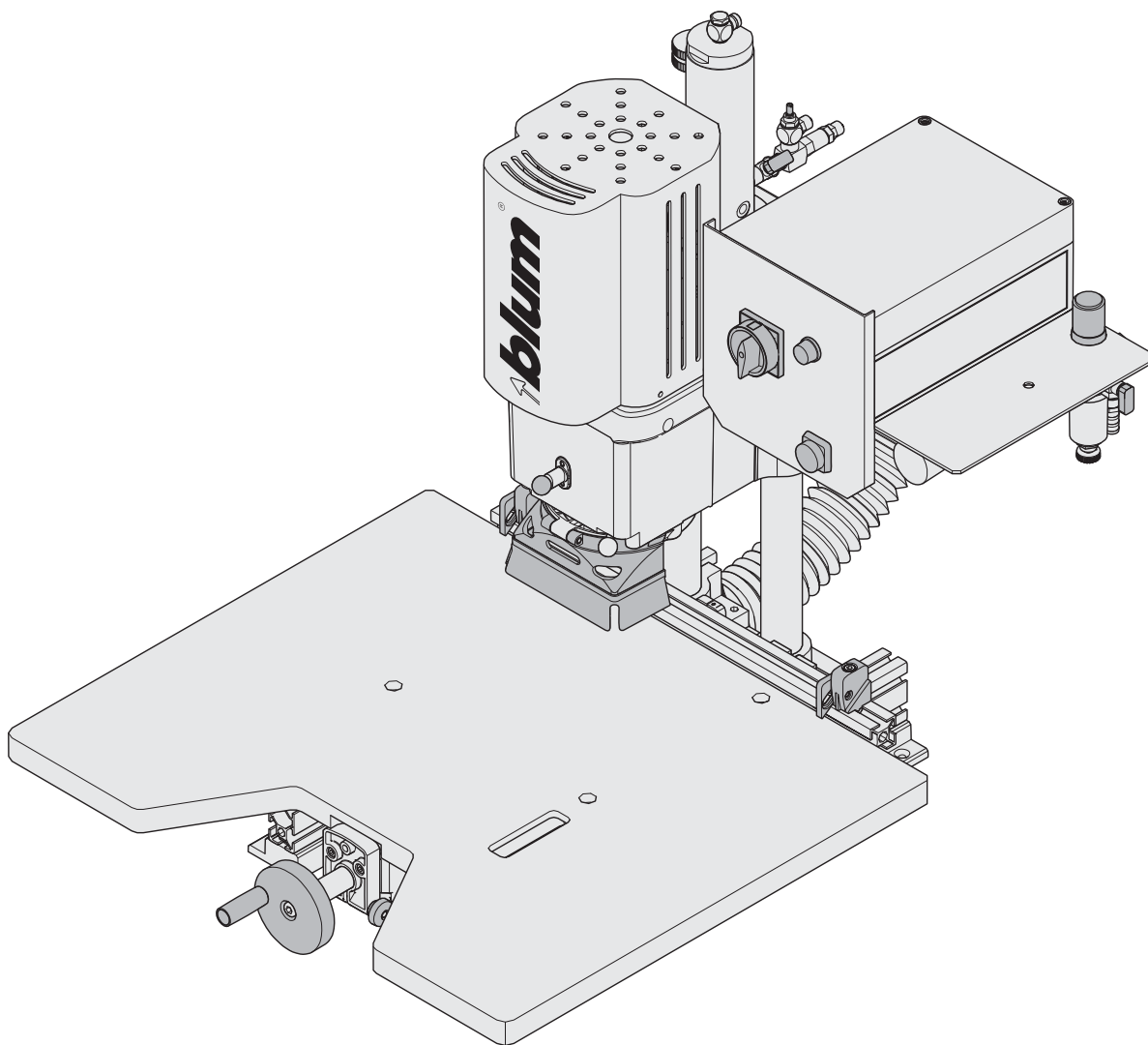




MINIDRILL P boring machine - OPERATORS' MANUAL

Please keep a copy of the Operators' Manual accessible to machine operators.

Only those individuals who are properly trained and who have read and understood the Operators' Manual may set up, operate, or service this machine.



This machine has been manufactured using the highest quality materials to provide long lasting performance. Rigorous quality controls and a final inspection ensure that each machine is delivered in good working condition. These quality control measures enable Blum to offer this one year limited warranty on the machine, starting with the date of delivery.

Information is set forth below regarding a general description of the warranty on this machine. However, the specific warranty provisions are contained in the Blum terms of sale, and those provisions constitute the specific terms of the warranty provided for this machine.

Unless otherwise specifically agreed to in writing signed by a representative of Blum, THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING A WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THOSE SPECIFICALLY DESCRIBED IN THE TERMS OF SALE.

Should any defect be found in the machine, please submit to Blum, in writing, the reference number, the serial number, and the name of the distributor from whom the machine was purchased. Replacement parts included under this warranty will be furnished free of charge.

This warranty or guarantee only includes the replacement of components; however, it excludes assembly times, driving times, incidental or consequential damages, etc. 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.

In no event shall Blum be liable for:

- damage in transportation (please file a claim immediately with the carrier)
- Blum is not responsible for any damage caused from misuse or improper equipment operation.
- lost production time
- loss of earnings
- lost or damaged materials
- parts which are subject to normal wear
- drill bits
- damage caused by not observing the safety rules.

Dear valued Blum customer,

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

We realize that your time is valuable. However, you should carefully read these Operators' Manual before you set up and use the machine for the first time. In this way, you will best determine how to adjust the machine to your needs as well as protect yourself against injury. In addition, the Operators' Manual also contain important information about machine maintenance.

At the time of printing, these Operators' Manual contained up-to-date information for this model. This information is subject to change due to continual development of the machine design. These Operators' Manual are an important component to the 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, color, 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.

1. Machine information	
A - Limited warranty	2
B - Table of contents	3
C - How to use this manual	4
D - Safety information	5
D.1 - Safety decals	5
D.2 - Intended use	5
D.3 - Safety instructions	5
E - Orientation diagram	7
2 - Boring machine setup	9
2.1 - Unpacking and assembly	9
2.1.1) Machine space requirement	9
2.1.2) Unpacking machine and attaching to a suitable table	9
2.1.3) Positioning (2.2) base ruler	9
2.1.4) Attaching ruler stops	9
2.1.5) Attaching work table	9
2.2 - Connecting to compressed air system	10
2.2.1) Connecting air supply	10
2.2.2) Setting operating pressure	10
2.3 - Electrical connection	10
2.3.1) Electrical connection	10
2.3.2) Checking motor rotation	10
2.3.3) Correcting motor rotation	11
2.4 - Dust extraction	11
2.4.1) Connecting extraction system to the machine	11
3 - Operator panel	12
3.1 - Description of operator panel	12
3.1.1) Designation of operating elements	12
3.1.2) Drill stroke button (3.2)	12
4 - Concealed hinges	13
4.1 - Concealed hinge boring	13
4.1.1) Required parts	13
4.1.2) Setting drill bit length	13
4.1.3) Setting boring pattern	13
4.1.4) Inserting drill bits	13
4.1.5) Setting boring depth	13
4.1.7) Boring depth stop (4.11)	14
4.1.8) Setting the stroke speed	14
4.1.11) Setting the boring distance	15
4.1.12) Calibration of boring distance	15
4.1.13) Setting stops (2.7)	15
4.1.14) Placing door on the work table and pushing up against the stop	15
4.1.18) Boring	16
5 - Mounting plates	17
5.1 - Wing mounting plate boring	17
5.1.1) Required parts	17
5.1.2) Setting drill bit length	17
5.1.3) Setting boring pattern	17
5.1.4) Installing drill bits into the chuck	17
5.1.5) Checking boring depth setting	17
5.1.6) Setting the stroke speed	17
5.1.7) Setting the stop system	17
5.1.8) Setting the ruler stops (2.7)	17
5.1.9) Placing cabinet side on the work table and pushing up against the stop	17
5.1.10) Boring	17
6 - Other boring	18
6.1 - Boring hole groups	18
6.1.1) Required parts	18
6.1.2) Setting drill bit length	18
6.1.3) Setting boring pattern	18
6.1.4) Inserting drill bits into the chuck	18
6.1.5) Checking boring depth setting	18
6.1.6) Setting stroke speed	18
6.1.7) Setting stop system	18

6.1.8) Setting the ruler stops (2.7)	18
6.1.10) Placing cabinet side on the work table and pushing up against the stop	18
6.1.12) Boring	18
7 - Maintenance and service	19
7.1 - Maintenance	19
7.1.1) Maintenance	19
7.1.2) Damaged clutch	19
7.1.3) Replacing the light bulb	19
7.1.4) Releasing cylinder air pressure	19
8 - Troubleshooting	20
8.1 - Error during boring	20
8.2 - Function errors	22
9 - Appendix	24
9.1 - User-supplied work table	24
10 - Diagrams	25
10.1 - Electrical diagram	25
10.2 - Pneumatic diagram	26
11 - Technical data	27

C- How to use this manual

- Please keep a copy of the Operators' Manual accessible to machine operators.
- 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.



