Operating Manual

PFT CONVEYING SYSTEM
PFT SILOJET III XXL T 120, 7.8 kW, 60 Hz
Part 2 Overview – Operation - Spare parts lists

Article number of the operating manual: 00 46 29 49

Article number of the parts list-machine: 00 44 96 30 RAL2004

CE

Read the operating manual prior to starting any work!

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EC Declaration of Conformity

1 EC Declaration of Conformity

Company: Knauf PFT GmbH & Co. KG

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declares under our sole responsibility that the product:

Type of machine:	**SILOJET**
Type of equipment:	Pneumatic conveying system
Serial number:	
Guaranteed sound power level:	101 dB

is in conformity with the following CE directives:

- Outdoor directive (**2000/14/EC**),
- Machine directive (**2006/42/EC**),
- Electromagnetic Compatibility Directive (**2014/30/EG**).

Operative Conformity Assessment according to Outdoor Directive 2000/14/EC:
Internal production control as per article 14 paragraph 2 in connection with annex V.

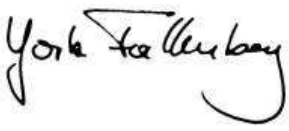
This declaration only refers to the machine in the state in which it has been placed on the market. Parts subsequently added by the user and/or subsequent interventions are not covered. This declaration ceases to be valid if the product is converted or changed without consent.

Person authorised to compile the relevant technical documentation:

Dipl.-Wirtsch.-Ing. (FH) 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

Place, Date of issue | Name and signature | Details about the signatory

2 Examination

2.1 Examination 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.

2.2 Periodic inspection

- Construction machinery has to be inspected for their 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.

3 General information

3.1 Information regarding the operating manual

This operating manual gives important information on handling the device. 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 tool and easily accessible to the staff at all times.

If the tool 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.

4 Division

The operating manual is divided into 2 books:

- Part 1 Safety (article number of the operating manual 00132670)
- Part 2 Overview, operation, service and spare parts lists. (This book)

For safe operation of the device, both the parts have to be observed. Together they form one operating manual.

4.1 Keep a copy of the manual

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

4.2 Accessories

For other accessories, please visit www.pft.de or consult your PFT construction machine dealer.

5 Technical data

5.1 General information

SILOJET XXL III T RAL2004	00 44 96 30	
Particular	**Value**	**Unit**
Weight	366	kg
Length	1280	mm
Width	719 / 625	mm
Height	630	mm
Carrier	106	kg
Compressor KDT 3.120 T	130	kg
Complete frame	78.5	kg
Control cabinet	23.5	kg

5.2 Power connection

Electrical

Particular	**Value**	**Unit**
Voltage 3Ph./ 50 Hz	400	V
Power consumption approximately	21	A
Power input	9.3	kW
CEE connection, 5-pin	32	A
Fuse protection, at least	32A typ C	

Motor protection switch

Fig. 1 motor protection switch

	Power	**Setting value**	**Designation**
Compressor I	7.8kW	18A	Q3
Compressor II	0.53 kW	1.2 A	Q2
Actuator	0.18kW	0.65 A	Q4
Vibrating unit	0.53kW	1.2 A	Q5

5.3 Operating conditions

Environment

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

Duration

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

5.4 Power values

Particular	Value	Unit
Feed range in m*	up to 200	Metre
Feed rate	up to 44	kg/min
Operating pressure, max.	2.5	bar
Compressor intake volume	118	Nm³/h

* Reference value depending on the material quality, material weight and conveying height

5.5 Sound power level

Sound power level L_{WA}	101 dB (A)

5.6 Vibrations

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

6 Indicator light, time and setting data

Red indicator light	Motor failure, smaller or bigger compressor
Red flashing indicator light	Control air pressure is too low, system switches off
Yellow indicator light	Change direction of rotation
Green indicator light	System ready for operation
Green flashing indicator light	Material requirement
Push button for control voltage “ON”, white	Ready for operation, no fault
Push button for control voltage flashing, white	Acknowledge fault with “ON” / “OFF”
T 1 = 10 seconds	Initial start, check whether the conveying hoses are empty
T 2 = 10 seconds	Fill time for carrier, flap valve OPEN/ CLOSE
T 3 = 45 seconds	Carrier empty, refill
T 4 = 10 seconds	Open flap valve, fill time for carrier
T 5 = 15 minutes	System stops, blow the conveying hoses until they are empty
T 6 = 3 seconds	Delay in opening the flap valve
T 7 = 3/3 (20) seconds	Vibrating unit – interval while filling the tank
T 16 = 3 seconds	Flap valve opens with a delay
Time relay – requirement = 3 seconds	Requirement must be pending for 3 seconds continuously
Pressure switch S4, systems - overload switching	Switches to bypass air at 1.9 bar
Pressure switch S5, conveying hose empty	System is switched off at 0.5 bar empty blowing pressure
Pressure switch S6, control air – monitoring	If the control pressure falls below 2.3 bar, it is notified as a fault; the system switches off after the carrier is emptied
Pressure switch-off, control air compressor	3 bar ON / 4 bar OFF
Motor protection switch, conveying compressor	18 ampere setting
Bypass valve Y1 is on Y2 while switching over	Open for one second longer (open in parallel for one second)

7 Assembly SILOJET III XXL

7.1 Overview of the assembly units

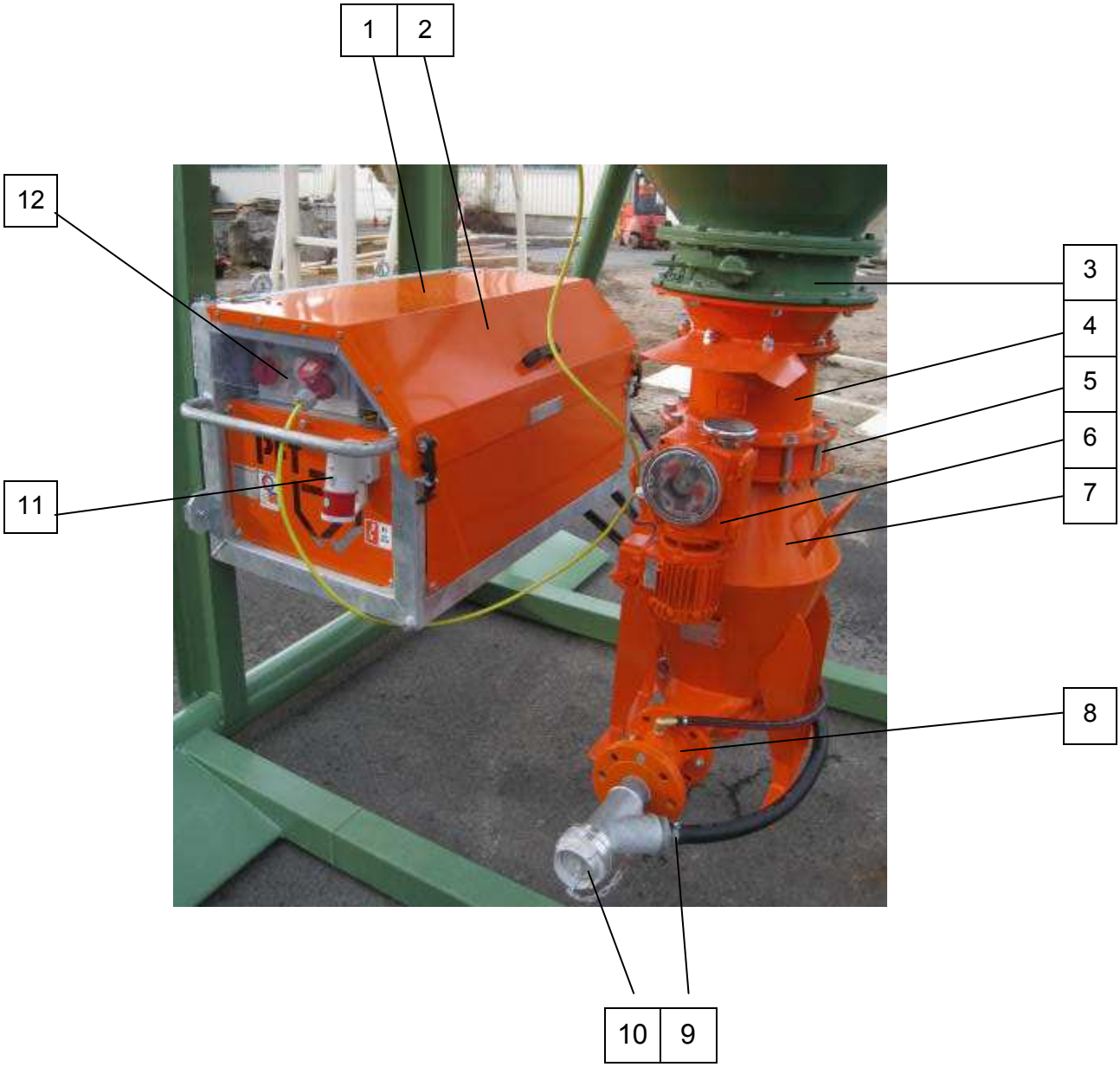


Fig. 2: Table of the assembly groups

1. Complete frame, SILOJET III XXL
2. Rotary compressor KDT 3.120 in the frame
3. Silo shut-off flap valve
4. Connecting piece
5. Shut-off unit
6. Actuator type 6
7. Carrier
8. Squeeze valve
9. Bypass
10. Material hose connection to the cleaning machine
11. Main terminal 32A
12. Control cabinet in the frame

7.2 Frame with built-in parts

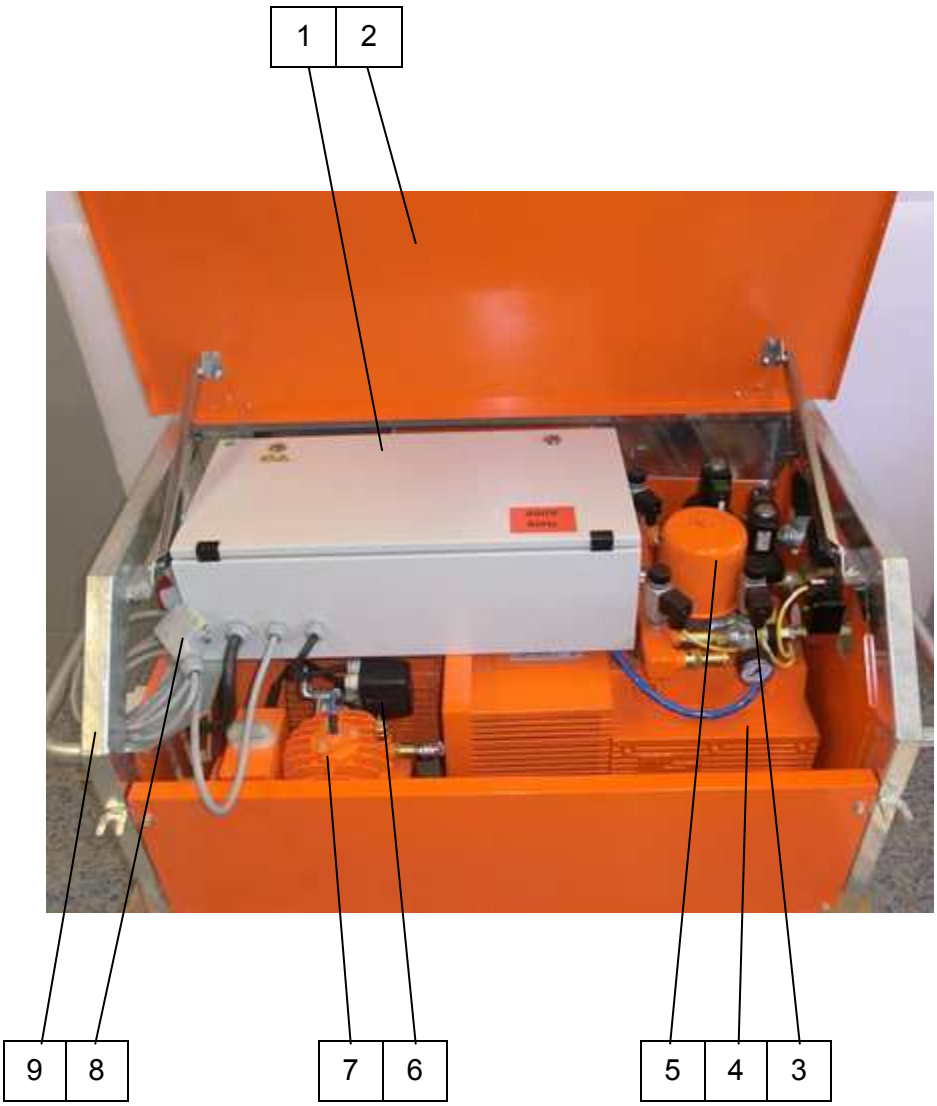


Fig. 3: Overview of the rotary compressor

1. SILOJET III XXL control cabinet
2. SILOJET III XXL cover hood
3. SILOJET III XXL pressure control
4. Rotary compressor with KDT3.120 filter
5. Filter for rotary compressor
6. Pressure control for compressor K1
7. Compressor K1
8. Control cable for actuator
9. SILOJET III XXL frame galvanised

7.3 SILOJET III XXL pressure control

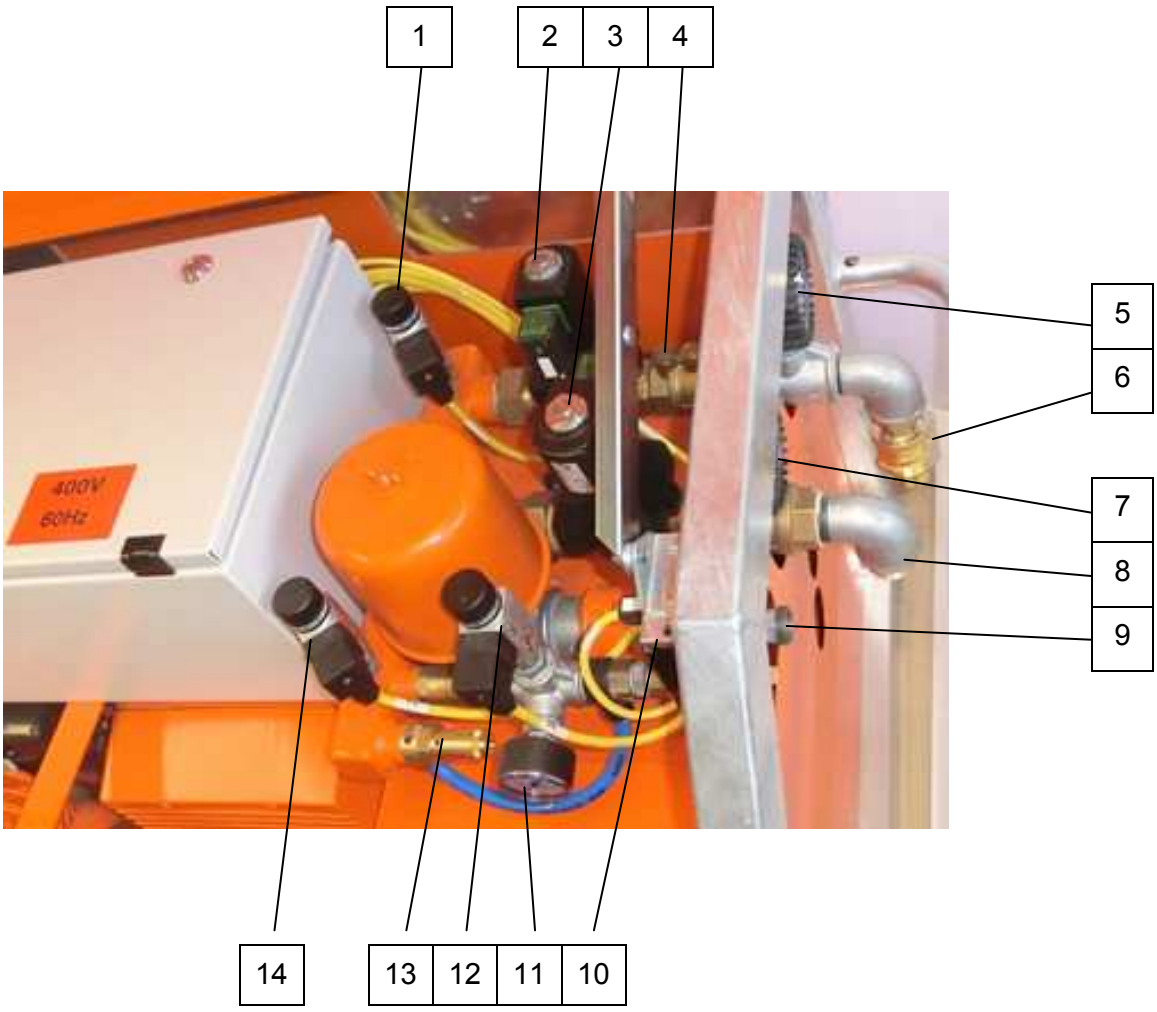


Fig. 4: Overview of the pressure control

1. Pressure switch for follow-up time / conveying hose is empty
2. Solenoid valve for conveying air
3. Solenoid valve for bypass air
4. Non-return valve
5. Pressure gauge 0-4 bar, pressure for conveying air
6. Connection for conveying air
7. Pressure gauge 0-4 bar, pressure for bypass air
8. Connection for bypass air
9. Control air squeeze valve
10. Solenoid valve, squeeze valve
11. Pressure gauge 0-4 bar, pressure in the silo
12. Pressure switch for monitoring, control air
13. Safety valve 2.8 bar
14. Pressure switch for conveying air, anti-blockage control

7.4 Control cabinet and connections

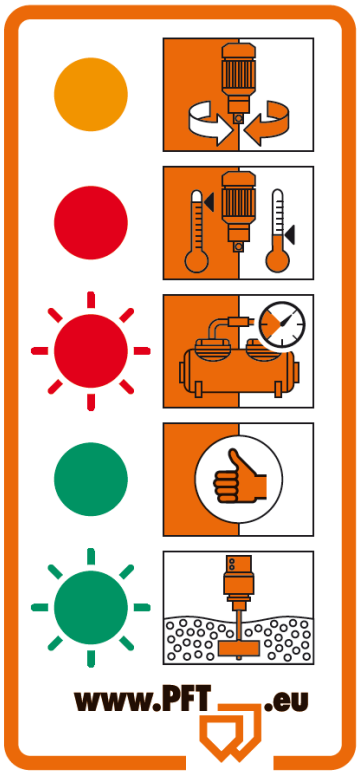
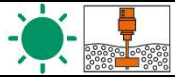
*** For functions of the pilot lamp, see below	

