Operating manual

Mixing pump RITMO L smart

Part 2 Overview, operation and service

Item no. of the operating manual:	00815202
RITMO L FC-230 V, 1 Ph, 50 Hz, 2.2 kW	Item no. 00725325
RITMO L FC-230V smart with vibrating unit	Item no. 00790473
RITMO L FC-230V smart with water pump	Item no. 00790474
RITMO L FC-230V smart with vibrating unit and power cable	Item no. 00809653
RITMO L FC-230 V, 1 Ph, 60 Hz, 2.2 kW	Item no. 00812422

CE

Read the operating manual prior to starting any work!

About us

Publisher	Knauf PFT GmbH & Co. KG Postfach 60 ▪ 97343 Iphofen Einersheimer Straße 53 ▪ 97346 Iphofen Germany
Document name	00815202_3.0_GB Translation of the original operating manual (DE)
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Table of contents

1 General information

1.1 Information regarding the operating manual

- This operating manual provides important information and instructions on the correct use of the machine. A prerequisite for safe working is the observance of all stated safety guidelines and instructions.
- Furthermore, the local accident prevention guidelines and general safety instructions for the application area of the device are to be adhered to.
- Read the operating manual thoroughly before starting any work! It is a part of the product and has to be kept near the device and easily accessible to the personnel at all times.
- If the device is given to third parties, also include the operating manual.
- The figures in this manual are for presentation purposes of facts, not necessarily to scale and may slightly differ from the actual model of the device.

1.2 Division

The operating manual is divided into 2 books:

- Part 1 Safety/drinking water protection

General safety instructions mixing pumps/conveying pumps

Item no.: 00172709

- Part 2 Overview, operation and service (this manual).

⚠ WARNING

Danger of injury due to incorrect operation!

Improper operation may lead to serious damage to persons and property.

- To ensure safe and proper operation of the machine, all parts of the operating manual must be read before starting work; all parts together are considered to be a single operating manual.

1.3 Display of safety and warning notices

In this manual, safety and warning notices are used in conjunction with signal words to raise safety awareness, indicate degrees of danger and explain safety measures.

Such safety and warning information may also be attached to the product in the form of signs, stamps or stickers.

General information

Structure of the safety and warning notices

All safety and warning notices consist of:

- The danger sign and signal word
- Information on the nature of the hazard
- Information on the source of the hazard
- Information on possible consequences of disregarding the hazard
- Measures to avert the hazard

Danger sign	Signal word	Significance
	Danger	Death or serious injury will occur if you do not take the precautions described.
	Warning	Death or serious injury may occur if you do not take the precautions described.
	Caution	Minor injury may occur if you do not take the precautions described.
	Note	Property damage may occur if you do not take the precautions described.
	Tip	An important piece of information about the product or the particular section of the manual to which special attention is to be drawn.

1.4 Keep the manual for future reference

The operating manual has to be available during the whole service life of the product.

1.5 Name plate

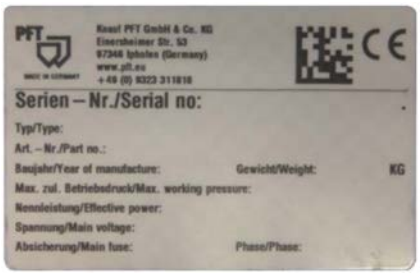


Figure 1: Name plate

The following details can be found on the name plate:

- Manufacturer
- Type
- Year of manufacture
- Machine number
- Permissible operating pressure

1.6 EC Declaration of Conformity

Company: Knauf PFT GmbH & Co. KG
Einersheimer Straße 53
97346 Iphofen
Germany

declares under our sole responsibility that the machine:

Type of machine: RITMO L

Type of equipment: Mixing pump

Serial number:

Guaranteed sound power level: 78 dB

is in conformity with the following CE directives:

– Outdoor Directive (2000/14/EC),
– Machinery Directive (2006/42/EC),
– Electromagnetic Compatibility Directive (2014/30/EU).,

Operative Conformity Assessment according to Outdoor Directive 2000/14/EC:

Internal production control as per article 14 paragraph 2 in connection with annex V.

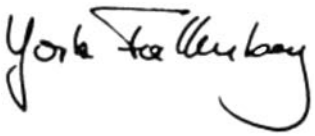
This declaration only refers to the machine in the state in which it has been placed on the market. Parts subsequently added by the user and/or subsequent interventions are not covered. This declaration ceases to be valid if the product is converted or changed without consent.

Person authorised to compile the relevant technical documentation:

– (Dipl. in Industrial Engineering, University of Applied Sciences) Michael Duelli, Einersheimer Straße 53, 97346 Iphofen.

The technical documentation is available from:

– Knauf PFT GmbH & Co. KG, Technical Department, Einersheimer Straße 53, 97346 Iphofen.



Iphofen		Dr York Falkenberg Managing Director
Town/city	Name and signature	Details of signatory

General information

1.7 Quality Control sticker

The following details can be found on the Quality Control sticker:

- CE confirmed as per EU directives
- Serial no / serial number
- Controller / signature
- Date of control

Figure 2: Quality Control sticker

1.8 Intended use

1.8.1 Purpose of fitting block

The fitting block has been designed and constructed only for the intended use described below.

NOTE

Application range!

Primary use for water and neutral, non-adhesive liquids. Also suitable for air and neutral non-flammable gases.

- Maximum operating pressure (initial pressure) 16 bar.
- After-pressure infinitely adjustable from 1.5 to 6 bar.
- Smallest possible initial pressure 2.5 bar.
- Minimum pressure gradient (initial/after-pressure) 1 bar.
- Maximum media and ambient temperature 75 °C.
- Assembly position as desired, preferable vertical.

1.8.2 Purpose of solenoid valve

NOTE

Application range!

Solenoid valves for liquid and gaseous media, aggressive or neutral, can be used in various temperature and pressure ranges

Type 6213 is a 2/2 way solenoid valve with straight passage, normally closed, with a permanently coupled membrane system. It switches from 0 bar and is universal in use for liquids. A minimum differential pressure of 0.5 bar is necessary for complete opening.

1.8.3 Purpose of flowmeter

NOTE

Application range!

The flowmeter serves for measuring the volume of transparent liquid and gas flows in closed pipes. Optionally, the flowmeter can also be used for flow monitoring.

⚠ CAUTION

Danger due to improper use!

Any use beyond the specified purpose of use and/or any other form of use of the flowmeter can lead to dangerous situations.

Therefore:

- Only use the flowmeter as intended.
- Always adhere to the usage directives of the material manufacturer.
- Strictly follow all instructions in this operating manual.

We accept no responsibility for damages caused by improper or unauthorised use.

The operator of the device is solely responsible for any damage arising from improper use.

1.8.4 Intended purpose of booster pump

NOTE

The PFT pressure booster pump only serves for pumping clean water, recommended for water relatively polluted with impurities and chemically non-aggressive liquids. Media with fibrous and abrasive constituents must be avoided.

Its use is subject to the regulations of the local legislation.

1.8.5 Purpose of air compressor

The air compressor has been designed and constructed only for the intended use described in this document.

NOTE

The air compressor is only intended for generating compressed air and may only be used with connected work devices. Any other use or use beyond what is specified, such as with freely accessible and/or open hoses and pipelines, is deemed to be not for the intended purpose. Connected implements or components are to be designed for the maximum generated pressure of 5.5 bar.

The air compressor is to be used only in technically perfect condition, as well as for its intended use and while taking into account the safety and hazard information in the operating manual!

In particular faults that can impair safety must be rectified immediately before the compressor is put back into operation.

1.8.5.1 Safety devices of air compressor

⚠ WARNING

Danger to life due to non-functioning safety equipment!

Safety equipment ensures highest level of safety in operation. Even if safety devices make work processes more complicated, they must never be disabled. Safety is only assured when the safety devices are intact.

Therefore:

- Check that the safety devices and functional and correctly installed before starting work.
- Use safety equipment at all times.
- Do not obstruct access to safety systems such as EMERGENCY STOP pushbuttons, emergency off buttons, pull cords etc.

1.8.5.2 General setup of the air compressor

The air compressor corresponds to the national and international safety regulations and can therefore also be used in damp rooms or in the open air. Areas with as clean and dry air as possible should be preferred. Make sure that the air compressor can suck in the air unimpeded. This applies in particular when an installation is intended.

The air compressor must be set up so that no hazardous admixtures, such as solvents, vapours, dusts or other harmful substances, can be sucked in. The device should be positioned only in rooms where the hazard of a potentially explosive atmosphere is not given.

1.8.5.3 Hot surfaces on the air compressor

General information

⚠ WARNING

Risk of injury due to hot surface!

Surface temperatures can reach up to 100 °C during operation of the air compressor.

- Therefore, always ensure that the air compressor does not come into contact with exposed body parts during use as well as for some time after use, depending on the temperature.

Technical data

2 Technical data

2.1 General information

Figure 3: Dimension sheet in mm

Detail	Value	Unit
Empy weight approx. item no. 00725325	95	kg
Empy weight approx. item no. 00790473 & 00809653	106	kg
Empy weight approx. item no. 00790474	110	kg
Length	920	mm
Width	600	mm
Height	1,420	mm

Individual weights

Detail	Value	Unit
Chassis with frame	43	kg
Motor with tilt flange	29	kg
Material hopper	18	kg

Material hopper dimensions

Detail	Value	Unit
Filling height	930	mm
Material hopper volume	45	l

2.2 Connection values of water

Figure 4: Water connection

Detail	Value	Unit
Operating pressure, min.	2.5	bar
Connection	½	inch

2.3 Operating conditions

Environment

Detail	Value	Unit
Temperature range	2 - 45	°C
Relative humidity, max.	80	%

Duration

Detail	Value	Unit
Max. operating time at a stretch	8	hours

Electrical 230V

Detail	Value	Unit
Voltage, alternating current 50 Hz	230	V
Power consumption, max.	9	A
Fuse protection	16	A
Pump motor current consumption	8.7	A
Power input, max.	2.5	kW
Drive pump motor	2.4	kW
Air compressor	0.35	kW
Vibrating unit	0.045	kW
Pump motor speed range	74 - 492	Rpm

Electrics 230V 60 Hz

Detail	Value	Unit
Voltage, alternating current 60 Hz	230	V
Power consumption, max.	9	A
Fuse protection	16	A
Pump motor current consumption	8.7	A
Power input, max.	2.5	kW
Drive pump motor	2.4	kW
Air compressor	0.35	kW
Vibrating unit	0.045	kW
Pump motor speed range	74 - 492	Rpm

Technical data

2.4 Capacity values, pump unit B 4–2 wf

Pump capacity B 4–2 wf

Detail	Value	Unit
Delivery rate infinitely adjustable	2 - 14	l/min
Operating pressure, maximum	20	bar
Maximum grain size	2	mm
Feed range *, max. with 25 mm Ø	20	m

* Reference value depending on conveying height, pump condition and version, mortar quality, composition and consistency

Compressor output for COMP R-80

Detail	Value	Unit
Compressor output	0.080	Nm³/min

2.5 Sound power level

Guaranteed sound power level L_{WA}

- 78 dB(A)

2.6 Vibrations

Weighted effective value of acceleration to which the upper body parts are exposed <2.5 m/s²

2.7 EMC test

The machine has been EMC tested and complies with the strict requirements of EMC Directive filter class B.

The control box is equipped with a network filter.

3 Transport, packing and storage

3.1 Safety instructions for transport

Improper transport

NOTE

Damage from improper transport!

Improper transport may cause substantial property damage.

Therefore:

- When unloading the packages on delivery, as well as transport within the company, pay attention and observe the symbols and instruction on the package.
- Use only the specified anchorage points.
- Remove packaging only shortly before the assembly.

Suspended loads

⚠ WARNING

Danger to life from suspended loads!

When lifting heavy loads, there is danger to life from falling parts or uncontrolled swinging parts.

Therefore:

- Never step under suspended loads.
- Observe the instructions regarding the provided anchorage points.
- Do not attach to projecting machine parts or eyelets of attached components and ensure safe fit of the sling gear.
- Only use approved lifting gear and accessories with a sufficient load-bearing capacity.
- Do not use torn or frayed ropes and belts.
- Do not lay ropes and belts over sharp edges and corners, do not knot or twist.
- When ropes and chains are used in construction operations, the provisions contained in the accident prevention regulation "Load suspension devices in lifting gear operations" (VBG 9a) should be complied with. The following sections contain instructions for scenarios in which ropes and chains are used as lifting means.

Transport, packing and storage

3.2 Transport inspection

On receipt check the delivery immediately for completeness and transport damage.

In case of externally visible transport damage, proceed as follows:

- Do not accept the delivery or under reserve only.
- Note the extent of damage on the transport documentation or on the delivery note of the carrier.
- Initiate complaint process.

NOTE

Report any defect as soon as it is detected. Claims for damages can be asserted only within the valid warranty period.

3.3 Packaging

For packaging

The individual packages have to be packed in accordance with the transport conditions to be expected. Only environmentally-friendly materials were used for the packaging.

The packaging should protect the individual components until the assembly from transport damage, corrosion and other damage. Therefore do not destroy the packaging and remove only shortly before the assembly.

Handling packaging materials

If no agreement for the recovery of the packaging has been made, separate materials according to type and size and reuse or recycle.

NOTE

Environmental damage due to incorrect disposal!

Packaging materials are valuable raw materials and in many cases they can be reused or reconditioned and recycled.

- Dispose of packaging materials in an environmentally-friendly way.
- Observe the applicable local disposal regulations. If required hand over the disposal to a specialist.

3.4 Tighten the nuts before transport

Figure 5: Tighten the nuts

⚠ CAUTION

Danger of crushing by protective grille!

There is a risk of crushing when transporting the machine.

- In general, make sure that the nut on the protective grille (1) is securely tightened.

