To do this, loosen the clamping screw, set the required height and tighten the clamping screws again.

1.12.2 Protective cover of the V-belts

A protective cover for the belt pulleys is mounted on the drilling head. There is a switch integrated in the protective cover which monitors that the cover is closed.

INFORMATION

The machine cannot be started, if the protective cover is not closed.





1.12.3 Prohibition, warning and mandatory signs

INFORMATION

All warning signs must be legible. They must be checked regularly.



1.13 Personal protective equipment

For some works you need personnel protective equipment as protective equipment. These are

- Safety helmet,
- protective glasses or face guard,
- protective gloves,
- safety shoes with steel toe caps,
- ear protection.

Before starting work make sure that the required personnel protective equipment is available at the work place.

CAUTION!

Soiled personal protection equipment that may be contaminated may cause illness. It must be cleaned after each use and at least once a week.



Personal protective equipment for special works

Protect your face and your eyes: Wear safety glasses for all work where your eyes are at risk.

Wear protective gloves when handling pieces with sharp edges.

Wear safety shoes when you assemble, disassemble or transport heavy components.

1.14 Safety during operation

We specifically point out the dangers in the description of work with and on the bench drill.

WARNING!

Before activating the bench drill, double-check that make sure that there are no dangers generated for persons, not cause damage to equipment.



Avoid any unsafe work methods.

- Make sure that your work does not endanger anyone.
- The instructions described in these operating instructions must be strictly observed during assembly, operation, maintenance and repair.
- Do not work on the bench drill if your concentration is reduced, for example, because you are taking medication.
- Inform the supervisor about all hazards or faults.
- Stay on the bench drill until the machine completely stopped moving.
- Use the specified personal protective equipment. Ensure you wear close-fitting clothing and, if necessary, a hairnet.
- Do not use protective gloves when drilling.

1.15 Safety during maintenance

Inform the operators in good time of any maintenance and repair works.

Report all safety relevant changes and performance details of the bench drill or their operational behaviour. Any changes must be documented, the operating instructions updated and machine operators instructed accordingly.



1.15.1 Disconnecting and securing the bench drill

Disconnect the mains plug before starting maintenance and repairs.

All machine parts as well as all dangerous voltages are switched off. Excepted are only the positions which are marked with the adjoining pictogram.

Attach a warning sign to the machine.

1.15.2 Mechanical maintenance

Remove or install protection safety devices before starting or after completing any maintenance work; this include:

- covers,
- safety instructions and warning signs,
- grounding cables.

If you remove protection or safety devices, refit them immediately after completing the work. Check that they are working properly!

1.16 Electronics

Have the machine and/or the electrical equipment checked regularly, at least every six months.

Immediately eliminate all defects such as loose connections, defective wires, etc.

A second person must be present during work on live components to disconnect the power in the event of an emergency. Disconnect the bench drill immediately if there is a malfunction in the power supply!



2 Technical specification

The following information represents the dimensions and indications of weight and the manufacturer's approved machine data for following stated machines.

Electrical connection	230V ~50 Hz , ~60Hz
Drive motor power	500 W
Drilling capacity in steel S235JR	16mm
Continuous drilling capacity in steel S235JR	12mm
Spindle seat	MT2
T-slot size	12mm
Table size	235 x 220mm
Spindle stroke	65mm
Throat depth	152mm
Machine height	860mm
Column diameter	Ø 60mm
Distance spindle - drill table	max. 325mm
Distance spindle - base	max. 530mm
Dimensions	565 x 275 x 840 mm
Machine weight [kg]	36.5
Spindle speeds	Speed table on page 22
Speed steps	5
Ambient conditions Temperature	535 °C
Relative humidity	25 - 80 %

2.1 Emissions

CAUTION!

The operator should wear noise and hearing protection.

The A-weighted sound pressure level L_{pA} is 70 to 73 dB.

The A-weighted sound power level L_{WA} is 80 to 85 dB.

INFORMATION

This numerical value was measured on a new machine under the operating conditions specified by the manufacturer. The noise behaviour of the machine might change depending on the age and wear of the machine.

Furthermore, the noise emission also depends on production engineering factors, e.g. speed, material and clamping conditions.

INFORMATION

The specified numerical value represents the emission level and does not necessarily a safe working level. Though there is a dependency between the degree of the noise emission and the





degree of the noise disturbance it is not possible to use it reliably to determine if further precaution measures are required or not. The following factors influence the actual degree of the noise exposure of the operator:

- Characteristics of the working area, e.g. size or damping behaviour,
- other noise sources, e.g. the number of machines,
- other processes taking place in proximity and the period of time, during which the operator is exposed to the noise.

Furthermore, it is possible that the admissible exposure level might be different from country to country due to national regulations. This information about the noise emission should, however, allow the operator of the machine to more easily evaluate the hazards and risks.

3 Delivery, interdepartmental transport and unpacking

CAUTION!

Injuries caused by parts falling over or off a forklift, pallet truck or transport vehicle. Only use means of transport that can carry the total weight and are suitable for it.



3.1 Notes on transport, installation and unpacking

Improper transport of individual devices and minor machines, unsecured devices and minor machines stacked on top of each other or next to each other in packed or already unpacked condition is accident-prone and can cause damage or malfunctions for which we do not grant any liability or guarantee.

Transport the scope of delivery secured against shifting or tilting with a sufficiently dimensioned industrial truck to the installation site.

3.1.1 General risks during internal transport

CAUTION: DANGER OF TIPPING!

The device may be lifted unsecured by a maximum of 2cm.

Employees must be outside the danger zone, the reach of loads. Warn employees and, if necessary, advise employees of the hazard.



Act responsibly during transport and always consider the consequences. Refrain from daring and risky actions.

Gradients and descents (e.g. driveways, ramps and the like) are particularly dangerous. If such passages are unavoidable, special caution is required.

Before starting the transport check the transport route for possible danger points, unevenness and disturbances as well as for sufficient strength and load capacity.

Danger points, unevenness and disturbance points must be inspected before transport. The removal of danger spots, disturbances and unevenness at the time of transport by other employees leads to considerable dangers.

Careful planning of internal transport is therefore essential.



3.2 Scope of delivery

INFORMATION

The drilling machine comes disassembled due to packaging reasons.

Before commissioning, the drilling machine has to be assembled.

Check the drill immediately after being delivered for transport damage and missing quantities. To do this, take all the individual parts out of the box and compare them with the following list.

- Drill head
- Drilling table
- Stand
- Column component (table carrier pre-assembled)
- Drill chuck
- Clamping lever
- Crank handle
- Lever for drill feed
- Operating Manual



3.3 Set-up and assembly

3.3.1 Installation site requirements

Organize the working area around the drilling machine according to the local safety regulations.

INFORMATION

In order to attain good functionality and a high processing accuracy as well as a long service life of the machine, the place of installation should fulfil certain criteria.

Please observe the following points:

- The device must only be installed and operated in a dry and well-ventilated place.
- Avoid places close to machines which cause chips or dust.
- The installation site must be vibration-free, i.e. located away from presses, planing machines, etc.
- The substructure must be suitable for the drilling machine. Make sure that the floor has sufficient load-bearing capacity and is level.
- The ground must be prepared in a way that potential coolants cannot penetrate the floor.
- Any parts sticking out such as stops, handles, etc. have to be secured by measures taken by the customer if necessary in order to avoid endangering persons.
- Provide sufficient space for the personnel preparing and operating the machine and transporting the material.
- Also make sure the machine is accessible for setting and maintenance works.
- Provide for sufficient backlight (Minimum value: 500 Lux, measured at the tool tip). In the event of a lower level of lighting, additional illumination must be provided, e.g. by means of a separate workplace light.



INFORMATION

The mains plug of the drilling machine must be freely accessible.





3.3.2 Assembly

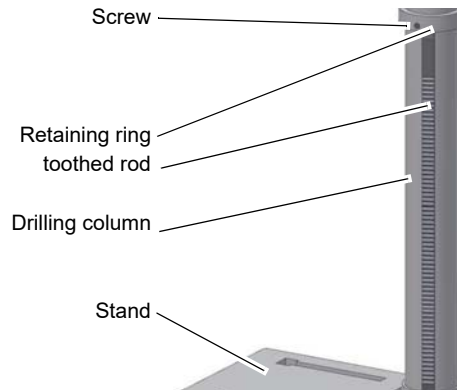
WARNING!

Danger of crushing when assembling and installing the machine components.



