



Operating manual

Forced action mixer MULTIMIX model 2012

Part 2 Overview, operation and service



Item no. of the operating manual:

00627804

MULTIMIX 140 plus 400 V, 3 Ph, 50 Hz

Art.-Nr. 00251636



Read the operating manual prior to starting any work!

About us



About us

<u>Publisher</u>	Knauf PFT GmbH & Co. KG Postfach 60 ▪ 97343 Iphofen Einersheimer Straße 53 ▪ 97346 Iphofen Germany
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General information



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 horizontal continuous mixer/compulsory mixer

Item no. 00146378

- 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 Keep the manual for future reference

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



1.4 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.

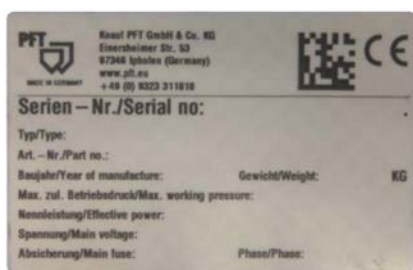
Structure of the safety and warning notices

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.

1.5 Name plate



The following details can be found on the name plate:

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

Figure 1: Name plate

General information



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: MULTIMIX
Type of equipment: Forced action mixer
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



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

Technical data



2 Technical data

2.1 General information



Figure 3: Dimension sheet in mm

Detail	Value	Unit
Empty weight approx.	148	kg
Length	1000	mm
Width	1030	mm
Height, feet adjustable	1,120 - 1,400	mm
Maximum grain size	8	mm

Material hopper dimensions

Detail	Value	Unit
Filling height	1,120 - 1,400	mm
Outlet height	440 - 720	mm
Material hopper volume	140	l
Holding capacity for fresh mortar	80	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 details

Detail	Value	Unit
Voltage, three-phase current 50 Hz	400	V
Power input, max.	2.2	kW
Power consumption, max.	5.2	A
Fuse protection	16	A
Power unit, minimum	7.5	KVA

2.4 Sound power level

Guaranteed sound power level L_{WA}

■ 78 dB(A)

2.5 Vibrations

Weighted effective value of acceleration to which the upper body parts are exposed $<2.5 \text{ m/s}^2$

Transport, packing and storage



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.



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.

Transport, packing and storage

3.4 Crane transport



Figure 5: Attachment points

Attachment points

Anchor the machine at the anchor points (1) for transport by crane.

Observe the following conditions:

- The crane and lifting equipment have to be designed for the weight of the packages.
- The operator has to be authorised to operate the crane.

Attachment:

1. Anchor the hooks to the crane hooks accordingly.
2. Ensure that the package is straight, possibly observe eccentric centre of gravity.

3.5 Transport in individual parts

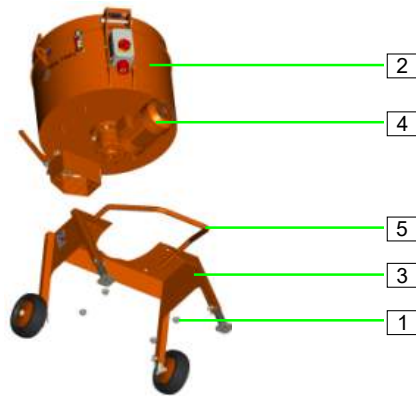


Figure 6: Individual parts

To make transport easier, disassemble the machine into its individual components. To disassemble into the unit material hopper with mixing unit and motor and the unit chassis:

1. Undo screws (1) on the mixing unit and lift the material hopper (2) off the chassis (3).
2. Make sure that the motor (4) points towards the sliding bar (5) during assembly.

3.6 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 7: Table of the assembly groups

- | | |
|---|---|
| [1] Protective grille end switch | [2] Shut-off valve for water inlet |
| [3] Main reversing switch is also emergency-stop switch | [4] Main terminal |
| [5] Gear motor | [6] Protection and retaining bar |
| [7] Wheel | [8] Height adjustable support foot |
| [9] Chassis | [10] Material outlet with swivel arm |
| [11] Material hopper | [12] Protective grille with sack opener |

4.2 Brief description of the MULTIMIX



Figure 8: MULTIMIX

The MULTIMIX PFT compulsory mixer (also referred to as a trough mixer) is suitable for mixing various components, ready-mix dry cement-based mortar as well as proprietary mixes, SPCC renovation mortar and PCC renovation mortar.