3.5 Transport in individual parts

Figure 6: Loosen nuts

To make transport easier, disassemble the machine into its individual components. Into the units mixing tube with material hopper and pump, gear motor with tilt flange, protective grille and chassis.

1. Release cable and hose connections.
2. Loosen the nut on the protective grille (1).
3. Remove the gear motor with tilting flange and protective grille.
4. Open rotary bolt (2).
5. Remove mixing tube with material hopper from the chassis.

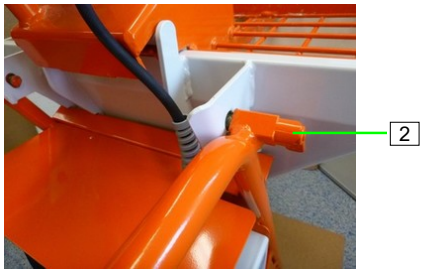


Figure 7: Opening the rotary bolt

Figure 8: Individual parts

3.6 Transport by car

Figure 9: Transport

⚠ CAUTION

Risk injury due to unsecured load!

All persons involved in the loading are responsible for securing the load properly during road transport. The relevant vehicle driver is responsible for the operational loading.

3.7 Transporting a running machine

⚠ CAUTION

Danger of injury from discharged mortar!

Injuries to face and eyes can occur.

Therefore:

- Before opening the couplings ensure that there is no more pressure on the hoses (observe display at mortar manometer).

Carry out the following steps before beginning the transport:

1. First unplug the mains cable.
2. Undo all other cable connections, water supply lines and hoses.
3. Remove loose parts during crane transport.
4. Start transport.

4 Description

4.1 Overview

Figure 10: Table of the assembly groups

[1] Motor protection handle
[2] Pump motor
[3] Slider handle
[4] Water supply to mixing tube
[5] Water manifold
[6] Wheel
[7] Compressed air connection for the spray gun
[8] Water inlet
[9] Pressure flange
[10] Connection for mortar hose
[11] Mortar pressure gauge
[12] Pump unit
[13] Material hopper
[14] Protective grille with sack opener

4.1.1 Overview of rear

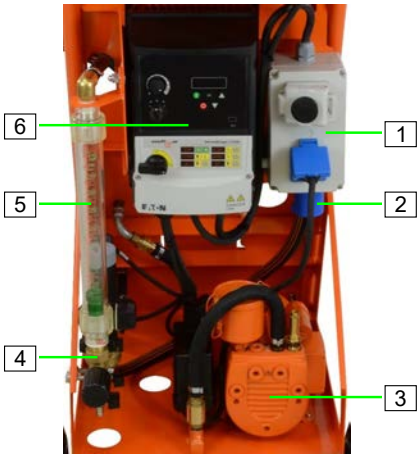


Figure 11: Overview from behind

Overview with cable set

[1] On/off switch
[2] Main terminal
[3] Air compressor COMP R-80
[4] Water manifold
[5] Water flow meter
[6] Frequency converter

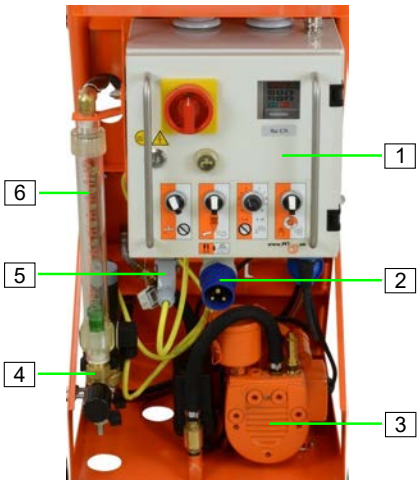


Figure 12: Overview from behind

Overview with control cabinet & vibrating unit

[1] Control cabinet
[2] Main terminal
[3] Air compressor COMP R-80
[4] Water manifold
[5] Dummy connector / connection for remote control
[6] Water flow meter

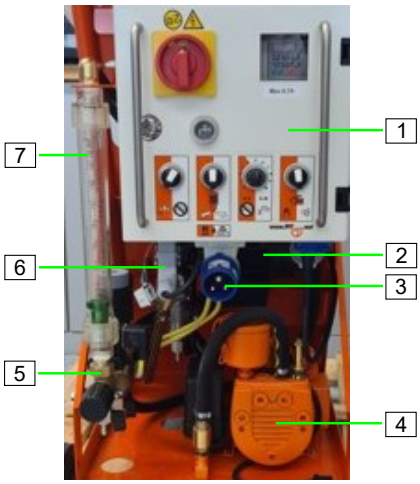


Figure 13: Overview from behind

Overview with control cabinet & water pump

[1] Control cabinet
[2] Pressure booster pump
[3] Main terminal
[4] Air compressor COMP R-80
[5] Water manifold
[6] Dummy connector / connection for remote control
[7] Water flow meter

4.2 Brief description of RITMO L smart

Figure 14: RITMO L smart

The compact mixing pump RITMO L smart with 230V AC drive, specially developed for pumping, spraying and applying machinable dry mortar, pastes and much more up to 2 mm grain size.

The pump output can be adjusted infinitely electronically, depending on requirements.

The machine consists of portable single components of handy dimensions and light weight that allow fast and convenient transport.

4.3 Flowability / flow characteristics

- *The pump unit B 4–2 can be used up to 20 bar operating pressure.*
- *The possible conveying distance depends mainly on the flowability of the material.*
- *If 20 bar operating pressure are exceeded the mortar hose length has to be reduced.*
- *To avoid machine breakdowns and excessive wear on pump motor, mixing shaft and pump, always use original PFT spare parts such as:*
  - *PFT rotors*
  - *PFT stators*
  - *PFT mixing shaft*
  - *PFT mortar hoses*
- *These are compatible with each other and form a constructive unit with the machine.*
- *Non-compliance does not only cause loss of guarantee, but also bad mortar quality is to be expected.*

4.4 Description of assemblies

The PFT RITMO L smart mixing pump consists of the main components described in the following chapters.

4.4.1 Material hopper with gear motor and pump unit

- Gear motor with tilting flange and protective grille, mixing tube with material container and pump unit.
- The gear motor with tilt flange and protective grille can be removed from the mixing tube for transport purposes.

Figure 15: Material hopper assembly

4.4.2 Gear motor with tilt flange

- Gear motor with protection grille and tilt flange.

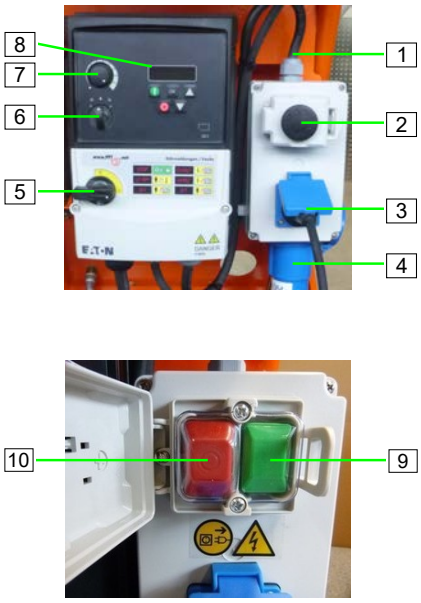
Figure 16: Gear motor assembly

4.4.3 Chassis

- Chassis

Figure 17: Chassis assembly

4.4.4 Cable set

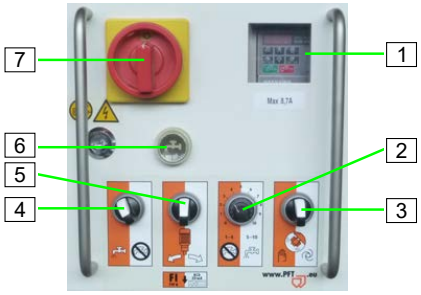


[1] Connection cable to pump motor
[2] On/off switch, is also emergency stop button
[3] Safety socket for air compressor connection
[4] Main terminal
[5] Maintenance switch (always in position "I", do not operate maintenance switch!)
[6] Pump motor selector switch
[7] Potentiometer for motor speed / material volume
[8] Display for frequency converter

[9] Push button green, control voltage “ON”
[10] Pressure switch red Control voltage "OFF”

Figure 18: Cable set assembly

4.4.5 Control cabinet



[1] Sight glass for frequency converter
[2] Potentiometer for motor speed / material volume
[3] Selector switch vibrating unit "ON/OFF" for item no. 00790473
[3] Selector switch booster pump "ON/OFF" for item no. 00790474
[4] Selector switch for operation with water (as mixing pump), without water (only as pump)
[5] Pump motor selector switch
[6] Water supply button
[7] The master switch is also the emergency-stop switch

Figure 19: Item no. 00790473

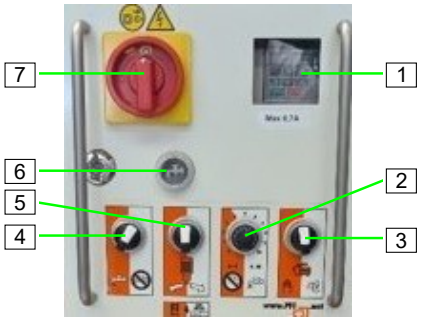


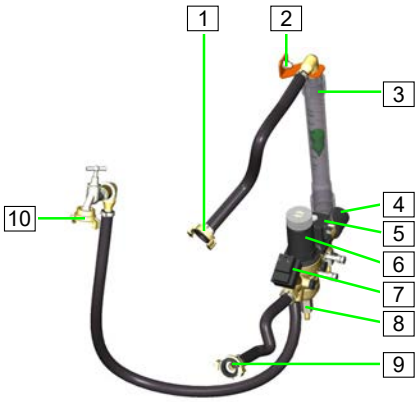
Figure 20: Item no. 00790474

Description

[8] Safety socket for air compressor connection
[9] Earthed socket for connection of vibrating unit or booster pump (depending on version)
[10] Dummy connector / connection for remote control
[11] Main terminal

Figure 21: Assembly unit control box

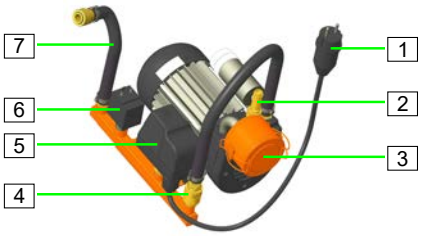
4.4.6 Water manifold



[1] Water to mixing tube
[2] Fastening angle for water flow meter
[3] Water flow meter
[4] Needle valve water quantity
[5] Solenoid valve
[6] Pressure reducer
[7] Water pressure monitor
[8] Antifreeze water outlet tap
[9] Water connection from water supply
[10] Shut-off valve/water sampling valve

Figure 22: Water tap assembly

4.4.7 Air compressor COMP R-80



[1] Power connection 230V
[2] Safety valve up to 1.8 bar
[3] Air filter
[4] Non-return valve
[5] Compressor pressure switch (switches the compressor ON/OFF)
[6] Air pressure switch (switches the machine ON/OFF)
[7] Air to spray gun

Figure 23: Air compressor assembly

4.4.8 Mortar pressure gauge

Figure 24: Mortar pressure gauge

PFT mortar pressure gauge

⚠ CAUTION

The use of a mortar pressure gauge is recommended for safety-related reasons.

Some advantages of the mortar pressure gauge:

- Exact adjustment of the correct mortar consistency.
- Constant control of the right conveying pressure.
- Early detection of clogging or overload of the pump motor.
- Relieving pressure.
- Durability of pump components
- Is a major contribution to the safety of the operators.

4.5 Connections

Figure 25: Connections

[1] Connection air to spray gun
[2] Connection water supply from mains
[3] Mortar hose connection on mortar pressure gauge

4.6 Operating modes

4.6.1 Operating modes cable set

Figure 26: Pump motor selector switch

Pump motor selector switch

The pump motor has three operating modes:

Switch position "0":

- The machine is switched off.

Switch position "right" (latching):

- The machine starts up when the power supply is correctly and completely switched on.

Switch position "left" (latching):

- The pump motor runs backwards, thus the pump is relaxed. The water supply is not blocked.

Figure 27: Potentiometer

Potentiometer

Potentiometer for motor speed/material volume:

- Turning the potentiometer to the right increases the motor speed and hence also the delivery rate/material quantity.

4.6.2 Operating modes control cabinet

Figure 28: Pump motor selector switch

Pump motor selector switch

The pump motor has three operating modes:

Switch position "0":

- The machine is switched off.

Switch position "right" (latching):

- The machine starts up when the power supply is correctly and completely switched on.

Switch position "left" (spring return):

- The pump motor goes into reverse, thereby relieving the pump and locking other functions.

Figure 29: Water selector switch

Water selector switch

The RITMO can be used for two application areas:

Switch position "right" (latching):

- The machine is operated without water.

  → Can be used as a feed pump

Switch position "left" (latching):

- The machine is operated with water.

  → Use as mixing pump

Figure 30: Potentiometer

Potentiometer

Potentiometer for motor speed/material volume:

- Turning the potentiometer to the right to a higher number increases the motor speed and thus the delivery rate/material volume.

Figure 31: Selector switch - Vibrating unit

Selector switch - Vibrating unit

The vibrating unit can be operated in three different operating modes:

Switch position "0":

- The vibrating unit is switched off.

Switch position "Automatic" (right):

- The vibrating unit runs on automatic, pulse/pause with the pump motor.

Switch position "Manual" (left):

- In the "Manual" position, the vibrating unit runs in continuous operation as long as the selector switch is held in this position.

Figure 32: Selector switch pressure booster pump

Selector switch pressure booster pump

The pressure booster pump can be operated in three different operating modes.

Switch position "0":

- Booster pump is switched off (e.g. if the water pressure is continuously at 2.5 bar).

Switch position "AUTO" (right):

- The booster pump runs synchronously with the mixing pump.

Switch position "HAND" (left):

- The booster pump runs continuously (e.g. for cleaning the hoses).