Mounting of base and drill column

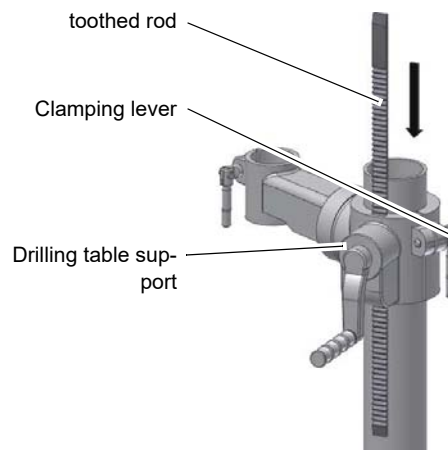
- Position the base on the floor and attach the column to the base. Fastening screws for the column have been provided on the base.
- Loosen the screw on the retaining ring and remove the retaining ring and toothed rack.



Img.3-1: Assembly of the base

Mounting of the drilling table support

- Position the worm gear in the support of the drilling table.
- Adjust the toothed rack within the table support in a way that the teeth of the toothed rack cam into the spiral wheel of the support for the drilling machine table.



Img.3-2: Mounting of the drilling table support

INFORMATION

The longer untoothed end of the rack must point upward.

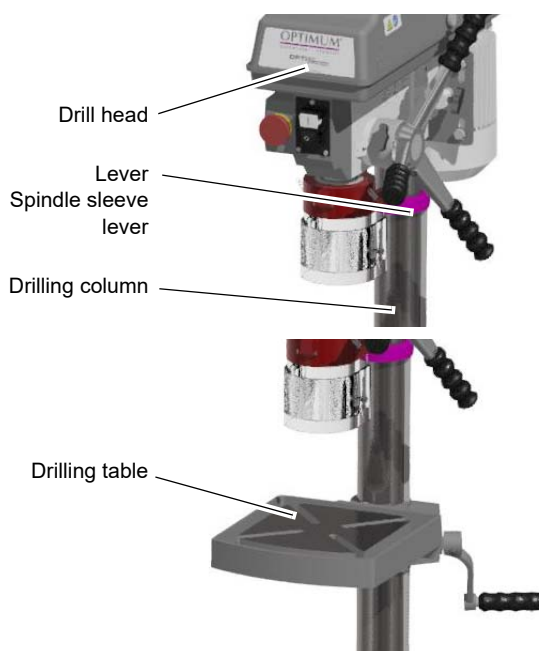
- Push the drilling table support with the toothed rack on the drill column.
- Push the retaining ring onto the upright and the rack.
- Tighten the screw of the retaining ring slightly. Make sure that the drilling table support still can be easily turned around the column.
- Attach the clamping lever for drilling table fastening.





Fitting the drill head

- ➔ Place the drill head on the column and turn it until it is aligned with the base. Immobilise the drill head with the two screws in the drill head over the toothed rack.
- ➔ Screw in the spindle sleeve lever and attach the crank of the table height adjustment.
- ➔ Insert the drilling table in the drilling table support and clamp it with the clamping lever.



Img.3-3:

Fitting the quick-action drill chuck

Fitting the drill chuck on page 24

3.4 Installation

Check that the drilling machine foundation is horizontal with a spirit level.

Fix the foot of the drilling machine to the substructure with the holes pre-drilled for this purpose.

The design of the installation site must meet the ergonomic requirements of a workplace.

ATTENTION!

Tighten the fixing screws on the bench drill only to such an extent that a secure fixing is ensured and a loose moving of the bench drill during operation is prevented.

Excessively tightened fastening screws, even in conjunction with an uneven surface, can cause the base plate of the drill to break.



3.4.1 Fixing

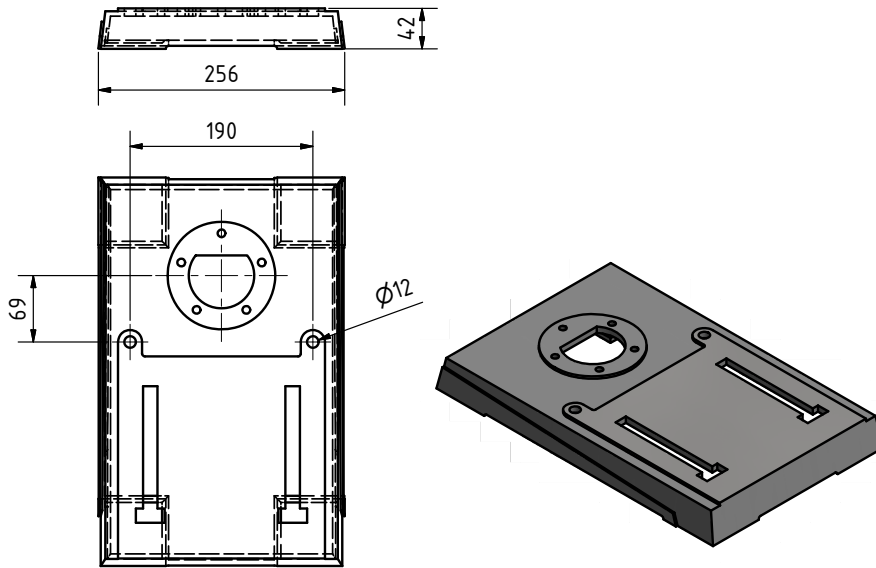
In order to achieve the stability of the bench drill, the machine should be connected to the sub-surface. For this purpose there are through holes at the foot of the drilling machine.

ATTENTION!

Tighten the fixing screws of the drilling machine only as much that it is safely fixed and cannot break away or tilt over.

If the fixing screws are too tight in particular in connection with an uneven substructure it may result in a broken stand of the machine.





Img.3-4: Mounting the foot B17Pro basic

3.5 First commissioning

ATTENTION!

Before initially operating the machine, check all screws, fixtures and/or safety devices and tighten up the screws if necessary!



WARNING!

Risk from using improper workpiece clamping materials or operating the machine at an inadmissible speed.

Only use the tool holders (e.g. drill chuck) which were delivered with the machine or which are offered as optional equipment by OPTIMUM.

Only use tool holders in the intended admissible speed range.

Tool holders may only be modified in compliance with the recommendation of OPTIMUM or of the manufacturer of the clamping devices.



WARNING!

There is a danger to persons and equipment, if the first commissioning of the drilling machine is carried out by inexperienced personnel.

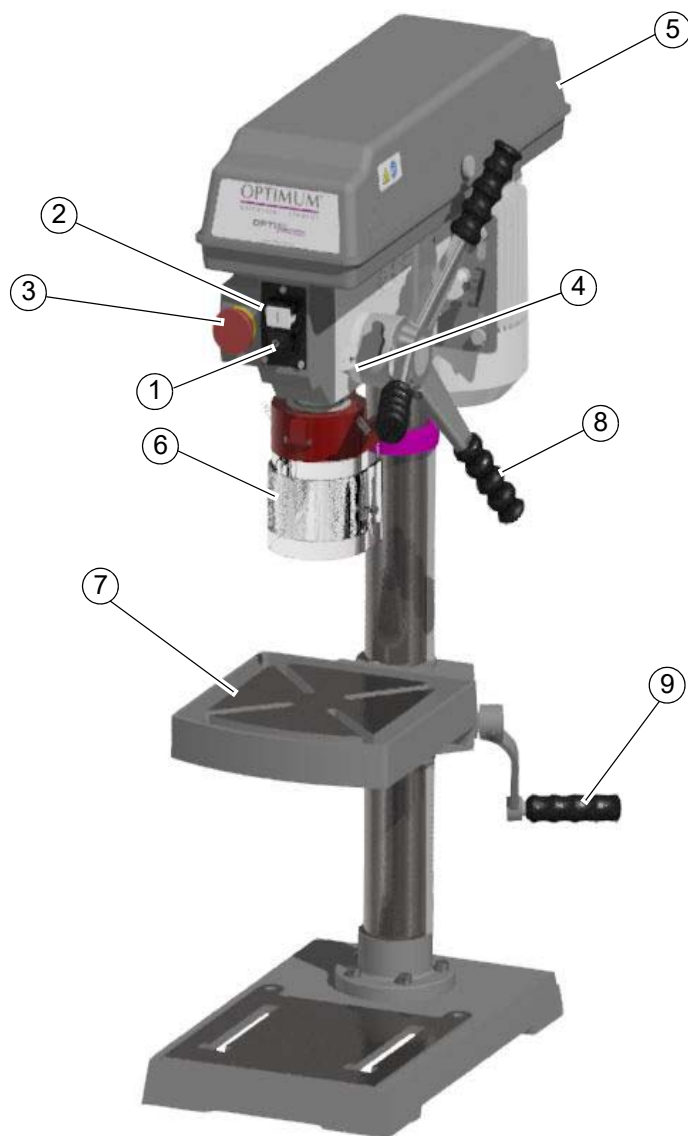
We do not accept any liability for damages caused by incorrectly performed commissioning.