ATTENTION:

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



IMPORTANT:

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

D.1 - Safety decals

	Before connecting your machine to a power source, be sure to read and understand ALL safety instructions, warning labels and the Operators' Manual!
	Wear safety glasses or full face shield when setting up, operating or servicing this machine.
	Keep unauthorized people away from the machine. Only one person at a time must operate this machine.
	Keep hands away from the drill bits or swing arm during the boring or insertion process. Do not remove safety devices - danger of injury.
	Keep hands away from the danger zone of the clamps. - danger of being crushed
	Laser radiation - do not look into the laser beam! Laser class 2
	The cylinder remains pressurized after pneumatic power is disconnected from machine. To release cylinder, see section 7.1.4 for cylinder depressurization instructions.

D.2 - Intended use

- This machine is designated for commercial and industrial applications and shall be used by fully trained professionals only. The machine is only intended for the boring and insertion of Blum hardware into panels of wood or laminated particle board. The machine should not be used for any other purpose.
- The machine is not explosion-proof. It should not be set up near a paint finishing system or any other environment where an explosion hazard exists
- Do not setup or use the machine in a wet environment or in an environment which may become wet..

D.3 - Safety instructions

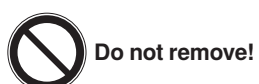
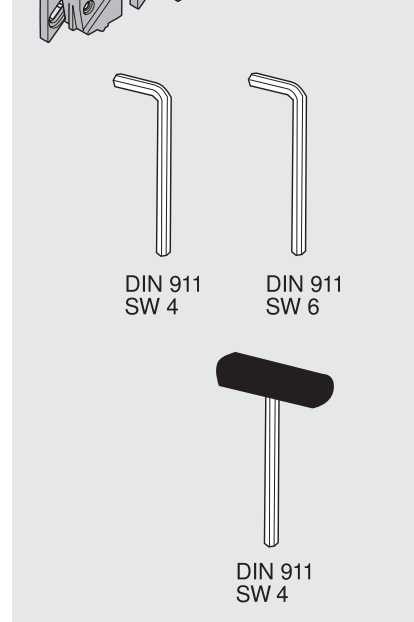
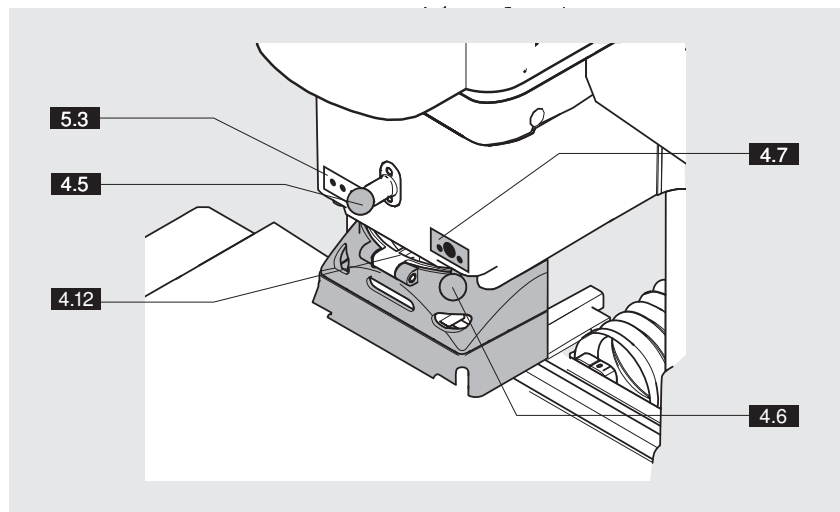
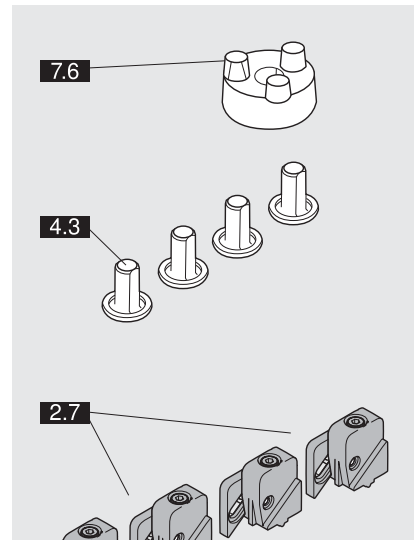
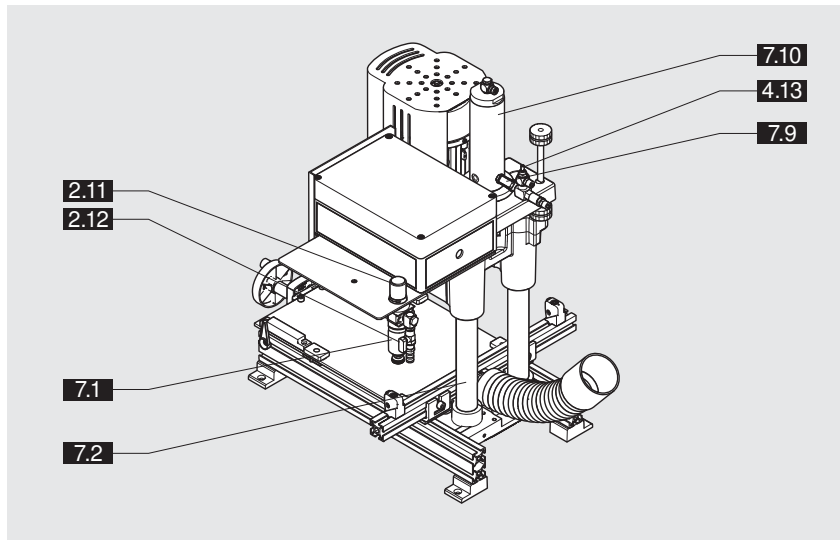
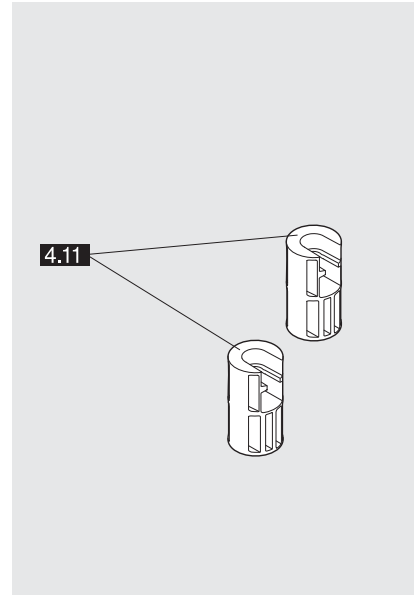
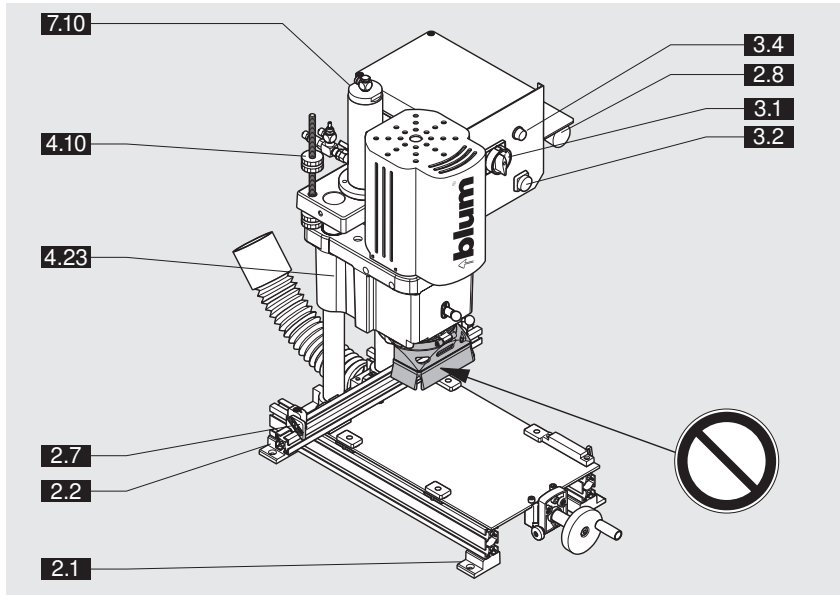
- **Read and understand this Operators' Manual before setting up, operating, or servicing the machine.**
- Only licensed electricians should connect electrical power to this machine or perform maintenance or service operations on electrical components of this machine.
- To prevent electrical shock, do not operate the machine near wet areas or where the machine may become wet.
- To minimize fire risk, this machine must be connected to dust suppression system (see section 2.4).