Fig. 5: Overview of the control cabinet and connections

1. Master switch is also emergency-stop switch
2. Push button for control voltage “ON/ OFF”
3. ***Pilot lamp
4. Power socket for requirement/level sensor
5. Power socket for vibrating unit connection
6. Main terminal 32A
7. Control cable for actuator

ORANGE, change direction of rotation	
RED, motor protection switch fault	
RED – flashing, very low control air pressure	
GREEN, system ready for operation	
GREEN – flashing, system requires material	

7.5 SILOJET III XXL carrier

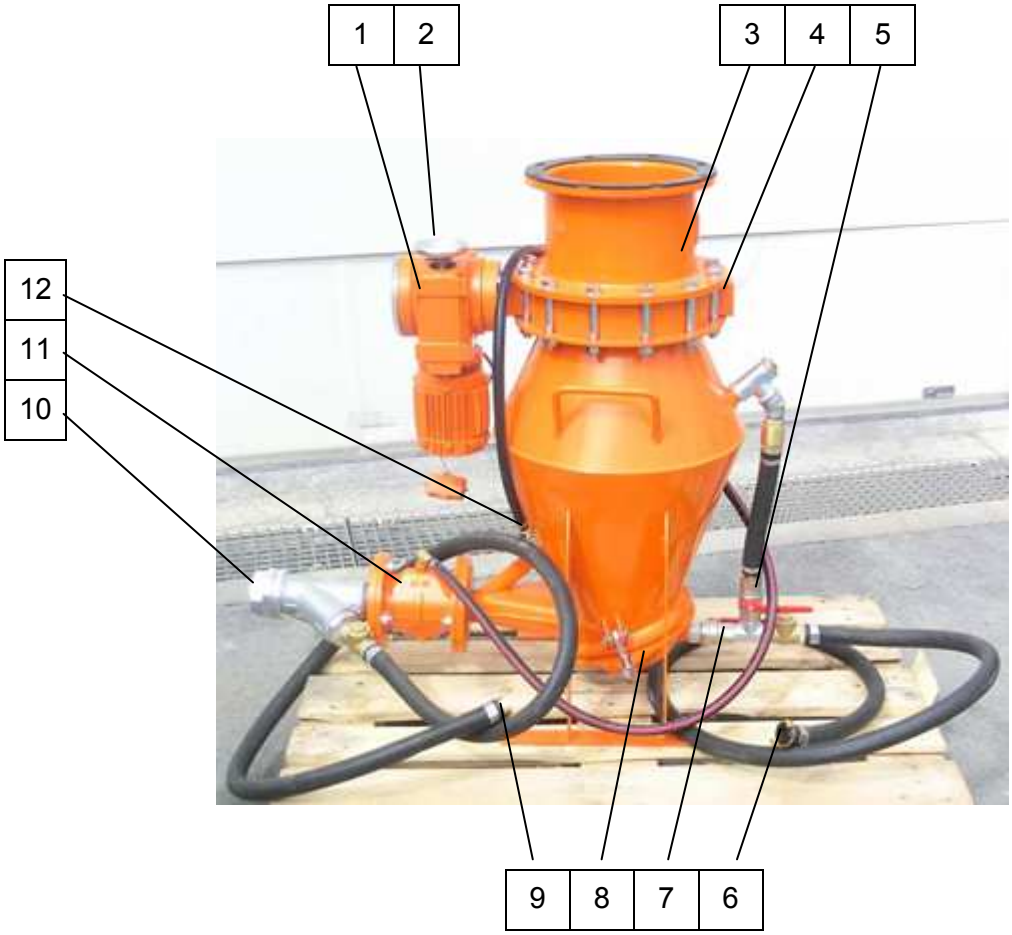


Fig. 6: Overview of the SILOJET III XXL carrier

1. Actuator type 6
2. Hand-wheel, shut-off flap valve open/ CLOSE
3. Connecting piece for SILOJET carrier
4. Shut-off unit
5. Ball valve for manual bypass system
6. Conveying air from the compressor
7. Ball valve for manual bypass system
8. Emulsifier - cleaning cover
9. Bypass air from the rotary compressor
10. Conveying hose connection
11. Squeeze valve
12. Control air for squeeze valve

8 Brief description

The **PFT SILOJET III XXL** is a fully-automatic, pneumatic conveying system.

It takes over the material transport of premixed dry mortar from the silo / container to the cleaning machine.

8.1 Conveying programme / work flow after restart

Step 1: connect the electric current, conveying hoses and level control. Open silo discharge flap valve on the silo / container.
Step 2: switch on the main switch.
Step 3: press the green push button for control voltage “ON/ OFF”.
Step 4: the system starts and checks whether the conveying hoses are empty. The flap valve, squeeze valve and conveying air solenoid valve are closed in this case. The conveying air is directed to the conveying hose via the bypass; it can thus be checked whether the hoses are free without using an additional manual function after a blockage and the cleaning of the conveying hose.

Step 5: If there is no material requirement (green pilot lamp lights up) after checking the hoses, the system switches to standby.

Step 6: If there is a material requirement (green pilot lamp flashes) after checking the hoses, the squeeze valve is opened and the conveying process starts.

8.2 Conveying programme / work flow when system is on standby

Step 1: Cleaning machine requires material.
Step 2: After a three-second long level sensor requirement, the green lamp switches to flashing green.
Step 3: The squeeze and solenoid valves for conveying air open and the compressor starts. The process of conveying the material starts.
Step 4: If the supply pressure in the conveyor line is too high, the system switches over from conveying air to bypass air; the compressor is thus not overloaded. The squeeze valve is also closed during this switching process; the pressure in the hose reduces and the material supply is interrupted at the same time.
Step 5: If the pressure falls to 1.6, the system restarts with the conveying programme.
Step 6: The carrier is refilled every 45 seconds during the conveying process; the system switches from conveying to bypass air in the process. The squeeze valve closes and the shut-off flap valve opens; the vibrating unit thereby supports the material flow from the silo into the carrier.
Step 7: The shut-off flap valve closes and the squeeze valve opens.
Step 9: The solenoid valve for conveying air opens and the solenoid valve for bypass air closes.
Step 10: If the cleaning machine is full, the conveying air switches over to bypass air. The squeeze valve closes and the conveying hose is blown until it is empty. The system goes into the standby position.
A requirement can again be received in between due to the large conveying range, although the conveying hoses have still not been blown until they are empty. In this case, the system immediately switches over to the conveying mode.

8.3 Intended purpose

The rotary compressor can be used for generating overpressure.

The operation is intended only for normal atmospheric air. Not for conveying toxic or combustible mediums. The compressor works without oil. Avoid oil mist from getting sucked in. The specifications are applicable up to a height of 800 m above sea level.

9 Transport, packing and storage

9.1 Safety instructions for transport

WARNING!
Occupational safety!

During transport, assembling and dismantling of the system, operation, maintenance and cleaning, the national and international regulations applicable in each case must be adhered to, even if they have not been explicitly mentioned in this manual.

Improper transport

ATTENTION!
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 fix at projecting machine parts or eyelets of attached components and ensure safe fit of the sling gear.
– Use only approved lifting gear and sling gear with sufficient lifting capacity.

9.2 Transport

Transport of already running machine

DANGER!
Risk of injury due to discharged dry material!

Injuries to face and eyes can occur.

Therefore:

– Before opening the hose couplings, ensure that the hoses are depressurised.

Carry out the following steps before beginning the transport:

1. Unplug the mains cable.
2. Remove the conveying hoses.

9.3 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.

9.4 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.

ATTENTION!
Environmental damage due to wrong disposal!

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

Therefore:

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

9.5 Safety

Personal protective equipment

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

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

NOTE!

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

SILOJET preparations

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 the operating steps according to the instructions in this user manual.
– Prior to starting your work, ensure that all the covers and protection devices are installed and work as intended.
– Never deactivate the protection devices during operation.
– Ensure order and cleanliness in the work area! Loose components and tools on top of another or lying about pose potential accident risks.

10 SILOJET preparations

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

Warning!

SILOJET systems for free-fall silos may be connected only to **depressurised** silos / containers. The **dedusting lines** of the silo / container must be open and free from blockages.

NOTE!

In order to avoid condensate from entering the system, do the following before starting work:

- Decouple the air hose, which is coming from the compressor, from the carrier.
- Switch on the compressor while adhering to the direction of rotation.
- Air must be discharged from the coupling (remove the air hose). In case of an incorrect direction of rotation, bring the main switch to the zero position.
- Push the selector membrane to the opposite side and switch on the main switch for the other direction; the direction of rotation is changed.
- Let the compressor run for approximately 2–3 minutes.
- Kink the hose end several times in the process and re-release it after a brief pressure build-up.
- Repeat the process until water mist is no longer discharged from the air hose.
- Switch the system off by pressing the red push button, operation “OFF”.

1. Install the system on a stable and level surface.

- Install the system such that it cannot be affected by objects that are falling down.
- The operating elements have to be freely accessible.

10.1 Connecting the power supply

Fig. 7: Power connection

1. SILOJET - connect the system only to a three-phase 400 V network.

DANGER!
Danger of death from electric current!

The connection line has to be fused properly:

Connect the machine only to a power source with permissible RCCB (30 mA) RCD (residual current operated device) type A.

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 cabinet of the machine.

10.2 Connect the carrier to the silo

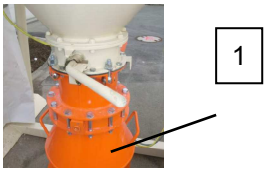


Fig. 8: Connecting the carrier

1. Connect the carrier to the silo discharge flap valve.

NOTE!

Ensure that the flap valve (1) of the silo / container is closed correctly, so that material does not continue flowing.

10.3 Connect conveying hoses

Fig. 9: Connecting the conveying hose

1. Connect the conveying hose to the C-coupling (1) of the injection hood.

Laying conveyor lines

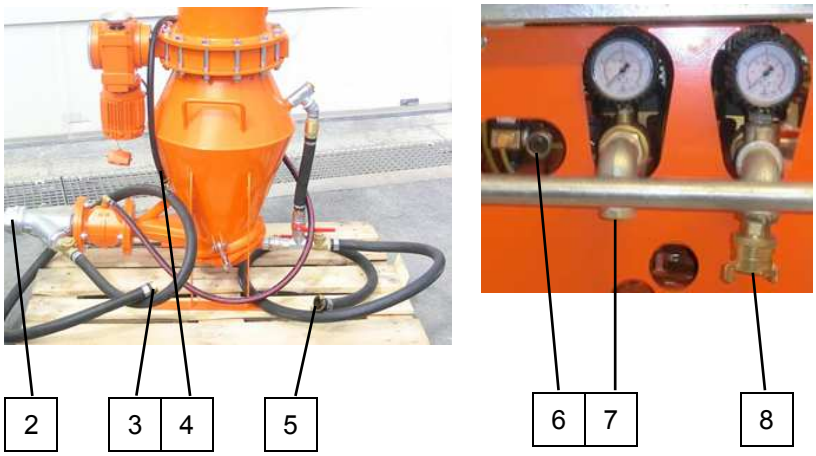


Fig. 10: Connecting hoses

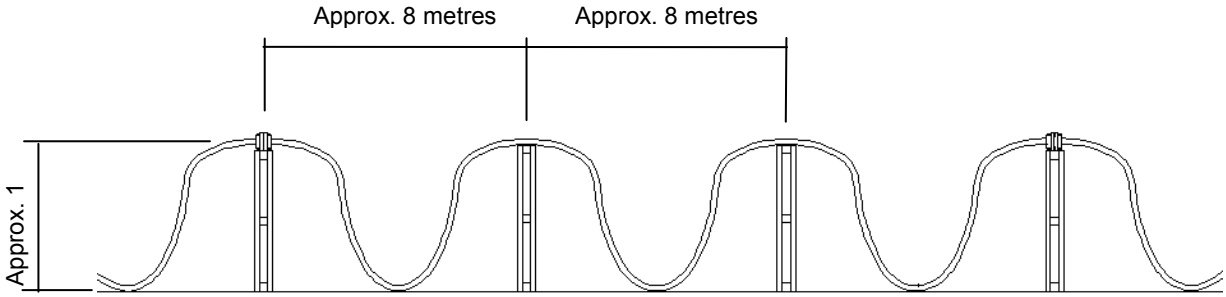
1. Connect the conveying hose of the injection hood (1) to the carrier (2).
2. Connect the air hose (3) to the bypass air (7).
3. Connect the air hose (4) to the squeeze valve control air (6).
4. Connect the air hose (5) to the connection (8) for conveying air.

11 Laying conveyor lines

NOTE!

The conveyor line may not be laid level in order to ensure an optimum work flow of the system in case of long conveyor stretches.

We therefore recommend the creation of elevations at the hose couplings, using positioned pallets for instance.



NOTE!

In case of a horizontal conveyor stretch, minimum three barrages per 25 metres should be positioned. This prevents the formation of blockages.

12 Connections

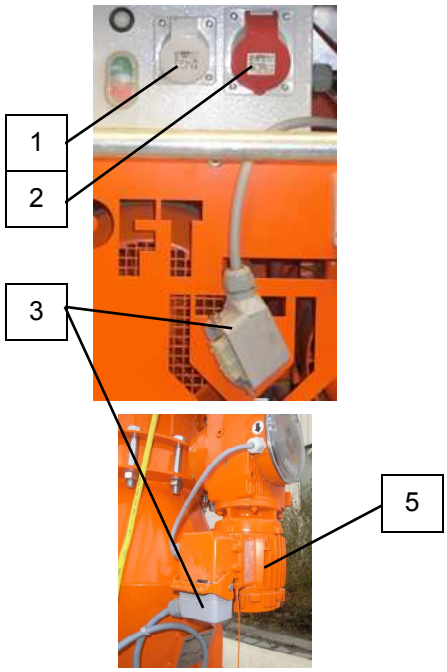


Fig. 11: Connections

1. Connect the control cable for the rotary paddle switch to the CEE - socket outlet 3 x 16 A white (1).
2. Connect the power supply for the vibrating unit (2).
3. Connect the 10-pin control cable (3) from the control cabinet to the actuator (5) of the shut-off unit.

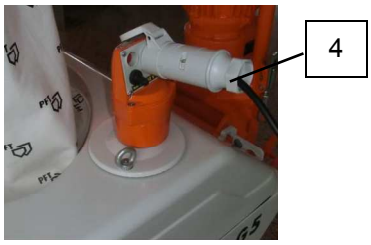


Fig. 12: Connecting the control cable

3. Connect the control cable from the CEE - socket outlet (1) to the rotary paddle switch of the injection hood (4).

13 Opening the silo discharge flap valve

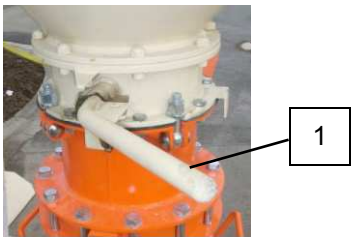


Fig. 13: Opening the silo discharge flap valve

1. Open the silo discharge flap valve (1) before switching on the conveying system.

14 Hazardous dusts

Fig. 14: Dust protection

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

NOTE!

The machine operator or the person working in the dusty area always have 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).

15 Switching on and putting into operation

Fig. 15: Main switch

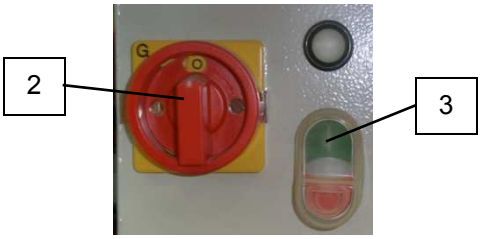


Fig. 16: Conveying process

switch on the main switch.

NOTE!

If the pilot lamp (1) flashes orange, the direction of rotation of the motor is incorrect.

The following steps must be carried out:

The main switch is arrested in the zero position by pushing the selector membrane (2) to the left or right in a presetting 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 lamella, which indicates the position in which the switch is arrested.

1. Turn the main switch (2) to position “I”.
2. Switch on the machine by pressing the green push button (3) control voltage “ON/ OFF”.
3. SILOJET - system starts and goes into the automatic mode.

NOTE!

If the flap valve of the shut-off unit is closed, the SILOJET - system goes into the empty blowing phase. The system removes residual material from the conveying hoses.

NOTE!

A level sensor, which signals the material requirement to the SILOJET system via the control line, is located in the injection hood of the cleaning machine.

The conveying system is controlled by the material consumption of the cleaning machine.

The PFT SILOJET III XXL can be connected to every free-fall silo and feeds approximately 18 kg of dry mortar per minute to a mixing pump, e.g. PFT G 4, up to 200 m.

16 Switching off

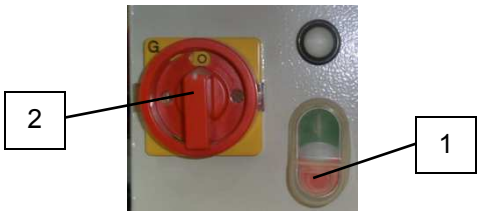


Fig. 17: Switching off

1. Switch off the system by pressing the red push button (1) control voltage “ON / OFF”.
2. Turn the main switch (2) to position “0”.

WARNING!

When carrying out any work on the SILOJET III XXL, ensure that the conveying system is depressurised and de-energised.

17 Stopping in case of emergency

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

Stopping in case of emergency

1. In case of danger proceed as follows:
2. Switch off immediately the main switch.
3. Secure the main switch against reactivation.
4. Inform responsible person at the operational site.
5. If necessary call for medical assistance and fire brigade.
6. Recover persons from the danger zone, initiate First Aid measures.
7. Keep access routes free for emergency vehicles.

After the rescue operations

8. If the severity of the emergency permits inform the competent authorities.
9. 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.

Therefore:

– Before reactivation ensure that there are no persons in the danger zone anymore.

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

18 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.

In the event of faults that cannot be rectified by means of the following notes, kindly contact the dealer.

18.1 Safety

- 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 the electrical system must, in principle, be carried out only by electricians.

Personal protective equipment

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

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

Basic information

WARNING!
Risk of injury due to improperly carried out maintenance work!

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

Therefore:

– Prior to starting the works ensure that there is enough space to carry out the works.
– Ensure order and safety at the assembly site! Loose components and tools on top of another or lying about pose potential accident risks.
– If components were removed, ensure proper assembly, put back all fastening elements and observe torque indications for screws.

Electrical system

DANGER!
Danger of death 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.