4.7 Pressure booster pump

The PFT pressure booster pump is used predominantly as a high-pressure pump for intermediate connection at the mortar mixer when the water pressure is too low. It can also be used as a primer pump for drawing liquids from containers, for emptying small tanks and ponds, for pumping water out of cellars and for irrigation.

The water supply is automatically ensured from a water tank by the PFT pressure booster pump for the constant water supply to the PFT machine engineering.

A flow pressure of at least 2.5 bar with the machine in operation on the construction side is guaranteed by means of suction from the water reservoir.

Description

Figure 33: Pressure booster pump

Configuration example

Item no. of pressure booster pump AV1000/1: 00493686

Figure 34: Suction strainer with stainless steel filter screen, suction hose 1", 2.5m

Accessories

Item no. 00136619

4.8 Accessories

Extension cable 3 x 2.5 mm², BLU 3-16 A | BLA 2-16 A - 25 m

- Item no. 20423420

Water hose/air hose DN12 Geka I Geka - 11 m

- Item no. 20211000

Air hose DN9 Ewo V-part | Ewo female part 16 m

- Item no. 00008521

Description

RONDO DN25 hydraulic connection V-part | Female part - 10 m

- Item no. 00021100

Cleaner coupling 25V-part LW24 with Geka

- Item no. 20199500

Fine plaster spraying nozzle DN25 S10 200 Ewo, air nozzle tube 4 mm

- Item no. 00612838

Mixing tube cleaner B and D pumps

- Item no. 00231970

Cleaning shaft BIONIK RITMO L plus galvanised

- Item no. 00588832

You can find further accessories on the internet at www.pft.net or from your PFT construction machinery dealer.

5 Operation

5.1 Safety

Personal protective equipment

The following protective equipment has to be worn for all operative work:

- Protective clothing
- Protective goggles
- Protective gloves
- Safety shoes
- Hearing protection

Further protective equipment that is to be worn during particular jobs will be pointed out separately in the warning instructions of this chapter.

Basic information

⚠ WARNING

Danger of injury due to incorrect operation!

Improper operation may lead to serious damage to persons or property.

Therefore:

- Carry out all operating steps according to the instructions in this user manual.
- Prior to starting your work, ensure that all components are complete and undamaged.
- Prior to starting your work, ensure that all covers and protection devices are installed and work as intended.
- Never operate the machine with defective components and protective devices.
- Never disable protective devices during operation.
- Ensure order and cleanliness in the work area! Loose components and tools on top of one another or lying about pose potential accident risks.
- Increased noise level may cause permanent hearing deficiencies. At close range of the machine 78 dB(A) can be exceeded due to operational conditions. Close range is a distance of less than 5 metres to the machine.

5.1.1 Safety rules

⚠ CAUTION

Observe the regional safety rules for mortar conveyors and mortar guns!

5.1.2 Monitoring the machine

⚠ WARNING

Access by unauthorised persons!

- The machine may only be operated when monitored.

5.1.3 Hazardous dusts

Figure 35: Dust protection

⚠ WARNING

Danger of damage to health!

In the long term, inhaled dust can lead to lung damage or have other adverse health effects.

- Use suitable face protection.

NOTE

The machine operator or the person working in the dusty area always has to wear a dust protection mask when filling the machine!

The rules of the Committee on Dangerous Substances (AGS) can be found under Technical Rules for Dangerous Substances (TRGS 559).

5.1.4 Mortar pressure gauge

Figure 36: Mortar pressure gauge

⚠ WARNING

Operating pressure too high!

Machine parts can open in an uncontrolled manner and injure the operator.

- Do not operate the machine without mortar pressure gauge.
- Only use mortar hoses with a permissible operating pressure of at least 40 bar.
- The burst pressure of the mortar hose must reach at least 2.5 times the value of the operating pressure.

5.2 Inspection by machine operator

- Prior to each shift, the machine operator has to examine the effectiveness of the control and safety devices, as well as the proper fitting of the protection devices.
- The safe working condition of construction machinery has to be checked by the machine operator during operation.
- If the safety devices show any defects or if any other defects are detected that compromise a safe operation, the supervisor has to be informed immediately.
- In case of defects that cause harm to persons, the operation of the construction machine has to be stopped to eliminate the defects.

5.3 Preparing the machine

Prior to operating the machine carry out the following steps for preparing the machine:

5.3.1 Risk of injury due to rotating mixing shaft

Figure 37: Grille cover

⚠ WARNING

Rotating mixing shaft!

Risk of injury when reaching into the material hopper.

- The protective grille (1) should not be removed during operation or while preparing the machine.
- Never reach into the running machine.

5.3.2 Setting up the machine

Install the machine on stable and even ground and secure it against accidental movements:

- Do not tilt or roll the machine away.
- Place the machine where it cannot be hit by any falling objects.
- The controls must be freely accessible.
- Maintain a clearance of approx. 1.5 metres around the machine.

Figure 38: Positioning machine

5.3.3 Connecting the power supply

Figure 39: Connect power supply

Cable set

1. Only connect the machine to a 230V power supply.

⚠ DANGER

Danger to life from electric current!

The electrical connection must be fused correctly:

- Only connect the machine to a power source with permissible 30 mA circuit breaker (RCD) of type B that is sensitive to all currents that are required for the operation of frequency converters.

Figure 40: Connect power supply

Control box

1. Only connect the machine to a 230V power supply.

⚠ DANGER

Danger to life from electric current!

The electrical connection must be fused correctly:

- Only connect the machine to a power source with permissible 30 mA circuit breaker (RCD) of type B that is sensitive to all currents that are required for the operation of frequency converters.

5.3.3.1 Connecting the individual connectors

Figure 41: Switching off the pump motor

Connection plug with cable set

⚠ WARNING

Danger to life from rotating parts!

Improper operation may lead to serious damage to persons or property.

- The relevant drive (motor) may only be operated via the associated control box of the machine (under-voltage release).

1. Disconnect the connector plug from the air compressor (1).
2. Turn the pump motor selector switch (2) to the "0" position.

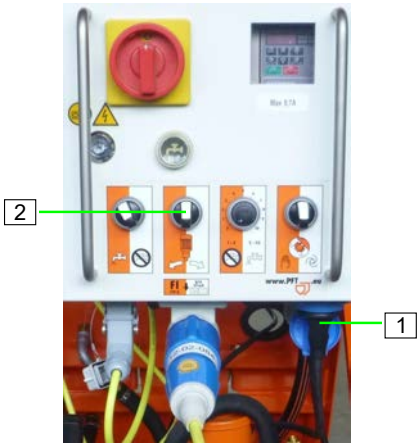


Figure 42: Switching off the pump motor

Connection plug with switch cabinet

⚠ WARNING

Danger to life from rotating parts!

Improper operation may lead to serious damage to persons or property.

- The respective drive (motors) must be operated only with the control box of the machine.

1. Disconnect the connector plug from the air compressor (1).
2. Turn the pump motor selector switch (2) to the "0" position.

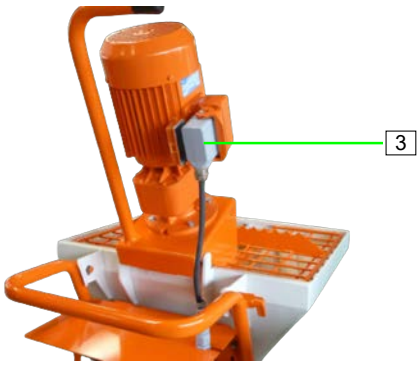


Figure 43: Connecting the motor connecting cable

Connection plug with cable set and control cabinet

3. Connect motor connecting cable (3) to gear motor.

5.3.4 Checking the strainer screen

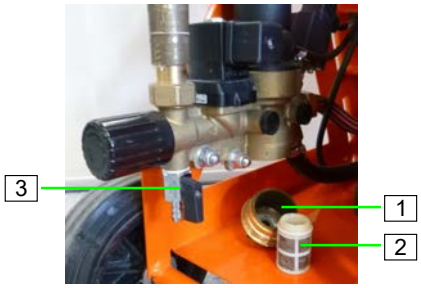


Figure 44: Checking the strainer screen

1. Unscrew the brass screen cup (1) with outlet tap from the pressure reducer.
2. Check whether the strainer screen (2) in the pressure reducer is clean.

   Screen for pressure reducer:

   - Item no. 20156000
3. Screw in brass screen cup (1) again.
4. Close all water outlet taps (3).

5.3.5 Connecting the water supply

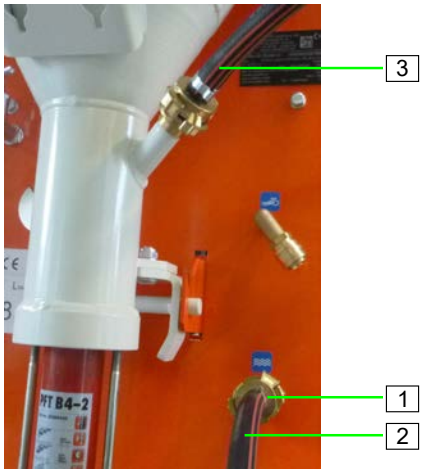


Figure 45: Connecting the water supply

1. Check whether the water inlet screen in the water inlet (1) is clean.
2. Clean the water hose (2) from the water supply and bleed.
3. Connect the water hose (2) to the water inlet (1).
4. Remove the water hose (3) from the mixing tube and put it in a bucket or pan.

NOTE

Use only clean water free of solids. The minimum pressure is 2.5 bar when the machine is running.

- Observe the Drinking Water Protection Ordinance in Part 1

NOTE

Never let the pump run dry as this reduces the service life of the pump.

5.3.5.1 Connection of water from water tank

Figure 46: Pressure booster pump

Figure 47: Suction strainer complete with filter screen

- Item no. of pressure booster pump AV1000/1 (1): 00493686
- The connected pressure booster pump ensures the required water pressure of at least 2.5 bar.

NOTE

When working with water from the barrel, the inlet strainer must be fitted with a filter screen (item no. 00136619)

(Bleed the booster pump)

NOTE

The booster pump must not run dry to avoid any damage!

5.3.6 Switching on the machine

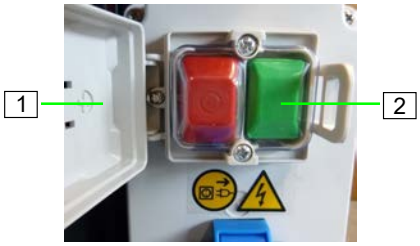


Figure 48: Switching on the machine

Cable set

1. Open the cover (1) of the on/off switch.
2. Press the green pushbutton (2) control voltage "ON".

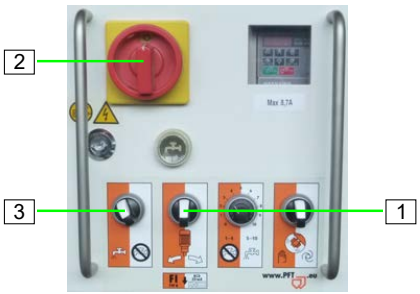


Figure 49: Switching on the machine

Control box

1. Turn the pump motor selector switch (1) to the "0" position.
2. Turn main switch (2) to position "I".
3. Turn the water selector switch (3) to the left to the "with water" position.

5.3.6.1 Setting the water quantity

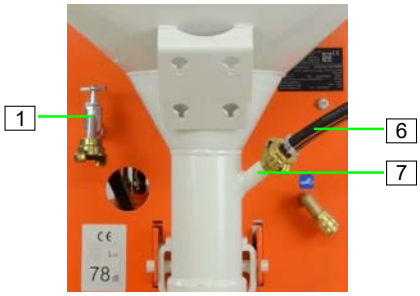


Figure 50: Water sampling valve

Figure 51: Switching on the machine

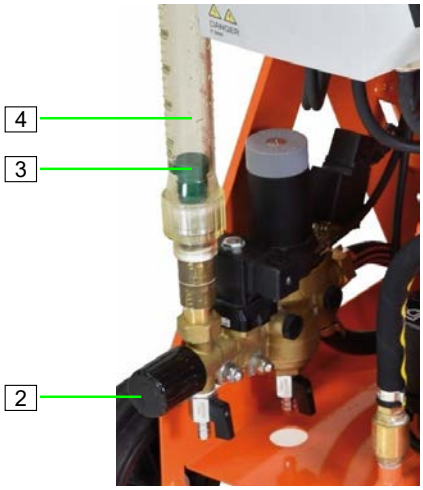


Figure 52: Setting the water quantity

Cable set

1. Close all water outlet taps on the water manifold.
2. Open water tap for water supply.
3. Open water sampling valve (1) until the water emerges without bubbles, then close again.
4. Open needle valve (2) by two turns to the left.
5. Switch the selector switch of the pump motor (3) to position "right".
6. Water emerges from the mixing tube at the water hose.
7. Run until no air bubbles are visible in the water flow meter.
8. Adjust the expected water quantity at the needle valve (2), which can be seen at the green cone (5) in the sight glass of the water flowmeter (4).

NOTE

Observe the specifications of the material manufacturer when setting the water factor.

Every interruption to the spraying process causes a slight irregularity in the consistency of the material. This irregularity normalises by itself as soon as the machine has been working for a short while.

Therefore it is important not to change the water quantity for each irregularity. Wait until the consistency of the material has set again.

9. Switch the selector switch of the pump motor (3) to position "0".
10. Connect the water hose (6) to the water inlet (7) of the mixing tube.