- Machine is intended for one person operation only.
- Do not operate the machine with any cover or panel removed.
- Eye protection required at all times while setting up, operating, or servicing this machine.
- Keep all body parts clear of point of operation when machine power is on.
- Machine components might be pressurized even when power is off.
- Regulated air pressure must not exceed 100 psi (6.9 bar).
- Disconnect electrical power from the machine before removing any cover or panel.
- Disconnect electrical power and air supply, and release stored air pressure from machine before performing maintenance and service operations.
- Maintenance and service must be performed by qualified and authorized personnel only.
- Operators and service personnel must follow all LOCKOUT / TAGOUT procedures established by management.
- Always turn power switch **(3.1)** to OFF before re-tooling or performing any work on drill bits..
- Particular care must be taken when working on sections that extend out over the worktable. Attach a larger work table or use extensions.
- Secure the work piece during boring. Use the machine clamps or if these are not sufficient for the particular job, use the optional hold down clamps.
- 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 machine.
- After finishing work, disconnect the machine from the power supply. **(3.1)**
- 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 machine.**
- If there are any questions and/or problems, please contact the BLUM Customer Service Department at 1-800-438-6788 or www.blum.us
- **Failure to follow these instructions and the warnings provided on the machine may result in serious bodily injury or death.**
- For additional copies of the Operator's Manual or if there are questions with regard to the safe operation of this machine, contact BLUM USA at 1-800-438-6788.



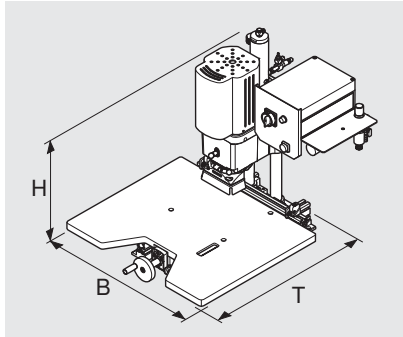


2.1	Mounting foot	4.7	Concealed hinge symbol
2.2	Base ruler	4.10	Boring depth adjustment wheel
2.7	Ruler stop	4.11	Boring depth stop
2.8	Compressed air pressure gauge	4.12	Safety shield ring
2.10	Arrow indicating motor rotation	4.13	Stroke speed adjustment
2.11	Pressure adjustment knob	4.23	Boring Unit
2.12	system vent valve	5.3	Hole group symbol
3.1	Power switch (main disconnect)	7.1	Air filter unit
3.2	Drill stroke button	7.2	Columns
3.4	Operational status indicator light	7.6	Replacement clutch
4.3	Chuck cover cap	7.9	Cylinder vent valve
4.5	Boring head securing knob	7.10	Air cylinder
4.6	Boring head rotating lever		

2.1 - Unpacking and assembly

2.1.1) Machine space requirement

Height (H)=	28-3/4" (731 mm)
Width (W)=	27" (686 mm)
Depth (D)=	27-1/4" (693 mm)



2.1.2) Unpacking machine and attaching to a suitable table

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



ATTENTION:

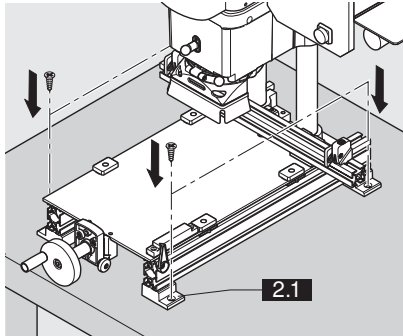
The machine weighs approx. 101 lbs.

The table or stand must be of sufficient stability to accommodate this



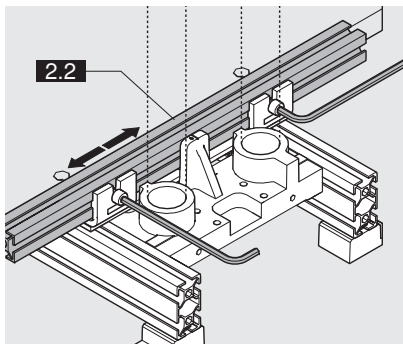
The machine should not be set up in a wet environment. The area must be dry.

- Pre-drill holes and then attach machine **(2.1)** using the proper screws/bolts.



2.1.3) Positioning base ruler **(2.2)**

- Place ruler on mounting bracket
- Line up the "0" mark on the center ruler with the "0" mark on the machine base
- Clamp ruler



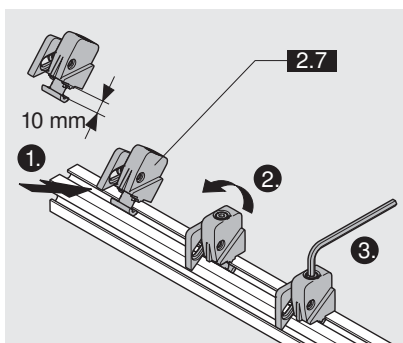
2.1.4) Attaching ruler stops

- Loosen clamping screw until the location plate protrudes 3/8"
- Attach swivel stop to ruler at an angle and stand upright
- Tighten clamping screw



IMPORTANT:

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



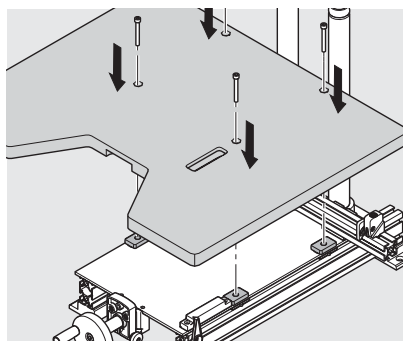
2.1.5) Attaching work table

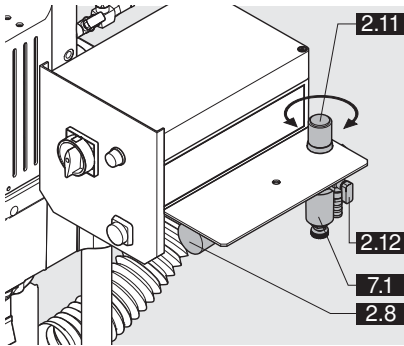
- Work table (Blum reference number MZA.5300)
 - Set work table on runner plate
 - Attach work table to runner plate
- b) For details of how to construct a work table, see Chapter 9



IMPORTANT:

With plastic spacers installed, the distance between the top of the ruler and the top of the worktable is 6.6 mm. Without the spacers the difference is 13.6 mm (for work pieces with a profile edge)





2.2 - Connecting to compressed air system

2.2.1) Connecting air supply



ATTENTION:

During the following procedure, the boring unit (4.23) makes an upward motion

- Connect the air supply to the system vent valve (2.12) on the air filter assembly (7.1). This valve is used to vent air pressure from the air control system. Note that the air pressure remains in the cylinder when the air control system bleed-down valve (2.12) is in the vent position (see section 7.4 for cylinder venting instructions).
- Slide 3/8" rubber ID hose onto the barbed connector provided
- Optional adapter for 3/8" NPT male threads is available
- Open system vent valve
- The system vent valve is used to vent the air pressure from the air control system



ATTENTION:

A quick disconnect must be inserted in the air line supply a max. 6 feet (1.8 meters) from the machine.

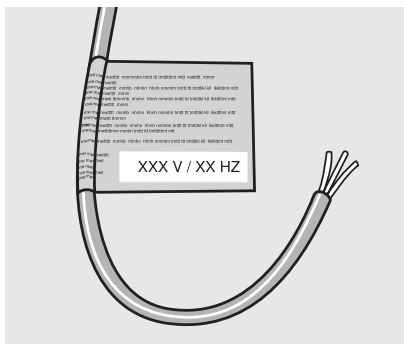
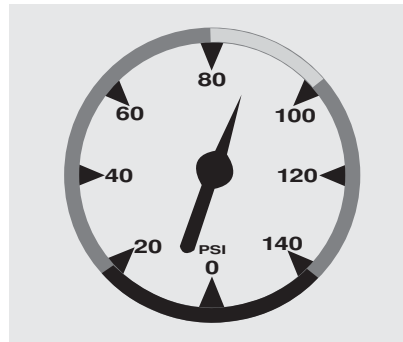
2.2.2) Setting operating pressure

- Set operating pressure set 90 psi using pressure adjusting knob (2.11)
(Pmin= 80 psi)
(Pmax= 100 psi)



ATTENTION:

Do not set the regulated air pressure above 100 psi. Higher pressure may result in equipment damage or personal injury or both.



2.3 - Electrical connection

2.3.1) Electrical connection



ATTENTION:

The electrical connection must be performed by a licensed electrician!



ATTENTION:

The machine is designed for the voltage printed on the label of the connection cable. Incorrect voltage may result in equipment damage or personal injury or both.

- Set power switch (3.1) to OFF
- Mount a plug conforming to DIN, VDE, IEC or UL requirements, or hardwire machine directly to the supply circuit.
- Provide for circuit breaker of 15 A (see Chapter 10 - Diagrams).

