



Ensure that the instructions have been fully read and understood before operating the assembly machine. Only properly trained and authorised personnel may operate the assembly machine.

The operating instructions must be accessible at all times.



Table of contents

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- 4 Safety
 - 4 Intended use
 - 5 Risk levels
 - 6 Safety information
 - 7 Warning signs
- 8 Reference diagrams
- 15 Explanation of operating and control elements
- 17 Lifting and start-up
- 23 Assembly overview
- 24 Setup
- 26 Milling the workpiece
- 28 Checking the workpiece
- 29 Changing settings
- 36 Maintenance
- 42 Troubleshooting
- 44 Additional information
 - 44 Technical data
 - 45 CE declaration
 - 46 Electrical diagram
 - 47 Pneumatic diagram
- 50 Notes



Safety

Handling

- Please read the operating instructions and the safety information before commissioning the assembly machine.
- > We recommend that you use the reference diagrams to make it easier to identify the parts being described.

Safety principle

The assembly machine complies with current safety standards. Nevertheless, there will still be certain residual risks if the information contained in these operating instructions are not observed.

Residual risk according to EN ISO 12100:2010

- The assembly machine is equipped with all the necessary protection features.
- However, there will still be some residual risks for the user, particularly when removing the safety equipment or if control units fail.
- Other residual risks are identified by warning signs and safety information. It is therefore necessary to observe the safety information.

Intended use

The assembly machine is designed to be used exclusively for the assembly of the Blum AVENTOS HKi. The assembly machine may only be used under the following conditions:

- The assembly machine may only be operated by fully-trained personnel.
- The assembly machine may only be used in skilled OEM and distribution applications.
- The device should only be installed in dry, enclosed rooms.
- The assembly machine is only intended for stationary operation.
- Only original Blum tools and spare parts may be used.
- No liability can be accepted for any other use.
- This assembly machine is only intended for milling in workpieces of wood, particle board, or laminated particle board.
- The assembly machine may only be operated with the extraction system switched on and functioning.
- The assembly machine may not be operated without the workpiece.





Areas of responsibly

The operator

- must ensure that only fully-trained personnel, who have read and understood the operating instructions, especially the chapter on safety, operate and service the assembly machine.
- is responsible for the safety-related condition of the assembly machine.
- will take the assembly machine out of service immediately when faults are discovered that affect safety.

Risk levels

▲ WARNING

■ WARNING indicates a danger that could lead to serious injury if not avoided.

↑ CAUTION

■ CAUTION indicates a danger that could lead to injury if not avoided.

i NOTE

■ This NOTE symbol indicates information that should be observed.

Safety information





$\overline{\mathbf{V}}$

WARNING

Serious cut injuries.

Failure to heed this warning may result in personal injury.

Always disconnect the assembly machine from the power supply and the pressurised air system before all cleaning and maintenance work.



WARNING

Severe burns.

Failure to heed this warning may result in personal injury.

➤ The assembly machine must be allowed to cool down before adjusting settings, cleaning or maintenance.





Safety

Operation

- The assembly machine is designed to only be operated by one person.
- The assembly machine may only be operated in an upright position (not on its side).

Installation

- Ensure there is sufficient lighting.
- The assembly machine is not suitable for operation in an open environment.
- The assembly machine is only intended for stationary operation.

Protection equipment

- Do not make any changes or alterations to the assembly machine.
- Protection equipment must not be removed or disabled.
- Before starting work, before any shift change or change of personnel, you should check that the protection equipment and machine parts are functioning properly. Any damaged parts should be replaced by original parts from Blum.
- Disconnect the assembly machine from the pressurised air and power supply before removing the covers or panelling.

Tools / accessories

- For your own safety, only use those accessories and additional devices which are recommended or indicated in the operating instructions or Blum catalogue.
- Milling cutter chain must not be oiled.

Power supply

- Only oil-free pressurised air may be used.
- The regulated air pressure must be 6 7 bar.
- Machine parts may be under pressure even when the assembly machine is not in operation.

Repair and maintenance

- If there are any questions, please contact the BLUM Customer Service Department.
- Every time before starting work, check the pressurised air line and the pneumatic hoses for damage.
- Repairs may only be performed by authorised personnel.
- Any damaged parts should be replaced by original parts from Blum.

Personal protective equipment

- All national regulations regarding labour law, industrial safety as well as all disposal guidelines must be followed.
- Wear eye protection.
- Wear ear protection.
- Wear appropriate work clothing.
- Wear work shoes.
- Wear gloves when handling the chain.

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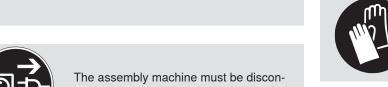
Warning signs



Before connecting the assembly machine to the pressurised air system and power supply, you must ensure that you have understood ALL the safety instructions, warning signs and the operating instructions.



Always wear ear protection when operating this machine.





nected from the pressurised air system and power supply before removing the cover and any cleaning and/or maintenance.



Wear gloves.



Wear work shoes.



Keep unauthorised persons away from the assembly machine. Only 1 person at a time should operate the assembly machine.



Lift here!



The assembly machine may only be operated in an upright position (not on its side).



Caution, danger of being crushed!



Do not lift here.



Caution, voltage - danger of shock.



Caution, danger of cuts



Hot surface - risk of burns.

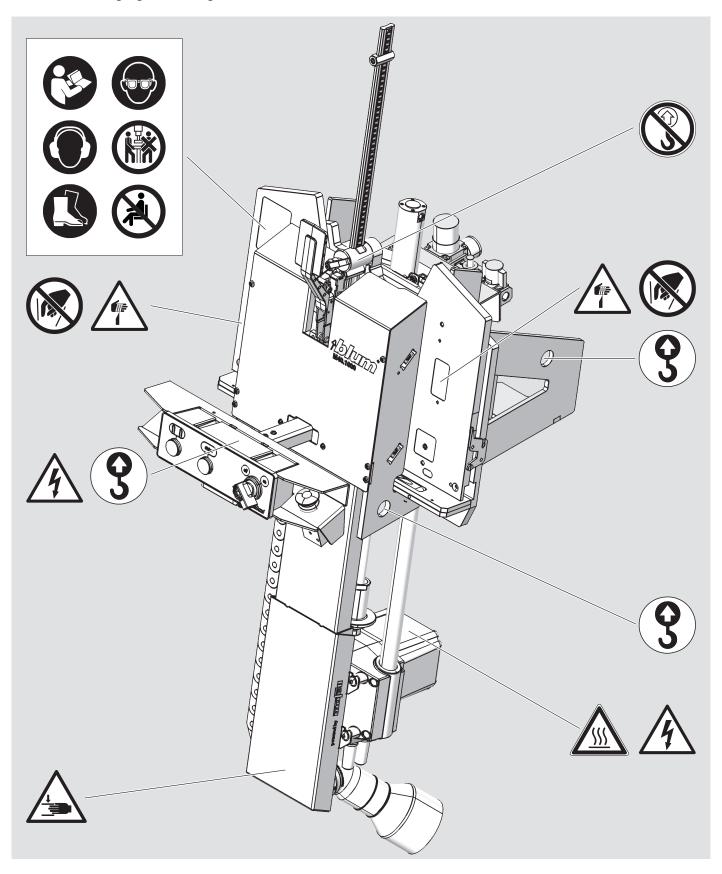


Always wear eye protection when operating this machine.



Do not reach into the opening.