Operation

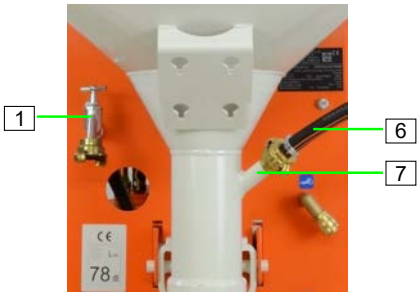


Figure 53: Water sampling valve

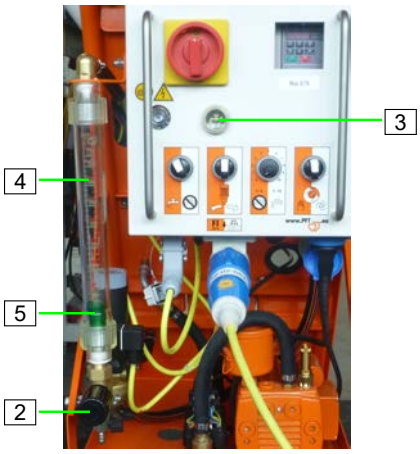


Figure 54: Setting the water quantity

Control cabinet

1. Close all water outlet taps on the water manifold.
2. Open water tap for water supply.
3. Open water sampling valve (1) until the water emerges without bubbles, then close again.
4. Open needle valve (2) by two turns to the left.
5. Press the water flow button (3) until no more air bubbles can be seen in the water flowmeter (4).
6. Adjust the expected water quantity at the needle valve (2), which can be seen at the green cone (5) in the sight glass of the water flowmeter (4).

NOTE

Observe the specifications of the material manufacturer when setting the water factor.

Every interruption to the spraying process causes a slight irregularity in the consistency of the material. This irregularity normalises by itself as soon as the machine has been working for a short while.

Therefore it is important not to change the water quantity for each irregularity. Wait until the consistency of the material has set again.

7. Connect the water hose (6) to the water inlet (7) of the mixing tube.

5.3.6.2 Watering the mixing zone

Figure 55: Watering the mixing zone

Cable set

NOTE

The pump must generally be flushed with water. Flushing with water makes it easier for the pump to start up.

1. Turn the pump motor selector switch (1) slightly to position "right" till the head of the rotor is immersed in water.
2. Then switch the selector switch of the pump motor (1) to position "0".

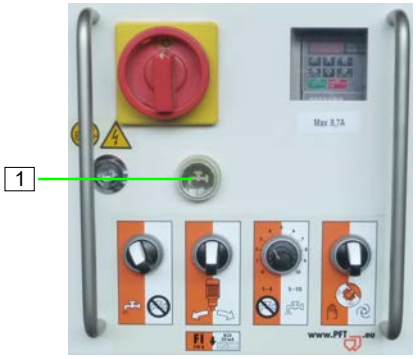


Figure 56: Watering the mixing zone

Control cabinet

NOTE

The pump must generally be flushed with water. Flushing with water makes it easier for the pump to start up.

1. Keep the water flow button (1) pressed for approx. 2 seconds until the head of the rotor is covered with water.

5.3.7 Mortar hoses

5.3.7.1 Preparing the mortar hoses

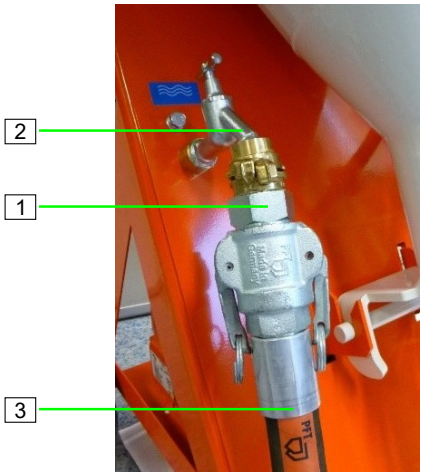


Figure 57: Preparing the mortar hoses

1. Connect the cleaner coupling (1) at the water extraction valve (2).
2. Connect the mortar hose (3) to the cleaner coupling (2).
3. Open the water sampling valve (2) and water the mortar hose (3).
4. Remove mortar hose and cleaner coupling again and disconnect from each other.
5. Remove all the water from the mortar hose.
6. Pre-lubricate the mortar hose with about 2 litres of wallpaper paste.
7. The wallpaper paste is mixed through the mortar hose with the first mixing.

⚠ WARNING

The mix could burst out under pressure and result in serious injuries, especially injuries to the eyes.

Hoses that tear off can lash wildly and injure those standing nearby!

- Never loosen the hose couplings as long as there is pressure on the mortar hoses (check mortar pressure gauge)!

5.3.7.2 Connecting the mortar hose

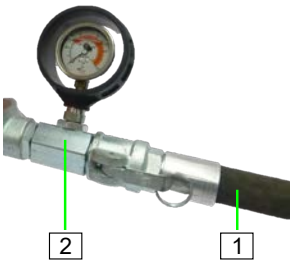


Figure 58: Connecting the mortar hose

1. Connect the mortar hose (1) to the mortar pressure gauge (2).

NOTE

Ensure clean and correct connection and tightness of the couplings! Dirty couplings and rubber seals are not watertight, and water might leak under pressure inevitably leading to blockages.

2. Lay mortar hoses with a radius large enough so that the hoses do not kink.
3. Carefully secure risers so that they do not tear away from their own weight.

Figure 59: Switching on

1. Turn the pump motor selector switch (3) to "right" position.
2. Allow the machine to run until all the wallpaper paste has emerged from the end of the mortar hose.
3. Collect the wallpaper paste in suitable container and dispose of as per regulations.
4. Turn the pump motor selector switch (3) to the "0" position.

5.3.8 Compressed air supply

5.3.8.1 Connecting the air hose

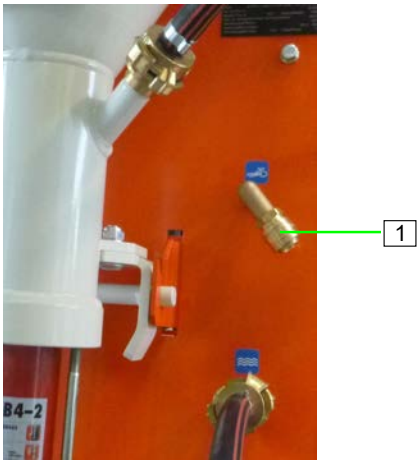


Figure 60: Connecting the air hose

1. Connect compressed air hose to the air manifold (1).

⚠ WARNING

- Never undo hose couplings while the compressed air hose is pressurised.

5.3.8.2 Connecting the spray gun

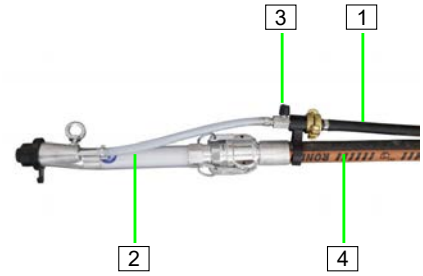


Figure 61: Spray gun

1. Connect compressed air hose (1) to the spray gun (2).
2. Make sure that the air tap (3) on the spray gun is closed.
3. Connect spray gun (2) to the mortar hose (4).

5.3.8.3 Switching on the air compressor

NOTE

The COMP R-80 air compressor may only be operated with the following fine plaster spraying nozzles:

Fine plaster spraying nozzle DN25-360° S10 200 Ewo

- Item no. 00111804

Fine plaster spraying nozzle DN25-360° S10 600-30° Ewo

- Item no. 00097283

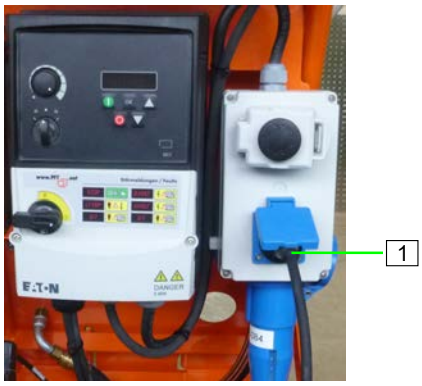


Figure 62: Switching on the air compressor

Cable set

1. Plug the connector plug for the air compressor (1) into the blue surface-mounted safety socket.

Operation

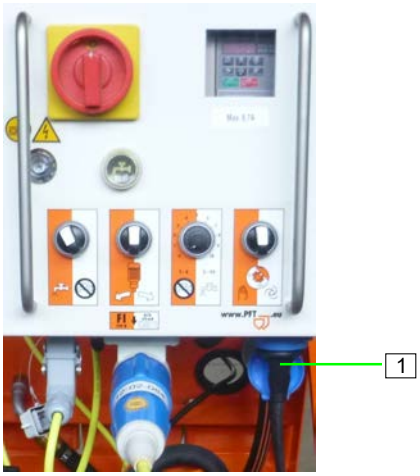


Figure 63: Switching on the air compressor

Control cabinet

1. Plug the connector plug for the air compressor (1) into the blue surface-mounted safety socket.

NOTE

It is also possible to operate the machine without compressed air for pouring liquid filler or for working with a glue gun. Disconnect the connector plug from the air compressor and work without the spray gun for this. The machine is then switched on and off via an optional remove control cable.

5.3.9 Switching on the vibrating unit

Figure 64: Connecting the vibrating unit

If the material is not to slide subsequently in the material hopper, the vibrating unit can be connected.

1. Plug the connector plug for the vibrating unit (1) into the grey surface-mounted safety socket (2).

Figure 65: Switching on the vibrating unit

2. Turn the vibrating unit selector switch (3) to the "Automatic" position.
3. The vibrating unit operates according to the set interval times, 3 seconds pause - 3 seconds runtime.

5.3.10 Switch on booster pump

Figure 66: Connect booster pump

If the water pressure is not sufficient or is not continuously 2.5 bar, the booster pump can be switched on.

1. Plug the connector plug for the pressure booster pump (1) into the grey surface-mounted safety socket (2).

Figure 67: Switch on booster pump

2. Turn the booster pump selector switch (3) to the "Automatic" position.
3. The booster pump runs synchronously with the mixing pump.

5.3.11 Filling the material hopper with dry material

Figure 68: Bagged goods

⚠ CAUTION

Danger of injury at the sack opener!

The sharp edges of the sack opener pose a risk of injury.

- Wear safety gloves.

For initial filling with bagged material slowly pour half of the first bag into the material hopper!

5.3.12 Booster pump (accessories)

Electrical system

⚠ WARNING

Danger due to electrical voltage!

Connect the pump only to plug sockets with PE contact. For increased safety we recommend an RCD with a GFCI switch with a rated residual current of 30 mA for the circuit to which the pump will be connected. This applies in particular for installation close to water tanks, ponds, etc.

Line connection

NOTE

Ensure that the suction line or intake line is connected at the marked position.

If the pump is operated in suction mode, ensure that the suction line is kept as short as possible.

5.3.12.1 Initial start-up booster pump

Figure 69: Filling the pump

Fill the PFT pressure booster pump with water prior to initial start-up to let the air escape from the pump housing.

- Fill in water via water filling plug (1) or water inlet (2).

Do not fill too quickly so that the air has time to completely escape from the housing.

It is best if the suction line is also filled at that time.

5.3.12.2 Putting the pressure booster pump into operation

The following instructions have to be observed before operating the pump.

The pump has to be installed in a horizontal position.

Both the suction line and the pressure line must be connected before the pump is put into operation.

It is important that the lines are of adequate dimensions:

- At least 1" for the suction line
- At least ¾" for the pressure line

Make sure that the hose is completely airtight and immersed in the liquid to be pumped, to avoid air being sucked in.

Figure 70: Suction strainer with filter screen item no. 00136619

The end of the suction line (1) has to be equipped with a suction strainer with filter screen and built-in non-return valve.

We recommend an additional filter for fine particles in the suction line.

The flow rate of the pump decreases with increasing length of the suction line. Connect the booster pump as close as possible to the water sampling point (pressure is better than suction).

If all these points have been observed the pump can be switched on. Depending on the length of the suction line, the suction time can be up to a few seconds.

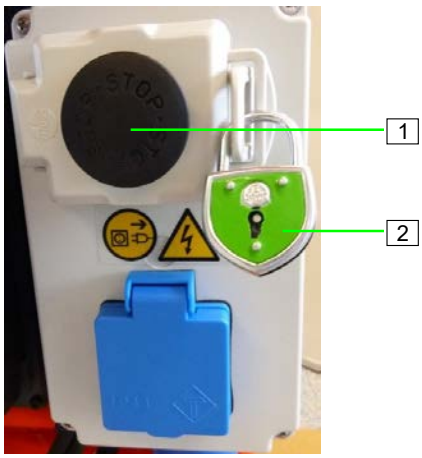
If the pump is still not delivering after a short time, this may have one of the following causes:

- There is still air in the pump and this has to be completely vented again.
- The suction line has a leak and the pump draws air.
- The suction-side screen is clogged.
- There is a kink in the suction hose.
- The maximum suction head is exceeded.

NOTE

The booster pump must not run dry to avoid any damage!

5.4 Shutdown in case of emergency



Cable set

In dangerous situations, machine movements have to be stopped as quickly as possible, and the power supply has to be disconnected.

In case of danger proceed as follows:

1. Press the EMERGENCY STOP button (1) on the on/off switch.
2. Secure the hinged lid against start-up using a lock (2).
3. Inform responsible person at the operational site.
4. If necessary call for medical assistance and fire brigade.
5. Recover persons from the danger zone, initiate First Aid measures.
6. Keep access routes free for emergency vehicles.
7. If the severity of the emergency permits, inform the competent authorities.
8. Assign specialised personnel with the troubleshooting.

Operation

After the rescue operations

⚠ WARNING

Danger to life from premature reactivation!

On reactivation there is danger to life for all persons in the danger zone.

- Ensure that the danger zone is clear before switching the machine back on.
- Check the system before reactivation and ensure that all safety equipment is installed and functional.

9. Check the system before reactivation and ensure that all safety equipment is installed and functional.

Control cabinet

In dangerous situations, machine movements have to be stopped as quickly as possible, and the power supply has to be disconnected.

In case of danger proceed as follows:

1. Switch off the main switch immediately.
2. Secure the main switch against reactivation.
3. Inform responsible person at the operational site.
4. If necessary call for medical assistance and fire brigade.
5. Recover persons from the danger zone, initiate First Aid measures.
6. Keep access routes free for emergency vehicles.
7. If the severity of the emergency permits, inform the competent authorities.
8. Assign specialised personnel with the troubleshooting.

