



Operating manual

Feed pump SWING L FC-230V / FC-400V airless c

Part 2 Overview, operation and service



Item no. of the operating manual:

00814151

SWING L FC-230V airless c, 1 Ph, 50 Hz

Item no. 00803680

SWING L FC-400V airless c, 3 Ph, 50 Hz

Item no. 00803681

SWING L FC-400V airless c, 3 Ph, 50 Hz, with bag squeezer

Item no. 00803682

SWING L FC-230V airless c, 1 Ph, 50 Hz, with bag squeezer

Item no. 00803683



Read the operating manual prior to starting any work!



About us

<u>Publisher</u>	Knauf PFT GmbH & Co. KG Postfach 60 ▪ 97343 Iphofen Einersheimer Straße 53 ▪ 97346 Iphofen Germany
<u>Document name</u>	00814151_1.0_EN Translation of the original operating manual (DE)
<u>Date of first issue</u>	10.2023
<u>Date of change</u>	
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Table of contents

1 General information.....	5	4.8	Connections.....	21	
1.1	Information regarding the operating manual.....	5	4.9	Operating modes.....	22
1.2	Division.....	5	4.10	Accessories.....	23
1.3	Display of safety and warning notices.....	5	5 Operation.....	25	
1.4	Keep the manual for future reference.....	6	5.1	Safety.....	25
1.5	Name plate.....	6	5.1.1	Safety rules.....	26
1.6	EC Declaration of Conformity.....	7	5.1.2	Monitoring the machine.....	26
1.7	Quality Control sticker.....	8	5.1.3	Protective equipment.....	27
1.8	Intended use.....	9	5.1.4	Fire and explosion hazard.....	28
1.8.1	Intended use SWING L airless c.....	9	5.1.5	Safety system.....	29
1.8.2	Intended purpose of the spray gun...	10	5.1.6	Pressure sensor.....	29
2 Technical data.....	11	5.1.7	Anti-theft protection.....	30	
2.1	General information.....	11	5.2	Inspection by machine operator.....	31
2.2	Operating conditions.....	11	5.3	Preparing the working place.....	31
2.3	Performance values pump 306 airless.....	12	5.4	Preparing the machine.....	31
2.4	Sound power level.....	12	5.4.1	Risk of injury due to rotating pump shaft.....	32
2.5	Vibrations.....	12	5.4.2	Setting up the machine.....	32
2.6	EMC test.....	13	5.4.3	Connecting the power supply.....	33
3 Transport, packing and storage.....	14	5.4.4	Connecting the high-pressure hose.	34	
3.1	Safety instructions for transport.....	14	5.4.5	Rinse the rotor / stator before use...	37
3.2	Transport inspection.....	15	5.4.6	Connect the spray gun.....	38
3.3	Packaging.....	15	5.4.7	Switching on the machine.....	39
3.4	Crane transport.....	16	5.4.8	Filling the material hopper with material.....	43
3.5	Transport.....	16	5.4.9	Working with bag squeezer.....	43
3.6	Transport by car or truck.....	17	5.5	Shutdown in case of emergency.....	43
3.7	Transporting a running machine.....	17	5.6	Putting the machine into operation...	44
4 Description.....	18	5.6.1	Switching on the machine.....	44	
4.1	Overview.....	18	5.6.2	Release the trigger.....	45
4.2	Functional description SWING L airless c.....	18	5.6.3	Activate trigger.....	45
4.3	Fields of application.....	18	5.6.4	Adjusting the spray pattern.....	46
4.4	Language selection.....	19	5.7	Interruption of work.....	46
4.5	Operation-hour counter.....	19	5.7.1	In case of longer interruption of work / break.....	47
4.6	Anti-theft protection.....	20	5.8	Switching off the machine.....	47
4.7	Description of assemblies.....	20	5.9	Processing non-airless material.....	48
4.7.1	Pump unit 306 airless.....	20	5.10	Action in case of power failure.....	48
4.7.2	Control cabinet 230V item no. 00781154.....	20	5.10.1	Releasing the pressure.....	49
4.7.3	Control cabinet 400V item no. 00804345.....	21	5.10.2	Switching on the machine again after a power failure.....	49
4.7.4	Pressure sensor.....	21	5.11	Ending work / cleaning the machine.	50
			5.11.1	Cleaning.....	50
			5.11.2	Secure against restarting.....	50
			5.11.3	Running the machine empty.....	51
			5.11.4	Cleaning the material hopper.....	52
			5.11.5	Cleaning the spray gun.....	52
			5.11.6	Cleaning the filter element.....	53

Table of contents

5.12	Reaction in the event of faults.....	53
5.12.1	Safety.....	54
5.12.2	Faults.....	54
5.12.3	Diagnosis.....	54
5.12.4	Fault displays.....	55
5.12.5	Table of faults.....	57
5.12.6	Hose clogging.....	58
5.12.7	Removal of clogging in hoses.....	58
6	Maintenance.....	61
6.1	Safety.....	61
6.1.1	Remove connection cable.....	62
6.2	Environmental protection.....	62
6.3	Operation-hour counter.....	63
6.4	Maintenance plan.....	64
6.5	Maintenance work.....	64
6.5.1	Implementation by a service technician.....	65
6.5.2	Cleaning the filter element.....	65
6.5.3	Changing the pump.....	65
6.5.4	Lubricating the sealing unit.....	67
6.6	Actions after completed maintenance.....	67
6.7	Periodic inspection/expert inspection.....	67
6.8	Spare parts lists.....	68
6.8.1	Accessories.....	68
7	Disassembly.....	69
7.1	Safety.....	69
7.2	Disassembly.....	70
8	Disposal.....	71

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:

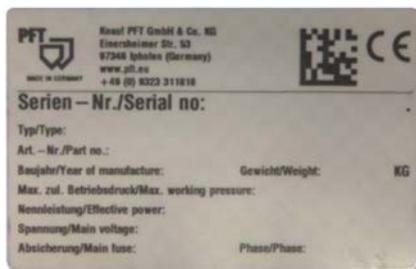
- The danger sign and signal word
- Information on the nature of the hazard
- Information on the source of the hazard
- Information on possible consequences of disregarding the hazard
- Measures to avert the hazard

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



The following details can be found on the name plate:

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

Figure 1: Name plate



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: SWING L airless c

Type of equipment: Delivery 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

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 Intended use SWING L airless c

The SWING L airless c has been designed and constructed only for the intended use described in this document.

NOTE



The SWING L airless c sprays almost all grainless pasty materials.

The SWING airless c 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 instructions!

Particularly malfunctions that may compromise safety have to be eliminated immediately prior to putting the SWING L airless c back into operation.

⚠ CAUTION



Danger due to improper use!

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

Therefore:

- Use the device only for the purpose specified.
- 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.

General information

1.8.2 Intended purpose of the spray gun

The spray gun has been designed and constructed only for the intended use described below.

NOTE



The spray gun is used exclusively for spraying non-flammable materials.

The spray gun should only be used if it is in technically perfect condition and in compliance with the regulations. Pay attention to safety and operating instructions!

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

⚠ WARNING



Explosion and fire hazard due to ignition sources!

Ignition sources can cause explosions or fires during spraying work.



- Do not use the unit in operating areas that fall under the explosion protection ordinance.
- There must be no sources of ignition in the vicinity, such as open fires, smoking cigarettes, cigars or similar, sparks, glowing wires, hot surfaces, etc.

⚠ CAUTION



Danger due to improper use!

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

Therefore:

- Use the device only for the purpose specified.
- 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.



