

Operating Instructions

—— Drilling and mortising machine

—— BSM-H 16

—— BSM-H 25



BSM-H 16



BSM-H 25

BSM-H SERIES

Imprint

Product identification

Drilling and mortising machine	Item number
BSM-H 16	5906116
BSM-H 25	5906125

Manufacturer

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1 Introduction

You have made a good choice by purchasing the HOLZ-STAR drilling and mortising machine.

Read the operating instructions carefully before using the machine.

These are an important part and must be kept near the machine and accessible to every user.

The operating instructions inform you about the proper commissioning, the intended use as well as the safe and efficient operation and maintenance of the drilling and mortising machine. In addition, observe the local accident prevention regulations and general safety regulations for the area of application of the drilling and mortising machine.

1.1 Copyright

The contents of these instructions are protected by copyright and are the sole property of Stürmer Maschinen GmbH. Their use is permitted within the framework of the use of the drilling and mortising machine. Any other use is not permitted without the written consent of the manufacturer.

Passing on and reproduction of this document, utilisation and communication of its contents are prohibited unless expressly permitted. Violations will result in liability for damages.

We register trademark, patent and design rights to protect our products, insofar as this is possible in individual cases. We emphatically oppose any infringement of our intellectual property.

1.2 Customer service

Please contact your specialist retailer if you have any questions regarding your drilling and mortising machine or require any technical information. Your specialist retailer will be happy to support you with specialist advice and information.

Germany:

Stürmer Maschinen GmbH
Dr.-Robert-Pfleger-Str. 26
D-96103 Hallstadt
Germany

Repair service:

Fax: 0049 (0) 951 96555-111
Email: service@stuermer-maschinen.de

Spare parts orders:

Fax: 0049 (0) 951 96555-119
Email: ersatzteile@stuermer-maschinen.de

We are always interested in valuable experience and knowledge gained from using the application, which then could be shared and be valuable to develop our products even further.

1.3 Limitation of liability

All data in these operating instructions has been compiled on the basis of the state-of-the-art, valid standards and guidelines as well as our many years of expertise and experience.

The manufacturer shall not be liable for damage in the following cases:

- Non-observance of these operating instructions,
- Unintended use,
- Use of inexperienced staff,
- Conversions at one's own responsibility,
- Technical modifications,
- Use of unauthorised spare parts,

The actual scope of delivery may deviate from the descriptions and illustrations in this document as a result of special variants, optional extras or recent, technical modifications.

The obligations defined in the supply contract shall apply in addition to the general terms and conditions and the manufacturer's general terms and conditions as well as the statutory regulations valid at the time of the conclusion of the contract.

2 Safety

This section provides an overview of all important safety packages for personal protection as well as safe and reliable operation. The sections on individual service life phases contain additional, specifically applicable safety information.

2.1 Symbol explanation

Safety Instructions

Safety instructions in these operating instructions have been highlighted with symbols. Safety instructions are indicated by signal terms that express the degree of risk involved.



DANGER!

This combination of symbol and signal word indicates an immediately hazardous situation which, if not avoided, will result in death or serious injury:

WARNING!

This combination of symbol and signal term indicates potentially hazardous situations which may cause death or serious injury if not averted.

CAUTION!

This combination of symbol and signal term indicates a potentially dangerous situation which may cause material damage or harm the environment if it is not averted.

ATTENTION!

This combination of symbol and signal term indicates a potentially hazardous situation which may cause minor or light injuries if it is not averted.



NOTE!

This combination of symbol and signal term indicates a potentially dangerous situation which may cause material damage or harm the environment if it is not averted.



Tips and recommendations

This symbol highlights useful tips and recommendations as well as information for efficient and reliable operation.

Observe the safety information in these operating instructions to minimise the risk of personal injury as well as material damage and prevent hazardous situations.

2.2 Responsibility of the operator

The operator is the person who operates the machine himself for commercial purposes or who makes it available to a third party for use or application and who bears the legal product responsibility for the protection of the user, personnel or third parties during operation.

Obligations of the operator:

If the machine is used for commercial purposes, operators are subject to the legal stipulations in terms of occupational safety. For this reason, the safety instructions in these operating instructions as well as the safety, accident prevention and environmental protection regulations valid at the installation location must be complied with. In this process, the following shall apply in particular:

- Operators shall obtain information about valid occupational safety regulations and determine additional hazards as part of a risk assessment which result from the specific operating conditions at the machine's installation location. Said risk assessment shall be reflected in operating instructions for machine operation.
- During the entire machine operating time operators must check whether the operating instructions they created meet current standards and adapt the operating instructions where necessary.
- Operators shall clearly manage and specify the responsibilities for installation, operation, troubleshooting, maintenance and cleaning.
- Operators must make sure that all persons handling the machine have read and understood these operating instructions. Operators must also regularly train staff and notify of the hazards.
- Operators shall provide staff with the required protective equipment and wearing the required protective equipment shall be mandatory.

Operators shall also be responsible for maintaining the machine in a technically perfect condition. For this reason, the following shall apply:

- Operators shall make sure that the maintenance intervals described in these operating instructions are complied with.
- Operators shall regularly check that the safety equipment is fully functional and complete.

2.3 Requirements to staff

The different tasks described in these operating instructions require different levels of skills in terms of the qualifications of operating staff working with the machine.



WARNING!

Risk from inadequately qualified persons!

Inadequately qualified persons are unable to assess the risks when handling the machine, thus putting themselves and others at risk of severe injuries.

- All work must be carried out by qualified persons only.
- Keep inadequately qualified persons and children away from the work area.

Exclusively persons of whom it can be expected that they reliably complete assigned tasks shall be authorised to carry out any tasks. Persons whose reactions have been impaired shall not be authorized, e.g. drug users, users under the influence of alcohol or medication.

These operating instructions specify the following personal qualifications for the different tasks:

Operating staff:

Operating staff has undergone an induction by the operator about the entrusted tasks and potential hazards resulting from improper behaviour. Tasks which go beyond normal operation may only be carried out by the operator if they are listed in the operation manual and the operator has made him/herself familiar with them.

Qualified electrician:

Due to the electrician's specialised training, know-how, experience and knowledge of pertinent standards and regulations the electrician is in a position to work on the electrical systems, and autonomously identify and avoid potential hazards.

Specialist staff:

As a result of specialist training, expertise, experience and skills in terms of the relevant standards and regulations, specialist staff is able to complete the tasks they are entrusted with and independently identify hazards and avert risks.

Manufacturer:

Certain work must be carried out by manufacturer specialist staff only. Other staff is not permitted to carry out this work. Contact our customer service to have the work carried out.

2.4 Personal protective equipment

Personal protective equipment is intended to protect the health and safety of persons at work. Staff must wear the personal protective equipment indicated in individual sections of these operating instructions when carrying out the different tasks on the machine.

The personal protective equipment is described in the following section:



Hearing protection

The hearing protection protects the ears against damages of hearing due to noise.



Eye protection

Protective glasses protect the eyes against projected parts and splashes of liquid.



Suitable protective gloves

The protective gloves provide protection for the hands against sharp-edged components, as well as against friction, abrasions or deeper injuries.



Safety boots

The safety boots protect the feet against crushes, falling parts and slipping over on slippery underground.



Protective clothes

Protective work clothing means tight-fitting clothing with low tear resistance.



Protective dust-mask

The dust protection mask protects the respiratory tract from wood chips and wood dust.

2.5 Safety labels on the drilling and mortising machine

The following safety labels identifications are attached to the drilling and mortising machine and must be observed.