⚠ WARNING

Danger to life from premature reactivation!

On reactivation there is danger to life for all persons in the danger zone.

- Ensure that the danger zone is clear before switching the machine back on.
- Check the system before reactivation and ensure that all safety equipment is installed and functional.

9. Check the system before reactivation and ensure that all safety equipment is installed and functional.

5.5 Putting the machine into operation

5.5.1 Checking the mortar consistency

1. Connect consistency inspection tube to the mortar pressure gauge.
2. Place a bucket or tray below the consistency inspection tube.

Mortar consistency inspection tube 25M

- Item no. 20104301

Figure 71: Consistency inspection tube

5.5.2 Feeding material to the machine

Figure 72: Switching on

Figure 73: Checking the consistency

Cable set

1. Turn the potentiometer (1) for the motor speed / material quantity to the desired position (re-adjust if necessary).
2. Turn the pump motor selector switch (1) to "right" position.

✓ The machine starts.

3. Check mortar consistency at consistency inspection tube (3).
4. Turn the pump motor selector switch (1) to the "0" position.

✓ The machine stops.

5. Remove consistency inspection tube (3) and clean.

Figure 74: Switching on

Figure 75: Checking the consistency

Control cabinet

6. Turn the water selector switch (1) to the left to the "with water" position.
7. Turn potentiometer (2) for motor speed / material volume to position 7 (readjust as required).
8. Turn the pump motor selector switch (3) to "right" position.

✓ The machine starts.

9. Check mortar consistency at consistency inspection tube (3).
10. Turn the pump motor selector switch (1) to the "0" position.

✓ The machine stops.

11. Remove consistency inspection tube (3) and clean.

5.5.3 Potentiometer

Figure 76: Potentiometer

Cable set

The amount of material to be sprayed can be regulated via the potentiometer.

Figure 77: Potentiometer

Control cabinet

If the RITMO is switched on/off with the remote control within short time intervals, the mortar consistency will fluctuate.

The solenoid valve opens from 40 Hz. This means that no water can be supplied in the potentiometer positions 1 - 4.

- Parameter value 11 – 75 Hz

5.6 Remote control

Only for machines with control cabinet!

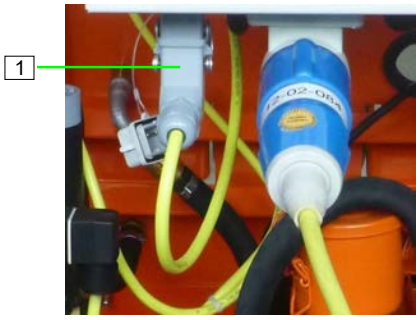


Figure 78: Remote control

Using the remote control without spray gun

NOTE

It is also possible to operate the machine without compressed air for pouring liquid filler or for working with a glue gun. Disconnect the connector plug from the air compressor and work without the spray gun for this. The machine is then switched on and off via an optional remove control cable.

1. Disconnect the connector plug for the switching off the pressure (1) from the control box and connect remote control.
2. The RITMO can be switched on or off via the remote control.

5.7 Applying mortar

⚠ WARNING

Danger of injury from discharged mortar!

Discharged mortar may lead to injuries to eyes and face.

- Never look into the spray gun.
- Always wear protective goggles.
- Always position yourself in such a way that you are not hit by the mortar being discharged.

The possible conveying distance depends mainly on the flowability of the mortar. Heavy, sharp-edged mortar has poor flow characteristics. Fluid materials have good flow characteristics.

If an operating pressure of 20 bar is exceeded, the hose length must be shortened or the hose thickness increased.

5.7.1 Opening the air tap on the spray gun

Figure 79: Switching on

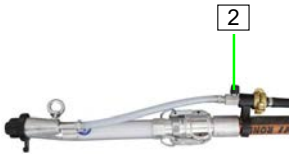


Figure 80: Opening the air tap

1. Turn the pump motor selector switch (1) to "right" position.
2. Point the spray gun toward the wall to be plastered.
3. Check that no-one is in the spray gun range.
4. Open the air tap (2) on the spray gun.
5. The machine will start-up automatically via the pressure switch-off and the mortar emerges.

The correct mortar consistency is reached, if the material mixes on the surface to be sprayed (we recommend application on wall surfaces from top to bottom). Uniform mixing and spraying cannot be ensured if the amount of water is insufficient. This can clog the hoses and the pumping components are then subjected to greater wear.

5.8 Interruption of work

NOTE

Always observe the setting time of the material to be processed:

Clean the system and mortar hoses depending on the setting time of the material and the length of the interruption (pay attention to outside temperature).

The guidelines of the material manufacturers have to be observed regarding breaks.

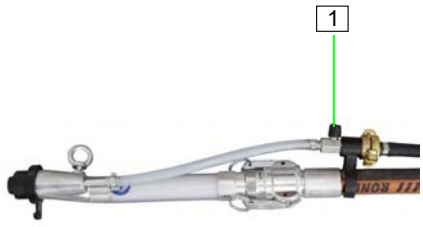


Figure 81: Closing the air tap

1. Close the air tap (1) if you interrupt your work for a short while.

✓ The machine stops.

By opening the air tap (1), the machine will start running again.

5.8.1 In case of longer interruption of work / break

NOTE

Always observe the setting time of the material to be processed:

Clean the system and mortar hoses depending on the setting time of the material and the length of the interruption (pay attention to outside temperature).

The guidelines of the material manufacturers have to be observed regarding breaks.

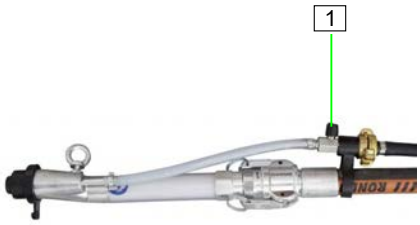


Figure 82: Closing the air tap

1. Close the air tap (1) if the work is interrupted for an extended period of time.

Figure 83: Switching off the machine

Cable set

1. Switch the selector switch of the pump motor (2) to position "0".

Figure 84: Switching off the machine

Control box

1. Switch the pump motor selector switch (2) and vibrating unit/pressure booster pump selector switch (3) to the "0" position.

5.9 Switching off the air compressor

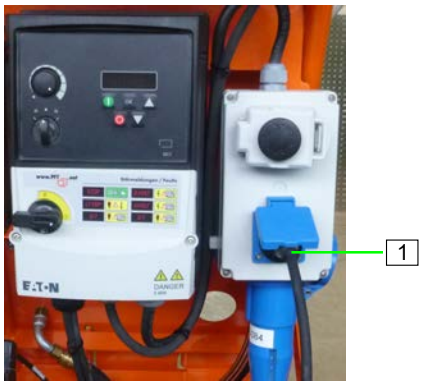


Figure 85: Unplugging the connector plug

Cable set

1. Disconnect the connector plug from the air compressor (1).
2. Open air tap on the spray gun so that the residual pressure can escape.

⚠ WARNING

Danger of injury from discharged mortar!

Discharged mortar may lead to injuries to eyes and face.

- Beware of residual pressure.

Operation

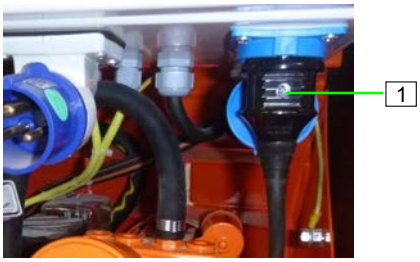


Figure 86: Unplugging the connector plug

Control box

1. Disconnect the connector plug from the air compressor (1).
2. Open air tap on the spray gun so that the residual pressure can escape.

⚠ WARNING

Danger of injury from discharged mortar!

Discharged mortar may lead to injuries to eyes and face.

- Beware of residual pressure.

5.10 Switching off the machine

Figure 87: Switching off the machine

Cable set

1. Turn the pump motor selector switch (1) to the "0" position.
2. Open the cover (2) of the on/off switch.
3. Switch off the machine by pressing the red pushbutton (3) control voltage "OFF".
4. Close cover (2) of the on/off switch.

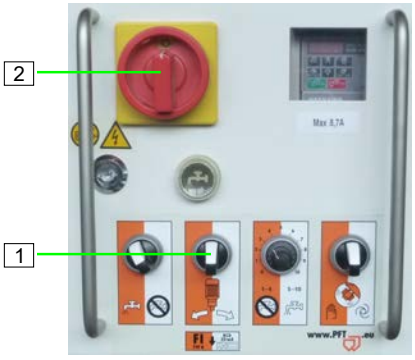


Figure 88: Switching off the machine

Control box

1. Turn the pump motor selector switch (1) to the "0" position.
2. Turn the main switch (2) to position "0".

5.11 Working with pastes

5.11.1 Recommended accessories for pastes

Air compressor COMP P-320, 230 V, 1 Ph, 50 Hz

- Item no. 00746490

Spraying gun for ornamental plaster DN25 VA10 100 Geka

- Item no. 20195900

RONDO DN25 hydraulic connection V-part | Female part - 10 m

- Item no. 00021100

5.11.2 Working with pastes

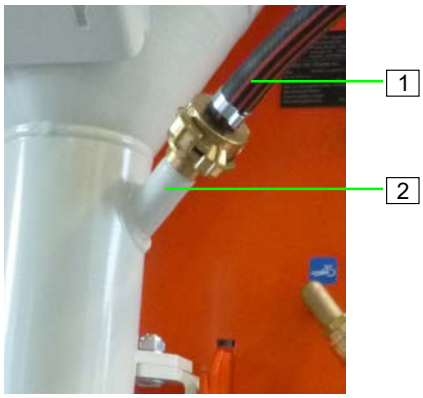


Figure 89: Close blind cap

1. Disconnect the connector plug from the air compressor.
2. Prepare mortar hoses and establish compressed air supply.
3. Uncouple water hose (1) from the mixing tube and close the water inlet on the mixing tube (2) with a blind cap.
4. Water hose from the water mains must be connected to the water inlet.
5. Fully tighten the needle valve at the water manifold completely.
6. The paste can be filled into the material hopper.

Figure 90: Switching on the machine

Cable set

1. Turn the potentiometer (3) for the motor speed / material quantity to the desired position (re-adjust if necessary).
2. Turn the pump motor selector switch (4) to "right" position.

✓ The machine starts.

Figure 91: Switching on the machine

Control box

1. Turn the water selector switch (3) to the right to the "without water" position.
2. Turn potentiometer (4) for motor speed / material volume to position 3 (readjust as required).
3. Turn the pump motor selector switch (5) to "right" position.

✓ The machine starts.

5.12 Measures to be taken in case of water outage

NOTE

Water can be supplied to the machine from a container by means of suction strainer (item no. 00136619).

5.13 Action in case of power failure

Figure 92: Selector switch at position “0”

Selector switch at position “0”

1. Close the air tap on spray gun.
2. Switch the selector switch of the pump motor to position "0".
3. Disconnect the connector plug from the air compressor.
4. Have the power supply connection checked by an expert.

Figure 93: Main switch to position "0"

Main switch to position "0"

1. Close the air tap on spray gun.
2. Turn the main switch to position "0".
3. Switch off air compressor.
4. Have the power supply connection checked by an expert.

5.13.1 Discharging mortar pressure

Figure 94: Check and relieve the mortar pressure

⚠ WARNING

Overpressure on the machine!

When opening machine parts they can open in an uncontrolled manner and injure the operator.

- Only open the mortar hoses if the mortar pressure gauge (1) indicates the pressure has fallen to "0 bar".

⚠ WARNING

Danger of injury from discharged mortar!

Discharged mortar may lead to injuries to eyes and face.

- Never look into the spray gun.
- Always wear protective goggles.
- Always position yourself in such a way that you are not hit by the mortar being discharged.

1. Open air tap on the spray gun.
2. Check the mortar pressure gauge (1) if the mortar pressure has fallen to "0 bar". If necessary, discharge any mortar pressure by unscrewing the screws (2) slightly. In doing so, cover the work area with film.
3. Firmly tighten the screws (2) again.

5.13.2 Switching on the machine again after a power failure

NOTE

In case of a longer power cut, the machine and the mortar hoses have to be cleaned immediately.

NOTE

The machine is equipped with a restart interlock. In case of a power failure, this must be started as follows.

Operation

Figure 95: Switching on the machine after a power failure

Cable set

1. Turn the pump motor selector switch (1) to the "0" position.
2. Close the air tap on spray gun.
3. Insert the connector plug from the air compressor.
4. Press the green pushbutton (2) control voltage "ON".
5. Turn the potentiometer (3) for the motor speed / material quantity to the desired position (re-adjust if necessary).
6. Turn the pump motor selector switch (1) to "right" position.
7. The machine starts again as soon as the air tap at the spray gun is re-opened.

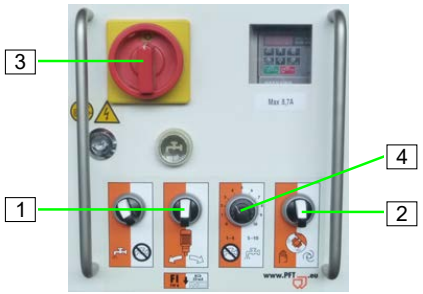


Figure 96: Switching on the machine after a power failure

Control cabinet

1. Switch pump motor selector switch (1) and vibrating unit/pressure booster pump selector switch (2) to the "0" position.
2. Close the air tap on spray gun.
3. Turn main switch (3) to position "I".
4. Turn potentiometer (4) for motor speed / material volume to position 7 (readjust as required).
5. Switch pump motor selector switch (1) and vibrating unit/pressure booster pump selector switch (2) to the "right" position.
6. The machine starts again as soon as the air tap at the spray gun is re-opened.

5.14 Measures in case of risk of frost

⚠ CAUTION

Damage by frost!

Water that expands on freezing inside the component can cause serious damage.

Therefore:

- Only install dry parts.