2 Technical data

2.1 General information

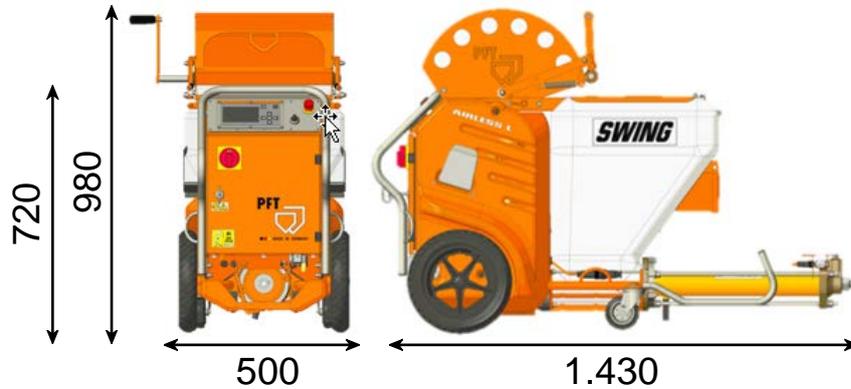


Figure 3: Dimension sheet in mm

Detail	Value	Unit
Empty weight without bag shortage approx.	102	kg
Empty weight with bag squeezer approx.	112	kg
Length	1430	mm
Width	500	mm
Height without bag deficiency	720	mm
Height with bag deficiency	980	mm

Material hopper dimensions

Detail	Value	Unit
Filling height	700	mm
Material hopper volume	70	l

2.2 Operating conditions

Environment

Detail	Value	Unit
Temperature range	5 – 45	°C
Relative humidity, max.	80	%

Duration

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

Technical data

Electrical – 230V

Detail	Value	Unit
Voltage, alternating current 50 Hz	230	V
Power consumption, max.	16	A
Fuse protection, minimum	16	A
Power input, max. 50 Hz	3	kW
Drive pump motor, 50 Hz	3	kW
Speed pump motor approx.	0 – 280	Rpm

Electrical – 400V

Detail	Value	Unit
Voltage, three-phase current 50 Hz	400	V
Power consumption, max.	8.2	A
Fuse protection, minimum	16	A
Power input, max. 50 Hz	4	kW
Drive pump motor, 50 Hz	4	kW
Speed pump motor approx.	0 – 320	Rpm

2.3 Performance values pump 306 airless

Pump output 306 airless

Detail	Value	Unit
Conveying capacity 230V	0 – 6.5	l/min
Conveying capacity 400V	0 – 8.5	l/min
Operating pressure, maximum	140	bar
Maximum grain size	3	mm
Delivery capacity *, max at DN12 230V	30	m
Delivery capacity *, max at DN12 400V	40	m

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

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 $<2.5 \text{ m/s}^2$

2.6 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.

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 4: 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



Figure 5: Engage push button

Transport without aids

1. When transporting without aids such as a crane, car, etc., lift, push or pull the machine by the carrying and push handles.

⚠ CAUTION



Risk of injury due to incomplete securing of the components!

Make sure that the push button (1) is correctly latched in the slider handle when transporting the machine.



Figure 6: Carrying the machine



3.6 Transport by car or truck



Figure 7: Transport

1. Remove loose parts.
2. Lock the castor of the machine.
3. Secure the machine at the marked holding points (1).

⚠ 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



Risk of injury from discharged material!

Injuries to face and eyes can occur.

Therefore:

- Before opening the bolt connections ensure that there is no more pressure on the high-pressure hoses (observe display).

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.

Description

4 Description

4.1 Overview

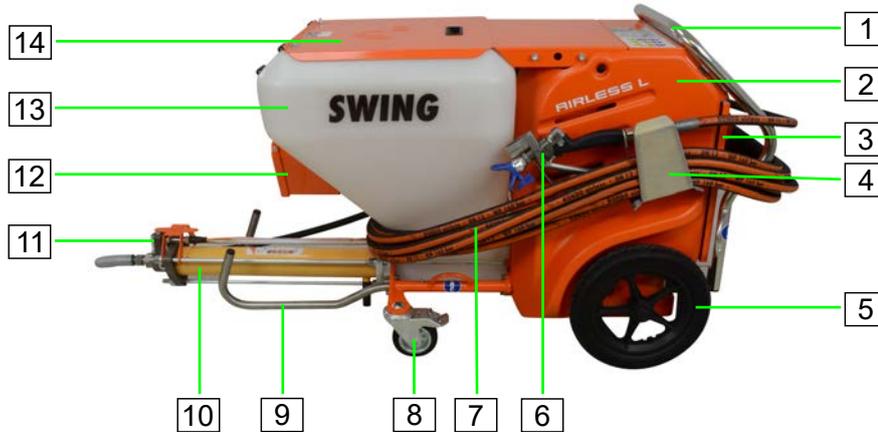


Figure 8: Table of the assembly groups

[1] Support frame	[2] Side panel
[3] Control box	[4] Hose holder
[5] Wheel	[6] Spray gun
[7] High pressure hose	[8] Castor
[9] Carrying and push handle	[10] Pump unit 306 airless
[11] Pressure sensor	[12] Tool kit
[13] Material hopper	[14] Material container cover

4.2 Functional description SWING L airless c



Figure 9: SWING L airless c

The delivery pump SWING L airless c is a high-pressure delivery pump and can be used up to an operating pressure of 140 bar. The working pressure of the machine depends on the nature of the material and the nozzle used.

It is used to apply coatings, primarily levelling compounds, to interior walls.

Pour the finished product into the material container and spray the material onto the wall at high pressure via a spray gun.

4.3 Fields of application

For materials such as:

- Spray plaster
- Colour

With little effort, the high-pressure pump can be converted into a delivery pump by changing the spiral pump. Grain sizes of 6 mm, e.g. reinforcing mortar or finishing coats, can be optimally processed.



Flowability / flow characteristics



- The pump unit 306 airless can be used up to 140 bar operating pressure.
- In order to avoid machine faults and increased wear of the pump motor, pump shaft and the pump itself, only original PFT spare parts must be used, such as:
 - PFT rotors
 - PFT stators
 - PFT pump shafts
 - PFT high-pressure 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 Language selection



The display and thus also the SWING L airless c can be operated in the following languages:

- German
- English

Figure 10: Language selection

4.5 Operation-hour counter



The machine has an integrated operating hours counter for the machine and pump unit.

Figure 11: Operation-hour counter

Description

4.6 Anti-theft protection



Figure 12: Anti-theft protection

The machine has integrated theft protection by means of a password. If the theft protection is activated, the machine can no longer be operated without the password.

NOTE



The machine-specific password is supplied with the machine.

4.7 Description of assemblies

The PFT SWING L airless c M delivery pump consists of the main components described in the following chapters.

4.7.1 Pump unit 306 airless

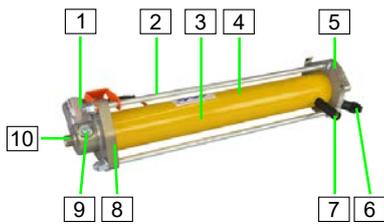


Figure 13: Pump unit assembly

- [1] Upper part of the housing with diaphragm seal
- [2] Tie rod M12
- [3] Stator 306 airless
- [4] Rotor 306 airless
- [5] Suction flange
- [6] Connection cable diaphragm seal
- [7] Anti-rotation device
- [8] Diaphragm seal SWING airless
- [9] Screw plug for filter insert
- [10] Connection for high-pressure hose

4.7.2 Control cabinet 230V item no. 00781154

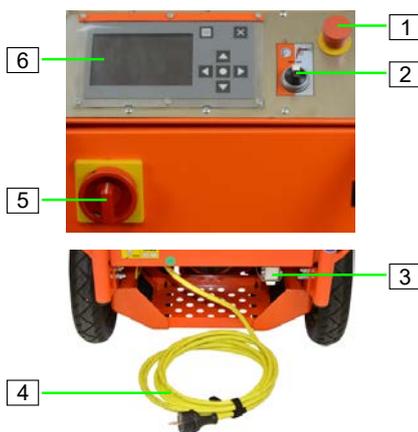


Figure 14: Assembly unit control cabinet

- [1] EMERGENCY STOP / EMERGENCY OFF button
- [2] Pump motor selector switch
- [3] Dummy connector / connection for remote control
- [4] Connection cable with earthed plug 230V
- [5] Main switch
- [6] Display