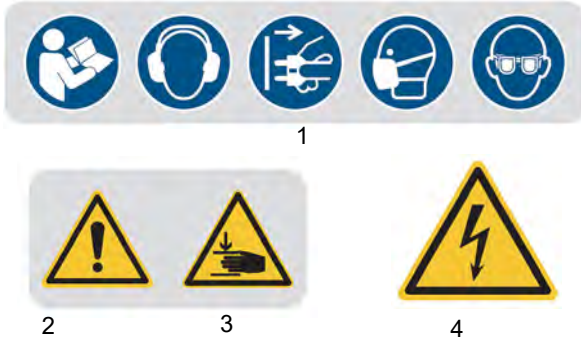


Fig. 1: 1 Mandatory sign (follow instructions for use / wear ear protection / unplug from mains / use mask / wear eye protection) | 2 General warning sign | 3 Warning of hand injuries | 4 Warning of dangerous electrical voltage

The safety labels attached to the machine must not be removed. Damaged or missing safety labels can lead to incorrect actions, personal injury and damage to property. They must be replaced immediately.

If the safety labels are not recognisable and comprehensible at first glance, the machine must be taken out of operation until new safety labels have been attached.

2.6 Safety data sheets

Safety data sheets on hazardous goods can be obtained from your specialist dealer or by calling +49 (0)951/96555-0. Specialist dealers can find safety data sheets in the download area of the partner portal.

2.7 Safety devices

Emergency stop button

Pressing the emergency stop button (Fig. 2) stops the machine immediately. After the button has been pressed, the knurled ring must be turned clockwise to release the emergency stop button so that it can be switched on again.



Fig. 2: Emergency stop button

2.8 General safety instructions

- The drilling and mortising machine may only be operated and maintained by persons who have read and understood these operating instructions. The operator must be sufficiently trained in the use, adjustment and operation of the machine.
- Do not switch on the machine until immediately before starting machining. Do not leave the machine unattended when it is ready for operation.
- Never open the protective covers while the drilling and mortising machine is in operation.
- Keep the workplace and the floor in the vicinity of the drilling and mortising machine free of any objects that could endanger your stability or pose a tripping hazard.
- Before and during work, check that no unauthorised persons are in the danger zone of the machine.
- Replace a damaged mains cable immediately.
- When laying the mains cable, make sure that it is not crushed, bent or wet.
- Protect the mains cable from heat, oil and sharp edges.
- Only use the drilling and mortising machine and tools in a dry environment and ensure a clean working environment.
- Do not operate in places where there is a risk of explosion or fire.
- Ensure that there is sufficient lighting.
- Protect the drilling and mortising machine from environmental influences and do not expose it to direct sunlight or rain.
- Only operate the machine with safety devices fully and correctly fitted and do not modify anything on the machine.
- Wear tight-fitting clothing and remove any objects that may cause the machine to get stuck. Wear a hair net if necessary.
- Always wear the necessary safety equipment (safety glasses, protective clothing, safety shoes, hearing protection, etc.). Non-slip footwear is recommended when operating the machine.
- Use only original spare parts.
- In the case of a permanent connection, only have the machine connected to a suitable and fused power connection by a qualified electrician to protect against electric shock.
- Always wear a protective mask while working on material that generates dust during the operation.
- The drilling and mortising machine may only be operated within the specified power limits (Technical Data).
- Do not overload the machine! It works better and safer in the specified power range.

- Do not use the work surface as a shelf for objects.
- Do not use spare parts or accessories that are not approved by the manufacturer.
- Service work by untrained or unauthorised personnel is not permitted, nor is maintenance work on an unsecured machine.
- Modifications to the machine or the use of modified tool systems are not permitted.

2.9 Machine-specific safety measures

- Inspect all workpieces for foreign objects such as nails and screws before operation.
- When handling heavy or bulky workpieces, use suitable supports, e.g. roller blocks (optional equipment).
- Do not use drills that are cracked or have changed shape.
- Wear gloves when changing drills.
- Before switching on, check that all repair and adjustment tools have been removed.
- Before any maintenance or repair, the multi dowel drilling machine must be secured against accidental start-up.
- Do not use compressed air to clean the machine or remove chips.
- All protective and safety devices must be refitted immediately after repair or maintenance has been completed..

3 Intended Use

The drilling and mortising machine is used for drilling and mortising grooves for tongue and groove joints in boards and battens made of solid wood or similar wood materials.

The machine is suitable for private use and not for industrial use.

Intended use also includes compliance with all the information in these instructions.

3.1 Reasonably foreseeable misuse

Any use beyond the intended use or any other use is considered misuse.

Possible misuse can be:

- Use of the drilling and mortising machine for materials other than wood (e.g. machining of metal, plastic).
- Simultaneous machining of several workpieces.
- Machining of workpieces that are too large or too heavy, or of workpieces that are not fixed or not fixed enough.
- Operating the machine without functioning, intended safety devices.
- Operating the machine in an industrial environment, overloading the machine.
- The drilling and mortising machine is not intended for outdoor operation.

Misuse of the drilling and mortising machine can lead to dangerous situations.

Stürmer Maschinen GmbH accepts no liability for constructive and technical modifications to the drilling and mortising machine.

Claims of any kind for damage due to improper use are excluded.

3.2 Residual risks

Even if all safety instructions are observed and the machine is used according to the instructions, there are still residual risks, which are listed below:

- Hearing damage during longer work on the machine with defective hearing protection.
- Fire hazard.
- Electrical hazard due to contact with parts and high voltage (direct contact) or with parts under high voltage due to a defect of the machine (indirect contact).
- Danger to the upper limbs in case of accidental contact with the rotating drill.
- Risk of injury when changing the drill bits.
- Risk of injury from workpieces being thrown back.
- Danger from inhaling wood dust.

4 Technical Data

Model	BSM-H 16	BSM-H 25
Length	270 mm	790 mm
Width/ Depth	480 mm	620 mm
Height	780 mm	1630 mm
Weight	39 kg	89 kg
Supply voltage	230 V	230 V
Max, Workpiece height	110 mm	210 mm
Max. Workpiece depth	125 mm	145 mm
Max. Chisel stroke	76 mm	76 mm
Chisel stroke	6-16 mm	6-25,4 mm
Drill chuck holder	B16-13MM	B16-16MM
Work table length	180 mm	400 mm
Work table width	150 mm	150 mm
Absorbed power	0,37 kW	0,75 kW
Speed	1400 min ⁻¹	1400 min ⁻¹
Table movement X	80 mm	175 mm
Table movement Y	65 mm	150 mm

4.1 Type plate

Bohr- und Stemmmaschine Drilling and mortising machine			
Typ Type	BSM-H 16	Serien-Nr. Serial no.	
Artikel-Nr. Item no.	5906116	Baujahr Year of manufacture	
Aufnahmeleistung Engine power	0,37 kW	Netzanschluss Power connection	230 V / 1 ~/ 50 Hz
Gewicht Weight	39 kg	Spindeldrehzahl Spindle speed	1400 1/min
 www.holzstar.de		Stürmer Maschinen GmbH Dr.-Robert-Pfleger-Str. 26, 96103 Hallstadt Deutschland / Germany	

Fig. 3: Type plate BSM-H16

5 Transport, Packaging, Storage

5.1 Delivery and Transport

Delivery

Check the Wood Lathe for visible shipping damage after delivery. If you discover damage to the Wood Lathe, immediately report it to the carrier or dealer.

Transport

Improper transport 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.



WARNING!

Severe or fatal injuries may occur if parts of the machine tumble or fall down from the forklift truck, pallet truck or from the transport vehicle. Follow the instructions and information on the transport box.

Note the total weight of the machine. The weight of the machine is indicated in the "Technical data" of the machine. When the machine is unpacked, the weight of the machine can also be read on the rating plate.

Only use transport devices and load suspension gear that can hold the total weight of the machine.



WARNING!

The use of unstable lifting and load suspension equipment that might break under load can cause severe injuries or even death. Check that the lifting and load suspension gear has sufficient load-bearing capacity and that it is in perfect condition. Observe the accident prevention regulations issued by your Employers Liability Insurance Association or other competent supervisory authority, responsible for your company. Fasten the loads properly.

General risks during internal transport



WARNING: 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.

Devices may only be transported by authorized and qualified persons. 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.

Transport with a forklift / pallet truck:

For shipping, the device packed in a wooden box is delivered on a pallet so that it can be transported by a forklift or a pallet truck.