Carry out the following steps when the pump is not operating and there is a danger of frost.

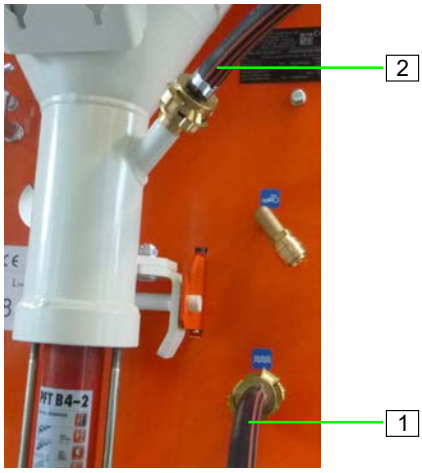


Figure 97: Disconnect water supply

1. Disconnect the water hose (1) from the water inlet.
2. Remove the water hose (2) from the mixing tube.

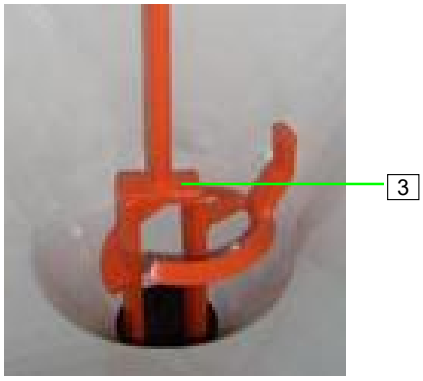


Figure 98: Removing the mixing shaft

3. Take mixing shaft (3) out of the mixing zone.

Figure 99: Opening the outlet taps

4. Open outlet taps (4) on the fitting block.
5. Allow water to drain off and close outlet taps again.

NOTE

Make sure that the water fully flows out of the water manifold.

5.14.1 Blowing the water manifold dry

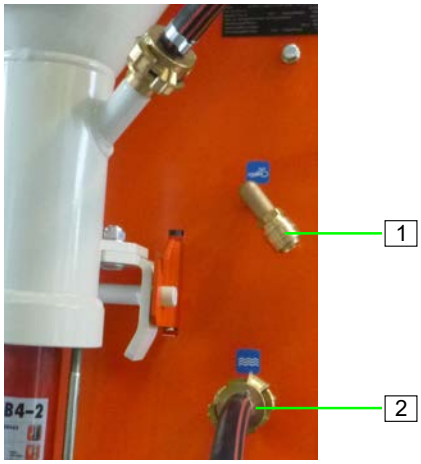


Figure 100: Connecting the air hose

Only for machines with control cabinet!

1. Connect air hose with Geka coupling and EWO coupling to the compressed air flange (1) and to the water inlet (2).

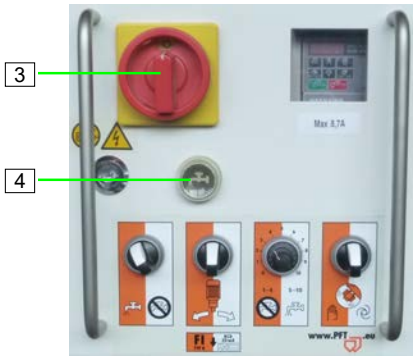


Figure 101: Blowing the water manifold dry

2. Plug in air compressor.
3. Turn main switch (3) to position "I".
4. Press and hold the water flow button (4) for approx. 10 seconds.
5. The water is blown out of the manifold with compressed air.
6. Open all outlet taps and blow out with compressed air again.
7. Unplug air compressor.
8. Turn the main switch (3) to position "0".

NOTE

Make sure that the water fully flows out of the water manifold.

5.15 Ending work / cleaning the machine

5.15.1 Cleaning

- Clean the machine daily at the end of work and in case of extended breaks.

NOTE

Water can enter sensitive machine parts!

- Before cleaning the machine cover all openings in which no water must enter for safety and functional reasons (e.g.: electric motors and control cabinets).
- Remover the covers completely after cleaning.

5.15.2 Secure against restarting

⚠ WARNING

Danger to life from unauthorised restarting!

When working with the machine there is the risk that the energy supply is switched on without authorisation. This poses a danger to life for the persons in danger area.

- Before starting work, switch off all electrical power supplies and secure them against being switched back on again.
- If the protective covers are removed for cleaning purposes, it is essential that they be properly reattached when work is finished.

5.15.3 Disconnecting and cleaning the mortar hose

Figure 102: Switch off machine cable set

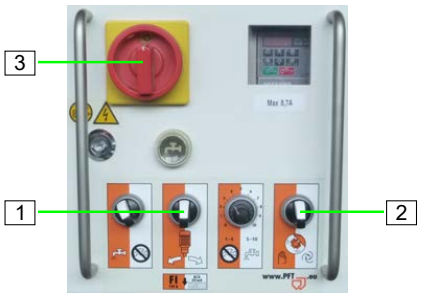


Figure 103: Switch off machine switch cabinet

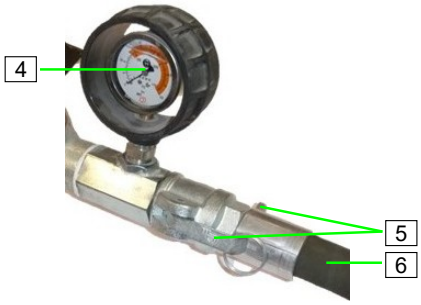


Figure 104: Disconnecting the water hose

Disconnecting the water hose

The machine must be cleaned daily after work and before prolonged pauses.

1. Turn the pump motor selector switch (1) to the "0" position.
2. Press the red pushbutton (2) control voltage "OFF".
3. Turn the vibrating unit/pressure booster pump selector switch (2) to the "0" position.
4. Turn the main switch (3) to position "0".
5. Check the mortar pressure gauge (4) if the mortar pressure has fallen to "0 bar".

⚠ WARNING

Overpressure on the machine!

When opening machine parts they can open in an uncontrolled manner and injure the operator.

- Only open the machine if the pressure has fallen to 0 bar.

6. Release cam lever (5) and uncouple mortar hose (6) from the mortar pressure gauge.
7. Only uncouple the air hose from the spray gun.

Operation

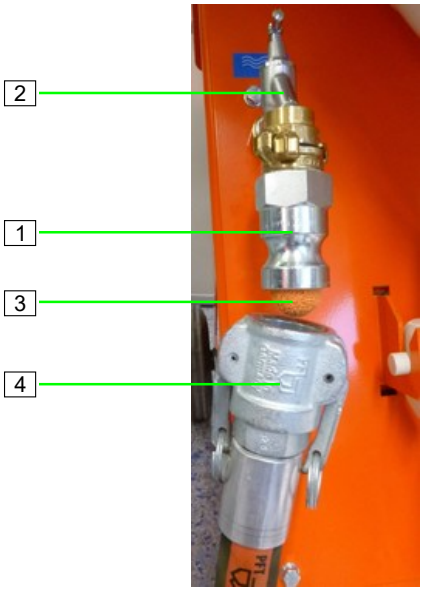


Figure 105: Cleaning the mortar hose

Cleaning the mortar hose

NOTE

The mortar hoses and spray gun must be cleaned immediately at the end of work.

1. Connect the cleaner coupling (1) at the water extraction valve (2).
2. Press the water saturated sponge ball (3) into the mortar hose (4).
3. Connect mortar hose (4) with the sponge ball to the cleaner coupling (1).

Figure 106: Cleaning the spray gun

4. Remove fine plaster nozzle (5) from the spray gun.
5. Undo eye bolt (6) and pull air nozzle tube (7) out of the spray head.
6. Open the water extraction valve until the sponge ball exits the spray gun.
7. Repeat this procedure several times in case of heavy soiling.
8. For different hose diameters, the mortar hoses should be cleaned separately with the appropriate sponge balls.
9. Hose down spray gun with water jet.
10. Knock free air nozzle tube (7) with mandrel.
11. Switch on compressor and blow air nozzle tube free.
12. Reassemble spray gun.

5.15.4 Connecting the water hose

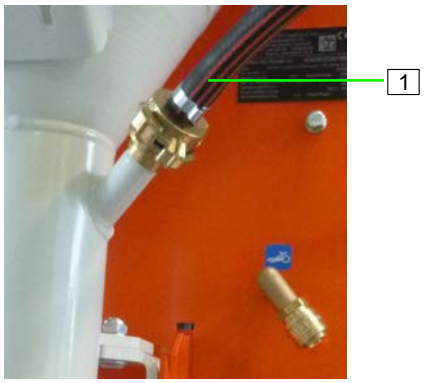


Figure 107: Connect water hose

1. Connect the water hose (1) to the mixing tube.

5.15.5 Cleaning the mixing tube

Figure 108: Remove the motor connection cable

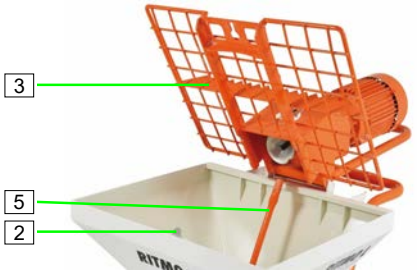


Figure 109: Open the protection grille

1. Pull out 10-pole connector plug (1).
2. Loosen nuts (2) of the protection grille.
3. Tilt the protection grille with motor (3) backwards.

NOTE

The housing of the motor must be closed with the protective cover (4) during cleaning and transporting (protection against moisture and damage).

4. Remove the mixing shaft (5) and clean it.
5. Clean the mixing zone with a spatula.

5.15.5.1 Inserting the mixing tube cleaner

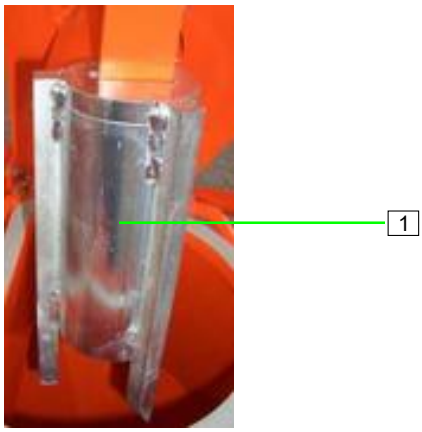


Figure 110: Inserting the mixing tube cleaner

Figure 111: Cleaner shaft seat

1. Insert the mixing tube cleaner (1) and cleaner shaft into the mixing tube.

Insert the mixing tube cleaner (1) into the mixing tube with the scrapers pointing downward.

NOTE

When inserting the cleaner shaft make sure that the cleaner shaft (2) engages in the head of the rotor (3) and when closing the motor tilt flange that it correctly engages in the coupling claw (4).

⚠ CAUTION

Danger of crushing at the motor tilt flange!

There is a danger of crushing injuries when closing the motor tilt flange.

- Never reach into the closing range of the motor tilt flange.

Operation

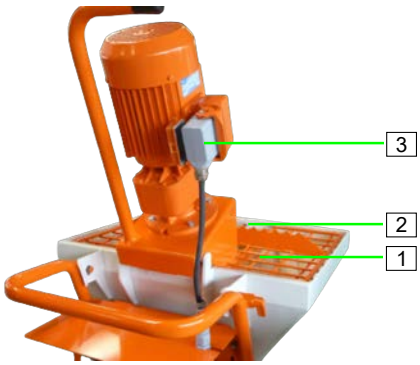


Figure 112: Cleaning the mixing tube

Figure 113: Cleaning the mixing tube cable set

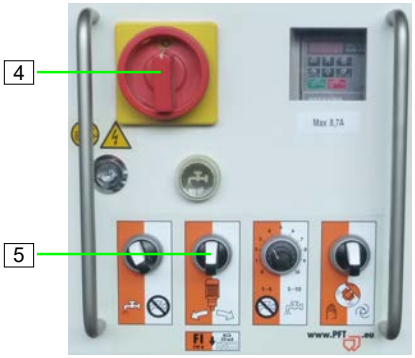


Figure 114: Cleaning the mixing tube switch cabinet

Cleaning the mixing tube

1. Close protective grille (1) with gear motor.
2. Firmly tighten the nuts (2) at the protection grille.
3. Insert 10-pole connector plug (3).
4. Press green push-button (4) control voltage "ON" or turn main switch (4) to position "I".
5. Turn the pump motor selector switch (5) to "right" position.

✓ The machine starts.

6. Allow the machine to run for approx. 5 - 10 seconds until the mixing tube is cleaned.
7. Turn the pump motor selector switch (5) to the "0" position.

✓ The machine stops.

8. Pull out 10-pole connector plug (3).
9. Loosen the nuts (2) at the protection grille and tilt backwards.
10. Take mixing tube cleaner with cleaner shaft out of the material hopper.

5.15.5.2 Inserting the mixing shaft

Figure 115: Inserting the mixing shaft

1. Insert mixing shaft (1) and ensure correct positioning at the rotor (2).
2. When closing the protective grille ensure that the mixing shaft (1) engages properly into the drive dog (3).
3. Firmly tighten the nuts at the protection grille.

5.15.6 Cleaning the material hopper

The inside of the material hopper can be cleaned with a water hose after having been emptied completely.

5.16 Reaction in the event of faults

Reaction in the event of faults

The following applies as a general rule:

1. In the event of faults presenting immediate danger to persons or property, activate the emergency OFF function immediately.
2. Determine cause of the fault.
3. If the rectification of faults requires works in the danger zone, switch off the system and secure against restarting.
4. Inform the manager on site immediately about the fault.
5. Depending on the type of fault, commission authorised skilled personnel or rectify the fault yourself.

The following fault table gives information on who is authorised to rectify the fault.

5.16.1 Safety

Personnel

- The work for rectification of faults described here can be carried out by the operator, unless marked otherwise.
- Some works must be carried out only by specially trained skilled personnel or exclusively by the manufacturer. Information on this can be found in the description of the individual faults.
- Work on electrical systems must always only be carried out by qualified electricians.