Position of warning signs and danger zones

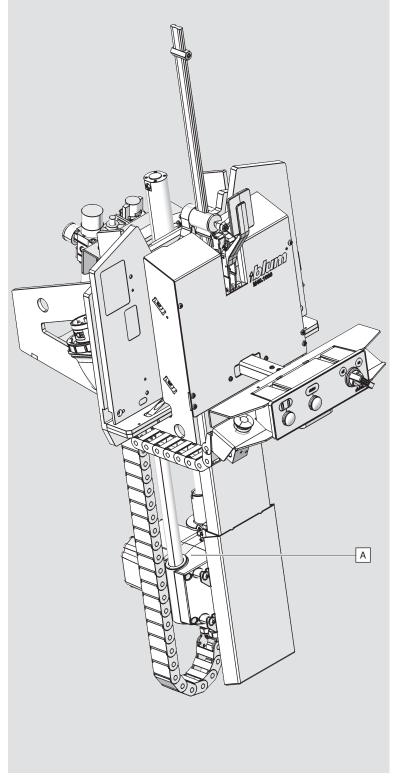




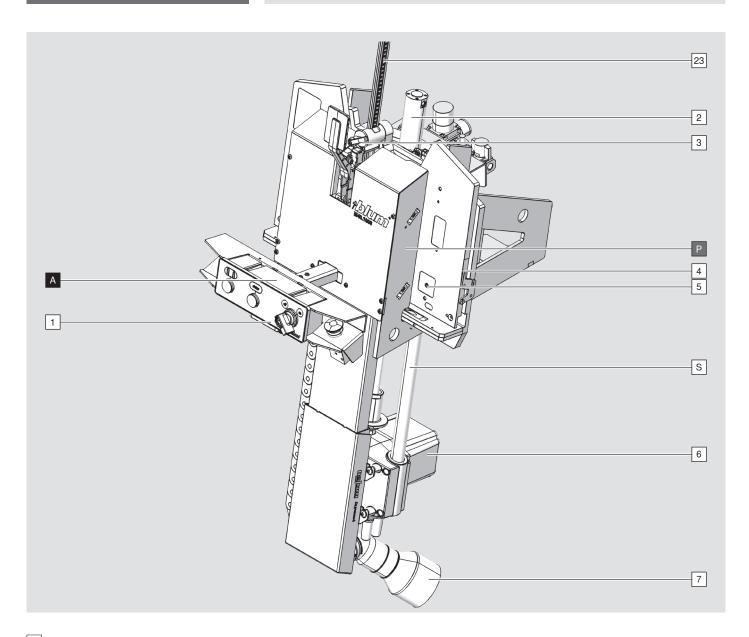
Position of the ID tags [A]

Device type: Milling machine





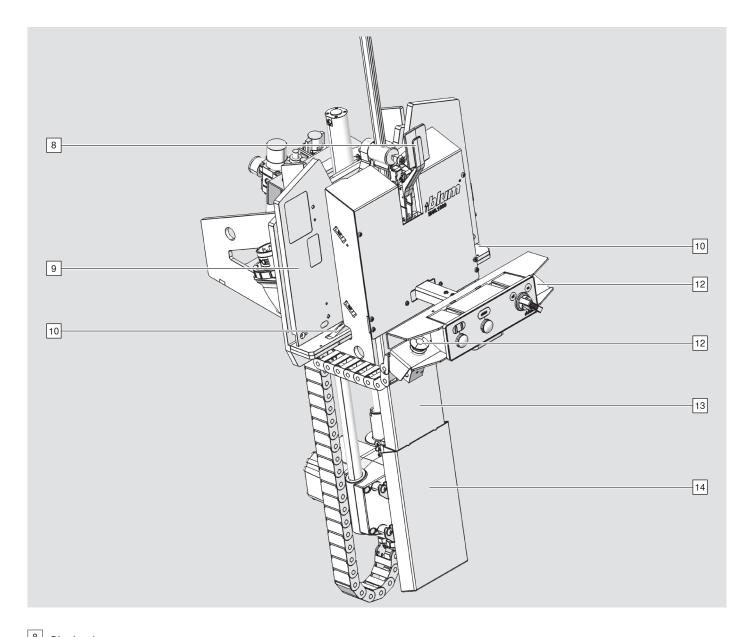




- 1 Main switch
- ² Cylinder
- 3 Cabinet depth adjustment clamping lever
- Panel thickness display
- 5 Panel thickness adjustment
- 6 Motor
- 7 Extraction system
- A Operating panel
- Machine centre of gravity
- S Guide elements

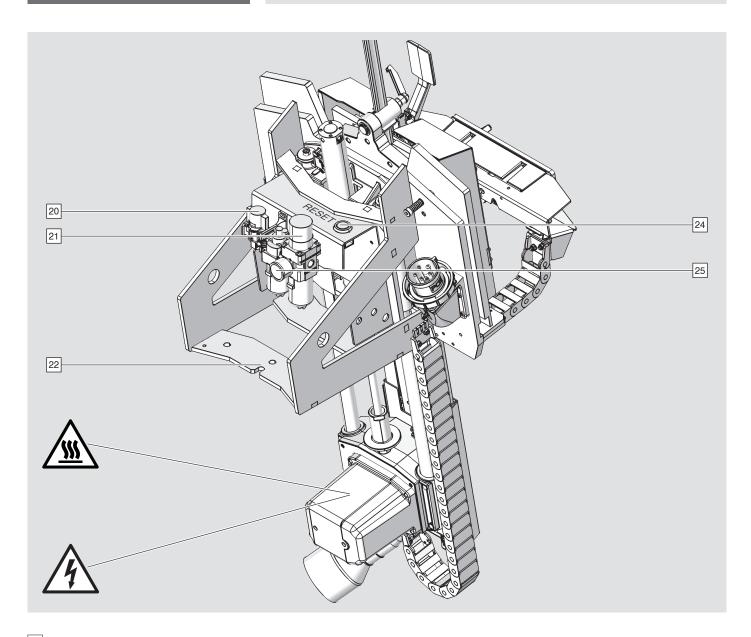






- 8 Closing lever
- 9 Work table
- 10 Stop
- 12 Two-hand release
- 13 Upper cover
- Lower cover



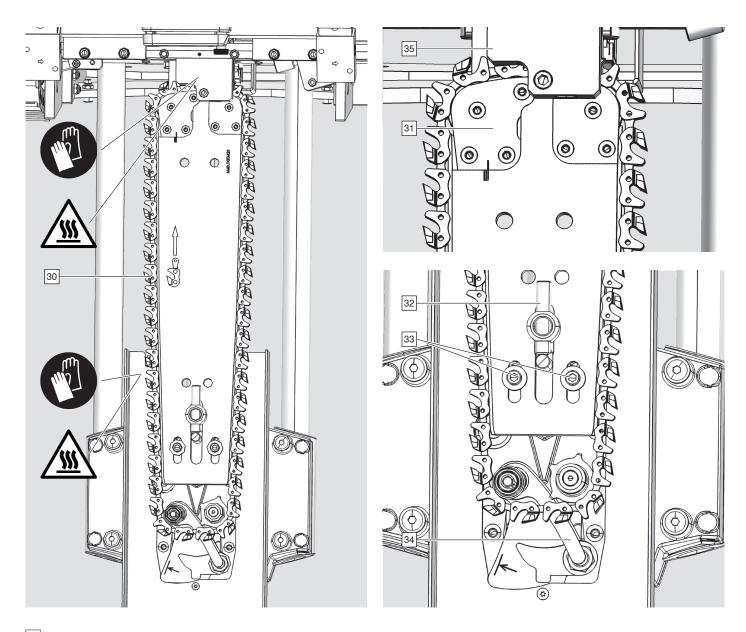


- 20 Compressed air shut-off valve
- 21 Filter air pressure regulator
- 22 Plinth
- Acknowledgement button
- ²⁵ Pressure gauge

Reference diagrams

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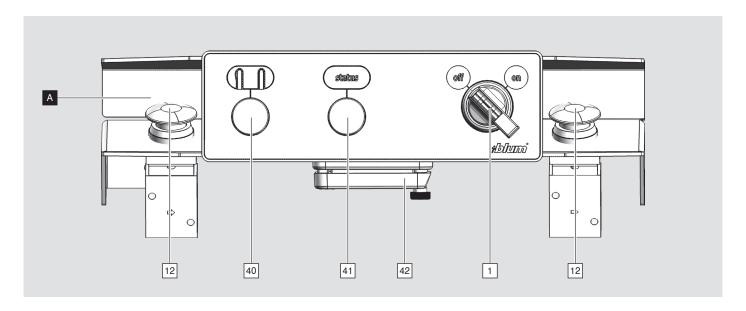




- 30 Milling cutter chain
- 31 Jaw
- 32 Chain tension screw
- 33 Chain tension fixing
- 34 Chain tension pointer
- Positioning block

The covers are not shown to make the operating instructions easier to understand.