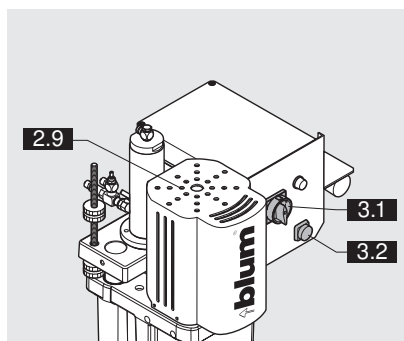
2.3.2) Checking motor rotation



ATTENTION:

During the following procedure, keep your hands away from the work area of the machine

- Set power switch (3.1) to ON
- Briefly press (3.2) drill stroke switch
- The motor fan (2.9) must turn in the direction of the arrow



2.3.3) Correcting motor rotation

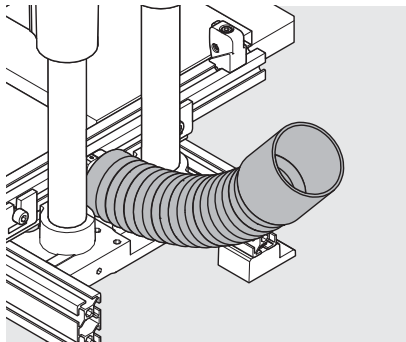


ATTENTION:

The electrical connection must be performed by a licensed electrician!

If the motor rotation is wrong:

- Set power switch (3.1) to **OFF**
- Disconnect boring machine from shop receptacle
- Switch L1 and L2 at plug connections
- Re-check the motor rotation.



2.4 - Dust extraction

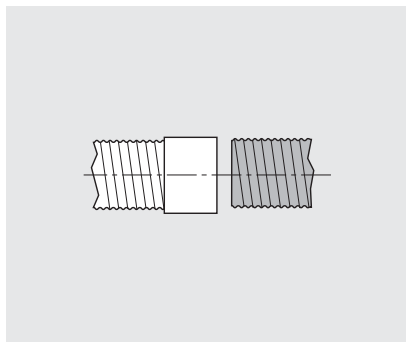
2.4.1) Connecting extraction system to the boring machine

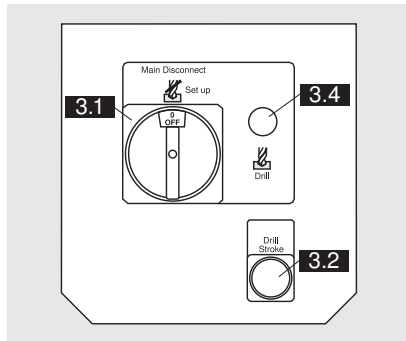


ATTENTION:

To minimize the risk of fire this machine must be connected to a dust extraction system!

- Make sure that the average air velocity for the extraction system is at least 66 ft/sec.
- Insert the spiral hose with an inside diameter of approx. 3.75 inches into the receiving tube and secure it.

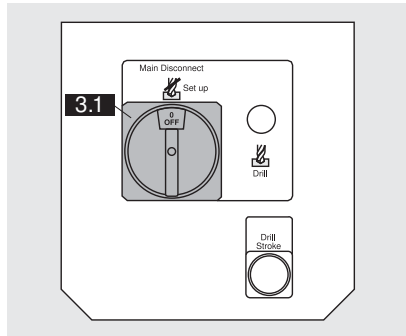




3.1 - Description of operator panel

3.1.1) Designation of operating elements

- (3.1) Power switch / Main disconnect
- (3.2) Drill stroke button
- (3.4) Operational status indicator light



ATTENTION:

The power switch does not disconnect the boring machine from the air pressure system.

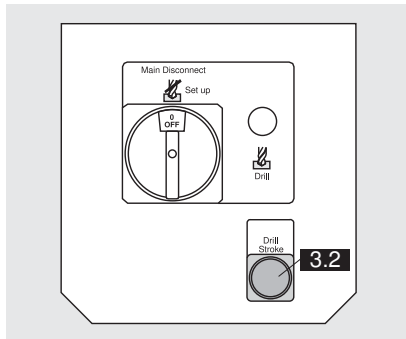
OFF: Operational status indicator (3.4) does not light. Machine in set-up mode

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

ON: Operational status indicator (3.4) lights. Machine is in operational mode

- Boring can be carried out

Power switch can be secured against unauthorized boring using a standard padlock.



3.1.2) Drill stroke button (3.2)



ATTENTION:

When pressing the drill stroke button, keep your hands away from the work area (A) of the machine.

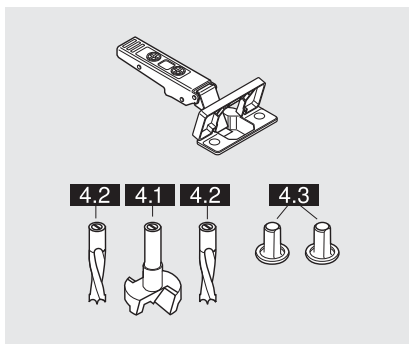
Pressing the drill stroke button will carry out the currently selected work process.

Set up:

Set power switch to **OFF** + press drill stroke button

Drill:

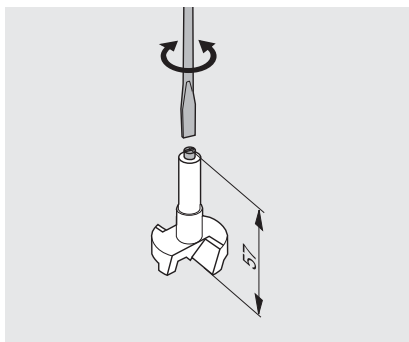
Set power switch to **ON** + press drill stroke button



4.1 - Concealed hinge boring

4.1.1) Required parts

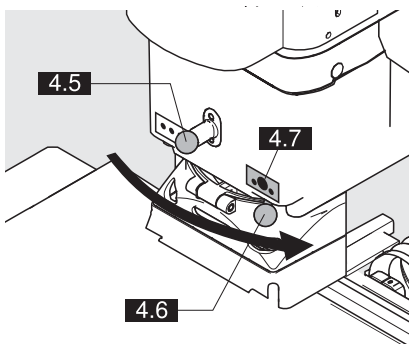
- Drill bits:
 - 1x $\varnothing$ 35 mm clockwise (4.1) (marked in black)
 - 2x $\varnothing$ 8 mm counterclockwise (4.2) (marked in orange)
- Cover caps (4.3)



4.1.2) Setting drill bit length

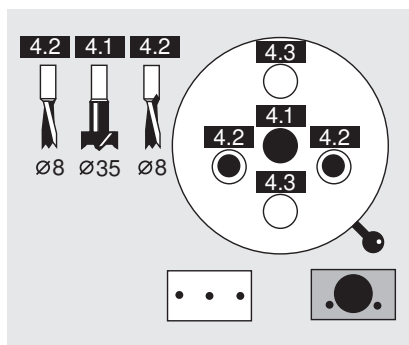
- The total length of the drill bits (from bit-tip to adjustment screw) should be 57 mm
- To correct drill bit length, adjust screw accordingly using a screwdriver

! IMPORTANT:
All drill bits must be the same length



4.1.3) Setting boring pattern

- Pull out boring head securing knob (4.5)
- Simultaneously move the lever (4.6) to the "Concealed hinge" symbol (4.7)
- Release boring head securing knob (4.5)

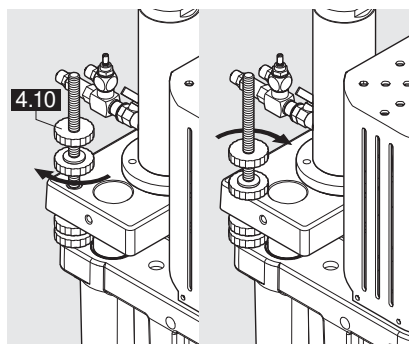


4.1.4) Inserting drill bits



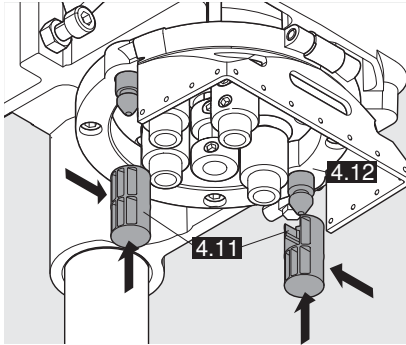
ATTENTION:
Disconnect the machine from the power supply
Power switch (3.1) to OFF

- Push drill bits all the way into the chuck (The flat section on the drill shank must be in line with the set screw)
- Use a hex wrench to tighten the set screws
- Insert cover caps into the unused chucks (4.3). This will keep the chucks clean and prevent the set screws from shaking loose.



4.1.5) Setting boring depth

- Set boring depth using the bottom knurled hand wheel (4.10) (One turn equals 1.5 mm)
- Secure the bottom knurled hand wheel (4.10) (lock)
- Use hand wheels under yoke to limit upward travel of head.



