

MINIPRESS P

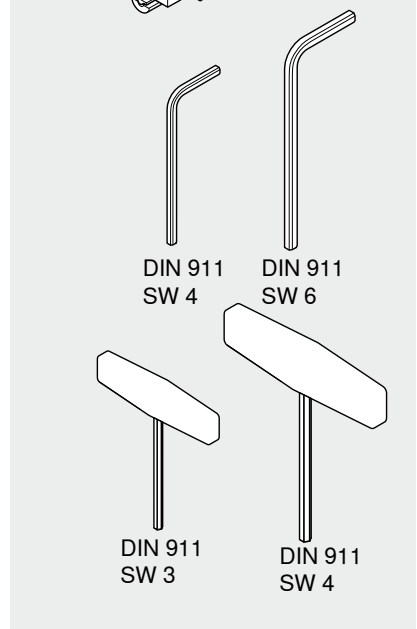
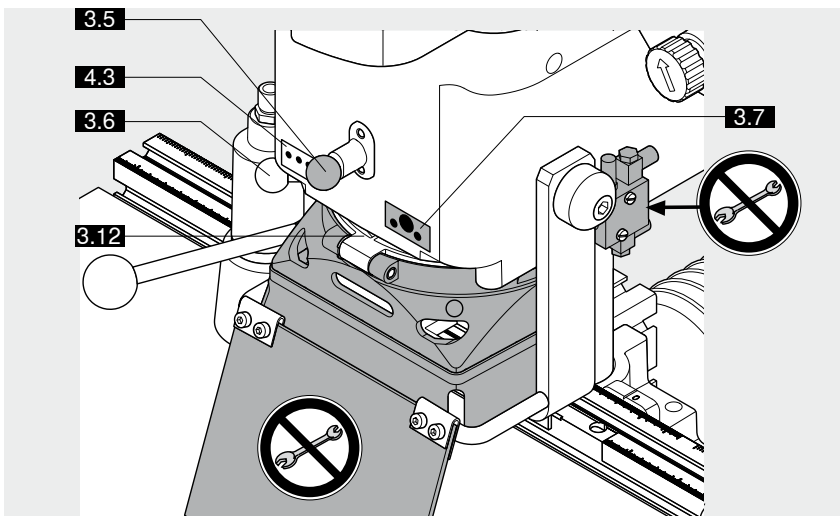
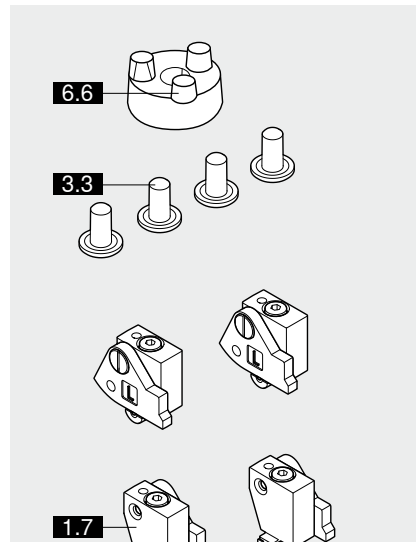
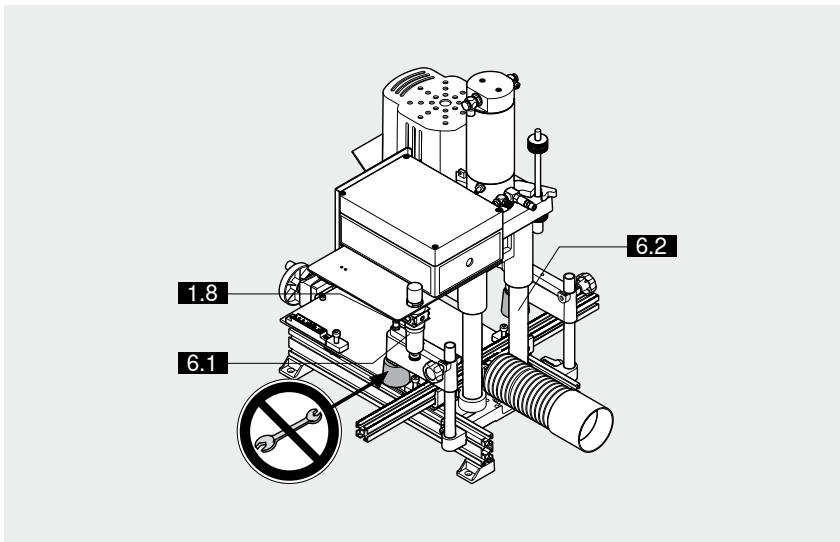
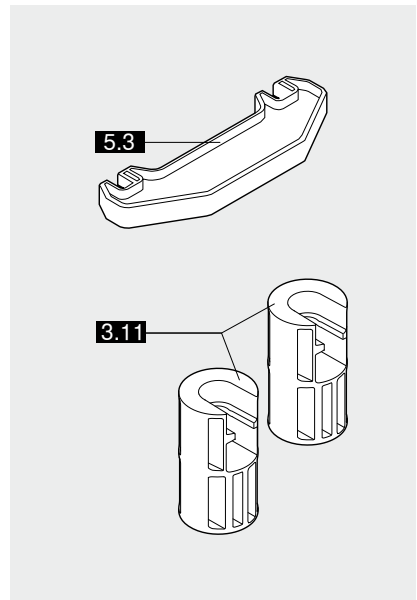
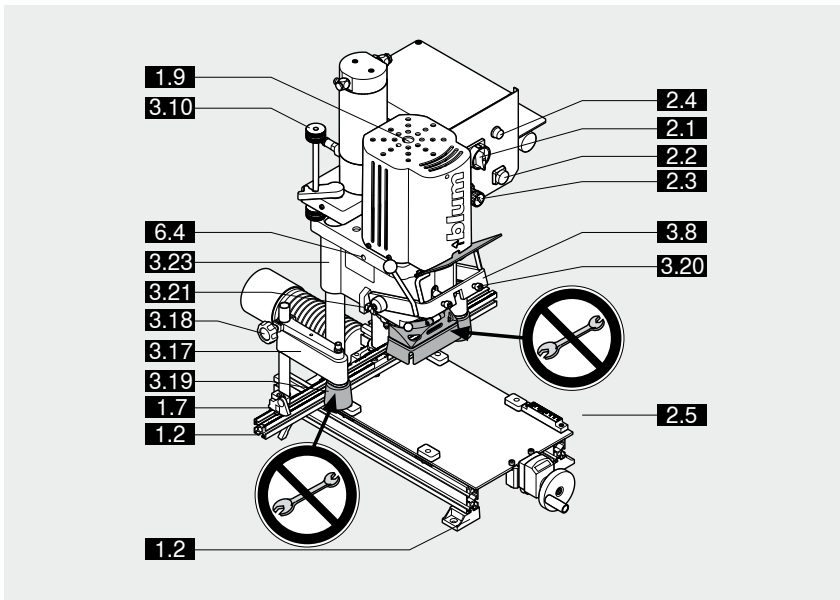
Please keep a copy of the operating instructions.




EN

 **blum**[®]

BA-101/3EN M53.XXXX



 **Safety device:**
Do not remove and replace immediately with original parts if damaged.

A- Orientation diagram	2
B - Table of contents	3
C - Reading guide	5
C.1 - How to use these operating instructions	5
D - Safety information	6
D.1- Remaining risks according to ISO EN 12100-2	6
D.2 - Safety decals	6
D.3 - Intended use	6
D.4 - Safety information	6
D.5 - Noise emission	7
D.6 - Dust emission	7
F- EC Declaration of Conformity / Techn. Data	9
F.1 - EC Declaration of Conformity	9
F.2 - Technical data	9
1 - Assembly machine setup	10
1.1 - Unpacking and assembly	10
1.1.1) Assembly machine space requirement	10
1.1.2) Unpacking assembly machine and attaching to a suitable table	10
1.1.3) Attaching base ruler	10
1.1.4) Attaching swivel stops	10
1.1.5) Attaching work table	11
1.2 - Connecting to compressed air system	11
1.2.1) Connecting air supply	11
1.2.2) Setting operating pressure	11
1.3 - Electrical connection	11
1.3.1) Electrical connection	11
1.4 - Dust extraction	12
1.4.1) Connecting extraction system to the assembly machine	12
1.4.2) Attaching the extraction system with the controller	12
2 - Description of operator panels	13
2.1 - Description of operator panels	13
2.1.1) Designation of operating elements	13
2.1.2) Feed switch	13
2.1.3) Hold down clamp switch	13
3 - Assembly	14
3.1 - Furniture hinge assembly	14
3.1.1) Required parts	14
3.1.2) Setting drill bit length	14
3.1.3) Setting drilling pattern	14
3.1.4) Inserting drill bits	14
3.1.5) Setting drilling depth	14
3.1.6) Drilling depth stop	15
3.1.7) Setting cam speed	15
3.1.8) Checking cam brake	15
3.1.9) Setting cam brake	15
3.1.10) Setting the stop system	15
3.1.11) Setting swivel stops	16
3.1.12) Placing door on the work top and pushing up against the stop or marking line	16
3.1.13) Setting hold down clamps to the material thickness	16
3.1.14) Attaching insertion ram to swing arm	16
3.1.15) Clipping furniture hinge on to the insertion ram	17
3.1.16) Drilling	17
3.1.17) Checking the tilt adjustment of the swing arm	17
3.1.18) Inserting the furniture hinge	17
4 - Assembly	18
4.1 - Cruciform mounting plate assembly	18
4.1.1) Required parts	18
4.1.2) Setting drill bit length	18
4.1.3) Setting drilling pattern	18
4.1.4) Installing drill bits into the chuck	18
4.1.5) Checking drilling depth setting	18
4.1.6) Setting the cam speed	18
4.1.7) Setting the stop system	18
4.1.8) Setting swivel stops	18

4.1.9) Placing cabinet side on the work top and pushing up against the stop or marking line	19
4.1.10) Setting hold down clamps to the material thickness	19
4.1.11) Drilling	19
4.1.12) Loosing hold down clamps	19
5 - Assembly	20
5.1 - Drilling hole groups	20
5.1.1) Required parts	20
5.1.2) Setting drill bit length	20
5.1.3) Setting drilling pattern	20
5.1.4) Inserting drill bits into the chuck	20
5.1.5) Checking drilling depth setting	20
5.1.6) Setting cam speed	20
5.1.7) Setting stop system	20
5.1.8) Setting swivel stops	20
5.1.9) Drilling hole groups	20
5.1.10) Placing cabinet side on the work top and pushing up against the stop or marking line	20
5.1.11) Setting hold down clamps to the material thickness	20
5.1.12) Drilling	20
5.1.13) Loosing hold down clamps	20
6 - Maintenance and service	21
6.1 - Maintenance	21
6.1.1) Maintenance	21
6.1.2) Damaged coupling	21
6.1.3) Replacing the operational status indicator	21
7 - Troubleshooting	22
7.1 - Error during drilling	22
7.2 - Fitting insertion error	25
7.3 - Function errors	25
8 - Appendix	27
8.1 - User-supplied work top	27
9 - Diagrams	28
9.1 - Electrical diagram 1x 230 V 50 Hz	28
9.2 - Electrical diagram 3x 230 V 50 Hz	29
9.3 - Electrical diagram 3x 400 V 50 Hz	30
9.4 - Pneumatic diagram	31

C.1 - How to use these operating instructions

- Please keep a copy of the operating instructions.
- Completely read the operating instructions and the safety information before operating the assembly machine.
- We recommend that you use the orientation diagram for easier identification of the parts being described.
- Individual sections are indicated by capital letters which makes it easier to navigate the instructions.