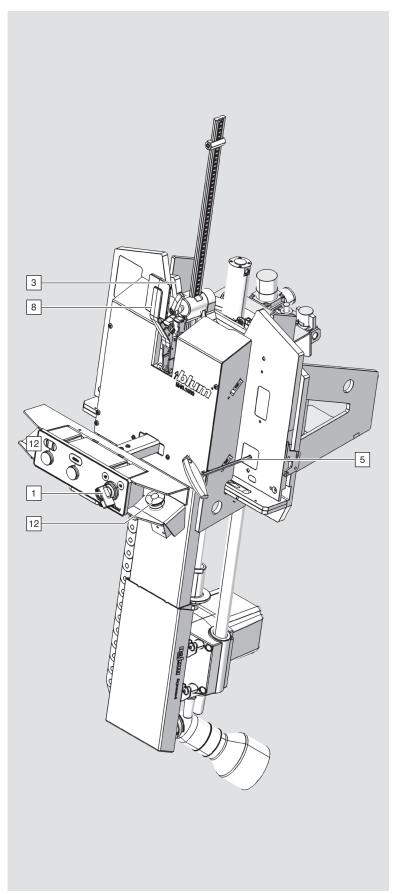


- A Operating panel
- 1 Main switch
- Two-hand release
- 40 Chain tension
- Operating mode display
- 42 Safety

Explanation of operating and control elements

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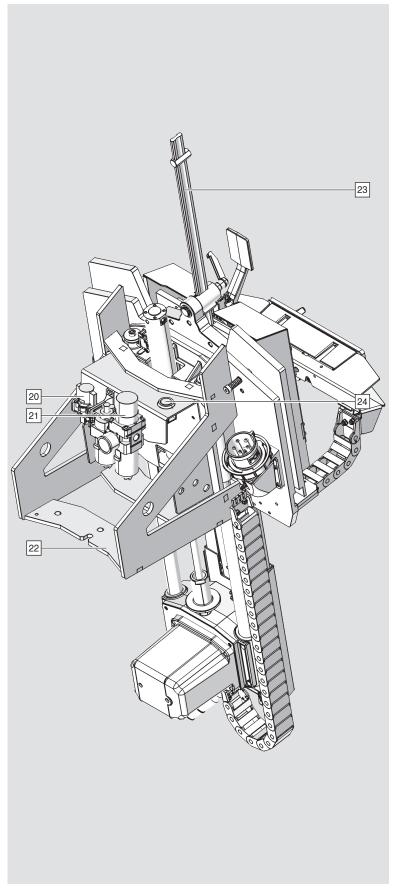




- Main switch: The main switch disconnects the assembly machine from the mains. Please note:
 The main switch does not disconnect the assembly machine from the pressurised air. Pneumatic movement is possible despite the main switch being turned off.
- 3 Cabinet depth clamping lever: The cabinet depth is set on the ruler and fixed via the clamping lever.
- ⁵ Panel thickness: The panel thickness of the workpiece is set here.
- 8 Closing lever: The closing lever is used to clamp the workpiece.
- Two-hand release: Triggers the assembly process.

Explanation of operating and control elements

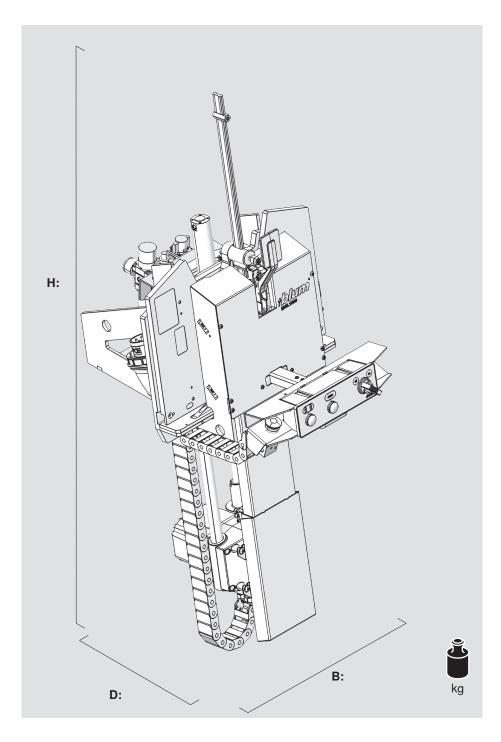
Ablum°



- 20 Compressed air shut-off valve: The compressed air shut-off valve disconnects the assembly machine from the pressurised air system.
- Plinth: The machine is fastened to the workbench using the plinth.
- Ruler: The cabinet depth is set using this ruler.
- Reset button: The Reset button must be pressed after each connection to the pressurised air system or failure of the pressurised air.



Dimensions and weight



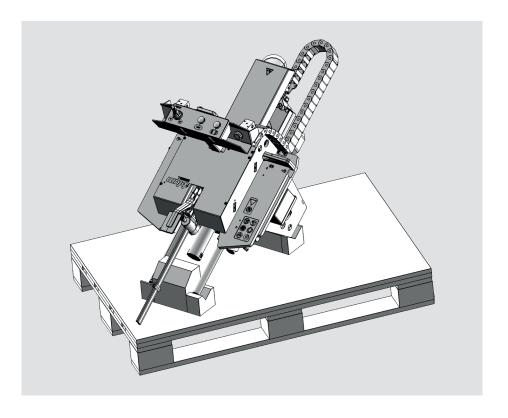
Height (H):	 1530 mm
Width (W): _	_ 550 mm
Depth (D): _	_ 770 mm
Weight:	85 ka

Only use in dry, enclosed rooms. Ensure there is sufficient lighting.



Commissioning

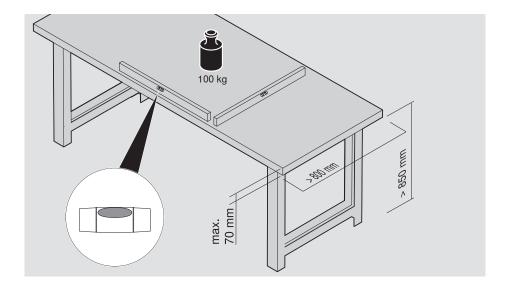
Inbound delivery



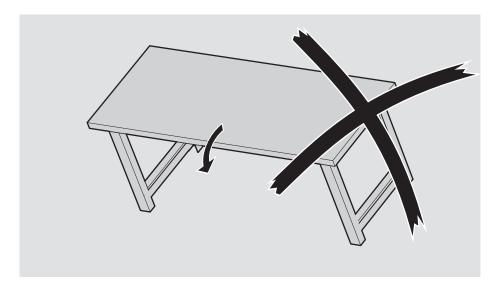
The assembly machine is delivered on a Euro pallet.



Workbench requirement



- > Table height must be greater than 850 mm.
- > Load bearing capacity: minimum 100 kg.
- > The area under the table surface may not be blocked with objects.
- The specified width, depth and height are minimum dimensions.
- > The assembly machine must only be used on a stable work table.



- > The workbench must be secured against tipping.
- > The workbench must be fastened to the floor or wall of the building.



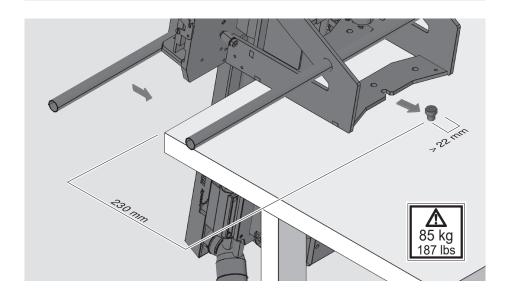


WARNING

The assembly machine weighs 85 kg.

Failure to observe this information may result in personal injury.

- > The assembly machine must be lifted by four people.
- > Use the supplied rods for this.



Lift the assembly machine onto the workbench.

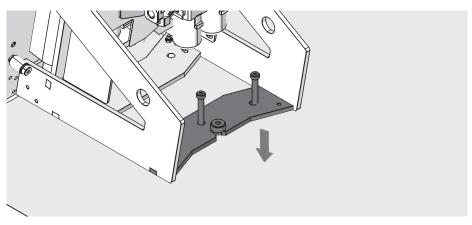


WARNING

The assembly machine can still tip forward.

Failure to observe this information may result in personal injury.

> Slide the plinth into the area of the elongated hole under the pre-mounted screw head

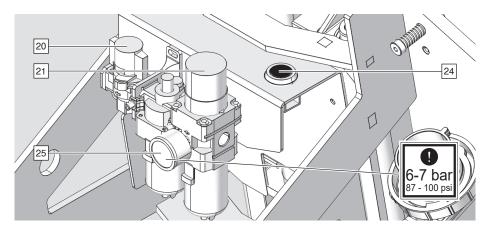


> Fasten the assembly machine to the workbench as shown.