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

Faults

Secure against restarting

DANGER!
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 energy supplies before starting any works and secure against restarting.

Reaction in the event of faults

The following strictly applies:

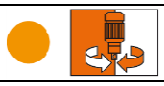
1. In the event of faults presenting immediate danger to persons or property, activate the emergency OFF function immediately.
2. Determine cause for fault.
3. If the rectification of faults requires work in the danger zone, switch off the system and secure against restarting.
4. Inform the manager on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

NOTE!

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

19 Fault display

19.1 The following installation indicates faults:

Pilot lamp:	
ORANGE - change direction of rotation	
RED - motor protection switch fault. Motor protection switch triggered	 Q4
RED - flashing, very low control air pressure. Faulty membrane in the small air compressor K1	
WHITE – flashing, acknowledge fault. ➢ Press the red push button. ➢ Press the green push button. The machine is again ready for operation.	

19.2 Table of faults

Fault	Possible cause	Solution	Rectification by
Machine does not start	Power supply not in order	Repair power supply	Service engineer
	Main switch not activated	Activate main switch	Operator
	Protection switch was triggered	Reset RCCB	Service engineer
	Pilot lamp for direction of rotation (yellow) lights up	Change direction of rotation, push the metal bracket at the main switch in the opposite direction	Operator
	Motor protection switch triggered	Turn motor protection switch in control cabinet to position 1	Service engineer
	“Operating button on” not pressed	Press “operating button on”	Operator
	Contactor defective	Change contactor	Service engineer
	Fuse defective	Change fuse	Service engineer

Fault display

Programme does not start	Micro fuse on the transformer faulty	Replace micro fuse	Service engineer
	Control cable, level sensor, manual-0-automatic switch faulty	Check parts and replace them if necessary	Service engineer
	Conveying time or requirement defect	Check parts and replace them if necessary	Service engineer
	Limit switch on the actuator faulty or set incorrectly	Replace limit switch or re-adjust it	Service engineer
Compressor runs at all times	Manual-0-automatic switch is on “manual”	Set it to “automatic”	Operator
	Conveyor line kinked	Adjust conveyor line	Operator
	Conveyor line blocked	See Removal of blockages in the hose	Operator
	Time relay defect	Replace K7	Service engineer
	Level sensor or indicator cable faulty	Replace parts	Operator
	Filter hoses on the cleaning machine hidden or sealed	Tap the filter and replace it if necessary	Operator
Compressor becomes too hot	Fan wheel faulty	Replace fan wheel	Service engineer
	Air-intake filter contaminated	Clean the filter	Operator
Programme is running, compressor is not	Cable, motor protection switch or motor faulty	Replace parts	Service engineer
	Conveyor line laid incorrectly	Create elevations, e.g. pallets	Operator
	Pressure control set incorrectly	See Setting values for pressure switch	Service engineer
Very less material in the machine	Material does not flow from the silo	Connect vibrating unit	Operator
	Container flap valve is closed	Open container flap valve	Operator
	Level sensor too long	Attach the rotary paddle at a higher position	Operator
Pilot lamp red, fault lights up	Error in the sequence programme	Check the programme setting	Service engineer

20 Work on troubleshooting

20.1 Removal of clogging in hoses

- Implementation by operator.
- Additionally required personal protective equipment:
  - Face guard

As soon as the system indicates a fault:

1. Turn the main switch (1) to position “0”.

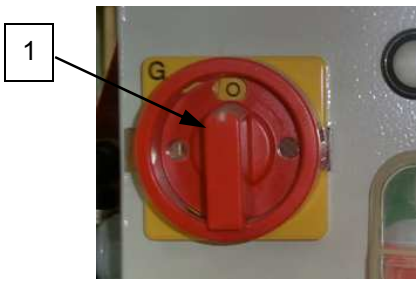


Fig. 18: Switching off

DANGER!
Danger from discharged material!

Never loosen the hose couplings as long as the pressure head is reduced! 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 to position themselves in such a way that they cannot be hit by discharged material. Other persons have to clear the area.

20.2 Opening the shut-off flap valve

Fig. 19: Opening the shut-off flap valve

1. Turning the hand valve (1) opens the shut-off valve of the actuator slightly so that the pressure in the silo / container can escape.

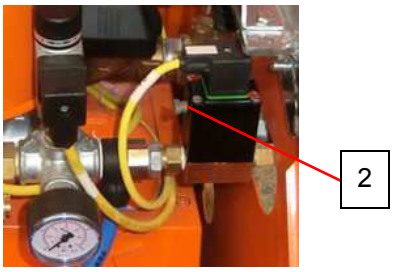


Fig. 20: Push button

2. Press the push button (2) on the valve.
3. The squeeze valve opens and the pressure in the conveying hoses can escape via the carrier.

20.3 Relieving the pressure

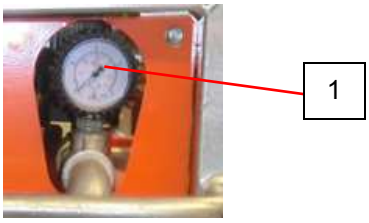


Fig. 21: Depressurised state

1. Check the depressurised state on the pressure gauge.

WARNING!

When carrying out any work on the PFT SILOJET III XXL, ensure that the conveying hoses of the conveying system are depressurised.

2. Close the shut-off flap valve again by turning the hand valve.

20.4 Check the motor protection switch

Fig. 22: Check the motor protection switch

1. Decouple the conveying hoses close to the blocked position carefully.
2. Loosen the compacted material and remove it from the hose by shaking the hose and tapping the coupling on a smooth base (wood or something similar).
3. Reconnect the conveying hoses to each other.
4. Check the motor protection switch Q3 in the control cabinet

20.5 Restart the system after a blockage

Fig. 23: Re-starting

1. Turn the main switch (1) to position “1”.
2. Switch on the machine by pressing the green push button (2) control voltage “ON/ OFF”.
3. SILOJET - system starts with the conveying process.

21 Action in case of power cut

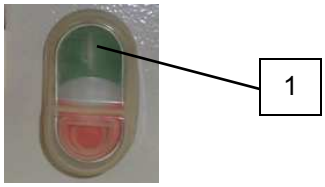


Fig. 24: Switching on

NOTE!

The SILOJET system III XXL is equipped with a restart interlock. In case of a power cut, the system must be restarted by pressing the green push button control voltage “ON/ OFF”.

21.1 Establishing a de-energised state

Fig. 25: Switching off

NOTE!

The de-energised state is established by turning the main switch to position “0”.

Fig. 26: Disconnecting the power supply

DANGER!
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.

- Switch off all the energy supplies before starting any work and secure against restarting; if necessary, disconnect the power supply by disconnecting the connection cable

22 End of work

22.1 End of work or interruption of work

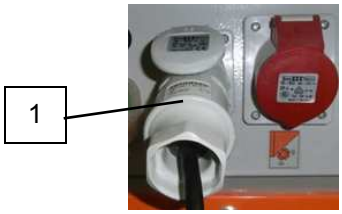


Fig. 27: Control plug

1. Remove the control plug (1) from the control cabinet just before the end of work.

NOTE!

By pulling out the control plug, the SILOJET material requirement to the cleaning machine is interrupted. The Silomat system blows the conveying hoses until they are empty and ends the conveying process.

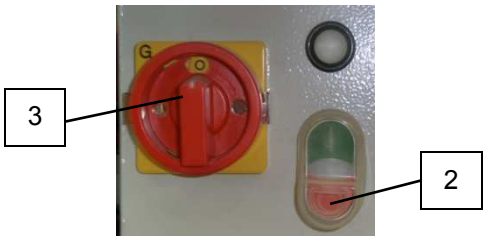


Fig. 28: End of work

1. Switch off the system by pressing the red push button (2) control voltage “ON / OFF”.
2. Turn the main switch (3) to position “0”.

WARNING!

When carrying out any work on the PFT SILOJET III XXL, ensure that the conveying hoses of the conveying system are depressurised.

23 Remove the carrier

23.1 Empty the carrier

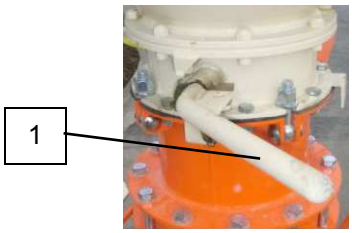


Fig. 29: Remove the carrier

NOTE!

In order to ensure that the carrier is not filled with material while it is being removed, it should be emptied during the last conveying cycle.

1. Close the silo discharge flap valve (1).
2. Wait for the next conveying cycle so that the carrier is emptied.

Fig. 30: End of work

3. Unplug the control plug (2) from the control cabinet.
4. The Silomat system blows the conveying hoses until they are empty and ends the conveying process.
5. Switch off the system by pressing the red push button (3) control voltage “ON / OFF”.
6. Turn the main switch (4) to position “0”.

Fig. 31: Remove the carrier

7. Remove the hoses from the carrier.
8. Loosen the screws (5).
9. Remove the carrier from the silo / container.

24 Cleaning

24.1 Cleaning the conveying system

- Clean the outer machine parts only using a damp cloth.

ATTENTION!
Water can enter sensitive machine parts!

Therefore:

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.

25 Maintenance

25.1 Safety

Personnel

- The maintenance works described here can be carried out by the operator, unless marked otherwise.
- Some maintenance work 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 specific maintenance work.
- Work on the electrical system must, in principle, be carried out only by electricians.

Personal protective equipment

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

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

Basic information

WARNING!
Risk of injury due to improperly carried out maintenance work!

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

Therefore:

– Prior to starting the works ensure that there is enough space to carry out the works.

– Ensure order and safety at the assembly site! Loose, stacked components or components lying about can cause accidents.

– If components were removed, ensure proper assembly, put back all fastening elements and observe torque indications for screws.

Maintenance

Fig. 32: Risk of burning

WARNING!
Risk of injury due to high temperatures!

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

Caution: Risk of burning

Allow the compressor parts to cool down before disassembling them.

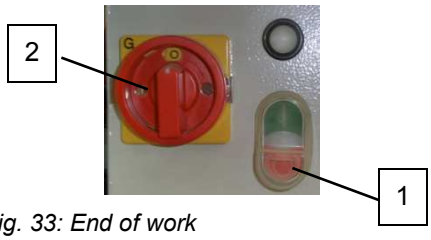


Fig. 33: End of work

DANGER!

When carrying out any work on the SILOJET III XXL, ensure that the conveying system is depressurised and de-energised.

1. Switch off the system by pressing the red push button (1) control voltage “ON / OFF”.
2. Turn the main switch (2) to position “0”.
3. Uncouple the power cable and hoses.

Electrical system

DANGER!
Danger of death 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.

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.

26 Maintenance

26.1 Maintenance plan

The following paragraphs describe the maintenance works that are require for an ideal and trouble-free operation.

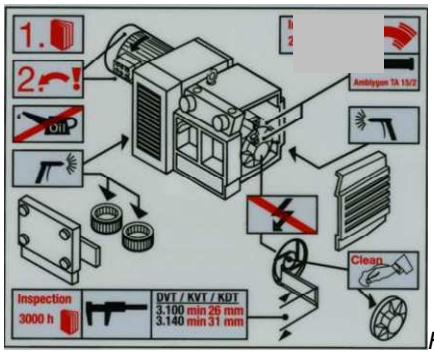
In the event that increased wear is not detected during regular checks, the required maintenance intervals have to be shortened according to the actual signs of wear.

Contact the dealer for any queries regarding the maintenance work and intervals.

Interval	Maintenance work	To be carried out by
Weekly	Clean the suction filter of the compressor.	Operator
Weekly	Checking the filter cartridges	Operator
After 1000 operating hours	Lubricate the bearings	Operator

26.2 Maintenance work

26.2.1 Lubrication

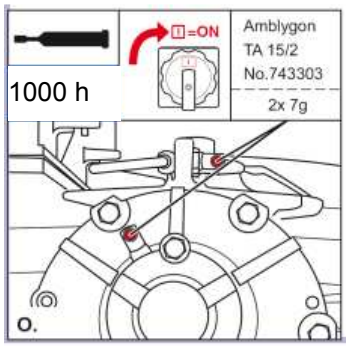


FFig. 34: *Service notice*

NOTE!

Labels must always be properly legible.

Fig. 35: *Lubrication*



Lubricating nipples are attached to the housing and to the side cap.

Lubricate the bearings after 1000 operating hours in each case when the compressor is running.

27 Clean the filter

27.1 Remove the filter cover

Fig. 36: Remove the filter cover

1. Loosen the knurled screws on the filter cover and remove the filter cover (1).

27.1.1 Clean the filter

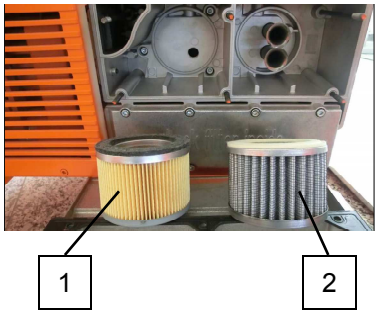


Fig. 37: Filter cartridges

2. Remove the filter cartridges C 1112/2 (1) and filter cartridge polyester (2) from the filter housing.

NOTE!

Clean the filter cartridges every week.

If the filter cartridges are highly contaminated, the ventilation system performance reduces and the compressor is overheated.

Fig. 38: Clean the filter cartridges

3. Blow through the filter cartridges with dry compressed air from inside to outside.
4. Replace damaged or highly contaminated filter cartridges.

Fig. 39: Clean the filter housing

5. Blow the filter housing with dry compressed air.
6. Use cleaned or replaced filters and screw on the filter cover.

NOTE!

When installing the filter, ensure that it is aligned and fit correctly.

27.2 Check the slider width

■ Execution by a service technician.

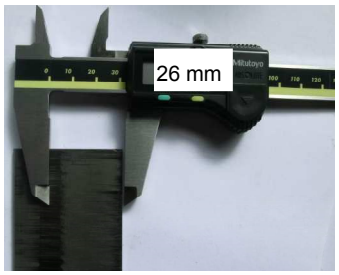
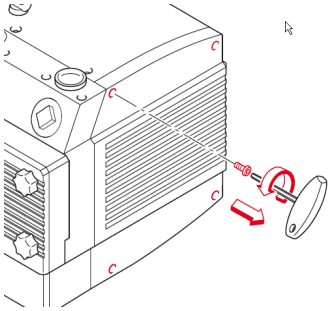


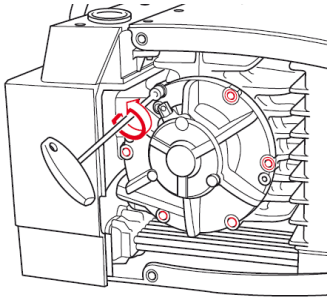
Fig. 40: Check the slider width

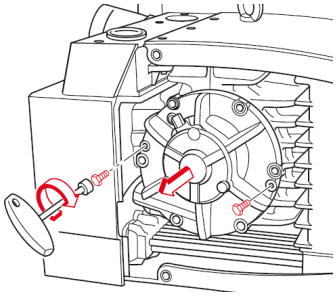
Check the slider width annually:

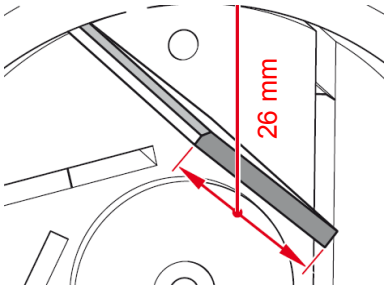
1. The minimum width of 26 mm of the slider (1) may not be undershot.
2. When replacing the slider, blow the housing with dry air.
3. The volume of grease consumed during disassembly must be replenished in the ball bearing.

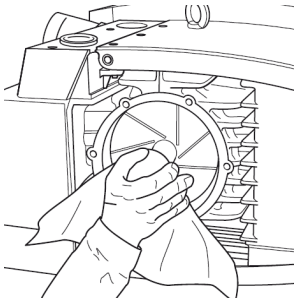
27.2.1 Remove the side cap

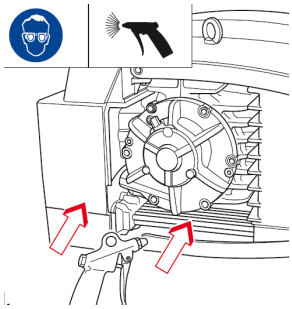




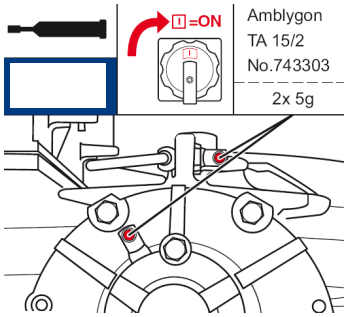


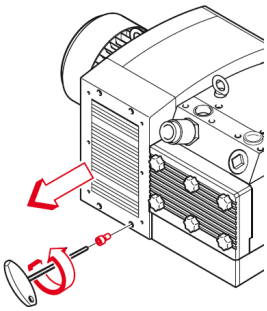


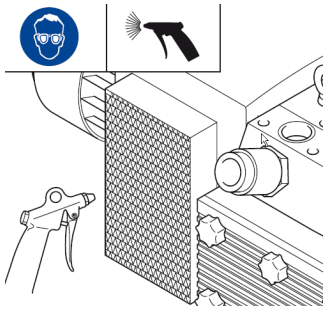




27.2.2 Lubrication







Clean the filter

27.2.3 Air filter compressor K1

■ Execution by the service technician.

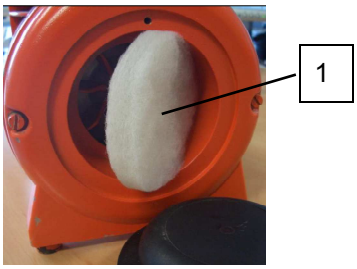


Fig. 41*: Filter of the compressor*

Clean the air filter on time or replace it if it is highly contaminated in order to avoid damages or jamming of the valves due to dirt.

Details regarding the time lags of the filter change are not available since the volume of the conveyed air alone determines the service life of the filter.

1. Remove the silencer.
2. Take out the filter.
3. Blow through the filter from the inside to the outside or tap it.
4. Replace the filter in case of heavy contamination. Article number for filter insert 20 13 40 00
5. When used, the soft porous side of the filter (1) must point externally towards the suction side.

Fig. 42*: Silencer opening*

6. Screw on the silencer.

NOTE!

The silencer opening is below.

