



Operating manual

PFT BOARDMASTER 2500 / 3150 / 4000

PFT BOARDMASTER 2500 mobile

Safety – Setting up and commissioning

Operation – Spare parts lists



Mobile sheet cutting table

Item number of operating manual: 00537040

Article number of parts list – machine BOARDMASTER 2500: 00631891

Article number of parts list – machine BOARDMASTER 3150: 00631892

Article number of parts list – machine BOARDMASTER 4000: 00631893

Article number of parts list – machine BOARDMASTER 2500 mobile: 00631894



Read the operating manual prior to beginning any work!

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1 EC Declaration of Conformity

Company: Knauf PFT GmbH & Co. KG
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declares, with exclusive responsibility, that the machine

Device type: Transportable sheet cutting table
Machine model: PFT BOARDMASTER 2500 / 3150 / 4000 / 2500 mobile
Serial number: See type plate
Guaranteed sound power level: 99dB(A)

described in the enclosed documentation is in accordance with the EC Machinery Directives 2006/42/EC, 93/68/EEC, 2004/108/ EEC, 2000/14/EC.

Furthermore, the following standards and regulations apply:

DIN EN 418	EN 1088
DIN EN 953	EN ISO 12100
DIN EN 349	EN ISO 13857/2008
DIN EN 954-1	EN 60204-1/97

Agent responsible for putting together the relevant technical documentation:

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The technical documentation is held at:

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Iphofen, November 2015

Place and date of issue

Name and signature

Dr. York Falkenberg

General Manager

Information on undersigned

2 General information

2.1 Information regarding the operating manual

This manual provides important information and instructions on the correct use of the equipment. Adherence to all defined safety and handling instructions is a prerequisite for a safe working environment.

Additionally, the on-site accident prevention regulations and general safety guidelines for the equipment must be followed at all times.

Read the manual carefully before starting any work! It is an integral part of the product and must be kept near the machine and accessible to operators at all times.

Always include the operating manual when transferring the machine to third parties.

The diagrams and illustrations shown in the manual are intended for better understanding of tasks and descriptions. They are not necessarily shown to the correct scale and may vary slightly from the actual equipment used.

2.2 Information on the safety instructions

These safety instructions give important notes and instructions on the correct use of the equipment. Adherence to all defined safety and handling instructions is a prerequisite for a safe working environment.

2.3 Symbols

Warning symbols

Warnings are shown by symbols in this manual. The warnings themselves open with signal words that express the seriousness of the danger.

Adhere to these warnings at all times to avoid accidents, personal injury and equipment damage.



DANGER!

... Indicates an immediate dangerous situation that will lead to death or serious injury if it is not avoided.

Congratulations on purchasing this mobile sheet cutting table; its design is geared towards adding efficiency and convenience to your daily work.

It was developed by experts and for experts. You are thus the owner of a PFT brand-name product that will give you many years of service.



3 Safety symbols in this manual

The safety symbols along with the text of the safety message are to draw attention to unavoidable residual dangers involved in using the machine. These residual risks relate to persons, the machine, other objects, and the environment.

The following safety symbols are used in the present operating instructions.



Danger!

This symbol indicates a danger exists, above all to the life and health of persons – in addition, it can point to potential risks for the machine, objects or the environment.

If these instructions are not followed, this can lead to serious and even fatal injuries.



WARNING!

This symbol indicates that risks exist, above all for the machine, objects and the environment – risks for persons are not expected.

If these instructions are not observed, this can lead to malfunctions and damage to the machine. Damage to property and environmental damage can also occur.



This symbol indicates that, above all, health risks exist.

These risks emanate from on sharp, cutting and rotating tools.



This symbol indicates that, above all, health risks exist.

These risks emanate from moving parts that can cause trapping or crushing.



This symbol indicates specific risks to the health and life of persons due to electric voltages.



Information!

This symbol indicates instructions that contribute to a better understanding of the machine – the information will help you use the machine in the best possible way. This symbol does not point to safety information.

Please also note that a safety symbol can never replace the wording of a safety instruction – the wording of a safety instruction must therefore always be read completely.

4 Basic safety instructions

4.1 In case of emergency



Danger!

- In case of dangerous situations at the machine (e.g., danger caused by unexpected malfunctions), the system must be immediately shut down.
- The machine can be immediately shut down (mains disconnect) using **EMERGENCY STOP main switch** on the control panel, or by **disconnecting from the mains supply** (unplugging). The power supply is switched off immediately.
- In case of accident notify the doctor and the Trading Standards Office, or appropriate local authority.
- Especially in case of high-voltage accidents, first aid must be given immediately by appropriately trained persons.

4.2 Basic safety instructions

- Do not misuse the machine. The mobile sheet cutting table must only be used for the intended purpose.
- Keep your machine and its accessories in good working order. A neglected machine or neglected accessories pose dangers.
- Regularly check your machine and its accessories for damage. Make sure that moving parts and safety components are working correctly and not jammed; check for damage to parts.
- Take environmental factors into account. Never expose power tools to moisture. Never use power tools near flammable liquids or gases.
- Protect yourself against electric shock.
- Keep children away. The mobile sheet cutting table and its accessories are not toys. Make sure that children do not touch the tool or cable.
- Wear suitable work clothes. Do not wear loose clothing or jewellery, they can be dragged in by moving parts. Wear a hairnet if you have long hair.
- **MAKE SURE THERE IS SUFFICIENT LIGHTING OF THE WORK AREA!**
- **USE PROTECTIVE EYEWEAR!**
- **ALWAYS USE AN EXTRACTION UNIT FOR A SAFE AND DUST-FREE WORK!**



Basic safety instructions



- USE A BREATHING MASK IN CASE OF WORK THAT CAUSES DUST AND CHIPS!
- ALWAYS USE HEARING PROTECTION!
- Secure the workpiece.
- **Attention!** Before changing the units, the main switch must be switched to position "0". Pay attention to the stoppage of the unit.
- Pay attention to stable position so that you can keep your balance in any working position.
- Avoid unintentional switching on. Make sure that the main switch is switched off when connecting to the mains power supply.
- Be attentive at all times. Concentrate on your work. Take a sensible approach. Do not use the machine if you are tired.
- This machine may only be operated persons who are regarded as suitable for the task by the plant manager or supervisor.
- All persons who carry out work on the machine, must read the operating instructions and confirm that they have understood the operating instructions by their signature.
- When transporting individual components, at least two persons are required for parts that are heavier than 25 kg (see technical data). (25 kg per person).
- Switch off the machine and wait until the tool has reached idle position before leaving the workplace. When not in use, before servicing, and when changing the tool, additionally unplug the mains plug. Lock the main switch against unintentional switching on.
- Never touch the power units while the machine is running. Never lift power units by their tools (saw blades or cutters); never reach under these tools. If you do need to work on the power units (e.g., height adjustment of the sawing or milling cutting units) turn off the machine at the main switch, and disconnect the machine from the mains by unplugging the mains plug. During normal operations, only use the power unit pneumatic lifting system to raise and lower the power units.
- Never leave tool spanners in place. Before switching on, check whether the spanners and adjusting tools have been removed.
- Use the right tools. Intended use is described in this manual. With the right tools, you will achieve optimum quality and ensure your personal safety.

Basic safety instructions



- **WARNING!** The use of tools other and accessories than those tools recommended in this manual, or the performing work with this power tool beyond the intended use, can lead to accidents.
- Handle the cable carefully. Do not use the cable to pull the plug out of the socket. Protect the cable against heat, oil and sharp edges.
- Maintain your tools with care. Keep your tools sharp and clean to be able to work well and safely. Follow the maintenance instructions and instructions for changing tools. Check the plug and the cable regularly and call in PFT customer service to replace them in case of damage. Check the extension cable regularly and replace it in the event of damage. Always keep all switches dry, clean and free from oil and grease.
- Check your mobile sheet cutting table incl. accessories for damage. Before use check the power tools for correct and intended function. Check the moving parts for damage. All parts must be correctly installed to ensure correct operation of the machine. Damaged parts and safety devices must be correctly repaired or replaced. Do not use the machine if the switches are defective. Damaged switches must be replaced by PFT customer service.
- Have the repairs carried out by PFT customer service only. This mobile sheet cutting table complies with the relevant safety regulations. Repairs may be carried out by PFT staff only to avoid a risk of accidents for the operator.
- This machine is not designed for use in EX areas (areas with risk of explosive atmosphere).
- The operator of the machine is obliged to comply with the national rules and regulations.