4.1.7) Boring depth stop (4.11)

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

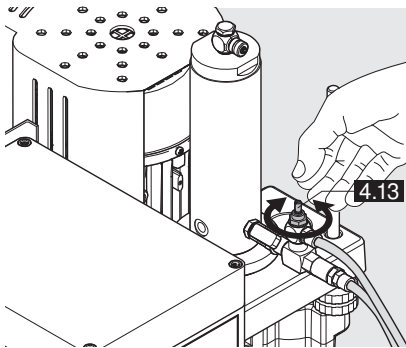
Installing the boring depth stop:

- Power switch to **OFF**
- Remove drill bit
- Push boring depth stop into the locking holes of the retainer ring (4.12) until it engages and turn 90 degrees with force.
- Attach drill bit

IMPORTANT:



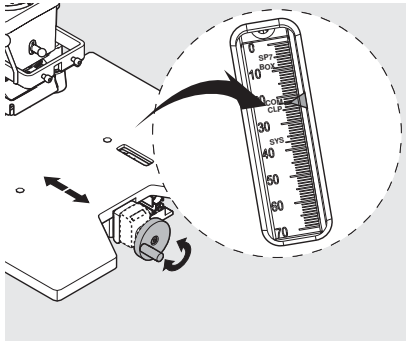
The drill bit length must be set to 57 mm. (See point 4.1.2). The knurled hand wheel should be adjusted so that it doesn't limit the boring depth. (See point 4.1.5)



4.1.8) Setting speed of downward bore stroke

The stroke speed is set via a steel knurled knob (4.13) on the back of the cylinder.

- **Faster:** Turn screw (4.13) to the left
- **Slower:** Turn screw (4.13) to the right



4.1.11) Setting the boring distance

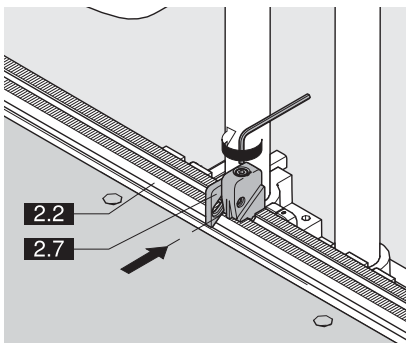
- Set the desired dimension using the hand wheel
- Example: CLP - 23.5 mm

Symbols:

5,0	SP7	Line - boring with MZK.1000, 7 spindle boring head
9,0	BOX	METABOX / TANDEMBOX
20,5	COM	COMPACT - hinge
23,5	CLP	CLIP - hinge
37	SYS	Line - boring

4.1.12) Calibration of boring distance

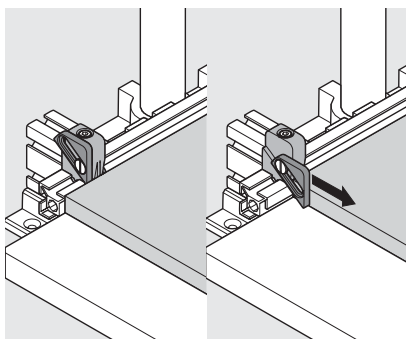
- Scale and digital counter (optional)
- Set the machine in setup mode
- Install drill bits for hinges
- Set boring distance to 20 mm
- Cycle machine down to test workpiece
- Measure the distance from the edge of the work piece to the center of the mark left by the center point of the 35 mm bit. If the dimensions are not the same then loosen the bolt that holds down the orange plastic pointer to the machine. Adjust so that it points to the correct mark.
- If the machine has a digital counter (optional) and the displayed number is not the same as the dimension then loosen the set screw on the stop collar while keeping the orange plastic handle from turning. Rotate the stop collar until the correct number is displayed and retighten the set screw.



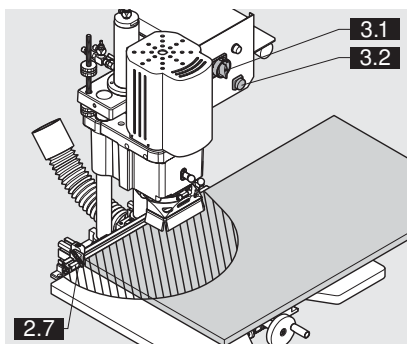
4.1.13) Setting ruler stops (2.7)

Set the ruler stops (2.7) to the desired dimension and clamp.

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



4.1.14) Placing door on the work table and pushing up against the stop



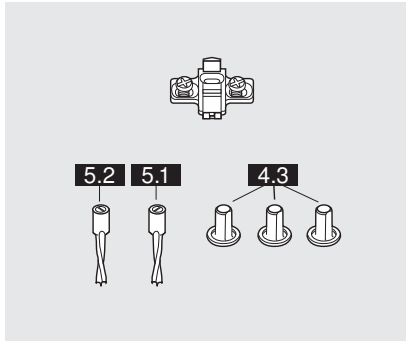
4.1.18) Boring



ATTENTION:

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

- Power switch **(3.1)** to ON
- Hold down door outside of danger area (A) and press against the ruler stop **(2.7)**
- Press drill stroke button **(3.2)** until boring depth is reached.
- Release drill stroke button **(3.2)**



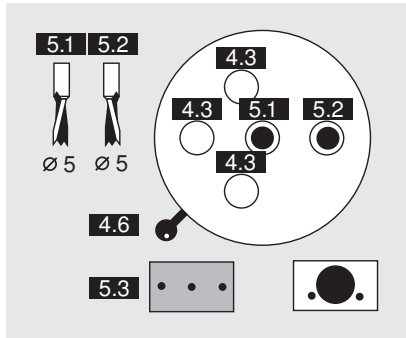
5.1 - Wing mounting plate boring

5.1.1) Required parts

- Drill bits:
 - 1 x ø5 mm clockwise (5.1) (marked in black)
 - 1 x ø5 mm counterclockwise (5.2) (marked in orange)
- Cover caps (4.3)
- Cabinet side
- Wing mounting plate with system screws

5.1.2) Setting drill bit length

(see point 4.1.2)



5.1.3) Setting boring pattern

- Pull out spring loaded boring head securing knob (4.5)
- Simultaneously move the lever (4.6) to the "Hole group" symbol (5.3)
- Release spring loaded boring head securing knob (4.5)

5.1.4) Installing drill bits into the chuck

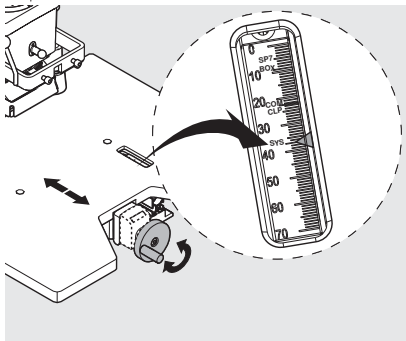
(see point 4.1.4)

5.1.5) Checking boring depth setting

(see points 4.1.5 / 4.1.6 / 4.1.7)

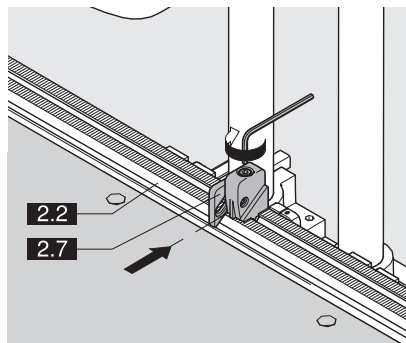
5.1.6) Setting the stroke speed

(see points 4.1.8 / 4.1.9 / 4.1.10)



5.1.7) Setting the boring distance

- Set the desired dimension using the hand wheel
- Example: SYS-37mm



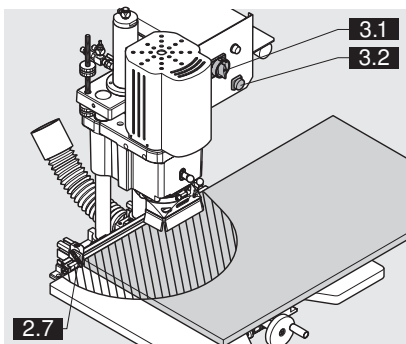
5.1.8) Setting ruler stops (2.7)

Set the ruler stops (2.7) to the desired dimension and clamp.



IMPORTANT:

Indicator edge is on the inside of the sliding part.