Personal protective equipment

The following protective equipment has to be worn for all maintenance work:

- Protective clothing
- Protective goggles
- Protective gloves
- Safety shoes

5.16.2 Faults

The following chapter describes possible causes for faults and the activities carried out for their rectification.

In case faults occur frequently, shorten the maintenance intervals in accordance with the actual load.

Contact your dealer if malfunctions occur that cannot be solved using this manual.

5.16.3 Fault displays

Figure 116: Fault displays

Cable set

The following installation indicates faults:

- Faults in the frequency converter are shown in the display.

Remedial measures are described in the enclosed Quick Reference Guide.

Figure 117: Fault displays

Control cabinet

The following installation indicates faults:

- Faults in the frequency converter are shown in the display.

Remedial measures are described in the enclosed Quick Reference Guide.

5.16.3.1 Fault messages frequency converter cable set

Notification	Possible cause	Troubleshooting	Rectification by
STOP	Ready to start, there is no fault message		
0.VOLT	Overvoltage in intermediate circuit	Check whether the voltage supply is available in the area for which the frequency converter is measured	Service technician
I.t-TRP	Motor overload The thermal protection has triggered because the device has been operated beyond the motor rated current for a certain time	Check the connection of the motor (e.g. star/triangle).	Service technician
		Ensure that there are no mechanical blockages or additional loads on the motor	Operator
V.VOLT	Undervoltage in intermediate circuit This message appears when voltage supply to the device is disconnected and the intermediate circuit voltage is reduced This is **not** an error	If the message appears during operation: Check whether the supply voltage is too low	Service technician
0-1	Overcurrent at the outlet of the frequency converter Occurrence directly when switching on:	Check the cable connection between the converter and the motor	Service technician
		Check the motor short circuit in the coil or short circuit to earth	Service technician
		Check whether the motor can rotate freely and ensure that there is no mechanical blocking	Operator
0-T	Temperature at the heat sink, the drive is too hot	Check whether the frequency converter may be operated at ambient temperature	Service technician

5.16.4 Table of faults

Fault	Possible cause	Troubleshooting	Rectification by
Machine does not start water	Water pressure too low	Check the water supply, clean the strainer screen	Operator
	Pressure gauge shows less than 2.2 bar	Connect booster pump	Service technician
Machine does not start current	Power supply not in order	Repair power supply	Service technician
	Main switch not activated	Activate main switch	Operator
	Green pushbutton for control voltage "ON" is not pressed	Press green pushbutton for control voltage "ON"	Operator
	Motor protection switch triggered	Turn motor protection switch in control box to position 1	Service technician
	Contactor defective	Change contactor	Service technician
	Fuse defective	Change fuse	Service technician
Machine does not start air	Insufficient drop in pressure in the remote control due to blocked air duct or air nozzle pipe	Clean blocked air duct or air nozzle pipe	Operator
	Air safety switch is obstructed	Adjust the air safety switch	Service technician
	Air compressor not connected	Connect air compressor	Operator
Machine does not start material	Too much thickened material in hopper or mixing section	Empty half of the hopper and start again	Operator
	Excessively dry material in pump part	Allow the machine to run backwards, otherwise remove pump and clean it	Operator/ service technician
Water not flowing (flowmeter does not display anything)	Solenoid valve (hole in membrane blocked)	Clean solenoid valve	Service technician
	Solenoid coil defective	Change solenoid coil	Service technician
	Pressure reducing valve closed	Open pressure reducing valve	Operator
	Water inlet at mixing tube blocked	Clean water inlet at mixing tube	Operator
	Needle valve closed	Open needle valve	Operator
	Cable to solenoid valve defective	Replace cable to solenoid valve	Service technician
Pump motor will not start	Pump motor defective	Replace pump motor	Service technician
	Connection cable defective	Change connection cable	Service technician
	Plug or mounted socket defective	Replace plug or mounted socket	Service technician
	Motor protection switch defective or triggered	Replace or reset motor protection switch	Service technician

Fault	Possible cause	Troubleshooting	Rectification by
Machine stops after a short while	Strainer screen is dirty	Clean or replace filter	Operator
	Filter of pressure relieve device contaminated	Clean or replace filter	Operator
	Hose connection or water supply line too small	Enlarge hose connection or water supply line	Operator
	Water inlet pipe too long or inlet pressure too low	If necessary, connect pressure booster pump	Service technician
Machine does not switch off	Air pressure safety switch set incorrectly or defective	Set or replace air pressure safety switch	Service technician
	Compressed air hose or gaskets defective	Replace compressed air hose, replace gaskets or check compressor	Service technician
	Air tap on spray gun defective	Replacing the air tap	Service technician
	Power provided by compressor is too low.	Check compressor	Service technician
	Air duct is not connected to the compressor	Connect air supply to compressor	Operator
Mortar flow "thick-thin"	Too little water	Increase the water quantity by 10% for approx. ½ minute and then turn down slowly	Operator
	Water safety switch set incorrectly or defective	Set or replace water pressure safety switch	Service technician
	Mixing shaft defective; no original PFT mixing shaft	Replace mixing shaft with an original PFT mixing shaft	Operator
	Pressure reducer set incorrectly or defective	Adjust or replace pressure reducer	Service technician
	Rotor worn or defective	Replace rotor	Service technician
	Stator worn	Replace stator	Service technician
	Inner wall of mortar hose defective	Replace mortar hose	Operator
	Rotor too deep in pressure flange	Replace pressure flange	Service technician
	No original PFT spare parts	Use original PFT spare parts	Service technician
No mortar flow (air bubbles)	Poor mixing in mixing tube	Add more water	Operator
	Mortar clogs and narrows mixing tube inlet	Add more water or clean/replace mixing shaft	Operator
	Mixing shaft defective	Replace mixing shaft	Operator
	Material in mixing tube has become wet	Empty mixing shaft, dry and begin again	Operator
	Driving dog defective	Replace driving dog	Service technician

Operation

Fault	Possible cause	Troubleshooting	Rectification by
During operation water rises in the mixing tube	Backpressure in mortar hose higher than pump pressure	Retighten or replace stator	Service technician
	Rotor or stator worn	Replace rotor or stator	Service technician
	Hose blockage due to mortar being too thick (high pressure due to low water factor)	Remedy hose blockage, increase water factor	Service technician

5.16.5 Hose blockages

Indications

Blockages can occur in the pressure flange or in the mortar hoses.

Indications are:

- Rapidly increasing pressure head
- Blockage of pump
- Running difficulties or blockage of the pump motor
- Expansion and turning of the mortar hose
- No material leakage at the hose ends

Possible causes:

- Heavily worn mortar hoses
- Badly greased mortar hoses
- Residual water in mortar hose
- Clogging of the pressure flange
- Severe restriction at the couplings
- Kink in the mortar hose
- Leaks at the couplings
- Poorly pumping and separated materials

Earlier damage to the mortar hose

Should the pressure in the mortar hose exceed 60 bar in the event of a machine failure due to material clogging, replacement of the mortar hose is recommended as there might be damage in the hose that is not externally visible.

5.16.6 Removal of clogging in hoses

⚠ WARNING

Danger from discharged material!

Never detach hose couplings if the feed pressure has not been fully released! Material to be conveyed can be discharged under pressure and cause injuries particularly to the eyes.

Persons commissioned with the cleaning of clogged hoses have to wear personal protective equipment (protective goggles, gloves) for safety reasons, and must position themselves in such a way that they cannot be hit by discharged material. Other persons have to clear the area.

5.16.6.1 Let the pump run backwards

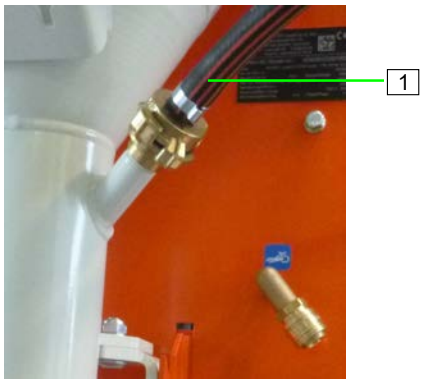


Figure 118: Remove the water hose

Figure 119: Reverse operation

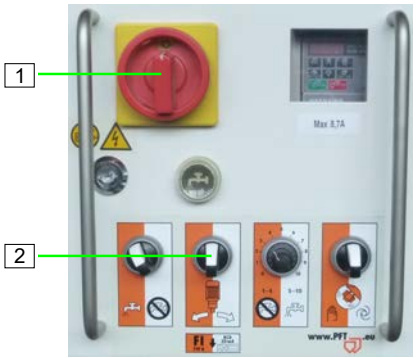


Figure 120: Reverse operation

Cable set

NOTE

When the pump motor runs in reverse, the water supply is not blocked.

1. Remove the water hose (1) from the mixing tube and put it in a bucket or pan.
2. Press the green pushbutton (2) control voltage "ON".
3. Turn the pump motor selector switch (3) to the "light" position.

✓ The machine is running backwards.

4. Allow the machine to run backwards until the pressure at the mortar pressure gauge has dropped to "0 bar".
5. Turn the pump motor selector switch (3) to the "0" position.
6. Press the red pushbutton (4) control voltage "OFF".
7. Connect the water hose (1) to the water inlet of the mixing tube.

Control cabinet

1. Turn main switch (1) to position "I".
2. Switch selector switch of the pump motor (2) to the "left" position, until the pressure at the mortar pressure gauge has dropped to "0 bar".
3. Turn the main switch (1) to position "0".

5.16.6.2 Blockage cannot be cleared

Figure 121: Checking the grout pressure

⚠ WARNING

Overpressure on the machine!

When opening machine parts they can open in an uncontrolled manner and injure the operator.

- Only open the mortar hoses if the mortar pressure gauge (1) indicates the pressure has fallen to "0 bar".

⚠ WARNING

Danger of injury from discharged mortar!

Discharged mortar may lead to injuries to eyes and face.

- Never look into the spray gun.
- Always wear protective goggles.
- Always position yourself in such a way that you are not hit by the mortar being discharged.

1. Undo both screws (2) on the pressure flange slightly to ensure the residual pressure can escape fully.
2. As soon as the pressure has dropped to "0" bar, tighten the screws (2) again.

Figure 122: Detaching the coupling

NOTE

Clean mortar hoses immediately

3. Cover coupling connections with tear-proof film.
4. Release cam lever (3) and hose connections.
5. Remove blockage by tapping or shaking at the point of the blockage.
6. If necessary, insert a flushing hose into the mortar hose and flush out the mortar.
   - PFT flushing hose item no. 00113856

5.16.6.3 Switching on the machine after removing a blockage

Figure 123: Switching on the machine again

Cable set

1. Turn the pump motor selector switch (1) to the "0" position.
2. Close the air tap on spray gun.
3. Press the green pushbutton (2) control voltage "ON".
4. Turn the potentiometer (3) for the motor speed / material quantity to the desired position (re-adjust if necessary).
5. Turn the pump motor selector switch (1) to "right" position.
6. Let the machine run for a short while without mortar hoses.
7. As soon as material flows out of the pressure flange, switch the pump motor selector switch (1) to the "0" position.
8. Apply wallpaper paste to the cleaned mortar hoses and connect to the machine and spray gun.
9. Turn the pump motor selector switch (1) to "right" position.
10. The machine starts again as soon as the air tap on the spray gun is re-opened.

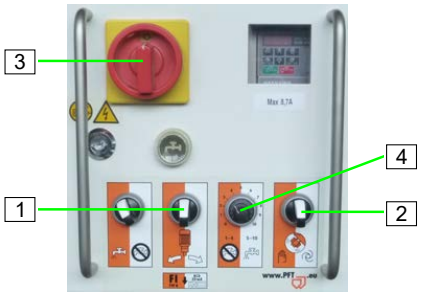


Figure 124: Switching on the machine again

Control cabinet

1. Switch pump motor selector switch (1) and vibrating unit/pressure booster pump selector switch (2) to the "0" position.
2. Close the air tap on spray gun.
3. Turn main switch (3) to position "I".
4. Turn potentiometer (4) for motor speed / material volume to position 7 (readjust as required).
5. Switch pump motor selector switch (1) and vibrating unit/pressure booster pump selector switch (2) to the "right" position.
6. Let the machine run for a short while without mortar hoses.
7. As soon as material flows out of the pressure flange, switch the pump motor selector switch (1) to the "0" position.
8. Apply wallpaper paste to the cleaned mortar hoses and connect to the machine and spray gun.
9. Turn the pump motor selector switch (1) to "right" position.
10. The machine starts again as soon as the air tap at the spray gun is re-opened.

6 Maintenance

6.1 Safety

Personnel

- The maintenance works described here can be carried out by the operator, unless marked otherwise.
- Some maintenance work must only be carried out by specially trained technical personnel or exclusively by the manufacturer.
- Work on electrical systems must always only be carried out by qualified electricians.

Basic information

⚠ WARNING

Risk of injury due to improperly carried out maintenance work!

Improper maintenance can lead to severe injuries or considerable property damage.

- Prior to starting the works ensure that there is enough space to carry out the works.
- Ensure order and safety at the assembly site! Unattached components or tools left lying around or stacked on one another can cause accidents.
- If components have been previously removed, ensure that they are mounted again correctly, reattach all fastening elements and adhere to the specified screw tightening torques.

Electrical system

⚠ DANGER

Danger to life from electric current!

Contact with live components can lead to death or serious injury. Live electrical components can move uncontrollably and cause serious injury.

- Switch off the energy supply before starting any work and secure against restarting.

6.1.1 Remove connection cable

Figure 125: Remove connection cable set

Figure 126: Remove connection cable switch cabinet

⚠ WARNING

Danger to life from electric current!

There is danger to life if you come in contact with live parts. Activated electrical components can carry out uncontrolled movements and cause serious injuries.

Therefore:

- Switch off the energy supply before starting any work and secure against restarting.
- Disconnect the power supply by removing the connection cable.