5.2 Packaging

All of the machine's packaging materials and packing aids are suitable for recycling and must always be disposed of using material-based recycling systems.

Packaging materials made of cardboard must be shredded and disposed of as part of waste paper recycling.

The foils are made of polyethylene (PE), padding is made of polystyrene (PS). Dispose of these substances at a recycling centre or hand them over to the relevant waste disposal company.

5.3 Storage



WARNING!

Store the multi-dowel drilling machine in such a way that it cannot be put into operation by unauthorised persons.

Store the multi dowel drilling machine thoroughly cleaned in a dry, clean and frost-free environment. Cover the machine with a protective tarpaulin.

6 Description of the Machine

Illustrations in these operating instructions may differ from the original.

6.1 BSM-H 16

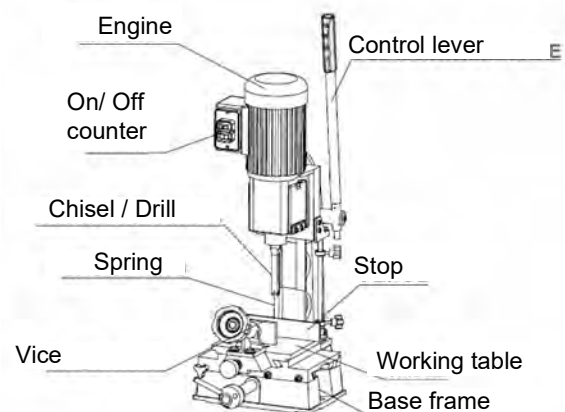


Fig. 4: Drilling and mortising machine BSM-H 16

6.2 BSM-H 25

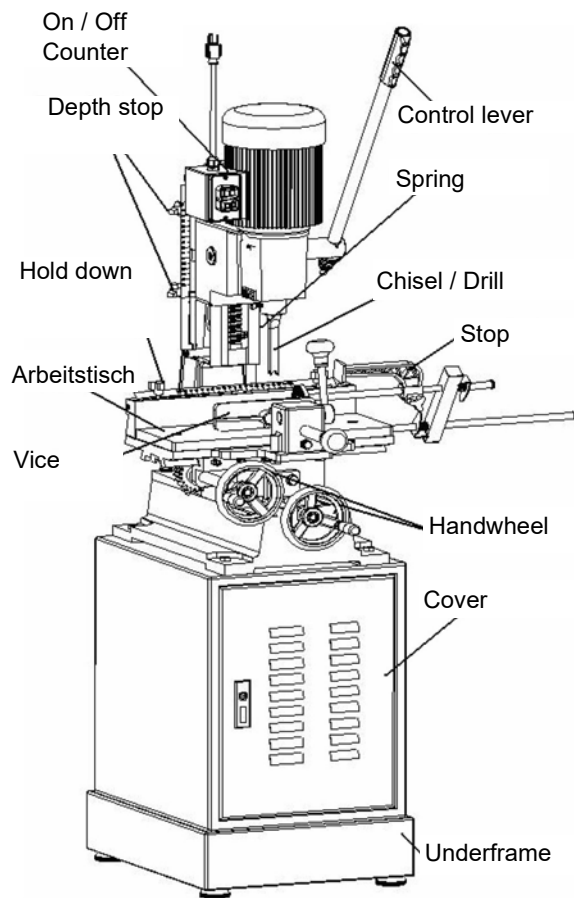


Fig. 5: Drilling and mortising machine BSM-H 25

6.3 Optional Accesories

Description	Model	Item.-Nr.
Underframe	BSM-H 25	5916125
Mortise chisel 6,35mm (1/4")	BSM-H 16 BSM-H 25	5916100
Mortise chisel 8mm (5/16")	BSM-H 16 BSM-H 25	5916101
Mortise chisel 9,5mm (3/8")	BSM-H 16 BSM-H 25	5916102
Mortise chisel 12,7mm (1/2")	BSM-H 16 BSM-H 25	5916103
Mortise chisel 15,87mm (5/8")	BSM-H 16 BSM-H 25	5916104
Mortise chisel 19,00mm (3/4")	BSM-H 25	5916105
Mortise chisel 25,4mm (1")	BSM-H 25	5916106

7 Installation and Connection

7.1 Requirements for the installation site

The installation site should meet the following criteria:

- The underground must be even, firm and vibration-free.
- The underground must not allow any lubricants to pass through.
- The installation or working area must be dry and well ventilated.
- No machines causing dust and chips should be operated near the machine.
- There must be sufficient space for the operating personnel, for material transport and for adjustment and maintenance work.
- The installation site must have good lighting (minimum intensity 500lx).

7.2 Assembly of the drilling and mortising machine



CAUTION!

Pay attention to the weight of the machine! The machine may only be set up by two people together. Check that the auxiliary equipment is sufficiently dimensioned and has sufficient load-bearing capacity.

The drilling and mortising machine is delivered in a cardboard box and is already mostly assembled. Only a few parts need to be assembled after delivery.

Assemble the machine with the following steps:

Step 1: Unpack the machine and check that the scope of delivery is complete.

Step 2: Insert the operating lever (Pos.B) into the holder A and screw it tight.

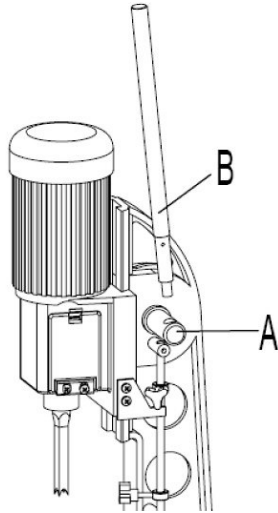


Fig. 6: Mouting operating lever

Step 3: Lift the drilling and mortising machine (BSM-H 25 only) onto the substructure with a second person and screw it tight.



Fig. 7: Mounting substructure

Step 4: Align the drilling and mortising machine (BSM-H 25 only) with the adjustable feet.

Step 5: Mount the workpiece stop of the drilling and mortising machine (BSM-H 25 only) on the underside of the machine with the two screws.

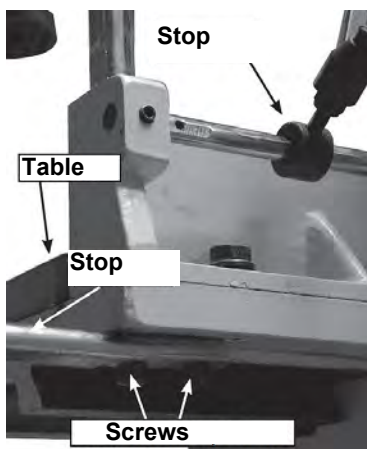


Fig. 8: Mounting workpiece stop

7.3 Electrical connection



DANGER!

Danger to life due to electric shock

There is a danger to life in case of contact with live components. Switched-on electrical components can make uncontrolled movements and cause serious injuries. All work on the electrical installation may only be carried out by a qualified electrician.

The drilling and mortising machine has a connection cable that must be connected to a socket in accordance with the regulations. Only operate the drilling and mortising machine with an electrical power supply that meets the following requirements:

- the mains voltage and the current frequency of the power supply must correspond to the information on the nameplate.
- Protection with a residual current circuit breaker (RCD circuit breaker).
- The plug supplied must not be modified. If the plug does not fit or is defective, only a qualified electrical engineer may modify or replace this plug!
- Use of an earthed socket (properly earthed socket).
- Lay the power cord so that it does not interfere with your work and cannot be damaged.

8 Adjusting the Machine

8.1 BSM-H 16

8.1.1 Adjust the vice

The vice (A) can be moved inwards or outwards by turning the handwheel (B).

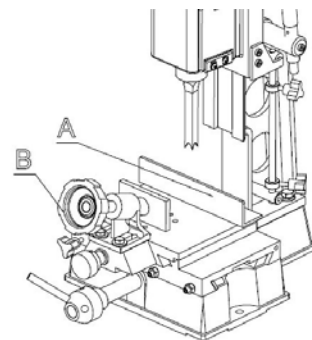


Fig. 9: Adjust the vice

8.1.2 Set workpiece stop

The workpiece stops (A) can be moved inwards or outwards by loosening the clamping lever.