The mixed material can be added straight into the hopper (1) and be prepared via the water inlet (2) using the specified quantity of liquid. Counter-rotating stirring hooks save time while producing homogeneous mortar mixtures. The mixed material is quickly and cleanly drained using a flat slide valve (3) on the hopper base.

Semi-automatic operation is possible in conjunction with a PFT delivery pump. In this case, the PFT delivery pump transports the mixed material directly to the processing site.

Description



4.3 Fields of application



For fields of application such as:

- Concrete restoration
- Powder adhesive
- PCC and SPCC mortars
- Mineral plaster
- Fine concrete
- Acoustic plaster
- Epoxy resin
- Screed
- Synthetic resin plaster
- Flue construction
- Granules
- Clay plaster
- Furnace construction
- Plaster and masonry mortar
- Cement mortar
- Plaster
- Finishing plaster
- Adhesive
- Plaster
- Terrazzo
- Fillers
- Lime
- Grouting material
- Coating compound

The TURBO mixing unit might have to be screwed on for sensitive mortars, e.g. acoustic plasters. The corresponding guidelines of the mortar manufacturer have ultimate priority.

4.4 Advantages at a glance



Figure 9: SWING under MULTIMIX



Figure 10: ZP 3 under MULTIMIX

The multi-component mixer for professionals

What the PFT MULTIMIX transfers well mixed and pumpable to a PFT delivery pump, it 'transports' to the location of use.

The sophisticated design enables diverse applications.

- Exact mixing ratio of the individual components.
- Adding binders.
- Intensive and homogeneous material preparation.
- Rapid mixing by contra-rotating mixing arms.
- Height adjustable.
- Can be combined with the PFT delivery pumps Swing and ZP 3.
- Easy handling.
- Fast and clean emptying.
- Compact and stable design.
- Easy to maintain.

The PFT MULTIMIX fits via the PFT Swing and PFT ZP 3.

4.5 Accessories



Extension cable 5 x 2.5 mm², RED 5-16 A – 50 m (400 V, 3 Ph)

- Item no. 20423350



Extension cable 5 x 2.5 mm², RED 5-16 A – 25 m (400 V, 3 Ph)

- Item no. 20423360

Description



Extension cable 3 x 2.5 mm², BLA 2-16 A - 25 m (230 V, 1 Ph)

- Item no. 20423400



Water hose/air hose DN19 Geka | Geka - 40 m

- Item no. 20212100



Support foot with castor MULTIMIX (model 2012)

- Item no. 00289007



Water pump as standalone suction pump AV 1000 with integrated pressure cut-off and flow monitor, 230 V, 1 Ph, 50 Hz, 0.6 kW

- Item no. 00493686



Description



Inlet strainer complete with stainless steel filter screen

- Item no. 00136619



Water hose/air hose DN12 Geka | Geka - 5 m

- Item no. 20211100



Spray nozzle DN19 (3/4") Geka

- Item no. 20215700

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

Operation

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 11: 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 Safety system

5.1.4.1 End switch at the protective grille

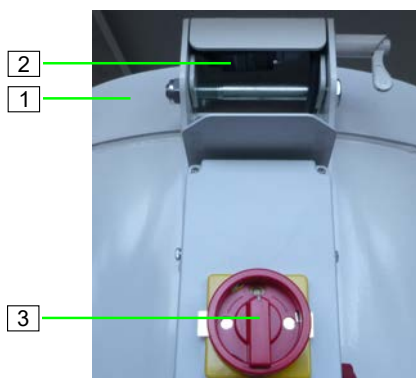


Figure 12: End switch

NOTE



The machine's protective grille (1) is equipped with an end switch (2), which deactivates the machine as soon as the protective grille (1) is opened.

1. If the protective grille (1) is opened while the machine is running, the machine switches off via the end switch (2).
2. The machine must then be restarted.
3. Turn the main reversing switch (3) to the '0' position and then back to the 'I' position.