**Safety information:**

This exclamation point indicates important safety information that must be followed.

**Comment:**

This exclamation point indicates a comment. If this comment is not followed, then assembly machine components as well as the work piece itself may be damaged or the assembly machine may be rendered inoperable and/or the work piece unusable.

(3.1) Component description codes correspond to the section where the component and its function is described. For example, **(3.1)** is described in section 3.

Dear valued Blum customer,

We would like to congratulate you on your decision to purchase the Blum assembly machine. You are now the owner of a modern, high-quality assembly machine that will give you years of productive use with the proper care and maintenance.

We realise that your time is valuable. However, you should carefully read these operating instructions before you set up and use the machine for the first time. In this way, you will best determine how to adjust the assembly machine to your needs as well as protect yourself against injury. In addition, the operating instructions also contain important information about machine maintenance. At the time of printing, these operating instructions contained up-to-date information for this model. Small deviations due to continual development of the assembly machine design cannot be ruled out entirely. These operating instructions are an important component to the assembly machine and must be transferred to the new owner if the machine is sold.

For your own safety, you should only use Blum-approved replacement parts and accessories. Blum is not liable for any damages resulting from the use of unapproved products.

Blum GmbH retains the right to make changes to and/or cancel without replacement the technical design, equipment, technical information, colour, materials, services provided and similar without prior notice and without explanation as well as the right to discontinue production of a specific model also without prior notice.

D.1- Remaining risks according to ISO EN 12100-2

- This machine complies with current safety standards. However, risks remain for
- the operator and second persons due to the stroke movement of the drilling unit and especially in case safety devices are removed or control elements should fail.
- Other remaining risks are indicated by the safety decals and in the following safety rules. It is therefore absolutely necessary to follow all safety instructions carefully.

D.2 - Safety decals

	Completely read the operating instructions and the safety information before operating the assembly machine
	Wear proper eye and face protection when operating this machine
	Only one person at a time must operate the machine. The work area is located in front of the machine.
	Electrical connections and maintenance should only be performed by a qualified electrician. Disconnect electrical and pneumatic connections before making any repairs (plug / rapid hose coupling).
	Keep hands away from the drill or swing arm during the drilling or insertion process. Do not remove safety devices - danger of injury.
	Keep hands away from the danger zone of the clamps and knurled screws. - danger of being crushed
	Class 2 laser - Never look directly into the laser beam. The laser can cause eye damage.

D.3 - Intended use

- The designated purpose of the assembly machine is the drilling and insertion of furniture fittings into work pieces made of wood, particle board or plastic coated wood. The assembly machine should only be used in manufacturing. The manufacturer does not assume liability for uses not described in the instruction manual.
- The machine is not explosion-proof. It should not be set up near a paint finishing system
- The intended purpose of laser module MZR.5300 is measurement and position determination on the work piece in conjunction with MINIPRESS P. Only wood or particle board should be used as the work piece since they are non-reflective. Coated and/or reflective work pieces may not be used. Laser module MZR.5300 may only be used in combination with MINIPRESS P in commercial and industrial applications. The manufacturer does not assume liability for uses not described in this instruction leaflet or the MINIPRESS P instruction leaflet.

D.4 - Safety information

- Before retooling, cleaning, maintenance or performing any work on drill bits, turn the main switch **(3.1)** to pos. 0 and disconnect the assembly machine from the pneumatic connection.

- Only use sharp, clean drill bits.
- Particular care must be taken when working on sections that jut out over the work top. Attach a larger work table or use extensions. Work pieces should not affect the stability of the assembly machine. Work pieces should be secured against tipping or falling. Use suitable clamps or support brackets. Operating elements must remain accessible and their accessibility should be not obstructed.
- Secure the work piece during drilling/insertion. Use the assembly machine hold down clamps (optional) or if these are not sufficient for the particular job, use suitable clamping equipment.
- Wear appropriate work clothing.
- You should always check that all safety devices and machine parts are functioning properly before use. Replace damaged parts with original Blum parts.
- Make sure that no other tools or objects are on the work table aside from your work piece before turning on the assembly machine.
- Always turn the main switch **(3.1)** to POS. 0 after finishing work.
- CAUTION: For your own safety, use only those accessories which are recommended or indicated in the manual or Blum sales literature.
- Do not make any alterations or modifications to the assembly machine.
- If there are any questions and/or problems, please contact the BLUM Customer Service Department.
- All national regulations regarding labour law, industrial safety as well as all disposal guidelines must be followed.

D.5 - Noise emission

Noise emission levels as per EN ISO 11202 (11204) are:

Work place noise level is (work cycle): 80.4 dB(A) (measured at a height of 1.5 m and at 1 m forward of the worktable edge. The ambient correction factor K3A is 4 dB and is calculated according to EN ISO 11204 Appendix A. The difference between the extraneous noise level and the sound intensity level at each measuring point is > 6dB)

The specified values are emission values, which means that they are not necessarily safe workplace values at the same time. Although there is a correlation between emission and immission values, the necessity of additional precautions cannot be deduced with certainty. Factors liable to influence current immission levels in the workplace include the length of exposure, the characteristics of the workroom, and other noise sources. Also, admissible workplace levels may vary from country to country. The information provided here is designed to enable users to assess the hazards and risks involved more accurately.

D.6 - Dust emission

If connected properly to a dust extraction system, dust emissions fall clearly below the technical standard value. The assembly machine is equipped with a connecting piece for hoses with an inside diameter of 100 mm. This provides negative pressure of 2000 Pa for the maximum required average air velocity of 20 m/sec. If there is no extraction system connector with a diameter of 100 mm, the supplied adapter can be used. For connection, make sure that a minimum air velocity of 20 m/sec is provided at the cross-section of the 100 mm hose.

- The assembly machine must be connected to a dust extraction system. (The extraction system connection must be flexible and hardly inflammable).
- Regularly remove remaining dust and chips using a vacuum cleaner.

MINIPRESS P			blum
Ser.No.: JB 00001		2010	
V	Hz	kW	CE
kg /	lbs		
Bohr- und Beschlagsetzmaschine			
Ref.No.: M53.1000			
Julius Blum GmbH - A - 6973			

BG	Пробивни машини
DA	Bore- og beslagssætmaskiner
DE	Bohr- und Beschlagsetzmaschine
EN	Drilling and insertion machine
ET	Puurimis- ja sisestusmasinad
FI	Asennusporakoneet
FR	Machine pour percer et poser des ferrures
EL	Μηχάνημα διότρησης και τοποθέτησης
IT	Macchina foraineritrice
LV	Urbšanas un furnitūras iestrādāšanas iekārta
LT	Gręžimo-montavimo staklės
NL	Boor- en beslagmachines
PL	Maszyna do nawiercania i osadzania okuć
PT	Furadeira e máquina para a montagem de ferragens
RO	Maşină de găurit şi montat feronerie
SV	Borr- och beslagsmonteringsmaskiner
SK	Vrtací a lisovací stroj
SL	Vrtalni stroj in stroj za okovje
ES	Máquinas para taladrar y de instalación de herrajes
CS	Vrtací a lisovací stroje
HU	Fúró- és vasalatbepréselő gépek

F.1 - EC Declaration of Conformity



Julius Blum GmbH, Industriestr. 1, A-6973 Höchst herewith declare on our own responsibility that the product MINIPRESS (M53. xxxx) with drilling heads (MZK.1000, MZK.1900, MZK.8000, MZK.8800) to which this Declaration refers, complies with the following EU Directives:

EC Machine Directive 2006/42/EC
EC EMV Directive 2004/108/EC

The following harmonised European standards have been used to ensure proper implementation of the requirements specified in the EU Directives:

EN ISO 12100-1, EN ISO 12100-2, EN 60204-1, EN 349, EN 983

In addition, the following standards have also been applied:

EN ISO 11202, EN ISO 11204, DIN 33893-2

Registered location:

Section wood


Testing and certification centre in BG - PRÜFZERT

Postfach 800480

70504 Stuttgart

GS testing certification no.: 051140

BG testing certification no. 051141


Höchst, 06.07.09
Dipl.-Ing. Herbert Blum,
Managing Director
www.blum.com

Documentation authorised agent:
Dipl.-Ing. (FH) Thomas Maier,
www.blum.com

F.2 - Technical data

1) General data

- Voltage: see serial tag
 - Current: see serial tag
 - Connected load
 Motor: 1.1 kW
 - RPM: see serial tag
 - Air consumption: 1.5 litres
 - Noise emission: 80.4 dB(A)
- Important: Provide a 7 A mains backup fuse.

Installation location:

- Temperature range: 5 - 40 °C (39.2 - 104 °F)
- Rel. humidity: 35 - 55 %

3) Max. work piece thickness

- drilling only 45 mm
- Insertion
 Depending on the fitting max. 20 mm to max. 32 mm

5) Max. drilling diameter

- Max. drilling diameter 45 mm
- For drill bits see BLUM complete catalogue
 Only Blum-approved drill bits
 may be used.

2) Weight and measurements

Weight: m= 47 kg

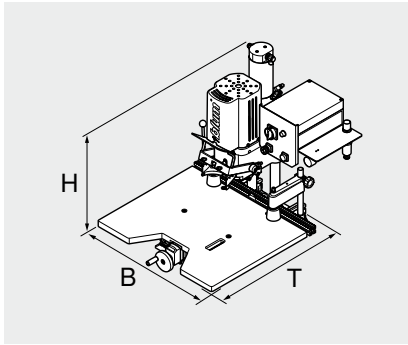
Dimensions: H= 771 mm
 W= 684 mm
 D= 690 mm

4) Max. drilling distance

- Drilling distance centre spindle: 0 - 70 mm

6) Accessories

- For accessories see BLUM complete catalogue

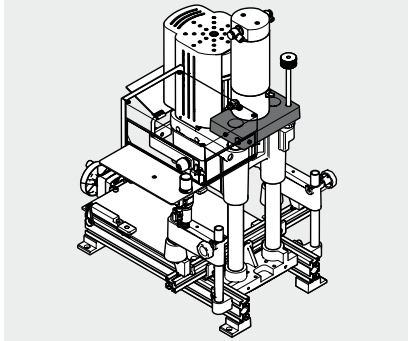


1.1 - Unpacking and assembly

1.1.1) Assembly machine space requirement

H=	771 mm
W=	684 mm
D=	690 mm

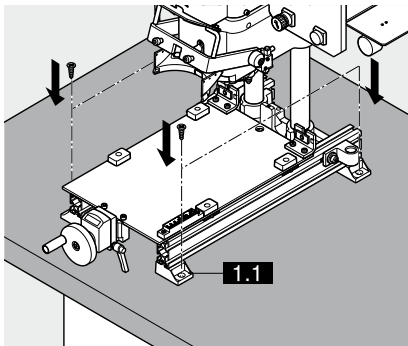
ATTENTION:
 The centre of gravity for the assembly machine is in the back



1.1.2) Unpacking assembly machine and attaching to a suitable table

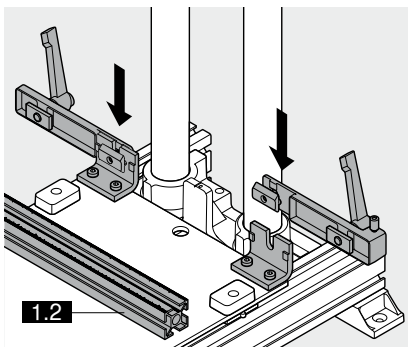
- Open box
- Use two people to lift the assembly machine onto the table

ATTENTION:
 To lift assembly machine only use hitch and load pick up device!