4.7.3 Control cabinet 400V item no. 00804345

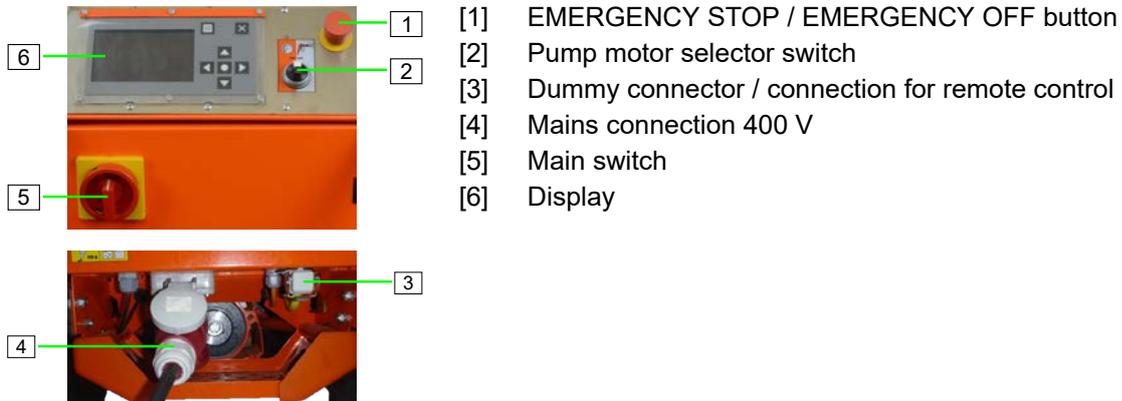


Figure 15: Assembly unit control cabinet

4.7.4 Pressure sensor



Figure 16: Pressure sensor

⚠ WARNING

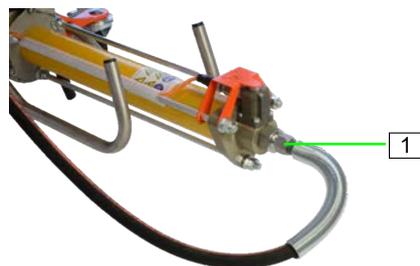


For safety reasons, the SWING L FC airless c must be operated with a pressure sensor.

Some advantages of the pressure sensor:

- 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.

4.8 Connections



- [1] Connection of high-pressure hose DN12 to pump unit

Figure 17: Connections

Description

4.9 Operating modes



Figure 18: 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.

Functions

The SWING L airless c can be operated in three different modes:

Automatic:

- The machine works with the set working pressure 'p target' and maintains this pressure during work for an optimum work process.
- If the pressure drops below the set minimum pressure 'p Start' during work interruptions, the machine automatically builds up pressure until the maximum pressure 'p Stop' is reached.
- Here, the working pressure 'p target' can be changed individually during work, the minimum pressure 'p start' and the maximum pressure 'p stop' adjust automatically.



Figure 19: Automatic operating mode

Plaster:

- The machine works with the set pump output 'n target'.
- Here, the pump output 'n target' can be changed individually during work.



Figure 20: Operating mode plaster

Semi-automatic:

- The machine works with the set pump output 'n target'.
- During work, the machine oscillates between the set minimum pressure 'p Start' and the set maximum pressure 'p Stop' for an optimal work sequence.
- Here the pump capacity 'n target', the minimum pressure 'p start' and the maximum pressure 'p stop' can be changed individually and independently of each other during work.



Figure 21: Semi-automatic operating mode

4.10 Accessories



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

- Item no. 20423400



RONDO airless DN12 – 20 m

- Item no. 00460022



RONDO DN19 hydraulic connection V-part | Female part – 10 m

- Item no. 00200404



Remote control cable with switch - 25 m

- Item no. 20456929



Extension for remote control cable – 16 m

- Item no. 00088049

Description



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

- Item no. 20211100



Air hose DN12 Ewo V-part | Geka – 11 m

- Item no. 20211600



Spray nozzle DN19 ($\frac{3}{4}$ ") Geka

- Item no. 20215700



Bag squeezer SWING airless complete

- Item no. 00459811



CF-Taper, connection $\frac{1}{2}$ "

- Item no. 00657204

CF-Taper® – PFT adapter system, the solution for professional troweling of drywall.

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.

⚠ CAUTION

At high operating pressure, actuating the trigger of the spray gun causes a recoil force.

To avoid injury, the user must be prepared for the possibility of hand recoil or loss of balance!

Continuous exposure to this recoil can lead to permanent damage to health!

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 Protective equipment



Figure 22: Protective equipment

Danger due to material injection

⚠ WARNING



Splashes from the gun, leaks or ruptured components can cause material to enter the body due to the high pressure and cause very serious injuries.

Material splashes in the eyes or on the skin can also cause serious health damage.

- Material injected into the skin may look like a normal cut, but it is a serious injury.
- Do not place hands or fingers over the spray nozzle.
- Do not seal or deflect material leaking from leaks with your hand, body, glove or rag.
- When spraying with the gun, only use the nozzle guard and safety lever.
- Before each operation, make sure that the safety lever on the gun works.
- When not spraying, the safety lever on the gun must always be turned down.
- Check hoses and couplings daily, replace worn or damaged parts immediately.
- Keep children or animals away from the work area.
- Do not point the gun or spray at people or animals.

Operation

5.1.4 Fire and explosion hazard

WARNING



Danger to life due to the risk of fire and explosion!

Flammable fumes in the work area, such as solvent and paint fumes, may explode or ignite.



The risk of fire and explosion is reduced as follows:

- Do not spray flammable or combustible materials near open flames or sources of ignition such as cigarettes, motors and electrical equipment.
- Materials flowing through the appliance may cause a static charge. Static charge in the presence of paint or solvent vapours is a fire or explosion hazard. All parts of the sprayer, including the pump, hose assembly, spray gun and objects in and around the spray area must be grounded to prevent static discharge and sparking.
- Connect the machine only to a grounded socket and use only grounded extension cords.
- Do not use any adapters.
- Never spray material onto the machine.
- The spraying area must always be well ventilated and supplied with sufficient fresh air.
- Do not smoke in the spraying area.
- Do not operate light switches, motors or similar spark-producing products in the spray area.
- Keep the area clean and free of paint and solvent containers, fabrics and other flammable materials.
- Always have a fire extinguisher ready for use.
- Familiarise yourself with the ingredients of the materials.
- Follow material safety data sheets provided by the manufacturers of the materials used.

5.1.5 Safety system

5.1.5.1 EMERGENCY STOP / EMERGENCY OFF button



Figure 23: EMERGENCY STOP / EMERGENCY OFF button

NOTE



Check the EMERGENCY STOP / EMERGENCY OFF button daily before starting work:

1. Switch on main switch/main reversing switch.
2. Control voltage 'ON'.
3. Press EMERGENCY STOP / EMERGENCY OFF button.
4. The control voltage is switched off by pressing the EMERGENCY STOP / EMERGENCY OFF button.
5. Unlock the EMERGENCY STOP / EMERGENCY OFF button by **turning** in the direction of the arrow.

NOTE



The EMERGENCY STOP / EMERGENCY OFF button quickly puts the machine into a safe state in the event of a hazard, or to avert danger.

- The EMERGENCY STOP / EMERGENCY OFF button must lock after actuation.
- This immediately disconnects the energy supply to the drive elements. **Turning** the EMERGENCY STOP / EMERGENCY OFF button returns it to its original position.

WARNING



Danger to life if safety devices are overridden!

Never perform improper actions on safety equipment that endanger the life or health of employees.

5.1.6 Pressure sensor



Figure 24: Pressure sensor

WARNING



Operating pressure too high!

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

- Only use high-pressure hoses with a permissible operating pressure of at least 160 bar.
- The burst pressure of the high-pressure hose must reach at least 2.5 times the value of the operating pressure.

Operation

5.1.7 Anti-theft protection

NOTE



The machine-specific password is supplied with the machine.