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 arms

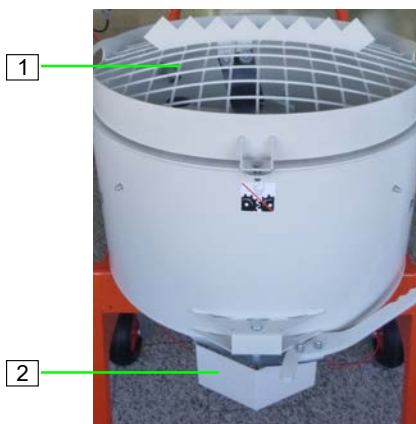


Figure 13: Rotating mixing arms

WARNING



Rotating mixing arms!

Risk of injury when reaching into the material hopper.

- The grille cover (1) and mortar outlet (2) should not be removed while preparing or operating the machine.
- Never reach into the running machine.



5.3.2 Positioning machine



Figure 14: 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.

5.3.3 Connecting the power supply



Figure 15: Connecting the power supply

1. Only connect the machine to three-phase current with 400V.

⚠ DANGER



Danger to life from electric current!

The electrical connection must be fused correctly:

- Only connect the machine to a power source with an approved RCD (residual current device) of type A (30 mA).

⚠ 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).

Operation

5.3.3.1 Checking the direction of rotation

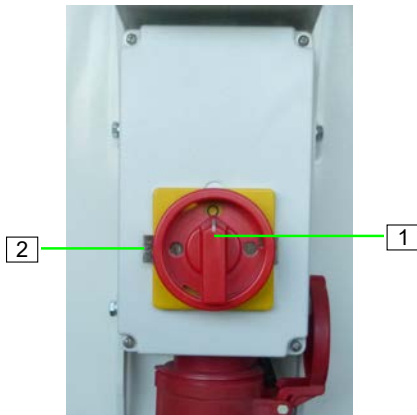


Figure 16: Changing the direction of rotation



Figure 17: Direction of rotation

1. Turn the main reversing switch (1) to position 'I'.
2. Check the direction of rotation of the mixing arms; the mixing unit turns anticlockwise.

NOTE



If the direction of rotation is wrong, the following steps must be carried out:

- The main reversing switch (1) is locked in the '0' position by pushing the metal bracket (2) to the left or right in a pre-setting and the direction of rotation is thus selected.
- If the switch is to the left, it can be switched back to zero, but is blocked for the right position.
- A number is printed on the metal bracket, which indicates the position in which the switch is blocked.

3. Turn the main reversing switch (1) to position '0'.
4. Push the metal bracket (2) in the opposite direction.
5. Turn the main reversing switch (1) to position 'I' and check the direction of rotation again.

5.3.4 Connecting the water supply

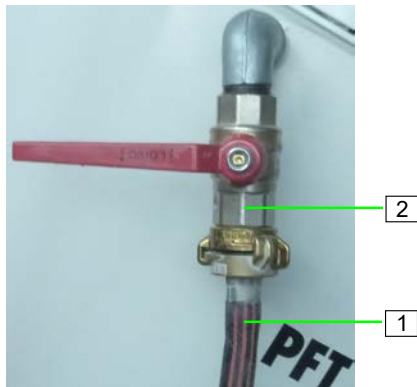


Figure 18: Connecting water supply

1. Connect the water hose (1) to the water inlet (2).



5.3.4.1 Connection of water from water tank

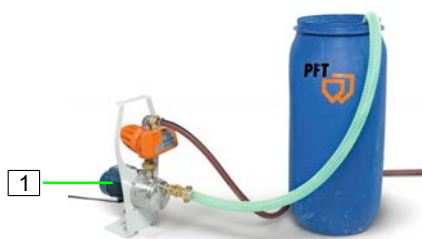


Figure 19: Pressure booster pump



Figure 20: 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!

5.3.5 Feeding material to the machine



Figure 21: Bagged goods

1. Add the bagged goods or construction site mix to the material hopper.

⚠ CAUTION



Danger of injury at the sack opener!

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

- Wear safety gloves.

NOTE



Do not switch off the machine when the material hopper is full or during the mixing procedure.

Granulate larger than 8 mm should not be put in the material hopper because this can cause the mixing arms to jam!

5.4 Shutdown in case of emergency

Shutdown in case of emergency

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

Operation



After the rescue operations

In case of danger proceed as follows:

1. Switch off the main reversing 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 Feeding material to the machine



Figure 22: Switching on the machine

1. Open the tap (1) and allow the required quantity of water to flow into the material hopper.
 2. Now close the tap (1) again.
 3. Turn the main reversing switch (2) to position 'I'.
- ✓ The machine starts the mixing procedure.