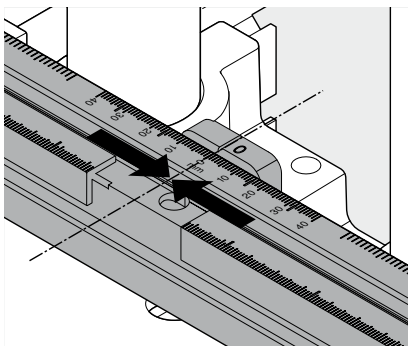
ATTENTION:
 The assembly machine weighs approx. 47 kg.
 The table should have the proper dimensions
Recommended table height 80 - 90 cm

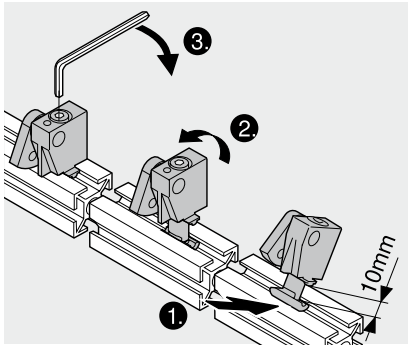
- Pre-drill holes and then attach assembly machine (1.1) using the screws.
- **Do not setup or store assembly machine in a moist environment.** The space should be dry.



1.1.3) Attaching (1.2) base ruler

- Attach the MZE.130M00 package as per included MZE.1300 (BA-199) installation instructions





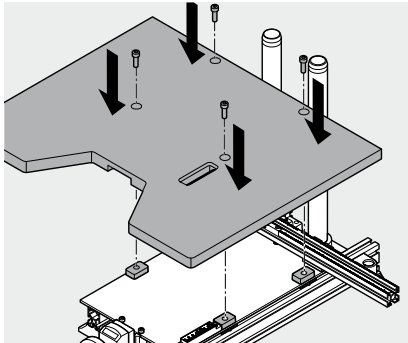
1.1.4) Attaching swivel stops

- Loosen clamping knob until the counter plate protrudes 10 mm
- Attach swivel stop to ruler at an angle and stand upright
- Tighten clamping knob



Note:

This procedure can also be used to set a stop between two available stops.



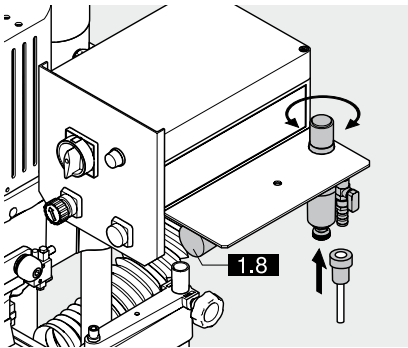
1.1.5) Attaching work table

- Accessory work top MZA.5300 table
 - Set work table on runner plate
 - Attach work table to runner plate
- User-supplied work table (see Chapter 8 - Appendix)



ATTENTION:

The assembly machine should not be operated without the work top. The work top must be securely fastened to the assembly machine using the included fixing screws.



1.2 - Connecting to compressed air system

1.2.1) Connecting air supply



ATTENTION:

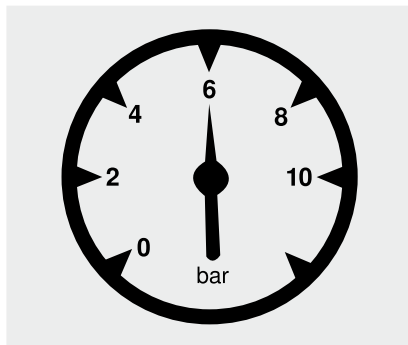
During the following procedure, the drill unit (3.23) makes an upward motion

- Connect the air supply to the air filter unit (1.8) of the assembly machine
- Open stop valve



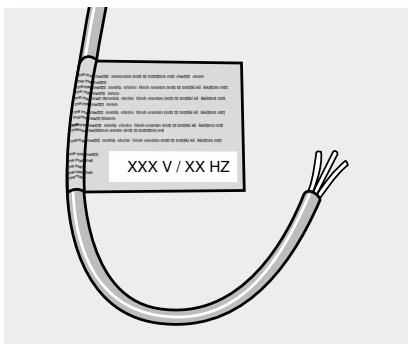
Important:

A rapid hose coupling must be inserted a max. 3 m from the machine in the air pressure supply line.



1.2.2) Setting operating pressure

- The operating pressure is 6 bar
(Pmin = 5 bar)
(Pmin = 7 bar)
- Air consumption per work cycle is 1.5 litres



1.3 - Electrical connection

1.3.1) Electrical connection

- The assembly machine is equipped with a mains plug. If the mains plug cannot be used, the following steps should be carried out:



ATTENTION:

The electrical connection must be performed by a qualified electrician!

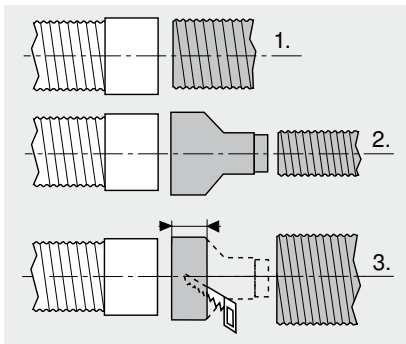
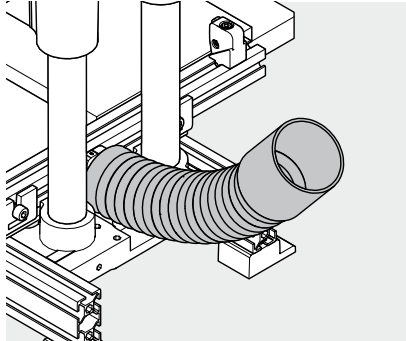
- Set main switch **[21]** to **Pos.0**
- The attached plug should correspond to national standards. Provide a 7 A mains backup fuse (see Chapter 9 - Diagrams).

Important:



The assembly machine is designed for the voltage printed on the label of the connection cable.

For use with other assembly machine operating voltages, see Chapter 9 - Diagrams



1.4 - Dust extraction

1.4.1) Connecting extraction system to the assembly machine



ATTENTION:

The machine must be connected to a dust extraction system!

- Insert the spiral hose with an inside diameter of **100 mm** into the receiving tube and secure it.
- Make sure that the average air velocity for the extraction system is at least 20 m/sec.
- If there is no extraction system connector with a diameter of **100 mm**, the supplied adapter (**image 1.4.2**) can be used. For connection, make sure that a minimum air velocity of 20 m/sec is provided at the cross-section of the **100 mm** hose.

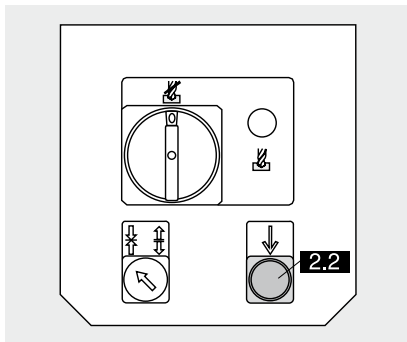
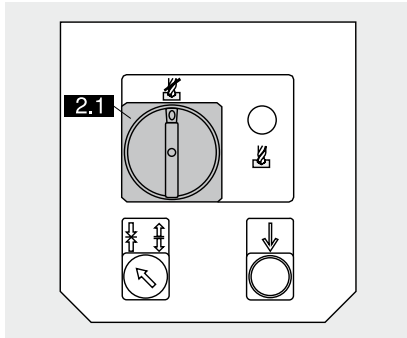
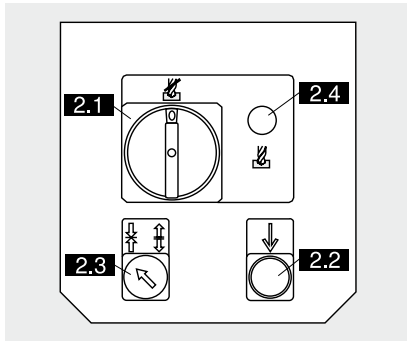
1.4.2) Attaching the extraction system with the controller



ATTENTION:

The electrical connection must be performed by a qualified electrician.

- The extraction system can be connected to contact **S1 7/8** to enable the system to turn on automatically using the main switch.
(See chapter 9 - Diagrams)



2.1 - Description of operator panels

2.1.1) Designation of operating elements

- (2.1) Main switch
- (2.2) Feed switch
- (2.3) Hold down clamp switch
- (2.4) Operating mode display switch



ATTENTION:

The main switch does not disconnect the assembly machine from the air pressure system.



Pos.0: Operational status indicator (2.4) does not light. Assembly machine in set-up mode

- Motor cannot be started
- Stroke movement can be carried out



Pos.1: Operational status indicator (2.4) lights. Assembly machine is in operational mode

- Drilling and the fitting insertion can be carried out
- The marking line lights



ATTENTION:

For long durability of the laser the main switch should be set on pos. 0 when not operating.

Main switch can be secured against unauthorized drilling using a standard padlock.

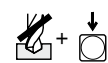
2.1.2) Feed switch (2.2)



ATTENTION:

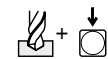
When pressing the feed switch, keep your hands away from the work area (A) of the assembly machine.

Pressing the feed switch will carry out the currently selected workprocess.



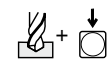
Set up:

Main switch at **Pos.0** + feed switch pressed



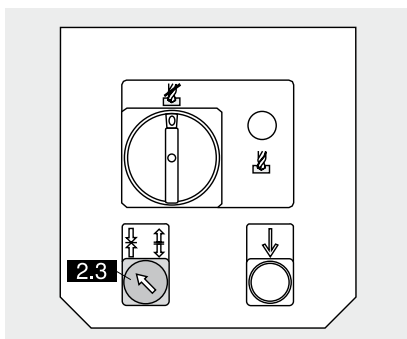
Drill:

Main switch at **Pos.1** + feed switch pressed



Insert fitting:

Swivel in swing arm + press feed switch



2.1.3) Hold down clamp switch (2.3)

Option: Hold down clamps are not standard equipment.

Pos. Clamps on:

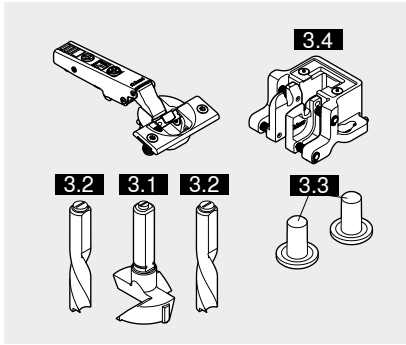


Pressing the feed switch (2.2) automatically engages the hold down clamps. Briefly touching the hold down clamp switch (2.3) will disengage the clamps.

Pos. Clamps off:



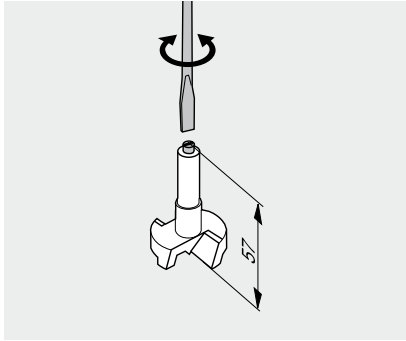
Pressing and turning the clamp switch to Pos. $\frac{\uparrow}{\downarrow}$ will turn off the hold down clamps. When the feed switch (2.2) is pressed, the hold down clamps remain engaged.