Connecting the pressurised air system



i NOTE

- Only oil-free pressurised air may be used.
- > Connect the air supply to the air filter unit.
- > Open the compressed air shut-off valve [20].
- ➤ The pressure indicated on the pressure gauge [25] should be 6-7 bar.
- > The pressure can be set using the revolving handle [21].

Air consumption is 50 m³/h.

i NOTE

- During the following procedure, parts of the assembly machine can move.
- The Acknowledgement key [24] must be pressed after each connection to the pressurised air system or failure of the pressurised air.

 The assembly machine moves to the starting position.
- Set the main switch [1] to the "OFF" pos.

Connecting the power supply

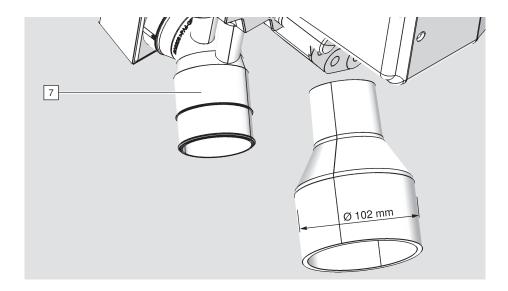
i NOTE

- The assembly machine is designed for the voltage listed on the rating plate and cable label.
- The outlet must be fitted with a PE protective contact.
- The outlet must be fitted with a neutral conductor.
- The outlet must have a 32 A fuse.
- After finishing work, disconnect the assembly machine from the power supply.
- Use a separate protected outlet for the extraction system and the assembly machine.
- Use a residual current circuit breaker in the electrical grid.
- An extension cable with a CEE 32 plug is required.
- Insert the electrical plug.



Commissioning

Connecting the extraction system

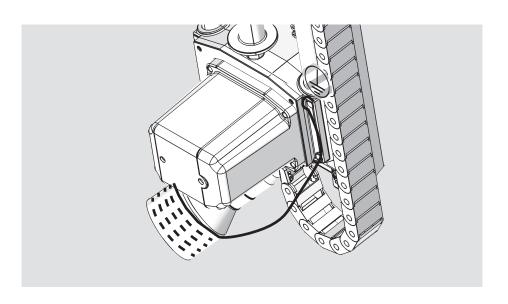


> Insert the extraction hose into the extraction socket [7] and secure it.

i NOTE

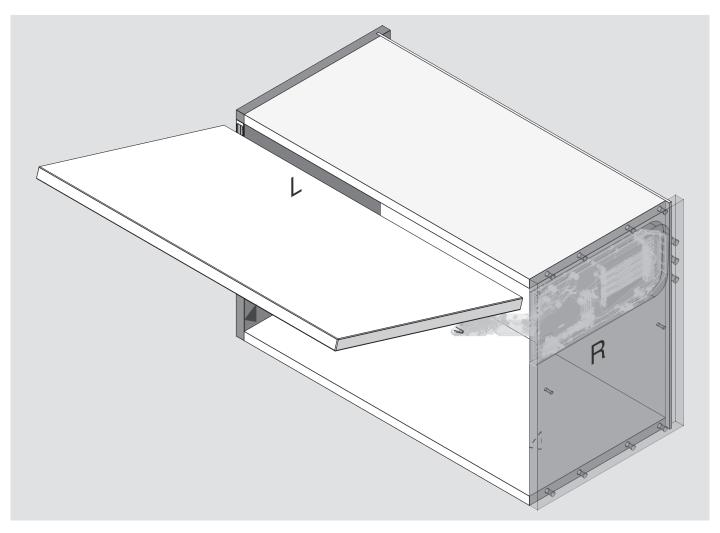
- Ensure that the average air velocity for the extraction system is at least 20 m/sec.
- The negative pressure should be 250 300 mbar.
- Volume flow 1400 m³/h.
- Set up extraction system as per TRGS 553

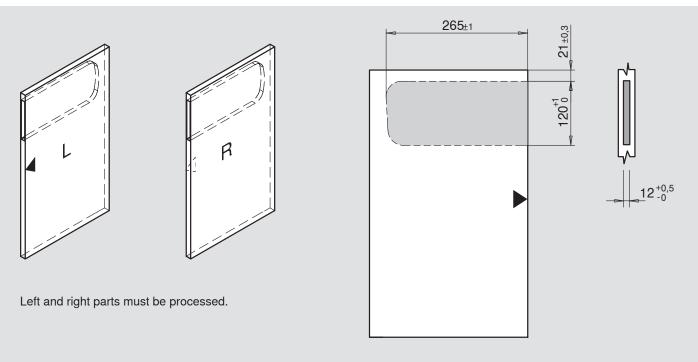
Earthing the extraction system



Connect the spiral wire of the suction hose to the assembly machine.







Setup

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Setting the installation dimensions for the assembly machine

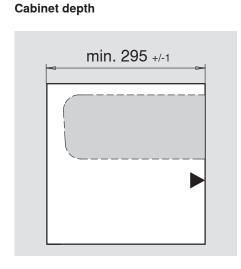


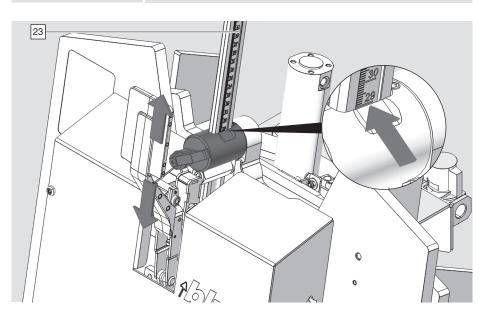
WARNING

Serious cut injuries.

Failure to heed this warning may result in personal injury.

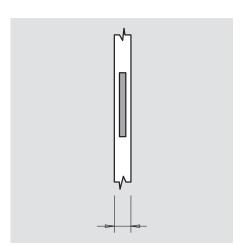
- ➤ Only one person at a time should operate the assembly machine.
- > Sitting is prohibited. Stand in front of the assembly machine.

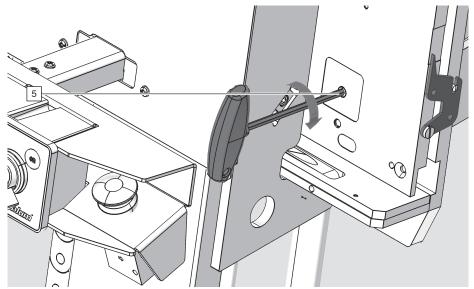




> Set the cabinet depth on ruler [23].

Panel thickness



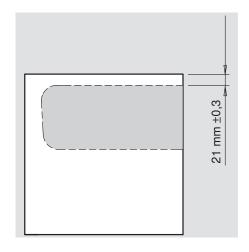


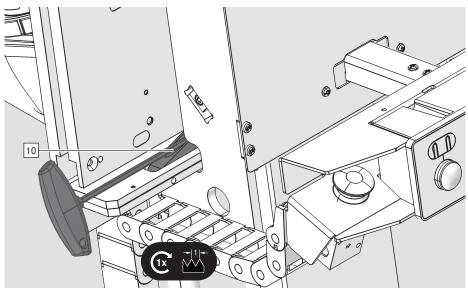
> Set the panel thickness [5].

Setup



Dimension 21





The stops are pre-set to 21 mm.

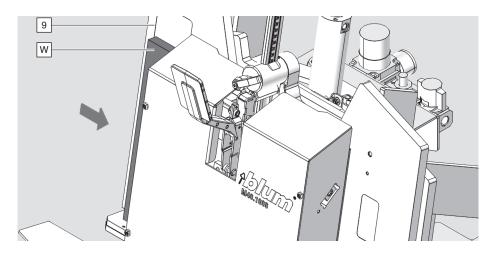
> The stops [10] can be set on the left and right sides.

i NOTE

- We recommend that you first mill on a test workpiece.
- We recommend using the right stop for symmetrical milling.

 The workpiece is slid in from the left side.

Positioning the workpiece



i NOTE

- The extension ruler must be used starting with a cabinet height of 600 mm.
- Check the work table [9] for soiling and remove dirt as necessary.
- > Slide the workpiece [W] against the stop.