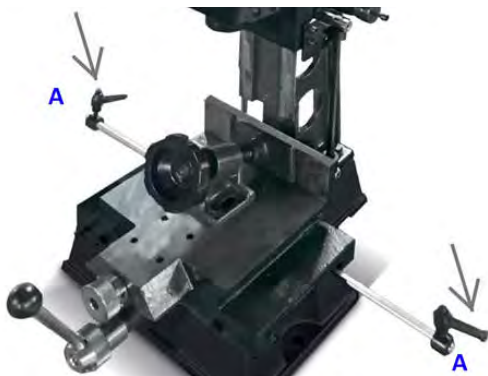


Fig. 10: Set workpiece stop

8.1.3 Adjust the work table

The work table can be moved sideways to the left and right by moving the lever (B).

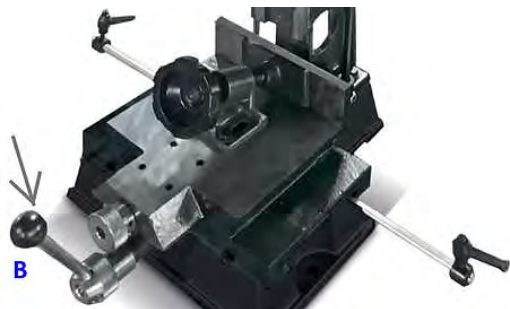


Fig. 11: Adjust the work table

8.1.4 Adjust the depth stop

The depth stop (A) is provided to limit the working depth of the chisel (B). To adjust the depth stop (A), loosen the clamping screw (C) and lower the depth stop until it is in the desired position. Then tighten the clamping screw (C).

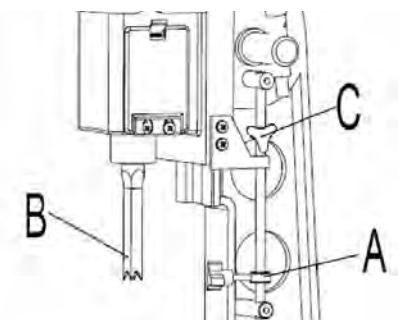


Fig. 12: Adjust the depth stop

8.1.5 Set the drill and chisel

Step 1: Switch off the machine and pull out the power plug.

Step 2: Open the screw on the side of the drill head.

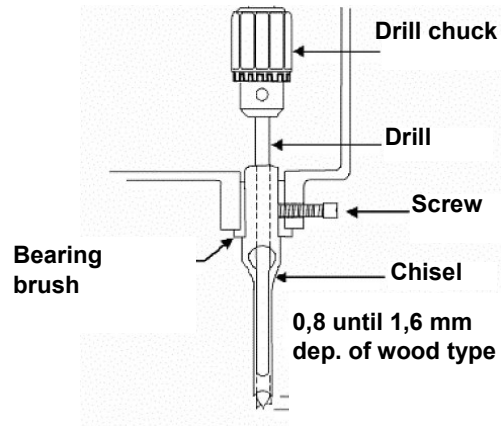


Fig. 13: Structure of the drill type

Step 3: insert the drill into the chisel.

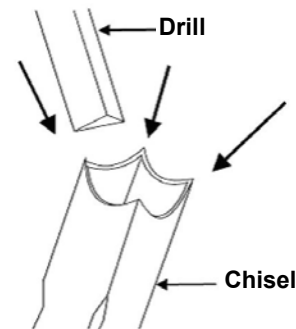


Fig. 14: Connect chisel and drill

Step 4: Press the chisel including the drill into the socket of the drill head. Make sure that the groove of the chisel points to the left or right so that the chips can escape during the machining process.



Fig. 15: Insert chisel

Step 5: Tighten the screw on the side of the drill head to fix the chisel.

Step 6: Hold the drill bit and open the side cover.



Fig. 16: Open cover

Step 7: Push the drill up as far as possible and secure with the chuck key.

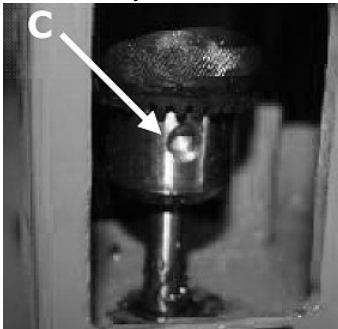


Fig. 17: Insert drill

Step 8: close the side cover.

Step 9: Open the screw on the side of the drill head.

Step 10: Insert the spacer (e.g. plexiglass) into the vice and move it to the chisel.

Step 11: align the chisel.

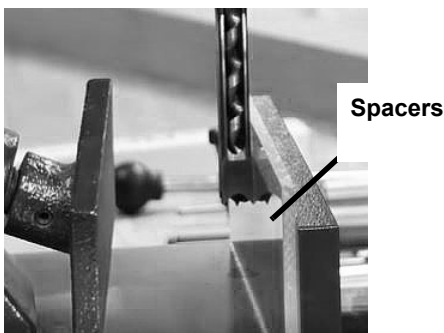


Fig. 18: Distance between chisel and drill

Step 12: Tighten the screw on the side of the drill head and remove the spacer.

8.2 BSM-H 25

8.2.1 Set workpiece stop

The workpiece stop can be adjusted laterally by loosening the clamping lever.



Fig. 19: Set workpiece stop

8.2.2 Adjust the vice

To clamp a workpiece, push the lever item A forward against the workpiece. Then clamp the workpiece by turning lever B.

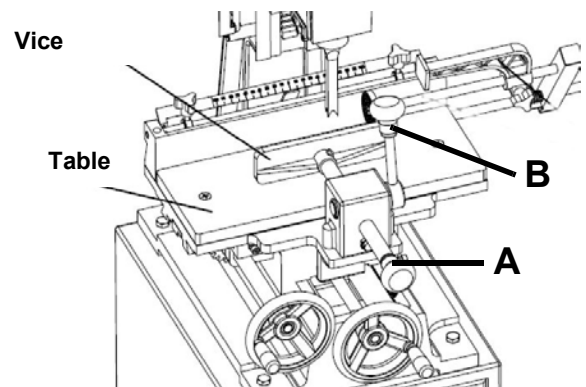


Fig. 20: Adjust the vice

8.2.3 Adjust the work table

The work table can be adjusted by turning the handwheel A to the left and right. The table can be moved forwards and backwards by turning the handwheel B. Fix handwheel B using the clamping lever.

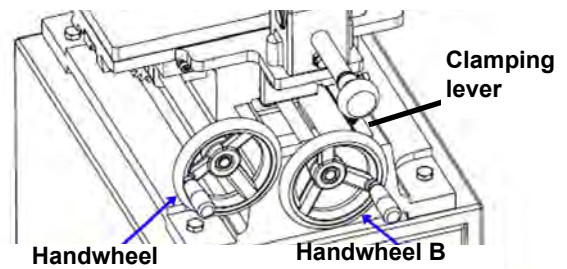


Fig. 21: Adjust the work table

8.2.4 Adjust the depth stop

The depth stop is provided to limit the working depth of the chisel. To set the depth stop, loosen the clamping screws and move the depth stop until it is in the desired position. Then tighten the clamping screws again.

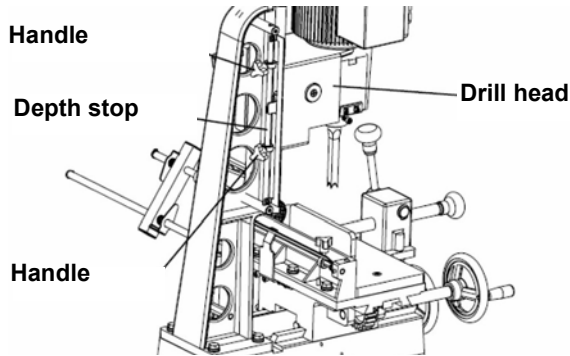


Fig. 22: Adjust the depth stop

8.2.5 Adjust the hold-down device

The workpiece can be securely fixed on the work table with the hold-down device. Loosen the clamping lever of the hold-down device, press the hold-down device onto the workpiece and tighten the clamping lever again.