4.3 Observing the operating instructions

- Keep these operating instructions near the machine. It must be ensured that all persons who are to perform work on the machine are able to view the operating instructions at any time. In addition to the operating instructions, operating instructions for the purposes of the Occupational Safety Act and the Working Material Use Regulations must be provided.
- In addition, the operating instructions of the work equipment (milling cutter unit and saw unit) must be observed. All deviating instructions for use (e.g., for tool changes) are described in these operating instructions.
- All safety information signs and operating instruction signs on the machine must always be kept in a legible condition. Damaged or illegible signs must be replaced immediately.



4.4 Basic safety measures for normal operation



Danger!

- During operation of the machine, no safety devices may be removed or disconnected.
- Before each use, the operating personnel must make sure there are no unauthorised people within the working area by the machine.
- After switching off the machine, wait for all moving parts to stop before reaching into the danger zone.

- At least once a day and before each use, perform the following checks:
 - ➔ Check the machine for external damage.
 - ➔ Check the function of all safety devices.

4.5 Basic safety measures during maintenance

- The maintenance work stipulated in the operating manual – adjustment, cleaning, lubrication, maintenance, inspection, etc. must be carried out on time.
- Observe the special information for the individual components in these operating instructions and in the supplied component manufacturers' guides.
- **Before carrying out maintenance work**, the following points must be observed:
 - ➔ Use the main switch to switch off the central power supply; lock the main switch and unplug the mains plug.
 - ➔ Immediately replace any machine parts that are not in good working order.
 - ➔ Use only original spare parts or spare parts of the same type.
- **After completing the maintenance work** and before starting up the machine, observe the following points:
 - ➔ Check all previously disconnected connections.
 - ➔ Make sure that all previously removed protective devices and covers, etc. are installed again correctly.
 - ➔ Make sure that all the tools, materials and other equipment used in the work area have been removed.
 - ➔ Clean the work area.
 - ➔ Make sure that all safety devices of the machine are again working correctly

5 Special safety instructions for operation



Warning of cutting injuries!



Warning of hand injuries!



Safety goggles:

To protect your the eyes against flying parts and liquid splashes.

Ear protectors:

To protect against hearing loss



Important!

When working on the electrical equipment:

- All work on the electrical equipment of the machine must always be carried out by qualified electricians only.
- Check electrical equipment regularly:
 - reattach loose connections.
 - Immediately replace damaged cables or defective equipment.
 - Use only original spare parts
- Before all work on the electrical equipment, unplug the mains plug. Lock the main switch against unintentional switching on.
- There is a risk of unexpected malfunctions when working on the system as a result of:
 - a failure or malfunction of the control devices.
 - external influences acting on the electrical equipment.
- Never clean electrical equipment with water or similar liquids.
- No unauthorised modifications may be made to the machine for safety reasons.



6 Technical data BOARDMASTER

6.1 BOARDMASTER 2500 basic machine Article number 00631891

Dimensions of the working machine:

Specification	Value	Unit
Length	3010	mm
Width	1620	mm
Height	1380	mm

Weight:

Specification	Value	Unit
Net weight BOARDMASTER	139	kg
Weight cutting table	103	kg
Weight machine head	36	kg

6.2 BOARDMASTER 2500 mobile basic machine Article number 00631894

Dimensions of the working machine:

Specification	Value	Unit
Length	3010	mm
Width	1620	mm
Height	1380	mm

Weight:

Specification	Value	Unit
Net weight BOARDMASTER	114	kg
Weight cutting table	78	kg
Weight machine head	36	kg

6.3 BOARDMASTER 3150 basic machine Article number 00631892

Dimensions of the working machine:

Specification	Value	Unit
Length	3680	mm
Width	1620	mm
Height	1380	mm

Weight:

Specification	Value	Unit
Net weight BOARDMASTER	154	kg
Weight cutting table	118	kg
Weight machine head	36	kg

Technical data BOARDMASTER**6.4 BOARDMASTER 4000 basic machine Article number 00631893****Dimensions of the working machine:**

Specification	Value	Unit
Length	4520	mm
Width	1620	mm
Height	1380	mm

Weight:

Specification	Value	Unit
Net weight BOARDMASTER	170	kg
Weight cutting table	134	kg
Weight machine head	36	kg

6.5 Electrical connection values**Electrical**

Specification	Value	Unit
Voltage 230V, N, PE, 50 Hz	230	V
Output without external components	1800	W
Max total device rating	3000	W
Fuse	16	A
The on-site mains connection (socket) must be fused with 16 Ampere and have a fault current circuit breaker with 30 mA. (suitable adapters are available from PFT)		
Working electrical outlet	Yes (1*)	
Comment (1*)	The external total connected load to the mains socket is: Max. 2000 W	



7 Positioning laser (optional)

Laser Class 1 as per DIN EN 60825-1:2008-05, = 650 nm, 5 mW

8 Operating conditions

The electrical equipment is only suitable for operation in dry conditions and at ambient temperatures of -10 °C to 50 °C. Operating under any other conditions is not permissible!

9 Sound power level L_{WA}

Saw unit (manufacturer's specification)	97.9	dB(A)
Milling cutter unit (manufacturer's specification)	99.0	dB(A)
Groove sawing unit (manufacturer's specification)	92.8	dB(A)

10 Pneumatic power unit lifting system

This machine is supplied with a pneumatic power unit lifting system. A pressure regulator installed in the machine to regulate the air pressure to 5 bar. The compressor used must be capable of building up at least 7 bar pressure. The hose must withstand a pressure of at least 10 bar (must be certified). (suitable compressors and pressure hoses are available from PFT)

11 Workpiece

Material Gypsum boards, gypsum fibre, cement fibre and hard plasterboard, fibreboard, chipboard, soft fibreboards, aluminium composite materials and plastic boards.

11.1 BOARDMASTER 2500

Maximum operational load	150 kg
Maximum board size	2500 mm x 1260 mm
Maximum plate thickness 2500 mm x 1260 mm	48 mm



11.2 BOARDMASTER 2500 mobile

Maximum operational load	150 kg
Maximum board size	2500 mm x 1260 mm
Maximum plate thickness 2500 mm x 1260 mm	48 mm

11.3 BOARDMASTER 3150

Maximum operational load	150 kg
Maximum board size	3150 mm x 1260 mm
Maximum plate thickness 3150 mm x 1260 mm	48 mm

11.4 BOARDMASTER 4000

Maximum operational load	150 kg
Maximum board size	4000 mm x 1260 mm
Maximum plate thickness 4000 mm x 1260 mm	48 mm



12 Proper use of the machine



Danger!

Cutting of gypsum boards, gypsum fibre, cement fibre and hard plasterboard, fibreboard, chipboard, soft fibreboards.

Production of moulded parts by means of V groove milling in all above mentioned materials.

WARNING!

Use only dry plates.

The processed materials must not contain metal parts (such as screws, nails, etc.).

Material may only be fed in with the machine switched off and after the machine head has been pushed back.

13 Set-up location

The mobile sheet cutting table must be installed in a flat and dry location.

Make sure that sufficient space is available for the mobile sheet cutting table to allow access from all sides.

The work area lighting must be set up as per national safety regulations.

Power supply cables and hoses must be routed so that they do not cause a stumbling hazard at the workspace.

Also consider the machine travel range and ensure sufficient cable and hose lengths.

14 Extraction unit

The mobile sheet cutting table is equipped with a suction hose. This is designed for extraction for both machine power units. There is no need to switch over between the power units.

Ensure sufficient performance in your choice of an extraction unit. The air speed should be 28 m/s, and the conveying capacity 72 m³/h.

Power is supplied to the extraction unit via the 230 V mains (not via the Boardmaster).

When operating the system make sure the device switch on the extraction unit is set to "RA" automatic mode. There is no need to press the on/off switch separately, as the extraction device is controlled by the cutting table. (The Boardmaster is powered via the extraction system).

Always use an extraction unit for a safe and dust-free work!



NOTE!

After switching off the machine power unit, the extraction unit switches off after a delay of a few seconds. This is normal operation and serves to clean the entire extraction duct.