4 Operation

4.1 Control and indicating elements



Pos.	Designation	Pos.	Designation
1	Push button "Off"	2	Push button "On"
3	Emergency stop switch	4	Scale of drill depth stop
5	Protective cover of V-belt housing	6	Drill chuck protection
7	Drilling table	8	Lever for spindle sleeve feed
9	Table height adjustment		



4.2 Safety

Only put the drill into operation under the following conditions:

- The technical condition of the drilling machine is perfect.
- The drilling machine is used as intended.
- The operating instructions are observed.
- All safety devices are installed and activated.



Eliminate or have all malfunctions rectified promptly. Stop the machine immediately in the event of any abnormality in operation and make sure it cannot be started up accidentally or without authorisation. Notify the person responsible immediately of any modification.

4.2.1 Drill depth stop

Use the drilling depth stop when drilling several holes of the same depth.

- ➔ Loosen the locking screw (4) and turn the graduated collar until the required drilling depth matches with the indicator.
- ➔ Re-tighten the locking screw.

The spindle can only be lowered to the set value.



4.2.2 Table Inclination

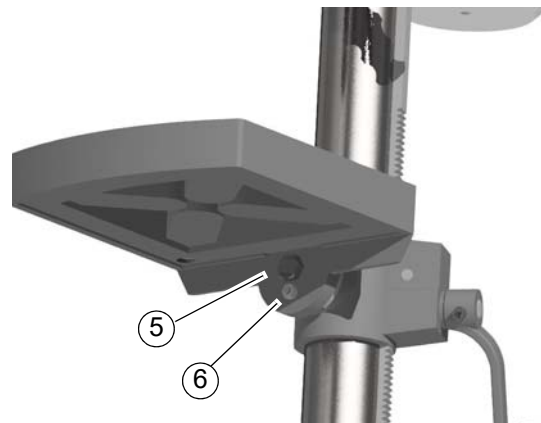
The drilling table can be inclined to the right or to the left.

- ➔ Loosen the fixing screw (5).
- ➔ Pull out the threaded pin (6).

INFORMATION

If you can not pull out the threaded pin, so the seat can be solved by turning at the nut clockwise.

- ➔ Set the desired angle using the scale.
- ➔ Re-tighten the fixing screw again.



INFORMATION

The threaded pin is only provided for correct positioning of a horizontal level of the drilling table.





4.3 Speed variation

- Disconnect the machine from the electrical supply.
- Remove the screw fitting on the protective cover of the V-belts.
- Open the protective cover.
- Loosen the clamping screw and push the motor back until the appropriate V-belt tension is achieved.



WARNING!

Only disassemble the cover hood if the drilling machine is disconnected from the electrical supply. Close and screw down the protective cover after any speed adjustment.



ATTENTION!

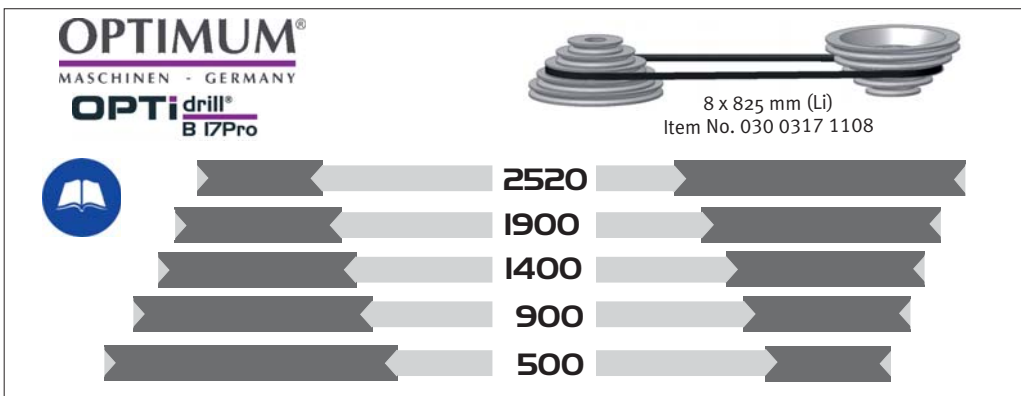
Watch for the proper tension of V-belts.

Too heavy or too low tension of the belt can cause damage. The belts are correctly tensioned, when it can be by pressing with the fingers for about 1 cm.

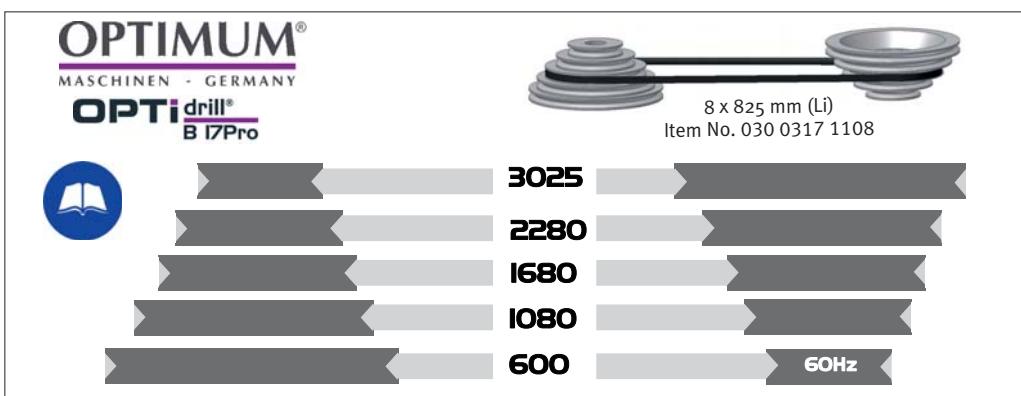


4.3.1 Speed table

B17Pro basic ~ 50Hz connection



B17Pro basic ~ 60Hz connection





4.4 Standard values for speeds with HSS – Eco – twist drills

Material	Drill diameter										Cooling 3)
		2	3	4	5	6	7	8	9	10	
Steel, unalloyed, up to 600 N/mm ²	n ¹⁾	5600	3550	2800	2240	2000	1600	1400	1250	1120	E
	f ²⁾	0.04	0.063	0.08	0.10	0.125	0.125	0.16	0.16	0.20	
Mild steel, alloyed, tempered, up to 900N/mm ²	n	3150	2000	1600	1250	1000	900	800	710	630	E/oil
	f	0.032	0.05	0.063	0.08	0.10	0.10	0.125	0.125	0.16	
Mild steel, alloyed, tempered, up to 1200 N/mm ²	n	2500	1600	1250	1000	800	710	630	560	500	Oil
	f	0.032	0.04	0.05	0.063	0.08	0.10	0.10	0.125	0.125	
Stainless steels up to 900 N/ mm ² e.g. X5CrNi18 10	n	2000	1250	1000	800	630	500	500	400	400	Oil
	f	0.032	0.05	0.063	0.08	0.10	0.10	0.125	0.125	0.16	
1): Speed [n] in rpm											
2): Feed [f] in mm/rev											
3): Cooling: E = Emulsion; oil = cutting oil											

- The above data are standard values. In some cases it may be advantageous to increase or decrease these values.
- A cooling or lubricating agent should be used when drilling.
- For stainless materials (e.g. VA – or NIRO steel sheets) do not centre, as this will result in the material compacting and the drill bit rapidly becoming blunt.
- The workpieces need to be tensed inflexibly and stably (vice, screw clamp).

4.5 Drill chuck

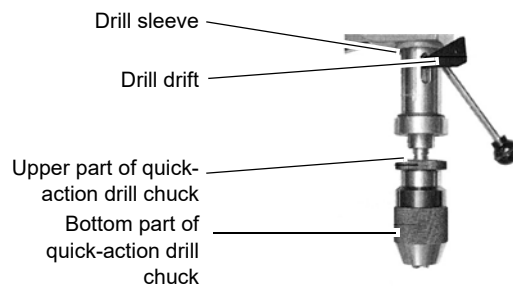
ATTENTION!

Make sure that the clamped tool is firmly and correctly fitted.



4.5.1 Dismounting the quick action drill chuck

The drill chuck and the taper mandrel are loosened from the drill spindle by means of a drill drift.



Img. 4-1:



WARNING!

Only disassemble the quick-action drill chuck if the drilling machine is disconnected from the electrical supply.