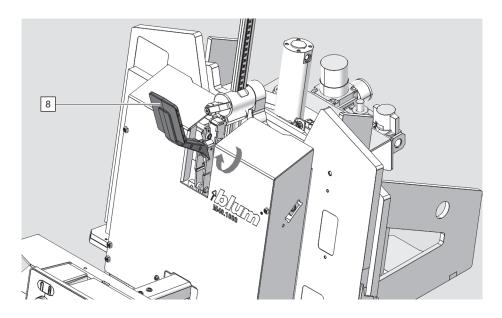
Milling



Clamping the workpiece

i NOTE

■ The workpiece must be clamped to ensure safe and precise workpiece assembly.



> Fold down the closing lever [8] to clamp the workpiece.

i NOTE

- The extraction system must always be switched on in order to remove wood chips, dust and heat.
- Switch on the extraction system.





WARNING

Serious cut injuries.

Failure to heed this warning may result in personal injury.

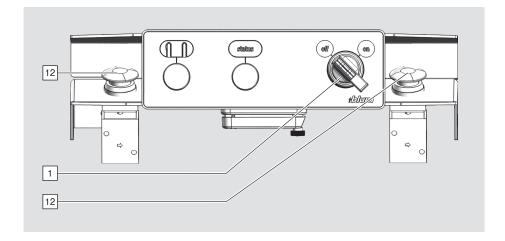
- > Only one person at a time should operate the assembly machine.
- ➤ All items except for the workpiece should be removed from the work area [A] of the assembly machine.
- > Keep your hands and other objects away from the work area [A] of the assembly machine.
- > Wear eye protection.
- > Wear ear protection.
- > Wear suitable work clothing.



Milling

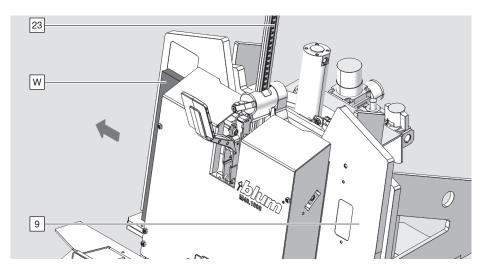


Milling workpiece



- The two-hand release [12] must not be activated if the workpiece is not clamped.
- The milling process is stopped automatically upon reaching the pre-set cabinet depth. You can let go of the two-hand release for the upwards movement that then follows.
- Smoke may form during the first milling process due to the preservative on the new milling cutter chain.
- Press and hold the two-hand release [12].
- > Set the main switch [1] to the "OFF" pos.

Removing workpiece

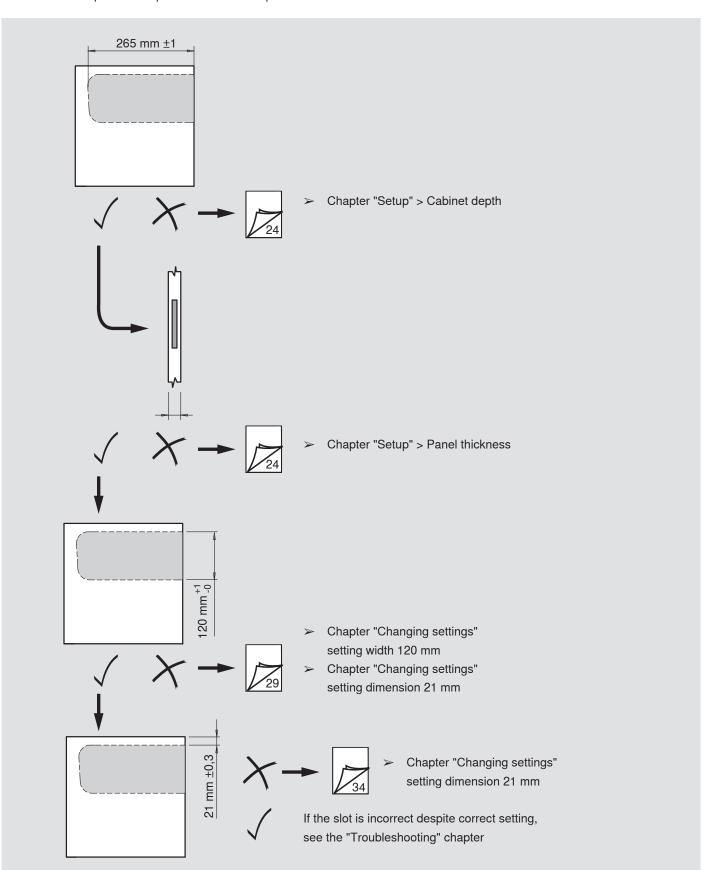


- > Remove the workpiece [W].
- > Clean the work table [9], ruler [23] and stops [10].
- > Set the main switch [1] to the "OFF" position if the machine will not be used for a while or at the end of the working day.
- > Check workpiece, see page 28

Checking the workpiece



> The work steps must be performed in this sequence.







WARNING



Serious cut injuries.

Failure to heed this warning may result in personal injury.

- ➤ Only one person at a time should operate the assembly machine.
- > Sitting is prohibited. Stand in front of the assembly machine.









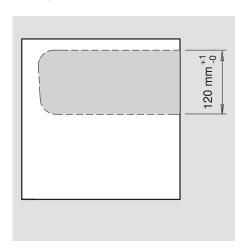
WARNING

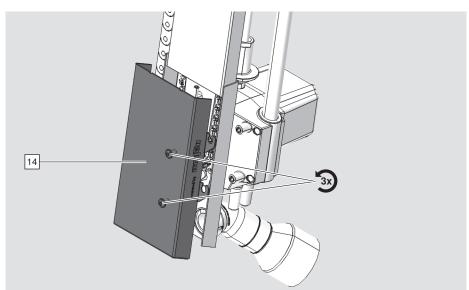
Serious cut injuries.

Failure to heed this warning may result in personal injury.

- ➤ The assembly machine must be disconnected from the power supply before cleaning and maintenance.
- > The assembly machine must be disconnected from the pressurised air system before cleaning and maintenance.
- No protection equipment or covers may be removed permanently.
- > Set the main switch [1] to the "OFF" position.
- > Secure against being turned back on.
- > Allow assembly machine to cool down.
- > Wear gloves.

Setting the 120 mm width

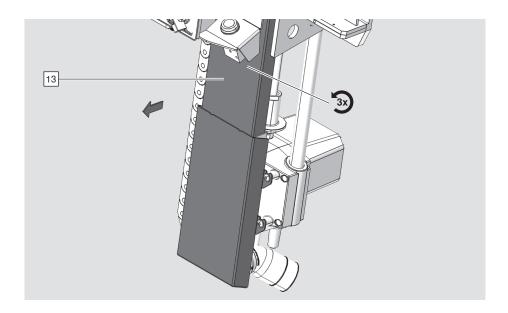




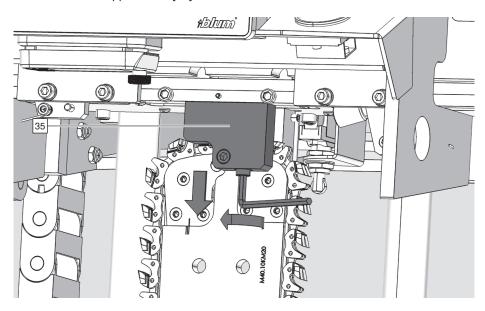
Remove the lower cover [14]

Changing settings



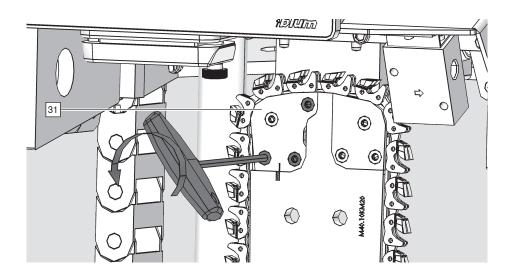


> Remove the upper cover [13]

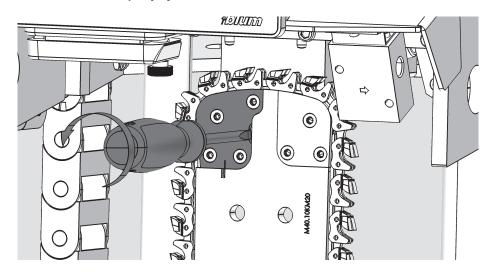


Remove the positioning block [35]