Figure 25: Open setup



Figure 26: Open the anti-theft device

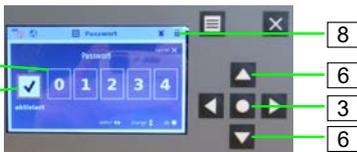


Figure 27: Activating the anti-theft protection



Figure 28: Deactivating the anti-theft protection

The machine has an anti-theft device that can be activated or deactivated as follows:

1. Open the main menu by pressing the button (1).
2. Use the arrow keys to select the 'Setup' field (2) and confirm by pressing the key (3).
- ✓ The setup opens.
3. Use the arrow keys to select the 'Password' field (4) and confirm by pressing the key (3).
- ✓ The anti-theft protection opens.

4. Enter the password in the numeric fields (5).
5. Use the right or left arrow key to switch between the number fields, use the arrow keys (6) to change the numbers.
6. Then switch to the 'activated' field (7) and activate the password by pressing the key (3).
7. The password must then be confirmed.
- ✓ The anti-theft protection is activated, indicated by the symbol of the locked lock (8).
- ✓ The password is now requested each time the machine is switched on.

8. If the anti-theft protection is to be deactivated, the tick in the 'activated' field (7) must be removed by pressing the key (3).
- ✓ The anti-theft protection is deactivated, indicated by the open lock symbol (9).

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 working place

DANGER



Risk of electric shock!

Penetrating spray material can cause an electric shock.

- Mask off sockets and switches.

NOTE



- Cover or remove all surfaces and objects that are not to be sprayed.
- Do not use excessively adhesive tape on wallpaper and painted surfaces to avoid damage during removal.
- Remove adhesive tapes slowly and evenly.
- Leave surfaces taped only as long as necessary to minimise possible residue when removing.
- To avoid fire and explosion hazards and damage to health during spraying work, ensure good natural or artificial ventilation.

5.4 Preparing the machine

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

Operation

5.4.1 Risk of injury due to rotating pump shaft

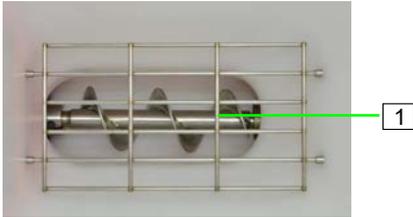


Figure 29: Grille cover

⚠ WARNING



Rotating pump shaft!

Risk of injury when reaching into the material hopper.

- During machine preparation and operation, the grille cover (1) must not be removed, and the end switch must not be manipulated.
- Never reach into the running machine.

5.4.2 Setting up the machine



Figure 30: Lockable castor

1. Lock the lockable castor prior to operating the machine.
2. Put up the machine on a stable, even surface and secure against unwanted 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.

⚠ WARNING



When working indoors!

No vapours containing solvents may form in the vicinity of the unit. Set up the unit on the side facing away from the object to be sprayed. A minimum distance of 5 metres must be maintained between the unit and the spray gun.

⚠ WARNING



When working outdoors!

No vapours containing solvents may be blown towards the unit, observe wind direction. Set up the unit in such a way that no vapours containing solvents reach the unit and accumulate there. A minimum distance of 5 metres must be maintained between the unit and the spray gun.

5.4.3 Connecting the power supply

⚠ DANGER



Electrostatic charge!

Due to the flow velocity of the coating material during spraying, electrostatic charges may occur on the unit under certain circumstances. These can cause sparks or flames if discharged. It is therefore necessary that the unit is always earthed via the electrical installation. The connection must be made via a properly earthed protective contact socket!

5.4.3.1 Connecting the power supply 230V



Figure 31: Connect power supply

1. Remove the 230V connection cable (1) from the machine.
2. 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.

⚠ 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.

Operation

5.4.3.2 Connecting the power supply 400V



Figure 32: Connecting the power supply

1. Connect machine (1) to three-phase network 400 V.

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

5.4.4 Connecting the high-pressure hose

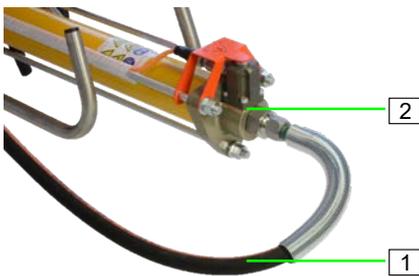


Figure 33: Connecting the high-pressure hose

1. Connect high-pressure hose (1) to the pressure flange (2).

NOTE



Ensure clean and correct connection and tightness of the screwed connection!

⚠ WARNING



Risk of injury from injection!

Leaky screw connections allow fluid to escape under pressure, which can lead to serious injuries.

5.4.4.1 Handling high pressure hoses

NOTE



To ensure that high-pressure hoses function properly and that their service life is not shortened by additional stress, the safety instructions listed must be observed.

⚠ WARNING



Risk of injury from injection!

Leaks can form in the high-pressure hose due to wear, kinking and improper use. Fluid can be injected into the skin through a leak.

Safety instructions for the correct handling of high pressure hoses

- Never use high-pressure hoses that are damaged. Damage includes, for example, a rubbed-off hose cover, exposed metal inserts or kinks.
- Only use hose connections and pressure connections that are approved for high-pressure operation in the permissible pressure range and that match each other functionally.
- High-pressure hoses must not be subjected to tensile, torsional and compressive stresses during operation due to external influences. The smallest specified bending radius of the hose must not be undercut.
- High-pressure hoses must be protected against damage from external mechanical, thermal and chemical effects.
- High-pressure hoses marked with a lower permissible operating pressure than the machine must not be used.
- High-pressure hoses must be laid or secured in such a way as to prevent hazards in the event of hose failure.
- High pressure hoses are wearing parts with a limited service life. Therefore, depending on the operating conditions, hoses must be replaced at appropriate intervals, even if no safety-related defects are evident.
- Depressurise, loosen, clean, drain, coil and correctly store high-pressure hoses after operation.
- High-pressure hoses should be stored free of kinks and tension in a cool, dry and dust-free place.

Operation

5.4.4.2 Practical tips

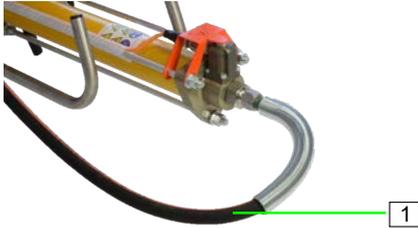


Figure 34: Do not kink the hose

- Avoid forming loops during operation.
- Do not use the high-pressure hose as a pull rope.
- Do not kink the high-pressure hose (1) or pull it over sharp edges, keep the bending radius > 500 mm.
- Do not run over the high-pressure hose.
- Replace high-pressure hose with a damaged upper cover or defective pressure carrier.
- High-pressure hoses with incorrect or mismatched connections must not be connected. Hose and fitting must be functionally matched to each other.
- Do not bring hoses into contact with substances that can cause damage.
- Replace the high-pressure hoses at reasonable intervals, even if safety-relevant defects are not noticed.
- Clean hoses and fittings after each use and handle with care.
- Do not tighten hose fittings by force to eliminate leaks.
- Do not immerse the high-pressure hose in solvent.
- Only wipe the outside with a cloth soaked in water.
- Lay the high-pressure hose so that there is no risk of tripping.

5.4.4.3 Connect hoses with adapters



Figure 35: Adapter between hoses

NOTE



Do not connect hoses without an adapter. Without an adapter, the connection is not pressure-safe!

The hose with adapter may only be used to extend the hoses.

Adapter hose extension:

- Item no. 00537620

5.4.4.4 Storage and duration of use

- Even with proper storage and permissible stress, hoses are subject to natural ageing. This limits their service life.
- Improper storage, mechanical damage and inadmissible stress are the most frequent causes of failure.
- The period of use can be determined in individual cases according to empirical values, deviating from the following guideline values. The period of use of a hose, including any storage period, should not exceed 5 years. The storage period should not exceed two years.

Hoses should be replaced if the following criteria are found:

- Damage to the outer layer up to the liner (e.g. chafing, cuts, cracks).
- Embrittlement of the outer layer (cracking of the hose material).
- Deformations that do not correspond to the natural shape of the hose, both in a depressurised and pressurised state or when bent, e.g. layer separation, bubble formation.
- Leaks.
- Migration of the hose out of the fitting.
- Corrosion of the fitting that reduces function and strength.
- If the storage and/or use period of the hose has been exceeded.
- If the user does not have any information about the storage and usage time, the guide values according to DIN 7716 are recommended.