- ➔ Disconnect the machine from the electrical supply.
- ➔ Move the drill sleeve down.
- ➔ Turn the drilling spindle until the openings of the sleeve and of the drilling spindle are super-imposed.
- ➔ Loosen the taper mandrel of the drill chuck with the help of a drill drift.

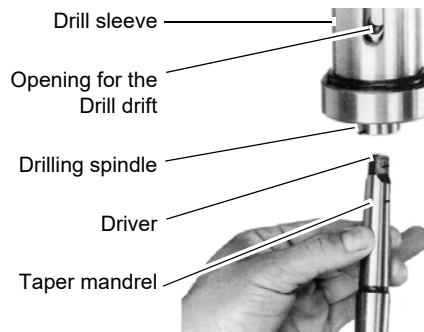




4.5.2 Fitting the drill chuck

The drill chuck is secured in the drill spindle against turning over by means of a form-locking connection (driver).

A frictionally engaged connection keeps and centres the drill chuck or the drill in the drill spindle.



Img.4-2: Taper mandrel

- ➔ Check and clean the conical seat in the drill spindle and on the taper mandrel of the tool or drill chuck.
- ➔ Press the taper mandrel into the drill spindle.

4.6 Cooling

The friction generated during rotation can cause the edge of the tool to become very hot.

The tool should be cooled during the drilling process. Cooling the tool with a suitable cooling lubricant ensures better working results and a longer edge life of the tools. This is best realised by a separate cooling equipment. If there is no cooling equipment included in the delivery volume, you can cool by means of a spray gun or a washing bottle.

ATTENTION!

Danger of injury due to brushes getting caught or pulled in. Use a spray gun or a washing bottle for cooling.



INFORMATION

Use a water-soluble and non-pollutant emulsion as a cooling agent. This can be acquired from authorised distributors.

Make sure that the cooling agent is being collected.

Respect the environment when disposing of lubricants and coolants.

Follow the manufacturer's disposal instructions.



4.7 Before starting work

Before starting work, select the desired speed. It is depending on the used drilling diameter and on the material.

🔊 Speed variation on page 22

WARNING!

For drilling jobs, it is necessary to clamp the workpiece firmly to prevent the bit catching on the pieces. A machine vice or clamping claws is a suitable clamping device.

Put a wooden or plastic board beneath the workpiece to avoid drilling through to the work table, vice, etc.

If required, adjust the desired drilling depth by means of the drilling depth stop in order to obtain a uniform drilling depth.

Please make sure to use a suitable dust suction when treating wood since wood dust may be health hazardous. Wear a suitable dust mask when performing works at which dust is generated.





4.8 During work

The spindle sleeve feed is done via the star grip. Make sure that the feed is constant and not too fast. The spindle sleeve is returned to its initial position by the return spring.

WARNING!

Seizing of clothes and / or hair.

- Make sure to wear well-fitting work during drilling work.
- Do not use gloves.
- If necessary, use a hairnet.



CAUTION!

Danger of bumps from the levers on the star grip. Do not release the star grip when repositioning the drilling spindle sleeve.

The smaller the bit the more easily it may break. In the case of deep drilling, remove the bit from time to time to remove filings from the drill. Add a few drops of oil to reduce friction and prolong the service life of the bit.



CAUTION!

Danger of crushing. Do not place your hand between the drilling head and the spindle sleeve.



5 Maintenance

In this chapter you will find important information about

- Inspection
- Maintenance
- Repair

of the drilling machine.

ATTENTION!

Properly performed regular maintenance is an essential prerequisite for

- operational safety,
- failure-free operation,
- a long service life of the drill and
- the quality of the products which you manufacture.

Installations and equipment from other manufacturers must also be in good order and condition.



5.1 Safety

WARNING!

The consequences of incorrect maintenance and repair work may include:

- Extremely serious injuries to those working on the drill and
- damage to the drill.

Only qualified personnel should carry out maintenance and repair work on the drill.



5.1.1 Preparation

WARNING!

Only work on the drill if it has been disconnected from the power supply.





5.1.2 Restarting

Before restarting, run a safety check.

WARNING!

Before starting the drill you must be sure that

- no dangers generated for persons,
- the drill is not damaged.

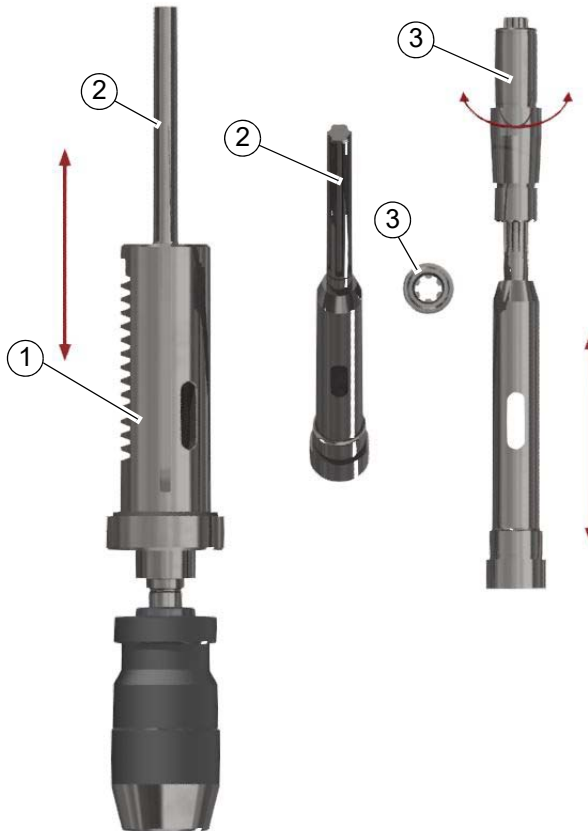


5.2 Inspection and maintenance

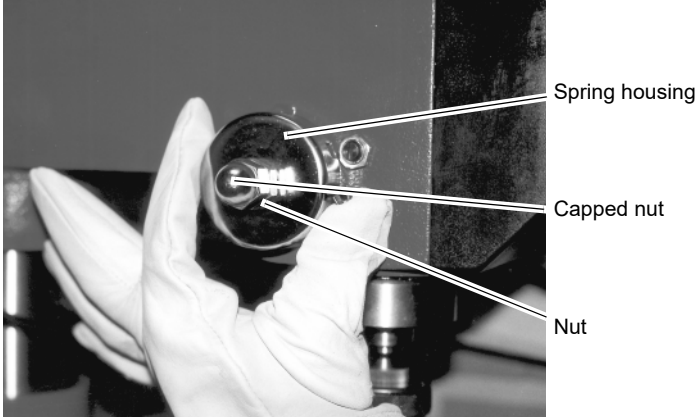
The type and level of wear depends to a large extent on the individual usage and operating conditions.

Interval	Where?	What?	How?
Start of work	Drilling machine		☞ Safety check on page 10
weekly	Slide rail screws	Loosening	<ul style="list-style-type: none"> ➔ Check if the slide rail screws for the V-belt tension on the left and right side of the drilling head are well fastened. ➔ Check if the V-belts are well tightened. Checking the tension of V-belts, ☞ Speed variation on page 22.
Every month	Drilling column and toothed rod	Oiling	<ul style="list-style-type: none"> ➔ Lubricate the drill column regularly with commercial oil. ➔ Lubricate the toothed rod regularly with commercial grease (e.g. friction bearing grease).
Every 6 months	V-belt on drill head	Visual inspection	➔ Check the V-belts in the drill head for porosity and wear.
Every 6 months	Electronics	Testing	<p>Check the electrical equipment / parts of the drilling machine.</p> <p>☞ Qualification on page 9</p>



Interval	Where?	What?	How?
in case of need	Toothing of the spindle	Lubrication	<p>Any unusual rattling noises can be eliminated by regreasing. The sleeve (1) moves downwards or upwards with the toothed spindle (2) in the fixed driven sleeve (3) during drill feed. The noises are caused by the necessary clearance between the two toothings of the sleeve and spindle. The grease in the delivery condition may have been used up.</p>  <p>Img.5-1: Regreasing is carried out from above via the spindle drive. Apply grease at the visible toothed area of the spindle. It is recommended to use a grease which can remain permanently inside the tothing. The grease "Staburag NBU 30 PTM" from Klüber is recommended and has proved to be a successful assembly grease for clearance fits.</p>



Interval	Where?	What?	How?
as required	Drill depth stop	Spindle return spring	<p>→ Loosen both nuts on the spring housing, approximately 1/4 counter-clockwise rotation. Under no circumstances must the nuts be completely removed from the screw thread!</p> <p>→ Hold the spring housing with one hand, while using the other hand to slowly remove the housing.</p> <p>→ Rotate the spring housing about its own axis until the pin snaps into the next notch.</p>  <p>Fig. 5-2: Spindle return spring</p> <p>INFORMATION</p> <p>If the tension has increased, rotate the housing clockwise and if the tension has decreased rotate the housing counter-clockwise. Ensure that the notch is always snapped into the spring housing properly and subsequently tighten the nut. The second nut secures the first nut (capped nut). When the nuts have been tightened they should not touch the return spring housing.</p>

5.3 Repair

5.3.1 Customer service technician

For any repair work request the assistance of an authorised customer service technician. Contact your specialist dealer if you do not have customer service's information or contact Stürmer Maschinen GmbH in Germany who can provide you with a specialist dealer's contact information. Optionally, the company Stürmer Maschinen GmbH; Dr.-Robert-Pfleger-Str. 26

96103 Hallstadt; can provide a customer service technician, however, the request for a customer service technician can only be made via your specialist dealer.