3.1 - Furniture hinge assembly

3.1.1) Required parts

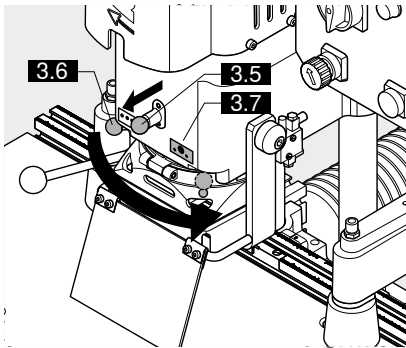
- Drill bits:
 - 1x \varnothing 35 mm clockwise (3.1) (marked in black)
 - 2x \varnothing 8 mm counterclockwise (3.2) (marked in red)
- Cover caps (3.3)
- Insertion ram MZM.00XX (3.4) (see catalogue to determine the proper insertion ram for the respective furniture hinge)
- Furniture hinge



3.1.2) Setting drill bit length

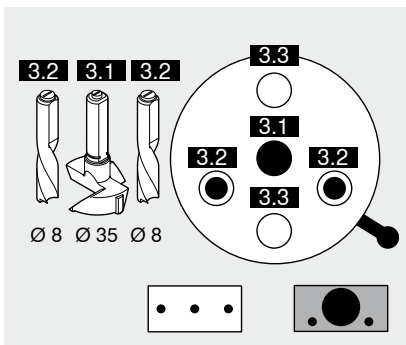
- The total length of the drill bits (from bit-tip to adjustment screw) should be 57 mm
- To correct drill bit length, adjust screw accordingly using a screwdriver

! **Important:**
All drill bits must be the same length



3.1.3) Setting drilling pattern

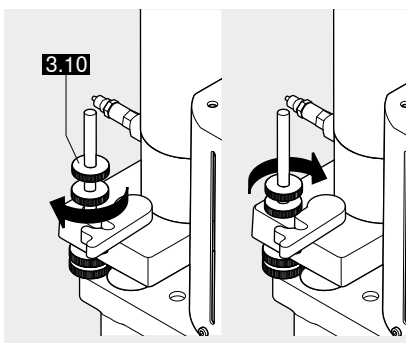
- Pull out drilling head fixing knob (3.5)
- At the same time, move the lever (3.6) to the "Furniture hinge" symbol (3.7)
- Release drilling head fixing knob (3.5)



3.1.4) Inserting drill bits

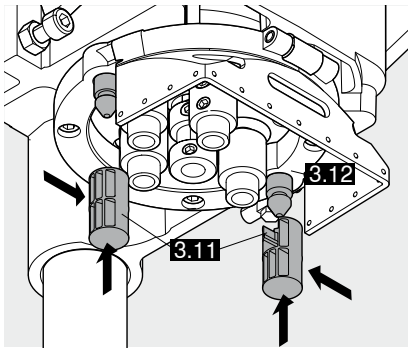
- Main switch (2.1) at Pos. 0
- Push drill bits all the way into the chuck (The surface of the drill shaft must be placed in the direction of the fixing screw)
- Use a hex wrench to tighten the fixing screws
- Insert cover caps into the unused chucks (3.3). This will keep the chucks clean and prevent the fixing screws from coming out on their own.

! **Important:**
Do not unscrew completely from the drill chuck.
Complete unscrewing could damage the chuck.



3.1.5) Setting drilling depth

- Set drilling depth using the knurled screw (3.10) (One turn equals 1.5 mm)
- Secure the knurled screw (3.10) (lock)



3.1.6) Drilling depth stop (3.11)

Another option to maintain a constant drilling depth is to install the drilling depth stop. When the drilling depth stop is installed, the drilling depth is always 13 mm regardless of the thickness of the work piece.

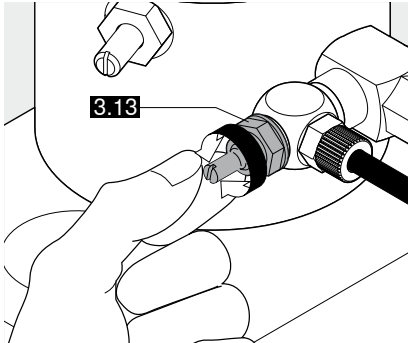
Installing the drilling depth stop:

- Main switch at **Pos.0**
- Remove drill
- Push drilling depth stop into the locking holes of the retainer ring (3.12) until it engages and turn 90 degrees with force.
- Attach drill bit

IMPORTANT:



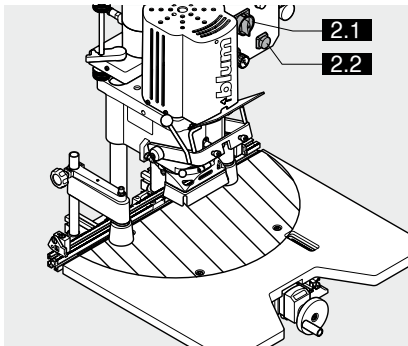
The drill bit length must be set to 57 mm. (See point 3.1.2). The knurled screw should not engage before the drilling depth is reached. (See point 3.1.5)



3.1.7) Setting cam speed

The cam speed is set via a knurled head screw (3.13) on the back of the cylinder.

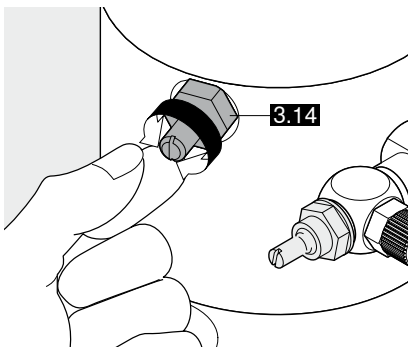
- **Faster:** Turn screw (3.13) to the left
- **Slower:** Turn screw (3.13) to the right



3.1.8) Checking cam brake

The cam brake slows down the cam speed just before the drill enters the wood. (This extends the life of the drill and ensures tear-free drilling)

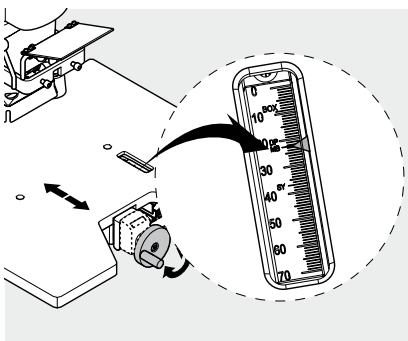
- Main switch (2.1) at **Pos. 0**
- Keep the assembly machine's work area (A) free.
- Press the feed switch (2.2) and observe the cam movement.



3.1.9) Setting cam brake

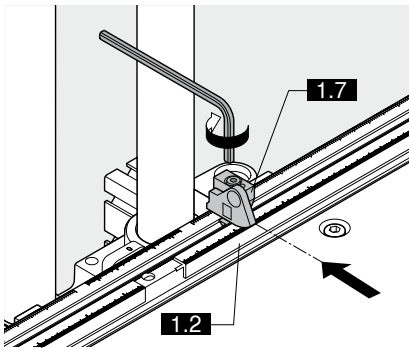
The brake is set by turning the screw (3.14) on the cylinder.

- **Hard wood:** Turn screw (3.14) to the right:
Drill cam will brake harder.
- **Soft wood:** Turn screw (3.14) to the left:
Drill cam will brake less.



3.1.10) Setting the stop system

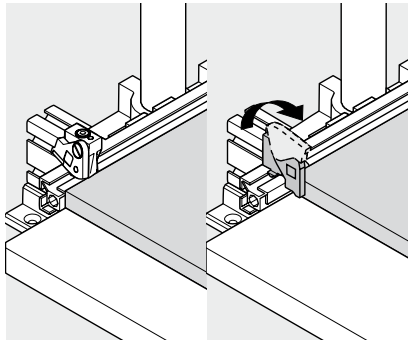
- Set the desired dimension using the hand wheel
- or set the stop system to the FH using this fixed setting (the drilling distance is 22.5 mm)



3.1.11) Setting swivel stops (1.7)

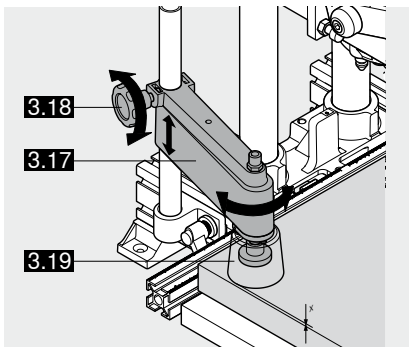
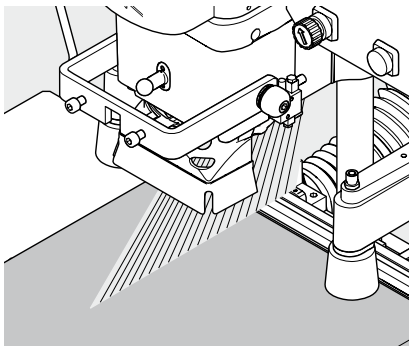
Set the swivel stops (1.7) to the desired dimension and clamp.

! **IMPORTANT:**
Indicator edge is on the inside of the swivel part.



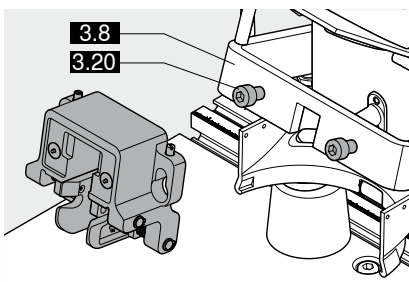
3.1.12) Placing door on the work top and pushing up against the stop or marking line

! **IMPORTANT:**
The stop surface can be enlarged by swivelling the stop flap forward for grooved work pieces and work pieces with radiuses (see picture).



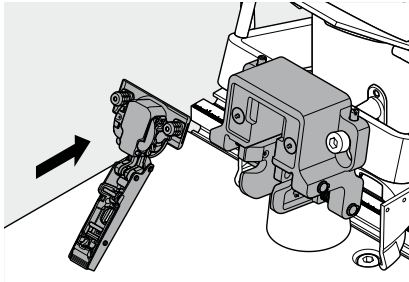
3.1.13) Setting hold down clamps (3.17) to the material thickness

- Open clamping knob (3.18).
- Set the hold down clamps (3.17) so that the distance between the door and the clamp guard (3.19) is a max. $x = 3$ mm.
- Loosely tighten clamping knob (3.18).

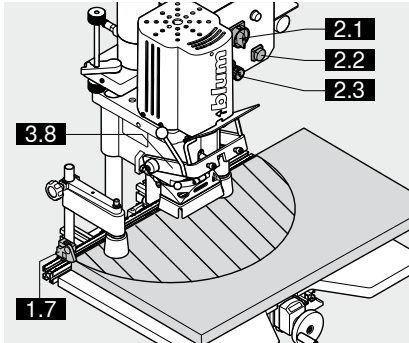


3.1.14) Attaching insertion ram to swing arm (3.8)

- Place insertion ram on to the two fixing screws (3.20) on the swing arm (3.8)
- Tighten the screws so that the insertion ram is secure.