5.4.5 Rinse the rotor / stator before use

NOTE



The rotor / stator must be thoroughly rinsed with water generally before AIRLESS processing of colour. Slight traces of rust can develop on the rotor head depending on the material.

In order to avoid discolouration on the wall, the rotor / stator system must be rinsed with water before processing till there are no traces of rust.

Knauf PFT is not responsible for discolouration on the wall. Always conduct a splash test in advance.

Operation

5.4.6 Connect the spray gun

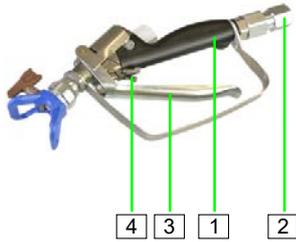


Figure 36: Connect the spray gun

1. Connect the spray gun (1) to the high pressure hose (2).
2. Ensure that the trigger (3) of the spray gun is secured using the safety lever (4).

NOTE



Ensure clean and correct connection and tightness of the screwed connection!

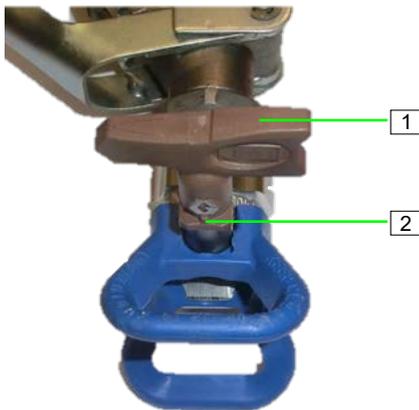
⚠ WARNING



Risk of injury from injection!

Leaky screw connections allow fluid to escape under pressure, which can lead to serious injuries.

5.4.6.1 Insert reversing nozzle



1. Insert nozzle (1) from above into the nozzle guard (pay attention to marking (2)).
2. Turn the tip of the nozzle (1) forwards; spraying is carried out in this position.

NOTE



The openings in the nozzle guard prevent material from being deposited around the nozzle guard during work. If the sharp edges of the openings are damaged, material will accumulate.

Never hang the gun on the nozzle guard.



Figure 37: Insert reversing nozzle

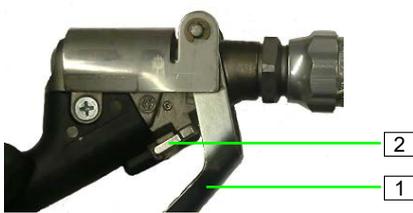
5.4.7 Switching on the machine



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

Figure 38: Switching on the machine

5.4.7.1 Securing the spray gun



1. Ensure that the trigger (1) of the spray gun is secured using the safety lever (2).

Figure 39: Secure the trigger

5.4.7.2 Change language



Figure 40: Open language selection



Figure 41: Select language

If the machine was started in the wrong language, the language selection can be opened again:

1. Open the main menu by pressing the button (1).
2. Use the arrow keys to select the 'Language' field (2) and confirm by pressing the key (3).
- ✓ The language selection opens.
3. Select the desired language with the arrow keys; the selection is indicated by the orange background (4).
4. Then confirm the selection by pressing the button (3).

Operation

5.4.7.3 Adjusting the switch-on and switch-off pressure

Switch-on pressure:

- When the set minimum pressure 'p start' is reached, the pressure switch switches the machine on.

Switch-off pressure:

- When the set maximum pressure 'p Stop' is reached, the pressure switch switches the machine off.

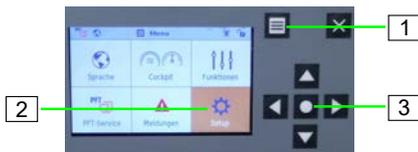


Figure 42: Open setup

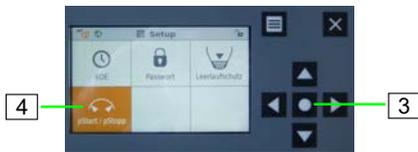


Figure 43: Open settings



Figure 44: Setting the switch-on and switch-off pressure



1. Open the main menu by pressing the button (1).
2. Use the arrow keys to select the 'Setup' field (2) and confirm by pressing the key (3).
- ✓ The setup opens.
3. Use the arrow keys to select the 'pStart / pStop' field (4) and confirm by pressing the key (3).
- ✓ The settings open.
4. Use the arrow keys (5) to set the minimum pressure 'p start' (6).
5. Press the right arrow key to switch to the field 'p Stop' (7) to set the maximum pressure.
6. Then accept the changes by pressing the button (3).
7. Depending on the operating mode, the target pressure 'p Target' or the target output 'n Target' can be set, visible in the middle field (8).

Settings in running machine

Depending on the operating mode, the individual values can be adjusted during operation:

1. Use the right or left arrow key to select the value to be adjusted (if possible).
2. The current selection is marked orange (1).
3. Use the arrow keys (2) to set the value.
4. The adjustments are accepted immediately, no confirmation by pressing another key is necessary.

5.4.7.4 Activate idle protection



Figure 45: Opening the cockpit



Figure 46: Activate idle protection

The idling protection can be activated or deactivated depending on the operating mode:

1. Open the main menu by pressing the button (1).
2. Use the arrow keys to select the 'Cockpit' field (2) and confirm by pressing the key (3).
 - ✓ The cockpit opens.
3. Activate the idling protection by pressing the key (3).
 - ✓ The idling protection is activated, 'Auto Stop ON' (4) must appear in the display.
4. The idling protection can also be deactivated by pressing the button (3).
 - ✓ Auto Stop OFF" must appear in the display.

5.4.7.5 Setting the idling protection



Figure 47: Open setup

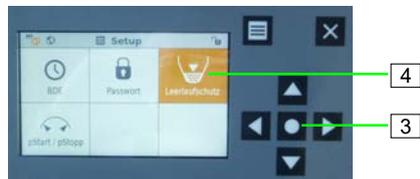


Figure 48: Open idling protection



Figure 49: Set pressure difference and idling time

1. Open the main menu by pressing the button (1).
2. Use the arrow keys to select the 'Setup' field (2) and confirm by pressing the key (3).
 - ✓ The setup opens.
3. Use the arrow keys to select the Idle protection field (4) and confirm by pressing the key (3).
 - ✓ The settings open.
4. Use the arrow keys (5) to set the pressure difference (6) at which the machine should switch off.
5. Change to the idle duration setting (7) by pressing the right arrow key.
6. Use the arrow keys (5) to set the idle time (7) at which the machine should switch off.
7. Then accept the change by pressing the button (3).

Operation

5.4.7.6 Select operating mode



Figure 50: Open functions



Figure 51: Select operating mode

1. Open the main menu by pressing the button (1).
2. Use the arrow keys to select the 'Functions' field (2) and confirm by pressing the key (3).
- ✓ The overview of functions opens.
3. Use the right or left arrow key to switch between the different operating modes.
4. The selected operating mode is marked orange (4).
5. Then accept the selection by pressing the button (3).

5.4.7.7 Pre-lubricate pump unit



Figure 52: Opening the cockpit



Figure 53: Deactivate idling protection



Figure 54: Pre-lubricate pump unit

NOTE



Before filling the material container with material for the first time, the pump must be pre-lubricated.

1. Open the main menu by pressing the button (1).
2. Use the arrow keys to select the 'Cockpit' field (2) and confirm by pressing the key (3).
- ✓ The cockpit opens.
3. Deactivate the idling protection by pressing the key (3).
- ✓ The idling protection is deactivated, 'Auto Stop OFF' (4) must appear in the display.
4. Pour one litre of water mixed with silicone emulsion into the material container.
5. Set the pump motor selector switch (5) to the 'right' position and pump the water through the pump unit.
6. Then switch the selector switch of the pump motor (5) to position '0'.

NOTE



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

5.4.8 Filling the material hopper with material



Figure 55: Filling the material with material

1. Stir the material well with a whisk before pouring it into the material container.
2. Pour stirred material into the material container.