Fig. 23: Adjust the hold-down device

8.2.6 Drill and chisel

Step 1: Switch off the machine and pull out the plug

Step 2: Open the screw on the side of the drill head

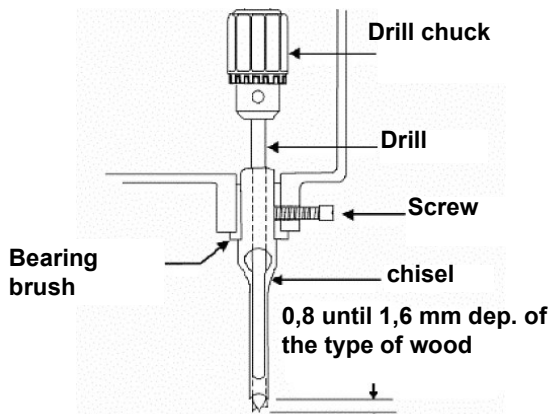


Fig. 24: Structure drill head

Step 3: Insert the drill bit into the chisel

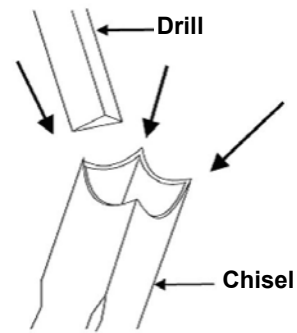


Fig. 25: Connect chisel and drill

Step 4: Press the chisel incl. drill bit into the socket of the drill head. Make sure that the groove of the bit points to the left or right so that the chips can escape during the machining process.



Fig. 26: Insert chisel

Step 5: Tighten the screw on the side of the drill head to fix the bit.

Step 6: Hold the drill and open the side cover.



Fig. 27: Open cover

Step 7: Push the drill as far up as possible and secure it with the drill chuck key.

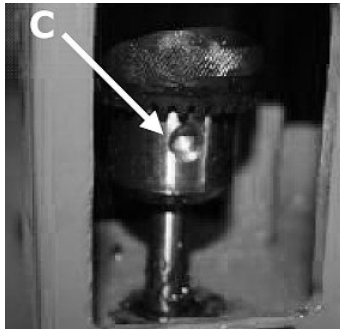


Fig. 28: Insert drill

Step 8: Close the side cover.

Step 9: Open the screw on the side of the drill head.

Step 10: Insert the spacer (e.g. Plexiglas) into the vice and move it to the chisel.

Step 11: Align the chisel.

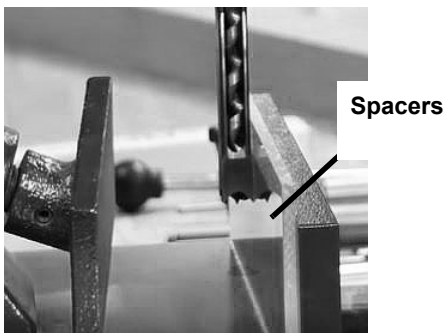


Fig. 29: Distance chisel and drill

Step 12: Tighten the screw on the side of the drill head and remove the spacer.

9 Operation of the Drilling and Mortising Machine



ATTENTION!

Disconnect the mains plug before making any adjustment to the machine.



WARNING!

- The drilling and mortising machine may only be operated by an instructed and experienced person. other persons must keep away from the working area during operation.
- The operator must not work when under the influence of alcohol, drugs or medication.
- The operator must not work if he is overtired or suffers from diseases that impair concentration.
- There is a risk of injury to the upper limbs if the machine is worked on improperly.
- Before commissioning, check the electrical connection, lines and contacts.
- Translated with www.DeepL.com/Translator (free version)



NOTE!

To prevent the chisel from breaking or being destroyed, use a wooden board under the workpiece as a base.

9.1 Switching the machine ON and OFF

1 --> Switch on the machine

0 --> Switch off the machine



Fig. 30: Switching the machine on and off

9.2 Workflow

- Step 1: Set the depth stop to the desired cutting depth.
- Step 2: Place the workpiece on the work table and clamp it.
- Step 3: Adjust the workpiece stop according to the workpiece dimensions.
- Step 4: Check chisel and drill for tight fit.
- Step 5: Switch on the machine.
- Step 6: Operate the control lever to plunge the chisel into the workpiece.

After the first cut, the workpiece is moved further with the handwheel for each subsequent cut. The direction of movement must be such that the chips can flow off freely. Move the workpiece so that the slot in the chisel releases the chips into the part of the workpiece that has already been cut.

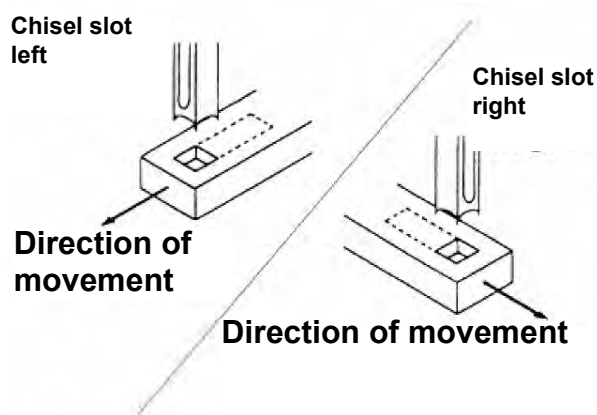


Fig. 31: Workflow

- Step 7: Switch of the machine

10 Care, Maintenance and Repair



ATTENTION!

- Before starting cleaning and maintenance work, switch off the machine and disconnect the mains plug.
- Connections and repairs may only be carried out by qualified personnel.

Daily care and maintenance work

- Clean the machine after each use.
- Remove chips and wood dust.
- Replace damaged safety devices immediately.

Weekly care and maintenance work

- Clean the guards

Monthly care and maintenance work

- Check electrical safety devices and guards and replace if necessary

All 100 working hours

- Clean all moving connecting parts with a brush to remove chips and dust and then apply a thin layer of lubricating oil or grease.

10.1 Cleaning

- Clean the machine of chips and wood dust with compressed air (Attention: Wear protective goggles and dust mask (particle filter - filter class 2)!) and/or with a dry cloth.
- Clean the motor and switch with a dry cloth. Never use water!
- Clean the housing and machine surfaces only with a damp cloth and some cleaning agent. Do not use solvents. These could attack the plastic parts of the machine. Make sure that no water can get into the inside of the machine.
- Spray or oil all unpainted metal surfaces with a little anti-rust spray.

10.2 Maintenance and repair

Maintenance and repair work must only be carried out by qualified personnel.

If the drilling and mortising machine does not function properly, contact a specialist dealer.

All protective and safety devices must be refitted immediately after repair and maintenance work has been completed.

10.3 Sharpening chisels and drills

Chisels and drills should be kept sharp for best performance. Dull edges lead to inaccurate chiselling and can cause overheating and breakage of the chisel or drill. If chisels and drills are badly worn and difficult to sharpen, they should be replaced.

10.3.1 Sharpen drill

Sharpen the drill with a smooth file that follows the original shape of the drill. File the inside edge of the centre point, the sides of the drill tip and the cutting edge inwards towards the drill. Do not file the outer edge of the drill bit as this will affect the diameter.

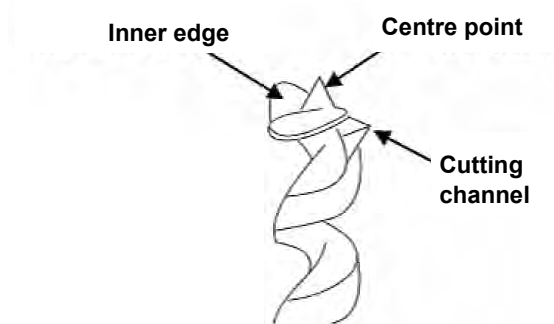


Fig. 32: Sharpen drill

10.3.2 Chisel sharpening

Look down into the recess of the chisel and check whether the bevelled areas inside the chisel (where the recess becomes circular) have become blunt or whether one of the square corners has become round. The angles of the corners should be filed to restore the original shape.