5.1.9) Placing cabinet side on the work table and pushing up against the stop

(See point 4.1.14)

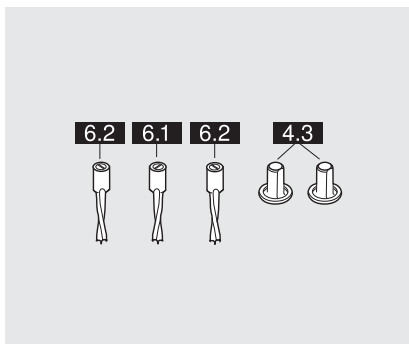
5.1.10) Boring

(See point 4.1.18)



ATTENTION:

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



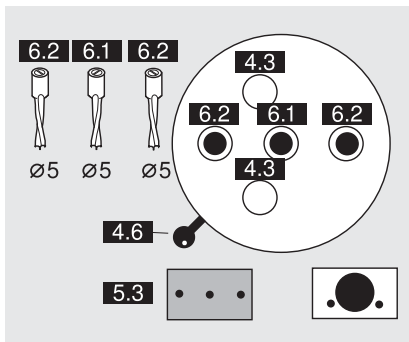
6.1 - Boring hole groups

6.1.1) Required parts

- Drill bits:
 - 1x $\varnothing$ 5 mm clockwise **6.1** (marked in black)
 - 2x $\varnothing$ 5 mm counterclockwise **6.2** (marked in orange)
- Cover caps **4.3**
- Cabinet side

6.1.2) Setting drill bit length

(See point 4.1.2)



6.1.3) Setting boring pattern

- Pull out boring head securing knob **4.5**
- Simultaneously move the lever **4.6** to symbol **5.3**
- Release boring head securing knob **4.5**

6.1.4) Inserting drill bits into the chuck

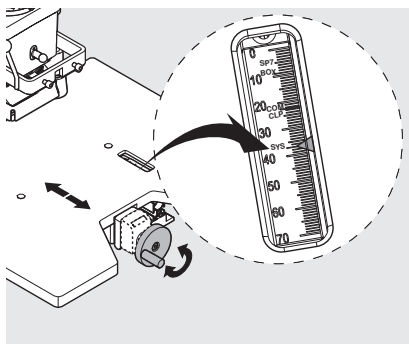
(See point 4.1.4)

6.1.5) Checking boring depth setting

(see points 4.1.5 / 4.1.7)

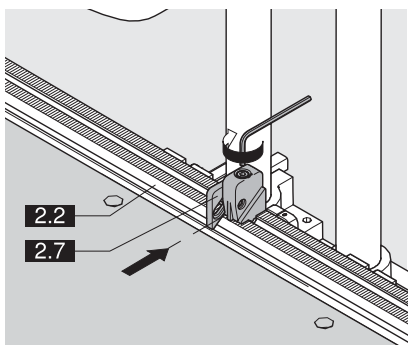
6.1.6) Setting stroke speed

(see point 4.1.8)



6.1.7) Setting boring distance

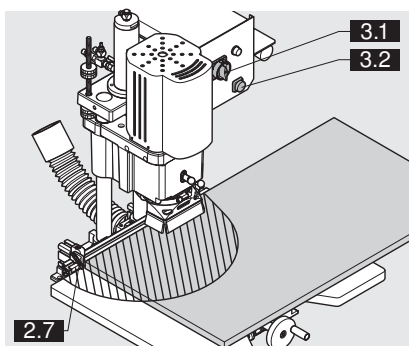
- Set the desired dimension using the hand wheel
- Example: SYS-37mm



6.1.8) Setting ruler stops **2.7**

Set the ruler stops **2.7** to the desired dimension and clamp.

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



6.1.10) Placing cabinet side on the work table and pushing up against the stop

(See point 4.1.14)

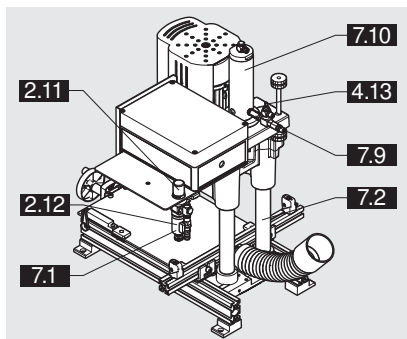
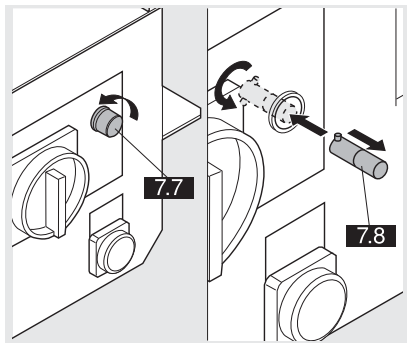
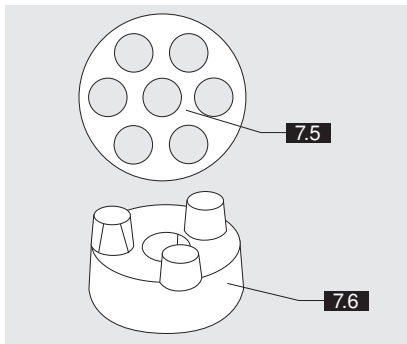
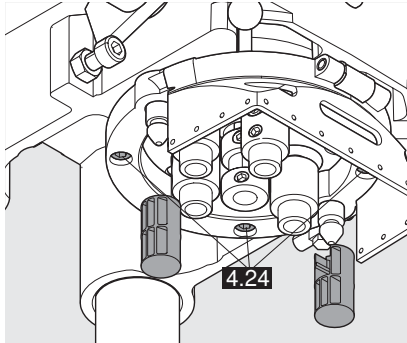
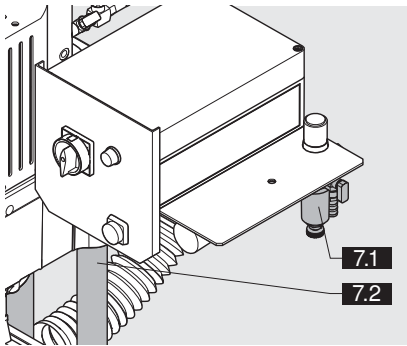
6.1.12) Boring

(See point 4.1.18)



ATTENTION:

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



7.1 - Maintenance

7.1.1) Maintenance



ATTENTION:

Disconnect electrical and pneumatic power from machine before performing any maintenance operation.



ATTENTION:

The cylinder remains pressurized after pneumatic power is disconnected from machine. To release cylinder, see section 7.1.4 for cylinder depressurization instructions.

- Dust and chips should be removed from the machine on a regular basis
- Before using the machine, you should always check the air filter unit (7.1) 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 columns (7.2) are maintenance free and should not be oiled
- The columns (7.2) must be cleaned regularly with a dry cloth to remove dust. (Do not use cleaners or solvents)

7.1.2) Damaged clutch



ATTENTION:

Disconnect electrical and pneumatic power from machine before performing any maintenance operation.

The clutch is damaged if:

- The drill bit is jammed in the work piece but the motor fan wheel continues (2.9) to turn.
- Set power switch to **OFF**
- Disconnect electrical and pneumatic connections to the machine
- Remove drill bits
- Remove the 4 bolts that hold safety shield to gearbox housing (4.24)
- Move safety shield to one side then while holding internal gearbox, pull out boring head securing knob. (4.5) This will allow the internal gearbox to come down and out.
- Remove dampening ring (7.5)
- Remove old clutch (7.6)
- Attach replacement clutch (7.6) on to the spindle. (ensure correct positioning of clutch and spindle)
- Insert dampening ring (7.5)
- Preposition clutch base for alignment with motor
- Slide gear box up into housing
- Ensure clutch reengages
- Reinstall safety shield

7.1.3) Replacing the light bulb



ATTENTION:

Disconnect electrical and pneumatic power from machine before performing any maintenance operation.

- Disconnect the electrical power from the machine.
- Set power switch to **OFF**
- Remove (7.7) light bulb cover. (unscrew)
- Remove defective light bulb (7.8). (Press and turn counter clockwise)
- Install new bulb (7.8). (Press and turn clockwise)
- Reattach (7.7) light bulb cover.

7.1.4) Releasing cylinder air pressure



ATTENTION:

Air pressure remains in cylinder after pneumatic power is disconnected. Be aware, when this action is taken the boring head will drop (4.23). Keep hands clear.

- Use the cylinder vent valve (7.9) to release air pressure from the cylinder.