3.1.15) Clipping furniture hinge on to the insertion ram



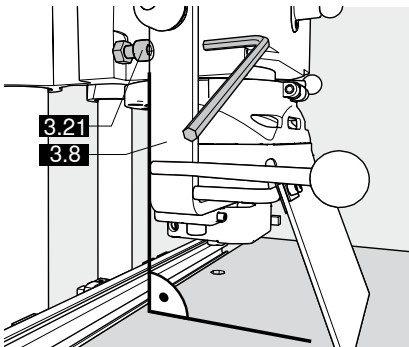
3.1.16) Drilling



ATTENTION:

All items except for the work piece should be removed from the work area of the assembly machine. Keep your hands out of work area (A).

- Main switch (2.1) at Pos. 1
- Hold down clamp (2.3) at Pos. ⚡
- Swing arm (3.8) must be swivelled up.
- Hold down door outside of danger area (A) and press against the swivel stop (1.7)
- Press feed switch (2.2) until drilling depth is reached.
- Release feed switch (2.2).



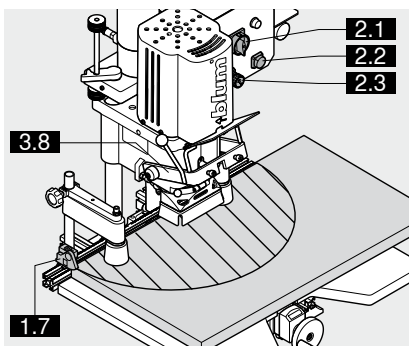
3.1.17) Checking the tilt adjustment of the swing arm (3.8)

- Swivel down swing arm (3.8) to the stop.
- Check whether or not the furniture hinge is aligned with the drilling.
- If it is misaligned, this can be caused by two things:
 - a) Swivel arm (3.8) is not set vertical.
 - Use the screw to correct this setting (3.21)
 - b) Insertion ram is off-centre:
 - Correct this setting using the adjustment screws (3.22) on the insertion ram.



IMPORTANT:

If the feed switch (2.2) is only lightly pressed a few millimetres, the drill and insertion assembly moves downwards at creep speed.



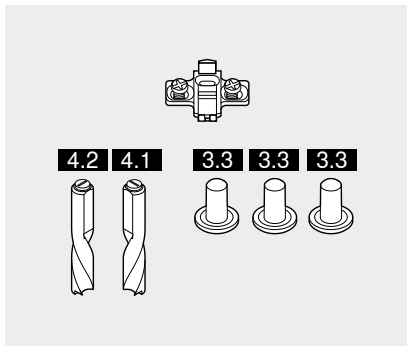
3.1.18) Inserting the furniture hinge



ATTENTION:

Keep your hands and other objects away from assembly machine work area (A)

- Press the feed switch (2.2) until the furniture hinge is inserted completely.
- Release feed switch (2.2).
- Swivel up swing arm (3.8)
- Loosen the hold down clamps by touching the hold down clamp switch (2.3)
- Remove door from the work top or push to the next stop.

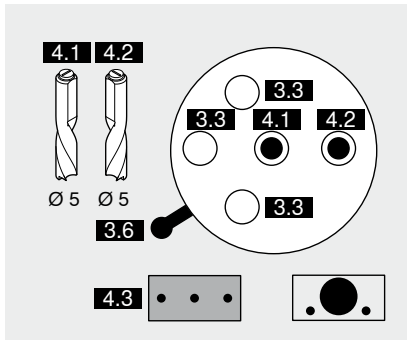


4.1 - Cruciform mounting plate assembly

4.1.1) Required parts

- Drill bits:
 - 1 x $\varnothing 5$ mm clockwise (4.1) (marked in black)
 - 1 x $\varnothing 5$ mm counterclockwise (4.2) (marked in red)
- Cover caps (3.3)
- Cabinet Side
- Cruciform mounting plate with system screws

4.1.2) Setting drill bit length (see point 3.1.2)



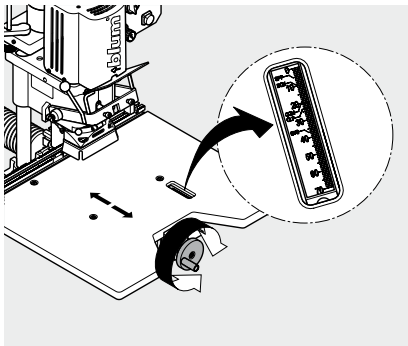
4.1.3) Setting drilling pattern

- Pull drilling head fixing knob (3.5).
- At the same time, move the lever (3.6) to the "Hole Group" symbol (4.3)
- Release drilling head fixing knob (3.5).

4.1.4) Installing drill bits into the chuck (see point 3.1.4)

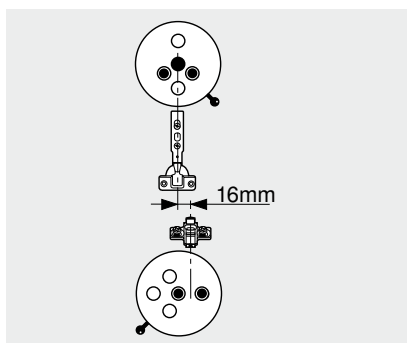
4.1.5) Checking drilling depth setting (see points 3.1.5 / 3.1.6)

4.1.6) Setting the cam speed (see points 3.1.7 / 3.1.8 / 3.1.9)



4.1.7) Setting the stop system

- Set the desired dimension using the hand wheel
- or set the stop system to SY using this fixed setting (the drilling distance is 37 mm)

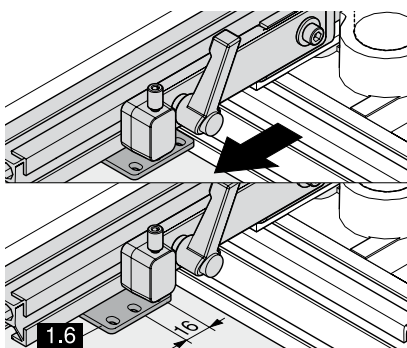


4.1.8) Setting swivel stops (1.7)

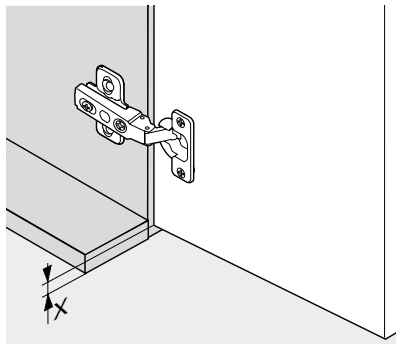
- a) If the bottom edge of the door should be flush with the bottom edge of the cabinet, only the base ruler (1.2) needs to be re-positioned.

Repositioning the ruler:

- Loosen screws
- Move ruler 16 mm in the direction of the outside drill bit
- Secure screws



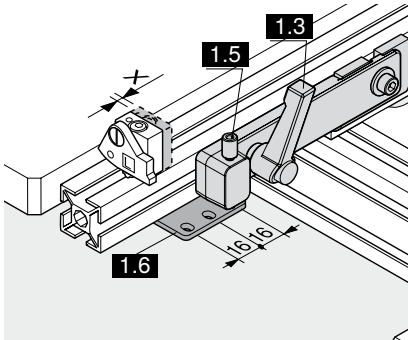
IMPORTANT:
This step will align the 0 point offset for the cruciform mounting plate.
(See point 4.1.8)



b) If the bottom edge of the door should be shorter or longer than the bottom edge of the carcass, the stops **(1.7)** must be set according to the measured difference. In addition, the base ruler **(1.2)** must also be re-positioned.

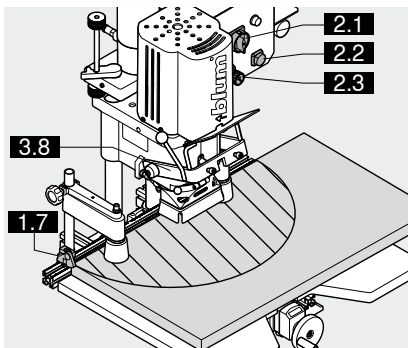
Positioning stops and rulers:

- Shift stops by measurement (x)
- Loosen screws
- Move ruler 16 mm in the direction of the outside drill bit
- Secure screws



IMPORTANT:

This step will align the 0 point offset for the cruciform mounting plate. (see figure 4.1.8)



4.1.9) Placing cabinet side on the work top and pushing up against the stop or marking line

(See point 3.1.12)

4.1.10) Setting hold down clamps **(3.16) to the material thickness**

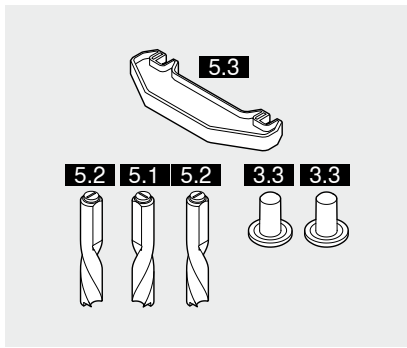
(See point 3.1.13)

4.1.11) Drilling

(See point 3.1.16)

4.1.12) Releasing hold down clamps

- Briefly press hold down clamp switch **(2.3)**
- Push cabinet side to the next stop.



5.1 - Drilling hole groups

5.1.1) Required parts

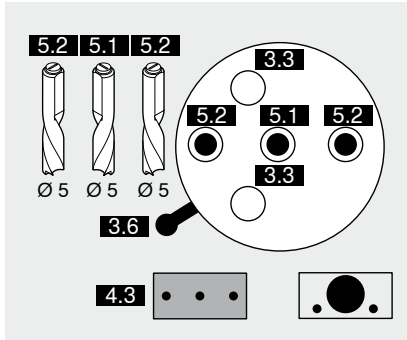
- Drill bits:
 - 1x \varnothing 5 mm clockwise (5.1) (marked in black)
 - 2x \varnothing 5 mm counterclockwise (5.2) (marked in red)
- Cover caps (3.3)
- Setup gauge (5.3)
- Cabinet Side

5.1.2) Setting drill bit length

(See point 3.1.2)

5.1.3) Setting drilling pattern

- Pull drilling head fixing knob (3.5).
- At the same time, move the lever (3.6) to the symbol (4.3)
- Release drilling head fixing knob (3.5).



5.1.4) Inserting drill bits into the chuck

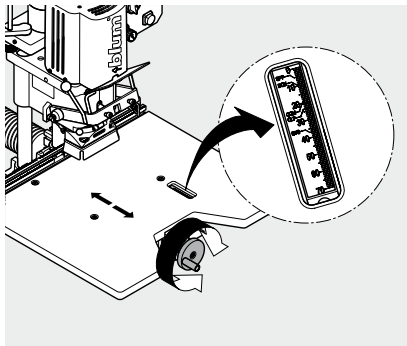
(See point 3.1.4)

5.1.5) Checking drilling depth setting

(See point 3.1.5 / 3.1.6)

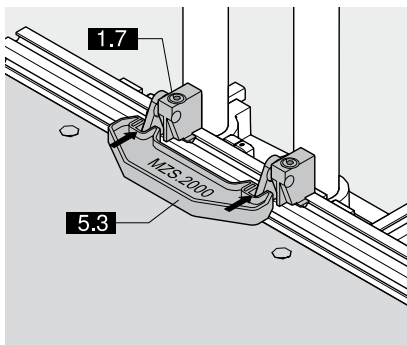
5.1.6) Setting cam speed

(See point 3.1.5 / 3.1.8 / 3.1.9)



5.1.7) Setting stop system

- Set the desired dimension using the hand wheel
- or set the stop system to SY using this fixed setting (the drilling distance is 37 mm)



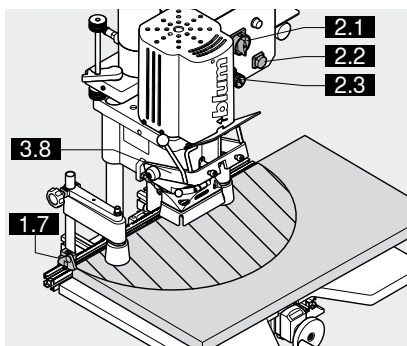
5.1.8) Setting swivel stops (1.7)

(See point 3.1.11)

5.1.9) Drilling hole groups

- Place setup gauge (5.3) on the stop that has already been set (1.7) and set an additional stop.