5.4.9 Working with bag squeezer



Figure 56: Set up bag squeezer

Set up the bag squeezer on the SWING L airless c:

1. Set up the bag squeezer on the SWING L airless c.
2. Secure the bag squeezer with the clamping toggle (1) and the tensioning toggle (2) on both sides.
3. Hook the material bag onto the bracket (3) of the bag squeezer using the loop.



Figure 57: Empty the material bag

4. Cut open the material bag (4) and squeeze the material out of the bag with the roller (5).

⚠ CAUTION



Danger of crushing on the bag squeezer!

There is a risk of crushing when working with the bag squeezer.

- Do not reach into the rolling area of the roller.

5.5 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 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.

5.6 Putting the machine into operation

5.6.1 Switching on the machine



Figure 58: Switching on the machine

1. Turn the pump motor selector switch (1) to 'right' position.

5.6.2 Release the trigger



Figure 59: Fold down the safety lever

1. Move the safety lever (1) of the spray gun to the rear.
- ✓ The trigger (2) of the spray gun is unlocked.

5.6.3 Activate trigger



Figure 60: Activate trigger

1. Hold the spray gun firmly in your hand and point it into a bucket.
2. Pull the trigger (1) until material comes out of the nozzle.
3. Release the trigger (1).



Figure 61: Aiming the spray gun into the material container

4. Point the spray gun into the machine's material container and press the trigger again for 20 seconds.
5. Close the material container with the material container cover to prevent contamination of the material in the container.

Operation

5.6.4 Adjusting the spray pattern

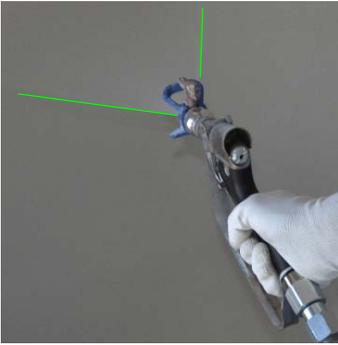


Figure 62: Spray pattern

Spray pattern

1. Hold the spray gun towards the wall and pull the trigger to spray a test pattern.
2. Watch out for sharp edges and adjust the pressure to avoid them.
3. Use the spray nozzle with a smaller opening if sharp edges cannot be eliminated by adjusting the pressure.
4. Hold the spray gun at a distance of 25 – 30 cm perpendicular to the workpiece surface.



Figure 63: Spraying material

Spraying material

1. The opening of the spray nozzle and the spray angle determine the thickness of the material on the wall and the size of the spray pattern.
2. If a thicker material is required, use a larger nozzle.

5.7 Interruption of work

NOTE



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

Clean the machine and high-pressure hoses depending on the setting time of the material and the length of the interruption to work (pay attention to outside temperature).

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

The spray gun can also be placed in a bucket of clean water for shorter breaks.

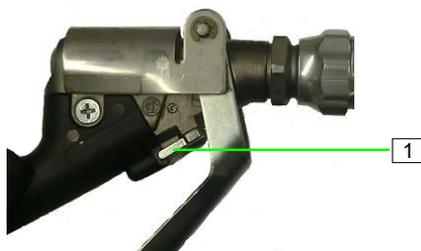


Figure 64: Secure spray gun

1. Move the safety lever (1) of the spray gun to the front.
- ✓ The trigger of the spray gun is secured.

5.7.1 In case of longer interruption of work / break

NOTE



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

Clean the machine and high-pressure hoses depending on the setting time of the material and the length of the interruption to work (pay attention to outside temperature).

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

The spray gun can also be placed in a bucket of clean water for shorter breaks.

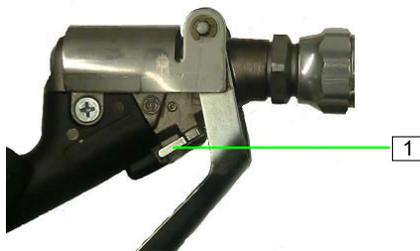


Figure 65: Secure spray gun

1. If work is interrupted for a longer period of time, move the safety lever (1) of the spray gun to the front to secure the spray gun.



Figure 66: Switching off the machine

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

5.8 Switching off the machine



Figure 67: Switching off the machine

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

Operation

5.9 Processing non-airless material

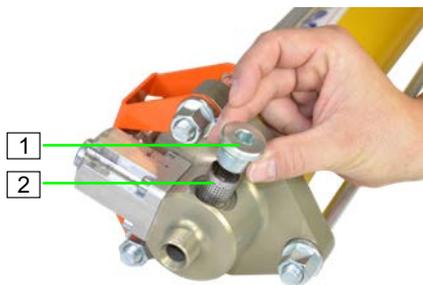


Figure 68: Remove filter insert

NOTE



When processing non-airless materials, remove the filter insert.

1. Turn the screw plug (1) out of the pressure flange.
2. Remove the filter insert (2) from the pressure flange.
3. Screw the screw plug (1) back into the pressure flange.

5.10 Action in case of power failure



Figure 69: Main switch to position '0'

Main switch to position '0'

1. Turn the main switch to position '0'.
2. Have the power supply connection checked by an expert.

5.10.1 Releasing the pressure

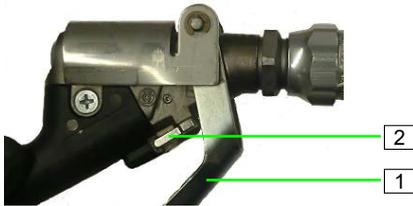


Figure 70: Releasing the pressure



Figure 71: Check pressure

⚠ 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.

⚠ WARNING



Risk of injury from discharged material!

Discharged material may lead to injuries to the eyes and face.

- Never look into the spray gun.
- Never work without protective equipment.
- Always position yourself in such a way that you are not hit by the material being discharged.

1. Hold the spray gun in a bucket and pull the trigger (1) until the pressure sensor in the display (3) shows '0 bar'.
2. Flip the safety lever (2) forward to secure the spray gun.

5.10.2 Switching on the machine again after a power failure



Figure 72: Switching on the machine after a power failure

NOTE



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

1. Turn main switch (1) to position 'I'.
2. Turn the pump motor selector switch (2) to 'right' position.
3. The machine starts again as soon as the trigger on the spray gun is actuated.

NOTE



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

Operation

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 Running the machine empty



Figure 73: Deactivate idling protection



Figure 74: Running the machine empty



Figure 75: Releasing the pressure

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

1. If idling protection is used, it should be deactivated.
2. Deactivate the idle protection by pressing the button (1) in the cockpit.
- ✓ The idling protection is deactivated, 'Auto Stop OFF' (2) must appear in the display.
3. Run the material hopper empty except for a small amount of residue.
4. Turn the pump motor selector switch (3) to the '0' position.
5. Turn the main switch (4) to position '0'.
6. Hold the spray gun in a bucket and pull the trigger (5) until the pressure sensor in the display (6) shows '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.

7. Flip the safety lever (7) forward to secure the spray gun.

Operation

5.11.4 Cleaning the material hopper



Figure 76: Flushing the machine and high-pressure hoses

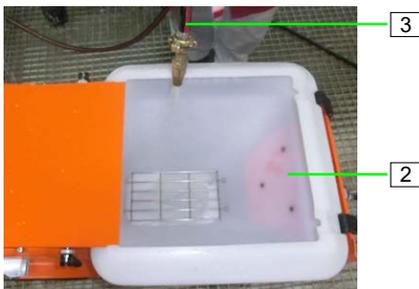
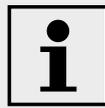


Figure 77: Cleaning the material hopper



Figure 78: Switching on the machine



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

1. Remove the reversing nozzle (1) from the spray gun.
2. Clean the material container (2) with a water hose (3) and fill it with water.
3. Turn the pump motor selector switch (4) to 'right' position.
4. Hold the spray gun in a bucket and pull the trigger (5) until the machine is rinsed and clean water comes out of the spray gun.
5. Turn the pump motor selector switch (4) to the '0' position.
6. Hold the spray gun in a bucket and pull the trigger (5) until the pressure sensor in the display shows '0 bar'.
7. Flip the safety lever (6) forward to secure the spray gun.
8. Then put the reversing nozzle (1) back into the spray gun.