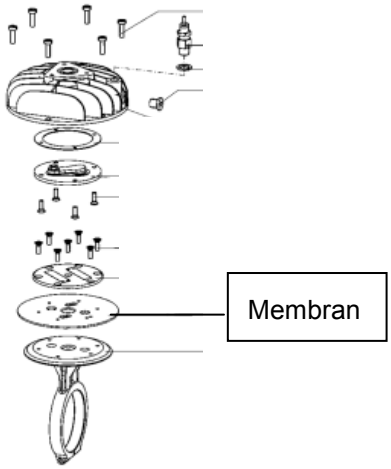


Fig. 43*: Membrane*

NOTE!

Valves:

The air compressor is equipped with valve springs made of a special material. The material selection guarantees that the springs shall not break even with the strongest load. Should a spring nevertheless break, the complete valve plate must be replaced.

Lubrication:

All the bearing points are equipped with sealed ball bearings. The bearings are sealed-for-life.

Membrane:

If the red pilot lamp flashes, the pressure is below 2.2 bar.

If the output of the device reduces after a long operating time, it must be attributed to the wear of the membrane. In this case, the membrane must be changed by a service technician.

27.3 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 used tools, materials and other equipments were 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.

28 Disassembly

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

28.1 Safety

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

Electrical system

DANGER!
Danger of death 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.

– Prior to beginning the disassembly, switch off the power supply and finally disconnect it.

Disassembly

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 at 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 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 fall over.
- In case of doubt, consult the dealer.

28.2 Disassembly

Clean the device for phasing out and disassemble under observance of applicable health and safety rules as well as environmental regulations.

Prior to starting the disassembly:

- Switch off device and secure against restarting.
- Physically separate the complete energy supply to the device, discharge stored residual power.
- Remove operating supplies as well as remaining processing materials and dispose of in an environment-friendly way.

28.3 Disposal

If no agreement for the recovery or the disposal was made, recycle the disassembled components:

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

Disassembly

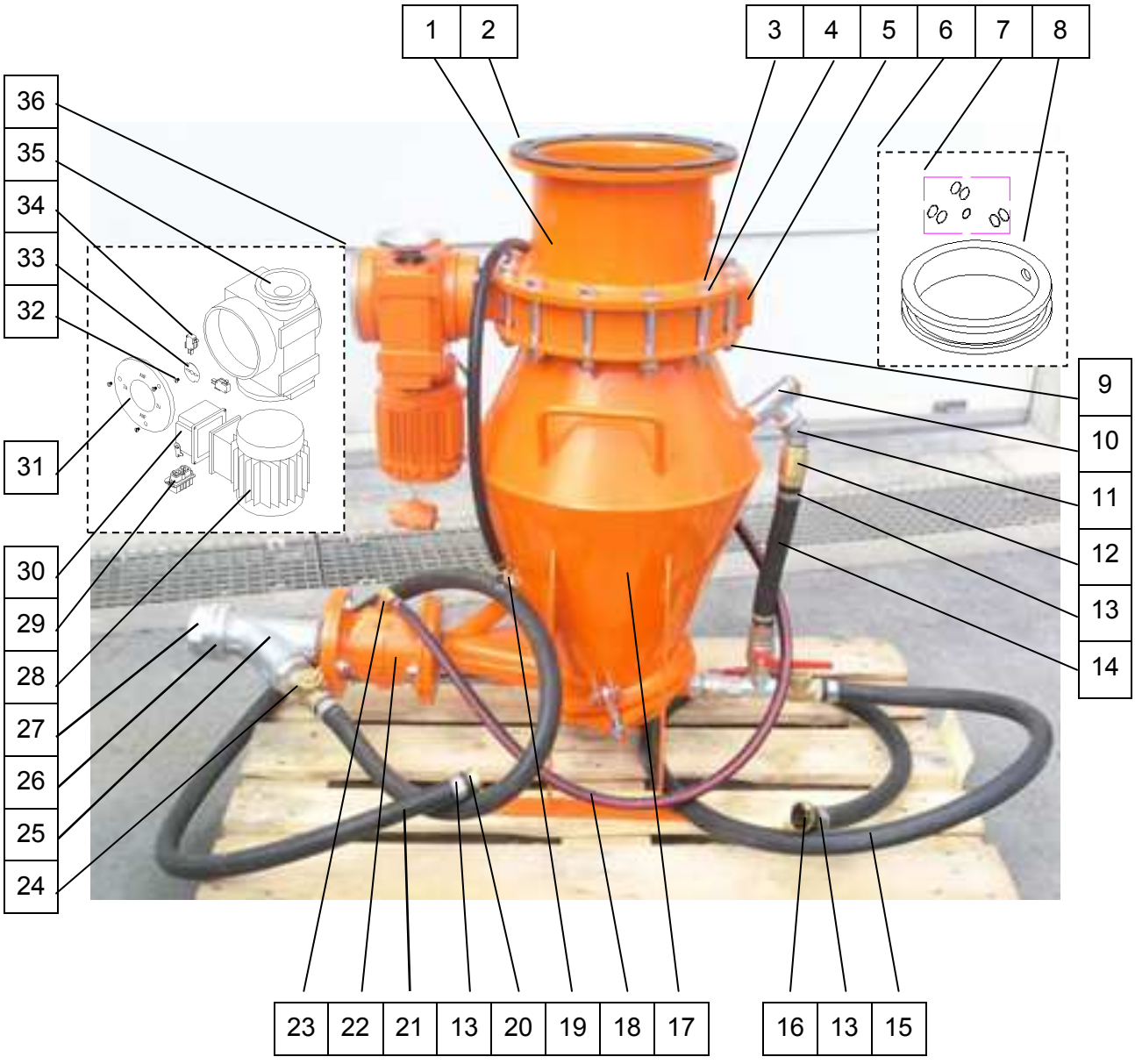
ATTENTION!
Environmental damage in case of incorrect disposal!

Waste from electronic and electrical equipment, electronic components, lubricants and other auxiliary materials are subject to hazardous waste treatment and must be disposed of by specialised companies only!

The local authority or special waste management operators can supply information on environmentally-friendly disposal.

29 Spare parts drawing, spare parts list

29.1 SILOJET III T carrier

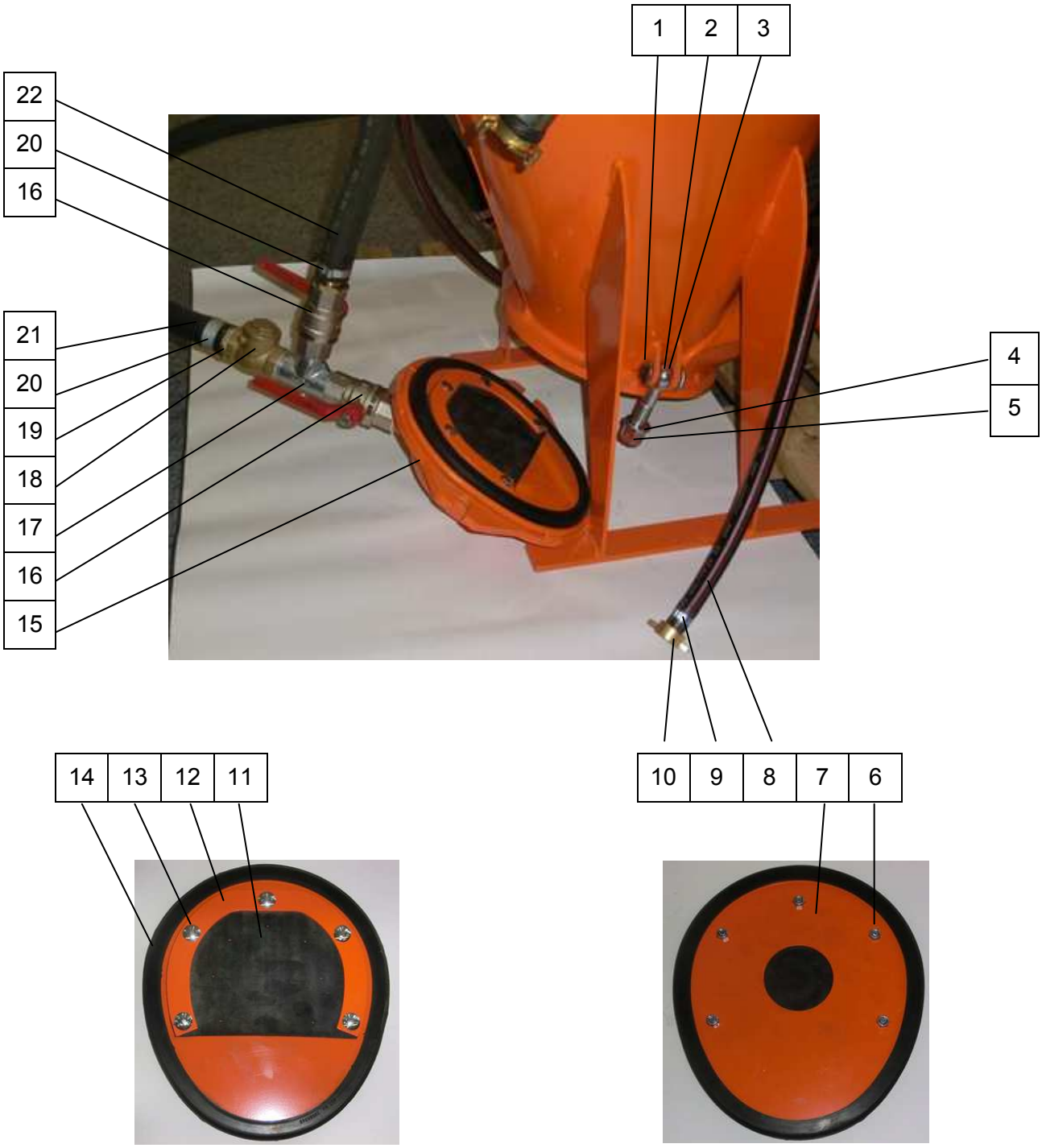


Spare parts drawing, spare parts list

Pos.	Quantity	Art. no.	Name
		00 46 22 82	SILOJET III carrier, RAL2004 squeeze valve, complete
1	1	00 10 54 38	Connecting piece of carrier reinforced SILOJET RAL2004
2	1	00 40 32 14	Silo flange gasket 325x262x4 mm
3	12	20 20 81 00	Hex. screw M16 x 110 galvanised
4	24	20 20 67 00	Washer B 17 galvanised
5	1	00 08 90 78	Shut-off unit NW 250 can be changed without actuator gasket
6	1	00 43 11 93	Shut-off unit gasket can be changed completely
7	1	00 10 26 58	Shut-off unit gasket can be changed NW250
8	1	00 19 52 58	Gasket set for shut-off unit SILOMAT
9	12	20 20 73 00	Safety nut M16 galvanised
10	1	00 41 94 44	T piece complete with O-ring, blind plugs
11	1	00 02 26 56	Angle 1" IG-AG 45° galvanised
12	1	20 21 91 00	Non-return valve 1" IG
13	4	20 20 29 10	Hose clip 34-37
14	1	00 00 10 59	Water/air hose 1" x 260 mm
15	1	00 00 15 36	Water/air hose 1" x 1800 mm
16	1	20 20 16 10	Geka coupling 1" sleeve (VPE10)
17	1	20 56 63 03	SILOMAT RAL2004 carrier
18	1	20 21 35 04	Water hose/air hose 1/2" x 2500mm
19	1	00 20 85 01	Hose coupling sleeve 1/ 2“, coupling nut 3/4"
20	1	00 00 10 43	Hose coupling with coupling nut 1”, sleeve
21	1	20 21 36 20	Water/air hose 1" x 2500 mm
22	1	00 01 08 41	Squeeze valve DF 2" IG
23	1	00 15 32 02	Angle 3/8" AG with sleeve 1/2"
24	1	00 42 70 19	Non-return valve 1" IG PN16 MS
25	1	20 20 45 02	T piece 2" IG 45 ° galvanised
26	1	20 65 61 01	Fixed coupling C DIN 2" AG
27	1	20 65 71 00	Blind cover C DIN with chain
28	1	00 08 08 62	Motor for the Flender CA21 type 6 actuator
29	1	20 43 23 00	Pin insert 10-pin HAN 10E
30	1	00 01 20 85	Socket housing 10-pin, type 6 actuator
31	1	20 56 19 01	Clear cover for actuator CA21 D=143
32	1	20 56 19 20	Screw for control disc
33	1	20 56 19 10	Control disc for Flender actuator
34	2	20 45 65 10	Micro switch for the actuator, new
35	1	20 56 18 00	Hand valve for actuator
36	1	00 45 10 07	Actuator 60 Hz type 6 RAL2004

Spare parts drawing, spare parts list

29.2 SILOJET III T carrier

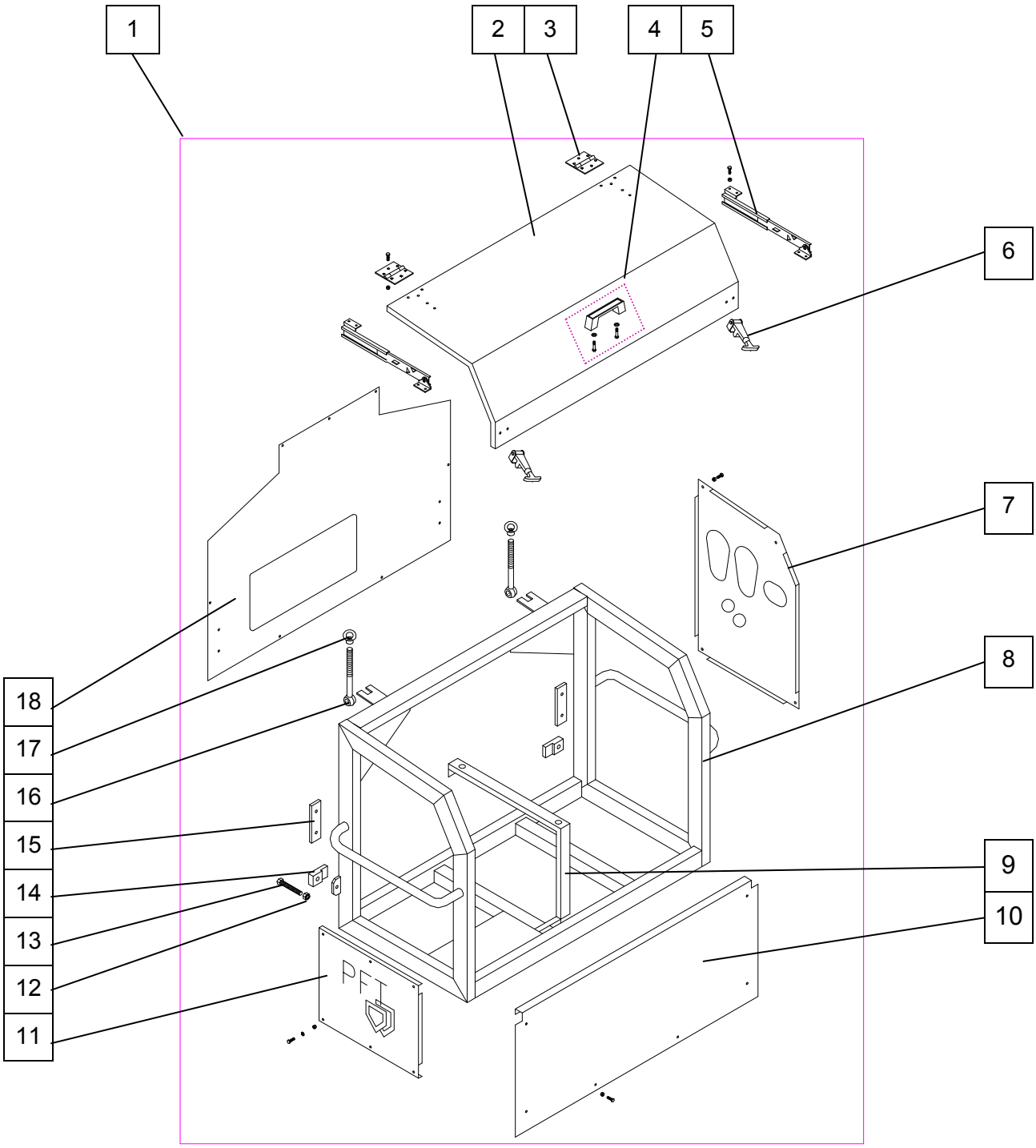


Spare parts drawing, spare parts list

Pos.	Quantity	Art. no.	Name
1	4	20 20 86 04	Quick fastener with cap 16 s x N 2 7
2	2	20 20 85 00	Eye screw M16 x 80 galvanised
3	2	20 70 58 02	Bolts A16 H11 x 50 pc. galvanised 1.5 x 30°
4	2	20 20 67 00	Washer B 17 galvanised
5	2	20 20 99 21	Collar nut M16 galvanised
6	5	20 20 72 00	Safety nut M8 galvanised
7	1	00 46 23 32	Emulsifier plate for carrier RAL2004
8	1	20 21 35 04	Water hose/air hose 1/2" x 2500mm
9	2	00 05 91 96	Hose clip 19-21
10	1	00 20 85 01	Hose coupling sleeve 1/ 2“, coupling nut 3/4"
11	1	00 46 23 21	Emulsifying rubber for SILOMAT carrier
12	1	00 46 23 27	Clamping plate, emulsifying rubber for carrier RAL2004
13	5	20 20 63 14	Saucer-head screw M8 x 16 galvanised
14	1	20 56 60 40	Emulsifier binding gasket
15	1	20 56 64 03	Emulsifier cleaning cover, rollable RAL2004
16	2	20 21 51 51	Ball valve 1" IG
17	1	20 20 41 50	T piece 1" AG galvanised
18	1	00 42 70 19	Non-return valve 1" IG
19	1	20 20 37 70	Hose coupling 1" AG sleeve 1"
20	2	20 20 29 10	Hose clip 34-37
21	1	00 00 15 36	Water/air hose 1" x 1800 mm
22	1	00 00 10 59	Water/air hose 1" x 260 mm