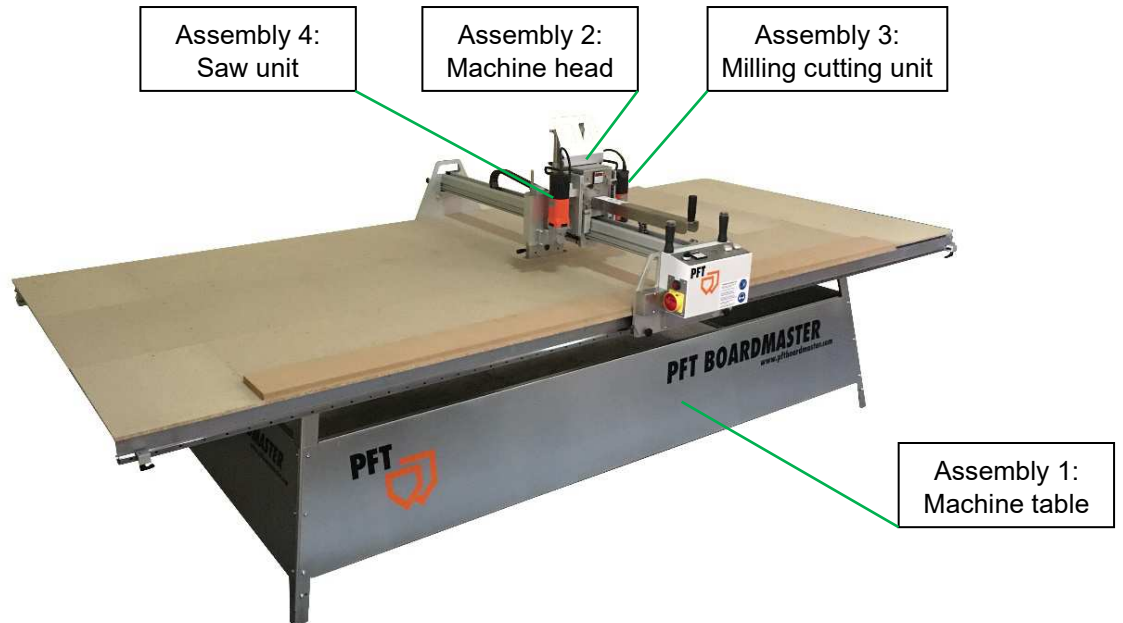
NOTE!

Use of an extraction unit that is not recommended by us can lead to injuries and damage to the system. In this case we are not liable for personal or material damage.



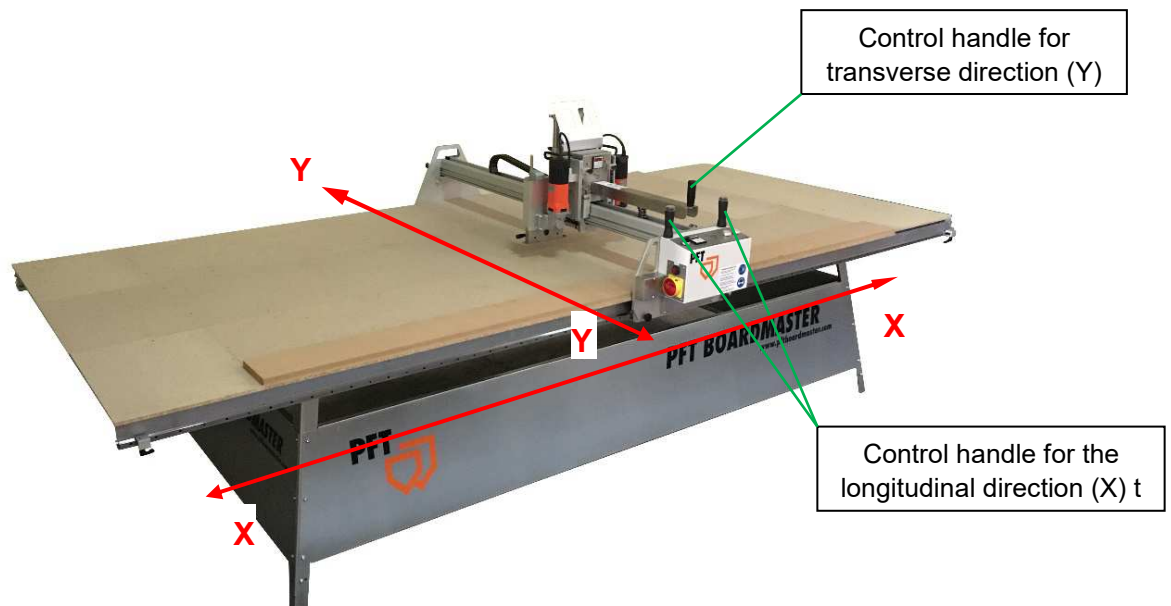
15 Machine structure

The machine consists of 4 assemblies:



15.1 Direction of movement

The direction of movement is divided into longitudinal (X) and transverse (Y)



WARNING! Never use the **Y** control handle for movements in the **X** direction.

15.2 Direction of work

Work to the left or right as per the **working direction (red arrow)** marked on the selected power unit mount.

15.2.1 Milling



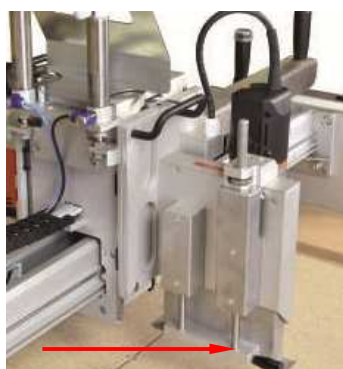
Direction of movement
in operations

Fig. 11.01 milling cutter unit right



Fig. 11.02 milling cutter unit left

15.2.2 Sawing with the saw, longitudinally



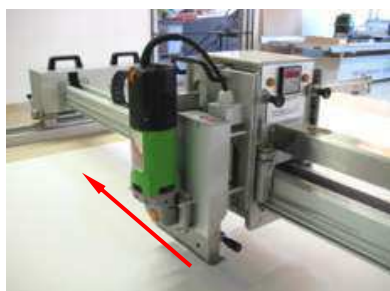
Direction of movement
in operations

Fig. 11.03 sawing unit longitudinal – right



Fig. 11.04 sawing unit longitudinal – left

15.2.3 Cross cutting with the saw



Direction of movement
in operations

Fig. 11.06 sawing unit cross cutting – left



15.2.4 Milling with the groove saw – longitudinal

Direction of movement during operation

Use the unit on the left and right side

Always note the direction of operation (red arrow on unit)



Fig. 11.07 groove sawing unit – longitudinal

16 Lever for clamping



Fig. 14.02



Fig. 14.03

Clamping stops are provided to individually limit the X-axis (14.02) and Y-axis (14.03) stroke.

17 Overview of machine head



Fig. 14.04

Overview of machine head



17.1 Assemblies 3 and 4 Milling cutter and sawing power units

Use only original PFT power units.



Fig. 15.01 Milling cutter unit



Fig. 15.02 Sawing unit – longitudinal



Fig. 15.03 Cross cutting unit



Fig. 15.03N Sixfold Saw cutting unit



1600 Watt Milling unit



1800 Watt Milling unit



1050 (1600) Watt swivel unit

These units are attachable on the left and right side of the Y carriage (machine head – 15.05) as follows:

Height-adjustable
Plates (1)



Fig. 15:04



Fig. 15:05

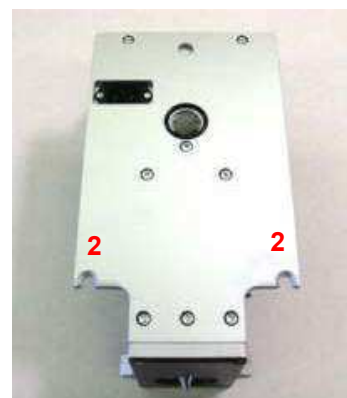


Fig. 15:06

Height-adjustable plates [1] are arranged on this carriage left and right. 2 bolts each with a V groove are attached at the bottom (15.04). The electric plug and the extraction opening are integrated into the plates (16.01, 16.03).

All three units have 2 long slots [2] in their mounting plates on the underside as well as integrated electric connectors and an extraction opening (15.06).