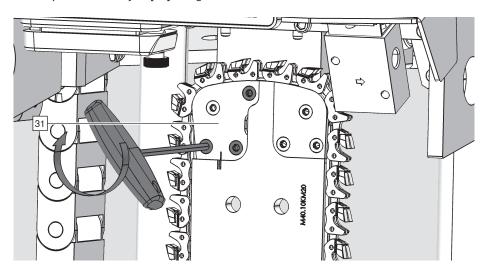




➤ Remove the left jaw [31]



> Separate the left jaw [31] using a screwdriver

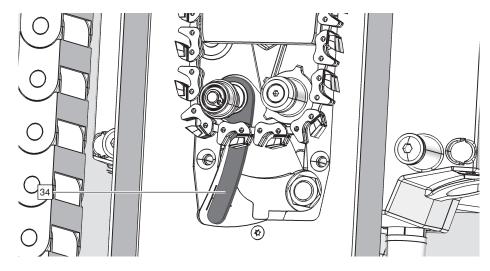


> Fix the left jaw [31]

Changing settings

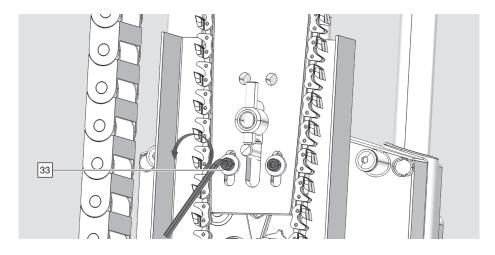
Ablum°

Check the tension of the milling cutter chain [32]

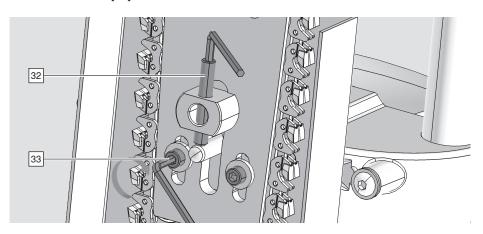


The chain tension pointer [34] must be on the mark at the left.

If the tension of the milling cutter chain [30] is insufficient, proceed as follows:

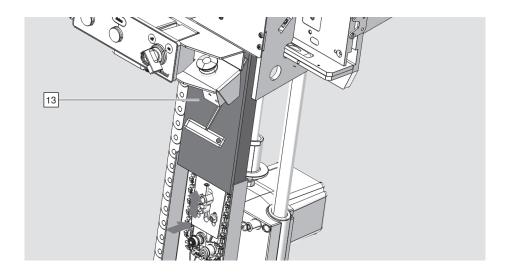


Loosen screw [33]

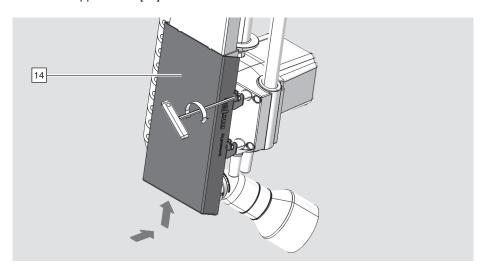


- > Turn screw [32] until the chain tension [34] pointer is located on the left marking
- Re-tighten screw [33]





➤ Mount upper cover [13]



Mount lower cover [14]

i NOTE

■ We recommend that you first mill on a test workpiece.

Milling the workpiece [W]



Changing settings





WARNING



Serious cut injuries.

Failure to heed this warning may result in personal injury.

- Only one person at a time should operate the assembly machine
- > Sitting is prohibited. Stand in front of the assembly machine.









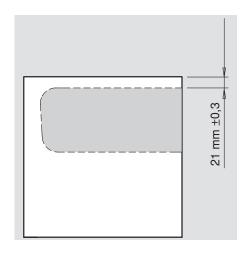
M WARNING

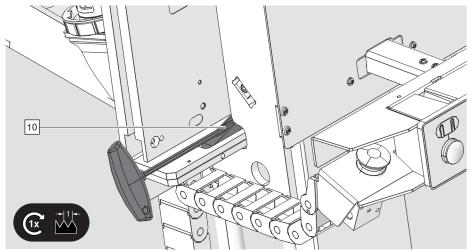
Serious cut injuries.

Failure to heed this warning may result in personal injury.

- ➤ The assembly machine must be disconnected from the power supply before cleaning and maintenance.
- > The assembly machine must be disconnected from the pressurised air system before cleaning and maintenance.
- > No protection equipment or covers may be removed permanently.
- > Set the main switch [1] to the "OFF" position.

Setting the 21 mm dimension





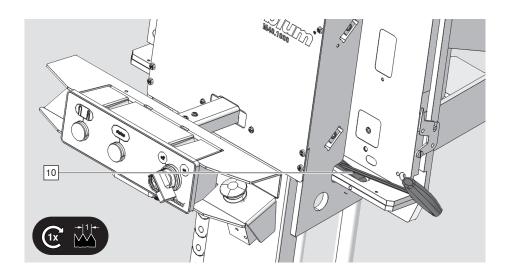
Set left stop [10]

1 turn = 1 mm adjustment

Changing settings







Set right stop [10]1 turn = 1 mm adjustment

i NOTE

- We recommend that you first mill on a test workpiece.
- We recommend using the right stop for symmetrical milling.
 The workpiece is slid in from the left side.

Milling workpiece



Maintenance





WARNING



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Failure to heed this warning may result in personal injury.

- > Only one person at a time should operate the assembly machine.
- > Sitting is prohibited. Stand in front of the assembly machine.









MARNING

Serious cut injuries.

Failure to heed this warning may result in personal injury.

- > The assembly machine must be disconnected from the power supply before cleaning and maintenance.
- ➤ The assembly machine must be disconnected from the pressurised air system before cleaning and maintenance.
- No protection equipment or covers may be removed permanently.
- > Set the main switch [1] to the "OFF" position.
- > Secure against being turned back on.
- > Allow assembly machine to cool down.
- > Wear gloves.

CAUTION

■ Wear eye protection during cleaning work.

i NOTE

- Replace damaged parts immediately.
 - Only use BLUM original parts.
- Do not use oil or lubricants during cleaning.
 All runners, bearings and the milling cutter chain are maintenance-free.
- Dust and wood chips must not be removed using sharp-edged or metallic objects.
- We recommend using microfibre cloths for cleaning work.

i NOTE

- Daily maintenance work should be performed before starting work, a shift change or operator change.
- You should read the Safety chapter to ensure safe handling of the assembly machine.

Maintenance



Daily maintenance work

i NOTE

- The assembly machine can be easily soiled in the as-delivered state.

 This is caused by testing and setting up the assembly machine.
- Before starting work, check the pneumatic lines and electrical lines for damage Damaged lines should only be replaced by authorised personnel.
- > Check the protection equipment of the assembly machine.
- > Vacuum the dust and chips off the assembly machine. By no means use pressurised air to blow it off.
- > Perform a visual inspection of the guide elements [S]. If necessary, wipe away the dust using a microfibre cloth.
- ➤ Perform a visual inspection of the ruler [23], stops [10], clamps and guides. If necessary, wipe away the dust using a microfibre cloth.
- > Defective parts may only be replaced by authorised personnel.

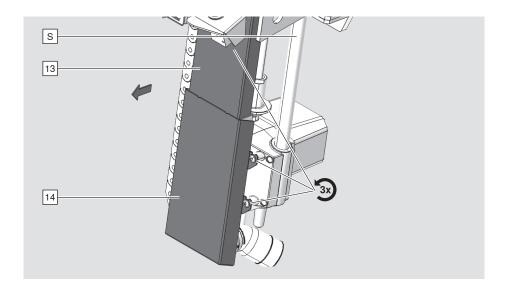
Monthly maintenance work

> Check the air filter unit [21] for water residue, which can collect in the air filter unit and empty if necessary.