Spare parts drawing, spare parts list

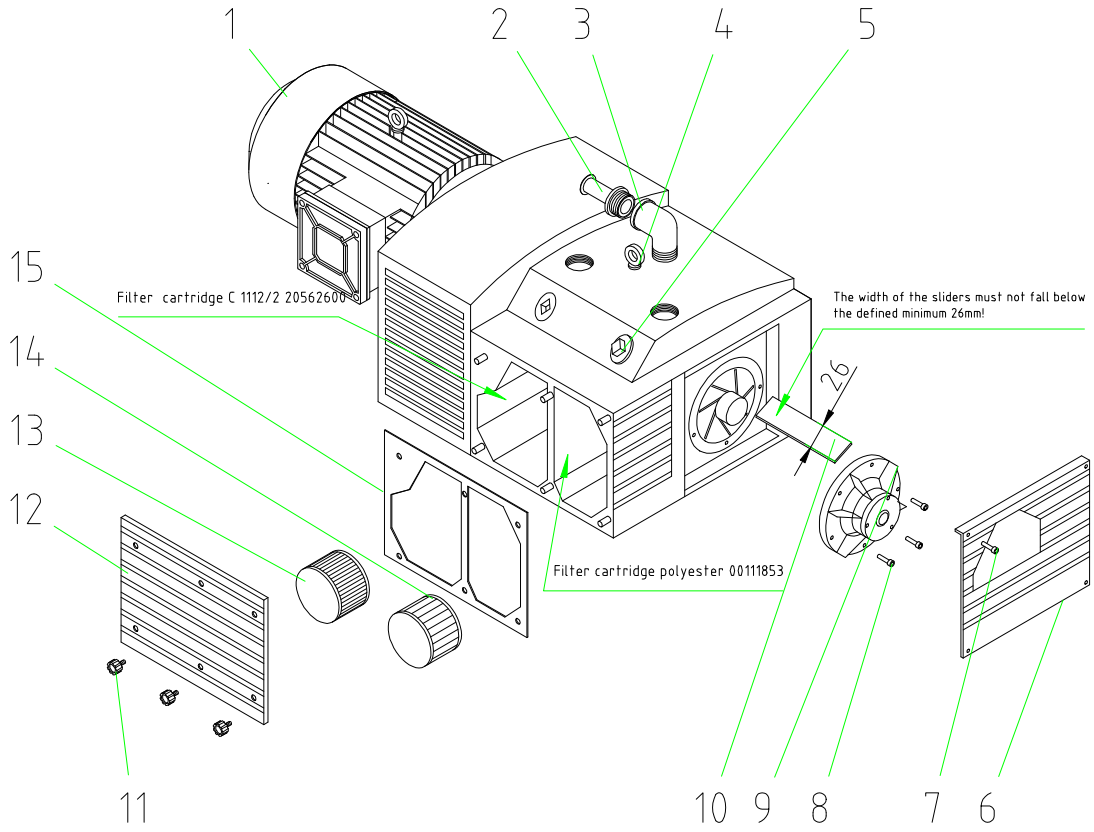
29.3 SILOJET III XXL frame

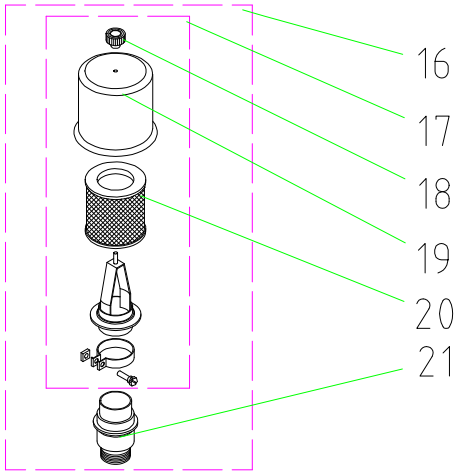


Spare parts drawing, spare parts list

Pos.	Quantity	Art. no.	Name
1	1	00 46 25 73	SILOJET III T 120 60 Hz frame, complete
2	1	00 46 22 89	Cover hood for SILOJET III T RAL2004 frame
3	2	00 02 37 01	Hinge 80x80x3 MG 40 galvanised
4	1	00 02 02 86	Plastic handle B8-45
5	2	00 01 12 94	Flap support
6	2	20 17 16 21	Fender support
7	1	00 46 22 95	Right cladding SILOJET III T RAL2004
8	1	00 20 50 82	Frame SILOJET III galvanised
9	1	00 46 23 04	Bracket for control cabinet SILOJET III T RAL2004
10	1	00 46 22 99	Front cladding SILOJET III T RAL2004
11	1	00 46 22 93	Left cladding SILOJET III T RAL2004
12	2	20 20 89 00	Safety nut M12 galvanised
13	2	20 20 78 22	Hex. screw M12 x 60 galvanised
14	2	20 10 34 37	Clamping plate for control cabinet CP galvanised
15	2	00 01 09 50	Rubber stop 140 x 35 x 10
16	2	20 20 84 10	Eye screw M12 x 150 galvanised
17	2	00 02 33 54	Ring nut M12 galvanised
18	1	00 46 22 98	Rear cladding SILOJET III RAL2004

29.4 Rotary compressor KDT 3.120 T 7.8 KW article number 00 21 20 08

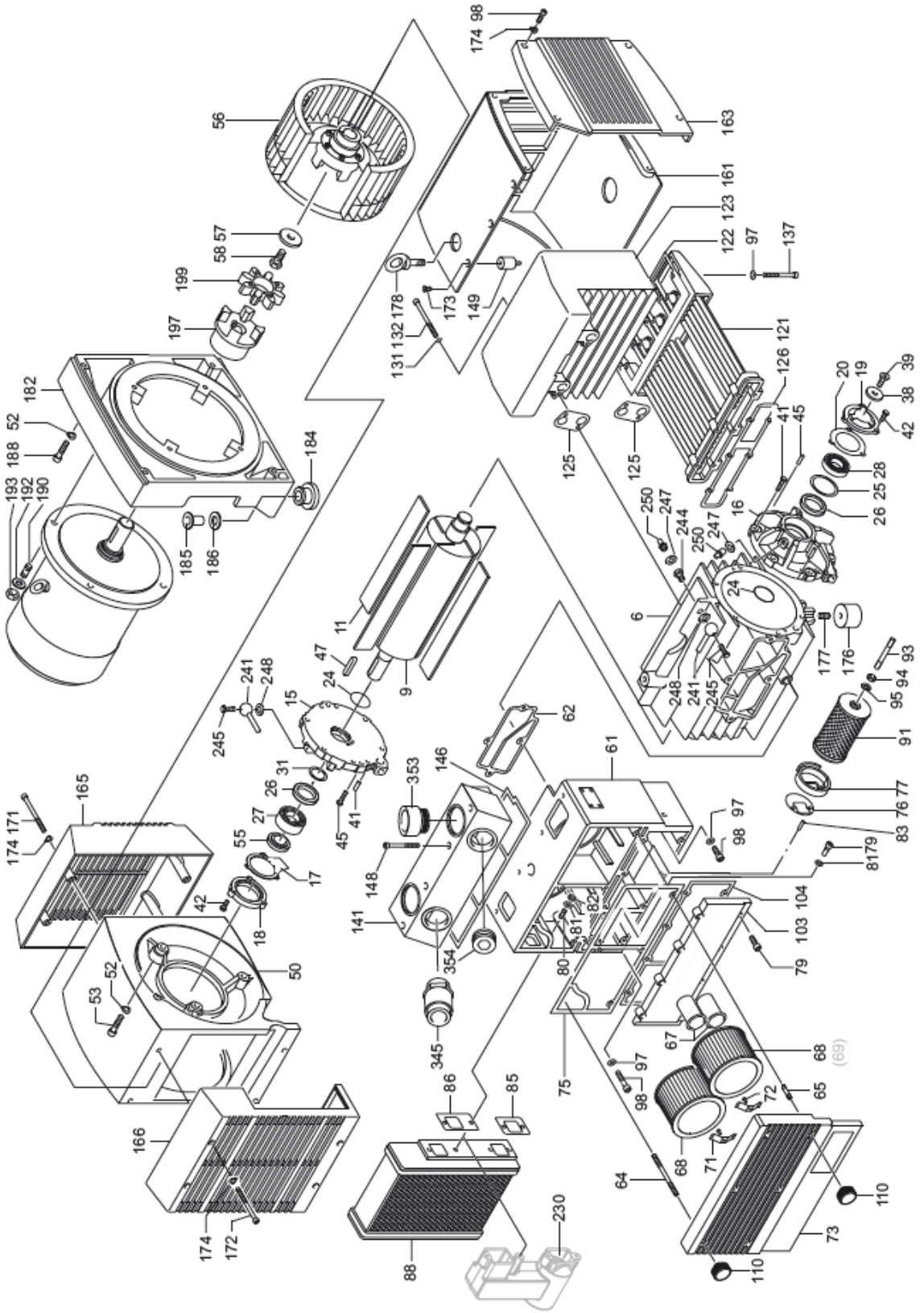




Spare parts drawing, spare parts list

Pos.	Quantity	Art. no.	Name
1	1	On request	Motor 7.8 kW 17.5 A
2	1	00 10 47 87	Silencer
3	1	00 02 35 77	Angle 1 1/2" IG-AG galvanised
4	1	On request	Ring screw
5	1	00 03 62 02	Blind plugs 1 1/4" galvanised
6	1	On request	Cover
7	1	On request	Screw
8	1	On request	Screw
9	1	On request	Right side cap
10	1	00 43 12 06	Rotor slider (1 set = 7 pieces)
11	6	On request	Screws
12	1	On request	Filter cover
13	1	20 56 26 00	Filter cartridge C 1112/2
14	1	00 11 18 53	Polyester filter cartridge
15	1	On request	Filter cover gasket
16	1	00 10 49 28	Suction filter, complete
17	1	00 09 06 31	Suction filter
18	1	On request	Knurled screw
19	1	00 09 06 32	Suction filter housing
20	1	00 09 06 34	Filter cartridge
21	1	00 10 47 85	Intake port

Spare parts drawing, spare parts list



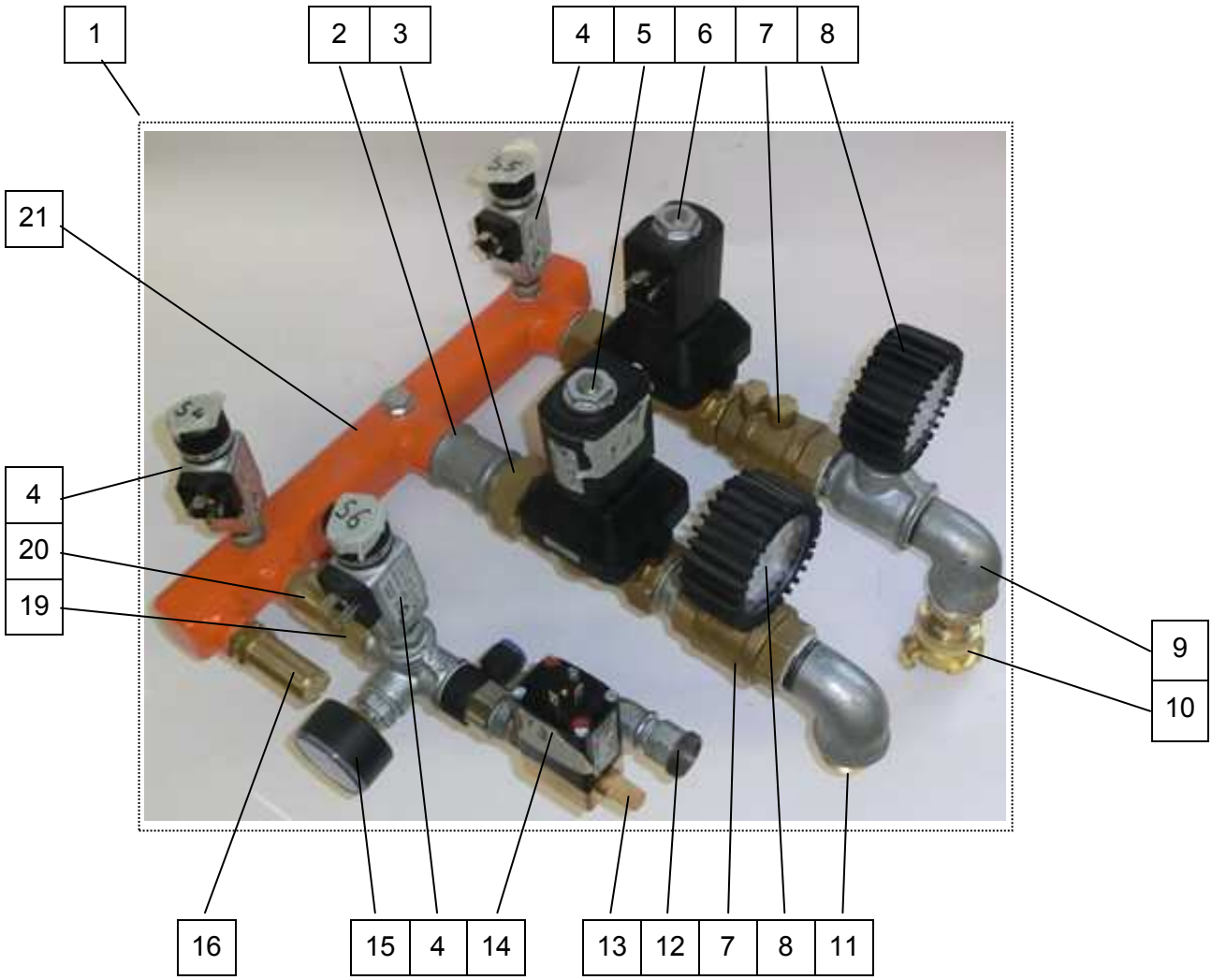
Spare parts drawing, spare parts list

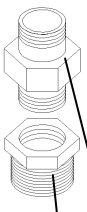
Pos.	Art. no.	Name
103	00212709	Gasket set for dry running water meter
104	00129795	Filter cover gasket
121	00212703	Cooler
122	00129796	Gasket
126	00129797	Cooler gasket below
141	00129798	Connection strip for the filter housing
146	00129799	Gasket for connection strip

Gasket set for rotary compressor – art. no. 00162970 – pos.: 17, 20, 24, 62, 75, 76, 85, 86, 104, 122, 125, 126, 146

Spare parts drawing, spare parts list

29.5 Pressure control SILOJET T120 60 Hz DFQ complete



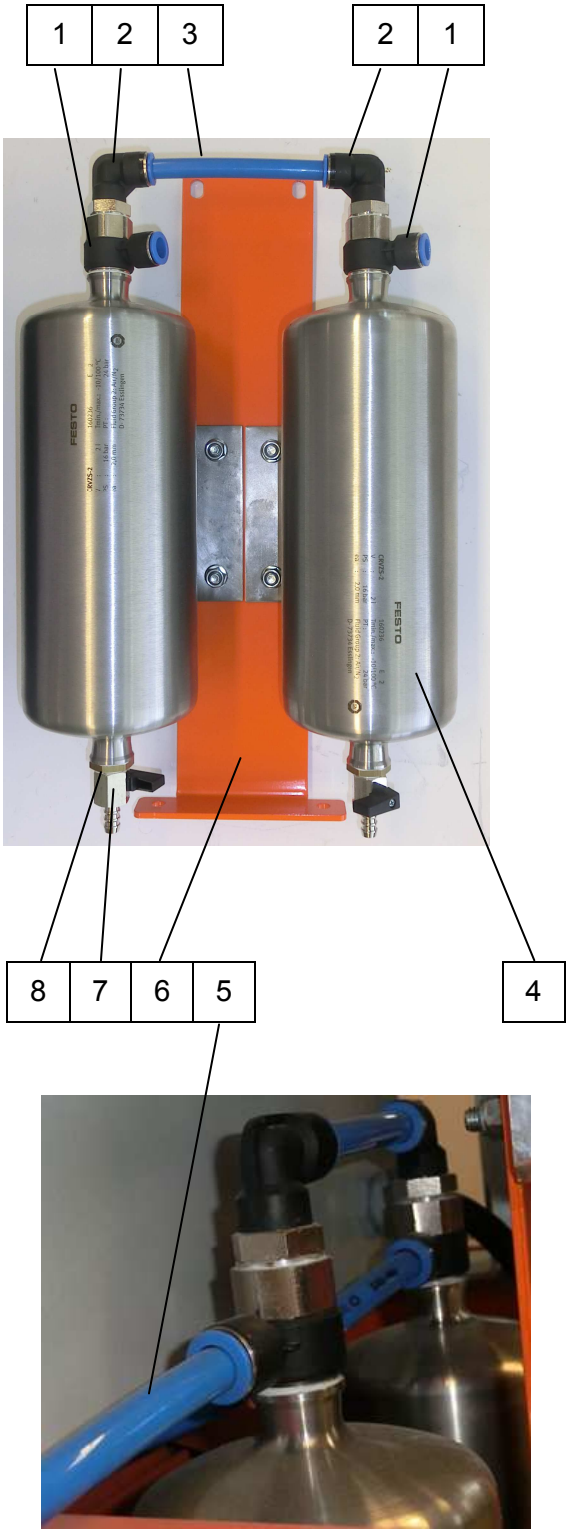


Spare parts drawing, spare parts list

Pos.	Quantity	Art. no.	Name
1	1	00 46 25 01	Pressure control SILOJET T120 60 Hz DFQ complete
2	1	20 20 30 04	Bushing 1" x 40 galvanised
3	1	00 00 11 27	Screwed connection 1" brass
4	3	00 08 26 79	Pressure switch type BC 0.5 - 3 bar
5	1	00 46 72 92	Solenoid valve 1" 42 V type 6213A 6 mm drilled
6	1	00 00 27 73	Solenoid valve 1" 42 V type 6213 A
7	2	00 12 43 72	Non-return valve 1"IG with ventilation 1/4"IG
8	2	20 21 59 00	Pressure gauge 0-4 bar 1/4" below, D = 63 mm
9	1	20 20 36 20	Angle 1" IG-AG galvanised
10	1	20 20 16 91	Suction high-pressure coupling 1" AG with gasket
11	1	00 00 10 47	Double nipple hexagonal 1" brass
12	1	00 20 85 05	Screw-in part R1/4"-G5/8" galvanised
13	1	20 56 74 05	Silencer sintered bronze 1/4" AG
14	1	00 01 08 45	Solenoid valve 3/2-way 42 V 1/4" type 330
15	1	00 00 93 67	Pressure gauge 0-4 bar 1/4" rear, D = 50 mm
16	1	20 56 49 02	Safety valve 1/2" 2.8 bar
17	1	00 00 11 27	Screwed connection 1" brass
18	1	20 20 50 10	Reducing nipple 1 1/2"AG 1"IG galvanised
19	1	00 00 11 26	Screwed connection 1/2" brass
20	1	20 21 90 50	Non-return valve 1/2" IG
21	1	00 10 47 71	Distributor pipe SILOMAT, dry running water meter KDT RAL2004