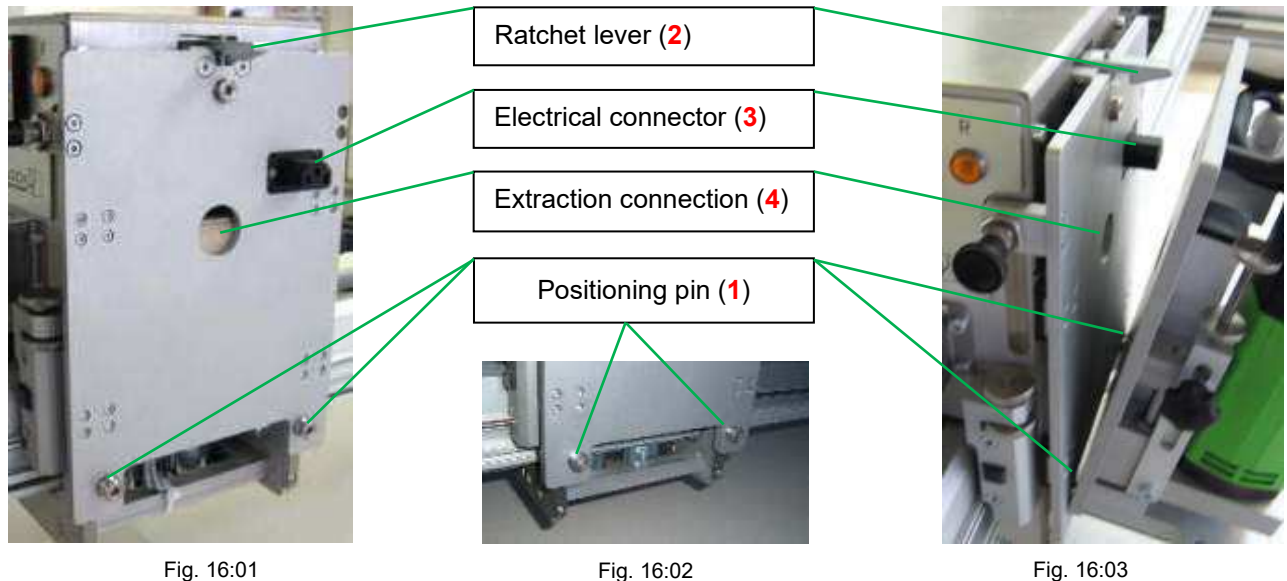


Fig. 16:01

Fig. 16:02

Fig. 16:03

Locate the unit on a Y carriage plate (long slots on the bolts with V groove) [1]) and push against this plate; the unit is automatically latched in place by the ratchet lever at the top [2].

The electric connection [3] and the extractor connection [4] are established in the process.

The power units can be inserted either at the front or rear as required.

To remove a unit from the carriage, lift the ratchet lever [2] – slightly tilt the unit to extend the electrical connector [3] – and lift the unit off the bolt with V groove [1].

18 Start-up

- For commissioning, the mains plug of the extraction system is connected to the mains and the extraction system is set to R / A and diameter 35.
- Subsequently, the mains plug of the machine is connected to the extraction system.
- Turn on the main switch. Turn the red main switch clockwise until it automatically stops. The condition is that the machine is connected to the mains.
- The power units are switched on (left/OFF/right) with the power unit selector switch.
- After completing the work, switch the power unit selector switch back to off.
- To **shut-down**, switch off and lock the main switch and then unplug the mains plug.

19 Tool change

19.1 Milling cutter unit



Attention!

To change the units, the main switch must be turned to position "0" OFF.
Pull out the mains plug.
An unintentional start of the units is thus prevented.

- Remove the power unit from the machine head.



19.2 Saw unit



Attention!

To change the units, the main switch must be turned to position "0" OFF.
Pull out the mains plug.
An unintentional start of the units is thus prevented.

- Remove the sawing unit from the machine head.
- Performing a tool change:



Fig. 17:01



Fig. 17:02



Fig. 17:03



Fig. 17:04



Fig. 17:05



19.3 Sawing unit sixfold



Attention!

To change the units, the main switch must be turned to position "0" OFF.

Pull out the mains plug.

An unintentional start of the units is thus prevented.

- Remove the groove sawing unit from the machine head.
- Performing a tool change:



Fig. 18:01

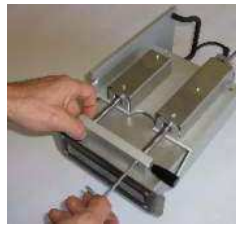


Fig. 18:02



Fig. 18:03



Fig. 18:04



Fig. 18:05



Fig. 18:06

19.4 Groove sawing unit sixfold

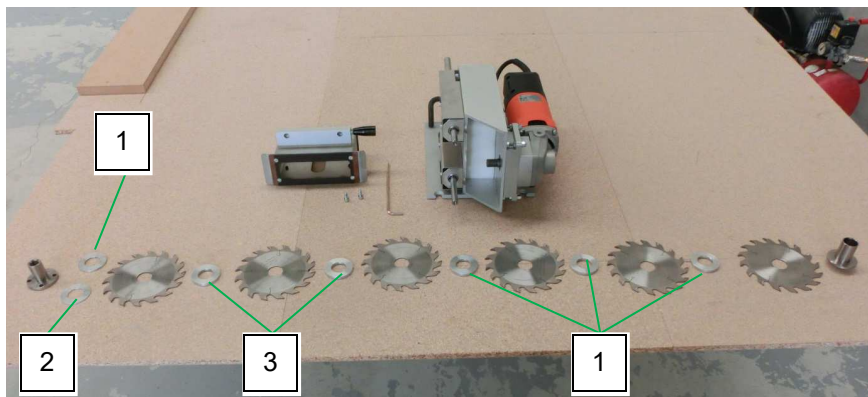


Fig 18.05A

Spacer ring (1) 2mm

Spacer ring (2) 1mm

Spacer ring (3) 4mm



Pay attention to staggered positions of the saw blades!

Tool change



Changing the cutting tool (saw blade) is identical to the process for the longitudinal or cross-cut saw. Assembly is in reverse order.

WARNING! When fitting the saw blade note the direction indicator on the groove sawing unit and on the blade .

19.5 Use a V groove saw blade (without modification as of models 07.2013)



Fig. 19:01



Fig. 19:02



Fig. 19:03



Fig. 19:04



Fig. 19:05



Fig. 19:06



Fig. 19:07



Fig. 19:08

- Changing the cutting tool (V groove saw blade) is identical to the process for the longitudinal or cross-cut saw. **But note the following:**
- Because the V groove saw blade can be up to 32 mm wide, the motor must be unscrewed from its mount to fit the saw blade. To do this, loosen the 4 retaining screws (Fig. 19.02) on the motor mount, and pull the motor out of the housing until the blade can be inserted into the protective housing.
- First push the saw blade onto the saw blade holder.
- Slide the saw blade holder with the saw blade onto the motor and fasten it again with the 4 retaining screws.
- Slide on spacer rings (Fig. 19.03) and secure with nuts.



When fitting the saw blade note the direction indicator on the groove sawing unit and on the blade (Fig. 18.06)

Important!

- Before using the groove cutting saw, set the depth gauge to 0 mm (Fig. 19.04).
- In order to achieve better cutting performance in the material, it is recommended to replace the Pertinax skid plate (Fig. 19.05). For this purpose, a pre-slotted Pertinax plate is mounted (Fig. 19.06).
- Then set up and perform a first cut as follows:
 1. Locate the power unit on the machine head.
 2. Turn on the main switch.
 3. Fix the longitudinal and transverse axes.
 4. Check that the depth stop is set to "0 mm" (Fig. 19.04).
 5. Start up the groove sawing unit.
 6. Carefully lower the unit onto a plasterboard you positioned previously.
 7. Slowly turn down the depth stop on the power unit until the desired depth is reached.
 8. You may need to readjust until the correct shaped part results are achieved.
- The height stop on the machine head must not prevent the power unit sliding freely, and must thus be turned down accordingly.



Be careful when cleaning the bottom of the groove sawing unit; the opening cut open by groove milling cutter (Fig. 19.08) is very sharp and can easily cause cuts!

Important!

20 Other documents

In addition to this manual, observe the following documents:

- IVO Magnetic length measuring system.
- IVO Position display series.
- Power unit operating instructions angle grinder.
- Power unit operating instructions router.
- Extraction unit operating instructions.

Deviations from the stated operating instructions are described in these operating instructions.

21 Control elements

21.1 Main switch and working sockets



Main switch 0/1 with undervoltage release.

Also used as an emergency stop switch.

Electrical connection box.

After plugging in the device connection cable to the extraction unit safety socket (230V / 50Hz), switch on the device at the **main switch**.

To avoid causing potentially dangerous movements when power is restored after a power outage, the machine has a **main switch with undervoltage release**.

It immediately switches off the machine in case of undervoltage.



22 Troubleshooting / fault elimination

Observe the safety instructions!

This work must only be carried out by appropriately trained personnel!



In case of overload or a fault occurring, one of the fuses, **F1 to F4**, at the junction box will be tripped.

To change the blown fuse:

- **Pull the machine's power plug and unplug any connected loads!**
- Use a screwdriver to unscrew the fuse terminal F1 to F4 on and remove the fuse. Replace any blown fuses with equivalent fuses only. (Ratings are listed later on in the manual.)
- **Check the cables for visible damage.**
- **Have defective cables immediately replaced by suitable new cables.**

The main and emergency stop switches can only be turned on if 230 V voltage is available at the controller.