If the repairs are carried out by qualified technical personnel, they must follow the indications given in these operating instructions.

Optimum Maschinen Germany GmbH accepts no liability nor does it guarantee against damage and operating malfunctions resulting from failure to observe these operating instructions.


For repairs, only use

- faultless and suitable tools only,
- original parts or parts from series expressly authorised by Optimum Maschinen Germany GmbH.



6 Malfunctions

6.1 Drilling machine malfunctions

Malfunction	Cause/ possible effects	Solution
Noise during work.	<ul style="list-style-type: none"> Spindle runs dry. Tool blunt or incorrectly clamped. Pulley on the motor has come loose. 	<ul style="list-style-type: none"> Grease spindle Use new tool and check tension (fixed setting of the bit, drill chuck and taper mandril) Check the fastening of the pulley, tighten the fastening nut.
Bit „burnt“	<ul style="list-style-type: none"> Incorrect speed Chips are not coming out of the drilled hole. Blunt drill bit. Operating without cooling agent. 	<ul style="list-style-type: none"> Choose a different speed, excessive feed. Retract the drill bit from the bore hole more often. Sharpen the drill bit or insert new drill bit. Use coolant.
Drill point runs off, drilled hole is not circular.	<ul style="list-style-type: none"> Hard fiber in the wood or length of the cutting spirals and/or angle on the drill unequal. Drill bit is bent. 	<ul style="list-style-type: none"> Use a new drill bit.
Drill bit defective.	<ul style="list-style-type: none"> No base / support used. 	<ul style="list-style-type: none"> Place a piece of wood underneath the workpiece and fasten this to the workpiece.
Drill is running non-round or shaking	<ul style="list-style-type: none"> Drill bit is bent. Bearings worn down in the spindle head. Drill is not correctly clamped. Drill chuck defective 	<ul style="list-style-type: none"> Replace drill bit Have the bearings in the spindle head replaced. Clamp the drill bit properly. Replace the drill bit chuck.
The drill chuck or the taper mandrel cannot be inserted.	<ul style="list-style-type: none"> Dirt, grease or oil on the taper inside of the drill chuck or on the taper surface of the drill spindle 	<ul style="list-style-type: none"> Clean surfaces well. Keep surfaces free from grease.
Motor does not start.	<ul style="list-style-type: none"> Motor defective, possibly starting capacitor defective The operator's main fuse has been triggered. 	<ul style="list-style-type: none"> Have it checked by qualified personnel.
Precision of the work deficient	<ul style="list-style-type: none"> Heavy and unbalanced or deformed work-piece. Inexact horizontal position of the work-piece holder. 	<ul style="list-style-type: none"> Balance the piece statically and secure without straining Adjust workpiece-holder
Drilling spindle sleeve does not return to its initial position	<ul style="list-style-type: none"> Spindle return spring 	<ul style="list-style-type: none">  „ Spindle return spring“ on page 28



7 Appendix

7.1 Copyright

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Subject to technical changes without notice.

7.2 Liability claims/warranty

Besides the legal liability claims for defects of the customer towards the seller, the manufacturer of the product, OPTIMUM GmbH, Robert-Pfleger-Straße 26, D-96103 Hallstadt, does not grant any further warranties unless they are listed below or were promised as part of a single contractual provision.

- Liability or warranty claims are processed at OPTIMUM GmbH's discretion either directly or through one of its dealers.
Any defective products or components of such products will either be repaired or replaced by components which are free from defects. Title to replaced products or components is transferred to OPTIMUM Maschinen Germany GmbH.
- The automatically generated original proof of purchase which shows the date of purchase, the type of machine and the serial number, if applicable, is the precondition in order to assert liability or warranty claims. If the original proof of purchase is not presented, we are not able to perform any services.
- Defects resulting from the following circumstances are excluded from liability and warranty claims:
 - Using the product beyond the technical options and proper use, in particular due to overstraining of the machine.
 - Any defects arising by one's own fault due to faulty operations or if the operating manual is disregarded.
 - Inattentive or incorrect handling and use of improper equipment
 - Unauthorized modifications and repairs
 - Insufficient installation and safeguarding of the machine
 - Disregarding the installation requirements and conditions of use
 - atmospheric discharges, overvoltage and lightning strokes as well as chemical influences
- Neither are the following items covered by liability or warranty claims:
 - Wearing parts and components which are subject to normal and intended wear, such as V-belts, ball bearings, lighting, filters, seals, etc.
 - Non reproducible software errors
- Any services, which OPTIMUM GmbH or one of its agents performs in order to fulfil any additional warranty are neither an acceptance of the defects nor an acceptance of its obligation to compensate. These services neither delay nor interrupt the warranty period.
- The court of jurisdiction for legal disputes between businessmen is Bamberg.
- If any of the aforementioned agreements is totally or partially inoperative and/or invalid, a provision which nearest approaches the intent of the guarantor and remains within the framework of the limits of liability and warranty which are specified by this contract is deemed agreed.



7.3 Advice for disposal / Options of reuse:

Please dispose of your equipment in an environmentally friendly manner, by not placing waste in the environment but in a professional manner.

Please do not simply throw away the packaging and later the disused machine, but dispose of both in accordance with the guidelines laid down by your city council/local authority or by an authorised disposal company.

7.3.1 Decommissioning

CAUTION!

Immediately decommission used machines in order to avoid later misuse and endangering of the environment or of persons.



- **Unplug the power cord.**
- **Cut the connection cable.**
- **Remove all operating materials from the used device which are harmful to the environment.**
- **If applicable remove batteries and accumulators.**
- **Disassemble the machine if required into easy-to-handle and reusable assemblies and component parts.**
- **Dispose of machine components and operating fluids using the intended disposal methods.**

7.3.2 Disposal of new device packaging

All used packaging materials and packaging aids from the machine are recyclable and generally need to be supplied to the material reuse.

The packaging wood can be supplied to the disposal or the reuse.

Any packaging components made of cardboard box can be chopped up and supplied to the waste paper collection.

The films are made of polyethylene (PE) and the cushion parts are made of polystyrene (PS). These materials can be reused after reconditioning if they are passed to a collection station or to the appropriate waste management enterprise.

Only forward the packaging materials correctly sorted to allow direct reuse.

7.3.3 Disposal of the old device

INFORMATION

Please take care in your interest and in the interest of the environment that all component parts of the machine are only disposed of in the intended and admitted way.

Please note that the electrical devices comprise a variety of reusable materials as well as environmentally hazardous components. Please ensure that these components are disposed of separately and professionally. In case of doubt, please contact your municipal waste management. If appropriate, call on the help of a specialist waste disposal company for the treatment of the material.



7.3.4 Disposal of electrical and electronic components

Please make sure that the electrical components are disposed of professionally and according to the statutory provisions.

The device is composed of electrical and electronic components and must not be disposed of as household waste. According to the European Directive regarding electrical and electronic used devices and the implementation of national legislation, used power tools and electrical





machines need to be collected separately and supplied to an environmentally friendly recycling centre.

As the machine operator, you should obtain information regarding the authorised collection or disposal system which applies for your company.

Please make sure that the electrical components are disposed of professionally and according to the legal regulations. Please only throw depleted batteries in the collection boxes in shops or at municipal waste management companies.

7.4 Disposal via municipal collection facilities

Disposal of used electrical and electronic components

(Applicable in the countries of the European Union and other European countries with a separate collecting system for those devices).

The sign on the product or on its packing indicates that the product must not be handled as common household waste, but that it needs to be disposed of at a central collection point for recycling. Your contribution to the correct disposal of this product will protect the environment and the public health. Incorrect disposal constitutes a risk to the environment and public health. Recycling of material will help reduce the consumption of raw materials. For further information about the recycling of this product, please consult your District Office, municipal waste collection station or the shop where you have purchased the product.