8.1 - Error during boring

Error	Cause	Solution	Comment
Bored holes too large, oval or ragged	Hole diameter is too large	Check drill bits	none
	Bits are worn or bent	Replace drill bits	none
	Feed rate for boring is too high	Adjust stroke speed	See point 4.1.8
	Boring through work pieces	Adjust depth stop	none
	Drive shafts are bent, e.g. spindles are defective	Replace gearbox	none
Drill bit sticks or is jamming in wood	Improper material has been bored	Only use work pieces made from wood, particle board or MDF	none
	Stroke or feed rate for boring is too fast	Adjust stroke speed	See point 4.1.8
	Clutch broken (motor runs, bit stops in wood)	Replace defective clutch	See point 7.1.2
	Drill bits are dull	Sharpen drill bits or replace	none
	Motor rotation incorrect	Correct the motor rotation	See point 2.3.3
	Drill bit rotation not set properly	Install left hand drill bits into chucks marked in orange and right hand drill bits into chucks marked in black	none
	Machine connected to the wrong voltage	Check supply voltage and compare with motor data. Have checked by licensed electrician	See chapter 10 - Diagrams
Drill bits cannot be gripped in the chucks	Chucks are full of chips	Clean chuck Use cover caps	none
	Drill bit shaft diameter too large or damaged	Remove burrs on drill bit shaft or replace	none

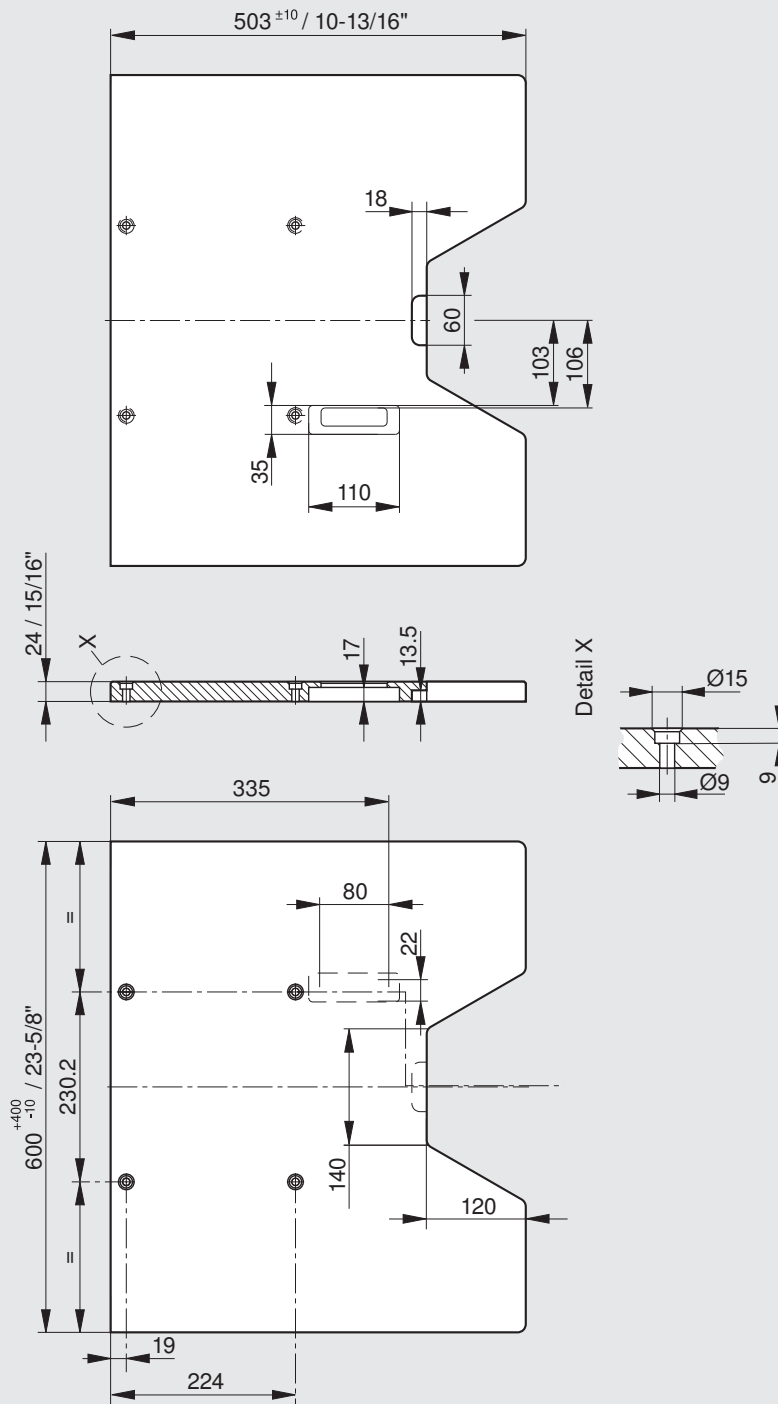
Error	Cause	Solution	Comment
Boring depth does not match setting	Boring depth set incorrectly	Correct boring depth setting	See point 4.1.5
	Drill bit length does not match	Drill bit length set to 57 mm	See point 4.1.2
	Drill bits not completely pushed into the chuck	Clean dirt from chuck and completely insert drill bit	See chapter 4
	Work piece thickness does not correspond to the given value (e.g. 15 mm instead of 16 mm)	Check work piece thickness, correct boring depth setting, use drill depth stop	See chapter 4
	Machine is driving against an object (e.g. ruler stop)	Remove object	none
	Drill stroke switch was released before the boring depth was reached	Keep drill stroke switch engaged until the boring depth has been reached	none
	Work table height (thickness)	Work table should be 24 mm thick	See chapter 9 - Appendix
	Stroke speed too slow	Open flow control valve slightly	See point 4.1.10
Borings are off center or in the wrong position	The ruler 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 2.1.3
	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 pin to engage	See point 4.1.3

8.2 - Function errors

Error	Cause	Solution	Comment
Motor does not run	Machine is not connected to the power supply	Connect machine to the power supply	none
	Machine is not connected to the air supply	Connect machine to the air supply	minimum 80 psi
	Building circuit breaker has failed	Reset circuit breaker or replace	none
	Machine fuse is defective	Have fuse replaced by an licensed electrician	See electrical diagram
	Power switch is not ON	Set power switch to position ON	See point 3.1.1
	Machine connected to the wrong voltage	Check supply voltage and compare with motor data. Have checked by licensed electrician	See electrical diagram
	Motor defective	Have motor replaced by an licensed electrician	none
Motor overheats	Machine connected to the wrong voltage	Check supply voltage and compare with motor data. Have checked by licensed electrician	See electrical diagram
	Boring in hard wood with too high a feed rate	Reduce feed rate	See point 4.1.10
	Motor is dirty or covered by something	Remove objects and chips in the area of the motor	none
Machine doesn't cycle when stroke button is pressed	Machine is not connected to the air supply	Connect machine to the air supply	See point 2.2.1
	Air pressure is too low	Adjust air pressure (80-100 PSI)	See point 2.2.2
	Pneumatic hose is kinked or damaged	Check air lines	none
	Flow control for setting the stroke speed is closed	Open flow control	See point 4.1.10
	Stroke valve is jammed	Replace valve or manual activator	none
	Cylinder defective	Replace cylinder	none

8.2 - Function errors

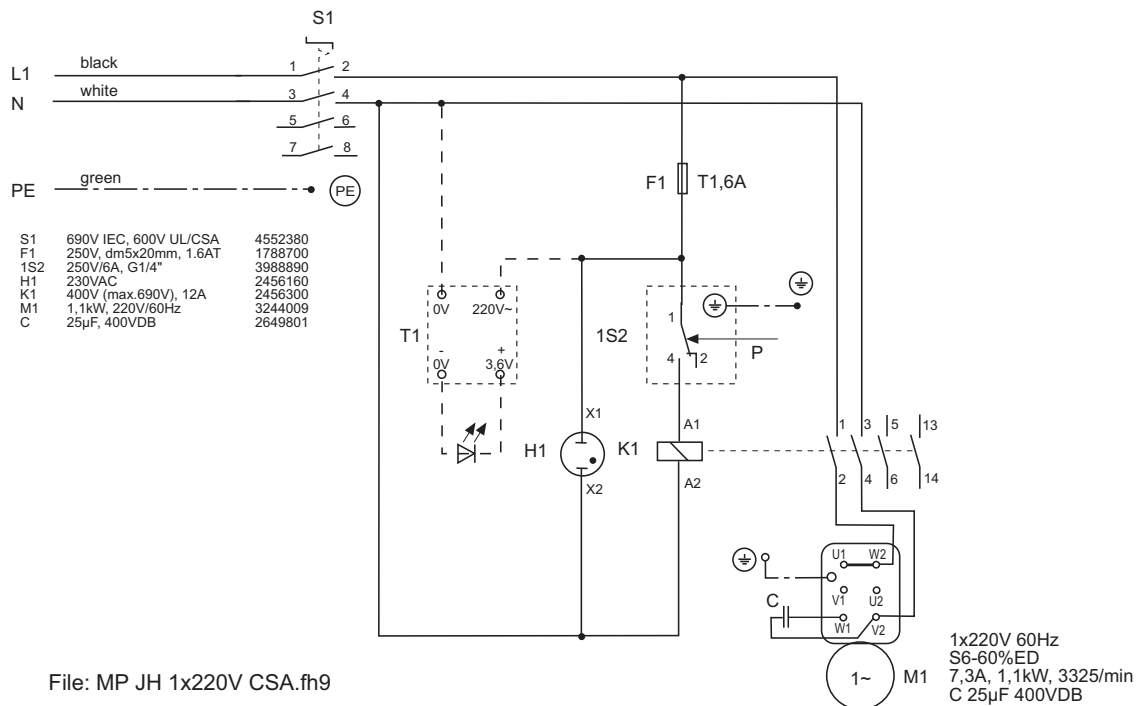
Error	Cause	Solution	Comment
Operational status indicator does not light	Indicator light bulb defective	Replace light bulb	See point 7.1.3
	Drive circuit fuse defective	Have an licensed electrician replace the drive circuit fuse	none
Air filter is not tight	Bracket fitting is loose or defective	Attach 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 out of position	Correct chip blow-off by turning the blow-off hose	none
Gearbox defective	Spindles or gears are damaged	Replace gearbox	none