5.11.5 Cleaning the spray gun

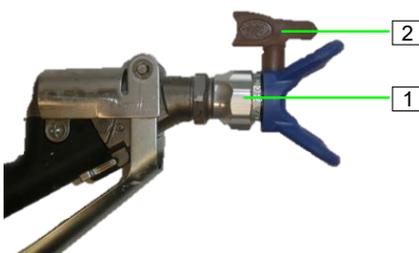


Figure 79: Cleaning the spray gun

1. To clean the spray gun, loosen the union nut (1).
2. Remove the reversing nozzle (2) from the spray gun.
3. Clean the reversing nozzle and the spray gun with water and a brush.

NOTE



Clean the reversing nozzle occasionally during operation to reduce material build-up and thus the risk of clogging.

Do not immerse the spray gun in solvent as spray gun seals may be damaged.

5.11.6 Cleaning the filter element

⚠ 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.

NOTE



Clean the filter element daily!

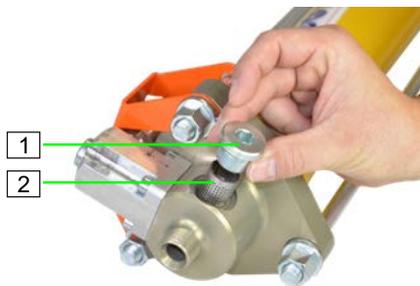


Figure 80: Cleaning the filter element

1. Turn the screw plug (1) out of the pressure flange.
2. Remove the filter insert (2) from the diaphragm seal and clean it.
3. Replace the filter insert if it is heavily soiled.
4. Insert the filter insert and screw the screw plug back into the pressure flange.

Device filter SWING airless – insert in pressure flange:

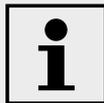
- Item no. 00472953

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.

Operation

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.

5.12.3 Diagnosis



Figure 81: Open PFT service

The machine has a diagnosis which can be opened as follows:

1. Open the main menu by pressing the button (1).
2. Use the arrow keys to select the 'PFT service' field (2) and confirm by pressing the key (3).

✓ The diagnosis (4) opens.



Figure 82: Diagnosis

The diagnosis is used to monitor the inputs and outputs on the machine in order to determine the cause more easily and quickly in the event of a malfunction.

5.12.4 Fault displays

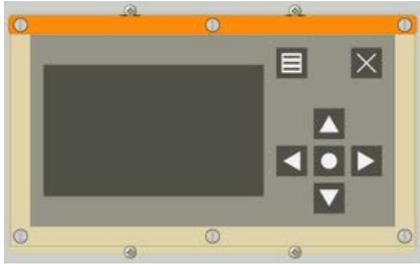


Figure 83: Fault displays

The following installation indicates faults:

- All faults and error messages are shown in the display of the SWING L airless c unit.
- To eliminate the faults and error messages, the user is guided through the menu in the display.

5.12.4.1 Error messages



Figure 84: Bell symbol

1. If the bell (1) flashes, an error message is present.

5.12.4.2 Displaying error messages

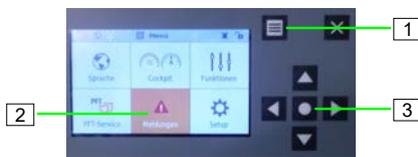


Figure 85: Displaying error messages

1. Open the main menu by pressing the button (1).
 2. Use the arrow keys to select the 'Messages' field (2) and confirm by pressing the key (3).
- ✓ The error messages open.



Figure 86: Notifications

3. The current error message is highlighted in colour (4).
4. The other error messages can also be selected with the arrow keys (5).
5. Selection is indicated by the white markings (6).
6. Confirm the selection by pressing the key (3).
7. A description (7) of possible error elimination appears.
8. Eliminate the error.
9. To exit the description afterwards, either press the key (3) or (8).
10. To return to the main menu, press the key (8) again.



Figure 87: Description of eliminating the error message

5.12.4.3 Error codes

For communication with the dealer or the hotline, the following codes are stored for error messages:

Fault code	Fault message
1000	EMERGENCY STOP triggered
1001	Pump limit switch
1002	Motor protection switch triggered
1003	Water pressure too low
1004	Dry run protection
1005	Pressure sensor missing
2001	Remote control / dummy plug missing
3000, 3001, 3002, 3003, 3006, 3007, 3008, 3009, 3047, 3059, 3079, 3083, 3999	Frequency converter fault
4001	Pump is overheated
4002	PTC of the pump is not connected
4003	Short circuit of the pump's PTC



5.12.5 Table of faults

Fault	Possible cause	Troubleshooting	Rectification by
Machine does not start current	Power supply not in order	Repair power supply	Service technician
	Main switch not activated	Activate main switch	Operator
	RCD was triggered	Reset RCD	Service technician
	Motor protection switch triggered	Turn motor protection switch in control box to position 1	Service technician
	Frequency converter defective	Replace the frequency converter	Service technician
	Contactors defective	Change contactors	Service technician
	Fuse defective	Change fuse	Service technician
Machine does not start material	Excessively thickened material in material container	Empty material hopper and restart machine	Operator
	Pump is stuck, does not come loose	Remove pump and loosen	Operator
Pump motor will not start	Pump motor defective	Replace pump motor	Service technician
	Connection cable defective	Change connection cable	Service technician
	Connection cable not connected	Connect the connection cable	Service technician
	Motor protection switch defective or triggered	Replace or reset motor protection switch	Service technician
Machine stops after a short while	Pressure sensor defective	Check or replace pressure sensor	Service technician
	Shut-off pressure is set too low	Increase cut-off pressure	Operator
Machine does not switch off	Pressure sensor defective	Check or replace pressure sensor	Service technician
Spray gun is leaking	Parts in the spray gun are dirty or worn out	Clean parts in spray gun or replace if necessary	Service technician
Nozzle unit is leaking	Nozzle was assembled incorrectly	Assemble nozzle correctly	Operator
	Nozzle seal is missing	Insert seal	Operator
	Seal is dirty	Clean seal	Operator
Poor spray pattern	Material is too thick	Dilute material	Operator
	The spray nozzle is dirty or worn out	Clean spray nozzle or replace if necessary	Operator
	The spray nozzle is clogged	Clean the spray nozzle	Operator
	Rotor worn or defective	Replace rotor	Service technician
	Rotor too deep in pressure flange	Replace pressure flange	Service technician
	Not original PFT spare parts	Use original PFT spare parts	Service technician

Operation PFT 

Fault	Possible cause	Troubleshooting	Rectification by
Spray gun does not spray	The spray nozzle is clogged	Clean the spray nozzle	Operator
	Spray nozzle is incorrectly mounted	Turn spray nozzle in the right direction	Operator

5.12.6 Hose clogging

Indications

Blockages can occur in the pressure reducer or in the high-pressure hoses.

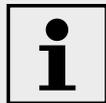
Indications are:

- Rapidly increasing pressure head
- Blockage of pump
- Running difficulties or blockage of the pump motor
- No material coming out of the spray gun

Possible causes may be

- Extremely worn high-pressure hose
- Kinked high pressure hoses
- Clogging of the pressure flange
- Severe restriction at the couplings
- Leaks at the couplings
- Poorly pumpable and separated materials

Earlier damage to the high-pressure hose



If the high-pressure hose is run over by a car or truck, the hose can be severely damaged and burst under pressure.

The risk of damage increases with old high-pressure hoses. Replace high pressure hoses after 5 years at the latest.

5.12.7 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.

5.12.7.1 Let the pump run backwards



1. Turn main switch (1) to position '1'.
2. Switch selector switch of the pump motor (2) to the 'left' position until the pressure sensor reads '0 bar'.
3. Turn the main switch to position '0'.