This results in a 7 hole group with a 32 mm hole spacing.



5.1.10) Placing cabinet side on the work top and pushing up against the stop or marking line

(See point 3.1.12)

5.1.11) Setting hold down clamps (3.17) to the material thickness

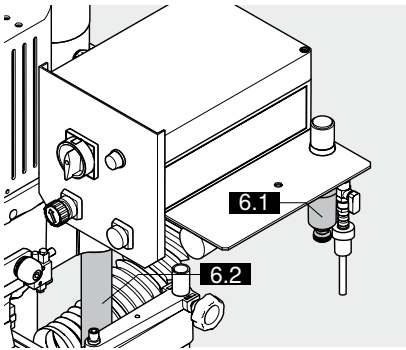
(See point 3.1.13)

5.1.12) Drilling

(See point 3.1.16)

5.1.13) Releasing hold down clamps

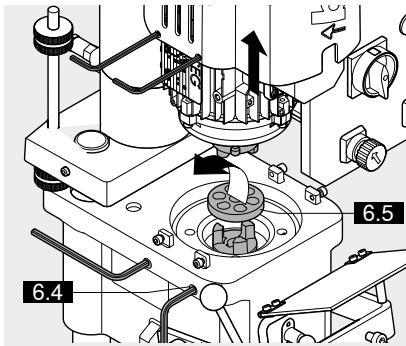
- Briefly press hold down clamp switch (2.3)
- Push cabinet side to the next stop.



6.1 - Maintenance

6.1.1) Maintenance

- Drilling dust should be removed from the assembly machine on a regular basis
- Before using the machine, you should always check the air filter unit (6.1) for water which may accumulate there. Empty the unit if necessary.
- Before every use of the machine, check the pneumatic lines and electrical lines for damage.
- The supports are maintenance free and should not be oiled
- The guide elements (6.2) must be cleaned regularly with a dry cloth to remove dust. (Do not use cleaners or solvents)



6.1.2) Damaged coupling

The coupling is damaged if:

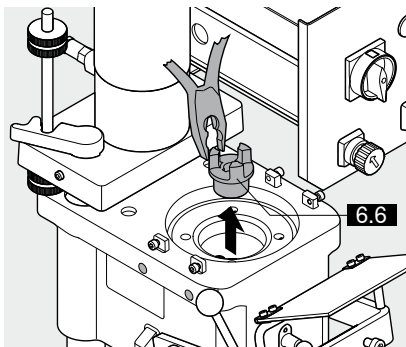
- The drill is jammed in the work piece but the motor fan wheel continues (1.9) to turn.



ATTENTION:

Keep your hands and other objects away from machine work area (A)

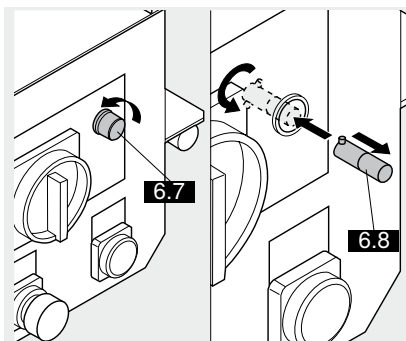
- Set main switch to **pos. 0**
- Disconnect electrical and pneumatic connections to the assembly machine
- Remove drill
- Remove motor hood
- Loosen the motor's four side fixing screws (6.4) (approx. 4 full turns)
- Lift up motor and place on to the drive



ATTENTION:

Secure the motor against falling

- Remove dampening ring (6.5)
- Remove old coupling (6.6)
- Attach replacement coupling (6.6) on to the spindle. (ensure correct positioning of coupling and spindle)
- Insert dampening ring (6.5)
- Preposition coupling base for motor attachment
- Attach motor (motor must sit securely on the flange)
- Re-secure the motor's four side fixing screws (6.4)
- Re-attach motor hood



6.1.3) Replacing the operational status indicator

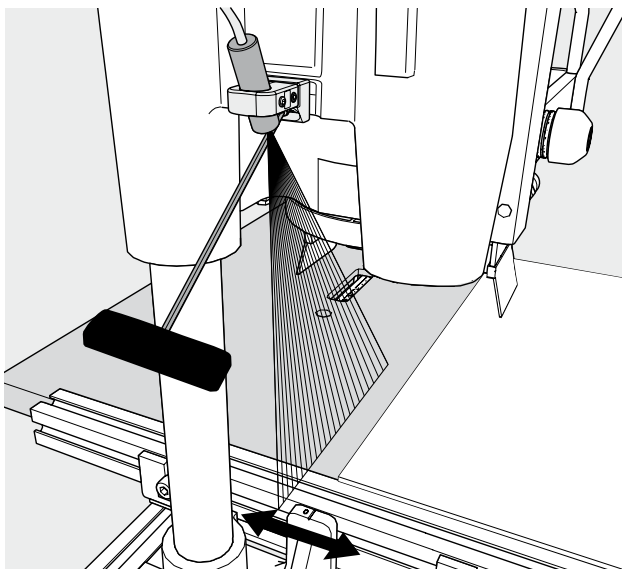
- Disconnect assembly machine from the power supply.
- Set main switch to **pos. 0**
- Remove front (6.7) from the operational status indicator. (unscrew)
- Remove defective lamp (6.8). (Press and turn to the left)
- Install new lamp (6.8). (Press and turn to the right)
- Reattach front (6.7) to the operating mode display indicator.

7.1 - Error during drilling

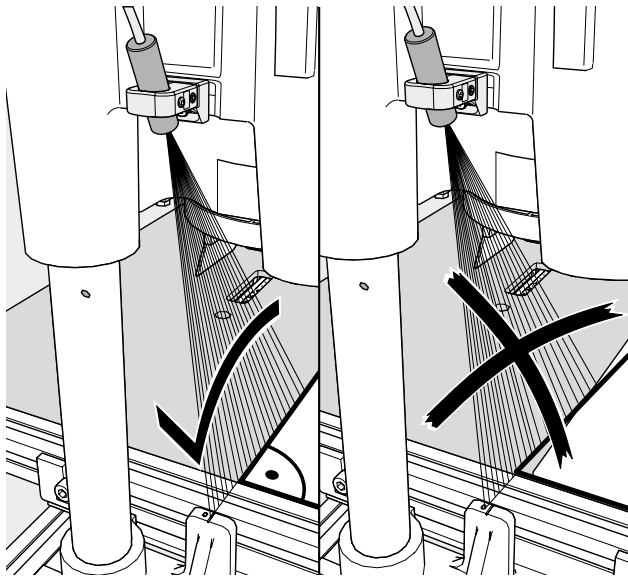
Error	Cause	Solution	Comment
Drilled holes too large, oval or ragged	Drill diameter is too large	Check drill	none
	Drills are twisted	Replace drill	none
	Cam speed for drilling is too high	Set correct cam speed	See point 3.1.7
	Drilling through work pieces	Use roof tip drill bit to drill through	none
	Drive shafts are bent, e.g. supports are defective	Replace gearbox	none
Drill blockage in wood	Improper material has been drilled	Only use work pieces made from wood, particle board or plastic coated wood	none
	Cam speed for drilling is too high	Set correct cam speed	See point 3.1.7
	Locking device broken (motor runs, drill blockage in wood)	Replace defective locking device	See point 6.1.2
	Drills are dull	Repoint drills or replace	none
	Drill rotation not set properly	Install left hand drill bits into chucks marked in red and right hand drill bits into chucks marked in black	none
	Assembly machine connected to the wrong voltage	Check mains voltage and compare with motor data. Have checked by authorised electrician	See chapter 9 - Diagrams
Drill bits cannot be gripped in the chucks	Drill bits full of chips	Clean drill chuck User cover caps	none
	Drill shaft diameter too large or damaged	Repoint drill shaft or replace	none
Drilling depth does not match	Drilling depth set incorrectly	Correct drilling depth setting	See point 3.1.5
	Drilling length does not match	Drilling length set to 57 mm	See point 3.1.2
	Drill bits not completely pushed into the chuck	Clean dirt from chuck and completely insert drill bit	See chapter 3
	Work piece thickness does not correspond to the given value (e.g. 15 mm instead of 16 mm)	Check work piece thickness, correct drilling depth setting, use drill depth stop	See chapter 3

7.1 - Error during drilling

Error	Cause	Solution	Comment
Drillings are off centre or in the wrong position	Assembly machine is driving against an object (e.g. swivel stop)	Remove object	none
	Feed switch was released before the drilling depth was reached	Keep feed switch engaged until the drilling depth has been reached	none
	Work top height (thickness)	Put work top underneath until a height of 24 mm has been reached	See chapter 8 - Appendix
	Cam brake set too high	Open restrictor valve slightly	See point 3.1.9
	The swivel stops were not set properly on the ruler.	Check positions and stops and correct if necessary	none
	Ruler not set properly	Set ruler to the 0 point	See point 1.1.3
	Chips between the ruler and the work piece	Remove dirt and chips	none
	Extension ruler is not attached properly	Check ruler attachments and extension - check spacing of both rulers	none
	Swivel gear not engaged	Allow index bolts to engage	See point 3.1.3
Work piece is not positioned on laser marking line	Position work piece correctly	none	
Work piece cannot be positioned on the laser marking line	See following work steps	none	


Adjusting laser to zero marking line:

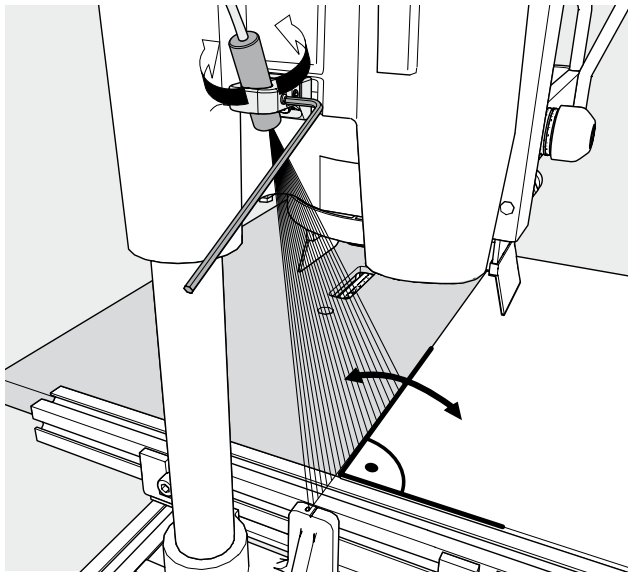
- Slightly loosen sub-assembly screw using a wrench (counter-clockwise)
- Set laser line to the zero position
- Tighten screws using wrench (clockwise)