If the fault persists, contact the system manufacturer.

Fuses **F1 to F4**

Fuse **F1** Control fuse 2 A T 230 Volt

Fuse **F3** Display Y transverse axis 400 mA 24 Volt

Fuse **F4** Display Y longitudinal axis 400 mA 24 Volt

Fuses: Standard glass tube fuses 230 V 5 x 20 mm

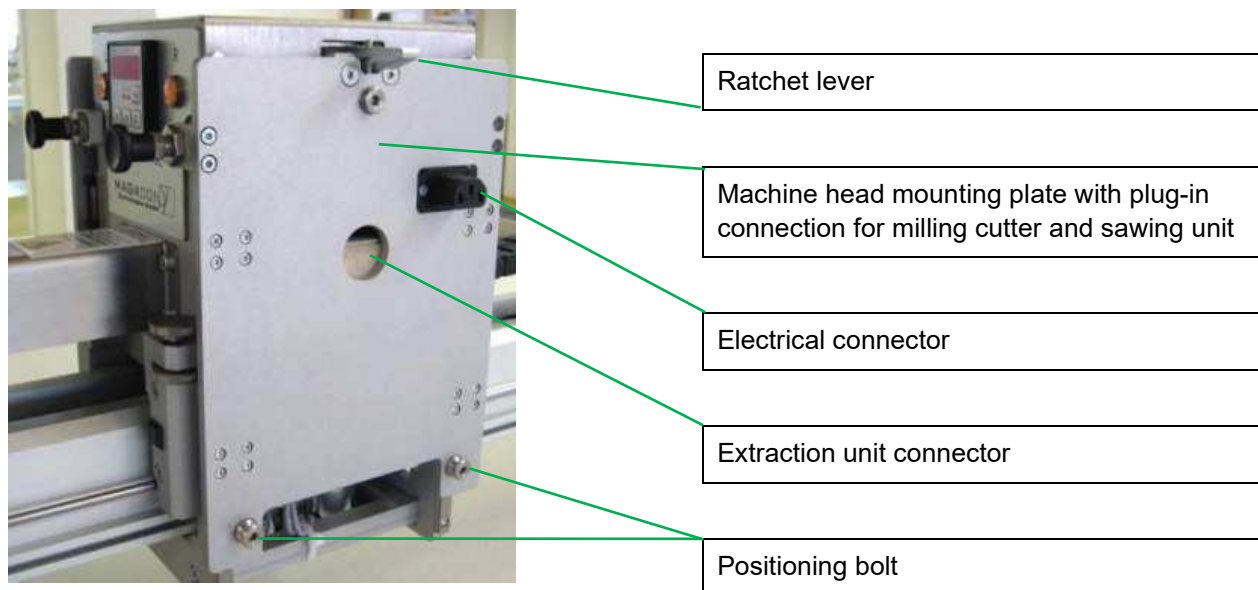


23 Power unit connection device

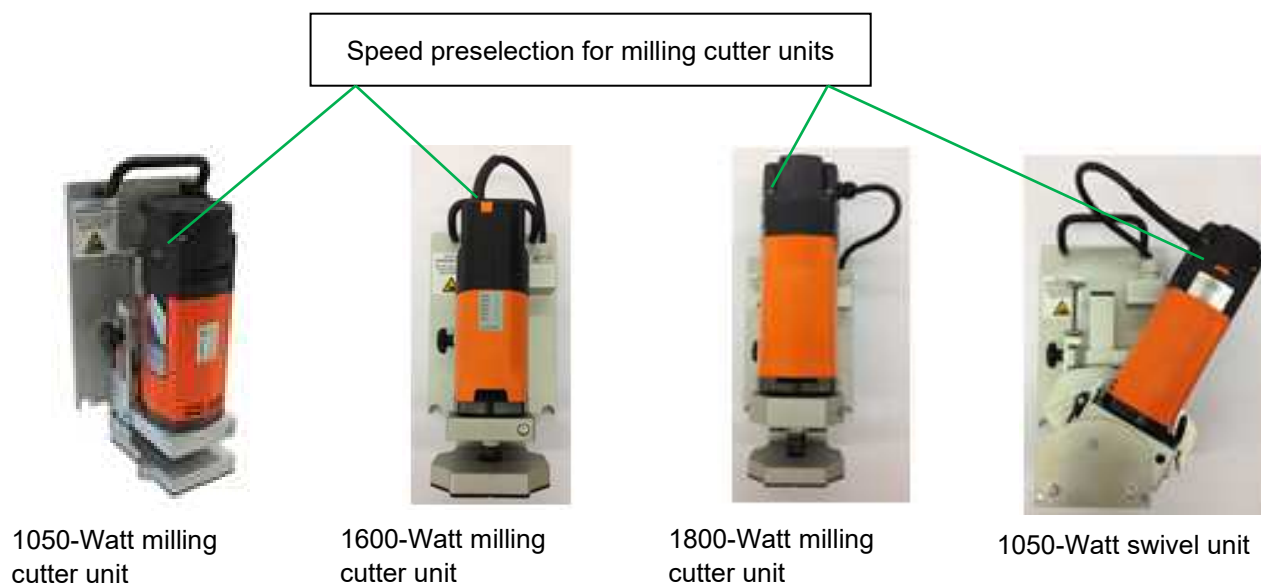
In order to operate the power units on the machine head, they are directly connected with the electrical connection device via the mechanical connection.

These board or plug-in devices are designed identically on both sides so the power units can be used on the left and right.

Speed preselection for milling cutter, sawing and groove sawing power unit



24 Speed preselection for milling cutter, sawing and groove sawing power unit





Speed preselection for milling cutter, sawing and groove sawing power unit

Speed preselection for milling cutter units



1530-Watt sawing unit,
longitudinal



1530-Watt sawing unit,
cross-cutting



1600-Watt sixfold sawing unit,
longitudinal cutting



Important!

Before installing any power unit, the power unit selection switch on the control panel must be set to “0” or “Off” in order to prevent the power units starting up unintentionally.

Before switching on any power unit via the power unit selection switch, all units must be at the top position of the machine; they must not be lowered into the material to be processed until they have reached the correct speed.

If the power units are lowered into the material prior to this, and then switched on, this can cause injuries to persons and permanent damage to the power units.



NOTE!

In this case the manufacturer is not liable for injury to persons or damage to material

If possible, always use the maximum speed (stage 5)!

To select the correct speed, observe the manufacturer's instructions for the cutting tool used for the material to be processed.



Important!

To change the power units, the control buttons must be switched off and the power unit switches must be actuated. Switch off the main switch Disconnect the mains plug.

This prevents unintentional start-up of the power units. Follow the reverse order to start up again.

24.1 Machine and brake control panel

Power unit selection switch L – 0 – R	X axis position display	Lock button for brake in Y direction on/off	Lock button for brake in X direction on/off
---------------------------------------	-------------------------	---	---

Main or Emergency Stop switch



- Stop X 0 – 1:

This lock button locks the brake on the X axis. After pressing the button, the indicator lamp for the locked brake is lit. Displacement in Y direction is still possible, if the brake is not actuated at the same time. The X direction is locked. To release the brake, press the button again, the indicator light is unlit.
- Stop Y 0 – 1:

This lock button locks the brake on the Y axis. After pressing the button, the indicator lamp for the locked brake is lit. Displacement in X direction is still possible, if the brake is not actuated at the same time. The Y direction is locked. To release the brake, press the button again, the indicator light is unlit.
- Power unit L – 0 – R

This toggle switch, is used to switch on the active power unit. You can switch on either the left (power unit “L”) or the right (power unit “R”) power unit (also indicated by a signal lamp on the machine head).



Speed preselection for milling cutter, sawing and groove sawing power unit



Main switch

To be able to switch off the machine quickly in an emergency situation, there is a yellow and red MAIN SWITCH (emergency stop switch) on the side of the control panel; this immediately de-energises the machine.

To start-up the machine again after actuating the main switch, the red switch must be turned to position 1. This is possible only when the machine is plugged in.



Danger!

For each power unit or tool change, the main switch must be turned off to prevent a potentially dangerous start-up of the devices.

24.2 Operation longitudinal and cross-cut axes – position displays

The 2 position displays (Y and X axis) are used for precise adjustment of the cutting dimensions.

The dimension is shown in cm.