Figure 88: Reverse operation

5.12.7.2 Turn the reversing nozzle



A clogged nozzle can worsen the spray pattern:

1. Turn the nozzle handle (1) by 180° so that the wide part of the nozzle handle points forwards.
2. Turn main switch (2) to position '1'.
3. Turn the pump motor selector switch (3) to 'right' position.
4. Hold the spray gun in a bucket and pull the trigger (4) to loosen the blockage.
5. Then switch the pump motor selector switch (3) to the 'left' position until the pressure sensor shows '0 bar' in the display.
6. Turn the main switch (2) to position '0'.
7. Turn the nozzle handle (1) 180° again and return it to its original position.

Figure 89: Loosen blockage



Figure 90: Clean the reversing nozzle

Operation

5.12.7.3 Blockage cannot be cleared

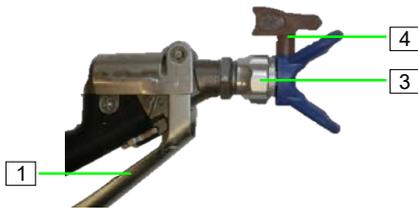


Figure 91: Clean the spray nozzle



Figure 92: Check pressure

⚠ 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.

⚠ WARNING



Risk of injury from discharged material!

Discharged material may lead to injuries to the eyes and face.

- Never look into the spray gun.
- Never work without protective equipment.
- Always position yourself in such a way that you are not hit by the material being discharged.

1. Hold the spray gun in a bucket and pull the trigger (1) until the pressure sensor in the display (2) shows '0 bar'.
2. Loosen the union nut (2) and remove the reverse nozzle (3) from the spray gun.
3. Blow the blockage out of the reversing nozzle with air or soak it in water.
4. If the blockage does not clear, tap the flat back of the nozzle.

NOTE



Clean the reversing nozzle occasionally during operation to reduce material build-up and thus the risk of clogging.

Do not immerse the spray gun in solvent as spray gun seals may be damaged.

5.12.7.4 Switching on the machine after removing a blockage



Figure 93: Switching on the machine again

1. Turn main switch (1) to position 'I'.
2. Turn the pump motor selector switch (2) to 'right' position.
3. The machine starts again as soon as the trigger on the spray gun is actuated.

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 94: Remove connection cable

Secure against restarting

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.

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 Operation-hour counter



Figure 95: Open setup



Figure 96: Open operating hours counter

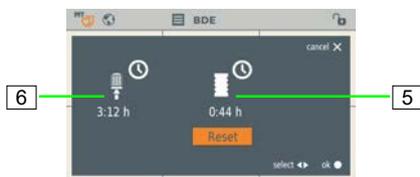


Figure 97: Operation-hour counter

The machine has an operating hours counter for the machine and pump unit, which can be viewed and reset as follows:

1. Open the main menu by pressing the button (1).
2. Use the arrow keys to select the 'Setup' field (2) and confirm by pressing the key (3).
- ✓ The setup opens.
3. Use the arrow keys to select the 'BDE' field (4) and confirm by pressing the key (3).
- ✓ The operating hours counter opens.
4. The operating hours counter of the pump unit (5) can be reset by pressing the key (3), for example after changing the pump unit.

NOTE



The operating hours counter of the machine (6) cannot be reset.

Maintenance PFT

6.4 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	Visual and functional inspection of all safety installations	Operator
	Check all parts subject to wear	
	Check pressure hoses and screw connections	
	Check the safety lever on the spray gun	
	Visual inspection of the electrical cables	
	Cleaning the filter element	
Monthly	Lubricating the sealing unit	Operator
Yearly	Check and retighten screw connections	Service technician

6.5 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.

6.5.1 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.

6.5.2 Cleaning the filter element

⚠ WARNING



Overpressure on the machine!

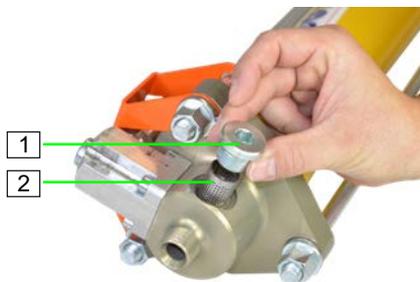
When opening machine parts they can open in an uncontrolled manner and injure the operator.

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

NOTE



Clean the filter element daily!



- Turn the screw plug (1) out of the pressure flange.
- Remove the filter insert (2) from the diaphragm seal and clean it.
- Replace the filter insert if it is heavily soiled.
- Insert the filter insert and screw the screw plug back into the pressure flange.

Device filter SWING airless – insert in pressure flange:

- Item no. 00472953

Figure 98: Cleaning the filter element

6.5.3 Changing the pump

⚠ CAUTION



Risk of injury due to warm surfaces!

During operation, the pump unit may heat up depending on the load and duration of use.

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

Maintenance

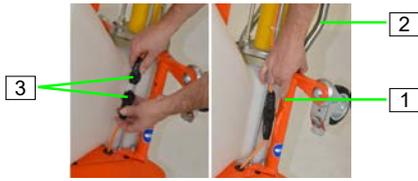


Figure 99: Remove handle



Figure 100: Loosen the screws

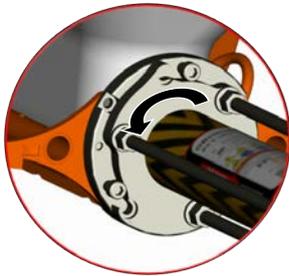


Figure 101: Release pump unit

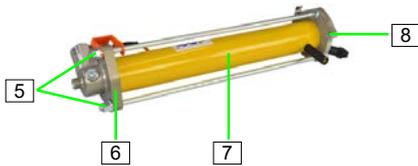


Figure 102: Change the pump unit

1. Place the machine on the rear bracket for easier assembly of the pump unit.
2. Press the push button (1) and pull the carrying and push handle (2) out of the frame.
3. Loosen the screw connection (3) for the pressure cut-off cable.

4. Loosen the screws (4) on the suction flange.
5. Carefully remove the pump unit by turning it anticlockwise.

⚠ CAUTION



Danger of crushing by the pump unit!

Note the weight of the pump unit when removing and installing it.

6. Loosen the nuts (5) from the tie rod.
7. Remove pressure flange (6) and clean.
8. Remove pump unit (rotor and stator) (7).
9. Clean the suction flange (8).
10. Insert the new rotor and stator.
11. Fit the pressure flange (6) and tighten the nuts (5).

NOTE



The tightening torque for the nuts on the tie rod is 35 – 40 Nm, this information must be observed and adhered to!

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.

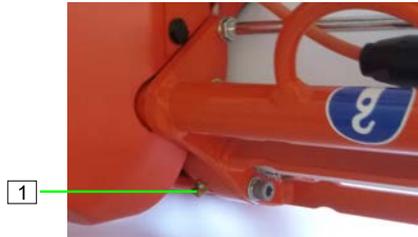
NOTE



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

6.5.4 Lubricating the sealing unit



1. Lubricate the sealing unit monthly with commercial grease at the grease nipple (1).

Figure 103: Lubricating the sealing unit

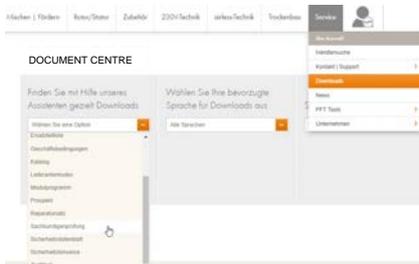
6.6 Actions after completed maintenance

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

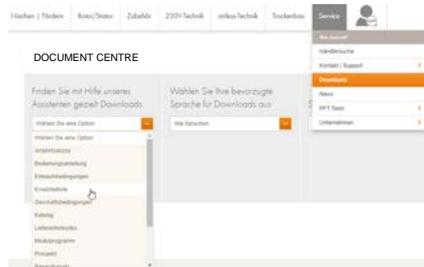
1. Check all previously loosened screw connections for secure fit.
2. Check if all previously removed safety systems and covers are properly reinstalled.
3. Ensure that all tools, materials and other equipment used have been removed from the work area.
4. Clean the work area and remove any spilled materials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

6.7 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.



6.8 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.

6.8.1 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:

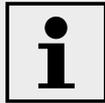
- Scrap metals.
- Recycle plastic elements.
- Dispose of remaining components, sorted according to the type of material.

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



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