Adjusting the laser angle

Only carry out the following steps when the laser angle is not correct

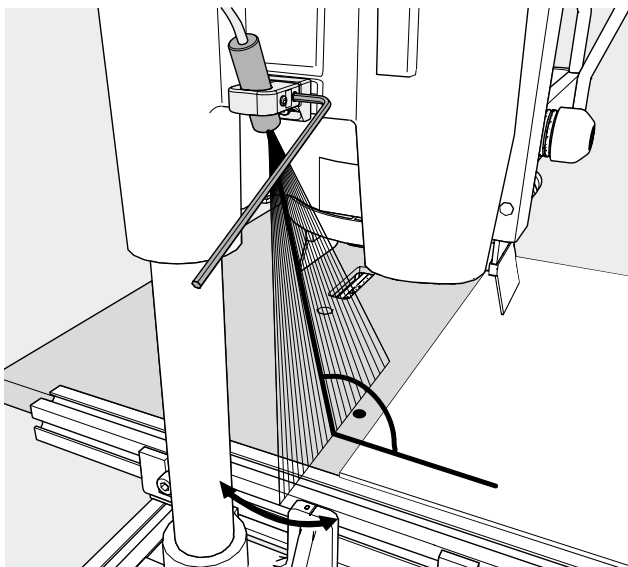
- Loosen set screw using allen key (counter-clockwise)
- Turn laser diode until the correct angle is reached on the work piece or ruler. Use a work piece for the alignment. Affix the work piece to the work center using clamps.
- Re-tighten set screw using allen key (clockwise)



Adjusting the laser angle

Only carry out the following steps when the laser angle is not correct

- Loosen set screw using allen key (counter-clockwise)
- Turn laser diode until the correct angle is reached on the work piece or ruler. Use a work piece for the alignment. Affix the work piece to the work center using clamps.
- Re-tighten set screw using allen key (clockwise)



Laser beam is not perpendicular

Only carry out the following steps when the laser is not perpendicular

The laser beam is not perpendicular when it has moved from the zero position due to the stroke movement

- Loosen set screw using allen key (counter-clockwise)
- Move laser diode until the laser beam is perpendicular
- Re-tighten set screw using allen key (clockwise)

7.2 - Fitting insertion error

Error	Cause	Solution	Comment
Fittings cannot be inserted or only with great difficulty	The air pressure is too low	Air pressure must be 5 - 7 bars.	See point 1.2.2
	Insertion ram or swing arm is driving against an object (e.g. swivel stop)	Remove object	none
	The surface of the work piece is too hard	Bevel drillings	Use slip-on counter-sink
	Drillings are not deep enough	See point "Drilling depth not reached"	none
	The drilling diameters are too small	Check drill bits and replace if necessary	none
	The insertion ram has shifted or turned	Set insertion ram	See point 3.1.14
	Drill chips are in the drill holes	Remove chips from drillings	none
	Swing arm is not set properly	Check swing arm setting	See point 3.1.17

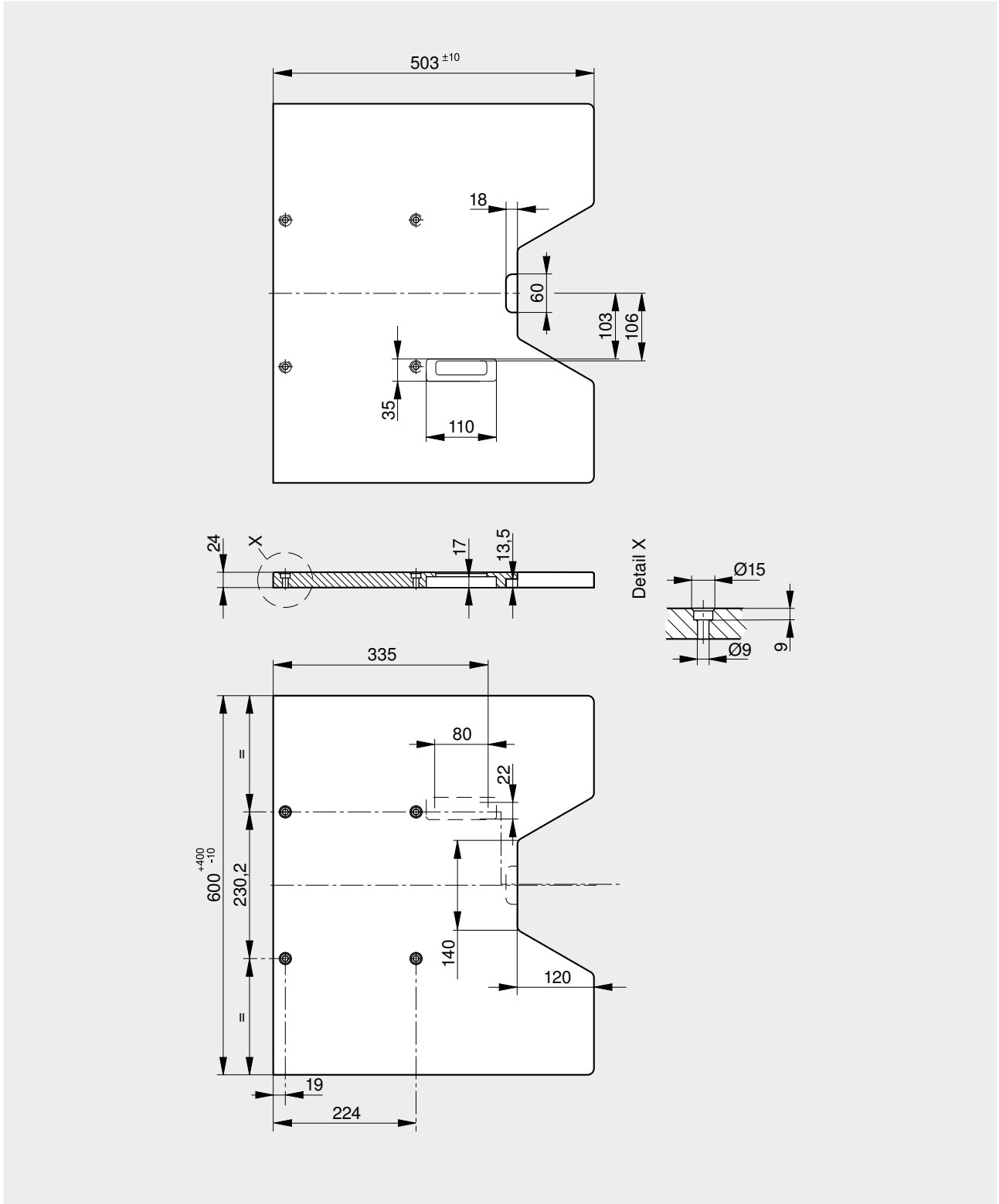
7.3 - Function errors

Error	Cause	Solution	Comment
Motor does not run	Assembly machine is not connected to the power supply	Connect assembly machine to the power supply	none
	Assembly machine is not connected to the air supply	Connect assembly machine to the air supply	none
	Building fuse has failed	Reset fuse or replace	none
	Assembly machine fuse is defective	Have fuse replaced by an authorised electrician	See electrical diagram
	Main switch is not at position "1" (drilling)	Set main switch to position "1"	See point 2.1.1
	Swing arm is swivelled in	Swivel up swing arm	See point 3.1.16
	Assembly machine connected to the wrong voltage	Check mains voltage and compare with motor data. Have checked by authorised electrician	See electrical diagram
	Motor defective	Have motor replaced by an authorised electrician	none

7.3 - Function errors

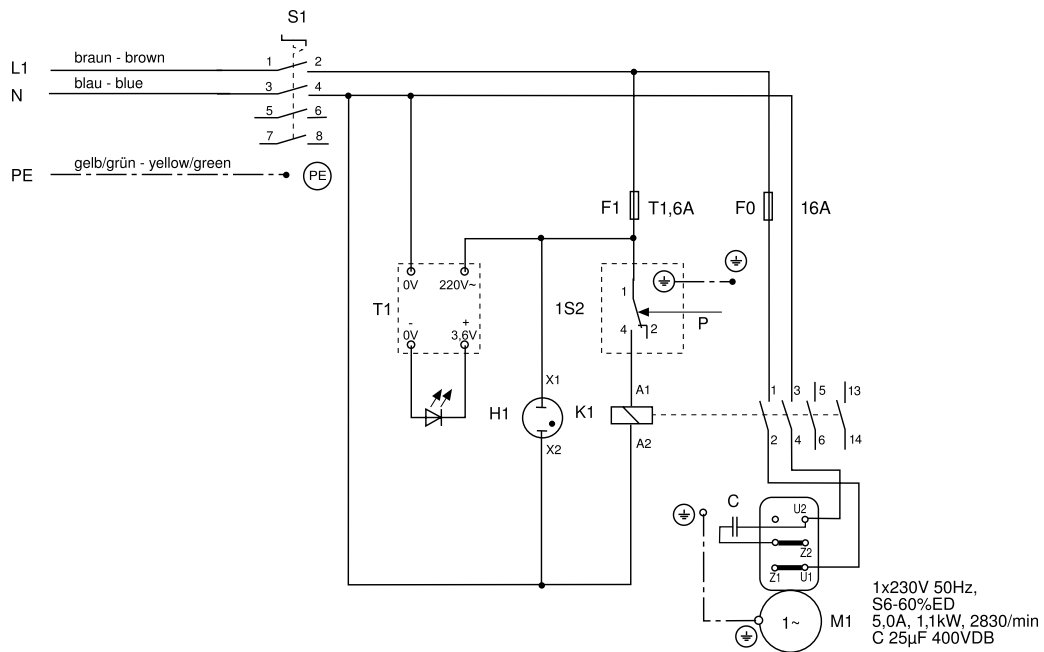
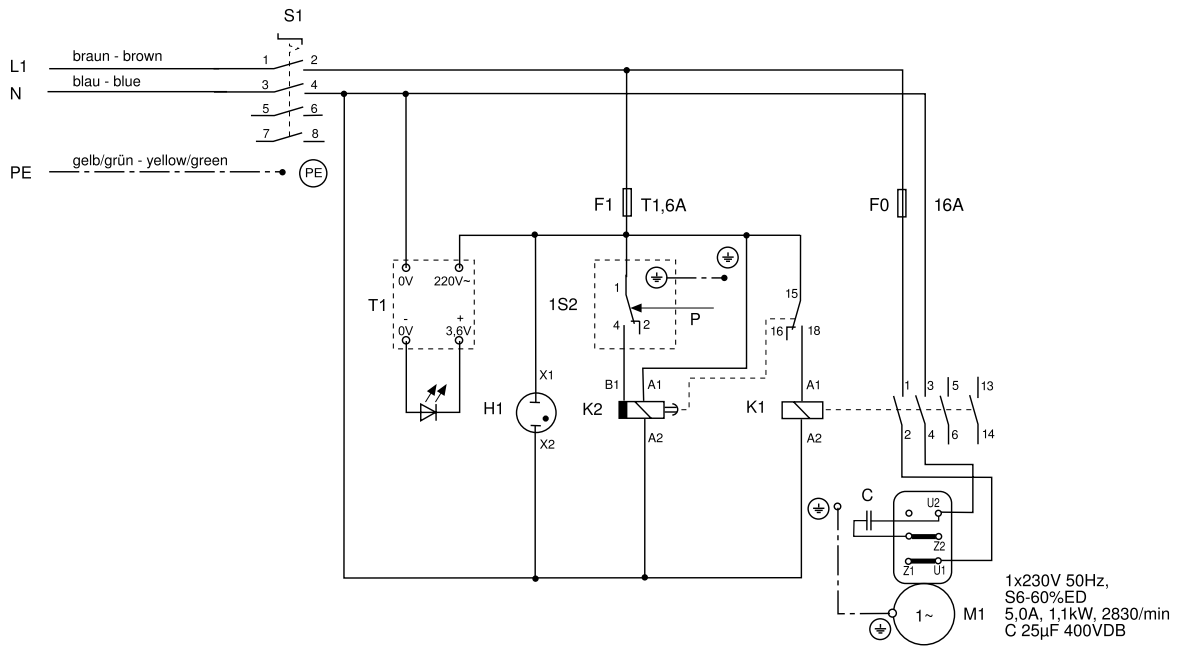
Error	Cause	Solution	Comment
Motor overheats	Assembly machine connected to the wrong voltage	Check mains voltage and compare with motor data. Have checked by authorised electrician	See electrical diagram
	Drilling in hard wood with too high a speed	Reduce cam speed	See point 3.1.7
	Motor hood is dirty or covered by something	Remove objects and chips in the area of the motor hood	none
Stroke movement missing out when feed switch is activated	Assembly machine is not connected to the air supply	Connect assembly machine to the air supply	See point 1.2.1
	Air pressure is too low	Adjust air pressure (5-7 bar)	See point 1.2.2
	Pneumatic hose is kinked or damaged	Check air lines	none
	Restrictor for setting the cam speed is closed	Open restrictor	See point 3.1.9
	Feed key valve is jammed	Replace valve	none
	Cylinder defective	Replace cylinder	none
Clamps do not function (optional)	Incorrect clamp switch position	Change clamp switch position	See point 2.1.3
	Clamp valve defective	Replace clamp valve	none
Operational status indicator does not light	Neon bulb defective	Replace neon bulb	See point 6.1.3
	Drive circuit fuse defective	Have an authorised electrician replace the drive circuit fuse	none
Air filter is not tight	Bracket fitting is loose or defective	Attach bracket fitting or replace	none
	Other problems	Replace air filter	none
Chip blow-off is defective	Hose is kinked or not tight	Replace hose	none
	Chip blow-off is displaced	Correct chip blow-off by turning the blow-off hose	none
Gearbox defective	Support, spindles or gears are damaged	Replace gearbox	none