Cross-cut axis (Y) display



Longitudinal axis (X) display

C" key: for resetting the display (possible at any position)

The arrow keys are only required for programming.

LED X lit: The display shows the current counter status.

LED P lit: Preset value is displayed. (Function is locked!)

LEDs X and P lit: Scaling factor is displayed. (Function locked!)

This applies to both displays!!

25 Electrotechnical equipment

25.1 Brake magnets

After setting the desired position in X or Y direction, you can use the lock key on the control panel to activate the brake for the X or Y direction.



Brake magnet and position sensor Y axis

Brake magnet and position sensor X axis



Junction box or control panel/electrical system

This terminal box exclusively contains units that must be maintained by a trained electrician. The box is removable (plug-in connection to the machine head).

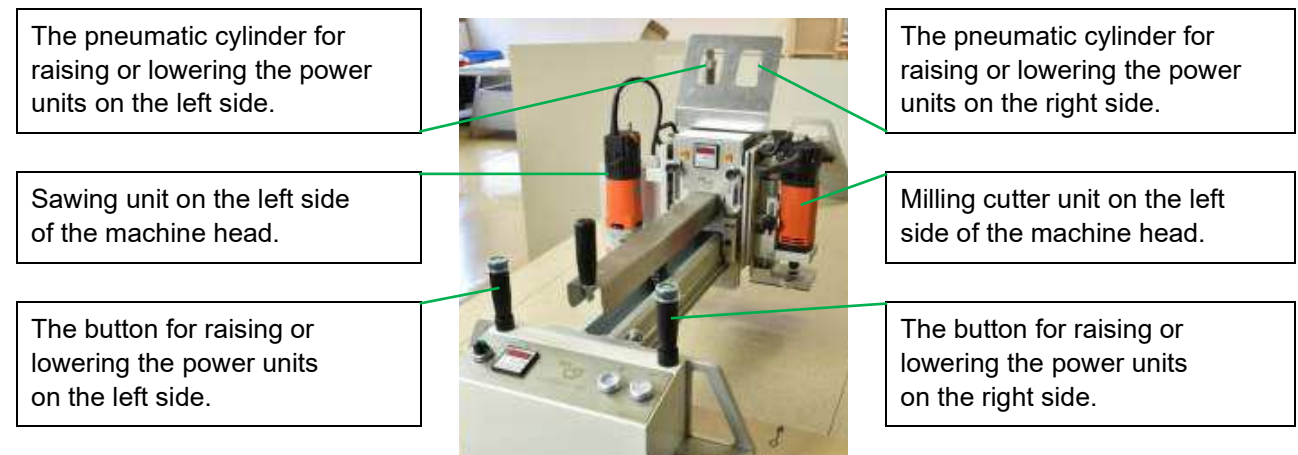
To remedy a fault or in case of a defective fuse F1 to F4, see section 16 Main switch and operations sockets – Troubleshooting/fault elimination.





26 Pneumatic power unit lifting system

The automatic pneumatic lifting and lowering system makes it easy to lower the power units to the sheet to be cut. This lifting system is essential for facilitating work, especially at the rear of the table and with heavy power units. Removing the need for manual lifting and lowering of the power units boosts the machine's milling and cutting performance.



The buttons for lifting and lowering the power units are located on the control handles for the longitudinal direction (X axis).

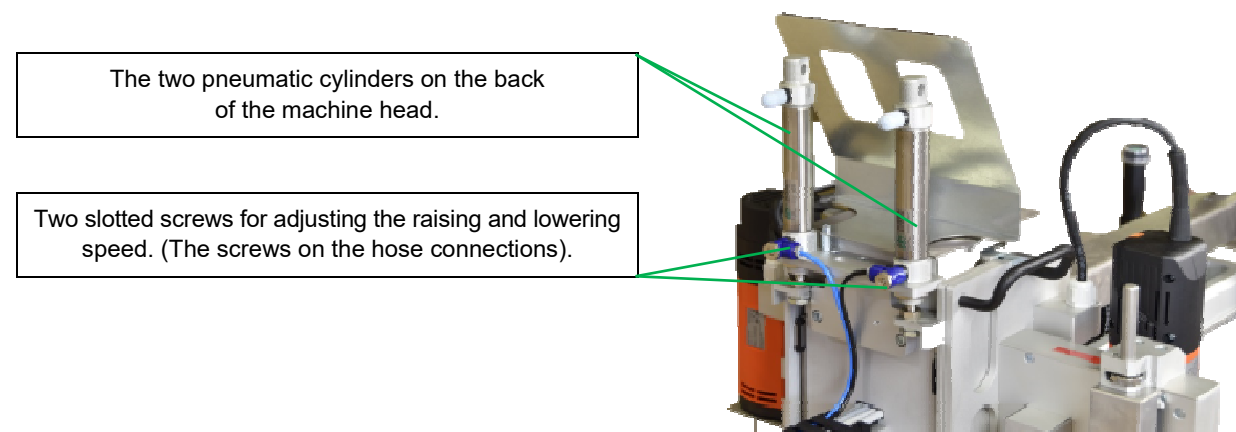
The button on the left control handle raises and lowers the units on the left side and the button on the right control handle raises and lowers the units on the right side.

Pushing the button once raises or lowers the power unit, depending on where the unit was before pressing the button.

Pressing the button once with the power unit lowered. – The power unit is raised.

Pressing the button once with the power unit raised. – The power unit is lowered.

26.1 The pneumatic power unit lifting system on the back of the machine head.



Positioning laser (optional)



Important!

Before lowering the power units (milling cutter and sawing units), it is essential to ensure that the workpiece is clamped and your hands are not in the lowering path of the power units.



After finishing milling or sawing, switch off the power unit with the power unit switch on the control panel (0 position) before lifting the unit.



Before lifting the power unit, the power unit switch must be switched off at the control panel. (On/Off switch in "0" position)



26.2 Setting the lifting and lowering speeds of the power units

Slotted screws are located on the underside of the two pneumatic cylinders (on the hose connection); you can use them to adjust the lifting and lowering speeds of the power units.



Important!

If you do change the lifting and lowering speeds, proceed carefully and check the lifting/lowering speed of the power units after every minor adjustment.

The pressure is set correctly at the factory.

(Too high a speed (= high air pressure) can damage the mechanical system.)

27 Positioning laser (optional)

The positioning laser is used as an orientation aid for precise lowering of the milling and cutting tools.



1

The lasers are activated with the switch (1) above the main switch.

The two laser units for the cross-cut axis are mounted on the rear of the control cabinet and can be moved by loosening the clamping screw to such an extent that the tool centre points can be adjusted for all power units.



Positioning laser (optional)



2

Tool centre point (2).



Locking screw

Right transverse laser

Left transverse laser



Right longitudinal
laser



Left longitudinal
laser



NOTE!

The basic set-up of all lasers should be performed by a qualified technician.



Important!

Never look directly into the laser beam, and only switch the laser on when it is needed as a positioning aid.

Positioning laser (optional)



The following notes are from the the laser manufacturer's operating instructions.

Operating and safety instructions for the operation of diode laser modules

Please read the following instructions carefully and keep them in a safe place.

- Solid state (DPSS) laser modules contain high-quality crystals, which are especially sensitive to shocks.

Shock impact over 50G leads to a loss of power or the destruction of the module.

- No liability or warranty will be accepted for any changes made to the module, for example, changes to the electronics, manipulation of regulators, the housing or the optics (in particular, performance tuning). Under certain circumstances, the manipulation of laser modules can cause the output and wavelength to considerably differ from the guaranteed values. The specified laser output can be exceeded multiple times, and invisible infrared laser radiation can escape.

Failure to follow these instructions, voids your legal warranty.

Due to the specific characteristics of laser radiation and the biological and physical effects this has, special protection and cautionary measures are required in the use of lasers. To define the individual measures to be taken in each case, lasers are assigned to classes based on their hazard potential.

The accident prevent regulation "Laser Radiation" BGV B2 and other documents related to the safe use of lasers are available from <https://www.picotronic.de/picopage/en/index/safety>

The accident prevention regulations of the Accident Prevention Directive (BGV B2) must be observed. They include:

- Do not look into the beam or direct reflections, also do not look with optical instruments.
- Clear marking of the laser area with warning signs at all access points.
- Route the laser beam clearly below or above eye level, but not at eye level.