5.5.2 Emptying the machine



Figure 23: Mortar outlet



Figure 24: Slide in the base

The machine is emptied via a slide in the base of the material container:

1. Place a wheelbarrow, container or feed pump under the mortar outlet (1).
 2. Operate the handle (2) to open the slide (3).
- ✓ The material runs out of the material container.



Empty while the mixer is running, opening the slide only as far as necessary.

3. Then close the slide (3) again.

5.6 Applying mortar

⚠ WARNING



Danger of injury from discharged mortar!

Discharged mortar may lead to injuries to eyes and face.

- Always wear protective goggles.
- Always position yourself in such a way that you are not hit by the mortar being discharged.

5.7 Interruption of work

NOTE

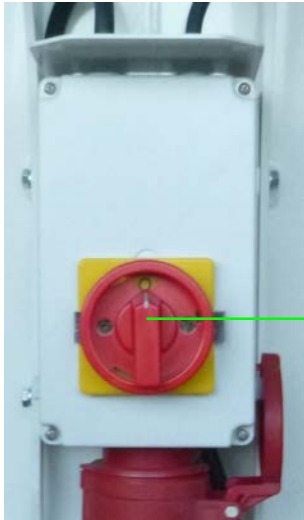


Generally, the setting times of the materials to be processed must be observed. (Pay attention to outside temperature when doing so).

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

Operation

5.8 Switching off the machine



1. Turn the main reversing switch (1) to position '0' to switch off the machine.

Figure 25: Switching off the machine

5.9 Action in case of power failure

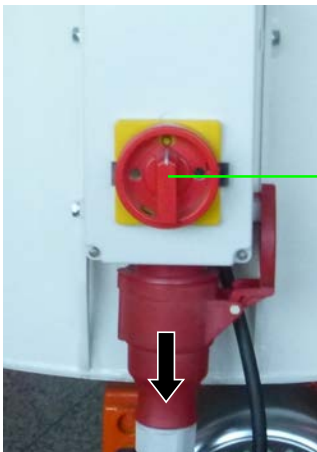


Figure 26: Action in case of power failure

Disconnecting the power supply

NOTE



The machine is fitted with an overload and undervoltage release.

If a fault occurs, the main reversing switch (1) automatically switches to the zero position.

1. Disconnect the power supply.
2. Have the power supply connection checked by an expert.

NOTE



Generally, the setting times of the materials to be processed must be observed. (Pay attention to outside temperature when doing so).

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

NOTE



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

3. Turn the main reversing switch (1) to position 'I'.

5.10 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.

1. Remove the water hose (1) from the water inlet (2).
2. Open the ball valve (3).



Figure 27: Disconnect water supply

5.11 Ending work / cleaning the machine

5.11.1 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).
- Remove the covers completely after cleaning.

5.11.2 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.

5.11.3 Cleaning the machine



Figure 28: Open the rotary bolt



Figure 29: Open the protection grille



Figure 30: Clean the slide

The material container must be completely empty in order to clean the machine:

1. Undo screw on the protective grille.
2. Open the rotary bolt (1) and the protective grille (2), or fold it up fully.

⚠ CAUTION



Danger of crushing by protective grille!

There is a danger of crush injuries when closing the protective grill.

- Do not reach into the closing area of the protective grille or fully secure the protective grille.

3. Close the rotary bolt (1) so that the protective grille (2) is locked in the open position.
4. Spray the material container with a jet of water.
5. If the material container is soiled with stubborn dirt, clean it inside with a spatula.
6. Thoroughly clean the slide and slide guide (3) to ensure easy opening and closing.
7. Thoroughly clean the mixing unit and mixing arms and remove any caking and encrustations.
8. Allow residual water to drain off and then close the slide and protective grille again.

5.12 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.

5.12.1 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

5.12.2 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.

Operation



5.12.3 Table of faults

Fault	Possible cause	Troubleshooting	Rectification by
Machine does not start	Power supply not in order	Repair power supply	Service technician
	Main reversing switch not switched on	Switch on the main reversing switch	Operator
	RCD was triggered	Reset RCD	Service technician
	Safety shut-down triggered	Close the protective grille, check the end switch	Operator
	Material hopper too full	Disconnect and clean slide	Operator
	Mixing unit has jammed (stones too large)	Eliminate the cause of the jam and start up again	Operator
Machine does not respond	Safety shut-down responds	Close the protective grille, check the end switch	Operator
	Material hopper too full	Disconnect and clean slide	Operator
	Mixing unit has jammed (stones too large)	Eliminate the cause of the jam and start up again	Operator
	Too little water	Increase the quantity of water	Operator
	Motor protection switch triggered – too full or mixing unit jammed	Open slide and empty, then start up again	Operator



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.