7.4.1 Change information operating manual

Chapter	Short summary	new version number
CE	2015/863/EU	1.0.1
3	Interdepartmental transport	1.0.2
parts	Wiring diagram inserted	1.0.3

7.5 Product follow-up

We are required to perform a follow-up service for our products which extends beyond shipment.

We would be grateful if you could inform us of the following:

- Modified settings
- Any experiences with the geared drill which might be important for other users
- Recurring malfunctions.



8 Determining the cutting speed and the speed

8.1 Table cutting speeds / infeed

Material table	Recommended infeed f in mm/revolution					
Material to be processed	Recommended cutting speed Vc in m/min	Drill bit diameter d in mm				
		2...3	>3...6	>6...12	>12...25	>25...50
		Unalloyed construction steels < 700 N/mm ²	30 - 35	0.05	0.10	0.15
Alloyed construction steels > 700 N/mm ²	20 - 25	0.04	0.08	0.10	0.15	0.20
Alloyed steels < 1000 N/mm ²	20 - 25	0.04	0.08	0.10	0.15	0.20
Steels, low stability < 800 N/mm ²	40	0.05	0.10	0.15	0.25	0.35
Steel, high stability > 800 N/mm ²	20	0.04	0.08	0.10	0.15	0.20
non-rust steels > 800 N/mm ²	12	0.03	0.06	0.08	0.12	0.18
Cast iron < 250 N/mm ²	15 - 25	0.10	0.20	0.30	0.40	0.60
Cast iron > 250 N/mm ²	10 - 20	0.05	0.15	0.25	0.35	0.55
CuZn alloy brittle	60 - 100	0.10	0.15	0.30	0.40	0.60
CuZn alloy ductile	35 - 60	0.05	0.10	0.25	0.35	0.55
Aluminum alloy up to 11% Si	30 - 50	0.10	0.20	0.30	0.40	0.60
Thermoplastics	20 - 40	0.05	0.10	0.20	0.30	0.40
Thermosetting materials with organic filling	15 - 35	0.05	0.10	0.20	0.30	0.40
Thermosetting materials with anorganic filling	15 - 25	0.05	0.10	0.20	0.30	0.40

8.2 Speed table

Vc in m/min	4	6	8	10	12	15	18	20	25	30	35	40	50	60	80	100
Drill bit Ø in mm	Speed n in rpm															
1,0	1274	1911	2548	3185	3822	4777	5732	6369	7962	9554	11146	12739	15924	19108	25478	31847
1,5	849	1274	1699	2123	2548	3185	3822	4246	5308	6369	7431	8493	10616	12739	16985	21231
2,0	637	955	1274	1592	1911	2389	2866	3185	3981	4777	5573	6369	7962	9554	12739	15924
2,5	510	764	1019	1274	1529	1911	2293	2548	3185	3822	4459	5096	6369	7643	10191	12739
3,0	425	637	849	1062	1274	1592	1911	2123	2654	3185	3715	4246	5308	6369	8493	10616
3,5	364	546	728	910	1092	1365	1638	1820	2275	2730	3185	3640	4550	5460	7279	9099
4,0	318	478	637	796	955	1194	1433	1592	1990	2389	2787	3185	3981	4777	6369	7962

Drilling_VC_GB_basic.fm



Vc in m/ min	4	6	8	10	12	15	18	20	25	30	35	40	50	60	80	100
Drill bit Ø in mm	Speed n in rpm															
4,5	283	425	566	708	849	1062	1274	1415	1769	2123	2477	2831	3539	4246	5662	7077
5,0	255	382	510	637	764	955	1146	1274	1592	1911	2229	2548	3185	3822	5096	6369
5,5	232	347	463	579	695	869	1042	1158	1448	1737	2027	2316	2895	3474	4632	5790
6,0	212	318	425	531	637	796	955	1062	1327	1592	1858	2123	2654	3185	4246	5308
6,5	196	294	392	490	588	735	882	980	1225	1470	1715	1960	2450	2940	3920	4900
7,0	182	273	364	455	546	682	819	910	1137	1365	1592	1820	2275	2730	3640	4550
7,5	170	255	340	425	510	637	764	849	1062	1274	1486	1699	2123	2548	3397	4246
8,0	159	239	318	398	478	597	717	796	995	1194	1393	1592	1990	2389	3185	3981
8,5	150	225	300	375	450	562	674	749	937	1124	1311	1499	1873	2248	2997	3747
9,0	142	212	283	354	425	531	637	708	885	1062	1238	1415	1769	2123	2831	3539
9,5	134	201	268	335	402	503	603	670	838	1006	1173	1341	1676	2011	2682	3352
10,0	127	191	255	318	382	478	573	637	796	955	1115	1274	1592	1911	2548	3185
11,0	116	174	232	290	347	434	521	579	724	869	1013	1158	1448	1737	2316	2895
12,0	106	159	212	265	318	398	478	531	663	796	929	1062	1327	1592	2123	2654
13,0	98	147	196	245	294	367	441	490	612	735	857	980	1225	1470	1960	2450
14,0	91	136	182	227	273	341	409	455	569	682	796	910	1137	1365	1820	2275
15,0	85	127	170	212	255	318	382	425	531	637	743	849	1062	1274	1699	2123
16,0	80	119	159	199	239	299	358	398	498	597	697	796	995	1194	1592	1990

The correct manual feed Vc in meters per minute depends on the diameter of the drill, the material to be machined, the speed and the cutting material of the drill.

9 Ersatzteile - Spare parts

9.1 Ersatzteilbestellung - Ordering spare parts

Bitte geben Sie folgendes an - Please indicate the following :

- Seriennummer - *Serial No.*
- Maschinenbezeichnung - *Machines name*
- Herstellungsdatum - *Date of manufacture*
- Artikelnummer - *Article no.*

Die Artikelnummer befindet sich in der Ersatzteilliste. *The article no. is located in the spare parts list.* Die Seriennummer befindet sich am Typschild. *The serial no. is on the rating plate.*