If the abrasion is so great that the thickness of the entire bit tip decreases noticeably, there is a risk that the bit will break in operation. In case of excessive abrasion, it is advisable to replace the chisel with a new one.

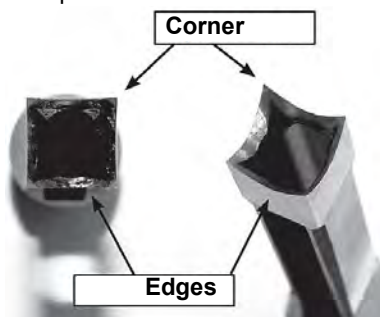


Fig. 33: Sharpen chisel

11 Disposal and Recycling

In your own interest and in the interest of the environment, please ensure that all components of the machine are disposed of only via the designated and approved channels.

11.1 Decommissioning

Discarded appliances must be taken out of service immediately in a professional manner in order to avoid later misuse and endangering the environment or persons.

Step 1: Remove all environmentally hazardous operating materials from the old machine.

Step 2: If necessary, dismantle the machine into manageable and recyclable assemblies and components.

Step 3: Route the machine components and operating materials to the designated disposal channels.

11.2 Disposal of electrical equipment

Please note that electrical appliances contain a variety of recyclable materials as well as environmentally harmful components. Help to ensure that these components are disposed of separately and properly. If in doubt, please contact your municipal waste disposal service. If necessary, enlist the help of a specialised waste disposal company for processing.

11.3 Disposal of lubricants

The disposal instructions for the lubricants used are provided by the lubricant manufacturer. If necessary, ask for the product-specific data sheets.

11.4 Disposal via municipal collection points

Disposal of used electrical and electronic equipment (to be applied in the countries of the European Union and other European countries with a separate collection system for this equipment).



The symbol on the product or its packaging indicates that this product should not be treated as normal household waste, but should be taken to a collection point for the recycling of electrical and electronic equipment. By helping to dispose of this product correctly, you are protecting the environment and the health of those around you. The environment and health are endangered by incorrect disposal. Material recycling helps to reduce the consumption of raw materials. For more information about recycling this product, contact your local council, municipal waste disposal service or the shop where you purchased the product.

12 Troubleshooting

Malfunction	Possible causes	Solution
Engine power too low	<ol style="list-style-type: none"> 1. Voltage supply insufficient. Damaged/defective line windings. 3. 2. Defect at the main switch. 3. Mains overload. 	<ol style="list-style-type: none"> 1. Disconnect the machine from the mains, let the motor cool down and connect the machine to another mains supply. If necessary, have the electrical system of the machine checked by qualified personnel.
Engine gets hot	<ol style="list-style-type: none"> 1. Motor circuit breaker defective. 2. Overload of the motor 3. Blunt/damaged tool 	<ol style="list-style-type: none"> 1. Unplug the machine from the mains and have it repaired by qualified personnel. 2. Let the engine cool down and restart it at a later time. 3. Sharpen or replace the tool.
Reduced motor power, Too much heat generated on the workpiece during the machining process.	<ol style="list-style-type: none"> 1. Blunt, damaged or deformed tools 	<ol style="list-style-type: none"> 1. Replace tool
Handwheels are difficult to move	<ol style="list-style-type: none"> 1. Dirt or chips have accumulated in the machine or are blocking the hand-wheel. 	<ol style="list-style-type: none"> 1. Clean and lubricate the machine.
Strong vibration of the machine	<ol style="list-style-type: none"> 1. Machine is standing on an uneven floor surface. 2. Damaged components, e.g. tools. 3. 3. Loose components such as bolts, screws or nuts. 	<ol style="list-style-type: none"> 1. Align the machine 2. Replace damaged components 3. Tighten loose components
Engine does not start	<ol style="list-style-type: none"> 1. Defective fuses. 2. Damaged cables or switches. 	<ol style="list-style-type: none"> 1. Have defective fuses replaced by qualified personnel 2. Have any damage repaired by qualified personnel

13 Spare Parts



DANGER!

Risk of injury due to the use of incorrect spare parts!

The use of incorrect or faulty spare parts can be dangerous for the operator and cause damage and malfunctions.

- Only original spare parts from the manufacturer or spare parts approved by the manufacturer are to be used.
- Always contact the manufacturer if anything is unclear.



Tips and recommendations

Use of non-approved spare parts will invalidate the manufacturer's warranty.

13.1 Spare parts order

The spare parts can be obtained from the specialist dealer.

Please state the following key data when making enquiries or ordering spare parts:

- Device type
- Item number
- Year of manufacture
- Quantity
- Desired mode of dispatch (post, freight, sea, air, express)
- Shipping address

Spare parts orders without the above information cannot be considered. If the shipping method is not specified, shipping will be at the discretion of the supplier.

Information on the machine type, item number and year of manufacture can be found on the type plate attached to the machine.

Example

The motor for the drilling and mortising machine BSM-H 16 must be ordered. The motor has the number 2 in spare parts drawing 1.

When ordering spare parts, send a copy of the spare parts drawing (1) with the marked component (motor) and marked item number (2) to the authorised dealer and provide the following information:

- **Machine type: Drilling and mortising machine BSM-H 16**
- **Item number: 5906116**
- **Spare part drawing: 1**
- **Item number: 2**

13.2 Spare parts drawing

The following drawings should help to identify necessary spare parts in case of service.