8.1 – User-supplied work top

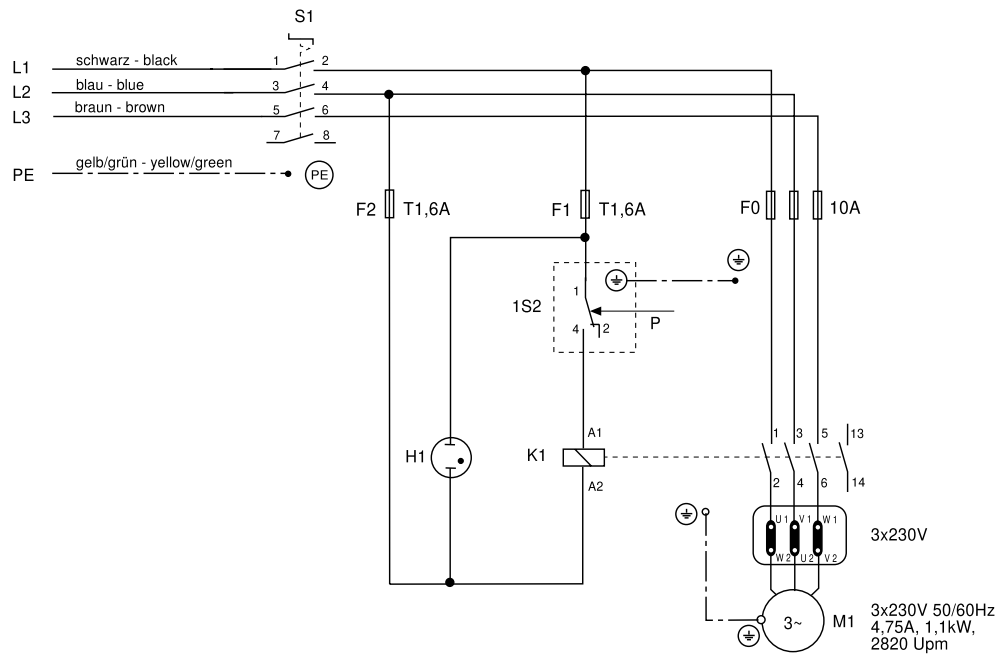
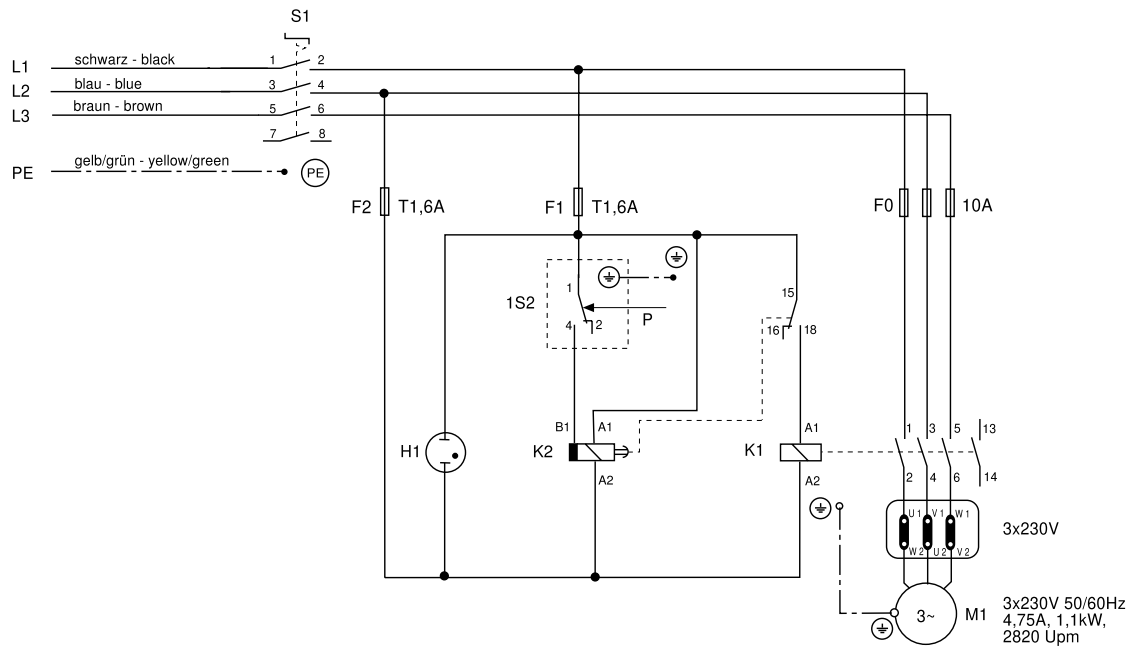


- If you are making your own work table, use plywood or laminated wood.
- In addition, please use the supplied screws for fixing the work table.

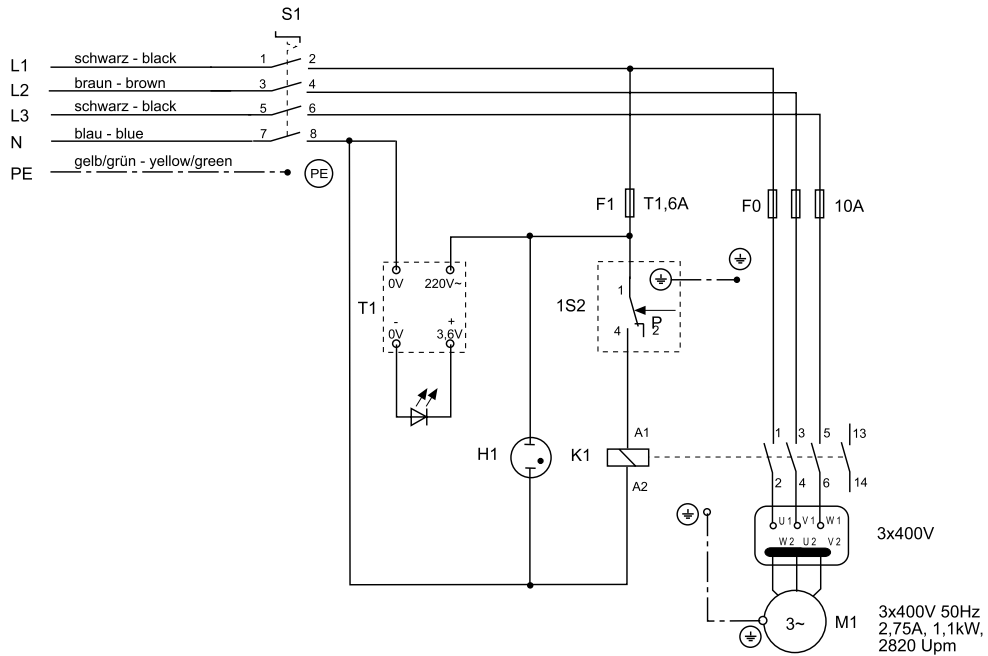
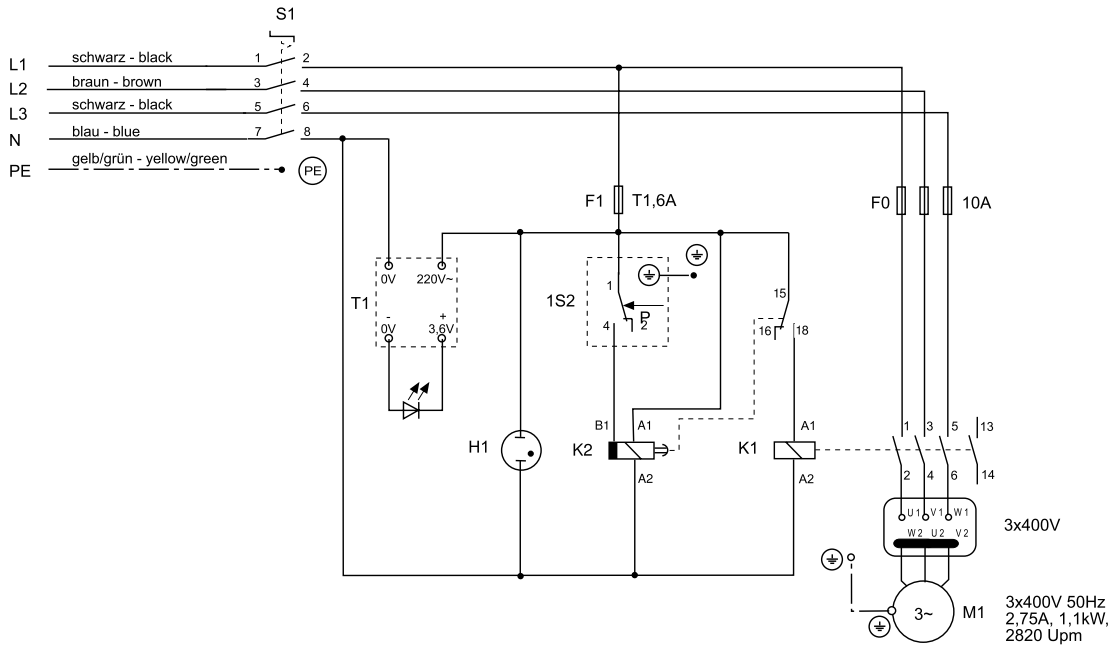
9.1 - Electrical diagram 1x 230 V 50 Hz



9.2 - Electrical diagram 3x 230 V 50 Hz



9.3 - Electrical diagram 3x 400 V 50 Hz



9.4 - Pneumatic diagram