9.2 Hotline Ersatzteile - Spare parts Hotline



+49 (0) 951-96555 -118
ersatzteile@stuermer-maschinen.de



9.3 Service Hotline

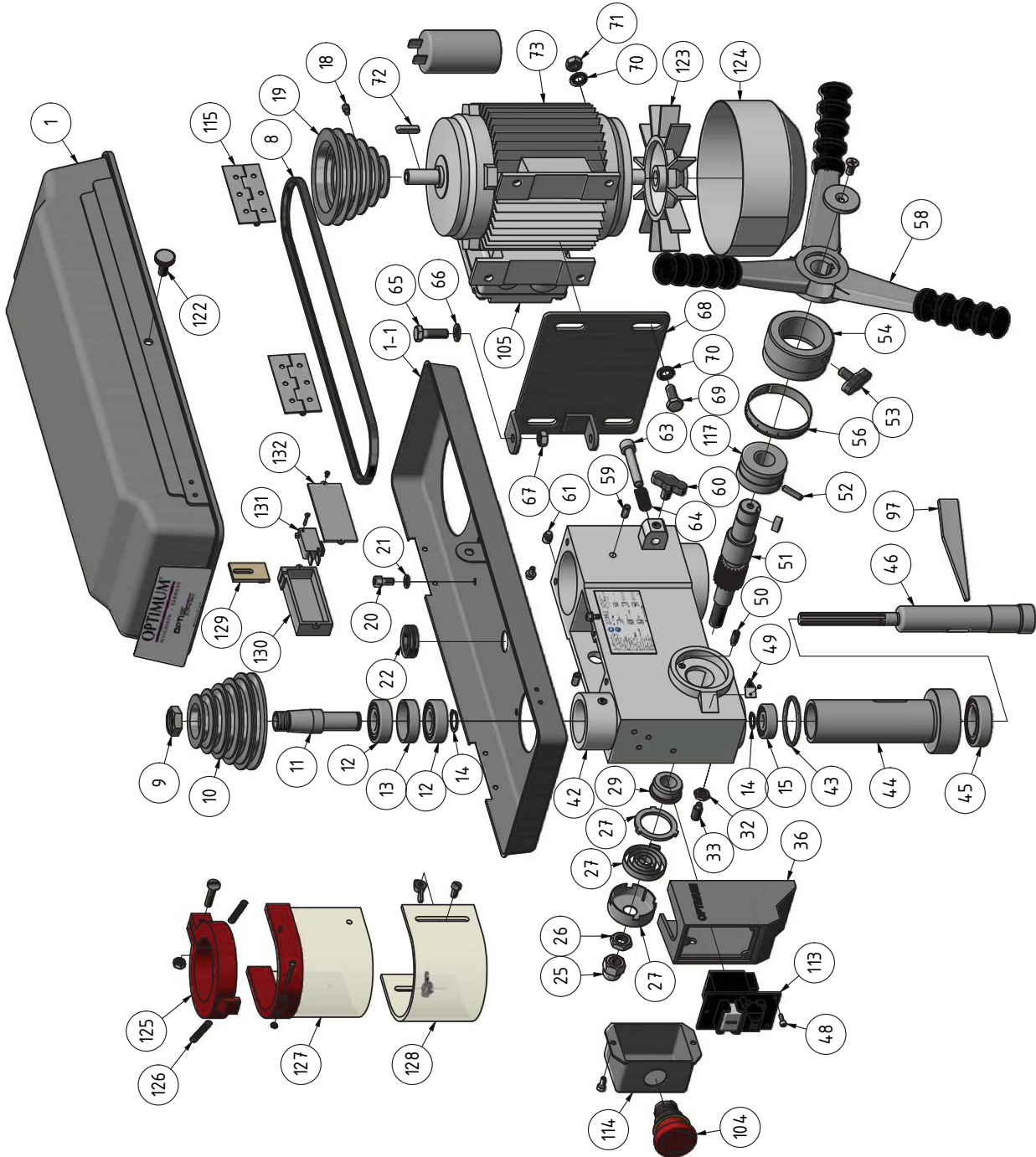


+49 (0) 951-96555 -100
service@stuermer-maschinen.de

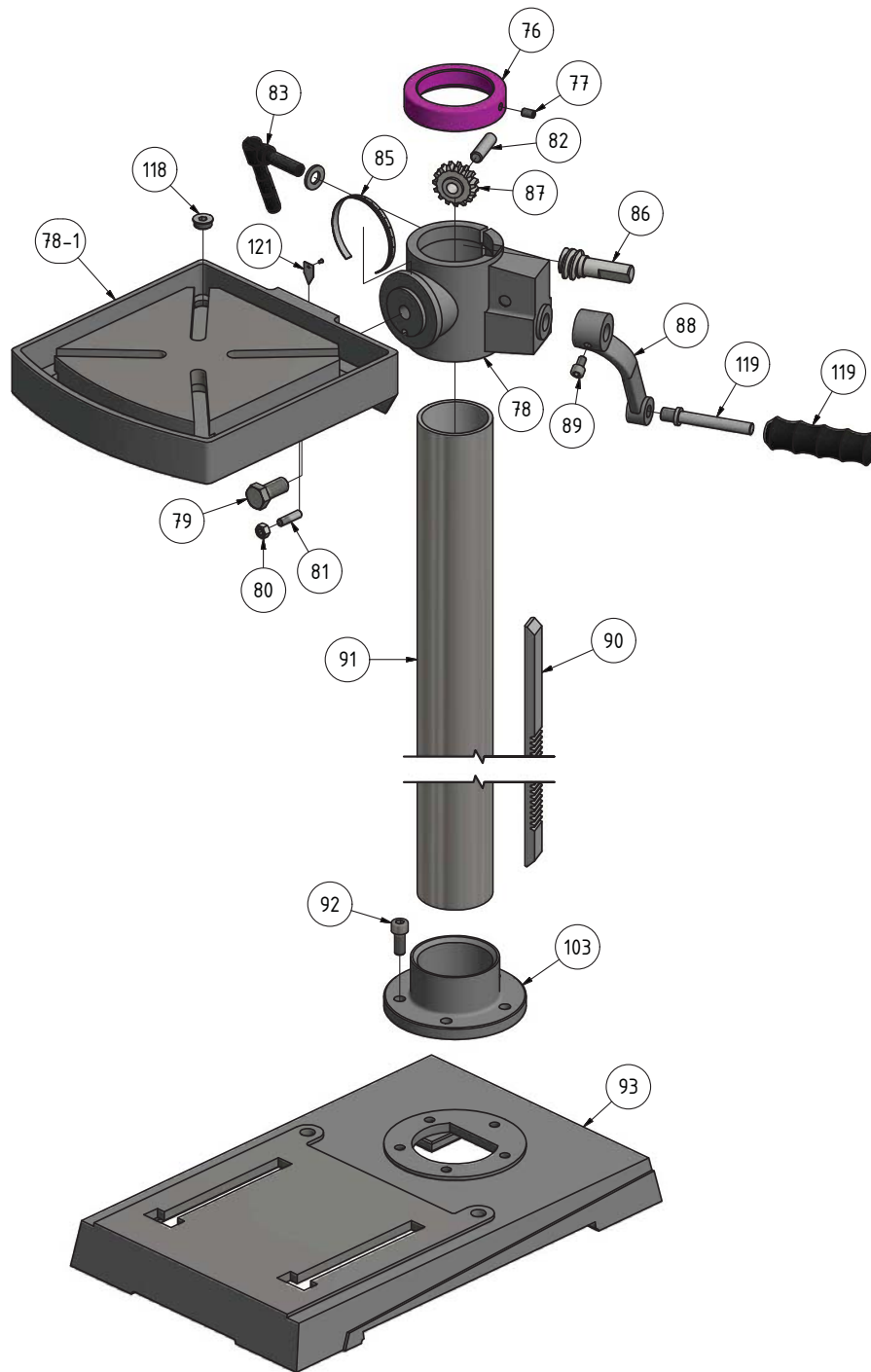


9.4 Ersatzteilzeichnungen - Spare part drawings

A B17Pro basic



B



Ersatzteilliste - Spare parts list - B17Pro basic

Pos.	Bezeichnung	Description	Menge Qty.	Grösse Size	Artikelnummer Item no.
1	Deckel	Cover	1		0300317101D
1-1	Unterteil	Base part	1		0300317101U
8	Keilriemen	V-belt	1	8 x 825	03003171108
9	Spindelmutter	Spindle nut	1		03003171109
10	Riemenscheibe Spindel	Spindle Pulley	1		03003171110
11	Mitnehmer	Driving pin	1		03003171111
12	Kugellager	Ball bearing	2	6203.2R	0406203R
13	Distanzscheibe	Spacing screw	1		0300317113

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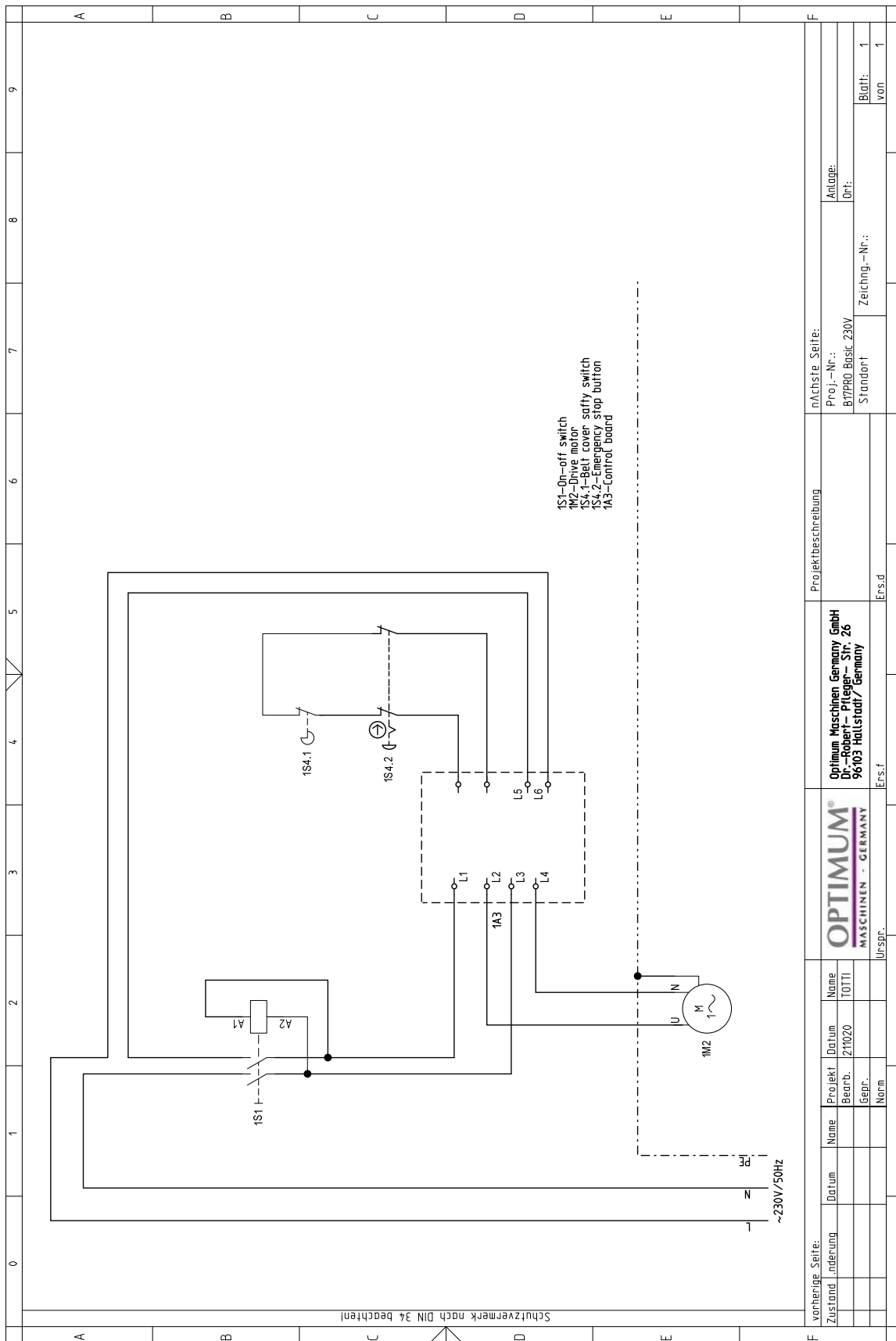
Ersatzteilliste - Spare parts list - B17Pro basic