The owner/operator of the laser equipment is responsible for compliance with protection measures. The owner/operator must, among other things, ensure that the laser device is assigned to a laser class and marked accordingly. Operations using laser equipment classes 3R and 3B must be registered with the trade supervisory office and the mutual indemnity association. When operating lasers of these classes, the laser area must be cordoned off and marked. Additionally, owner/operators of laser equipment classes 3R and 3B must appoint an expert as the laser protection officer. Staff operating laser equipment classes 1M, 2, 2M, 3R and 3B, or who have access to the laser area of laser classes 3R or 3B, must be instructed in the effects of laser radiation and required protective measures. The owner/operator must provide suitable laser goggles, protective clothing and protective gloves for operations with laser equipment classes 3R and 3B. The owner/operator is also responsible for compliance with the special safety requirements for operating various laser types.

The module you have purchased is an OEM laser module, which is designed for installation in a completed machine. The OEM customer is responsible for proper operation as per BGV B2 and for appropriate marking of the completed machine.

If you have questions regarding the safety measures to be taken, we are happy to advise you with regard to implementation. Please contact us for a tailored solution for your application.



28 Maintenance and care

All maintenance and repair work must be performed only when the main switch is turned off and the mains plug disconnected.

To increase the service life and precision, we recommend cleaning the stops and guide surfaces daily to remove dust and dirt.

To maintain the output of the extraction system, it is essential to clean the extraction ducts, extraction tubes and extraction housing daily, or several times a day if the work generates large amounts of dust.

Never clean the system with compressed air, but only with the help of brushes or a vacuum cleaner.

During operation, make sure that the channels for the drag chain and extraction hose upstream and downstream of the machine head are kept free of dirt and objects, to ensure troublefree operation. Exposed cables must always be checked for damage before use, and replaced if necessary.



In case of prolonged periods without use, or high levels of humidity, it is absolutely essential to maintain the guide rails with a suitable rail oil (spray).

This keeps the machine in good condition.

It is recommended to have the machine inspected by qualified personnel every 6 months.

29 Warranty provisions

Unintended operation and maintenance as per these operating instructions, as well as intervention and adjustments that were not agreed with us will void your guarantee and legal warranty.

The accuracy of the machine can only be ensured under the conditions of installation stated in this manual.

However, the guarantee does not apply to wear parts as well as bearings, brushes and carbon brushes on the power units, or in case of unintended use and overloading of the power units.

Our hotline (+ 49 9323 31 18 18) is available for technical information.

Any transport, packaging and shipping costs incurred, as well as maintenance and adjustments not covered by the warranty will be charged on time and materials basis.

Complaints and warranty claims can only be accepted and processed if you quote the machine number as per the type plate.



30 Storage and transport conditions

- The machine head and the associated power units must be stored in the crate provided for this purpose during transport.
- The machine must not be exposed to weather conditions such as rain or snow during transport.
- The machine and its parts must be stored, secured and transported in line with applicable loading and transportation regulations.
- Always wear safety vests and protective clothing when loading and unloading on public streets and squares. (Protective clothing must always be worn during loading and unloading.)
- When transporting individual components, at least two persons are required for parts that are heavier than 25 kg (see technical data).
- The machine must be stored only in dry rooms with a temperature range between +10 ° and +50 °C.
- In case of extended storage, all steel surfaces of the machine must be oiled with thick machine oil.
- In case of storage in humid environments or for overseas shipping, the machine must be tightly packed and protected against corrosion with a desiccant.

31 Disposal of the machine

Please take the machine to your local or nearest waste disposal company.



32 Checklist – please tick

1. Setting up the machine head

The two front latches on the machine head have been correctly closed: ☐

The two rear latches on the machine head have been correctly closed: ☐

Neither the magnetic belt nor magnetic mounts were damaged (visual inspection): ☐

The machine head's running properties were checked for ease of movement: ☐

2. Assembly of the particle boards (on the machine table)

The particle boards were screwed onto the machine table: ☐

3. Mounting the stop strip (MDF)

The MDF stop strip was mounted on the machine table: ☐

4. Connecting the extraction system

The suction hose on the extraction system was connected to the machine head: ☐

5. Supplying power to the machine

The extraction unit plug was connected to the local mains: ☐

The orange machine power cable was plugged into the front of the extraction unit: ☐

The extraction unit was set to automatic mode "RA": ☐

The main switch on the machine was switched on: ☐

The function of the brakes and digital displays was checked: ☐

6. Setting up the cutting depth of the sawing units

The cutting depth of the sawing units was adjusted to the level of the particle boards: ☐

7. Adjusting the stop on the cross-cut axis

The stop on the cross-cut axis or zero point was set: ☐

8. Cutting off the MDF stop strip

The MDF stop strip was cut off: ☐

9. Locating the work plates

The work boards were located on the machine table: ☐

The cutting depth of the sawing units was adjusted to the level of the work boards: ☐

10. Adjusting the milling depth for the milling cutter unit

The milling depth of the milling cutter unit was adjusted and a sample board was milled: ☐

11. Adjusting the machine stop for the milling cutter units

The machine stop was adjusted to match the milling cutter units: ☐

The lock screw was retightened: ☐

Spare parts list**33 Spare parts list**

Item	Fig.	Item no.	Designation
1		00208159	Housing for milling cutter unit 1400 Watts (BM)
2		00231377	Carbon brush milling cutter motor 1400 W CW/CCW (BM)
3		00208163	Carbon brush milling cutter motor 1400 W 120 V CW/CCW (BM)
4		00208166	Housing for milling cutter unit 1050 W (BM)
5		00208169	Milling cutter motor 1050 W (BM)
6		00231417	Carbon brush milling cutter motor 1050 W CW/CCW (BM)
7		00208178	Milling cutter motor 1050 W 120 Volt (BM)
8		00231417	Carbon brush milling cutter motor 1050 W CW/CCW (BM)
9		00208181	Housing for milling cutter unit 1800W (BM)
10		00208214	Milling cutter motor 1800W (BM)
11		00231419	Carbon brush milling cutter motor 1800 W CW/CCW (BM)
12		00208219	Saw housing longitudinal universal (BM)
13		00208221	Saw housing cross-cutting universal (BM)



Spare parts list

14		00208222	Saw housing 5x longitudinal universal (BM)
15		00208223	Saw housing 5x cross-cutting universal (BM)
16		00208234	Saw motor L/CC/5x universal (BM)
17		00231420	Carbon brush saw motor 1450W 230 V CW/CCW (BM)
18		00208237	Saw motor L/CC/5x universal 120 V (BM)
19		00208241	Carbon brush saw motor 1450 W 120 V CW/CCW (BM)
20		00208242	Clamping wheel height stop milling cutter units (BM)
21		00208248	Pertinax skid plate 900 W (BM)
22		00208251	Pertinax skid plate 1050W (BM)
23		00208254	Pertinax skid plate 1400 W/1800 W (BM)
24		00231421	Felt seal machine head extraction system (BM)
25		00231435	O ring seal machine head extraction system (BM)
26		00208267	Adapter extraction system
27		00208270	Extraction hose 25 mm 2.1 m in machine head (BM)

Spare parts list

28		00208272	Extraction hose incl. adapter Dm: 38 mm/3 m (BM)
29		00208274	Extraction hose Dm: 38 mm/2.3 m (BM)
30		00208286	Skid plate 1400/1800 W soffit milling cutter inside (BM)
31		00208085	Table base plates in chip 8 mm (BM)
32		00208086	Stop plate made of MDF (BM)
33		00208306	Mounting bolts 45 mm (PU:100) (BM)
34		00208309	Mounting bolts 35 mm (PU:100) (BM)
35		00208310	Suction adapter for cleaning without hose (BM)
36		00208311	Suction attachment for cleaning the machine (BM)
37		00231447	Stop set longitudinal axis, front L+R (BM)
38		00231449	Stop set longitudinal axis, rear L+R (BM)



39		00231451	Stop set for cross-cut axis L + R (BM)
40		00231452	Locking lever for stops, front (BM)
41		00208325	Locking screws with slot nuts (BM)
42		00231459	Fuse set for switch box 4 pcs. (BM)
43		00208346	PFTfix nozzle attachment straight (BM)
44		00208347	PFTfix nozzle attachment angled (BM)

34 Accessories

34.1 Article number 00207783 BOARDMASTER milling cutter new:

Includes: Art. no. 00207784, 00207785, 00207786, 00207787, 00207788, 00207789

1		00207784	V groove milling cutter 90°, plate thickness up to 15 mm (BM)
2		0020 77 85	PFTstrong flat edge cutter 90° (BM)
3		00207786	V groove milling cutter 90°, plate thickness up to 25 mm (BM)
4		00207787	V groove milling cutter 90° for tape (BM)
5		00207788	PFTstrong round edge cutter 4/12.5 mm (BM)
6		00207789	Copying and cutting end mill 16 mm (BM)