13.2.1 Spare parts drawing BSM-H 16

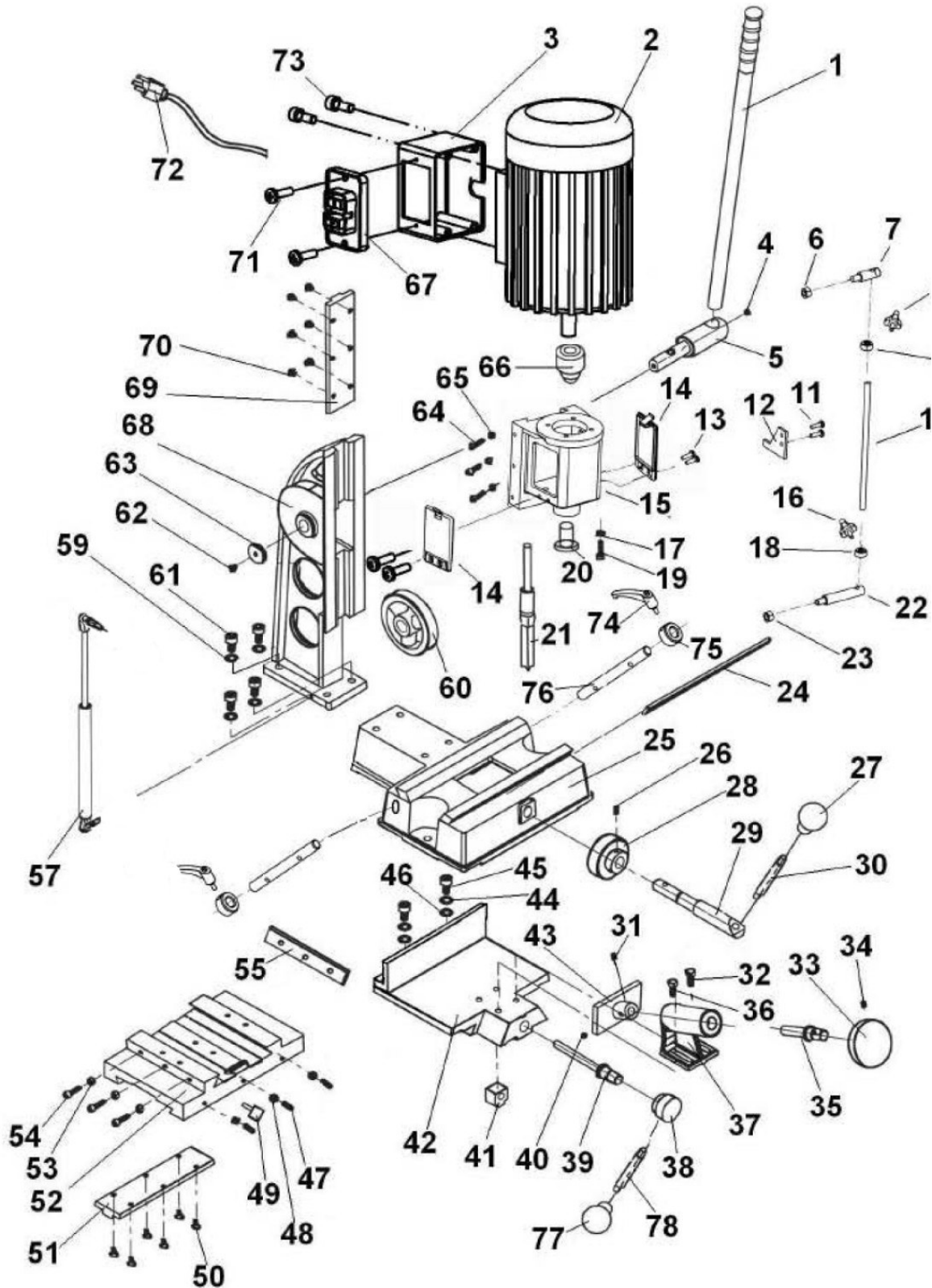


Fig. 34: Spare parts drawing BSM-H 16

13.2.2 Spare parts drawing BSM-H 25

Spare parts drawing 1

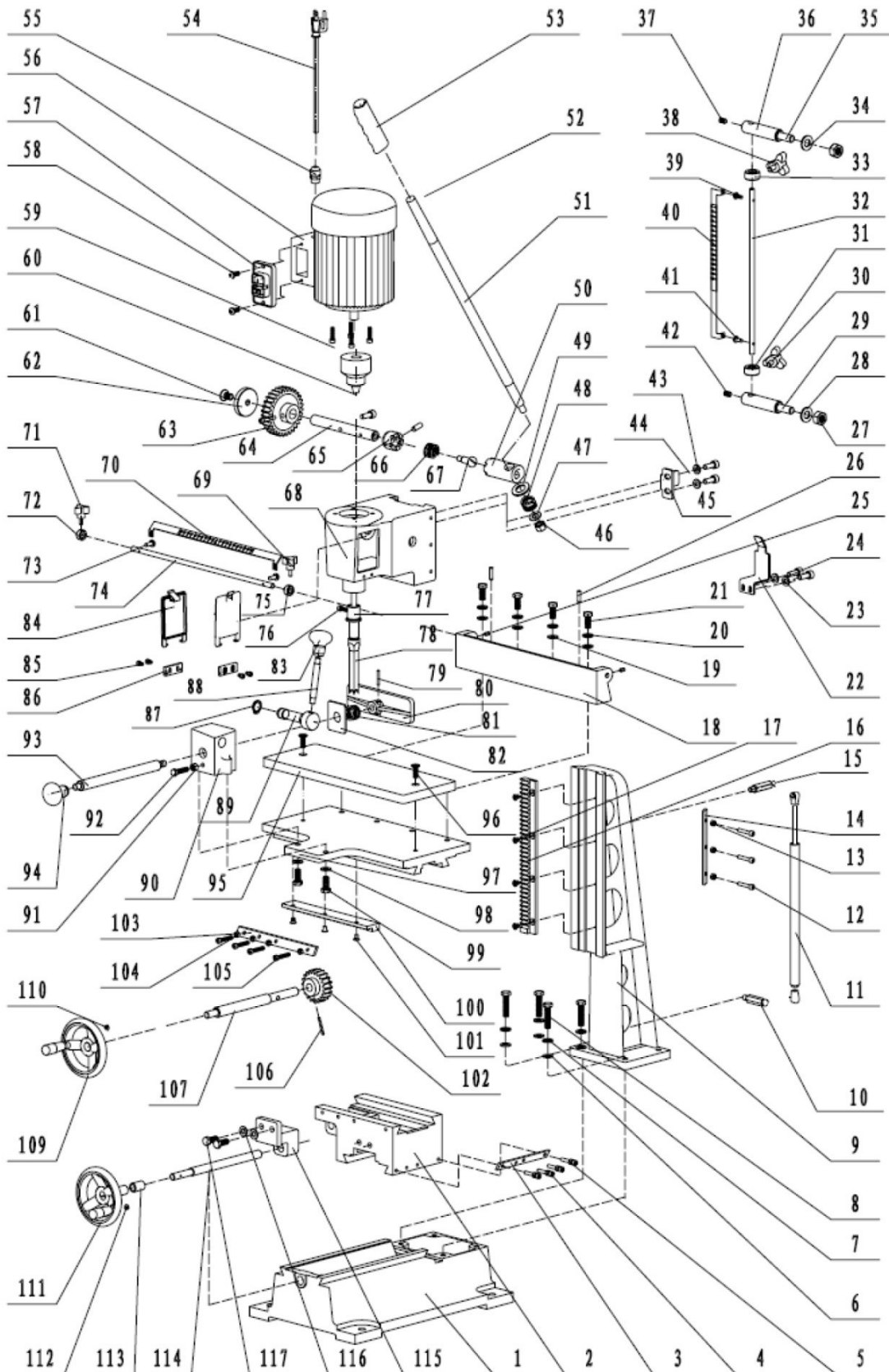


Fig. 35: Spare parts drawing 1

Spare parts drawing 2

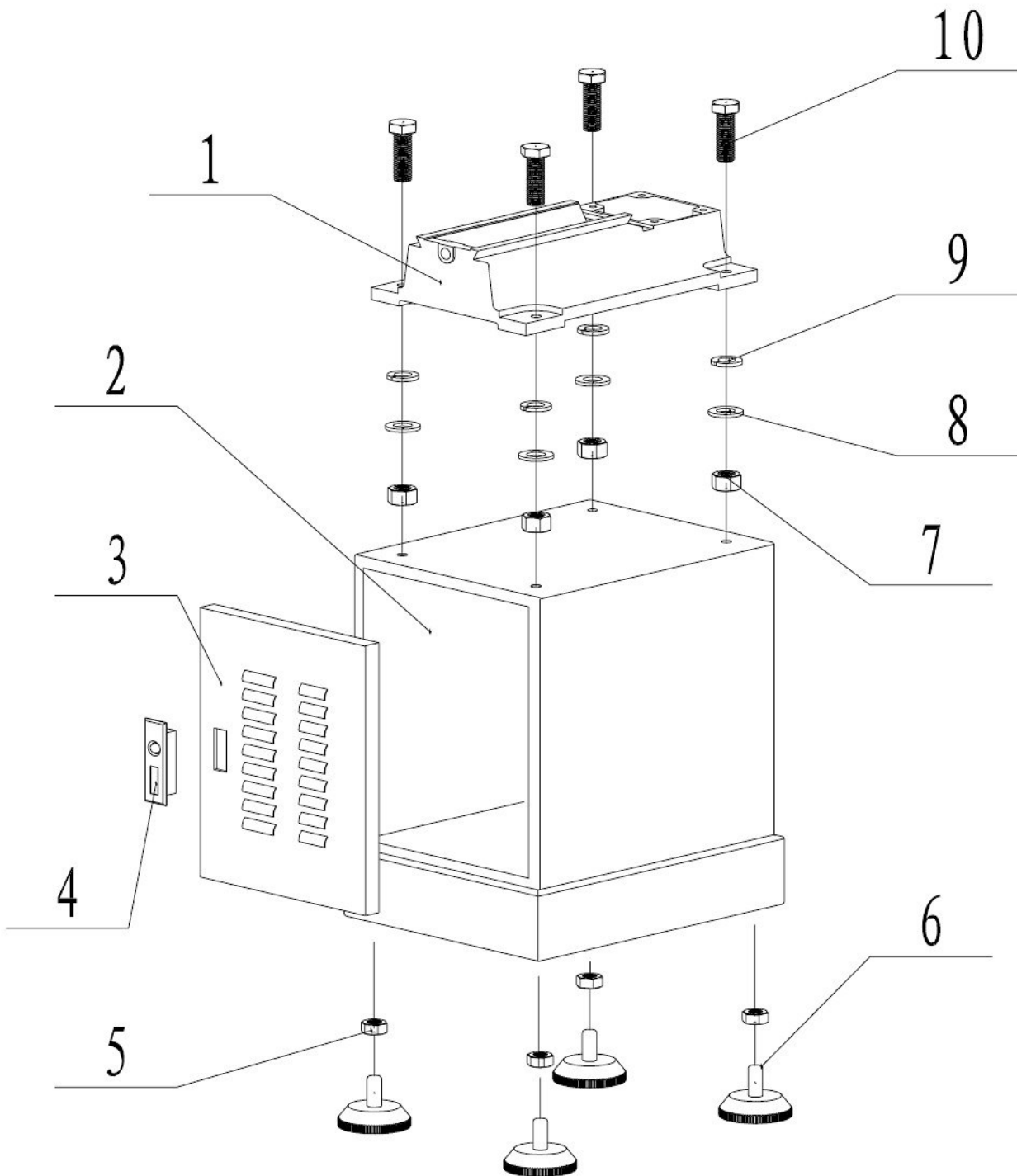


Fig. 36: Spare parts drawing 2