Maintenance



6.1.1 Remove connection cable



Figure 31: Remove connection cable

Electrical system

⚠ 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.

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 Open the protection grille



Figure 32: Grease the rotary bolt



Figure 33: Open the protection grille

1. Undo screw on the protective grille.
2. Clean and lightly grease the rotary bolt (1) and check that it is working correctly.
3. Open the rotary bolt (1) and the protective grille (2), or fold it up fully.

⚠ CAUTION



Danger of crushing by protective grille!

There is a danger of crush injuries when closing the protective grill.

- Do not reach into the closing area of the protective grille or fully secure the protective grille.

4. Close the rotary bolt (1) so that the protective grille (2) is locked in the open position.

Maintenance



6.4.2.1 Adjusting the mixing arms

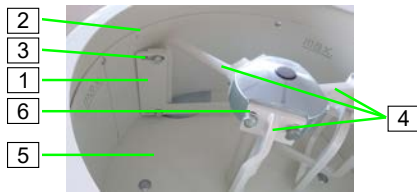
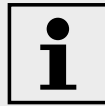


Figure 34: Adjusting the mixing arms

1. The distance between the scraper (1) and the material container or armour plate in the material hopper (2) can be adjusted via the slotted holes (3) in case of wear.



The distance between the scraper and the armour plate should be 1.5 times the granulate size.

2. The distance from the individual mixing arms (4) to the container bottom (5) can be adjusted via the respective slotted holes (6) if necessary or in case of wear.

6.4.2.2 Adjusting the scraper

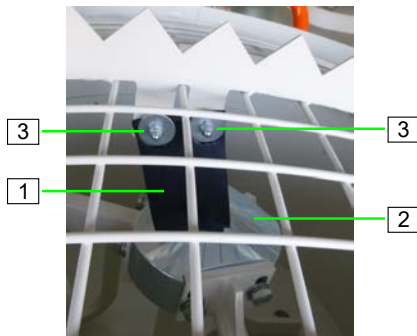


Figure 35: Rubber scraper

The rubber scraper (1), which is attached to the protective grille, is intended to prevent deposits and caking on the mixing head (2).

1. Adjust the distance between the rubber scraper (1) and the mixing head (2) in case of wear using the slotted holes in the rubber (3).

6.4.2.3 Replacing the armour plate



Figure 36: Replacing the armour plate

The material hopper of the MULTIMIX is lined with an armour plate (1) to protect it from damage and wear.

NOTE



Damage to the material hopper!

If there is noticeable wear on the armour plate, it must be replaced to prevent damage to the material hopper.

1. Loosen the screw connections (2) around the material container.
2. Remove the worn armour plate and insert a new armour plate.
3. Screw the armour plate back onto the material container.

Armour plate

■ Item no. 00251521

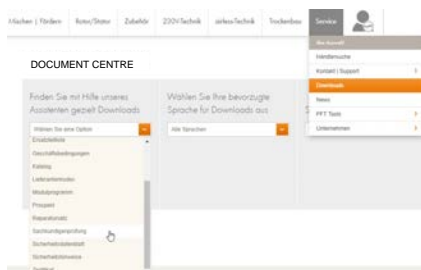
6.5 Actions after completed maintenance

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

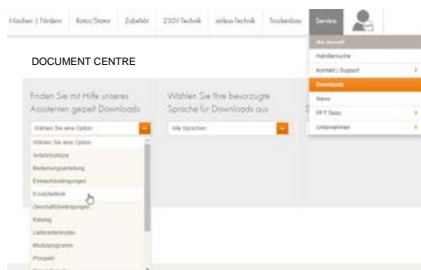
- Construction machinery has to be inspected for safe working condition in accordance with the operating conditions and the operational requirements as needed, however at least once a year by an expert.
- Pressure vessels have to undergo the prescribed expert inspections.
- The inspection results have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



Maintenance



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.

Disassembly



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



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