Spare parts drawing, spare parts list

29.6 Compressed air reservoir SILOJET T120 60 Hz

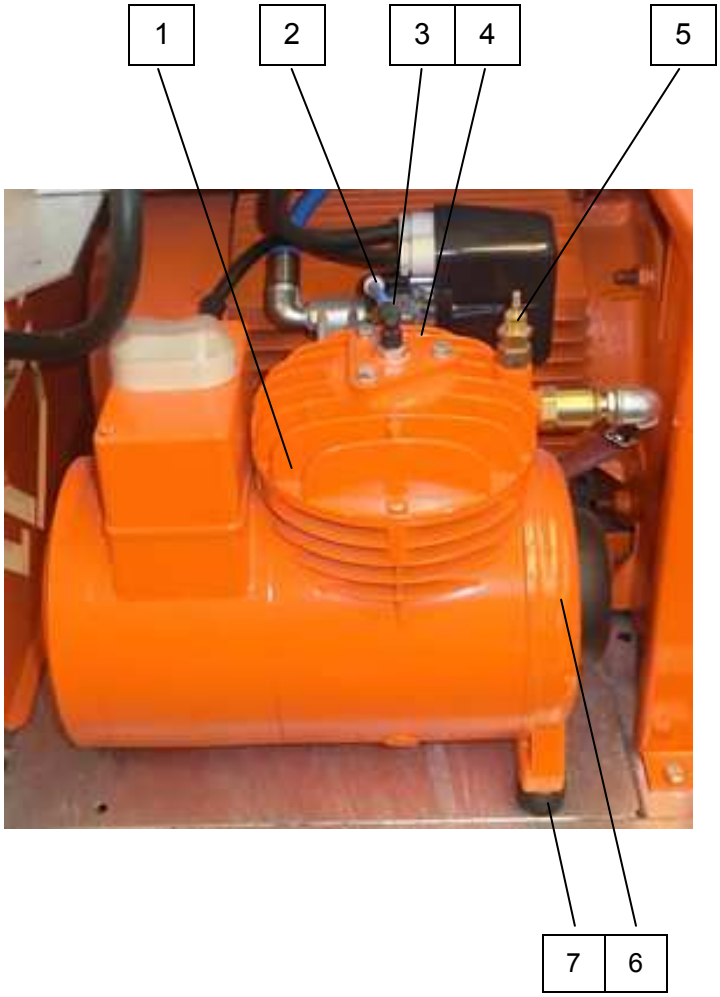


Spare parts drawing, spare parts list

Pos.	Quantity	Art. no.	Name
1	2	00 06 59 00	T connection QSTF - G 1/2-12
2	2	00 44 79 64	L connection QSL- PG-1/2-12
3	2	00 06 60 03	Polyamide hose blue 12 x 2.0 0.4 M
4	2	00 06 58 66	Compressed air reservoir DM-11
5	2	00 06 60 03	Polyamide hose blue 12 x 2.0 0.8 M
6	1	00 46 34 28	Support for Compressed air reservoir RAL2004
7	2	20 21 53 00	Ball valve 1/4" AG with sleeve 10 mm
8	2	00 06 58 90	Reducing nipple 1/2"AG 1/4"IG MS

Spare parts drawing, spare parts list

29.7 Air compressor K 1



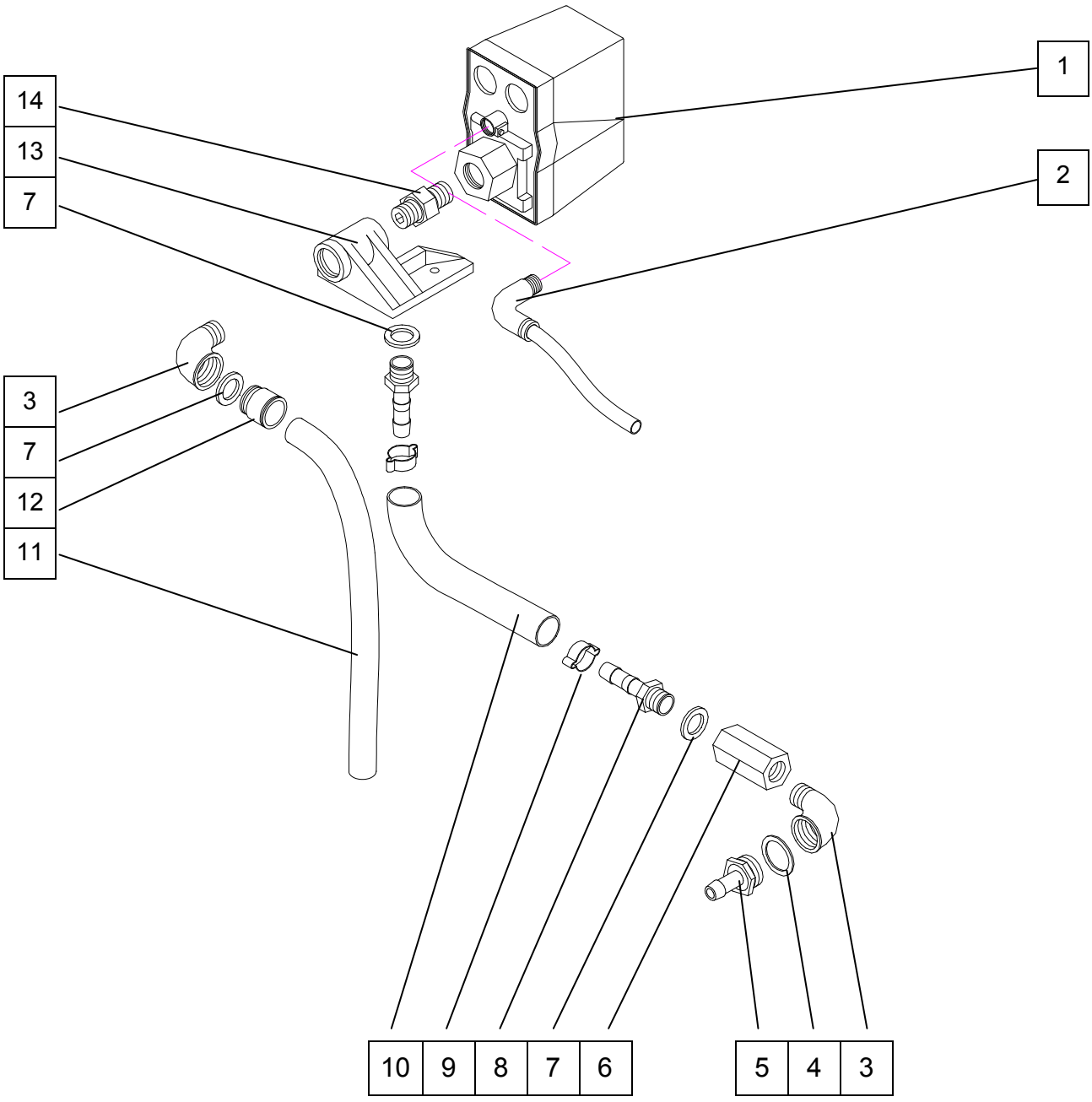
If the air compressor with article number 00 01 09 72 is ordered, the motor protection switch must be removed and the carrying handle must be dismantled.
Screw on the adapter plate (4) and L connection (3) to the air compressor.

Spare parts drawing, spare parts list

Pos.	Quantity	Art. no.	Name
1	1	00 01 09 72	Air compressor K1 with cable
2	1	00 05 06 48	Polyamide hose PA12 6x4x1 running metre 27 bar
3	1	00 20 84 99	L connection QSL- 1/4-6
4	1	00 20 77 42	Adapter plate K1 ventilation RAL2004
5	1	20 13 12 00	Safety valve 1/4" 3.5 bar with gasket ring
6	1	20 13 40 00	Filter insert D=100
7	3	00 02 37 27	Rubber-metal buffer D30 x 20, M8 form A

Spare parts drawing, spare parts list

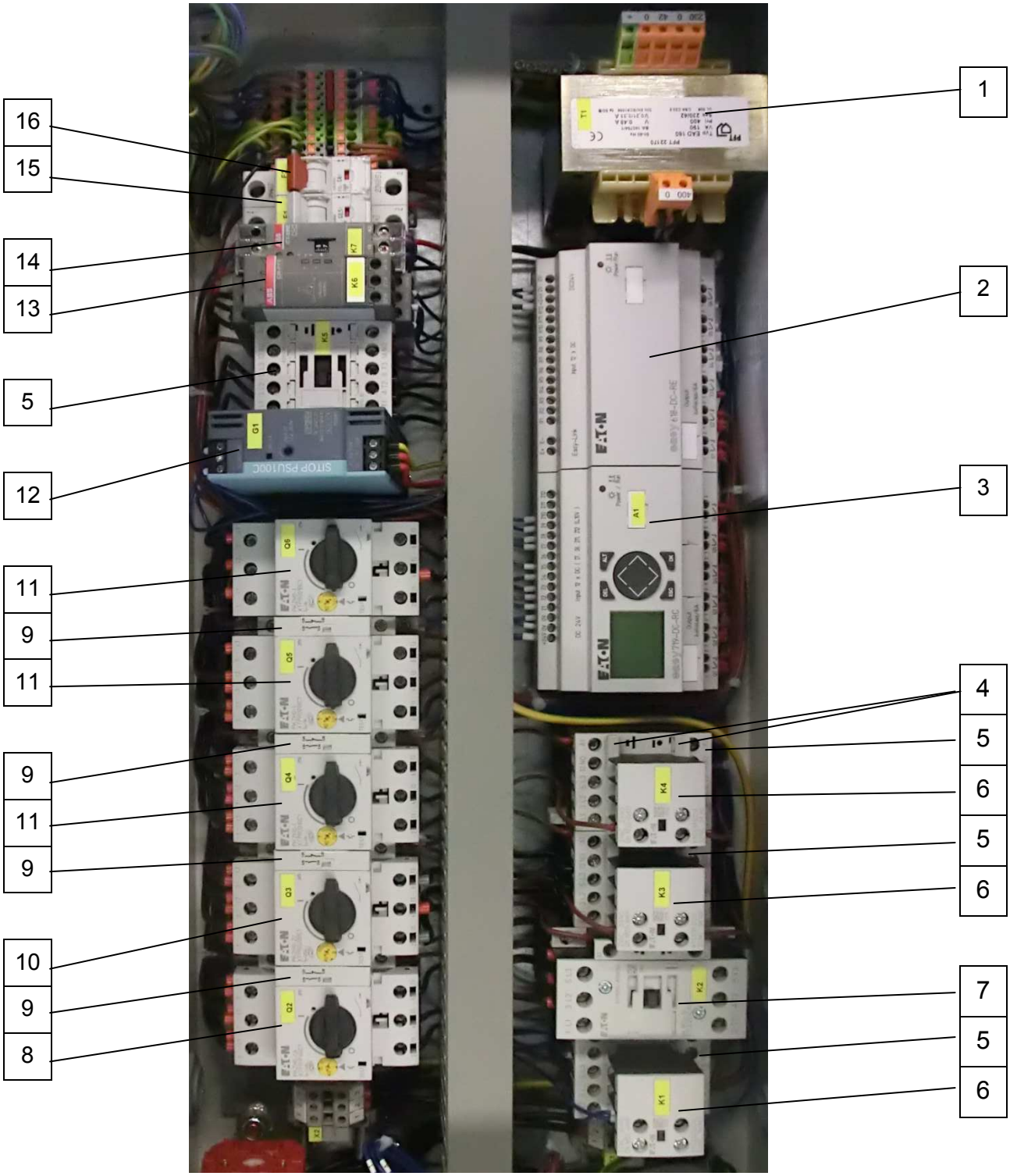
29.8 Pressure switch-off for compressor K 1



Spare parts drawing, spare parts list

Pos.	Quantity	Art. no.	Name
1	1	00 20 84 97	Pressure switch type MDR 4S 1.5-6 bar 1/4"
2	1	00 20 85 00	Angled screw coupling 6 mm relief duct
3	1	20 20 36 50	Angle 1/4" IG-AG galvanised
4	1	20 15 52 10	Gasket ring D21 x 14 x 3 PTFE drain tap on the pressure reducer
5	1	20 20 21 03	EWO coupling V-part 1/4" AG
6	1	20 21 90 51	Double non-return valve 1/4" IG
7	1	20 13 47 00	Gasket ring 13 x 20 x 2
8	2	00 01 02 42	Hose coupling 1/4" AG sleeve 10 mm
9	2	20 20 26 10	Hose clip 14-17 (pack.unit=10 pieces)
10	1	20 19 05 10	Hose section 9 mm x 310 mm
11	1	00 06 60 03	Polyamide hose blue 12 x 2.0
12	1	00 06 59 01	Connection QS - 1/4-12
13	1	20 13 01 06	Distributor for pressure switch-off
14	1	20 20 37 12	Screwed connection 1/4" AG brass for pressure switch-off

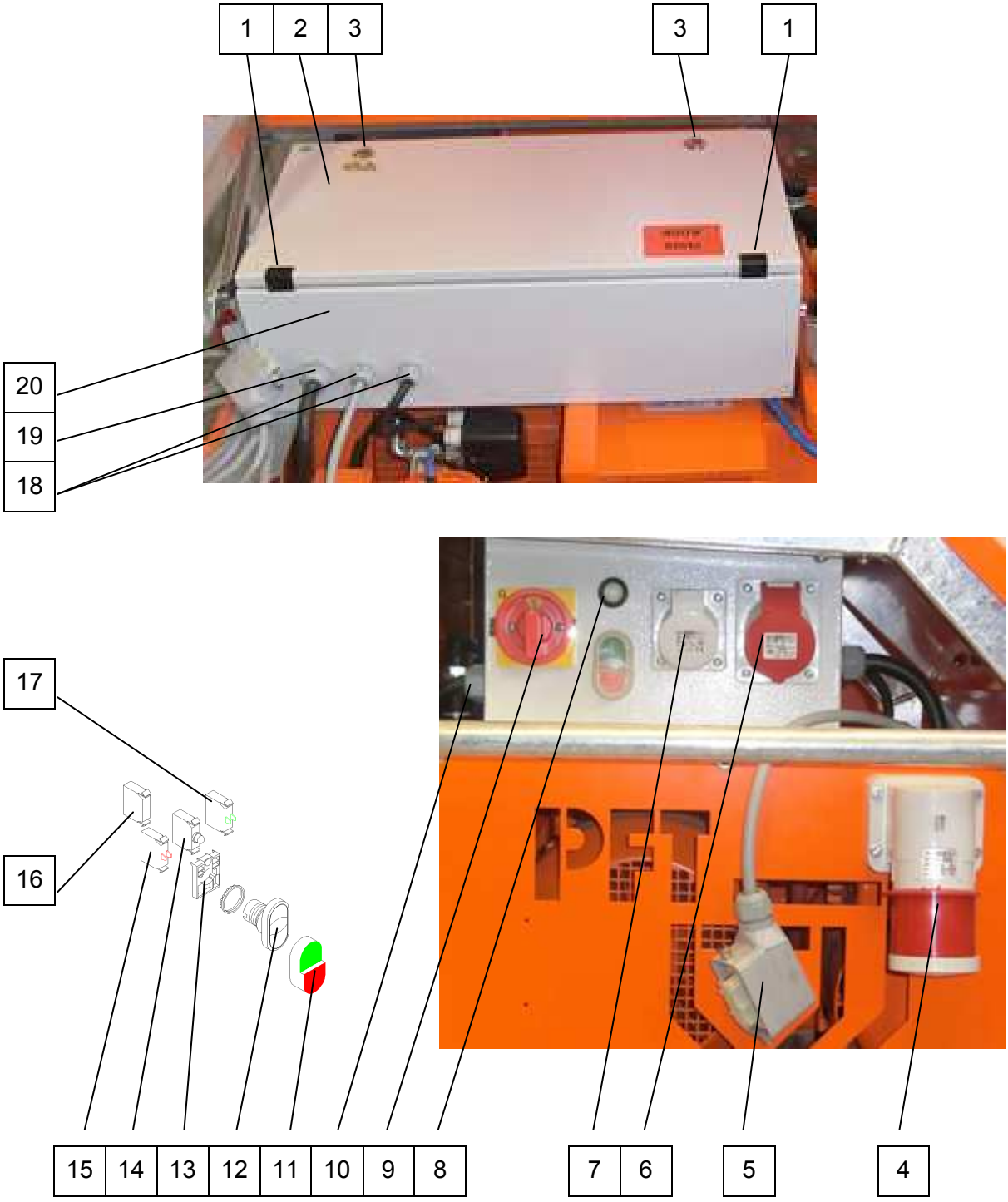
29.9 SILOJET III XXL 60 Hz control cabinet



Spare parts drawing, spare parts list

Pos.	Quantity	Art. no.	Name
		00 46 26 89	Silojet XXL 400V 60 Hz control cabinet
1	1	00 09 08 77	Control transformer 400V-48V/230V 190VA 50/60Hz
2	1	00 25 56 39	PLC extension EASY618-DC-RE
3	1	00 47 24 67	PLC control system Easy 719-DC-RC 24V DC programmed
4	1	00 46 23 29	Reversing starter wiring kit DILM12-XRL
5	4	00 08 42 24	Air-break contactor DIL M15-10 42V GVP
6	3	00 08 52 93	Auxiliary switch DILM 32-XHI11 1S / 1Oe
7	1	00 08 42 26	Air-break contactor DIL M25-10 42V
8	1	00 04 26 00	Motor protection switch 1-1.6A PKZM 0-1.6
9	4	00 02 14 01	Auxiliary contactor NHI-11-PKZO
10	1	00 04 35 51	Motor protection switch 16-20A PKZM 0-20
11	3	00 04 25 99	Motor protection switch 0.63-1A PKZM 0-1
12	1	00 46 23 39	Switching power supply 100-230V/24VDC 1.3 A
13	1	20 45 27 51	Phase sequence relay 200-500V type FPF2
14	1	20 45 27 40	Time relay 42 V, 0.5-10 sec.
15	1	00 04 63 79	Miniature circuit breaker C 0.5 A 1-pin
16	1	00 08 31 38	Miniature circuit breaker C 4A 1-pin