Spare parts drawing 3

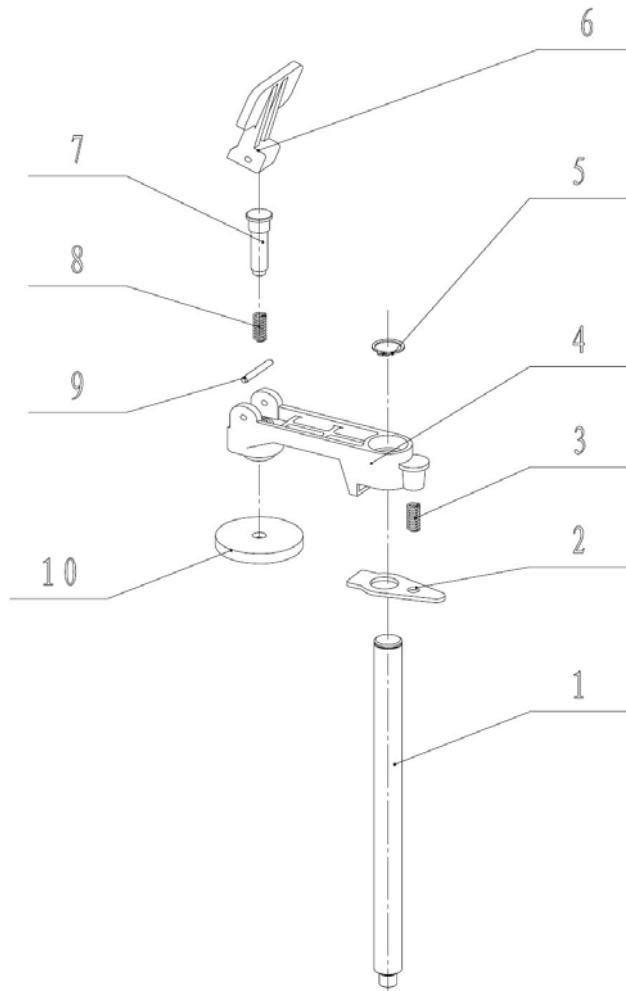


Fig. 37: Spare parts drawing 3

Spare parts drawing 4

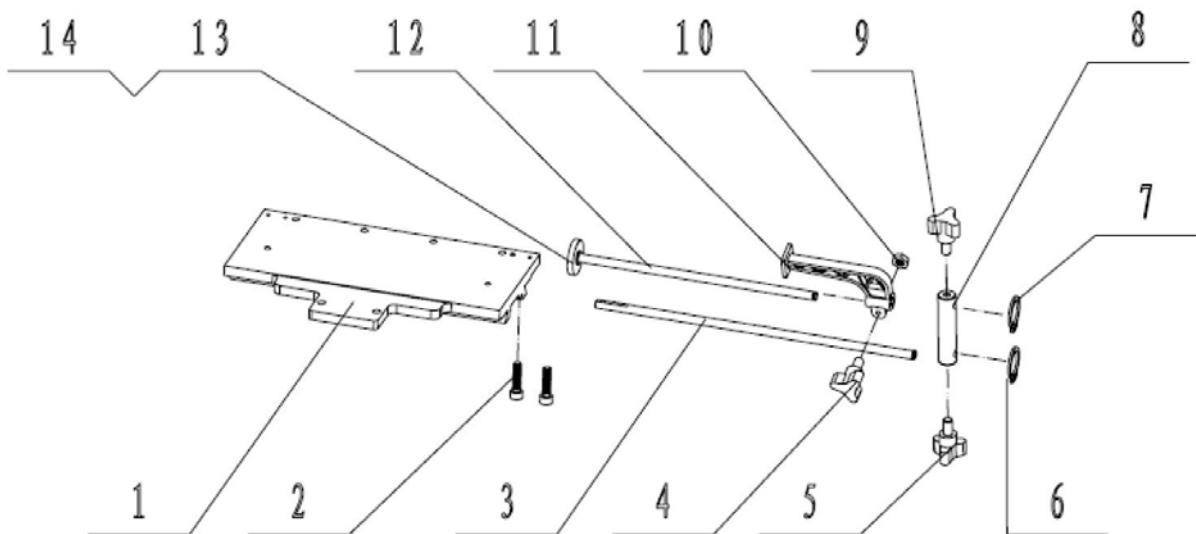


Fig. 38: Spare parts drawing 4

14 Electrical Circuit Diagram

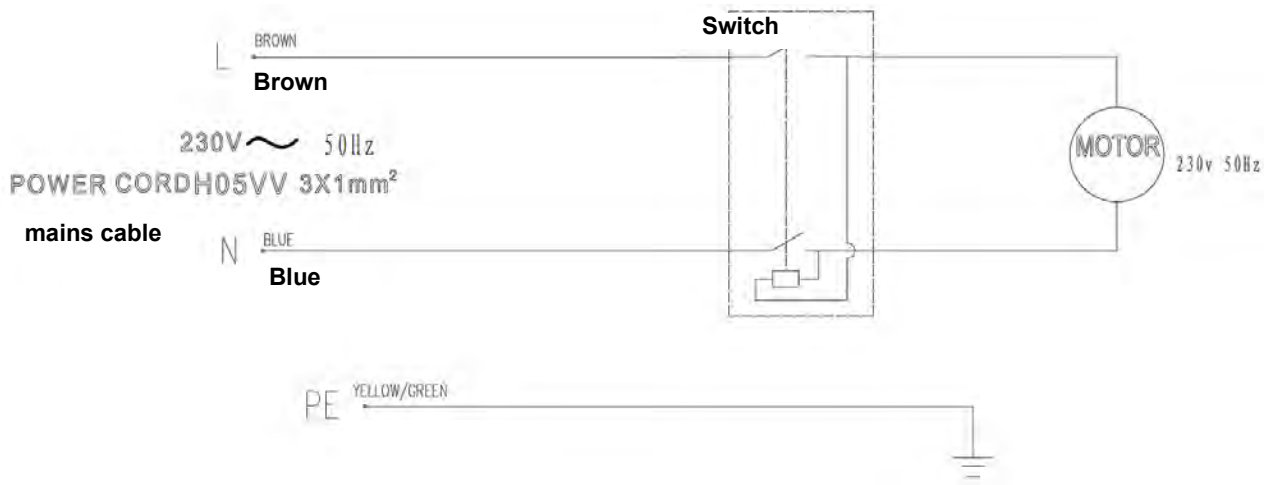


Fig. 39: Electrical circuit diagram BSM-H 16 and BSM-H 25

15 EC-Declaration of Conformity

16 Notes