Accessories**34.2 Article number 00206494 BOARDMASTER tool set small**

Includes: Art. no. 00207792, 00207793, 00207795, 00207789, 00207796, 00207797, 00207799, 00207784, 00207800, 00207790, 00207801

1		00207792	Milling cutter set case empty (BM)
2		00207793	Copying and cutting end mill 7 mm (BM)
3		00207795	Copying and cutting end mill 13 mm (BM)
4		00207789	Copying and cutting end mill 16 mm (BM)
5		00207796	Copying and cutting end mill 26 mm (BM)
6		00207797	End mill 8 mm for wood (BM)
7		00207799	V groove milling cutter 45°, plate thickness up to 15 mm (BM)
8		00207784	V groove milling cutter 90°, plate thickness up to 15 mm (BM)
9		00207800	Fluting milling cutter 20 mm (BM)
10		00207790	Saw blade 160 mm (BM)
11		00207801	Copying and touch plate Dm 25 mm (BM)



34.3 Article number 00206422 BOARDMASTER tool set fully equipped No.: 46175




Includes: Art. no. 00207792, 00207793, 00207795, 00207789, 00207796, 00207797, 00207799, 00207784, 00207790, 00207800, 00207801. The following parts are included in the small tool set.

00207786, 00207802, 00207807, 00207808, 00207809, 00207810, 00207812, 00207788.










1		00207786	V groove milling cutter 90°, plate thickness up to 25 mm (BM)
2		00207802	Fluting milling cutter 16 mm (BM)
3		00207807	Fluting milling cutter 24 mm (BM)
4		00207808	PFTrev – Revi milling cutter 1/15 mm (BM)
5		00207809	Tile joint cutter (BM)
6		00207810	V groove milling cutter 135°, plate thickness up to 12.5 mm (BM)
7		00207812	Profile cutting cutter (BM)
8		00207788	PFTstrong round edge cutter 4/12.5 mm (BM)
9		00207820	1800-Watt milling device with an integrated suction channel, 230 Volt
10		00207823	1050-Watt milling device with an integrated suction channel, 230 Volt

Accessories



11		00207824	1050-Watt milling device with an integrated suction channel, 120 Volt
12		00207826	Sawing device 1530-Watt for longitudinal sections with an integrated suction channel, 230 Volt, Cut depth 48 mm
13		00207827	Sawing device 1530-Watt for longitudinal sections with an integrated suction channel, 120 Volt, Cut depth 48 mm
14		00207828	Sawing device 1530-Watt for cross sections with an integrated suction channel, 230 Volt, Cut depth 48 mm
15		00207829	Sawing device 1530-Watt for cross sections with an integrated suction channel, 120 Volt, Cut depth 48 mm
16		00207830	Sawing unit 6-fold for longitudinal sections with an integrated suction channel, 230 Volt, Maximum processing depth of 22 mm
17		00207831	Sawing unit 6-fold for longitudinal sections with an integrated suction channel, 120 Volt, Maximum processing depth of 22 mm
18	No image	00207832	Sawing unit 6-fold for cross sections with an integrated suction channel, 230 Volt, Maximum processing depth of 22 mm
19	No image	00207833	Sawing unit 6-fold for cross sections with an integrated suction channel, 120 Volt, Maximum processing depth of 22 mm
20		00207834	Industrial suction system 50 l complete, 230 Volt



22		00207836	Industrial suction system 50 l complete, 120 Volt
23		00207839	PFTfix priming device (BM)
24		00207840	PFTfix adhesive gun TEC 6100 230 V (BM)
25		00207841	PFTfix adhesive gun TEC 6100 120V (BM)
26		00207842	Sanitary template for WC cut-outs (BM)
28		00207844	Suction adapter for cleaning (BM)
29		00207845	Replacement edge for circle template (BM)
30		00207801	Copying and touch plate Dm 25 mm (BM)
31		00207847	Copying and touch plate Dm 32 mm (BM)

Accessories

34		00207850	PFTset groove template (BM)
35		00207852	Skid plate jamb router outside (BM)
36		00207854	PFTroll 310 insulating tape dispenser (BM)
37		00207856	PFTfix adhesive gun TEC 3200 (BM)
38		00207858	PFTfix special compressor (BM)
39	No image	00207860	PFTfix special compressor 120 V (BM)
40		00207861	PFTfix extension adhesive gun 10 m (BM)
41		00207862	PFTfix extension for the adhesive gun 10 m 120 V (BM)
42		00207863	Pneumatic extension hose 10 m (BM)
43		00207864	Pneumatic extension hose 10 m 120 V (BM)



35 Tools

No.	Fig.	Item no.	Designation
1		00207790	Saw blade 160 mm (BM)
2		00207865	Saw blade 160 mm (BM)
3		00207866	Saw blade 120 mm (BM)
4		00207868	Saw blade 100 mm (BM)
5		00207869	Saw blade set 120 mm (6 pcs.) (BM)
6		00207871	Diamond saw blade 160 mm T = 4 (BM)
7		00207883	Diamond grinding disc universal Dm: 125 mm
8		00207884	Diamond grinding disc universal Dm: 115 mm (BM)
9		00207888	Diamond grinding disc universal set 115 mm (BM)
10		00207889	Diamond coated saw blade 160 mm (BM)

Tools








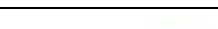





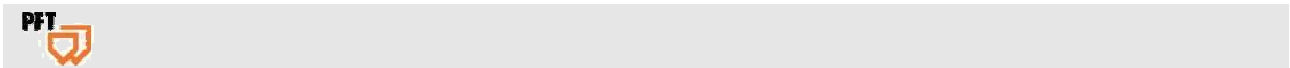
11		00207890	Groove saw blade for aluminium composite materials (BM)
12		00207891	PFTrev – revision hinge router 5.5 mm (BM)
13		00207793	Copying and cutting end mill 7 mm (BM)
14		00207895	End mill 8 mm for wood PKD coated (BM)
15		00207914	V groove milling cutter 30°, plate thickness up to 15 mm (BM)
16		00207911	V groove milling cutter 60°, plate thickness up to 12.5 mm (BM)
17		00207787	V groove milling cutter 90 ° for adhesive tape (BM)
18		00207916	V groove milling cutter 90°, PKD plate thickness up to 15 mm (BM)
19		00207921	V groove milling cutter 120°, plate thickness up to 12.5 mm (BM)
20		00207987	PFTrev – revision router 1 mm, board thickness 12.5 mm (BM)
21		00207988	PFTrev – revision router 1 mm, board thickness 15 mm (BM)
22		00207808	PFTrev – revision router 1/15 mm (BM)
23		00207990	PFTrev – revision router 1 mm, board thickness 5/8" mm (BM)
24		00207991	PFTrev – revision router 1.5 mm, board thickness 12.5 mm (BM)
25		00207994	PFTstrong round edge cutter Dm 4-15 mm (BM)



26		00207997	PFTstrong round edge cutter Dm 4.3 mm (BM)
27		00207998	PFTstrong round edge cutter Dm 5 mm (BM)
28		00207999	PFTstrong round edge cutter Dm 8 mm (BM)
29		00208000	PFTstrong round edge cutter Dm 10 mm (BM)
30		00208002	Tongue and groove milling cutter for 19 mm boards (BM)
31		00209063	PFTstrong round edge cutter Dm 3.3 to 12.5 mm (BM)
32		00208003	Jamb edge cutter, inside (BM)
33		00208006	Jamb edge cutter window connection profile (BM)
34		00208009	Jamb edge cutter, outside (BM)

Consumables**36 Consumables**

No.	Fig.	Item no.	Designation
12		00588821	PFT assembly spray 100 ml
13		00208069	PFTstrong flat bar edge stainless steel 1.5 x 9.5 mm 3x
14		00208071	PFTstrong perspex rod 4 mm/2 m (BM)
16		00208075	PFTstrong perspex rod 8 mm/2 m (BM)
17		00208076	PFTstrong steel rod galvanised 4 mm/2 m (BM)
18		00208077	PFTstrong aluminium rod 4 mm/3 m (BM)
19		00208078	PFTstrong aluminium rod 5 mm/3 m (BM)
20		00208079	PFTstrong aluminium tube 8 mm/2 m (BM)
21		00209067	PFTstrong aluminium rod 3.3 mm/3 m
23		00208086	Stop plate made of MDF (BM)
24		00208087	Aqua Akkord woven fabric 1 m width 50 m ² (BM)



PFT - ALWAYS AT YOUR SITE



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