Spare parts drawing, spare parts list



Spare parts drawing, spare parts list

Pos.	Quantity	Art. no.	Name
1	2	00 05 37 67	Hinge 180° complete
2	1	00 46 23 55	Silojet III T 120 RAL 7035 door
3	2	00 03 62 49	Lock double bit, complete
4	1	00 00 21 29	CEE connection plug 5 x 32A 6h red with flap lid
5	1	00 46 40 42	Control cable 10-pin for actuator 3 m, complete
	1	00 04 06 71	Sleeve housing 10-pin HAN 10 E 16A
	1	20 43 22 00	Socket insert 10-pin HAN 10 E
6	1	20 42 66 10	CEE socket outlet 4 x 16A 6h red
7	1	20 42 64 00	CEE socket outlet 3 x 16A 12h white
8	1	00 46 23 24	Indicator lamp LED 24V DC multi-coloured
9	1	00 20 64 58	Main switch 4-pin
10	6	00 04 11 41	Skintop screw connection M16x1.5
	6	00 04 11 43	Skintop counter nut M 16 x 1.5
11	1	00 05 38 31	Test membrane square for double pushbutton M22-TDD
12	1	00 05 38 32	Luminous pushbutton ON/OFF M22
13	1	00 05 38 34	Fastening adapter M22
14	1	00 05 38 81	Luminous element white 12-30V
15	1	00 05 38 36	Contact element 1 opener M22 - K01
16	1	00 05 38 86	LED - resistor - additional series resistor 42 V
17	1	00 05 38 35	Contact element 1 closer M22 - K10
18	2	00 04 11 27	Skintop screw connection M 20 x 1.5
	2	00 04 11 45	Skintop counter nut M 20 x 1.5
19	2	00 04 11 42	Skintop screw connection M 25 x 1.5
	2	00 04 11 46	Skintop counter nut M 25 x 1.5
20	1	00 46 23 44	Empty housing Silojet III T120 RAL 7035

30 Annexe

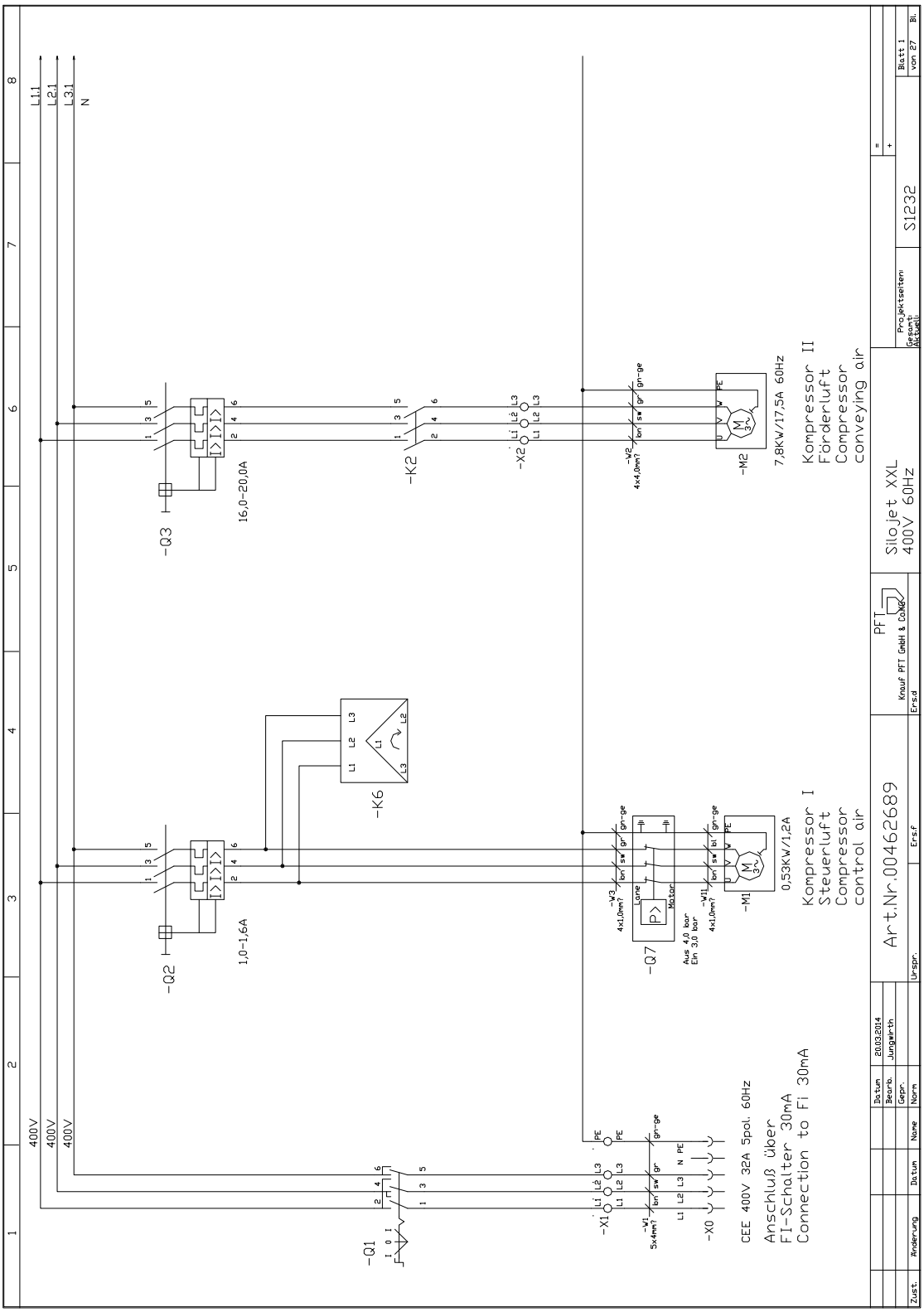
30.1 Checklist for expert assessment

(Master)

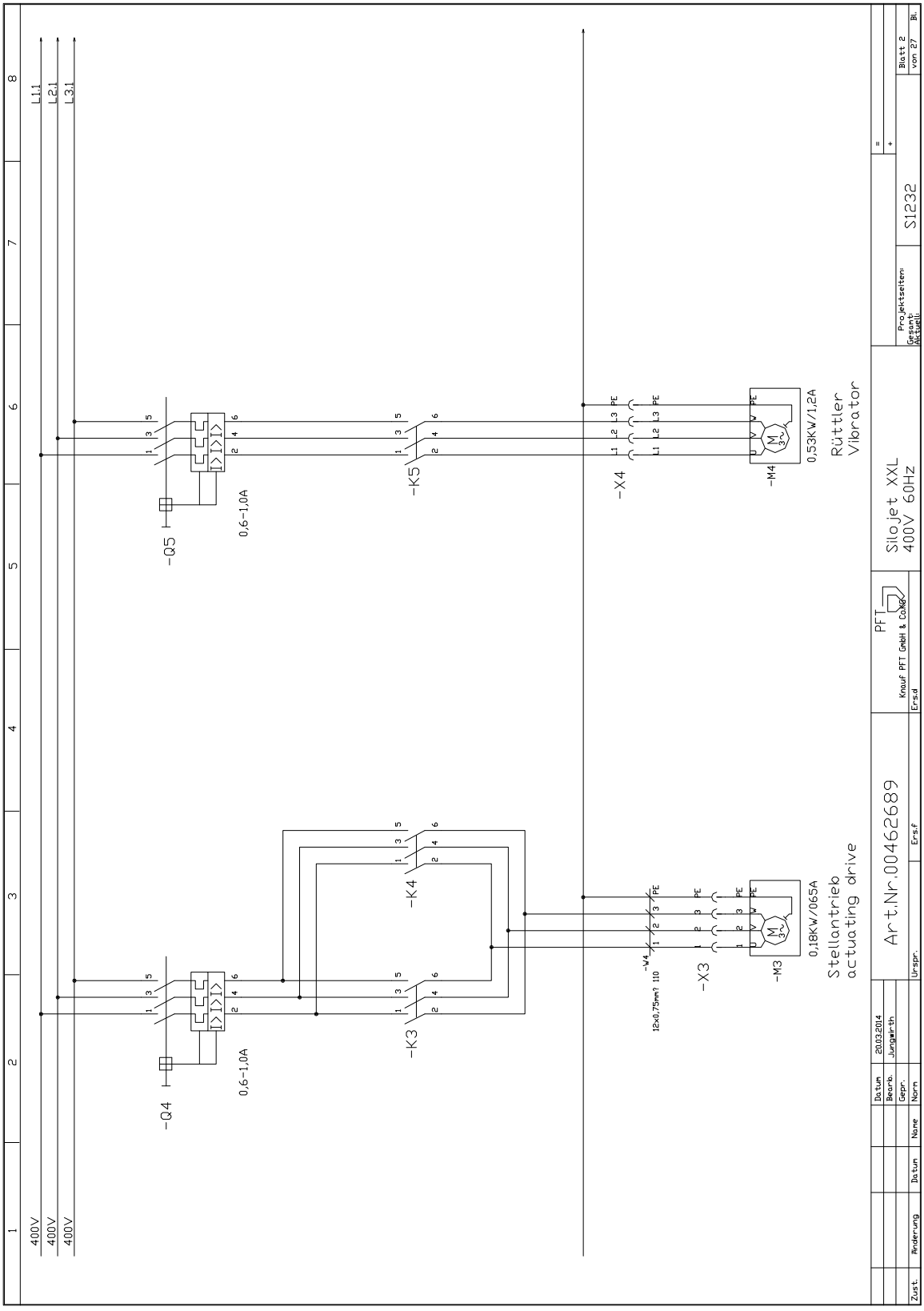
In accordance with BGR 183 (rules and regulations of the employers' liability insurance association) has to be carried out once a year. A test badge will be attached to the machine and control cabinet as proof of this assessment. The test report has to be shown on demand.

Assembly unit	Part	OK	Rework/Replacement
Supporting frame	Check the welding seams		
	Check the deformation		
Compressor	Compressor state		
	Air volume		
	Air filter		
	Fan wheel/fan cover		
	Motor connection cable		
	Terminal box		
	Pressure switch		
	Pressure gauge		
	Safety valve		
	Non-return valve		
Control cabinet	Control cabinet state		
	Leak-tightness		
	Warning label		
	Main switch		
	Selector switch		
	Protective bonding circuit		
	Motor protection switch		
	Pilot lamps		
	Cable connections (fixed)		
Carrier	Actuator		
	Shut-off flap valve		
	Carrier		
	Emulsifier perforated sheet		
	Ball valve		
Assembly unit	**Part**	**OK**	**Rework/Replacement**
Accessories	Power cable		
	Control cable		
	Conveying hoses		
Assembly unit	**Part**	**OK**	**Rework/Replacement**
Accessories	Name plates		
	Circuit diagrams		
	Operating Manual		