Service & support Repairs

Please contact a Blum partner for service & support. Blum partners worldwide can be found at: www.blum.com/adresses

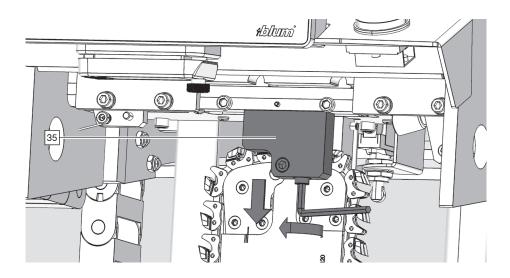
Replacing the milling cutter chain



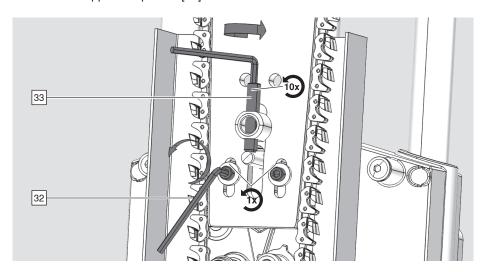
- > Remove lower cover [14]
- ➤ Remove upper cover [13]

Maintenance

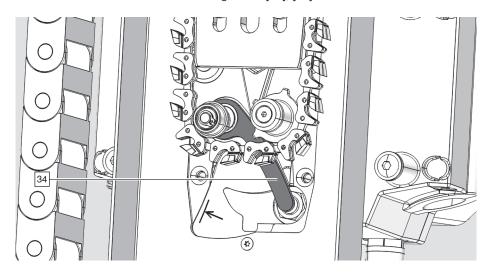




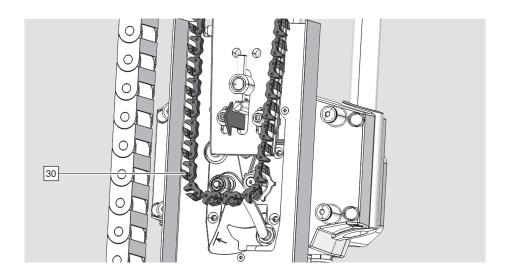
➤ Remove upper component [35]



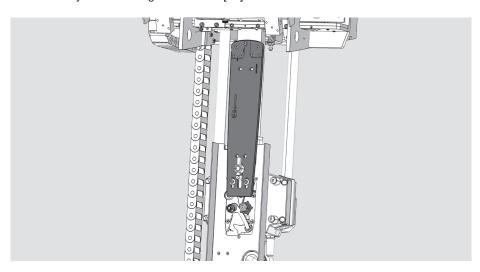
> Remove the screws in the following order: [32], [33]



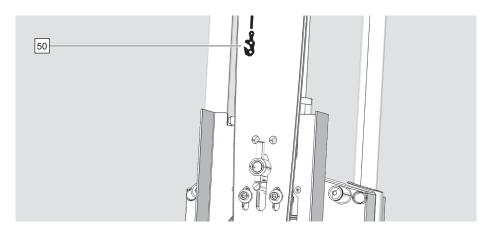
> The chain tension pointer [34] must be all the way to the right



> Carefully lift the milling cutter chain [30] and remove



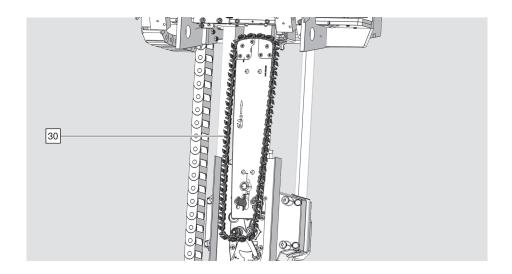
- > Vacuum up any dust and chips.
- Check that the deflection pulley [] is operating smoothly.
- Do not use oils or lubricants.



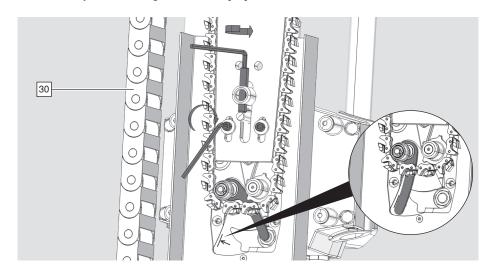
> Note the direction [50] of the milling cutter chain

Maintenance

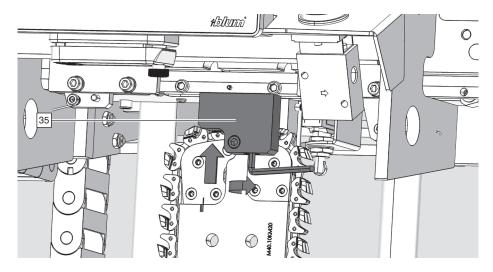




> Carefully insert milling cutter chain [30]

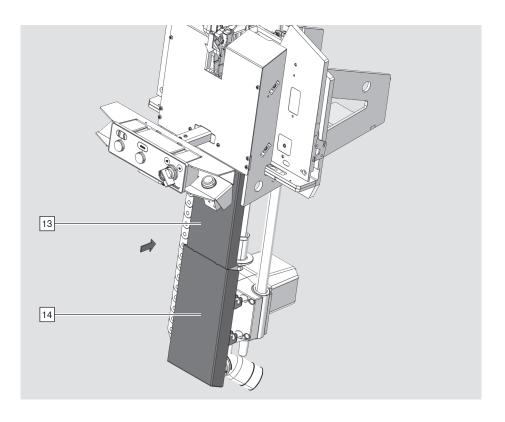


> Tighten milling cutter chain [30] and secure



➤ Mount upper component [35]





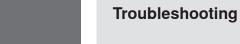
- Mount upper cover [13]
- ➤ Mount lower cover [14]

i NOTE

■ We recommend that you first mill on a test workpiece.

Milling workpiece







Error during milling

Fault	Possible cause	Solution
Milling cutter chain blocked in wood.	Improper material has been milled.	Only use workpieces made from wood, particle board or epoxy coated wood.
Lots of smoke when milling.	Milling cutter chain [30] is inserted incorrectly.	➤ Replace milling cutter chain [30]. Observe cutting direction.
	Milling cutter chain [30] is dull.	> Replace milling cutter chain [30].
	Milling cutter chain [30] has been oiled.	➤ Milling cutter chain [30] should not be oiled.

Error in the workpiece

Fault	Possible cause	Solution
Millings are off-centre or in the	Stop [10] is not set correctly.	➤ Set stop [10].
wrong position.	Chips between the stop [10] and workpiece [W].	➤ Remove dirt and chips.
	Panel thickness set incorrectly	> Observe application limits of workpiece [W].
	Milling at incorrect position.	> See Workpiece [W] chapter.
Milling depth not reached.	Chips in the travel path.	> Remove chips from the travel path.
	Machine is running into an object.	➤ Remove object.
	Milling cutter chain [30] is dull.	> Replace milling cutter chain [30].
Error during fitting insertion.	Chips in the milling.	> Remove chips from the milling.
Millings are large, oval or stripped.	Milling cutter chain is dull.	 Replace milling cutter chain [30]. Check milling cutter chain tension [34].
Workpiece is scratched.	Work table [9] is dirty or damaged.	Clean work table [9].Check the work table [9] for damage.
	Ruler [23] and stops [10] are dirty.	➤ Clean ruler [23] and stops [10].

Troubleshooting

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Assembly machine malfunctions

Fault	Possible cause	Solution
Motor does not run.	Assembly machine is not connected to the pressurised air system.	Connect the assembly machine to the pressurised air system.
	Assembly machine is not connected to the power supply.	> Connect the assembly machine to the power supply.
	Acknowledgement button [24] was not pressed.	> Press the acknowledgement button [24].
	Power supply fuse has failed.	> Reset fuse or replace.
	Fuses [42] on the machine have failed.	➤ Reset fuse [42].
	Assembly machine connected to incorrect voltage.	Check mains voltage and compare with connection diagram. Have this checked by an authorised electrician.
	Motor is defective.	> Have motor replaced by an authorised electrician.
Stroke movement goes down but not	Too little pressure.	➤ Check the setting on the filter air

Stroke movement goes down but not back up.	Too little pressure.	➤ Check the setting on the filter air pressure regulator [21].
	Pneumatic hose kinked or damaged.	➤ Check the air lines.
	Acknowledgement button [24] was not pressed.	➤ See Connecting the pressurised air system in the Commissioning chapter.
Air filter connection is leaking.	Air hose is leaking.	➤ Replace air hose.
	Air filter unit [21] is leaking.	➤ Replace air filter unit [21].
Chip removal is inadequate.	Chip exhaust is not set.	➤ Turn on chip exhaust.