Secure against restarting

⚠ WARNING

Danger to life from unauthorised restarting!

When working with the tool, there is the risk that the energy supply is switched on without authorisation. This poses a danger to life for the persons in danger area.

Therefore:

- Switch off all power supplies before starting any work and secure against restarting.

6.2 Environmental protection

Environmental protection

Observe the following notes on environmental protection when carrying out maintenance works:

- Remove the discharged, exhausted or surplus grease at all greasing points that are lubricated manually and dispose of in accordance with the local applicable regulations.
- Collect used oil in suitable containers and dispose of it according to the applicable local regulations.

6.3 Maintenance plan

The following paragraphs describe the maintenance works required for an optimal and trouble-free operation.

In the event that increased wear is detected during regular checks, the required maintenance intervals have to be shortened according to the actual signs of wear.

Should you have any queries regarding maintenance works and intervals contact the manufacturer, see back page for service address.

The maintenance is limited to a few checks.

Thorough cleaning after use is the most important maintenance.

Interval	Maintenance work	To be carried out by
Daily	Clean/replace the strainer screen in the water inlet.	Operator
Weekly	Clean/replace intake filter of the compressor.	Service technician
Every 2 weeks	Clean/replace the strainer screen in the pressure reducer.	Service technician

6.4 Maintenance work

In the event that increased wear is detected during regular checks, the required maintenance intervals have to be shortened according to the actual signs of wear.

Should you have any queries regarding maintenance works and intervals contact the manufacturer, see back page for service address.

6.4.1 Implementation by a service technician

A service technician is responsible for the assembly and commissioning of machines. In addition, service technicians carry out maintenance and repair work. If work is required on the control box or on other electrical parts, the service technician must have completed vocational training as an electrician.

6.4.2 Strainer screen in the water inlet

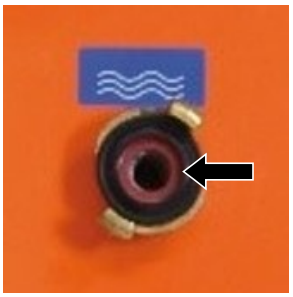


Figure 127: Strainer screen in the water inlet

Implementation by operator.

1. Remove the strainer screen from the Geka coupling.
2. Clean the strainer screen.
3. Replace the screen if dirt is severe.
4. .Reinsert strainer screen.

   Screen for Geka coupling:

   - Item no. 20152000

6.4.3 Strainer screen in pressure reducer

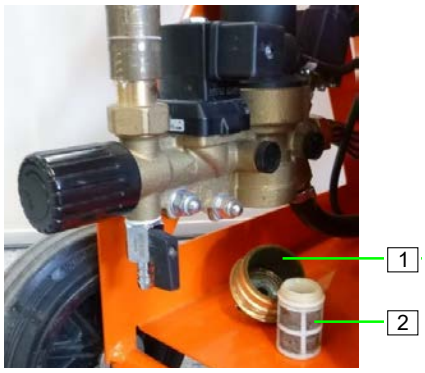


Figure 128: Strainer screen in pressure reducer

Implementation by a service technician

1. Remove the closure cap (1) from the pressure reducer.
2. Remove strainer screen (2) and clean (every two weeks).
3. Replace the strainer screen if dirt is severe.
4. Insert strainer screen and screw on the closure cap.

   Screen for pressure reducer:

   - Item no. 20156000

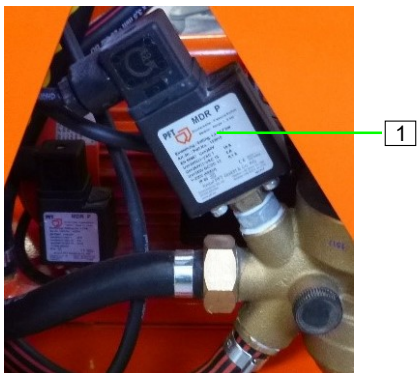
6.4.4 Pressure reducing valve

Check setting of the pressure reducing valve.

- 1.4 bar at maximum flow rate.
- Needle valve (1) completely open.

Figure 129: Pressure reducing valve

6.4.5 Setting value pressure switch water



Implementation by a service technician

If more blockages occur, the pressure switch Water (1) must be replaced. The pressure switch is fixed in its setting and cannot be readjusted.

Pressure switch water (1)	Machine switches "ON"	Machine switches "OFF"
Water	1.7 bar	1.4 bar

Figure 130: Pressure switch

6.4.6 Setting value pressure switch air compressor

Figure 131: Pressure switch

Pressure switch Compressor (1)	Compressor switches "ON"	Compressor switches "OFF"
Compressor	1.1 bar	1.4 bar

Pressure switch-off of machine (2)	Machine switches "ON"	Machine switches "OFF"
Machine	0.9 bar	1.2 bar

The safety valve (3) for the air compressor is set to 1.8 bar.

6.4.7 Cleaning the air compressor and air filter

- The compressor operates free of oil and must not suck in any oil mist.
- The surrounding temperature must not exceed 45 °C.
- Store the compressor in a dry place and avoid condensation due to water vapour.
- Using the machine in an explosive atmosphere is forbidden.

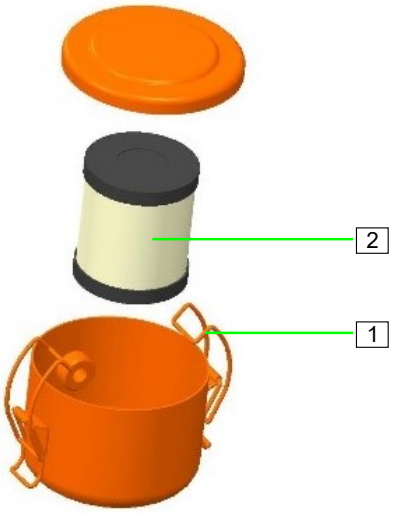


Figure 132: Cleaning the air filter

Cleaning the air filter

Clean the pre-filter weekly:

1. Loosen the tension springs (1) and remove filter insert (2).
2. Blow compressed air through the pre-filter from inside to outside.
3. Be sure to replace any clogged, oily, greasy or damaged filter cartridges.

   Filter cartridge D 50x58 mm:

   - Item no. 00087547

Figure 133: Loosening the side cover

High temperatures are generated on the compressor due to air compression:

- Protect against contact with hot surfaces.
- Shield the area of traffic.
- Attach warning signs.

If no pre-filter is mounted, the compressor filter must be cleaned weekly.

1. With the pre-filter, the filter integrated in the compressor only needs to be cleaned very four weeks. Undo screws on the side cover.

Maintenance

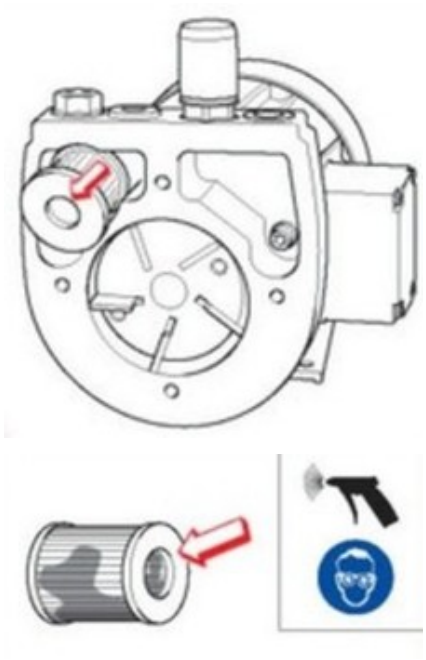


Figure 134: Blowing out the filter

2. Remove filter, blow it out from the inside to the outside with compressed air (do not wash it).
3. Be sure to replace any clogged, oily, greasy or damaged filter cartridges.

   Filter cartridge D=30x13x32 mm:

   - Item no. 00077766

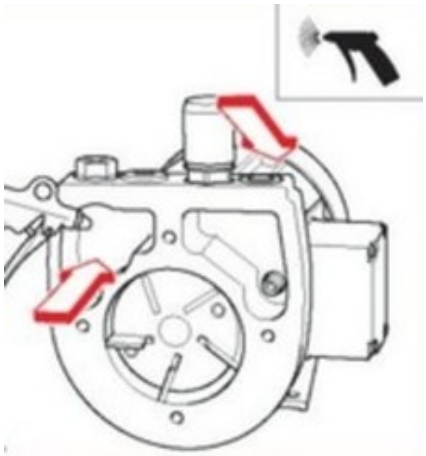


Figure 135: Blowing out the air filter housing

4. Blow compressed air through the air filter housing to remove dirt particles.

6.4.8 Replacing the pump / cleaning the pump

Figure 136: Turning over the machine

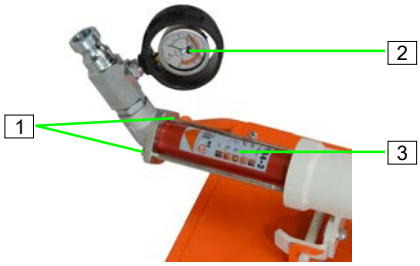


Figure 137: Removing the pump unit

Placing the machine on its rear

NOTE

For easier pump replacement / pump cleaning, the RITMO can be placed on its rear.

1. Loosen the screws (1).
2. Remove mortar pressure gauge with pressure flange (2) and pump unit (3).
3. Insert new rotor and stator or cleaned pump unit and tighten screws.

NOTE

Only store assembled pumps (rotor in stator) for a few days, since longer storage may cause the rotor and stator to become inseparably joined.

NOTE

It is essential to spray the pump (rotor in stator) with assembly spray before assembly, as otherwise the break-away torque required for the pump motor is too high.

- Assembly spray for PFT rotor/stator item no. 00588821

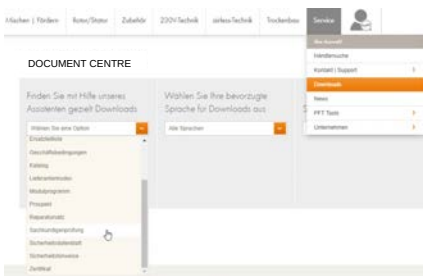
6.5 Actions after completed maintenance

After finishing the maintenance works and prior to switching on the machine, the following steps have to be carried out:

1. Check all previously loosened screw connections for secure fit.
2. Check if all previously removed safety systems and covers are properly reinstalled.
3. Ensure that all tools, materials and other equipment used have been removed from the work area.
4. Clean the work area and remove any spilled materials such as liquids, processing material or similar.
5. Ensure that all safety systems of the installation work perfectly.

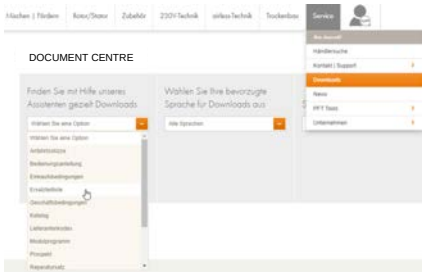
6.6 Periodic inspection/expert inspection

- Construction machinery has to be inspected for safe working condition in accordance with the operating conditions and the operational requirements as needed, however at least once a year by an expert.
- Pressure vessels have to undergo the prescribed expert inspections.
- The inspection results have to be documented and kept at least until the next inspection.



- The documents for the expert inspection can be found on the internet at www.pft.net.
- Open the Document Centre under Service → Downloads.
- In this area, select the expert inspection category to access all relevant inspection documents.

6.7 Spare parts lists



The spare parts lists for the machine can be found on the Internet at www.pft.net.

- Open the Document Centre under Service → Downloads.
- In this area, select the spare parts list category.
- In addition, select the machine you are looking for.

6.7.1 Accessories

Recommended accessories/equipment can be found in the PFT machine and equipment catalogue or under www.pft.net

7 Disassembly

After the useful service life has been reached, the device has to be dismantled and disposed of in an environment-friendly manner.

7.1 Safety

Personnel

- Disassembly must be carried out by specially trained technical personnel only.
- Work on the electrical system must be carried out by qualified electricians only.

Basic information

⚠ WARNING

Risk of injury in case of improper disassembly!

Stored residual energies, sharp components, points or edges at and inside the device or on the required tools might cause injuries.

Therefore:

- Prior to starting the works ensure that there is sufficient space.
- Carefully handle components with sharp edges.
- Ensure order and cleanliness at the working place! Loose components and tools on top of one another or lying about pose potential accident risks.
- Dismantle components correctly. Pay attention to partly high dead weight of the components. If required, use lifting equipment.
- Secure components that they do not fall down or topple over.
- In case of doubt, consult the dealer.

Electrical system

⚠ DANGER

Danger to life from electric current!

Contact with live components can lead to death or serious injury. Activated electrical components can carry out uncontrolled movements and cause serious injuries.

Therefore:

- Prior to beginning the disassembly, switch off the power supply and fully disconnect it.

7.2 Disassembly

When decommissioning, clean the device and dismantle it according to the applicable work safety and environmental protection regulations.

Prior to starting the disassembly:

- Switch off device and secure against restarting.
- Disconnect the entire energy supply from the machine and discharge the residual energy.
- Remove operating and auxiliary materials as well as residual processing materials and dispose of them in an environmentally sound manner.

8 Disposal

Provided no return or disposal agreements have been made, recycle the disassembled parts:

- Scrap metals.
- Recycle plastic elements.
- Dispose of remaining components, sorted according to the type of material.

NOTE

Environmental damage due to incorrect disposal!

- Electrical scrap and components, lubricants and other process materials are subject to special guidelines and may only be disposed of by approved waste disposal specialists!

Local authorities and waste disposal specialists can provide more details on the correct disposal of materials.

PFT - ALWAYS AT YOUR SITE

Knauf PFT GmbH & Co. KG
Postfach 60 97343 Iphofen
Einersheimer Straße 53 97346 Iphofen
Germany

Telephone: +49 9323 31-760
Fax: +49 9323 31-770
Technical hotline: +49 9323 31-1818
info@pft.net
www.pft.net