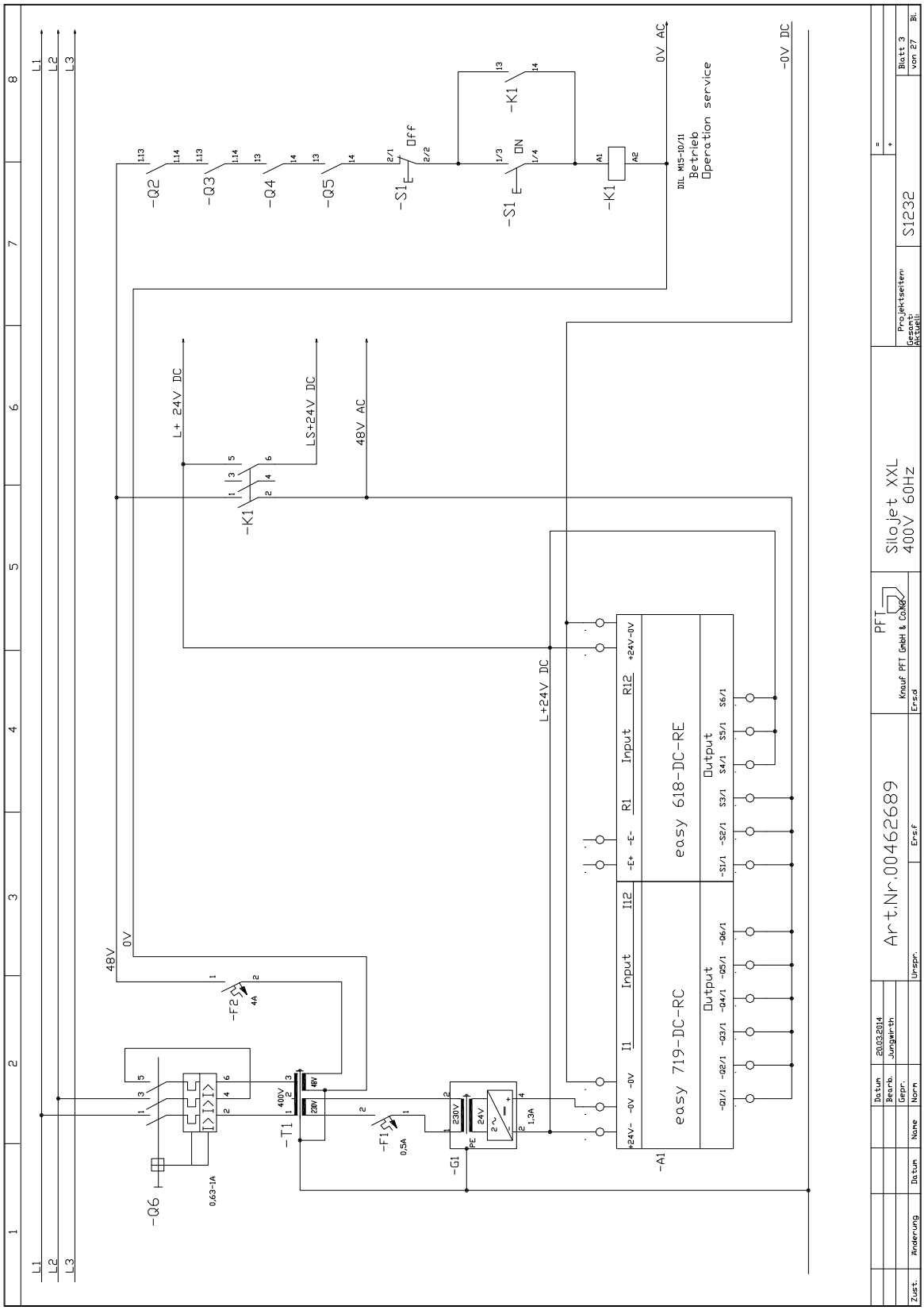
31 Circuit diagrams



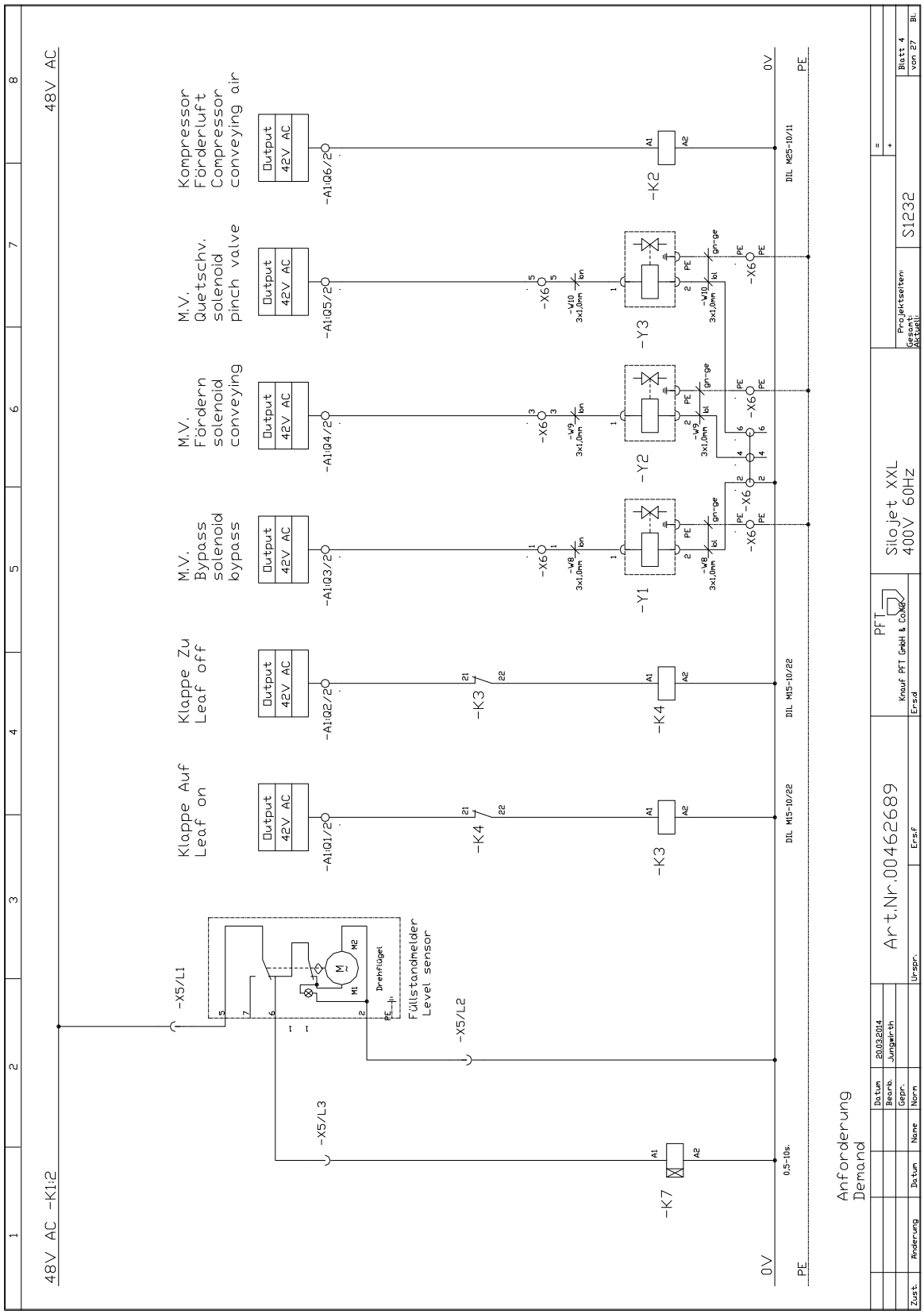
Circuit diagrams



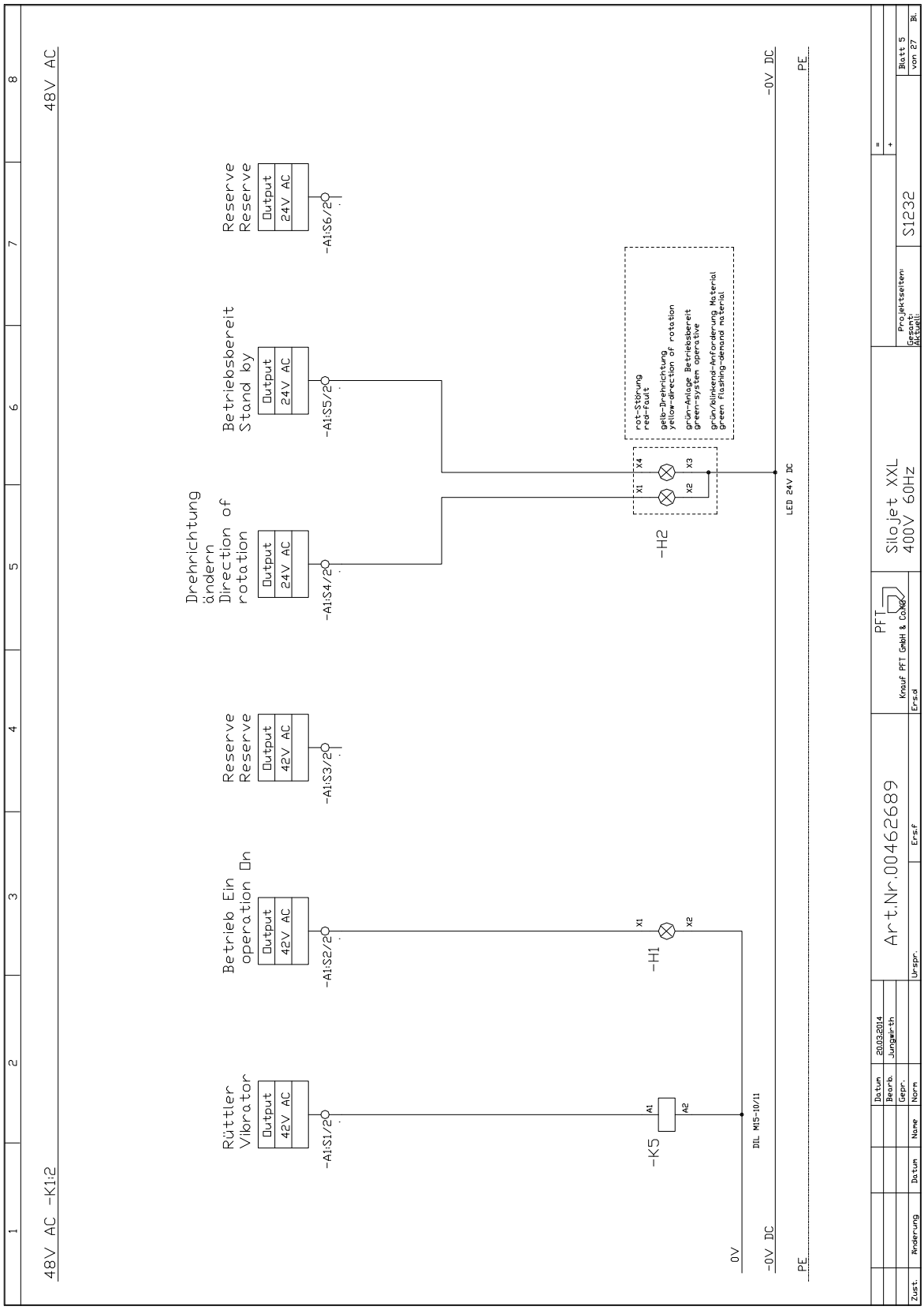
Circuit diagrams



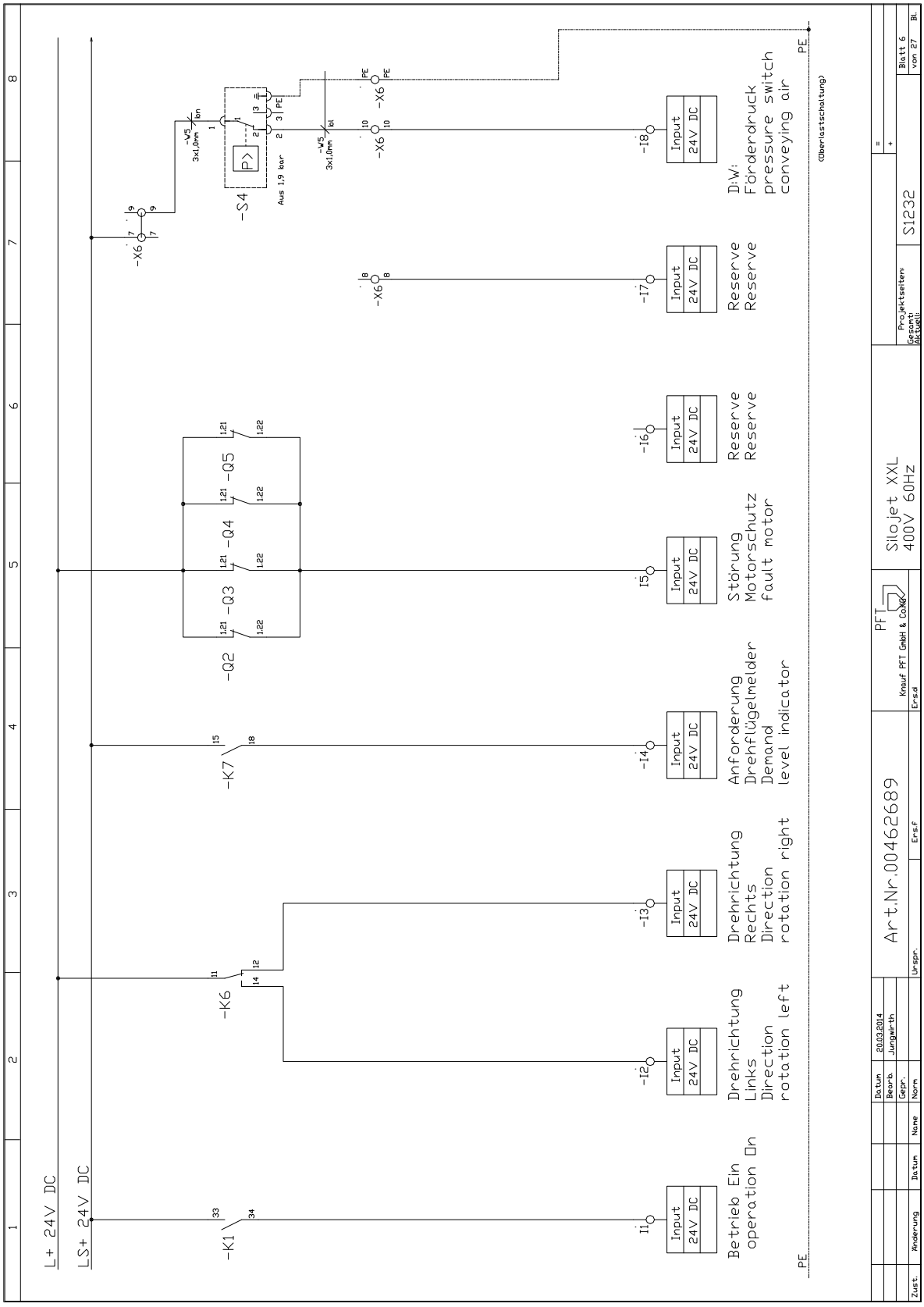
Circuit diagrams



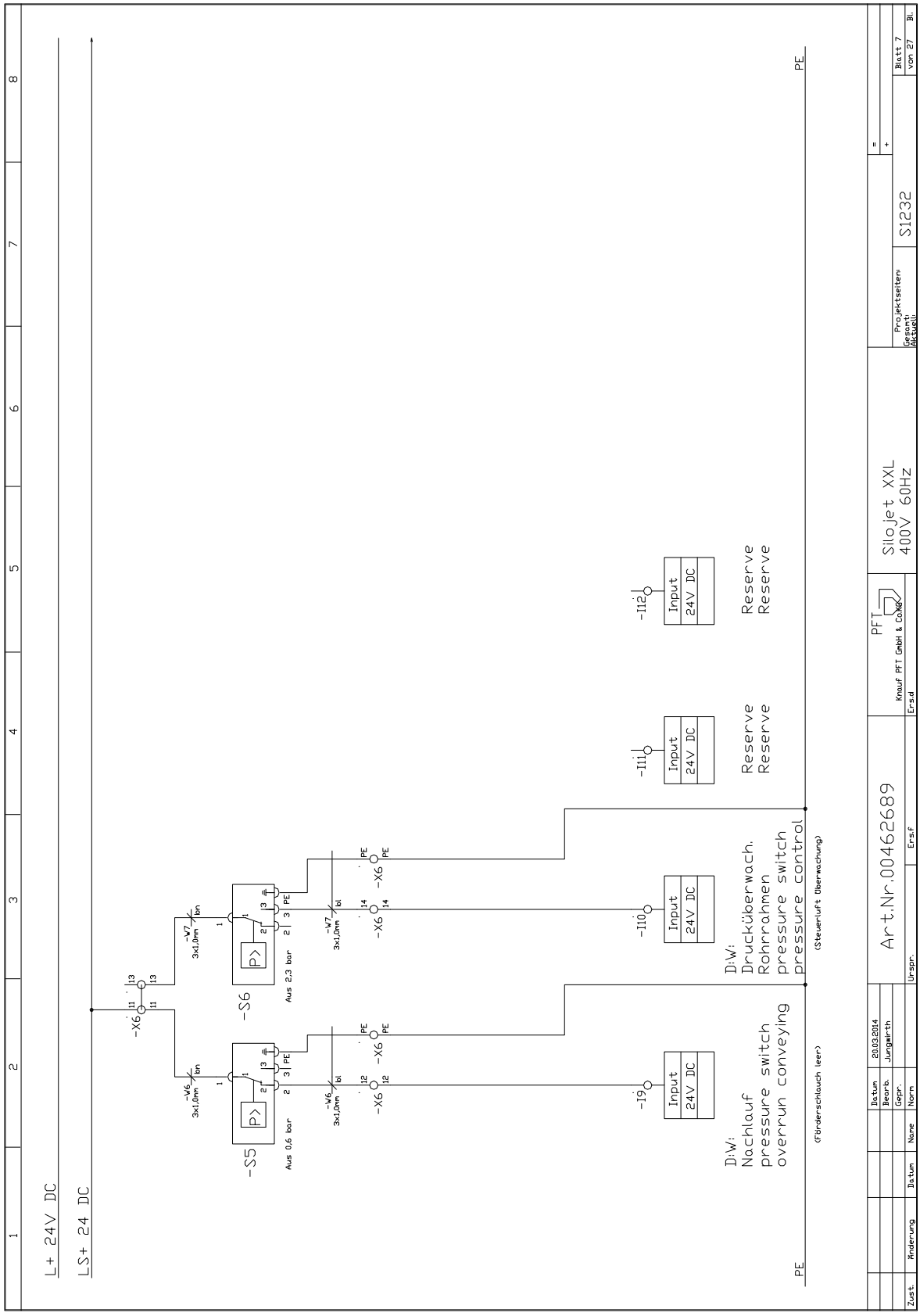
Circuit diagrams



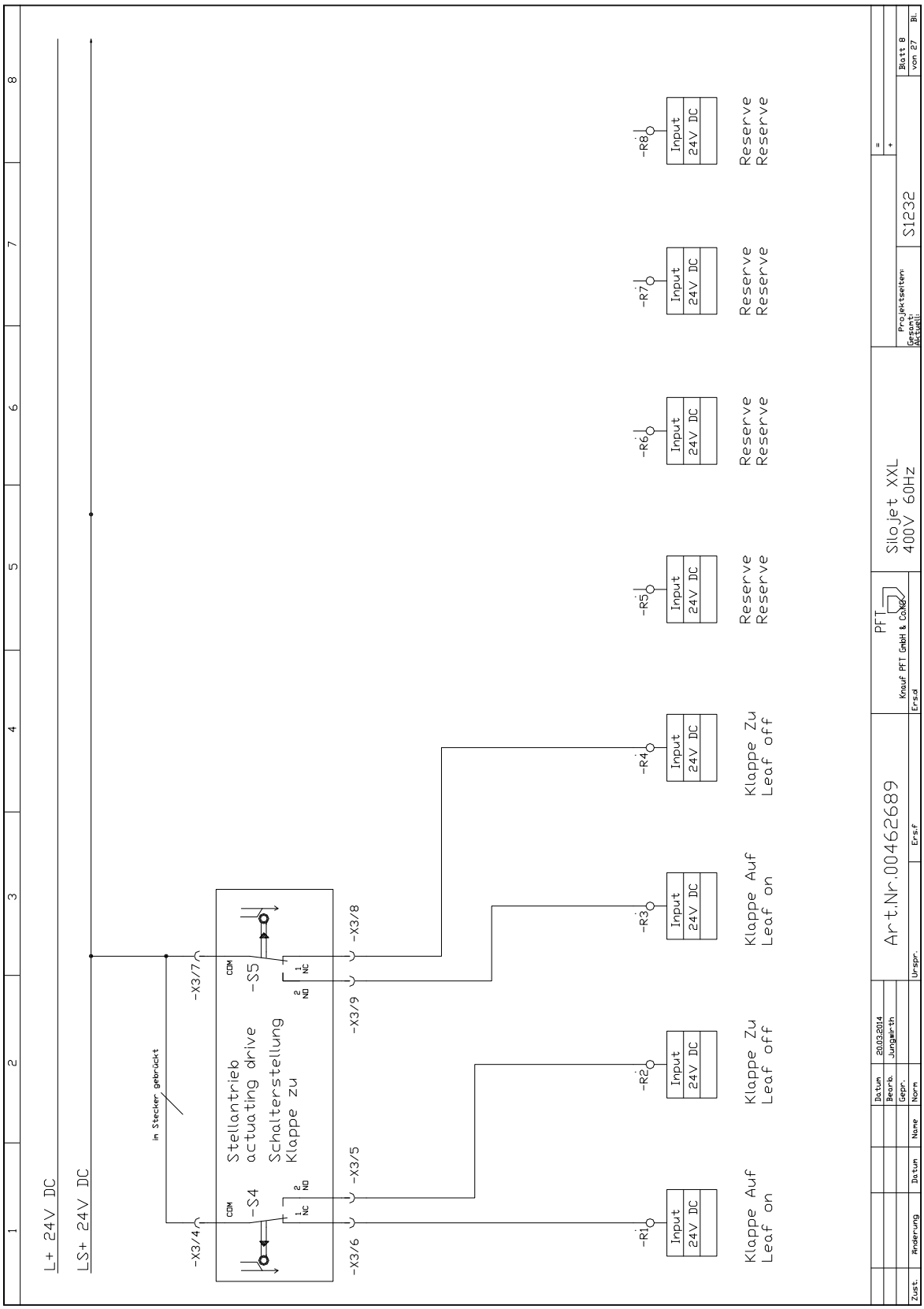
Circuit diagrams



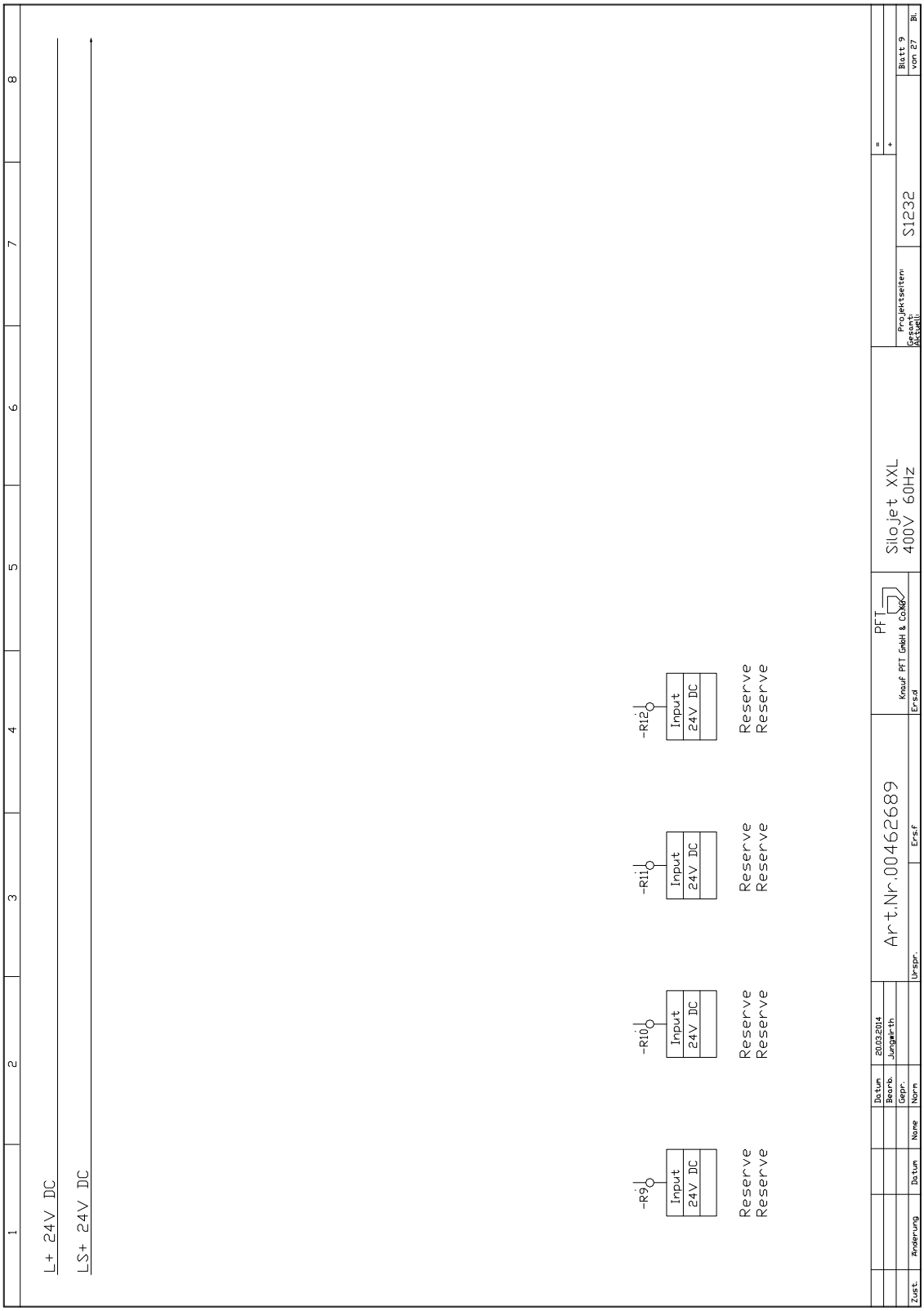
Circuit diagrams



Circuit diagrams



Circuit diagrams



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PFT – THE FLOW OF PRODUCTIVITY

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