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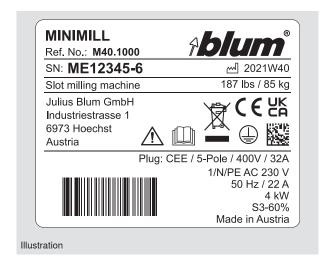
Additional information

Technical data

Ambient atmosphere	Transport / Storage:	30 to 70 °C
	Operation:	0 to 50°C
	Relative humidity (operation):	5 - 93 % non-condensing
	Altitude:	max. 2000 m
Dimensions / weight	Height:	1530 mm
-	Width:	550 mm
	Depth:	770 mm
	Weight:	85 kg
Electrical energy	Voltage:	1/N/PE AC 230 V
	Power:	
	Backup fuse:	
	Plug:	
Pneumatic energy	Compressed air:	6 - 7 bar
	Air consumption:	50 m³/h
Extraction system	Vacuum pressure:	250 - 350 mbar
	Volume flow:	
	Air speed	
	Version:	
Sound	A-weighted emission sound pressure level:	95.8 dB(A)
	Measurement uncertainty:	+/- 4 dB(A)
Workpiece	Materials:	Wood
	Cabinet depth:	
	Cabinet height:	
	The extension must be used for cabinet heights ov	
	Panel thickness:	
		



Serial tag



Device type: Milling machine

Simplified EU declaration of conformity for M40.1000

Julius Blum GmbH hereby declares that the machine type M40.1000 conforms to the Directive 2006/42/EC, 2014/30/EU and 2011/65/EU. The complete text of the EU declaration of conformity is available at the following Internet address: www.blum.com/compliance

Disposal of electrical assembly devices



Electrical assembly devices must not be disposed of with household waste at the end of their service life. Ask your local authority for information on how to proceed. BLUM electrical assembly devices meet the requirements of the WEEE Directive 2012/19/EU.

Electrical and electronic appliances are collected separately, which enables old appliances to be reused or recycled, and their materials to be reused. This is intended to prevent any hazardous materials that may be contained in the appliances from damaging the environment and health during disposal.

Electric assembly devices can be returned to the manufacturer at the end of their service life or can be recycled or repaired if this makes ecological sense.

Further information on this under the following link:

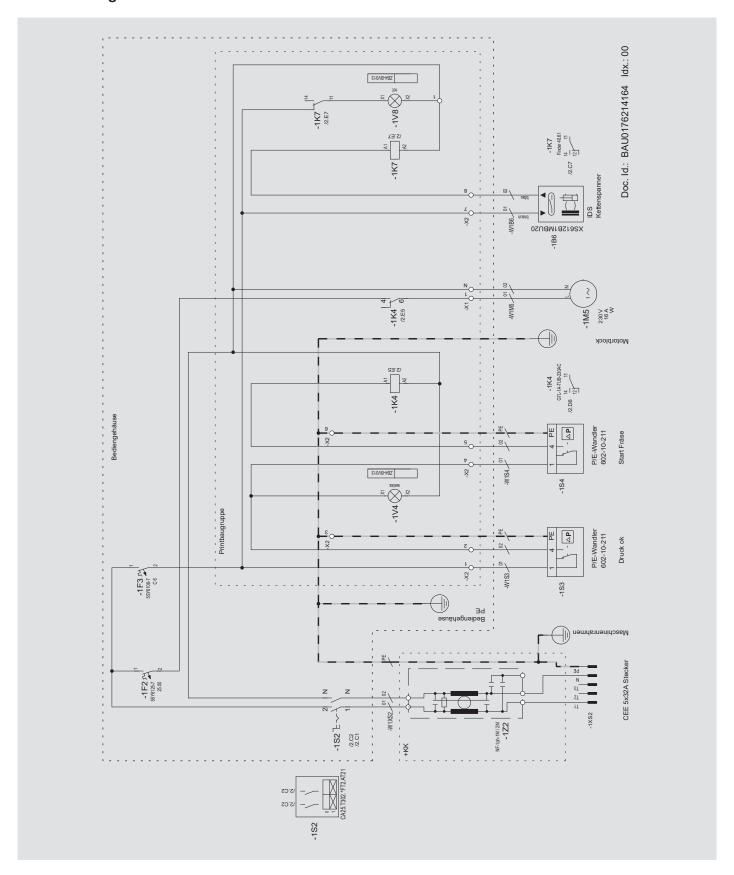
www.blum.com/recycling

Energy storage:

The assembly machine does not have an electrical and pneumatic energy storage system.

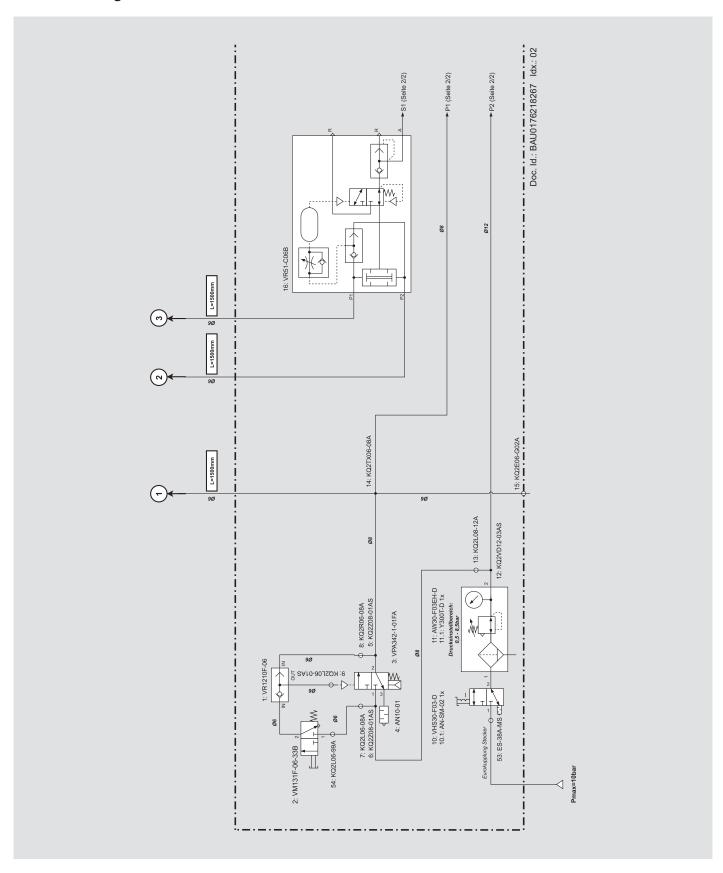


Electrical diagram:



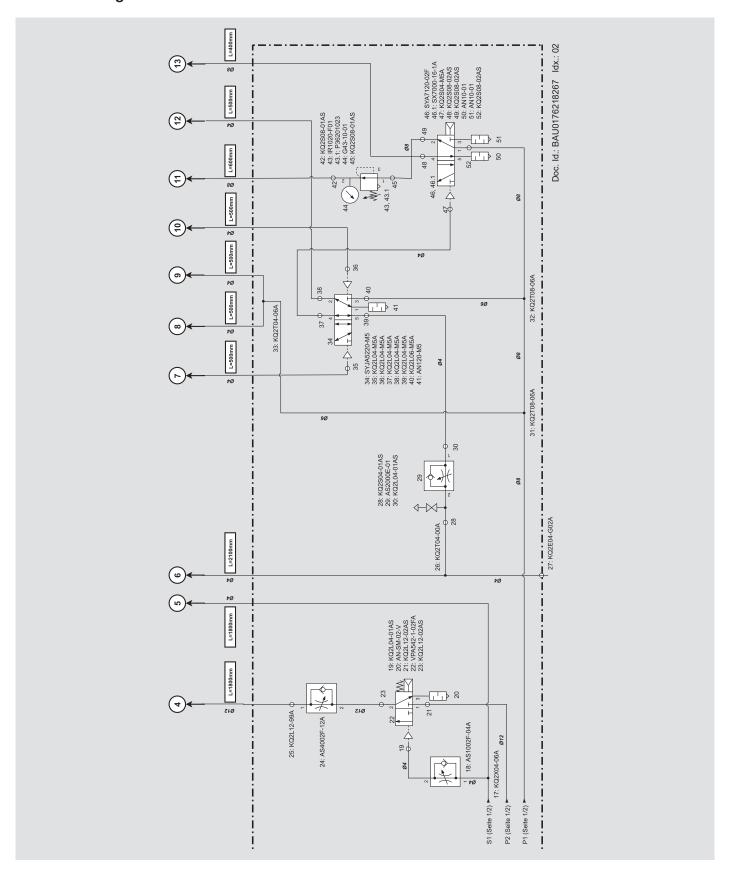


Pneumatic diagram:





Pneumatic diagram:



Notes

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