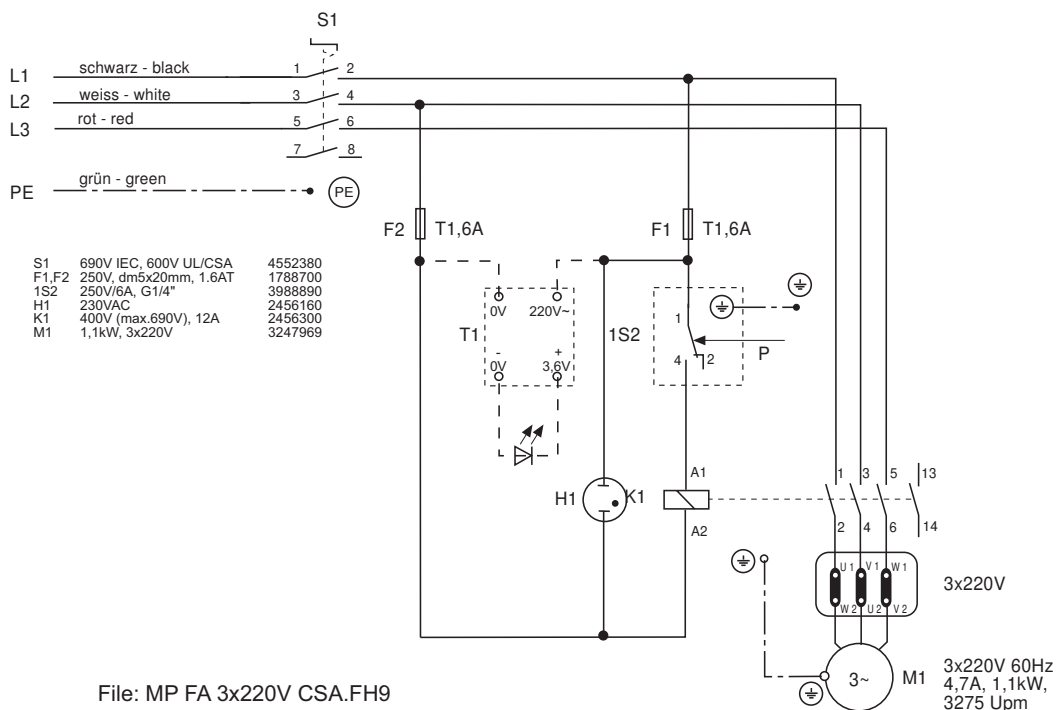
All dimensions in millimeters

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

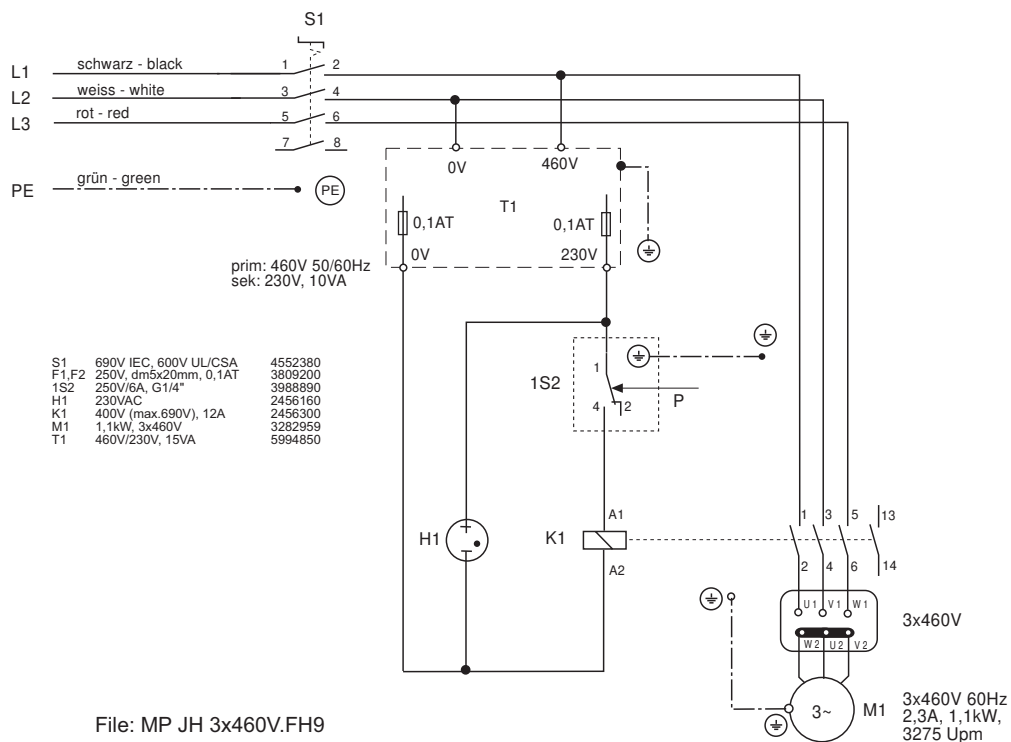
10.1 - Electrical diagram – 1Φ 220 V 60 Hz



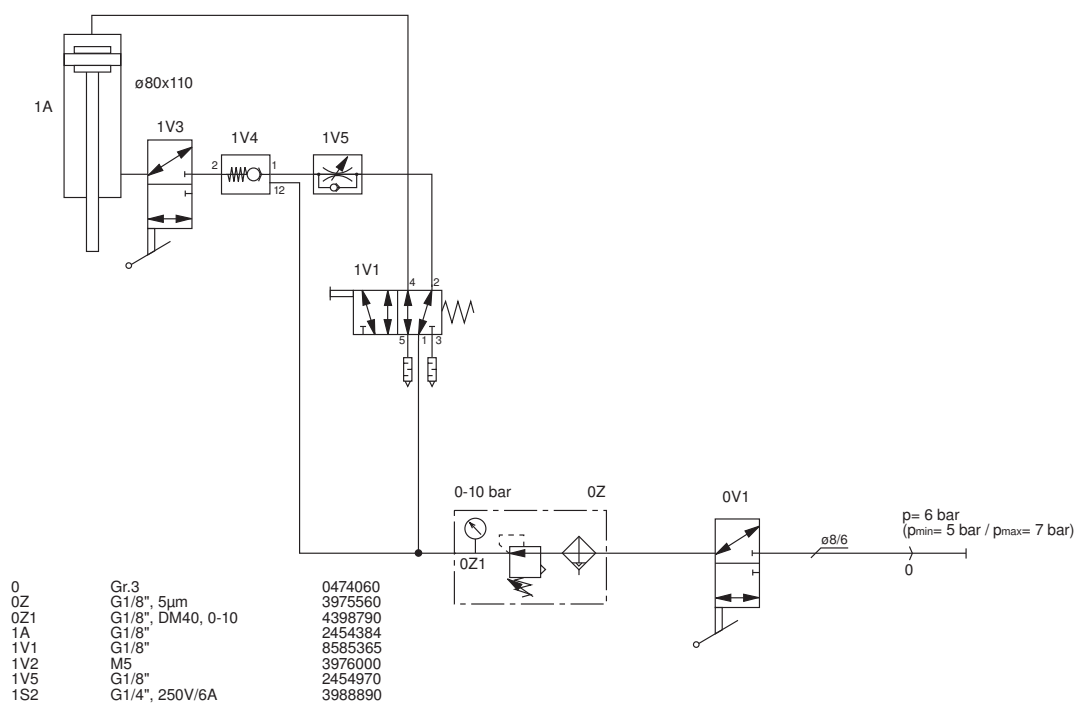
10.2 - Electrical diagram – 3Φ 220 V 60 Hz



10.1 - Electrical diagram – 3Φ 460 V 60 Hz



10.2 - Pneumatic diagram



1) General data

- Voltage: see serial tag
- Current: see serial tag
- Connected load
 - Motor: see serial tag
- RPM: see serial tag

Important: Provide a 15 A circuit breaker.

3) Max. work piece thickness

- 1-1/4" (32 mm)

5) Max. boring diameter

- 1-3/4" (45 mm) diameter

2) Weight and measurements

Weight: 97 lbs (44 kg)

Dimensions: Height (H)= 28-3/4" (731 mm)
 Width (W)= 27" (686 mm)
 Depth (D)= 27- 1/4" (693 mm)

4) Max. boring distance

- Boring distance center spindle: 0 - 2-3/4" (0 - 70 mm)

6) Accessories

- For accessories see BLUM complete catalog

USA
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Functional Hardware Mfg.
For Kitchen Cabinets
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Stanley NC 28164
USA
Toll-free: 1-800-438-6788
Tel.: 1-704-827-1345
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sales.us@blum.com