Pos.	Bezeichnung	Description	Menge Qty.	Grösse Size	Artikelnummer Item no.
14	Seegering	Circlip	1		042SR17W
15	Kugellager	Ball bearing	1	6201.2RS	0406201R
18	Schraube	Screw	1	M6 x 10	
19	Riemenscheibe Motor	Motor Pulley	1		0300317119
20	Schraube	Screw	4	M6 x 12	
21	Unterlegscheibe	Washer	4		
22	Zugentlastung	Strain relief	2		
25	Hutmutter	Capped nut	1	1/2"-20	0300317125
26	Mutter	Nut	1	1/2"-20	0300317126
27	Rückholfeder mit Gehäuse	Turbinatation spring with cover	1		0300317127
29	Rückholfedersitz	Return spring seat	1		0300317129
32	Mutter	Nut	1	M8	
33	Schraube	Screw	1	M8 x 18	
36	Schaltergehäuse	Switch housing	1		0300317136
42	Bohrkopfgehäuse	Boring head housing	1		0300317142
43	Gummiring	Rubber ring	1		0300317143
44	Pinole	Pinole	1		0300317144CPL
45	Kugellager	Ball bearing	1	6005.2RS	0406005R
46	Spindel	Spindle	1		0300317146
48	Schraube	Screw	1	5mm	0300317148
49	Anzeige	Display	1		
50	Stop-Stift	Stop-pin	1		
51	Schaftritzel mit Nabe	Shaft pinion with hub	1		0300317151
52	Stift	Pin	1	5x16	
53	Schraube	Screw	1	M8 x 17	0300813118
54	Skalenring	Dial	1		0300317154
55	Schraube	Screw	1	5mm	0300317148
56	Skala	Scale	1		0300317156
56	Skala	Scale	1		03003171561
58	Aludruckgussgriff	Aluminium casting lever	1		03003171102
58	Passfeder Alugriff	Key aluminum handle	1		042P6614
58	Schraube Alugriff	Screw aluminium handle	1		
58	Scheibe Alugriff	Washer aluminium handle	1		03003231104
59	Stift	Pin	2	6 x 10	
60	Klemmschraube	Clamping screw	1	M8 x 17	0300813118
61	Schraube	Screw	1	M8 x 8	
63	Gleitstange	Slide rod	1		0300317163
64	Feder	Spring	1		0300317164
65	Schraube	Screw	2	M8 x 30	
66	Unterlegscheibe	Washer	2	8	
67	Mutter	Nut	2	M8	
68	Motorhalteplatte	Motor plate	1		0300317168
69	Schraube	Screw	4	M8 x 30	
70	Unterlegscheibe	Washer	8	8	
71	Mutter	Nut	4	M8	
72	Paßfeder	Key	1	5x5x20	042P5520
73	Motor	Motor	1		0300317173
75	Kabel	Cable	1		0460916186
76	Säulenring	Column ring	1		0300317176
77	Schraube	Screw	1	M6 x 10	
78	Bohrtisch	Drilling table	1		0300317178
78	Bohrtschhalter	Support	1		
78-1	Bohrtisch	Drilling table	1		
79	Schraube	Screw	1	1/2"-12	0300317179
80	Mutter	Nut	1	1/4"-20	
81	Kegelstift	Taper pin	1		
82	Stift	Pin	1		0300317182
83	Klemmhebel	Clamping lever	1		0300317183
85	Skala für Neigung	Scale for inclination	1		
86	Antriebschnecke	Worm drive	1		0300317186
87	Zahnrad	Gear	1		0300317187
88	Kurbel	Crank	1	ab 2004	0300820110
89	Schraube	Screw	1	M6 x 10	
90	Zahnstange	Rack	1		0300317190
91	Säule	Column	1		03003171103
92	Schraube	Screw	5	M8 x 20	
93	Maschinenfuss <5 Loch>	Machine base	1		0300317193
97	Austreiber	Drill Drift	1		0300317197
103	Säulenhalterung	Column flange	1		03003171109
105	Klemmkasten Motor	Motor terminal box	1		03003171105
104	Not-Aus-Schalter	Emergency Stop switch	1		0460058
113	Ein-Aus-Taster	On-off button	1		03003171113

Ersatzteilliste - Spare parts list - B17Pro basic					
Pos.	Bezeichnung	Description	Menge Qty.	Grösse Size	Artikelnummer Item no.
114	Klemmkasten	Terminal box	1		03003171114
115	Scharnier	Hinge	2		
116	Abdeckung	Cover	1		
117	Buchse	Bushing	1		
118	Verschluss	Plug	1	3/8"	03334400108
119	Welle mit Griff	Shaft with grip	1		0300317188
121	Zeiger	Indikator	1		
122	Rändelschraube	Knurled screw	1		
123	Lüfter	Fan	1		03003171123
124	Motordeckel	Motor cover	1		03003171124
125	Halter	Holder	1		03003161125
126	Feder	Spring	2		03003161126
127	Bohrfutterschutz	Drill chuck cover	1		03003161127
128	Bohrfutterschutz	Drill chuck cover	1		03003161128
129	Gabelplatte	Fork plate	1		03003161129
130	Gehäuse Schalter	Switch housing	1		03003161130
131	Mikroschalter	Micro switch	1		03003161131
132	Abdeckung	Cover	1		03003161132
Komplett-Sätze - Complete sets					
CPL	Pinole komplett	Pinole complete	1		0300317144CPL
CPL	Säule + Halterung	Column + Column flange	1		03003171103
CPL	Bohrtisch komplett	Drilling table complete	1		0300317178CPL
CPL	Bohrfutterschutz	Drill Chuck protection	1		03003161FS
CPL	Mikroschalter	Micro switch	1		03003161130CPL
Teile ohne Abbildung - Parts without illustration					
0	Kondensator	Capacitor	1	12,5 µF	03003171101

9.5 Schaltplan - Wiring diagram

C



B17_Pro_basic_parts.fm



EC - Declaration of Conformity

according to Machinery directive 2006/42/EC, Annex II 1.A

The manufacturer / distributor Optimum Maschinen Germany GmbH
Dr.-Robert-Pfleger-Str. 26
D - 96103 Hallstadt, Germany

hereby declares that the following product

Product designation: Bench drilling machine

Type designation: B17 Pro basic

fulfils all the relevant provisions of the directive specified above and the additionally applied directives (in the following) - including the changes which applied at the time of the declaration.

Description:

Bench drilling machine.

The following additional EU directives have been applied:

EMC Directive 2014/30/EU ; Restriction of the use of certain hazardous substances in electrical and electronic equipment 2015/863/EU

The following harmonized standards were applied:

EN 61029-1 Safety of transportable motor-operated electric tools. General requirements

EN 55014-1 Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission

EN 55014-2 Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 2: Immunity

EN 61000-3-2 Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)

EN 61000-3-3 Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection

EN ISO 12100 Safety of machinery - General principles for design - Risk assessment and risk reduction

2011/65/EU Directive of the European Parliament and of the council on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Name and address of the person authorized to compile the technical file:

Kilian Stürmer, phone: +49 (0) 951 96555 - 800

Kilian Stürmer (CEO, General Manager)
Hallstadt, 2022-10-31



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